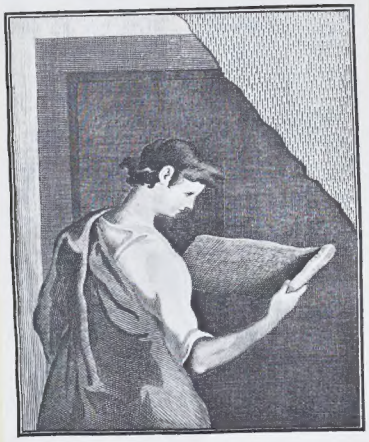
The Builder



THE J. PAUL GETTY MUSEUM LIBRARY

The Builder.

AN

ILLUSTRATED WEEKLY MAGAZINE,

FOR THE

Architect, Engineer, Archæologist, Constructor, & Artist,

CONDUCTED BY

GEORGE GODWIN, F.R.S.

Fellow of the Royal Institute of British Architects; Honorary Member of the Pennsylvania Academy of the Fine Arts, and various other Societies; Author of "Town Swamps and Social Bridges," "History in Ruins," &c. &c.

"Every man's proper mansion-house, and home, being the theater of his hospitality, the seate of selfe-fruition, the comfortablest part of his own life, the noblest of his sonne's inheritance, a kinde of private princedome, nay, to the possessors thereof, an epitome of the whole world, may well deserve, by these attributes, according to the degree of the master, to be decently and delightfully adorned."

"Architecture can want no commendation, where there are noble men, or noble mindes."——Sir Henry Wotton.

"Our English word To Build is the Anglo-Saxon Býlðan, to confirm, to establish, to make firm and sure and fast, to consolidate, to strengthen; and is applicable to all other things as well as to dwelling-places."——Diversions of Purley.

"Art shows us man as he can by no other means be made known. Art gives us 'nobler loves and nobler cares,'—furnishing objects by the contemplation of which we are taught and exalted,—and so are ultimately led to seek beauty in its highest form, which is Goodness."

VOLUME FOR 1862.

LONDON:

PUBLISHING OFFICE, YORK STREET, COVENT GARDEN.

GETTY CENTER LIBRARY

St. Thomas's Hospital: the future of, 9; the site for, 112, 136, 170, 909; temporary, 653
Saltburn, new hotel at, 15
Salviati's: architectural enamels, 767; mosaics and chalcedony agate, 602
Sanitary: and social science in the Middle Ages, 5; and social jottings in Manchester, 813,—cellar dwellings, 833; appliances, in cottage building, 904, 925
Sanitary Association, Ladies', 429
Sanitary condition of our towns: Alnwick, 89, 134; cotton districts, 849; Coventry, 327, 361,—local Board and the *Builder*, 392; Glasgow, see "Glasgow;" Hartlepool, 741, 777; Islington, 601; Keswick, 131; Nottingham, 855; Rotherham, see "Rotherham;" St. Pancras, 827; Wigan, 859; Windsor,—"the Windsor fever," 9, 60, 74, 111
Sanitary: improvements and constructions, 730; evil efforts against, 763
Sanitary laws *versus* contagion, 641
Sanitary matters, 100, 167; cost of soot, cesspools, and foolishness, 184; something to be done, 439: see also under "Dwelling"
Sanitary: movements, 59; question (The), 241; shortcomings in London, 531
Sanitary Society, a popular, formation of, 869
Scene painting, 476
School-building News, see each weekly number
School, King's, Sherborne, 137
School of art: for Marylebone and west of London, 171; north London, 155; the female, 249, 446, 511; Sheffield, 86
Schools of art, 171, 483, 791
Schools: Collyer memorial, 293; Independent, Ashton-under-Lyne, 298; new Grammar, at Newcastle, 767; St. Clement Dane's, Holborn estate, 582; St. Paul's, Clerkenwell, 7; St. Peter's new, Preston, 855; Windsor Royal free and industrial, 298
Scottish: architecture, notes for students of, 147; news, 501, 553, 682, 754, 880: see also with "Church" and other news, *et passim*
Screen, Hereford choir, &c., in Palace of Art, 329
Sculptors, and the Art-Union of London, 891
Sculpture: in Palace of Art and Industry, 619; Italian, of Middle Ages, &c. 532
Sea grass, a substitute for cotton, and a material for paper, 694
Seat (A), on best form and dimensions of, 496
Seats: church, 625,—overcrowding with, 663
"Severing" piping, 897
Sewage: application of town, 113; Croydon *v.* London sewage, 111; disposal of,—the Eureka system, 800; London *v.* Croydon sewage, 111; metropolitan, utilization of, 48; town, 375, 571; town, best mode of distributing, 799
Sewer ventilation and deodorization,—charcoal filters, 92, 119
Sewerage: Birmingham, 656; Buxton, 301, 323
Sewerage, metropolitan: progress of,—the works north of the river, 53; the "Skip," middle level sewer, 86; travelling concrete stage, 242; progress of, 264; south of the Thames, 887; southern high level and Deptford pumping-station, 453; progress of, 737, 820, 917
Sewerage of Towns, 222, 245
Shandon, West, on Gareloch, 928
Sheerness, 585
Sheffield, 512, 819; infernal machines at, 14; School of Art, 86
Shrewsbury sewerage question, 501
Siena, festival of, 39
Silversmiths (our), 229, 249
Sittingbourne, 585
Slate quarry, slip at a, 753
Smithfield, 409
Smoke: prevention of, 670; nuisance, 284
Smoky chimneys, 50, 96
Soane Museum, 165
Soane, Sir John, new materials for life of, 743
Social: and sanitary science in the Middle Ages, 5; bridge building, 657; bridges, 291; improvement, 755; Science Congress, 348, 387, 402, 417, 435; Science Congress, International, at Brussels, 693; Science National Association,—London meeting, 102, 111
Société Libre des Beaux-Arts, Paris, and "The Builder," 295
Society for Improving Labouring Classes, 609
Society of Arts, 474; International Exhibition of 1862 at, 403; architectural rewards, 584; statistics of International Exhibition, 838
Society of Female Artists, 100
Society of Painters in Water Colours, 853
Song, a parting, 96
South Kensington and the Grotesque, 245
South Kensington Museum, see "Museum"
Southwark, value of land in, 870
Spain: encouragement to foreign capitalists in, 607; open competitions in, 707
Spires and towers, fall of, 276
Spitalfields Market, 27
Spontaneous combustion, 67
Squaring the circle, 677
Stable architecture, 298
Stage (The) and entertainments, 18, 34, 322, 394, 720, 802
Stage, travelling concrete, 242
Stained Glass, 927; at York Minster, strange encasement of 700; in cathedrals, 699; in International Exhibition, 577; (on) jury report, 735; (the new) in Westminster Abbey, 557; windows and ventilation, 837: see also each weekly number
Staircase, ventilate the, 538
Station, railway, see under "Railways"
Statue: Myddelton, 262, 546; Wedgwood, 31
Statues and Memorials, 373, 445, 501, 536; our public, 886
Statues, coloured marble, in Naples, 459
Steam-crane, portable, 114
Steeple, iron, in Brussels, 434
Stephenson monument inaugurated, 736
Stephensons (The), 851
Stone: altars, 44; and bricks, patent, 826; "and heat," 157; artificial, 393; of Westminster Palace, reply to report of committee on decay of, 15; patent, 714; preservation of, 764, 810: see also "Bath;" and "Portland"
Stores in French division of International Exhibition, 561
Stoves, steam, 794
Strand Music-hall, 768
Street: architecture, 555,—of London, 273, 478; nomenclature, 891
Streets: London and Paris, 583; state of, mode of drying, 809; trees in our, 557
Strike, plasterers', in Manchester, 51
Strikes and skilled labour, 102
Structural improvements, 125, 158
Style, a new: another cry for, 447; can we form, 484, 504; crying for, 518; the way to, 518; how can it be formed, 537; on the possibility of, 556; thoughts of a mechanic about, 590; hints as to, 631; combination the only method of creating, 663; question, 700; why not a? 720; why not a new language? 772; 826
Styles: can two flourish together? 250; of architecture, history of the modern, 865: see also "Classic" and "Gothic"
Summer excursions, 473
Supply questions in House of Commons, 248
Surrey Archæological Society, 782
Surveyors, local, and their rewards, 249, 266
Surveyorship, Ipswich, 393
Sydney, Houses of Parliament, 65, 86, 112

TANKS, water, lining of, 413
Temple of Diana at Ephesus, 649
Temple, St. Anne's chapel, remains in, 221
Temples, Greek, lighting of, 720
Tenants, careless, evils of, 583
Tenders, measurements and, in Glasgow, 82
Thames embankment: bill for, 14; London on,—the desired embankments, 62; 173, 320; bill north side, 265; 412, 430, 917; bill, 477, 494; Surrey side, 564; 567, 624, 713, 785; (south side), 820
Thames, purification of, 484; upper, 439
Thames, two old bridges on, 886
Theatre: fittings,—improved safety foot-lights, 745; Mr. Fergusson's proposed form of, 917; Royal, Westminster, 927
Theatres: lighting of, 888; on the decoration of, 755; on the internal arrangements of, 556; the new, in Paris, 761, 777
Thebes and its tombs, 382
Thomas, late Mr. John, sculptor, 275
Tile pavements, 292
Timber: Australian, worm and ant proof, 511; decay in, 789; rotting, death from, 737
Tolls, metropolitan, 892
Tomb of the late Prince Consort, 81
Torquay, death-rate of, 767
Tottenham-court-road, proposed extension of, 7
Tower: hill, state of, 846; White, Tower, 275
Towers and spires, fall of, 276
Towns: ancient British, traces of on Cheviots, 677; condition of, see under "Sanitary"; elevation of principal in France, and summits of public buildings, 294; lighting of, improved, 33
Tracery, geometrical, 41
Trafalgar-square, proposed improvement in, 173
Transmutation of "Species" in the vegetable world,—oats into rye, barley, and wheat, 935
Travel, home and foreign, 807
Travelling-stage, concrete, 242
Trees: in Kensington Gardens and Hyde Park, condition of, 615, 644, 657; in our streets, 557; large yew, in Kent, 862; age of English, 535
Triptych at Hexham: see "Hexham"
Tunnel through Mont Cenis, account of, 381, 484
Tunnelling (railway) superseded, 167
Tyndal's-buildings, Gray's Inn-lane, 890
Typhus and typhoid fevers: see "Fevers"

UNDERGROUND RAILWAY, Metropolitan, 255, 281; accident at, 446; Fleet Ditch and, 456, 473; another irruption into, 512
Union Company, Architectural, 870
University College, 499; architecture at, 710

VANBRUGH, Sir John, materials for life of, 651
Vases, antique, 269, 459
Vatican (The), 236
Vaucher's woven hose, 368
Ventilate: the staircase, 538; your cellars, 582
Ventilation: and warmth, 803,—saving of fuel, 843; coastless, 158, 249, 283; Nature's, 513; of cellars, 750; of drains, 155; of rooms, 203; of sewers, 92, 119; of shops, offices, and workrooms, 804; stained-glass windows and, 837; height to admit fresh air, 158
Verbum Sapientiæ, 892
Vestry-hall, Bancroft-road, Mile-end-road, 169
Viaduct: the Beelah, 566; Hownes Gill, 178: see also under "Railways"
Victoria, Melbourne, 636, 676, 789
Victoria fountain in Victoria Park, London, 512; lakes round, 625
Vincennes, 682
Vitrified constructions, 47
Voice (A) from the ranks, 557

WALKER, Mr. Ralph, Civil Engineer, 653
Walls: dry, 250; hollow, 283
Warehouse construction,—fire-clay, 77
Warehouses: fire-proof, 18; for explosive materials, 27; new, at Bradford, 750; public, 250 proposed closing of, 201
Water-colour Painters' Lancashire Relief Fund 853, 927
Water-colour Society, new, 308, 330
Water-colour Society, old, 308
Water: filtering, domestic, 750; supply,—Glasgow, 51; Leeds, increased, 657; tanks, lining of, 413; works, Chatham, 477
Waterloo-road, accident in, 109
Weale, late Mr. John, architectural publisher, 928
Wedgwood, statue of, 131
Well: Industrial farm, Brighton, 229; sinking and boring in Horticultural Gardens, Kensington, 93; (The) at Clerkenwell, 473
Wells and borings, on deep, recently executed, 99
Wells Cathedral, 618
Wells: holy, 635; the antiquities of, 654
Westmeston Church, wall paintings, 699
Westminster Abbey: chapter-house, 386; works in, 543; the new stained glass in, 557
Westminster bridge, what of? 119, 386
Westminster Palace: decay of stone of, 15; decaying frescoes of, 669
Westminster Palace Hotel, plan and construction of, 165
Wigan, sanitary state of, 859
Willow-pattern plate, 675
Wilts Archæological Society, 585
Wimbridge and Edwards,—architect and pupil 102
"Windsor fever" (The), 9, 60, 74, 111
Windsor Royal free and industrial schools, 298
"Withe," what is a? 794
Wood, on exhalations from, 566
Woodwork, ornamental burnt, 165
Worcester Congress of Archæological Institute, 544
Worcester Diocesan Architectural Society, 765
Work, modern: on spirit of, 555, 573; on triviality in, 563
Workhouse children, neglected, 567
Working-class dwellings,—Court of Common Council, 909
Workmen: and churches, 485, 502, 538, 555, 645; foreign, 320; foreign and English, and the International Exhibition, 168
Workmen's: baths and club-rooms, Sheffield, 695; club union, 934; tools, insurance of, see "Insurance"
Workshops, overcrowding in, 457
Working-class dwellings, see under "Dwellings"
"Worship of Bacchus," Cruikshank's, 583
Worstead church, Norfolk, 413
Wreck register, British, 916
Wren, Sir C., new materials for life of, 600

YARMOUTH, Great, 916
York, 699; gas in, 868; Minster, on improvements about, 322, 336; Minster, strange encasement of stained glass at, 700

ZOSTERA MARINA, or sea-grass, a substitute for cotton, and a material for paper, 694

LIST OF ILLUSTRATIONS.

ALNWICK CASTLE, Northumberland, 97
Alnwick Castle, Sculptured Chimney-piece at, 424
Altar, Stone, Ballintubber Abbey, Mayo, 44
Alto Relievo in Enamelled Terra Cotta, 533
Architecture, illustrated by Ancient Paintings, 461
Art, Italian, of Revival,—Marble Singing Gallery from Florence,—Alto Relievo,—533
Assize Courts, proposed, for Brussels, Premiated Design for, 333; Ground Plan, 388

BANK, London and County, Lombard-street; Mr. C. O. Parnell, Architect, 635
Bath, St. John's (R.C.) Church, 133
Beer Cellar in London,—"Taking a Drain," 750
Birmingham Cemetery Chapels, at Witton, 11; Plan, 10
Birmingham Cemetery: Lodge and Entrance Gates, 79
Birmingham Exchange Buildings, about to be erected, 551; Plans, 550
Blackfriars Bridge, intended New, 733
Blackfriars Railway Bridge on London, Chatham, and Dover Line, 733
Boots and Shoes, 822
Bridge, intended Blackfriars, London; Mr. J. Cubitt, Engineer, 733
Bridge, London, Chatham, and Dover Railway at Blackfriars, City; Mr. J. Cubitt, Engineer, 733
Brussels Assize Courts, proposed, the Premiated Design for, 333; Ground Plan, 388
Building for International Exhibition of 1862, East Front, designed by Captain Fowke, 225; Ground Plan, 332
Building for International Exhibition: View looking West, 351
Buildings, New, Christ Church, Oxford; Mr. T. N. Dean, Architect, 857

CARVED WOOD PANELS, 406
Castle, Alnwick, Northumberland, 97
Cathedral, Lincoln, West Front, 913; South-east Porch, 911
Cathedral, Oxford,—the Choir, 911
Cellar, a Beer, in London,—"Taking a Drain," 750
Cellar Dwellings in Manchester,—Various Sketches, 840
Cemetery, Birmingham, Lodge and Entrance Gates at, 79
Cemetery Chapels, Birmingham, 11; Plan, 10
Chalmers Hospital, Banff, 659; Plan of Ground Floor, 658
Chapel and Inner Court, for House of Charity, Greek-street, Soho; Mr. J. Clarke, Architect, 407
Chapel, Exeter College, Oxford, Interior of; Mr. G. G. Scott, Architect, 407
Chapel, St. Anne's, Temple Church, London,—Remains of,—Views of Excavations and Exterior, 221
Chapels, Cemetery, Birmingham, at Witton; Mr. R. Clarke, Architect, 11; Plan, 10
Chimney-piece of Majolica Tiles in Stone; executed by Messrs. Maw & Co. for International Exhibition, 224
Chimney-piece, Sculptured, Alnwick Castle, 424
Chimney-tops, 96
Christ Church, Oxford, New Buildings, 857
Church, New, for Parish of St. James the Apostle, Dover; Mr. T. Bury, Architect, 697
Church, New (R.C.), of Killeshandra, County Cavan, Ireland; Mr. W. Hague, Junior, Architect, 823
Church, New Russian, Paris, 875
Church, St. Alban's, Baldwin's Gardens, Gray's-inn-lane; Mr. Butterfield, Architect, 443
Church of St. James-the-Less, Garden-street, Westminster; Mr. G. E. Street, Architect, 187
Church, St. John's (R.C.), Bath; Mr. C. Hansom, Architect, 133
Church, St. Paul's, Clerkenwell, and Schools; Mr. T. R. Smith, Architect, 7
Church, St. Paul's, Southport, Lancashire, 673
Church, St. Peter's, Mancroft, Norwich, as restored; Mr. R. M. Phipson, Architect, 389
Church, Unity, Upper-street, Islington; Mr. T. Clarke, Architect, 893; Pulpit, 892
Château of Blois, 875
Cistern, A,—Old Lead Work, 604
Closets, Self-acting, for Public Use, 719
College, St. Mary's, Harlow; Mr. R. J. Withers, Architect, 29; Plan, 28
Collyer Memorial Schools, Peckham, 293
Concrete Stage, Travelling; Main Drainage Works, London, 242
Corn Exchange, Norwich, 115
Court, Inner, and Chapel, for House of Charity, Soho; Mr. J. Clarke, Architect, 407
Court, New North, South Kensington Museum; Captain Fowke, Architect, 315
Courts, Assize, for Brussels, premiated design for; Messrs. J. W. Green and L. De Ville, Architects, 333; Ground Plan, 388
Crane, Steam, Taylor's Portable, 114

DAMP PROOF COURSE, Taylor's,—Ventilating Floor Tile, and Faced Concrete Walls, 904, 905
Damp Room (A) and its Dangers, 478
Davy Monument, Penzance, 715
Decoration, suggestive, 186
Drinking Fountain and Memorial of Myddelton, Islington-green, 251
Drinking Fountain in Maidstone Market Place, 679
Drinking Fountain, Kennington Park, 206
Dwellings, Cellar, in Manchester,—various sketches, 840
Dwellings for the Industrious Classes, Hull; Mr. H. M. Eyton, Architect, 569

EDINBURGH INDUSTRIAL MUSEUM, 841
Egyptian Toys, 380
Entrance Gates, Birmingham Cemetery, 79
Exchange Buildings, Birmingham,—about to be erected; Mr. E. Holmes, Architect, 551; Plan of One-pair Floor and Ground Floor, 550
Exchange, Norwich Corn; Messrs. T. D. Barry & H. Butcher, Architects, 115
Exeter College, Oxford, Interior of Chapel, 407
Exhibition Building, International,—East Front, 225; Ground Plan, 332
Exhibition Building, International,—View looking West, 351
Exhibition Building, Paris Permanent Universal, 639; Plan and Cross Section, 638
Exhibition Building, Paris Permanent Universal,—Central Entrance and Cupola; Mons. Llandier, Architect, 769; Egress Gateway, 768

FLOOR-TILE, Ventilating, 904
Front, New, in Lichfield Cathedral, 168
Foot-lights, Improved Safety, 745
Fountain, Drinking, and Memorial of Myddelton, Islington Green; Mr. John Thomas, Sculptor, 251
Fountain, Drinking, Kennington Park; Mr. C. H. Driver, Architect, 206
Fountain, Drinking, in Maidstone Market Place; designed and executed by the late Mr. John Thomas, 679
Fountain, Majolica, for Great Exhibition; designed by Mr. J. Thomas and executed by Messrs. Minton, 207
French Modern Architecture; House recently erected in Boulogne, 279
Frying-pan Alley, Clerkenwell, 532

GALLERY, Marble Singing, from Florence, 533
Garden, a Poor Woman's, in the City, 604
Gates, Entrance, and Lodge at Birmingham Cemetery; Mr. R. Clarke, Architect, 79
"Glen," The, Peebles-shire, 587
Grate, Smoke-consuming and Ventilating, 905

HALL, Overstone, Northamptonshire; Mr. W. M. Tenlon, Architect, 151; Ground Plan, 150
Hall, Vestry, Mile-end; Mr. J. Knight, Architect, 169
Hemsted House, near Staplehurst, 243
Hemsted House, Plan of Ground Floor, 260
History of Modern Architecture,—various Sketches, 875
Hodson Monument, Lichfield Cathedral, 45
Holborn, Middle-row, 889
Home (A) on the Regent's Canal,—a Berth to bring Death, 132
Hospital, Chalmers, Banff, Scotland; Mr. W. L. Moffat, Architect, 659; Plan of Ground Floor, 658
Hospital, Jews', Lower Norwood; Messrs. Tillott & Chamberlain, Architects, 515; Plan of Ground Floor, 514
Hospitals, Military, Official Plans for, 874
House, Hemsted, near Staplehurst; Mr. D. Brandon, Architect, 243; Plan of Ground Floor, 260
House of Charity, Greek-street, Soho,—Chapel and Inner Court for, 407
House recently erected in Boulogne, 279
Hull, Dwellings for Industrious Classes at, 569

INDUSTRIAL MUSEUM, Edinburgh, 841
Infant Nursery, an,—Damp, Undrained, Ill-lighted, 725
International Exhibition Building,—East Front, 225; Ground Plan, 332
International Exhibition Building,—View looking West, 351
International Exhibition Site, not long ago, 314
Italian Art of the Revival,—Marble Singing Gallery.—Alto Relievo in Enammelled Terra Cotta, 533

JEWS' HOSPITAL, Lower Norwood, 515; Plan of Ground Floor, 514

KILLESHANDRA New (R.C.) Church, County Cavan, Ireland, 823

LAW COURTS, Brussels, see "Courts"
Lead-work, Old,—a Cistern, 604
Lewis, a Mediæval, 278
Lichfield Cathedral, new Font in, 168
Life-belt (A), 837
Lincoln Cathedral,—the West Front, 913
Lincoln Cathedral,—the South-east Porch, 911
Locke Memorial at (R.C.) Schools, Barnsley, 295
Lodge and Entrance-gates, Birmingham Cemetery; Mr. R. Clarke, Architect, 79
Lodgings Afloat,—a Home on the Regent's Canal,—a Berth to bring Death, 132
London and County Bank, Lombard-street, 635
London on the Thames,—various Sketches, 61
London Street Architecture,—a Marine Insurance Office in Old Broad-street, 479

MAJOLICA Fountain for Great Exhibition Building, 207
Majolica Tile Chimney-piece, in Stone, 224
Manchester Cellar Dwellings,—numerous Sketches, 840
Manchester Memorial of the Prince Consort, 895
Manchester, Sketches in, several, 849, 856
Mancroft, St. Peter's, Norwich, as Restored, 389
Mansion, General Martin's, Lucknow, 875
Mansion of Baron Rothschild, M.P., Piccadilly, London; Messrs. Nelson & Innes, Architects, 737; Plan of First Floor, 736
Mansion or "West Shandon," on the Gareloch, Scotland, 929; Plan, 928
Mansion, the "Glen," Peebles-shire; Mr. Bryce, Architect, 587
Marble Singing Gallery from Santa Maria Novella, Florence, 533
Marine Insurance Office, Broad-street, London, 479
Mediæval Lewis, 278
Memorial, Locke, at R.C. Schools, Barnsley; Mr. M. E. Hadfield, Architect, 296
Memorial, Myddelton, and Drinking Fountain, Islington-green, 261
Memorial of the Prince Consort, Proposed Site of, 563
Memorial, Prince Consort's, for Manchester; Mr. Worthington, Architect, 895
Memorial Schools, Collyer, Peckham, 293
Mews near Russell-square, 532
Middle Row, Holborn, 889
Military Hospitals, Official Plans for, 874
Modern Architecture, history of, various Sketches, 875
Monument in Lichfield Cathedral to Major Hodson; Mr. Street, Architect, 45
Monument to Sir H. Davy, at Penzance; Messrs. Salter & Perrow, Architects, 715
Monument of Emperor Nicholas, St. Petersburg; Designed by the late Ricard de Montferrand, Architect, 371
Monument to the late Dr. Browne, (R.C.) Bishop of Elphin, 78
Museum, Industrial, Edinburgh; Captain Fowke, Architect, 841
Museum, St. Petersburg, Portion of River Front, 875
Museum, South Kensington, new North Court of, 315
Myddelton Memorial and Fountain, Islington-green, 251

NEWCASTLE-UPON-TYNE, Ancient Street Architecture of, 696
Norwich Corn Exchange, 115
Nursery, an Infant,—Damp, Undrained, and Ill-lighted, 725

OFFICE, a Marine Insurance, in Broad-street, London, 479
Overcrowding and other Sanitary Derangements in 1862,—numerous Sketches, 425
Overcrowding in Workshops,—various Sketches, 457
Overstone Hall, Northamptonshire, 151; Ground Plan, 150
Oxford Cathedral,—the Choir, 911
Oxford, Christ Church, new Buildings, 857
Oxford, Exeter College Chapel, Interior of, 407

PAINTINGS, Ancient, Architecture illustrated by, 461
Palace of Art and Industry; see "Exhibition Building"
Panels, Carved Wood, to which Prizes were awarded by Council of Architectural Museum, 406
Paris Permanent Universal Exhibition Building,—639; Plan and Cross Section, 638
Paris Permanent Universal Exhibition Building;—Central Entrance and Cupola, 769,—Egress Gateway, 768
Poisoning the Springs; Sittingbourne, 586
Preston Town Hall, 621; Plan, 620
Prince Consort's Memorial, proposed Site of, 563
Prince Consort's Memorial, proposed to be erected in Manchester, 895
Pulpit, New, in Doncaster Church, 910; Plan of Arcade Pier, 910
Pulpit of Unity Church, Upper-street, Islington, 892
Pulpit, Wrotham Church, Kent; Messrs. Newman & Billing, Architects, 60

RADCLIFFE LIBRARY, Oxford, 875
Regent's Canal, a Home on the, 132
Room, a Damp, and its Dangers, 478
Rothschild's, Baron, Mansion, Piccadilly, London, 737; Plan of First-floor, 736
Royal Stables at Chantilly, in France,—Exterior of Riding School, —Elevation of End of Stables,—Plan of Stables and Riding School, 297

ST. ALBAN'S, Baldwin's Gardens, Gray's-inn-lane, 443
St. Anne's Chapel, Temple Church, London, Remains of, —Views of Excavations and Exterior, 221
St. James-the-Less, Church of, Garden-street, Westminster, 187
St. John's (R.C.) Church, Bath, 133
St. Mary's College, Harlow, 29; Plan, 28
St. Paul's Church and Schools, Clerkenwell, 7
St. Paul's Church, Southport, Lancashire, 673
St. Peter's, Mancroft, Norwich, as restored, 389
Salford, Back Slums in, 856
Sanitary Derangements in 1862,—Numerous Sketches, 425
Sanitary Shortcomings, — London in 1862; Various Sketches, 532
Schools, Collyer Memorial, Peckham; Mr. J. G. Stapleton, Jun., Architect, 293
Schools, St. Paul's, Clerkenwell, 7
Sculptured Chimneypiece, Alnwick Castle, 424
Seat, best Form and Dimensions of a, 496
Shandon, West, on Gareloch, Scotland, 929; Plan, 928
Shoes and Boots, 822
Shops, Ventilation of,—a Cut through a House in the City, 804
Singing Gallery, Marble, from Florence, 533
Site for International Exhibition, not long ago, 314
Sittingbourne,—Poisoning the Springs, 586
Sketches of London on the Thames, Various, 61
Smoke-consuming and Ventilating Grate, 905
Stables, the Royal, Chantilly, France,—Exterior of Riding School,—Elevation of End of Stables,—Plan of Stables and of Riding School, 297
Stage, Travelling Concrete; Main Drainage Works, London, 242
Steam Crane, Taylor's Portable, 114
Street Architecture, Ancient, of Newcastle-upon-Tyne, 696
Street Architecture, London,—a Marine Insurance Office in Old Broad-street, 479
Suggestive Decoration, 186

THAMES, Views of London on the, 61
Theatre Fittings,—Improved Safety Foot Lights, 745
Townhall, Preston, proposed; Mr. G. G. Scott, Architect, 621; Plan of Principal Floor, 620
Toys, Egyptian, 380
Travelling Concrete Stage; Main Drainage Works, London, 242

UNITY CHURCH, Upper-street, Islington, 893; Pulpit, 892

VENTILATING and Smoke-consuming Grate, 905
Ventilating Floor Tile, 904
Ventilation of Shops,—a Cut through a House, in the City, 804
Vestry-Hall, Mile-end, 169

WALLS, Faced Concrete, 905
Warehouses, New, Peel-place, Bradford, Yorkshire; Mr. E. Milnes, Architect, 761
Washhouse, Sickness in the, and Why, 532
West Shandon, on the Garelock, Scotland, Seat of Mr. R. Napier, Engineer, 929; Plan of Ground Floor, 928
Workshops, Overcrowding in,—Various Sketches, 457

INDEX TO VOLUME XX.

ACCIDENTS to property and person: 826; at New Hartley Colliery, see "Hartley;" at Underground Railway, see "Underground;" fall of an arch, 112; fall of arches on Hammersmith Railway, 820, 836, 862; fall of houses in Hackney, 109, 138; fall of pavement in Waterloo-road, 109; responsibility of,—recent fall in St. Martin's Hall, 827: see also "Fires;" "Miners;" "Railway;" and *passim*
Accidents, fatal mining,—excessive loss of lives, 59
Advertising system, term of, 295
Agricultural: hall, Islington, and cattle-show, 868; show, Battersea, memorandum of, 489
Air (compressed) as motive power, 793
Albert memorials: Bath,—United Hospital, 210; the Great Exhibition of 1851 and, 28; Manchester, 804; National,—site for, 165, 189,—259, 422, 547, 568,—design, 604,—suggestion, 748
Albert memorials, 9, 48, 66, 75, 99, 112, 135, 155, 170, 189, 203, 227, 241, 259, 276, 291, 318, 335, 348, 375, 445, 483, 514, 555, 699, 719, 737, 748, 846, 855, 870, 916, 934
Albert memorials, provincial, a suggestion, 210
Albert, Prince, tomb of, 81
Alliance, see "Architectural Alliance"
Alnwick: town and castle, 89; condition and aspect of, 134; where is the ghost? 173
Alps (the) in the glacial era, 720
Altars, stone, 44
Ancyra,—French explorations, 141
Antiquaries, society of, Newcastle-upon-Tyne,—Maeshowe and Runes, 585
Antiquities: English, 591; Northamptonshire, 783; of Wells (the), 654
Ants, how got rid of, 609, 625
Arbitrators, cautions for, 882
Arch, fall of, 112
Archæological Association, British, 48, 100, 171, 204, 240, 274, 335, 374, 409, 536, 877, 914; Leicester Congress of, 578
Archæological Association, Cambrian, 657
Archæological Institute, 66; works in enamel and niello at, 412; Worcester Congress of, 544
Archæological Society: Glasgow, 241,—vitrified constructions, 47; Surrey, 782; Wilts, 585
Architect and pupil, Wimbridge *v.* Edwards, 102
Architects, Bristol Society of,—Wells, 618
Architects, memorials of, 345
Architects, British, new materials for lives of, 562, 600, 651, 692, 743, 738, 835, 868, 903
Architects, how modern are estimated, 321
Architects, Royal Academy and, 917
Architects, Royal Institute of, see "Institute"
Architects, "usual" payment of, 897
Architects, examination of, 852, 866, 895
Architects': actions for charges, 881; assistants, treatment of, 738, 755, 773, 794, 826, 881
Architects' Benevolent Society, 204
Architects' charges, 47; customary, 347
Architects' fees, 413
Architectural Association, 27, 66, 100, 137, 169, 202, 245, 318, 355, 392, 445, 459, 555, 877, 914; conversazione, 270; at Westminster, 477; conversazione, 800; alliance, 838, 933
Architectural Association, Manchester, 228, 877
Architectural Association, Northern, 748; the sanitary question, 241; new grammar schools at Newcastle, 767
Architectural Alliance, 477, 496, 838, 933
Architectural beauty, objects in "the Exhibition" shown for, 709
Architectural competitions (on), 933
Architectural examination, 454, 852, 866, 895
Architectural Exhibition, 157; see "Exhibition"
Architectural Institute, see "Institute"
Architectural Members of Royal Academy, 623
Architectural models, 51
Architectural monuments and remains, on the conservation of, 22, 42, 93
Architectural Museum, see "Museum"
Architectural nobodies, 446
Architectural orders, science of, and ornament, 34
Architectural photographs, and new style, 631
Architectural practice and charges, 47
Architectural progress, 798
Architectural Publication Society, 392, 616; dictionary of, 413
Architectural rewards,—Society of Arts, 584
Architectural Society: Durham, 713; Glasgow, 228, 765, 859,—competitions, 933; Lincoln,—meeting at Market Rasen, 439; Liverpool, 47, 749, 856, 896,—closing address, 349; Oxford, 240,—new buildings in Oxford, 476; St. Alban's, 765; Worcester, 765
Architectural Union Company, 870
Architecture: at Royal Academy, 342; at University College, 710; illustrated by antique vases and mural decorations, 269, 459; in Edinburgh, 895; iron,—steeple in Brussels, 434; lectures on, see "Lectures"; life, growth, and development in, 821; modern, in the East, 690; Museum of, see "Museum"; of India, on the, 390, 399; of Palestine, from earliest times to Crusades, 309; on taste in, 712; Scottish, notes for students of, 147; sister arts in relation to, 220; styles of, see "Styles"; the picturesque in,—new clock-tower in Paris, 565
Arsenic, death from, 766
Artificers' work at Glasgow, 780
Artisans, objects of thought for, 147
Arundel Society, 429
Art: Christian, aphorisms concerning, 656; criticism, 610; education, Government grant for, 353; "Pagan," 368; school of, see "School;" the truthful in, 466
Art-Union of London, 607; general meeting, 306; purchases, 412; (The) and sculptors, 891
Art-works, treatment of, 644
Artists' Benevolent Fund, 409
Artists, Female Society of, 100
Arts, fine, see "Fine Arts"
Arts: of construction, King's College, 44; sister, in relation to architecture, 220
Assessed Taxes, application of, 338
Astronomy, what do we know in? 862
Atlantic: cable, see "Electro-telegraphic;" ocean, deep sea bed of, 927
Australia, South, 534
Avignon, bridge of, 271
Awards, law of, 828

BACON'S agreement with Chambers, 738
Bank: London and County, Lombard-street, 604; of England notes, 617
Bankruptcy courts, condition of, 786
Barry, Sir Charles, proposed statue of, 264
Bath stone: failure of columns, 447; quarries at Boxhill, 613
Bath United Hospital,—Albert memorial, 210
Baths: and wash-houses in St. James's, Westminster, 448; of Rome, walk and talk in, 921
Bayswater, 662; fountains, Jenner's meditations on, 772; to Brompton, desired road from, 27, 44, 138, 191
Bazaar, International, 318
Beam, to cut rectangular out of circular tree, 6
Beams, iron, on, 284
Bedsteads, iron, improvements in, 766
Beelah Viaduct, 566
Bells: and bell-ringers, 664; chiming church, 895; see also "Chiming;" church, 683; ringers, societies of, 684; ringing, books on, 738
Benzol, aniline, mauve, and Magenta, 545
Berwickshire Naturalists' Club,—early British structures, 619
Bethlehem Hospital, assessment of, arbitration, 34
Birkenhead Hospital, 870
Birmingham: Cemetery, 13, 78; Exchange, and Free Library, see "Competition;" Institute, completion of, 184, 300; Sewerage, 656
Black beetles, to get rid of, 625
Blackburn, works in, 682
Blackfriars, new bridge, see "Competitions"
Board of Works, Metropolitan, 591, 717, 803, 859, 897, 935; cases under Management Act,—"regular line of buildings," 809; demolition of a house, 794; district surveyor, election of, 32, 78; London, Chatham, and Dover Railway station, Blackfriars-road, 67; progress of Main Drainage works, 265,—see also "Sewerage, metropolitan;" property taken under the Lands Clauses Act,—Reddin *v.* Board, 520; Thames Embankment, 785; (south side) and Main Drainage, 820, 917,—see also under "Thames"
Bonomi, Joseph, architect, 345
Books, pamphlets, engravings, &c.; notices, reviews, and articles as to: Adams on Birds of Prey, 847; Adams on Wild Flowers, 431; Albert the Good, 684; Anderson on Gunpowder, 773; Antrobus on Painting, 467; Archer's Notes on Victoria, 676; Baher's Formulæ, &c, 722; Baron on Scudamore Organs, 502; Beamish on Marc Isambard Brunel, 235; Beeton's Book of Garden Management, 847; Beeton's Universal Dictionary, 773; Bradley on Geometrical Drawing, 357; Burnell's Builders' Price-book, 51; Burnell's Retrospect of Engineering, &c., 645; Burn's Lessons of my Farm, 212; Cranston's Horticultural Buildings, 266; Devey's Life of Joseph Locke, 901; Diaries and Calendars, 863; Dictionary of Architectural Publication Society, 413; Dodds's Where do we get it? 394; Dresser on Ornamental Art in Exhibition, 502; Emerton on Albert Memorial, 318; Fairholt's Up the Nile, 437; Falkener's Ephesus, 649; Fergusson's History of Modern Styles of Architecture, 865; Gairdner on Public Health, 212; Garfit on Educational Minute, 87; Giornale dell' Ingenere-Architetto ed Agronomo, 574; Gray's Hand Catalogue of Postage Stamps, 898; Hale on Elementary Drawing, 625; Handbook to Cathedrals, 913; Hickie's Arithmetic, 828; Horton's Measurer, 665; Jerrold on Industrial Exhibitions, 357; Jervis on Minerals in Italy, 828; Johnson's Specimens of Early French Architecture, 102; Kirkaldy on Iron and Steel, 721; Knightley on Stable Architecture, 298; Knight's Products of Victoria, 676; Lapparent on Decay of Timber, 789; Lee's Isca Silurum, 486; Lendy on Fortification, 467; Life among the Colliers, 120; Linton's Vestiges of Older Nations, 520; Liverpool Archæological Society's Proceedings, 250; McDermott's Guide to Exhibition, 377; March on Flowers and Fruit Decoration, 935; Maynard on Crumlin Viaduct, 863; Nesfield's Specimens of Mediæval Architecture, 413; Newton's Halicarnassus, &c., 217; O'Doherty on Water for Domestic Use, 750; On Bellringing, 738; Parker's Rickman's Styles, 684; Parlour Gardener, 863; Passages from Modern English Poets, 558; Patents for Bricks and Tiles, 413; Patterson's Essays on History and Art, 174; Pettit on Boxgrove Priory, 421; Penley on English School of Painting, 211; Practical Mechanics' Journal Record of Great Exhibition, 338; Rankine on Civil Engineering, 191; Reade on a New Style, 701; Rhind's Thebes and its Tombs, 382; Ritchie on Ventilation, 558; Rogers's Palestine, 19; Sandby's History of the Royal Academy, 633; Sanitary Facts for the Poor, 738; Scott & James on Photozincography, 828; Sermon on Mount, 18; Sharpe on Shoreham Collegiate Church, 421; Simmonds on Waste Products, &c., 592; Sinnet on South Australia, 534; Smith's Diagrams, 67; Stephens and Burn on Farm-buildings, 92; Strong on Statistics of Glasgow, 211; Stubbs on Sketching, 625; Thomas on Christian Idealism, 589; Timber Merchants' and Builders' Guides, 357; Transactions of Architectural Institute of Scotland, 898; Transactions of Glasgow Archæological Society, 917; Transactions of Social Science Association, 302; Tuckett's Prize Designs for Homesteads, 685; Victorian Government Prize Essays, 676; Variorum, see each weekly number; Von Gumpach's True Figure of the Earth, 684; Walford's Men of the Time, 377; Willis on Chichester Cathedral, 421; Yorkshire Agricultural Company's Prize Plans of Cottages and Farm-buildings, &c., 871.
Books, on early printed, 2, 116
Boots and shoes,—a plea for square toes and a word about heels, 822
Boston, U.S., a new church at, 15
Boxhill and its Bath stone quarries, 613
Brandeston, Suffolk, 644
Bray, 541
Bread from germinating wheat, 96
Bricklayers' Society (Operative) certificate of, 820
Brickmaking, 283; a nuisance, 574
Bricks: concrete, 859, 897; machine made, 190
Bridge: across Tamar, at Saltash, 209; building, rapid, 607; London, 683; new Lambeth, slip at, 607; of Avignon, 271
Bridges: Fulham, Kew, and Kingston, 603; intended at Blackfriars, see under "Competitions;" our, 692; the security of our, 603; two old, on the Thames, 386
Brighton: a new hotel for, 914; and Hove drainage, 429, 700; Industrial Farm well, 229
Bristol: Canynge Society, 456; Clifton College, 682; Society of Architects,—Wells, 618
British: Association for Advancement of Science, 729; church, new, Naples, 321; early structures, 619; Institution, 114
Brown, Right Rev. Dr. (R.C.), bishop of Elphin, monument to, 78
Brunel, Marc Isambard, 235, 881
Brussels: International Congress, 693; music in, 566; new iron steeple in, 434; "Palais de Justice" competition, 96, 332,—competition designs for, 387

"Builder" (The), and the Société des Beaux Arts, Paris, 295
Builders, master, and their servants, 558
Builders' actions, 301
Builders' Benevolent Institution, 149, 555, 792, 859
"Builder's" fire (The), 862
Building Act, Metropolitan: amendment of, 935; proceedings under, 120, 211, 538, 558, 574, 882, 917,—a warning, 138; what is a "withe?" 794
Building materials in French division of Great Exhibition, 597
Bunhill-fields burial-ground and occupants, 436
Bunyan memorial, 393
Burial: practices, evil, 634; station and mortuary, Islington, 25
Burnham church, doings in, 916
Buxton, sewerage of, 301, 323
Byzantine: and Gothic, 250; decorative colouring, 230

CAMBRIAN Archæological Association, 657
Cambridge, lecture-rooms, museum, &c., for, 31
Canada, Military Asylum, 474
Canadian Association of Surveyors, Civil Engineers, and Architects, 573
Canals, metropolitan, state of, 565
Candlestick of Thomas à Becket, 563
Canterbury, New Zealand, 298
Canynge Society, Bristol, 456
Canyngton Priory and Fair Rosamond, 694
Cathedral: Manchester, doings in, 810; Wells, 618
Cathedrals; and Churches, damp in, 854; stained glass in, 699; restoration question, 70
Cattle-market, Metropolitan, use for large building in, 932
Ceilings, 335
Cellars: drainage and ventilation of, 750; ventilate your, 582
Cells, sanctums, and crypts, 478
Cement *versus* wooden floors, 184
Census of 1861,—first volume of report of, 854
Chæronea, Lion of, discoverers of, 908
Chains and chain cables, 846
Chalcedony agate, 602
Chambers, Bacon's agreement with, 738
Chambers, Sir William, new materials for life of, 692
Chancel, half-timber, 483
Chancels, on the proportions of, 721
Chapel: Baptist, Leeds, 756; Exeter College, Oxford, 496; of House of Charity, Soho, 406
Chapels, Wesleyan, Congregational, and others, 771, 808: see also "Church-building News"
Chapter-house, Westminster, 386
Charcoal filters,—deodorization of sewers, 92, 119
Charing Cross railway bridge, 878
Chartres, and other French towns, a few days at, 8
Chatham, 696; waterworks, 477
Chelsea bridge, strength of, 909
Cheviots, traces of ancient towns on, 677
Child (A) as an investment, 785
Chiming church bells, 609, 895: see also "Bells"
Chimney-piece: marble, Alnwick Castle, 422; of majolica tiles set in Mansfield stone, 224
Chimneys, and chimney sweeping, 266, 301; construction of, 700, 738; Smoky, 50, 96
Christ Church, Oxford, new buildings, 856
"Christian Idealism," 589
Christmas time in 1862, 889
Church: All Saints', Kingstanley, 889; at Battersea, new for, 566; at Boston, U.S., 15; British, new at Naples, 321; Brixworth, 616; Cirencester, 644; Dale, see "Dale;" Deerhurst, Gloucestershire, 546; Dutch, Austinfriars, 870; Edenbridge, 67; German (R.C.) of St. Boniface, Whitechapel, 713; Hexham Abbey, 548; Killeshandra, new (R.C.) of, 822; Kimpton, 82; Minster, the works at, 872; Ponteland, 336; Protestant at Montpelier, France, competition for, 483; St. Alban's, Gray's-inn, 442; St. George's, Benenden, 308; St. James's-the-Less, Westminster, 186; St. John's (R.C.) Bath, 132; St. Matthew's, Bethnal-green, restoration of, 14; St. Mary's, Guildford, 681; St. Mary's, Martham, Great Yarmouth, 171; St. Nicholas's du Chardonneret, Paris, 785; St. Paul's, Clerkenwell, and schools, 7; St. Paul's, Southport, 678; St. Peter's, Mancroft, Norwich, 390; Stewkley, Bucks, 238, 335, 354; Unity, Upper-street, Islington, 890
Church: bells, see "Bells;" building news, see each weekly number; restorations in North Northumberland, 492
Churches: at Dover, 689; district, Duke of Northumberland's, 656, 677; overcrowding areas of with seats, 663; parish, 255
Cibber, Caius Gabriel, materials for life of, 835
Cirencester Church, 644
istern (A), old lead work, 604
Civil Engineers, see "Institution of"
Claimants, caution to extravagant, 34
Classic and Gothic, 211; the question of considered by a retired architect, 153, 180
Classic (?) school, the present, what is done by, 426
Clerk of works' duty, an opinion of, 51
Clerkenwell Sessions House, 583
Clifton College, Bristol, 682
Clock: and watchmaking, — the British Horological Institute, 184; tower, new, in Paris, 565
Closets: earth, and steam stoves, 794; self-acting, 719
Club: Garrick, a new home for, 28; rooms and baths, workmen's, at Sheffield, 695; union, workmen's, 934
Coal, carriage of to London, 766
College: Clifton, Bristol, 682; dramatic, see "Dramatic;" King William's, Isle of Man, 789; St. Mary's, Harlow, 28
Colliery accidents, see "Accidents"
Colour: brush, for large washes, 766; no sham, 431, 448; printing, 673; prizes, Architectural Museum, 13; the question of, 428
Comet, the new, 568
Comfort for pedestrians in wet weather, 809
Compensation cases: at Nottingham, 756; Charing-cross Railway, 519, 574; damage by obstruction, 897; differences, 827; railway,—doctors differ, 538
Competition and quantities in Glasgow, 772
Competition: Bath theatre, 608; Birkenhead cemetery, 95; Birmingham exchange buildings, 440, 549; Birmingham library, 338, 357; Blackfriars bridge, 13, 34,—analysis of designs, 67, 113, 484, 495, 732, 745; Brussels "Palais de Justice," 96, 332, 387; Carlisle bridge, Dublin, 619; Carlisle workhouse, 656; Christchurch schools, West Bromwich, 77; Dalhousie Institute, Calcutta, 354; Davy monument for Penzance, 14; Protestant church at Montpellier (Hérault), France, 483; for new exchange buildings at Liverpool,—1,000*l.* for a design, 845; Hull town-hall, 18; Macclesfield cemetery, 132; Oxford workhouse, 573, 637, 767; proposed, for completion of Duomo of Florence, 65; proposed, for completing Midland Institute, 300; Royal Hospital for Incurables, 18; Salters' Company's, 431; Surrey County Hospital, Guildford, 909; Sydney Houses of Parliament, 65, 86, 112
Competition, works submitted in, at Architectural Museum, 47
Competitions, 190, 229, 259, 281, 298, 336, 356, 375, 474, 499, 511, 555, 571, 656, 710, 732, 753, 794, 807, 819, 839, 861, 891, 934
Competitions: and taking out quantities, 773; management of, 18; on architectural, 933; open, in Spain, 707; quantities and, 728
Concrete bricks, experiments on, 859, 897
Congrès de Bienfaisance, Social Science Congress and, 387, 435
Congress: International, Brussels, 693; International Philanthropic, 157; Social Science, 348, 387, 402, 417, 435
Construction: arts of, King's College, 44; non-absorbent,—healthy dwellings, 72, 119
Constructions, vitrified, 47
Cooking and heating apparatus, 629; and kitchen ranges, 705, 726
Cooling, laws of, 41
Copper, an eagle in, 531
Copyright and patent right, 839
Corn Exchange, Norwich, 114
Cottage: building and sanitary appliances, 923; construction, 871
Cottages: for labouring poor, 411; on construction of labourers, and certain sanitary building appliances, 904
Cotton: spinners, British, 331; present state of, 465; sanitary state of, 849: see also under "Lancashire"
Council Despotism, 809
Courts of Justice, proposed new, 276
Coventry, condition of, 327, 361; local Board and "The Builder," 392
Cowsheds, licensing of, 802
Croly (Dr.'s) monument, 773
Cross: Queen Eleanor's, at Northampton, 599, 745, 793, 826
Crosses, ecclesiastical, 863, 881
Crowfield Chapel, near Ipswich,—half timber chancel, 483
Crypt, the Priory of St. John's, Clerkenwell, 242
Crypts, &c., 478
Crystal Palace: approaches, 283; Handel Festival, 458; stability of, 33

DALE CHURCH, 896,—Who's to blame? 791
Dalhousie Institute competition, Calcutta, 354
Damp: in cathedrals and churches, 854; in dwellings, 478
Dance, George, architect, 345
Dangerous trades, one of, in metropolis, 546
Darlington, new railway works at, 50
Davy, Sir H., monument to, 14, 112, 714
Death: from arsenic, 766; from foul air, 934; rate at health resorts, 676; rate of Torquay, 767
Deceased: Elmes, Mr. James, architect, 275; Grognet, Mr. George, architect, 717; Reinagle, Mr. Ramsay Richard, 890; Robson, Mr. Robert, 591; Thomas, Mr. John, sculptor, 275; Weale, Mr. John, architectural publisher, 928
Decoration: of International Exhibition building, 256; of theatres, 755; surface, 183; mural, 269; plaster, 348
Decorative: art in Italy, 62, 75; colouring, Byzantine, 230; design, art of, 185; painting, prizes for, 549
Deerhurst Church, Gloucestershire, 546
Delphi, French explorations, 105
Deodorization of sewers, 92, 119
Deptford pumping station and the southern high-level sewers, London, 453
Design, decorative, art of, 185
Detroit, Michigan, U.S., works in, 753
District surveyor, see under "Board of Works"
Dramatic College, near Woking, 256
Dover, St. Mary's in Castle, new church, 689
Drainage: Brighton and Hove, 429, 700; of cellars, 750; of houses, 222, 245; of small towns,—Sheerness and Sittingbourne, 585
Drainage, see also "Sewerage"
Drains, ventilation, of, 155
Drapers' Almshouses, Crutched Friars, 263
Drawings, Italian, Royal library, Windsor, 464
Drinking fountain movement, 681; fountain and statue of Myddelton on Islington-green, 262; fountain in Kennington Park, 206; in Maidstone, 678; in Regent's Park, 355; the Victoria, in Victoria Park, London, 512, 625
Dropmore, 541
Dublin, Exhibition palace, proposed, 499
Durham Architectural Society, 713
Dutch church, Austinfriars, 870
Dwelling: a healthy, essentials of; and extension of its benefits to labouring population, 56, 71, 107; houses, ill planned, 663
Dwellings: flowers in, see "Flowers;" for the poor, 519; healthy,—non-absorbent materials in construction, 72; of industrious classes at Hull, 571; workmen's, for Edinburgh, 170; working class,—Court of Common Council and, 909; see also "Cottages," "Houses," and "Lodgings"

EAGLE in copper, 531
Earth closets, 794
Ecclesiastical dilapidations bill, 338
Ecclesiological: report, 499; Society and the ecclesiological aspect of the International Exhibition, 475; Society, — Mediæval Court of Palace of Art and Industry, 420
Edenbridge Church, 67
Edinburgh, 484; architecture in, 895; Industrial Museum, 840; new Sheriff Court-house, 412; workmen's dwellings for, 170
Education: short time in, 272; technical, 895
Egress and ingress, 665
Egyptian toys, 350
Electro-telegraphic: delays, 634; progress, 190, 229, 732, *et passim*; news,—Malta and Alexandria cable, 436,—paying out Atlantic, 266
Eleusis, French explorations at, 37
Elmes, late Mr. James, architect, 275
Embankment, Thames, see under "Thames"
Enamel, works in, 412
Enamel: Limoges painted, 643; Salviati's Architectural, 767
Engineer Department, Royal,—military builders, 100
Engineering, new contrivances ancillary to, 711
Engineers, Civil, see "Institution of"
Engineers' Society, Civil and Mechanical,—girders, 274
Engineers, the Royal, 191
Engines of war, old and modern, 275
English Antiquities, 591
Ephesus and the Temple of Diana, 649
Estimate by a builder, recovery of charge, 538
Estimating, modes of, at Glasgow, 780
Eton, 541
Examination of architects, see "Architects"
Exchange Buildings, Liverpool, 1,000*l.* for a design, 845
Exhibition, Architectural, 157, 228, 254
Exhibition, Florence,—fine and decorative arts of Italy, 62, 75
Exhibition (Great) of 1851, memorial of, 6; memorial of Prince Consort and, 28; memorial of,—Horticultural Gardens, 730
Exhibition, the International of, 1862, or Palace of Art and Industry, 227, 313, 325, 328, 341,

343, 363, 383; an artist's gossip on, 328, 343; art designs, 490; a voice from the workshops as to furniture and decoration, 447; at Society of Arts, 403; award of prizes, 466; award day,—chat in the building, 505; awards, 557; awards to British and colonial exhibitors, 508; a fresh glance at building for, 21; building, decoration of, 81, 256; building, plant used in construction of, 546; building, a plea for, 755; building materials and manufactures in French division, 597; civil engineering, architectural, and building contrivances in, 905; commissioners' reception, South Kensington, 422; cooking apparatus and kitchen-ranges in, 705, 726; detached memoranda, 364, 472, 636, 675; ecclesiological aspect of, 475; exhibitors in, 102; foreign and English workmen and, 168; foreign materials in,—Italian marbles, 923; gossip about, 384, 408, 419, 455, 542; guides to, 308, 377; heating and cooking apparatus, 629; heating apparatus, and contrivances for prevention of smoke nuisance, 670; Hereford choir screen, &c., 329; juries for, 314; Mediæval Court at, 241, 420; metals, stone, slate, &c., in, 525; notes of, 743; objects in, shown for architectural beauty, 709; products and works of kingdom of Italy, 744; public works of France, 433, 469; results, 797; roads round and to, 146; sanitary improvements and construction,—jury reports, 730; sculpture in, 619; small appoaches to, 82, 113, 146, 191; stained glass in, 577; stained glass,—jury reports, 735; statistics of, 838; stones, metals, and maps in the French division, 561; the teaching of, 427; working men and, 448; works in precious metals, jewelry, &c.,—jury reports, 814: see also under "Books"
Exhibition palace, proposed Dublin, 499
Exhibition, permanent and universal for Paris, 637, 768, 773
Exhibition, Royal Academy, 330, 342, 367
Exhibitions, International, past and future, 815
Exeunt, 762
Explosive materials, warehouses for, 27

FALL of buildings: see under "Accidents"
"Fall (The) of the leaf," 591
Famine and fever, 869: see also "Lancashire"
Farm: architecture and cottage construction, 871; buildings, 92
Farmsteads, steam in, caution required with, 872
Female school of art, see "School of Art"
Festival of Siena, 39
Fever: and famine, 869; at Rotherham, 656, 607, 822,—see also "Rotherham;" typhoid, Keswick and, 157; typhus and typhoid, origin of, 13; typhoid, and its causes,—preventive measures, 25; typhus and typhoid, and diphtheria,—stagnant pools in rural districts, 189
Fine arts, state of in Italy, 62, 75
Fire: arrangements to prevent, 624; at New Cross, 644; clay, notes on,—the best non-conducting material of flame heat, 33; clay in buildings, 33, 77; near Gray's-inn-lane, 890; proof warehouses, 18; ships in the London docks, 555; "The Builder's," 862
Fires, 675; bad advice, 623; London, 92, 368
Flaxman drawings, 839
Fleas in floors, to destroy, 862
Fleet ditch and Underground railway, 456; another irruption of, 512
Flexmore's monument, 248
Flitcroft, Henry, architect, 345
Floors, wooden, cement *versus*, 184
Florence: architecture and decoration in, 834; Duomo of, competition for completion of, 65; exhibition of fine arts, 62, 75
Flowers: and greenery in the London shadows, 890; in dwellings, management of, 657: see also under "Gardens"
Flues, size of, 138
Food, our, 409; preservation of by ice, 749
Footlights, improved safety, 745
Foreign: countries, what we may get from, 885; office, proposed, 321; news, 435, 582,—see also *passim*; railways, 603; workmen, 320
Fountain: drinking, see "Drinking;" majolica for International Exhibition, 206
Fountains: in Trafalgar-square, 608; majolica, 869, 897; the Bayswater, 772
France public works of,—International Exhibition of 1862, 433, 469
Freemasons, 617
French: architecture,—house in Boulogne, 281; explorations at Eleusis, 37,—in Greece, Asia Minor, and Syria,—Delphi, 105,—Ancyra, 141,—Phœnician art, 161; Gallery, Pall-mall, 276; towns, elevation of and of public buildings, 294
Fresco *versus* oil, encaustic, Marouflage, and enamel, 706
Frescoes: of Houses of Parliament, decaying, 669; *verus* mosaics, 565, 793
Furniture, stained wood, 14

GALLERIES, 335; west, in churches, 376, 413
Gallery of illustration, 259
Gandon, James, architect, 345
Garden: in the City, a poor woman's, 604: see also "Flowers;" and "Rooftops"
Garrick Club, a new home for, 28
Gas, 662; and gas contractors in Dover, 854; coal, on igniting point of, 387; in York, 868; movement in Scotland, 355
Gasometers and tanks, Gye's, 266
Geometrical tracery, 41
Gibbons, Grinling, new materials for life of, 797, 846; early work of, 861
Gibbs, James, architect, 345
Girders, 274; cast and wrought iron,—Fairbairn's statement, 86; rolled iron, 583
Glacial era, Alps in, 720
Glasgow: Archæological Society,—vitrified constructions, 47, 241
Glasgow Architectural Society, 228, 765, 869;—on architectural competitions, 933
Glasgow: the condition of—survey of our towns, 69; its empty houses and its house factors, 119; measurements and tenders at, 82; the new year, 1; water supply, 51
Glass, stained: the new, in Westminster Abbey, 557: see also "Painted;" "Stained;" and each weekly number.
Glazed roofs, to render waterproof, 846
Glen (The) Peebleshire, 586
Golden and immutable mean (The), 549
Gothic and Byzantine, 250
Gothic and Classic, 211; the question of considered by a retired architect, 153, 180
Gothic works (The) of the day, 772, 895
Granite, Penrhyn, 773
Gray's Inn-lane, state of, 846; fire near, 890; Tyndall's-buildings, 890
Greeks, what was done by, and what is done by the present Classic (?) school, 426
Green Park a monument, 201, 256
Greenery and flowers in the London shadows, 890: see also "Gardens"
Grognet, late Mr. George, architect, 717
Grotesque (The), 245
Guernsey intelligence, 571
Guildford: County hall, Surrey, 566; St. Mary's, 681; so-called restoration in, 755.
Guildhall on Lord Mayor's day, 820

HACKNEY, fall of houses in, 109, 138
Halicarnassus, researches at, 217
Halifax, 336
"Halting-places," 466
Hampstead-heath, 535
Handel Festival at Crystal Palace, 458
Hanover-square rooms, 49
Hartlepools, the two,—Condition of our towns, 741, 777
Hartley colliery, fatal accident at, 81; a plea for our pit workers, 106
Hartley Institute, Southampton, 791
Hastings, 860; pier and harbour scheme, 736
Hawksmoor, N. architect, 562; grave of, 590
Health: of the navy, 802; pigs and, see "Pigs;" resorts, death rate at, 676
Heat, solar and terrestrial, on development of, 496
Heat, stone, and, 157
Heating: and cooking apparatus, 629, 670
Hedsor Church, 916
Helmet, Medhurst's tropical felt, 645
Hemsted House, Kent, 242, 259
"Henri Deux" ware,—Loan Museum, 580
Henry VII.'s Chapel, on repairs of, 43
Hereford: Cathedral choir screen and corona and group of gas standards in Palace of Art, 329; cross, state of, 322
Heroes of loom and trench, 814
Hexalpha, or Pentacle, 204
Hexham Abbey, 548, 632; the triptych at, 663
Hodson, Major, monument to at Litchfield, 44
Homes, healthy, the provision of, 173: see also "Dwellings," "Houses," "Healthy," &c.
Horological Institute, British, 184
Horticultural: Society, Royal, 584; Sir W. Dilke's prize, 429; Gardens, 271, 370; Gardens, Memorial of '51 Exhibition, 730
Hose, Vaucher's woven, 368
Hospital: Birkenhead, 870; Chalmers, Banff, 658; Devonport, 474; for Incurables, Royal, 18; Jews', Lower Norwood, 514; St. Mary's, Beddington, 536; St. Thomas's, see "St. Thomas's"; sites and hospital teaching, 749
Hospitals, military, official plans for, 872
Hotel: a new, for Brighton, 914; new, Saltburn-by-the-sea, York, 15; London Bridge railways terminus, 163; Westminster Palace, plan and construction of, 165
Hotels, 164
Hounslow, local Government Act, 573
Hours (The) and the weeks, 591
House: architecture of the provinces,—Leeds, 623; demolition of a,—Metropolitan Management Act, 794; of Commons, 137
Houses: and population, 786; badly built, 357; badly built, and legal reform, 394; healthy,—structural improvements, 158; iron girded, lightning conductors in, 658; middle class, in London, 625; of Parliament, see "Westminster Palace;" to burn, 738; workmen's, out of town, 86: see also "Dwellings"
Housing of the army,—a national scandal, 797
Hull: dwellings at, 571; townhall, 18
Hyde-park, road across between Bayswater and Brompton, 27, 44, 138, 191
Hydraulic difficulty, 827

ICE: artificial, 271; preservation of, 146, 230; preservation of food by means of, 749
"Inclosure Office" (The), 376, 394
India: mismanagement of public works in, 509, 527, 543, 573, 888; Department of Public Works in, 932; on the architecture of, 390, 399
Indies, West, 713
Industrial Museum, Edinburgh, 840
Infant mortality, excess of in England, 530
Infanticide: by accident, 856, 725
Inn libraries for snowed-up travellers, 96
Institute of Scotland, Architectural, 77, 240
Institute, Birmingham and Midland, 184, 300
Institute (Royal) of British Architects, 25, 64, 204, 239, 278, 335, 374, 438, 840; professional practice and charges, 47; conservation of ancient monuments, 93; the Royal Medal, 155; the medals,—hotels,—164; subjects for medals and prizes, 1862, 230; the medals, 317; the question of colour, 428; voluntary architectural examination, 454; steps backward at, 777; the gagging system at, 817; the false step at, 914
Institution of Civil Engineers, 47, 96, 266, 839; prizes offered by,—session 1862-63, 803; bridge across the Tamar at Saltash, 209; railway accidents, 277; reclamation of lands from seas and estuaries, 347; Malta and Alexandria submarine telegraphic cable, 436; premiums awarded by, 495; Hownes Gill Viadut, 878; value of technical education, 895
Insurance of workmen's tools, 915, 935
International: Bazaar, South Kensington, 318; Exhibition, see under "Exhibition;" Philanthropic Congress, 157
Ipswich: Mechanics' Institution,—re-opening of lecture hall, 584; surveyorship, 393
Irish News, 394, 412, 439, 474, 512 · also *passim*
Iron: architecture,—new iron steeple to Brussels, 434; beams, on, 284; changes in, 895; girders, rolled, 583; strength of in construction, 438; what is, 511; what is good? and how got? 203
Isle of Man, King William's College, 789
Islington: improvements in, 13; state of, 601
Italian: architectural drawings in Royal Library at Windsor, 464; marbles, 923; sculpture of Middle Ages, &c., 532
Italy: Paris and, 179; products and works of kingdoms of, 744; state of fine and decorative arts in, 62, 75

JENNER MONUMENT, 273
Jews' Hospital, Lower Norwood, 514
Joiners' Company (The) history of, 681

KEAN, Mr. Charles, testimonial to,—our silversmiths, 229, 249
Kent-and-nature Kent, 563
Keswick, and typhoid fever, 131, 157
King's College,—arts of construction, 44
King's Cross, the site of, 281
Kitchen ranges, 705, 726

LADIES' SANITARY ASSOCIATION, 429
Lambeth new bridge wire ropes, 862
Lancashire, distress in, 113, 510; cotton famine, 701, 719, 802; and Cheshire, relief for, 635; relief fund of painters in water-colours, 853; sanitary state of, 849; see also "Water Colour," and "Cotton"
Landlord and tenant, 591; law of, 897
Language, why not a new, 772
Laundries, improvement in,—drying-room, 241
Layer Marney, Essex, 581
Lead: alleged discovery of, 863; work, old, a cistern, 604; work, on, 319
Lectures on architecture at Royal Academy, by Professor Smirke,—41, 57, 73, 90, 109, 128, 143, 234, 262
Leeds: house architecture of the provinces, 623; increased water-supply for, 657; Mechanics' Institution, 494; new Baptist chapel, 756; Philosophical hall, reopening of, 934; proposed infirmary for, 859

Leicester Congress of British Archæological Association, 578
Leicester-square, save, 870
Leith, new poor-house for, 499
Lewis (The), 67, 96; a Mediæval, 278
Lichfield cathedral, new font, 168
Liebig on drainage and British agriculture, 800
Life-belts and boats, 837
Lighting: of Greek temples, 721; of theatres, 888; of towns, improved, 33
Light-houses in France,—new lamps for lenticular lanterns, 290
Lightning conductors in iron-girded houses, 658
Lights, question of obscuring, 549
Lincoln Architectural Society,—meeting at Market Rasen, 439
Lincoln's-inn, a ramble through, 293
Lion of Chæronea, original discoverers of, 908
Liverpool Architectural and Archæological Society, 47, 749, 856, 896; closing address, 349
Locke memorial, Barnsley, 296
Locke, engineer, and Brassey, contractor, 901
Lodgings afloat, 132
Lodgings: for Exhibition visitors, 496; of the poor, 481
London: and county bank, Lombard-street, 604; and Paris streets, 583; atmosphere, 138; bridge, 683; fires, 92; middle class residences in, 625; milk,—Social improvements, 149; on overcrowding in, and some remedial measures, 422, 448; on the Thames,—the desired embankments, 62,—see also "Thames;" shadows, greenery, and flowers in, 890.—see also "Gardens;" street architecture, 273, 478: see also under "Sanitary"
Looking-glasses, repair of silvering of, 48

MAESHOWE: Orcadian barrow of, 534, 585
Magenta, 545
Majolica, 249; fountains,—a query, 859, 897,—see also "Fountain"; tile chimneypiece, 224
Malvern, new hotel at, 585
Manchester Albert Memorial, 804
Manchester Architectural Association, 228, 877
Manchester Cathedral, doings in, 810
Manchester: sanitary and social jottings in, 813, 833; cellar dwellings, 833
Manchester: training grounds, 902; works, 264
Mansion in Piccadilly, Baron Rothschild's, 786
Manufacturers in French division of Great Exhibition, 597
Marbles, Italian, 923
Mark masonry, 784
Market, Spitalfields, 27
Masters and men,—length of a day, 917
Mauve, 545
Mean (The), golden and immutable, 549
Measurements and tenders,—the system pursued in Glasgow, 82, 780
Medium, looking through a, 202
Melbourne, Victoria, 636, 789
Memorial: Bunyan, inauguration of, 393; Locke, Barnsley, 296; Great Exhibition of 1851, see "Exhibition;" Pritchard, Shropshire, 387
Memorials: Albert, see "Albert;" and statues, 373, 445, 501, 536
Memorials, public, 84, 117, 886: see also *passim* in miscellanea
Metals in French division of Internationrl Exhibition, 561
Metropolis, projects affecting, 837
Metropolitan: Board of Works, see "Board of Works;" census of 1861, 854; main drainage, see under "Sewerage;" prisons, 383; sewage, see under "Sewage; thoroughfares, stoppage of, 494; trades, one of the dangerous, 546
Middle level fen district, the flood in, 392, 402, 429
Middle-row stops the way, 889
Military Asylum, Canada, 474
Military hospitals, official plans for, 872
Milk, London,—social improvements, 149
Miners, our, 148; havens of refuge, 158
Mines: and miners of United Kingdom, 931; excessive loss of life in British, 59
Minsters and parish churches, 255
Mirrors, repair of, 48
Miscellanea, see each weekly number
Models, architectural, 18, 51
Modern work, what should be spirit of, 507
Monoliths, 369
Mont Cenis, tunnel through, 381, 484
Monument: Bishop of Elphin's, Ireland, 78; Dr. Croly's,—St. Stephen's, Walbrook, 773; Sir H. Davy's, Penzance, 14, 112, 714; Emperor Nicholas's; at St. Petersburg, 373; Flexmore's, 248; Hodson's, in Lichfield Cathedral, 44; Green Park, a, 201, 256; Jenner, 273; national, to Prince Consort,—see under "Albert memorial;" Stephenson, inaugurated, 736
Monumental, 204, 376, 870
Monuments: and remains, architectural, on conservation of ancient, 22, 42, 93; in Rome, story of, 233
Mosaic, pictorial, as an architectural embellishment, 199, 218
Mosaics: on ancient found in Britain, 564; Salviati's, 602; *versus* frescoes, 565, 793
Mouldings: do they improve architecture? 50; of Chichester Cathedral, Boxgrove Priory, and Shoreham Collegiate Church, 421
Mural decorations, 269, 459
Museum, architectural: the colour prizes, 13; works submitted in competition at, 47; award of prizes by, 167; opening meeting at, 178; coloured panels, 230, 278; tile pavements, 292; carved wood prize panels, 406
Museum, Loan, at South Kensington: facts for workmen as to, 491, 506; "Henri Deux" ware, 580
Museum: new, for Cambridge, 31; of architecture, a national, on formation of, 440, 463; Soane, 165; South Kensington, and the grotesque, 245,—South Kensington, the new court, 305,—special exhibition of art objects in, 402
Music: hall, Strand, 768; just a little after dinner, 33; and the stage, 322, 394, 720, 802; in Brussels, 566; Royal Academy of, 517
Myddelton, statue of, on Islington-green, 262; inauguration of, 546
Museums, local, 354

NAPLES, new British church, 321
Natural philosophy at Oxford, 338
Navy, health of, 802
Neapolitan porcelain, 763
Needle-working, decay of, 493
Newcastle: officials repentant, 162; glance at old houses of, 696; new Grammar School, 767
Newport, Rhode Island, U.S., 278
New Zealand, news from, 32; Canterbury, 298
Niello work, 276, 412
Nile, up the, 437
North London Gallery, Museum, and School of Art, 155
Northamptonshire antiquities, notes upon some, 783; see also under "Cross"
Northern Architectural Association, 748; the sanitary question, 241; new Grammar Schools at Newcastle, 767
Nottingham, improvement and buildings, 607
Nottingham, sanitary condition of, 855
Noxious vapours, 619
Nuisances, inspectors of, see under "Pigs"

OBELISK (The), 211
Obelisks and other monoliths, 369
Oils, mineral, 77
Opera, Royal Italian, 584
"Operative Bricklayers' Society," certificate of, 820
Orders, architectural, science of, 34
Ordnance survey, 717
Ornament, science of, 34
Outbuildings, nuisance of, 394
Overcrowding: in London, 422, 448; in workshops, 457
Overstone Hall, Northamptonshire, 149
Oxford Architectural Society, 240; new buildings in Oxford, 476
Oxford: Chapel of Exeter College, 496; Christchurch, new buildings, 856; new buildings in, 476; workhouse, see under "Competitions"

"PAGAN ART," 368
Painted glass, 763
Painters: company,—prizes for decorative painting, 549; (The) St. Luke and, 250: see also "Water Colour Society"
Painting, the English school of, 353
Paintings, wall, discovery of in Westmeston Church, 699
Peabody, Mr., and London poor, 228, 377
Pentacle (The), 204
Perambulators, 861
Persian ware, 673: see also "Rhodes"
Pews, 335
Palace of Art and Industry: see "Exhibition"
Palestine, architecture of to Crusades, 309
Panels: coloured, 230; prize, 406
Paper-hangings, green, 336
Paper-splitting, 696
Paraffine and American mineral oils, 77
Paris, 228, 477, 494, 571, 603, 750; and Italy, 179; and London streets, 583; church of St. Nicholas, 785; new clock-tower in, 565: of today, 747; the new theatres in, 761, 777; universal and permanent Exhibition, 637, 768, 773
Parthenon, a Mediæval, 567
Patent right and copyright, 832
Patents connected with building, 34, 120, 284, 301, 323, 485, 520, 645, 665, 795, 828, 846
Pavements, tile, 292
Phœnician art,—French exploration, 161
Photographs: architectural, 631; from East, 549
Piccadilly, threatened nuisance in, 171
Pictures, Mr. Facon Watson's, 624
Picturesque in architecture, 565
Pigs: and a board of health, 645, 665; and inspectors of nuisances, 701
Piping "severing," 897
Plaster decorations, 348
Plymouth, destruction of Works at, 619
Police! 619
Pond making, 300
Population and houses, 786
Porcelain, Capo di Monti, 763
Portland: breakwater, 914; stone, 582
Portraits, national, 292
Preston: town-hall, 620, 695; schools, 855
Prince Consort, see "Albert"
Prince of Wales, marriage of, 837, 869
Prisons: and reformatories, 393, 693, 766
Prizes, colour, Architectural museum, 13
Provincial news, see each weekly number
Public buildings: ingress and egress at, 665: see also "Foreign-office"
Public works in India, see under "India"
Pugin, Welby, on life of, 345, 364

QUANTITIES: and competitions, 728, 773,—in Glasgow, 772; recovery of charges for taking out, 557; surveyors and contractors, 890
Queen's Cross, see "Cross"

RAG collecting brigade and London waifs, 331
Railway: accident, 277,—cost of a, 549,—dangers of the line, 661; Banstead and Epsom Downs, 113; bridge, Charing-cross, 878; company, Stockton and Darlington,—new works at Darlington, 50; compensation case,—Charing-cross railway, 574; compensation case,—doctors differ, 538; Hammersmith and City extension, fall of arches on, 820, 836, 862; London, Chatham, and Dover,—reckless destruction of property at Newington, 174; management, 637; matters, 719, and *passim*; Metropolitan Underground, see "Underground;" station, burial, and mortuary on Great Northern, at Islington, 25; station, Central London, 909; station, Llandudno junction, 474; station, new, at Stafford, 332; station of Chatham and Dover line in Blackfriars-road, 67; stations, overcrowding of, 565; Terminus Hotel, London Bridge,—plaster decorations, 348; Tudela and Bilboa, passage of across the Pyrenees, 534; tunneling superseded,—locks, 167; viaduct near Dunkeld, 784
Railways: foreign, 603; metropolitan, connexion of, 566; rating, 15
Reclamation of lands from seas and estuaries, 347
Reformatories and prisons, 693, 766
Reinagle, the late Mr. Ramsay Richard, 890
Restoration question as to cathedrals, 70
Rhodes, researches in, Persian pottery, 693
Rings, ancient, 818
Ripley and his rule, 563
Roads: and doings in Kensington, 413; to and round the International Exhibition building,—see under "Exhibition;" the, in Stockwell, 211
Robson, late Mr. Robert, 591
Rome, excavations in, 130; excavations on Palatine, 177, 197; monuments in, story of, 233; the Leonine City,—Vatican, 236; more from, 253; walk and talk in, 289, 398, 470, 529, 652,—in Baths of, 921; the milestones of, 881
Roof tops, utilizing, 681: see also "Gardens"
Roofs: glazed, waterproofing, 846; vaulted, 888
Rooms, ventilation of, see under "Ventilation"
Rosamund, Fair, Canyngton Priory and, 694
Rotherham, water supply and fever questions, 822, 607, 656, 700, 737
Rothschild, Baron, mansion of in Piccadilly, 786
Roubiliac, L. F., materials for life of, 868, 908
Royal Academy: architecture at, 342; and architects, 917; early architectural members, 633; exhibition, 330, 367; lectures at, see "Lectures"
Royal Academy of Music, 517
Royal Engineers, see under "Engineers"

SAILORS' HOME, London Docks, 708
St. Alban's Abbey, 582
St. Alban's Architectural Society, 765
St. Anne's Chapel, Temple, remains of, 221
St. James's, Westminster, a complaint from, 721
St. Luke and the Painters, 250
St. Martin's Hall, recent fall in, 827
St. Mary's Tower, Taunton, 677
St. Pancras, sanitary condition of, 827
St. Paul's Cathedral, the surroundings of, 295
St. Stephen's, Walbrook,—Croly monument, 773

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XX.—No. 987. JANUARY 4, 1862. Price Fourpence.

ILLUSTRATIONS.

Birmingham Cemetery Chapels, at Witton.—Mr. R. Clarke (Nottingham), Architect 11
Plan of Episcopal Chapel, and Dissenters' Chapel, Birmingham Cemetery 10
St. Paul's, Clerkenwell, Church and Schools.—Mr. T. Roger Smith, Architect 7

CONTENTS.

The New Year.—Glasgow 1
On Early Printed Books 2
Social and Sanitary Science in the Middle Ages 3
To Cut the Strongest Rectangular Beam out of a Tree of Circular Section 6
The Memorial of the Great Exhibition of 1851 6
St. Paul's Church and Schools, Clerkenwell 7
Proposed Extension of Tottenham-court road 8
A few Days at Chartres and other French Towns 8
"The Windsor Fever" 9
Proposed Memorials of the Prince Consort 9
The Future of St Thomas's Hospital 9
Birmingham Cemetery 13
Improvements in Islington 13
As to the New Bridge at Blackfriars 13
The Colour Prizes: Architectural Museum 13
The Origin of Typhus and Typhoid Fevers 14
Bill for Thames Embankment 14
Proposed Monument to Sir Humphrey Davy in Penzance.—Competition 14
Stained Wood Furniture 14
Two more Infernal Machines exploded in Sheffield 15
The Restoration of St. Matthew's, Bethnal green 15
New Hotel, Saltburn-by-the-Sea, York 15
New Church in Boston, United States 15
Rating Railways 16
A Reply to the Report of the Committee on the Decay of the Stones at the New Palace at Westminster 16
Stained Glass 17
Provincial News 17
The Stage 18
Architectural Models 18
Fireproof Warehouses 18
Management of Competitions 18
Hull Town-Hall Competition 18
Royal Hospital for Incurables: Competition 18
Books received: The Sermon on the Mount (Dyer); Rogers's Domestic Life in Palestine (Bell & Daldy) 18, 19
Miscellanea 19

THE BUILDERS' BALL, in aid of the

Funds of the Builders' Benevolent Institution, is fixed to take place at WILLIS'S ROOMS, St. James's, on THURSDAY, 20th FEBRUARY, 1862. Gentlemen desirous of promoting the interests of the Charity by becoming Stewards, will be pleased to forward their names to the Hon. Secretary, Mr. JOSEPH BIRD, at the Office, 23, Southampton street, Bloomsbury.

THE ARCHITECTURAL EXHIBITION, 1862.

The Committee beg to announce that the EXHIBITION will OPEN as usual NEXT YEAR. All works to be sent to 9, Conduit-street, on the FIRST MONDAY in MARCH. Carriage from and to the country will be paid.

The Committee beg to remind Architects that this Exhibition will certainly be seen by visitors of all nations, and they trust that the Collection of Designs and Models will worthily represent the position of the art in Great Britain.

The Collection of Building Materials and Patents will also be comprised as usual in the Exhibition.

JAS. FERGUSSON, F.R.A.S. } Hon. Secs.
JAS EDMESTON, F.R.I.B.A. }

ROYAL ACADEMY of ARTS.

SYDNEY SMIRKE, Esq. R.A. will deliver a COURSE of FIVE LECTURES on ARCHITECTURE, on the evenings of THURSDAY, JANUARY 9th, 16th, 23rd, 30th; and of THURSDAY, the 6th of FEBRUARY. The Lectures commence each evening at EIGHT o'clock. JOHN PRESCOTT KNIGHT, R.A. Sec.

SOUTH KENSINGTON MUSEUM.—

After the 1st JANUARY, 1862, and till further notice, the South Kensington Museum will be CLOSED on WEDNESDAY EVENINGS, and OPENED instead on SATURDAY EVENINGS, till TEN p.m. Admission free.

By order of the Committee of Council on Education.

December 27, 1861.

ORGANIC CHEMISTRY.—DR. HOFMANN, F.R.S., will commence a COURSE OF THIRTY LECTURES on ORGANIC CHEMISTRY, on TUESDAY next, the 7th instant, at TEN a.m.; to be continued on each succeeding Wednesday, Thursday, Friday, and Tuesday, at the same hour.

These Lectures will be delivered at the Laboratory of the Government School of Mines, College of Chemistry, Oxford-street. Fee for the Course, £3. TRENHAM REEKS, Registrar.

METROPOLITAN BUILDING ACT.—

TO BUILDERS and OTHERS.—The Metropolitan Board of Works having approved of No. 1, Portland-terrace, Grahame-road, Hackney, as the District Office for West Hackney District under the Metropolitan Building Act, parties proposing to execute any building operations in this district, are requested to give notice to the District Surveyor at the above Office.

GEORGE LEGG, District Surveyor.

City Office, 61, King William-street, London Bridge,
December 30th, 1861.

The West Hackney District comprises such part of the parish of Hackney, as is westward of the Clapton and Upper Clapton roads.

ARCHITECTS' BENEVOLENT SOCIETY

PATRONS.

Sir Robert Smirke. A. J. B. Beresford Hope, Esq. M.P.

PRESIDENT—Sydney Smirke, Esq. R.A.

TRUSTEES.

Philip Hardwick, Esq. R.A. Charles R. Cockerell, Esq. R.A.
Geo. Gilbert Scott, Esq. R.A.

TREASURER—William Tite, Esq. F.R.S. M.P.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 32, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

LECTURES to WORKING MEN.—

Government School of Mines, Jermyn-street. The Second Course, consisting of Six Lectures on the FIRST PRINCIPLES of CHEMISTRY, by Dr. HOFFMAN, F.R.S., will be commenced on MONDAY NEXT, 6th JANUARY, at EIGHT o'clock. Tickets may be obtained by Working Men only, from Ten to Four o'clock, upon payment of Sixpence for the whole course. Each applicant is requested to bring his name, address, and occupation written on a piece of paper, for which the ticket will be exchanged.

TRENHAM REEK, Registrar.

CONTRACTS.

TO IRON-FOUNDERS and OTHERS.—

Required, TENDERS for CAST-IRON PIPES, BENDS, BRANCHES, SYPHONS, &c. for the Adelaide Gas Company, South Australia. Specifications to be seen at the Office of Messrs. FILBY & CO. 63, Fenchurch-street, E.C. London, between the hours of TWELVE and TWO. All communications to be addressed to the Company's Agent, Mr. J. C. LANYON, Jun. to care of Messrs. Filby & Co. Tenders must be received on or before the 10th day of JANUARY next.

THE DOCK COMPANY, at Kingston-upon-Hull.—Dock Office, Hull, 19th Dec. 1861.—PATENT SLIP.

Notice is hereby given, that the Dock Company at Kingston-upon-Hull are prepared to receive TENDERS from parties willing to provide them with a PATENT SLIP, not less in size and capacity than the largest of the existing Slips at Kingston-upon-Hull, for the use of vessels frequenting the port. A statement of the "Conditions" may be obtained upon application to the Secretary. Accompanying these Conditions is a "Form of Tender," upon which only Tenders will be received. Tenders must be sent in on or before TWELVE o'clock at noon of the 18th day of JANUARY next, addressed to the Secretary. By order of the Board of Directors,

(Signed) W. H. HUFFAM, Secretary.

TO DUSTMEN, SCAVENGERS, and

OTHERS.—Notice is hereby given, that the Crown Estate Paving Commissioners will be prepared to receive TENDERS from persons willing to CONTRACT for the REMOVAL of DUST, Dirt, Ashes, and Cinders, from the several houses and premises within the district under their jurisdiction in that respect, for a period of one year, from the 17th day of January, 1862. Printed particulars and Forms of Tender can be obtained upon application to us here, where Tenders, sealed, and addressed to "The Crown Estate Paving Commissioners," and endorsed "Tender for Dust," are to be delivered at or before THREE o'clock on WEDNESDAY, the 8th day of JANUARY, 1862. FRANCIS ADAMS, Clerk to the Commissioners.

No. 1, Whitehall place, Dec 20, 1861.

WORKINGTON DOCKS. — To CONTRACTORS.—TENDERS are invited for the CONSTRUCTION of a WET DOCK for the Right Honourable the Earl of Lonsdale, at Workington, in the County of Cumberland. Lithographed specifications and conditions may be obtained, and the drawings seen, on and after MONDAY, the 6th JANUARY, 1862, at the Offices of Messrs. LUMB & HOWSON, Solicitors, Whitehaven; or of Mr. A. M. RENDEL, C.E. 8, Great George-street, Westminster. Sealed Tenders, marked on the outside cover "Tender for Workington Dock," must be delivered to Messrs. LUMB & HOWSON, Solicitors, Whitehaven, on or before TUESDAY, the 28th JANUARY, 1862. The Earl of Lonsdale does not bind himself to accept the lowest or any Tender.

8, Great George-street, Westminster, 1st January, 1862.

SURBITON IMPROVEMENT ACT, 1855.

SURBITON DRAINAGE.—TENDERS are required for the FORMATION of 2,541 yards of MAIN SEWER, to commence in Berry-lane, at a point marked H in a plan deposited at the Office of the Surbiton Improvement Commissioners, and to terminate at the Lambeth Sewer, in the Brighton-road, at a place marked A in the before-mentioned plan. Also for the formation of 1,200 yards of Lateral Sewers, also fully marked out and described in the before-mentioned plan. A full specification and plans of the intended works may be seen at the said Offices of the Commissioners, Victoria road, Surbiton, any evening, between the hours of FIVE and SEVEN. Tenders to be sent on or before SATURDAY, the 11th day of JANUARY, 1862. The Commissioners do not bind themselves to accept the lowest or any Tender.

JAMES BELL, Clerk to the said Commissioners.

Dated this 20th day of December, 1861.

The Time for Tendering has been EXTENDED to the 18th day of JANUARY

MIDLAND RAILWAY.—The Directors

are prepared to receive TENDERS for the CONSTRUCTION of the FOUNDATIONS, BASEMENT WALLS, and CELLARS under their Warehouse, to be erected at the Saint Pancras Goods Station, London. Copies of the quantities may be obtained at the Engineer's Office, Derby Station, on and after the 1st day of JANUARY next. The drawings and specification may be seen at the above Office, from the 1st to the 6th day of JANUARY, and at the Company's temporary Office, Elm Lodge, King's-road, Saint Pancras, from the 7th to the 13th day of JANUARY, both inclusive. Sealed Tenders, in the amount, to be forwarded to the Secretary of the Way and Works Committee, Derby Station, not later than TEN A.M. on MONDAY, the 14th day of JANUARY next. The Directors do not bind themselves to accept the lowest or any Tender, or to pay any expenses connected with any of same.—By order,

G. N. BROWNE, Secretary.

Derby, December 24th, 1861.

CONTRACTS.

GLOUCESTER WATER-WORKS.—

The Gloucester Board of Health are prepared to receive TENDERS for PROVIDING and FIXING all their Waterworks—

CONTRACT L.—Two Wrought Iron Triangular Girder FOOT BRIDGES, 96 and 88 feet span, with Iron Fencing.

CONTRACT M.—About 600 Yards of Wrought Iron Continuous FENCING, and other Works, at Witcombe, about six miles from Gloucester.

Plans, drawings, and specifications, may be seen at the Office of Mr. W. McLANDSBOROUGH, Assoc. Inst. C.E. Surveyor to the Local Board, Corn Exchange, on and after SATURDAY, JANUARY 4th. Tenders to be sent to Mr. K. H. FRYER, Clerk to the Local Board, Gloucester, under cover, addressed to the Gloucester Local Board of Health, on or before the 15th instant.

Gloucester, 1st January, 1862.

IPSWICH MECHANICS' INSTITUTION

and LECTURE HALL.—To BUILDERS.—Persons desirous of CONTRACTING for MAKING certain ALTERATIONS and ADDITIONS to this Institution, may see the plans and specification at my Offices, Museum-street, Ipswich, on and after MONDAY, the 6th inst.; and all Tenders are to be delivered to me, sealed, and endorsed "Tender for Works at Mechanics' Institution," on or before TUESDAY, the 14th instant. The Committee do not bind themselves to accept the lowest Tender.

R. M. PHIPSON, Architect.

Ipswich, January 2, 1862.

BUILDERS willing to TENDER for

sundry ALTERATIONS and REPAIRS to be made at 126, Bishopsgate, Without, and 1, Great Winchester-street, are requested to call on the premises, on and after JANUARY 6th. Tenders to be delivered at the Architect's Office, on MONDAY, the 13th, at FOUR o'clock, who reserves the right of rejecting the lowest or any Tender.

HENRY McCALLA, C.E. Architect.

Office, 25, Westbourne place, Eaton square, S.W.

TO BUILDERS.—Persons desirous of Tendering for the ERECTION of a PAIR of VILLAS, at Witham, Essex, can inspect the Drawings and Specification at my Office at Chelmsford, on and after MONDAY, the 6th of JANUARY. Tenders to be delivered to me on or before SATURDAY, the 18th of JANUARY. The lowest or any Tender will not necessarily be accepted.

FRED. CHANCELLOR, Architect &c.

25, Old Broad street, London; and Chelmsford, Essex.

TO BUILDERS.—Persons desirous of Tendering for the ERECTION of COVERED YARDS, at Tillingham Hall, Essex, for the Trustees of Dean Clarke's Charity, can inspect the Drawings and Specification at my Office at Chelmsford, on and after WEDNESDAY, the 8th of JANUARY. Tenders to be delivered to me on or before SATURDAY, the 18th of JANUARY. The Trustees do not pledge themselves to accept the lowest or any Tender.

FRED. CHANCELLOR, Architect, &c.

25, Old Broad-street, London; and Chelmsford, Essex.

HAMMERSMITH.—OFFERS for

BUILDING SIX-ROOMED HOUSES may be sent to Mr. FLEMING, Solicitor, 22, Cannon-street, E.C. where plans and specifications may be seen.—BUILDING LAND TO LET.

BRYCESON'S ORGAN FACTORY,

BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1795. Apply for PRICED CATALOGUE of St Cecilia, Scudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or re-modelled, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TRACING and DRAWING PAPERS.—

WATERLOW'S TRANSPARENT TRACING PAPERS.
LEON'S ENDLESS FRENCH TRACING PAPERS.
ENDLESS TRACING LINEN AND CLOTH.
WHATMAN'S DRAWING PAPERS and CARTRIDGES.
ENDLESS DRAWING CARTRIDGES, 54 INCHES WIDE.
MOUNTED DRAWING PAPERS ALWAYS READY
WILLIAMSON'S SECTIONAL LINES for ENGINEERS.
WATERLOW & SONS,
WHOLESALE and EXPORT STATIONERS
(Contractors with her Majesty's Stationery Office, and the principal Railway Companies in England),
London-wall, and Parliament-street, London. Samples sent free

GAS COMPANIES, GASFITTERS, AND PLUMBERS CAN BE SUPPLIED WITH

SCOTT'S NEW PATENT LEATHER-

WASHERS, for union-joints, high-pressure water-taps, and screw-joints in general, at 3s. per thousand, in 1, 1½, 2, 2½, and 3 inch diameters. As "time is money," when rightly considered, the Patentee remarks that a considerable saving is ensured by having WASHERS ALWAYS AT HAND, ready cut, in every size, and correct thickness, requiring an expert fit without any TRIMMING after.—Manufactured only by the Patentee, L. B. Company, Worcester, and supplied to the Trade by all Wholesale Factors and Warehouses.

DRAWING MODELS. — J. D. HARDING'S, complete in hard wood, £1 11s. 6d. — WINSOR & NEWTON, 38, Rathbone-place, London, and all Artists' Colourmen.

TO CARPENTERS, JOINERS, and

BUILDERS, of moderate capital.—TO BE DISPOSED OF, the EXCLUSIVE RIGHT of an ingenious PATENT, which has commanded an extensive business, and would do more so in other hands. The director would require to be a person who thoroughly understands joiners' work from the bench, and making out working drawings. £500 would suffice for purchase and capital necessary.—Application to be made, under cover, to R. Y. Office of "The Builder."

N.B.—No correspondence will be entered into without a satisfactory exchange of references.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the



admission of Pure Air through an

EXTERNAL WALL.

With single pulley, from 5s. each; with leading pulley, from 6s. 6d. These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

DREDGER TO LET.—A DREDGING-BOAT, in excellent repair, fitted with Machinery, combining all the latest improvements, will dredge 8 feet deep, and is well calculated for River work; width does not exceed 11 feet; draught of water, 3 feet. Now lying at Peterborough, and may be seen by applying to Mr. WILLIAM READ, Boat Builder, of that place. For further particulars, apply to Mr. GEORGE SIDDONS, Gunville.

MR. BURBIDGE, ARTIST and ARCHITECTURAL COLOURIST,
2, BELGRAVE ROAD, PIMLICO,
Drawings may be seen at Messrs. ATCHLEY'S, Bookseller, Great Russell-street, Bloomsbury;
and at Mr. HOGARTH'S, Printseller, Haymarket.

FODELL & CO. 8, BATH-STREET, CITY-ROAD, and 12, Grafton-mews, Fitzroy-square, continue to execute LEAD GLAZING FOR CHURCHES, Chapels, &c. in quarry or geometrical patterns, at the LOWEST PRICES. Estimates and patterns forwarded, on application, to any part of the country. Church Leads, 30s. per cwt.; Fret Leads, 37s. per cwt. for cash. All orders for lead to be sent to 12, Grafton-mews, Fitzroy-square.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street Clare-market London.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every art. is marked at Manufacturers' Patentees and Manufacturers of the Mermaid Gas Regulator. Complete Pattern Book and Price lists, 12s.—Nos. 53 and 54, High Holborn.

WARMING by HOT WATER or HOT AIR.

Mr. ALFRED MAY, 259, HIGH HOLBORN, begs to call the attention of Architects and others to his well-selected and extensive assortment of Hot water Apparatus and Hot Air Stoves, adapted for all kinds of public institutions, gentlemen's houses, conservatories, warehouses, shops, &c. Estimates given, and efficiency of the Apparatus warranted.

IRON CASTINGS of every description; WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS; IRON WINDOWS, HOT-WATER PIPES, RAIN WATER PIPES, and GUTTERS, PIPES for GAS and WATER, manufactured by

JAMES HAYWOOD, Junior, Phœnix Foundry, Derby.

VIEILLE MONTAGNE ROOFING ZINC.

Messrs. CHARLES DEVAUX & CO. 62, King William-street London Bridge, Bankers and Consignees of the Vieille Montagne Zinc Mining Company, India, that the Roofing Zinc stamped with the name, conjointly with the name of the Vieille Montagne Zinc Mining Company, is becoming in great demand, think it necessary to remind architects, engineers, and the public, that their Architect, Mr EDMESTON, of 5, Crown-court, Old Broad-street, E.C. will, at all times when required, give information on behalf of Messrs. DEVAUX & Co. as to the right system of laying the metal so as to insure durability; and, unless proper precautions are taken, failure may very possibly take place. A competent person is specially employed by Messrs. DEVAUX & CO. whose business it is to be prepared at all times to call with models, and to give explanations when requested. Messrs. Devaux & Co. give no preference to any zinc worker, requiring only as far as they can, that the right mode of laying the zinc is adhered to wherever it is laid; they have further taken up the foreign business on behalf of their correspondents, La Vieille Montagne Company.

FIRE! FIRE!! FIRE!!!—The most effectual means of preserving life from Fire, is by using CLARKE'S PATENT FIRE-PROOF DESCENDING BALCONY. Descriptive Drawings, of every formation, free by post, on application to CLARKE & CO. 22, Parliament-street, Westminster, S.W.

WANTED, a STRONG CIRCULAR SAW TABLE, to take in a Saw, fifty-four to sixty inches, strong Shaft, from five to six feet long.—Apply, with particulars, to MOORE & TURNER, Saw Mills, Derby.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, numerous designs, in various styles (free), on application to

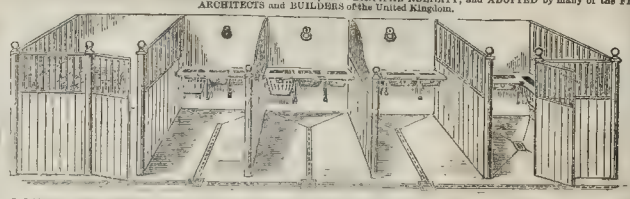
COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET,
LONDON, W.

WANTED, to PURCHASE, a SECOND-HAND MORTISING MACHINE. State price, whose make, and whether worked by hand or treadle.—Address, Mr. WOOD, at Mr. Soper's, 47, Holborn-hill.

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.

These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

ILLUSTRATED LISTS ON APPLICATION.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.



DRAUGHTS & DUST ROUND DOORS & WINDOWS

EFFECTUALLY PREVENTED BY
GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS
(Can be had any Length or Pattern).

The neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work, OLD or NEW

Self-acting Spring Slides for the bottom of doors.
The most imperfect door can be made air tight without re-hanging.
The Trade supplied on liberal terms.

JOHN GREENWOOD, PATENTEE,
10, Arthur-street West, London Bridge.



W. HARMER & SON

Beg to inform their Customers and the Trade generally, that having recently Removed into their new Premises, No. 3, HORSEFERRY ROAD (which communicates in the rear with their Warehouse and Workshops in New Peter street), they have thereby been enabled largely to increase their Stock of BUILDERS' and CABINET MAKERS' IRONMONGERY, and which they are now selling at a considerably REDUCED LIST of PRICES, in consequence of the depression of trade in the manufacturing districts.

W. HARMER & SON,
IRONMONGERS, SMITHS, IRON AND ZINC MERCHANTS,
Nos. 3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W
ESTABLISHED 1817.

DEVAUX'S PURE THICK ROOFING ZINC,

FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS

And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. EDMESTON, Esq. F.R.I.B.A. by whom a certificate is given.

ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.

Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.

MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.

N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

DRIVING BANDS, HOSE, VALVES, &c.

THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their VULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable than leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, cold, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Cart, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.

All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.

THE LEATHER CLOTH COMPANY, Limited,
56, CANNON STREET WEST, LONDON, E.C.

FIRE CLAY.

THE LESSEES of the TAME VALLEY COLLIERY, near Tamworth, are desirous to receive immediate TENDERS, per Ton, for their Fire Clay, fresh from the Mine, in an unground state. It has been analysed by H. K BAMBER, Esq. F.C.S. London, and is found to be superior to the Stourbridge Clay, his analysis being as follows:—

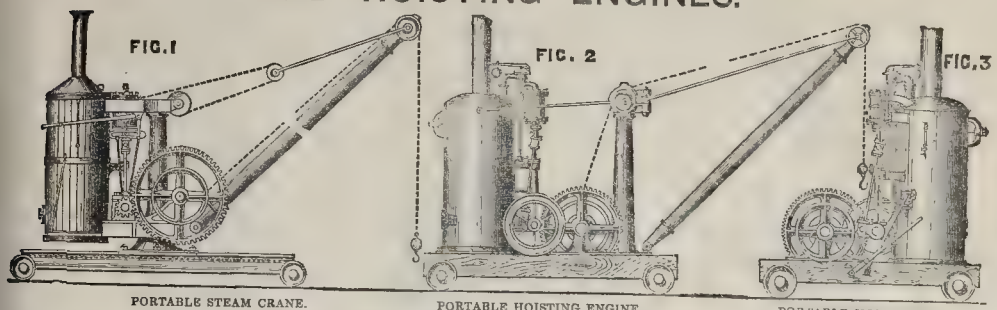
STOURBRIDGE.	
Silica	51·30
Alumina	30·40
Protoxide of Iron	4·14
Magnesia	0·80
Water and Organic Matter	13·11
	99·95

TAME VALLEY.	
Silica (uncombined)	1·610
Silica	62·380
Alumina	25·932
Magnesia	0·290
Soda	1·540
Water and Organic Matter	7·138
	99·493

It can be delivered by Railway or Canal; and Samples will be sent for proof—Apply to Messrs. EDWARDS-WOOD & GREENWOOD, Tame Valley Colliery, near Tamworth.

Tamworth, 1st January, 1862.

CHAPLIN'S PATENT PORTABLE STEAM CRANES AND HOISTING ENGINES.



PORTABLE STEAM CRANE. PORTABLE HOISTING ENGINE. PORTABLE HOISTING ENGINE.

Fig. 1.—PORTABLE STEAM CRANE for a Wharf or Railway, on Wrought-iron Carriage and Wheels, with Link Motion, Foot Brake, &c. all under the easy control of one man. The Engine and Boiler swing completely round on the central pillar, and counterbalance the load. The Jib is adjustable, and the two larger-sized Cranes are made to hoist, lower; and turn round in either direction by Steam; the two smaller sizes hoist and lower by Steam, and twist by Hand. These Fig. 1 Cranes may be worked as Hand-cranes when the steam is down.

PRICES, Started in Glasgow, or Packed and Delivered Free on Board, or on Railway.

4-Horse Power, to hoist 30 cwt.	Cylinder, 6 in.	diameter	×	10 in.	stroke			£190
5 ,, ,, 45 cwt.	,, 7 in.	,,	×	10 in.	,,			235
7 ,, ,, 60 cwt.	,, 8 in.	,,	×	10 in.	,,			285
8 ,, ,, 5 tons, pair	Cylinders, 6 in.	diam.	×	10 in.	,,			380

Fig. 2.—PORTABLE HOISTING ENGINE, on Carriage and Wheels, with Pillar and Jib to swing about three-quarters round by Hand. The Engine, Brake, and Disengaging Clutch, under the easy control of one man.

2-Horse Power	Cylinder, 4¾ in.	diameter	×	9 in.	stroke, to hoist, about	10 cwt.		£115
3 ,, ,,	5¾ in.	,,	×	11 in.	,, ,,	15	,,	145
4 ,, ,,	6 in.	,,	×	13 in.	,, ,,	20	,,	175
5 ,, ,,	7 in.	,,	×	14 in.	,, ,,	25	,,	195
7 ,, ,,	8 in.	,,	×	14 in.	,, ,,	35	,,	240

Fig. 3.—PORTABLE HOISTING ENGINE, on Carriage and Wheels, with Crab Winch on front of Carriage (as in Fig. 2), but without Post or Jib. The Engine Brake, and Disengaging Clutch, are under the easy control of one man.

2-Horse Power	Cylinder, 4¾ in.	diameter	×	9 in.	stroke, to hoist about	10 cwt.		£95
3 ,, ,,	5¾ in.	,,	×	11 in.	,, ,,	15	,,	120
4 ,, ,,	6 in.	,,	×	13 in.	,, ,,	23	,,	135
5 ,, ,,	7 in.	,,	×	14 in.	,, ,,	25	,,	165
7 ,, ,,	8 in.	,,	×	14 in.	,, ,,	35	,,	195

By a simple modification of the Gearing, any of the above Engines may be made to hoist more or less weight at a slower or faster rate, according to the requirements of the case; or they may be adapted for doing other work when required.

PRICES OF STATIONARY ENGINES,

COMPLETE WITH BOILERS, AND FORCED COMBUSTION APPARATUS, STARTED IN GLASGOW, OR PACKED AND SHIPPED FREE ON BOARD IN THE CLYDE.

1-Horse Power	£45	5-Horse Power	£125
2 do.	65	7 do.	150
3 do.	85	9 do.	180
4 do.	105	11 do.	210

CONTRACTORS' LOCOMOTIVES, ROADWAY AND TRACTION ENGINES, ON THE SAME PRINCIPLE.

REFERENCES.

CHAPLIN'S PATENT STEAM ENGINES are now already favourably known in Scotland, England, and abroad. Numbers of them are satisfactorily working in almost every part of the country, and in India, Australia, Russia, Italy, Spain, North America, the West Indies, and other countries. Among those who are now using, CHAPLIN'S PATENT ENGINES, may be mentioned:—

Messrs. PETO & BETTS.—A 5-Horse Power (Fig. 1) Steam Crane, on Iron Carriage, with Railway Wheels, to hoist 45 cwt. for loading and unloading Barges at their Wharf on the Surrey Side of the Thames, close by Waterloo-bridge, lower side. This Crane may be seen almost constantly at work on Messrs. Peto & Betts' Wharf, looking over from the south-east end of the Bridge, near the Tollgate.

Messrs. BRASSEY, PAXTON, & CO.—A 7-Horse Power Steam Crane (Fig. 1 on Steam Crane List), to hoist 60 cwt.; and a 10-Horse Power Portable Engine for driving Circular Saws, for the execution of their contract on the Toledo and Bilboa Railway, in Spain.

Messrs. BRASSEY & BETTS.—Three 5-Horse Power (Fig. 1) Steam Cranes on Iron Carriage and Railway Wheels, to hoist 45 cwt. each, for loading and unloading Barges in connection with their contract on the New Government Forts on the Thames, below Tilbury.

E. L. BETTS, Esq. of Messrs. PETO & BETTS.—A 5-Horse Power Steam Crane (Fig. 1) to hoist 45 cwt. for Mr. Betts's Wharf on the Canal at the Aylesford Pottery Company's Works, near Maidstone, supplied February 1860; and a 7-Horse Power of the same description of Steam Crane, supplied for the same works, March 1861.

THE EAST INDIA GOVERNMENT.—One 11-Horse Power Pumping Engine, with Two 6-in. Force Pumps, 8-feet stroke, for the Madras Public Works.

THE GOVERNMENT OF BRITISH GUIANA.—One 6-Horse Power Contractors' Locomotive, Pair of Cylinders, 4½-in., 13-in. Stroke, for Drawing Stone from Quarries in the interior, for the construction of the Harbour and Breakwater at Georgetown, Demerara.

THE SOUTH-EASTERN RAILWAY COMPANY.—A 5-Ton Steam Crane (Fig. 1), to hoist, lower, and turn round by steam, with link motion for reversing, on carriage and wheels, with Wrought Iron Water Tank, to contain 1,000 gallons for Loading and Discharging the Company's Steamers at their New Pier at Folkestone.

THE GREAT WESTERN RAILWAY COMPANY.—A 5-Horse Power Stationary Engine, for Colliery Works near Cardiff.

GRAND JUNCTION CANAL COMPANY.—A 9-Horse Power Portable Engine, with link motion for reversing, for Boring and Sinking a Well.

ROWLAND BROTHERHOOD, Esq. Railway Works, Chippenham, Wilts.—Two Contractors' Locomotives,—one 15, and the other 21-Horse Power, the latter fitted with Giffard's Patent Feed Injector.

Messrs. GEORGE RENNIE & SONS, Iron Ship Builders and Marine Engineers, London and Greenwich.—For their Greenwich Ship-building Yard, Two 2-Horse Power Hoisting Engines on Carriages and Wheels (Fig. 3 on Steam Crane List), with Transverse Motion by Steam, and with Tank for 10 hours' Water supply; also One 4-Horse Power Steam Crane on Carriage and Wheels (Fig. 1 on Crane List), with Hand-gear for Traversing by Countershaft with Handles, and Wheel and Pinion, and with Tank for 10 hours' Water supply, supplied September 1860, for executing their Contract for Iron Docks for the Spanish Government. Another 4-Horse Power (Fig. 1 Steam Crane), now being supplied (May 1861).

Messrs. TREDWELL & CO. Contractors, Railway Works, Gloucester.—A 4-Horse Power Stationary Engine, to work one of Toshach's Patent Pile-driving Machines.

GEORGE SMITH, Esq. Builder and Contractor, 15, Gillingham-street, Pimlico, London.—A 5-Horse Power Portable Engine, for driving Wood-working and Sawing Machinery in Carpenters' and Joiners' Shops.

Messrs. ESDAILE & CO. City Saw Mills, Regent's Canal, City-road, London.—A 13-Horse Power Stationary Engine, for driving Wood-planing, Moulding, and other Wood-working Machinery.

Messrs. LLOYD & SONS, Packing-Case Makers, Bush-lane, Cannon-street, City, and Saw Mills, Brentwood, Essex.—A 3-Horse Power Stationary Engine (erected in a space 7 ft by 5 feet, in a corner of their cellar under their workshops in Bush-lane) for Cross-cutting Packing-case Boards, &c.

Mr. WILLIAM WEBSTER, Contractor, near Charlton Wharf, Woolwich.—One 5-Horse Power Hoisting Engine (Fig. 1) on Carriage and Wheels, for the Execution of his Contract of the Metropolitan Sewer at Plumstead, supplied June 1860; another of the same, just ordered by Mr. Webster (June, 1861).

Messrs. YORK & CO. London and Paris.—A 9-Horse Power Contractors' Locomotive, for Railway Works at Rome, and the execution of their Contract on the New Railway extending from Rome to the Neapolitan frontier.

THE ORMOND SLATE QUARRY COMPANY, Carrick-on-Suir, Ireland.—One 7-Horse Power Hoisting Engine (Fig. 3) on Iron Carriage; and One 7-Horse Power Stationary Engine, with Pumping Gear complete, for their Quarries.

SOLE AGENTS FOR ENGLAND,

J. B. BROWN & CO. 18, CANNON-STREET, CITY, LONDON, E.C.

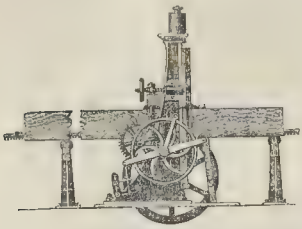
IMPROVED JOINERS' MACHINERY.

SAMUEL WORSSAM & CO.

SAW-MILL ENGINEERS, AND MANUFACTURERS OF ALL KINDS OF WOOD-WORKING MACHINES,

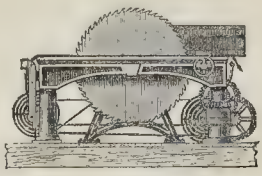
304, KING'S ROAD, CHELSEA, S.W

SAMUEL WORSSAM & CO. beg to invite the particular attention of Builders, Joiners, Contractors, and Others, to their new and improved JOINERS' MACHINES, many of which may be seen at work in the immediate neighbourhood of their Factory.



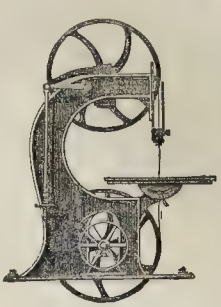
PATENT PORTABLE DEAL FRAME.
(¼-inch scale.)

This machine is so constructed as to require no foundations for fixing; it can be driven either from an underground or overhead shaft, or from a portable engine, and is peculiarly useful for builders and contractors.



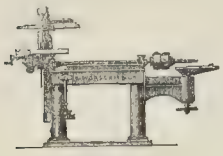
SELF-ACTING SAW BENCH.
(¼-inch scale.)

This bench will take a saw up to 42 inches in diameter, and is adapted for splitting deals, breaking down small timber, and all the purposes of an ordinary saw-bench. It is fitted with a rope-feed motion for bringing the stuff up to the saw, at rates varying from 30 to 60 feet a minute.



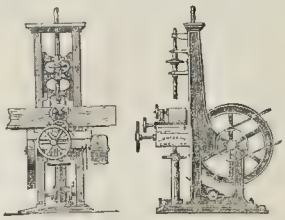
IMPROVED BAND SAW-MACHINE.
(¼-inch scale.)

S. Worssam & Co. have recently made new patterns for band saw-machines of two sizes, and introduced all the latest improvements to obviate the breakage of saws, and can with the greatest confidence recommend their new machines as the best yet out.



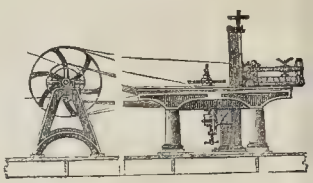
THE GENERAL JOINER.
(¼-inch scale.)

This exceedingly useful and novel machine is adapted for sawing, cross-cutting, grooving, tongueing, rabbeting, tenoning, moulding, and boring; and will be found invaluable in any joiner's or builder's establishment. It is also specially useful for box-making, and is fitted with a slide-plate for squaring the edges of drawers, &c.



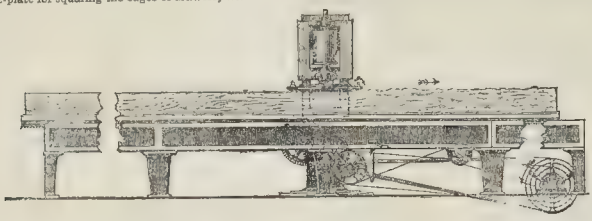
IMPROVED POWER MORTISING MACHINE.
(¼-inch scale.)

Combines many improvements not to be found in any other mortising machines. A single machine, worked by a man, with a boy to assist in removing the stuff, will do as much work as ten joiners, or as four hand-machines.



IMPROVED TENONING MACHINE.
(¼-inch scale.)

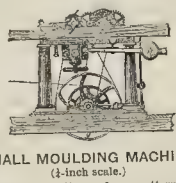
This machine is adapted for working either hard or soft wood, and is fitted with an arrangement for cutting double tenons. It is made in two sizes, the smaller being adapted for builders' and joiners' purposes, and the larger for railway-carriage builders, &c.



IMPROVED PLANING AND SQUARING-UP MACHINE.
(¼-inch scale.)

This machine is adapted for planing and squaring up scantlings of either hard or soft wood, up to 18 inches wide and 9 inches thick. The cutter disc is furnished with a set of Wilson's Patent Cylindrical Gouges, which will last as long as eight sets of the ordinary gouges without being sharpened.

For priced Illustrated Circulars, with all particulars, apply at the Works, 304, King's-road, Chelsea, S.W.



SMALL MOULDING MACHINE.
(¼-inch scale.)

Will stick single mouldings of any pattern and of any width not exceeding 6 inches, at rates varying from 12 to 25 feet a minute. It will also make sash-bars, mould skirting, or cut out eaves, troughing, &c.

For further particulars and Illustrated Circulars apply at the Works, where, also, Illustrated Descriptive Catalogues of S. WORSSAM & CO.'S Patented and Improved Machines for Builders, Railway carriage Builders, Cabinet-makers, &c. &c. may be had free, on application.

THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

SHEET ZINC AND METAL PERFORATING WORKS.
FRANCIS RUMMENS,
PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.
HIGHLY APPROVED ROOFING ZINC,
BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.
ZINC SLATING NAILS.

MALLEABLE IRON CASTINGS.
RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

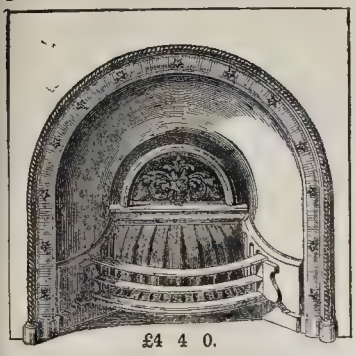
PATENT WROUGHT IRON WINDOWS manufactured by the GENERAL IRON FOUNDRY COMPAN (Limited). HENRY ROGERS, Manager. Lyon's Wharf, and No. 4 Upper Thames street, London. These windows combine the advan tages of great strength with lightness and cheapness, and they hav been very highly approved by many of the most eminent architects the day. They are peculiarly well adapted for factories, railway st tions, prisons, and lunatic asylums, and also for exportation, as it impossible to break them by fair means. Lists of prices can be h on application.

"ALLEN'S" PATENT SMOKE CONSUMIN APPARATUS and REGULATING VALVE. This valve is the sim plest and cheapest of all the inventions yet introduced for the purpo of effecting more perfect combustion of fuel, in all kinds of furnace Testimonials of the highest possible character are gladly given by th parties who have them in operation.—Price, No. 1, 3*l.* 3*s.*; No. 3*l.* 10*s.* for furnace-door complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWE STABLE, and DRAIN TRAP.—The cheapest and most effective Tr yet introduced. A great number of these traps are fixed in vario Government and private establishments, and having had a fair tri have met with unqualified approval. The articles may be had of Ironmongers, and of the General Iron Foundry Company (Limited 43, Upper Thames street, Makers of Gas and Water Pipes, Hot Wat Pipes and Connections, Chemical and Soap Pans, Furnace-bars, a all other kinds of Castings, for manufacturing and building purpose

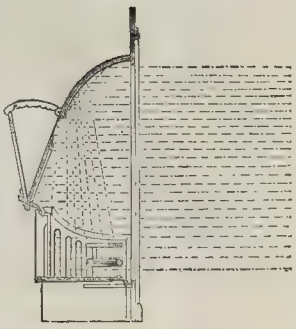
SKAIFE & COMPANY
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Ba Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied the Trade. Galvanized Tipped Sheets and Tiles for export.
IRON-WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.



£4 4 0.

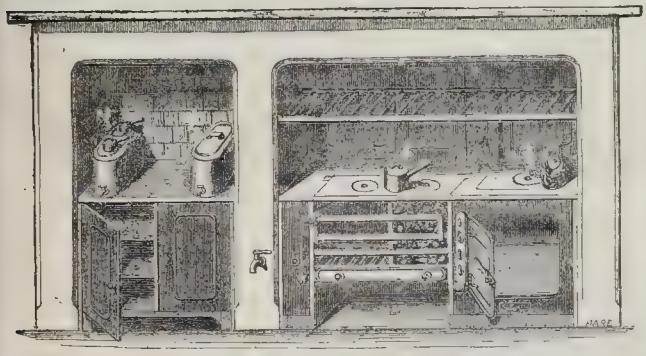
IT is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



STOCK AT No. 159, SHOREDITCH, LONDON.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

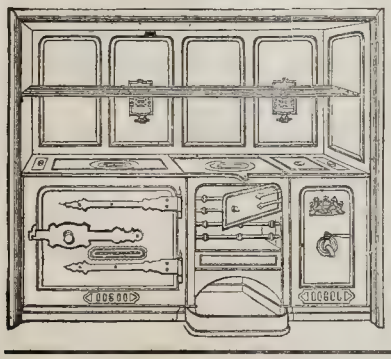
THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER, can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

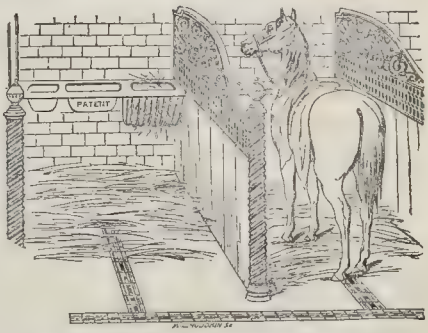
WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

Nos. 6 and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



FURNESS'
PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING,

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

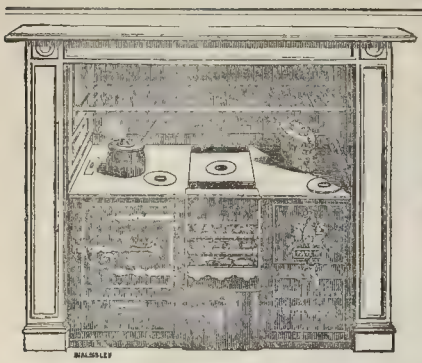
73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

Established nearly a Century.

ROBERT THORMAN & CO., CHEMICAL and HOUSE PLUMBERS, GAS ENGINEERS, &c.
Bromley, Middlesex, opposite the Church.
Lead burning on Ivr Delbruck's Patent. Experienced workmen sent to all parts of England.
Fusetti price of Sheet Lead, including all labour with burning, 25*l.* per ton.
Chemical works liberally treated to any amount.

LOSH, WILSON, & BELL,
NEWCASTLE ON TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10*s.*

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Combines the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges.

It is fitted with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other requisites for the Kitchen, and is adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen alone are employed.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat, and that reflected from the upper or concave surface,—to be projected parallel with the floor, instead of directly to the ceiling, as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction, thus thoroughly warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which is attached to and kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning thick on the top, and thereby any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18*s.* 6*d.*

BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.

F. THOMAS, AGENT.

ILLUSTRATED PROSPECTUSES POST FREE.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



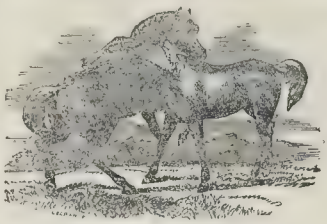
CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

PROFESSOR VARNELL'S STABLE ARRANGEMENTS.

THESE
FITTINGS
HAVE BEEN AWARDED
THREE
SILVER MEDALS,
AND ARE
RECOMMENDED BY THE
ROYAL
VETERINARY COLLEGE.



ARE SECURED BY
SEVEN SEPARATE
PATENTS
(LATEST 1859),
And are Shown in Full Size.

STALLS,
LOOSE BOXES.

ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD,

OPPOSITE THE OLD CHURCH.

PATENT WROUGHT IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast Iron GUTTERS, to the adoption of another and less effective mode of draining, while the cost is prevented exceeding that of Cast Iron, by the employment of specially-adapted machinery.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE. Cleanliness, Comfort, Economy, Imperviousness to infection, Prevention of Crib-biting, &c. with the better thriving of the Horse, are some of the characteristic advantages of this invention.
The Halter Bail, attached by a New Improvement, works noiselessly on the Guide Bar, and almost without friction.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily; are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture. They will be found *great preservatives of the harness.*

The PROPRIETORS of the ST. PANCRAS IRON WORKS have recently fitted up the Interior of a Stable in this Institution, consisting of two stalls and one loose box; and it is with pleasure that I bear my testimony to the neatness, stability, and general adaptation of the means provided for the health and comfort of the horses.
These inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.
(Signed) CHARLES SPOONER, Principal Professor."

EVERY DESCRIPTION OF STABLE FURNITURE.

THE LEAMINGTON PRIZE KITCHENER.

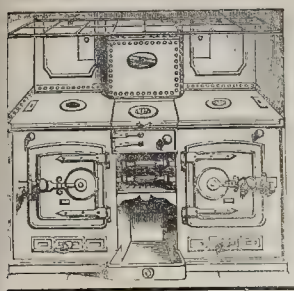
These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.
The Top forms an entire and efficient Hot Plate, and having an Open Fire, retains all the advantages of a Close Fire-range.
A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of IRONMONGERY, at Wholesale Prices.
All Goods delivered free within five miles.

BURT AND POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS.
38 and 65, York-street, Westminster.



CHUBB'S LOCKS,
with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DRED BOXES.
Complete Lists of Sizes and Prices may be had on Application.
CHUBB and SON,
57, ST. PAUL'S CHURCH-YARD, LONDON,
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman square, London W



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

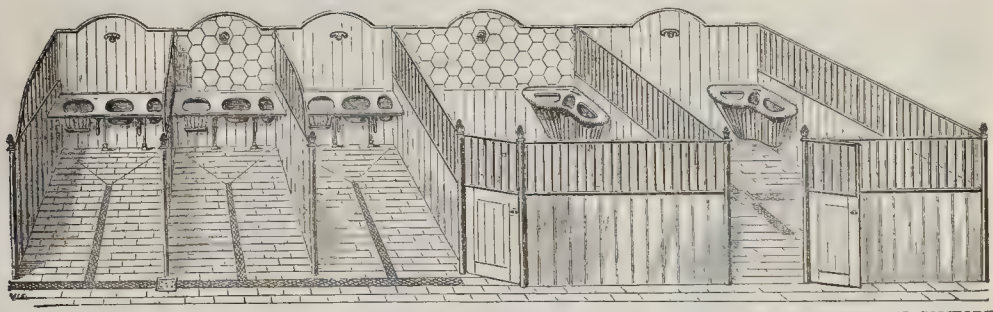
39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

COTTAM AND CO. 2, WINSLEY-STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61A, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON,

In lengths of 50 to 500 feet and upwards. Usual width, 2 feet.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For Instructions as to Fixing, and explanation of the mode of Manufacture, and all other particulars, apply to

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; and LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

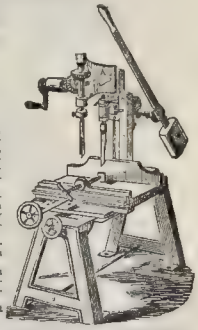
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

WILLIAM BISSELL, Wholesale Iron monger, Union-street, Wolverhampton Proprietor of the Patent EQUI-ACTION RIM and MORTISE LOCKS, Patentee of the FLOORING CRAMP, and Sole Agent for HAIGH'S PATENT MORTISING, BORING, and DRILLING MACHINES.



The most POWERFUL, SIMPLE, EASY, and DURABLE in the market, containing the best mechanical principles of ECCENTRIC and LEVER MOTIONS.

Testimonials of the highest class can be shown from Builders in almost every part of the United Kingdom

A The Boring and Drilling Apparatus, which can be removed at pleasure

Price 16*l* complete, with a set of eight chisels, core-driver, and Boring Apparatus.

15*l* ditto, ditto, without the Boring Apparatus.

LARK'S PATENT GRINDING and CRUSHING APPARATUS, Cog-wheels dispensed with. This machine, adapted for all grinding purposes, with one pair of stones, will grind from 300 bushels of flour to 400 bushels per hour.

Sole Manufacturers,

GARDINER & MACKINTOSH,

Engineers and Boiler Makers, Railway Foundry, New-cross, S.E.

TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS.

THE BRYMBO COMPANY, North Wales, beg to inform Contractors and others that they have made arrangements to SUPPLY the LONDON MARKET through their Agents, Mr. F. FORD, No. 9, Lawrence Pountney-hill, Cannon-street, City, with

CASTINGS OF FIRST QUALITY,

FROM THEIR OWN SUPERIOR IRON, MADE FROM THE BEST HEMATITE AND ARGILLACEOUS ORES.

All orders promptly attended to, and at moderate prices.



J. HARDMAN & Co.
MEDIÆVAL
METAL WORKERS
In Silver, Brass, and Wrought Iron;
ENGRAVERS OF
Memorial Brasses,
Artists in Stained Glass,
ECCLESIASTICAL DECORATORS.

Chalices, Patens, and Flagons; Altar Rails and Standards; Altar Desks and Books; Coronæ, Chandeliers, and Branches; Gas Fittings of every Kind; Lectrins and Book Desks; Hinges, Bolts, Locks, &c. Spire Crosses and Vanes.

AN ILLUSTRATED PRICE LIST, AND ESTIMATES FOR SPECIAL DESIGNS, Furnished on application.
London Offices and Show Rooms,
13 KING WILLIAM ST STRAND LONDON WC

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



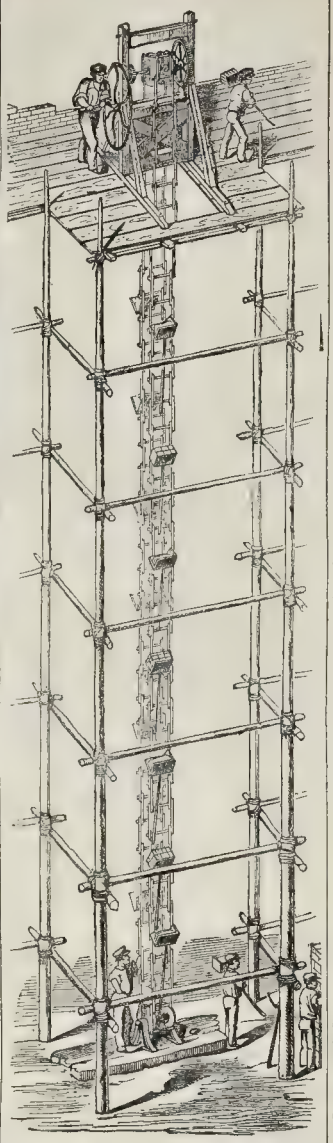
Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W. Drawings and Estimates furnished.

HART AND LAWSON
MANUFACTURERS OF
MEDIÆVAL ART METAL WORK
159 HIGH HOLBORN WC

BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gaseliers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.

DEPOT for BROWN'S PATENT CLOTH-PADDED WOOD STRIPS, which, when applied to windows, doors, show cases, &c COMPLETELY EXCLUDE atmospheric dust, water, and the injurious effects of gas. Samples, with illustrations, and directions for use forwarded on receipt of three stamps for postage.

AGER'S PATENT HOIST
FOR
ECONOMISING LABOUR AND COST IN



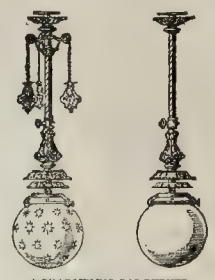
RAISING BUILDING MATERIALS.

COLLINS & STANBURY,
49, BREAD STREET, BIRMINGHAM
SOLE AGENTS & MANUFACTURERS.

Two Labourers with this Machine will raise Fifteen Hods, 40 feet high, in five minutes.

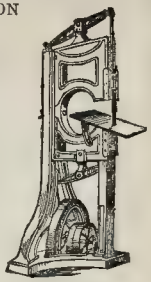
Price 20*l.* complete, with chain sufficient for 40 feet.

RICKET'S & HAMMOND'S
GLOBE LIGHT.



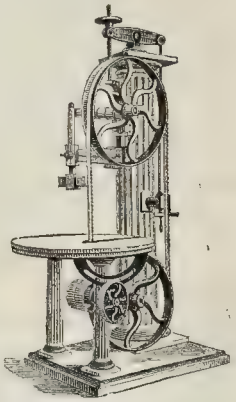
A SHADOWLESS GAS BURNER.
AGAR STREET, STRAND, LONDON, W.C.

THOMAS ROBINSON
and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



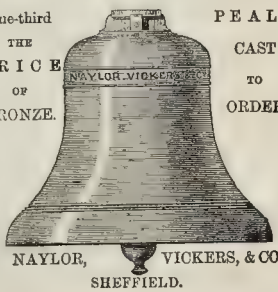
Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 3, CANNON STREET, E.C.

POWIS, JAMES, & CO.
VICTORIA WORKS, BLACKFRIARS ROAD, LONDON.



Patentees of the ENDLESS BAND-SAWING MACHINE, shown above, being the ONLY PATENT in the United Kingdom for an IMPROVEMENT in this class of Machine Also Patentees of the COMBINED MACHINE, for MORTISING, TENON-CUTTING, and BORING, and makers of all kinds of SAWING and WOOD-CUTTING MACHINERY, and STEAM-ENGINES
Drawings and Prices upon application at the Office, No. 26, WATLING STREET, CITY, E.C.

CAST STEEL BELLS,
One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.
THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.
Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.
BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

BUNNETT AND CO.
The Original Inventors and Patentees of every recent Improvement,
MANUFACTURE THEIR WELL-KNOWN
SUPERIOR REVOLVING IRON SHUTTERS
OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.
Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

G. MITCHELL, MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.
Begs to inform Architects, Builders, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application post free.
A few Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street.
ESTIMATES WILL MEET WITH PROMPT ATTENTION.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

WHITE AND PARLBY'S
NEW ILLUSTRATED CATALOGUE OF PAPIER MACHE AND CARTON PIERRE ENRICHMENTS.
PARTS I. TO V. NOW READY, EITHER OF WHICH WILL BE FORWARDED POST FREE, ON RECEIPT OF TWELVE STAMPS. SPECIMEN SHEET, WITH PARTICULARS, SENT ON APPLICATION, ENCLOSING POSTAGE STAMP.
WHITE AND PARLBY,
49 & 50, GREAT MARYLEBONE STREET, LONDON, W.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL
49, RATHBONE PLACE, W.
GEORGE JACKSON AND SONS
(Established in 1799)
GREAT EXHIBITION, LONDON, 1851.
EXPOSITION UNIVERSELLE, PARIS, 1855.
Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Cups, Mouldings of all sizes, and [illegible] of Centre Flowers for Ceilings, Gothic Bases, Trusses, Column and Pilaster Caps, all executed in the highest style of art.
The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.
Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam power and machinery, enable them to offer very superior advantages in material and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.
DESIGNS MADE FOR ANY WORKS.
PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.
LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.
AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

VIEILLE MONTAGNE ZINC.
THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.
OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.
For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to
THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent Whether sold under the name of "Improved Zinc Paint," or as the number Two or three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil, covers as much surface as three hundred weight of white lead and twelve gallons of oil

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

N.B.—WHITE ZINC DOES NOT REQUIRE BOND AND SURETIES ON EXPORTATION, NOT BEING CONTRABAND OF WAR, LIKE WHITE LEAD.

KELLY'S PRACTICAL BUILDERS' PRICE-BOOK; or, Safe Guide to the Valuation of Labour, Materials of Artificers' Work; with the Modern Practice of Measuring, and an abstract of the New Building Acts in regard to Party Walls, Ancient Lights, &c. Revised and Corrected by New Calculations to the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by Steel Engravings and numerous Woodcuts. Royal 8vo, price 8s. neatly bound.

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL, Stationers'-hall-court; and Bickers and Son, Leicester-square.

Of whom may be had, Now Ready, price 6s. 6d. each, the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET MAKING. Revised by TREDGOLD; being a new and complete System of Lines, for the Use of Workmen; founded on Geometrical and Mechanical Principles. Ten Parts at 2s. or in boards, 30s.; containing upwards of 120 Steel Plates, and numerous Woodcut Diagrams.

2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING; and the FIRE-PROOFING of BUILDINGS; both plain and ornamental; containing a new and complete System of Lines for Stone Cutting, for the Use of Workmen; the Formation of Mortars, Cements, Concrete, to which is added a variety of new designs of Metal Cornices, Sashes, Fanlights, Shop Fronts, &c. &c.; and a description of the various materials employed. Ten Parts at 2s. or in boards, 30s.; containing upwards of Ninety Steel Plates and Numerous Woodcuts.

3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the ORDERS of ARCHITECTURE, containing plain and high-finished working Drawings for the guidance of Workmen in the purest style; including an historical Description of Gothic Architecture, with Observations on the Mouldings, Steel Engravings, executed by Artists of first-rate talent, including numerous Diagrams, &c. Twelve parts at 3s.; or in boards, 36s.

4. DESIGNS for a COTTAGE and VILLA ARCHITECTURE; containing Plans, Elevations, Sections, Perspective Views, and Details, for the Erection of Cottages and Villas. By S. H. HEMMINGS, Architect. Beautifully engraved on Steel, in Imperial 8vo, with Illustrations of Building, and the estimated Cost of each Edifice. Twelve parts at 2s.; or in boards, 30s.

5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views and Details of Courts of Justice, Schools, Almshouses, Gas Works, Markets, and other buildings for public purposes. By S. H. BROOKS, Architect. Beautifully engraved on Steel. Ten Parts at 2s. each; or in boards, 30s.

6. THE HOUSE DECORATOR and PAINTER'S GUIDE: containing a series of Designs for Decorating Apartments with Taste, and Regulating the Costs of Materials. By H. W. and A. ARROWSMITH, House Decorators to her Majesty. Ten Parts, 2s. 6d.; or in boards, 28s.

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION: containing a complete Treatise on the Art of House Painting, Graining, Marbling, and Staining; the Whole of the Colours, the Modes of Harmonizing Colours, the Manufacture of Pigments, Oils, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by actual specimens of the Imitations of Woods and Marbles. Ten Parts, at 3s.; or in boards, 28s.

THE ENGINEERS' and MECHANICS' ENCYCLOPÆDIA, a new and enlarged edition, comprehending Practical Treatises on the Principles and Construction of Machinery, a description of Manufactures, the Arts, Engineering, Mining, Navigation, &c. &c. By the late HENRY HUMBLE, C.E. Engineer. The Practical Treatises on Machinery, Steel, and many of the Manufactures, have been written expressly for the Encyclopædia. The Steel is now for the first time fully described as engraving is useful in explanation of the Text; for which purpose it was treated by experiment, a description was accordingly prepared. By the aid of numerous Cuts, and of Tables of Weights, Measures, &c. this edition has become systematically practical, and attained to be received as fully and faithfully expressing "the existing state of Engineering and Mechanism, referable to the state of Practical Men." In two large 8vo volumes, cloth lettered, price 30s.

AN ILLUSTRATED CATALOGUE of the INTERNATIONAL EXHIBITION will be issued with the ART JOURNAL for JANUARY, containing Engravings of Works which will consist of twenty-four illustrated pages, price 1s. 6d., about one hundred and twenty engravings. Non-exhibitors will be included in the CATALOGUE, on their forwarding an illustrated Circular. No Priced Catalogue will be published, but the Catalogue, with Critical and Explanatory Notes and Engravings of the Objects of Art, gratuitous.

THE ART JOURNAL

For JANUARY, 1862, will contain the first of a Series of Selected Pictures engraved in the highest style of the art, from works by leading British Artists; also a Line Engraving after Turner; and various Articles, profusely illustrated by Wood Engravings of the highest attainable merit.

London: JAMES S. VIRTUE.

PATENT MARBLE WORKS, 188, GREAT PORTLAND-STREET, PORTLAND PLACE, and BLUNDELL-STREET, CALEDONIAN-ROAD. PATENT MARBLE SLAB and TILE PAVEMENT for KITCHENS, Halls, Passages, Lining Halls, Staircases, Corridors, Bath rooms, &c. Also Columns, Pilasters, and CHIMNEY PIECES, Table Tops, and Pedestals, &c. at very low prices.

THE NEW ARTIFICIAL STONE CHIMNEY-PIECES, in handsome designs, at very strong and durable, from 7s. 6d. to 6l.

COLUMNS in MARBLE, GRANITE, &c. Columns having been so extensively used in our Public Edifices, the Westminster Marble Company now keep in stock a great variety of coloured MARBLE for Marble Columns. These are cheap, well-finished, and ready to execute orders with considerable reduction in price. Marble floors, &c. &c. sold or laid. Info: Westminster Marble Works, Lord-street, Hoxton-road, Millbank.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 122 and 124, Regent-street; and 29, Pall-mall, Warwick-street.

EDWARDS, BROTHERS, & BURKE, PROPRIETORS.

The largest and most superior Stock of Chimney-pieces in Europe on view at the above-named Establishment

Manufactories: Carrara, Brussels, and 17, New-road-street, Oxford-street, London, W.

Estimates for every description of Marble Work.

Sole AGENTS for the INVERNESHIRE GRANITE COMPANY

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices

N.B.—Estimates given. Country and foreign orders executed with promptness and punctuality.

JOHN BAZLEY WHITE & BROTHERS, MARBLE MERCHANTS, MILLBANK-STREET, WESTMINSTER.

Marble of all kinds, and of best quality, in Block and Slab. Marble Mantels, &c.

W & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 37, Millbank-street, London, S.W.

BATH STONE.

SAMUEL R. NOBLE,

STONE MERCHANT and QUARRYMASTER, BOX, near Chippenham, Wilts,

Begs to call the Public attention to his Quarries, which supply BOX-HILL GROUND-STONE, in BLOCK or SLAB, of the BEST QUALITY

Prices and cost of transit furnished on application.

CAEN and AUBIGNY STONE.

T. FOUCARD, PROPRIETOR, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.

Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.

Depôt—GRANITE WHARF, East Greenwich.

Offices, 1, The Crown Chambers, Bruges.

BATH! BATH!! BATH!!

ROBERT STRONG,

STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies

BOX HILL GROUND STONE, OF THE BEST QUALITY.

Masons' Work prepared ready for fixing.

AGENT IN LONDON.

SAMUEL TRICKETT, ISLE OF DOGS, E. and JERUSALEM COFFEE-HOUSE, E.C.

FOREST of DEAN STONE.—Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE.

Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, and for Engineering purposes, is also supplied.

Prices, and all particulars, delivered in board vessel or rail, at Lydney, is the cost of vessels to any port or railway station in the United Kingdom.

LITTLE CASTERTON FREESTONE.

FRANCIS & OLDFIELD & SIMPSON, STAMFORD;

AND

Messrs. PINDER SIMPSON & SONS, 28, Savill-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone is now in use at many public buildings, and is out four feet the first bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. Works well-bedded work is necessary to produce the best. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition, 1855.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of MAGNUS is engraved upon every slab.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. as New Illustrated Catalogue of which can be had at the Public Slate Works, Pond-st., Upper Belgrave Place, Pimlico, S.W.

ROBERT WHITE, SLATE MERCHANT, 3, HELE'S-HILL ROOFING SLATES, CISTERNS, and SLABS supplied in quantities on the most favourable terms, from the Delphe, Bargoe Mold Junction and Gas Co.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons. Prices forwarded and estimates given on application.—Arvfor, Carnarvon.

No. 1, BOLD TERRACE, CHESTER.

TO BUILDERS, CONTRACTORS, &c.

SLATES, TILES, IRON, TIMBER, DEALS, &c.

WILLIAM DAWBARN & CO. LIVERPOOL,

Beg to acquaint their connexion generally throughout the Kingdom, that they have their

NEW and IMPROVED PRICE LISTS, English Edition, 1862,

Ready for distribution, and which can be had on application.

BLOCK STONE! BLOCK STONE! The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall, Poplar. Architects, Builders, and Masons, are requested to call and examine it carefully.

SAMUEL TRICKETT has plenty of stones that are good building stones, and requires no INDUBITATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also NOTE delivered direct from the Quarries to all parts of the Kingdom.

The BEST and CHEAPEST STONE WHARF in LONDON.

Address, SAMUEL TRICKETT, Isle of Dogs, E.

A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.

SHOW ROOMS, 6, CANNON-STREET, E.C.

London Agents—TREDILLES & TAYLOR.

Manager—JAMES J. TRAHAIR, Liskeard.

This Granite is selected for the New Westminster Bridge.

DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTA WORKS supplied, and ARTISTIC DESIGNS suitable to the material forwarded on application.

EDGE RUNNERS OF SUPERIOR QUALITY

RED MANSFIELD STONE. WHITE MANSFIELD STONE. YELLOW MAGNESIAN or BOLSOVER LIMESTONE.

Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.

Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

POLISHED GRANITE WORKS ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 4, Euston-road, N.W.

VALE of WARDOUR FREE STONE, TISBURY, WILTSHIRE.

T. P. LILLY, Quarryman and Stone Merchant, begs to introduce to the notice of Architects, Contractors, Stone Merchants, and Builders, the FREE STONE raised from recently-opened QUARRIES at TISBURY and the neighbourhood.

Geologically this Stone is identical with the Portland Oolites, and its workable properties present a medium between that material and the Bath stone. Numerous buildings of considerable antiquity attest the durability and texture of the Stone of this district. Amongst these may be cited SALISBURY CATHEDRAL, TISBURY CHURCH, the POULTRY CROSS at SALISBURY, WILTON ABBEY, &c. erected from Chilmark and other Quarries immediately adjacent to those under notice. The beds are of considerable thickness, and blocks of any ordinary size are readily obtained. Some of the beds are nearly white, and others of a cream colour; there is considerable variety in strata, the grain of some of the beds being remarkably fine, and are peculiarly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly fitted for the basis of water, or exposure to those tests which usually affect and disintegrate the common free stone.

Specimens of the Stone may be seen at Messrs. POOLE & SON'S, Manor Stone Works, Great Smith-street, Westminster, S.W.; and in the Museum of Practical Geology, Jermyn-street, Nos. 311 and 312, New Wing. And any quantity may be obtained of Messrs. KNIGHT & SON, Bow Wharf, Mile-end, London, or direct from the Tisbury Quarries.

Orders for Worked Stone carefully executed at the Quarries. Samples forwarded, and any other information may be obtained of Mr T. P. LILLY, Gillingham, Dorset.

MARKET WHARF, REGENT'S PARK BASIN WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Lime, and Fire Goods—SCOLES & WOOD beg the attention of Builders to their Stock, and that to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Lodgers, Steps, Landings, &c. cut on the shortest notice.

Country orders promptly attended to.

TO MASONS, BUILDERS, &c.—FOR SALE, 15 excellent 6-inch YORK LANDINGS, varying from 5 feet to 6 feet 3 inch in width. Landings 4 by 2. Apply to Mr. GARNER, 7, Prescott-street, White-hall-road, near Camberwell gate, S.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, WARE WHARF, ROTHERHITHE, S.E.

Seasoned Caen Stone always in Stock, and a large assortment of Sawn Stuff in Parkspring, Harehill, &c. &c.

Grindstones, Steps, Curbs, Chimney Landings, Paving, and all descriptions of Yorkshire Stock. Cargoes shipped direct from the Quarries.

Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE SILICEOUS STONE

ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.

Filters and Filtering Slabs for Domestic or Manufacturing purposes

For estimates and special information and inspection of stock apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or at Patent Stone Works, Ipswich.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars and Price-list on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

30, LONDON WALL, E.C.

Where also may be obtained their

CELEBRATED STAINS FOR EVERY DESCRIPTION OF WOOD,

Together with all kinds of Colours and Varnishes,

Warranted of the purest quality and at the lowest prices.

Agents for Kershaw's Graining Machines

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.

Linseed OIL, 8s. 9d. per gallon; Boiled OIL, 3s. 6d. per gallon.

Turpentine, 3s. 6d. per gallon.

Fine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at BRIGGS'S PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 145, Celebill-street, Pimlico, S.W.

Every article for the Trade at the lowest Price.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. B. H. CHICHESTER, of Chattlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that parishioners have requested me to procure for them the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 64, Stamford-street, S.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James-street Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 2s.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving the following Testimonial from Sir RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1858.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Rods, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least appearance of decay since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY. FURNITURE, HOUSEHOLD and OFFICE. WINE and SPIRIT WARRANTS. SHARES, DEBENTURES, &c.

BANKRUPTS' and INSOLVENTS' CASES CONDUCTED.

Balance-sheets Prepared, and Meetings of Creditors Convened.

Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT 17, Moorgate-street, Bank, London.

The Builder.

The New Year.—Glasgow.



FOR our intentions in respect of the new year, concerning which it was the practice, on its approach, to speak when the *Builder* was younger; it is not now necessary to say anything. The area and scope of our journal are tolerably well and widely understood; and the public will take the past as guarantee for the future. Notwithstanding the heavy loss experienced by the nation in the death of H.R.H. the Prince Consort, and the threatening aspect of American politics, London during the present year will become the capital of the world of art, science, and literature,—the resort of its professors in each branch. Results with the most important bearing on the progress and well-being of society can scarcely fail to proceed from the expected gatherings and from the juxta-position of the products of industry, invention, and art from all parts of the world; and with these we shall seek to make our readers early acquainted. The Exhibition will probably contain such a collection of architectural designs of all countries as was never seen before, as well as of architectural and engineering appliances; and these will require special attention. However, we will not be led into giving a programme: suffice it to say, the extra demands of the year will not find us unprepared. We return on the present occasion to our survey of Glasgow, in continuation of a series of reports on the condition of our cities and towns, which we have reason to hope are producing good fruits.

The railway ride from Edinburgh to Glasgow lies through the centre of that picturesque and undulating country which separates the estuaries of the Forth and the Clyde. On approaching Glasgow we discovered a striking illustration of a principle which Arthur Young long ago pointed out respecting the agriculture of a manufacturing district. The country surrounding Edinburgh is obviously rich land, in a high state of cultivation: near Glasgow it is more sterile and uncultivated; not so well inclosed; but more dotted with smoky chimneys. In fact, we felt here that the principal wealth of the soil lies *under* its surface. But our speculations as to the relative value and importance of mineral and agricultural produce were suddenly interrupted by the train plunging at Carstairs into a deep descending tunnel, three quarters of a mile in length, cut in the solid rock.

This tunnel, we afterwards ascertained, cost nearly two millions sterling; for it was excavated in the days when such work was not so well understood in Scotland as it is now; when, in fact, such work cost eleven shillings per cubic yard, though now it costs only two shillings and sixpence. The gradient is so heavy that the train has to be lowered by means of brakes, and hoisted by means of a wire rope, worked by a stationary engine. At the lower extremity of this tunnel we landed on the spacious platform of the Queen-street Station.

Glasgow, as seen from the river, presents a *tout ensemble* not unlike the Thames, as seen from London Bridge. It has been compared, by local topographers, to Dublin, as seen from the Liffey. But we have stood on Carlisle Bridge in our day; and we must acknowledge that the resemblance does not strike us forcibly. There is decidedly more of the London aspect about Glasgow. The flow of the Clyde past the main body of the city is exceedingly majestic, and the view picturesque, animated, and striking. The buildings which confront the river are finely arranged, chiefly in the manner of terraces, with a spacious carriage-way extending along the banks, the whole length of the city, on both sides. The flanking masses of building composed of these terraces, and of structures overtopping them, exhibit a rich and effective mixture of style; and when we add to this the wharfs, the steam-boats, the forest of masts, and the tall, dark, smoky chimneys, we produce a magnificent picture,—such a composition as we may see on the canvas of Clarkson, Stanfield, or David Roberts.

The bridges across the Clyde bear a singular resemblance to the bridges across the Thames. The Broomielaw Bridge seems to us a counterpart of London Bridge. It is 560 feet in length, and 60 feet wide over the parapets. Telford was the engineer: Gibbs, of Aberdeen, was the builder. It is constructed of freestone, cased with granite: it has seven arches, and it cost 37,000*l*. The iron foot Suspension Bridge corresponds to Hungerford Bridge: although not so large, the proportions are the same. The Victoria Bridge across the river at Maxwell-street is, perhaps, one of the best and most elegant structures of the kind in the kingdom. It consists of five arches, very flat in the segment. The span of the centre arch is no less than 80 feet; while the height from the base line to centre of intrados is only 10 feet 6 inches. The span of the adjacent arches is 76 feet; and the rise 9 feet 4½ inches. The span of the outermost arches is 67 feet; and the rise 7 feet 2½ inches. Each of the two centre piers is 10 feet in thickness: each of the two end piers is 9 feet; and each of the two abutments is 20 feet 6 inches. The total length of the bridge is 445 feet; the total clear waterway 366 feet; and the total river space occupied by piers 38 feet. The length of the piers at the foundation is 80 feet: the breadth of the roadway is 60 feet. The material is compact white sandstone from the neighbouring quarries, externally cased with Granite from Kingston, near Dublin. The engineer was Mr. James Walker, of London; and the builder Mr. William Scott, of Glasgow. The cost was 40,000*l*. Our non-professional readers will, we hope, forgive these minute details of a work which is well deserving of study; and we shall add here that, whatever fault we may find with certain other structures in Glasgow, we will find no fault whatever with its bridges.

Glasgow possesses two splendid public parks. "The Green," which measures upwards of 100 acres, and has been appropriately enough styled the lungs of Glasgow, was originally a grant by one of the Scottish kings to Bishop Turnbull, for behoof of the community. Once the promenade of the wealthy citizens, it is now abandoned to the washing and bleaching operations of the lower classes. One of the minor Scottish poets, Wilson, in his poem of "The Clyde," thus eloquently sings of these city washings of other days:—

> "Here barefoot beauties lightly trip along:
> Their snowy labours all the verdure throng.
> The linen some with rosy fingers rub,
> And some with lily ancles in the tub."

The Green possesses several valuable springs of water; but the purity of the atmosphere has been destroyed by the forest of smoky chimneys in its neighbourhood. The western public park, at Kelvin Grove, is beautifully laid out from designs by Sir Joseph Paxton, at a cost of upwards of 100,000*l*. In every respect it is worthy of the outlay; but one sad feature disfigures the landscape. The river Kelvin, which flows through the grounds, is nothing more nor less than the common sewer of the whole north-western portion of the city, and the smell proceeding from it is disgusting. "Ah! what a falling off is there!" Old inhabitants have caught trout in its silver streams. The "Pear-tree Well" was once the favourite "trysting-place" of lovers. The romantic scenery of Kelvin Grove, indeed, forms the subject of one of the most charming of Scottish lyrics.

It is not long since we had to lament a similar disfigurement of natural beauty, in the case of the Water of Leith, at Edinburgh. But the Kelvin is in a worse condition than the Water of Leith. We will not dwell on the subject at present, except to say that the Town Council of Glasgow should get this river purified at any cost. If no other argument will influence them we venture to predict that unless they do so, it will reduce, and ultimately destroy, the rental of that splendid property which overhangs its pestiferous banks.

Glasgow is well supplied with extramural cemeteries, abbattoirs, and markets. The Glasgow streets too, as far as we have observed, are about the best paved in the kingdom. Large ship-loads of porphyry from Argyleshire are annually consumed in the Glasgow streets; and we believe that within the last five years the Corpora-

tion have spent in this manner about 90,000*l.* We wish it were in our power to say that the streets are as well swept as they are paved.

We now come to the population. On this subject we are indebted for our information to the valuable reports of Dr. Strang, the present chamberlain of Glasgow, whose name we cannot mention without a grateful acknowledgment of the usefulness of his labours to all such inquirers as ourselves. Previous to the year 1610 there appears to have been no reliable enumeration of the inhabitants of Glasgow. In the reign of Mary Queen of Scots, at the taxation of royal burghs, Glasgow was rated only as eleventh; and at that time the number of inhabitants was probably about 4,500. A census was taken in 1610, after the plague, by the Protestant Archbishop Spottiswood, who discovered that the population at that period amounted to 7,614. At the Restoration it had nearly doubled: the numbers had reached 14,678. At the Revolution, after the sad persecution of the Covenanters, it had declined: the numbers had fallen to 11,948. After the period of Union, in 1708, symptoms of improvement were discernible: the numbers now were 12,766. In the year 1785, the amount was 45,889; and by the first Government census, in 1801, the population of Glasgow was ascertained to be 83,769.

This population, which in the eighteenth century began to double itself in less than twenty years, has continued to increase in the nineteenth with accelerated velocity. Such a phenomenon as the following rapid increase, if we except the single case of Manchester, is unparalleled in this country, and not often surpassed in the valley of the Mississipi.

Population of Glasgow.

1811	110,460	1841	270,486
1821	147,043	1851	333,657
1831	202,426	1861	403,142

Even these figures, we must explain, do not present an accurate sum total. If we include the suburbs, which, before the recent Registration Act for Scotland, formed the boundaries of the city mortality bills, the last figures of our table would be 446,395—a number which when contrasted with the population of the same territory in 1851, shows a gross increase of the population of Glasgow within ten years, of 86,257.*

There are two points connected with this population to which it will be our duty to direct the serious attention of our readers. The first is the extraordinary per-centage of its infantile mortality. In this respect Glasgow occupies a painful and unenviable position. With the exception of Greenock, it is the highest in this country: it is nearly double that of London, and one-third larger than that of Paris. The second point is that by the returns of the last census Glasgow shows a *less* proportion of inmates to a house than any city of the kingdom. Now here are two conflicting elements which we must endeavour, if possible, to reconcile. In our next article we shall return to the subject: in the meantime we pass on to the water supply and the drainage.

During the last century Glasgow depended for its scanty and precarious supply of water on some forty or forty-five pump-wells scattered at intervals throughout the city. In the year 1806 the Glasgow Water Company was established, whose supply consisted of water pumped from the Clyde. About fifteen years ago a company was also established on the south side of the river for the supply of the Gorbals district on the principle of gravitation. Still the supply was miserably deficient. The population growing at the above ratio without a commensurate increase of its water supply was an evil of no ordinary magnitude. Its results were painfully manifested during the visitation of cholera, which doubled the annual mortality of the city. At length the corporation was roused into action. The ultimate effect of their resolutions was to bring a supply from the Highland Lakes,—a work which, after many laborious years, was successfully carried into effect, and publicly inaugurated on the 26th June, 1839.

The water supply of Glasgow, from Loch Katrine, is one of those gigantic and colossal undertakings which distinguish the engineering enterprise of our generation. It is a work, its engineer tells us,* that surpasses the greatest of the nine famous aqueducts which fed the city of Rome. It is also, we think, a happier conception than the largest of our modern works—the New York aqueduct. For, with a singular invention of the engineer, this magnificent supply of water is brought to Glasgow for the most part through tunnels cut in the solid rock. In truth, the Glasgow aqueduct may be described as almost one continuous tunnel. The difficulties which had to be surmounted were great. Successive ridges of obdurate rock, separated by deep wild glens and mountain torrents, had to be traversed. The hard schistose groups, the old red sandstone, and the compact clay slate, which constitute the geological character of the Highland mountains, were bored, blasted, and perforated, to furnish a subterranean passage to the pellucid stream which was destined to cool the parched throat of the gigantic city. It is not often we meet with an example of natural obstacles so ingeniously turned into facilities. The cost was of course enormous, something we believe about 800,000*l.* sterling. The very blasting materials,— the powder and the tape fuses,—cost, on the average, about 2,000*l.* per mile. The tunnels were connected by a double series of cast-iron pipes, 4 feet in diameter. The inclination on the whole length of 35 miles is about 5 feet per mile. The quantity of water delivered is from 300,000,000 to 400,000,000 gallons per day; that is, from 70 to 80 gallons to each individual of the whole population. The quality of the water is very pure, and so soft, that it is calculated by Mr. Bateman that a saving to the community will be effected in the consumption of such articles as tea and coffee, soap and soda, to the amount of 100,000*l.* sterling in the year. These statistics are in all probability somewhat overcharged; but we must allow for some natural exaggeration on the part of the projectors of so great and so successful a work.

We wish it were possible to speak in language so complimentary respecting the drainage. But bad as it undoubtedly is, the drainage of Glasgow has also been improved. Mr. Carrick, the intelligent surveyor of the city, has calculated that the drainage area of Glasgow extends to 5,658 acres. As this area includes the portion of the royalty beyond the parliamentary and municipal boundary, from which Dr. Strang collects his aggregate of the population, we have furnished here accurate data for a very important question—the number of inhabitants to an acre of drainage? In Glasgow this would appear to be 71·2. The whole of this drainage from both sides of the river is discharged into the Clyde. Excluding the quantity of sewage brought down by the river Kelvin, Mr. Carrick estimates the quantity of this at 40,000,000 gallons per day. The lowest level of the surface is 10 feet above high water; the highest level 140 feet on the north side, and 40 feet on the south side. Glasgow is thus a comparative level district, and to this fact may be attributed much of the bad odour of its wynds and closes. We have been assured that the sewage from all parts of the city, notwithstanding this disadvantage, is discharged with great rapidity; but, as we shall by-and-by see, there is room for grave doubts on this head. At this moment there are 60 miles of underground sewers in Glasgow, one-third of which have been formed since the year 1848. All these sewers, with one or two exceptions, are made of brickwork, varying from 2 to 5 feet in diameter. Since the year 1847, they have been constructed of the egg-shape, the bottom sometimes of free stone and sometimes of moulded blocks of glazed earthenware, all set in hydraulic cement. The drainage of some of the suburban districts, as Bridgton and Mile-end, has been delayed owing to the difficulties of the outfall, and objections to discharge the sewage into the river, which is comparatively pure at this point. In fact, it is the principle of Glasgow drainage that surface manure predominates. Fifteen years ago the wynds and closes were supplied with underground drains; but there was no adequate supply of water; and accordingly, as we were informed, a considerable extent of drains were of no use, and had to be taken up.

We have something more to say about Glasgow.

* *Vide* Dr. Strang's "Analysis of the Census of 1851."

* *Vide* Mr. Bateman's Speech at the Glasgow Corporation Banquet.

ON EARLY PRINTED BOOKS.*

ON the 6th of June last, I had the gratification of addressing you in these apartments, at an exhibition of Mediæval illuminated manuscripts which was probably the most extraordinary display of the kind ever witnessed. To those of our associates and friends who are familiar with such productions, and can discriminate the peculiar ages and countries, schools of art, and religious symbolisms, contained in their pictorial decorations, they must have been inexpressibly beautiful; but the sight of them delighted also a great number of other visitors, subsequently admitted by the Fellows of this Society, who might not equally appreciate them, either as antiquaries or admirers of ancient art.

The exhibition which is placed before you tonight is of a far less fascinating and attractive character, externally, but it is of the highest intrinsic value; since it really represents the progress of humanity in religious knowledge, literature, science, and the arts of life. On merely glancing at the typographical treasures before you, every one must feel the powerful force of the words of Foxe the Martyrologist, which may be most appropriately recited to you almost as my lay-text on this occasion: "Hereby tongues are known, knowledge groweth, judgment increased, books are dispersed, the Scripture is read, stories be opened, times compared, truth discussed, falsehood detected and with finger pointed out, and all this through the benefit of printing."

The ages of our specimens of illuminated manuscripts at the former Exhibition extended over seven centuries; but the numerous volumes which are before you to-night hardly reach to 200 years, although the earliest of them belong to the Heroic undated period of the History of Typography. They have been most liberally furnished by our Fellows and friends; and I have myself also had the gratification of contributing to the collection. Without attempting to anticipate anything which any gentlemen may be prepared to offer to this meeting in illustration of particular specimens, you will perhaps kindly allow me to commence our proceedings by addressing you with a few general remarks on these monuments of ancient typography, which may serve to point out more explicitly the principal features of interest in this collection; and these appear to me to be resolved into the four classes following:—

1. Block-books.
2. Early printed books.
3. Horæ—illustrated Gothic hours.
4. Typographical curiosities.

In calling your attention to block-books, I am, of course, not about to instruct the Society of Antiquaries in the signification of the term; and still less do I intend to enter on the multitude of minute variations existing in the different extant copies of those books, which have been preserved by the elaborate investigations of Heinecken and Papillon; Ottley, Singer, and Dibdin; Berjeau and Sotheby. But in order not to pass over so interesting a portion of the history of printing without some illustration, I will request permission to say a few words on a point closely connected with them, which has frequently occupied my consideration, though it has been hitherto but little discussed. I refer to the very obscure nature of the block-books themselves to such as were unlearned, and of this I can give no better illustration than the most popular, and perhaps best known of those books, the "Biblia Pauperum."

The first edition of that work consists of forty folio engravings on wood, ingeniously composed of subjects and the effigies of personages taken from

* The following is the address delivered before the Society of Antiquaries of London, at an exhibition of early-printed books, by Mr. Tite, M.P., F.R.S., on the 12th of December last, to which we have already referred.

the Old and New Testaments, of which a series of fac-similes was published by M. J. P. Berjeau, in 1859. In his introduction to that volume, he says that "the 'Biblia Pauperum,' the Poor Man's Bible, is so called, because it was intended, by presenting a mere summary of some of the most important characteristics of both the Old and New Testaments, and by speaking with its figures to the eyes of the unlearned, to popularize the contents of a work so expensive by its bulk, that, before the invention of printing, the possession of a copy was only within the reach of a very small number of rich individuals or monastic corporations."

This statement appears to me to be but a part of the truth only, as any one may be disposed to admit who will look at the very artificial arrangement of the prints in this curious book. It is to be observed, also, that the text which is interspersed would be as obscure as ever to the unlearned poor; and it is not exceedingly elucidatory to even such as can read it; but it requires either to be explained or carefully considered, so that all the interesting parallels and connections in the several pictures may be rightly apprehended.

A copy of M. Berjeau's edition of this work is placed before you: and you will see that the engravings are uniformly divided into three horizontal lines, which are again separated into three compartments; a Gothic architectural frame-work inclosing the whole. In the centre above is the turret of the edifice, having two arches or windows, in which appear two half-length figures of prophets, with their names beneath them, and some appropriate passage taken from their prophecies inscribed on long scrolls below. In the vacant space on each side of the tower, is an inscription in very rude Gothic letters, full of difficult contractions, in which the subjects in the next division below are briefly expressed from the books of the Old Testament and the Gospels. The second stage of the building contains in the centre one great event taken from the life of Jesus Christ; having on the left a typical subject from the Old Testament, and on the right another taken from the Gospels; and beneath each of the latter are two explanatory lines of rhyming Latin verses. In the lowest stage of all the pictures are two more arches like those above, with the figures of two other prophets, having their names, scrolls inscribed with their prophecies, and explanatory verses in rhyming Latin printed beneath them.

Although all these subjects and inscriptions are intimately dependent on, and illustrate, each other, I will now with great deference submit the inquiry, whether it be possible that the uninstructed poor could derive much benefit from these pictures, without having the connection of the several parts explained and the text read to them? But if we can have the charity to think it likely that, even before the Reformation, there might have been pious and zealous missionaries who travelled through the forests and remote districts, carrying with them these rude prints, discoursing on them to the peasants, and then occasionally leaving one to be stuck on a cottage wall;—we can at once understand how naturally the name of "The Poor Man's Bible" originated, and how that by means of it "to the poor the Gospel was preached."

M. Berjeau observes, that although this book has been long known in Germany, France, and England, by its popular title, in the language peculiar to each nation, as well as by the Latin Biblia Pauperum,—that name has been frequently disputed by bibliographers, on the ground that the engravings really represent the historiated windows of the Convent of Hirschau, in Swabia. He appears to have shown that this is not probable as an historical fact; but it must be admitted that the compositions have in them very much of fenestral art, and might possibly have been really taken from the windows of some church or religious house, where the brethren were accustomed to explain the subjects painted on them to occasional visitors. All such historical windows may be made most interesting by explanation: as may be seen in the text to the "Vitraux Peints de la Cathédrale de Bourges," a splendid publication illustrated by MM. Martin and Cahier; and even in the strange bizarre volume set forth by Thomas Gent in 1762, which he called "The most delectable, scriptural, and pious History of the famous and magnificent great eastern Window, according to beautiful Portraitures, in St. Peter's Cathedral, York. Impressed by the Author in St. Peter's Gate."

But if the "Biblia Pauperum," with the contents of which, as generally derived from the Holy Scriptures, all might be supposed to be familiar, so much information is required,—what must be the extent of teaching wanted to enable even ordinary persons, before the middle of the fifteenth century, to understand and to profit by the pictures of two other celebrated block-books, called "Ars Memorandi" and "Historia Virginis Mariæ ex Cantica Canticorum?" The first of these was designed to convey, by the means of a large figure, typical of one of the Evangelists, accompanied by a number of pictorial emblems, a knowledge of the principal events recorded in his gospel. In the absence of the originals, let any one look, in proof of this argument, at the large *fac-similes* given by Mr. Sotheby and Dr. Dibdin's "Bibliotheca Spenceriana," or even at the greatly improved reductions of all the four Evangelistical effigies, which will be found in the "Bibliographical Decameron," vol. i. third day, pp. 132-135.

The volume of impressions from engraved blocks designed from the Canticles, consists of thirty-two subjects, in which the Spouse and the Church are considered as being visibly typified in the person of the Blessed Virgin. This spiritualising would require much careful instruction by part of the teachers of the common people, especially if Mr. Sotheby's explanation of it may be admitted, that it was "one of the earliest promulgated auxiliaries to the Reformation of the Church." I cannot leave this very remarkable volume without observing to you that, notwithstanding the grotesqueness of the designs, they are full of curious costume, architectural antiquities, and representations of manners. The female figures, also, are often delineated with wonderful grace and beauty, as may be seen in Mr. Sotheby's fac-similes, and in M. Berjeau's reproduction of the whole series of prints, published in 1860, both of which are placed before you.

All the block-books of this heroic age of printing were not, however, quite so obscure. The volume called "Ars Moriendi" at once addressed itself to all understandings, in the grotesque figures of a dying person in his bed, attacked by the remembrance of his former sins and follies, and present infirmities and temptations in the visible forms of hideous fiends,—counteracted by earthly comfort and spiritual assistance and hope, in the form of friends, ministers, and angels. Such thoughts would be readily understood by all, however rudely they might be expressed.

These volumes, as well as all the other block-books hitherto discovered, are most accurately described and excellently represented in numerous specimens in the late Mr. S. Leigh Sotheby's fine work on the subject, published in 1858, and already referred to. The first of them which is noticed is entitled "Sancti Johannis Apocalypsis," and it contains a series of forty-eight engraved pages, intended to represent pictorially the visions recorded in St. John's Book of the Revelations. I have placed before you, for exhibition, a copy of this very curious work, in which the prints are coarsely though characteristically coloured.

I will not pursue the subject of block-books any further than to observe, that the specimens of them which are now extant, appear to be between twenty and thirty in number; exhibiting, however, very numerous editions, as shown by the many distinct variations in the re-engravings of the same subjects. This circumstance indicates their extreme popularity; and it seems also to prove that the prints were frequently dispersed separately: as the possession of the whole series would generally be out of the reach of the common people in Holland and Germany, however low might have been their original price.

All these volumes belong to the undated and most ancient part of the history of foreign printing, before the invention of movable types had led to the production of works more substantially valuable and useful. Those which were printed in the transition period were partly block-books, and some others are now accepted as having belonged to the very earliest volumes produced by separate types. These appear to have consisted of the works of grammatical instruction usually known by the name of Donatus, the tutor of St. Jerome, who compiled the grammar by which he was taught the Latin language.

The real history of the typographical art must be dated, as far as any probable period can be assigned to it, from the general use of the movable types; and the appearance of books produced in different cities, with a certain year, and the imprint of a certain place attached to them: for almost as soon as the wonderful invention was known to exist, all the principal European States became desirous of benefiting by it. The periods of undisputed dated specimens of books printed at these places, is under half a century: and perhaps it will not be inappropriate to this subject if I recite to you some of them, as they are recorded in Dr. Henry Cotton's excellent "Typographical Gazetteer," published in 1825:—

Mentz—1457.
Cologne—1466.
Rome—1467.
Oxford—1468.
Venice and Milan—1469.
Paris—1470.
Bologna, Florence, and Strasburg—1471.
Bruges and Brescia—1473.
Bruxelles and Westminster—1474.
Leyden—1476.
Antwerp and London—1480.
Leipzic—1481.
Harlaem and Magdeburg—1483.
Utrecht—1484.
Madrid—1499.

These notices bring us to the second division of this address, which comprises early printed books; but under that title I propose to confine myself to an account of such as were produced in this country, with a few observations on the introduction of the art of printing into England, as naturally leading us to William Caxton.

It must be very well known to all our friends who are acquainted with ancient typography, that there exist eight copies of a volume indisputably bearing the imprint of Oxford, and dated 1468, but without any name of the printer. This is usually called "The Oxford Book;" and its existence was first made known to the literary world in 1664, in connection with a romantic narrative of the secret introduction of the typographical art into England, and the establishment of a printing-press at Oxford,—on the pretended authority of "a record and manuscript in Lambeth House." It has, however, never yet been found, though it has been frequently most carefully sought for. The author of the volume in which this story was propagated, was Richard Atkins, esq., a gentleman of university education, travel, and of a good family in Gloucestershire, who had greatly reduced his fortune in the civil wars, and after the Restoration endeavoured to retrieve it, by attempting to prove the king's right to grant the exclusive printing of lawbooks. He tried to effect this partly by law proceedings, on which he expended upwards of 1,000*l.*, and partly by the publication of his "Original and Growth of Printing, collected out of the History and Records of this Kingdom."

He states in that work, on the authority of the Lambeth document, that Archbishop Bourchier having successfully moved King Henry VI. to procure "a printing-mould," to be brought into this realm, the means resolved on were to provide a large sum of money for inducing some of Guttenberg's workmen secretly to leave Harlaem, and bring the art to England. One thousand marks (666*l.* 13*s.* 4*d.*) were provided for the purpose, and the management of the design was first committed to a person named Robert Turnour, a gentleman of the Office of the Robes, in some estimation with the king. He is stated to have engaged the assistance of William Caxton, who was accustomed to travel commercially into Holland and the Low Countries. Turnour disguised himself; but Caxton, being well known, did not attempt any concealment; and they proceeded first to Amsterdam and then to Leyden; "not daring," says Atkins, "to enter Harlaem itself, for the town was very jealous, having imprisoned and apprehended divers persons who came from other parts for the same purpose." The king then remitted 500 marks more, on the information of Turnour "that he had almost done his work; a bargain," as he said, "having been struck betwixt him and two Hollanders, for bringing off one of the under-workmen, whose name was Frederick Corsells or Corsellis: who late one night stole from his fellows in disguise into a vessel prepared before for that purpose; and so, the wind favouring the design, was brought safe to London." As it was not considered prudent to employ him in London, Archbishop Bourchier sent him to Oxford with a guard, which continually watched him, until he had taught the Typographical Art to some others appointed under him.

The only book which was produced in Oxford in 1468 was an "Exposition of the Apostles' Creed," by Rufinus, erroneously attributed to St. Jerome: but the date of the next volume printed at the same place is 1479. This very large and remarkable discrepancy, without regarding the romantic record of Mr. Atkins, has raised the first objection, and the supposition whether the date should not be ten years later. The circumstance, also, that the types with which it is printed being found in only three other books professing to have

✠

been produced in this country, induced Dr. Dibdin, after a very careful examination, to consider that it might be a foreign production, notwithstanding the colophon. In the year 1812, the late Mr. S. W. Singer printed a small impression of a tract on the authenticity "of the Book Printed at Oxford in M.CCCC.LX.VIII.—in which is examined its claim to be the First Book Printed in England."

After the consideration of a great deal of evidence on both sides, Mr. Singer arrived at the conclusion that the book was genuine; that the date and imprint were genuine; and that it had been really produced "at Oxford in 1468, by some foreign printer, of whose name we have at present no knowledge: with types probably brought with him from the Continent, or formed by him here, upon the model of those used by the German printers in the infancy of the art." At the time of the printing of Mr. Singer's tract, only four copies of the Oxford book were known, the last of which was then a very recent discovery; but when Dr. Dibdin published the fourth volume of his *Bibliotheca Spenceriana* in 1815, Lord Spencer's copy made the eighth. Dr. Dibdin stated therein, that though Mr. Singer and himself had formerly agreed in believing that the date of the Oxford book was genuine, they then considered that it should be read ten years later, 1478: partly because the leaves have signatures, which are not found before 1470; and partly on account of the great lapse of time intervening before another work appeared from the Oxford press.

Mr. Atkins endeavours to explain this difficulty, by saying that the "press at Oxford was afterwards found to be inconvenient for the sole printing place in England, as being too far from London and the sea;" and another answer has been the breaking out of the Wars of the Roses in 1469; but it is to be presumed that the same cause would have produced the same effect in London, yet Caxton's press at Westminster was continued at work during the whole of those disordered times. If a conjecture may yet be offered concerning the Oxford book, which should harmonize all these discordant elements, it might be expressed thus:—"That the Oxford book was unintentionally misdated, for which reason the authorities af Oxford caused the impression to be destroyed, which will account for the extreme rarity of the copies of it. That it was really printed abroad with the other books executed with the same types, as specimens for the University to decide on the engagement of the printers; and that, consequently, when Theodore Rood, of Cologne, and an Englishman named Thomas Hunt, really commenced printing at Oxford, in 1480, they had a new fount of type materially differing from the former. Dibdin observes that, in the works printed with the types of the first Oxford book, there is not any printer's name; and that "sufficient instances may be adduced of books having been executed at one place with the name of a different place in the colophon."

This inquiry will, probably, always remain an open question; but in the present instance it has naturally led us to Caxton, concerning whom Mr. Singer rightly observes, at the close of his tract, that the decision of the matter does not in the least affect his venerable reputation, but that his memory will ever command all the admiration and respect due to the first English printer.

I now place before you four books printed by this great father of British typography; being

The Lyf of our Lady: a Poem written by Dan John Lydgate, a Monk of the Abbey of Bury St. Edmund's; from the press of Caxton, but without any place or date.

The Polycronicon:— compiled by Ranulphus Higden, a Benedictine brother of St. Werburgh's monastery, Chester, printed in 1482.

The Ymage or Myrrour of the Worlde: written by Gaultier De Metz in 1245; and translated and printed by Caxton in the Abbey of Westminster, in the 21st year of Edward IV., 1481.

The Fayt of Armes and of Chyualrye: written by Christine of Pisa; also translated by Caxton, and printed by him July 14th, 1489.

Most of the works produced at the first English press have their own literary history; but those books which have been translated and prepared for it by the first English printer must always have an especial claim on the regard and the remembrance of every English reader who really loves his country and his language. The works which were executed by Caxton himself, and which he subsequently published, are some of the most interesting of any which he produced; and it is chiefly from the prohemes, the prefaces, and the prologues which are prefixed to them, that we derive the very little positive information which is now extant concerning him. But to these autobiographical notices, we must always most gratefully add these additional memorials which have been collected by the industrious research of Oldys and Lewis; Ames, Herbert, and Dibdin. We have now, however, a more copious and valuable book of reference on this subject by Mr. William Blades, in the first volume of his "Life and Typography of William Caxton, England's Proto-typographer, compiled from Original Sources," which has been published during the present year. From this authority I have now taken the liberty to add a few particulars.

Though the time of the birth of Caxton is quite uncertain, it has been confidently placed about 1412, which is probably too soon by ten years, as it is shown by Mr. Blades. He refers to the early part of his own life in terms which are equally filial and religious, in the introduction to his translation of his friend Bolomière's "Life of Charles the Great;" "enprynted the fyrst daye of Decembre, and the fyrst yere of King Harry the Seventh," 1485:—and he says, "I have emprysed and concluded in myself to reduce this said book into our English, after the simple cunning that God hath lent to me:—whereof I humbly, and with all my heart Thank Him, And also (I) am bounden to Pray for my Father's and Mother's Souls,—that in my youth set me to school; by which, by the sufferance [permission] of God, I get my living:—I hope truly."

At this period, Caxton states that "the most quantity of the people understood not Latin nor French in this Royaume of England:" and in his preface to the "Recuyell of the Historyes of Troye," he says, "I was borne, and lerned myn English, in Kente in the Weald: where, I doubte not, is spoken as broade and rude Englissh, as in any place in England." Elsewhere, he notices London having been his mother, from whom he had received his nurture and means of living: by which he seems to refer to his having been apprenticed, June 24th, 1438, to Robert Large, a merchant mercer, who was Lord Mayor of London in 1439. Some time after the decease of his master, about 1449, he went abroad, apparently as a resident agent or factor, "for the space of xxx yere, for the moste part in the countries of Brabant, Flanders, Holland, and Zealand." In the leisure which Caxton found in his occupation, whatever it might be, he says, I took a French book, "for the eschewying of idleness, mother of all vices, and read therein many strange marvellous histories, wherein I found great pleasure and delight." This work, he continues, "I translated into English, and finished it in Coleyn, in time of the troublous world; and of the great divisions being and reiguing; as well in the Royaumes of England and France, as in all other places universally through the world: that is to wit, the year of our Lord a thousand four hundred and seventy-one." Having thus become, as it were an author by accident, when he returned to England he brought with him the books which he had translated or prepared for the press during his residence abroad. But he especially brought hither the new art of printing, which he says that he "had practysed and lerned at my grete charge and dyspence."

There can be no doubt that by these words, Caxton indicates that he had honourably paid a large sum to be taught the art, and to be employed as a practical workman and partner, as Mr. Blades supposes, by Colard Mansion, at Bruges; and he had also procured a press and types to be brought openly and honourably into England. This will appear the more natural and probable, if we consider that in 1463 he was governor of the English merchant adventurers at Bruges. He was also afterwards appointed by Edward IV. to assist the royal ambassadors to continue, or remodel, a treaty of commerce with the Duke of Burgundy. He was evidently in this capacity when the king's sister, Margaret, went to Bruges in 1468 to be united to Charles, Duke of Burgundy; and, as the truce of commerce was renewed at that ceremony for thirty years, Caxton appears to have returned to England about 1472, being then retained in the service of the duchess.

It is quite possible that under some of the provisions of this treaty, he was authorized to transport with him types and even workmen to this country; for it must be remembered that his immediate successors in London were foreigners, who were naturalized before they began to print as masters. The first book bearing the name of Caxton is now considered to be the "Recuyell of the Histories of Troye," which is without a date, and it is supposed to have been executed abroad between the years 1464 and 1467. It must be, however, remembered by all for whom the exhibition of this evening has any attractions, that the first work printed by Caxton, bearing his name, with the addition of a place and a date, is "The Game and Playe of the Chesse," produced in 1474. So intimately is this date supposed to be connected with the name and fame of Caxton, that the mysterious mark which is found placed between his initials in his typographical device, has never been satisfactorily explained otherwise, than as a chronogram of the two arabic numerals, 7 and 4, as they were written at the period. This device, attached to a very beautiful *fac-simile* of the book on the Game of Chess, was published by Mr. Vincent Figgins, for the benefit of the Printers' Almshouses, in 1855. The whole number of books which are at present known to have been produced by Caxton, is upwards of sixty; and, as almost the whole of them are in his own language, he may well be regarded as the first English printer. The last of his dated works are "The Æneid of Virgil," and, with singular propriety, "The Arte and Crafte to knowe well (how) to Dye;" both printed in the year 1490. He died in the parish of St. Margaret, Westminster, of which he appears to have been an active and respected member, in the year 1491-1492. The vestry book for the date contains an entry of 6s. 8d. paid for four torches at his funeral, and 6d. for tolling the bell; but the record, extending from 1496 to 1498, mentions the printed books that were bequeathed to the church by William Caxton.

An entry on the patent-roll of the eleventh year of Henry VII. states that Wynkyn de Worde, whose name is always so intimately connected with that of our first printer, came to England from the Duchy of Lorraine. He is described as being "*Fabricator Impressorum Librorum*;" and he was naturalised April 20th, 1496. In continuation of the romance published by Atkins, it has been affirmed by Anthony à Wood and Thomas Hearne, that Wynkyn De Worde came secretly to England with Corsellis and Turnour, and had a printing-office in Oxford, near Oriel College, in Grope-lane; which thence came to be called Wynkyn-lane, where "these outlanders" kept the art of printing to themselves. But Dr. Dibdin properly adds, "it is a well-known fact that not a single book executed by De Worde was ever discovered with a colophon describing him to have printed at Oxford. On the contrary, there is a succession of the strongest evidence, namely, of upwards of four hundred works printed by him, that his business was exclusively confined to Westminster and Fleet-street." Wynkyn De Worde appears really to have been employed by Caxton, in whose house at Westminster he first printed, and to have been patronised by Margaret of Beaufort, the mother of Henry VII. From Westminster he removed to the sign of the Sun, in Fleet-street, against the Conduit. The earliest book which can be positively assigned to him is the "Liber Festivalis," dated 1493, and the latest is an edition of Æsop, bearing date the year 1535; at which time, however, he must have been dead, as his will was proved January 19th, 1534 (1535). I cannot avoid noticing to you that this will is a genuine printer's testament, for nearly all the legacies in it are "in books," varying in value from xx shillings to xx marks. There are not any of the ancient English printers who are more distinguished by the number, variety, and curiosity of their productions, than Wynkyn de Worde, for religious works and legends, grammars and school-books, histories and statutes, and especially romances and curious old poetry, all came from his press; and the specimens described by Dibdin amount to 407. I have placed before you for exhibition five of his volumes:—

"Dives et Pauper: Enprented at Westmonstre· 1496."

"The Ordynarye of Crysten Men: Enpryuted in the Cyte of London in the Flete-strete in the Sygne of the Sonne: 1506."

"A Morning Remembraunce had at the Moneth's-Mynde of the noble Prynces Margaret, Countesse of Rychemonde and Darbye: 1509."

"The Cronycle of Englonde, with the Frute of Tymes. 1518."

"Legenda Aurea: that is to saye in Englysshe the Golde Legende: for lyke as passeth Golde in value all other Metallys, so this Legende excelleth all other Bookes. Fynysshed att Westmynster, the xvij daye of August, the yere of our Lorde M.CCCCC.XXVII. Imprynted at London, in Flete-strete at the Sygne of the Sonne."

Richard Pynson is the next eminent English printer in the order of tyme, and his patent of naturalization shows that he was a Norman by birth, and that he came to England in 1493. He also was employed by Caxton, whom he calls his

master in the proheme of one of his volumes now placed before you, "The Tales of Canterburie." It is without date or place, but Dibdin says that it was probably the first book printed by Pynson. The first two impressions of Chaucer's Tales were printed by Caxton; and he had evidently prepared this text for an improved edition. "This book," says Pynson, "was diligently ouirsene by the pollitike reason and ouirsight of my worshipful Master William Caxton, according to the entente and effecte of the said Geoffrey Chaucer." From the rudeness of the types used by Pynson, and the early period at which he came to England, it has been conjectured that he was a more ancient typographer than even Wynkyn de Worde. You may observe this coarseness of his letters in the copy of his edition of "Dives et Pauper," which I have now laid before you, printed in 1493, being the first of his books with a date, when he was dwelling "at the Temple-barre of London." There is also a copy of his "Shyp of Folys," printed in 1509; which is the first impression of Alexander Barclay's English text. And there is a fourth specimen of his printing exhibited in the law-tract entitled "Dinersitez de Courtz, et lour iurisdictions," printed in 1526, at which time he called himself "printer to the Kynge's noble Grace." It is the smallest book which he ever produced.

Julyan Notary began to print in England as early as 1498, since that date is found attached to an impression of the Salisbury Missal executed by him at Westminster, in connection with John Barbier, a skilful French typographer. But the specimen of his press which I have placed before you, is "The Golden Legend—accomplysshed and fynysshed at Tempell-barr, the xvi day of Feuerer: the Yere of our Lorde a Thousande, ccccc.iij." It is a very curious book, though it is far from possessing any typographical beauty; but it has a large and grand frontispiece engraven on wood, representing the Divine Personages and beatified Saints in glory. It is remarkable that Dibdin supplies the description of this edition of "The Golden Legend," solely from Herbert, as though he had never seen it himself, when he published the second volume of the "Typographical Antiquities," in 1812. There is a fine copy of it in the library of the London Institution.

In the grant of armorial ensigns given to Thomas Berthelet, which is yet extant in the Heralds' College, he is styled "Esquyer, Gentillman;" and he was the second typographer after Pynson, who was made the king's printer, for which his annual fee was 4*l.* sterling. This seems to have been the reason that so many of the volumes which he printed were law-books, and that he is the best known by them. But the other productions of his press were also numerous and varied in their subjects, as may be seen by the specimens which I have exhibited. One of these is Sir Thomas Chaloner's translation of "The Praise of Folie: a Booke made in Latyne by that great Clerke, Erasmus Roterodamus;—Imprinted in Flete-strete, in the House of Thomas Berthelet, *cum privilegio solum*—1549." My other book printed by Berthelet is his edition of John Gower's "Confessio Amantis," executed in 1554. The earliest authentic date of his printing is 1530, and he died about Christmas, 1555.*

SOCIAL AND SANITARY SCIENCE IN THE MIDDLE AGES.

WE come at facts by a gradual process; first theoretically, then experimentally; then by confirmatory proof: thus ascertained, they pass for granted; and the young learn them by rote, as matters of course. In this way early information or knowledge must be always looked upon as curious,—as a link in the development of civilization. To trace the opinions of our ancestors through successive ages is like watching a blind man groping along a road. Now we think he will find the clue; now we see he has missed it, and must grope and grope again before he comes within reach of it once more; so in the gradual accumulation of the codes necessary to civilization, here and there a law points to an advance almost beyond the requirements of the time, and which subsequent ages have lost sight of in their daily practice, and have had to bear the consequences in disastrous blunders. For instance, we may cite a law made by Richard II., more than five hundred years ago, which set forth that a proclamation should be made in London and in other cities and towns, that none should cast "any annoyance, dung, intrails, nor any other ordure, into the ditches, rivers, waters, and other places, within or near any city, burrough, or town, or the suburbs thereof: and if any do he shall be called by writ before the chancellor, at his suit that will complain; and if he be found guilty he shall be punished after the discretion of the chancellor?"

Notwithstanding this early and excellent act of legislation relating to the laws of sanitary science, at the present day a large majority of our towns deliberately dispose of all their refuse by depositing it in the nearest river. King Richard, despite his difficulties with Wat Tyler and the Percies, found opportunity to make this most useful provision, and it should have served for all time; but, unfortunately for ourselves as well as for the fishes, we have long since thrown the decree overboard: and more than this, we are actually under the impression that social and sanitary sciences are inventions of the present day, and that the Middle Ages were devoid of both. A second sanitary decree, by which we have also failed to profit, was issued by that wise sovereign lady, Elizabeth, when she enacted that "None shall erect or convert a building to be a cottage for habitation unless he lay four acres of freehold land of inheritance so near unto it that they may be conveniently occupied therewith: in pain to forfeit 10*l.* to the Queen for every such erection or conversion, and 40*s.* a month for the continuance." Further, that "No owner or occupier of any cottage shall place or willingly suffer any more families than one to cohabit therein: in pain to forfeit to the lord of the leet 10*s.* for every month he so continues them together." In this last clause we have the question of the evil of overcrowding fearlessly grasped, calculated upon, and provided against by penalties; and yet to this very day we go crowding cottages together, and crowding families in cottages. Queen Elizabeth was a wise princess, and perhaps recognised the importance of sanitary science; but instead of availing ourselves of her legislation, we prefer to go on blundering with our fevers, choleras, and other plagues, to learn for ourselves. She also made a great point of the cleansing and scouring of ditches, and the keeping of the hedges and trees in order along the highways, and in one of her regulations entering upon these matters we may see an anticipatory injunction against the modern practice of collecting scavenage in heaps and letting it lie and rot, sometimes in the centres and sometimes in the suburbs of towns: "None shall cast the scouring of his ditch into the highway and suffer it to lie there six months: in pain to forfeit 10d. for every load."

Still earlier precaution for the preservation of the public health was taken by Edward II., when he enacted that a butcher should not sell swine's flesh "mezzeled," or dead of the murrain. For the first offence in this particular the butcher was to be "amerced;" for the second, to have the pillory; for the third, to be imprisoned and fined; for the fourth, to abjure the town. Henry VII. took up this same sanitary scent when he decreed that "No butcher shall kill any flesh in his scalding-house, or within the walls of London: in pain to forfeit for every ox so killed 12d., and for every other beast 8d., to be divided between the king and the prosecutor." And more especially when he provided that this law was to extend to all other walled towns, Cambridge, Berwick, and Carlisle, only, excepted. For all this legislative wisdom, the slaughtering of cattle is with but few exceptions carried on, with apparent preference, in the narrowest alleys in the most crowded and central portions of the town. Looking over the early statutes we can see most significant proof of a perception of the vital importance of sanitary measures. Many regulations were instituted which represent a wise intelligence on the part of those who framed them. It would have been well if men in the intervening periods had not lost sight of these, and left to the present age the gigantic task of combating with the causes of preventible deaths. It is not gainsaid but that some skirmishes have already been fought on this issue; but these are mere tears shed into the ocean compared to the grand battle which has yet to be waged.

Henry VI. decreed that, in a given ten years, several persons should be sent as Commissioners of sewers into all parts of the realm, to inquire into the state of the "walls, ditches, banks, gutters, sewers, gotes, calcies, bridges, streams, and other defences by the coasts of the sea and marsh ground," and to cause any of them that required to be so, to be "corrected, repaired, and amended." Henry VIII. extended this commission over an additional twenty years, and desired that the commissioners should take oath that they would execute the laws and ordinances according to their "cunning, wit, and power, without favour, meed, dread, malice, or affection." Edward VI. rendered the commission permanent.

We may see, too, in the early statutes, the germ of trades-unions in the jealousy with which each trade guarded its respective "mysteries." There were so many restrictions enforced on most trades, that it is really surprising any of them should have thriven. Some few of the clauses in the Acts relating to trades and mysteries have been inserted for the benefit of the general public; but quite as many were for the especial protection of the artificers. Tilemakers were to cast up the tile earth they required for use before the 1st of November, shire and turn it before the 1st of February, and not to make it into tile till after the 1st of March; and they were not to make the said tiles of any other than certain given dimensions, under penalty of 6*s.* for every thousand of plain tiles, 8d. for every hundred of roof tiles, and 2*s.* for every hundred of corner or gutter tiles. James I. enacted that no "plaisterer" should exercise the art of a painter in London or in the suburbs unless he was a servant or apprentice to a painter, or had served seven years' apprenticeship to a painter; and "plaisterers" were prohibited from using oil to their "whiting, blacking, red lead, red okar, and russet," which they were to mingle with size only. Painters were, by the same Act, limited to a charge of 16d. a day for "laying any flat colour whatsoever, mingled or mixed with oyl or size, upon any timber, stone, or lead." None but a married man and householder of the age of thirty years at the least, says an Act of the virgin queen, shall take upon him to be a "badger, lader, kidder, carrier, buyer, or transporter of corn or grain, butter or cheese." No currier dared curry hides "betwixt James-tide and the Lady-day, but only such as have been sufficiently dipped twice in the pan." Clothiers were to pay their workfolks their wages in ready-money and not in wares; and no cloth was to be sold before it was measured, searched, and sealed by the king's aulnager. Carders, spinsters, weavers, fullers, shearmen, and dyers, were duly to perform their duty in their occupation, or "forfeit double damages to the party grieved." Butchers, fishmongers, regrators, hostlers, brewers, bakers, poulterers, and all other sellers of victuals, were to sell the same at "reasonable prices," and for moderate gain, under penalty of forfeiting the double value of the article unfairly sold. Shoemakers were compelled by another statute, very properly perhaps, to make their boots of good and sufficient stuff, sow them well, and not put them to sale on Sundays. Henry VII. decreed that no upholsterers were to offer feather beds, bolsters, or pillows for sale, except such as were stuffed with one sort of stuff, dry pulled feathers, or clean down, and not with scalded feathers or fen-down, under pain of forfeiting them. Also that all quilts, mattresses, and cushions were to be stuffed with one sort of stuff only, such as clean wool or clean flocks, to the exclusion of morse hair, fen-down, neat's hair, goat's hair, or other unlawful stuff. No foreign artificer dare take any apprentice but such as were born in the king's dominions, nor were they permitted to keep above two foreign servants at a time; while, on the other hand, an English artificer might take as many foreigners to be his servants or apprentices as he could get. We may see how it has come to pass that the neighbourhood of Leicester-square has come to be looked upon as the continental quarter of the town in an Act of Henry VIII., which exempted the strangers residing in Oxford, Cambridge, and *St. Martin's-le-Grand*, from vexatious grievances of a restricting description.

Great attention was paid to the matter of paving in the time of Henry VIII. Every person owning tenements on the highway between Strand-cross and Charing-cross; in Holborn, between the bridge and the bars; in Southwark; in Whitechapel, from Aldgate to the church; Chancery-lane, westwards from Holborn-bars towards St. Giles's; Gray's Inn-lane; Show-lane (Shoe-lane); and Fewter-lane (Fetter-lane), were required to maintain the pavements under penalty of forfeiting 6d. for every square yard neglected. If the inhabitants of the houses paved the footways before them, they were empowered to deduct the amount from their rents. Another statute was passed by the same monarch for the paving of "Whitecross-street, Chiswell-street, Golding-lane, Grub-street, Goswell-street, Long-lane, Saint John's-street, the streets then leading from the bars to Cow-cross, Water-lane in Fleet-street, the streets behind St. Clement's Church without Temple-bar; the way from the west bars in Tothill-street, in Westminster, to the west end of Petit France; the way without Bishopsgate above Shoreditch Church; Strand-bridge, and the way leading thence towards Temple-bar; and Foscoe-lane, leading down to Strand-bridge." Thus we

* To be continued.

can trace the gradual paving of London, and the gradual incorporation of suburb after suburb. Elizabeth continues the useful work, passing an Act for paving and keeping in repair "the way with Algate called the Bars with Algate; another leading from the old cage there to the north end of Nightingale-lane; and another between the said old cage and Crossmill, in the parish of St. Mary;" and instituted a fine of 3s. 4d. for every square yard not so paved and repaired; and also provided for the "scouring and cleansing of certain ditches thereabouts;" and subsequently to this another Act for the paving of the Minories and the cleansing of the ditch in Hog-lane, which last sanitary measure was to be carried out at the cost of the owners of the lands lying on the north side of the said lane, under a penalty of 6s. 8d. for every pole left "unscoured." In the reign of her successor, St. Giles-in-the-Fields and Drury-lane were paved according to Act of Parliament.

Some such bracing of the sinews of old England as we have lately seen in the volunteer movement must have taken place after the proclamation of the following decree by Henry VIII.:—"Parents and masters shall provide for each of their sons and male servants (betwixt the age of seven and seventeen) a bow and two shafts, and cause them to exercise shooting, in pain of 6s. 8d. The inhabitants of every town shall continue their buts in good repair, in pain of 20s. for every five months' default. Artificers of archery (not freemen, nor paying scot and lot) shall remove their abode from London and the suburbs thereof, to what other place they shall be assigned by his Majesty's council, the Lord Chancellor, Treasurer, Privy Seal, or one of them, in pain of 40s. for every day they make their abode contrary to this Act." The same statute sets forth a few regulations relating to the games in vogue at that period that furnish us with a curious view of the social condition of large masses of the population:—"No artificer or his journeyman, no husbandman, apprentice, labourer, servant at husbandry, mariner, fisherman, waterman, or serving man, shall play at tables, tennis, dice, cards, bowls, clash, coyting (quoits), loggating, or any other unlawful game *out of Christmas*, or then *out of their master's house or presence*, in pain of 20s. And none shall play at bowls in open places out of his garden or orchard, in pain of 6s. This Act shall not restrain a servant (by his master's license) to play at cards, dice, or tables, with *the master himself*, or *other gentleman resorting to his master's house*. And if the master hath freehold of 100*l.* per annum, he may also license his servant to play at bowls or tennis." In the time of Charles II., cheating and betting became so much the order of the day that it became necessary to meet the growing evil with a clause in a statute, to wit:—"They that by fraud or ill practice at playing at cards, dice, tables, tennis, bowls, kittels, shovelboard, or in cock-fighting, horse-races, dog-matches, or foot-races, or other pastimes or games, or by bearing a part in the stakes, wagers, or adventures, or by betting on the sides of such as play, act, ride, &c., acquire to themselves or others money and things of value, shall *ipso facto* forfeit the treble value." Note the turn taken in the national sports between these two periods;—the Tudor games of clash, coyting, and loggating, had fallen out of the category: with the restoration of Charles Stuart, skittles, shovelboards, horse-races, and dog-matches, had risen into esteem. The encroaches of another bad habit were, a little before this, guarded against by legislation. "A town dweller which is convict to sit tippling in any inn, victualling house, or alehouse, by the view of one justice, or the proof of two witnesses, shall forfeit ten groats, to be levied and employed as aforesaid, and being not found able to pay it, *shall remain in the stocks four hours*." Swearing and cursing involved the risk of a three hours' exposure in the stocks.

The manufacturers of England enjoyed a very early protection. Edward IV. enacted that no person should bring into England or Wales any of the wares described in a long list. Richard III. passed a law to a similar effect, substituting merchant strangers for the more comprehensive term of his predecessor. "No merchant stranger shall bring into England to be sold, any girdles, nor harness for girdles, points, leather laces, purses, pouches, pins, gloves, knives, hangers, tailors' shears, scissors, andirons, tongs, fire-forks, gridirons, stock-locks, keys, hinges, spurs, painted glasses, painted papers, painted images, painted cloths, beaten gold or silver wrought in papers for painters, saddles, saddle-trees, horse-harness, boots, bits, stirrups, buckles, chains, latten nails with iron shanks, candlesticks, chafing-dishes, hanging lavers, curtain rings, cards for wool (except roan cards), sheers, buckles for shoes, broches or spits, hawks' bells, tin and lead spoons, wire of latten and iron, iron candlesticks, grates, horns for lanthorns: upon pain to forfeit the said wares, or the value of the same,—one half to the king, and the other half to him that shall seize or pursue for the same." What quaint and gorgeous pictures does this enumeration suggest! Take any of the items,—the gear for a palfrey, the hawks' bells, the painted glass, and beaten gold and silver for decorative purposes,—each group presents itself to the mind as a Mediæval sketch. Later enactments give us costume pictures. Here is one in the reign of Charles II., which might be made to serve the purpose of a letter-press illustration of Lely's gallery of beauties. "No person shall sell or offer for sale, or export any foreign bone-lace, cutwork, embroidery, fringe, band-strings, buttons or needlework made of thread or silk, beyond the seas, or import any such foreign bone-lace, &c., upon pain that every person who shall sell such foreign bone-lace, shall forfeit 50*l.*, and the whole bone-lace."

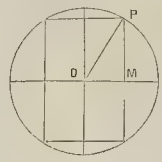
Many single clauses are most pictorial. Here is one which might be termed photographic:—"A peer of the realm sent for by the king, in coming and returning, may kill a deer or two in the forest through which he passeth: howbeit, it must not be done privily, but in the view of the forester, if present; but if absent, by causing one to blow a horn for him, lest he seem to steal the deer."

The water supply of London appears to have been frequently the subject of legislative enactment. The Lord Mayor, in the time of Queen Elizabeth, granted to Peter Morris, an indenture for 500 years, of the waterworks at London Bridge; and after these were destroyed in the Great Fire, a clause was inserted in the Act relating to the rebuilding of the City, to the effect, that "the water-house, called Mr. Thomas Morris his water-house, formerly adjoining to London Bridge, shall be rebuilt where it was, notwithstanding this Act."

Architecture is sometimes collaterally illustrated in the old statutes: thus the precincts of a palace in the time of Henry VIII. are detailed in an Act which sets out the boundaries of a new palace at Westminster. The space within these boundaries was to possess all the privileges of the king's ancient palaces, and are mentioned in a clause detailing the limits in which if one man struck another he was to forfeit his right hand. "The limits of the houses within which the offences aforesaid shall be punished as aforesaid shall be within any edifices, courts, places, gardens, orchards, tilt-yards, wood-yards, tennis plays, cock-fights, bowling-alleys near adjoining to the houses and being part of the same or within two hundred foot of the standard of any outward gate of the houses commonly used." Curiously enough the royal establishment contained within itself officers to carry out the execution of this maiming sentence. The person who was actually to sever the member was to be appointed by the lord great master of the king's most honourable household; but the sergeant-surgeon of the palace was to be ready at the execution of the sentence, to sear the stump directly the hand was stricken off; the sergeant of the pantry was to be present to give bread to the "party;" the sergeant of the cellar was to bring a pot of red wine to give the party; the sergeant of the ewry was to bring cloths for the surgeon to use; the master cook was to bring a dressing-knife to deliver to the sergeant of the larder, who was to hold it upright till the execution was over; the sergeant of the poultry, to be ready with a cock for the surgeon to wrap about the stump; the yeoman of the scullery was to make a fire of coals, and make ready the searing irons; the groom of the salcory was to be ready with vinegar and cold water; and, lastly, the sergeant of the woodyard, was to bring the block, "with a betil, staple, and cords," to bind the hand! The frequency with which the loss of members occurred, "according to law," led to the insertion of odd clauses in some of the old Acts. In one, where it is set forth that a person convicted of striking any one with a weapon in church, is to have one of his ears cut off, it is provided that *in case he wants ears, he shall be burned upon the cheek with the letter F*, and be excommunicated.

All the statutes we have quoted were in force and use at the Restoration. The Act for the speedy rebuilding of the city of London, and for insuring the uniformity of the new buildings, and for the prevention of "outrageous fires," is well known, and ushers in a period belonging more to our own times than comprehended in those of older times, which, under the name of "Dark Ages," are supposed to have been unacquainted with either sanitary or social science.

TO CUT THE STRONGEST RECTANGULAR BEAM OUT OF A TREE OF CIRCULAR SECTION.



Let O P = r be the radius of the tree.

O M = x the half breadth of the beam.

M P = y the half height of the beam.

1. To find the breadth and depth of the beam whose *resistance to fracture* shall be a maximum. The power of *resistance to fracture* depends on the product of the breadth and the *square* of the depth; therefore, $x \cdot y^2$ is to be made a maximum. Since x and y are co-ordinates of a circle, therefore $y^2 = r^2 - x^2$, and $x \cdot y^2 = r^2 \cdot x - x^3$. And in order that $r^2 \cdot x - x^3$ may be a maximum, its differential co-efficient must be made $= 0$; or, we have

$$r^2 - 3x^2 = 0 \therefore x = \frac{r}{\sqrt{3}}, \text{ and } y^2 = \frac{2}{3} r^2$$

Hence, $x : y = 1 : \sqrt{2}$; or, as $1 : 1{\cdot}4142$; or, the breadth multiplied by $1{\cdot}4142$ gives the depth; and the breadth is one-third of the radius of the tree multiplied by $\sqrt{3}$ or $1{\cdot}732$.

2. To find the breadth and depth of the beam whose *resistance to deflexion* is a maximum. The power of *resistance to deflexion* depends on the product of the breadth and the *cube* of the depth; therefore $x \cdot y^3$ is to be a maximum; this is $x \cdot (r^2 - x^2)^{\frac{3}{2}}$ which, differentiated and equated to 0, gives $r^2 - 4x^2 = 0$,

$$\therefore x = \frac{r}{2}, y = \frac{\sqrt{3}}{2} \cdot r, \text{ and } x : y = 1 : \sqrt{3} = 1 : 1{\cdot}732$$

Therefore, the breadth multiplied by $\sqrt{3}$, or $1{\cdot}732$, gives the depth; and the breadth is one-half of the radius of the tree.

This latter beam is stiffer than the former, but will not bear so great a load without fracture; it must therefore depend on the use to which the beam is to be applied which section shall be adopted.

E. WYNDHAM TARN, M.A.

THE MEMORIAL OF THE GREAT EXHIBITION OF 1851.

At a simultaneous meeting of the Council of the Horticultural Society, and the Committee of the 1851 Memorial, on Thursday last, the following admirable letter from his Royal Highness the Prince of Wales was read:—

"GENTLEMEN,—Prostrated with overwhelming grief; and able, at present, to turn her thoughts but to one object; the Queen, my mother, has constantly in her mind the anxious desire of doing honour to the memory of him whose great and glorious character the whole nation, in its sorrow, so justly appreciates.

Actuated by this constantly-recurring wish, the Queen has commanded me to recall to your recollection that her Majesty had been pleased to assent to a proposal, to place a statue of herself upon the memorial of the Great Exhibition of 1851, which it was intended to erect in the new Horticultural Gardens.

The characteristic modesty and self-denial of my deeply lamented and beloved father had induced him to interpose to prevent his own statue from filling that position which properly belonged to it, upon a memorial to that great undertaking which sprang from the thought of his enlightened mind, and was carried through, to a termination of unexampled success, by his unceasing superintendence.

It would, however, now, her Majesty directs me to say, be most hurtful to her feelings were any other statue to surmount this memorial but that of the great, good Prince, my dearly beloved father, to whose honour it is, in reality, raised.

The Queen, therefore, would anxiously desire that, instead of Her statue, that of her beloved husband should stand upon the memorial.

Anxious, however humbly, to testify my respectful and heartfelt affection for the best of fathers, and the gratitude and devotion of my sorrowing heart; I have sought, and have, with thankfulness, obtained the permission of the Queen, my mother, to offer the feeble tribute of the admiration and love of a bereaved son, by presenting the statue thus proposed, to be placed in the gardens under your management.

(Signed) ALBERT EDWARD."

The Memorial Committee, viewing this most gracious proposition as a return to the original



ST. PAUL'S, CLERKENWELL, CHURCH AND SCHOOLS.—MR. T. ROGER SMITH, ARCHITECT.

intention of the subscribers, and sympathising deeply with the feelings of her Majesty and the Prince which prompted the proposal, accepted it at once.

Mr. Joseph Durham, the sculptor of the Memorial, will execute the statue.

It was further communicated to the Memorial Committee that both her Majesty and the Prince of Wales were most anxious that the statue should be, both in design and execution, a first-rate work of art; and that it was their wish that Mr. Durham should submit his design for it, for the approval of a committee of three sculptors, a representative of the Horticultural Society, and a representative of the Memorial Committee; simply from a desire that he should be assisted by their opinions and suggestions; so that the work, when finished, might be worthy of the subject.

The following committee was accordingly agreed upon:—Mr. Foley, R.A.; Baron Marochetti, A.R.A.; Professor Westmacott, R.A.; Mr. Smirke, R.A.; Mr. George Godwin; and General Grey, as a channel of communication with the Royal Family.

ST. PAUL'S CHURCH AND SCHOOLS, CLERKENWELL.

THE group of buildings shown in our illustration consists of a church and schools for boys, girls, and infants. The schools are just completed, and occupy a site on the Charter House Estate, in Allen-street, Goswell-road. The church, which is not yet commenced, will stand on ground adjoining the school-building and at present covered by small tenements, and will have a district allotted to it, to be formed out of the parish of Clerkenwell. The whole undertaking has been set on foot by the Rev. R. Maguire, the incumbent of Clerkenwell.

The schools are arranged for 480 children: they have the whole of their basement story devoted to covered play-grounds; and, above that, they contain two floors of school and class rooms. In the front of the building are, on the lower floor, which is appropriated to girls and infants, two class-rooms, each measuring 20 feet by 14 feet; and, behind them, a school-room of a T shape; the cross-room, or head of the T, measuring 20 feet by 51 feet; and the main-room, measuring 21 feet by 51 feet 6 inches. The upper story presents the same arrangement, only that one of the class-rooms is larger.

The upper story is appropriated to boys, and is approached by stone stairs, constructed with a central wall of brickwork in the spot ordinarily occupied by the well-hole, placed in the staircase-turret shown in the illustration. When wished, access can also be gained to the lower room from this staircase; but the regular approaches to it are the external staircase shown at the front, and an inclined plane, not visible in the view, which is arranged to accommodate young children.

The rooms are warmed entirely by open fires, burning in fireplaces of an effective but not common construction. The fire-bars are built into a recess, lined with fire-brick, and partly faced with white tiles; and there is no stove such as is commonly employed. The ventilation is partly provided for by a series of outlets and inlets fixed where their mouths cannot readily be covered up, and partly depends upon the windows, every one of which is made to open. The large school windows are all filled with wide shallow sashes, each being hung on centres at the bottom, and opening inwards at the top, louvre fashion; and, for working these windows, a simple contrivance has been devised, which is found to answer the purpose perfectly. The closets are fitted with Jennings's patent latrines. They are situate behind the schools, and can be approached from the covered playgrounds. The building is brick-built, and very substantial. It is erected of common stocks, the best being selected for the face; and a few bands of red and black brick are introduced. The floors are all fireproof, on Fox & Barrett's principle: the roofs are of timber, felted and slated. The contractor was Mr. J. G. Carter, of Hornsey, by whom the works, including the school-fittings, upon which care and consideration have been bestowed, have been satisfactorily carried out, under the architect, Mr. Roger Smith, of 57, Strand; Mr. Trubshaw being clerk of the works.

The church, for which designs have been prepared by the same architect, is intended to seat upwards of 1,200 persons. It will, like the school buildings, be brick-built, and will have galleries; and its roof will be partly supported by iron columns; so that it may be said to belong to the class of churches of which Mr. Scott's church, in the dockyard at Woolwich, may be taken as a type, although it will differ from that example in many respects.

PROPOSED EXTENSION OF TOTTENHAM-COURT ROAD.

OF the seven great roads which serve as approaches to the northern parts of the metropolis, there are but two that permeate it thoroughly, and effect a complete traverse of the City, the river, and the southern portions. One of these is for a great extent incomplete, and stands out, unhappily, as an instance of the repugnance generally felt to build on thoroughfares newly designed, even amidst densely-crowded districts: Victoria-street, a noble avenue, in the centre of this line, has remained for now over ten years a waste and a desolation; and this although it leads across Blackfriars Bridge in a direct *chaussée* through the Borough.

The other great route is the Shoreditch line, which curves from the N.E. over London Bridge: with these exceptions, all the rest serve as *vomitores* from the more ancient portions of the metropolis; taking their sources from the streams of commerce flowing from Holborn and its east and west continuations. The Edgware-, St. John's-, Goswell-, and City-roads, are all great conduits of traffic; but all terminate in the great central artery of Holborn; the hills and valleys, straits and impediments whereof, have long been an eyesore and source of general complaint.

It was observed last week on the subject of street improvements, that the greatest benefit might be acquired by partial and local improvements, by the removal of obstructions, and by the opening of short cuts and "media" of intercommunication; and although we cannot make the ancient crooked ways straight, it would be comparatively easy and inexpensive to amend the chart of London, as it is now, and has been delivered down to the present generation.

Of all the great northern routes, perhaps Tottenham-court-road is the most important as well as the busiest; many lateral ways being convergent upon its course: it terminates, however, also in the Holborn line; shooting off at right angles, or meandering through St. Giles's, conducting by many vagaries to Charing-cross or Somerset House.

There is not another portion of London that offers an easier, a cheaper, or a more useful occasion for the good offices of the great Metropolitan Commissioners, than this core of ancient, filthy, and crazy tenements. A line drawn in continuation, directly from Tottenham-court-road, would strike in upon the Ragged School, at the south-west angle of St. Giles's churchyard: — not to do violence to the vested rights of old High-street, a block of four houses, extending from Denmark-place to Denmark-street, need only be demolished: thence the line drawn "in directum" would strike in across an angle of the burying ground, upon Church-passage; and so in continuation upon Great White Lion-street, *across Seven Dials*, by Little White Lion-street, and Hanbury's-court into back slums, and within 100 yards of King-street, just at the corner of Covent Garden, and next to Evans's Hotel.

On this direct line one side of these mean streets should certainly be demolished, and the road enlarged to 70 or 80 feet. The opposite side might be left to improve itself, whilst the new building ranges would as surely compensate the outlay upon the project.

In the line laid down, which would be perfectly straight, from the beginning at St. Giles's church, only about 300 yards of *New Street* would require to be cut open and laid out,—one half at the Ragged School end, the other at the issue into Covent Garden; the property to be dealt with being of the lowest class, and therefore the cheapest; whilst at the same time there would be less hesitation on the part of builders to take plots and erect houses where the street is already completely built on one side, paved, lighted, and occupied.

The other street, also named after the Queen,

although planned on a scale of magnificence, has now for ten years lain waste, as to two-thirds of its extent; perhaps, from the same cause that overshadows the line to Blackfriars Bridge,—viz.,—the pressure of ground-rent, and the immensity of the prescribed fabrics: no such impediments need impend over Tottenham-court Continuation, for business-premises only occupy its whole extent: sites on the range are nowhere to be had; and the opening would present the opportunity, just now so much desiderated, to carry out a system of buildings, so contrived as to better accommodate multitudes of the industrial classes; who, upon the *former reconstruction in St. Giles's*, were either wholly unhoused, or sent too far a-field from their work.

It may be urged that the extension recommended must stop its direct career at Covent Garden. Well, so it must; but here is a great centre, from which, too, there are now two near exits actually practicated; one of them, leading to Waterloo Bridge; moreover, the ancient issue by Southampton-street to the Strand is a good continuation; and there is every probability that the projected improvements in connection with the new Law Courts will, ere long, open out much of the dark and obscene *entourage* of Clare Market and Clement's Danes; whilst, at the same time, the necessity for open and decorous intercourse is most imperiously demanded, now that the Hungerford Terminus, and the great embankment scheme, are imminent upon us.

QUONDAM.

A FEW DAYS AT CHARTRES AND OTHER FRENCH TOWNS.*

THE circular windows in the nave afford examples of the plainest and richest kinds of pierced work; the roses in the heads of the clerestory windows, some 17 feet in diameter, are pierced with good patterns, in the simplest manner, out of large slabs of stone. There are similar windows, but smaller and richer, in the cloisters at Leon, where the large rose in the north transept is one degree more ornate, having a graduated series of mouldings to the different openings. The west window of Chartres, over 30 feet in diameter, is still more richly ornamented; but both this and the clerestory windows look mean when seen from the interior, in consequence of the glazing having been placed so near the inner face of the walls: the west window especially has none of the noble effects of the exterior view, but looks like a set of isolated holes; and it is not pleasant to see this and the clerestory windows, where the roses are too heavy for the lights below them, so dependent on the stained glass for general beauty of effect. I suppose it would be impossible to find a building stone of better kind than that used at Chartres, whether as regards its durability, its colour, or fineness of grain: it is similar in appearance to a lithographic stone, and so tough and fine in texture as to place no limit to the minuteness of the carving. The columns in the western doorways contain strings of pellets no larger than the heads of pins, and many of them are now almost as clear and perfect as when carved seven centuries since; while those parts of the building much exposed to the touch have taken a polish like alabaster. I exhibit specimens of this hard stone and some others of softer kinds in use at Rheims, Paris, and elsewhere. One kind very much used is the rock answering to our chalk, which, though with us so soft and white, is there of a good grey colour, and so durable that I was frequently unable to detect in old work any signs of its having decayed away more than the flints that are embedded in it.

I believe no grand cathedral of the best age has all its towers complete, and of the same date. Rheims has some fine specimens, wanting their crowning spires. Of the seven designed for Laon, four are tolerably perfect, except the spires. Chartres was probably intended to have nine in all of which only the two in the western front were ever completed. They are carried to the height of the springing of the gable, of similar general design, though, as usual in such cases, differing considerably in details. (See the spires of St. Etienne at Caen, and those of the cathedral at Bayeux.) No doubt, the one latest built had the benefit of any improvement suggested by the view of its senior companion; and it is worth while to notice the small amount of scruple with which this kind of thing was constantly done, as if it were by no means necessary to make a sacrifice for the sake of uniformity, even in a church without aisles, where the windows on the north side were three lights, those on the south were made, very sensibly, in two lights, and the difference was not so noticeable as might have been expected. Of these two spires, that on the north is of the sixteenth century, and, of its kind, handsome and in good proportion to the building. The south tower and spire, being older by half a century than the body of the church, are much too low for it, although, in themselves, a far more beautiful composition than that on the north.

Looking at the upper story of this tower, immediately below the octagonal stage, there seems to have been a careful preparation for some superstructure of a different kind to that which now surmounts it. The design of this portion is such that we might expect, at least, a short blank story before the commencement of a spire of any kind; but the arrangement of the windows and buttresses has no reference to what is to follow upon them; and the spire and octagonal stage, richer in all their details, stand with piers on the heads of the windows below, and openings close over all the lower buttresses. Still, the general outline of this tower and spire is admirable, and, in distant views of the town, from east or west, the cathedral stands out over everything very magnificently. I shall not soon forget the effect of its dark mass against the sun-rise as I left it on my way to Le Mans.

I endeavour to avoid giving an opinion with respect to any portion of a building of which a sufficient sketch is not now before you. I was seldom able to do more than make rough sketches and memoranda of parts of buildings which are not in published works; and I may be allowed to mention the pleasure with which I have looked over the sketches of Mr. Nesfield, now being issued, which, as they happen to be chiefly from churches on the same route that I followed, I am able to say, give a most accurate and lively idea, and generally the choicest bits, of the buildings they represent. The sketches of Mr. Norman Shaw, though referring less to those districts, have many good examples, from Le Mans especially; and I am glad to be able to exhibit also some plates from the work on "Early French Architecture," by Mr. R. J. Johnson, which are from smaller and less known churches, but illustrate the peculiar features of the style in a clear and decisive manner; that is, I think, of far more use to us than some vague kinds of drawing that are more picturesque.

I could spend no more than part of one day at Le Mans, during which I saw, besides the cathedral, some of the dirtiest, darkest, and most wretched holes that can anywhere be tenanted by human beings. I explored it a good deal just after a shower, unfortunately, that brought out the sickly tints and enhanced the flavour of things; it was the only time that I saw in its worst aspect the system of drainage by open gutters by the side of other symptoms of neglect and ruin. But there were a good number of picturesque and some richly ornamented fronts of houses that had seen better tenants. There are fine open spaces also, and a large and lively market-place, almost every house in which is a *café* or hotel. In the cathedral the interior view of the choir, with its double aisles and radiating chapels, was the most spacious and lightsome of any I had seen. The construction of this portion is very interesting; externally the chapels form a very pleasing group, but the forest of pinnacles rising above them with the flying buttresses, though very ingenious, have a painfully confused appearance. Here is a twelfth century portal on the south side similar to the west doorways at Chartres, and very old Romanesque work, patched with later Romanesque in the nave. The church of Notre Dame de la Coultura, into which I could do no more than look for a few minutes, has a very peculiar twelfth-century nave, without aisles, but with large wall arches springing from the base of the vaulting shafts, and enriched with ball-flower and other small ornaments: there are some small arches of brick and stone placed alternately; and very tall, stilted, round-headed arches round the east of the choir. The naves of both these churches are divided by heavy cross arches of square section into large compartments, and in each is a dome-like cross vault. This vaulting and other portions of the construction belong to a type that I did not see represented elsewhere. I should have been glad to pass a longer time there and also at Séez, which is very accurately described in "Murray" as a poor little city. There is in its cathedral much that is worth study: it has good thirteenth-century chapels; its fine portico has had its statues carefully hacked away and all the foliage broken. It has been preserved from falling to pieces by new buttresses, of which I sketched one rather picturesque group going round the angle of the north-west tower, rather elegant, but cold from the character of the details.

There are in Le Mans and Séez plenty of quaint figures and costumes in the streets, and, as in all the towns, I saw much life and gaiety, and much dismal country for many miles between them. In such restorations of churches as I saw, colours were being rather freely applied to the walls, and not with very good effect. With respect to the finest specimen of polychromy that I saw, that in the Sainte Chapelle at Paris, I think the painting and gilding that there cover every part of it, confusing the forms and destroying the light and shade of the ornaments, are much to be regretted. Still less defensible is the trick which I saw in two or three places, of lining the wall panels with ornamental encaustic tiles, and painting upon them lines to represent the folds of hangings. The floor of the Sainte Chapelle, composed of hard grey stone, out of which patterns have been sunk and filled with coloured cements, was pleasant to walk upon, more so than any ordinary encaustic tiles. There is great variety in the floors and pavements about the French towns; coloured marbles, in patterns, are frequent in shops and entrance-halls of private houses; and the ordinary hexagonal paving tiles have a pleasant effect in many cases. I saw but one manufactory for them, and that of the rudest kind: the clay was being tempered by men's feet, and the men—it was rather difficult to say—but I think they would have been naked but for the clay in which they were involved, like flies in treacle.

Strolling through the street there is in every day architecture much matter for observation, a general tendency towards neatness, and good taste in the arrangement of the more modern shops. I saw sometimes in lanes where only one cart could pass elegantly decorated establishments, the white and gold and the looking-glass of which would, if moved to our Regent-street, be much admired. The *cafés* were often very splendidly decorated; one *café chantant*, in which I could scarcely find a place amongst some hundreds of men in blouses, was well arranged and of a light Italian character; it might have been made exceedingly showy and vulgar by the use of a few bright colours, but, being kept white with a very sparing use of gold, it was as elegant as any drawing-room. I do not say that this colour would always suit our colder climate, or stand so well in our damp atmosphere, but as they were situated nothing could look better or more quietly cheerful. In one little town there were shops which had frieze and dado of black marble with incised and gilt letters, and even a slab of marble attached to the lower part of the door. The handsomest shop that I saw anywhere was that of a butcher near the Madeleine, in Paris; every part of it is appropriately ornamented from the floor of coloured marbles to the enriched ceiling; the marble slabs in the windows and even the blocks are cut in ornamental forms; a large fountain plays in the middle, business goes on quickly, and there seems to be much of it, and one may hope that somebody is reaping the reward of his enterprise in bringing so much of art into connection with this least poetical of callings.

The large works of reconstruction now being carried on in Paris furnish many useful hints, especially with respect to the system of fire-proof construction, a system that one would be glad to carry out more generally in London. The joists are lighter than with us, they are readily put together, and the workmen execute the brick filling-in roughly and quickly, and they cut and trim them to any variety of plan with great facility.

Three stout rolled girders strapped together form sufficient bressummer for the ordinary spans used in shop-fronts, and flat arches in stone are turned over narrower openings, with sometimes stout iron bars passing through them.

Any one studying iron construction and workmanship will find plenty of matter, especially in the lighter kinds of work. The roofs of the railway stations along the line to Strasbourg are good specimens of flat girders in very light angle and T iron. The station at Le Mans has a trussed roof of very good ornamental character; the putting together and finishing generally are very neatly executed, and they probably remain longer uninjured by rust than in our climate. On this point, however, the most interesting matter I saw was the coppering of the fountains and lamp columns in Paris; there seemed to be a good thickness of metal deposited, and if the expense is not too great, we may hope that the rust, which is the chief objection to the employment of ornamental ironwork, will in future be prevented. I think Laon seemed to have more of the workers in iron than most places, but in every town I was

* By Mr. Blashill. See page 893, vol. x x.

always coming within sound of their files and hammers. Many articles, such as we usually get from Birmingham, seem in these French towns to be home-made; and I think there is great advantage in having workmen accustomed to the finer kinds of ironwork always at hand, as the architect can have his design carried out under his own inspection, and study its effect as it proceeds.

The tools with which the masons work the grey chalk stones and oolites are quite different from those in common use with us. How far this arises from differences in the texture of the stones you can judge from the specimens. Much work is done with the toothed axe in hewing the blocks roughly into shape and working the faces; the "clustered pick" beats the face and mouldings to something like their finished forms, and they are then finished with the plane or rubbed with a kind of grater. Where I could judge at all I thought the work was got through rather quickly, and I felt some surprise that one or two of these tools are not used in London. I have been told, as to one of them, that "the Union" has forbidden its use amongst the soft-stone masons, but I hesitate to believe anything so monstrous. Usually, all mouldings are wrought after the building is finished. I frequently saw houses intended to have elaborate fronts, some portions of the carvings had been executed as patterns some years back, and the remainder was left to be finished at another time. Generally, the beds of stones were not very finely wrought, and they were set in a rather thick layer of mortar. I think there is often an advantage in this, as in very plain buildings it is a pity to spend money in making every part neat and smooth, which will only render the poverty more apparent.

I usually contrived to spend an hour in the public libraries and museums with which the towns are furnished. At Chartres, which has 18,000 inhabitants, there are three rooms and corridors filled with pictures, antiquities, and objects of natural history, very well exhibited. They were always very easy of access, and I could not help calling to mind one or two museums I know of in fair-sized towns, where I, a passing traveller, have discovered with difficulty that I could in no wise see their case of dusty birds and their barrow-load of uncatalogued minerals, except on payment of sixpence—next Tuesday. But some of our towns are making efforts to establish good museums, and I should think they will find them most valuable to themselves, and send the stranger away with a pleasant impression of their civilization, liberality, and old associations.

I think many of us find the opportunities of studying English Medieval architecture, for a few days at a time, occur rather frequently, and on those rare occasions when we can get from town for longer periods, wish to see something of continental architecture. I may state, for the information of such as wish to know, that I found the difficulty and expense of travelling much less than I had anticipated. There is great regularity in the style of living, if you fall into the ways of the people. I generally stayed at the best inns, lived as expensively as the best of the people with whom I met, never disputed a bill, nor had reason to think I ought to do so, and I am sure that a tour in England would have cost me more money.

If I may judge from a short experience, I should say there is no place on earth where you may go about under less fear of restriction while you are careful to avoid interference with the service of the church or any other cause of offence. The ecclesiastics seemed to take a pleasure in giving such information as they could, and when there was a regular official appointed for that purpose, his fee was small. There seemed to be no objection to one's going anywhere for the purpose of sketching. I was now and then invited into private gardens, for the sake of getting a better position. Ordinary passers-by generally apologized if they were compelled to obstruct the view, and nobody felt any delicacy about looking over the drawing, or attempting to read the notes, but it was done civilly, and I think was intended as a compliment.

On the whole, I thoroughly enjoyed the sight of a people so different from ourselves in their ordinary life, saw what repaid me abundantly in the architecture of ancient and modern date, fell into many mistakes probably, from want of time for investigation, but shall be glad if my accuracies and my errors between them are the cause of a good evening's discussion, and lead some of you to endeavour to spend a few days in France.

"THE WINDSOR FEVER."

THERE has been very little fever of late in Windsor, it appears. The mayor, considering that the revived rumour as to Windsor fever "might deter visitors from coming to the royal borough," has caused the town-clerk to issue a manifesto whitewashing Windsor, and clearing it of all blame as to our recent loss. And if there *be* little or no fever at present in Windsor, it is quite right that Windsor should have the benefit of this circumstance. Nevertheless, fear of deterring visitors from going to Windsor is not exactly the right motive whereby either mayor or town-clerk ought to be actuated on the present occasion; and we do hope that one illustrious visitor *will* be deterred from visiting it until a thorough local investigation shall be made, with the view of discovering, if possible, that *nidus* of typhoid-, "pythogenic-," or "dirt-" fever, which *must* have predisposed the Prince Consort to be attacked by the deadly but preventible disease of which he died. It is not enough to say that he probably caught the infection elsewhere: indeed, it is inconsistent with the known laws of dirt-fever to believe in its infectious nature at all; and accordingly the nation, during the Prince's illness and at his death, were congratulated on the circumstance that typhoid fever, however deadly, was *not*, like typhus, infectious. Well, then, the cause of the Prince's illness not being by any possibility *infection* got elsewhere, he must have become predisposed to it by the known causes of such fevers *prevalent where he habitually resided*. It does not necessarily follow, certainly, that these causes must have had their site in Windsor Castle. It might be that it was in some other of the royal residences where he had of late dwelt that he became predisposed to the attack; but we cannot overlook the circumstance that it was while he was *residing* at Windsor Castle he *was* attacked; and that Windsor *has* been—if it be not just at this moment—notorious for just such fever—pythogenic or dirt fever,—"Windsor fever," as it was actually stigmatized long before the Prince Consort was cut off by it.

The sanitary state of Windsor Castle, then, naturally excites our first and foremost attention; and it is the duty of the Government, now that they have, as it were, got the scent of a deadly poison to which the Royal family are exposed, to follow it up like slaith hounds, till the inevitable *nidus* which assuredly *must* exist somewhere about one or other of the Royal residences, but most probably about Windsor Castle, shall have been discovered and fairly rooted out. Let the drainage of Windsor, both castle and town, be now ever so excellent, it is but too probable that some overlooked fever-still nestles near the Royal apartments; and even were it necessary to turn these apartments outside in and upside down, the Government ought to get at the root of the evil. There may be some old cesspools now in disuse, or other lodgment of organic corruption connected with the water-closets or otherwise, breeding poisonous gases which subtly permeate the Royal apartments, and do their deadly work all the more surely from the very acme of "snugness," "comfort," and convenience to which such apartments are but too likely to have been brought. Whatever or wherever it be, we say, some such *nidus* of pythogenic fever clearly and manifestly exists, somewhere near the very spot where the Prince Consort has of late been *resident*; and it is to be hoped that, in the investigation which ought immediately to be made, no merely *dilettanti* investigators will be entrusted with such a mission, but men practically and intimately acquainted with what they are about.

Lamentations as to what is past and irremediable are now of no avail; but, for the sake of the nation, no less than of the Royal family, let us not allow her Majesty to risk her valuable life, or the lives of any other members of her family, by a return to Windsor Castle till a thorough and searching and not a mere surface investigation shall have been made. In the case of the late King of Portugal and his brothers,—another of whom, Prince João, has just died, also of typhoid fever;—who, in these days of sanitary awakening, can doubt the essential unhealthiness of the palace or palaces in which they have resided? An example to us in this respect has already been set by the Portuguese Legislature (to whom *we* ought to be an example in such respects): they have already appointed a medical commission to examine and report upon the sanitary condition of the royal palaces; and the king has removed from the fatal abode where his family so recently resided?

Would that our foreboding endeavour to rouse the attention of the Government and the nation to the sanitary state of Windsor two years ago (and for which we had *not* the *thanks* of the Corporation), had led to a more thorough investigation than did take place. As it is, some good *was* done, and the locality has since been admittedly more healthy; but in the present instance it may not be the town drainage at all which is in fault, but some local and concealed source of evil in the castle itself, notwithstanding its alleged excellent drainage. Even now it is admitted that the drainage of one portion of the castle premises is in a bad state; and it is said that fever *has* prevailed there even while the well-drained portion has been free of it. The whole subject demands immediate re-investigation; and her Majesty ought to be beseeched not to return to Windsor Castle till this thorough investigation take place. The force of public opinion on sanitary questions is becoming very great; and it is peculiarly gratifying to a sanitary pioneer such as the *Builder* to observe how intently the public interest and attention have been engaged on this very point,—a question which, in by-past years of the *Builder's* existence, not all its most strenuous efforts would have sufficed to excite. We are very hopeful, therefore, that the Government will feel the force of this new public opinion, and will not deem it prudent either to despise or to resist it.

PROPOSED MEMORIALS OF THE PRINCE CONSORT.

STEPS are being taken, it appears, to raise a suitable public monument to the Prince in London. The provinces also are already astir on a similar subject. At Salford a meeting has been held, the mayor in the chair, when resolutions were unanimously passed for the erection of a statue in Peel Park. The Mayor of Manchester is also about to call a meeting, for the erection of a statue in Manchester. At Coventry, the vicar and churchwardens of St. Michael's have resolved to erect a memorial window in their parish church as a mark of respect to the Prince's memory. At Newport, Isle of Wight, a subscription has been already commenced for the erection, in St. Thomas's Church, of some monumental memorial; and in many other places similar demonstrations of regard and respect are being made.

THE FUTURE OF ST. THOMAS'S HOSPITAL.

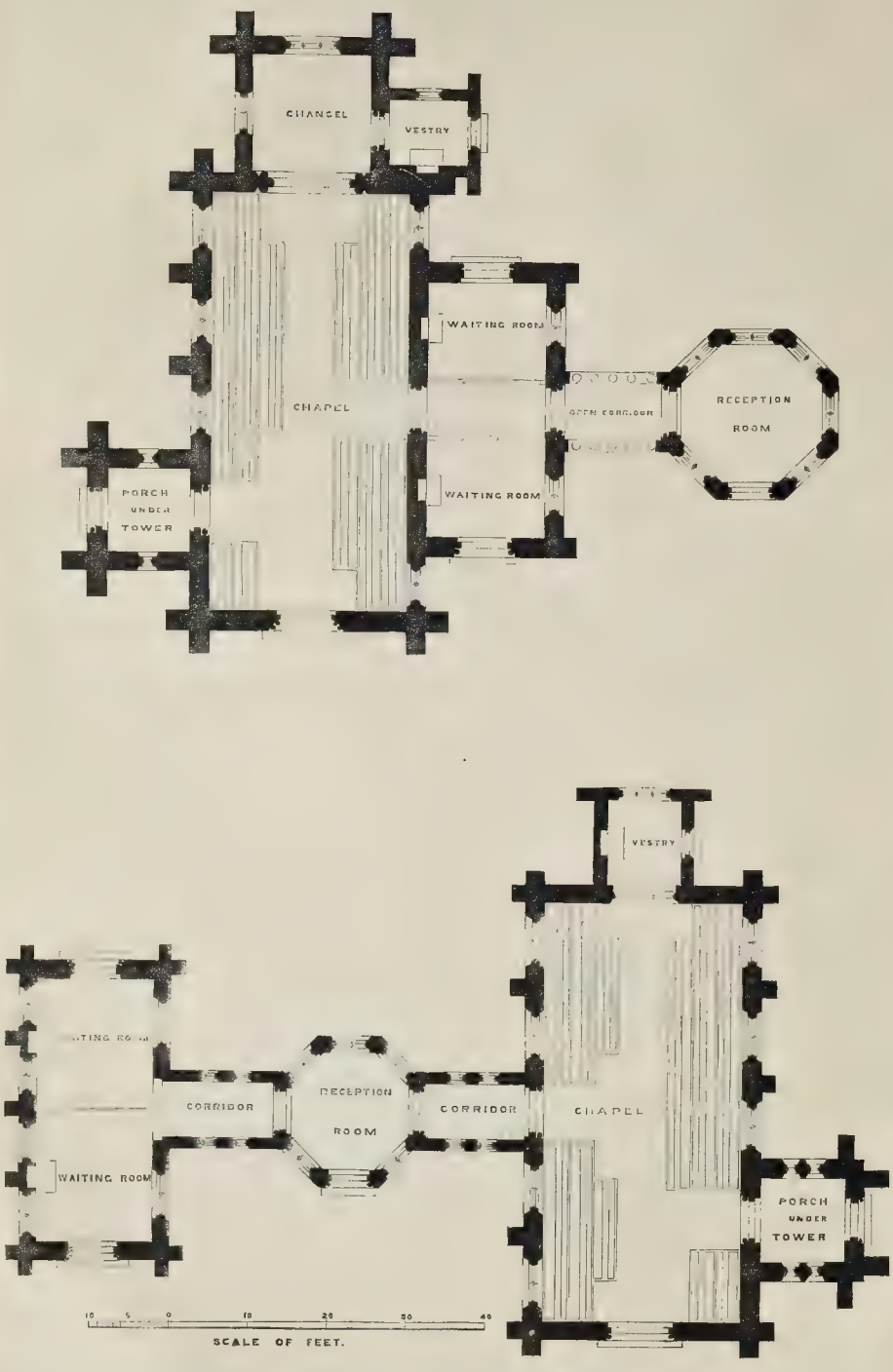
THE fixing of the site for the new hospital is a highly important matter, which we trust will be well considered, if it be not already too late for further consideration. Hospitals, in the midst of so vast a concourse of people as that in London, may be regarded as highly requisite; but there are also great evils arising from their position in the midst of such a population. The very object of such hospitals—the speedy cure of patients—is to a great extent frustrated by their mere locality; and, if it were possible to remove the main hospital to some convenient and healthy suburban district—such as Blackheath, for example—while one or more minor establishments for the reception and the temporary disposal of patients were maintained in town; the expense and time requisite for recovery would, we do believe, be greatly lessened. In reference to St. Thomas's, now is a fitting time for well considering this subject; and we earnestly trust it is not too late to do so.

The *Observer*, in an article as to the future site of this hospital, recommends its sub-division into several smaller; with a sanitarium a few miles out of town; which is much the same suggestion essentially with that made by ourselves, both now and on previous occasions; as while speaking lately on the subject of village hospitals.

The *Observer* says:—

"There can be no doubt of the fact, that a much greater amount of good may be done by having three or four hospitals in different localities, with 150 or 200 beds in each, than one only with 500 or 600 beds. With 295,000*l.*, the award of the value of St. Thomas's Hospital as it at present exists, three good hospitals might be erected in London, and one; a convalescent hospital, or sanitarium, a few miles from town, the four to be denominated 'The United Hospitals of St. Thomas.' By this arrangement much public good might be promoted, and the benefits of the charity would be widely spread.

This proposition cannot, with any show of justice, be objected to on the ground of want of funds to promote the erection of the several buildings, or maintain the different branch hospitals. The income of St. Thomas's Hospital derivable from property alone amounts to about 38,000*l.*; a sum sufficient to support, under proper management, six such hospitals as any of the size of King's College, St. Mary's, the Royal Free, or University College, whose incomes are derivable from uncertain sources."



BIRMINGHAM CEMETERY.—*Plan of Episcopal Chapel, and Dissenters' Chapel.*



BIRMINGHAM CEMETERY CHAPELS, AT WITTON.—MR. R. CLARKE (Nottingham), ARCHITECT.

BIRMINGHAM CEMETERY.

BIRMINGHAM is now laying out from 30,000*l.* to 40,000*l.* in the purchase of land at Witton, about two miles and a half from the town, and the formation of it into a cemetery, with the necessary buildings and boundary-walls. The works are fast advancing, and we now place before our readers views of the chapels, and a plan of each. On another occasion we shall illustrate the lodge and entrance-gates. The plan presents the peculiarity of attached waiting and reception-rooms. The roof of the Episcopal Chapel is now on. The first stone was laid on the 12th of August, 1861, by Mr. Arthur Ryland, mayor of Birmingham.

The area of the land is about 105 acres, and has been laid out and planted, under the superintendence of Mr. Till, the borough surveyor for Birmingham.

The contract for the buildings is 6,000*l.* Mr. Charles Wright, of Nottingham, is the general contractor. Mr. Birchall, of Rugby, is the stonemason. The carving will be executed by Mr. Meriton, of Nottingham. Mr. Beeson is the clerk of the works. The architect is Mr. R. Clarke, of Nottingham. The designs for the buildings were the result of a competition; in the decision of which a professional architect was called in to assist.

IMPROVEMENTS IN ISLINGTON.

SOME time ago we urged the necessity for an entrance to the new Agricultural Hall in Liverpool-road from the Upper-street, Islington. We are glad to find that a committee of inhabitants have arranged to construct a road leading from one road to the other. The freeholder of the land required for the road has consented to give up his interest in it upon the receipt of 850*l.*; towards which sum 550*l.* has been promised in the following allotments:—The inhabitants have raised 250*l.*; the committee of renters of Christ's Hospital, for whose estate adjoining, the new road would be a great improvement, have memorialized the directors to give 100*l.*; and the committee of the Agricultural Hall have consented to give 200*l.* towards the object; leaving 300*l.* to be provided. This sum there is no doubt will be advanced by the vestry; as, at the last meeting of the vestry, a report from the Vestry's Agricultural Hall Committee recommended such a course; which report was unanimously adopted, and which report recommended that it should be carried out forthwith.

We are glad to notice that the parish authorities of Islington are improving the numbering of some of the streets in that district. This has long been needed, not only here but in other parishes. The irregularity which at present exists in this respect causes much confusion, and gives much trouble to the letter-carriers. Many instances might be cited: in one street there are three houses numbered one, and the consequence is that mistakes occur in the delivery of letters and parcels. In several streets the numbers do not run consecutively: in one part there are houses without figures, but named "Woodbine Cottage," "Ivy Lodge," "Prospect House," &c.: in certain cases No. 50 is next door to No. 30. It is quite time order should reign in Islington.

AS TO THE NEW BRIDGE AT BLACKFRIARS.

THE report made to the Court of Common Council from the Bridge-house Estates Committee, upon the reference to them to obtain designs and estimates for the construction of a new bridge at Blackfriars, and making temporary provision for the traffic, is now printed for distribution among the members of the Common Council. The report states that the committee requested Mr. Barlow, C.E.; Mr. Bidder, C.E.; Mr. Joseph Cubitt, C.E.; Mr. John Fowler, C.E.; Mr. J. Hawkshaw, C.E.; Mr. Thomas Page, C.E.; Sir John Rennie, C.E.; and Messrs. Burgess, Walker, & Cooper, to send in designs and estimates for the new bridge. Permission to send in designs was also granted, upon their own application, to Messrs. Brereton, Brunless, Greenhill, & Mylne. Messrs. Walker, Burgess, & Cooper declined to send in plans, on the ground that they did not desire to enter into competition for professional employment. The preparation of the designs and estimates was left to the judgment and taste of the scientific gentlemen, wholly uncontrolled and unfettered, with the view of obtaining the most original suggestions, and leaving each competitor the opportunity of explaining the reasons which had guided him in the preparation of the design. The designs sent in to the committee were twenty in number, and comprising four for a stone bridge, five for a wrought-iron arched bridge, one for a wrought-iron girder bridge, nine for a cast-iron arched bridge, and one for an iron bridge, not specifying whether of wrought or cast. Of the stone bridges Sir J. Rennie's was for three arches, the centre span being 236 feet. Mr. George Rennie, whose application for permission to send was acceded to at a later period, sent two designs for a bridge of five arches, and Mr. Mylne also proposed one of five arches. Of the wrought-iron arched bridges, Mr. Fowler proposed one of three and another of five arches. Mr. Hawkshaw did the same, and Mr. Barlow proposed one of three arches. Mr. Brereton submitted a girder bridge with five openings. Of the designs for cast-iron arched bridges, one only—that proposed by Mr. Page—was for three arches. The others, submitted by Messrs. Bidder, George Rennie, Mylne, Cubitt, and Brunless, were of five arches. Mr. Greenhill sent in a design for a bridge of seven arches, having a centre span of 120 feet, with a tube for a railway. After maturely considering the various designs, the committee came to the conclusion that, having regard to the length of time that would be necessarily occupied in the construction of a bridge of stone more than of a bridge with iron arches; and to the facts that the depth required at the crown of the arches of a stone bridge would prejudicially affect the gradient of approaches and roadway of the bridge, and that the cost of a stone bridge was in all cases so much more than of those of iron, it was not desirable to adopt a design for a stone bridge; The committee next decided that, as it was essential to preserve the present lines of approach to the proposed bridge, the entire line of the new structure should correspond with the centre line of the existing approaches; and having regard to the great increase of traffic which must be expected consequent upon the formation of new railway stations and termini within the metropolis, and that the bridge should be worthy of the wealth and the position of the City of London, they selected the design of Mr. Page for a bridge of three iron arches on granite piers. They state that no disturbance of the traffic will arise during the construction; that provision will be made for it without a temporary bridge; and that the cost of the works will be 245,000*l.* The estimates of the other engineers who tendered were — Sir John Rennie, 410,000*l.*; Mr. Cubitt, 245,000*l.*; Mr. George Rennie, 210,000*l.* to 270,000*l.*; Mr. Brereton, 145,000*l.*; Mr. Mylne, 333,250*l.* and 409,250*l.*; Mr. Brunless, 84,496*l.*; Mr. Bidder, 176,000*l.*; Mr. Barlow, 149,372*l.*; Mr. Hawkshaw, 350,000*l.*; Mr. Fowler, 280,000*l.* Mr. Page, Mr. Hawkshaw, and Mr. Bidder proposed to make the bridge 80 feet wide; Mr. Barlow, 72 feet; Mr. Mylne, 68 feet 5 inches; Mr. Brunless, 70 feet; Mr. Rennie, 60 and 70 feet; Mr. Brereton, 58 feet; Mr. Greenhill, 60 feet; and Sir John Rennie, 64 feet 9 inches. The bridge selected by the committee is described in the report as worthy in all respects of the City of London.

The centre arch is 280 feet span (40 feet wider than the centre arch of Southwark Bridge), and the two side arches being each of 220 feet span, the waterway being thus 720 feet, the two piers are each 28 feet in thickness. The springing line of the arches is 2 feet above Trinity high-water mark (the tide having, on extraordinary occasions, risen 3 feet 8 inches above that *datum*). The rise of the centre arch above the springing is 24 feet, and of the side arches 20 feet: hence the headway at Trinity high water will be 26 feet under the centre arch, and 22 feet under the side arches. The structure of the arches will be in cast iron from the piers to within 40 feet of the crown; the centre piece forming the key of the arch, 80 feet in length, being of wrought iron. All the central parts of each arch, where the wrought-iron ribs are inserted, are to be of wrought iron. Between the main ribs, cross girders and bearers would be fixed, 3½ feet apart, on which would be laid wrought-iron buckled plates, and over these again a water-tight and elastic bed would be interposed between the plates and the roadway. The cornice is merely relieved by corbels, and the spandrils filled in with the arms of the City of London and those of Southwark, with some sculpture in bas-relief indicative of the Thames. The pedestals on the piers are proposed to be of polished granite: the arches at the ends would be of sandstone, contrasting in colour with the granite. The four pedestals on each side of the bridge, 40 feet in height above high water-mark, and 23 feet in width, would supply bases for groups of sculpture commemorative of past events in our national history, in some of which the chief magistrates of London took an active part. Those indicated in the drawing are intended to represent King Alfred, Boadicea leading to the charge, Sir William Walworth dealing the death blow on Wat Tyler, and our present sovereign Queen Victoria encouraging the arts of peace. The foundation of the bridge is proposed to be formed on timber, and iron piles, similar to those of Westminster Bridge; and the materials of construction are to be piers of masonry, on pile foundation and iron, wrought and cast iron in arches and superstructure. The time of construction is stated at two years and a half, and provision is to be made for the traffic without the erection of a temporary bridge, as has been the case at Westminster. The design is not definitively adopted.

THE COLOUR PRIZES: ARCHITECTURAL MUSEUM.

THE prizes for Coloured Decoration, offered through the Architectural Museum by the Ecclesiological Society, have been awarded. On opening the envelopes bearing the private marks attached to the specimens selected, the successful competitors were found to be—For the first prize of 5*l.* 5*s.*, Mr. Joseph Peploe Wood, of 25, Brown-street, Bryanstone-square; for the second prize of 4*l.* 4*s.*, Mr. A. O. P. Harrison, of 337, Euston-road; and for the third prize of 2*l.* 2*s.*, Mr. Charles J. Lea, of High-street, Lutterworth. The twenty-two specimens sent in are now exhibited in the Museum. The result of the remaining competitions will be made known when the adjudication has taken place.

THE ORIGIN OF TYPHUS AND TYPHOID FEVERS.

A LECTURE was recently delivered at Angmering by Dr. Barker, of Worthing, on the four gases,—oxygen, hydrogen, carbonic acid, and nitrogen,—in the course of which the lecturer made the following remarks in regard to typhus and typhoid fevers:—

It is the object of sanitary science especially to prevent contamination of the atmosphere by the various noxious gases resulting from decomposition. The evidence is overwhelming that the reception of these gases into the system and the production of fever go hand-in-hand: and it must be evident that if a gas, such as oxygen, be a restorer of vitality, and that the due performance of all the vital actions depends on its presence in the atmosphere; that when this is deficient and its place occupied by others of a poisonous nature; and these, like the oxygen, are brought, during respiration, into immediate relation with the blood itself, are absorbed by it and conveyed during the circulation of this fluid through the system to its remotest parts;—that the whole body must suffer, and that a series of effects, most terrible in their character, must be the result; at one time producing typhus, at another the gastric, intestinal, or typhoid fever, which is the usual form it assumes in this country; at other times erisypelas; and, if the atmospheric conditions be favourable, even cholera, which is itself essentially a fever, that is, a disease in which the blood has been poisoned, [an idea in its nature quite in accordance with that suggested in the *Builder* at least ten or twelve years since, in which its analogies with plague were considered; and it was regarded, in its intestinal aspect, as but the cold stage of a tremendous fever, the *fever*-reaction of which was even more fatal than the *collapse*.] The symptoms of these diseases are the result of this poisoning, associated with nature's efforts to eliminate it from the system. Scarlet fever, or scarlatina, as it is sometimes called, is usually produced by the same causes; for it is rare to meet with a case that cannot be traced to some local source of contamination. Impure water, as well as air, is, no doubt, a terrible source of disease.

We now arrive at the remedy. This is most easy, and is pressed upon us with threefold force; for our comfort, economy, and health alike direct us to it; viz., to remove as far from our dwellings as possible all materials in a state of decomposition, and especially the refuse of the human system: nothing can be more culpable and costly than to disregard this simple remedy. I am persuaded that the fever of this country would be almost unknown in a very short period were attention paid to this. Angmering itself affords a remarkable proof of it; for, in 1843, eighteen years ago, upwards of 100 cases of fever occurred in the village, many of which were fatal. In the following year I sent in a report of those places which were considered prejudicial to health; and attention was paid by the authorities at that time

to my representations; and the result has been, after a period of eighteen years, the occupants of only two houses have been attacked with fever; and in both instances the disease was clearly traceable to local impurities: all besides have been introduced from elsewhere. The town of Worthing again, which for many years was scarcely ever altogether free from fever, is now entirely exempt from it, unless when a case is imported; thus causing a vast saving in poor rates and medical attendance, and amply remunerating us for great outlay, irrespective of the duty we owe to our poorer brethren.

BILL FOR THAMES EMBANKMENT.

A BILL for the Thames embankment has been printed, and the plans and sections are deposited with the Clerk of the Peace and other authorities under the standing orders. We learn the embankment starts from the lower side of the New Westminster Bridge, ranging with the face of the abutment of the new bridge, and continues in a curved line, following what is generally called Page's line, to the back of the first abutment of Waterloo Bridge. It then starts again from the lower side of Waterloo Bridge at the corresponding point, and proceeds in a similar curved line until it terminates abruptly against Blackfriars Bridge, 2½ chains nearly, or about 100 feet, into the river beyond the present wharfs and houses. The embankment is solid throughout, and the projection into the river, in some cases very considerable, is to be filled in by soil taken from the Thames, or otherwise obtained. The height of this new wall from Westminster Bridge to the east side of the Temple is to be 4½ feet above Trinity high-water mark. From that point the embankment ascends rapidly by a steep viaduct to the level of Blackfriars Bridge. This viaduct, we presume, would stand on the level of the embankment, and would be 40 feet above low-water mark. On the surface of the land thus gained there is first to be a public road 190 feet wide from Westminster Bridge to the Temple, where it is to become 70 feet wide only. In addition to this road or street, property is also scheduled for the following new streets,—viz, first, an entirely new street from the Banqueting House at Whitehall down to the river; secondly, Whitehall-place is to be continued down to the river, and will form part of a new street between the Strand and the river, terminating at Waterloo Bridge, just opposite the new wing of Somerset House; thirdly, Norfolk-street, Surrey-street, and Arundel-street, are to be made to join the river by a common communication to the new road; and, lastly, from Blackfriars-bridge a new street is shown from the bridge to the Mansion-house, joining also New Cannon-street. This street proceeds first obliquely, and then nearly parallel to the river, avoiding the *Times* office, the Equitable office, and Apothecaries' Hall, where it goes off at an obtuse angle, and is continued across New Cannon-street to the front of the Exchange and the Mansion-house. The bill constitutes a board for carrying these enormous works into effect, consisting of the chairman and four members of the Metropolitan Board, and two members of that board returned by the Corporation of London, thus forming a board of seven members in all. It empowers the borrowing of one million and a half of money, and gives compulsory powers of purchase, sale, &c. in the usual way. It enables the board to deal with the Chatham and Dover Railway and bridge; but the Hungerford, Blackfriars, Westminster, or Waterloo bridges are not to be interfered with. The solicitors for the bill are Baxter, Rose & Co., and the engineers Messrs. M'Clean & Stillman.

The arrangements do not to us look very promising. On what grounds are the gentlemen named appointed engineers?

PROPOSED MONUMENT TO SIR HUMPHREY DAVY IN PENZANCE.

COMPETITION.

IT is proposed, it will be remembered, to erect a monument to Sir Humphrey Davy, in his native town, Penzance. The desire originated amongst the working men of the neighbourhood. A committee was formed, with Messrs. J. May and R. Carter as honorary secretaries, and on whom devolved the labour of making such arrangements as were necessary in securing the best information in such matters, as well as adopting the most efficient means in giving publicity, and securing distinguished patronage and support, not only in England, but throughout the Continent.

In answer to an advertisement published in the *Builder*, ten architectural designs were sent in to the secretaries, from London, Southampton, Weston-super-Mare, and Bath. Four out of the ten were selected for the committee's approval; and, after a careful examination, the designs of Messrs. Salter & Perrow, of Westminster, London; Ezard, of Bath; and E. A. Brown, of London, were put to the ballot; when there were nine votes for the first, three for the second, and two for the third. The two designs of the first-mentioned firm were consequently selected as being best suited to the ideas entertained by the committee.

The *Western Mercury* says, "The first of these designs represents a column of 120 feet high, of the fluted Doric order. The base of the column will be of granite, with bands round the column, either of coloured granite or serpentine, polished. The column will stand on a raised granite base, ascended by three steps, on the top of which, and at each corner of the panels of the base of the column, four pedestals, or supports, are represented with shafts of polished red granite or serpentine. On the four panels of the column will be placed the name and titles of the illustrious chemist, with other devices and patrons' names which may be determined on hereafter. On the top of these supports imitation Leyden jars are represented. The base will be railed in with a massive variegated iron railing. Above the cornice of the column will stand a bronze statue of Sir Humphrey Davy, 10 feet high, appropriately draped, with the 'Davy Lamp' held in one hand. The other design is of a more elaborate character, and represents a massive tower, of the pure Italian order, with a square instead of circular shaft, beautifully relieved by chastely cut granite decorations, at the base as well as at the top of the column. Over the doorway of the column would be placed the Davy arms; whilst on the other side would be placed his name and titles: the bronze statue would still be on the top: and this, we think, would be the best column, because it has the extra recommendation of being ascended by a flight of stairs, leading to an outside gallery on the top, and from which a most magnificent sea and land view of Mounts Bay and the surrounding locality could be secured. With a few trifling modifications, it is to be hoped that the column will be ultimately adopted."

The site for the erection of the column is on the summit of Lescudjack-hill.

STAINED WOOD FURNITURE.

MESSRS. DYER & WATTS, of Islington, manufacturers of japanned furniture, have recently patented an application of stains to polished pine, by which process an effect is produced in imitation of marqueterie and inlaid work. The present taste for light-coloured woods for bedroom furniture gives value to this invention, and the patentees have wisely confined its introduction to a superior class of articles, both in design and workmanship. We have had an opportunity of inspecting a full suite of this furniture, which is got up in a quaint style, well suited to the particular character of the ornamentation. We are not surprised to hear that it has already obtained favour.

TWO MORE "INFERNAL MACHINES" EXPLODED AT SHEFFIELD.

THE supposed murderer in one of the recent trades' union outrages in Sheffield, though in custody, has not yet been put upon his trial; while, as if contemptuously to defy all law, and to silence all local or other organs of public opinion from sheer terror of consequences to themselves, two new explosions have occurred in close vicinity to the town. Here are no less than three such cases *since* the poor woman who was murdered on the first of these recent doings met her death; and all four within a few weeks; besides the known prevention of a fifth by the arrest of the miscreant who performed his villanous office in the first instance.

If the respectable trades' unions throughout the country have any regard for "trades' union" reputation, they will at once cut out the vile Sheffield cancer, which otherwise is assuredly sealing the speedy fate of trades' unions in general. The successive recurrence of such villanies in the very face of the law is a deep insult to all law and a deliberate defiance of all legislation. It now only remains to be seen which are the strongest,—the terrors of the law, or those terrors of Sheffield trades' unions on which other trades' unions throughout the country seem to be inclined to look with as much quiet complacency as does an army resting on its arms while some selected troops are bombarding an enemy's city.

The Rev. Mr. Kingsley, who is well known to have the welfare of the working classes and even of the unions themselves at heart, thus writes to the Rev. Greville Chester, of Sheffield, on the subject of these outrages:—

"If these trades' unions are to be allowed to exist they can only exist on the ground of being not only organs for combination, but for keeping the combined men within the law. If they will not disprove that such outrages have been committed by union men; if they will not, in honour to their own class, be *the first* to drag such hounds to justice; if they will do nothing to free themselves from the old stigma, that from 1826-48, they have themselves notoriously engaged in such outrages and murders,—then *let them be put down by law* as incapable morally, as well as politico-economically. With you, I have defended the right of combination among the workmen, in hope that they would become wiser than of yore. But if they continue to murder, I see nothing for them but the just judgment of public opinion, which will sweep them away, and, I fear, inaugurate a reign of tyranny of capital. I, and others, have been seeing with dread the growing inclination of the governing classes to put down these trades' unions, &c., by strong measures.

What am I to say when I see the working men themselves, in the face of this danger, justifying the measures of those who wish to be hard on them? I have seen enough of trades' unions to suspect that the biggest rogues and the loudest charlatans are the men who lead or mislead the honest working men; *but if the honest working men themselves make no move towards detecting and exposing the authors of such outrages, they must suffer with their blind and base leaders.* If they fancy that they are too strong for the classes above them; *that they can defy the laws of England and the instincts of humanity*; then they will find themselves mistaken, even if they have to be taught their folly by a Bristol riot, or a second Peterloo."

The trades' unions throughout the country had better take this matter at once into their most serious consideration. Their reputation as a body, in the eyes of the country and of the world, we solemnly assure them, is at stake; and, if they refuse or even delay doing so, their days are numbered.

THE RESTORATION OF ST. MATTHEW'S, BETHNAL GREEN.

THE church was destroyed in December, 1859; and the restoration was commenced in April, 1860. Mr. T. E. Knightley, of London, was the architect. The work was prolonged in consequence of the strike.

The old walls remain: the roof is changed in form from the original: the top is flat; and the upper parts of the sloping sides are relieved by an ornamental cresting.

The tower has been raised two stories.

To the church originally there were four steps; but interments, raising of road, &c., deprived it of any; but, by a change in the front-pavement level, two have been recovered.

From east to west the church requires depth, the chancel being shallow. In his original design, the architect contemplated the removal of the eastern wall, and the construction of a semi-circular wall beyond that line: this would have enabled him to recast the original arrangements, would have given length, and improved the interior and exterior also; but this part was abandoned from want of funds.

The present arrangements are not quite in keeping with the notions of church arrangements of the present day, but are nearly a repeat of the original, as directed by the committee.

As width and massiveness are the characteristics of the old portions of the work, an endeavour has been made to preserve and carry throughout the same expressions, both in the fittings and decorations.

The building is Italian in design. The architect has worked to instructions; and, consequently, is not responsible for the arrangements.

The gallery is supported on plain stone columns, the entablature above being Roman Doric. The wood is pitch pine, carefully selected, and varnished only. The chancel aisles and vestibules are laid with encaustic tiles. The font is of Caen stone. The pulpit is octagonal, of unequal sides. The reading and clerk's desks are of pitch pine, relieved with carvings.

The chancel has a stained-glass window, by Clutterbuck, of Stratford. The walls and ceilings are relieved with mural decorations, in geometrical patterns, in gold and colour, with margins of polished scaglola, the upper portions inclining to red, the lower being blue and gold. Beneath the east window is a reredos of stone, in three panels.

The gasfittings have been designed by the architect for this church expressly. They are of polished brass. Standards of three lights each light beneath the galleries, four lights the nave, and five lights the altar. The galleries are lighted from chandeliers of polished brass, of eighteen lights each.

The window frames are all of iron, somewhat ornamental, and relieved with gold and glazed with green muslin glass, the design being adapted to the purpose. This glass was made in Belgium.

The church doors are massive, moulded, and of oak. The staircases are of stone.

The architect is desirous the public should know that the reading and clerk's desks, the governors' pews (with people sitting face to face), the pulpit being on the south side, the absence of stalls, the surrounding galleries, &c., were all distinct and special orders of the committee, without which he had refused to put them up.

NEW HOTEL, SALTBURN-BY-THE-SEA, YORK.

SALTBURN-BY-THE-SEA, in the North Riding, is an entirely new place; but substantial-looking buildings of firebrick have sprung up,—streets, terraces, and promenades have been staked out,—and already there are some miles of gravelled walks through the woods on the north side of the glen. The Stockton and Darlington Railway has extended itself from Redcar, to set down the stranger and afterwards pick him up. The place seems to give promise of rapid growth.

The railway company invited competition by offering prizes for the best plan of a hotel; and, from a vast number of plans, the premiums of 50*l.* and 30*l.* were awarded respectively to architects in London and Birmingham. Neither of these, however, it appears, suited the directors; and Mr. Peachey, the architect of the company, was requested to prepare a design, and this is being carried out. The premium of 50*l.* offered by the Saltburn Improvement Company, for laying out the ground purchased of the Earl of Zetland, was obtained by Mr. Dickinson, of Darlington. The hotel is to be on a very large scale. It will contain forty-three bed-rooms, twenty-three sitting-rooms, and eighteen others for various purposes. Parallel with the railway, for some distance, on either side, two fine streets are to be laid out, called Milton-street and Dundas-street. At right angles with Milton-street, and extending down to a terrace, to be named Marine-terrace, as it will command a magnificent view of the ocean, there will be Garnet-street, Ruby-street, Emerald-street, Diamond-street, Pearl-street, and Amber-street. In the published plan very few of the front houses are square,—a great mistake.

The works of the "Zetland Hotel" are being proceeded with: the contractors are Mr. Daniel Marren, mason; Messrs. H. & G. Chapman, joiners; Mr. George Pattison, slater; Mr. John Hudson, plumber; Messrs. Close Ayre & Nicholson, iron-founders and bell-hangers.

NEW CHURCH IN BOSTON, UNITED STATES.

QUITE recently a new church, of considerable size, in Arlington-street, Boston, was formally dedicated. It stands at the corner of Boylston-street, and occupies a plot extending 112 feet one way, and 185 feet the other.

The work was commenced in September, 1859. The main structure consists of a nave and aisles, measuring together 65 feet by 90 feet internally, and 70 feet by 95 feet on the exterior. A tower, 23 feet square, stands in the centre of the front, with side entrance porches flanking it, each measuring 10 feet 8 inches by 23 feet. This tower is surmounted by a steeple, which rises to a height of 190 feet, and is terminated by a finial bearing the compass-points and vane. The material throughout the whole exterior is a freestone, from the quarries at Newark, N.J. The style chosen by the architects is that of Wren, Hawksmoor, and Gibbs.

The interior is divided into a nave and two aisles by a range of Corinthian columns, the plinths of which are elevated to the exact level of the tops of the pews. These columns are, perhaps, the finest example of the ornate Corinthian order to be found in Boston. Their proportion and entasis are imitated from those of the interior order of the Pantheon, being about nine and a half diameters in height. Above these columns on each side of the nave spring five arches, with their mouldings, directly from the capitals of the columns.

The ceiling which forms the great vault over the nave consists of a semi-cylindrical vault divided by main ribs over the head of each column, which continue the constructive effect of the panelled piers over the face of the ceiling, and crossed by other ribs of smaller form in the direction of the length of the church, thus dividing the whole roof into fifteen large caissons or panels, enriched with bold mouldings, and having a highly ornamental patera or flower in the centre of each. The face of these ribs is panelled, with a double guilloche and rosette, running through its entire extent. At the intersections of the ribs there are circles also bearing on the face of each a smaller patera, of a corresponding style of design.

The tower contains a chime of bells, fifteen in number, in the key of D,—the largest, or tenor bell, weighing 3,150 lbs. Eight of the bells are hung with yokes and wheels for round ringing—the remaining seven being suspended overhead, to be used in filling out the chromatic tones of the scale, when airs are to be chimed, in the usual manner.

There is a convenient lecture-room in the rear of the church, measuring 26 feet by 50 feet, and entered from Boylston-street, with a Sunday school-room of the same dimensions above it.

The whole building, from the front of the buttresses flanking the steps of the principal entrance to the rear wall of the lecture-room addition, measures 160 feet in length. The walls of the cellar are carried up in block granite laid in cement, and the tower walls are also backed with the same material to the height of the bell-story.

The foundation of this heavy building rests entirely upon piles, a load of more than 3,000 tons, distributed over a square of 23 feet diameter. There are 356 piles under the area of the tower foundations. These piles are cut off 2 feet below the standing water level, and are bedded in concrete throughout.

The church was erected under the superintendence of Messrs. G. J. F. Bryant & Arthur Gilman, whose design was selected as the final result of a very protracted competition.

RATING RAILWAYS.

AT the Lewes Quarter Sessions, on Tuesday last, an appeal was heard against an assessment made by the overseers of the parish of Playden, upon the South-Eastern Railway Company, in respect of a portion of the Ashford, Rye, and Hastings Branch Railway, and some surplus land in that parish.

Mr. Johnson (specially retained), with Mr. Gale, instructed by Mr. Rees, the Company's solicitor, appeared for the Company.

Mr. Ryde, surveyor to the Company, proved that the rateable value of the railway in the parish, was less than 17*l.* 10s. per mile (a sum at which the Company were willing to be assessed). Mr. Whately, auditor of the traffic accounts, and Mr. Chubb, accountant to the Company, proved the correctness of the accounts which had been supplied to Mr. Ryde, and upon which his estimate was based.

A correspondence between Mr. Ryde and the parish officers, was read, to show that the Company had offered to be assessed at the rate of 17*l.* 10s. a mile for the railway, and 5*l.* for the surplus land.

The court ordered the rate to be amended, by reducing the assessment upon the railway from 80*l.* to 16*l.* (being at the rate of 17*l.* 10s. a mile), and on the surplus land, from 18*l.* to 1*l.*

They also adjudged the parish to pay the costs of the Company, which amounted, after they had been reduced by taxation, to 151*l.*

A REPLY TO THE REPORT OF THE COMMITTEE ON THE DECAY OF THE STONES AT THE NEW PALACE AT WESTMINSTER.

WHOEVER reads the Report of the Committee contained in your impression of the 5th of October last, and is practically acquainted with the nature and properties of magnesian and other limestones, must, I feel assured, be astonished at the sentiments therein expressed explaining the causes of the decay. Many of the reasons given are so totally adverse to facts borne out by practice, that it would be an injustice to the nation—from being a bar to the application of science—circumscribing within unnecessary limits the operations of the architect and builder, responsible for the beauty and durability of our structural edifices,—to pass them by unnoticed. And as the committee express themselves desirous of information, and such as may be divested of the "veil of secresy,"—judging no plans practicable wearing the garb of protection,—I will, if you will kindly give me a space in your columns, impart to them both in manner and substance what they appear to stand in need of.

As long back as Lord Llanover, then Sir B. Hall, received the appointment as Chief Commissioner of Public Works and Buildings, I pointed out indications of decay in the stone, and recommended the application of silicates in the soluble form as indurating materials for its prevention, but which I soon found in practice of little avail, and unworthy the confidence I had entertained; nor was the hydrofluosilicic acid preparation more to be depended on. Since then I have devoted a good deal of time in attempting to discover the wherefore, scientifically and practically. And in order that artistic practice may prove what science demonstrates approvingly or disprovingly, I submit my views in a naked form to the criticism of a public tribunal, assured that I shall there obtain a just verdict. Did the practical man but submit his rules of practice to the criticism of the never-failing laws of natural science, and the man of science his unsettled problems to the test of practice, how much unnecessary toil would be saved and reckless waste of capital prevented!

Let it be understood that I do not for one moment join issue with the descriptive exposition given of the physical constitution of the stone: although elaborately defined, it is perfectly clear and deserving the highest encomiums. Nor would I be supposed to entertain disparaging notions of the abilities of the chemists engaged on the committee. They are, having proved themselves as such, in their own avocations, clever men, and entitled to that opinion in public estimation. They are altogether on new ground, their undertaking arduous, their path intricate. Having trodden it I know its bitters; hopes perpetually raised to be as often depressed; success succeeding success; and the heart, big with joy, again collapsed from utter disappointment. It is the career from an infantile state to one of perfection. Whoever enters anew on the path of discovery must expect to meet with crosses before he reaches the goal. Be that man whoever he may, let him be taken from his usual calling in business, he will find somewhat to learn more than he expected before he will know the business of another. The points of issue, primarily, are the causes arrived at accounting for the stone's destruction. Passing by minor considerations, I shall confine my remarks chiefly upon these observations; and prove beyond a doubt that neither carbonic nor the sulphur acids take any share whatever in the destruction of the material of which the building is composed.

Considering the majority of my readers to be imperfectly acquainted with the chemical constitution of calcareous substances, it will be needful, in order to bring the subjects home to the understanding, to give some few chemical definitions, which I purpose cutting to within the closest limits possible for easy comprehension, confining myself to such observations as mostly concern the architect, in order to afford him correct data in the selection and amalgamation of materials for his various uses.

The descriptive particulars given in the report of the chemical composition of the stone used in the Palace precludes the necessity of touching upon them: I shall, therefore, pass on to remark that, when *pure lime*, constituted of twenty equivalents of calcium (the metallic base of lime) and eight equivalents of oxygen, enters into combination with carbonic acid, which is made up of six equivalents of carbon and sixteen of oxygen, the product is carbonate of lime. As usually found in the quarries, whether crystalline or amorphous,—called marble, lime-stone, or chalk,—it is always in combination with two equivalents of water, in a solid state (the proportions to form water being eight equivalents of oxygen added to one equivalent of hydrogen), besides its hygrometric moisture, or water, uncombined. This is the condition limestone is in when taken from the quarries; and in the inverse ratio to its contamination with argillaceous and silicious substances, conversely will it be impregnated with water. On the other hand, the greater the proportion of magnesia present in the calcareous stone, so much more will the latent water prevail. A ton weight of the purest dry white marble I find to be composed of about 8 cwt. of oxide of calcium (caustic lime), 6¼ cwt. of carbonic acid, the remainder water in the solid state. Magnesian lime contains the same extent of acid, more water, and, consequently, less of its base.

When deprived of its water through exposure to atmospheric influence, limestone suitable for building purposes will assume a hardened character, capable of resisting, in a powerful degree, the force of the workman's chisel when applied to it; although previously so soft as to be cut with a knife; and oftentimes, when in large blocks, incapable of sustaining its own weight. However, when such stone is used in the elevation of buildings, after being air-hardened, it wholly resists atmospheric action, otherwise than mechanical. In a word, it cannot be rendered soluble through

imbibing additional carbonic acid, converting it into the soluble *bi*carbonate, as stated in the Report, the conditions necessary not being presented.

The expulsion of the carbonic acid, unceasingly disgorged, summer and winter, and for years in succession, against the primary rocks contiguously above the kilns burning this characteristic stone, does not occasion the slightest decay whatever; not even to the crumbling of the sharp edges overlapping under strata, facing west and south-west, and of course often fully saturated with water; and being magnesian stone, whose base is not less than one-eighth the gross weight, the carbonate cannot be less than twenty per cent. I would ask in what part of London is the atmosphere so liable to impregnation with carbonic acid as here? or where would the effects ascribed to sulphur acids be more manifest, when it is known that the worst kinds of coals are here used, and in very large quantities? The loss of life so often recorded, happening to persons inhaling carbonic acid, whilst sleeping by the sides of lime-kilns, is a proof of its destruction to flesh, no less certain than its union with lime is an evidence of the Creator's intention to perpetuate the world by such means.

The conditions necessary for the solution of carbonate of lime in carbonic acid are confined within very narrow limits,—nothing more than to be presented to the water highly charged with the gas, and wholly guarded from atmospheric action. But the terms upon which the water obtains its supply of the gas are more complicated and much too embarrassing to be exercised in wantonly fretting out the materials, amalgamated into hardened rocks, designedly intended for the erection of temples of worship in honour of the Creator. Because it is the instrument of destruction to living creation, we have no warrant whatever for its being so in the case of the earths. No, its liberation from union is only to be succeeded by a union of liberation,—a reproduction of the classes in perpetuation of the species, as will be made apparent hereafter.

If the attention be directed for a moment to another channel, we shall see this remark confirmed. In the examination of sundry kinds of limestone, there is presented to our view a very great variety, characterized by structural differences, conveying to the builder distinguishing marks of recognition, that seldom lead him astray in the selection he makes of the kind he may require. But in the use of the article selected there is a much wider range of invisible distinction than most have the judgment to discern. It is questionable if there be any other commodity on the face of the globe, fitted for such a variety of uses, subjected to such an infinity of abuses. Presuming all agree in the existence of a variety, I will classify them according to their well-known distinctive characters, without particularizing especial distinctions of those classes, as that would be irrelevant to the purpose. There is then:—

1st. Marble, a crystalline substance, in which carbonate of lime is found in the greatest purity, except in stalactites.

2nd. Crystalline limestone, containing silica or sand; as also silica and alumina or clay, more or less amorphous, as the latter article abounds.

3rd. Amorphous limestone, in which magnesia is present.

4th. Chalk-stone, always amorphous, destitute of sand, but containing clay varying from ten to seventy per cent.

In whichever of the conditions just named, however variable the structural character of the stones may appear, the cause is entirely owing to the extraneous substances present in the material. The lime is the same in all cases, containing the same definite proportions of carbonic acid, latent water, and base, as before particularized: and if divested of all extrinsical additions, would in every respect be identical. In order to render this comprehensive subject intelligible, perhaps it would be more clearly understood if we were to consider the variations in the absorbing powers of lime, rendered variously caustic, than by any other means. Every practical person accustomed to the mixing of lime for making mortar, cannot but have observed how much more water lime burnt from the same description of stone will at one time take than another, and that when delivered hot from the kiln. At one time it shall require more than its own weight of water to slake it to powder, before it shall show any indications of being plastic: at another, less than half that quantity shall slake the whole abroad, and be sufficient to mix it in the state required for use. That you may understand why this difference is, I will ask you to look back to the original description given, and bear in mind what pure carbonate of lime consists of; and, when rendered caustic, what it has lost; and you will at once be able to comprehend that the secret lies with the seller of the lime; who, for the sake of his own pocket, has deprived the stone from which your lime was burnt of its due proportion of coals. The same remark holds good, applied to all the kinds of limestone, although varying in degree. What I wish particularly to impress on the reader's mind is the necessity of a perfect calcination of the limestone; that it shall, when in the kiln, be wholly deprived of the sensible water, then of the latent water, and lastly, the whole of the carbonic acid. No matter at what cost, it is absolutely needful, and no less necessary, that the heat should be gradual, until the water of both kinds be fully driven off; for if a very great degree be obtained, and the material should contain sand (chalk lime cannot harm), the sand will vitrify the lime, and render it useless. When the water is fully free, then is the time to force the heat; and should that be constricted, the carbonic acid will not quit its hold, and the calcination will be imperfect. It is the solubility of lime in water that ensures strength in the work done. Therefore, if the material be not rendered perfectly caustic, the uncaustic portions will be, and remain in the edifice, ever insoluble. When made caustic, lime is wholly soluble—as soluble as sugar itself; and in that condition will enter into intimate union with the sand mixed with it in the preparation of the mortar,—not as an agglutinating material acting merely mechanically, but from the exercise of affinities reciprocated between the substances,—forming a solid material, as hard as the hardest flint. The hardest mortar I have ever yet seen was made of pure lime, mixed with 120 times its own weight of clean sharp sand, run into the work in a fluid state; and I have every reason to believe, had I used double that quantity of sand, the additional quantity being as coarse again as the other, the mortar would have been equally perfected.

Picture to your imaginations the transitions going on in mortar of this kind, before the lime shall have again absorbed (as it always does sooner or later—a process generally some years in hand) the carbonic acid lost during calcination, and thereby become changed once more from caustic to effete carbonate of lime. Suppose the lime and sand to have been saturated with two hogsheads of water; just about enough to dissolve a pound and a half of the lime from the 112 lb. weight used; and that the lime, moreover, shall have absorbed from the air and water 20 lb. weight of the carbonic acid lost, and is found to be a hardened mass consisting of lime, sand, and water. It will, therefore, be evident that 70 lb. more of carbonic acid must find admission into the already hard substance, before the desire of the lime can be satisfied;—a seemingly impossible process; nevertheless a fact, positively accomplishing and accomplished without intermission. It is an established law in physics, that, before two substances can unite, one of them must be in a state of fluidity. Consistently with that requirement, the necessary fluid is obtained through the lime of the mortar absorbing a portion of the requisite carbonic acid, thence liberating the water in combination. The lime, in its turn being again acted upon by the freed water, then becomes in the condition of a soluble *carbonate*; and, exercising the double elective affinities, seizes hold of the silica; and, with it entering into the crystalline formation again, yields up a portion of the carbonic acid and water not required for the perfection of the crystal; and thus the process is perpetuated—a continual absorbing of carbonic acid, and transmutation of caustic into carbonate of lime and silicious stone, until the whole requirements of the caustic earth be complied with. At the completion of the process there is left a saturated solution of carbonic acid in water to fulfil other ends than here required.

Now this is just what occurs in the bowels of the earth;—sand entering into union with chalk, forming crystalline limestone; or, if magnesia should happen to be present to absorb the liberated carbonic acid, then forming amorphous magnesian limestone. In the absence of magnesia, the liberated carbonic acid enters into union with the chalk (carbonate of lime), dissolves it; and carries it away to be deposited according to the well-known principles of gravitation. When unacted upon by air, it is deposited as marble in a crystalline condition; or, if subjected to the influence of air, then to be deposited from the fluid as amorphous carbonated limestone in combination with such adventitious substances as shall then be present. Barring favourable causes to the end named, then is the water and carbonic acid with which it may be charged found entering the streams, or, otherwise, the springs, aiding in the production of chalybeate waters.

The reader will now be able to comprehend, from the expositions just given, when carbonic acid can act in dissolving magnesian and other lime stone; and how utterly impossible it is that it can effect the destruction of stone used in buildings. Before quitting this part of the subject, I would ask those engaged in architectural pursuits, how it is possible a durable mortar, possessed of the necessary binding qualities, can be rendered from the use of lime imperfectly calcined, even when united to the most favourable description of sand for the purpose? Further, how much less, when such lime is united to broken-down old mortar, brick-dust, loam, and road-scrapings, much of which is triturated vegetable substances, possessing scarcely any binding properties whatever? And as there can be no harm in killing two birds with one stone, it may not be out of place, when the nation is just about to commence buildings intended to commemorate for ages to come the skill of the nineteenth century, to remind the Chief Commissioner of Works how necessary it is that every possible scrutiny ensuring the use of proper lime should be resorted to. In support of this my opinion, I would add, that within the last ten days I have witnessed the unloading of three yards of lime intended for Government works, weighing 48 cwt., which, if properly calcined, would not have weighed more than 32 cwt.

By way of elucidating the subject a little more clearly, let the reader's attention be further directed to the composition of the atmosphere, in order that he may be able to judge whether that fluid can be made subservient to wield the destructive engine to bring about this mighty wreck. Whoever disavows Nature's laws in any of her vast operations, must be said to restrict the Creator's power,—deny His omniscience and omnipotence, and is worse than an infidel. No less exactly defined are the proportions of the gases permeating the air we breathe, than are the acid and its base in the salt we eat, or of the water necessary for the formation of the crystal in the sugar we drink. Atmospheric air is a compound of these gases; namely,—nitrogen, in the proportion of nearly eighty parts; oxygen, about twenty; and carbonic acid, about one hundred parts. Besides those gases, atmospheric air contains about one and half per cent. of water in elastic vapour; and, wherever pure air is found, it represents in combination the fluids here described, and in the proportions assigned. But as there are other gases frequently found contaminating the air, it will be needful to mention them, which I purpose doing, assigning to each its known weight in a hundred cubic inches.

1. Atmospheric air contains 30⅝ grains.
2. Oxygen weighs..... 34 „ nearly.
3. Nitrogen ..... 30$\frac{5}{10}$ „
4. Hydrogen, about..... 2¼ „
5. Carbonic acid ..... 46½ „
6. Sulphuretted hydrogen 36 „
7. Sulphurous acid gas..... 69½ „
8. Carburetted hydrogen... 17 „
9. Ammoniacal..... 18¾ „

Now, as carbonic acid is here shown to be one and half times as heavy, and sulphurous acid gas more than twice as heavy as atmospheric air, how is it possible these gases can exercise a baneful effect on substances in elevated positions? It may as well be argued that the current of a stream can ascend a hill, as that these ponderous fluids shall occupy the loftiest position. Whenever a ponderable fluid reaches its position agreeably to the well-known laws of gravity, for the heaviest to occupy the lowest place, and *vice versâ*, immediately its tendency is to the horizontal. I know it to be a generally entertained opinion (not universal) that the gases are endued with the property of permeating each other *ad libitum*. It is an ill-entertained notion, wanting confirmation, which all the scientific skill combined will never in any single instance be able to prove. When confined within certain limits, and subjected to like restrictions, it is well known that the heavier gases will rise and displace those that are lighter. Let atmospheric current and pressure have full play, the idle toy shows itself a bubble. Sugar-candy and all crystallized substances are much heavier than water; yet to the degree of perfect saturation these heavier bodies will permeate the water, and be found occupying the highest, lowest, and every intermediate space of the fluid, and in one definite proportion. Immediately the point of saturation is attained the affinities cease, and not another atom of the solid substance can be

kept suspended: it is inadmissible, and sinks to the bottom; while the saturated fluid, being lighter, may be said to rise to the top. Just so is it with the gaseous fluids. To constitute an atmosphere, their proportions for union are equally defined, and, when undefined, will not mix: they will be found sinking or swimming. The governing natural laws are alike. Look where you will they will be discovered immutable. The gases noxious to animal life are manifestly ordained to be of the lightest specific gravities; and will, in consequence, be found occupying the highest regions; the hydrogen for renovating the air through production of water; nitrogen and ammonia for similar intentions, but not in degree; and for the reproduction of nitric acid through the powers of light, the constituted aërial acid appointed to keep in check the baneful effects on the animal frame of the aërial alkali (ammonia), if found in excess; the sulphur and carbonic acids have each their appointed uses under the foot of man, and, if found combating with his authority, it solely arises from his neglect.

Now, as touching the sulphur acids being destructive to magnesian limestone, we have the clearest evidence possible to the contrary. They act by virtue of the principle of combination,—deprive the organic acids of their power, and render aids confirmatory of their being incontestable mediums for the stone's preservation. I should say there is scarcely a builder to be found, possessing any degree of intelligence and practice, but must have noticed the very remarkable difference between the hardness of the mortar coating the chimneys through which coal smoke is conveyed, and that of any other part of the building, although often made with but little regard to nicety in preparation. The fact is, the good effect of sulphur acid is here visible in protecting the lime against the deleterious action of the organic acids generated from the substances burnt, through liberating and supplying the place of the carbonic acid of the lime in the water, thereby rendering the plaster more coherent and durable. How contrary the effect where wood is only consumed! And who is there that cannot bear out my statements, that the acetous acid set free from burning wood will, in process of time, also strip the chimney of its lining altogether?

Had the writers of the report taken up the scent in this direction, the intricate problem had been quickly solved. Herein lies the hidden secret why the "*calciere glossier*" becomes a devoured element in "a comparatively pure atmosphere." The elimination of acetous acid may be mentioned as the chief destructive agent with which we are surrounded. The destruction of vegetable and animal substances is its source of supply,—calcareous substances are easy preys for the exercise of its ravages. Aided by high temperatures and a plentiful supply of carbonic acid, its exhalations are without intermission; and, being moreover exceedingly volatile, give occasion for the formation of the zones said to be visible in the stones of the Palace.

Having already exceeded the limits originally intended in combating this intricate question, I shall now quit this part of the subject, and pass on to the consideration of effective means for the absolute prevention of the decay. Notwithstanding the chemists engaged on the committee expressed their convictions that sulphur acid participates in the destruction of the stone,—nevertheless, I fearlessly aver that it is the only permanent agent Nature has provided for its preservation. That you may, one and all, prove my assertion, the veil shall be drawn aside; and, without much trouble or expense, or stretch of the imagination, whoever runs may read. Over and over again, without prescribing quantity of this or that, more of the one or less of the other, only let it be limestone (magnesian or otherwise), and the results shall be uniform. All you have to do is to provide yourself with a piece of the stone, and plunge it into sulphuric acid (common oil of vitriol) previously mixed with three or four times its weight of water, letting it remain until effervescence ceases. Should you take the trouble first to dry the stone at a moderate heat, and ascertain afterwards its correct weight, although the sulphur acid shall have liberated the carbonic acid contained in the stone acted upon by that acid, and that to a considerable degree, the stone dried again will be found considerably heavier than before. What portion of the material shall have been acted on will no longer be a carbonate of lime, but will be changed into the sulphate of lime (gypsum), capable of withstanding the destructive influence of any of the organic acids or elementary gases that have been alluded to. I would invite any person delighting in chemical researches to select two or three pieces of the same stone, precisely similar in dimensions and weight, and subject them to the treatment already named; and the result will be found uniform. Should he be inclined to prosecute the inquiry further, let him obtain an additional stone, not acted on by the acid, and plunge this, with the others, again into water: the stone unacted upon will now be found to have absorbed more water than the others, and will in consequence be so much the more liable to disintegration, through the expansive congelation of the water by frost. Now, should these stones be again steeped in a solution of six ounces of pure barytes in a pint of boiling water, while it is hot, the affinities will again be changed, and the stone found impregnated with insoluble sulphate of barytes, impervious to water *and wholly indestructible*, through *elementary action*, mechanical or chemical. Again, if the stone that has not been subjected to the dilute sulphuric acid be now immersed in that solution, it will be found, when dried alike, to be heavier than either of the others, and the difference will be in weight,—the whole of the carbonic acid and water set free by the union of the sulphuric acid, and which is restrained in the latter instance by the barytes absorbed into the stone, through its superior affinity for the acid over that possessed by the carbonate of lime and magnesia. Thus, then, there are two modes of action, dissimilar in their operations and importance, both terminating in one common result. There is a point of perfection obtainable, resulting from definite applications of the means recommended, regulated according to the known constituted proportions of lime and magnesia in the stone; but the want of that knowledge will be no bar to the proof of my assertions, when put to the test by those inexperienced in such matters. It would require eighty hogsheads of water pouring down the walls of a building before one pound of sulphate of barytes could be dissolved.

By-the-by, looking over the report again, I find a new theory on Crystallography has sprung into notice, and is in danger of being foisted upon the public. Permit me to caution my fellow-countrymen against the reception of such absurd ideas. Discard the vague notions from your thoughts. Trust to your own judgment and understanding, that congelation of water, brought about from the action of intense cold, bears no resemblance whatever to ordinary crystallization;—the one an irresistible expansion, dividing asunder the weightiest rocks; the other, a mere weak liquid *contraction* depending upon external assistance (here awanting), even for the fulfilment of its intentions.

JAMES DAVIS, C.E.

STAINED GLASS.

Christ Church, Paddington.—The two large transept windows of this church have been filled with stained glass of an elaborate character. The windows themselves are divided by stone mullions into five compartments, the heads being filled with flowing Middle-pointed tracery. The stained glass has been designed with considerable size in the figures and groups, so that the whole composition may be seen from a distance. The three central compartments in one window contain a representation of the Ascension,—the apostles occupying the foreground, the Saviour being the main figure, in the centre, with attendant angels on either side. The three centre compartments in the other window contain a representation of the Nativity,—the Virgin and infant Saviour in the centre; the shepherds on one side; the magi, with their offerings, on the other. Above the stable roof are seen angels in the attitude of praise, and the guiding star which appeared in the east. Each of the side compartments of the windows has subjects illustrative of the miracles of our Lord, richly painted, and having the intervening spaces filled up with geometric and flowered backgrounds. The central groups are placed under canopies, so as to give them prominence in the general composition. The artist employed was Mr. Alexander Gibbs, of Bedford-square, under the supervision of Messrs. Francis, architects. It should be mentioned that one of the windows is a memorial to his father by Dr. Steggall, the able organist of Christ Church; and that the cost of the other has been defrayed by a few members of the congregation.

Faringdon Church.—Two stained glass windows by Mr. Wailes, of Newcastle, have been placed in the south transept of this church to the memory of the late Rev. J. F. Cleaver. One window illustrates the ministerial office of the deceased; the groups representing the Calling of Peter, and the charge to "feed my sheep." The other is commemorative of the magistrate and philanthropist, and contains the scene of the tribute money, and an illustration of the parable of the Good Samaritan.

St. Cuthbert's Church, Gateshead.—Three illustrated stained-glass windows, from the workshop of Mr. Wailes, of Newcastle, according to the *Gateshead Observer*, were, on Christmas-Eve, placed in the church of St. Cuthbert, by Lady James, in memory of the late lord of the manor, Mr. Cuthbert Ellison.

PROVINCIAL NEWS.

Rochester.—An extensive pile of buildings, for St. Bartholomew's Hospital, has been for several months past rearing its front in the New-road, and will very shortly be completed. The site of the hospital has been much condemned by many, the building being placed in the hollow, beneath the shadow of the gloomy casemated walls of Fort Pitt, on the one side, and on a level with the roofs and chimneys of thickly-built houses in High-street, on the other. The land on which it is built belonged to the charity, by which, of course, a considerable outlay was avoided at the onset in the purchase of a site; but this is an insufficient reply to the objection. The building is of brick, with white stone dressings, and may be termed Elizabethan, though nothing in the way of any very great ornamentation will be attempted. The hospital consists of a centre building, and two wings, together with a large range of buildings intended as a dispensary, chiefly for the treatment of out-patients, at the rear. In the design of the building advantage has been taken of the sloping character of the ground on which it is built to form the dispensary building, which will be approached from High-street, and may be considered, in fact, as separate from the hospital, though, of course, connected with it internally. At the point where the east wing joins the centre building it is intended to erect a lofty square tower, which will rise to a height of nearly 50 feet above the present building. The purpose of this tower is twofold—to contain a cistern for the water supply for the hospital, and also to relieve the dull uniformity of the edifice. In the tower will be placed a clock, containing four illuminated dials. The hospital is expected to be finished by the close of next year, with accommodation for 100 patients.

Romford.—The opening of the new Corn-Exchange was inaugurated on the 19th ultimo by a grand evening concert. The new Exchange is commodious and suited for concerts. The architect was Mr. Wallen; and the builder, Mr. Hammond.

Oxford.—The Board of Guardians have finally resolved to purchase land belonging to the Magdalen and Pembroke Colleges on which to erect a new Workhouse, and, for that purpose, they have invited plans of the proposed building, to be sent in, not later than the 17th of January, by architects resident in the city of Oxford. An official advertisement to that effect appears in another column.

Newport (Isle of Wight).—The necessity of establishing a Corn-Exchange in the metropolitan town of the island, says the *Hampshire Independent*, is now acknowledged, and the subject was recently broached at the agricultural meeting.

Liverpool.—The special committee on dock plans had resolved that, in January next, they would seek an interview with a deputation from the finance committee of the corporation on the subject of the landing-stage approaches. It had been resolved that further graving-dock accommodation was required on the Liverpool side of the river, owing to the increased trade of the port; and the engineer was directed to report to the committee on the best mode of providing such accommodation. The committee resolved that the sum of money to be asked for, in the borrowing powers of the new dock bill, should be one million sterling. The proceedings have been confirmed by the Mersey Dock Board.

Birkenhead.—Mr. John Laird, the new member for Birkenhead, has undertaken the erection of an infirmary for Birkenhead, at a cost of 3,000*l.*

Wigtown.—At a meeting of the Commissioners of Supply for Wigtownshire, Mr. M'Lean, clerk to the commissioners, laid before the meeting plans of the new Court House, &c., which were fully examined. Mr. Rhind stated that he considered the building a little too narrow for affording suitable court accommodation. Mr. Wardrop, of Edinburgh, the architect, being present, stated that the alteration proposed by Mr. Rhind would cost 300*l.* additional. After a good deal of discussion it was agreed to widen the building 2 feet in front. The ground on which the present Court

House stands being too small for the new building, the commissioners agreed to purchase the adjoining house for 550*l.*, so that there is now ample space for the erection. The total cost will be upwards of 6,000*l.*

THE STAGE.

The Haymarket.—Pantomime has this year driven out Extravaganza, and holds its own on the majority of stages. At the Haymarket Mr. Buckstone has ingeniously manufactured an agreeable introduction to the harlequinade out of a nursery rhyme that says very little, and calls it "Little Miss Muffet and Little Boy Blue." It is bustling, entomological, and amusing. Mr. Frederick Fenton has painted the scenery, excelling, as it seems to us, in his landscapes,—a wooded valley, for example, and Old Muffet's Farm. The Colony of Fairy Bees, under the effect of moonlight and waxlight, is very good; and the transformation scene, the Swarming of the Bees, with its screen of Indian corn, bee-hives, cleverly managed distance, and mechanical changes, is handsome and effective. Mr. Fenton, however, in these scenes, is still too fond of flaring heavy colours.

The Princess's.—The pantomime here, "Whittington and his Cat," is in all respects a good one, and introduces to London a remarkably clever little boy, John Haslem. The story is made amusing, the dresses are remarkably artistic, and the scenery is very good. Messrs. Gates & Cuthbert, who have painted it, have improved greatly. The Bower of Roses, and the transformation scene, the Silvery Willow Glade, are remarkably elegant; the latter delicate and cool. Highgate-hill, with a distant view of London, is a pleasant landscape. Miss Rose Leclercq and Miss Harris bear the burden of the introduction very easily, and the harlequinade which comes after is very good.

ARCHITECTURAL MODELS.

I WAS exceedingly pleased with the sound practical advice contained in Mr. T. R. Smith's paper, lately read before the Architectural Association upon the above subject; and one sentence with regard to the qualifications of an architect, commencing, "The profession of an architect demands of a man's moral nature," &c., I think might be most advantageously hung up in every architect's office throughout the kingdom, as a guide and chart to all future aspirants of our noble profession. But in speaking of modelling, Mr. Smith does not say whether in clay or cardboard: I presume he means the former, but, however useful to an architect, the latter is doubly so, as it enables his clients the more readily to form an idea of the finished appearance of any proposed building, especially if his clients be in the shape of committees, many of whom scarcely know an elevation from a perspective; and, in the case of public competitions, models would be of still greater value, as not being so liable to lead the committee astray, as those highly-coloured perspectives now so much in vogue. But it may be urged that the time and expense in preparing such models would be too valuable to be thrown away upon mere games of chance, as most competitions are. Well, perhaps in a *first-rate* finished model it might be so; but permit me to suggest a very simple method of modelling in cardboard or ordinary strong drawing-paper, quite sufficient for such purposes, and which requires no longer time in preparing than a good perspective drawing. In the first place, I draw out all the elevations in a row on one sheet of paper or cardboard, each connected to the other at the angles, allowing spaces for all breaks, &c., in the walls; and, having finished them in ink, showing all doors, windows, mouldings, carvings, &c., as in an ordinary working drawing, I then proceed to cut them out with a penknife on the outside line, but leaving them joined at the angles, which I only cut half through, so as to form a sharp clean edge without breaking the paper when bent; at the same time taking care to leave strips along the bottom of each elevation, to fix the model to the stand-board, and also at the meeting angle, to form an overlap. All projections, such as transepts, towers, buttresses, chimney-stacks, &c., which cannot well be worked in the same piece as the main body, I make separately in a similar manner; and, when all are completed, I fix the whole together with good stiff gum. The roof can either be worked in the same piece as the main body, or separately, according to the fancy of the modeller, though I prefer the former method. After the gum is perfectly dry, I tint each object in its natural colour; and as I only make these sort of models to a small scale—such as a one-tenth, one-twelfth, or one-sixteenth, according to the size of the proposed building—all projections and recesses under one foot, as windows, doors, mouldings, &c., I merely draw in and shade, similarly to a finished competition drawing: the glass of the windows I colour in like manner. I have made many such models; and although they are not to be compared in point of art to a properly finished model, which actually shows the minutest projection and moulding raised without the aid of colour; still they are quite sufficient to enable the most uninitiated to form a tolerably accurate idea of what would be the external appearance of such a building when executed; but I would also have every architectural student taught the art of preparing properly finished models, similar to those in the Crystal Palace, which can either be coloured or not, according to taste; as it would be very useful, if only in filling up his spare time, to say nothing of the actual pleasure derived while engaged upon such work.

A YOUNG ARCHITECT.

FIRE-PROOF WAREHOUSES.

GREATLY desirous to call attention to the general want of safe places of deposit for the masses of merchandize of all kinds, resting for a short or long time in our warehouses, &c.; and through you to call the attention of our leading architects to a more serious consideration of this vital question; I add a few notes to my observation in your last.

If for large warehouses, I would divide the plot in to a series of small warehouses, say 50 feet by 30 feet on each floor, with a corridor down the centre for double tramway for goods of entry and exit, like double cells in a prison; a footpath on each side of the tramway, raised to the height of the truck top, and on which the crane to each warehouse should be fixed; each warehouse made perfect in itself, with door to corridor for entry and exit of goods; this opening shut up when not in use by fire-proof doors, constructed of fire-clay blocks, glazed inside and out, so as to make the opening as proof against fire as the walls. Each warehouse to be arched *en berceau* with fire-clay bricks, glazed on the soffit. I would fill up the spandrils of these arches with tubes of fire-clay, with small jet tubes or pipes, so placed in the arch as to give a cross-fire, as the war men say, of water all over the warehouse; and so as to have, when laid on, a continual run of water down the walls, and outside also if necessary. The tubes to be laid in a concrete of broken fire-clay bricks and ground fire-clay, in which I would lay all the bricks, both walls and arches. The fire-clay, when properly prepared, sets as quickly as Roman cement. On this mass I would lay a floor of flags, as near fireproof as could be got. Each floor should be so laid as to carry off the water by this series of pipes down to the main sewer or sewers, provided for the general drainage; the flooding power of each warehouse distinct to itself, and each floor of ditto, ditto. The corridors to be lighted at each end, and the warehouses in the end outside walls; all openings closed by fire-clay doors, &c.; outside staircases of fire-clay blocks placed in the most convenient places for corridors, &c. The water from waterworks, if any; if not, a tower to be provided. I would open and shut all doors, &c., and work all cranes by water.

The doors at each end of the corridors to be the only outside ones. A watchman to see all warehouse windows and doors closed, and have full knowledge of the water scheme, so that at once he could lay on the water to any room or corridor. This, I think, would meet Mr. Tite's idea of *isolated* warehouses.

S. S.

MANAGEMENT OF COMPETITIONS.

As the year closes, another page is added to our history, social as well as national and individual. It is equally profitable for classes as for individuals at all times to review their past history; but more especially is this duty incumbent upon us as we reach another stage in our journey, that we may learn lessons of wisdom from the past, and so be enabled to bring experience to our aid in encountering the difficulties of the future, by avoiding those errors and stumbling-blocks which we find to have obstructed our advance in the march of progress. Another year has been added to the history of architectural competitions—a history curious of itself, and affording the profession a valuable lesson, if they will take it. Has our *esprit de corps* fallen so low that the indignity and incompetency of architectural competitions should require to be seriously argued? What would the members of the bar say should an advertisement appear offering a prize for the best defence of a case in Chancery? or the medical profession, if asked to give plans of treatment for the cure of the gout, to the friends of some tortured victim? You wisely remark, "It would seem a waste of time for us to say anything on the subject." The very terms of competition, as they generally appear, offering some paltry sum to the successful competitor, are enough to show the degeneracy of architecture in the public estimation. The employers well know that *some needy* architects, and carpenters or non-professionals, will be but too ready to close with their offer; and, forgetting that architecture is more than building, they think that any one who can put pencil to paper can meet the requirements of an architectural edifice.

My object in addressing you is to call upon the profession to consider. It is only by a united effort that we can put a stop to the system. What the Legislature did for the medical profession, we can in a great measure do for ourselves. I would suggest that all who would join in the protest against the present system should send their names to the Secretary of the Royal Institute of British Architects, to be published by him in the columns of the *Builder*.

ARCHITECT.

HULL TOWN-HALL COMPETITION.

AT a recent court of the Hull common council, the following resolution, which speaks for itself, was passed unanimously:—

"That a special vote of thanks of this council be hereby given to William Tite, Esq., M.P., President of the Institute of Architects, for his generosity and kindness in gratuitously examining and reporting upon the plans and designs for the re-construction of the town-hall submitted to him by this town council: and for his selection of those for which the two premiums of 100*l.*, and 50*l.*, ought to be awarded."

ROYAL HOSPITAL FOR INCURABLES: COMPETITION.

SIR,—In your last number you gave the decision of the committee in the matter of the designs for the above, and also stated that the committee were assisted by an architect in awarding their premiums. Now, in the instructions furnished to the competing architects, it is distinctly said that "The drawings are to be worked in Indian ink or sepia only;" and, furthermore, "Any plan at variance with these instructions cannot be accepted." And yet the committee award the second premium to a design with a highly coloured perspective. In justice to the other competitors, I think the committee can have no objection in giving the name of the architect who assisted them in awarding premiums to drawings that (according to their rules) ought to have been disqualified at first sight.

JUSTICE.

Books Received.

The Sermon on the Mount. Illuminated by W. & C. ANDSTEY, architects, Liverpool; illustrated by CHARLES ROLT; chromolithographed by W. R. Tymms. Day & Son. 1861.



WE have here a book resplendent in colour and gilding, vellum-like paper, beautiful printing and a rich binding. The demand for works on illuminating and illuminated works must be great to induce the expenditure which is made in that direction to provide a supply; and perhaps the affluent supply re-acts and increases the demand. Not very long ago Messrs. Day published a costly and elaborate manual of illuminating, in most respects a work of great excellence;* and now they issue this result as it were of that and previous teaching. The style adopted is later than that we should point to as the best period of the art of illuminating, and the colours used on some of the pages are too flaring. Though contrasts of colour should be decided,

* The Art of Illuminating, as practised from the earliest times. Illustrated by W. R. Tymms; with an Essay, by M. D. Wyatt. Day & Son.

they should be temperate. These objections urged, however, the Messrs. Andstey have produced a remarkable book of its class, available either for the drawing-room table or, in separate sheets, to supply copies to the crowd of amateurs, those who can draw and those who cannot, who idle time elegantly in the modern art of illuminating. The frontispiece, Christ and his Disciples on the Mount, by Mr. Rolt, is one of the most delicate pieces of colour-printing that we have seen. The faces and the sky are especially remarkable.*

Domestic Life in Palestine. By MARY ELIZA ROGERS. London: Bell & Daldy, Fleet-street. 1862.

THE interest of this volume is so general and so great that it needs no enhancement in the eyes of our readers by the circumstance, which, however, we cannot help mentioning, that the accomplished young lady who is the author is a daughter of the well-known carver, Mr. Rogers, of Soho-square. The *Builder* has also been indebted to her for some interesting notes and drawings from Palestine. Miss Rogers's brother, Mr. Edward T. Rogers, being English consul at Damascus; a home for herself, in which she could reside while obtaining a woman's insight into the mysteries of domestic life in Palestine, was thus provided; and here she spent, as she tells us, some happy years; and these, we may add, have been turned to good account in the production of the present very entertaining volume. While residing in Palestine, Miss Rogers appears to have thus and otherwise been placed in circumstances which gave her unusual facilities for observing the inner phases of Oriental domestic life. She mingled freely with the people of all creeds and classes; and becoming, as it is easy from many little circumstances to observe, a general favourite amongst them, she daily got better and better acquainted with their habits and modes of thought. The result is certainly one of the most charming, shrewd, and instructive books on Oriental life we have ever read. Every page is full of peculiar interest to all who take pleasure (and who does not?) in the perusal of a well-written work on the Holy Land.

In our own more especial province Miss Rogers is not remiss; for she has many incidental allusions to architecture and building, ancient and modern, well meriting perusal.

Her allusion to a primitive mode of testing the quality of building stone may be cited as an example:—

"Our host showed us a plan for the completion of his house, and asked my advice about the interior decorations and details. He had evidently a strong natural taste and talent for architectural construction, and was a good judge of building materials. He told me that he could judge whether stone was of a durable nature or not, by its taste. I have often seen an Arab touch newly quarried stone with the tip of his tongue; and I suppose he could by this means ascertain its quality. There are some fine quarries in Palestine; but the stone generally preferred by builders is that which is brought from the ruins of some ancient building, and which has already stood the test of centuries."

Miss Rogers's conjecture as to the "Nativity" and the "Manger" is an interesting one, and curiously illustrative of the text of Scripture, as well as of Eastern arrangements at the present day. While on her way to Jerusalem on one occasion, with her brother, she spent a night at a Moslem village called Kefr Kâra. Of the house itself in which the party rested for the night, and which was the only stone building in the village, she says:—

"We gladly dismounted at the open door, within which we could see the glow and smoke of a large wood fire. I found the house consisted of only one very lofty room, about eighten feet square. The roof of heavy beams and tree-branches, blackened with smoke, was supported by two wide-spreading arches. The walls were of roughly-hewn blocks of stone, not plastered in any way. Just within the door, a donkey and a yoke of oxen stood; and I soon perceived that rather more than one-third of the room was set apart for cattle, where the floor, which was on a level with the street, was of earth, and partially strewn with fodder. We were led up two stone steps on to a dais, 22 inches high, where fragments of old mats and carpets were spread, and where three venerable-looking old men (one of whom was quite blind) sat smoking. They rose and welcomed us, and then resumed their pipes in silence. They wore large white turbans and dark robes. Their long beards were bushy and grey. Their feet were naked, for they had left their red shoes by the steps leading on to the dais. The sheik took down some mats and cushions from a recess in the wall, and arranged them for us on the floor. In the meantime, the mule was led in and unladen, and our two horses were unsaddled and lodged in the lower part of the room. The sheik asked us to allow his oxen to remain there, as it was likely to be a wet night. My brother consented, but desired that no others should be brought in, and that shelter should be found elsewhere for the horses of our servants and attendants. Nearly in the middle of the raised floor, the large fire, made of piled-up wood and thorns, and resinous evergreen shrubs, was burning briskly. Three deep troughs, or mangers, about three feet by one, were hollowed out of the broad stone coping at the edge of the dais. Mohammed, our groom, filled these troughs with barley, and our tired animals enjoyed their evening meal." * * * *

"I rested my head on my pillow full of thought. Suddenly the idea entered my mind that it must have been in such a house as this that Christ was born; for it was winter-time; when, in obedience to the decree of Cæsar Augustus, Joseph the carpenter, of the house and lineage of David, went up from Galilee, out of the city of Nazareth, into Judæa, unto the city of David, which is called Bethlehem; to be taxed or enrolled with Mary his espoused wife.

I imagined Joseph anxiously seeking shelter and rest for her after her long journey. All the guest-chambers were already filled, and there was no room in the inn—that is, there was no room for them in the 'house of rest for wayfarers,' '*the place of unloading.*' The raised floor was crowded with strangers, who had, like them, come to be taxed. But Joseph and Mary may have taken refuge from the cold in the lower part of the room. In imagination I could see them, half hidden by the cattle, and warmed by the blazing fire of wood and crackling thorns burning on the raised floor close by.

'And so it was, that while they were there, the days were accomplished that she should be delivered. And she brought forth her first-born Son, and wrapped Him in swaddling clothes, and laid Him in a manger.' The manger was very likely close by her side, hollowed out at the edge of the dais, and filled with soft winter fodder. I raised my head and looked at one of the mangers, and I felt how natural it was to use it as a cradle for a newly-born infant. Its size, its shape, its soft bed of fodder, its nearness to the warm fire, always burning on the dais in mid-winter, would immediately suggest the idea to an Eastern mother. I fell asleep, picturing to myself the whole scene—'the babe wrapped in swaddling clothes,' '*lying in the manger*,' Joseph and Mary joyfully watching over Him, and the strangers and shepherds pronouncing blessings and congratulations."

The extra-mural decoration of Louis Khaleel's house at Nazareth is very curious. Khaleel is a wealthy native, on whom Miss Rogers and her brother called while at Nazareth. He had just returned from a trip to Marseilles, where he had been purchasing some furniture. The terraces, courts, and corridors were tastefully bordered with beds of roses, pinks, and sweet basil, edged with broad stone copings. The floors were of inlaid marble, black and white. The surface of the walls of the inner courts was very much decorated with rudely carved round pateræ, of interlacing designs, in low relief; and over the doors and windows, and in other prominent positions, English-made willow-pattern cheese-plates were introduced, embedded in stucco, as encaustic tiles might be! The owner of the house called attention to this novel application of cheese-plates. He told Miss Rogers that he had himself designed the house and its decorations. The new European furniture was almost as singularly disposed of as the willow-pattern plates were. His unsophisticated wife and daughters marvelled exceedingly at some of his purchases in Marseilles, and seemed rather more perplexed than pleased by them. His drawing-room, which was something like a French *salon*, with its mirrors and marble tables, was frescoed by a native of Nazareth, who had been tutored and employed by the Franciscan monks in church mural decoration. On the panels of the doors he had painted groups of flowers very carefully and laboriously; but they did not produce a good effect.

The building of a jetty and hospice at Hâiffa by the Russian Government is rather an important and ominous fact, observed by the author. The jetty is exceedingly well adapted for the landing of troops, and the hospice may some day become capital barracks. "God knows what these things portend," said one long-headed Arab in allusion to them; but in general they were quite satisfied and unsuspicious.

How peculiarly scriptural the conversation of the modern inhabitants of Palestine still is! The style and turn of thought, and the very phrases, are often identical. At Hâiffa, for one of many examples with which the book is besprinkled, Miss Rogers says,—

"An elderly Moslem woman, with an anxious time-worn face, came; and, after saluting me, said,—'If now I have found grace in your sight, speak for me to my lord, your brother, that he may take my son into his service: speak now, I pray you, a word for my son, for he is my only son, and I am a widow.'"

In fact, the conversations in general give a strong local colouring of themselves to the narrative, and prevent us from ever forgetting that we are being led through the land of lands by the hand of one well skilled in sketching its peculiarities. On the Bible itself, Miss Rogers makes many very sensible commentaries, such as those about the Nativity and the Manger.

The visitors to the Royal Academy, in 1860, must recollect a mysterious portrait, by Holman Hunt, of a majestic and Oriental-looking man, with a Greek Testament in one hand, and the *Times* newspaper in the other: it gave rise to many conjectures at the time. Miss Rogers now clears up the mystery. While passing through the Vale of Urtâs,—the reputed site of the Gardens of Solomon,—on her way from Bethlehem, to Hâiffa, the party reached a solitary stone house, built up against an abruptly rising hill. Here they were kindly welcomed by Mr. Meshullam and his family; and here they saw,—

"Mr. Henry Wentworth Monk, who for two years had lived there almost a hermit's life, his only constant companion a Greek Testament, and his chief intercourse with the world the *Times* newspaper. He spent nearly all his time in the open air, entering the house only to sleep and to eat."

In course of her travels through Palestine, though of course well protected by her brother, Miss Rogers required the exercise of much courage, which she displayed on more than one occasion.

We must now reluctantly conclude our cursory notice of this very interesting book, with an anecdote of grim old Ibrahîm Pasha, whose curious interview with his old antagonist, Admiral Codrington, the writer of this notice witnessed at the Society of Arts; remembering, with vivid freshness, the singular contrast between the *mal apropos* and blundering apologetic allusion of the old Admiral to his famed exploit of knocking poor Ibrahim's fleet all to shivers; and the dignified and quiet remark of Ibrahîm, in reply,—that he did not desire to remember anything about it. The anecdote is to Ibrahîm's credit; and it was called forth from a Moslem in allusion to a saying the Samaritan people had got into the habit of using in respect to "a friendship like unto the friendship of the English consul and his sister:"—

"When Ibrahîm Pasha, the son of Mahomet Ali, ruled in Palestine, he sent men into all the towns and villages to gather together a large army. Then a certain woman of Sefurieh sought Ibrahîm Pasha at 'Akka, and came into his presence, bowing herself before him, and said: 'O, my lord, look with pity on thy servant, and hear my prayer. A little while ago there were three men in my house,—my husband, my brother, and my eldest son. But now, behold they have all been carried away to serve in your army, and I am left with my little ones without a protector. I pray you grant liberty to one of these men that he may remain at home.' And Ibrahîm had pity on her, and said, 'O, woman! do you ask for your husband, for your son, or for your brother?

She said: 'O my lord, give me my brother'' and he answered: 'How is this, O woman—do you prefer a brother to a husband or a son?' The woman, who was renowned for her wit and readiness of speech, replied in an impromptu rhyme:—

'If it be God's will that my husband perish in your service,
I am still a woman, and God may lead me to another husband.
If on the battle-field my first-born son should fall,
I have still my younger ones who will in God's time be like unto him.
But oh! my lord, if my only brother should be slain,
I am without remedy—for my father is dead and my mother is old,
And where should I look for another brother?'

And Ibrahîm was much pleased with the words of the woman, and said: 'O woman! happy above many is thy brother, he shall be free for thy word's sake, and thy husband and son shall be free also.' Then the woman could not speak for joy and gladness. And Ibrahîm said: 'Go in peace—but let it not be known that I have spoken with you this day.'"

Miscellanea.

THE OPENING OF THE INTERNATIONAL EXHIBITION.—We are asked to contradict a statement which has been made in some of the journals that it is the intention of her Most Gracious Majesty to open the Exhibition in person. This could scarcely be expected, notwithstanding the desire of her Majesty, as expressed in Colonel Phipps's letter to Mr. Dilke touching the Horticultural Gardens, "to endeavour to carry out the wishes and intentions of her beloved husband." The Prince of Wales, it may be supposed, will officiate.

DISCOVERY OF A WALL-PAINTING IN THE OLD CHURCH OF TURRIFF.—In consequence of the dilapidated state of the old churchyard wall, Mr. Duncan, mason, Turriff, and his men, were employed to repair it; and, by way of economy, to take the materials from what remains of the old church. Near the spot where the work of demolition was going on, there had been a window at some remote period; but, along with several others, it had been built up at the time the church fell into Presbyterian hands. One side of the window fell along with the ruin, but the other remained intact; and, to the surprise of the workmen engaged in its demolition, displayed a wall-painting of a mitred abbot on the bay of the window. The painting was at first supposed to be a representation of St. Ninian; but it was ascertained, according to the *Banffshire Journal*, that the painting really represents, not St. Ninian, but St. Congan, the tutelary saint of the parish of Turriff. The colours were quite fresh.

* The initial letter we have used in this notice is one by Mr. Thomas Hood, from Mrs. Medhurst's charming little book of Fables, to which we drew attention in our last. In its own place, the letter commences a story wherein violets and a bride are the actors.

SOUTH KENSINGTON MUSEUM.—This museum was closed to the public from Monday, 16th, to Monday, 23rd of Dec., 1861, inclusive, in consequence of the death of his late Royal Highness the Prince Consort. During the four free days 18,801 persons visited the collections.

DINNER TO WORKMEN.—On Friday, the 27th ult., at the Britannia Tavern, St. John's Wood, Mr. Robert Yeo, the builder, entertained his workmen, to the number of about ninety, at a substantial dinner, when much good feeling was manifested.

A SIMPLE PLAN FOR IRRIGATING FRUIT TREES.—John W. Carey, of St. Jose, California, according to the *San Jose Mercury*, has invented a cheap and convenient plan for irrigating fruit-trees. He takes a bucket, or anything that will hold water; and, filling it, places it near the tree. He then takes a bit of rope, sea grass, or hemp; and, wrapping it twice round the body of the tree, slightly below the top of the bucket, suspends the two ends in the water. This is the whole apparatus. It acts upon the principle of the syphon, and keeps the body of the tree, it is said, constantly wet; feeding the roots with a steady supply of moisture. If the bucket be filled once a day, no other care or trouble is necessary.

CLEANING PLASTER CASTS.—By means of Dutch rush or shave grass (*Equisetum hyémale*), or exceedingly fine sand-paper, the plaster must be rubbed over in an equal manner, and in every part. The rubbing, being done in a skilful manner, opens the pores of the plaster; then brush it over with the thick oil used for moulding, which will give it a very pleasing yellow tint, and at the same time great solidity. If, however, a white colour is preferred, soak the cast, after the first operation has been performed, in a stearine bath. If placed in a bath of hot stearine, and allowed to remain four hours, it will acquire almost the solidity of marble.

EDINBURGH: WORKMEN'S HOUSES.—The Rev. Dr. Begg has addressed a letter to the Lord Provost, in which he states that it is supposed that there are from 40,000 to 50,000 persons living in thoroughly decayed and insecure houses in Edinburgh; and urges his lordship to use his influence to bring the matter before the governors of Heriot's Hospital, in order that the working classes may be allowed to build on the vacant feuing ground belonging to the institution, on paying moderate feu duties. He also states that a friend has proposed that 100,000*l.* should be raised by a joint stock company, or on the security of the city, to erect houses.

BEDFORDSHIRE ARCHÆOLOGICAL SOCIETY.—The monthly meeting of this society was held on December 17th, the Rev. R. G. Chalk in the chair. The secretary having reported that Mr. Hastings Russell, M.P., had, in a letter addressed to the secretary, accepted membership in the society;—Resolved, that his name be placed in the list of vice-presidents. The secretary was authorized to issue the usual cards of the times of meeting for the ensuing year. The secretary having read a letter from Sir H. James, inquiring whether the society would take the responsibility of a selection of arms for the Sigillum to be engraved on the Title of Domesday Book (as exhibited at the last meeting); resolved, that the secretary be requested to inform Sir H. James that the society accepts the responsibility.

GREAT MONUMENT IN RUSSIA.—A correspondent of the *Morning Advertiser*, writing from St. Petersburg, sends some account of the great memorial now erecting at Novgorod, to celebrate the thousandth birthday of the Russian Empire. Of the groups of colossal figures, the first represents Rurik of Rosslagen (in Sweden) arriving, sword in hand, among the Sclavonians of Novgorod, and laying the foundation of the Russian Empire (862). Nothing is known of the history of the country now called Russia before Rurik arrived in it with the able governors and irresistible warriors who extended their dominions in a few years from the Baltic to the Black Sea. The principal figure in the second of the colossal groups is the Russo-Norman Vladimir, under whom Christianity was introduced (988): the principal figure in the third is Demetrius of the Don, a prince of Russo-Norman descent; who, for a time, freed Muscovy from the Tartars (1380); in the fourth, Ivan III., also of the house of Rurik, who founded the Muscovite-Russian Czarate (1462); in the fifth, Michael Fedorovitch, the first Czar of the House of Romanoff, descended from Rurik by the mother's side (1613); in the sixth, Peter the Great, the founder of the Russian Empire. The bas-reliefs include the figures of a hundred and seven persons who have contributed to strengthen or to civilise Russia.

THAMES TUNNEL.—At this time of the year there is usually a run upon the tunnel. During the week ending 28th December, 28,993 passengers passed through, and paid in tolls 120*l.* 16s. 1d.

NORTH LONDON GALLERY, MUSEUM, AND SCHOOL OF ART.—It is proposed to hold a public meeting in Myddelton Hall, Islington, during the present month, to inaugurate the project of a new building for the Finsbury School of Art, in conjunction with a museum and picture-gallery. Earl Granville will preside.

A LODGING-HOUSE KEEPER NEGLECTING TO TRAP DRAINS.—At the Clerkenwell police-court last week, a lodging-house keeper in Fullwood's Rents, Holborn, was charged before Mr. D'Eyncourt with neglecting to cause drains in his yard to be trapped, according to the common lodging-house Act. It having been shown that the trapping had been done since the summons was served, the Magistrate only ordered him to pay the costs.

DOMESDAY BOOK: KENT.—The Rev. L. B. Larking proposes to publish by subscription, early in next year, a fac-simile of the portion of Domesday Book relating to the county of Kent, which has been executed by Mr. F. G. Netherclift. The volume will comprise, in addition to the fac-simile, the Latin text printed in the ordinary Roman type, with the abbreviated words extended; an English translation, in which the names of places will be identified as far as possible; a glossary, illustrative notes, and copious indices. In the introduction a history of the Domesday Book will be given, and its nature explained in as popular a form as the subject will allow. It could not be in better hands.

THE SANITARY FITMENTS FOR THE INTERNATIONAL EXHIBITION.—We are glad to hear that the various sanitary fitments required in the new International Exhibition have been entrusted to Mr. George Jennings, so that he will be able to show what advances have been made in these matters since the Exhibition of 1851. Lavatories, as heretofore constructed, have been discharged through a plug-hole, leaving a dirty deposit on the basin after each discharge. This will be avoided in the new Exhibition, as the lavatories are all to be of his "tip up" principle, by which the contents are emptied direct. The closets selected are in one piece of earthenware, which saves the lead trap. We shall expect to find improvements in other respects.

NEW MORTISING MACHINE.—This invention, by William Jackson, of Leeds, consists of "Improvements in Mortising Machines," connecting the hand lever of a mortising machine to the apparatus which carries the cutting tool by means of a link, so as to produce the required vertical motion of the cutter or chisel. The spindle to which the cutting tool is fixed passes through an upright casing, or box or cylinder fixed upon the spindle. These two parts move together vertically; but the spindle has an independent axial motion, so that the position of the cutter may be altered when required. The cutting operation is effected by bringing down the chisel by means of the hand lever; and the wood under operation may be moved forward as required by means of the toothed gearing connected with the movable bed on which the wood is secured.

ANOTHER DISCOVERY AT WORCESTER CATHEDRAL.—Another discovery of ancient remains has been made during the progress of the work of restoration. Underneath the flooring near the communion-table the workmen have found a leaden coffin, moulded or beaten to the shape of the human figure it contained. The arms were crossed at the wrists, and the legs extended to the full length. The figure lies with its feet to the east, and the part which covers the face looks like a leaden mask, the eyes, nose, and mouth, and also the fingers, being shown. The figure is nearly 6 feet long. The coffin was in a good state of preservation, and had some small holes in the upper portion. There was no inscription. Lead coffins, as the local *Herald* observes, were used in very early times, even by the Romans. King Stephen is said to have been buried in one. They were used sparingly till the end of the fourteenth century, when they became more general. The old lead coffins were mere winding-sheets of lead, fitting rudely to the shape; and their appearance agrees exactly with the idea conveyed in the ballad of the little St. Hugh of Lincoln—

"Scho roud him in a cake o' lead."

The representation of a similar lead covering found at Mavesyn-Ridware is given in Shaw's "Staffordshire." Sometimes these coffins were enclosed in stone ones, as in the instance of a Bishop's remains found in the Temple Church.

THE STRIKE AT THE EXHIBITION.—The strike of the labourers employed on the great domes of the Exhibition building terminated on Tuesday evening by the contractors acceding to the demand of the men, which was an addition of 6d. per day to their wages, on account of the laborious and dangerous nature of the employment. The men have all resumed work.

LEITH.—Mr. Alexander Macpherson was last week elected to fill the post of Inspector of Nuisances and Lodging-houses, by the council, being chosen from no less than 111 applicants. Mr. Macpherson has given evidence of his knowledge of sanitary matters, and we are disposed to anticipate very good results from his appointment.

IRON FOR HOUSES.—To adapt plates of Iron and other metal in the construction of dwelling-houses, &c., Mr. P. H. Williams, of Bristol, proposes to bend the edges in such form that one plate may be readily fitted into the edge of the other, leaving the plates or sheets secured together by pins or bars, readily detachable; and capable, when not made up as a structure, of being packed together in a compact manner.

TO TAKE STAINS OUT OF MARBLE.—In reply to an inquirer, the following recipe has been given:—One gall; one wine-glass of soap-lees; half a wine-glass of turpentine. This mixture must be made into a paste with a little pipe-clay: spread the marble with this, which should not be removed for a few days: and if, on wiping it off, the object is not effected, a second application will generally be sufficient.

WHITCHURCH.—Last January were completed three stained-glass windows (by Warrington, of London), in the apse of the parish church. We have now to record the completion of another stage of improvements. The decoration of the apse is exclusively the work of Mr. Crace, of London. The entire space below the windows is occupied by the reredos, on which are legibly inscribed the Decalogue, Creed, and Lord's Prayer; and on the upper moulding the words "Glory to God in the highest; on earth peace; good will towards men." The pavement consists of alternate slabs of black and white marble. The pulpit is in form a hexagon on one stem, ornamented with mouldings and cornice of carved oak. It is approached by stairs on a curve, with carved balusters on either side. All the pews at the chancel end of the church have been reduced in height, and made to range uniformly east and west. The floor has been newly paved with cut squares of Yorkshire flags. Near the step which divides the chancel end from the middle aisle stands the eagle lectern, carved by Mr. Rogers, of Soho-square. With this exception, all the carved work is due to Mr. Moore, of Bloomsbury. The whole of the improvements have been carried out after the designs and under the directions of Mr. T. Livock, of London. The pulpit and desk were constructed by Mr. Jenkin, of Whitchurch.

NEW LIGHTHOUSE AT ST. ABB'S HEAD.—The Commissioners of Northern Lighthouses are engaged in the erection of a lighthouse on the promontory of St. Abb's Head, Berwickshire, from designs of their engineers, Messrs. Stevenson. The buildings and lantern are completed. The illuminating apparatus is now fitted up and in working order at the works of Messrs. Milne and Son, who made the whole, except the optical part, which was furnished by Messrs. Chance, Brothers, and Co., of Birmingham. The apparatus is of the description termed a first-class holophotal light. It consists of eight of Fresnel's lenses arranged in the form of a polygon, above and below which are placed eight panels of Mr. Thomas Stevenson's holophotal prisms. The whole forms a gigantic polygonal cage of glasswork, 6 feet 9 inches in breadth, and 9 feet in height. It is caused to revolve by a powerful machine; and the speed is duly regulated; so that the axis of each of the systems of lenses and prisms shall pass the eye of the mariner at intervals of 10 seconds. The illumination is produced by a large lamp with four wicks, and supplied with oil by clockwork. The effect of successive flashes is readily distinguishable from an ordinary revolving light.

TENDERS.

For building a church at Thringston, in the parish of Whitwick, in the county of Leicester. Mr. Jas. P. St. Aubyn, architect:—

Osborne, Brothers	£919 0 0
Wilson	849 15 0
Hextall	845 0 0
Wright	838 10 0
Beckworth (accepted)	750 12 0

For a billiard-room, approaches, &c, at Tittenhurst Sunninghill, Berks, for Mr. Holloway. Mr. Alfred Smith architect. Quantities supplied:—

		Extra to sashes if oak, instead of deal.
Colls & Co.....	£1,777 0 0	£25 0 0
James & Ashton	1,748 0 0	45 0 0
Oades & Son ..	1,685 0 0	45 0 0
Norris	1,548 0 0	57 0 0
Woodward*....	1,430 0 0	23 0 0

For terrace and steps to the above:—

	In Ransome's stone.	In Portland stone.
James & Ashton	£1,109 0 0	£1,229 0 0
Bowley, Brothers	960 0 0	953 0 0
Oades & Son....	950 0 0	....
Woodward.....	950 0 0	1,105 0 0
Norris	907 0 0	957 0 0
Colls*	849 0 0	900 0 0

* Accepted.

For sundry works to Farm Buildings, Lodge, Vineries, &c., at Sunninghill, Berks, for Mr. Holloway. Mr. Alfred Smith, architect. Quantities supplied:—

Norris	£836 0 0
James & Ashton	830 0 0
Oades & Son	795 0 0
Colls	770 0 0
Woodward	717 0 0
Bowley, Brothers (accepted)	630 0 0

For Mansion, Stables, and Lodge, at Weetwood, near Leeds. Mr. George Corson, architect:—

For Excavator's, Mason's, and Brickayer's Work.

Pounder	£4,293 9 0
Moxon	3,250 0 0
Wilson	3,129 0 0
Whiteling	2,985 0 0*

For Carpenter's and Joiner's Work.

Thorp	£2 384 15 0
Nicholson & Son.....	2,125 0 0
Winn & Pawson	2,059 0 0*

For Slater's Work.

Ellis	£406 0 0
Croft	369 0 0
Watson.....	354 0 0*

For Plumber's and Glazier's Work.

	Water main-pipe.
Storey.....	£626 10 0 £128 0 0
Webster & Son..	599 0 0 94 17 0*

For Smith's Work.

Bingley & Co.....	£167 8 7
Green	165 0 0
Nelson	150 3 6
Singleton & Tennant.....	113 19 0

For Plasterer's Work.

Garlick	£466 0 0
Wilson	439 6 0
Branton.....	353 0 0*

For Painter's Work.

Simpson	£165 0 0
Hammerston	80 0 0
Jackson.....	70 0 0
Wood & Son	67 7 0*

* Accepted.

TO CORRESPONDENTS.

W. S. H.—Capt. J.—A Plasterer (apply to the manufacturers).—Mr. G.—P. & H. F.—B. S.—J. W.—E. W.—G. C.—Rev. G. A.—J. N. B. (no).—Arche. (write Honorary Secretary, 9, Conduit-street Bylaibus is not yet determined on).—J. N.—J. L.—R. H.—J. H. Jun.—R. T. S. (such a note might be deemed impertinent).—J. L.—J. G.—J. A. D.—C. J. H. (send as proposed).—J. A. D. (in type).—A Young Architect (ditto).—A. W. (ditto).

Post-office Orders and Remittances should be made payable to Mr. Morris E. Coleman.

Advertisements cannot be received for the current week's issue, later than **FIVE o'clock, p.m.,** *on Thursday.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

A BUILDER has a VACANCY for an Out-door APPRENTICE. A youth with some knowledge of drawing preferred, but writing a good hand indispensable. Where, in addition to office and general knowledge, he will receive instruction in the trade of a Joiner. A premium required.—Apply, by letter, to C. P. care of Mr. Clark, Stationer, Sydenham.

FOREMAN.—WANTED, by an old-established Builder's Firm, a thoroughly practical FOREMAN. He must have a perfect knowledge of estimating and taking out quantities, and good experience in conducting works. No one need apply unless capable of undertaking and carrying out the above duties.—Apply by letter only, post paid, stating age, salary required, &c. addressed to DORIC, Office of "The Builder."

WANTED, in a Builder's Office, a thoroughly practical Man. Must have a thorough knowledge of the business in every department, and be competent to superintend all branches. Must be capable of estimating, measuring, and valuing works, and have a knowledge of drawing. Undeniable references required.—Address, stating age, salary required, and where last engaged, to T. S. Office of "The Builder."

WANTED, a respectable Youth as an APPRENTICE in a BUILDER'S OFFICE. A premium required. Address, in own handwriting, stating age, to O. S. Office of "The Builder."

TO PAPER-MAKERS.

WANTED, a MANAGER and FOREMAN thoroughly conversant with the business in all its branches, inclusive of account and some knowledge of steam. Liberal salary. None but a person perfectly competent, with unexceptionable references, need apply.—Address, by letter in the first instance, to A.B. care of Mr. Garden, Chemist, 372, Oxford-street, W.

WANTED, an Active Young Man, as FOREMAN in a TIMBER YARD, in the country. A general knowledge of the business indispensable.—Address, stating age, wages required, and last situation, to E. D. care of Mr E. F. Gorch, Stationer, &c. 55, King William-street, City, London, E.C.

WANTED, for London, and a circuit of 20 miles round, a COMMISSION AGENT for the sale of Bissell's Patent Flooring Cramps, Lifting Jacks, Equi-action Rim and Mortise Locks. Also Haigh's Patent Mortising Machines.—Address BOX 28, Post-office, Walterlanuton None need apply who cannot give security, and be well recommended.

TO BUILDERS' CLERKS.

WANTED, in an Office in the Country, a JUNIOR CLERK. He must be able to copy drawings, square dimensions, and have some knowledge of drawing Letters, with references, and stating age and where last employed, and salary required, to be addressed, prepaid, to Z. H. Office of "The Builder."

WANTED, a good WORKING FOREMAN of BRICKLAYERS. One acquainted with drawing and red work only need apply, as this is a permanency.—Apply by letter only, stating terms and references, to Mr. C. PAWLEY, Builder, Kirkdale, Sydenham, Kent.

WANTED, an Industrious Man as PAINTER, GRAINER, and WRITER. If found suitable, constant employment will be given. Written testimonials will be required.—Apply by letter to LEWIS SHRUBSOLE, Plumber, Faversham, Kent.

WANTED, a good Practical PLUMBER, one willing to fill up his time with glazing Constant employment.—Apply, stating age, &c. to Mr. R. LOVELL, Plumber, Glazier, &c. St. John's Bridge, Wells, Somersetshire.

TO ARCHITECTS AND SURVEYORS.

WANTED, by a well-qualified Assistant, aged 21, an ENGAGEMENT with an Architect and Surveyor Address, DELTA, 15, Park-side, Knightsbridge, S.W

TO BUILDERS AND OTHERS

WANTED, a RE-ENGAGEMENT, by the Advertiser, as SHOP or GENERAL FOREMAN: is well versed in construction, accustomed to prepare finished and working drawings, take out quantities, &c. Good references.—Address X. Y. Mr. Hall's, Stationer, Back-road, King-land.

TO PLUMBERS, BUILDERS, &c.

WANTED, by a thorough, good PLUMBER, a permanent SITUATION. Is willing to fill up his time with glazing, &c. Could highly recommend as a respectable, steady worthy young man.—Address, stating wages, to J. A. B. 11, Hindon-street, Warwick-street, Pimlico, S.W.

TO BUILDERS AND OTHERS

WANTED, by a Practical Man, who has had several years' experience in building in town and country, a SITUATION as GENERAL or WORKING FOREMAN of CARPENTERS. Can prepare working drawings and measure up work.—Address, J. M. 78, Lillington-street, Pimlico, S.W.

WANTED, EMPLOYMENT on an Estate, by a Handy Man, well used to painting, glazing, and general jobbing work; care of a stand for the sale of goods in the Exhibition; or the collection and repair of small house property.—Address, E. M. 4, Norfolk-place, Marlborough-road, Brompton.

TO BUILDERS AND DECORATORS

WANTED, by the Advertiser, a permanent SITUATION, as PENCIL HAND and DRAUGHTSMAN, or as FOREMAN. Competent to carry out any style of decoration. Terms moderate. Country not objected to.—Address, J. A. M. Office of "The Builder"

TO BUILDERS, PLUMBERS, &c.

WANTED, a SITUATION, either as a THREE BRANCHED HAND, FOREMAN, or to MANAGE a BUSINESS. Can keep the books if required.—Address, B. A. Mr. Walker, 10, London-street, City, E.C.

TO BUILDERS AND OTHERS.

WANTED, by a Young Man, constant EMPLOYMENT as PLUMBER, PAINTER, and GLAZIER, or EMPLOYMENT in a LEAD and GLASS WAREHOUSE. Reference given.—Address, E. H. Office of "The Builder."

WANTED, an ENGAGEMENT, as BRICKFIELD FOREMAN, of sixteen years' practice; reference, and character of first-class order; is a practical hand and machinery. Aged 38. Writes a good hand, and can keep accounts.—Address, C. B. 54, Witcombe-street, Dorset-place, Pall-mall East.

WANTED, a SITUATION as PAINTER and PAPER-HANGER; country preferred.—Apply to J. J. 23, Cirencester-place, Fitzroy-square.

TO MASTER PLUMBERS AND BUILDERS.

WANTED, by a PLUMBER, a constant SITUATION. Understands Gas-fitting and Zinc work.—Address, A. O. F. 6, Reed's-place, Rochester place, Kentish-town.

WANTED, by a Person by trade a Mason, of great experience, a SITUATION as MANAGER, FOREMAN, or TRAVELLER, in the stone and marble trade. Age 39, with unexceptionable references.—Address, A. W. care of Mr. T. Phillips, 39, Aldersgate-street, London.

TO BUILDERS AND OTHERS.

WANTED, Constant EMPLOYMENT, by a good PLUMBER and GAS FITTER. Has no objection to fill up his time with Painting and Glazing.—Address, H. R. 43, Lower Sloane-street, Chelsea, London.

TO BUILDERS, PLUMBERS, &c.

WANTED, constant EMPLOYMENT, as good PLUMBER, or Three-Branch hand. No objection to the country. A good reference can be given.—Address, E. M. No. 13, Windmill-street, Finsbury.

TO BUILDERS AND PLUMBERS.

WANTED, by a YOUNG MAN, aged 30, a SITUATION as THREE-BRANCH HAND.—Address, T. T. Mr. Macey's, 6, York place, Kennington-road, Lambeth.

WANTED, by a thoroughly practical CLERK of WORKS, a RE ENGAGEMENT. Is fully qualified to superintend the erection of any extensive works, or measure up works. First class testimonials.—Address, H. T. H. Office of "The Builder."

TO BUILDERS AND OTHERS.

WANTED, by a thoroughly practical Man, A SITUATION. Fifteen years' experience. Can prepare plans and estimates, and is fully competent to manage the business in all its branches, or to carry out improvements on an estate. Good references. Address, S. S. B. care of Mr. J. Foxley, Estate Agent, Stoney Stratford, Bucks.

TO GENTLEMEN AND OWNERS OF HOUSE PROPERTY.

WANTED, by a Practical and Working Man, HOUSE REPAIRS of every description. Has had twenty years' experience in the same. Would collect rents or take the entire management of property. Can give good references.—Address, W. C. 43, College-place, Oakley-square, N.W.

WANTED, by the Advertiser, a SITUATION as FOREMAN of PLASTERERS; or to take Work by the Piece, with first-class reference. Address, P. A No 1, Forest hill-terrace, Forest hill, S.E

TO BUILDERS AND OTHERS.

WANTED, by a Young Man, aged 23, a SITUATION as CLERK, DRAUGHTSMAN, and TIMEKEEPER. Would be willing to make himself generally useful. Five years' experience Terms moderate.—Address, H. B No 28, Cadogan-street, Chelsea.

TO ARCHITECTS, &c.

WANTED, by a Gentleman, experienced, theoretically and practically, in all branches of the profession and classes of building (several large works of London and Railway having been designed and carried out by him), an ENGAGEMENT, in London. He is a superior perspective draughtsman, and being a student of painting of the National Gallery, London, a superior artist. Salary moderate.—Address, S. P. Post-office, Stonehouse, Devon.

TO BUILDERS.

WANTED, a SITUATION as BOOK-KEEPER, DRAUGHTSMAN, and GENERAL ASSISTANT to the Advertiser. W. W. Hampton's Office house, Ivy-lane, E.C.

TO ARCHITECTS, BUILDERS, &c

WANTED, a RE-ENGAGEMENT, by a thoroughly practical CLERK of WORKS, who has carried out some of the largest works in the kingdom. Is a neat draughtsman, and good measuring and valuing, and has undeniable references from his employers and architects. Age, 30. No objection to the country.—Address, JOHN THOMAS, 14, Carlisle-street, Soho-square, W

WANTED, a SITUATION, by a Young Married Man, as GATEKEEPER, TIMEKEEPER, PORTER, or MESSENGER, &c. &c. Has been a coast guard in the Turkey business. References unexceptional.—Address, Q.Q. No. 71, John-street Tottenham-court road, W.

TO CIVIL ENGINEERS AND CONTRACTORS.

WANTED, an ENGAGEMENT, by a Gentleman, aged 25, who has served an apprenticeship to a Civil Engineer and Surveyor, as well as with a Practical Engineer and Millwright, and has since had constant practice. He is a good draughtsman and writer, a valuer, and estimator, has had much experience in preparing parliamentary, town, and estate surveys, and in designing and preparing plans and sections for always a correct working. Testimonials and references if required.—Address, W. W. W. Scott-ings Library, Warwick-street, Leamington, S.W.

TO PLUMBERS AND BUILDERS.

WANTED, EMPLOYMENT, by a good, steady Workman, as PLUMBER or three-branch hand; five years in last situation as three-branch hand.—Address, A. B. 1, New-street, New Town's Wood

TO IRONMONGERS, SMITHS, AND BUILDERS

WANTED, by a Young Man, a JOB, as GAS FITTER, LOCKSMITH, or BELLHANGER. Good references Address, R. D 21, White Hart-street, Kennington road.

WANTED, a constant SITUATION, by a first-class PLUMBER and GAS-FITTER—Can fill up his time painting and glazing Good references can be given Address, G. B 34, Oliver's-yard, City-road, near Finsbury-square.

TO ARCHITECTS.

WANTED, by the Advertiser, a SITUATION as JUNIOR CLERK. Can make fair working drawings, square dimensions, &c., understands surveying and levelling, and is well up in the general office routine. Good testimonials. Moderate salary.—Address, M. C. General Post-office, Birmingham

WANTED by the Advertiser, by trade a CARPENTER, an ENGAGEMENT with a BUILDER in any outdoors employment; is a good Accountant, can prepare Plans, take out Quantities, or take charge of a Job. Good references. Terms moderate.—Apply to O. C. S. 41, Little Moorfields, Finsbury, E.C.

WANTED, a SITUATION by a Young Man, who thoroughly understands WORKING the MORTIRE MACHINE, and would fill up his time Sawing out or make himself otherwise useful. Wages, 21s. per week.—Address, H. F European Coffee house, 18, Aldersgate-street, City.

WANTED, by a Young Man, a SITUATION in a BUILDER'S OFFICE. He is competent to prepare drawings, &c., understands surveying, and the general duties of the office. He has been for the last eight years with one of the principal Local Builders, by whom he can be highly recommended.—Address, S. H. Office of "The Builder."

WANTED, by a Young Man, a SITUATION as IMPROVER to a HOT WATER FITTER. Can work at the Lathe.—Address A. B., Bull, Baker, 246, Oxford-street, near Park-street

TO IRONMONGERS.

THE Father of a well-educated Youth, in his sixteenth year, is desirous of APPRENTICING him to the business of a General and Furnishing Ironmonger. The country would be preferred. A premium will be given.—Address, A. B. at Mr. Moore's, Wholesale Ironmonger, Earl-street, Seven Dials.

TO BUILDERS AND CONTRACTORS.

THE Advertiser is in want of a SITUATION as a SMITH. Has a thorough knowledge of all kinds of Smith's work Can do horse-shoeing Three years' character from last employer.—Address, E. C. F. No. 6, Thomas's-street, Deptford-creek, Deptford.

TO ARCHITECTS, CIVIL ENGINEERS, &c.

THE Advertiser is desirous of an ENGAGEMENT as DRAUGHTSMAN and CLERK of WORKS, or as SURVEYOR to an Estate. Is well and practically acquainted with Estimating, Surveying, Levelling, and the entire superintendence of Works.—Address, H. Messrs. Turner & Dunnett, Stationers, James-street, Liverpool

TO ARCHITECTS.

THE Advertiser, a first-rate DRAUGHTSMAN, and possessing a thorough knowledge of Detail and Construction, is open to an engagement. Terms moderate.—Address, G. G. 36, Michie's place, Brompton.

TO BUILDERS, &c.

THE Advertiser, aged 23, desires a RE-ENGAGEMENT. Is a fair draughtsman, understands quantities, and the usual Office routine. First-class references.—Address, D. J. 13, Wakefield-street, Regent's-square, W.C.

TO BUILDERS, CONTRACTORS, &c.

THE advertiser requires a SITUATION as FOREMAN. He is joiner by trade, has a thorough knowledge of every branch of the building trade, has been accustomed to contract all kinds of English and Foreign timber, lead, glass, &c., measure up work, take out quantities and estimating; has had the management and worked nearly all kinds of sawing and other machinery, also the superintendence of extensive works in both town and country. Address, P. J. Bellevue Cottage, Shepherd's-bush.

TO BUILDERS.

PLASTERING WANTED, by a Practical Man; materials and labour, or labour only. Good references. Address, X. Y. 22, Pulford-street, Pimlico.

TO BUILDERS.

A YOUTH from the North of England is desirous to be APPRENTICED, out-doors, to the BUILDING TRADE. Wages no object.—Apply to Mr. GEDLING, 4, York-terrace, Kent-street-road, S.E.

TO ARCHITECTS.

A THOROUGHLY-QUALIFIED ASSISTANT, who has just completed a two years' engagement with a provincial architect of good practice, is in want of an ENGAGEMENT. Is well versed in the various styles of architecture (Italian and constructional), and the various details and routine of offices. For references, address to T. G. B., Messrs. Chevalier, Bowness, & Son, 12, Bell-yard, Temple-bar, W.C.

A YOUNG MAN, aged 22, a good draughtsman, who has been five years in two architects' of good standing, wishes to meet with another permanent ENGAGEMENT. Salary, 80*l.* per annum.—Address, O. G. Office of "The Builder."

TO BUILDERS, CONTRACTORS, &c.

A YOUNG MARRIED MAN is in WANT of a SITUATION of TRUST, in an Office as above, or as TRAVELLER for a Firm connected with the Building Trade. References as to ability, &c.—Address, W. W. Office of "The Builder."

A STAIRCASE HAND, well experienced, is open to an ENGAGEMENT.—Address, A. B. care of Mr. Prestage, 26, Grange-road, Bermondsey.

AN ARCHITECT'S ASSISTANT, well acquainted with detail and construction, a good perspective draughtsman and colourist, with a thorough knowledge of office duties, is open to an ENGAGEMENT.—Address, F. S. Office of "The Builder."

TO ESTATE AGENTS, BRICKMAKERS, &c.

A PRACTICAL MAN, acquainted with all modern improvements, experienced in working Clayton's and other machines, and capable of taking the entire management of a brickfield, is in WANT of a SITUATION.—Apply to COX, Office of "The Builder."

AN ARCHITECTURAL DRAUGHTSMAN is desirous of a RE-ENGAGEMENT.—For particulars, &c. apply to V. A. Z. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

AN experienced GENERAL FOREMAN is open to an ENGAGEMENT.—Address, P. J. 12, Goldsmith-place, Hackney-road.

TO ENGINEERS, CONTRACTORS, &c.

A YOUNG MAN (now in an Engineer's Office) desires an ENGAGEMENT. He has had considerable practice in tracing and copying drawings; is a good penman and accountant, and could attend to shipments.—Address X. Y. Z. Curtice's Library, No. 3, Morton-terrace, Pimlico.

TO ARCHITECTS.

A GENTLEMAN who has been a short time with an ARCHITECT, is desirous of an ENGAGEMENT as IMPROVER. A nominal salary required.—Address, R. S. care of Mrs. Hadnutt, 45, Chandos-street, W.C.

TO ARCHITECTS.

AN EXPERIENCED ASSISTANT is open to a RE ENGAGEMENT, about the end of January. Designs, perspectives, working details, brass and gilt figures and accuracy in either Gothic or Classic, for any description of works; also to survey, level, &c. and manage an office. The best references and testimonials can be given. — Address O. G. 32, Georgiana-street, Camden Town, N.W.

A RESPECTABLE YOUNG MAN is desirous of obtaining a SITUATION, with a view of PARTNERSHIP. He is a tolerable draughtsman, a good accountant, can take out quantities, &c. and has had good practical experience as joiner in London.—Address, S. J. C. 4, Abbeygate street, Colchester.

TO ARCHITECTS.

A GOOD DRAUGHTSMAN desires an ENGAGEMENT. Can make Perspective, Working, and Detail Drawing. Understands Colouring, &c. Has been 4 years in the profession. Terms moderate.—Address S. C. W. 8, Birchin-lane, City.

TO ARCHITECTS.

A THOROUGHLY Qualified and Practical DESIGNER is open to an ENGAGEMENT in Town, or to take the Management of an Office. First-class perspective hand, and good colourist.—Address, L. Z. 5, Calthorpe-place, Gray's-inn-road.

HORTICULTURAL GLASS WAREHOUSE.

THOMAS MILLINGTON,

87, BISHOPSGATE-STREET WITHOUT, E.C.

Lists forwarded on application.

STAINED GLASS WINDOWS for CHURCHES and DWELLINGS.
HEATON, BUTLER, & BAYNE
Will forward, post-free, on receipt of Thirty Stamps, their ILLUSTRATED PRICED CATALOGUE of STAINED WINDOWS, with a Treatise on the Principles and Practice of the Art.—Stained Glass Works, 21a, Cardington-street, Hampstead-road, London, N.W.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

GLASS MOSAIC.—G. H. STEVENS begs to call the attention of the Clergy, Architects, &c. to his revival of ECCLESIASTICAL DECORATIONS IN GLASS MOSAIC. The Mosaics are the most legitimate application of colour, where it may be required in the enrichment of Fonts, Pulpits, Reredoses, whether in stone or marble. Specimens and tracings of works executed may be seen.—Estimates and other information at 26, Great Queen-street, Lincoln's Inn, London, W.C.
Late of Stafford-row, Pimlico.

STAINED GLASS and WALL PAINTING
NOTICE OF REMOVAL.
MESSRS. CLAYTON & BELL,
Late of No. 21a, Cardington-street, Euston square,
Have removed to
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).
Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, mansions, farm cases, &c. combine perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of sheet glass, cut and plain, coloured window sheet, opticals, sheet, coloured lenses, &c. &c.

PAINTED GLASS WINDOWS AND MURAL DECORATION.
LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METCALF & CO
30 and 31, PRINCES STREET, SOHO, LONDON, W.

FRENCH PLATE GLASS.
SOHO PLATE GLASS WAREHOUSE, 28, SOHO SQUARE.
Mr. ALFRED GOSLETT begs to inform Architects, Builders and the Trade generally, that he is now supplying the BEAUTIFUL COLOURLESS GLASS, manufactured by the Montluçon Plate Glass Company, for either glazing or silvering purposes at the LOW NEW ENGLISH TARIFF RATES. The superb substance, truth, and quality of this glass give it a decided advantage over English manufacture, and STOCK SIZES can be selected, in stated quantities, at VERY REDUCED RATES.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Respectfully informs the Public that his Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanic's Journal." 42-inch, 3s. and 7s. 6d.; 31-inch, 2s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices sent on application.
3, GREAT TURNSTILE, HOLBORN,
LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

PRACTICAL DRAWING ESTABLISHMENT.—INSTRUCTION afforded in Architectural, Mechanical, Ornamental, and Perspective Drawing; Taking out Quantities and Abstracting; Preparing constructive Detail, and Colour Drawings, as practised in the leading Architects' Offices at the present time.—Terms—Day Classes, 3*l.* 3s. per quarter, every day, except Saturday, from 10 till 4; Evening ditto, 1*l.* 1s. per quarter, every evening, except Saturday, from 6 till 10. Prospectuses, with list of references, to be had of Mr. T. J. HILL, Architect, at the Offices, 79, Old-street, E.C.

BUILDERS, CONTRACTORS, and OTHERS, requiring Designs, Working Drawings, Specifications, Surveys, &c. on moderate terms, can meet with a gentleman of large experience by addressing to A. B. C. Mr. Ingram, News-office, 85, Charles-street, Westminster.

TO CIVIL ENGINEERS, MECHANICAL DRAUGHTSMEN, and OTHERS.—TRACINGS, whether of Railway, Mechanical, Architectural, or Ornamental Work, executed in the most careful and exact style, by J. T. DEED, 3, Cook's-court, Lincoln's-inn-fields, W.C.

TO LAND SURVEYORS.—SURVEYING in all its branches for the profession. First class and highly finished Maps furnished on most reasonable terms.—Address, prepaid, by letter only, E. D. 48, Great Russell-street, London, W.C.

T. PETTITT & CO. LITHOGRAPHERS and GENERAL PRINTERS, Frith-street, Soho-square, W. beg to inform Surveyors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary speed and accuracy, and most respectfully solicit a trial. A scale of charges and specimens submitted on application.
To Surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West-end, must be evident from the great convenience it may afford where despatch is required.
Working Drawings and Estate Plans carefully drawn and printed.
Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.
Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.
Lithographers, &c. 5, Ave Maria-lane, E.C.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London.
ROBERT M. LATHAM, Secretary.

CIVIL ENGINEERING, ARCHITECTURE, and SURVEYING.—Mr. WINDER, 18, Abbingdon-st. cet, Westminster, continues to execute DESIGNS, take out Quantities, and make Valuations for Dilapidations, and all works in the above professions, at moderate charges, and with accuracy and despatch.

MR. T. J. HILL'S PRACTICAL DRAWING ESTABLISHMENT.—Gentlemen attending the Day Classes have the privilege of going over the buildings in progress under Mr. H.'s superintendence, also of taking out quantities from the building as well as from the plans. Fee for the Day Classes, 3*l.* 3s. per quarter.—Prospectuses at the Offices, 79, Old-street, E.C.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms.—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

GAS BREEZE, put on board Barges in the River, and the Regent Canal. For price and terms, apply to MESSON & CO. 8, George-yard, Lombard-street, E.C.

ILLUMINATION.—BOXES of COLOURS and MATERIALS; Outlines; Lang's Manual on the subject; and every requisite.—WINSOR & NEWTON, 38, Rathbone-place, London.

HAY'S PATENT WATERPROOF GLUE (as invented by Mr. HAY, Admiralty Constat at the Royal Naval Dockyard, Portsmouth) is of universal application, is a substitute for marine glue, and one third of the cost, namely, 2*s.* per ton.
It is invaluable for caulking the seams of shot decks, in three times as durable as ordinary pitch. It has been tried for upwards of seven years in Her Majesty's ship "Blonde," perfectly resisting during that time the action of the sun and weather.
It raises joints of wood, slates, tiles, and all metals to adhere most firmly; will stand an enormous pressure, and make them water-tight.
It is a substitute for black paint, and is considered as cheaper applied to weather-boarding and fencing; and is a preservative for all iron and woodwork, and when applied to decks or timber will prevent damp. This composition is especially adapted for application as a coating to submarine and other telegraphic wires.
It is requested that on all orders the purpose for which it is required be stated.
London Agents.
Messrs. G. W. WARDEN & CO.
12, London-street, Fenchurch-street, E.C. Factory, Chandos-street, Landport, Portsmouth.
GEORGE WEEKS, Manager.

ASPHALTE—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1834.—TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by steam power, and sold on the best manner, or supplied in any quantity. Information forwarded with materials. Post office orders or references in London promptly attended to. Estimates given for every kind of the above work.

GILT BORDERING for ROOMS, from 1*d.* per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Resilding in all its branches. Old frames re-burnished with material. Post office orders or references in London promptly attended to. Estimates given for every kind of the above work.
G. REES, 57, DRURY LANE,
Four Doors from Drury-lane Theatre. Established in 1800.

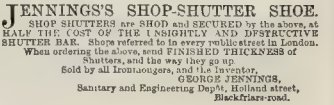
INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

TO BUILDERS AND OTHERS
TARPAULINS for COVERING WORKS.
SCAFFOLD and HEMP ROPE FALLS.
AWNINGS FOR ROUND OR STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.
H. PIGGOTT,
89, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, "as made by E. GOUGH & CO. the original patentees, and laid exclusively by them at the Houses of Parliament, and numerous other public offices," is especially adapted for churches, offices, chambers, shops, halls, passages, and hospitals, being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, 12, Bush-lane, Cannon-street. Manufactory: Greenwich road.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF CRYSTAL, BRASS, AND ORMOLU CHANDELIERS,

WORKS, LONDON AND BIRMINGHAM.

SHOW-ROOMS, 147, HOUNDSDITCH, CITY.

Estimates and Designs for Lighting Theatres, Concert-rooms, and Public Buildings, forwarded free.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK.

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



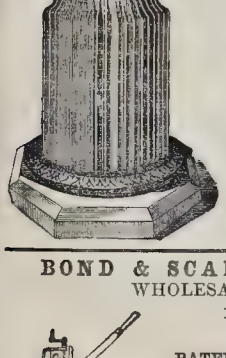
J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET LONDON.



THE LONDON

WARMING AND VENTILATING COMPANY,

LIMITED,

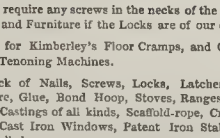
26, GREAT GEORGE-STREET, Westminster, S.W.

MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known Plans.



The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL the various offices of the "Department of Science and Art," and at the Architectural Societies' Houses 9, Conduit-street, Regent-stree

Particulars and testimonials forwarded on application.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

Sole Agents for Kimberley's Floor Cramps, and Green & Jackson's new Patent Mortising and Tenoning Machines.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES.



These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.

At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended;" being the only prizes conferred on any competitor in this class.

Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fixing up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS, according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by C. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 114, Fenchurch-street, E.C.



LIGHTNING CONDUCTORS

MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY ROW,

MANCHESTER.



These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style, sent on application.

LIGHTNING CONDUCTORS. R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 6d.	per foot.
Half-inch diameter	1s. 8d.	,,
Five-eighths-inch diameter	2s. 0d.	,,

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
,, Gateshead-on-Tyne.
,, 27, Dale-street, Manchester.
,, 68, Anderson-quay, Glasgow.
,, 17, South Castle-street, Liverpool.
,, Exchange-buildings, Dundee.
,, 7, Frederick-street, Aberdeen.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

WALKER'S CORRUGATED IRON.
WALKER & SPARKS,
Formerly JOHN WALKER, Son of the Inventor and Patentee Corrugated Iron, Manufacturers of PATENT CORRUGATED ROOFS, CHURCHES, CHAPELS, FARM and other BUILDINGS, Galvanized or Painted.
WROUGHT-IRON PRINCIPAL ROOFS, GIRDERS, SUSPENSION-BRIDGES, &c. &c.
PLAIN and CORRUGATED GALVANIZED IRON-MERCHANTS, IRON-FOUNDERS, and GENERAL CONTRACTORS.
For Drawings, Plans, Estimates, &c. apply at their Offices, 33, KING WILLIAM-STREET, LONDON-BRIDGE

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres &c. &c.

VENTILATION.—M'KINNELL'S PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its avoidance of draughts, and its being ordinarily self-regulating—the pure air flowing imperceptibly inwards, while the noxious products of respiration and combustion are simultaneously carried off. It has been applied in many of the Royal Buildings at Windsor, the Government Offices in London, and extensively in churches, public halls, schools, offices, dwelling-houses, factories, stables, and in ships, for which it has been adopted by her Majesty's Emigration Commissioners.—Patentee, JOHN M'KINNELL, 15, Lambeth place, London, W. Description and testimonials on receipt of one stamp.

TRADE MARK.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

HEATING BY HOT WATER.
JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every Description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give unimpeachable references of Churches, Dwelling houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

MOREWOOD & CO. (late Morwood & Rogers), Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE, DOWGATE DOCK, LONDON.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect impermeability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.
Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

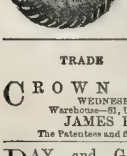
WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON LAST-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London. E

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery, of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street, London, E.C.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings, also, Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Concert or Dancing Rooms, Theatres, &c. suitable to all Climates, fixed complete, in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.



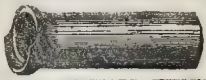
JOHN PARKIN (late Blake & Parkin), STEEL WORKS, HARVEST LANE, SHEFFIELD,
Manufacturer of Circular Saws *machine turned*, Mill-Saws, Endless Sand, or Ribbon Saws, of tough temper, without joints. Machine Plane, Grooving, Moulding, and Mortising Irons; Saw Files; Railway and Common Road Springs, &c.
Agent for London; Mr CHAS BADGER, No. 1, Stangate, Westminster-road.

TRADE MARK.
CROWN TUBE WORKS, WEDNESBURY, STAFFORDSHIRE.
Warehouses—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-Iron Tubes.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 99, Hatton Garden, E.C.
These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

CREEKE'S PATENT CAPPED DRAIN PIPES.
The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.
They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.
SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.
Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.
Illustrated Lists with full Particulars and Prices may be obtained of
WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.
A GOOD DRAWING-DOCK AND LANDING WHARF.
*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent street, W.

IMPERIAL POTTERIES, LAMBETH.
JOHN CLIFF & CO.
(Late STEPHEN GREEN & CO.)
GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.
FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.



HENRY DOULTON AND CO.'S
PATENT COMBINED SMOKE AND AIR FLUES.
BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.
THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*
Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.
Curves are made to suit any inclination.
Manufactured in terra cotta for smoke-flues equal to 12 in. 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.
Small models will be forwarded to architects on application to
Henry Doulton & Co. High-street, Lambeth.

ARMANI AND CO.
IMPORTERS DIRECT FROM THE MINES OF
PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,
LONDON, SEYSSEL ASPHALTE, PARIS,
1851. AND BY H.M.'S ROYAL LETTERS PATENT, 1844.
MANUFACTURERS OF
METALLIC LAVA.
FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.
MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862.
By Her Majesty's Royal Letters Patent.
F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.
And by the most eminent Architects of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER (upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of near One Million Feet. A Liberal Discount allowed to the Trade.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

MARTIN'S PATENT FIREPROOF CEMENT

Is 35 per Cent. Cheaper than any other internal Cement in use.

Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.

186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

STRINGFIELD and BLYTH,
Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

KEENE'S and PARIAN CEMENT for internal uses.—These well-known hard Stuccoes dry quickly, and can be painted upon within a few days.
Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster.

PORTLAND CEMENT.
GREAVES & KIRSHAW
14 SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PARIAN CEMENT for INSIDE WORK.
With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
ROMAN CEMENT made at the above works may be had fresh from the kilns daily,—a great advantage to dealers and sewer contractors, especially in winter time.
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the lias cements so much of which is now brought into the market and sold as Portland.
PLASTER OF PARIS, both coarse and fine, of very superior quality and colour.
LIME.—Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the barge or yard, and may be had fresh ground daily, by steam power, for concrete.
BRICKS from our fields in Kent, by the barge alongside, in the river or canals, or by cart from the above wharf, of good quality and moderate price
A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain Pan, and Paving Tiles, Hair, Laths, Chimney-pots, &c always kept in stock.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.
Agent in Liverpool—JOHN McKENZIE, 42, Seel-street.
Do. do. Manchester—THOMAS OAKDEN.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT WORKS,
Northfleet, Kent.
Messrs. ROBINS & CO.
To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great ScotLand-yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines, Brierley-hill.
FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non absorbent.
Shipments on be shortest notice.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, } SOLE CONSIGNEES.
WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade from the monthly price-lists.
N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP.

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.



SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
1-inch "	12s. 6d.	12s. 6d.	13s. 6d. "
1-inch "	14s. 6d.	15s. 0d.	15s. 6d. "
1¼-inch "	—	18s. 0d.	19s. 6d. "

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. "
Spruce Deals ..... £16 10s. "

¾-inch Matched Lining	13s. 0d. per square.
½-inch "	16s. 0d. "
1-inch "	19s. 0d. "

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 "	13s.	13s. 6d.	14s. 6d. "
1 by 7 "	15s.	15s. 6d.	16s. 6d. "
1¼ by 7 "	17s.	18s. 0d.	19s. 6d. "

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

FLOORING! DEALS! MAHOGANY!

REDUCTION OF PRICES.

¾ Matched Boarding	13s. 0d. per square.	Yellow Deals	3s. 3d. each.
¾ Spruce Flooring	11s. 6d. "	Spruce Deals	2s. 9d. "
Inch do.	14s. 6d. "	Yellow Battens, 11f. 10s. for 120—12 feet.	
¼ White do.	12s. 6d. "	Oak Staves, from	2s. each.
¼ Yellow do.	13s. 6d. "	Mahogany, from	6d. per foot super.

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:—

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK-STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.

LIMEKILN-HILL, LIMEHOUSE, E.

Wherein can be obtained, of the best quality:—

GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.

LOMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS.

COWLEY and KENT BRICKS.

WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS

Ditto and ditto WALL COPING BRICKS and TILES.

YELLOW and PALE MALM CUTTERS, PICKINGS, FAVIORS, SECONDS, BLACKS, BRICKS and BLACK GLAZED HEADERS.

WHITE, BLACK, and RED RUBBERS

STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.

TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.

Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.

DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.

WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS and TILES, of every description and size.

GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.

RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.

TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.

HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS

Goods forwarded by Railway with despatch.

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

BUILDERS and CARPENTERS, and OTHERS, Have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities.

All sawn goods carriage free within three miles.

¾-inch Flooring (well prepared), 11s. 6d.	¾-inch do. 12s. per square		
Yellow Deals, sound and good	16f. 10s. per 120, or 3½d. per foot.		
Spruce Deals	16f. 10s.	"	2½d.
Yellow Battens, excellent quality	11f. 10s.	"	2d. "
Fine Planks, dry, 12 ft. 8 in. by 11 ft. 2in.		"	3s. 6d. "

Seasoned Mahogany, Plank and Board, 6d. per foot.

A very large Stock, ready sawn and seasoned.

ALFRED CARTER, Old Bethnal-green-road, N.E.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11f. 10s.; 1-inch White Flooring, from 14s. 6d.; 1-inch Yellow, from 15s. 3d.; ¼ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

SEASONED WAINSCOT OAK, 36,360 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to

JOSEPH FAIRER,

Turret Clock-maker to H. M.'s War Department,

188, St. George street East, London.

BENSON'S WATCHES and CLOCKS.

"Perfection of mechanism."—*Morning Post.*



Gold, 5 to 100 Guineas.

Silver, 2 to 50 Guineas.

BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, descriptive of every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free and safe by post on receipt of a remittance.

J. W. BENSON,

33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.

(Established 1749.)

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	25 "
Marine Chronometers	35 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6, 4½, 4, and 3 inches, white, red, buff, black, blue, grey, &c. for churches, entrance-halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes, string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.: also, the Architectural Pottery Company's patent orange-tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No. 36, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

HAYWARD TYLER & CO.
ENGINEERS AND BRASSFOUNDERS,
84 AND 85, UPPER WHITECROSS STREET, LONDON, E.C.



HOWARD'S PATENT
REGULATING VALVE,
MANUFACTURED BY H. T. & CO.
Has been fixed in every situation, and proved to be
THE ONLY EFFICIENT VALVE
FOR
SUPPLYING CLOSETS WITH WATER WITHOUT
THE COMPLICATED ARRANGEMENT OF
CRANKS AND WIRES.
The "Great Eastern" has been fitted with these Closets, and hundreds are now in operation in many large establishments in the metropolis.

H. T. & Co. solicit an inspection at the Manufactory, where they may be seen in operation.

DOULTON & WATTS,
LAMBETH POTTERY, LONDON.
3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.
The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.
The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
Be particular to order the
3s. 9d. Enamelled Stoneware Closet and Trap.

THOMAS LAMBERT & SON,

No. 57. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



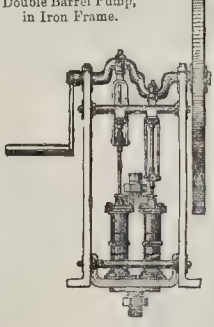
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,
SHORT STREET, NEW CUT, LAMBETH, S.
T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

TERRA-COTTA VASES, STATUES, &c.—The nobility, gentry, and architects are respectfully informed that JOHN M. BLASHFIELD has REMOVED his Establishment from Praed-street, Paddington, to a New Gallery at No. 16, GREAT MARLBOROUGH STREET, W. where specimens of Terra Cotta Works of Art may be seen, and orders for London should now be addressed. Orders for the country and applications for estimates for new designs should be sent direct to the Terra-Cotta Works, Stamford, Lincolnshire.

IMPORTANT to ARCHITECTS, BUILDERS, DECORATORS, and OTHERS.—CAST WORK, CENTRE FLOWERS, Shop Front TRUSSES, VASES, ROYAL ARMS, CAPITALS, and every description of ornament for internal and external decorations, EXECUTED IN PLASTER, Carton Pierre, Composition, and every kind of Cement at reduced prices.—Messrs. HERBERT, Modellers, 242, Euston-road, St. Pancras.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Battlesfield-street North, City-road Basin, N. Secondly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and thirdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 37s. 6d. per 1,000.
" Kiln Bricks, at 30s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 76s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free,
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACK FRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

TERRA COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1763, and the recipient of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishment, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, stipplers and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 13, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.
F. TUCK, Oil and Colour Warehouse, 138, St. Alban's-place, Edgware-road, W.

POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED  1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the essence of its salts preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

FOR CONTRACTORS' WAGGONS, DOBBIN CARTS, BARROWS, and RAILWAY PLANT,
Apply to HUGHES & MARCH,
Engineers and Timber Merchants, Falcon Works, Loughborough.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 356 and 358, EUSTON-ROAD, N.W.

J. TYLOR & SONS,

MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.

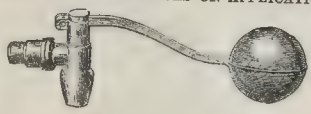
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

To be seen in action at the Manufactory,
WARWICK LANE,
And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent street, London.

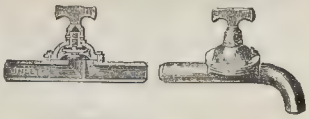
ILLUSTRATED CATALOGUES ON APPLICATION.



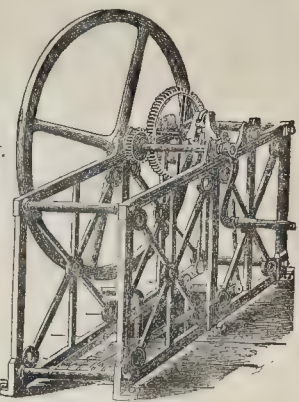
LAVATORY APPARATUS.



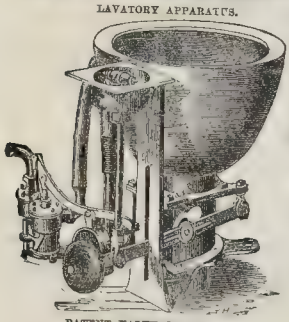
EQUILIBRIUM BALL VALVE.



HIGH-PRESSURE DIAPHRAGM VALVES.



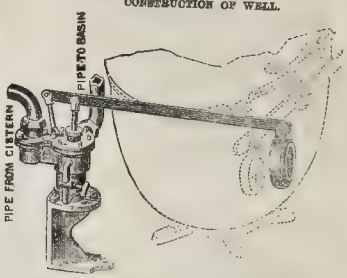
WELL-PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

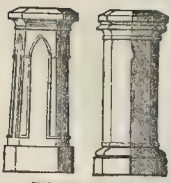
HENRY DOULTON & CO.
High-street, Lambeth, London.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 3s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz. :—
Messrs. GLADDISH'S, Pedlar's acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S, City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr A. RITCHIE'S, Haverstock-hill Wharf, Greenwich.
Mr LAY & SON'S, Dorset Wharf, Canal road, Hoxton.
Mr. GEORGE ALLEN'S, Danvers Wharf, Chelsea.
Mr. HENRY TURNER'S, 2, South Wharf, Praed street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.





UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermittent supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves, Gas Meters, &c on the same premises CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

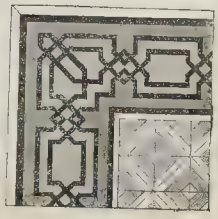


TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

Sole Agent for Birmingham:
R. BROWN, 95, PRITCHETT ST.

JOHN HERBERT & SON,
MODELLERS, &c.
42, PARKER-STREET, DRURY-LANE.
Cornices, Centre Flowers, Shop-front Trusses, &c.
FIRST-RATE WORK AT REASONABLE PRICES.



SOLID PARQUET FLOORS.
ARROWSMITH'S PATENTED,
From 3s. per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered.

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS,
80, New Bond-street, W.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.
BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead,	1 1 0
2½ „ long	3 3	gutta percha	1 10 0
3 „ ditto	3 6	or cast iron	2 4 0
3½ „ ditto	3 6	flanged pipe,	2 9 0
4 „ ditto	3 6	as required.	3 16 0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			2 0 0
2½ in. long ditto	ditto		2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.

A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS,



AT THE GREAT EXHIBITION IN 1851.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 1454.—Warners' Spring Valve Closet on Iron Frame, with vulcanized India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 0
Sunk handle extra 0 3 0
Blue basin, extra 0 1 6



No. 1454.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £3 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

The above Prices are subject to a liberal discount.



No. 69.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch....	£6 0 0	Larger sizes when required.
3 „	7 5 0	
3½ „	8 0 0	

Fitted to the best Plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4 15 0
3 „	5 15 0

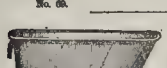


No. 384. No. 383.

WARNERS' HIGH PRESSURE COCKS are made with gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re-leathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.



WARNERS' BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

J. WARNER & SONS' PRICED ILLUSTRATED CATALOGUE WILL BE FORWARDED POST-FREE ON APPLICATION.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BENJAMIN FOWLER & CO., WHITEFRIARS-ST., FLEET-ST., LONDON,
MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DEEP OR SHALLOW WELLS, CUTTINGS, TANKS, &c., FOR MANUFACTURING, DOMESTIC, AGRICULTURAL, CONTRACTING, AND ALL OTHER PURPOSES;

TO BE DRIVEN BY HAND, HORSE, WATER, WIND, OR STEAM POWER, AND SUITABLE FOR HOME USE OR EXPORT.



No. 82.—Fowler's Portable wrought-iron Contractors' and Excavators' Pumps, plain or galvanised, in any lengths, 4 inch to 9 inch barrels.

No. 4.—Fowler's Improved cast Bored Pumps, for general purposes, with brass valves, tail-pieces fitted, screwed, or flanged 2½ inch to 9-inch barrels.

Nos. 88 & 89.—Fowler's Double Barrel wrought-iron Portable Contractors' Pumps, for hand or steam power, in any lengths, to any depth. 6-inch to 9-inch barrels.

No. 134.—Portable Steam Engines, of best modern construction, for Pumping, Sawing, Winding, &c. for Hire or to Order.

No. 7.—Fowler's Patent Side Valve Pumps, with ready means of access to valves, and improved brass buckets. Sizes 2½ inches to 6 inches.

No. 50.—Holman's Patent Portable Double-barrel Force Pumps, for emptying cesspools, pumping water from ponds or shallow wells, for mortar mixing, wetting clay, &c. 4-inch to 7-inch barrels.

No. 80.—Fowler's Wrought Portable Contractors' Pumps, plain or galvanised, with sliding sections. 4-inch to 9 inch barrels.

Fig. A.—Fowler's Improved short Cottage or Conservatory Pumps, with guided motions and improved brass valves. Tail-pieces for lead, screwed, or flanged pipes.

Fig. B.—Fowler's ditto Force Pumps, nozzles with unions tinned, screwed, or ready for hose-pipes; and tail pieces the same.

No. 38.—Fowler's Portable wrought-iron or copper Pumps on tripod legs, with improved valves and unions for hose.

No. 19.—Holman's Patent Double-barrel Force Pumps, brass barrels, doors to valves, fly-wheel, and watch handles, for supplying cisterns in mansions, &c.

No. 23.—Fowler's brass or iron Deep-well Pumps, on square tails, with various gears for working same.

No. 26.—Fowler's Treble barrel brass or iron Deep-well Pumps, with or without steam or horse gear for working same. 2½ inch to 12-inch barrels.

No. 75.—Holman's Patent Double-action Pumps, ready to connect to steam or horse power. 3-inch to 15-inch barrels. These will be found excellent and simple pumps for brickmakers' and manufacturers' purposes.

No. 16.—Fowler's Original Hydraulic Ram, on all its different patterns. Drawings and estimates can be had to suit any position

No. 18.—Fowler's Improved brass or iron Lift and Force Pumps on planks, with tinned screwed or flanged outlets and tails. 2-inch to 5-inch barrels.

No. 25.—Fowler's Double Brass Barrel Deep Well Pumps, 2½-inch to 6-inch barrels. Frames and Gear for working same by hand or steam power.

No. 60.—Fowler's Improved Hydraulic Rams, for raising water to considerable elevations, where a fall can be obtained from a stream, pond, or spring.

No. 86.—Fowler's Portable Contractors' Pumps, with cistern heads extra strong, and suited for depths from 30 to 200 feet, 3-inch to 9-inch barrels, to be worked by hand or steam power.

Nearly the whole of the above are kept in Stock, either complete or in a forward state.

ILLUSTRATED CATALOGUES MAY BE HAD ON APPLICATION, OR FREE BY POST.

SALES BY AUCTION.

GENERAL POST-OFFICE, ST. MARTIN'S LE-GRAND.—Mail Boxes.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings to SELL by TENDER, on MONDAY next, JANUARY 6th, about 880 IRON-BOUND MAIL BOXES, &c.—May be viewed, and Tenders to be sent to the Office, 18, Parliament-street, on or before THREE o'clock on MONDAY, JANUARY 6th.

ROYAL MILITARY ASYLUM, CHELSEA.—Excellent Brickwork.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings to SELL by AUCTION, on the PREMISES, on TUESDAY, JANUARY 7th, at TEN for ELEVEN, the excellent BRICKWORK of the ENCLOSURE WALL next the King's-road, 470 feet in length.—May be viewed and Catalogues had at the Office of Her Majesty's Works, &c. 12, Whitehall place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, E.C.

GREENWICH HOSPITAL.—Building Materials, Iron Railing, &c.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of the Royal Hospital, Greenwich, to SELL by AUCTION, on the PREMISES, in front of the School Buildings, on WEDNESDAY, JANUARY 15th, at TWELVE, the excellent BRICKWORK of the dwarf and garden walls, cast iron and stone coping, about 600 feet of iron railing and curb, several hundred feet of sound oak fencing, iron gates, lead cistern and pipes, York paving, erection of sheds, and other effects.—May be viewed the day previous, and catalogues had at Mr. HARDWICK'S Offices, 21, Cavendish-square; of the Inspector of Works, Greenwich Hospital; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City, E.C.

BUILDING MATERIALS. CHEAPSIDE.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, JANUARY 17, at TWELVE, lots, all the valuable BUILDING MATERIALS and FIXTURES of Two Houses and Premises, Nos. 118 and 119, Cheapside: comprising sound brickwork, stout rafters, joists, and other useful timber; slates, sashes, doors, panelled partitions, wainscoting, linings, mantle and other chimneypieces, and useful interior fittings; mahogany and plateglass shopfronts, sound floor-boards, lead gutters, cisterns, sinks and pipes, stoves, and various useful fittings-up. May be viewed the day previous. Catalogues had of JOHN BLYTH, Esq. Architect, 1, Noble-street, E.C.; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, Westminster, S.W.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Commercial Improvements. Fourteenth Clearance Sale.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on MONDAY, JANUARY 13th, and following day, at TWELVE, in lots, all the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS UP of about 35 Houses, situate in New-street, The Grove, and Great Guildford-street, Southwark bridge-road: comprising capital sound bricks, a large quantity of plain and pan tiles, prime timber in roofs and floors, sound flooring boards, glazed sashes, cupboard fronts, chimneypieces, folding doors, couch house and stable fittings, York paving, lead gutters, cisterns, sinks and pipes, stoves, ranges, coppers, and other useful and valuable materials and fittings up.—May be viewed on Saturday previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

LLOYD'S MARBLE WHARF, LIMLICO.—TO SCULPTORS, MASONS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. E. Lloyd & Co. to SELL by AUCTION, on the PREMISES, adjoining Vauxhall Bridge, Pimlico, and Chelsea Railway, on WEDNESDAY, JANUARY 22, at ELEVEN for TWELVE, about 150 blocks of MARBLE; consisting of statuary, vein, Sicilian, emperor's red, black and gold, Devonshire, Derbyshire, Campan, Melange, and Vert-Ve.t; also about 20,000 feet of SLAB, of nearly all the above varieties. Bills at four and six months.—May be viewed one week previous, and catalogues had at the Place of Sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 80, Fore-street, City.

WALWORTH.—BUILDING MATERIALS of SEVENTEEN HOUSES, in Gloster row and Gloster buildings, Walworth road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Worshipful Company of Fishmongers to SELL by AUCTION on the PREMISES, on TUESDAY, the 21st of JANUARY, at TWELVE, in lots, all the excellent BUILDING MATERIALS, FIXTURES, and FITTINGS UP of SEVENTEEN HOUSES (some of them of a superior character), situate in Gloster row and Gloster-buildings, Prospect-row, Walworth-road: comprising about 500 feet sheet lead, cast-iron soil pipes, lead pipes, 3-inch plain tiles, stout rafters, joists, girders, and other excellent timber; 300 squares of boarded floors, 200 pairs of glazed sashes, a large assortment of doors, mantels, marble and other chimneypieces, fine interior fittings, stone paving, coping, cills and steps, wood and iron railing and fencing, several hundred feet run of garden walls; lead cisterns and pipes, coppers, stoves, ranges, grates, and numerous useful fixtures and fittings up.—May be viewed the day previous. Catalogues had of W. B. TOWSE, Esq., Fishmongers' Hall; of RICHARD BUTER, Esq. Architect, 23, Fenchurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament-street, Westminster, S.W.

LION'S DOWN, BARNET, HERTS.—EXCELLENT GROWING TIMBER.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the ESTATE, adjoining the Barnet Station on the Great Northern Railway, on MONDAY, the 13th day of JANUARY, at TWELVE for ONE o'clock, a PORTION of the excellent GROWING TIMBER: comprising fifty-eight oaks, fifty-seven elms, sixteen fine ash-trees, and chestnut, ash, hornbeam, sycamore, and willow trees. Also, several lots of IRON HURDLES. Credit will be given to approved purchasers. May be viewed during the week before the sale; and catalogues may be obtained ten days before the sale, at the Railway Hotel and Railway Tavern, Barnet Station; at the Bald Faced Stag Public-house, Totteridge; and of the Bailiff, Lion's Down Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

LEYTON, ESSEX.—Eligible Building Land, five miles from the City, and within a convenient walk of three railway stations.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, London, on MONDAY, JANUARY 20th, 1862, at TWELVE for ONE o'clock, in Thirty-two Lots, a further portion of the Eligible FREEHOLD BUILDING LAND in portion of the Grange Estate, opposite the Church, with frontage to Church-road, within ten minutes' walk of the Low Leyton Station on the London Railway, at which Half-an-hour's Walk of the Stratford and Lea Bridge Stations. Nine-tenths of the purchase-money may remain on mortgage or contract at five per cent. to be paid by instalments.—Particulars, plans, and conditions of sale may be obtained at the Auction Mart; of Messrs. AYRES & CO. to close the premises), the STOCK: including 1,000 planks, deals, battens, and 6 pitch pine; 2 capital brick-carts, 20 heavy harrows, gig, timber carriage, 40 carpenter's benches, 2 clerk of the works' offices, foot mortising machine, smith's anvil, bellows, and vices; scaffold poles boards, and cords; wheeling planks, lot of room and dwarf doors, stone bricks, drain pipes, cart and chaise harness, chaff-cutting and bean crushing machines, yard bell and post, a handsome writing table with twelve drawers, carpenter's ironmongery, bags of nails, lot of rod, bar, and hoop iron; iron pipes, air bricks, trestles, gravels, lot of centres, and other effects.—May be viewed the day prior and morning of sale, and catalogues had at the Auctioneer's Offices, Mile End-road, E.

TO IRONMONGERS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by the Assignees to SELL by AUCTION, on MONDAY, JANUARY 13th, 1862, at ELEVEN o'clock each day, on the PREMISES, Stratford, opposite the Church, in lots, the extensive STOCK of BLACK and FURNISHING IRONMONGERY, 24 tons of sad iron and scrap, 50 kegs wrought and cut nails, 1 ton 500 screws, 19 doz. files, 1 doz. locks and latches, 10 gross hinges, 50 galvanized pans, 250 yards rain water pipe and gutter ing, heads and shoes, 150 doz. Register and Ranges and stoves, 20 in the set, and bright register stoves, 3 improved kitcheners, 5 open ranges, a large assortment of cabinet brasswork, 200 dz. large rasps, 10 doz. spades and shovels, 100 doz. hollow ware, tinned and copper goods, baths, trays, and waiters, copper tea-kettles, preserve-pans, &c.; cutlery, turnery, and brushes; gas fittings, tinware, edge tools, garden, and stable implements, and fittings; cart and harness, shop and show-room fixtures and fittings, and numerous other effects.—To be viewed on Saturday previous to the sale by catalogues only, which may be had, at 6d. each, in the Premises; of Messrs. SOLE, TURNER, & TURNER, Solicitors, Alderman bury; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

BALHAM-HILL.—TO BUILDERS AND OTHERS.

MR. BRAY, Jun., will SELL, on the PREMISES, as above on WEDNESDAY, JANUARY the 8th, the Residue of the STOCK-IN-TRADE of Mr. W. Nash (who is retiring from business); comprising a quantity of capital scaffolding, art, barn so, brick, boards, deals, battens, and other timber effects. At the same time will be Sold, a Lease of the very excellent Business Premises, for a term of thirty years.—Particulars and catalogues may be had on the premises; of Messrs. LUCAS & SHOWLER, Solicitors, 1, Trinity-place, Charing-cross; and of the Auctioneer, 158, King's-road, Bedford-row, W.C.

PRELIMINARY ADVERTISEMENT.—WEST DEAN, GLOUCESTERSHIRE.—TO BE SOLD, by PUBLIC AUCTION, at the PREMISES, in the latter end of JANUARY or beginning of FEBRUARY, in several lots, at James Quarry, Lower Birch Hill, Upper Birch Hill, Blanches Level, Dark Hill, Myles Quarry, Steel Wood, Loading Place, and Gosty Knoll, a large quantity of hewn and worked and unworked STONE, the property of the late firm of Thos. Grindell & Co.—Further particulars will appear in a future advertisement.

FLEET-STREET, in the City of London.—First-class Freehold Property.

MESSRS. BEADEL & SONS have been favoured with instructions TO SELL by AUCTION, at the MART, Bartholomew-lane, London, on TUESDAY, the 28th day of JANUARY, 1862, at TWELVE for ONE, in one lot, those magnificent SHOP PREMISES, situate and being No. 75, Fleet-street, in the City of London, in the occupation of Mr. Charles McLean, looking-glass manufacturer. These premises have a frontage of 14 feet 6 inches, and a depth of about 85 feet. The front is of an elaborate design, and has superb effects of plate glass in shop front, and with rows in first and second floors. The height of the greater portion of the very extensive shop is 18 feet 6 inches in the clear between floor and ceiling. There are three floors above the shop, and a basement beneath. The situation of this property for business purposes is almost without parallel, being in the best part of one of the greatest city thoroughfares.—Particulars, with conditions of sale, may be obtained of Messrs. BIRCH, INGRAM, & WEATELY, Solicitors, 68, Lincoln's-inn-fields, W.C.; at the Mart; and of Messrs. BEADEL & SONS, No. 25, Gresham street, E.C.

Truly valuable and extensive sale of large Navy Oak, Copse Timber, Elm, Ash, and Beech, with Lop, Top, and Bark, standing on the Highclere and Burghclere Estates, Hants.

MESSRS. ALEX. DAVIS & THOMAS PALMER are honoured with instructions from the Right Honourable the Earl of Carnarvon, to SELL by AUCTION, at the CARNARVON ARMS INN, HEDGE, Burghclere, Hants, near Newbury, on TUESDAY, the 28th day of JANUARY, 1862, at TWO o'clock in the afternoon, 1,892 fine large NAVY OAK TREES, 197 ASH, 31 ELM, and 3 BEECH TREES, and 1 BEECH pollard, lop, top, and bark. The above timber is most fit for good roads, being about five miles from the nearest station on the Basingstoke and Hants Railway, and the Kennet and Avon Canal, Newbury. The Auctioneers beg most respectfully to call the attention of Ship Builders and Timber Merchants to the above Sale; the Timber being of large Navy Metings of superior quality, and admirably adapted for shipping purposes.—Catalogues with full particulars, reservations, and conditions of sale, may be had ten days previous to the Sale; of Mr. JORDAN, of Highclere (who will appoint a person to show the lots); at the White Hart Hotel, Newbury; Crown Inn, Highclere; Garraway's, 3, Change-alley, Cornhill, London; Cornish's, Windsor and Eton; George Hotel, Reading; Globe Inn, Andover; Place of Sale; and of the Auctioneers, Valuers, Surveyors, and Estate Agents, Market-place, Newbury, Berks.

CHARING CROSS RAILWAY.—Tenth Clearance Sale. The valuable Materials of the Warehouse Fittings, Nos. 1 and 2, Factory, Tooley-street, and several Dwelling-houses and Workshops in Bermondsey street.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is instructed by the Directors, to SELL by AUCTION, on the PREMISES, on TUESDAY, JANUARY 14th, at ONE o'clock punctually, the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS of the OLD WAREHOUSES, Tooley street, FOUR HOUSES and WORKSHOPS in Bermondsey street, and several HOUSES situate in King's Head Yard, Ann's Court, and Bermondsey-street: comprising capital sound brickwork, stout timber in roofs, joists, and girders, plain and pan tiles, and slates, glazed sashes and shop fronts, useful doors, partitions, chimney-pieces, and interior fittings, sound flooring boards, warehouse fittings, iron gearing, lead in gutters and pipes, stone paving, coping, and sills, and other effects.—To be viewed the day previous to sale, and catalogues had of Mr. MARSH, Charlotte-row, Mansion-house; of Messrs. WILLIS & HARROW, Auctioneers, West Molesey, Kingston, Surrey, and Alton, Hants; and of Mr. EDWARD LYDE, Surveyor to the Company, at his Offices, in the South Eastern Railway Terminus, London-bridge.

BUILDING MATERIALS.

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, Gravel-lane, Camberwell, on WEDNESDAY, JANUARY 15, at TWELVE for ONE, the valuable BUILDING MATERIALS of several Modern HOUSES and WARE HOUSES: including long timbers of large and small dimensions, a vast quantity of superior sashes and frames, doors, and other fittings; 100 stoves, ranges, and coppers; flag paving, hearths, and jambs; flooring boards, and an infinite variety of other sound useful mate rials and fixtures.—Catalogues one day prior, on the Premises; and at Mr. SMYRK'S Offices, 108, Fleet-street, City.

BROMPTON GROVE ESTATE, South Kensington.—To BUILDERS and CAPITALISTS.—The most eligible site for the erection of first-class houses is situated on the south side of the Brompton road, between Sloane-street and the New South Kensington Museum, and intervening between Belgrave and the Gore Estates. Building leases for 99 years direct from the freeholders, at moderate ground-rents, can now be obtained. The roadway and foot pavements, the sewer, house drains, and vaults, are completed.—Apply at the Office on the estate.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

TO SPECULATIVE BUILDERS and OTHERS.—LAND TO BE LET on BUILDING LEASES, in localities where there is a demand for houses from 40l. to 70l. rental per annum. Money will be advanced if required.—For plans and particulars apply to MR. JOHN WIMBLE, Architect, 2, Walbrook, E.C.

TO CHARITY COMMISSIONERS, GOVERNORS of PUBLIC INSTITUTIONS, and OTHERS.—TO BE SOLD, about 26 Acres of Elevated TABLE LAND, at Caterham, in the county of Surrey, about fifteen miles from London, and six from the excellent market towns of Croydon and Reigate, most admirably adapted for the erection of a large school, hospital, or almshouses. The salubrity of the air and dryness of the soil (which is of a light and peaty nature) render it most eligible for the above purposes. The property, which lately formed a part of Caterham Common, has been finished and brought into cultivation, and has railways between the much admired, picturesque, and rapidly improving villages of Caterham and Caterham, is approached by good roads, and is only a quarter of an hour from the Stone Nest, situate on the Brighton Railway, and two miles from either the Caterham or Warlingham stations, on the Caterham railway.—For particulars apply to Mr. S. T. MAUNG WESTALL, 9, New Inn, Strand, Solicitor.

OXFORD-STREET.—TO BE LET, on a building lease, a valuable PLOT of GROUND, containing about 6,000 superficial feet, and having a frontage of upwards of 45 feet to Oxford-street, with a return frontage of upwards of 90 feet to Perry's-place.—For particulars apply to Messrs. ROBERT JOHN and HENRY CLUTTON, 7, Whitehall-place, Westminster.

TO COACH-BUILDERS, UPHOLSTERERS, &c.—Extensive and handsome PREMISES to BE LET, at No. 29, Great Ormond-street, Queen-square, comprising five three magnificent floors and a basement. Length, 74 feet; width, 29 feet, inside measurement.—Apply on the premises.

WANTED, immediately, below London Bridge, a SUFFERANCE WHARF, or part thereof, for a depôt of Cars and other stone. Arrangements might be entered into for an Agency in London, or with the Makers of the United Kingdom, on liberal terms, with parties possessing the required securities.—Address, post paid, TURPIN & CO. (late Gates & George), Caen, France.

UPPER TERRACE, ISLINGTON.—SEVERAL HOUSES, situate as above, TO BE LET on Lease from Lady Day, 1862.—For particulars apply to Messrs. WHITFSIDE & SMITH, 63, Lincoln's Inn Fields, W.C.

GREAT SMITHFIELD IMPROVEMENTS.—TO BE LET, a large PLOT of GROUND, suitable for a Tavern, or Manufacturing Premises, opposite the New Dead Meat Market and Railway Terminus, situate West Smithfield, and Kingstreet, adjoining. Term, eighty years.—Plan and particulars at Mr. MEACOCK'S, 7, Snow-hill; and DEBENHAM & TEWSON'S, 80, Cheapside.

FIRE BRICKS, LUMPS, and TILES, of every description.

JOHN NEWTON & CO.

HONDURAS WHARF, 74, BANKSIDE, SOUTHWARK, S.E.

Beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c.

Depôt for Ramsay's New-Arte Fire Brick, Clay Retorts, Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c, at the lowest prices.

Shipping orders executed with despatch.

CLAPTON, near the POND.—BRICKS. A long range of nearly new Garden Walls, nearly all Stocks, Cleaned and Loaded, at 18s. per thousand.—Apply on the Premises, or at Mr. G. F. SMYRK'S Offices, 108, Fleet-street, City.

OLD BRICKS.—200,000 Capital STOCKS for SALE, Cleaned and Loaded, at 18s. per thousand.—Apply at the Building, facing Guildford-street, Blackfriars-road. Alpha-place; or at Mr. C. F. SMYRK'S Offices, 108, Fleet-street, City.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chimneys, and other purposes, in any business or manufacture where an intense heat is required.—For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch street, E.C.

ACCIDENTS ARE UNAVOIDABLE. Every one should therefore provide against them.

THE RAILWAY PASSENGERS' ASSURANCE COMPANY Grant Policies for Sums from 200l. to 1,000l., assuring against ACCIDENTS OF ALL KINDS.

An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by Injury.

Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C

1'2,817l. have been paid by this Company as COMPENSATION for 58,194 Accidents which have happened to Assurers.

THE SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.

Empowered by Special Act of Parliament, 1849.

64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

POLYTECHNIC. — CHRISTMAS HOLIDAYS.—1st. The highly successful Comic optical pantomime of Harlequin and Humpty Dumpty, or, Sixpence Equal to Gold, being a revival of the late Mr. Grimaldi's most favourite piece. In order that full effect may be given to the grand transformation, Mr. Childe has been engaged with his powerful stage Apparatus for it. A Cheap Refreshment Saloon is attached. "Alberac" for the juveniles.—Fairy tales, and singing various nursery songs. Master Sanders, the infant vocalist, will also sing the much-admired song of "The Cobbler Boy." 2nd. Beautiful Series of Photographs, by Mr. England, of "Scenes in America," with special reference to the present crisis, illustrated. Professor Logrenia's Magical Wonders and Mysterious Transformations, the Wizard of the Nile, and Lecture on Coal. Leotard's Canary Birds, and White Mice. 4th. Mr. and Mrs. Matthews in their wonderful illustrations of Modern Magic and Ventriloquial Conversazione." 5th. The Garibaldi Bell Ringers. 6th. New Lecture by J. L. King, esq., entitled "First Steps in Science for Young Philosophers." 7th. New series of Dissolving Views illustrating the Navies, Dockyards, and Iron-clad War Steamers "The Warrior" and "La Gloire." 8th. New Lectures by Professor J. H. Pepper, on the Armstrong, Whitworth, and other Guns. 9th. New Lecture by Professor J. H. Pepper "On the Magnificent Field of Discovery, opened out by the New Terrestrial and Stellar Chemistry." 11th The whole of the Institution decorated with Holly, Christmas, and Exotic Plants, by Messrs. Veitch, of Mariaalill. 11th Great Christmas Tree, 54 feet high. Grand juvenile day on the Morning and Evening of Thursday, 9th January, and second Gratuitous distribution of Thousands of beautiful ornaments, Toys, Pocket-knives, Cannons, &c. amongst the juveniles as before.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "The BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, January 4, 1862.

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 988. JANUARY 11, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

St. Mary's College, Harlow.—Mr. R. J. Withers, Architect... 29
Plan of the College... 28

CONTENTS.

A Fresh Glance at the Building for the International Exhibition... 21
On the Conservation of Ancient Architectural Monuments and Remains... 22
The Burial Station and Mortuary, Great Northern Railway, Islington... 23
Typhoid Fevers and their Causes: Preventive Measures... 25
Royal Institute of British Architects... 25
The Architectural Association... 27
The desired Road from Bayswater to Brompton... 27
Warehouses for Explosive Materials... 27
Spitalfields Market... 27
St. Mary's College, Harlow... 28
A New Home for the Garrick Club... 28
Memorial of the Prince Consort and the Great Exhibition of 1851... 28
The Proposed New Lecture-rooms, Museum, &c., at Cambridge... 31
Statue of Wedgwood... 31
Church-building News... 31
Stained Glass... 32
Provincial News... 33
Railway Matters... 32
School-building News... 33
Metropolitan Board of Works: Election of District Surveyor for Chelsea... 32
News from New Zealand... 33
Stability of the Crystal Palace... 33
Just a Little Music after Dinner... 34
Notes on Fire-clay: the best Non-conducting Material of Flame Heat... 33
Fire-clay in Buildings... 33
Improved Lighting of Towns... 33
Blackfriars Bridge Competition... 34
The Science of the Architectural Orders, and Ornament generally... 34
The Stage and Entertainments... 34
Caution to Extravagant Claimants... 34
Asses-ment of Bethlehem Hospital: Arbitration... 34
Patents connected with Building... 34
Books received: Variorum... 35
Miscellanea... 35

SOUTH KENSINGTON MUSEUM.—After the 1st JANUARY, 1862, and till further notice, the South Kensington Museum will be CLOSED on WEDNESDAY EVENINGS, and OPENED instead on SATURDAY EVENINGS, till TEN p.m. Admission free.

By order of the Committee of Council on Education.

December 27, 1861.

THE QUEEN'S CONCERT ROOMS, HANOVER SQUARE.—The proprietor, Mr. COCKS, begs to inform those ladies and gentlemen who propose giving concerts, balls, soirées, instrumental lectures, or other entertainments, as also the directors of religious societies and others, that these celebrated ROOMS ARE NOW READY FOR USE. The Rooms have been highly decorated, and are furnished with lavatories and every modern appliance for the promotion of comfort.—For particulars, apply to Messrs. ROBERT COCKS & CO. New Burlington-street, and 4, Hanover-square, Publishers to her Most Gracious Majesty the Queen, and to his Imperial Majesty Napoleon III.

EVENING LECTURES on GEOLOGY, at the GOVERNMENT SCHOOL of MINES, Jermyn-street. Mr. A. GEIKIE, F.R.S.E., F.G.S. will commence a COURSE of TEN LECTURES, on the FIRST PRINCIPLES of GEOLOGY, on TUESDAY, the 14th JANUARY, at EIGHT o'clock; to be continued on each succeeding FRIDAY and TUESDAY evening, at the same hour.—Tickets for the whole Course, price 5s. may be had at the Museum of Practical Geology.

THE METROPOLITAN BUILDING ACT, 1855, Section 33.—The Institute of British Architects hereby give notice, that an EXAMINATION of persons desirous of obtaining a Certificate of Competency to perform the duties of DISTRICT SURVEYOR, will take place at the Rooms of the Institute, No. 9, Conduit-street, Hanover square, W. on THURSDAY, the 23rd day of JANUARY, at TEN o'clock in the forenoon. Persons desirous to be examined must on or before TUESDAY, the 14th day of JANUARY, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.

T. HAYTER LEWIS, } Hon. Secretaries.
JAMES BELL, }

Conduit-street, January 7, 1862.

CONTRACTS.

MIDLAND RAILWAY.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of the FOUNDATIONS, BASEMENT WALLS, and CELLARS under their Warehouse, to be erected at the Saint Pancras Goods Station, London. Copies of the quantities may be obtained at the Engineer's Office, Derby station on and after the 1st day of JANUARY next. The drawings and specification may be seen at the above Office, from the 1st to the 6th day of JANUARY; and at the Company's temporary Office, Elm Lodge King's road, Saint Pancras, from the 7th to the 13th day of JANUARY, both inclusive. Sealed Tenders, in each amount, to be forwarded to the Secretary of the Way and Works Committee, Derby Station, not later than TEN a.m. on MONDAY, the 14th day of JANUARY next. The Directors do not bind themselves to accept the lowest or any Tender, or to pay any expenses connected with any of same.—By order,

C. N. BROWNE, Secretary.

Derby, December 5th, 1861.

CONTRACTS.

PARISH of ST. MARY ABBOTTS, Kensington, in the County of Middlesex.—WATERING of STREETS.—The Works, Buildings, and Sanitary Committee of the Vestry of the Parish aforesaid will meet at the VESTRY HALL, High street, Kensington, on FRIDAY, the 17th day of JANUARY instant, at SEVEN o'clock in the Evening, to receive TENDERS for the SUPPLY of all necessary WATER-CARTS, HORSES, and MEN for WATERING certain STREETS in the said Parish, for Eight consecutive Months, commencing in the 1st day of MARCH next. The Vestry have divided the Parish into two districts, called the North District and South District; the parties Tendering to be at liberty to Tender for the Districts jointly or separately. Form of Tender and Schedule of Streets can be obtained at the Clerk's Office, Vestry Hall, where the Tenders, sealed, and endorsed "Tender for Street Watering," are to be delivered by or before FOUR o'clock in the afternoon of FRIDAY, the 17th day of JANUARY aforesaid. The Vestry do not bind themselves to accept the lowest or any Tender. The Contractor or Contractors will be required to enter into a written Contract, and to provide two good and sufficient sureties in a bond of £25. The Contractor to pay expense of contract and bond.

By order, REUBEN GREEN, Clerk of the Vestry.

Vestry Hall, Kensington, 6th January, 1862.

COUNTY of LANCASTER.—To CONTRACTORS, STONEMASONS, and QUARRYMEN.—The Justices of the Peace for the County of Lancaster, acting within the Hundred of Salford, are prepared to receive TENDERS for TAKING DOWN, ENLARGING, and REBUILDING AGECROFT BRIDGE, in the townships of Pendlebury and Prestwich. The new bridge will be built of stone, and will have three arches, the centre span being 45 feet and the side arches 28 feet each. The width will be 30 feet. The bridge is about three miles north of Manchester, and 600 yards from the Agecroft Wharf of the Manchester and Bolton Canal. Plans and specification may be seen at the Bridgemaster's Office, 51, John Dalton-street, Manchester, on and after the 14th instant. Sealed Tenders, of which proper forms will be supplied, must be sent to the undersigned on or before the 30th instant, endorsed, "Tender for Agecroft Bridge."

W. RADFORD, Bridgemaster.

TO BUILDERS.—CARLTON NEW CHURCH, near Snaith. Such Masons and Plasterers, Carpenters and Joiners, Plumbers and Glaziers, Slaters and Painters, as are willing to TENDER for the ERECTION of this CHURCH, and the PULLING DOWN of the Present One, may inspect the drawings and specifications at our Offices, from the 6th to the 11th instant, and afterwards at the Offices of EDWARD E. CLARK, Esq. Solicitor, Snaith, from the 13th to the 21st instant, inclusive. Sealed Tenders to be delivered to the Architects on or before the 22nd instant. Schedules of the quantities may be obtained on application to Mr. B. WORMALD, surveyor, York, on and after the 13th instant. Security will be required for the due performance of the works, and it is hereby notified that no pledge is given to accept the lowest or any Tender.

J. B. & WILLIAM ATKINSON, Architect.

93, Micklegate, York, 4th January, 1862.

TO BUILDERS.—WANTED, a BUILDER to UNDERTAKE a small JOB of 150l. in the Southern Postal District. Eight or nine months' credit required. Good references given.—Address, ALPHA, General Post-office.

SWANSEA SAILORS' HOME.—To BUILDERS and OTHERS.—Persons desirous of TENDERING for the ERECTION of a SAILORS' HOME at Swansea, may inspect the plans and specifications at the Office of Mr. WILLIAM EDWARDS, Architect, Brunswick House, Swansea, on and after the 14th instant. Tenders to be sent in on or before the 24th instant, not later than TWELVE o'clock at noon, addressed to the Rev. WILLIAM WILLIAMS, Honorary Secretary, 9, Brunswick street, Swansea. The Committee do not bind themselves to accept the lowest or any Tender. This advertisement will not be repeated

2nd January, 1862

TO BUILDERS and IRONFOUNDERS.—Parties desirous of CONTRACTING for the ERECTION of a NEW BRIDGE at Chester (the centre of which will be cast iron), principally of wrought iron, may see the plans and specification and obtain copies of the quantities on and after THURSDAY next, the 9th instant, at the TOWN HALL, Northgate-street, Chester; or at the Office of Messrs. HAY, Architects, Derby Chambers, Liverpool. Tenders to be sent in to me, the undersigned, at the Town Hall, endorsed "Tender for New Market," on before the 22nd instant. The contractor will be required to provide sufficient sureties for the proper execution of the work. No pledge is given to accept the lowest or any Tender.

JOHN WALKER, Town Clerk.

Town Hall, Chester, 3rd January, 1862

HAMMERSMITH.—OFFERS for BUILDING SIX ROOMED HOUSES may be sent to Mr. FLEMING, Solicitor, 22, Cannon-street, E.C. where plans and specification may be seen.—BUILDING LAND TO LET.

TO CONTRACTORS, &c.—TENDERS are requested for the ERECTION of NEW PREMISES for the LIVERPOOL CO OPERATIVE PROVIDENT ASSOCIATION. And also an Estimate of the probable Cost of an Addition to the present Premises. Plans and specifications may be seen at the STORE, 10, Camden street. Tenders to be sent in not later than the 21st of JANUARY, 1862. The Committee do not bind themselves to accept the lowest or any Tender.

TENBURY WELLS IMPROVEMENT COMPANY, LIMITED.—To BUILDERS, CONTRACTORS, and OTHERS. Persons desirous of CONTRACTING for the ERECTION of a BATH HOUSE, PUMP-ROOM, and COTTAGE, at Tenbury, may inspect the drawings and specifications at the Office of Mr. NORRIS, Solicitor, Tenbury, on and after MONDAY, the 13th instant, and further particulars may be obtained of Mr. JAMES CRAWSTON, Architect, 1, Temple-row West, Birmingham; or of Mr. ROBERT ROBINSON, Tenbury, Secretary to the Company. Tenders to be sent in to the Secretary on or before the 3rd day of FEBRUARY next, sealed and endorsed "Tenders for Bath and Pump-room, &c." The Directors do not bind themselves to accept the lowest or any Tender.

By order, ROBERT ROBINSON, Secretary

Tenbury, January 8th, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to CONTRACTORS and GAS-FITTERS. TENDERS are required for SUPPLYING and LAYING GAS MAIN PIPES and FITTINGS; also ERECTING METER HOUSE and supplying and fixing Main Meter at Forts Grange, Rowner and Brockhurst, near Gosport, in the Parish of Alverstoke, County of Hants.

Parties desiring to Tender for this work must leave their names at the Royal Engineer Office, Brockhurst Lodge, and pay the sum of 10s. 6d. for the bills of quantities, on or before the 21st of JANUARY, 1862.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 7th January, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to CONTRACTORS.—TENDERS are required for REPAIRING and STRENGTHENING the Camber Wall, Repairing and Refixing One 7-ton Crane, and for New Foundations and Stocks to One 7-ton and One 10 ton Crane, at the New Gun Wharf, Portsmouth.

Parties desiring to Tender for these Works must leave their names at this Office, on or before the 20th day of JANUARY, 1862, and pay the sum of half-a-guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 4th January, 1862.

TO BUILDERS.—BUILDERS desirous of TENDERING for MAKING certain ADDITIONS to a MANSION at Hurstbourne, Hants, may see the plans and specifications at Mr. GLASSES, Post-office, Horndean, on and after the 13th instant. Tenders to be delivered at the Office of the Architect, Mr. JOHN COLSON, St. Swithin's-street, Winchester, on or before the 1st of FEBRUARY next. No pledge is given to accept the lowest or any Tender.

January 11th, 1862.

GLOUCESTER WATER-WORKS.—The Gloucester Board of Health are prepared to receive TENDERS for PROVIDING and FIXING Water-Waterworks—

CONTRACT L.—Two Wrought Iron Triangular Girder FOOT BRIDGES, 96 and 88 feet span, with Iron Flooring.

CONTRACT M.—About 800 Yards of Wrought Iron Continuous FENCING, and other Works, at Witcombe, all situate as for the Gloucester.

Plans, drawings, and specifications, may be seen at the Office of Mr. W. McLANDSBOROUGH, Assoc. Inst. C.E. Surveyor to the Local Board, Corn Exchange, on and after SATURDAY, JANUARY 4th. Tenders to be sent to Mr. K. H. FRYER, Clerk to the Local Board, Gloucester, under cover, addressed to the Gloucester Local Board of Health, on or before the 24th instant.

Gloucester, 1st January, 1862.

SAINT MARY, ISLINGTON.—METROPOLIS LOCAL MANAGEMENT ACT.—The Vestry of this Parish hereby give notice, that a Committee will meet at the Vestry Offices, Upper-street, Islington, on WEDNESDAY, the 22nd day of JANUARY instant, at TEN o'clock in the morning, precisely, to receive TENDERS for the CONSTRUCTION of about 1,540 feet of BRICK SEWER, in and along the Upper-street; 700 feet of Brick Sewer, and 1,410 feet of Pipe Sewer, in Highbury-vale; 440 feet of Half-brick Sewer, and 300 feet of 12 inch Pipe Sewer, in John-street, Upper Holloway; and the necessary Works in connection therewith. Separate Tenders may be sent in for each work, or the whole, or any two of the works may be included in one Tender. The form of Tender (which alone will be received) may be obtained, and the specification and draft contract seen, at the Vestry Offices (Surveyor's Department), between the hours of TEN and FOUR o'clock. Persons desirous of contracting must attend at the time and place above stated with sealed Tenders, endorsed "Tender for Sewer Works." The Vestry do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the Works.

JOHN LAYTON, Vestry Clerk.

Vestry Offices, Upper street, Islington.

WORKINGTON DOCKS. — To CONTRACTORS.—TENDERS are invited for the CONSTRUCTION of a WET DOCK for the Right Honourable the Earl of Lonsdale, at Workington, in the County of Cumberland. Lithographed specifications and conditions may be obtained, and the drawings seen, on and after MONDAY, the 6th JANUARY, 1862, at the Offices of Messrs. LUBB & HOWSON, Solicitors, Whitehaven; or of Mr. A. M. RENDEL, C.E. 8, Great George-street, Westminster. Sealed Tenders, marked on the outside cover "Tender for Workington Dock," must be delivered to Messrs. LUBB & HOWSON, Solicitors, Whitehaven on or before TUESDAY, the 28th inst. at TWELVE o'clock at noon. The Earl of Lonsdale does not bind himself to accept the lowest or any Tender.

8, Great George-street, Westminster, 1st January, 1862.

BUILDERS willing to TENDER for sundry ALTERATIONS and REPAIRS to be made at 116, High-street, Camden Town, can inspect the drawings and specification on the premises. Tenders to be delivered at the Architect's Office, on MONDAY, the 13th, at FOUR o'clock, who reserves the right of rejecting the lowest or any Tender.

HENRY M'CALLA, C.E. Architect.

Office, 25, Westbourne-place, Eaton-square, S.W.

THE TENTH YEAR.—INVESTMENT of SAVINGS and CAPITAL.—The CONSERVATIVE LAND SOCIETY.—Share Department, Five per cent. per annum; Deposit Department, Four per cent. per annum. The interest warrants issued half-yearly, and withdrawals at fixed periods, according to the amounts lodged or shares. No partnership liabilities, and the taking of land is entirely optional. Prospectuses sent free of charge.

CHARLES LEWIS GRUNEISEN, Secretary.

Offices 33, Norfolk-street, Strand, London, W.C.

100 PER MONTH.

BOX MARBLE CHIMNEY PIECES, 7 inch fronts, and 2 feet 6-inch openings, for 1l. 1s.; handsome three chimney-piece, 10-inch jambs, 10-inch shelf, and 2 feet 10 inch opening, for 2l. 2s. A large assortment of superior chimney-pieces on view. R. SPRAGGS, 3, Bolton-row, Piccadilly.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, & he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, at the low st possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and punctual attention.

PURE STATUARY MARBLE! and in slabs of large dimensions, can be obtained at
M. W. JOHNSON'S MARBLE WORKS,
363, EUSTON ROAD, London, N.W.
Proprietor of the Statuary Marble Company now keep in stock a great variety of coloured MARBLE for Mediæval works, and they are enabled, with the assistance of machinery, to execute orders at a considerable reduction in price. Marble floors, &c. &c. sold at a low rate.—Westminster Marble Works, Eaton-street, Horseferry-road, Millbank.

JOHN BAZLEY WHITE & BROTHERS,
MARBLE MERCHANTS,
MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

BATH STONE.
SAMUEL R. NOBLE,
STONE MERCHANT and QUARRYMASTER, BOX, near Chippenham, Wilts,
Begs to inform Builders and Others, that he can supply BOX-HILL GROUND-STONE, in BLOCK or ASHLAR, of the BEST QUALITY. Prices and cost of transit furnished on application.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities
Depôt—GRANITE WHARF, East Greenwich.
Office—4, Three Crown-square, Borough.

BATH! BATH!! BATH!!
ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, Wilts, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons' Work done and fixing.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

FOREST of DEAN STONE.—Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE.
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, and for every description of stone-masons' work.
That from their "Gouty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, and that from their "Brick-kill" and "Dark-hill" Quarries, is decidedly superior to it.
Prices posted on application, delivered on board vessel or rail, at Lydney, Wall-end of Forest to any port or railway station in the United Kingdom.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

BELLMAN & IVEY,
SCAGLIOLA MARBLE MANUFACTURERS,
14, BUCKINGHAM STREET, FITZROY-SQUARE, LONDON, W.
Execute, in the most workmanlike manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION,
IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.
Also Manufacturers of Superior and Improved Plaster of Paris.

THE NORTH-WESTERN STONE WHARF, Canal Bridge, Camden-town, is the cheapest Stone Wharf in London. Also a large STOCK of all sorts of YORKSHIRE and other STONE. GRANITE CUTTING, &c. PITCHING, always on hand to select from. Self-faced paving at 27s. per 100 feet; 14-inch tooled, ditto, 33s. ditto; 14-inch Hare hill Slate, 33s. ditto; and all kinds of stone, as per sample, can be seen.—W. ARNALL, Proprietor. N.B. Country orders, to ensure punctual attention, must be accompanied by a remittance.

LITTLE CASTERTON FREESTONE.
Apply for prices &c. to
FRANCIS & OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, Stone Yard, New Road, and at the Museum of Practical Geology, Jermyn-street, W.
This stone is raised in blocks of any portable size, and is about four feet in bed. It will stand any weather in any position for water service, and for the cleaning and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and the First-class Medal at the Paris Exhibition.
Twelve tintes of this beautiful material are being prepared upon the process. Architects are therefore requested to see that the name of "MAGNUS" is upon each sheet.
Chimney-pieces, hearth-stones, &c. &c. &c.
A new Illustrated Catalogue of the same, to be had of the Patentee, Stone Works, 39 and 40, Upper Bedford-place, Russell-square, W.C.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons. Prices forwarded and estimates given on application.—Address,
No. 1, BOLD TERRACE, CHESTER.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their friends generally throughout the Kingdom, that they have their
NEW and IMPROVED PRICE LISTS, English Edition, 1862,
Ready for distribution, and which can be had on application.

BLOCK STONE! BLOCK STONE! The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the WILLIAM STONE WHARF, Millwall Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.
SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also NOTE delivered direct from the Quarries to all parts of the Kingdom
The BEST and CHEAPEST STONE-WHARF in LONDON.
Address, SAMUEL TRICKETT, Isle of Dogs, E.
A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 5, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTA WORKS supplied, and ARTISTIC DESIGNS relative to the material forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

POLISHED GRANITE WORKS
ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

VALE of WARDOUR FREE STONE, TISBURY, WILTSHIRE.
T. P. LILLY, Quarryman and Stone Merchant, begs to introduce to the notice of Architects, Contractors, Stone Merchants, and Builders, the FREE STONE raised from the recently opened QUARRIES at TISBURY and the neighbourhood.
Geologically this Stone is identical with the Portland Oolites, and its workable properties present a medium between that material and the Bath stone. Numerous buildings of considerable antiquity attest the durability and texture of the Stone of this district. Amongst these may be cited SALISBURY CATHEDRAL, TISBURY CHURCH, the POULTRY CROSS at SALISBURY, WILTON ABBEY, &c. erected from Chilmark and other Quarries named. Any scale of the same kind of The Vale can be undertaken inches, and blocks of any ordinary size are readily obtained. Some of the beds are nearly white, and others of a cream colour; there is considerable variety in strata, the grain of some of the beds being open, and may particularly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly fitted to stand the action of water, or exposure to those tests which usually affect and disintegrate the more free stone.
Specimens of the Stone may be seen at Messrs. POOLE & SONS, Marble and Stone Works, Great Smith-street, Westminster, S.W.; and in the Museum of Practical Geology, Jermyn-street, Nos. 311 and 313 Strand; and any quantity may be obtained of Messrs KNIGHT & SON, Devon Wharf, Millwall, London, or direct from the Tisbury Quarries.
Orders for Worked Stone carefully executed at the Quarries. Samples forwarded, and any other information may be obtained of
Mr. T. P. LILLY, Gillingham, Dorset.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Drain-pipes, Blood.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be found at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. at the shortest notice.
Country orders promptly attended to.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested, prevented, whether stopped, and hardness to disappear removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Cranbourn-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass, used in building purposes can be procured WHOLESALE at the LOWEST SIZES CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

PATENT and BRITISH PLATE GLASS
JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars forward estimates for any description of Rough or Ornamental Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 33, Soho-square, London.

STAINED GLASS and WALL PAINTING
NOTICE OF REMOVAL.
MESSRS. CLAYTON & BELL,
Late of No. 24a, Cardington-street, Euston-square,
Have removed to
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution)
Premises admirably adapted for the manufacture of their works in connection with their old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London W.

STAINED GLASS WINDOWS for CHURCHES and DWELLINGS.
HEATON, BUTLER, & BAYNE
Will forward, post-free, on receipt of Thirty Stamps, their ILLUSTRATED PRICED CATALOGUE of STAINED WINDOWS, with a Treatise on the Principles and Practice of the Art.—Stained Glass Works, 24a, Cardington-street, Hampstead-road, London, N.W.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices on application, or estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of Business card addressed to
R. MEETAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared think for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 8d. per gallon; Boiled Oil, 3s. 9d. per gallon.
Turpentine, 5s 6d per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Eburv-street, and 45, Colesbill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very cheap, and work very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 35, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated
PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
Also Manufacturers of the Patent Indiarubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

KENT'S PAINTING BRUSHES are all stamped G. R. KENT & CO.
And are manufactured solely by G. R. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty four years, and may always be depended upon as the best that can be made.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES
(C. A. Watkin's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.
F. TUCK, Oil and Colour Warehouse, 138, St. Albans-place, Edgware-road, W.

GAS BREEZE, put on board Barges in the River, and the Regent Canal. For price and terms, apply to [MERSON & CO. 8, George-yard, Lombard-street, E.C.

IRON CASTINGS of every description; WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS; IRON WINDOWS, HOT-WATER PIPES, RAIN-WATER PIPES, and GUTTERS, PIPES for GAS and WATER, manufactured by
JAMES HAYWOOD, Junior, Phœnix Foundry, Derby.

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Rods and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tipped Sheets and Tiles for export.
IRON WORK GALVANIZED
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

WARMING by HOT WATER or HOT AIR.
Mr. ALFRED MAY, 359, HIGH HOLBORN, begs to call the attention of Architects and others to his well-selected and extensive assortment of Hot-water Apparatus and Hot air Stoves, adapted for all kinds of public institutions, gentlemen's houses, conservatories, warehouses, shops, &c. Estimates given, and efficiency of the Apparatus warranted.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE.
No 24, Davies street, Three Doors from Oxford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Oil Establishment, No 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London W

FIRE! FIRE!! FIRE!!!—The most effectual means of preserving life from Fire, is by using CLARKE'S PATENT FIRE-PROOF DESCENDING BALCONY. Detailed Drawings, and every information, free by post, on application to CLARKE & CO. 22, Parliament-street, Westminster, S.W.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



EGRAND.

ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

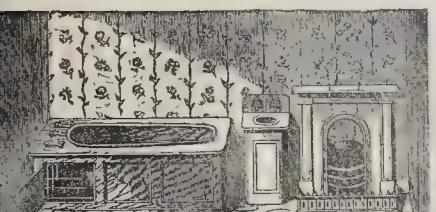
GATES.
CIRCULAR STAIRCASES.
BALCONIES
TOMB RAILING.

VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET. LONDON.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

WILLIAM HOOD'S
GIRDERS for EXTINGUISHING FIRES.



The advantages to be derived from using the Patent Improved Girders are,
In case of fire an immediate and continuous supply of water over all parts of the room in which the fire may be.
The doing away with the necessity of opening any doors or windows to get at the fire.
The application of the hose or extinguishing pipe to the external walls of the building, preventing the possibility of danger to any of the men employed in extinguishing the fire.
The preventing the girders from getting heated, thereby doing away with any expansion or any depreciation in their strength.
RAILWAY FOUNDRY, READING.

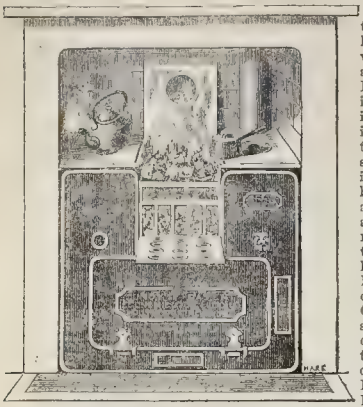
TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS.
THE BRYMBO COMPANY, North Wales,
beg to inform Contractors and others that they have made arrangements to SUPPLY the LONDON MARKET through their Agent, Mr. F. FORD, No. 9, Lawrence Pountney-hill, Cannon-street, City, with
CASTINGS OF FIRST QUALITY,
FROM THEIR OWN SUPERIOR IRON, MADE FROM THE BEST HEMATITE AND ARGILLACEOUS ORES.
All orders promptly attended to, and at moderate prices.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent And in Village Inns.



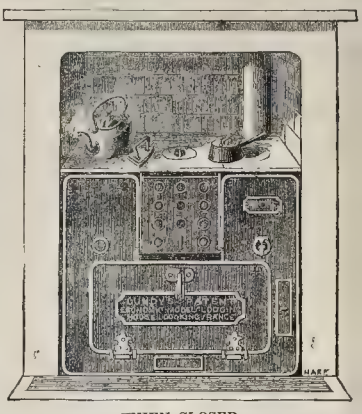
It will [illegible] Churches from Saturday [illegible] Morning Service, without attention during the hours of worship. In halls will burn [illegible] hours for Meetings, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of Three-[illegible] and economy of space, attention, [illegible] cleanliness, durability, and safety [illegible]
Full particulars will be sent on application to the Inventor and Maker,
MUSGRAVE, BROTHERS,
Ann street Iron Works, Belfast.

CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of THE MANUFACTURER,



WHEN CLOSED.

WILLIAM ADDIS, Nos. 6 and 15, LEICESTER-ST. LEICESTER-SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

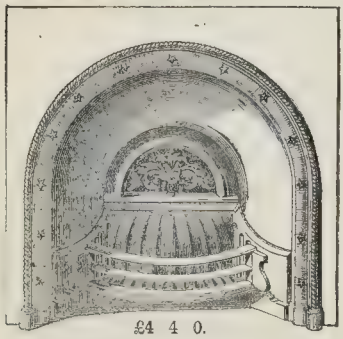
They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

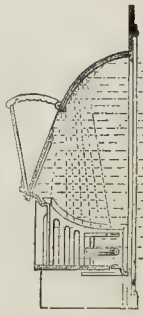
39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.



£4 4 0.

IT is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



STOCK AT No. 159, SHOREDITCH, LONDON.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,

AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,

MANUFACTURERS OF

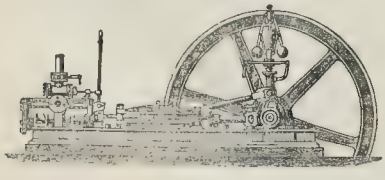
HORIZONTAL AND VERTICAL STEAM-ENGINES,

From 2 to 30-horse power and upwards.

PORTABLE ENGINES, CRAB WINCHES, &c.

SEVERAL ALWAYS READY FOR DELIVERY.

Price List forwarded on application.



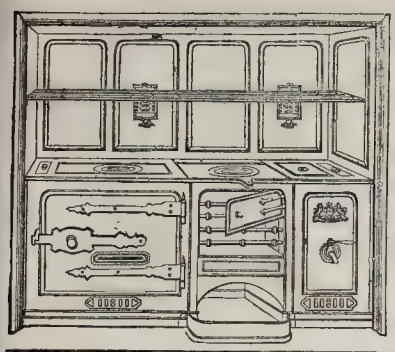
A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

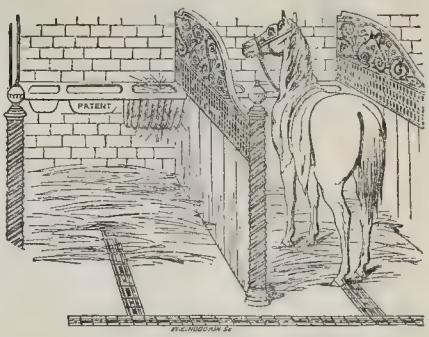
14, Stanhope-street, Clare-market, London.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

RAIN-PIPES, &c.—F. A. TIDDEMAN & CO St. Anne's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large Stock of Rain Pipes, Heads, Shoes, Elbows, &c. Half-round and O-G Gutters, Socket Pipes for Water or Gas, Flange Pipes, Hot Water Pipes and Connections, Sash Weights, and other Castings; Iron-work for Bakers' Ovens of every description, fitted complete, to be had in Sets or in Parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful Crane.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



GALVANIZED IRON AND ZINC WORKS.
GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK.
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.
VAVASSEUR AND CO.
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

GREAT NORTHERN IRON WORKS,
CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.
The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of
IRON-FOUNDERS AND SMITHS.
CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.
PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

MALLEABLE IRON CASTINGS.
RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

SHEET ZINC AND METAL PERFORATING WORKS.
FRANCIS RUMMENS,
PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.
HIGHLY APPROVED ROOFING ZINC,
BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.
ZINC SLATING NAILS.

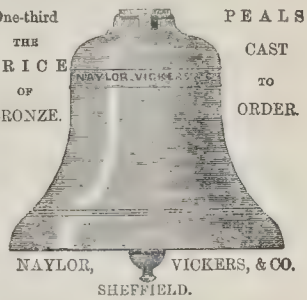
TUPPER & CO.'S GALVANIZED CORRUGATED IRON.

PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.
Ironroofs erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Berkley-street, Birmingham, and Limehouse, London.
LONDON OFFICE—61A, MOORGATE STREET, E.C.

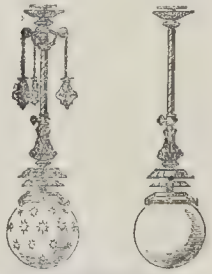


JOHNSTON, BROTHERS,
MEDIEVAL METAL WORKERS
AND GASTITLERS

Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

CAST STEEL BELLS,
One-third THE PRICE OF BRONZE.


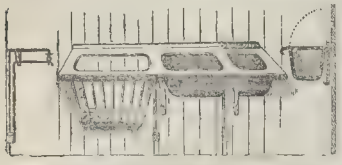
PEALS CAST TO ORDER.
NAYLOR, VICKERS, & CO.
SHEFFIELD.

RICKET'S & HAMMOND'S
GLOBE LIGHT.

A SHADOWLESS GAS BURNER
AGAR STREET, STRAND, LONDON, W.C.

FIRE-PROOF CONSTRUCTION.—
FOX & BARRETT'S PATENT.
This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING of any public or private.
The system combines ECONOMY with great capacity of construction, perfect security from fire, and durability, and many other important advantages.
The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and affording effectual resistance to fire, and presenting a finished surface, either of the concrete flooring-boards, or of cement, asphalte, tiles, slate, or as required.
Some of the largest and most extensive buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the use of timber in the construction of fire-proof buildings, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and warehouses, within the reach of every one.
Further information may be obtained of the Proprietor of the Patent,
MR. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

COTTAM'S
PATENT INVENTIONS FOR STABLE REQUISITES,

Awarded a prize at the Paris Exhibition,
Patronized by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the Kingdom
In use at her Majesty's Stables, Aldershott and Balmoral.

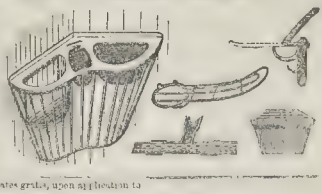


COTTAM & COMPANY, Winsley-street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Water-trough, and Wrought-iron Rack, in one to [illegible] forming one complete and perfect Fixture. [illegible] COTTAM'S Patent Wooden Built Stable and Loose Box Fittings, which are taken to the work of the Carpenter, and fixed with ease and free from dust or dirt.

COTTAM'S NEW PATENT SEED BOX, an important addition to the above fittings, is a simple, convenient, light, and durable, protects dust, waste, and is perfectly dry in its results.

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, a [illegible] to these fittings; it is never in the way, can be placed and replaced in an instant, while its cheapness, simplicity, and utility in keeping the corn [illegible] must recommend it, and regulating the quantity to be taken, as to avoid waste, are its uses.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED



can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT IRON VENTILATING BRACKET presents [illegible] and forms a free admission of air to the under parts of the saddle.

COTTAM'S IMPROVED SURFACE CUTTER, with perforated movable cover, the use of which prevents [illegible], and can be easily cleaned.

COTTAM'S CAST-IRON SANITARY TRAP, [illegible] improved to retain [illegible] water passage, and [illegible] all gases from the drain.

PATENT LOOSE BOX FITTINGS, [illegible] for the harness-room and [illegible], [illegible], and enamelled Iron gates, fencing, hurdles, &c.

Illustrated Catalogues and Estimates given, upon application to

COTTAM & CO. 2, WINSLEY STREET, Oxford Street, London, W.

WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

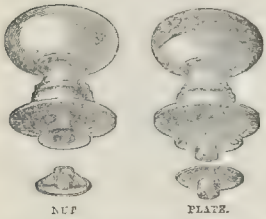
SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co)

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.



NUT PLATE.

We invite particular attention to this PATENT LOCK FURNITURE, which we do not hesitate to say is the only [illegible] manufactured, great improvements having been recently made. It has been extensively tried by [illegible] and proved to [illegible] in Her Majesty's Postal and Civil Service, and [illegible] Locks, and [illegible] Locks [illegible]. It is applicable to all Locks and Furniture, both rim and mortise, and effects a most secure fastening, without any screw in the [illegible] of the knob. Perfect fitting guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New and [illegible] designs in glass, china, brass, [illegible], gilt, carved woods, [illegible], &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass [illegible], always on hand, or supplied for Buildings, of the best quality in materials, at the lowest [illegible] prices.

*** Illustrations and particulars sent upon application.

BELL'S PATENT CAST-IRON SINKS, PLAIN or GALVANIZED.

These [illegible] are perfectly sealed from the escape of effluvia, and cannot get out of order

WROUGHT IRON and STEEL GUDGEONS; WROUGHT IRON SASHES; STABLE FITTINGS, with Patent SPRING TOP GRATINGS; WROUGHT IRON SPADE and DUST BOX POSTS, with REGISTERED HINGES [illegible] Sashes, Rain Pipes, and MOULDED HEADS in Stock, in great variety; Gutters, Coal Plates, &c. at

HOOD & SON'S CASTINGS WAREHOUSE,
68, UPPER THAMES STREET.



BURT AND POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.







PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR-HANDLES.

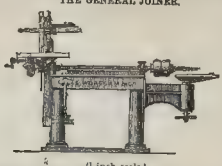


PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY AND CO.
MANUFACTURERS, BIRMINGHAM.

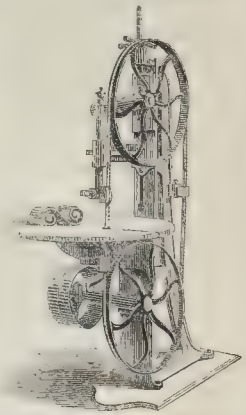
S. WORSSAM & CO.'S PATENT
THE GENERAL JOINER.



(1-inch scale.)

This exceedingly useful and novel machine is adapted for sawing, cross-cutting, grooving, tongueing, rabbeting, tenoning, moulding, and boring; and will be found invaluable in any joiner's or builder's establishment. It is also specially useful for box-making, and is fitted with a slide-plate for squaring the edges of drawers, &c.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

POWIS, JAMES, & CO.
VICTORIA WORKS, BLACKFRIARS ROAD, LONDON.



NEW PATENT ENDLESS BAND SAWING MACHINE (the only patent in the United Kingdom for an improvement in this class of machine). Makers of all kinds of Sawing and Wood Cutting Machinery, steam Engines, &c.—Office, 96, Watling street, London, E.C. where drawings and prices can be had on application.

THOMAS ROBINSON
and SON,
LOUGHBLE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l*.



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.

STABLE PAVING BRICKS.
DAVISON'S IMPROVED.



F. & G. ROSHER, Sole Agents.

These bricks have now been in use for the last ten years, and their [illegible] testify to the advantages in recommending them to the [illegible] of architects, builders, and others.

The great advantages of these bricks over all others for similar purposes,—

1st. Their cheapness. 2nd. Their great durability.

3rd. Their construction, whereby the channels on the surface act as [illegible], rendering the beds dryer, and effecting a CONSIDERABLE SAVING IN THE ITEM OF STRAW BEDDING.

They may be also used with advantage for paving cattle-sheds, coal-houses, yards, &c. Channel bricks to correspond are also supplied.

Prices and all particulars may be obtained on application to Messrs. F. & G. ROSHER, Wick's Wharf, Upper Ground-street, Blackfriars-road, S., and at Kingsland Basin, Kingsland-road, N., where always stocks on hand; or to CHARLES DAVISON & CO. FIRE BRICK and TILE MANUFACTURERS, QUEEN'S FERRY, near FLINT, NORTH WALES.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Burmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c, STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of WROUGHT IRON TUBE and FITTINGS,

FOR **HIGH-PRESSURE-WATER**; OR STEAM.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; ANBLION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturer, 196, Tottenham-court-road, W.

TO CONTRACTORS.

SISSONS & WHITE'S PATENT STEAM PILE DRIVER, the most perfect and economical piling machine to which steam has been applied. Description and testimonials sent on application to 8, Station-terrace, Hull.

Extract from a Report of a Paper on Pile Driving, read before the Society of Civil Engineers, by Mr. W. F. Bryant, of the Westminster-bridge works, December 9th, 1859:—"Pile-driving by steam power was next treated of, the author describing some of the most important machines which have been invented, preferring 'Sissons & White's' as being the most economical and practically useful."



SMOKY CHIMNEYS.—The best Cure is the PATENT ALBERT CHIMNEY CAP, 360 on Buckingham Palace; in use also at St. James's Palace, Windsor Castle, Government buildings, mansions, halls, club-houses, and buildings in general. Prospectuses on receipt of two postage stamps.

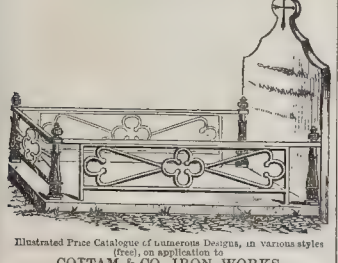
JAMES BARTON,
Iron Works, 370, Oxford-street, W.
N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircase, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES,
COMMUNION RAILINGS, SCREENS, GATES, &c.



Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY STREET, OXFORD STREET, LONDON, W.

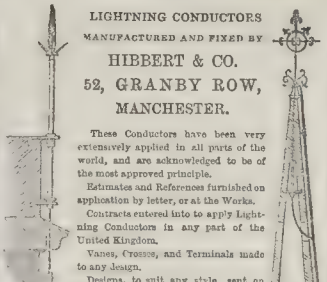
DEVAUX'S PURE THICK ROOFING ZINC laid upon Mr Edmeston's principle to insure durability, by
D. HAYWARD,
LONDON ZINC WORKS, No. 97, Blackman-street, Borough.

LIGHTNING CONDUCTORS.—R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d.	per foot.
Half-inch diameter	1s. 6d.	"
Five-eighths-inch diameter	2s. 0d.	"

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices:—130, Strand, London.
" Gateshead-on-Tyne.
" 27, Dale-street, Manchester.
" 68, Anderson-quay, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style, sent on application.



GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
TRADE MARK. Wolverhampton, Staffordshire.

HEATING BY HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.

Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

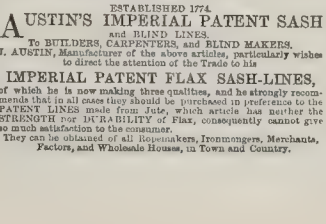
PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, for great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in several feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr ALEXANDER YOUNG, 14A, Cannon-street, London, E.C.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanised; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London, E.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery, of every description, at the LOWEST BIRMINGHAM PRICES.

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street, London, E.C.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also, Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Concert or Dancing Rooms, Theatres, &c. suitable to all Climates, fixed complete, in town or country, or packed for exportation.

For Designs and Estimates apply to

RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

TRADE MARK.

CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse 81, Upper Ground street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Prince-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.

N.B.—The usual discount to builders and the trade.

VENTILATION.—M'KINNELL'S PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its avoidance of draughts, and its being ordinarily regulable by the very air flowing imperceptibly inwards, while the heavier products of respiration and combustion are simultaneously carried off. It has been applied in many of the Royal Buildings at Windsor, the Government Offices in London, and extensively in churches, public halls, schools, offices, dwelling-houses, factories, stables, and other shops for which it has been adopted by her Majesty's Emigration Commissioners.—Patentee, JOHN M'KINNELL, 15, Langham-place, London, W. Description and testimonials on receipt of one stamp.

TO BUILDERS, CONTRACTORS, and OTHERS.—FOR SALE, a THREE-HORSE PORTABLE STEAM-ENGINE.—Apply to H. R. 56, Holland-street, Blackfriars, S.E.

WANTED, a SECOND-HAND CRANE, to lift from six to eight tons.—Apply to Messrs. HEWETT & HALL, Coleford, Gloucestershire.

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

WALKER'S CORRUGATED IRON.
WALKER & SPARKS,
Formerly JOHN WALKER, Son of the Inventor and Patentee Corrugated Iron, Manufacturers of PATENT CORRUGATED ROOFS, CHURCHES, CHAPELS, FARM and other BUILDINGS, Galvanized or Painted.
WROUGHT IRON PRINCIPAL ROOFS, GIRDERS, SUSPENSION-BRIDGES, &c. &c.
PLAIN and CORRUGATED GALVANIZED IRON MERCHANT IRON-FOUNDERS, and GENERAL CONTRACTORS.
For Drawings, Plans, Estimates, &c. Apply at their Offices, 32, KING WILLIAM-STREET, LONDON BRIDGE.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient Instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

PATENT WROUGHT IRON WINDOWS, manufactured by the GENERAL IRON FOUNDRY COMPANY (Limited). HENRY ROGERS, Manager. Upton Wharf, and No. 43, Upper Thames street, London. These windows combine the advantages of great strength with lightness and cheapness, and they have been very highly approved by many of the most eminent architects of the day. They are peculiarly well adapted for factories, railway stations, prisons, and lunatic asylums, and also for exportation, as it is impossible to break them by fair means. Lists of prices can be had on application.

"ALLEN'S" PATENT SMOKE CONSUMING APPARATUS and REGULATING VALVE. This valve is the simplest and cheapest of all the inventions yet introduced for the purpose of effecting more perfect combustion of fuel, in all kinds of furnaces. Testimonials of the highest possible character are gladly given by the parties who have them in operation.—Price, No. 1, 3l. 3s.; No. 2, 3l. 10s. for Trace-door complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN-TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have met with unqualified approval. The articles may be had of all Ironmongers, and of the General Iron Foundry Company (Limited), 43, Upper Thames-street, Makers of Gas and Water Pipes, Hot Water Pipes and Connections, Chemical and Soap Pans, Furnace-bars, and all other kinds of Castings, for manufacturing and building purposes

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

PUBLIC AND PRIVATE BUILDINGS OR ROOMS DECORATED IN ANY STYLE.

DRAWINGS AND ESTIMATES FURNISHED FOR NEW WORKS.

ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION.

PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

WHITE AND PARLBY'S

NEW ILLUSTRATED CATALOGUE OF PAPIER MACHE AND CARTON PIERRE ENRICHMENTS.

PARTS I. TO V. NOW READY, EITHER OF WHICH WILL BE FORWARDED POST FREE, ON RECEIPT OF TWELVE STAMPS. SPECIMEN SHEET, WITH PARTICULARS, SENT ON APPLICATION, ENCLOSING POSTAGE STAMP.

WHITE AND PARLBY,

49 & 50, GREAT MARYLEBONE STREET, LONDON, W.

VIEILLE MONTAGNE ROOFING ZINC.

Messrs. CHARLES DEVAUX & CO. 62, King William-street, London Bridge, Bankers and Consignees of the Vieille Montagne Zinc Mining Company, finding that the Roofing Zinc stamped with their name, conjointly with the name of the Vieille Montagne Zinc Mining Company, is becoming in great demand, think it necessary to remind Architects, Engineers, and the Public, that their Architect, Mr. EDMESTON, of 5, Crown-court, Old Broad-street, E.C. will, at all times when required, give information on behalf of Messrs. DEVAUX & CO. as to the right system of laying the metal so as to insure durability; and, unless proper precautions are taken, failure may very possibly take place.

A competent person is specially employed by Messrs. DEVAUX & CO. whose business it is to be prepared at all times to call with models, and to give explanations when requested. Messrs. Devaux & Co. give no preference to any zinc worker, requiring only as far as they can, that the right mode of laying the zinc is adhered to wherever it is laid; they have for that purpose taken up the foregoing business on behalf of their correspondents, La Vieille Montagne Company.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,

12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte« from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil, covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

N.B.—WHITE ZINC DOES NOT REQUIRE BOND AND SURETIES ON EXPORTATION, NOT BEING CONTRABAND OF WAR, LIKE WHITE LEAD.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF CRYSTAL, BRASS, AND ORMOLU CHANDELIERS,

WORKS, LONDON AND BIRMINGHAM.

SHOW-ROOMS, 147, HOUNDSDITCH, CITY.

Estimates and Designs for Lighting Theatres, Concert-rooms, and Public Buildings, forwarded free.

THE QUARTERLY REVIEW, No. CCXXI. will be published NEXT WEEK.

CONTENTS :—

I. RAILWAY CONTROL.
II. THE PRINCESS CHARLOTTE.
III. POPULAR EDUCATION. THE NEW CODE.
IV. ICELAND—THE CHANGE OF FAITH.
V. THE LATE PRINCE CONSORT.
VI. SPAIN AS IT IS.
VII. LORD CASTLEREAGH.
VIII. THE AMERICAN CRISIS.

JOHN MURRAY, Albemarle-street.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or removed, as well as re-voiced and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

BUILDERS, CONTRACTORS, and OTHERS, requiring Designs, Working Drawings, Specifications, Surveys, &c. on moderate terms, can meet with a gentleman of large experience by addressing to A. B. C. Mr. Ingram, News-office, 59, Charles-street, Westminster

T. PETTITT & CO. LITHOGRAPHERS and GENERAL PRINTERS, Frith-street, Soho-square, W. beg to inform Surveyors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary speed and accuracy, and most respectfully solicit a trial. A scale of charges and specimens submitted on application.

To Surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West-end, must be evident from the great convenience it may afford where despatch is required.

Working Drawings and Estate Plans carefully drawn and painted.

Estimates for executing Lithographic and general Printing of every description.

STREET ARCHITECTURE, &c.—To BUILDERS, FREEHOLDERS of ESTATES, CONTRACTORS, and OTHERS. A BUILDING SURVEYOR, of varied experience, will be happy to SUPPLY the above with Designs, Working Drawings, Specifications, Measurement and Valuation of Works, Surveys, &c. on moderate terms, or is open to Take the entire Management of a Building Estate; with which he is practically acquainted. Town or country address, L. at Crabb's Library, Westhumble-grove, Bayswater.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, it us qualifying them to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.

Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.

Lithographers, &c. 5, Ave Maria-lane, E.C.

THE ARCHITECTS', BUILDERS', CIVIL ENGINEERS', and MECHANICAL DRAWING CLASSES.—Offices, 70, Old-street, E.C.—Day Classes, conducted by Mr. T. J. HILL.—Terms, 2l. 2s. per quarter: Evening Classes, by W. J. W. YOUNG.—Terms, 1l. 1s. per quarter. These Classes are now open for 1862, every day and evening, except Saturday. Quarters commences from date of entering. Subjects taught:—Architectural, Mechanical, Ornamental, and Perspective Drawing; Working, Detail, and Colour Drawing, Taking out Quantities, &c.—Prospectuses free.

CIVIL ENGINEERING, ARCHITECTURE, and SURVEYING. Mr. WINDER, 18, Abingdon-street, Westminster, continues to execute DESIGNS, take out Quantities, and make Valuations for Dilapidations, and all works in the above professions, at moderate charges, and with accuracy and despatch.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

GAS COMPANIES, GASFITTERS, AND PLUMBERS CAN BE SUPPLIED WITH

SCOTT'S NEW PATENT LEATHER-WASHERS, for union-joints, high-pressure water-taps, and screw-joints in general, at 3s. per thousand, in ½, ¾, ¾, and 1 inch diameters. As "time is money," when rightly employed, the Patentee remarks that a considerable saving is ensured by having WASHERS ALWAYS AT HAND, ready cut, in every size, and sorted thicknesses, ensuring an exact fit without any TRIMMING after.—Manufactured only by the Patent S. L. B. Company, Worcester, and supplied to the Trade by all Wholesale Factors and Warehouses.

DRAWING MODELS.—J. D. HARDING'S, complete in hard wood, 1l. 11s. 6d.—WINSOR & NEWTON, 38, Rathbone-place, London, and all Artists' Colourmen.

DREDGER TO LET.—A DREDGING-BOAT, in excellent repair, fitted with Machinery, combining all the latest improvements; will dredge 8 feet deep, and is well calculated for River work; width does not exceed 11 feet; draught of water, 3 feet. Now lying at Peterborough, and may be seen by applying to Mr. WILLIAM READ, Boat-builder, of that place.—For further particulars, inquire of Mr. GEORGE SIDDONS, Oundle.

FODELL & CO. 8, BATH-STREET, CITY-ROAD, and 12, Grafton-mews, Fitzroy-square, continue to execute LEAD GLAZING FOR CHURCHES, Chapels, &c. in quarry or geometrical patterns, at the LOWEST PRICES. Estimates and patterns forwarded, on application, to any part of the country. Church Leads, 30s. per cwt.; Pret Leads, 27s. per cwt. for cash. All orders for lead to be sent to 15, Grafton-mews, Fitzroy-square.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES.

CARY & PRIER,

DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.

H. PIGGOTT,

89, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, "as made by E. GOUGH & CO. the original patentees, and used exclusively by them at the Houses of Parliament, and numerous other public offices," is especially adapted for churches, offices, chambers, shops, halls, passages, and hospitals, being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, 12, Bush-lane, Cannon street. Manufactory: Greenwich-road.

The Builder.

VOL. XX.—No. 988.

A Fresh Glance at the Building for the International Exhibition.

WE must all feel a new, though perhaps unspoken, interest in the fortunes of the Great International Exhibition. Few will place their feet within its portals without a sense of loss—a sensation that the head stone of the corner is missing. But out of this very feeling, the success of the undertaking is ensured. Every individual visit, from that of the highest to that of the lowest, will represent, so to speak, the stone thrown upon the cairn—the unit that will render the whole a fitting monument of respect to the Prince who made the scheme of international exhibitions his own.

The events upon which the year closed in were certainly of a nature to raise the gravest doubts as to the success of the undertaking. Apart from the prospect of our own rupture with America—which now, happily, appears to be remote—the American difficulties were telling upon us in the necessary re-adjustment of our commerce consequent upon the veering of our Atlantic traffic towards India and the colonies. Many trades suffer by this change; and all must feel it to some extent. But the leisure thus enforced has, we know, been turned to advantage on many sides by the manufacture of objects demanding extraordinary skill in manipulation; so that, in this way, we may, after all, be gainers by the turn things have taken. Europe is looking forward to the World's Fair with undiminished curiosity and expectation; and France, especially in the costly manner in which her courts are to be fitted up—with back-ground of mirrors and consistent decorations,—shows that a rivalry may be expected from her sons that should stimulate the best efforts of our manufacturers.

The building in which the Exhibition is to be held is, of course, becoming more and more an object of attention, and much is now to be seen there that will interest our readers. The first effect on entering the building falls more upon the ear than upon the eye. There is a clanging vibratory roar as of a vast iron shipbuilding yard, a railway terminus, and a midland county manufactory, all in full career under one roof: then various distinct noises can be clearly made out,—the driving of nails into wood, with the preliminary tapping, followed by the full hammering that sends them home; the silvery ring of innumerable trowels; the chipping of bricks; the dull splash of plaster, with the gondolier-like chanting of the men who have close and comfortable quarters, such as generally fall to the plasterer's lot; the shrill screams and hissing steam from stationary engines; the clanking of iron; the rumbling of carts. Then the eye begins to take in impressions. These are, at first, almost droll. Pieces of iron of every size and shape are lying about in heaps, all lettered and numbered, ready to be fitted into their places. In the vastness of the building these appear of diminutive proportions; but on trying to lift some of them their colossal length and weight are evident. Many of these pieces of iron are of the oddest shapes, such as we might suppose young Vulcan had for playthings. Bolts, round-headed and wormed, like the staves of special constables; pieces into which the bolts go like great stair-rod eyes; others flanged and hooked, as though intended to draw teeth; rings of iron of all sizes, breadths, and thicknesses, some like the collars of ship-masts, others like great quoits, some plain, others bored with holes. Then there is an immense monkey, of gorilla proportions, for pile-driving, lying useless on the floor, its occupation gone; and iron nuts strung on wire rods like beads upon a string; piles of nut-plates; grindstones; casks of oil; casks of tar; casks of putty; iron bracket pieces; ladders ninety rounds high; lengths of iron split at one end, tuning-fork fashion; others rounded, flanged, and rebated, rebated and flanged, and double flanged; iron rods shaped like pincers at one end, with a nut and screw at the other; iron rods flanged and shaped like toddy-ladles with long handles; great pieces of iron, arrow-headed and flanged, like so many battering-rams; boxes of glass, and piles of sash-bars are among the oddments lying about on all sides. An enormous travelling scaffold, on twelve wheels, occupying three sets of rails, each of 18 feet gauge, fills in the width and 80 feet of the height of the great central nave, and is moved backwards or forwards on the rails as it is wanted, so that all parts of the sides and roof of the nave can be easily reached. This is in form like the Mediæval war-engine, called the cat, which was placed over moats to get at the parapets of castle walls, and was provided with flying bridges, or scaffold stages, capable of being adjusted to any height; and it also calls to mind the lofty permanent wooden scaffold on drum-wheels in St. Peter's, Rome, that is kept and used for the purpose of cleaning the ceilings. A little farther on, a monstrous Catherine-wheel-like framework, some 50 feet in diameter, calls the attention, and proves to be the complete framework of a gable end. More striking still are the great diagonal girders, forming, in heraldic phrase, a cross saltire, on which are being framed the double staircases to get at the galleries, and whose straddling form serves the two-fold purpose of a brace to the structure, as well as of a groundwork for the staircases. And so by degrees the eye takes in the specialities of the building.

As we pass, the co-operative nature of the work is noticeable. The girders of roofs and floors and iron columns, when fixed, serve as scaffolds whence to fix more, and for slinging cages in which to move men up and down; and the floors of galleries and basements do double duty as drawing-boards. The grasp with which our modern appliances are brought to bear is also noteworthy—gas and water are laid on, railways and tramways laid down, and turn-tables, and every other mechanical contrivance for the saving of hard labour, thought of and used.

The feeding of the building is going on all day. Large waggons, with the names of Kelk & Lucas painted upon them, drawn by handsome dray-horses, are bringing in supplies that appear inexhaustible. Foundries, factories, and workshops, in different parts of London, furnish various materials, and these are also continually flowing in. The supply of material, indeed, is one of the wonders of the work, and gives rise to the conclusion that, should there be any delay in the finishing of the building, it cannot possibly be imputed to any failure in this department. As the respective trades are following up each other as closely as possible,—the carpenter coming quickly upon the bricklayer and smith,—the glazier keeping close up to him, and the painter pressing onwards close upon the heels of all,—the labour department on the spot would appear to be quite as removed from the liability of blame, should the ultimate want of punctuality incur any. But of this we have no fear.

Among curiosities in the way of exigencies on the ground floor are the numerous sheds, a great blacksmith's forge, and the different offices for clerks, of which, that of Mr. Clemence, one of the managers, has glass on all sides, so that he may see what is passing in any direction. There are printed notices here and there which are characteristic of the place and of the operations. Visitors are cautioned not to pass beneath workmen who are engaged above them; and 5*l.* reward is offered for the discovery of the perpetrator of the malicious cutting of the "falls" at the eastern dome, whereby the lives of several workmen were endangered. And there is a notice of a sick and accident fund,—subscription, 2d. per week.

To see 4,000 men at work on one building is a sight worthy of contemplation. Among these skilled men in their allotted places at their allotted tasks, with no shirking anywhere and no driving taskmasters to be seen, there is an appearance of personal interest in the progress of the work that makes the spectacle even more telling. Shipwrights, sailors, ship-carpenters, bricklayers, plasterers, house-carpenters, joiners, coppersmiths, ironsmiths, steelworkers, painters, glaziers, labourers of all nations, are employed in honest labour for honest pay at a season of the year that is often characterised by compulsory idleness of many weeks' duration. By division of labour, and sub-division of contracts, each small set of men in the various trades and departments bring about a great result—all are for progress; and there is no coercion. We cannot but contrast this state of things with the mode in which public works were conducted in the ancient world. Cheops's pyramid, every one has been told, was raised by compulsory labour—100,000 men working at a time in periods of three months' duration. With all this labour it took ten years to construct the road along which to draw the stones, and twenty more to raise the pyramid itself. An inscription upon the pyramid shows us that the bill of fare of the workers consisted of three dishes—radishes, onions, and leeks. The palace of Nero was a work of a similar comprehensive kind to that which we are now viewing, as it contained gardens, lakes, and parks within its walls. The principal entrance was so lofty as to admit of a statue of Nero, 120 feet high, being placed in it; and the principal hall, built in a circular form, possessed a complicated piece of machinery for a ceiling which revolved in imitation of the heavenly motions. But here again this splendour was produced by the practice of the most tyrannical oppression. A third instance might be cited from an incident in the annals of our own country,—the march of Septimus Severus against the Caledonians, in the course of which his legions were obliged to hew their way through intricate forests, to drain marshes on their road, to form bridges over rapid rivers, and to build the famous wall, upon every mile of which was planted a tower, and through every mile of which ran—a rough prescience of the electric telegraph—pipes of brass, so that communications could be made from tower to tower with what, until our own times, was called "incredible rapidity." But all this was effected with so much hardship and suffering to the workers, that 50,000 men died of fatigue and sickness. The difference between the unhappy state of these past-away workers and the prosperous condition of the workmen of our own time, is perhaps most apparent on this building at the dinner half-hour, when both the engines employed in hoisting materials to the domes set up a loud scream of three or four minutes' duration, and there is a rush of men and boys, who come sliding down ladders, leaping off planks, and by other unexpected modes lessening the distance between them and their dinners. At the entrances of the building there are men with soup-cans, hot coffee, cakes, beer, and hot potatoes, for sale, towards whom there is a great scramble, so as to get first served; and there are also many women and children bringing their own dinners as well as that of their husband, brother, or father, with whom they thus dine together, although in a rough way. Bread and cheese,

bread and pork, bread and coffee, or a can of soup with hot potatoes, are certainly more nourishing and savoury than the radishes, onions, and garlics, of the ancient Egyptians. But a great improvement could yet be made in the comfort of this meal at very little cost. As it is, the men sit about, perched on scaffolds, or squatting on the floors or on the rough materials, under cover or not, as the case may be; while, if the use of a shed or two were provided for the dinner half-hour, the men would be sent back well warmed to their afternoon's work. As it has been ascertained that it will pay so well to feed the visitors who come to see the building when finished, it is rather curious that it has never occurred to any enterprising *restaurant* that it would be a profitable speculation to feed the workmen who are engaged upon its construction. Whilst considering the convenience of the workers, we ought to protest against the publicity of the substitute for W.C.s in the northern court—which is simply a long horrible trough, quite exposed at both ends.

The building, as a whole, is fast approaching completion, although on inspection, there appears to be plenty of work yet to be got through. Externally, the easternmost end of the nave has just had the gigantic brick arch rim, the whole width of the nave, turned: the net-work of scaffolding is still up, and a great deal of brickwork above has to be added. The eastern dome is making great progress: all of the wrought-iron plate ribs are fixed at their bases, and completed up to the crown; whilst the remaining ironwork, lettered and numbered, is lying on the ground, waiting to be taken up and placed. The framed and braced partitioning, and the mighty core of scaffolding still occupy the whole of the interior of the dome, so that the internal effect cannot yet be realized. The north-east and south-east transepts are well forward: they are roofed in, and the roofs are covered with felt: the clerestory windows are glazed, and portions of the floors laid. The parts immediately adjoining the domes are, however, of necessity, kept uncovered to permit of the construction of the domes.

The western façade is, perhaps, a tride more forward than the eastern, as more brickwork is finished above the wide arch at this end of the nave; but it is waiting for the further progress of the western dome, which has not so many ribs completed as its sister in the east. The south-west and north-west transepts are equally forward with those of the opposite end, being roofed over, with clerestory windows glazed, and the floors being laid, the junctions of the transepts with the dome being only in arrear, waiting the completion of the dome. The springers of the plate iron ribs of the dome, twelve in number, are fixed, and the remaining portions of the ribs are ready on the ground below; but the hoisting and placing them are works of time, care, and difficulty. Men are stationed below, with red and blue flags, to signal to the engine-man, as each piece is raised, to regulate any stoppage or easing that may be required in the process. If the weather should continue as propitious as it has been, there will be little doubt that all will be finished in good time. The ribs once up, the filling in between them will be soon effected. Stepping into the Cromwell-road, the south front of the great arcaded picture gallery appears finished, with the exception of the central portion, where the entrances to the grand staircase are still under the bricklayer's hands. The towers, with their mansard roofs, conical skylights, and ugly parapets, are finished, even to the fixing of the flag-poles in the centre of them, with the exception of the cement decorations with which the cornices and capitals will, we presume, be dressed, seeing that these are roughed for the application of some such covering. The recesses of the arcades are cemented, as the walls are thin, and too near the picture gallery to be trusted alone. The external effects of these recesses, however, so cemented, are anything but sightly contrasts to the excellent brickwork of the rest of the front, and in their present condition are eminently suggestive of the colossal advertising recesses peculiar to railway termini. Experiments are to be tried in these recesses, of the application of external mosaics. We have been long surprised that external mosaics have not been applied in this country before now. The southern courts abutting on the picture galleries are also in an advanced stage; they are roofed, glazed, and floored, and the painters are hard at work. The great nave, which differs in its construction from the rest of the building in having a wooden framed roof, is roofed, boarded, felted and tarred; the clerestory windows are glazed, and the painters are putting on the first coat.

An experiment in the way of decoration has been made in this wise: the principals and front columns are painted a rich salmon colour, with black and white stripes upon the purlins of the roof, and round and diamond-shaped white spots are distributed over the bolt heads, which are surrounded by black dots. This latter ornamentation has but a petty effect. Considerable lightness is given to the boarding of the roofs by painting every three boards, which are laid diagonally, in stripes of cream-white and grey alternately; the rear square upright columns being grey. The theme of the colouring is similar to the Giottoesque decorations at Assisi. To adapt it successfully to the difference of our sky tones, will require the exercise of additional skill. By keeping the horizontal lines of the purlins distinct, the perspective effect would be aided. A little gold in the roof-decoration would have the effect of conveying a required warmth of tone as well as a sense of enrichment that would be further grateful to the eye. Second and third trials—those of a green and yellow-ochre decoration—present a result that cannot be thought of twice.

The only arrear of consequence appears to be in the northern courts and façade, including the space over that allotted to the refectories. The southern arcade of the Royal Horticultural Society's gardens has been lent to the Exhibition for refreshment-rooms; and we most highly commend this arrangement. As this arcade faces the north, and overlooks the beautiful gardens of the Society, the refreshment-rooms will be cool and very pleasant in the summer. The army of bricklayers at work at these points, principally on the high northern wall of the northern courts, have good reason to be thankful, as also should be the workers at the exposed elevations of the domes, that the mild weather—the thermometer at forty degrees on the 1st of January—modifies the biting cold the northern aspect of their work might have caused them to endure. The girders and roofing are here as much behind-hand as the brickwork. The columniated opening which forms the entrance to the Horticultural Gardens is also backward; for although the stone columns are in their places, covered with shavings and wood—looking like rare monoliths yet in packing-cases,—the roofing and upper parts of the walls are unfinished. The long aisles attached to the north-west end of the main building, called the Annexe—illustrated in our pages—are all roofed in, and an additional annexe is now being formed at the north-east end of the building, in the same economical form of construction, to provide for the great demand for space.

The general effect within recalls much of the impression produced by the first building, notwithstanding the very sensible differences in the construction and materials. Probably there never has been raised a building where economy has been brought to bear so rigidly upon construction. There does not appear to be a superfluous ounce in the lofty iron pillars, nor in the great spanning girders; or the light tie-rod roofs: and the principals are placed at the greatest possible distance apart that is compatible with a likelihood that they will be able to perform the offices required of them. Yet for the most part all looks satisfactorily sound. One of the least agreeable instances of thrifty economy is observable in the formation of the ground floorings in the southern courts. The dwarf piers which occur at intervals to lessen the bearing of the long joists are formed of brickbats, with packings of odd scraps of wood built up on artificial foundations of shavings, bark strippings from scaffold-poles, and muddy earth.

The whole construction of the ground-floors exhibits instances of near shaving in quantity of material, and hasty workmanship, that are scarcely creditable, if entirely safe. The boarding is rough-sawn and only an inch thick, irregularly laid; and the joisting cut and nailed in the most temporary manner to the sleeper joists—the sleeper piers being formed of bits of material, as we have described. This extremity of economy produces in the mind a sense of weakness, not to say of expectation of early sinkings and inequalities. Whether an impression of weakness upstairs, too, is altogether groundless, will be seen when the galleries are fully tested—as we presume they will be—before the building is thrown open to the public. The flooring throughout is the least satisfactory portion of the workmanship, which is for the most part very good. It must not be supposed, however, that we see nothing to find fault with: the exterior, so far as it can yet be judged of, is monotonous and ugly; while the treatment of architects in the matter was far from being to our satisfaction: but our present purpose is simply to give a notion of the progress that is being made and the aspect the place is taking. It must be considered a very remarkable work, let the objections be what they may.

ON THE CONSERVATION OF ANCIENT ARCHITECTURAL MONUMENTS AND REMAINS.*

IT may, perhaps, appear that I should offer some apology for occupying your attention with a subject at once so trite and so uninviting as that which I have chosen as the title of this paper. If so, I would say in reply, that it was intended for our opening meeting, and that those meetings seem to me to demand, as the leading subjects to be discussed at them, matters of vital importance to our art, rather than of an amusing or highly interesting character; and that I hold the subject I have chosen to be, however trite, one of the most pressing importance.

I assume as my starting point that every member of this Institute appreciates the immense value—to any country which possesses a history and a civilization—of the monuments and remains by which that history and civilization are illustrated.

The value of such monuments of the past is greatly enhanced when they illustrate the rise and development of a special style of art; still more so when that style of art is one of great and acknowledged merit; and yet more than all when it is one which has proved worthy of revival and re-development.

Those among us whose taste and education have led them to a more especial appreciation of the art of the ancient world will feel how strongly these remarks apply to the precious monuments and relics of Greece and Rome, and of the countries over which their arts and influence extended. These illustrate a history and a civilization the most wonderful in its character: they illustrate also the development of a style of art the merits of which no one has ever presumed to question, and which has been revived and re-developed in more recent ages; and, as a natural consequence, every relic of these arts, however fragmentary or obscure, is searched out, delineated, and, when possible, protected and preserved, with an amount of zeal and assiduity proportioned to their importance, and which does honour to that modern civilization which so keenly appreciates and rejoices in that of the past.

Should not, however, the same feelings and the same care, zeal, and assiduity be extended to the monuments of our own race and our own country? Have we not a history as glorious and, to us at

* Read by Mr. G. G. Scott, R.A., at the Royal Institute of British Architects, as elsewhere mentioned.

least, as interesting as that of the great nations of antiquity? Have we not a civilization as noble as theirs? and should not the monuments which illustrate that history and civilization be as precious in our eyes as those of Greece or Rome?

Added, however, to the value which these remains ought to possess in our eyes as Englishmen, they possess *intrinsic* claims parallel to those of the works of the great nations of antiquity. They illustrate the development (and especially our own share in it) of a style of architecture as marked in its character as theirs; and the merits of which, though long neglected, are now appreciated and acknowledged by most of us; and have, just as in the case of the Classic styles, led to its revival and re-development.

Let it be clearly understood that I am entering upon no controverted questions,—I am instituting no comparison between the intrinsic merits of the two phases of art,—nor asking any assent to more than the *fact* of their revival. On all such questions we may hold our individual opinions; and yet may all agree to what I wish to lay down as the ground-work of what I desire to say—that our architectural monuments possess claims upon our care and conservation precisely parallel in their nature to that which we accord to those of classic antiquity, but with these two preponderating points in their favour,—that they *are our own* monuments, and that *we* are the parties responsible for their conservation.

I would next bring under your consideration the melancholy fact that, though our country is studded with these relics of the past, they are every year being reduced in number; and that those which remain are constantly subjected to the danger of destruction or deterioration from many different causes; among the chief of which I may enumerate,—

I. Natural decay and dilapidation, which are greatly enhanced by the destructive climate to which they are exposed, and still more by neglect.

II. Wilful destruction and ruthless mutilation, together with alterations suggested by the passing requirements of the day, or by individual caprice.

III. The yet more destructive inroads of *over restoration*.

These three causes or classes of causes threaten, in a degree so imminent and so alarming, the existence, the integrity, and the authenticity of our ancient architectural remains, that I feel it to be high time that this Institute, together with all local architectural and antiquarian societies, should take it into their serious consideration, both severally and jointly, what measures can be adopted to arrest the evil before it be too late.

Our ancient architectural remains may, for the most part, be classified under the following heads:—

I. Mere antiquities—such as Stonehenge, the cromlechs, and many of the remnants of Roman structures; though the latter often contain objects of art, as mosaics, pavements, &c.

II. Ruined buildings, whether ecclesiastical or secular, such as abbeys, castles, &c., &c.

III. Buildings still in use as churches, houses, inhabited castles, &c.

IV. Fragmentary remains embodied in more modern buildings, such as those which usually exist within the precincts of cathedrals, and often in old houses and country mansions; to which class may be added a vast amount of interesting and valuable fragments, mainly of domestic architecture, and often,—though of a simple and even rustic character,—of great practical importance to the student of our old architecture, to be found among our country villages and in the scattered houses of the farmers and the peasantry, as well as other miscellaneous remains.

On the first of these classes,—that of a purely antiquarian character,—I will not trouble you with any remarks, as I think that our antiquaries are sufficiently alive to their value, and exercise a wholesome vigilance in respect of them. It is not in general this class of ancient remains which is most in danger, though it behoves every one who has it in his power to do his very utmost for their preservation.

The second class, however,—that of ruined structures,—is one which demands much and careful consideration; and it is one towards which the salutary vigilance of our Institute and of kindred societies might, with great advantage, be directed.

The very condition of a ruin of necessity involves liability to rapidly increasing decay, and the probability of speedy destruction; and it so happens that two great events in our history—the dissolution of monasteries in the sixteenth and the dismantlement of castles in the seventeenth century—have reduced two important classes of architectural edifices to this hopeless condition.

As regards ruined castles, it fortunately happens that the massiveness of their construction enables them in many instances to offer a fair amount of resistance to the elements; and that the simplicity of their architecture causes them to lose less from mere decay than structures of a more decorative kind.

Such is not, however, always the case; and I would most strongly press upon those who have the charge of those stern historical relics to guard them against the effects of time and mutilation; and upon antiquaries and antiquarian societies to make periodical examinations into their condition, and to advise their proprietors as to such timely works of reparation and sustentation as may arrest the hand of time without tampering with their antiquity: and, if their natural guardians refuse the necessary protection, to raise funds by private subscription for the purpose.

When we come, however, to ecclesiastical ruins, the case becomes infinitely more pressing.

Unlike the great works of defence just alluded to, these edifices were not erected with a view to resisting any but the ordinary causes of destruction to which buildings are subjected. Their structure is comparatively light, and in principle trusts for stability to the nice equipoise of arches and abutments, and presupposes the protection of a roof. It is, therefore, a matter for wonder that, after more than three centuries of exposure, unroofed and uncared for, and though often used to supply materials for surrounding building, their ruined forms should, in so many instances, have reached our time in a condition which enables us in any degree to appreciate their merits or their design.

Happily, however, though great numbers of them have ceased to exist, very many precious remains are left to us; and these, instead of being, like those of castles, stern and almost forbidding in their undecorated grandeur, are for the most part exquisite and highly-finished architectural productions, equally valuable and equally beautiful with our glorious cathedrals; and, in their own phase of art, as classic and as perfect as the remains of antique art which we so much cherish.

Now, the two points to be considered are, first, can we expect these precious fragments to endure much longer? and, if not, what can we do to promote and prolong the continuance of their preservation?

On the first question I fear that the reply cannot be very satisfactory. Those who have for any considerable course of years been in the habit of revisiting any particular ruin can scarcely fail to have observed how sensibly and how surely the course of decay, disintegration, and downfall has progressed, even where there has been no deliberate mutilation.

The decay of the surfaces seems to have of late years redoubled its speed. I have revisited buildings,—and particularly *ruined* buildings,—where twenty years earlier I had been able to make minute sketches of delicate carved work, and found the carving now become unintelligible. In many of the best preserved ruins we find the surfaces of the mouldings and carving covered with an ever-fresh pulverulence. If you visit a building in this exposed condition, after a hard winter, you are sure to find fresh spots where the details have fallen off through the recent frost; and in every ruin there occur, from time to time, slips and downfalls of greater or less importance; showing that, long as they have resisted the assaults of time and weather, there are limits to their duration; and that those limits are by no means distant.

How many of our ruined buildings have lost large portions within the memory of man. The Abbey of St. Augustine, at Canterbury, has lost its great tower within no very distant period; and I myself remember the newspaper notice of the fall of the central tower of Whitby Abbey, carrying away with it large portions of the surrounding building: indeed, such downfalls, if their statistics could be collected, would be found to reach an alarming number and amount; while the silent and yet more fatal progress of decay is every day and every hour eating into the most beautiful and most precious architectural details.

And how could it be otherwise, when walls constructed of small stone and rubble-work are exposed, with no protection but ivy and wall-plants, to the constant action of the most destructive of climates; when every shower penetrates the crumbling mass, and every frost has its full swing in its disintegration; and even the more solid stone, from being kept in a constant state of saturation with water, has every cause of destruction in full and continued operation upon it,—and all this for centuries together?

Nor have these been the sole agents of destruction. Many, indeed the great majority, of our noblest abbey churches, and even some cathedrals, have been taken down for the value of their materials; and those which were left as ruins were, for the most part, spared more because there was no market for their material than for any care for their preservation; and it naturally follows that they would become the quarries which would supply all the petty buildings around them.

Perhaps the most remarkable case of this is at Reading, where the walls of the Abbey have been stripped of their ashlar, both without and within, and the rubble core only left; yet such is its extraordinary strength that it still holds together in perfectly solid and compact masses; and where fragments of the tower long since fell they remain to this day, protruding from the ground at the same angle at which they first reached it, and look like masses of rock cropping out of the earth.

This has been continued in many instances up to our own day; and even now it is occasionally found in a certain degree to hold good, as at Easley Abbey, in Yorkshire, where the lower part of the buttresses appear to have been comparatively recently pulled down, as being the parts most easily got at; while the upper stages, being out of reach, are left unsupported and dragging over the walls which they were built to stay.

For the most part, however, it is neglect and the want of timely care which we have now most to complain of. I heard the other day of a considerable portion of a ruined abbey in Norfolk falling down, and this on the property of a great lord, who, I am sure, would have taken proper precautions had his attention been called to it by any one qualified to give an opinion.

The proprietors of these melancholy yet glorious remains, though valuing and caring for them as picturesque ruins, frequently seem to forget their value as works of art; and to prefer risking their falling to pieces bit by bit to the trifling interference with their picturesque effect which would be incurred by a little timely reparation.

Now, what I wish to bring before you as the practical result of what I have been saying is the absolute necessity for such reparations, if we desire to hand down these precious architectural relics to our successors.

In defining what the nature of such reparations should be, one may use the words of Mr. Ruskin:—

"Take proper care of your monuments, and you will not need to restore them. . . . . Watch an old building with an anxious care: guard it as best you may, and at *any* cost, from the influence of dilapidation. Count its stones as you would jewels of a crown: set watches about it, as if at the gates of a besieged city: bind it together with iron where it loosens: stay it with timber where it declines: do not care about the unsightliness of the aid; better a crutch than a lost limb; and do this tenderly, and reverently, and continually; and many a generation will still be born and pass away beneath its shadow. Its evil day must come at last; but let it come declaredly and openly, and let no dishonouring and false substitute deprive it of the funeral offices of memory."

The great objects of such reparation are, protection against the penetration of water into the walls; support, to prevent downfall from the failure of foundations, abutments, or the sustaining work, whatever it may be; and, lastly (if such a thing be found to be practicable), the preservation of the architectural details by some indurating process which will arrest their decay.

None of these need, if judiciously carried out, materially or permanently affect the picturesqueness of the ruin: and I need hardly say that they *must* be done so as *in no degree at all* to infringe upon the authenticity and genuineness of the work. The case is wholly different from *restoration; protection* and *preservation* being the sole objects.

It would, however, be dangerous even for such works as these to be carried out by ignorant persons. They demand the careful vigilance of the antiquary and the architect, to see that the value of the remains is not injured.

It seems to me that there ought to be a kind of *vigilance committee* appointed for every district by our Institute, in conjunction with antiquarian societies, whether general or local; that these committees should not only themselves take every opportunity, whether collectively or by their individual members, of inspecting every architectural ruin within their district; but should take public measures for inviting information and suggestions respecting them; that they should from time to

time report to the proprietors of such remains, and suggest what reparation is needed; and that they should take measures for obtaining funds for them when they find that such aid is necessary. They should also obtain permission to direct what is to be done, and to have a *veto* upon anything which would be injurious.

For protection against the admission of wet from the top of the walls, much could be done by coating them roughly on the parts invisible from below with a concrete of cement and fine gravel; by resetting loose stones in cement; by filling in with the same material cavities and open joints, cracks, &c.; always taking care, so far as possible, to do this in a manner little, if at all, visible from below. In extreme cases, where arches threaten ruin, it may be desirable to go the length of erecting centres below, and rectifying them, and filling in the joints with cement.

When any large mass of a wall threatens to fall, shores should be applied, the foundations examined and strengthened, if necessary, loose stones keyed in, open joints filled, and, in very bad cases, bonded; but this should be done under the eye of a person who has a feeling for the work, both on its own account and as a picturesque object, so as to avoid any unsightly tampering with the old work. The only cases where such is necessary seem those in which the shattered piers or walls are insufficient for the weight they have to bear. In such cases they must be underbuilt, buttressed, or propped in the same way. Here it will be best to make the new work rough and of old materials, but in no degree to mask it, but rather to make it manifest that it is only added to sustain the original structure.

It is clear that in such cases it will be best to call in an architect, provided he is one who has an earnest care for the conservation of the work, and a full appreciation of the value of its authenticity.

I may here mention that the west front of Croyland Abbey, which threatened immediate fall, has been of late rendered, as I hope, permanently secure by means of repairs, such as those alone suggested, carried out under the influence of the Lincolnshire Architectural Society.

The importance of applying to the finer details a preservative and indurating solution, if such is to be found, is almost as great as that of the upholding of the masses: the pulverization of the surface seems in many cases to be going on at a constantly accelerating pace, and threatens the speedy loss of the true forms of the mouldings and the sculpture. At Fountains Abbey, perhaps the best cared-for of all these remains, I have observed the constant degradation of the mouldings from this cause: if we could save them by such a process, it would be worth anything.

In the interior of Westminster Abbey, I am gradually indurating the mouldering stone in its present state, and securing it (as I hope), from further decay; and it is not unreasonable to hope that a process will be found which will do the same for external work.

Besides, however, doing what is possible for the conservation of these invaluable remains, we ought also to see that there is no part of them which has not been thoroughly and carefully represented and measured.

I think a society ought to be formed, or a united effort made by different existing societies, for the perfect delineation of our ruined buildings. A good deal has been done by Mr. Sharpe, Mr. Potter, and a few others; but the thing has never systematically been taken in hand.

Now that we understand and appreciate the value of the remains of our ancient architecture, it is a standing disgrace to us that we allow them to remain without perfect and authentic illustrations being made of the whole and of every detail; and, where it can be done without disfigurement and without endangering the tender and pulverizing surface, a cast should be taken of every carved and sculptured portion, which should be deposited in some permanent national collection, with a full description of the parts to which it belongs.

Photography may also be most usefully brought to bear upon the subject, but must not be implicitly trusted to, on account of the uncertainty of its duration; but whatever the modes adopted, it will be monstrous if we allow the most valuable of our ancient architectural remains to become disintegrated, and their exquisite details lost, without having placed upon record perfect and absolutely authentic representations of every portion of them.

Let us prolong their existence to the utmost limit, but, at the same time, provide against their dissolution by perpetuating their designs, in some form which will exist after the glorious originals have passed away, or become unintelligible from decay.

I now come to the third class of ancient remains—buildings still in use.

Here we come at once within the region of controversy, of animadversion, and regret; for here we have united in one *all* the causes of destruction and deterioration,—natural decay, neglect, wilful destruction and mutilation, and the now so prevalent operation of *over-restoration*.

I must beg, before I proceed, that it may be clearly understood that, in any criticisms I may express on the course followed by others, I do not wish or expect to exempt myself from equal blame where I deserve it. *We are all of us offenders in this matter;* and to abstain from speaking plainly, lest we should be ourselves blamed, will be a course at once cowardly, and treasonable against those principles which one every day more strongly sees to be right, however conscious one is of continual departure from them.

In speaking of ruined buildings, I have fully and cordially adopted Mr. Ruskin's principle of mere *sustentation*. For such remains it is clearly right. This, however, cannot be strictly acted upon in dealing with churches and other buildings still in use.

Viewing them solely as original architectural remains, one would desire, were it possible, that the same abstinence from all but mere upholding should be applied to them; but, in the first place, it is clearly wrong to treat the houses of God as mere architectural specimens to be stereotyped in their present state of mutilation and decay for our study and instruction; nor, if it could be proved right, would it be possible to convince their guardians that such a course should be followed; nor in the case of houses and other secular buildings, to induce people to inhabit and make use of ruins to gratify our sentiments towards them.

It may, then, be laid down as an absolute certainty, that buildings whose use is continued must be kept in, or put into, a seemly state of reparation; and it is, therefore, both our duty and our interest, instead of opposing what cannot be prevented, to do our best to lay down laws for ourselves, and suggest them to others as guides in carrying out the works which of necessity must be done.

The great principle to start upon is, to preserve the greatest possible amount of ancient work intact; never to renew a feature without necessity; but to preserve everything which is not so decayed as to destroy its value, as an exponent of the original design; never to add new work, except in strict conformity with the evidences of its original form; never to mask over or smarten up old work for the sake of making it conformable with new; never to "restore" carved work or sculpture, but to leave it to speak for itselves; and, generally, to deal with an ancient work as with an object on which we set the greatest value, and the integrity and authenticity of which are matters which we view as of paramount importance.

These principles are, however, much more readily laid down than acted upon;—so much so that, to one who holds them, the process of restoration is one of continual disappointment, vexation, and regret; for, labour as you will to act up to first principles, innumerable hinderances stand in the way of their realization.

Sometimes the stone is found to be so utterly disintegrated that it is with the utmost difficulty, —here a bit and there a bit,—that you can trace out by laborious study what were the original details; and to attempt to keep these bits seems as hopeless as to preserve a body which falls to dust as you look at it.

Sometimes, when this is by no means the case, a barbaric builder, or clerk of works, or an over-zealous clergyman interferes in your absence, and destroys the very objects you have been most labouring to preserve.

A conscientious representative having been blamed for incurring extras in one place, makes up for it in another by introducing, before one is aware of it, a sweeping clause, which condemns quantities of work one meant most religiously to preserve; and, from one cause or another, one is always finding one's intentions more or less frustrated.

Still, however, this is better than acting on no principle at all; or must be better than openly to advocate and act upon those which are decidedly wrong.

However this may be, there is no doubt of the fact that our churches and old buildings are everywhere losing their value, through misdirected and reckless, or at least *overdone* restoration; that it is high time that some public protest be made against it, and some course adopted for its prevention; and that each of us in our own practice should institute a rigorous examination as to what he has done and is doing, with a view to a stern falling back upon true principles, that the churches yet unspoiled may yet be saved.

Here, again, I would suggest the *vigilance committee* already hinted at. It could do *much*, though the works in this case are so many, and so widely spread, that it seems impossible for *all* to be watched.

After all, then, we must look to the architects employed. If they will not labour in the right direction, I fear there is but little hope: and yet, without some stern supervision, I believe that the majority of them *will not do so;* and, further, that they will always be able to adduce such plausible and practical reasons for their destructiveness as to convince their employers that they are in the right.

I am, however, very uncertain whether we do not *all* go upon a very wrong principle in our dealings with ancient churches. I could almost wish the word "*restoration*" expunged from our architectural vocabulary, and that we could be content with the more commonplace term "*reparation*."

We have got into the way of assuming that the "restoration" of a church must, in its own nature be the signal for pulling it to pieces from top to bottom. Not only must substantial repairs be attended to, the foundations underpinned, the strength of the walls looked to, decayed timbers spliced or new ones here and there inserted, the most decayed stones carefully cut out and replaced, the covering made reliable, and the fittings put in seemly order, following and retaining every remnant of what is ancient, the stonework cleaned from its thick coatings of whitewash, and the roofs divested of the concealment of modern ceilings; —but, beyond all this, *everything must be meddled with;* the seating all taken up, floors removed, plastering stripped from the walls; the whole church left for some months at the mercy of the elements by the removal of its roofs; windows which do not please the clergyman or the squire replaced with more pretentious ones,—indeed, the whole thing overhauled, and *radically re-formed* from top to toe.

We all of us, however conservative our views adopt something approaching to this as the normal and necessary view of a restoration; and the chief difference between us is, that, if the architect be at heart earnestly conservative, the church comes out from the ordeal with a certain amount of its ancient self remaining, but with very much of a new garb, or very much of its ancient look, and very many of its interesting ancient features gone; but if his feelings are not conservative, so much the more is there of novelty instilled, and so much the less of antiquity retained in the restored church.

Now, this is really beginning to tell in a *fearful* manner upon the value of our ancient churches, and the interest with which one visits them. One *perfectly longs* after an *untouched* church, though one knows that the state of them is by no means such as a man of good feeling can look at without shame.

Still in them are found our old churches, as they have been *traditionally* handed down to us. True it is, that the exterior is in part mutilated and even disgraced by barbaric alterations; yet one feels that the old work which remains is genuine and untampered with. True, the interior is coated with whitewash, thickened out indefinitely by the repetitions of centuries; but beneath it, we know that the old stonework is as the very workman left it; and, that if carefully scaled off with one's knife, we shall find the distemper decorations of perhaps two or three periods in its thickness. True the roof is decayed, patched, and perhaps hidden by a plaster ceiling; but we know that its timbers were wrought by the very men whose architecture we are studying; and that it is of the utmost value as an original specimen of their work. The floor, it is true, is sunken, worn, and patched with brick; but it contains the half-effaced memorials of those who lived while the church was new, and when parts of it were being built; and in certain corners remain the ancient encaustic tiles. The windows, again, are filled with patched and irregular glazing; but in the heads of the lights are remnants of the stained glass which once filled the whole. The bells are perhaps cracked; yet on them you will find the beautiful fretted border, and the pious, though it may be superstitious, legend.*

* To be continued.

THE BURIAL STATION AND MORTUARY, ON GREAT NORTHERN RAILWAY, AT ISLINGTON.

OF late we have had several opportunities of further noticing the evils which result from this plan which, although much has been said against it, is still commonly in use in connection with the arrangements in the metropolis and other large towns for the interment of the dead. Nevertheless, a marked change for the better is going forward, and we look now with curiosity at the formal costume and observances of Queen Elizabeth and Queen Anne's days.

We see in old drawings and engravings the hideous head-dresses of both men and women, worn on those occasions, and read accounts of the great and useless expense.

Even less than a century ago, in England, Scotland, and Ireland, not only amongst the nobility and gentry, but also the middle and poorer classes, the burial of the dead was often made a matter of ruinous cost, and too often a scene of riot and drunkenness. Hundreds of instances might be given of the bad results of such observances.*

The unseemly ceremonials, the useless pageantry, which were not long ago common amongst persons of high position, are rapidly being abandoned, as is the practice of keeping for a lengthened period before burial the remains of the departed. This is satisfactory, for the example will be extensively followed.

Our readers know the ill arrangement of a vast number of the dwellings which are occupied by multitudes of valuable workpeople and others. The keeping of the dead in such places is dangerous to both health and life. In addition to the number of deaths which occur in the homes of different classes of people, a number die in hospitals, in workhouses, and other public institutions: for the remains of these persons but little suitable provision has hitherto been made; and, in consequence, it is found needful in hundreds of instances to remove dead bodies to undertakers' shops and houses, situate in the midst of thickly-populated neighbourhoods,—to back stables, cellars, and other spots where children and those of tender nature are near: in such dangerous situations the decomposing bodies await a convenient, but, perhaps, distant day of interment. These and other conditions, to which we have often before referred, show the necessity for the provision of central, but at the same time rather isolated, places for the reception of a considerable number of the dead of the metropolis. We therefore willingly take an opportunity of visiting a place which seems to meet one of the present requirements of the day.

We have before referred to the railway arrangements in the Borough, in connection with the Woking Cemetery; and now go to another and more recent establishment of a somewhat similar kind, which has been opened in the York-road (Maiden-lane). Surrounding the cemetery station there are several peculiarly local characteristics. Amongst them are a mountain of ash-dust and other refuse, rows of dilapidated cottages, small and ill-conditioned gardens, with miserable remains of former flowers and trees. Masses of putrid mud form playgrounds for children; and here and there, on poles, are the blackened remains of what have been once gay flags, and weathercocks, of singular device, in front of houses, which, although needful to the present dwellers, are really not fit to exist.

The arched entrance, of tall proportions, towers above the dwarfed houses, and leads to grounds of some extent, which, ere long, will be planted with trees, &c. The building is of large size, and stands upon a siding connected with the Great Northern line. The general architectural features of the building are sufficiently good, and the application of brickwork of various colours in the details is worthy of notice. The interior arrangements are also good. In the reception front there are entrances to the offices. One doorway leads to an apartment; and in the centre of this hall is a space for the reception of coffins: then by means of a machine, worked by hydraulic power, the remains of the dead are lowered, slowly and silently, to a place below, which communicates with the Mortuary, when necessary, or with the platform of the Railway Station. In other parts of the building there are numerous and neatly-fitted rooms for the use of different bands of mourners: there is also a general reception-room. The various coffins having been placed in the railway hearse,—if it may be so called,—the mourners are ushered through a corridor, which is lighted by grey and lightly-tinted glass; and placed in carriages; and in fifteen minutes from the time of this train starting from the station it reaches that of the Cemetery at Colney Hatch. Then each coffin is placed upon a bier, which moves upon wheels, followed by the friends of the deceased to the chapel and the grave. All this ceremonial is managed in a most orderly manner. The chapel is spacious, and the station extensive; and as time goes on the general appearance will be improved by the growth of trees, &c.

It is to the Mortuary, a large apartment, and which is decorated with stained-glass windows and other architectural decorations, we now wish to direct particular attention. This place is appointed for the reception of bodies, where they can remain until the day fixed for the funeral. Unlike the arrangements which we have already mentioned, the Mortuary, being at a distance from dwellings, is not dangerous. It is lighted at night by gas-burners, which also serve to carry the air up a shaft, which is provided for the purpose of ventilation. At all times a provision of this kind is needed in large towns, but it is especially so in seasons of pestilential sickness. It is difficult to get a movement made in a new direction; and in order to remove prejudice we strongly urge, particularly the working classes, to look at the arrangements which are here provided.

* It is related on one occasion in the Highlands of Scotland, that so powerful had proved the funeral drinks, that those mourners who had, with difficulty, managed to reach the distant grave, found that the body of their deceased friend had been forgotten and left behind.

TYPHOID FEVERS AND THEIR CAUSES.

PREVENTIVE MEASURES.

THE general and anxious attention now given to the subject of sewage and all connected with it in a sanitary point of view, and especially to its admitted relationship to fevers of the typhoid class, in itself constitutes a gratifying tribute to those unceasing efforts with which the *Builder* has for many a year laboured to produce precisely such a public opinion as now prevails on this very subject. And now, too, instead of having even medical authorities endeavouring to characterize these efforts as useless or mistaken in their aim,—as when we ventured to include scarlet fever as being within the range of the pythogenic class, and ascribable to decomposing organic agencies,—we have medical men, such as the editor of the *Medical Times*, admitting that "the experience of most medical officers of health leads to the conclusion that the origin of scarlet fever is closely allied with that of typhoid; although the scarlet, when once generated, spreads rapidly by contagion; whereas the typhoid, although it may be contagious in certain bad cases, is usually not so: it is also closely allied [he adds] to the causes of diarrhœa." As quoted by us last week too, we find another medical man declaring that scarletina is usually produced by the same causes as those of typhoid fever.

And neither is it contaminated air alone which is productive of such fevers; for water similarly poisoned by decomposing animal or other organic matter is productive of the like evils; and the immense importance of pure air and pure water is becoming more and more fully appreciated by medical authorities, and by the public in general. In the case of Windsor Castle, therefore, the purity of the water used, no less than of the air breathed, requires to be closely looked to. As to the air, could not the test, so successfully applied by Dr. Angus Smith, at Manchester and elsewhere, be brought to bear upon the discovery of the hidden source of contamination which in all probability exists there? At Manchester it was found that this test indicated the finest shades of contamination; so that, as the experimenters retreated from its source, even the rate of diminution was indicated; and, when some local centre accidentally intervened, a renewed increase also indicated its intervention. It may be that the contamination of the air at Windsor Castle is not gross enough to be appreciable by the nostrils; but such a test as this could surely form a very adequate substitute in leading the inquirers to the source of contamination. That bad smells, however, *have*, ever and anon, been complained of at Windsor Castle, and in the Royal apartments too, is distinctly asserted; and if so, the discovery of the fever source ought to be all the more readily made. A contamination of the air which gives no sensible smell may be less injurious than one offensively sensible; but the difference is simply one in *time* merely, much more than anything else; so that human blood exposed say for twice the time to a contamination of the air of half the intensity, may be as effectually poisoned as if it were exposed to air twice as bad for half the time. A case occurred, we recollect, some years since, in which a sudden liberation of noxious gases from a sewer in Longacre at once killed a man as if he had been shot. This is the one extreme; but the same quantity of the like poison, breathed in the course of weeks, will still produce a result quite as deadly, though not so startlingly sudden. Such must have been the Prince Consort's sad fate, as it is the well-known fate of thousands year after year. That the science of medicine was not in a sufficient state of advancement to save the Prince's life was but too evident; and, so long as such is the case, our chief hope of saving life from typhoid fevers must depend on preventive measures directed to outward purification. We do not mean to reflect on the eminent medical men who "treated" the lamentable case about which the whole nation is thinking, for this medical ignorance: doubtless they did their best in the present state of their science; but surely this is not a well-chosen opportunity for complimenting them, as the *Medical Times* does, on their *skill*; the *confidence* they deserved to have reposed in them; and the "*fortunate* thing" for the Prince that he was attended by such skilful physicians,—complimentary phrases which look much liker the most subtle and bitter satire. However, our business lies mainly with those who ought to be employed in obviating all such medical shortcomings by hunting out and removing the causes of these at present deadly fevers. And, in still urging the most searching investigation, we must not omit to note the vast importance of thorough and proper ventilation of sewers. At Windsor itself, the discovered cause of the fever cases of 1858 was the fact that the excellent sewerage, of which Mr. Voules so suspiciously boasts, was actually ventilated *into* people's houses. This, too, it may be remembered, was the chief cause of the fever epidemic which occurred at Croydon just after the town had been so nicely drained. Thus may good imperfectly done turn to evil. In such circumstances even the washing out of the sewers by the Thames, at Windsor, to which such prominence is given, might only the more completely force back the foul gases through the sewers and up into the houses.

Deodorizing, combined with ventilating, is another highly important desideratum. Dr. Stenhouse's method of deodorizing sewer gases at gratings, and in closets, &c., by means of charcoal filters, has been tried in the City, and found effectual, according to the authorized reports; but we have not heard much of it lately. The question now, therefore, suggests itself,—has such a method of deodorization, after fair trial, been found worthy of confidence and extension?

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE ordinary meeting of members of the Institute was held on Monday evening last, at the House in Conduit-street.

The chair was taken by the president, Mr. Tite, M.P.

Mr. T. Hayter Lewis (hon. sec.) read a list of donations to the library, including a photographic view of proposed decorations for new Lambeth Bridge, by Mr. Robins; which, it was stated, was the last drawing which had been submitted to his late Royal Highness the Prince Consort.

A vote of thanks was passed to the donors.

The late Prince Consort.

The President observed that the ordinary meeting appointed for Monday, the 16th of December last, had been interrupted, as they were, no doubt, all aware, by an occurrence which had cast general gloom and sorrow on the entire country: he referred to the death of the Prince Consort, who had especial claims upon the respectful consideration of the Institute, having been one of its patrons. It would, no doubt, be within their recollection that her Majesty the Queen was the original patroness; and within about a year after the royal marriage Prince Albert consented to become one of the patrons; and the Institute was one of those associations in which his Royal Highness took a deep personal interest, and at which he had taken the chair. On that occasion, as upon all others when he (Mr. Tite) had had the privilege of meeting his Royal Highness as a man of business, he conducted himself with a dignity, a courtesy, and at the same time a practical attention to the matter in hand, which was one of the remarkable traits in his character; and which induced him, although a German, to enter with a keen personal interest into the manners and customs of his

adopted country. Under these circumstances, the Institute might claim to have had an acquaintance, so to speak, with his Royal Highness, of which few other associations could boast; and they could speak of him as to some extent identified with themselves. In referring to the loss which the country had sustained, he could not but feel that all forms of eulogium had been exhausted; so general and wide-spread was the appreciation of that exalted personage. He could not, therefore, say anything new on the subject. The council of the association had adjourned the meeting appointed for the Monday following his Royal Highness's death; and they had also drawn up an address of condolence to her Majesty, which he (Mr. Tite), as president, had forwarded to Sir George Grey, Home Secretary, for presentation to her Majesty.*

The President, in continuation, said that, before passing to another subject, he might, perhaps, be allowed to refer to an incident in some degree personal to himself, but to which he desired to allude, as illustrating the interest which the late Prince took in all that related to scientific and useful knowledge. Some years ago a number of gentlemen, including Sir James Clark, the late Mr. Dalrymple, the eminent surgeon, and some others (himself among the number), had their attention drawn to the value of scientific chemistry, in a practical form; and an Institute was founded, which subsequently became the College of Chemistry. In that project the Prince Consort took a lively interest; and it was through his instrumentality and especial desire, that Professor Hoffman was induced to come to England.

The International Exhibition Building.

The President observed that he was requested by the council to bring under the notice of the meeting another circumstance. They were, no doubt, aware that lately, at a meeting of the Society of Arts, a paper had been read with reference to the building for the approaching Great International Exhibition, as designed by Captain Fowke. When it became his (Mr. Tite's) duty, as president of the Institute, to address some observations to it at the opening meeting, on the 4th of November last, he stated that he would not criticise the building, but that he protested against the non-employment of an architect. It appeared, however, that, at the meeting of the Society of Arts to which he referred, an attack had been made upon the profession of the architect; and the consequence was that the council had received many letters (and he himself, perhaps, more), requesting them to take up the cudgels in defence of the profession. Now, the council did not think it became them to do anything of the kind. When a boy, he remembered to have heard it said that "calumny and detraction are sparks which, if you do not blow, will go out of themselves." He might also, perhaps, be permitted to paraphrase another maxim, from an inspired writer, wherein we were told not to answer an unwise man in his want of wisdom. He therefore agreed with the council in thinking that they were not called upon to notice the matter. The charge was that many persons had become architects without the incidents that belong to the teaching of architecture; but they were architects just as much; and, in the profession of architecture, as in other pursuits, it was quite possible for men to rise to eminence without the usual advantages supposed to accrue from early professional training and education. It could not, perhaps, be said that a man would be better without that early education; neither did it follow that, because he was deprived of it, he must *à fortiori* be disqualified. Take, for instance, the career of Telford and Rennie (the latter of whom he could just remember). It did not follow that they were any the better because in early life they had been apprenticed to humble pursuits. Neither did it follow that Dr. Lee, of Oxford, the celebrated Oriental scholar, was anything the better because he had been a cobbler; or many other distinguished men, whose names would suggest themselves in almost every walk of life, because they had sprung from small beginnings and ignoble callings. These were simply accidents and incidents, curious in their way, and did not materially affect the question. There was no advantage in having to endure difficulties and struggles which the Royal Institute of British Architects, and other kindred associations, were intended to smooth. But still an architect was an architect, whether he studied in the schools or not; and every one knew what it meant; and an engineer was an engineer, and an Oriental scholar was an Oriental scholar, in the same manner. He mentioned this in order to explain why it was that the Council declined to enter into discussions on the subject, although they had been offered papers, precedents, and suggestions in abundance. Reference had been made at the meeting to one great professor of architecture, who was not present to defend himself,—namely, the late Sir Charles Barry. He (Mr. Tite) did not know that Sir Charles was to blame for the style of the architecture of the New Houses of Parliament, which he was called upon to adopt. On the contrary, he was entitled to great credit for the manner in which he had adapted that peculiar style of architecture to modern requirements. But if Sir Charles had failed a little (although, for his own part, he did not know where his failures were), he did not think he ought to be held up as an illustration of a distinguished failure. Few men of whom he had any knowledge had, in his opinion, proved themselves a greater honour to the profession, or more worthy of the distinctions conferred upon them, than the late Sir Charles Barry. He thought it, therefore, unfair to attack a dead man, and especially one whose loss they had so recently occasion to deplore.

Modern Improvements in Paris.

The President stated that, before passing to the other business of the meeting, he wished to say a few words on a matter personal to himself. In a journal of considerable circulation, and of some political and artistic influence, he found some reference made to the observations which he considered it his duty to make, on the opening night of the session, in reference to the improvements at Paris—improvements which he confessed he did not think so highly of as others. Under the head of "*Notabilia*," in the journal in question, after quoting fairly part of what he had said, the writer went on to state the following, which he did not say, but which was printed so as to lead the reader to suppose that he (Mr. Tite) was the author of the whole:—

"Go into the courts of the new houses (where they have any), and see what they are like: count the windows which take their air and light from them: in some of the worst cases, you will find eighty windows looking into a wall 20 feet square and 70 feet deep. A more striking example still is furnished by the view from the tower of St. Jacques la Boucherie. At your feet run the Rue de Rivoli east and west, and the Boulevard de Sebastopol north and south, each some two miles long, and straight on end, excepting where the latter twists across the Place du Chatelet and the Seine. Directly you look over the parapet you are struck by the extraordinary compression of the houses which form these two great streets. Almost every where else there is a certain little space remaining between the backs of the houses, but behind the splendid buildings which border these gigantic alleys there is no space at all. The houses are packed back to back: they seem all roof. There is only one comparison possible of the scene before you. You fancy at once that an immense plough has driven a furrow down each of the streets, turning up the houses tight against each other right and left, just like clods in an autumn field. Many of them are simple veneers, one room thick. The average surface of court-yard in the two streets is certainly not one-tenth of the whole area. How could it be otherwise? The land is worth 40*l.* a yard. The air has been taken out of the courts and put into the street: the front rooms have more of it than they had before, but the back ones, which are by far the most numerous, have none at all. Now, as the great majority of the 12,000 houses, and not a small proportion of the enlarged old ones, are more or less constructed on this plan, can it be denied that their inhabitants pay something more than a simple money price for the changes effected? Is the privation of air and light to be counted for nothing? The Parisians are not toads or tortoises, and cannot live without breathing or seeing. Those unhealthy houses have often been attacked, but with no result: their dangers were publicly but vainly vindicated in 1857 by the lectures of the Professor of Civil Construction at the Conservatoire des Arts et Métiers, but they go on growing at the rate of thousands a year. Add the certain consequences of this system of lodging to the 319,000,000*l.*, and you have the total price of the improvements of Paris."

These comments, coupled with his observations on Paris improvements, were, in his mind, so true and so witty, that he did not think he ought to take credit for them, although they presented a singular coincidence of opinion between himself and the writer, whoever he might be.

Mr. George Gilbert Scott, R.A., then read a paper "On the Conservation of Ancient Architectural Monuments and Remains" (this will be found in another place).

At the conclusion,

The President said that, under ordinary circumstances, it would be his duty to invite discussion on the very interesting and useful paper which they had just heard read; but, as the hour was so late (nearly ten o'clock), he thought perhaps it would be more desirable to postpone the discussion to a future evening. He was, however, quite in the hands of the meeting, and was prepared to remain in the chair if the meeting should be of opinion that it could do justice to the subject at that moment. He would, however, venture to make one or two remarks in reference to the paper. Mr. Scott had called attention to Mr. Ruskin's opinions as to the preservation of our monuments, but Mr. Ruskin had done more than express an opinion. Some years ago he addressed the Antiquarian Society on the subject; and, at the same time, forwarded a very considerable donation to its funds. The Antiquarian Society took the matter up, and issued a circular inviting the co-operation of local societies in reference to the objects which the Council desired to preserve. He was sorry, however, to say that the Society met with little—indeed, he might say no encouragement; and that, after its best endeavours had been exhausted to promote co-operation, the matter died a natural death. He regretted the event as much as any one, and he did his best to prevent it; and that being so, he feared that Mr. Scott would not succeed in a more extended attempt; but he would be very happy to give him any aid in his power, as he felt the great importance of establishing some such dominant body as that which he had suggested for the care and guardianship of our ancient monuments. It was impossible to move anywhere through the country without being struck with the truth of what Mr. Scott had said with reference to the condition of many of our ancient buildings. No one seemed to care for them; and the result was that they were daily falling into decay, and disappearing from the scene. He could scarcely refer to a more interesting case in point than the marvellous old abbey of Whitby, in Yorkshire. The tower of the church had lately fallen; but he was assured that the expenditure of a very few pounds would have prevented that catastrophe. A few years would also witness the destruction of all that remained of the abbey, unless some attempt were made to sustain it. The exposed situation of the ruins and the decomposing substance of which they were formed would, no doubt, preclude the possibility of saving many of its interesting architectural features; but he referred to the subject merely to show that a very moderate expenditure, if timely applied, would suffice to arrest much of the decay which now threatened the whole pile with destruction. With regard to the vexed question of the nature of "restorations," as raised by Mr. Scott, it was, he thought, a difficult matter to define what were the exact limits to be observed. The canons on the subject laid down by Mr. Scott were of great value; and he hoped that he would print them, and give the profession the benefit of his great and varied experience in the restoration of our ancient churches. With regard to the restorations going on in France, there was no doubt that the French architects possessed marvellous facilities; but there was a recklessness about them which he was happy to say was not to be found in England; and which, perhaps, was to be accounted for by the abundant means placed by the Government at the disposal of those intrusted with the works. There was a gentleman present that evening who perhaps would make some observations as to the system pursued in France; and he should, therefore, call on Mr. Burnell to address them.

Mr. Godwin said that, before Mr. Burnell rose, in compliance with the suggestion of the chairman, he would venture to ask whether the moment had not arrived when the Government might be prepared, at any rate, to appoint a commission for the general examination of, or the obtaining of reports on, the various ancient buildings remaining in the kingdom, in order to ascertain what buildings had guardians, what were left to destruction by time and the elements, and what had been delineated and what had not. As long ago as the time of Joseph Hume, the great Parliamentary economist, exertions were made to induce the Government to establish some depart-

* "*The dutiful Address of the Council of the Royal Institute of British Architects to her Most Gracious Majesty the Queen.*

May it please your Majesty.

The President and Council of the Royal Institute of British Architects, on behalf of themselves and of the other members of their body, desire respectfully to approach your Majesty with the expression of their deep-felt sorrow and sympathy on the recent death of H.R.H. the Prince Consort;—an irreparable loss to your Majesty, to the Royal Family, and to the whole British Empire.

The noble and amiable character of the Prince, as a husband and a father, had won the respect and gratitude of your Majesty's loving subjects. His high intellectual attainments, and promotion of the fine arts, his patronage of science, and his enlightened support of every useful and benevolent work, will render his memory enduring as one of the great benefactors of the nation; and this Institute cannot but lament, in their late patron, a Prince whose loss they feel it impossible to supply.

This Council earnestly pray that your Majesty and the Royal Family may derive every support, under this heavy dispensation of the Almighty, from the consolations of our holy religion, and from the contemplation of the virtues of a Prince so eminently estimable in all the various relations of public and private life."

Signed by the President and Council.

mental authority on the subject, similar to that existing in France; and Mr. Hume, a man of great practical knowledge, whose life was devoted to economy and retrenchment, urged the necessity of such an appointment. Mr. Hume, economist though he was, saw at once that those edifices were money to a nation, that such evidences of history were more valuable than money, and that money could not be better expended than in their maintenance and preservation. It appeared strange, when one called to mind the number of architectural and archæological societies scattered throughout the country, that the desirability of doing something should be discussed so often without any practical result, and that the deplorable work of destruction should go on, day after day. He was of opinion, although many successive Governments had infamously neglected the arts, that, if proper representations were made to the present Government (who had not shown themselves altogether indifferent to the subject), some good might be done towards arresting the decay of many of our most valuable and time-honoured buildings.

Professor Donaldson observed that, in his opinion too, it would be more advisable for the Institute to consider the practical suggestions thrown out by Mr. Scott than to discuss the paper generally. He thought it would be well to approach the First Commissioner of Works, and to ask the Government to have a return made of all the ancient monuments which are under its care. The suggestion of Mr. Godwin was, in his opinion, a very valuable one; for many of the most interesting Mediæval buildings in the country were falling to decay for want of a little timely attention.

Mr. Burnell said that Mr. Scott's paper referred to so much that it was incumbent upon them to inquire into, that, if it met the view of the meeting, he would prefer reserving what he had to say until a future occasion. There were a great many points and practical matters of detail which required to be carefully considered; and they could not conscientiously and practically treat them immediately after hearing the paper read.

The President quite agreed in this; and observed that, as the paper would be printed in the journals which usually noticed their proceedings, an opportunity would be afforded for considering the subject, and discussing it with greater advantage, on a future occasion. He thought, however, they were bound to express to Mr. Scott the sense of their obligation for the time and attention which he had devoted to the subject.

Mr. Digby Wyatt, in proposing a vote of thanks to Mr. Scott, said they must all feel grateful to him for having called attention to a matter of so much historical and national interest. He (Mr. Wyatt) thought they might extend the scope of the discussion on a future evening. They were bound to consider the monuments of art as the appanages of artists; and that, however distant they might be, they were one common property; so that, whether the monuments were in Italy, in France, or in England, they felt a common interest in their preservation.

Professor Donaldson seconded the motion; which was put from the chair, and carried unanimously.

Mr. Scott, in returning thanks, expressed his hope that the subject would not be allowed to drop, but that it would lead to some practical result.

The President then announced that there would be a special meeting of members only on Monday next (the 13th instant), to receive a report from the council on the subject of professional practice and charges; and that on Monday week (the 20th instant), a paper would be read by Mr. H. Roberts, on the essentials of a healthy dwelling, and the extension of its benefits to the population generally, and especially the working classes.

Mr. John Young, jun., of 35, King-street, Cheapside, was, on ballot, elected a Fellow of the Institute.

The following gentlemen were also elected Associates:—Mr. Charles Robert Baker King, of 24, University-street; Mr. Benjamin Tabberer, of 20, Bedford-place, Kensington; Mr. Henry Wood, of 12, Richmond-terrace, Clapham.

THE DRAINAGE OF BRIGHTON.—It appears that two matters bearing upon the general question of the drainage of the town have engaged the attention of the Works Committee. One was as to the main drainage outfall, the consideration of which was adjourned. If they do not soon take up the general question in real earnest, they will risk such a blow at the prosperity of the town as it may not soon recover from.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday (the 3rd instant), at the House in Conduit-street.

The chair was occupied by Mr. Paraire.

The following gentlemen were, on ballot, elected members of the Association:—Mr. G. T. Molecey, 20, Hugh-street, Pimlico; Mr. E. Turner, 33, Bermondsey-square; Mr. F. Brooks, 9, Grafton-place, Euston-square; Mr. E. Lyman, 25, Keppel-street; and Mr. A. G. Little, 34, Eagle-street, Red Lion-square.

The Hon. Secretary announced the receipt of a communication from the Art Design Committee of the Great International Exhibition of 1862, explaining the regulations under which drawings, designs, models, and other works of art were to be submitted to their inspection at the South Kensington Museum; and which, if approved, are to be delivered at the Exhibition Building before the 31st of March next. He also stated that he had received permission for the Association to make a visit of inspection of the works of the Underground Railway, which present many features of interest to the architect and engineer.

It was arranged that a day should be fixed at the next meeting, on which the visit should be made.

The consideration of the paper of Mr. Blashill (read on the last evening), entitled "A Few Days at Chartres and other French Towns," was then resumed. In the discussion which ensued, the Chairman, Mr. Spiers, Mr. C. H. F. Lewes, Mr. New, and other gentlemen took part; and at the conclusion a vote of thanks was passed to Mr. Blashill.

The modelling class is now organized, and meetings are held every Friday evening, which are attended in sufficient numbers to prove the interest taken by the members in this useful art.

THE DESIRED ROAD FROM BAYSWATER TO BROMPTON.

THE adoption of this much-needed route being now almost a matter of certitude, one who *first* sketched out the project in the *Builder*, some eleven years back, may be excused for making a few observations on the discussions (parochial and otherwise) which have been published.

The Chief Commissioner seems to coincide with the urgency of the occasion for such a line of intercommunication between two mighty limbs of the metropolis; and even exhibits an ardour in his advocacy of the measure. But so many and conflicting are the plans and views; so heavy the expense of some of them; and so necessarily tedious of execution; on account of the subaqueous and centripetal tunnelling; that he may well stand aghast, on being solicited to support or even sanction them.

A sunken road, if commenced directly opposite, and in a line with Westbourne-terrace, might begin from the Bayswater-road, by an archway; and, passing under a wooded mound for fifty yards, enter at once into the fosse, which takes a very slight deviation from the straight line to the Serpentine bridge; this sunken road might be continued (avoiding the powder magazine), say at a depth varying from 15 to 20 feet, to within a few paces of the Serpentine margin, eastwards of the bridge; to traverse the water on a light although strong and simply constructed iron causeway, at an elevation of, say 3 or 4 feet over the surface; then again, being continued at a trifling descent, into a cutting, in a straight line towards the Exhibition-road.

As there is a considerable rise in the ground on the south side, the whole road might be tunnelled across this plateau; so as to underlay Rotten-row, and to emerge within about 100 yards of the issue at or near Prince's-gate.

The other plan would be, from the Bayswater-road, to strike in just below the new main arterial sewer, and the fantastic "*esplanade des eaux*," in a right line, straight across the great triangular mead, to the west side of the Serpentine bridge; there to cross by a light iron-framed viaduct, as recommended on the west side; to re-enter the sunken way, continued within the gardens, on the south side; and to emerge in the strip of Park land, south of the gardens, at the point before indicated, near the Exhibition-road. The low iron framework across the Serpentine need not at all interfere with the appearance of the present bridge.

As to forming a close tunnel through the gardens, it is not necessary either for sake of their seclusion, or of the sylvan character of the scene Open cuttings, railed along, might be permitted, to give air and light to the traversers. These little openings might be planted round with trees, or belted with evergreens and flowers, and they need not severally exceed 25 feet long by 20 feet wide, at distances of 50 or 100 feet apart. These would offer no impediment to *free park*, nor to the innocent gambols of nursemaids and children; and at same time the subway might receive a sufficient amount of light and air, so as not to be repulsive.

To accomplish a great public immunity, there must be some concession, perhaps some sacrifice. In this case, however, the improvement and aisance sought, must benefit 1,000 for every one who might take offence at the change. There are now 200,000 persons on either side of the park and gardens, making nearly half a million souls to derive benefit and accommodation, involving economy both in time and money. Against that there are not one hundred exclusives who could possibly benefit, even in imagination, by withholding the privilege. QUONDAM.

WAREHOUSES FOR EXPLOSIVE MATERIALS.

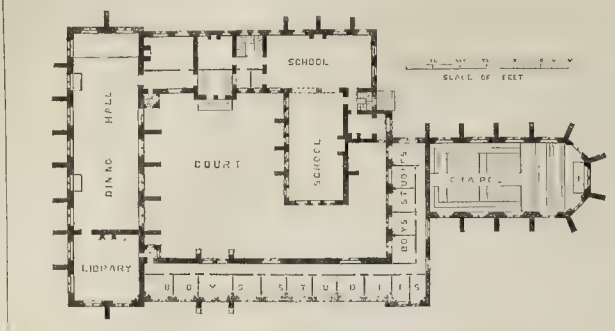
AT the last half-yearly meeting of the London Dock Company, it was announced that the directors had deemed it prudent to recommend that 10,000*l.* be appropriated to the new works' account, and that the directors were paying attention to fire insurance, and had classified the goods according to the degree of risk their nature placed them in. Saltpetre and nitre, being very dangerous, had been removed to a remote part of the docks, where new warehouses had been erected for receiving them. The directors were in hopes that the fire insurance companies would modify their charges, and reduce their rates on premiums; but, in the event of their not doing so soon, the directors would propose to the shareholders to take a part of the risk upon themselves.

In the course of the proceedings, the chairman remarked that the management and insurance were 6,400*l.*, against 5,300*l.* last half-year, "but that was in consequence of *the increase of premium*; but he hoped that that would be reduced. The insurance companies had made such requirements that the directors did not feel they could comply with them. They required the dock company to curtail their space to such an extent that they could not possibly comply with their demands; and, besides, the expense would be so great that it would never be worth while to go to it."

Many times, when great fires have directed the attention of the public to the matter, we have urged the systematic arrangement of the different descriptions of goods in dock-yard and other warehouses; and feel convinced that, although additional cost may be incurred in buildings, and in some other ways, the saving in the amount of insurance and destruction of property will eventually be immense; and therefore recommend the example of the London Dock Company to the consideration of similar companies.

SPITALFIELDS MARKET.

A CORRESPONDENT says,—Why does not some one get up a company for the rebuilding of Spitalfields fruit and vegetable market, as it is not half large enough for the wants of the increasing business done there? Having visited the market on several occasions, I found it so choked up with goods, and everywhere so crowded with vegetables and human beings, that it was almost an impossibility to get through it. The market is a very small one; being, in fact, only a wooden shed. There are some dilapidated houses surrounding it; which, if pulled down, would make an excellent site (and they could, doubtless, be purchased for a little money) for building a commodious market, which this vast and somewhat improving neighbourhood much requires. This is the only market of its class in the east end of London, and has in a great measure to supply the thickly-populated parishes of Shoreditch, Bethnal-green, Kingsland, Whitechapel, &c., with vegetables, of which a great quantity comes by the Eastern Counties railway, and by carts from all parts of Essex. I think it would be a good speculation to rebuild the market. It is said the new Commercial street will now soon be built upon, thus giving an opportunity to secure more land, if necessary, before the erection of houses.



ST. MARY'S COLLEGE, HARLOW.—*Plan.*

ST. MARY'S COLLEGE, HARLOW.

THE College of St. Mary, at Harlow, is an institution founded about ten years since by the present president, the Rev. C. J. Goulden, for affording education in the principles of the English Church, and which has already far outgone its original beginnings. It is similar in its features to those colleges at Hurst-Pierpoint, Shoreham, Bloxham, Radley, &c., which are one and all aiming at the same grand object,—viz., the education of the middle classes, for which so little had hitherto been done.

The foundation stone of the new buildings was laid on the 2nd July last; and the north and east wings are already completed, and will be occupied forthwith. They are designed to accommodate fifty boys. The west wing, cloisters, and chapel, are works to be carried out from time to time, as funds permit. The walls are built of common stock bricks from a local brick-field, with bands and arches of red bricks interspersed, with arched and cusped stone tympanums to windows, and various stone dressings. The roofs are covered with slates, and finished with red tile ridge and crest; whilst various iron terminals are placed upon the dormer windows and all gables. The interior fittings are very plain. The dormitories are divided into cubicals about 9 feet by 5 feet, so that each youth has a separate bed-room. The principals of roofs and beams of floors are all exposed to view, and all interior woodwork is stained and varnished. All the windows are fitted with ordinary sashes and frames, except the school-rooms, which have solid frames and casements.

The portion just completed has cost about 3,500*l*. Mr. Perry, of Stratford, was the builder; and Mr. A. Babington and Mr. G. Enticknap, clerks of the works. Mr. Withers, of London, was the architect employed.

The building is well situate, on the borders of Hertfordshire.

A NEW HOME FOR THE GARRICK CLUB.

THE committee of the Garrick Club, under a resolution of a general meeting, have entered into a conditional agreement for a piece of ground on the south-west side of the new street from King-street to Long-acre. The committee have treated for this with the Board of Works. A new club-house is to be built according to plans furnished by Mr. Marrable, which have been approved.

The money for the purpose is now being raised by debentures, to be subscribed by the members.

MEMORIAL OF THE PRINCE CONSORT AND THE GREAT EXHIBITION OF 1851.

WE printed last week the very interesting and admirable letter of H.R.H. the Prince of Wales on this subject; the more interesting as being the first public letter written by the Prince. The following correspondence in connection with it speaks for itself:—

"To his Royal Highness the Prince of Wales, &c. &c.

Sir,—The Committee for the Erection of the Memorial of the Great Exhibition of 1851, for which the Horticultural Society have granted a site in their gardens, have received through General Grey, by command of your Royal Highness, a duplicate of your letter addressed to the Council of the Horticultural Society. In this letter your Royal Highness recalls to recollection, by command of the Queen, that her Majesty had been pleased to assent to a proposal to place a statue of herself upon the memorial;—that the characteristic self-denial and modesty of your Royal Highness's deeply lamented and beloved father (whose loss the whole nation now mourns), had induced him to interpose to prevent his own statue from filling that position on the memorial which properly belonged to it;—that her Majesty had directed your Royal Highness to say, it would now, however, be most hurtful to her feelings were any other statue to surmount this memorial than that of the great, good Prince, your Royal Highness's beloved father, to whose honour it is in reality to be raised;—further, that your Royal Highness had sought, and had obtained, the permission of the Queen to present the statue thus proposed to be placed on the memorial.

The memorial committee having considered this communication, request me to state, with most respectful and heartfelt expressions of the deepest sympathy, and of just admiration of the sentiment that suggested it, their entire readiness to meet these wishes; not only as enabling the subscribers to the memorial to carry out their original desire, which was emphatically and above all things to offer a public and lasting tribute to his Royal Highness the lamented Prince Consort in connexion with the Great Exhibition; but as rendering that memorial also the first of the many records of public homage which will be offered throughout the length and breadth of the kingdom, to the memory of a Prince whose loss is deplored by every subject of the realm as a private as well as a national calamity. This grief is felt peculiarly by the committee I have the honour to represent; they having received from the Prince for a long time the kindest consideration, and personal assistance of inestimable value in the preparation of the design.

They recall with melancholy satisfaction the circumstance that the last public act in London of the lamented Prince, your Royal Highness's father, was the approval of the statue of her Most Gracious Majesty, by Mr. Durham, then intended to surmount the memorial.

The appropriation of this statue, which is now being produced in bronze, the memorial committee most respectfully place in the hands of your Royal Highness.

With reiterated expressions of the deepest sympathy on the part of the committee, and their prayer for the health of the Queen; I beg leave, sir, most respectfully, to subscribe myself, your Royal Highness's humble servant.

GEORGE GODWIN, Honorary Secretary.

Brompton, Jan. 4.

"Osborne, 7th January, 1862.

SIR,—I have received the commands of his Royal Highness the Prince of Wales to assure you that he very highly appreciates the confidence reposed in him by the members of the Memorial Committee when they place the statue of her Majesty the Queen, executed by Mr. Durham, at his disposal.

It will be his Royal Highness's earnest desire to find a proper site, in the neighbourhood of the Memorial to the Great Exhibition of 1851, for the erection of this statue.

His Royal Highness, however, feels that, at his age, he is but little competent to decide upon a question of this character, which seems to him to be one of great importance.

His Royal Highness will anxiously seek the best advice and the most valuable opinions upon the subject; and I shall then have the honour of again addressing you by his Royal Highness's direction.

I have the honour to be, Sir,
Your most obedient Servant,
R. BRUCE, Major-General.

George Godwin, Esq.
&c. &c."

THROUGHOUT the land, as we remarked last week, a strong desire is manifested to do honour to the memory of the Prince Consort. In most of the chief towns there is a wish amongst people of all classes to subscribe towards the erection of local monuments to the illustrious gentleman who has been so suddenly taken from us; and amongst artists there is also a great desire to exert themselves to the utmost to produce suitable works in honour of one to whom the fine arts and manufacturing arts in this country have been so much indebted; for, when we remember the refined taste of the late Prince, and his constant desire and anxious labours to promote the improvement of various classes of the people, it would be a matter for much regret if in any case the artistic designs and the execution of them should be unsuitable for the intended purpose.

In order to produce a worthy work of art, considerable cost must be incurred; and, although local subscriptions will be plentiful, it is to be feared that the desire to erect a large number of statues, or such like monuments, may lead to the frittering away of means which might be, with better effect, concentrated. It may, therefore, be worthy of consideration if it would not be desirable to accumulate the funds which will be provided for this purpose in each county; and, instead of providing several memorials, which, separately, would be neither important nor imposing; provide, on suitable sites, county monuments, which would be worthy of the object and creditable to the present condition of art.

There is a strong desire to erect public monuments in London, Edinburgh, and Dublin, the three capital cities of the empire. It is also suggested that a monument should be voted by Parliament, which would be expressive of the general feeling. In the anxiety to excel in this instance, there is fear of failure; which is increased when we glance at the fashion of many of the memorials which have been erected in the metropolis and elsewhere during the last century. The bare-headed statues of eminent men in the streets and squares, exposed to all kinds of weather, to the rays of the burning sun, and the pelting storm, have not an agreeable effect; and, when we consider the large sums which have been expended on many of these works, and notice the ill effect of the majority of them, we cannot fail to wish for monuments which would be more tasteful and satisfactory.

It is to be hoped that, wherever anything statuesque shall be proposed, consideration will be given to its architectural and other surroundings; and that such works will really be works of fine art, the best of their kind, and not of the class of mere portrait statues which have been so generally stuck up without either taste or discrimination in our cities and towns. There are various other kinds of memorials proposed besides statues, however; such as an Albert's Industrial University, Albert Scholarships, Prince's Parks, Albert Model Cottages, Cathedral and other towers, pillars, &c.

The Albert Industrial University is a proposal of Mr. Cole's, addressed, by permission, in the form of a letter, to Lord Granville, the President of the Privy Council. Such a university, as Mr. Cole remarks, was one of the most cherished of his Royal Highness's own projects, and was indicated in the charter granted to the Royal Commissioners of the 1851 Exhibition. A university of this order would differ from the London University in not requiring examination for matriculation, but perhaps accepting examination conducted by other authorities. The degrees and honours would be granted for specific success in subjects technically applied. A miner from Durham or Cornwall might acquire his degree in mining only: a chemist from Manchester, Bristol, Newcastle-on-Tyne, or the Staffordshire Potteries, might take honours in chemistry only. The endowment should be partly from public subscriptions and partly from Parliamentary funds. The site of the proposed university should be at South Kensington.

At Manchester a large meeting of gentlemen in the Town-hall have unanimously resolved to "erect a fitting and enduring monument to the memory of the late lamented Prince Consort." The mayor, who was in the chair, expressed a hope that they would erect a statue, of marble or bronze; and stated that he would subscribe 500*l*. towards a statue, or 100*l*. towards some other memorial. Scholarships, a Prince's Park, and towers to Manchester Cathedral, were also mooted; but the first thing to do is to obtain a large subscription. Various 50*l*. subscriptions have already been added to the mayor's.

At Aberdeen a movement has been commenced towards the erection of a monument to commemorate the public and private virtues of the Prince. A conference has taken place, and it has been resolved to invite the city and county to subscribe towards the object in view.



ST. MARY'S COLLEGE, HARLOW.—MR. R. J. WITHERS, ARCHITECT.

[E PROPOSED NEW LECTURE-ROOMS, MUSEUM, &c., AT CAMBRIDGE.

A SUM of 27,000*l.* being now available for the ection of the proposed buildings, with a future rease to 30,000*l.* in prospect, Mr. Salvin's plans 1854 were again taken into consideration by Syndicate, who now report to the Senate on subject. Mr. Salvin, they state, has prepared, cording to instructions, an entirely new set of ns, with estimate amounting to 26,475*l.* 11s., clusive of architect's commission; and these ns they now submit to the Senate for their proval. The plans will be exhibited to the nate in the Council Chamber of the Fitzwilliam seum. The principal part of the works, the ndicate report, may be immediately com- enced; but, as it may not be found advisable at ce to complete the whole, they recommend at tenders be obtained, both for the whole rks, and also separately for the central group buildings, the two large lecture-rooms in Free hool-lane, and for the additional building for e chemical department. The Syndicate accom- ny their report with a detailed account of Mr. lvin's plans by Professor Willis; from which it pears that the proposed buildings are arranged out a quadrangular court, 138 feet from north south, and 114 feet from east to west, and cupy about 3-5ths of the old Botanic Garden. e only portions in which architectural symmetry d decoration are employed are the south front cing Pembroke-street, and the west front in ee School-lane, which are in a simple Italian yle, capable of being carried out in brick, with ne dressings. The remainder will be in plain ick.

STATUE OF WEDGWOOD.

ON Wednesday afternoon a number of persons, cluding ladies, assembled at Mr. Rogers's ndry, Great Guildford-street, Southwark, for e purpose of witnessing the casting of the atue proposed to be erected at Stoke-upon-Trent the memory of Wedgwood, the famous potter. e statue is composed of bronze. It is 8 feet in ight, and represents the original in the costume the last century, holding in his hands the Port- d vase. The features have been moulded from e well-known portrait by Sir Joshua Reynolds. is cast to stand without any adventitious sup- rt. The weight of the metal in the furnace was out one ton, and the casting was stated to be quite ccessful. The artist is Mr. Edward Davis. The atue, when completed, is to be placed on a plinth feet high, to be erected in the Station-square, at oke-upon-Trent. The cost of the whole will be out 1,500*l.*, which has been raised chiefly by cal subscription.

CHURCH-BUILDING NEWS.

Stratford.—The iron church in the district of . Paul's, Stratford New Town, being inadequate provide the necessary church accommodation, a mmittee has been formed and subscriptions ob- ined for the erection of a church sufficiently mmodious to meet the spiritual wants of the strict. The population appears to be 6,188; and is proposed to erect a building capable of hold- g 1,100 persons, at a cost of 5,500*l.*, a portion which amount has been already subscribed.

Bramcote (Notts.).—The new church here has en consecrated by the Bishop of Lincoln. It is ilt in the Decorated Gothic style, and consists a nave, aisle, chancel, and vestry, and has a wer and spire about 130 feet high, open to the urch inside and porch on the south side. The ne used is Chevin for the window tracings and incipal dressings; Stanton stone for inside hlar columns, &c.; with Caen stone for pulpit, nt, and inside carvings. The roof is open-tim- red. The whole of the works have been executed Messrs. Firu & Clifton, of Leicester. The sign of the church is by Mr. Johnson, of the delphi.

Athelhampton.—The small church which has en erected for the parish of Athelhampton-cum- rleston, has been consecrated by the Bishop of lisbury. The two parishes, according to the *orset Chronicle*, formerly possessed two very lapidated structures, which are now supplanted the new church, after designs supplied by Mr. Hicks, of Dorchester. It is situate on the side the road leading from Dorchester to Wareham; d consists of a nave, chancel, small vestry, and rch, on the north side, in the Early English yle of architecture. The edifice is surrounded a churchyard about a quarter of an acre in tent. The walls of the church are run up random work of Poxwell stone, with Bath stone dressings; and the west gable is surmounted with a bell-turret with two trefoil openings, in each of which there is a small bell, and above them there is a quatrefoil opening. The interior of the walls is faced with Bath stone ashlars. The trefoil chancel arch springs from small shafts, supported by carved brackets, which, together with the caps and spandrils, are carved in natural foliage. The roof of the nave is open timbered, and supported by arch ribs, which spring from carved stone corbels, but the chancel is hammer-beam. There are low seats with carved ends, giving accommodation for about 120. The vestry is separated from the chancel by a traceried wood screen; and the chancel is paved with red, black, and buff tiles from the Poole potteries; but the altar space is laid with Godwin's tiles, in flowered patterns. Mr. W. Hammett, of Tolpuddle, builder, has carried out the work; and the carving was by Mr. H. Burge, of London.

Pewsey.—The chancel of the parish church, which, during the last seven months, has been undergoing a restoration, has been re-opened for divine service. The chancel is long and narrow, of the First Pointed style, with an inserted east window of the Middle period, having tracery of a kind which seems almost peculiar to this part of Wiltshire. The south wall and the western portion of the north have been entirely rebuilt; and an aisle, corresponding with the old wall, has been added on the south side, for the organ and school. The old windows and doors have all been re-set; the four lancets being filled with stained glass (by Hardman); which, as well as the east window of three lights, are the gift of Miss H. Pleydell Bouverie, daughter of the late rector, in memory of her father and other members of the family. The new aisle opens into the chancel by two well-proportioned arches, supported on a cylindrical pier, and having oak parcloses in front. The chancel is fitted with stalls and subsellæ of oak for the clergy and choir, and the floor is laid with Maw's tiles. The new roof is slated externally with blue, purple, and green slates, and has an ornamental ridge of red tile. The architect was Mr. G. E. Street; and the builder, Mr. J. Mitchel, of Pewsey.

The Lye.—The new Unitarian chapel here has been inaugurated. The design is by Mr. Smalman Smith, of Stourbridge; and the chapel was built by Mr. Bloomer, of the Lye. The style is a combination of the Early English forms; and the materials are the blue, white, and red bricks of the neighbourhood. At the east end there is a stained glass window, with a cartoon of the Crucifixion, executed by Messrs. Eaton & Butler, of London, from designs by the architect. The interior is fitted up with deal, stained, and in the simple forms of the period. The aisles are laid with Maw's tesselated pavement; and the whole building is heated by a warm water apparatus of simple construction. The roof is open, and on the rafters texts from Scripture are carved. One of the corbels supporting the timbers of the roof is carved with the emblematic figure of ivy leaves clinging to a death's head; and it is intended to carve the others, as well as to stain all the windows. The chapel is seated for 200. On the right side of the pulpit a monument by Mr. Pardoe, of Stourbridge, has been erected to the memory of the Rev. James Scott, the founder of the old chapel, which adjoins the present, and is being fitted up as a school. A clock tower adds to the effect of the building externally.

Southam.—The restoration of Southam Church has been celebrated by Divine service. The church was originally partially restored several years ago, at a considerable cost, but has recently been completed at a cost of 700*l.*; nearly 600*l.* of which have been raised by voluntary contributions. The church is ornamented by six memorial windows of stained glass, by Messrs. Wales, of Chester, with the exception of one in the south aisle, which was erected by Mr. Holland, of Warwick. Mr. Watson, of Napton, prepared the plans; and Messrs. Reynolds, of Southam, were the builders.

Birmingham.—The church of the Messiah, which, during the last eighteen months, has been in course of erection in Broad-street, was formally opened on New Year's Day. The new church has been built by and for the Unitarians. The new edifice stands at the corner of Broad-street and St. Peter's-place. It is therefore built over the Birmingham and Worcester Canal, and is supported on arches resting on the sandstone rock on either side the water. It possesses a frontage in Broad-street of 66 feet, and in St. Peter's-place of 166 feet, exclusive of large schools at the rear; and at the corner of Broad-street and St. Peter's-place a spired tower rises to the height of 150 feet. The style is Geometrical, and the material employed throughout is stone. At the entrance porch, says the local *Journal*, eight red granite columns, with grey granite bases and carved capitals, composed of foliage and flowers, executed by Mr. John Thomas, of London, support three intervening cusped arches of Bath stone, and form three open doorways, leading into a vestibule. A four-light window, with geometrical tracery, and gable above, surmounts the porch; and the main gable of the church recedes some 15 feet. On one side of the porch is a lobby entrance, and on the other side is the tower, which rises from the midst of crocketed canopies overshadowing figures of the four Evangelists (also by Thomas), and is ornamented with quatrefoil bands at intervals to the top. The St. Peter's-place elevation presents five irregular gables, with projecting buttresses, and five large windows, with geometrical tracery heads of different designs. At the end of the church is an octagonal turret about 80 feet high. The roof is covered with green and blue slates in courses, topped with ornamental iron ridges, corresponding in design with the other decorations of the building. Interiorly, on one side is a transept, opened to the church by three arches resting on clustered columns, and intended for the organ and children's gallery, the latter communicating with the schools. The roof is formed with open timbers of hammer-beam construction, the spandrils filled in with tracery and dog-tooth moulding on the soffits, and the ends of the windows are gabled and valleyed into the main roof. A moulded arch admits light from the window of the porch, and the church is also lighted from fourteen other windows, twelve of which are glazed with cathedral dyed white glass, and the remaining two with stained glass, by Messrs. Chance. The galleries, of which there are two, one over the entrance and one in the transept, have Gothic panelled deal fronts and open seats. The seats in the nave are also open benches, with oak moulded ends and carved panels. Over the vestries is a large room for congregational meetings, &c. The interior is 80 feet long by 45 feet wide, and will, the galleries included, seat 600 persons. The schools at the back are built of red brick. The upper school-room is 70 feet by 28 feet, and 30 feet to the ridge, with open-timbered roof, lighted by five triplet windows on one side, a large four-light window on the other; and the two school-rooms together will accommodate about 400 children. The whole of the buildings are warmed by hot-air pipes, fixed by Messrs. Weeks, of London. The entire cost will be about 10,000*l.* The architect was Mr. Bateman, of Birmingham; and the builders were Messrs. Branson & Gwyther.

Derby.—A meeting of parishioners of St. Werburgh's has been held, to consider the dangerous state of the tower of the parish church, and the means to be adopted for its preservation. The tower has been recently examined, and the upper part found to be in so dilapidated a condition, that it has been necessary to remove at once a considerable portion of the masonry, which threatened soon to fall upon the roof of the church, or into the churchyard. The complete restoration or rebuilding of the whole of that portion of the tower which is above the clock seems to be required. As a preliminary step a committee was appointed to obtain designs and estimates.

Armley (Leeds).—On the morning of Christmas-day, Armley church was re-opened, after having been closed for some weeks for alteration and cleaning. In the chancel open benches, facing north and south, have been substituted for the old-fashioned high pews, which choked up the area of the chancel. An arrangement has also been made, whereby the aged poor are now collected round the pulpit, in place of being seated, as formerly, in a remote and cold corner of the church. A warmer tone than before has also been given to the east end, by the use of a little colour with gold diaper on the chancel roof and eastern wall. The designs for the pulpit, lectern, &c., were furnished by Mr. Armfield, architect, Leeds, the son of the incumbent, under whose direction and advice the whole of the restoration has been carried out.

Ryton, near Newcastle-upon-Tyne.—A new Congregational Chapel has been opened at Ryton, for the villages of Ryton and Crawcrook. Mr. J. C. Lamb presented a piece of ground, situate about midway between Ryton and Crawcrook, for the site of the new building; and under the direction of Mr. Tillman, of Sunderland, architect, a chapel has been built by Mr. Lee, also of Sunderland. The style of the edifice is Early English Gothic; and it will accommodate from 250 to 300 persons.

Helensburgh (Clyde).—A new church is to be erected at Helensburgh, for the accommodation of

the rapidly increasing population of that favourite watering-place. Through the liberality of an old resident, an excellent site has been obtained, and Sir James Colquhoun, of Luss, the lord of the manor, has remitted the annual feu duty. The church has been designed by Mr. Honeyman, of Glasgow. It will be seated for 850, and will have attached to it a small hall, vestry, and waiting-rooms. The extreme length over is 115 feet, the width 52 feet, and the height from floor to ridge, 56 feet. A tower and spire, 140 feet high, is placed at the north-east corner. The style of architecture is that of the thirteenth century, of a plain but massive character.

STAINED GLASS.

Glasgow Cathedral.—Three windows of painted glass, by Signor Pompeo Bertini, of Milan, have been erected in the crypt of this cathedral. They are executed upon the Mosaic-enamel principle. One of them (the largest of the three) represents our Saviour and the Woman at the Well; the others, St. Luke the Apostle, and John the Baptist. This last window is erected by Mr. John Fergusson, of this city, merchant, to the memory of his uncle, the Rev. Edward Irving. The crypt now presents a series of Scottish, Belgian, Saxon, Bavarian, and Italian glass paintings.

Church of "Our Ladye and St. Michael," Abergavenny.—A stained glass window, by Messrs. Clayton & Bell, of London, has been placed in this church by the sons and daughters of the late Mr. Baker Gabb, of Llwyn-dû, near this town. In one light is a likeness (from an authentic source, in the possession of the family) of Father Augustine Baker, who was born at Abergavenny, in 1575, the author of several theological works still in use. Father Augustine Baker having belonged to the order of St. Benedict, that saint is portrayed in the upper compartment of the window. In the other light is Charles Baker, who suffered on religious grounds in 1679. Above him is the "saint" of the order to which he belonged, St. Ignatius, of Loyola. The background of the window is filled in with foliage and flowers, and bears the inscription.

PROVINCIAL NEWS.

Clifton. — The chains, &c., of Hungerford-bridge, which have been purchased for completing the long-unfinished suspension bridge at Clifton, will be delivered in June next, when the operation of suspending them between the piers erected on the Gloucester and Somerset sides of the Avon will be immediately commenced. It is hoped the work may be completed within the year 1862.

Lincoln.—In the twenty-eighth annual report of the Mechanics' Institution, it is said,—Your committee availed themselves of the opportunity afforded by the sale of the present Grammar School master's house in Broadgate, to possess themselves of a site whereon to erect the New Institute. Your committee next advertised for plans and elevations (an open competition of the architects of the United Kingdoms), which resulted in the receipt of a large number of designs, which were exhibited in the City Assembly-rooms. The choice fell upon the designs of Messrs. Hooker & Wheeler, of Brenchley, Kent. The committee have been reluctantly compelled to select one of the plainest of the designs; preferring, if subscriptions should render it necessary, to sacrifice mere outside show, to the convenience, comfort, and capacity of internal arrangements. The following particulars present the general features of the plans:—Elevation, northern Italian Gothic, constructed of red and white bricks and stone, real material being used in every part. Library fronting to Broadgate, 36 feet by 30 feet; height, 20 feet. At the back of the library a reading-room and committee-room, each 24 feet by 20 feet. A class-room, 36 feet by 18 feet, with moveable partition in the centre. Librarian's apartments in the rear of the building; and the school-room, 40 feet by 20 feet; height, 15 feet, detached. Covering the entire ground-floor is a room, divided by a moveable partition, 90 feet long by 37 feet wide, and 22 feet high, which your committee hope to adapt to the conjoint purposes of a lecture-hall and county museum; the whole furnishing ample accommodation for the present and prospective wants of the increasing city of Lincoln. The plans have been approved by the corporation, and the grant of 700*l.* confirmed and as soon as the contract for the erection; of the building shall have been entered upon, the money will be paid. The completion of the scheme will involve an outlay of about 3,000*l.*

Falkirk.—From the Falkirk Ironworks, of late, have been produced some very heavy girders, two of which, at Grahamston station, are the largest that ever went out of these works: they are 40 feet long and 3 feet wide, weighing about 7 tons each, and are intented for her Majesty's dockyard at Woolwich.

Inverury.—A new town house is about to be begun, as stones are being dressed on the site for a commencement. The plan selected is by Mr. J. R. Mackenzie, of Aberdeen, architect. The structure will be of the Roman Doric order; the front elevation consisting of two large wings, with a centre building, and large cornice supported by pilasters; an open balustrade running along the top; and a bell turret, with a clock in front, surmounting the whole. The extreme length of the building is 88 feet; breadth, 63 feet; height to top of parapet, 37 feet; and height to top of tower, 76 feet. On the ground-floor there is a convenient market-hall, with three offices attached; rooms for the sergeant of police and constable; also for the town's officer, with every necessary accommodation; two police cells, volunteer store-room, entrance-hall, and corridor. Up-stairs there is the public hall, 55 feet by 30 feet, with orchestra at one end and retiring-room, &c., attached. The hall looks northward, and occupies the back part of this floor; while in the front, looking southward into the Market-square, there is a council-room, 27 feet by 16 feet; record-room, committee-room, town-clerk's room, &c. The contractors are—for the mason work, Messrs. Munro & Stewart, Inverury, 1,240*l.*; carpenter, Messrs. Warrack & Daniel, Aberdeen, 764*l.*; plumber, Messrs. Hugh Gordon & Co., Aberdeen, 94*l.* 10*s.*; plaster, Mr. Gibson, Turriff, 128*l.* 9*s.*; slater, Mr. Jas. Robertson, Inverury, 60*l.*; total, 2,286*l.* 19*s.* The new edifice will stand at the end of the principal thoroughfare, immediately at the top of the Market-square, and in a line with the houses already built there. The present Town-hall, with parish school attached, is to be pulled down. This will enlarge the square considerably, and make it more suitable for the flourishing markets.

RAILWAY MATTERS.

THE works on the metropolitan extension lines of the London, Chatham, and Dover company have progressed with rapidity since they were commenced by Mr. C. Watson, for Messrs. Peto & Betts, in February last. The West-end Extension line is to join the main line at Beckenham, to pass under the Sydenham-hill, near the Crystal Palace by a tunnel, thence to Dulwich and Battersea, where it terminates by a junction with the Pimlico railway, leading to the Victoria Station. The intended City Extension branches off from the West-end Extension line at a point near Dulwich, passing through Camberwell to Blackfriars. The works on the West-end Extension, as described by the *Morning Post*, from which we quote, are of considerable magnitude, and consist of 4½ miles of cuttings and embankments, 1¼ mile of tunnel, and 4,262 feet of viaduct, making together 6¾ miles. The City Extension line is to consist of one mile of cuttings and embankments, 3½ miles of viaduct, a bridge over the Thames, crossing close to Blackfriars Bridge, making together about 4½ miles of line; a goods station by the water-side, and a passenger station at each side of the river. On the West-end Extension the works are in a more advanced state than those on the City Extension. Near the point of junction at Battersea about 60 acres of land have been secured, and extensive ranges of buildings are in course of construction, similar to Wolverton.

All of the bricks used on the line throughout are hard and compact, and some of them made by one machine in particular are beautifully formed, very solid, presenting a polished surface of an excellent red colour. It often happens that in the course of a fortnight the clay excavated and brought out of the tunnel is carried into it again in the shape of solid hard bricks. There are at present about 2,000 men and 250 horses employed upon the works.

The extensive alterations at the Stockport Station are now in progress. The magnitude of the works rendered it necessary that they should be completed as quickly as possible; and the contractor, Mr. Parnell, of Rugby, was pushing it forward, when he was annoyed by the brick-setters striking, and so interrupting and delaying the building part of the contract. Something has nevertheless been done; and the outline of the new station may be discerned, while nearly the whole of the old station has been razed.

Railways are now being constructed in Holland. The Government is making use of its able civil and military engineers to overcome the difficulti of crossing the rivers; and has in view the car ing out of a complete railway system within t years. There will be constructed about 9 miles of railway, at an expense estimated 7,000,000*l.*, of which a third part is to be pended on railway bridges only. These railwa will unite the following towns:—Amsterda Hague, Rotterdam, Breda, Maastricht, Utrec Arnhem, Zutphen, Assen, Harlingen, New Di and others. Besides the railway, a canal will made to unite the capital, Amsterdam, imm diately with the ocean.

SCHOOL-BUILDING NEWS.

Northampton.—The new schools of St. Gil Northampton, were opened on New Year's Da The schools have been built by Mr. Cosford, und the superintendence of the architect, Mr. E. Law, both of this town. The site is opposite t church. The buildings form a large group, co sisting of boys' school, girls' school, infant scho and three class-rooms. The boys' school and i fant school are built in the form of the letter with one side of the boys' school and one end the infant school facing the church. The girl school is at the back of the boys' school, and right angles to it, with the front facing the sout Each school has a large play-yard and out-office having no communication with each other. O the front towards the church the windows, whic are Gothic, are all of Decorated character, an have Bath stone dressings. The gable of the i fant school, together with a bell-tower immedi ately adjoining it, form a feature at the south-eas angle of the group. The tower is surmounted b a wooden bell-turret. The roofs are high-pitche and open on the inside; all the timber work ex posed to view, and stained and varnished. Th principals are ecclesiastical in character, havin curved ribs, resting on stone corbels. At one en of the boys' school, over the apparatus closet, is a organ gallery, the front and side of which have simple fence, formed with iron scroll baluster supporting a chamfered and stopped rail.

Upperthorpe.—The foundation-stone of a ne school in connection with the Unitarian chapel ha been laid at Upperthorpe. The school-buildin will be in the Early English style. The building which will be of one story only, will be 68 fee long by 34 feet in width. There will be a larg school-room, capable of accommodating 360 scho lars, and two class-rooms for the elder boys an girls on Sundays, which will give accommodatio for thirty-five in each. The two latter rooms wi be divided by a partition removable at any time Mr. John Frith, the architect of the chapel, ha been again employed; and Mr. Reynolds is th contractor for the building, and Messrs. Slack Grayson for the joiner's work. The cost will b about 700*l.*

METROPOLITAN BOARD OF WORKS.

ELECTION OF DISTRICT SURVEYOR FOR CHELSEA

AT a meeting of the Board, on the 3rd inst. the members proceeded to elect a surveyor for th district of Chelsea. The votes were as follow:—

Sancton Wood	33	H. Laxton	1
T. E. Knightley	25	Edward Roberts	1
R. Kerr	23	S. Hill	
J. W. Papworth	21	A. J. C. Beker	
John Cole	21	W. Lightly	
John Billing	20	25	Joshua Liddiard
S. Salter, jun	20	10	Alfred Williams
Horace Field	19	Josiah Houle	
Sam. S. Markham	19	Ed. Paraire	
H. S. Legg	17	Richard Richardson	
Sidney Godwin	16	A. Moseley	
Arthur Cates	15		

The ultimate voting for the six highest on th list was as follows:—

S. Wood	30	27	30	28	30	36
T. E. Knightley	21	17	17	17	6	
R. Kerr	22	15	17	13		
J. Cole	16	12	10			
J. Billing	15	11				
J. B. Papworth	9					

NEWS FROM NEW ZEALAND.

London Exhibition of 1862.—The articles to b sent to the International Exhibition had to b delivered in New Zealand by the 25th of Octobe last, as her Majesty's Commissioners have fixe the 31st of March as the latest period at whic goods can be received in London.

Meanee Bridge.—The *Hawkes Bay Herald* says, respecting this bridge,—"We learn that th delay in proceeding with this work,—so muc wanted,—now arises solely from the pile-engin being in use; but that, in the course of three o four weeks, it will be placed at the disposal of th

ntractor, who will then proceed with the piling. ost of the timber has now been received."

Napier Gaol.—Mr. Miller's tender, 1,050*l.*, has en accepted. The others were, Mr. Trestrail's, 234*l.*; and Mr. M'Sweeny's, 1,070*l.*

English Church, Napier.—Tenders were invited r supplying seats to the English Church at apier.

Otago Diggins.—Mr. T. M. Hassel contributes the *Lyttleton Times*, of August 24, an interest- g paper, entitled, "A Visit to the Gold Fields." r. Hassel, towards the end of his article, says:— It would be premature at present to pass an pinion as to the probable duration of the Otago ggings; but if they do not fail in three or four onths' time, when they will have been well orked and had a fair trial, I think we may safely unt upon their continuing to be above the verage of paying gold-fields for years to come."

STABILITY OF THE CRYSTAL PALACE.

SIR,—I have just read the letter of a "Season icket-holder," in the *Builder* of 21st ult. He ay make himself easy on the point. The floor at ne places alluded to was laid originally on joists edded on the earth. The earth, from the con- ant watering of the contiguous flower-beds, has nk a few inches, and carried the joists with it, that the floor is still solid, though certainly a ood deal out of shape.

We are gradually going through the floor of ne whole building, and correcting this imperfect ode of construction, by enclosing all the flower- eds in brick walls, on which the floor-joists will st, independent of the earth. A good deal of his has been already done at the tropical end, tside the Assyrian Court, and the rest will llow. Your correspondent may rest assured hat the "authorities at Sydenham" are quite live to the safety of the building; only, not having oo much money to spend, they postpone repairs s long as they possibly can, consistent with rudence.

G. GROVE, Secretary.

JUST A LITTLE MUSIC AFTER DINNER.

I FEEL that I must beg to call the attention your readers to another popular fault; and address you because architects and artists, gene- lly, are thinking men. If there is one dis- sting thing prevalent in that vortex of am which we call society, it is the way in hich young ladies are taught to do a little draw- g and music. Instead of drawing from the atural object, they draw from copy: the flabby, otty line they learn as picturesque: the wretched aubs of blue, scratched with penknife, and called ater-colour landscape, all go to make up such practical lie in life, that one is astounded hat Heaven does not avenge itself upon such atrages against humanity. Perhaps the worst orm of society's art is the recent illumi- ating fit. What on earth can be the use of aubing Gothic letters with inharmonious colours? What business has any one to illuminate, who has ot first learnt to draw the human figure, and to esign? How much better their time would be pent in reading such works as would teach hem to appreciate the beautiful in architecture, ainting, sculpture, if they would only observe od's nature instead of making a parody of it in ater-colours. But the great sin against good aste is one in which I am sorry to say the archi- ects and artists are as great offenders as the ody of men at large. It is in encouraging he "little music after dinner." I know othing so contemptible as a man being mused by a little pseudo-art, instead of much rt and good art. In Germany, where *dilet- anti* of music are more numerous than elsewhere, nd where they often attain the perfection of rtistes, I have never once seen any one sit down to piano to sing or play who could not do so well; nd, moreover, I have been struck by the sim- licity of the music they would sing,—the simplest allads of Aft, Schuberts, &c.;—and these too often ngers who might have done justice to high dra- natic compositions. But what is the case in ngland? Why you hear "Trovatore" Misereres, egging airs from "The Prophet," sung by girls as they were veritable Titiens and Viardots. If hey must sing, for heaven's sake let them stick o the simplest ballad. In this respect I have lways much admired Hungary, where the national ongs of the country are the *repertoire* of men and omen amateurs. Nothing but the most utter gnorance of what real singing is could induce an mateur to attempt that which is not suited o him. Another point. Who ever did sing after inner? I have known many singers who were never less than six hours fasting before sing- ing. Ask a veritable artiste to sing after dinner one of her favourite airs, and you will soon see her contempt at such a proposition. How is it possible a person can sing after eating? One is amazed at a man being so ignorant of the construction of the body. Men and women would be better employed in trying to learn to appreciate the music of Palestrina, Bach, Beethoven, and Wagner,—in learning to be impressed by their noble harmonies instead of by the vulgarity of popular airs. These great composers speak to the soul what words cannot express: they make known to the soul a purity of feeling, a manly honour that no words can express. It is a senti- ment that would be understood by all souls if they were not wrapped up in a mass of conven- tional sham. I suppose there is no man, who loves the music of those great composers, who does not rise a better man after hearing their works. All men can appreciate them if they will only think of what music is for; that, like painting, it is to benefit and purify man's soul; that it is to teach him a moral lesson in the midst of this world's wickedness and lying; that it is to help him to rise above the sham that surrounds him. Let us then strive our utmost to be real in life, and we shall be real in art: let truth be our guiding star, and we can follow no better rule than that so truly and nobly written by Mr. Ruskin: "Let us improve ourselves that we may improve others." Life without this can be but of little use, and on it have worked the greatest and best men.

A. W.

P.S.—Here is a question for the philosopher. Why in England and Spain is there more street- music than elsewhere, these countries being given to guitar strumming and whistling, and yet they produce no very great composers? In Germany you never hear street music and whistling, and it produced Beethoven and Bach.

NOTES ON FIRECLAY.

THE BEST KNOWN NON-CONDUCTING MATERIAL OF FLAME HEAT.

THE absence of oxyde of iron and lime are in- dicative of a good earth. A fireclay furnace that would not crack would allow one to have a down draught, dragging every particle of carbon through heated embers, so that no black smoke would be generated. In the present iron furnace- bars, if the blacks get away from the fire, they are sure to rise into the air (a black volume of smoke against a clear blue sky is frightful). The air from fireclay pipes, heated, is alone fit to be breathed. By using metal cooking vessels we be- come susceptible to every change of the weather,— indeed, barometers: we are mercurialized, copper- ized, and, if you like, tin-potized! Mr. Beckett, of Wolverhampton, has looked much at fireclays. I am obliged to Mr. Sharpe for his attention. What I desire to see is, fireclay worked into articles of use, such as furnaces, furnace-pipes, pots, crucibles, &c., that will really stand heating and cooling. Fireclay is a production *sui generis*, and must be treated as such.

C. M. D.

FIRE-CLAY IN BUILDINGS.

OBSERVING, in your journal of last week, some correspondence purporting to be an answer to a letter which appeared in the number for Dec. 14th last, permit me to make a few remarks on fire- clay, &c.; also to point out a difficulty or so that appears to have been overlooked.

Fire-clay slabs of themselves, worked into the di- mensions of an ordinary warehouse door—say 6 feet by 3 feet—if subjected to a test of white heat, and then to a sudden application of cold water, would split in all directions. With reference to fire- proof buildings, I should suppose that all that was required to make a building secure from fire would be to render fireproof the floors, columns, girders, doors, shutters, and all openings; because it is generally known that, after the most severe fire, the walls of the building have been proof against fire. It is not through walls of (say) 2 feet thick, that fire forces its way, and plays such terrible havoc—to wit, the great fire in Tooley- street. Who can say that the fire made its way through the walls? No; it is through the open- ings and outlets where fire forces its way. I myself witnessed the iron doors, which were con- sidered fireproof, melting, warping, and buckling at the late fire.

Your correspondent also remarks that all door- ways and openings ought in no case to be less than 24 inches above the flooring; so that, in the event of fire, water should be thrown to that level. How, then, could locomotion, in the shape of trucks and hand-barrows, be carried on from one warehouse to another, with a rise of 2 feet in each opening. Secondly, of what value would goods be that had been soaking in 2 feet of water, if all above that was destroyed.

Trusting I am not trespassing too much on your space, allow me to call Mr. Dick's attention to a patent taken out by me for fire-clay doors, shutters, columns, girders, &c.; being the first ever brought before the public. They are con- structed of a peculiar fire-clay, mortised, ce- mented, and strongly tied together, without any ironwork whatever being exposed. They have been subjected to the most severe tests; and so satisfied am I of the fire-resisting qualities of my patent fire-clay doors, &c., that I will challenge the world to destroy them by fire and water.

WILLIAM STRATFORD HOGG.

IMPROVED LIGHTING OF TOWNS.

WITH few exceptions, everything in use by the human race becomes obsolete, and sooner or later yields to improvement. The steam-engine of to- day would astonish James Watt himself. Canals and Macadamised roads, once such perfection, have given place to railways, which in their turn will most likely yield to improved locomotion. The few exceptions to these mutations are the triangle for mathematical purposes, the chariot wheel, and staircases; though I am prepared to admit that the new houses in Victoria-street have endeavoured to give the last a *lift*. But, to be serious, few things have remained equally unimproved, knowing so little change, over such a *piping* time of forty years, as our employment of gas for street-lighting. This *status quo* cannot have arisen from its perfection, but that the matter has been considered too *light* to be seriously weighed. Its turn has come at last, and not too soon; for assuredly improvement never was more needed than in our street-lighting in London, which has become little better than a mockery and a jest. Everybody has remarked it, and every one is fully convinced of it; but for the very reason that it was and is every one's business to have light enough in the public streets, nobody has stirred in the matter. With such a splendid illuminating power as we are possessed of,—with such an unbounded supply of material for pro- ducing it,—we who gave it to the world are almost suffering it to fall into disuse. Look at our principal streets—take, for example, Oxford- street,—and tell me if it be much better lighted than by the old oil lamps. It really seems as though the problem to be solved were, to reduce it (small by degrees, and beautifully fine), till its light, like the life of the miller's horse, could be sustained—firstly, on *next to nothing; and on nothing next.* And yet coal is cheaper with us than with any other nation, and our capital large and abundant. Take, for instance, Paris—where gas, I believe, costs (by means of transport duty and octroi on the coals) almost 12*s.* the 1,000 feet—I say, take Paris, and ask any reasonable and unprejudiced man if London in comparison be not a perfect Hades. Why is this so in Paris— a city where gas is a monopoly, where only the ghost of parochial influence exists? Is Paris so much richer than London? Have its shops and houses so much more wealth, that they need for their protection to be better lighted at night?— for rats and thieves both shun the glare. I pause for a reply. Yet so it is; and not only has Paris been a very long time much better lighted: but, not satisfied with the present state of things, there is still the cry of *excelsior*. Behold the re- sult: new round lamps, without those ponderous frames (which seem framed, like Atlas, to support anything but a light world), are superseding everywhere those old square prisons, that have known no change since gas-light dawned on us, conjured up by Murdoch, that genius of the lamp.

The study of the subject has led to the common- sense conclusion that, by reasonably diminishing the elevation of the lamps, the pathways, &c., are much better lighted. It is evident that we ap- proach the flame as nearly as convenient in cases that we need the light. Where, then, is the sense of placing the lamps, as now, so absurdly high? The new French lamps are at least 3 feet nearer the pathways. This is not the only improvement. As usual, the subject being agitated, the attention of inventors has been directed to the matter; and, I am happy to say, one of our countrymen is first in the race. Mr. Frederic Barnett, the same whose name has latterly been before us for the invention of some important railway signals, ex- amined at the Board of Trade, has brought to light, so to say, a new system of economy in

street lighting. His principle appears to be to avail himself of that portion of the light which in our lamps is improvidently expended on the stars. He employs flat white earthenware or china reflectors, placed horizontally above the flame, in the largest diameter of the lamps. In the middle of these plates there is an oval hole, surmounted by a conical chimney, which establishes so powerful an upward current that the smoke and other emanations pass quickly by that channel, preserving themselves and the interior of the lamp much longer clean. These reflectors, without prejudice to the side rays, throw the otherwise lost light, far and near, beneath, on the well-known principle that the angle of reflection is equal to the angle of incidence. The light gained in the old square lamp is about 25 per cent., and in the new round about 35 to 40 per cent.

Mr. Barnett has made a new lamp to develop more fully his principle, which has a larger reflecting surface, and is so constructed as to have little or no shadows, and which will yield at least 50 per cent. more light on the pathway, without causing any increase in the consumption of gas.

This lantern is very light and neat in appearance, and elegant in form. These reflectors were already adapted to the lamps in the Place Vendome, and produce so sensible a difference as to arrest the passers by. The expense of the reflectors, from their nature, must be inconsiderable; and, from their trial, already some months, by the City authorities, without perceptible change, they must be durable.

It is much to be desired that capable and authorised persons should look into the matter, with the view of giving us the earliest benefit of the improvement.

LAMP-LIGHT.

BLACKFRIARS BRIDGE COMPETITION.

SIR,—In a recent number of your journal, you favoured me with the insertion of a statement respecting the original cost of Blackfriars Bridge, and that of the new bridge at Westminster.

At the present period it has struck me as likely to be not uninteresting to your readers to learn the state of the City competitive system, a century since, in the case of Blackfriars, particularly as, in a recent letter in the *Times*, one of the members of the present committee on the proposed new bridge has expressed himself dissatisfied at the course that has been followed with the designs of the eight individuals who were applied to in this early part of the year by the City authorities.

From the council reports we read that in August, 1759, the following advertisement appeared in the papers:—

"The committee for building a bridge from Blackfriars . . . . . will meet at Guildhall, on Thursday, the 4th day of October . . . to receive all such plans, elevations, and estimates, for a stone bridge, as any person or persons shall then think fit to offer for their consideration."

The competition was thus thrown open to all the world; and ten weeks after (November 1), upwards of fifty plans and models were offered to the consideration of the committee. Fourteen of these were eventually retained; and these were reduced to the following eight authors, viz.,—Bernard, Chambers, Dance, Gwyn, Mylne, Phillips, Smeaton, and Ware. After several intermediate meetings and consultations the names of the several gentlemen so retained were put up in alphabetical order; and votes being taken, the majority of hands was ultimately declared in favour of the plan of Mr. Robert Mylne, a young Scotchman, who had only just returned from his studies in Rome. The selected plan then went under a further test, and was submitted to eight of the leading scientific men of the day, who reported on the principles and strength of Mr. Mylne's proposed elliptical arches, viz.,—Thomas Prowse, of Biddeford; Peter Davall, Middle Temple; Dr. Bradley, Greenwich; Dr. Blair, Leicester-fields; Dr. Pemberton, Mr. Muller, Mr. Simpson, Woolwich Royal Academy; after which the design was finally adopted.

While reverting to this subject a perhaps more imposing ordeal was named when the design was submitted of Messrs. Telford & Douglas, in 1801, for constructing on the site of Old London Bridge a cast-iron bridge of a single arch, 600 feet in span, with 65 feet rise. On the practicability of this scheme there were submitted a set of questions to no less than seventeen distinguished individuals, the names of whom remind us of the leading men of science at the commencement of the nineteenth century. They were as follows;—Dr. Maskelyne, Professors Robertson, Playfair, Robeson; Drs. Milner and Hutton; General Bentham and Colonel Twiss; and Messrs. Atwood, Jessop, Rennie, Watt, Southern, Reynolds, Wilkinson, Bage, Wilson.

In conclusion, the final decision of the designs to be adopted for the new bridge has yet to be determined by the Court of Common Council.

A. S.

THE SCIENCE OF THE ARCHITECTURAL ORDERS, AND ORNAMENT GENERALLY.

IT is, perhaps, universally allowed that it is not possible to fabricate more than three architectural orders; but why this is the case has hitherto been an unopened arcanum, which I have at last been able to understand, and will now unfold.

The cause of this circumstance is the geometrical condition that all figures are composed of straight or curved or a combination of both of these kinds of lines; from which it follows that there can be only three architectural orders, or three kinds of ornament; inasmuch as to affirm that, it being possible to delineate only three kinds of geometrical figures, it is nevertheless possible to produce more than three architectural orders, is almost a contradiction in terms, and an evident absurdity. And it is an absurdity because the several orders of architecture, and all varieties of ornament generally, are "figures;" and it is allowed that only three kinds of "figures" can be produced.

The Grecian orders are by no means pure, according to the above mentioned law; that is, they do not consist of the three different kinds of figures. The Doric is, for the most part, composed of straight lines; and the Ionic and Corinthian have each also a great amount of straight line, and are looked upon as different in kind, although properly they constitute but one order, on account of the Ionic spirals, which embody a very large amount of curves. It is clear that, to be pure, the orders should respectively be composed alone of straight or curved lines, or combinations of both of these. And also that all Egyptian, Saracenic, and all other columns, should likewise be unmixed, where any other than the order which is produced by combinations of straight and curved lines is intended. It is almost universally acknowledged that the Doric fret and the Ionic anthemion are beautiful ornaments; but, as with the orders, the cause of this has hitherto been concealed. The Doric ornament is perfect, because it is composed entirely of straight lines; and, similarly, the Ionic is almost so; inasmuch as, except the stems of the flowers, it is composed entirely of curved ones. A good example of a third kind of ornament is possible, which could be composed of combinations of both of these lines.

It has probably been supposed that the reason why only three architectural orders can be devised is, because they embody strength, elegance, and ornateness, which I formerly thought; but, seeing that there are many other properties, which could artificially be represented, and this in an architectural column; it must be concluded that this is not the cause why only three kinds of columns, either have been, or ever can be, fabricated. The correctness of the explanation here given can be proved, indirectly, by the exhaustive process,—by showing that every other is unfounded; which would not, I take it, be a very difficult thing.* J. ALEXANDER DAVIES.

THE STAGE AND ENTERTAINMENTS.

St. James's Theatre.—There is not a more purely tasteful scene to be found in any of the present Christmas productions, than that sunset by the sad sea waves, in "Perseus and Andromeda," wherein the heroine (Miss Herbert) is seen chained to a rock, waiting for the odd monster that is to devour her. The painting of it does credit to Mr. Lloyd, and the arrangement to the management. The "Apartment in the Palace of the King" is a careful piece of Doric architecture, polychromed, and shows the painter has not forgotten the training he had in that sort of work at the Princess's in time gone by. The "General Petrifaction," as it is called, when the people on the stage are suddenly turned to stone by the production of Medusa's head, is admirably managed, and shows the hand of an artist. The writing, too, is much better than the "Slobberybobbery" that passes for it in some quarters.

Gallery of Illustration.—Mr. Mark Lemon, by means of pithy writing, a pleasant manner, and illustrations by Messrs. Dalby & Thompson, is making the history of old London attractive. Under the title of "About London" he has p pared three lectures, which are given at interval different mornings, so as not to interfere with and Mrs. German Reed's entertainment, which still running its successful course. London, our readers know, has a history full of intere every street has a story; and many will now h these for the first time, and with obvious adv tage. While Mr. Lemon is precise, he ne ceases to be amusing.

* We insert our correspondent's letter without committing ourselves to the theory.

CAUTION TO EXTRAVAGANT CLAIMANT

Turnham v. The Metropolitan Railway Company.—T plaintiff is landlord of the Rising Sun public-hou corner of Chalton-street and Euston-road, and sued t company for compensation for certain cracks and juries to the walls of his cellar (which runs under t forecourt of the house), by reason of the works of Underground Railway. It is understood that he made specific claim, but at once brought his action. The co pany offered 25*l.*, which was refused.

The case came on at the Sheriff's Court on Monday la before Mr. Serjeant Hayes and a special jury, who all we to view the damage. The plaintiff's legal advisers thoug proper to lay the damages at the enormous sum of 1,00 though it was entirely unsupported by his own evidem or by that of his witnesses, Messrs. Finch Hill Paraire, Mr. Jeffs, builder, and others.

The company called no witnesses, and the jury gave a verdict for 20*l.*, thus throwing the whole of the co on both sides, which cannot be much short of 200*l.*, Mr. Turnham.

ASSESSMENT OF BETHLEHEM HOSPITAL ARBITRATION.

ON Thursday last a special meeting of the pari officers was held at the Vestry Hall, St. George's, Sout wark, when the assistant overseer presented the awa of Mr. George Pownall, to whom the pending issue h been referred, whereby the annual rateable value of t building, ground, and premises was adjudged to be 3,07 and inclusive of the House of Occupation, 3,728*l.* appeared that the governors had instituted an appeal Quarter Sessions against their assessment, which, accor ing to the valuation of Mr. Charles Lee, to whom t valuation of St. Thomas's Hospital had recently been r ferred, was claimed to be rated at 1,800*l.* a-year. T parish officers retained Mr. John D. Paine, whose valu tion, after survey, amounted to a slight excess of 4,00 per annum, for the hospital property. Mr. Pownall award of 3,728*l.* is, however, mutually binding on a parties.

PATENTS CONNECTED WITH BUILDING

LOCKS AND OTHER FASTENINGS. *M. Winkle* Vienna. Dated 2nd May, 1861.—The patente claims the construction of locks or other faste ings wherein any number of discs or their equiva lents, furnished with projections or incisions, a caused, by the introduction of the proper key, t arrive before corresponding grooves or proje tions on the inner surface of a barrel in whic these discs are situate; and which discs are, o turning the said key, caused to enter into and re volve in, or on, the said grooves or projections the barrel, substantially as described with refer ence to the drawing; such locks being made any suitable material, and employed either b themselves alone, with the simple addition of bolt and lever, or in conjunction with any othe description of locks or fastenings, and for any pur pose for which locks or other like fastenings ma be used.

APPARATUS FOR MAKING BRICKS. *J. Platt & W. Richardson*, Oldham. Dated 6th June, 1861 This invention relates, first, to sifters or screen for clay intended to be moulded into bricks; an consists in directing a blast of air from a narrow opening against the outward surface of the sai sifter or screen, so as to keep the meshes clear Secondly, the invention relates to that part of th mould of brick machinery by which the pressur is given to the material; and consists in formin such part in two or more pieces, adapted to mov independently of each other, so as to effect slight opening for the escape of air; such pieces however, being so arranged as to be capable o being forced forward simultaneously, when desired

AN IMPROVED COMPOSITION FOR BUILDING TO BE USED IN SUBSTITUTION FOR BRICK AND STONE, AND AN IMPROVED METHOD OF CONSTRUCTING WALLS AND ROOFS FOR HOUSES, &c. *S. Standfast*, Hackney, Middlesex Dated 4th June, 1861.—This improved composition is formed by running into blocks the following ingredients:—Burnt clay or loam, iron dust, brick rubbish, gravel, hoop-iron, wire, lime, cement, vegetable fibre, animal hair, and sand. The improved method of constructing walls and roofs consists in the employment of hollow frames or moulds, formed of wood or metal, between which the above-named ingredients are run or placed in a loose state, the material for forming the outer face of the wall or roof being first applied against the inside of the material forming

* From the *Engineer's* Lists, and other sources.

the outside of the frame or mould. The materials form one solid, compact, and jointless body. After they have become set and solidified the frames or moulds may be removed. The patentee prefers to construct the chimneys and flues required in the building by letting into the composition glazed earthen pipes.

BRICKS AND SLABS IMPERVIOUS TO DAMP. *W. C. Forster*, Gibson-street, Lambeth. Dated 20th May, 1861.—The object of this invention is to produce bricks or slabs glazed or vitrified in the interior; and thereby to render them perfectly impervious to damp; and at the same time, by avoiding glazing the external surfaces, to preserve the adhesive properties of ordinary bricks or slabs.

DRESSING SLATES. *J. W. Greaves*, Port Madoc, Carnarvon. Dated 18th May, 1861.—This invention relates to an improved construction, arrangement, and combination of machinery or apparatus for dressing slates, whereby accommodation is afforded for two workmen at the same machine; thus producing double the amount of work hitherto accomplished in machines of this description. According to this invention the cutter or cutters is or are mounted at a slight angle or inclination to the axial centre line of the main shaft of the machine upon a pair of holding discs or frames. The cutting edges of the cutter or cutters are in opposite directions; so that, by imparting a circular reciprocating motion to the discs, they will alternately act upon and dress the edges of the slates which are presented to them upon stationary cutters or knives at each side of the machine. The reciprocating motion of the discs and their cutter or cutters may be derived from a revolving crank or cranks driven by a pulley and band, and acting upon a lever arm or arms fast on the main shaft, or by any other convenient mechanical contrivance. The different sizes of the slates are gauged by suitable gauges on each side of the machine.

AN IMPROVEMENT IN FLOORS. *R. Preece*, Clapham-road, Surrey. Dated 24th May, 1861.—This invention consists in forming spring floors, especially suitable for dancing upon, by placing the sleepers or beams which support the joists upon blocks of india-rubber, or upon spiral or other suitable springs.

WARMING AND VENTILATING.—*C. Batty*, Marylebone-road, London. Dated 24th May, 1861.—This invention consists, first, in bringing the external atmosphere direct to the fire-grate, that the fire may be supplied with pure air, and without the assistance of the air in the room in which the fire is placed. The air is introduced into a chamber beneath the grate, where it is divided into several currents by flat bars or current directors; part of the air being conducted underneath the grate, and enters the fire at the bottom; and part is directed to the front of the fire to compress the smoke to the fire, and cause it to be burnt. As the air which is supplied to the fire is independent of that existing in the room, there is no draught, as the air at or near the floor of the room is not used for the supply of the fire. Secondly, the bars of the grate are made much broader than usual, and are placed in an oblique direction, and serve to direct the air to the fire, and thus consume the gases generated by the same. Thirdly, part of the air supplied from the external atmosphere, as before described, is directed to a chamber constructed round the grate where it is heated. The air thus heated is admitted and directed by suitable apertures or valves into the room to warm the same, and causes a true circulation.

A CONE PREVENTING SMOKE AND EXTINGUISHING FIRES IN CHIMNEYS.—*A. L. C. de Montagu*, Paris. Dated 16th June, 1861.—This invention consists in the peculiar construction and application of a chimney cover or pot for preventing, in any weather, chimneys from smoking in the interior, and for facilitating the extinguishing of fires therein. This conical cover may be made of strong sheet iron, baked earth, or other suitable material; and is fitted to the upper opening of the chimney duct. The diameter of the base of the cover is equal to that of the orifice which it covers, and its height about double the diameter of its base: the top of the cover is truncated by a section perpendicular to its axis, and is of a diameter equal to one fifth of the diameter of the base for fuel, giving off little smoke: the upper half or cone is perforated with holes of a diameter equal to a twentieth of the diameter of the base, with an interval between each of them equal to double their diameter.

ORNAMENTATION OF METALLIC CHIMNEY-PIECES OR MANTEL-PIECES.—*H. Crichley*, Birmingham. Dated 29th May, 1861.—The patentee claims making metallic chimney-pieces or mantel-pieces from tubes and plates, or sheets of metal joined together by riveting, screwing, soldering, or otherwise; instead of making them by the process of casting, as ordinarily practised. Secondly, ornamenting metallic chimney-pieces or mantel-pieces, and also stoves and fireplaces, by affixing ornamental paper to those parts of the chimney-pieces or mantel-pieces, or stoves and fireplaces, which it is wished to ornament.

SHOP-FRONTS. — *W. Riddle*, Barford-street, Islington, and *H. G. Coombs*, Union-street, Southwark. Dated 7th June, 1861.—This invention consists in substituting a revolving glazed case for the fronts at present in use.

Books Received.

VARIORUM.

THE first number for the new year of the *St. James's Magazine* is a good one, as all might expect it would be, seeing that it includes amongst the contributors to it Mrs. S. C. Hall, the conductor; the Rev. J. G. Wood; the author of "John Halifax;" Sir Jas. Prior; Sir Emerson Tennent; Mr. Fairholt; Mr. Fonblanque, jun.; and Mr. Thos. Hood. Mrs. Hall, besides continuing "Can Wrong be Right?" commences a series of "Memories of Irish Character,"—a capital beginning on her own special ground. The practical article of the number (there is usually one of that class) gives an account of the Pneumatic Despatch. Mr. Fairholt's is a very *apropos* sketch, "At a Pantomine," to illustrate which, he also lends his ready pencil.——*The British Workman* is doing good amongst the working men and women of the land. Some of the engravings are excellent.——The *Art Journal* contains a strong article on what it thinks weaknesses in the management of the approaching International Exhibition, especially as to the indifference shown to public opinion. We quote part of the writer's reply to Mr. Cole's observations at the Society of Arts:—

"We say nothing in praise or disparagement of the adopted design: it may be good, or it may be such as to reflect little credit on the constructive arts of the country, but to contend that, because Michelangelo and others had erected grand edifices, though not educated as architects, and because failures had occurred ten years ago, *therefore* the profession ought not to be consulted, is puerile logic. As a rule, if a man find himself out of health, he applies to a regular practitioner in medical science; if the physician's prescriptions fail, possibly he may follow the advice of some quack or amateur dispenser of drugs. Without for one moment comparing Captain Fowke, whom we believe to be a most skilful engineer and a gallant British officer, with such an individual, it seems evident the commissioners of the International Exhibition have acted upon the principle indicated. The reference made by Mr. Cole to the designs furnished by Sir J. Paxton, conveys an erroneous and an unjust impression. As urged, it leads to the supposition that Sir Joseph's designs were in the same class and in the same order as those furnished by the architects whose efforts he ridicules. This was not the case. His suggestion was altogether of a different character, and for a work such as an architect would have little connection with; but such as, by his antecedents, made the proposer specially fitted for working out.

Architects had sent in their designs in reference to a building of brick and mortar, as they had been invited to do. Sir Joseph, naturally enough, advised the adoption of a monster conservatory; and the facilities which this plan offered as to time and cost of execution, as well as its fitness to a merely temporary requirement, decided the matter, and wisely so, in his favour.

It is but justice to the competitive architects to affirm that it was not in their sphere of action that Sir Joseph won the preference, but in that which was his own. It was in his case but an enlarged field of operation in a speciality to which he brought the experience of a life. And it was *because* he had so long and diligently followed this branch of his profession, and *because* he had confined his proposition *strictly within the limits of its operation*, that he succeeded.

There was in this instance no exceptional action at all; and, therefore, the illustrious examples which Mr. Cole thought it becoming to cite in support of his theory, that the study of one class of art peculiarly adapted its votaries for the profession of another, and that, as a natural sequence, the finest works in architecture have resulted from the labours of painters and sculptors, even if true, have no affinity with it."

The *Industrial Magazine* is the title of a new periodical, which is to be a "Trades' and Co-operative Record." We do not admit the truth of the assertion in the programme, that "it is notoriously a matter of the greatest difficulty to obtain the insertion of a single article, on an industrial question, written from a working man's point of view, in any of the leading newspapers, magazines, or reviews of the day;" but we nevertheless welcome the new organ of labour, and hope it may aid in the intelligent discussion of social questions.——The most valuable part of the January number of the *New Quarterly Review* (Hardwicke), is the "Summary of Literature of the Quarter." This is very comprehensive.

Miscellanea.

THE MANCHESTER AND LIVERPOOL FREE LIBRARIES.—From the Report of the Manchester Free Libraries, recently published, it appears that from the five libraries, including the Reference Library at Campfield, the number of books issued daily throughout the year at all the establishments is 1,369 volumes. At the two Liverpool Lending Libraries, irrespective of the "Brown Library," the issue per diem is 1,580 volumes; or, a daily excess of 211 volumes over those of Manchester. There are at present 9,700 volumes lent weekly at these lending libraries, to 9,020 active borrowers.

THE MANCHESTER ACADEMY OF FINE ARTS.—At the annual meeting of this body, which was held in the Royal Institution, Mosley-street, it was stated in the report that the sales at last year's exhibition, which was a very attractive one, amounted to 5,000*l.* The exhibition of the present year had, with other institutions, felt the influence of the depressed state of trade. The sales, however, already amounted to 1,800*l.*; and the selections had yet to be made by the prize-holders of the Manchester Art-Union. About 30,000 had already attended the exhibition; the numbers averaging about 600 daily. The number of members of the academy was still on the increase.

THE THAMES EMBANKMENT COMMISSION.—The commissioners appointed to inquire as to the propriety of embanking the south side of the Thames have been sitting, with the Lord Mayor presiding. One witness, Mr. Crosby, of the Metropolitan Board of Works, said he would carry out an embankment along the whole side of the river; whether on the present line or not must depend on the conveniences of trade. At Lambeth an embankment, such as Mr. Cubitt made at Pimlico, he should recommend; at Rotherhithe a perfect wall only. On the question of taxation, he should suggest tonnage dues on all articles coming into the port of London. By this plan the trades benefited by the embankment would pay. Mr. Pegg, of Bankside, who had premises abutting on the river, recommended an embankment and roadway. He was one of a commission some years ago appointed to raise Bankside. They did not raise it so much as they intended owing to the opposition of the wharfingers. He described the misery occasioned to the poor of the district as most shocking. The cost of construction was so great as to cause much opposition. Although not carried so high as was intended, it had done great good.

THE RAILWAYS OF THE WORLD.—A laborious and interesting statistical article on this subject appears in the *Engineer* of the 3rd instant, from which we select a few results. The actual extent of railway now open throughout the whole world is probably about 70,000 miles; and the capital expenditure nearly one billion one hundred and seventy millions sterling. This vast sum has almost wholly been raised and expended within twenty-five years. The share of this immense capital which this country and its colonies have expended appears to be upwards of four hundred and seventeen millions sterling; and the miles of open railway on which it has been expended amount to 14,277. On the continental railways, four hundred and seventy-six millions and a half sterling have been expended on 22,692 miles of open railway. On the North and South American continents, exclusive of British possessions, about two hundred and fifty-seven millions and a quarter sterling have been laid out on 32,102 miles of open railway. India is included, of course, with the British possessions. Thirty-four millions and nearly a half sterling have been expended in India on 1,408 miles of open railway; and upwards of twenty millions and a half in Canada, on 1,826 miles of open railway. Nearly ten millions have been already expended in Victoria, on 183 miles of open railway; but in such cases as those of Victoria and India, works in progress are included in the expenditure named. France has expended upwards of one hundred and eighty-four millions and a half on 6,147 miles of open railway; Prussia, forty-four millions and upwards on 3,162 miles of open railway; Austria, forty-five millions and a quarter on 3,165 miles; Spain, twenty-six millions on 1,450 miles; Italy, twenty-five millions on 1,350 miles; Russia, forty-three millions and upwards on 1,289 miles; Belgium, eighteen millions on 955 miles; Switzerland, ten millions on 600 miles: Egypt, four millions on 204 miles; the United States, one hundred and ninety-three millions and a half on 22,384 miles; the confederate states, nearly forty-nine millions on 8,784 miles; Brazil, five millions on 111 miles and others in progress; and so on.

STATUE OF SCHELLING AT MUNICH.—On the King of Bavaria's birthday a statue of Schelling was inaugurated in the Maximilian's Strasse, in front of the National Museum. There are to be eight figures placed on the top of that Museum, to represent the eight districts of Bavaria. The statue of Schelling is the work of Brugger, to whom, also, Munich is indebted for the statue of Max Emmanuel.

CRYSTAL PALACE FOR THE PARISIANS.—A *société anonyme*, with a capital of 25,000,000 francs, is in course of formation for the construction of a "palais de cristal" in the Bois de Boulogne. The council of administration comprises a number of gentlemen well known both in France and this country—the French portion including the Marquis de la Roche-Aymon, Count de Santivy, the Marquis de Monclar, M. Pasqualini, and Prince A. Galitzin; and the English portion, Messrs. S. Beale, M.P., T. N. Farquhar, and Wm. Jackson, M.P. Sir Joseph Paxton has accepted the office of architect in chief; Mr. Edwin Clarke that of consulting engineer; and Mr. Thomas Brassey that of contractor-general. It is intended to make the Palace specially attractive by concentrating within it magnificent halls for public entertainments, and a vast nave for the exhibition of fine arts, manufactures, and horticulture. Balls, concerts, art-festivals, literary and national reunions, will find accommodation worthy of the advancement of the age. The exhibitions will be permanent.

THE CAMBRIDGE SCHOOL OF ART.—A lecture was delivered on the 2nd instant to this school, by the Rev. W. J. Beamont, of Trinity College, on "The Advantages and Use of a Knowledge of Art to the Working Classes." The lecturer commenced by a definition of the word *art* as opposed to *nature*. Art, he said, meant simply skill; and, as it could not be denied that the works of nature had a superhuman skill applied in their construction, we had the anomaly that nature was art. The lecturer distinguished between a man who acted merely as a machine and the man who acted as an artist. He took the case of a man building the wall of a house. One man might put brick upon brick, and complete a substantial wall which would serve every practical purpose for which it was required, but that man as a consequence would not be an artist. But the man who used grace in building the wall, and endeavoured to impart somewhat of a good appearance to it, in addition to making it substantial, might be termed an artist. This point of difference between the two was, that one made his work graceful, whilst the other did not endeavour to impart grace. Mr. Beamont then spoke of art in the advantages it imparted, both as a means of healthy recreation, of mental refinement, and also of that more vulgar pursuit,—money-making. For the encouragement of his audience, he told them of many eminent artists who had risen from the masses; and that, too, in many cases, solely by perseverance and self-tuition. All, no doubt, would not become great artists, but some might, and those who did not would learn something.

GERMAN VENEER-CUTTING MACHINES.—At a meeting of the Institution of Engineers in Scotland, held on 11th ult., a description was given by Mr. D. More, of a German veneer-cutting machine of a much improved description, which had been set to work in St. James's-road, Glasgow, by a Hamburg firm named Prale & Balheimer. This machine cuts veneers not by a circular saw, but by a very fine, thin, straight one, placed vertically, with the teeth downwards, but shaped to act similarly in both directions: they resemble lancet-points projecting at short intervals from a straight edge, and are very slightly set alternately to opposite sides. The saw-blade, after it comes from the maker is *planed*—not ground—to as perfect an equality of thinness as possible; and it is firmly guided by being made to work upon the inner vertical face of a knife-shaped guide, the knife-edge being directed downwards, and the saw-teeth projecting just sufficiently below its bottom edge to take the cut, whilst the veneer comes away on the outside of the guide, just as if cut by the guide. A slight convexity inwards is given to the guiding surface, so as to prevent the saw-blade from springing, as it did from a flat-surfaced knife-guide. In the discussion which took place, Mr. More said that it used to be thought that eleven veneers out of the inch was good work, and that when twelve per inch were got out of a log, it was considered a great thing; but this new machine seemed to be able to take upwards of thirty clefts out of an inch of wood, and even fourteen and fifteen of as great thickness as formerly the ten and eleven were.

FATAL ACCIDENT AT ST. MARTIN'S HALL.—While seven workmen were employed on a stage inside the hall, where a chandelier had to be put up by Mr. Defries; the stage, which was 40 feet from the floor, and suspended by ropes from the roof, gave way, and six of the poor fellows were precipitated to the ground, among the planks, and so severely injured that three of them died, and it is doubtful whether any of them will recover. The foreman had a narrow escape; having caught hold of an iron rod which projected from the funnel of the chandelier, and of which he kept hold till extricated from his most perilous position. Mr. Defries states that none of his workmen were in the building, and that he had nothing to do with the erection of the scaffolding. The inquest is in progress.

GIVE EVERY ONE HIS OWN.—The *American Gas-Light Journal* has the following obliging paragraph under the heading, "Pillaging the London 'Builder'":—"This most excellent paper says that a copy of the New York *Builder* was sent to it lately with five articles transferred bodily to its columns, without acknowledgment; and 'another American art-paper usually takes two or three, acknowledging one only.' We should very much like to know the name of the 'other American art-paper,' for we would advertise it *gratis*. What would the London *Builder* say, if three or four pages of expensive and laboriously compiled tables were lifted clean out of its sheets and put into the boots of a contemporary without the least sign of a label to designate its origin? or, again, to have a valuable editorial re-hashed, turned over, omelette-fashion, and served up at second table by another editor? We copy largely from the *Builder*, but always with credit, pleasure, and benefit. It is without a superior, and with very few equals in any country."

WORKING CLASS RESIDENCES.—At a meeting of the Manchester Literary and Philosophical Society, on the 24th ult., according to the printed transactions of the Society, Mr. Isaac Holden read a paper "On the Effects produced by the Character of their Residences upon the Physical and Moral Condition of the Working Classes." Mr. Holden believed that, although considerable attention had been given to the building of cottages, sufficient progress had not yet been made in making them comfortable and attractive to the inmates. The interest of the paper consisted in the facts detailed connected with the subject. Mr. Holden particularly dwelt on the present most imperfect method of dealing with the refuse of towns, and the great evils that resulted from its accumulation near every house. Mr. Henry Ashworth stated that a firm near Bolton had considered it their interest to erect for their workpeople cottages of a superior class, mostly containing three bedrooms, and in other respects commodious and convenient. They were let at a rental of six per cent on the outlay, and were in great requisition. The beneficial effects on the social and moral condition of the tenants was undoubted.

THE "LANCET" AND THE RAILWAYS.—A commission "On the Influence of Railway Travelling on Public Health" is reporting the results of its investigations in the *Lancet*. Amongst the causes of collisions and other accidents, the report gives a prominent place to want of sleep, and consequent exhaustion and incapacity, on the part of drivers, guards, and signal-men, from the culpably long hours they are obliged or allowed to work at a stretch, and that not occasionally merely, but as a general practice. The public ought to support the endeavours of engine-drivers and other railway *employés* to obtain shorter hours. But a no less pernicious practice than that of compelling such persons to be from sixteen to eighteen hours, and frequently for twenty-four, thirty-six, and forty-eight hours, and even for three days and a night, on duty, without a night's rest, is the practice of paying by time, and so tempting the men to similar practices. The reporters quote a report by Mr. W. Bridges Adams, the railway engineer, on the peculiar motion of railway carriages and engines on the rails, in which he enters into a minute and scientific consideration of the causes of vibration and its consequences; in course of which he points out the differences between the motion of wheeled carriages on common roads, and that of the fixed axles and wheels, or rollers, used on railways. Mr. Adams then sums up his report thus:—"The first thing to do is to settle the quarrel between wheel and rail, which, as Stephenson said, should be as man and wife, but at present are a very ill-assorted couple. All other improvements are comparatively valueless as regards the influence produced on passengers, till this improvement shall have been carried into effect."

BRUSSELS TOWN-HALL COMPETITION.—Complaints are loudly expressed by English architects who submitted designs, that no official information of the result is obtainable. Our correspondent in Brussels gives us a very indistinct account of the affair. It is stated that the third premium was awarded to an English architect.

THE NEW STREET FROM WHITECHAPEL TO SHOREDITCH.—Building operations have been begun on the above new line of street by the contractors who, a short time ago, purchased various plots of ground from the Improvement Commissioners, by whom they were put up to auction.

INTERESTING DISCOVERY AT RIPON.—Mr. H. C. Sharpin has had the satisfaction of bringing to light the long buried "Kangel Cross," being one of the ancient crosses erected for the purpose of marking the boundary of the sanctuary granted by King Athelstan, in the year 924, to the church of Ripon, and of which "Sharow Cross" has been until now the only one in existence.

METROPOLITAN RAILWAY WORKS.—A complimentary dinner was given on new year's eve to Mr. Thomas Cordell, agent to Mr. J. Jay, for his kindness to all those under his control; when eighty of the clerks, foremen, &c., sat down. Mr. Harding presided, and the vice-chair was taken by Mr. W. McCloud. After the usual loyal toasts, that of Mr. Fowler and the engineering staff of the line was responded to by Mr. W. Morton; after which the health of Mr. Jay was drunk; and then came the toast of the evening, Mr. Thomas Cordell, who made a fitting reply.

PARIS AND LONDON HOSPITALS.—A discussion has taken place at the Académie de Médecine, Paris, on the relative sanitary condition of the hospitals of Paris and London; and very different opinions were expressed on the subject, some speakers maintaining that the London hospitals were superior in this respect to the Parisian, and others holding the contrary. If the Paris hospitals are not better than the English, they must be bad indeed. Such a result must be attributable, to the superiority of the English practitioners.

GORE'S IMPROVED GAS AND WATER-PIPES.—The waste of gas in London and other towns from inefficient jointage in the pipes is the least of a serious evil, which demands a remedy far more on account of sanitary considerations than of economic. The improved pipes under notice appear to be well adapted to supply the requisite desideratum. The joints are on the male and female joggle principle; the jointing ring of the one piece entering between two ringed walls in the other, after smearing with a cement which makes all complete. The tubes can be made either of earthenware or of cast iron, the earthenware being, of course, much cheaper than the iron, and equally effective as regards the jointing.

EXCAVATIONS IN ROME.—A letter from Rome, in the *Correspondance Littéraire*, contains the following:—"M. Rosa continues his excavations in the Farnese gardens here. At the beginning of the month the workmen laid bare what is supposed to be the Academia, or lecture-room, mentioned by Pliny and other writers. The interior has been completely cleared, so that the seats, rising one above another, and the niches for statues, are visible. Between the Academia and the Baths of Livia, the excavators are now uncovering a number of large vaults, with broken arches; and have found fragments of mosaics and remnants of walls and pilasters built of brick. The works are also progressing near the Via Sacra, and the ruins begin to assume a most imposing aspect. Several fine fragments of marble columns, Corinthian capitals, &c., have been dug up."

BESSEMER STEEL.—At the meeting of the Manchester Literary and Philosophical Society, held on the 24th ult., Mr. Brockbank exhibited some samples of steel manufactured by Mr. Bessemer's process. These specimens, report the printed Transactions of the Society, had been bent and twisted cold, and showed a remarkable degree of ductility. He stated that the Bessemer steel was one of the most plastic and manageable of metals,—more so even than copper. It could be bent, flanged, or twisted, either hot or cold, without annealing, and over a considerable range of temperature, which is not the case with ordinary steel or copper. A plate of 18 inches diameter had been forced through a series of dies until it formed a tube 13 feet long and $1\frac{3}{4}$ inch diameter, without any crack or flaw. In drilling a circular hole into a plate, continuous shavings are formed; whereas in copper, Low Moor plates, or any other metal, the shavings break into pieces $\frac{1}{16}$ inch long. Thin sheets of Bessemer soft steel can be bent backwards and forwards hundreds of times without a fracture, and are almost as flexible as paper.

NEW USE OF THE DECORATIVE GLASS OF VENICE.—Count Tullio Dandolo, President of the twenty-third section (painting, &c.), of the National Italian Exhibition at Florence, writes a long letter to the *Morning Post*, on a new invention by Signor Salviati, formerly an eminent member of the bar, in which Venetian glass beads are employed on a large scale in the decoration of apartments, as a kind of refined and brilliant mosaic. "The old Venetian beads," says Count Dandolo, "have, under his hands, been transformed into tablets, with a plain and smooth surface, of whatever shape it may be wished to give them, and of the size of several square inches. This fact alone will furnish an idea of the numerous purposes to which glass thus prepared can be turned. The tablets thus cut into a thousand forms, and learnedly combined by a decorative skill, constitute mosaics that are almost imperishable, of dazzling brilliancy, presenting contrasts and reflections so beautiful as to recall the marvels of fairy-land,—inlaid work that appears to realize the magnificence of the enchanted palaces of Ariosto and of Tasso: an Armida could not, by the waving of her magic wand, have imparted greater beauty or greater splendour to the halls in which she was wont to entertain her captive knights, or the cabinets in which she sought to bewitch them by the spells of passion. I am not speaking of ideal or imaginary adaptations of something merely experimental, but of productions of which the creation and realization are now before our eyes, and which, beyond all question, constitute an epoch in the history of decorative art. Not the least important element in the question is the fact that the price of these layers, if I may so call them, of precious stones, for the decoration of walls, ceilings, and floors, is within the reach of all fortunes which are only raised a very little above that of a humble tradesman or artisan. Every member of a tolerably remunerative profession, every one in possession of a moderate income, every public functionary in the receipt of a fair salary, can by the outlay of a few hundreds of francs have the pleasure of lighting up with this magical decoration his drawing-rooms or parlours; whilst the great bankers, merchants, capitalists, or noblemen, by spending as many thousand francs as those beneath them spend hundreds, can produce a corresponding effect in their magnificent reception-rooms. A Sovereign, by the expenditure of so many tens of thousands, instead of so many thousand francs, may fit up, in a style of regal gorgeousness, the great throne-room or audience-hall of his palace." Signor Salviati has been employed by the Viceroy of Egypt to adorn his halls with this new invention, at a cost of about a million of francs: floors, walls, and ceilings will all be decorated with the Salviati mosaics. In Italy, also, the invention is being put to good use; and it is to be hoped Signor Salviati will forward specimens to the International Exhibition. About 200 families are employed at Venice in these works; and in the architectural portion of his labours, Signor Salviati has associated with himself a young architect, M. Stampetta, of very great ability, whose architectural plans have just received the medal in the section of the National Exhibition over which Count Dandolo presides.

TENDERS.

For alterations and additions to buildings at Wren's-cross, Maidstone, for head quarters station for Kent County Constabulary. Mr. Balmer, county surveyor. Quantities supplied by Mr. G. Ruck:—

Naylor	£1,627	0	0
Holloway	1,567	0	0
Ayres & Son	1,550	0	0
Chambers	1,518	0	0
Cobb	1,476	7	0
Bates	1,470	10	0
Wallis	1,465	0	0
Clements	1,455	0	0
Grensted & Bridge & Son	1,443	9	0
Sutton & Vaughan (accepted)	1,396	0	0

For alterations and additions to Love's Hotel, 35, Albemarle-street. Mr. R. L. Roumieu, architect. No quantities given. Old materials to be re-used:—

Mansfield	£2,100	0	0
Tubbs	1,674	0	0
Mashman	1,543	0	0

For Messrs. Chaplin & Co.'s new wharf and engine depôt, Lambeth. Mr. R. L. Roumieu, architect. Quantities supplied by Messrs. Welsh & Atkinson. The old bricks to be re-used:—

Mansfield	£1,028	0	0
Dove, Brothers	1,025	0	0
Brown & Robinson	952	0	0
J'Anson	946	0	0
Longmere & Burge	945	0	0

For villa, at Croydon, for Mr. J. J. Segar. Mr. W. Pain, architect:—

Clark	£810	0	0
Thomas	798	0	0
Colls	797	0	0
Foster	790	0	0
Hart	777	0	0
Wilkins & Bottom (accepted)	761	0	0

For a new hotel in Bank-street, Aldershott, for Mr Taunton. Messrs. Eggar & Stapley, architects:—

Martin	£2,850	0	0

For St. Martin's District Church, Liverpool. Messrs. W. & J. Hay, architects. Quantities taken out by Mr. Sherlock:—

	First plans.			Second plans.		
Mullin	£3091	0	0	£1,476	0	0
Nicholson & Ayre	3,072	0	0	1 391	0	0
Westmoreland	3,039	0	0	1,461	0	0
Wells	3,020	0	0	1,489	0	0
Yates	2 960	0	0	..		
Tomkinson*	2 799	0	0	1,335	0	0
Lapsley & Morfu	..			1,155	0	0

* Accepted.

TO CORRESPONDENTS.

MR. C.—O. W. D. (in type).—J. E. Mold (he has no claim on wall not at present used by him).—J. C.—R. K.—J. A. D.—E. F. L. (we shall be glad to see tracings).—X. Y. Z. (the question cannot be answered without more explanation than we have time to give).—A Subscriber.—G. G. H.—E. O. B.—J. H.—E. H.—An Architect's Assistant.—G. J. de W.—J. H. E.—Mr. T.—M. D. W.—H. B.—* * *—A. S. (shall appear).—A. M. O.—E & S.—T. W. C.—T. O.—E. O. J.—W. S. G.—W. P.—M E H.—Argentum (it would depend on circumstances. We cannot reply in such matters *ex parte*).—J. R.—J. F. B. (next week).

TO SUBSCRIBERS.

A coloured Title-Page for last year's Volume may be obtained, gratis, on applying personally at the Office. The Index to our last Volume will be found in the present Number as a Supplement, also gratis.

The Volume will be bound (on being sent to the Office) for 3s. 6d.; or Covers for that purpose may be obtained at 2s. 6d. each (broad), and 2s. (narrow).

It is necessary to state whether the Advertisements are or are not to be bound in the Volume.

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-Office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

A STAIRCASE HAND has a vacancy for an IMPROVER. Must be used to the bench. A young man from the country will be preferred.—Address, stating the wages required, T. E. 9, Chancery-place, Camberwell New-road, London.

BUILDER'S FOREMAN WANTED.—He must be fully competent to take charge of a suburban yard and shop, thoroughly acquainted with his business, and have filled a similar situation.—Apply by letter to A. B. C. care of Porter, 36, Cannon-street, E.C.

EMIGRATION to QUEENSLAND, AUSTRALIA.—WANTED, TWO HOUSE-CARPENTERS, two rough ditto, one blacksmith, a man and wife for domestic service, and three men for ouddoor work. Certificate of health and character required. Country preferred. Free passage. Two years' engagement.—Apply by letter to J. WALKER, 8, Cannon-street, London, E.C.

WANTED, a good Out-door ASSISTANT and TIMEKEEPER. One acquainted with Sanitary Works preferred. Address, in own handwriting, stating age, present occupation, and salary required, with testimonials, to the City Surveyor, Gloucester, not later than the 22nd of JANUARY next.

WANTED, in an Architect and Surveyor's Office, a thoroughly experienced ASSISTANT. Must be well up in design and construction, and a good colourist; must have a good knowledge of surveyors' accounts, and be a quick and neat penman.—Apply, stating age, salary required, and giving references, to W. MANSFIELD, Kington, Herefordshire.

TO STONE CARVERS.

WANTED, in the Country, TWO active, clever, and sober MEN, who understand the different styles of Gothic carving.—Address, wages and reference, A. D. Office of "The Builder."

WANTED, a Builder's or Engineer's CLERK. He must be a good accountant, quick in calculating, in preparing approximate and final rates of work and land, and have neatly. Salary, at the rate of 100l. per annum. To save trouble, none need apply whose character for the above qualifications, together with strict sobriety, integrity, and industry, will not bear the strictest investigation.—Applications, with testimonials and references, to be addressed in applicant's handwriting, stating age, &c. to the Engineer of The Monmouthshire Railway and Canal Company, Dock-street, Newport.

TO PARENTS.

WANTED, in the Office of an Architect and Surveyor in full practice, a YOUTH as ARTICLED PUPIL. He would have unusual opportunities of acquiring a thoroughly practical knowledge of the profession.—Address by letter only, J. S. 47, New Buildings, Prince Albert's-road, South Kensington.

WANTED, a respectable Young Man, to TAKE CHARGE of a BUILDER'S IRONMONGERY ROOM. Must write well. Hours, from six a.m. to seven p.m.—Address, stating wages required, and full particulars, to A. B. Mr. Hatchett's, Moorgate-street, E.C.

TO GRAINERS.

WANTED, in the Country, a First-class GRAINER of WOODS and MARBLES. The situation permanent.—Address, D. E. SIMPSON, Grainer and Decorator, Grove Cottage, St. Martin's, Stamford, Lincolnshire.

WANTED, a JOINER (Shop-Front Hand, Piece-work).—Apply to the FOREMAN, on the Premises, Royal-hill, Queen's-road, Bayswater.

TO BUILDERS' CLERKS.

WANTED, a JUNIOR CLERK in a Builder's Office, to keep books and square dimensions. Only those who have filled a similar situation need apply.—Apply any morning before TEN a.m. to W. D. 1, York-place, Vauxhall-bridge-road, Pimlico, S.W.

TO CONTRACTORS' AGENTS.

WANTED, an AGENT, to SUPERINTEND some WORKS on the COAST, about 200 miles from London. None but men of experience, and having first-class references, will be treated with.—Address, T. Q. Office of "The Builder."

TO CIVIL ENGINEERS AND CONTRACTORS.

WANTED, an ENGAGEMENT, by a Gentleman, aged 23, who has served an apprenticeship to a Civil Engineer and Surveyor, as well as with a Practical Engineer and Millwright, and has since had constant practice. He is a good and practical surveyor, leveller, and draughtsman, has had much experience in preparing parliamentary, town, and estate surveys, and in staking out and preparing plans and sections for railway contract works. Testimonials and references if required.—Address, W. W. W. Scadding's Library, Warwick-street, London, S.W.

WANTED, by a thoroughly practical CLERK of WORKS, a RE-ENGAGEMENT. Is fully qualified to superintend the erection of any extensive works, or measure up works. First-class testimonials.—Address, H. T. H. Office of "The Builder."

TO BUILDERS AND PLUMBERS.

WANTED, a constant SITUATION, by a Country PLUMBER, who has had three years' town experience. Can fill up his time with gas fitting and painting.—Address, W. B. 29, Cirencester-place, Fitzroy-square.

TO BUILDERS OR SURVEYORS.

WANTED, a SITUATION as BOOK-KEEPER, DRAUGHTSMAN, and GENERAL ASSISTANT. Address, W. W. Hampton's Coffee House, Ivy-lane, E.C.

WANTED, by the Advertiser, a SITUATION, as FOREMAN of PLASTERERS, or to take WORK by the PIECE. First-class reference as to sobriety and industry.—Address, J. T. No. 1, Cook's-place, Forest-hill, S.E.

TO BUILDERS.

WANTED, to APPRENTICE a YOUTH to a respectable General Builder.—Address, J. H. B. Post-office, Barnet.

WANTED, by a Man of experience, a SITUATION as FOREMAN in a BRICKYARD. He has had many years' experience in making by machinery.—Address, X. Y. Z. Post-office, Plaistow, Essex.

WANTED, constant EMPLOYMENT, by a good Plumber and Gasfitter. Has no objection to fill up time with painting and glazing.—Address, J. K. No. 11, Arthur-street, Knightsbridge, London.

WANTED, by a Young Man, a permanent SITUATION as PLUMBER. No objection to fill up time with painting or glazing.—Address, W. E. 14, Castle place, Kentish-town, N.W.

TO MASTER PLUMBERS AND BUILDERS.

WANTED, by a respectable Young Man, aged 21, EMPLOYMENT at the THREE BRANCHES. Has had good practice in plumbing. Wages 25s. per week. Good references given.—Address, W. G. 18, East-street, Manchester-square.

WANTED, a SITUATION as FOREMAN in or out of a TIMBER YARD. Aged 40, with good character.—Address, A. B. Post-office, Battle, Sussex.

TO SAW-MILL PROPRIETORS, BUILDERS, &c.

WANTED, a SITUATION as WORKING FOREMAN, to superintend or direct the working a mill, or work a sawing, planing, or moulding machine, make irons for same, or sharpen saws, at mill the engines, or anything required, having filled the same for several years past. Excellent references and testimonials as to qualifications, character, &c.—Address, J. M. 8, Francis-terrace, St. Leonard's-road, Bromley, Middlesex.

TO ARCHITECTS, BUILDERS, AND ESTATE AGENTS.

WANTED, by a Practical Man, a SITUATION as CLERK of WORKS, GENERAL FOREMAN, or SUPERINTENDENT, on a gentleman's estate. Has good knowledge of construction, can make working and finished drawings, and measure work. The Advertiser has had good experience in agricultural and other buildings.—Address, W. W. 20, Gratton road, Kentish Town, N.W.

TO BUILDERS AND DECORATORS.

WANTED, a SITUATION as GRAINER and WRITER. Can do oak in oil or spirits, and also writing and embossing on glass; and would fill up his time at painting and make himself generally useful. Three years at last shop. Must be for summer and winter. London preferred, but no objection to the country.—Address, W. W. Mr. Bradford's, Greengrocer, 11, Artichoke-place, Mile end road, E.

TO ARCHITECTS AND SURVEYORS.

WANTED, by a well-qualified ASSISTANT, aged 21, an ENGAGEMENT with an ARCHITECT and SURVEYOR.—Address, DELTA, 15, Park-side, Knightsbridge, S.W.

TO PLUMBERS, BUILDERS, &c.

WANTED, EMPLOYMENT, by a good PLUMBER. Good references given.—Address, W. H. 56, Star-street, Paddington.

WANTED, by an experienced CARPENTER and JOINER, an ENGAGEMENT to a BUILDER, or in a Warehouse, where he would be willing to undertake other duties, willing to look after and keep in order Stalls at the Establishment.—1862.—A. Mrss, 3 TREBELL, 14, Orchard-street, Harrow-road, Paddington.

TO PLUMBERS, BUILDERS, AND OTHERS

WANTED, by a Young Man, a PERMANENCY as PLUMBER, PAINTER, GLAZIER, WRITER, GRAINER, and PAPER-HANGER.—Address, W. E. 31, Queen's-gardens, Bromley-terrace, Knightsbridge.

TO PLUMBERS AND BUILDERS

WANTED, a SITUATION by an experienced PLUMBER and GAS FITTER, as WORKING FOREMAN, or otherwise.—Address, A 1, Office of "The Builder."

WANTED, by a Youth, a SITUATION as TIMEKEEPER and STOREKEEPER in a Builder's yard. Good references given.—Address, S H Rose Cottage, Woodstock-place, Norwood, S.

TO JOINERS AND OTHERS.

WANTED, by a steady active Man, a SITUATION as MANAGER or FOREMAN. Can make working drawings, and carry out architects' plans. Reference can be given if required No objection to the country.—Address, MR. ROGERS, 99, Lisson-grove, Marylebone-road, N.W.

TO BUILDERS AND OTHERS.

WANTED, by the Advertiser, a SITUATION as CLERK (in town or country). Is well acquainted with measuring and the usual office work. Good references can be given. Salary, 25s. per week.—Address, B. W. No. 49, Broad-street, Golden-square, W.

TO BUILDERS, CABINETMAKERS, &c.

WANTED, by a Young Man, a SITUATION, as ROUND, OVAL, or SPIRAL TURNER. Can introduce machinery for fluting, twisting, or octagon work in the lathe; make drawings for turnery work; also fix lathe and tools, if required. First-class references.—Address, E. J. F. 13, John street, Tottenham-court-road, W.

TO GENERAL CONTRACTORS, BUILDERS, &c.

WANTED, a SITUATION, by an experienced Practical Man, who has a thorough knowledge of the building trade generally, and is qualified to take the entire management of a business.—Good references and security, if required.—Address, W. W. Office of "The Builder."

TO BUILDERS, &c

WANTED, by a thoroughly Practical BUILDER'S FOREMAN, a RE ENGAGEMENT as General Out-door FOREMAN, or to take charge of a Job. Good references to last and present employers.—Address, S. M. Richardson Office-assistant, Tothill-street, Westminster.

WANTED, by a Young Man, constant EMPLOYMENT as PLUMBER. Has had seven months up his time with a little painting or glazing.—Address, X. Y. Mr. Marsh's, 52, Brindley street, Harrow-road, N.W.

TO BUILDERS, PLUMBERS, &c.

WANTED, EMPLOYMENT as PLUMBER. Willing to fill up time with gas-fitting, &c. Good references given.—Address, H. JONES, No. 9, Cadogan-street, Chelsea.

TO CARPENTERS, &c.

WANTED, by a respectable Young Man, aged 21, IMPROVEMENT, for one or two years, in the above trade.—Address, W. F. 25, Essex-street, Brentwood, Essex.

THE Advertiser wishes an ENGAGEMENT in an Architect's Office.—Address, J. L. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS

THE Advertiser, who has recently had the Management of an Office in the City, is desirous of an ENGAGEMENT in town. Is thoroughly acquainted with the duties of an office. Terms moderate.—Address, A. Y. Z. Office of "The Builder."

TO BUILDERS

THE Advertiser, a Young Man, who has had eight years' experience in the trade, wishes for a RE-ENGAGEMENT as BUILDER'S ASSISTANT. Understands book-keeping, estimating, &c. and will fill up time at the Bench.—Address, A. B. 2, Parkfield-cottages, Putney, S.W.

TO QUANTITY SURVEYORS AND OTHERS.

THE Advertiser, aged 23, who is quick at squaring dimensions, abstracting, billing, &c. taking plans of property, and is a good draughtsman, also can stand survey and level, is open to a RE ENGAGEMENT. Unexceptionable references can be given from previous employers. Salary moderate.—Address, SURVEYOR, Mr. Strugnell's, Post-office, 110, King's-road, Chelsea, S.W.

EMPLOYMENT WANTED, as BUILDER'S CLERK, CLERK of WORKS, to no age an Estate, neither confirmed invalid, nor by age active in the age Man. Has a thorough, practical knowledge of building in all its branches, can take out quantities, and measure up work. Unexceptionable references. Salary moderate. Country preferred.—Address, J. C. 36, Clarendon-square, St. Pancras, N.W.

TO ARCHITECTS

A THOROUGHLY-QUALIFIED ASSISTANT, who has just completed a two years' engagement with a provincial architect of good practice, is in want of an ENGAGEMENT. He will undertake the working drawings, specifications and construction, and the various details and superintendence.—For references, address to T. G. B. Messrs. Chevalier, Bowness, & Son, 12, Bell-yard, Temple-bar, W.C.

AN ARCHITECT'S ASSISTANT, well acquainted with detail and construction, a good perspective draughtsman and colourist, with a thorough knowledge of office duties, is open to an ENGAGEMENT.—Address, F. S. R. Office of "The Builder."

TO ARCHITECTS.

AN ASSISTANT, accustomed to trace and finish drawings &c. and who is accustomed to the routine of an office, is open to an ENGAGEMENT at moderate salary.—Address, E. S. care of Mrs. HADNUTT, 25, Chandos-street, W. C.

TO BUILDERS AND CONTRACTORS.

AN AGENT, who has had great experience, is DISENGAGED, and offers his SERVICES to carry out works, measuring, estimating, or making up books.—Address, J. F. Office of "The Builder."

TO ARCHITECTS.

A YOUNG MAN wishes to meet with a RE-ENGAGEMENT, in an Architect's Office. Is a good draughtsman, and well up in the duties of an office. Has been five years with two architects of good standing. Salary, 80£ per annum.—Address, F. T. Office of "The Builder."

TO BUILDERS AND OTHERS.

AS FOREMAN, an experienced Man, a Carpenter and Joiner by trade, is open to an ENGAGEMENT in LONDON or the country. Good references.—Address, W. B. 6, Park walk, West Brompton, S.W.

TO BUILDERS AND CONTRACTORS.

A THOROUGHLY experienced Estimator, Measurer, Accountant, and Practical General Manager, will be disengaged by Lady-day next, and is open to an ENGAGEMENT in a first-class Firm, at a salary of 300£ per annum.—Address, F. F. S. 16, Woodland-terrace, Stoke Newington-road, Dalston.

A FIRST-CLASS Moulder, Carver, Modeller, and Designer, wishes for an ENGAGEMENT. Can take the management of a firm. No objection to the country.—Address, J. F. Office of "The Builder."

A GENTLEMAN is desirous of a RE-ENGAGEMENT as SOLE ASSISTANT in an Architect's and Survey's Office, having been used to undertake the plans, and measurements, working drawings, specifications, and superintendence. Can give references as to capabilities and character. Salary very moderate.—Address, R. P. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

A GOOD and expeditious Draughtsman, aged 27, wishes for a permanent or temporary ENGAGEMENT, at a moderate salary.—Address, A. B. care of Mr. Botterell, Photographer, 145, Fleet-street, City.

TO BUILDERS AND PAINTERS.

A YOUNG MAN is in want of a permanent SITUATION as GRAINER and GENERAL HAND. He is a good imitator of hard-es, writer, gilder, &c.—Address, G. M. 15, Russell-street, Bruton-street, London.

TO BUILDERS.

AN experienced JOINER and good STAIRCASE HAND, aged 24, WANTS EMPLOYMENT. Will not object to a job at the bench. The north-east or the City preferred, or would do a good staircase in the country. Good reference. Address, J. N No. 9, Weir street, Kingsland-road, N

TO IRONMASTERS, &c.

A YOUNG GENTLEMAN, aged 22, having had seven years' experience in the Counting House of a Wrought Iron Merchant, Manufacturer, and Metal Broker in the City, who is now acting as confidential CLERK for the same, wishes (in order to better his position) to obtain either a similar ENGAGEMENT, or as TRAVELLER to a Wholesale House. The Latter preferred.—Address, X. Y. Z. Office of "The Builder."

TO BUILDERS AND IRONMONGERS.

A FIRST-CLASS BELLHANGER and GASFITTER, having just finished a large job, is desirous of another. He is also thoroughly acquainted with the lamp trade. Two or three Ladies, if Others.—"The Builder."

A NEAT DRAUGHTSMAN, accustomed to preparing Perspective, Working, and Detail Drawings, both for Architects and Engineers, and who has a knowledge of Surveying, is well acquainted with official routine, desires a RE ENGAGEMENT. Satisfactory references; for which, and terms, address to K. M. N. Smythe's News Room, No. 76, Strand, London, W.C.

TO ARCHITECTS.

AN ARCHITECT'S ASSISTANT seeks a RE ENGAGEMENT. He is prepared to undertake working drawings, details, &c. and is thoroughly practical in all the duties of an office. Gothic preferred. First-rate references. Salary, 25s. per week.—Address, B. General Post-office, Birmingham.

A STAIRCASE HAND is in WANT of EMPLOYMENT. Understands Gothic work well.—Address, T. G. Office of "The Builder."

TO ARCHITECTS, BUILDERS, &c.

A GENTLEMAN will be happy to lend his SERVICES in the preparation of designs, working drawings, specifications, & c. in connection with the above, 2 A. Care of Mr. PERKS, 111, St. Martin's-lane, W.C.

A YOUNG MAN, who has been five years in the office of his father, an architect in the provinces, is desirous of IMPROVING his present position. Has been accustomed to the various duties of an office. Salary no object.—Address, J. B. 16, Hornton-place, Kensington.

TO ARCHITECTS.

A GOOD and expeditious DRAUGHTSMAN, who is perfect capable of getting up in first-rate finished drawings, perspectives, &c.; is a good colourist, and understands the various duties of a general working office, is open to an ENGAGEMENT. Terms moderate.—Address, L. M. 47, Frederick-street, Gray's-inn-road.

BARGAIN.—To BUILDERS and CAPITALISTS.—EIGHT First-class CARCASES FOR SALE, in Ladbroke gardens, Bayswater. Two are nearly finished, with four windows. The purchaser may have the freehold ground rents of 20£ each at only twenty-four years' purchase, and the ground rents of 22£ at ten years' purchase. Also FIVE finished FREEHOLD CARCASES, corner of Ladbroke-grove, and Lansdowne-road North.—Apply to HABERSHON & PITE, 38, Bloomsbury-square, or No. 1, Ladbroke gardens.

TO TIMBER MERCHANTS, SAW-MILL PROPRIETORS, and OTHERS.—TO BE LET, on Lease, upon favourable terms, a RETAIL TIMBER YARD, with dry and spacious workshops, with 8 horse engine, saw bench, and moulding machine attached, now doing a large and very remunerative trade. The premises are most convenient, and situated in a flourishing neighbourhood, surrounded by extensive building operations. Rent moderate, and stock at a valuation. Terms and credit to view of Mr. BRAYNE, Auctioneer and Valuer, 76, Cannon-street, Westminster.

CHARMOUTH, PORT of LYME, DORSET. To CONTRACTORS and CEMENT MANUFACTURERS.—TO BE LET, CLIFF and QUARRIES, producing that excellent Cement Stone, known as Chi Cement Stone, Puddle, Chalk, and Beach Shingle (flint), subject to engagement of supplying certain manufacturers at Plymouth. A manufactory may be established close to the waterside.—For particulars apply to Mr FREAN, Plymouth; or to Messrs. CALDWELL & MORCOM, Cement Manufacturers, Cambridge-street, Plymouth, Devon.

FREEHOLD GROUND TO BE SOLD or LET, close to the City, an opportunity seldom met with; comprising about 12,000 superficial, eligible for Factory purposes, Barns, Wash-houses, or small Dwellings. Price of Freehold, 1,350£; or a Lease for 99 Years, at a ground rent of 30£. 1,250£; or a Lease for 99 Years, without a premium, at a rental of 110£ per annum; several cottages, large enough for Shops, Public Houses, or Dwellings, independent the ground. Half the purchase money might remain.—Apply to Messrs. HOVENDEN & HEATH, 4, Broad-street buildings.

GREAT SMITHFIELD IMPROVEMENTS.—TO BE LET, a large PLOT of GROUND, suitable for a Tavern, or Manufacturing Premises, opposite the New Dead Meat Market and Railway Terminus to the West Smithfield, and Kingsland, adjoining. Term, eighty years.—Plan and particulars at Mr. MEACOCK'S, 7, Snow-hill.

BUILDING LAND in the City.—TO BE LET, a valuable PLOT of LAND, close to Lindgate-hill, about 52 feet by 45 feet, affording good space for warehouses or manufacturing premises. Its contiguity to the proposed new terminus in Farringdon-street cannot fail to render any property in this neighbourhood increasingly valuable.—Apply to Messrs. DEGENHAM & TEWSON, 80, Cheapside.

TO BUILDERS and PUBLIC COMPANIES.—TO BE SOLD, SIXTY ACRES of FREEHOLD LAND, abounding with white and red brick-earth, close to the railway, and joining to the celebrated Mr. Allen's Kiln. The earth is of the finest quality, and situation most eligible.—For particulars apply to J. HARRIS, Acton, Sudbury.

BROMPTON GROVE ESTATE, South Kensington.—To BUILDERS and CAPITALISTS.—This most eligible site for the erection of first-class houses is situated on the South side of the Brompton road, between Sloane-street and the South Kensington Museum, and intervening between Belgrave and the Cole Estate. Building leases for 99 years direct from the freeholders, on liberal ground rents, can now be obtained. The roadway and the pavements, the sewer, house drains, and vaults, are completed.—Apply at the Office on the estate.

BELVEDERE, near Erith, Kent, S.E.—To BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES near London.—This beautiful Park is to be thrown open for building at the new year, 1862. Probably no district in the neighbourhood of London has equal natural advantages. The beauty of the river and land scenery is well known. The soil is dry and healthy, the water pure and abundant. There are stations of the North Kent Railway at Erith and at Belvedere. The former, near to the east end of the Park; the latter, within four minutes' walk of the west end of the Park, and the Picardy and Lessness Heath portions of the estate. By the end of 1862 it is expected that there will be complete railway communication to Charing Cross. Picardy, close to the Belvedere Station, and Lessness Heath (close to the Belvedere Church and Road) are already (within two years) nearly covered with buildings, viz. villas of different classes, from 25£ to 70£ a-year, and shops of various descriptions; some plots, however, may still be had there. Some sites in the park are just let, and it is intended to grant leases of other similar plots for ninety-nine years, for erecting villas of a superior description. Plots will be laid out contiguous to four principal roads running through the park. Two are the Park road, leading from the Belvedere station to Brook street; the Avenue-road and the Tower road, each leading from the Belvedere and different detached points to the Tower; and the Valley road, leading from the South Lodge to the archway in the park. The ground rents are very moderate.—Applications for terms and for detached portions may be addressed to Messrs. WM. G. HABERSHON & PITE, Architects, 38, Bloomsbury-square, W.C. Mr. STICKLAND, Resident Bailiff, will show the ground to persons applying. The mansion will also be let on lease after April, 1863, for an hotel or public school, or other public institution.—For particulars apply to Messrs. NORTON & HOGGART, Old Broad-street, E.C.

CROYDON, SURREY. To BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway station, from whence the property is accessible in half an hour. The land, which is gravel, is undulating, and pleasantly elevated, and handsomely timbered. It has a substratum of gravel, and contains beautiful building sites, and will be let for the erection of private residences only! in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

TO SPECULATIVE BUILDERS and OTHERS.—LAND to be LET on BUILDING LEASES, in lots as may be required, a few miles from the City, at 10s. 6d. per rood per annum. Money will be advanced if required.—For plans and particulars apply to Mr. JOHN WIMBLE, Architect, 2, Walbrook, E.C.

OXFORD-STREET.—TO BE LET, on a building lease, a valuable PLOT of GROUND, containing about 6,000 superficial feet, and having a frontage of upwards of 45 feet to Oxford-street, with a return frontage of upwards of 80 feet to Perry's-place.—For particulars apply to Messrs ROBERT JOHN and HENRY CLUTTON, 9, Whitehall place, Westminster

TO COACH-BUILDERS, UPHOLSTERERS, &c.—Extensive and handsome PREMISES to BE LET, at No. 78, Wells-street, a few doors from Oxford-street, comprising three magnificent floors and a basement. Length, 74 feet; width, 25 feet, inside measurement, with a return frontage of 30 feet.

ILLUMINATION.—BOXES of COLOURS and MATERIALS; Outlines; Laing's Manual on the subject; and every requisite.—WIDSON & NEWTON, 38, Rathbone-place, London.

HAY'S PATENT WATERPROOF GLUE (as invented by Mr. HAY, Admiralty Chemist at the Royal Naval Dockyard, Portsmouth) is of universal application, is a substitute for marine glue, and one-third of the cost, namely, 2s£. per bot.

It is invaluable for caulking the seams of skins' decks, being three times more durable and less unsightly. It has been in use upwards of seven years in Her Majesty's ship "Blonde," perfectly resisting during that time the wear of the sun and weather.

It causes joints of wood, slates, tiles, and all metals to adhere most firmly; will stand an enormous pressure, and makes them water-light.

It is a substitute for black paint, and is considerably cheaper as applied to weather-boarding and fencing; and is a preservative for metal and woodwork, and when applied to bricks or stones will prevent damp. This composition is especially adapted for application as a coating to submarine and other telegraphic wires.

It is requested that on all orders the purpose for which it is required be stated.

London Agents

Messrs. G. C. WARDEN & CO.

12, London-street, Fenchurch-street, E.C. Factory, Chandos-street, Landport, Portsmouth.

GEORGE WEEKS, Manager.

GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of Room Bordering, Paper Hanging Materials, and Picture Frames. Also Cornices, Pole Ornaments, and the very largest stock of all the best lines in the trade. 4-inch Gilt Beads, 7s. per dozen 6 feet lengths; best ditto, 12s.

G. REES, 57, DRURY LANE,

Four Doors from Drury-lane Theatre. Established in 1800.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

JOHN HERBERT & SON, MODELLERS, 42, PARKER-STREET, DRURY-LANE.

Cornices, Centre Flowers, Shop front Trusses, &c. FIRST-RATE WORK AT REASONABLE PRICES.

TRACING and DRAWING PAPERS.—WATERLOW'S TRANSPARENT TRACING PAPERS. LLOYD'S PATENT RAILWAY TRACING PAPERS. ENDLESS TRACING LINEN AND CLOTH WHATMAN'S DRAWING PAPERS and CARTRIDGES. ENDLESS DRAWING CARTRIDGES 7½ INCHES WIDE. MOUNTED DRAWING PAPERS ALWAYS READY WILLIAMSON'S SECTIONAL LINES for ENGINEERS. WATERLOW & SONS, WHOLESALE AND EXPORT STATIONERS (Contractors with her Majesty's Stationery Office, and the principal London-wall, and Parliament-street, London. samples sent free.

IMPROVED REVOLVING SHUTTERS.

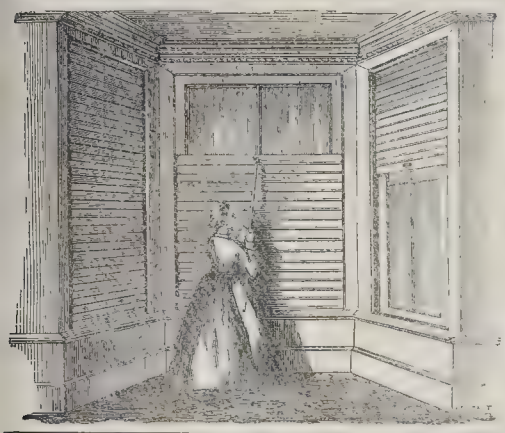
FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from **2s.** per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from **3s** per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,
MANUFACTURE THEIR WELL-KNOWN
SUPERIOR REVOLVING IRON SHUTTERS
OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.
Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.
THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.
Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.
BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

THE BRITISH AND FOREIGN MARBLE GALLERIES,
WARWICK HOUSE, 122 and 124, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.
EDWARDES BROTHERS, & BURKE, PROPRIETORS.
The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA (Italy), BRUSSELS, BELGIUM, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE WORK.
SOLE AGENTS FOR THE INVERNETTIE GRANITE COMPANY.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to
JOSEPH FAIRER,
Turret Clock-maker to H. M.'s War Department,
198, St. George-street East, London.

BENSON'S WATCHES
and CLOCKS
"Perfection of mechanism."—*Morning Post.*



Gold, 5 to 100 Guineas.
Silver, 2 to 50 Guineas.
BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, describing all of every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free and safe by post on receipt of a remittance.
J. W. BENSON,
33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.
(Established 1749.)

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER to the Royal Exchange and Mint, respectfully Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8	Guineas.
Gentlemen's do. do.	10	,,
Ladies' Gentlemen's Gold English Lever Watches	18	,,
Strong Silver Lever Watches	9	,,
Gentlemen's Gold Compensation Balance Watches	40	,,
Do. Silver do. do.	25	,,
Marine Chronometers	36	,,

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Plate and Silver-mounted Canes, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

FOR SALE, 20 RAILWAY CONTRACTORS' WAGGONS. For price and particulars apply to JONATHAN HAINSWORTH, 8, Brunswick-street, Halifax

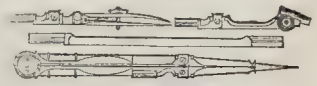
FOR CONTRACTORS' WAGGONS,
DOBBIN CARTS, BARROWS, and RAILWAY PLANT,
Apply to HUGHES & MARCH,
Engineers and Timber Merchants, Falcon Works, Loughborough.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED  1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as known by the absence of joints preventing the generation of ammonia). For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

PRIZE MEDAL, LONDON, 1851.
GOLD MEDAL, PARIS, 1855.
ARMANI and CO. Importers direct from the Mines of SEYSSEL-FRANCY (Savoy), SEYSSEL-VOLANT-FERRETTE (Savoy), MAESTU and MONTORIA (Spain), BASTENNES (Landes), &c. &c.
SEYSSEL ASPHALTE,
And by H.M.'s Royal Letters Patent, Manufacturers of
METALLIC LAVA.
For Price and Estimates apply at the OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.
Respectfully informs the public that his Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

TO DRAUGHTSMAN AND CIVIL ENGINEERS
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
	B B B B ditto ditto.

M medium.
Sold by all the principal Stationers in town or country.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.
Cheques crossed Bank of England, to order.
Post-office Orders payable at Vauxhall or Edgeware-road.

SLATES! SLATES!! SLATES!!!
CHARLES RICHARDSON
has a CARGO of best BANGOR SLATES FOR SALE, ex the "Zebra," now in the Port of London.
Brunswick Wharf, Vauxhall, S.W. and 3 and 6, South Wharfs, Paddington, W.

STONE! STONE!! STONE!!!
CHARLES RICHARDSON
has a CARGO of YORKSHIRE STONE FOR SALE, ex the "Friendship," now in the Port of London.
Brunswick Wharf, Vauxhall, S.W. and 3 and 6, South Wharfs, Paddington, W.

STRINGFIELD and BLYTH,
Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S & B. Bangor Wharf, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERR NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail

KEENE'S and PARIAN CEMENT for internal uses.—These well-known hard Stuccoes dry quickly, and can be painted upon within a few days.
Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster.

PORTLAND CEMENT.
GREAVES & KIRSHAW.
14 SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PARIAN CEMENT for INSIDE WORK.
With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.
Agent at Liverpool—JOHN MCKENZIE, 42, Seel street.
Do. do. Manchester—THOMAS GARDEN.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer at the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
15, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. MCCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stock Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT WORKS,
Northfleet, Kent.
Messrs. ROBINS & CO.
To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines, Brierley-hill.
FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Bellingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Dividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the monthly price-lists.
N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

SCOTT'S PATENT CEMENT.
RICKMAN & CO. LEWES,
LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

MARTIN'S PATENT FIREPROOF CEMENT
Is 35 per Cent. Cheaper than any other internal Cement in use.
Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.
186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.

Whereat can be obtained, of the best quality :-
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

CAFFERATA & CO. GREAT NORTHERN PLASTER WORKS, NEWARK. D. D'ASCANIO, Manager. Sole Agent, D. BRUCCIANI, 39, Russell-street, Covent Garden, W.C. and 1, Leather-lane, Holborn, E.C. London. D. B. begs respectfully to inform Builders, Sculptors, Modellers, &c. that he has made arrangements with the above Company to act as their Sole Agent, and in soliciting the favour of orders, begs to assure a first-rate article of each quality of Plaster, at prices as reasonable as any other in the market. Through the facility C. & Co. have in obtaining stone, and the extensive machinery of their establishment, all orders will have strict and prompt attention.

BUILDERS and CARPENTERS, and OTHERS, have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities.
All sawn goods carriage free within three miles.
¾-inch Flooring (well prepared), 11s. 6d. ¾-inch do. 13s. per square
Yellow Deals, sound and good .... 12l. 10s. per 120, or 3½d. per foot.
Spruce Deals .... 16l. 10s. „ 2½d. „
Yellow Battens, excellent quality 11l. 10s. „ 2d. „
Pine Planks, dry, 12 ft. 3 in. by 11 ft. 2in. „ 3s. 6d. „
Seasoned Mahogany, Plank and Board, 6d. per foot.
A very large Stock, ready sawn and seasoned.
ALFRED CARTER, Old Bethnal-green-road, N.E.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of *Dry Flooring* at low prices.
Southwark-bridge Wharf, Bankside, S.E.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.

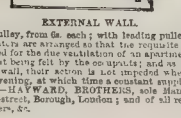
GREATER REDUCTIONS.—Yellow Deals, from 2s. 2d.; Spruce, from 2s. 5d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; ¾ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

SEASONED WAINSCOT OAK, 30,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

TIMBER in BARTER for HOUSE PROPERTY or GROUND-RENTS.—Any builder having the same for disposal may hear of a purchaser by addressing a letter to Z. care of Mr. Garrett, Watchmaker, Albert-terrace, Ball's Pond-road, N.

POLYTECHNIC. — CHRISTMAS HOLIDAYS.—1st. The highly successful Comic optical pantomime of Harlequin and Mother Goose; or, the Golden Egg, being a revival of the late Joey Grimaldi's most favourite piece. In order that full effect may be given to the pantomimic tricks, Mr. Childs has been engaged with his phantasmagoria Apparatus. Mr. G. A. Cooper will enact the "chorus" for the pantomimic characters, and sing various melodies. Master Sanders, the Infant vocalist, will also sing the much-admired song of "The Cabin Boy." 2nd. Beautiful Series of Photographs, by Mr. England, of "Scenes in America," with special reference to the present crisis. 3rd. Professor Logreida's Magical Wonders and Mysteries in Trick formations, the Wonderful performing Russian Cat, Learned Canary Birds, and White Mice. 4th. Mr. and Mrs. Matthews in their humorous illustrations of "Modern Magic and Artificial Clairvoyance." 5th. The Garibaldi Bell Ringers. 6th. New Lecture by J. L. Kopp, esq., entitled "First Steps in Science for Young Philosophers." 7th New Series of Dissolving Views illustrating the Navies, Dockyards, and Iron-clad War Steamers "The Warrior" and "La Gloire." 8th. New Lectures by Professor J. H. Pepper, on the Armstrong, Whitworth, and other rifle Guns. 9th. New Lecture by Professor J. H. Pepper "On the Magnificent Field of Discovery, opened out by the New Terrestrial and Stellar Chemistry." 10th. The whole of the Institution decorated with Holly, Christmas, and Exotic Plants, by Messrs. Videon, of Maida hill. 11th. Giant Christmas Tree, 54 feet high. Grand juvenile day on the Morning and Evening of Thursday, 16th January, and third Gratuitous distribution of Thousands of beautiful ornaments, Toys, Pocket knives, Cannons, &c. amongst the juvenile visitors.

VENTILATION—PURE AIR.



EXTERNAL WALL.

Sharingham's Ventilator for the admission of Pure Air through an

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer.....	fr. m 1½d. per foot
8,000 Yellow Deals.....	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

APPLY TO
SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	16s. 6d. „
1¼-inch „	—	18s. 0d.	19s. 0d. „
Yellow Deals, 3 by 9	£19 10s. per 120.	¾-inch Matched Lining.....	13s. 0d. per square.
Yellow Battens	£11 10s. „	¾-inch „	16s. 0d. „
Spruce Deals.....	£16 10s. „	1-inch „	19s. 0d. „

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

MOULDING WORKS.

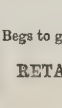
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.
PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER. & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

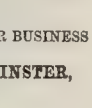
JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by
J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP.

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot-houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on receipt of stamp.
Estimates furnished on application.



SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.
Testimonials from Architects, Bankers, &c. of their security and durability forwarded.
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.
Agent for the Crystal Glass Pillars and Sash Bars.

B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.
High-street, Lambeth, London.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.
M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

BRICK-MAKING BY STEAM POWER.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,

(Each producing from 100,000 to 130,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS,
" BRASSEY & CO.,
" BAKER & SON,
SOUTH-EASTERN RAILWAY COMPANY,
Mr. GEORGE FURNESS,
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO.

FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works, or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.
ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

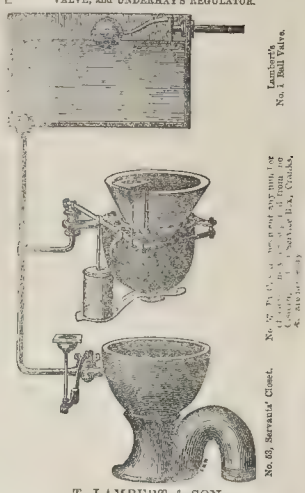
PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

DRIVING BANDS, HOSE, VALVES, &c.

THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their VULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable than leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, cold, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Cart, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.
All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.

THE LEATHER CLOTH COMPANY, Limited,
56, CANNON STREET WEST, LONDON, E.C.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

TERRA-COTTA VASES, STATUES,

TAZZÆ, &c.—The nobility, gentry, and architects are respectfully informed that JOHN M. BLASHFIELD has REMOVED his Establishment from Praed-street, Paddington, to a New Gallery at No. 16, GREAT MARLBOROUGH STREET, W. where specimens of Terra Cotta Works of Art may be seen, and orders for London should now be addressed. Orders for the country and applications for estimates for new designs should be sent direct to the Terra-Cotta Works, Stamford, Lincolnshire.

IMPORTANT to ARCHITECTS,

BUILDERS, DECORATORS, and OTHERS.—CAST WORK, CENTRE FLOWERS, Shop Front TRUSSES, VASES, ROYAL ARMS, CAPITALS, and every description of ornament for internal and external decorations, EXECUTED IN PLASTER, Carton Pierre, Composition, and every kind of Cement at reduced prices.—Messrs. HERBERT, Modellers, 242, Euston-road, St. Pancras.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 31 Wharf, Macclesfield street North, City-road Basin, N. finally, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and lastly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. bel. per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 36s. per 1,000.
Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7½. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, friezes, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

MINTON & CO.

HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 30, CONDUIT-STREET, REGENT STREET
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON TRENT.

TERRA COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1763, and the recipient of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishment, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



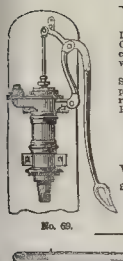
No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2½ in. short	3 ft. 7 in.	Fitted for lead, gutta percha or cast iron flanged pipe, as required.	1 1 0
2½ „ long	3 3		1 10 0
3 „ ditto	3 6		2 4 0
3½ „ ditto	3 6		2 9 0
4 „ ditto	3 6		2 16 0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			3 0 0
3½ in. long ditto ditto			3 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.



No. 69.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP,

for the supply of Cisterns, &c., is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard the cumbrous carriage and expensive slings and guides are unnecessary, rendering the Pump considerably less than Pumps made on the old plan.

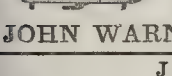
2½ inch	£6	0	0
3 „	7	5	0
3½ „	8	0	0

Larger sizes when required.

Fitted to the best Plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4	15	0
3 „	5	15	0



WARNERS' BATHS

can be had of either Copper, Zinc, or Galvanized Iron. Price, free of Box, each. J. W. & SONS can supply all Fittings required for the same.



A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 381. No. 382.

WARNERS' HIGH PRESSURE COCKS

are made with gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re-leathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

J. WARNER & SONS'

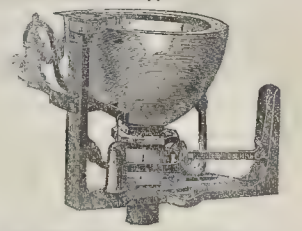
PRICED

ILLUSTRATED CATALOGUE

WILL BE FORWARDED POST-FREE ON APPLICATION.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Simple and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the Handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 1434.—Warners' Spring Valve Closet on Iron Frame, with vulcanized India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 0
Sunk handle extra 0 3 0
Blue basin, extra 0 1 6



No. 1434.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £3 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

The above Prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

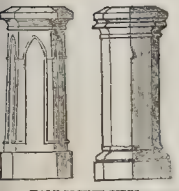
JAMES STIFF & SONS,

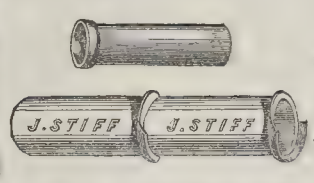
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO.S, City-road Wharf, City Basin
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thorahill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Horton.
Mr. HENRY TURNERS, 3, South Wharf, Frazer-street, Paddington.

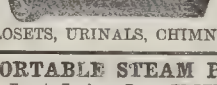
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

N.B. Steam-power, with Workshops, to Let.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the improved pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

The objections to the cheap Closet pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes, and the Pans become DISCOLOURED and UNFIT for USE.

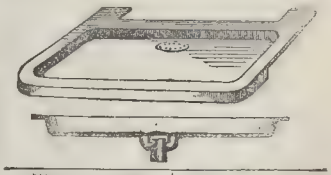
The above CLOSET PAN is free from all these objections, it is made of their strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.

PATENT CAST-IRON KITCHEN SINKS,

with TRAPS complete; manufactured by the Patentees, NEWTON, CHAMBERS, & CO. Thorncliffe Iron Works, near Sheffield.



Size. Long.	Wide.	Deep	Tinned.*	Galvanized.	Enamelled.
24 by	18½	„	6s. 6d.	18s.	15s. each.
30	„ 18	„ 4	7s. 6d.	19s.	16s. „
36	„ 18	„ 4	8s. 6d.	24s.	22s. „
42	„ 20	„ 4½	11s. 6d.	28s.	27s. „
48	„ 20	„ 4½	12s. 0d.	32s.	31s. „

* These Sinks are covered with a Preparation which will prevent the possibility of their getting rusty.

To be had in London only of

Mr. J. JONES, Iron Merchant, 6, Bankside London.

CROGGON and COMPANY,

Manufacturers of

PATENT ASPHALTE ROOFING,

BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,

For Damp Walls and Lining Iron Houses.

2, DOWGATE HILL, London; and 2, GOREE PIAZZA, Liverpool.

SALES BY AUCTION.

GENERAL POST-OFFICE.—To PACKING-CASE MAKERS and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings to TENDER, on MONDAY, JANUARY 13th, a large number of Deal MAIL BOXES, lying in the Court-yard of the General Post-office, St. Martin's-le Grand. Each box measures 2 feet 3 inches by 1 foot 2 inches, and 14 inches deep, iron bound, with flush drop handles. Tenders, either for the whole in one lot (about 850), or for any portion (not less than 150), will be received on or before MONDAY next, at the Office of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City.

METROPOLITAN IMPROVEMENTS. Southwark and Westminster Communication.—Fourteenth Clearance Sale.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on MONDAY, JANUARY 13th, at TWELVE, in lots, all the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS UP of about Thirty-five Houses, situate in New-street, The Grove, and Great Guildford-street, South-wark bridge road: comprising capital sound bricks, a large quantity of plain and moulding timber in roofs and floors, sound flooring boards, glazed sashes, cupboard fronts, chimney pieces, doors, folding gates, coach-house and stable fittings, York paving, lead gutters, cisterns, sinks and pipes, stoves, ranges, coppers, and other useful and valuable materials and fittings up.—May be viewed on Saturday previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, EC and 40, Parliament-street, S.W.

GREENWICH HOSPITAL.—Building Materials, Iron Railing, &c.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of the Royal Hospital, Greenwich, to SELL by AUCTION, on the PREMISES, in front of the School Buildings, on WEDNESDAY, JANUARY 15th, at TWELVE, the excellent BRICKWORK of the dwarf and garden walls, east iron and standing, 1,000 feet of iron railing on curb, small iron rails, 100 feet of sound oak fencing, iron gates, lead cistern and pipes, York paving, erection of sheds, and other effects.—May be viewed the day previous, and catalogues had at Mr. HALDWICK'S Offices, 31, Cavendish-square; of the Inspector of Works, Greenwich Hospital; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City, E.C.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—Fifteenth Sale.—Capital Building Materials of a Range of Hop Warehouses and Houses adjoining, Castle-street and Redcross-street, Borough.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works, to SELL by AUCTION, on the PREMISES, on THURSDAY, JANUARY 16, at TWELVE, in lots, all the capital BUILDING MATERIALS, FIXTURES, and FITTINGS-UP of a large RANGE of HOP WARE-HOUSES (built within a few years), and DWELLING-HOUSES adjoining, situate in Castle-street and Redcross-street, Borough; comprising about 40,000 capital bricks, excellent slating, prime timber in roofs and floors, 300 squares of 4-feet flooring boards, useful sashes, doors, folding gates and stable fittings, pebble and clinker paving, lead pitts and pipes, stoves, ranges, and a large mass of useful and valuable materials and fittings up. May be viewed two days prior. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C.; and 40, Parliament-street, Westminster, S.W.

BUILDING MATERIALS.—CHEAPSIDE.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, JANUARY 17, at SEVEN for TWELVE, in lots, and by order, the valuable BUILDING MATERIALS and FIXTURES of Two Houses and Premises, Nos. 118 and 119, Cheapside; comprising sound bricks, stout rafters, joists, and other useful timber; slates, sashes, doors, panelled partitions, wainscoting, fittings, marble and tile chimney pieces, and interior fittings; mahogany and plate glass shop fronts, sound floor-boards, lead gutters, cisterns, sinks and pipes, stoves, and various useful fittings up. May be viewed the day previous. Catalogues had of JOHN BLYTH, Esq. Architect, 1, Nobl-street, E.C.; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, Westminster, S.W.

WALWORTH.—BUILDING MATERIALS of SEVENTEEN HOUSES, in three convenient Blocks of Buildings, Wyke-road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Worshipful Company of Fishmongers to SELL by AUCTION on the PREMISES, on TUESDAY, the 21st of JANUARY, at TWELVE, in lots, all the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS UP of SEVENTEEN HOUSES (some of them of a superior character), situate in Gloster-row and Gloster-buildings, Prospect-row, Walworth-road; comprising about 500,000 stock bricks, 50 squares of slating, 9,000 pantiles, 10,000 plain tiles, stout rafters, joists, girders, and other excellent timber; 200 squares of boarded floors, 200 pairs of sashes, 100 doors, a large assortment of deals; partitions, marble and other chimney pieces and interior fittings, stone paving, coping, cisterns and steps, wood and iron railing and fencing, several hundred feet of lead gutters, lead flats, gutters and pipes, cisterns, stoves, ranges, coppers, and numerous useful fixtures and fittings up. May be viewed the day previous. Catalogues had of W. B. TOWSE, Esq. Fishmongers' Hall; of RICHARD SUTER, Esq. Architect, 28, Fenchurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament-street, Westminster, S.W.

LLOYD'S MARBLE WHARF, PIMLICO.—To SCULPTORS, MASONS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. E. Lloyd & Co. to SELL by AUCTION, on the PREMISES, adjoining Vauxhall Bridge, Grosvenor-road, Pimlico, on WEDNESDAY, JANUARY 22, at ELEVEN for TWELVE, about 150 blocks of MARBLE, consisting of statuary, wash, Sicilian and ornamental, black and gold, clove, Buddha, Sienna, Campan, Melange, and Vert-Vert; also about 10,000 feet of SLAB, of nearly all the above varieties. Blocks from and six inches. May be viewed one week previous, and catalogues had at the Place of Sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

LONDON, CHATHAM, and DOVER RAILWAY.—METROPOLITAN EXTENSIONS.—Fourteenth Clearance Sale.—Building Materials of about Twenty five Houses, Walworth-road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, in the course of the present month, all the excellent BUILDING MATERIALS of about TWENTY-FIVE MODERN HOUSES, situate in and near West-road, Manor-place, Amelia-street, and Hanover-street, Walworth-road; comprising capital brick work, slates, rafters, joists, and flooring-boards, sashes, doors, chimney-pieces, lead gutters, stoves, ranges, a great variety of interior fittings of a modern and superior character.—Catalogues in due time, at Mr. VIGERS'S Office, 4, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, EC and 40, Parliament-street, S.W.

SALE OF CHIMNEY-PIECES AND PAPER HANGINGS.

MR. EDWIN WHITE will SELL, without Reserve, at 12, HOLBORN BARS, on TUESDAY next, at ONE, nearly 150 PIECES of superb PAPER-HANGINGS, and upwards of 100 handsome MARBLE and STONE CHIMNEY PIECES. View and catalogues Monday and morning of Sale.

MINCING-LANE.—Excellent Building Materials.

MESSRS. ELLIS & SON are directed to SELL by AUCTION, on the PREMISES, Nos. 5 and 6, Mincing-lane, on FRIDAY next, JANUARY 17, at ELEVEN, in lots, in the course of the pulling of the premises, the excellent BUILDING MATERIALS: comprising several tons of lead, a large quantity of sound oak and fir timber, in girders, bressummers, joists, rafters, flooring, &c.; the sound brick-work, tiles, stone steps, coping and sills, a large quantity of wainscoting, sash frames, doors, window frames and sashes, staircases, water closets, cisterns, sinks, lead pipes, iron, bumers, and the general fittings of the premises; fixtures, comprising stoves, desks, the iron hydraulic lift, pipes, &c.—To be viewed two days prior to the sale, when catalogues may be had on the Premises; and of Messrs. ELLIS & SON, Auctioneers, &c. 45, Fenchurch-street.

TO IRONMONGERS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by the Assignees to SELL by AUCTION, on MONDAY, JANUARY 13th, 1862, and following days, at ELEVEN o'clock each day, on the PREMISES, No. 11, Leman-street, Goodman's-fields, the extensive STOCK of BLACK and FURNISHING IRONMONGERY, 19 tons rod and bar iron, 5 tons wrought and cut nails, 1,000 grey screws, 140 dz. files, 1 dz. & 1 box of bevel, fitch, and other hinges, 50 cash drawers, 4 pairs 3-yards iron weighing scales and weights, 100 black register stoves, 100 fine cast and bright register stoves, 3 improved kitcheners, 5 open ranges, a large assortment of cabinet brasswork, 200 dz. horse rasps, 10 doz. scythes and 1 dz. sickles, 20 dz. spades and shovels, black hollow ware, japanned and copper goods, baths, traps, and waiters, copper tea-kettles, preserve pans, &c.; cutlery, turnery, and brushes; gas-fittings, tinware, edge tools, garden and stable implements, and fittings; cart and harness, shop and show-room fixtures and fittings, and numerous other effects.—To be viewed on Saturday previous to the sale; catalogues only, which may be had, at 6d. each, on the Premises; of Messrs. SOLE, TURNER, & TURNER, Solicitors, Alderman's-bury; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canon's Marsh, Bristol, on WEDNESDAY, the 22nd day of JANUARY, 1862, at ONE o'clock precisely. Luncheon at Half-past Twelve o'clock. For account of Importers.

20,000 Spruce Deals, Battens, Scantling, Boards, and Ends
6,000 Quebec Fine Deals
6,000 St. John Fine Deals
3,000 St. Petersburg Redwood Deals
2,000 St. Petersburg Whitewood ditto
500 Onega and Archangel Red Deals, Battens, and Boards
1,000 Memel Crown Yellow Deals
6,000 Swedish Deals and Battens
2,000 Lengths of Wainscot 12 feet
30 Logs Extra Quality Baltic Red Deal
300 Loads Quebec Yellow Pine
50 Logs Quebec Waney
200 Loads Dantzic Red Timber
200 Loads St. John Red Pine Timber
100 Logs Fresh F. D. Memel Birch
200 Loads Miramichi Board Pine Timber
60 Waimscot Oak Logs
300 Loads Swedish Timber
30 Fathoms Dantzic, St. Petersburg, and Quebec Lathwood
3,000 Flooring Boards
125 Fathoms Baltic Firewood
Mahogany
Cedar
Bird's Eye Maple Veneers
20,000 Palings

With other Goods.
Catalogues will be issued on the Week of Sale.
F. K. BARNES & SONS, Brokers.
Canons' Marsh, Bristol, January 7th, 1862.

ALDENHAM, BETWEEN WATFORD AND ST. ALBAN'S.

MR. W. BROWN has received instructions to SELL by AUCTION, at the CHEQUERS INN, Aldenham, on MONDAY, JANUARY 20th, 1862, at TWO o'clock, about 200 Fine ELM TREES, with the Lop and Top, standing on Aldenham-place Farm, Piggott's Manor Farm, and Butler's Green Farm. Also Nine Ash Trees, Part of the Plantation of the Timber of a close growth and good dimensions, and well situated for removal, being within three miles of the London and North-Western Railway, and five of the Grand Junction Canal, with excellent roads in every direction. Four months' credit will be allowed, subject to the usual conditions. The lots are numbered with white paint, and may be viewed on application to Mr. EDMUND WHITLEY, of Aldenham. Catalogues obtained of him; also at the Fox Hen, St. Alban's; Essex Arms and Aberdeen Hotels, Watford; Place of Sale; of W. T. ALLIN, Esq. 3, Corthall-court, Throgmorton-street, London; and of Mr. W. BROWN, Land Agent, Tring.

ISLE of WIGHT.—Cows and Newport Railway.—To Cultivators and Builders, Bricklayers, and Others.

MESSRS. FRANCIS PITTIS & SON will SELL by AUCTION, in a FIELD close to the Terminus, at West Cowes, on TUESDAY, the 21st of JANUARY, 1862, at TWELVE o'clock, the CONTRACTOR'S PLANT now remaining on the above railway: consisting forty two wagons, a locomotive engine, two three carts, one timber-truck, barrows, planks, a few tons of rails, sleepers, bolts, spikes, fish-plates, pumps, tunnel centres, screw-jacks, fencing-pickets, a few hundred thousand bricks, some pipe bricks, smiths' bellows, forges and tools, glass sashes, timber, four cart-horses, harness, carry-all, &c. &c. Catalogues of FRANCIS PITTIS & SON, Auctioneers, Newport.

PUBLIC OFFICES EXTENSION.—Ninth Sale of BUILDING MATERIALS.

MESSRS. GLASIER & SON are favoured with instructions from the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, on the PREMISES, on WEDNESDAY, JANUARY 15th, at TWELVE for ONE, the valuable BUILDING MATERIALS of Eight Houses, Nos. 17 to 24, Fludyer-street, Downing-street; comprising about 800,000 capital stock bricks, capital slating, plain and pan tiles, about 100 tons of rich timbers, &c.; wainscoting, doors, sashes and frames, chimney pieces, paving, coping, several tons of lead, gas fittings, gutters, cisterns, pipes, &c.; coppers, ranges, register and other stoves, fixtures, and fittings.—On view day prior and morning of sale. Catalogues had at the Office of Works, 12, Whitehall-place; of JAMES PENNETHORNE, Esq. 7, Whitehall yard; on the Premises; at Garraway's; and of the Auctioneer, 11, Chancery-lane, S.W.

LION'S DOWN, BARNET, HERTS.—EXCELLENT GROWING TIMBER.

MR. WHITTINGHAM is instructed to SELL by AUCTION, in the ESTATE Sale-room, near the Barnet Station on the Great Northern Railway, on MONDAY, the 13th of JANUARY, 1862, at TWELVE for ONE o'clock, a PORTION of the excellent GROWING TIMBER: comprising fifty eight oaks, fifty-seven elms, sixteen fine fir-trees, chestnut, ash, hornbeam, and willow trees. Also, several lots of IRON HURDLES. Credit will be given on approved security. May be viewed one week before the sale; and catalogues may be obtained ten days before the sale, at the Railway Hotel and Railway Tavern, Barnet Station; at the Bald-Faced Stag, Totteridge; of Mr. Whittingham, Lion's Down Estate; and of the Auctioneer, 14, Mourgate-street, London, E.C.

LEYTON, ESSEX.—Eligible Building Land, five miles from the City, and within a convenient walk of three railway stations.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, Token-house-yard, on MONDAY, JANUARY 20th, 1862, at TWELVE for ONE o'clock, in Thirty-two Lots, a further portion of the Eligible FREEHOLD BUILDING LAND, adjoining the Grange Estate, opposite the Church, with frontage to Church-road, within ten minutes' walk of the Low Leyton Station on the Loughton Railway, and within half an hour's walk of the Stratford Railway Station. Terms: one-fourth of the purchase money may remain on mortgage or contract at five per cent. to be paid by instalments. Particulars, plans, and conditions of sale may be obtained of Messrs. RUSSELL & DAVIES, Solicitors, 69, Coleman-street, London.; at the principal inns in Leyton, Walthamstow, and Stratford; and of the Auctioneer, 14, Mourgate-street, London, E.C.

FLEET-STREET, in the City of London.—First-class Freehold Property.

MESSRS. BEADEL & SONS have been favoured with instructions TO SELL by AUCTION, at the MART, Bartholomew-close, London, on TUESDAY, the 28th day of JANUARY, 1862, at TWELVE for ONE, in one lot, those magnificent SHOP PREMISES, situate and being No. 78, Fleet-street, in the City of London, in the occupation of Mr. Charles McLean, bookseller, and has superb plate glass in shop front, and wainscoting on first and second floors. The build of the greater portion of the very extensive shop is 18 feet 6 inches in the clear between floor and ceiling. There are three floors above the shop, and a basement beneath the same. Part of this property for business purposes is almost without equal, being in the best part of one of the busiest city thoroughfares.—Particulars, with conditions of sale, may be obtained of Messrs. BIRCH, INGRAM, & WHATELY, Solicitors, 68, Lincoln's-inn-fields, W.C.; at the Mart; and of Messrs. BEADEL & SONS, No. 23, Gresham-street, E.C.

CHARING CROSS RAILWAY.—Tenth Clearance Sale. The valuable Materials of the Warehouse known as the "Old Gun Factory," Tooley-street, and several Dwelling-houses and Workshops in Bermondsey-street.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is instructed by the Directors, to SELL by AUCTION, on the PREMISES, on TUESDAY, JANUARY 14th, at ONE o'clock punctually, the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS of the OLD GUN FACTORY, Tooley-street, FOUR HOUSES and WORKSHOPS in Tyson's Yard, and several HOUSES situate in King's Head Yard, Ann's Court, and Bermondsey-street comprising capital stock brickwork, stout timber in roofs, joists, and girders, plain and pan tiles, and slates, glazed sashes and shop fronts, useful doors, partitions, chimney-pieces, and interior fittings, sound flooring-boards, warehouse front, iron columns, lead in gutters and pipes, stone paving, coping, and sills, and other effects.—To be viewed the day previous to sale, and catalogues had of Mr. MARSH, Charlotte-row, Mansion-house; of Messrs. WILLIS & HARROW, Auctioneers, West Molesey, Kingston, Surrey, and Acton, Herts; and of Mr. EDWARD LYDE, Surveyor to the Company, at his Offices, in the South Eastern Railway Terminus, London-bridge.

TO BUILDERS, CONTRACTORS, and OTHERS.—CHARING CROSS RAILWAY.—Eleventh Clearance Sale. The exceedingly Valuable Materials of an Iron Foundry, Dwelling-houses, and Extensive Business Premises.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW (under instructions from the Director), on the PREMISES, on FRIDAY, JANUARY 17th, at ONE o'clock punctually, All the VALUABLE BUILDING MATERIALS of Iron Foundry, warehouses, workshops, stabling, and other premises, situate in Peter-street, Pimp-court, Union street, Mary Ann-place, Great Guildford-street, Southwark Bridge-road, South-street, Worcester-street, and Parvey-place, Southwark: comprising sound stock brickwork, paving, plain tiles, slates, stout timber in roofs and floors, floor-boards, glazed sashes, doors, York paving, stone coping and sills, panelled partitions, wainscoting, chimney pieces, stoves, ranges, cupboard-fronts, lead in gutters, and pipes, and a large mass of useful and valuable materials and fittings.—May be viewed the day previous to Sale, and Catalogues had on the premises; of Mr. MARSH, Chart its row, Mansion house; of Messrs. WILLIS & HARROW, Auctioneers, West Molesey, Kingston, Surrey, and Acton, Herts; and of Mr. EDWARD LYDE, Surveyor to the Company, at his Offices, in the South Eastern Railway Terminus, London bridge.

On MONDAY, JANUARY 13th, at TWELVE.—Camden-town.

MESSRS. LEREW & LEREW will SELL by AUCTION, at the RAILWAY ARCHES, Camden terrace, near the Old Eagle, 1,000 Yellow Deals, 500 Battens, 300 Spruce PLANKS, DEALS, and BATTENS; 619 cut ditto; 100 squares prepared flooring; 21,000 feet moulding; 6,000 feet wide pine board; feather edge board, slating battens, pantile laths, sashes, doors, sawbuck jales and 3 boards, 300 pulleys, &c.—Auction Offices, Cardington-street, Hampstead road.

HASTINGS.—FREEHOLD BUILDING LAND FOR SALE, Clive Vale Farm.—TO BE SOLD by AUCTION, early in the Spring, in lots of two, three, or four acres each, unless previously disposed of by private contract, the above-named PROPERTY. The farm consists of 39 acres, 3 roods, and 39 perches, more or less, and is situate in the Parish of All Saints, Hastings, about half a mile from the town, and adjoins the old London road. The situation is most salubrious, and the whole of the building sites, which are on undulating ground, command extensive and beautiful views of the sea, the town, and the adjoining country. There is a good farm-house and building thereon, the estate, plenty of good spring water, good stone on some parts for building, and on other, excellent brick earth. The land-tax on the estate has been redeemed. Fair rent at present is 15s. per acre. The occupation of a highly respectable tenant, with whom arrangements can be made by any purchaser for immediate possession. For further particulars, apply to Mr. J. M. BICKMAN, Architect and Surveyor, No. 20, Parliament-street, Ramsgate; or, to Messrs. REECE, WILKINS, & BLYTH, Solicitors, 10, St. Swithin's-lane, London.

IDSTONE, BERKS.

MR. J. DYKE has received instructions to SELL by AUCTION, at the RAILWAY TAVERN, Shrivenham Station, Great Western Railway, on THURSDAY, the 16th JANUARY, 1862, at TWO o'clock, subject to conditions, EIGHTY OAK, ELM, and ASH TIMBER TREES, standing in lands in the occupation of Mr. R. WARMAN, Lydgrove Farm. Lots may be viewed of Mr. WARMAN, on the Farm; at the Place of Sale; and of the Auctioneer, Farringdon, Berks. The Auctioneer begs to observe that the above Timber is of fair quality, and is a most desirable article, 3 miles from the Shrivenham Station, on the Great Western Railway, and Bourton Wharf, on the Wilts and Berks Canal.

TO BUILDERS.—TO BE DISPOSED OF,

in a good town near London, and close to a railway station, an ESTABLISHED BUSINESS, in full work, with considerable connexion, dwelling-house, and convenience for carrying on the business.—For particulars apply by letter to J. W. GIDING, Windsor House, Putney, Surrey.

TO BUILDERS and TIMBER MERCHANTS.—TO BE DISPOSED OF, an old-established COUNTRY BUSINESS of a BUILDER and TIMBER MERCHANT, offering an excellent opportunity to any one possessed of a moderate capital, as the connection is highly respectable, premises commodious, and rent moderate, situate thirty miles from London, with railway communication.—Apply to A. B. at 42, Bridge street, South-wark, S.E.

TO STONE-MASONS.—TO BE DISPOSED OF, an old established BUSINESS, and may be entered upon immediately. All necessary information may be obtained on application to Mr. THOMAS TIPPETT, Ashford, Bedford. All the benefits of Harper's Charity may be realized.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINE.

Adapted for hand, horse, or steam power, will make one-third more in quantity of first class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost or working expenses. They are easily managed, and will turn out of order.

Licences to Manufacture granted for certain districts.

For price and particulars apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen street, London, E.C.

BRICKS.—Messrs. JOHN & WILLIAM EASTWOOD have to SELL Good ROUGH STOCKS, Grissel's Place, or Stock Baths, by barge alongside, in the Thames or canals, on reasonable terms, either for cash or approved bills.

Belvidere-rd. Lambeth, January, 1862

FIRE BRICKS, LUMPS, and TILES, of every description.

JOHN NEWTON & CO.

HONDURAS WHARF, 74, BANKSIDE, SOUTHWARK, S.E.

Beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c.

Depôt for Ramsay's Newcastle Fire Bricks, Clay Retorts, Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c. at the lowest prices.

Shipping orders executed with despatch.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chemical, and other purposes where a great degree of heat or intense fire is required.—For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch-street, E.C.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the office of the Publication, No. 1, York-street, in the Parish of St. Paul, Covent-garden, in the County of Middlesex.—Saturday, January 11, 1862.

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR ARCHITECTURE, ENGINEERING, ARCHÆOLOGY, AND THE ARTS.

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 989. JANUARY 18, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Monument in Lichfield Cathedral to the Memory of Major Hodson.—Mr. Street, Architect 45
Stone Altar, Ballintubber Abbey, County Mayo, Ireland 44

CONTENTS.

French Explorations: Eleusis 37
The Festival of Siena 39
Professor S. Smirke's Lectures on Architecture at the Royal Academy: Lecture I. 40
Geometrical Tracery 41
The Laws of Cooling 41
On the Conservation of Ancient Architectural Monuments and Remains 42
Some Notes on the Repairs of Henry VII.'s Chapel 43
Stone Altars 44
The required Road from Brompton to Baywater 44
Art of Construction, King's College 44
Monument in Lichfield Cathedral, to the Memory of Major W. S. R. Hodson 44
Professional Practice and Charges: Royal Institute of British Architects 47
The Architectural Museum.—Works submitted in Competition 47
Liverpool Architectural and Archæological Society 47
Glasgow Archæological Society: Vitrified Constructions 47
Institution of Civil Engineers 47
British Archæological Association 48
The proposed Memorials of the Prince Consort 48
Repairing the Silvering of Looking Glasses 48
Utilization of the Metropolitan Sewage 48
Church-building News 49
Provincial News 49
The Hanover square Rooms 49
The Stockton and Darlington Railway Company's New Works, Darlington 50
Smoky Chimneys 50
Do Mouldings improve Architecture? 50
Glasgow Water Supply 51
"Architectural Models" 51
An Opinion of a Clerk of Works's Duty 51
The Plasterers' Strike in Manchester 51
Books received: Burnell's Builder's Price-Book (Lockwood & Co.); Varnorum 51
Miscellanea 51

THE BUILDERS' BALL, in aid of the Funds of the Builders' Benevolent Institution, is fixed to take place at WILLIS'S ROOMS, St. James's, on THURSDAY, 20th FEBRUARY, 1862. Gentlemen desirous of promoting the interests of the Charity by becoming Stewards, will be pleased to forward their names to the Hon. Secretary, Mr JOSEPH BIRD, at the Office, 30, Southampton-street, Bloomsbury.

THE ARCHITECTURAL MUSEUM, South Kensington Museum, W.—SUBSCRIBERS, and all interested in the progress of the ARTIST WORKMAN, are invited to inspect the Specimens of Stone and Wood Carving and Coloured Decoration sent in competition for the PRIZES offered by the Council of the Architectural Museum, and now exhibited in the Gallery. Due notice of the award and of the presentation of the prizes will be given.—The Museum will be closed on WEDNESDAY evenings until further notice, and will be open on SATURDAY evenings instead.
A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Secretary.
13, Stratford-place, W.

GEOLOGY.—KING'S COLLEGE, London. Professor TENNANT, F.G.S. will commence a COURSE of LECTURES on GEOLOGY, on FRIDAY MORNING, JANUARY 24th, at NINE o'clock. They will be continued on each succeeding WEDNESDAY and FRIDAY, at the same hour. Fee, £2, 12s. 6d.
R. W. JELF, D.D. Principal

INTERNATIONAL EXHIBITION, 1862.—Her Majesty's Commissioners hereby give notice that they have appointed Messrs. STIBBS BROTHERS, of 11, Cecil-street, Lincoln's Inn, their Agents to RECEIVE ADVERTISEMENTS for insertion in the Industrial and Fine Arts' Catalogues, to whom all application should be forthwith addressed. All payments for advertisements to be made at the Office of Her Majesty's Commissioners, 4, 5, Strand, for which an official receipt will be given. Cheques or orders should be made payable to J. J. Mayo, Esq.
F. R. SANDFORD, Secretary.
454, West Strand, Jan. 16, 1862.

BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the ENGINEER ESTABLISHMENTS of the DEPARTMENT of PUBLIC WORKS in INDIA will, in the year 1862, be OPEN to PUBLIC COMPETITION.
A Competitive Examination will accordingly be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates may be admitted to the examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter. (Signed) DE GREY and RIPON.
India Office, 13th July, 1861.
N.B. All communications to be addressed to the "Under Secretary of state for India."

TO ARCHITECTS. — RESTORATION of BICESTER CHURCH. PLANS and ESTIMATES of the WORK REQUIRED. The Committee for the restoration of Bicester Parish Church are desirous of receiving Plans and Estimates for the Work required. Particulars and plan to be exhibited, can be obtained of the Rev. J. W. WATTS, the Vicarage; or of the Hon. Secretary, CHARLES POWLER, Whitelands, Bicester.
Bicester, January 14th, 1862.

CONTRACTS.

TO GAS ENGINEERS.—The Directors of the Worthing Gas light and Coke Company having entered into a renewed contract with the Worthing Local Board of Health for the public lighting of the town, are desirous of LETTING the GAS WORKS upon lease for seven years, from 1st JULY next. The particulars of the terms of the lease, together with other information will be given on application to the Secretary. Sealed TENDERS for a lease, with the names, &c. of two substantial sureties, will be received not later than TUESDAY, the 4th day of FEBRUARY, 1862, addressed to the Secretary, Mr. F. PATCHING, 14, High-street, Worthing, and endorsed "Tender for Leasing Worthing Gas-works." The Company do not bind themselves to accept the highest or any Tender.

TO BUILDERS.—Persons desirous of furnishing TENDERS for the ERECTION of a BANK at Oundle, Northamptonshire, for the Stamford, Spalding, and Boston Banking Company, can obtain particulars upon applying to Mr. WILLIAM EVE, Surveyor, 3, Union-court, Old Broad-street, E.C. Tenders will have to be sent in on or before the 7th day of FEBRUARY next. The Company do not bind themselves to accept the lowest or any of the Tenders.

COUNTY of LANCASTER.—To CONTRACTORS, STONEMASONS, and QUARRYMEN.—The Justices of the Peace for the County of Lancaster, acting with the Rochdale Canal, are prepared to receive TENDERS for PULLING DOWN, ENLARGING, and REBUILDING AGECROFT BRIDGE, in the township of Pendlebury and Prestwich. The new bridge will be built of stone, and will have three arches, the centre span being 45 feet and the side arches 38 feet each. The width of the bridge will be 30 feet. The bridge is about three miles north of Manchester, and 550 yards from the Agecroft Wharf of the Manchester and Bolton Canal. Plans and specifications may be seen at the Bridgemaster's Office, 41, John Dalton-street, Manchester, on and after the 14th instant. Sealed Tenders, of which paper forms will be supplied, must be sent to the undersigned on or before the 30th instant, endorsed, "Tender for Agecroft Bridge."
Manchester, Jan. 9th, 1862. W. RADFORD, Bridgemaster.

NORWICH RIVERS.—To CONTRACTORS Persons desirous of CONTRACTING with the Body Corporate of the City of Norwich, for DREDGING and other Works hereinafter mentioned for the ensuing seven years from the 25th day of MARCH next, and from time to time thereafter, in the navigable rivers Wensum and Yare, in the said city and county of the same, are requested to send Tenders for such works addressed to the "Town Clerk, Guildhall, Norwich," and marked "Tender for Dredging," on or before ELEVEN o'clock in the forenoon of THURSDAY, the 23rd day of JANUARY next, namely, to dredge and entirely to remove and take away all soil, clay, shoals from the bottom and angles of the said rivers, for the whole length thereof from the New Mills in the said city, to the entrance of the New Cut, at Thorpe, to within 9 feet of the buildings on both sides of the said river throughout the city, and to within 3 feet of the above piling, the whole length of the same, and clear the shores of the river of weeds and rubbish, so as within twelve months from the 25th day of MARCH next, to effectually make, and thereforth at all times during the contract to maintain and keep, and at the expiration thereof to leave, a clear channel, 12 feet in breadth, at least, from the New Mills to the Foundry Bridge, and of such depth as a low water of not less depth of water, according to the said gauge, than 8 feet and 4 inches.

Also, to empty all mud traps, and entirely to remove and take away all such mud and soil from any part of the said river, whether extra gift from any existing sewers or drains, or any that may be made during the contract, or otherwise accumulating; also to remove all dead animals and offensive matter from the said river; and to cut yearly, once at least, and oftener if required, between the 1st day of MAY and the 30th day of AUGUST, the weeds in the above rivers (and in Thorpe Reach twice a year), from a certain tower (near Carrow Bridge) called the Devil's Tower, to a place called the Sixth Bridge, in the occupation of Messrs. Colman, and also from a certain tree (the Yare called Trowse Hythe, to a place called the Marl Stratthe, such cutting to be done in a manner not to obstruct or impede the navigation of the said river, and all weeds cut as aforesaid to be taken from the rivers without any delay. The contractor to provide an efficient steam dredging engine or machine, of not less than 8-horse power, registered, with working tackle, estimated as sufficient for carrying the said works into effect, and also all barges, boats, implements, tackle, and assistance of every description necessary for the performance of the Work. Parties will be incharged for non-performance of the contract. A specification and forms of tender for the execution of the said works may be had at the Town Clerk's Office; and further information may be obtained of the City Surveyor, 24, Castle Meadow, Norwich. The contractor to keep the county of the excise of the contract sealed. The Council do not bind themselves to accept the lowest or any Tender.—By order,
W. L. MENDHAM, Town Clerk.
Guildhall, Norwich, 29th December, 1861.

TO BUILDERS

PERSONS desirous of TENDERING for the REBUILDING of the PRINCIPAL PORTION of WITHAM LODGE, in the county of Essex, may see the Plans and specification at my Offices, after the 24th of JANUARY. Quantities will be supplied to those Builders whom the applicant shall approve of. Sealed Tenders, addressed to me, at my Offices, 10, Great Ormond-street, London, on or before FRIDAY, the 7th FEBRUARY, will be duly attended to.
ALFRED CHANCELLOR, architect, &c. Chelmsford, Essex; and 25, Old Broad-street, London.

TO BUILDERS.—CRICKET PAVILION TENDERS are required for the ERECTION of a PAVILION on the new ground of the Christ Church Cricket Club. The plans and specification may be seen on application to the undersigned between the hours of TEN and SIX o'clock. The building will be equally of timber. Tenders to be delivered to the undersigned, endorsed "Tender for Cricket Pavilion," on or before MONDAY, the 27th inst. The lowest or any Tender will not be necessarily accepted.
EDWARD G. BARTLETT, Architect.
14, Beaumont street, Oxford, January 14th, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to CONTRACTORS and GAS-FITTERS.—TENDERS are required for SUPPLYING and LAYING GAS MAIN PIPES and FITTINGS; also ERECTING METER HOUSE and supplying and fixing Main Meter at Fort Grange, River Road Brockhurst, near Gosport, in the Parish of Alverstoke, County of Hants.
Parties desiring to Tender for the Work must leave their names at the Royal Engineer Office, Beaconsfield Lodge, and pay the sum of £2, 2s. for the basis of quantities, on or before the 21st of JANUARY, 1862.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Portsmouth, 7th January, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to CONTRACTORS.—TENDERS are required for REPAIRING and STRENGTHENING the Curtain Wall, Repairing and Relaying One 7-in Granite, and for New Portcullives and Stocks to One 7-ton and One 10-ton Crane, at the New Gun Wharf, Portsmouth.
Parties desiring to Tender for these Works must leave their names at this Office, not later than the 24th day of JANUARY, 1862, and pay the sum of half a guinea for the Bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Portsmouth, 4th January, 1862.

TO BUILDERS.—BUILDERS desirous of TENDERING for MAKING certain ADDITIONS to a MANSION at Hurst Grove, Horsley, may see the plans and specifications at Mr. CLASSE'S, Post Office, Horsham, on and after the 14th instant. Tenders to be delivered at the Office of the Architect, Mr. JOHN COLLISON, Smithbrook-street, Winchester, on or before the 1st of FEBRUARY next. No pledge is given to accept the lowest or any Tender.
January 11th, 1862

WORKINGTON DOCKS. — To CONTRACTORS.—TENDERS are invited for the CONSTRUCTION of a DOCK for the Right Honourable the Earl of Lonsdale, at Workington, in the County of Cumberland. Photographed specifications and conditions may be obtained at the Harbour Office, on and after MONDAY, the 6th JANUARY, 1862, at the Offices of Messrs. LUMB & HOWSON, Solicitors, Whitehaven; or of Mr. A. M. RENDEL, C.E. S, Great George-street, Westminster. Sealed Tenders, marked on the outside cover "Tender for Workington Dock," must be delivered to Messrs. LUMB & HOWSON, Solicitors, Whitehaven, on or before TUESDAY, the 28th inst. at TWELVE o'clock at noon. The Earl of Lonsdale does not bind himself to accept the lowest or any Tender.
8, Great George street, Westminster, 1st January, 1862

TO IRONMONGERS and IRONFOUNDERS.—The Peterborough Cemetery Commissioners will CONTRACT for the PALISADES, Entrance Gates, and two Side Gates, to the Cemetery, which will be erected on the Eastern side of the Town. The Palisades will be of wrought iron, with bars and standards complete, as per pattern to be seen at the Office of the Surveyor, and to be painted a dark stone colour. The Gates will be of cast iron, and painted of the same colour. The fixing is to be commenced on the 2nd day of JUNE next, and completed on the 8th day of JULY next, after the execution of the Contract. A copy of which, with the form of Tender, may be obtained at the Office of the Surveyor, Peterborough, subject to the forfeiture of £1 a day, as ascertained damages, for every day the same remains incomplete after that day. One half of the price to be paid on Mr. RUDDLE'S certificate, and the next on the 1st day of November next. Sealed Tenders, with drawings of the palisades, gates, and their names and addresses as two sureties for the performance of the Contract, to be sent to my Office, on or before MONDAY, the 3rd day of FEBRUARY next; but the Commissioners are not pledged to accept the lowest or any Tender. He should also be prepared to enter into and sign the usual Contract, and bind himself to enter into a sufficient Bond for the due performance of the Work. Further particulars may be obtained of Mr. RUDDLE, at his Office in Newtown, Peterborough.—By order,
NELSON WILKINSON, Clerk to the Commissioners.
January 7, 1862.

BOARD of WORKS, Whitechapel District. A Meeting of this Board will be held on MONDAY, the 27th day of JANUARY, 1862, at SIX o'clock in the evening, at the Office, No. 18, Great Alie-street, Whitechapel, to receive TENDERS from persons willing to CONTRACT, for the period of one year, for the EXECUTION of the several PAVING WORKS required with the district described in the specification available for Contractors, and of my direction of the Board, a copy of which, with the form of Tender, may be obtained at the Office of the Board upon payment of 10s., which sum will be returned to persons Tendering. All Tenders must be delivered at the Office of the Board not later than TWELVE o'clock in the afternoon of the day of meeting; and any Tender which is not upon the printed forms prepared by the Board, and duly signed by the person or persons Tendering, will be rejected. The Board do not bind themselves to accept the lowest or any Tender. Persons Tendering, or their representatives, are required to attend the Meeting of the Board, and Conditions of Contract, at the period of the Tender, and may be inspected any day from the 20th instant, between the hours of TEN o'clock, A.M. and FOUR o'clock, P.M. The Tenders must be delivered at the House, directed as required, on or before THURSDAY, the 23rd JANUARY, 1862, at TEN o'clock A.M. N.B. The Board does not pledge itself to accept the Lowest or any Tender.—By order,
Trinity House, London, E.C. 15th January, 1862.

[For remainder of Contracts see next page.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

PUBLIC AND PRIVATE BUILDINGS OR ROOMS DECORATED IN ANY STYLE. DRAWINGS AND ESTIMATES FURNISHED FOR NEW WORKS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. HAVING NOW GREATER FACILITIES FOR THE MANUFACTURE, A REDUCED TARIFF OF PRICES IS BEING PREPARED. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

CONTRACTS.

TO BUILDERS.—CLIFFORD PRIORY, HEREFORDSHIRE.—Persons desirous of CONTRACTING for the ERECTION and COMPLETION of a new RESIDENCE and OFFICES, for B. Haigh Allen, esq. at Clifford Priory, Herefordshire, within two miles of the market town of Hay, may inspect the plans and specifications, and obtain copies of the quantities and other information, by applying at Clifford Priory, or at the Offices in Derby, at any time after the 23rd instant (Sundays excepted). Tenders, according to form, to be sent free by post, addressed to us, on or before SATURDAY, the 1st day of FEBRUARY. It is to be understood that Mr. Allen does not pledge himself to accept the lowest Tender. The work must be commenced immediately, and completed within the years of possession. But longer time may be demanded and granted in the estate, free of charge. Two hard coaches pass each way daily through Clifford, from Hereford to Hay.

STEVENS & ROBINSON, Architects,
January 17th 1862. 17, Tenant-street Derby.

TO BUILDERS and OTHERS.—The Trustees of George Dawson's Charity, at Gosforth, are prepared to receive TENDERS for the ERECTION of ALMSHOUSES on land situate on Little Greenhow, in the parish of Gosforth, according to plans and specifications which may be seen at the office of Mr. EDWARD STOWING, Architect, Boulevard, Stockton, on and after MONDAY next, the 20th day of JANUARY, 1862. Tenders, with the names of two responsible persons as sureties for the due performance of the contract, in case they should be required by the Court of Chancery, and addressed to the Trustees of Dawson's Charity, to be delivered at the Vestry, Gosforth, on or before SATURDAY, the 1st of FEBRUARY, 1862. The Tender accepted (if any) will be accepted subject to the approval of the Court of Chancery. The Trustees do not pledge themselves to accept the lowest or any of the Tenders.

G. MADDISON, Clerk to the Trustees.

CONGREGATIONAL CHAPEL, Clitheroe.—Builders and others willing to TENDER for the WORKS required in the ERECTION of the above CHAPEL, may see the drawings &c. at the School Room, in Water-street, Clitheroe, from MONDAY, the 20th inst. till the MONDAY following, between the hours of NINE and FIVE p.m. Tenders will be received for the whole or for four separate portions of the work, viz. 1. Excavator and mason. 2. Carpenter and joiner. 3. Slater and plasterer. 4. Painter and glazier and plumber. Quantities may be obtained from R. MOFFAT SMITH, Architect, No. 1, Lloyd-street, Manchester, on receipt of twenty-four stamps to cover cost of postage and packing. "Tenders for Chapel," are to be sent in on JANUARY 27th, addressed to the Rev. J. ATKINSON, Clitheroe. The committee do not pledge themselves to accept the lowest or any particular Tender.

CHARMOUTH, PORT of LYME, DORSET. To CONTRACTORS and CEMENT MANUFACTURERS.—TO BE LET, CLIFF and QUARRIES, producing that excellent Cement Stone, known as Char Cement Stone, Blue Lias Lime, and Beach Shingle (for), subject to engagement of supplying certain manufactures at Plymouth. A munificent may be established close to the entrance. Letters addressed to Mr. FRYAN, Plymouth; or to Messrs. CALDWELL & MORCOM, Cement Manufacturers, Cambridge-street, Plymouth, Devon.

BUILDING LAND in the City.—TO BE LET, a valuable PLOT of LAND, close to Ludgate hill, about 62 feet by 16 feet, offering overall gable aspect for warehouses or manufacturing premises. Rent only to be required for a short term, as Fartingdon-street must fall to rise, and property in this neighbourhood increasingly valuable.—Apply to Messrs. DEBENHAM & TEWSON, 80, Cheapside.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a most delightful residential district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

OXFORD-STREET.—TO BE LET, on a building lease, a valuable PLOT of GROUND, containing about 6,000 superficial feet, and having a frontage of upwards of 46 feet to Oxford-street, with a return frontage of upwards of 30 feet to Perry's place.—For particulars apply to Messrs ROBERT JOHN and HENRY CLUTTON, 2, Whitehall place, Westminster.

LEATHERHEAD.—A fine TRACT of BUILDING LAND, commanding beautiful views and an extended line of frontage on the high road, in a most eligible locality, within a few minutes' walk of the Railway Station, TO BE LET, at moderate ground rents, with right to purchase the freehold within a given time, for building Detached Villas and Private Residences only.—Apply to WHITE & SONS, Land Agents, Dorking.

TO BUILDERS, MERCHANTS, and OTHERS.—TO BE SOLD or LET, at a Ground-rent, a PAIR of ELEVEN-ROOMED SLATE-HUNG DWELLINGS, substantially covered in compo., and portions of the floors laid, and tenantready to take them in the state of the carcase, or they may furnish the shell. Address, GARE, Esq., Carshalton.

TO WAREHOUSEMEN, MANUFACTURERS, and OTHERS, requiring space and light.—Several PLOTS of FREEHOLD LAND, in one or more lots, fronting the Thoroughfare from Spitalfields to the Docks, TO BE LET, on Building Leases; or the owner would erect Premises to suit eligible tenants.—Further particulars of Messrs. SAMPSON, SAMUEL, & EMANUEL, 1, New Broad-street, City.

TO BUILDERS AND OTHERS.

MESSRS. HARDS & VAUGHAN are instructed by the Trustees to SELL, on terms exceptionally favourable to the Purchaser, in lots or separately, THREE CARCASES of first-class Family Residences, each in a forward state, and in a large measure finished, at a ground-rent of only £10 for the lot, near Blackheath Station, on the North Kent Railway.—Apply to Messrs. HARDS & VAUGHAN, Auctioneers and Land Agents, Church-street, Greenwich.

TO BE LET, a BRICK and TILE YARD, in Hoghleton, near Farnham, and Church Hants. TO BE LET, a BRICK and TILE YARD, with Cottage and Premises, Duke's Head, Alton, Hants. Possession and Premises Lady immediately.—Apply to R. KENNETT, Esq., Petersfield, Hants.

WANTED, at LADY-DAY, TWO UNFURNISHED HOUSES, within half a mile of each other, and a moderate distance from a railway station, within ten miles of London Bridge Terminus. Must contain five or six bedrooms, dining, and drawing rooms, and usual domestic offices. A dry and airy situation, with good drainage indispensable.—Letters addressed to J. S. A., care of Messrs. Hammond & Nephew, 27, Lombard-street, E.C.

THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

DRIVING BANDS, HOSE, VALVES, &c.
THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their VULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable than leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, cold, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Cart, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.
All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.
THE LEATHER CLOTH COMPANY, Limited,
56, CANNON STREET WEST, LONDON, E.C.

THE NEW CRYSTAL STAR AND SUN LIGHT.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
J. DEFRIES & SONS,
MANUFACTURERS OF CRYSTAL, BRASS, AND ORMOLU CHANDELIERS,
WORKS, LONDON AND BIRMINGHAM.
SHOW-ROOMS, 147, HOUNDSDITCH, CITY.
Estimates and Designs for Lighting Theatres, Concert-rooms, and Public Buildings, forwarded free.

HUBBUCK'S PATENT WHITE ZINC PAINT.
BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, it cannot produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil, covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.
N.B.—WHITE ZINC DOES NOT REQUIRE BOND AND SURETIES ON EXPORTATION, NOT BEING CONTRABAND OF WAR, LIKE WHITE LEAD.

TO COACH-BUILDERS, UPHOLSTERERS &c.—Extensive and handsome PREMISES TO BE LET, at No. 75, Wells-street, a few doors from Oxford-street, comprising three lofty floors, and counting-house. Length, 74 feet; width, 20 feet; inside measurement. Apply on the premises.

BUILDING GROUND, CITY of LONDON.—TO BE LET, on a BUILDING LEASE for 80 years, a PIECE of GROUND on the North side of Queenhithe Dock, in the City of London. Plans of the ground may be seen, and further particulars obtained, upon application at the Architect's Office, Guildhall.
FERDINAND BRAND, Comptroller.

TO CARPENTERS and OTHERS.—A well-built CARCASE FOR SALE, situate at Kentish Town.—Inquire of Mr. DAY, Builder, 69, New Compton-street, Soho.

VALUABLE BUILDING LAND TO BE LET, at St. John's Hill, Battersea Rise, within three minutes' walk of the New Wandsworth Station, on the Brighton Railway, and the Clapham Common Station on the South-Western Railway, from whence there is constant communication with Three Metropolitan Termini. The soil is gravel, and beautifully situate. The roads are making, sewers passing, and drainage to be completed. Plots of from one acre upwards to be let on Building Leases.—Apply to Mr. T. MUNCH, Surveyor, 8, Ludgate-road, Nottingham, W.

TO BE LET, SHOPS and MANUFACTURING PREMISES, with and without steam-engine and machinery, and DWELLINGS, situate between Hoxton and the Strand. Also, small Store, Office, and Yard, Bishopsgate; and Stables, Little Moorfields.—Apply to Mr. G. Ld, Drury Lane, W.C.

BUILDING-GROUND. — CITY of LONDON.—The Commissioners of Sewers of the City of London hereby give notice that they will meet in the Guildhall of the said City, on TUESDAY, the 21st day of JANUARY next, at ONE o'clock precisely, to receive proposals for LETTING, on BUILDING LEASE, for eighty years, certain PLOTS of FREEHOLD GROUND, situate in Newgate-street and Warwick-lane.—Further particulars, with conditions and printed forms of proposal, may be had on application at this Office, where plans of the ground may also be seen. The Commissioners do not bind themselves to accept any proposal or declare all tenders.—Persons making proposals for the said plots of land must attend personally, or by a duly authorized agent, on the above-mentioned day; and the parties whose offers are accepted will be required to execute an agreement, under seal, at the time.
JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, January 14, 1862.

BROMPTON GROVE ESTATE, South Kensington.—To BUILDERS and CAPITALISTS. This most eligible freehold property, comprising about 4 acres, situate on the South side of the Brompton Cemetery, between Edwardes-square and the Old Brompton-road, is now being sold in lots, and may be obtained on the following and other advantageous terms, and valuable ground rents:—Lot 1, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 2, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 3, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 4, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 5, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 6, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 7, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 8, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 9, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 10, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 11, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 12, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 13, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 14, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 15, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 16, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 17, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 18, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 19, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 20, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 21, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 22, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 23, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 24, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 25, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 26, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 27, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 28, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 29, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 30, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 31, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 32, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 33, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 34, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 35, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 36, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 37, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 38, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 39, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 40, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 41, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 42, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 43, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 44, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 45, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 46, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 47, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 48, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 49, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 50, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 51, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 52, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 53, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 54, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 55, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 56, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 57, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 58, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 59, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 60, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 61, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 62, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 63, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 64, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 65, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 66, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 67, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 68, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 69, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 70, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 71, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 72, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 73, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 74, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 75, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 76, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 77, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 78, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 79, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 80, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 81, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 82, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 83, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 84, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 85, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 86, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 87, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 88, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 89, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 90, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 91, a plot of land, with a frontage of 100 feet to the Old Brompton-road, and 100 feet to the Cemetery, with a depth of 100 feet, on which are erected two pairs of semi-detached villas, with stabling, &c., let on lease at £100 per annum, for which a ground rent of £10 per annum is charged. Lot 92,

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

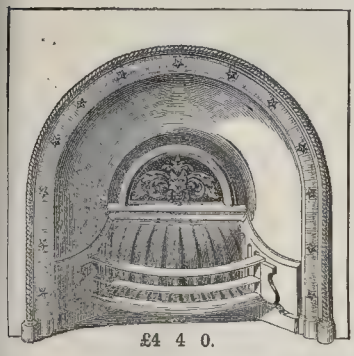


CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

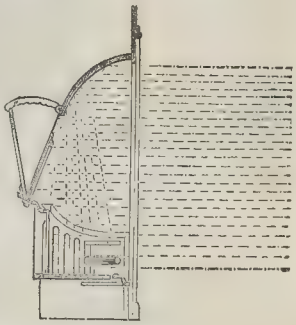
Orders requiring Despatch and Punctuality can be executed in a few days.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.

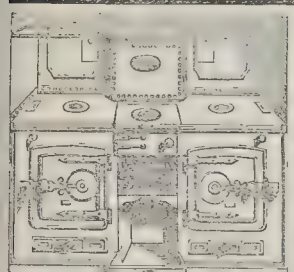


£4 4 0.

IT is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



STOCK AT No. 159, SHOREDITCH, LONDON.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

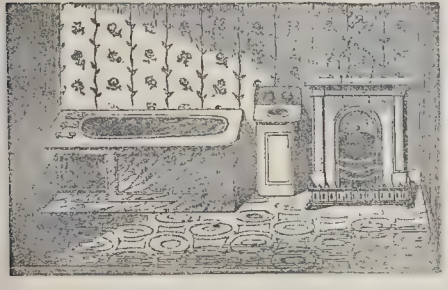
They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornament-, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET LONDON.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

MUSGRAVE'S PATENT STABLE

FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIG-SERIES.



These Inventions are confidently recommended as possessing numerous desirable points to be found in anything hitherto made

At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE BROS. received a SILVER MEDAL and two awards of "highly commended;" being the only prizes conferred on any competitor in this class.

Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

HAWKINS'S REGISTERED CHAIN.

This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for fastening window sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fixing up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

GALVANIZED IRON and ZINC WORKS.



TRADE MARK.

Galvanized or Black Sheet Iron, corrugated and plain, always in stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

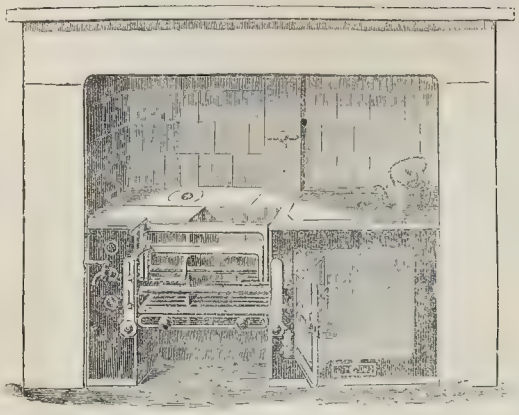
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

TRADE  MARK.

CROWN TUBE WORKS,

WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.



This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER

WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

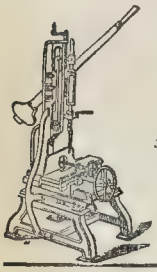
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NSW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

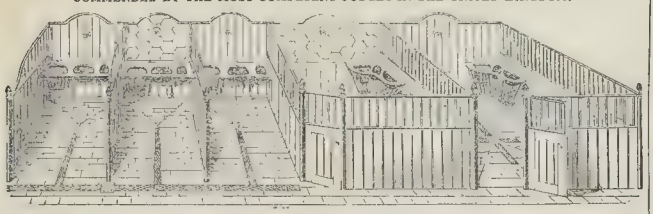
All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

COTTAM & CO. WINSLEY STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation, preventing foulness in the rack, facility in fixing, safety from accident, durability in construction, and cleanliness in use.

STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.

COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

ILLUSTRATED CATALOGUES FREE, on application to

COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.

COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.

N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61a, MOORGATE STREET, LONDON, E.C.

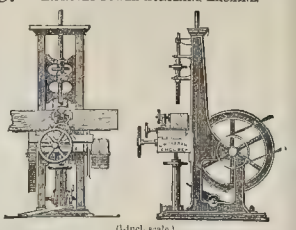
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

S. WORSSAM & CO.'S PATENT

IMPROVED POWER MORTISING MACHINE.

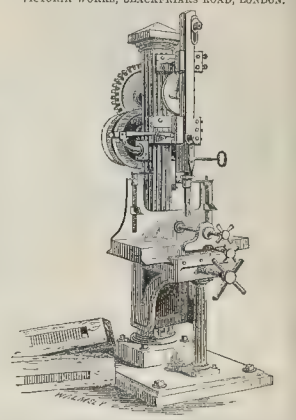


(¼-inch scale.)

Combines many improvements not to be found in any other mortising machine. A single machine, worked by a man, with a boy to assist in removing the stuff, will do as much work as ten joiners, or as four hand machines.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

POWIS, JAMES, & CO.

VICTORIA WORKS, BLACKFRIARS ROAD, LONDON.



IMPROVED STEAM POWER MORTISING MACHINE, for Railway Waggon Building, or other heavy work. Makers of all kinds of Sawing and Wood-cutting Machinery, steam engines, &c. Office, 23, Watling-street, London, E.C. where Drawings and Prices can be had on application.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

IRON RAILINGS, for enclosing

TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY-STREET, OXFORD-STREET,

LONDON, W.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 34, Davies-street, Three Doors from Oxford-street,

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 13, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London W

ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

PROFESSOR VARNELL'S STABLE ARRANGEMENTS.

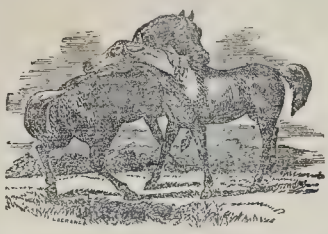
RECOMMENDED BY THE

ROYAL VETERINARY COLLEGE.

INSPECTION OF THE FULL-SIZED STALLS AND LOOSE BOXES, ERECTED AT THE WORKS FOR SHOWING THESE INVENTIONS, IS INVITED.

Every Description of Stable Furniture.

ILLUSTRATED LISTS ON APPLICATION.



CAST AND WROUGHT IRON WORK OF EVERY DESCRIPTION,

PLAIN AND ORNAMENTAL.

GATES, CIRCULAR STAIRCASES, STAIR-CASE, BALCONY, TOMB.

AND

OTHER RAILING;

VERANDAHS, IRON SASHES, CASEMENTS, SKYLIGHTS, CORRUGATED IRON ROOFS

AND

HOUSES, COLUMNS, GIRDERS, FLITCHES, TANKS IN WROUGHT AND CAST IRON, &c. &c.



GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK.

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

SHEET ZINC AND METAL PERFORATING WORKS.

FRANCIS RUMMENS,

PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.

HIGHLY APPROVED ROOFING ZINC,

BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.

ZINC SLATING NAILS.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,

Are prepared to supply, without delay,

MALLEABLE IRON CASTINGS TO PATTERN,

OF THE BEST QUALITY AND AT MODERATE PRICES.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

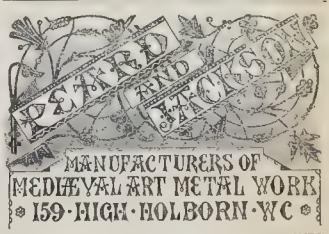
JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W. Drawings and Estimates furnished.

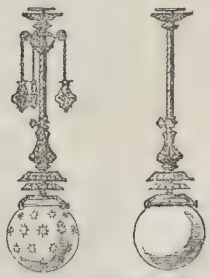


BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vases, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gasaliers, Coronæ, &c. in brass and iron, to be had on receipt of six postage stamps.

DEPOT for BROWN'S PATENT CLOTH-PADDED WOOD STRIPS, which, when applied to windows, doors, show cases, &c. COMPLETELY EXCLUDE draughts dust, water, and the injurious effects of gas. Samples, with Illustrations, and directions for use forwarded on receipt of three stamps for postage

RICKET'S & HAMMOND'S

GLOBE LIGHT.



A SHADOWLESS GAS BURNER.

AGAR STREET, STRAND, LONDON, W.C.

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW.

Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED

TUBE for GAS; Galvanized ditto, for Water; High-pressure Steam Tubes, &c. Manufacturers of Dr. Arnott's improved Ventilating.

HULETT & CO. 65, High Holborn.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

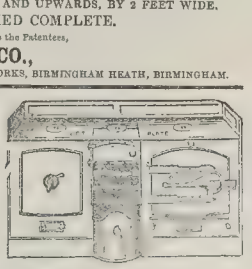
CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; ANBLION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

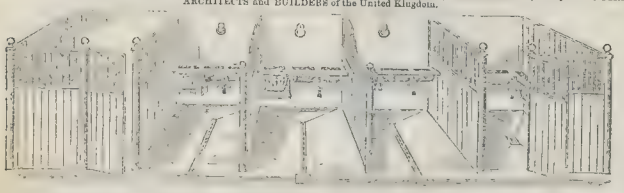
WHOLESALE AND MANUFACTURING IRONMONGERS.

38 and 65, York-street, Westminster.

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.

These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

ILLUSTRATED LISTS ON APPLICATION.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

DEVAUX'S PURE THICK ROOFING ZINC,

FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS

And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. EDMESTON, Esq. F.R.I.B.A. by whom a certificate is given.

ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.

Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.

MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.

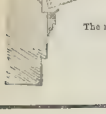
N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.

DRAUGHTS & DUST ROUND DOORS & WINDOWS

EFFECTUALLY PREVENTED BY

GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS

(Can be had any Length or Pattern).



The neatest, most simple, and effectual method of making air tight joints to joiners' or cabinet work, OLD or NEW.

Self-acting Spring Slides for the bottom of doors.

The most imperfect door can be made air-tight without re-hanging.

The Trade supplied on liberal terms.

JOHN GREENWOOD, PATENTEE,

10, Arthur street West, London Bridge.



W. HARMER & SON

Beg to inform their Customers and the Trade generally, that having recently Removed into their new Premises, No. 3, HORSEFERRY ROAD (which communicates in the rear with their Workrooms and Warehouses in New Peter street), they have thereby been enabled largely to increase their Stock of BUILDERS' and CABINET MAKERS' IRONMONGERY, most of which they are now selling at a considerably REDUCED LIST of PRICES, in consequence of the increase of trade in the manufacturing districts.

W. HARMER & SON,

IRONMONGERS, SMITHS, IRON AND ZINC MERCHANTS,

Nos. 3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W

ESTABLISHED 1817.

CHUBB'S LOCKS,

with all the recent Improvements,

STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.

Complete Lists of Sizes and Prices may be had on Application

CHUBB and SON,

57, ST PAUL'S CHURCH YARD, LONDON,

28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

SAVING IN GAS.

D HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for burning wholesome and uniform Lighting, by taking the pressure, and preventing any irregularity in the height of the flame.

D HULETT & CO. 55, High Holborn, London,

Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

IRON CASTINGS

of every description; WROUGHT and CAST IRON GIRDERS, FLITCHES, and TANKS; IRON WINDOWS, HOT-WATER PIPES, RAIN WATER PIPES, and GUTTERS, PIPES for GAS and WATER, manufactured by

JAMES HAYWOOD, Junior, Phœnix Foundry, Derby.

CAUTION to ARCHITECTS and BUILDERS—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTING DOOR SPRINGS; SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes street, Leicester-square, London, and SUCH ONLY are WARRANTED.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH

and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased to protect the PATENT LINES made from Jute, which article has not the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted under every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, all old and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 114, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the joint and all staples, complete for fixing, at the following prices:—

Three eighths inch diameter.....	1s. 6d. per foot.
Half-inch diameter	1s. 6d. "
Five-eighths inch diameter	2s. 6d. "

R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices 130 Strand, London.
" Gateshead-on-Tyne.
" 27, Dale-street, Manchester.
" 68, Anderston-quay, Glasgow.
" 17, South Castle street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

HANDSOME BRASS and IRON BEDSTEADS—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnishings complete, as well as every description of Bedroom Furniture

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of Bedroom Furniture, sent free by post. HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, &c., Tottenham-court-road, W

DEVAUX'S PURE THICK ROOFING ZINC laid upon Mr Edmeston's principle to insure durability, by D. HAYWARD,

LONDON ZINC WORKS, No. 97, Blackman street, Borough.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.

Also to be seen in extensive operation at their Premises, King's road, Chelsea.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE

REDUCTION in PRICE, on account of the Exemption from Duty on Pipe.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and Drainage purposes, viz. great strength, great durability, and perfect incombustibility; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. to the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are delivered until the weight, and are 50 per cent. cheaper than cast iron pipes. They are made in seven feet lengths, and the joints are simple and inexpensive. They have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr ALEXANDER YOUNG, 11a, Carlton street, London, E.C.

NAILS and IRONMONGERY,

from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery, of every description, at the LOWEST BIRMINGHAM PRICES,

A complete List of which will be forwarded upon application to FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 15, Devonshire-street, Lothbury, E.C.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings, also, Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Concert or Dancing Rooms, Theatres, &c. suitable to all Climates, fixed complete, in town or country, or packed for exportation.

For Designs and Estimates apply to

RANDAL STAP, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

PATENT WROUGHT IRON WINDOWS, manufactured by the GENERAL IRON FOUNDRY COMPANY (Limited), HENRY ROGERS, Manager. Arundel Wharf, and No. 43, Upper Thames street, London. These windows combine the advantages of great strength and lightness at cheapness, and they have been highly approved by most of the leading Government architects of the day. They are peculiarly suited for Hot Houses, &c. as was stated in the Gardeners' Chronicle, and have for exportation, as it may be wished to break them by any means. Lists of prices can be had on application.

"ALLEN'S" PATENT SMOKE CONSUMING APPARATUS and REGULATING VALVE. This valve is the simplest and cheapest of all the smoke consuming apparatus for the purpose of effecting complete combustion of fuel, in all kinds of furnaces. Testimonials of the highest possible character are gladly given by the parties who have them in operation.—Price, No. 1, 3l. 3s.; No. 2, 3l. 10s. for furnace-door complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have met with the entire approval of the Engineers, by whom they are fixed. For further particulars apply to the Inventor and Patentee, H. Rogers, 44, Upper Thames street, Makers of Cast and Wrought Iron Pipes, Hot Water Pipes, Gas Governors, Patented Soil Soap Pans, Furnace bars, and all other kinds of Castings, for manufacturing and building purposes.

WARMING by HOT WATER or HOT AIR.

Mr. ALFRED MAY, C.E. HIGH HOLBORN, begs to call the attention of Architects, and others, to his new and improved system of Hot Water Apparatus and Hot Air Stoves, adapted for all kinds of public institutions, gentlemen's houses, conservatories, warehouses, shops, &c. Estimates given, and efficiency of the Apparatus warranted.

LOSH, WILSON, & BELL,

NEWCASTLE-ON-TYNE,

Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and

STEWART'S PATENT CAST-IRON GAS and WATER PIPES.

Office, No. 7, Size-lane, London.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price lists, 12s.—Nos. 55 and 56, High Holborn.

FIRE! FIRE!! FIRE!!!—The most effectual means of preserving life from Fire, is by using CLARKE'S PATENT FIRE-PROOF DESCENDING BALCONY. Descriptive Drawings, and every information, free by post, on application to CLARKE & CO. 22, Parliament-street, Westminster, S.W.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.

N.B.—The usual discount to builders and the trade.

VENTILATION.—M'KINNELL'S PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its avoidance of draughts, and its being ordinarily self-regulating—the pure air flowing imperceptibly inwards, while the noxious products of respiration and combustion are simultaneously carried off. It has been applied in many of the Royal Buildings at Windsor, the Government Offices in London, and extensively in churches, public halls, schools, offices, dwelling-houses, factories, stables, and in ships, for which it has been adopted by her Majesty's Emigration Commissioners.—Patentee, JOHN M'KINNELL, 3, Langham-place, London, W. Description and testimonials on receipt of one stamp.

TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS.

THE BRYMBO COMPANY, North Wales, beg to inform Contractors and others that they have made arrangements to SUPPLY the LONDON MARKET through their Agent, Mr F. FOED, No. 9, Lawrence Pountney-hill, Cannon-street, City, with

CASTINGS OF FIRST QUALITY,

FROM THEIR OWN SUPERIOR IRON, MADE FROM THE BEST HEMATITE AND ARGILLACEOUS ORES.

All orders promptly attended to, and at moderate prices.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr Arnott's Ventilators (4s.); and the New Registered Venetian Ventilator, so much admired, (3s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare-market, London.

MOREWOOD & CO. (late Morewood & Rogers), Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Water and Gas Tubing, Stamped and Moulded Sections, Wire, Wire Netting, Nails, Rivets, Bolts, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the

OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

SKAIFE & COMPANY, Manufacturers of PATENT GALVANIZED IRON.

Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tipped Sheets and Tiles for export.

IRON WORK GALVANIZED.

Roofing orders promptly and carefully attended to.

Office—Commercial-road, Limehouse, London.

Works—Copenhagen Wharf, Limehouse.

CAST STEEL BELLS, One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO. SHEFFIELD.

VENTILATION -PURE AIR.

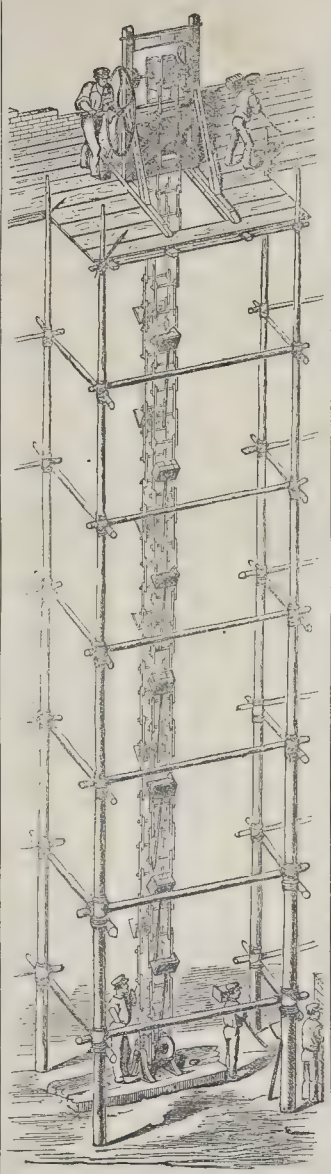


Cheringham's Ventilator for the admission of Pure Air through an EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d. These Ventilators are arranged so that the requisite quantity of air may be admitted for the movement of each apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, and Manufacturers, 117 and 118, Upper Ground-street, Borough, London; and of all respectable Ironmongers, Brokers, &c.

TRACING and DRAWING PAPERS.—WATERFORD'S TRANSPARENT TRACING PAPERS.
LEONE'S ENDLESS FRENCH TRACING PAPERS.
ENDLESS TRACING LINEN AND CLOTH.
WHATMAN'S DRAWING PAPER and CARTRIDGES.
ENGINEERS' DRAWING PAPER, 4 INCHES WIDE MOUNTED DRAWING PAPERS ALWAYS READY.
WILLIAMSON'S MATHEMATICAL LINES for ENGINEERS.
WATERLOW & SONS,
WHOLESALE and EXPORT STATIONERS
(Contractors with her Majesty's Stationery Office, and the principal Railway Companies in England),
London-wall, and Parliament-street, London. Samples sent free.

AGER'S PATENT HOIST FOR ECONOMISING LABOUR AND COST IN



RAISING BUILDING MATERIALS.

COLLINS & STANBURY,

49, BREAD STREET, BIRMINGHAM

SOLE AGENTS & MANUFACTURERS.

Two Labourers with this Machine will raise Fifteen Hods, 40 feet high, in five minutes.

Price 20*l.* complete, with chain sufficient for 40 feet.

HORTICULTURAL GLASS WAREHOUSE.

THOMAS MILLINGTON,

87, BISHOPSGATE-STREET WITHOUT, E.C.

Lists forwarded on application.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Cornhill, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, form cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PAINTED GLASS WINDOWS AND MURAL DECORATION.

LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

GLASS MOSAIC.—G. H. STEVENS begs to call the attention of the Clergy, Architects, &c. to his revival of ECCLESIASTICAL DECORATIONS IN GLASS MOSAIC. The Mosaics are the most legitimate application of colour, where is may be required in the enrichment of Fonts, Pulpits, Reredoses, whether in stone or marble. Specimens and tracings of works executed may be seen.—Estimates and other information at 56, Great Queen-street, Lincoln's Inn, London, W.C.

Late of Stafford-row, Pimlico.

STAINED GLASS and WALL PAINTING.

NOTICE OF REMOVAL.

MESSRS. CLAYTON & BELL,

late of No. 24A, Cardington-street, Euston-square,

Have removed to

311, REGENT STREET, W.

(Adjoining the Polytechnic Institution).

Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

STAINED GLASS WINDOWS for CHURCHES and DWELLINGS.

HEATON, BUTLER, & BAYNE

Will forward, post-free, on receipt of Thirty Stamps, their ILLUSTRATED PRICED CATALOGUE of STAINED WINDOWS, with a Treatise on the Principles and Practice of the Art.—Stained Glass Works, 34a, Carlington-street, Hampstead-road, London, N.W.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Flashing, Silvered, and every description of Glass

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. BETTAM & CO.

30 and 31, PRINCES STREET, SOHO, LONDON, W.

CHEAP WINDOW GLASS! CHEAP WINDOW GLASS! Builders, Plumbers, Painters, Glaziers, and the Trade generally supplied with every description of Window Glass at WHOLESALE PRICES. Sashes glazed. Lists and estimates given at GRIST'S Glass Warehouse, 47, Chiswell-street, Finsbury, E.C. opposite Whitbread's Brewery.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	6 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do. do.	25 "
Marine Chronometers	35 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

BENSON'S WATCHES and CLOCKS.

"Perfection of mechanism."—*Morning Post.*

Gold, 5 to 100 Guineas.

Silver, 2 to 50 Guineas.

BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, descriptive of every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free and safely post on receipt of a remittance.

J. W. BENSON,

33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.

(Established 1749.)

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to

JOSEPH FAIRER,

Turret Clock-maker to H. M.'s War Department,

138, St. George street East, London.

THE

Architects', Builders', Civil Engineers' and Machinists'

DRAWING ESTABLISHMENT,

70, OLD STREET, CITY ROAD, LONDON;

CONDUCTED BY MR. THOMAS J. HILL, ARCHITECT, &c.

Teacher of Architectural and Mechanical Drawing to the Worshipful Company of Brewers' School (Lady Owen's), &c.,

FOR GIVING PRACTICAL INSTRUCTION IN

ARCHITECTURE, CIVIL ENGINEERING, MEASURING,

AND VALUING BUILDINGS, LAND, TIMBER, &c.

ALSO FOR TEACHING

ARCHITECTURAL, ORNAMENTAL, MECHANICAL, AND WATER-COLOUR DRAWING

OF EVERY DESCRIPTION.

THE ARCHITECTURAL DEPARTMENT comprises the preparation of Plans, Elevations, and Sections, with the necessary Detail Drawings of Churches, Townhalls, Mansions, Villas, and Modern Street Architecture; the Preparing of Working Drawings in all Trades; and the application of Geometry to the Construction of Roofs, Domes, Groins, Hand-railing, &c.; Perspective (Parallel, Angular, and Isometrical) and Ornamental Drawing from the Flat and Round; Light and Shade, illustrated by Models; Sciography, or the Delineation of Shadows; Orthographical Projection, &c.

Getting up Finished Elevations and Interiors, in colours, both Geometrical and Perspective, with Foregrounds, &c.

Preparing Specifications, Measuring, taking out Quantities, and making Estimates.

THE MECHANICAL DEPARTMENT comprises the method of Drawing Toothed Wheels, Screws, &c.; Marine and Locomotive Engines, with Detail Drawings (entirely new), in outline and in colour.

THE CIVIL ENGINEERING DEPARTMENT comprises the Construction of Bridges, Aqueducts, Roads, Tunnels, Viaducts, &c.; with all the necessary Detail Drawings, in outline and colour.

THE MATHEMATICAL DEPARTMENT comprises the estimation of Forces, Stability of Structures, Statics, Algebra, Trigonometry, Mensuration, Plotting Surveys, &c.

Terms.

DAILY INSTRUCTION ..... £3 **per Quarter, £1 5s. per Month.**

Hours of attendance, Ten till Four (Saturdays excepted).

A Payment of Ten Guineas on entering entitles a Pupil to a complete course in any of the above Departments, without any extra charge—Pupils can attend at the time best suiting themselves, either day or evening, or both. (Limited to two years.)

The Day Pupils are allowed to go over buildings in the course of erection under Mr. Hill's superintendence.

EVENING INSTRUCTION (Conducted by Mr. Young) ..... **£1 1s. per Quarter, or 8s. per Month.**

Hours, Six till Nine, or Seven till Ten (Saturdays excepted.)

A Payment of Five Guineas on entering entitles a Pupil to a complete course in any of the above Departments, without any extra charge; for the Evening Class only. (Limited to 2½ years.)

PRIVATE INSTRUCTION given in Measuring and taking out Quantities, and in Architectural Colouring.

N.B. ALL PAYMENTS TO BE MADE IN ADVANCE.

N.B. The whole of the valuable and rare Collection of Models and Drawings of the late C. Davy, Esq., of Furnival's Inn, is at the service of the Students.

The following are extracted chiefly from a List of Gentlemen whose Sons or Assistants have studied at the Establishment, and who have allowed their Names to be used as References :—

Messrs. Ashby & Horner, builders, Aldgate.
P. Anley, builder, Whitecross-street.
J. Blythe, architect and district surveyor, Noble-street, City.
H. Burton, builder, Aldersgate-street.
H. Cook, builder, Walworth.
G. R. French, architect, 1, Sunderland-place, Westbourne-park.
H. Freebody, surveyor, St. Leonard, Shoreditch.
Greenwood, builder, Arthur-street, London-bridge.
Hobbs, engineer, Cheapside, and New North-road.
D. King, builder, Mitre-street, Aldgate.
Law, builder, Caledonian-road.
R. Leage, Auctioneer, Regent-terrace, City-road.
R. Leman, builder, Stepney.
Lovitt, builder, King-square, Goswell-street.
H. Matthews, architect, 200, Thames-street.
J. Moreland, builder, 76, Old-street.
R. Moreland & Co., engineers, 9, Old-street.
Norris, builders, Hackney.
J. C. Ramsay, builder, 36, Walbrook.
Ryder, builder, Union-street, Borough.
Rivett, builder, Stratford.
H. W. Sass, architect, Connaught-terrace.
J. Sewell, builder, 65, Aldersgate-street.
J. H. Stevens, architect, Coleman-street, City.
E. H. Thorman, engineer, West-Ham Gasworks.
Timewell, builder, Essex-street, Islington.
S. Turner, builder, 26, Walbrook.
Outhwaite, builder, East Smithfield.
Underhay, engineer, Wells-street, Gray's-Inn-road.
Wagstaff & Son, Bartlett's-passage, Holborn.
C. Walker & Sons, engineers, Sutton-street, Clerkenwell.
W. Webb, Stoke Newington.
Winter, builder, Brentwood, Essex.

The Builder.

VOL. XX.—No. 989.

French Explorations: Eleusis.



O MATTER what may be the mode of viewing the politics of foreign nations, there is one particular field of the action of certain sovereigns and governments, wherein these may be deservedly lauded by Englishmen for entering upon. We are not referring directly to the efforts made and means adopted for the work of primary education in some states, or to active promotion of literature, science, and art, in several, within their geographical boundaries. Those exertions have been the subject of study; and they deserve to receive more. We already owe part of actual measures and gains, to investigation of the methods and appliances alluded to; and information of the same valuable character will be exchangeable next May. But, we refer to the promotion and prosecution of researches in distant countries, and to the publication of the results. For want of a similar system to that which obtains in France and Prussia,—as we have often said,—much that is actually acquired by individuals, our countrymen, never sees light; and the greater portion of what is published, entails upon those who have been the discoverers, and have become public benefactors, only ruinous loss. Acceptance of this office of exploration is something better than relaxation; it is a *duty* of each nation. It is the same as every worker in a literary or scientific field, who is constituted with a sense of responsibility at all, accepts with his calling,—the duty incumbent with the possession of whatever attributes and gifts, to help, though unrecompensed, the world's movement which is ever tending to a distant future when all things may be known. With men so intellectually and morally constituted, fame or gold is of the least value.

It is true that this self-denying spirit is not always that which is prominent in the action of the French nation or government. An individual bequeaths a sum of money to be awarded by one of the sections of the Institute to the author of some discovery which, in the opinion of that Academy, may be "*glorious* for France." The expression, and the thought, are alike out of place. Whoever watches the promulgation of opinion by public men, whether in the legislature or the press, will observe the prevalence of a passion for which, he might say, peace of nations and happiness of peoples, are held in secondary consideration; and the same thirst which has rendered the French people, more than governments, the disseminator of darkness, as of light, in the progress towards higher civilization and ultimate brotherhood, is, and not any nobler inducement or sense of duty, the originating cause of great part of the system of research and educational culture which is so remarkable. That, however, in the intellect of France, the feeling of the proper aim in such exertions, has found place, may be shown by those words of Montesquieu:—"J'ai eu naturellement de l'amour pour le bien et l'honneur de ma patrie, et peu pour ce qu'on appelle la gloire; j'ai toujours senti une joie secrète lorsqu'on a fait quelque règlement qui allait au bien commun." It was the same thinker who said,—"La France se perdra par les gens de guerre." The governing power at this present time,—much as it has done of good,—is to be condemned for acts which only tend to nourish the least commendable of the yearnings of that varied human nature wherein exists the power of guilt and wrong to the end that merit be attainable, as duly earned. Not only are new boulevards and bridges called after the names of recent military events; but even well-known and historic appellations are changed to gratify the really unworthy conceit of the army or nation. We may instance the Place du Ferrare at Fontainebleau, referred to in many books, and now labelled after the battle of Solferino. The most that can be said in deduction of the speciality of imputation against the French, is that Englishmen have been guilty of a similar error; and that, for the pride in military achievements on the one hand, there is that in naval on the other. But with us, lately, it has been left to retired publicans and the lower class of speculators about London, to boast of the affairs of slaughter in which England has been unfortunately engaged; war is rather an evil to be avoided, than an apparent object of the nation; and we trust that had our street-improvements been as great as those in Paris, we should have followed the French in one of their two practices, that of commemorating the names of their men of art and science, and not in the other, that which is worthy neither of a Christian nor a polite people. If the mission of each people on the earth should include the being at peace with every other; if equally we for the moment admit the claims of a nation's military and naval men to the same class of honours as are due to its men of other influential callings; it is scarcely possible to arrive at a justification for the erection of *trophies;* the motive of them is barbaric. The sensation produced on every Austrian, Prussian, and Russian visiting Paris, and every Frenchman, London, is little removed from that of having received an insult; which he has to pocket; but with which he keeps the hope of one day wiping it out: and thus a nation which is always writing up in the faces of its guests that it has the power to annihilate them, is mistaken and impolitic, or bad by design, in its course against every principle of morals, every usage of good-breeding, and every rite of hospitality. This may be strong language to those who have never reflected that the sensation of an insult is in the recipient of the words or act, and not in the inflictor of it. Somehow, there is nothing of which men are really so afraid, as of being supposed to be afraid: so, the agglomerations of men, nations, are ever making it a point to demonstrate that they have the physical bravery. The result becomes the feud of clans on a wider scale—never ending till the last man of the factions has fallen. Observation of the demeanour of the military portion of the population tends to convince us of the existence of a demoralising influence upon the French nation. It is seldom that a drunken man is to be seen in Paris; but four out of five of the number that may be remarked, will be found to be soldiers. Of men who have served their term, and are not retained in Government service—as that of the police, a large proportion become worthless for life. It is very difficult to describe what may be the feeling towards England, or Englishmen, amongst the French. But the expression of enmity, and of readiness to pay off supposed affronts, or of the desire, mere vanity, of being able to say that such or such an achievement against a regarded rival had been performed, is heard from the lips of educated and serious men, more frequently than individual Englishmen, not resident in France, and who have been received here with politeness and even kindness, would have any idea of.

So much it was well to say, to place the present and previously touched questions of comparison between England and France, on the right bases. We point to the results of the spirit of exploration abroad, to indicate what should be the course of our own nation, but from the highest of the motives. There is yet a very large amount of credit due to the French system of promotion of education and research; indeed, the thanks of all foreigners should be accorded for the freedom with which the different aids are placed at their disposal. There are few nations which are not large partakers in the advantages of the *écoles* and other professional educational institutions of Paris; the English being, in proportion to the population of the British Islands, probably the least-represented; whilst there are none who take so large a share as the English, in the opportunities offered by the picture-galleries and museums.

England, like France, deems that it has a mission; and in discharge of that, it seeks to preserve or obtain a certain influence amongst the nations. We need not dispute whether the means and the aims are more or less worthy than those of France. But we shall never stand on the most favourable ground for rebutting the charges against nation and character, which are constantly heard, unless as a nation we accept the duty of promoting ends for something more than even civilized commercial results. The French have long since accepted some such responsibility, and are ever reaping advantages from it. We have only lately entered upon a path; in which, how much of invaluable, but unseen influence, was that of one who is removed from us? We have the machinery in the Department of Art now, for elevating the productive and supplying power of this country to a position never yet reached. Would it not be possible to go further without difficulty, not so much in the collection of *works* of art,—which duty there seems to be a disposition to accept on the part of the Trustees of the British Museum, under the improved management of that institution,—as in the collection and contribution of *information* respecting matters of interest, remaining to be described and delineated, both at home and abroad. As regards one division of the gathering and seeking agency or staff, there is the nucleus of an excellent *corps* of photographers, in the Royal Engineers, chiefly instituted by the Department. With this arm of an educational service, indeed, something has already been brought from the East, and from Russia; but very little has come under notice of the public. How very much greater might be the use made of photography, we have on two or more occasions tried to set forth. We are now urging that a large acceptance of a duty of exploration and publication would be worthy of our nation. The charge upon the finances would be paid by the satisfaction, and solid value realized. Even of these buildings and works of art which do not require to be exhumed, we know sadly too little from our travellers; and, according to our view, there is nothing but photography, for purposes of representation, which can present us with the number of subjects, and the accuracy and minuteness, which, both, are required. Whilst the French Government now institutes or promotes exploration in every quarter of the East, researches are being prosecuted under the direction of the Emperor in many of the localities of France named in "Cesar's Commentaries;" and these have already thrown light upon the ancient text, and contributed a fact or two to the national history. Perhaps Mr. Wright and the Wroxeter committee would get more assistance

from the French Government than they can from our own.

From the time of the expedition in Egypt, to the affairs in Syria and China, the French have lost few opportunities for placing a *corps* of *Savans* in parallel movement with the course of their armies. The first of the series of researches is worthy of being named for results, along with the military part of the expedition. We might say that we owe to it the bulk of what is known of a people, perhaps the most remarkable of ancient times, and who appear to have been acquainted with the majority of our contrivances and technical processes. The French Government seems to charge itself with such researches abroad, in the same spirit that it maintains a great museum at home. Our Government accepts the duty and principle to a certain length: it cannot with credit to its part in the fraternity of nations, much longer delay accepting it in the whole.

The columns of the *Moniteur* have made us acquainted with some of the most interesting particulars of the researches that have been in progress recently in Egypt, Syria, Asia Minor, and several parts of Greece. We must not, indeed, give the entire credit of those first-named, to the French; though they have been conducted by French hands; and though the Museum of the Louvre contains results, — such as specimens of the weights and measures of the system mentioned in the Scriptures, loadstones balanced and serving the purpose of the magnetic needle, an artist's colour-box, and about fifteen hundred other objects; but the researches would doubtless not have been undertaken by the Egyptian government unaided. Since Mr. Daly posted up results towards the end of 1860, in his "Revue Generale de l'Architecture;" and since Mr. Donaldson read an account of his visit to Egypt, much has been referred to as newly discovered. Perhaps also to Government countenance is it that we owe the publication of a series of about fifty admirable representations of the ruins in Central America, the original photographs of which were lately spoken of at length by Mr. Viollet-le-Duc as having been recently brought over by Mr. Charnay, who had taken them at great risk, and after no small amount of labour in clearing away the trees which encase the ancient monuments. We cannot now do more than put aside the accounts of these researches in opposite quarters of the globe, to wait the chance of a fitting opportunity to do justice to them. We have, however, in a *feuilleton* of the *Moniteur*, wherein Mr. Viollet-le-Duc has written some interesting observations on the history and features of the American antiquities, certain remarks, on the value of photography, which we should have liked to quote with the context, considering that there is much in them to the point in question, the especial utility of the thing, that which, as we have hinted, remains to be understood. Mr. Viollet-le-Duc, speaking of photographs of particular fragments,—says,—"It is in examining these proofs that we perceive to what an extent drawings or engravings that we possess of these monuments, reproduce in an indeterminate manner the character of the sculpture, and how dangerous it is to trust to them when we would seek into the origin of the Mexican arts."

The researches of Mr. Ernest Renan in Syria, were mentioned by us last July in a paragraph; but the report to the Emperor, in two numbers of the *Moniteur*, gives many particulars which we were compelled then to omit. We must again leave them, in favour of more recently published, and perhaps more interesting matter.

The French Government have an active outpost for their missions of exploration, in the French School of Athens, which was instituted in 1846 for the study of the language, history and antiquities of Greece. It consists at present we believe, of a director, and five members, the latter being named by the Minister of State after an examination in the ancient and modern languages, the elements of the paleography and archæology, and the geography and history of the country, based on a programme prepared by a commission of the Academy "des Inscriptions et Belles Lettres." The school is under the *surveillance* and authority of the minister at the court of Athens. It is not out of place here to allude to the advantage which has been derived by France from good selection in its diplomatic and consular service, as in the case of Mr. Botta, results of whose explorations in ancient Assyria are so remarkable in the collection of the Louvre. Perhaps it is due to various exertions of the Institute of British Architects, that a consular appointment was given to Mr. Newton, and that there has lately been some interest displayed by the Government, through different branches of the public service, in the collection of specimens for the British Museum.

The researches of which we have had lately some account, and which have not been distinctly named above, are those conducted by Mr. Perrot, by order of the Emperor, at Angora, the ancient Ancyra in Galatia, Asia Minor; those by Messrs. Wescher & Foucart, in the name of the French Government, at Delphi in Greece; and those by Mr. François Lenormant, by order of the Ministers of State and Public Instruction, at Eleusis. The last mentioned of these will be regarded by architects as the most interesting. They seem to have been commenced before 1860, though only recently mentioned publicly. The notice in the *Moniteur* of the 21st December last is merely a selection of matter from the original reports, and of course wanting the illustrations necessary to information of the exact nature of the discoveries in points of architectural detail.

Up to within the last seven years, the noteworthy objects on a site which is not second to the Athenian Acropolis itself in its relation to Grecian life and history, were little more than heaps of ruins; though the chief temple was to be identified, as well as the Sacred Way. Murray's excellent Handbook (edition 1854) makes mention of the Acropolis and walls, with the harbour; of a propylæum, resembling in plan and dimensions that of the Acropolis of Athens; of a second propylæum; of the temple of Artemis Propylæa, 40 feet long and 20 feet broad; and of some remains of a theatre and another temple, and others of Roman date, chiefly those of an aqueduct. The remains of the Hierum of Demeter, or Ceres, once the largest temple of Greece, and designed by Ictinus, seem to have been those of the *peribolí*, and the gateways just now named. A colossal bust, at present in the public library at Cambridge, was found in 1801. Singularly enough, the Handbook makes no reference to the researches in 1814, the results of which were published in the "Inedited Antiquities of Attica," of which work there is a French version by Mr. Hittorff. The site of the temple of Ceres, however, was occupied by the modern village; so that much that was given as restoration was conjectural. More recently the remains were spoken of by Mr. Le Bas in the reports of his mission in Greece. The labour of excavation which is the subject of the present notice, was commenced by the father of Mr. François Lenormant. The English researches had determined the position of the temple of Ceres with the inclosure and its two propylæa, and had supplied the principal materials for the plan, and given the most important details of the architecture. They have been, however, regarded by the French, as not warranting the exact restoration attempted in the plates of the "Antiquities."

The principal front of the temple of Ceres was turned to the east-south-east, or slightly differently in orientation from what was the ordinary practice; the variation being due to configuration of the site, and to the desire that the entrance should face the defile through which passed the Sacred Way. The temple itself was surrounded by a double *enceinte*, as will already have been understood; and this outer area contained a considerable number of small buildings, and works of sculpture, as in the case of the Athenian Acropolis. Two succcessive propylæa also mentioned above, and which were at the north-east angle, gave entrance to the *enceintes*. These gateways were not in the axis, each, one of the other; but the axis of the inner propylæum tended to the flank of the building, as by intention. The reason is supposed to be that the *uninitiated* might be unable to perceive what was going forward in the inner peribolus and the temple.

The ancient town at the foot of the citadel, is found to have been considerably larger than it had been supposed. Like some other cities, as Syracuse, it seems to have been divided into two portions, separated by a fortified wall. It included several buildings and monuments of importance. Amongst them were the temple of Triptolemus, that of Neptune, and that of Artemis Propylæa. The French writer has not mentioned the last of these buildings as having been illustrated in the English work. In the same, or eastern, quarter of the city, are the remains of three or four important edifices with marble columns, and those of a considerable Roman building, *thermæ* or a basilica, with mosaic pavements. In the southern quarter was the theatre, resembling in plan and dimensions that of Bacchus at Athens; and, extending from the proscenium to the sea-shore, was the stadium. This connection of the two edifices is found elsewhere—at Æzani in Phrygia. The space from the foot of the Acropolis, along the shore, as far as the port, which last was situated in a right line with the southern angle of the sacred enclosure, was a quay ornamented with porticoes, that is to say for a length of 450 mètres. The port, as described by Colonel Leake, was formed artificially by two moles, inclosing a semicircular space, which was again divided into two parts by a mole prolonged from the wall of separation of the two quarters of the town. The remains of the reservoir of distribution, for the water-supply, of the time of the emperor Hadrian, are spoken of in the *Moniteur* as presenting several points of interest.

At the commencement of the recent researches, on and about the site of the most important of the buildings above mentioned, it was necessary to remove upwards of 7,500 cubic mètres of earth, to displace 1,500 cubic mètres of blocks of marble of the ruins, and to expropriate the residents of some fifteen houses. The Greek government, however, assisted with money, and otherwise, towards the most important preliminary of the undertaking. The result has been a complete exposure of the foundations, the existence of which the English architect had been satisfied of by borings.

Mr. François Lenormant commenced his researches by clearing away the greater portion of a paved area in front of the propylæa of the external peribolus. In the centre stood the temple of Artemis Propylæa, of the Doric order, and age of Pericles; but the details were found much mutilated. Beyond this temple were two colossal altars, decorated in front with crossed torches emblematic of Ceres and Proserpine. One of these altars bore two lofty columns dedicated by the Acheans, and supporting figures of Victory. It is to be regretted that we have no suggestion as to the date of these columns, further than what may be comprised in the statement that their shafts are not fluted. Evidence on the question whether the Roman monumental columns were not an invention of their own, would be useful. Two small buildings of the Corinthian order, at the lateral extremities, completing the architectural group, are distinguished as Roman. At the end of the area of ground just noticed, was the wall of the *enceinte* of the temple of Ceres (or Ceres and Proserpine) with the propylæum or propylæa. This was similar in most respects to the central portion of the propylæa at Athens, with which it corresponded in dimensions. Like it, it presented two fronts of six Doric columns each; and in the interior there were two parallel ranges of three Ionic columns; whilst there were five doorways in each front, the centre opening being largest, and the others decreasing in size. The statement of this general disposition is placed to the credit of the English explorers. The present French account however adds that the English had not recognized the mode of arrangement of the entrance in the principal front, wherein there is an absolute difference with that in the propylæa of Athens. In the latter, there was no railing to the façade, though there was one in the internal colonnade; and people who had ascended the steps, could enter by any of the inter-columns of the principal front. At Eleusis, besides doors, there was an enclosure in advance of the columns of the main front. The façade was raised on five steps; but the top step was double the height of each of the others; and it carried a "balustrade," breast-height, with pedestals supporting statues. It is to be hoped if the remains are quite what the account states, that drawings of them will be shortly published. It was only by the central inter-column, where there was a sixth step, that entrance could be had. Bronze folding gates were probably placed at that spot.

One of the most interesting points discovered by Mr. Lenormant, if he be quite correct, is that of the date of the Eleusinian Propylæa. It appears that he has proofs that the structure was raised in the time of the Antonines. That is to say that, during the period when the architecture of the Roman empire was far removed from the character of the Greek, when the appreciation of simple beauty would seem to have been lost, and the taste was little more than an alternation between the grandiose and the overloaded-ornamental, the idea was realized of erecting a building which should reproduce the character of the works of the time of Pericles. There is, indeed, a well-known portico at Athens, of Roman date, and Grecian Doric character; but, though it is interesting for reasons similar to what attach themselves to the work at Eleusis, it dates 150 years earlier, or in the time of Augustus. The importance, in a philosophical view of the history and of the modern tendency of our art, of facts such as these, of practices which many have been dis-

posed to think peculiar to our own period, can hardly be over-estimated.

The wall of the peribolus, originally of Pelasgic date, or at least polygonal masonry, was in part rebuilt by the Romans; and, at 12 mètres from one angle of the steps of the propylæa, was a salient tower surmounted by a small "temple" of the Corinthian order. Between this and the propylæa was a structure, forming part of the wall, for the *pylores*, or gatekeepers, of the sacred enclosure.

A considerable number of fragments of sculpture, and slabs with inscriptions, portions of the objects which occupied sites in the external enclosure, have been brought to light. At the left of the propylæa have been discovered remains of a very curious edifice, of late date. It is remarkable for the depth of its subterranean constructions. It is thought to have been a "*mithræum*," or a building added to the ancient sanctuary at the end of the fourth century after Christ, when the extinction of the families of the priesthood of Ceres, obliged the election of a person not of Eleusis, the individual chosen being one who was chief priest of the mysteries of Mithra at Thespiæ. In a grotto in face of the propylæa was discovered an ancient well, which Mr. Lenormant believes to be the Callichoron around which the women of Eleusis performed the dances and chants in honour of Ceres.

Besides the researches on the site of the propylæa of the external *enceinte*, others were conducted on that of the entrance of the inner inclosure. The latter propylæa occupied a space 13 mètres 75 centimètres in length, by 12 mètres 45 centimètres in breadth, elevated upon two steps. The roadway led first, into a species of uncovered vestibule, bordered right and left by walls decorated with engaged Ionic columns; the end columns having double-faced capitals, as in the case of the angular columns of the portico of the Erectheion. Beyond this was a covered portion of the building, with three doorways. The centre opening, which was largest, was flanked by two columns, in advance of pilasters, the shafts of all being fluted. The capitals were of a composite character, combining the leaves of the acanthus, as in the Corinthian, with chimeræ in the place of the volutes; and are described as remarkably fine. The entablature was compounded of an Ionic architrave, bearing the dedicatory inscription; of a Doric frieze, with triglyphs and metopes both sculptured with symbols of the worship of Ceres; and of a cornice of great projection, or similar to the eaves of a roof, but otherwise of Corinthian character, with large block-modillions. The result, though spoken of as somewhat *bizarre*, is, at the same time said to be one of real elegance and harmony of proportions, but recalling rather the works of the Renaissance, than those of the Greeks and Romans. These mixtures of the orders, are worthy of more attention, at least in the history of architecture, than they have received. The dedicatory inscription of the building, which was found, in Latin, and some passages in the letters of Cicero to Atticus, taken together, show that the structure was erected or dedicated in the year of Rome 705, some months before the battle of Pharsalia, by two nephews of the Censor Appius Claudius Pulcher, in fulfilment of a vow which the latter had made.

Lack of funds did not permit Mr. Lenormant to proceed with excavations on the site itself of the great temple. But he was able to bring to light, on the side of the Acropolis next the sea, one of those curious structures of early date of which the best known example is the Treasury of Atreus, or Tomb of Agamemnon. The example at Eleusis is smaller than that at Mycenæ, but otherwise resembles it, excepting that the masonry is formed of blocks which are nearly in the rough state, and is filled in with smaller stones in the interstices: consequently it may be regarded as belonging to an earlier epoch than the structure at Mycenæ. The circular area is however covered with the same character of vault, so to call it, of corbelled courses.

THE FESTIVAL OF SIENA.

ITALIAN festivals form an integral part of popular life; in many instances beautiful and artistic; in some, absurd, and betraying gross conceptions so alien to the religious sense of the educated, that one cannot doubt the necessity of their undergoing much modification in the future. It seems incredible that, in the present state of this country, and of prevalent feeling towards the church, any intelligent priesthood could expect edification from the tawdry shows of dressed-up waxwork, in which sacred subjects are still occasionally paraded through the streets, or intruded into the sanctuaries of cities whose populations are, in the great centres, at least, trained to the appreciation of art, and familiar with the beautiful in creations constantly before their sight. The more to be reprobated are these superstitious follies, because proceeding directly from the ecclesiastic sphere; whilst those usages that are purely popular, in connection with religious anniversaries, are for the most part interesting and unobjectionable. None are more picturesque, among olden observances still maintained intact in these regions, than those of the Assumption festival, 15th and 16th of August, at Siena; and as to those in the present year, their character seemed particularly noticeable, now that such mighty changes have come over the spirit of things as to necessitate, sooner or later, innovations affecting the whole external action of Catholicism in Italy. Even in that eminently Mediæval city, whose aspects so finely harmonize with her antique traditions and genius, *something* of novelty interfered, in this last instance, with the programme of her most brilliant fête; and alienation between the ecclesiastic and civil authorities distinctly expressed itself. Yet the grand spectacle of that day, the race of the *Pallium*, is preserved in the forms scrupulously faithful to ancient precedent; and on such an arena, that the combination of architecture with pageantry is perhaps unrivalled of its kind. A pendant white silk banner, embroidered with the arms of the patrician families who annually patronize, is that envied prize, to which is added the more substantial one of 300 ducats. Seventeen *contrade* (or wards) in this city are still, as of old, noted for their rivalship, distinguished by their standards, devices, costumes—all the specialities, in short, that called forth the apt remark from the first Napoleon;—"Siena was, in fact, a confederation of seventeen distinct republics." Every year these *contrade* compete in these eagerly-anticipated races, each represented by a rider, and all by running pages in gay Mediæval costume, as well as by their banners; and the successful champion is escorted home with the silken trophy carried before him, after first visiting, amidst a tempest of exultations, the principal church of his district, for an act of thanksgiving, in which the clergy take no part. The election is so made, ten each year, that, within a certain cycle, all are admitted to compete; but if any have the baseness to refuse such proffered honour, the punishment of five years' exclusion is the consequence. Those devices, peculiar to each ward, the eagle, serpent, tortoise, even goose, &c., now become party watchwords, vociferated from a thousand tongues. One dense multitude fills the area of the great piazza before the Communal Palace (or Hôtel de Ville) by 5 p.m. on the 16th of August: every house-front is variegated by gay draperies against its dusky red brick, the balconies mostly hung with red and yellow, relieved by snowy white. On one (the day we were present) appeared white and yellow draperies that elicited indignant remarks from a gentleman near, who was at once recognized as a Roman, by his antipathy to the colours forming a Papal device! The singular plan and level of that noble old piazza seems to add to the perils of the course; for, within its vast semicircles, flattened at one side into the rectilinear by the wide façade of the majestic palace, the entire pavement sinks inwards like the concave part of a shell, leaving only a level border of causeways around, and towards the centre, the space occupied by Jacopo della Quercia's magnificent fountain (1412-19), now so wofully decayed that scarce one of its relief figures and groups can be fully appreciated, or in their purity of outline discerned. An amphitheatre of temporary seats, tier above tier, now rises around this area; all, as well as the central space, one mass of people; and the sun was within an hour of setting, its softened light adding to the rich Oriental effect of the whole scene, with its venerable and brilliant accessories, when the firing of a mortar gave signal for clearance of the race-course: a military detachment (for the martial element was, as usual on such Italian occasions, most conspicuous) marched slowly round the entire circuit; then another signal firing; and at last was descried, advancing from one side of the palace, a waving mass of many-coloured banners, high over the heads of the group, now entering upon the scene with all the pomp of tragic actors, young men, mostly handsome and athletic, glittering in Mediæval bravery, silk and velvet, feathered caps, and rich doublets over tight hose, walking in pairs, but wide apart, fourteen of their number bearing the banners, held at arm's length, which they agitated in style suited to display their agility and fine persons; now flinging and catching with great dexterity, now waving in wheel-like motion, now tossing round an uplifted leg, to be retaken with as much graceful facility as a Spanish lady could exhibit with her fan. In the midst walked two caparisoned horses, one led by a superbly-dressed page, the other ridden by a knight of the olden time, with plumed helm and holiday attire, besides the symbols of warlike prowess; and last of all appeared a lofty painted car, displaying all the standards of the *contrade* grouped round the pallium, which glistened conspicuous among the rest, surmounted by a large silver plate festooned with crape, white and black, the colours of the aggregate Sienese municipality. This procession, accompanied by exulting music from wind instruments, and studiously prolonged to allow the full study of its details, surpassed everything of the description we have seen in Italy: a perfect abstract of Mediæval pomp; a picture as complete as the artist desirous to illustrate the fifteenth (or sixteenth) century could possibly compose; and the *ensemble* impressed in a manner that might be compared to the first effect on the youthful mind from perusal of the most highly-wrought Waverley novel.

After it had slowly moved off ensued the races proper, which seemed but vulgar in contrast; the riders in common jockey attire, only distinguished by their party colours, and each vehemently using the strange privilege of whipping and keeping back his competitors' horses—a traditional practice only checked by the inspection all must first undergo at the palace, lest any mischievous implement should be concealed on their persons. Immense was the excitement; loud the murmuring of indistinct cries; but at last that of *Tartuga! Tartuga!* rose audibly above every other—the champion representing the *contrada* with the device of the tortoise being evidently about to win. But a sudden suspense, a hush of all that tumult ensued; the *victory* was decided, and the conqueror appeared, almost sinking from fatigue, led in the midst of soldiers and the raised tribune where the deputies, appointed umpires, sat in state. A confused chorus of voices now arose, presently sinking into silence as the voice of the *gonfaloniere* was expected to be heard; and that official spoke from his place among the deputies to the effect that the question at issue must be decided on the morrow. The pallium was now seen carried by military escort "in commune" (into the Communal Palace), as was the traditional phrase repeated on every side: but what the dispute? Why this demur in awarding due honours to the *Tartuga*, whose success had been obvious almost from first to last, from the starting post to the goal? The claim of the Tortoise *contrada* was not grateful to the people, actually and merely because its party-colours had *once* been black and yellow (the Austrian), though now changed into the yellow and green, in which the successful jockey was attired; and such the farce of political feeling, that this remembrance of the vanished,—the shadow of a shade,—sufficed to irritate to a degree obscuring the sense of justice and so exciting throughout an immense throng that the uninformed spectator might have supposed some formidable *émeute* was about to break forth! Happily, this angry emotion was transient, and the multitude dispersed in good humour, leaving the poor jockey, however, baulked of his reward for the present; and later, when I returned to that piazza after dark, I found a knot of people in most earnest dispute, with the usual Italian vehemence of tone and gesture. Had the *Tartuga* really won? Ought the pallium to be assigned to a *contrada* hitherto known by the colours proper to the oppressor of their country? It was for supreme authority to decide.

When, a few years ago, the victory was to the *contrada* whose device is a two-headed eagle (intolerably hateful), I am told a more serious tumult ensued; but the highest rapture on another recent occasion, when the colours of the conqueror happened to be the very tri-colour of Italian nationality. Horse as well as rider is sometimes conducted in triumph to the district church, and actually made to kneel at the altar. Nor does the equine favourite receive a much less share than his master of the embraces and kisses showered upon both in the first transport of congratulations. It is characteristic of the times that a *second* race for the pallium, also annual, but of less renown or exciting interest hitherto, has been transferred from its proper festival, also one of the Virgin's, to that instituted quite recently, and of purely political import, for the Statuto, or Italian constitution, 2nd June.

In the cathedral were witnessed, the morning previous, majestic celebrations in keeping with its

grand architecture, and attended by a multitude, completely filling its chancel and naves during the high mass sung by the archbishop, with such attendance of canons, all mitred (a special privilege of this chapter), that the seated group round the episcopal throne almost equalled in ecclesiastic state that of the papal cappella at Rome. Music, not chromatic or complex, accompanied these rites with appropriate and devotional strains; and at their close the archbishop, standing at his throne, chanted the apostolic benediction with the same formulæ (though not the same impressive action) as that used by the Pope on the loggia of St. Peter's; this being preceded by the reading of a brief from Pius IX., conceding that prerogative for which a canon in surplice and fur ascended the octagonal pulpit, so inestimably precious to art interests for its reliefs by Niccolo Pisano, aided by his sons,—a work for its epoch (1266) indeed extraordinary, both as to design and execution. The sign of the times, remarkable among this day's observances was the yet unprecedented absence of all civic authorities from the pontific celebrations, as announced in the programme for this festival, informing the public that the magistracy and superior officers would hear Mass, *not* in the cathedral, but in the chapel of the Communal Palace, a feeling against the prelate who now occupies this see, on account of his political sympathy, being thus made manifest. By farther departure from ancient precedent was also omitted, for the first time, the offering of tributes in wax-work by the magistracy to the Madonna's shrine in that cathedral, which objects (formerly presented at the vespers of the vigil), used to be of ingenious and costly description, representing facts from the Old Testament, typical or allusive to the Virgin Mother, the usage derived from so early a period as the year 1200, when the "Senate" pledged itself to this annual debt of devotion, discharged faithfully ever since till the present year. Was the omission, as one might interpret, ominous of the decline of the religious element in Italy's public practice for the future?

The story of Siena's glorious Duomo, given in Della Valle's "Lettere Sanesi" (one of the fullest Italian works on local antiquity and art), does not in every respect agree with other compiled accounts. About 1089 is the year there conjectured for its foundation, and 1180 was certainly that of its consecration by Alexander III., previous to which, besides other striking proofs of developed genius and constructive skill, the fine vaulting must have been complete, or nearly so, as seen at this day. In 1284 was begun by Nicolo Pisano that splendid façade, encrusted with white marble, mosaics, gilding, sculptures, both statuary and relief, and tracery exquisitely delicate, the whole displayed in its transcendant magnificence by the year 1333. So early as 1317 had the original plan been enlarged upon; and soon afterwards, in that century, the project formed of amplifying the whole edifice so far beyond that original as to double its ancient dimensions, reducing it to the figure of a T; the nave and aisles we now see becoming thus the mere transept,—the subordinate instead of paramount part of the great whole! The architect, Landi, was the distinguished *maestro* of the time, by whom was finished the shell (for such alone it remains) of the gigantic nave, with a beautiful circular window at the south side; but that ambitious project fell, frustrated by the tragic consequences of the plague visitation in 1348, which swept away all the artists engaged on this edifice; and the incomplete but vast and beautiful member of Siena's Cathedral, destined to develop into a reality we shall never behold, seems now a superfluous adjunct, partly concealed by the insignificant offices of a modern grand ducal palace.

One can hardly visit this city without a thought of its revered St. Catherine (whose figure appears in every form, sculptured, painted, gilt, in its Duomo), especially since her life and maxims have been so much studied for illustration by esteemed Italian writers in late years in her "Life and Times," ably worked up by Capecelatro, a Neapolitan, of the Oratorian Order; and her "Letters," edited with a preface, forming a perfect monograph, by Tommasio. The cluster of chapels into which the rooms of her house have been converted, contain little of intrinsic value as art; and one terrific picture of an execution, by tearing the flesh with hot-irons, at which she prays for the convict's soul, is quite inadmissible. The deeply interesting frescoes on her story, by Razzi, at S. Dominico (now a Benedictine church), are uninjured, and seen to the best advantage. In June last moved from that church an immense procession, bearing her skull, to celebrate her centenary festival, for the pomps of which were offered by the citizens, 7,185 lire, though nearly 3,000 lire less were actually spent thereon. In the principal chapel at her house are hung successively all the *pallia* won at the August races, and the painted shields of numerous patricians, who have won the title of "Protector" to this sanctuary, by annual contributions for expenses of worship, among which may be read the illustrious name, Massimo d' Azeglio.

PROFESSOR S. SMIRKE'S LECTURES ON ARCHITECTURE AT THE ROYAL ACADEMY.

LECTURE I.

THE first of a series of lectures "On Architecture," at the Royal Academy, was delivered by Professor Smirke, on Thursday evening, the 9th instant. We proceed to give it *in extenso*.

Early in the seventeenth century an Italian writer, Teofilo Gallaccini, composed a treatise of some ingenuity and merit, "On the Errors of Architecture;" and certainly he succeeded in bringing together a mass of architectural errors (horrors I might say), so shocking as to reflect no small discredit on the practitioners of his day. That day, it is true, was one of great darkness in his art. By an unfortunate accident it coincided with the date of the greatest activity, influence, and wealth of the followers of Ignatius Loyola; when churches and seminaries arose in great profusion over a large part of Christendom; hence that era was then and still remains distinguished from all preceding and succeeding times by the prevalence of perhaps the worst architecture that has yet been devised by human ingenuity. Not that the Jesuit's style of architecture, as it has been called, may not be admitted to be sometimes picturesque and bold,—so much so, indeed, as to be occasionally most theatrical in its effects; but so entirely were all the rules of composition, I should almost say of common sense, ignored and outraged, — so entirely was the sober truthfulness of our art disregarded,—that I feel satisfied that I am confining myself to strict truth when I say that to the society founded by Loyola our art owes indirectly more of its degradation and decay than to any other school or individual whatever. Of course, I do not impute personally to himself any influence over the style which the buildings I refer to tended to propagate: I only regard him as the founder of a religious society, who became the unconscious instruments of establishing a vicious school of architecture at a very unfortunate epoch of architectural activity. The author to whom I have above adverted had the great merit of seeing more clearly than his contemporaries the faults of contemporary art; and he deserves to be recorded among our worthies for his boldness in contending against the monstrous errors and absurdities that had sprung up with a luxurious rankness and rapidity which are really remarkable.

The very commencement of the sixteenth century, namely, the age of Bramante, of Raffaelle, of Peruzzi, and Giulio Romano, was, as I have on a former occasion shown, in many respects worthy of being regarded as the culminating period of modern architecture; and the end of that same century saw the art, if not at its lowest ebb, at all events in a state of deplorable impurity. It is an old remark that all evil is but the corruption of what is good; and it seems to be in the nature of a law that no sooner has a point of excellence been reached than a process of deterioration commences. Fortunately, there would appear to be a co-existent law of social adjustment; for no sooner have we reached a state of apparently hopeless and helpless imbecility, than a glimpse of better things appears to restore our hopes and to redress the balance. The course, in short, of most human affairs may be correctly represented in a diagram by a series of anticlinal lines, persistent in their ever varying irregularity.

Such, at all events, appears to have been the course of our art. The great effort of the distinguished artists whom I have named appears to have been—first, to make themselves thoroughly acquainted with the principles which guided the architects of the great Classic period, and then to devise such departures from the style of that period (still, however, adhering to the principles on which that style was founded) as would enable them to adapt their structures to the greatly altered habits, and to the new civilization, of their own days.

There can be little difference of opinion among us as to the consummate genius and wonderful dexterity with which these modifications of the ancient manner were effected. Perhaps one of the most prominent modifications was the introduction of a regular fenestration, by which that essential feature, the window, was so treated as to render it a fertile source of beauty and interest. It is true evidences are abundant to prove that whatever may have been the case in still earlier times, windows, with their architraves and other somewhat ornamental adjuncts of like nature, were a recognized feature in Roman architecture; but I am aware of no ancient building having its various floors marked by uniform ranges of windows as decorated features, such as we find especially characterizing the architecture of the Renaissance.

Another source of beauty, wholly unknown to Classic art,—namely, the balustrade, is also due to the originality and inventive genius of the quatrocentists; and it is curious to note the avidity with which artists learnt to avail themselves of this novel and ingenious mode of turning so prosaic and utilitarian an object as a parapet into an ornament of great æsthetic value.

The systematic superposition of several regular orders was another practice particularly affected in renascent architecture. It had, indeed, been suggested by the magnificent amphitheatres of the Romans, as well as by a rare instance or two of still earlier date, but was certainly not practised by that people generally, either in temples or in their domestic buildings. I have enumerated some of the more prominent characteristics of Italian art, which stamped it with originality, and gave birth to a school as widely differing from the primitive, strictly classical, school, as from the Mediæval school, which it supplanted.

Such was architecture at the beginning of the sixteenth century in Italy, then the instructress of Europe in the fine arts, as well as in most other branches of intellectual culture.

I have on a former occasion dwelt at sufficient length on the phases of our art down to this period, —a period which, again adopting the language of a kindred science, may be regarded as an anticlinal axis. A downward course here commences. It is an ungrateful task to record the weaknesses of men and the errors of genius; but perhaps it is a useful one. Perhaps there may be as much advantage derived from inquiring how and why art decayed, as in marking and admiring its growth and elevation. Such, at all events, is the task which I have this evening imposed on myself.

To inquire why art decayed after it had arrived at a point of great excellence is, perhaps, equivalent to inquiring why genius is erratic, why we are unstable in our judgment, and why human fancy is like the fabled bird of paradise, that exists only when on the wing.

Had the men who followed the bright period to which I have adverted been plodders on the highway of art, without soul or invention; and content to follow with painful exactness the footsteps of their predecessors; we might, perhaps, have seen an age of good imitators, and of a level platitude; a race of tame transmittors of the excellence of others, productive of a perpetual repetition of approved forms and established models.

But very far otherwise was the case. Art, in all its branches, throughout the sixteenth and even the seventeenth centuries, was in a state of excitement and activity. Vasari, writing in the middle of the sixteenth century, vaunted that such was the fecundity of art and facility of execution in his time, that six pictures could then be painted within the time occupied by the previous generation of painters on a single picture. The simple-minded historian of art seems to have been hardly aware that his vaunt implied rather reproach than praise; although it is true he has elsewhere amused his readers by the anecdote of an eminent painter who, at his easel, when called to his meal, replied that he would come directly, "for he had but one saint more to paint."

The growth of public wealth and the progress of civilization brought into existence hosts of artists and of patrons of art. Popes and potentates vied with each other in the patronage of it, and even kings would condescend to bid against each other for the corporal possession and exclusive monopoly of some favourite practitioner.

The consequences of such excessive stimulus were obvious and inevitable. Prosperity begot reckless and careless extravagance, and extravagance led to a rapid deterioration.

The real laborious artists of the fifteenth century wrought, no doubt, slowly and painfully,—urged onwards not so much by a thought of lucre or applause, as by a deeply-felt love of their art; whilst the flattering crowd of artists who filled the scene in later times were the spoilt children of fortune; painting and carving and building with wonderful dexterity and readiness of execution it is true; and with a wonderful facility of invention

in devising new shapes and fashions and fantastical combinations; but without that earnest, ardent, painstaking, and simple severity of study which had conducted their forefathers to real excellence.

By way of illustrating the vast change that had taken place during the sixteenth century, let us compare the works of Bramante, who flourished at the beginning of that century, with those of Borromini, who was born at the end of it. I have on a former occasion dwelt on the peculiar merits of Bramante. His was a pure, honest architecture, perfectly free from affectation and conceits of any kind whatever. His style appears to me to be all the more captivating from the very absence of all *ad captandum* contrivances, and all the more effective from its manifest freedom from all seeking after effect.

If we turn from him to Borromini, we shall be shocked to see what devastation and corruption of taste had taken place during the one hundred intervening years.

The one sought to charm by his purely architectural feeling; aiming, for the most part, at those high qualities — order, symmetry, and rhythmical arrangement—which the great father of architecture, Vitruvius, had long before pointed to as the distinguishing character of good architecture; whilst the other set at defiance all order and moderation. The one never feared to draw a straight line, unless the requirements of his work seemed to render a curved or a broken line preferable for some special purpose; and surely a straight line seems to be, of all others, the line of architectural fitness, and therefore of beauty; whereas, Borromini must evidently have abhorred such a line above all things. He it was who, of all men, contributed most to the introduction of that system of architectural design (if it can worthily lay claim to the dignity of a system) by which masonry lost its special character, and its most appropriate forms. His façades curved inwards or bulged outwards on their plan, as if made not of hard stone, but of some yielding and plastic substance; and his pediments, totally forgetful of their primitive form, offered every variety of intricate convolution and distortion.

Bramante called in the aid of sculpture with that chariness and caution which plainly indicated how highly he appreciated its noble attributes and fitting application; and as if he feared to vulgarize it by too-frequent a use of it, or by excess of any kind. Yet, highly as he appreciates sculpture, he never permitted it to encroach upon the proper limits of his own special art. Sculpture was used by him as an honoured accessory, well calculated to stamp a moral value on his work, and to give it a grace beyond the reach of mere architecture.

Borromini, on the other hand, permitted sculpture to dominate over the main object of his art without restraint: his whole building was literally sculpturesque, and his masonry was left to the humbler duty of forming a mere vehicle for the consolidation of some fantastic piece of clay modelling. Such had been the downward progress of architecture during the period to which I have been adverting.

It must not, however, be supposed that the transition was sudden, or even rapid. The activity and energy of the sixteenth century were wonderful, and led to perpetual changes, and were constantly giving birth to novelties. New schools were founded, and eminent masters appeared in rapid succession, and of most opposite characters;—Sansovino, with his superabundant wealth of sculptural resources; Palladio, with a moderation and purity of feeling far beyond his fellows; Michelangelo, whose length of life enabled him to see out most of the brightest lights of Italy, although he was himself a fellow-labourer with some of the earliest and ablest masters of the great Italian Renaissance. Still, though the course of architecture was an onward course, yet it was also a descending course. The art lost its dignity, and became frivolous and trifling. Every part of a building seemed to be, as it were, in restless movement: curved lines were broken and inverted: straight lines were perpetually interrupted or diverted; and all breadth was frittered away by a multitude of lights and shadows.

It is worthy of note how great a sympathy has always seemed to exist between our art and that of the sculptor. Whether dignified and severe, noble or mean, natural or conventional, grand or grotesque, those two sister arts seem ever to have proceeded hand in hand; for ever sharing the same fate; rising together into greatness and sublimity, and together sinking into painful imbecility. Without going too far back into the history of art (although in remotest times the sympathy between the two arts was eminently conspicuous), we shall find the observation hold good in Mediæval art. The culminating period of ecclesiastical architecture was precisely that which has been eulogized by our Flaxman as distinguished by high sculptural excellence. The quatrocentist introducers of modern art in both these branches shared like feelings, and were remarkable for like excellences. The sculpture of Donatello, like the architecture of Alberti, was alike vigorous and original, and full of delicacy of feeling; these high qualities being in both arts somewhat qualified, it is true, by a certain degree of hardness and rigidity. In Michelangelo we find the same colossal and masculine breadth, whether we regard the examples he has left us of his sculpture or of his architecture.

Then, coming down to the epoch that more particularly engages our attention this evening, we shall find the same debasement pervading the two arts. I have already said that one of the marked characteristics of the architecture of the seventeenth century was that of restless movement; so also the sculpture of the seventeenth century exhibits, in an especial manner, the absence of that tranquil dignity which is particularly becoming in sculpture, especially when applied as an accessory to architecture. A want of repose is almost equally offensive in both the arts. The eye is fatigued and the attention distracted by an excessive flutter in the details, whether we contemplate a building or a group of sculpture. Bernini set the example, but Borromini went far beyond him in this vicious treatment of the sculptural accessories of their respective buildings. Indeed, one of the most repulsive faults of sculpture at this degenerate period was its utter want of repose and the inordinate love of representing agitated drapery.

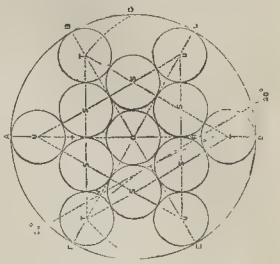
It is said of Bernini, by Milizia, that, although he was himself far from a pattern of sobriety in this respect, he yet knew enough of his art to condemn the fault in others. Remarking, on one occasion, the extreme agitation of Sta. Veronica's clothing under the dome of St. Peter's, he sarcastically inquired of the sculptor from whence the wind came that so seriously disturbed the Virgin Saint's drapery, seeing that she stood protected within the walls of the edifice. The sculptor, fortunately for him, had an answer that effectually disconcerted the critic:—"The wind," he replied, "obviously came through the serious fissures in the masonry of the dome, occasioned by the critic's (Bernini's) want of skill, in destroying the stability of the piers of that dome;" Bernini having shortly before somewhat rashly interfered with Michelangelo's piers, by the insertion of colossal niches excavated out of the substance of those piers. Such were the mutual recriminations of these two most eminent artists, who contributed so largely to the degradation of their art. I am confident that I am using no extravagant or inordinate expressions, when I designate the architectural sculpture of the seventeenth century, in its treatment and mode of introduction, as ridiculous and absurd. Their sculpture may probably have been designed with boldness and vigour, and executed often with a masterly dexterity: certainly we cannot justly charge it with tameness or insipidity. Its faults were, indeed, exactly the reverse. There is a grotesque energy, a violence of gesticulation, which is, perhaps, very true to nature, if we seek nature in the wine-shops of the Campagna, or among the Lazzaroni of the Chiaja; but the united voices of all cultivated artists will concur in condemning that style of nature as unfit for the study and imitation of sculptors.

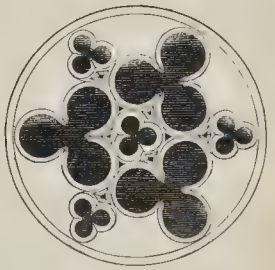
A painter may, with perfect propriety, impart whatever degree of violent action his subject may demand: his pencil undertakes to realize to the eye actual scenes; and, if intense action is to be represented, he is most successful who best realizes on the canvas that intensity. The case is, as it appears to me, far otherwise with the sculptor's art; at least when it is applied as the accessorial embellishment of architecture. Statues in niches, or on balustrades, or otherwise fringing the skyline of a building, must, I should think, be subdued, both in attitude and in treatment.*

* To be continued.

GEOMETRICAL TRACERY.

SOME time since I was required to execute certain details of tracery; and being anxious to draw them upon some precise method (for I wished to centre the compasses at once, and not *"feel"* for it, as is too often the practice), I consulted several works on the subject, but found nothing very satisfactory; and this induced me to try for myself. I send you the result for insertion in your esteemed pages, being desirous that others may have any advantage that may be found in it. Whilst I am confident of its originality as regards myself, I cannot but feel that I may only be rediscovering after all.





In a given Circle to inscribe thirteen Circles.—With the radius of the given circle prick off the points H, B, C, D, E, F, and draw the radiating lines. Bisect B C in G; and through the points C E half the radius O D in H. Take H G in the compasses with centre H, and describe the arc intersecting at T on line O B, and with the radius T B turn in the six outer circles. The intersection of two equilateral triangles drawn from the points T, T, T, U, U, U, will give the S centres. The same radius for the remaining circles completes the figure.

Or, with the radius D F describe arcs cutting at L, which take for a centre, and with the same radius describe an arc at P, through which draw a line, with your 30° intersecting at V V; then V D and V F are two diameters of the thirteen circles, by which the others may be found.

Second Method.—Turn B G from O to N, and with the radius B N describe three circles as one dotted, and find the three contained in each: turn in the remaining circles, and the figure is described.

I send a sketch of tracery founded on the diagram; but of course the figure will give the outline of a great number of others equally good.

OWEN W. DAVIS.

THE LAWS OF COOLING.

A WARM body loses its heat by radiation from its surface, and by contact with cold surrounding substances. The laws of cooling have been long known, and are expressed in the formulæ of Newton and of Dulong and Petit. From their experiments, confirmed by subsequent researches of others, we learn that the heat lost by radiation varies with the nature of the exposed surface. Polished metal emits caloric much more slowly than wood or any rough material. We learn also that the heat lost by contact varies with the form and extent of the surface of the warm body, and with the excess of its temperature over that of the surrounding medium. A cube cools more rapidly than a globe of the same material, and of equal weight, because the surface of the former is larger in proportion to the mass than the surface of the latter. Red-hot iron becomes cold almost instantaneously when plunged into water; whereas, if left in the open air, it might retain its heat for hours, or even days. When we know the temperature of the surrounding medium, the form of the body, its weight, and calorific capacity, we can easily determine its rate of cooling and its temperature at every instant. In prac-

tice, it is seldom, if ever, necessary to take into account the conducting power of the body itself. Bad conductors, when placed in a medium colder than themselves, may be warmer at the centre than on the outside; but this difference of temperature is slight and unimportant. Gold has nearly ten times the conducting power of lead, and nearly three times the conducting power of iron and platinum; but all these metals are subject to the same laws of cooling. The difference in the rate of cooling upon the outside and in the interior of a mass of gold, and of a similar mass of wood or iron, is a matter of no practical moment. The conducting power of a body cannot be measured except in those cases where its heat passes out of itself into surrounding substances.

An inclosed space like a room, office, or house, is subject to the same laws of cooling as a warm body of similar form, of equal bulk, and of equal calorific capacity. A room filled with warm air, and without any openings for currents, would lose its heat slowly through the walls, roof, and floor; so slowly, indeed, that a perfectly air-tight building filled with warm air would retain its high temperature inside for many months, even if carried in the depth of winter to Iceland or any other part of the frigid zone. The cold of winter pierces very slowly through our walls and roofs. It rises still more slowly from the ground. The most of our building stones conduct heat as rapidly as cast iron. The addition of layers of other materials outside and inside, such as mortar, wood, paper, &c., diminishes this conducting power, and reduces it in most cases so far that it may be disregarded. Snow, also, is well known to be a medium peculiarly impervious to cold: a roof covered with a coat of snow at 32 deg. is warmer inside than when it is exposed bare to the atmosphere at 32 deg. A very thin layer of mould protects vegetables from the frosts of winter, provided only the covering be impervious to the air. So, also, contrary to the ancient practice of raising thick partitions for securing warmth as well as safety, we find that the heat of the interior of a building is affected only in the slightest degree by the nature or thickness of the material which forms its exterior. In regard to our dwellings, where fresh, and, consequently, in winter, cold air is necessary to our existence, the whole subject of their warmth and healthfulness is reduced in practice to the regulation of the currents out and in, or their ventilation. In regard to ice-houses and similar places for keeping in or shutting out the cold, the main point in practice is to prevent altogether the entrance and exit of air.

These simple general principles, well known, yet most important at this season of the year, deserve specially the attention of those engaged in the manufacture and preservation of ice.

ON THE CONSERVATION OF ANCIENT ARCHITECTURAL MONUMENTS AND REMAINS.*

AND what is the state of a restored church?

The external stonework is in good repair, but the antiquity of its details is dubious. The windows are of nice chronological accordance, but they fail to tell the church's history. The internal stonework has thrown off its coating of whitewash, but it has been reworked, and all the tool-marks of the old masons scraped off by the unpitying drag, or chipped away and replaced by modern toolings. The plastering is done to perfection, but it projects in strange, unnatural notchings round the stone dressings, and has replaced what was a storehouse of the relics of old decorative painting. The roofs are of sound oak, or display all the smartness of stain and varnish, but the old timber-work we valued is gone, and what now appears is not even like it. The floor is, perhaps, of the uniform neatness of a Staffordshire farmer's kitchen, or, it may be, displays all the glories of encaustic tile; but the memorials of the dead have perished, and the works of Mr. Minton (to which they have fallen victims) have scornfully ousted those of his teachers; while the local patterns of old times have given way to those which one now finds stereotyped from one end of the country to the other. The windows are nicely glazed with cathedral glass, and some of them with stained glass of reasonable merit; but the one has thrust out the fragments of ancient glass-painting, while the other has scorned all endeavour to follow out and take example from their designs. The bells have been capitally recast by Mears & Warner, and their tones are, no doubt, musical; but, if you go up to look at them, you find the ancient fretted border replaced by some vulgar beadings, and the pious and beautifully lettered legend by the names of the founders and the churchwardens in lettering which would do honour to a haberdasher's shop-front.

This is a fair statement of an average church restoration; but there are many worse, as well as many better cases. The great majority, I grieve to say, are very far worse. We find in some of them reckless and often ignorant and senseless destruction of old work, united with an intense want of feeling, in all that is done anew; so that the church has become equally sickening from what it has lost and what it has gained.

In others, again, we find an *utter blank* of interest,—a church reduced to a state of unredeemed lukewarmness. I have recently been especially struck, in making a little tour, with the prevalence of this last-named type among restored churches,—a nauseating blank,—neither anything interesting left, nor anything good introduced; and yet I was self-condemned at considering that the process, viewed as a whole, was much the same as that we are all in the habit of applying in our restorations, the chief difference lying in the degree of conservative feeling and of artistic skill with which it is applied. My great perplexity is to decide whether our entire system should be reconsidered and altered, or whether the whole question is one of details and of individual cases, each to be decided on its own merits.

Now let us consider for a moment what *should* be the beau-ideal of a restored church.

First of all, we have all its structural dilapidations so far repaired as to secure it against actual danger, and to insure its stability.

The external stonework would be so far repaired as is necessary to bring out the architectural forms where seriously decayed and mutilated, and to render the structure of the walls sound and durable. This would be done, not on a *wholesale* principle, such as could be described in a specification, but in a *tentative* and *gradual* manner; first, replacing the stones which are *entirely* decayed, and rather *feeling one's way*, and *trying how little will do*, than going on any bold system. Every new stone will thus be a perfect transcript of that which it replaces; and this will, as far as possible, extend to its dimensions and the mode of workmanship; for there is a character even in the proportions of ashlar stones,—still more in the mode of working them. Where a part is wholly or in any great degree wanting, it is questionable whether it would be supplied beyond the extent of existing evidence; when later features have been interpolated, it is yet more questionable whether they would be removed. Such questions must depend upon circumstances, such as the merits of the original and of the interpolation, and upon the question whether the latter is in a state to demand thorough reparation, and whether the original features preponderate and give their character to the building. Such questions, too, would have been entered upon with a strong leaning against alteration; and this would show itself clearly in the result.

The interior would, it is true, be divested of its whitewash; but where this would not come off by fair means it will be more or less left on, for a little discolouration of the stone is of infinitely less moment than the obliteration of the ancient tooling; so that in cleaning it *no hard tool must ever be brought to bear upon its surface*. Where the stonework had been coloured or decorated in distemper, the traces of this would be preserved with a loving care, no matter how indistinct or fragmentary they may be.

The plastering may to some extent be renewed; but wherever the old colouring could be preserved portions of the plastering would be left, and the new would be, like the old, *thin*, and not projecting beyond the stone dressings. The roofs, if ancient, will have been studiously repaired, so as to preserve every fragment which can be made to do its duty, even though the roofs may not be of the original date or pitch.

The floor, though levelled and made free from damp, will retain all its monumental slabs in their true places; and the remainder will be made in a great degree subordinate to them, and the material which, so far as can be ascertained, was before used, whether stone or tile. If old encaustic tiles remain, they will receive all due honour and protection, and new ones will be founded on their patterns.

The seating will probably be the carrying out of such parts of the old seating as may have remained; all old screens, &c. &c., being carefully preserved, and that in their own proper places. Where ancient features, as niches, &c., have been ruthlessly destroyed, they will have been carefully traced out, and either exposed to view and left to speak for themselves; or, if sufficient traces are left and fragments found (which is often the case) to warrant it, they will have been studiously and with religious accuracy restored to their original forms; no old part being disturbed, and every old fragment worked in.

The fragments of old stained glass would retain each its own place; and, if new glass be introduced where such remains exist, it will be made to carry out the design which they suggest. In a word, the old church will, by a *studious* and *tentative* process, have been brought into a seemly state without any smartening up of old weather-beaten surfaces and without any loss of ancient or traditional character; while, in such fittings or necessary features as there was no ancient guide for, it will be felt that the restorer united the ability to carry out the spirit of the old work with a desire to limit himself to the smallest possible sphere in the exercise of it.

This seems the true ideal; but, as I have before said, it is by no means easy, and often impossible, to realize it. The extent and intensity of the decay of the materials, the shattered condition of the walls, the extent of barbarous mutilations, and the necessity for enlargement or other practical alterations to meet modern wants, all militate more or less against it; yet the ideal suggests the *spirit* in which the work ought to be undertaken, even when it can only be partially attained; and I fear that it is not by any means the spirit with which such works *really are* undertaken. On the contrary, it seems as if many promoters of restoration, and those they employ, laid themselves out to destroy interesting features, even when a general restoration is not carried out. I passed the other day through a village (Edenbridge, in Kent) where a few years before I had sketched a window of great peculiarity, such as I had only seen one other instance of: it was one whose tracery was arranged especially to give scope to a crucifixion in the stained glass. I went to look at it again; when, to my dismay, I found that it had been singled out from among all the windows in the church for destruction, and a window of the vulgarist form substituted! Again, in a church near Reading there were many beautiful remains of painted glass, of the beginning of the fourteenth century, in the heads of the window-lights, which I took much trouble to get tracings of. The church was "restored," and they all disappeared!

The noble church of Cley-upon-Sea, in Norfolk, had, when I saw it three or four years back, an original roof of the fourteenth century; certainly much decayed. It has now, I hear, been replaced by one of the meanest and most contemptible kind, not having the smallest reference to its ancient type. Wherever old frescoes are found the clergy set themselves especially against them. In a church I was myself engaged upon in Cheshire, the whole walls were found covered with large figures and other decorations of a most interesting character. Their destruction was decreed. I interfered, and threatened the builder's foreman with dismissal if he carried out the sentence; but they cleverly allowed the question to go by default, and let them be destroyed by exposure to rain, while the roof was uncovered. In another place the gentleman who paid for the restoration set himself earnestly to preserve a most remarkable fresco; but, while his back was turned, a workman, supposed to be bribed by another parishioner, chiselled it off. Even at Eton College, where the walls above the stalls were found to be covered with two ranges of oil-paintings in the manner of the Flemish school of the fifteenth century, the fellows of the college had one whole range chiselled off from each side of the chapel, and the other range concealed by canopies which had never existed on the old stalls. This act of Vandalism I saw myself being perpetrated. And so it is all through the country; the most interesting features of our old churches are being weeded out through the carelessness, the prejudices, or the deliberate barbarism of those who have to do with them. Nor can the architect in all instances prevent this. I have now a church in hand where, an enlargement being necessary, I had arranged it with special reference to preserving a curious fragment of extreme antiquity; but the builder, who could not conceive why so scrubby a bit should be retained, took it down, asking no questions; and, in spite of my earnest remonstrance, has gone on finding one bit after another of old work to be too far gone for retention; and has let the old wall-painting for which the church was celebrated perish from exposure; indeed (having no clerk of the works), I was obliged to threaten the builder with extreme severity to induce him to spare anything at all. The fact is, that unless one is always at the spot or has there a representative imbued with the right feeling, there is little chance for a building when once any portion has to be rebuilt; and sometimes, I fear, when the architect is on the spot, he does much the same thing; and perhaps even avails himself of his proximity to press with the greater success his anti-conservative suggestions and arguments.

I will here offer a few suggestions which may possibly be of some utility.

First. I have found it in some degree useful to have a code of rules and suggestions drawn out and lithographed for the guidance of clerks of the works and builders who are engaged in restorations. I take the liberty of laying one of these papers on the table, but will mention that they are of little use unless constantly pressed personally upon the attention of the parties concerned.

Secondly. The great enemies to careful restoration are contracts. The best course would be to carry them out by day-work, feeling one's way in the most timid and careful manner, and always striving to do as little as is practicable. When contracts are necessary a series of small contracts is better than one general one.

Thirdly. It is highly desirable to avoid uncovering a roof all at once. When re-roofing or recovering the roofs is necessary, it is best to do it in small parts, and keep the rain out by temporary expedients as you go on.

Fourthly. It is often the case that the exterior of window tracery is hopelessly destroyed, while the internal half remains sound. In such cases I hold the proper course to be the renewal of the outer half alone, attaching the new work by pins and cement. We thus retain one-half in its original form, and ensure the correctness of the other half.

Fifthly. Patching and piecing, if done carefully, are infinitely preferable to more wholesale renewal. The various cements which we have now at our command enable us to introduce the smallest pieces into decayed or mutilated mouldings, which was formerly impracticable. Where the injury, however, is unimportant, it is better to leave it untouched.

Sixthly. Never trust a clerk of the works, or any unpractised hand, to obtain the sections of mouldings, or the forms of other features to be restored. It is often difficult enough to persons whose eyes and whose instincts have been sharpened by the habit of studying ancient features through a long series of years: to those who have had no such advantage, it is simply impossible; and no one need be astonished to find them, even with nearly perfect copies before them, producing forms scarcely resembling the original at all. I have often known them, even when they have passed a saw-curf (according to their somewhat barbarous custom), through a moulding, and ruled off its section, produce a result totally at variance with the old moulding.

Seventhly. Where an ancient feature has been destroyed never attempt its restoration till the parts round where the original existed have been thoroughly opened out and explored; and, where possible, in your own presence. Old fragments are in most cases nearly always discovered, and usually in great abundance and near their proper sites.

Thus fragments of a destroyed window are usually found in the wall which blocks up or surrounds the old opening. Blocked up niches, sedilize, or piscinæ, commonly contain each their own *débris*.

Often, however, these are not quite sufficient to perfect a design; and the skill of the architect is taxed to the very utmost to judge what the rest would be. This resembles the labours of the Palæontologist, who reconstructs the skeleton and the animal from a few broken bones; and, as in his case, the work is impossible to any but one thoroughly acquainted with his subject.

This is, indeed, a most important branch of the subject, and is by far the most interesting and cheering phase in restoration. In the hands of an experienced and painstaking restorer, it often happens that a design which had been almost utterly lost is, in a very great measure, recovered; but this can only be done by long and patient study of the fragments discovered; and the work should be indefinitely postponed until these can be thoroughly explored and thoroughly studied. Too much stress cannot possibly be laid upon this. It is the very pith and marrow of restoration. If neglected it is destructive to the work, though if carried out fully, it is the great redeeming fact which compensates for many of the annoyances which restorations involve.

In such cases all the fragments which can be by any means grafted into the restored work should be brought in at whatever cost. In difficult cases let the architect stick to it hard and fast, until his difficulty is solved; and let him set as lightly as possible by the conjectural theories which, one by one, occur to him, for he may almost depend upon it that they are wrong. With the single exception of Professor Willis, I never met with a man who could make guesses on which a moment's reliance could be placed. He does so simply because he has a wonderful intuitive power of putting together evidence in his mind which few possess; and still more because he never makes a guess until he has collected and thoroughly weighed his evidence. He has swarms of imitators whose practice is the very reverse. To begin with they only half understand their subject, and they

* By Mr. G. G. Scott, R.A. See page 22.

build upon this defective foundation a superstructure of guesses running ahead of the evidence, and stuck to religiously after proof has been found of their fallacy.

To those who have not such intuitive perceptions, the only course is not to guess at all, or to set so loosely by your theories, that they may, one by one, go to the winds without a moment's regret, as fast as adverse evidence presents itself. I remember once investigating the design of a very much altered and mutilated window; when, after constructing a most satisfactory theory, a little bit of evidence turned up, which not only let it all down with a run, but involved the whole question in new obscurity. An excellent young assistant who was with me exclaimed, in a fit of impatient vexation, that he wished to goodness we had not found that nasty feature, for it had spoiled all our work. I replied, "Never regret evidence, however vexatious; for, depend upon it, it must lead to a right conclusion; or, at least, prevent wrong ones." However, I could not at the time see my way through it; but some time afterwards, while away, a new thought occurred, and I went back and told my assistant that if, on cutting into the wall at a certain point, he found a certain feature, I could unravel the whole mystery. This was searched for, and found; and the whole of the evidence at once fell into its place; and the only remaining wonder was, how we could have been so stupid as not to think of so obvious a thing before. At other times, however, the result is so completely different from what we could possibly have anticipated, that one's wonder rather is, how one could have ever been so conceited as to venture upon any conjectures at all.

Nothing can be more delightful and instructive than this class of investigation. One sometimes finds objects of the greatest interest, and unfolds designs of the greatest beauty and originality, of which not a trace was before visible. Were it not for this, the work of restoration would be almost unmitigatedly painful, from having constantly to meddle with and to replace genuine but hopelessly decayed work: these discoveries, however, and the beauties they unfold, afford a delightful and consolatory compensation.

How doubly distressing, then, is it to see evidences of this kind discovered, but ignored and destroyed without one hint being taken from them, as is too often the case!

After animadverting, however, upon our own misdeeds, I think I may be excused in speaking somewhat plainly as to the fearful loss of authentic work of the most precious, indeed of the most *inestimable*, value; which is going throughout the length and breadth of that country which boasts itself to have been the birthplace of Pointed architecture; and where, if that high claim can be established; it follows, as a necessary consequence, that every original fragment, and every authentic detail, or—more correctly speaking—the originality and the authenticity of every fragment and of every detail, should be guarded with a jealousy proportioned to their value as the most trustworthy and the most genuine illustrations of the rise and development of that wonderful style of art.

It is perfectly inexplicable to me, how the very same persons can at one time bring cogent arguments to prove that their country was the nursing mother of Mediæval art, and at the next should deliberately, and without necessity, take down from her noblest architectural monuments original details of the most exquisite description which imagination can picture, and which have suffered comparatively little from time, and replace them by modern copies. Yet this is the course of proceeding going on from end of France to the other—and that, not by one architect in particular, but, in a greater or less degree, by all the architects who are engaged in the restoration of the ancient monuments of France.

In that country we have to applaud the generosity of the Government in undertaking on so munificent a scale the restoration of its ancient architectural remains. We have not, as sometimes with ourselves, to lament the employment of persons of dubious capability; for the works are generally in the hands of men of the greatest eminence and of undoubted skill and knowledge; nor have we to complain of any want of artistic power in the carrying out of the works; for in this we must acknowledge ourselves to be in many cases surpassed. What we have to lament, to deprecate, and to protest against is, that inexplicable absence of appreciation of the value of the authenticity and of the actual *bond fide* genuineness of old work, which leads them to reject without scruple or remorse the most charming original work for some mere trifling defect, and to feel perfectly satisfied with a copy which, however skilful, must be lifeless from the very fact of its *being* a copy; and which, even if as good as the original, must be utterly devoid of the interest and historical value which attaches to it. The extent to which this feeling, and the course which results from it, extends itself is as lamentable as it is inexplicable; and indeed threatens to replace half of the ancient monuments of the country by mere copies of them. True it is that these copies are admirable in execution, and careful and studious in their correctness; but who cares for a copy if he can get the original? or who will ever look at the details of the French cathedrals as exponents of Mediæval art when they know them to have been executed in the nineteenth century? And it is not the examples of Pointed architecture alone which are being thus tampered with; but even the curious Byzantine remains in southern France and the classic monuments at Nismes. When I was preparing, some time since, a lecture for the Royal Academy on the rise of Pointed architecture, I had a great desire to see a drawing of any capitals which might exist at Perigueux; and, on making inquiry of a friend who had just been there, he said, "Oh! I could have got you one if I had known, for the old ones were lying about among the old materials." One hears a story of an American who, after looking at the new works always going on at the Colosseum, remarked, with very just irony, "It 'll be a very fine building when it's finished." And I learn from our excellent secretary, Mr. Lewis, that the very same thing is going on now at the Amphitheatre at Nismes!

Even Carcassone, so famous and so interesting as a city, almost deserted before the close of the Middle Ages, and consequently a wonderful genuine specimen of a Mediæval city, is, as I learn from Mr. Lewis, being renewed and made into a (no doubt very learned) model of that of which it was the dilapidated original!

A visit to the Hotel Cluny affords a practical commentary upon this system of restoration by renewal. We see there capitals from the Sainte Chapelle of an exquisite subtlety of conception and sculpture, such as to bid defiance to any one who would think of transferring their spirit to a copy; and yet thrown aside and laid on the grass-plot, in all weathers, though to the casual observer almost as perfect as if new: one sees there the real angels whose counterfeits blow the trumpets of the Resurrection over the great portal of Notre Dame: one sees the central pillar of one of the same portals looking nearly as well-conditioned as its modern supplanter: one sees also balusters from the parapets of the Sainte Chapelle as good as new; and many other exquisite details rejected from the restored edifices, one knows not why. The stone-yards near many cathedrals tell the same story; indeed, wherever a great restoration is going on, you may see the genuine old details, often scarcely corroded by time, lying in rejected and neglected heaps hard by.

Now let me ask, in the name of good sense and good feeling, why the great learning, skill, and judgment of the (often illustrious) architect to these works is not rather directed to the conservation *in situ* of every fragment of the noble architecture which they understand so thoroughly, rather than to its supplantment to make way for mere copies, which, however admirable, possess no real value as genuine exponents of the style? If they would take the contrary course, I can aver, without fear of contradiction, from the talent and learning they display, that their works would be worthy objects of the pride of their own countrymen and of the gratitude and admiration of every lover of Mediæval art, instead of being, as now, causes of regret and disappointment to all. But, it may be asked, what business is this of ours? Why do we not correct our own errors, and leave architects of other countries to do as they like? I reply, that the French architects and art-historians, by showing (whether we fully admit it or no) that theirs is the mother country of Gothic architecture, have thereby made its production the property of Europe and of the world; and that, on their own showing, all lovers of Gothic architecture have an almost equal claim upon them for their authenticity and their conservation.

I have dwelt so long upon the principal heads of my subject that I must but slightly touch upon that which remains: I mean the preservation of the miscellaneous remnants of antiquity which form my third class.

These are, more than any other, subjected to the constant inroads of vandalism. Even the reverend conservators of our cathedrals care little for the fragmentary remains by which they are surrounded; and often rather wonder at the weakness of those who lift up their voices in their favour. The very same man who takes an enlightened interest in the preservation of every portion of the church, cannot be brought to care about the equally interesting though simpler structures, whose vestiges are intermingled with their own residentiary houses; and would have no scruple in destroying the most interesting antiquities to provide for some passing matter of convenience.

At Worcester it is only a few months since the ancient Guestern Hall was threatened with destruction. At Ely the huge Abbey Barn was destroyed only a few years back; and nearly everywhere the same spirit may be found to be at work. It is the duty of an Institute like this to protest against it, as they have lately to their honour done in several kindred cases.

One can hardly expect better things of a town council, when chapters of cathedrals set the example; but one must, in passing, protest against the deliberate barbarism which has within a few years destroyed the curious old Town-halls of Hereford and Leominster.

Our country villages, and the country itself, are full of small fragments of ancient architecture, often not of *very* early date, but of most valuable character, and which are every day threatened by the hand of innovation. I refer not only to works of high antiquity, but to timber houses, old brick (or other) chimney-shafts, old gable-houses of stone or brick, and a thousand other fragments of old buildings, which add so much to the character of our villages, &c., and are also so suggestive for rural architecture. These ought to be jealously preserved and watched by those who have it in their power to do so. Village and churchyard crosses, the remains of old domestic architecture in our towns and cities, old manor-houses, hospitals, schools, colleges, &c. &c., and a thousand other classes of building, demand equal care; and, last of all, I would mention old *bridges*, which are far more numerous than one would suppose, and which are less seen than most classes of antiquities, from the fact that we pass *over* and therefore cannot get a view of them. These have very frequently been preserved intact on one side, and widened on the other; a process one cannot object to, as the roadway which they provide is usually too narrow for our present uses. Though not great engineering works, they have a noble character, and occasionally attain to considerable span;—as in the case of one at Durham, which approaches 100 feet. Amusingly enough, a modern engineer, in widening it by an arch of the same span, has failed in making his work stand so well as the old one.

I have, however, made my paper far too long, and must sum up briefly, as follows:—

I. Our old architectural monuments are of the utmost value and interest to us as Englishmen and as architects; and their conservation is a matter of vital importance.

II. What with neglect, Vandalism, natural decay, and ill-judged restorations, the existence, integrity, or authenticity of these invaluable remains is threatened from all sides; and fearful inroads upon them are every year being made.

And finally, it is the paramount duty of an institution such as ours—the only one of a permanent character by which architecture is represented—to take the initiative in laying down, in conjunction with other architectural and antiquarian societies, a code of rules for the treatment of buildings requiring restoration; and to take such measures as their united wisdom may suggest to promote the true, faithful, and authentic conservation of these monuments and remains.

In conclusion, then, I beg to propose that a standing committee be appointed for this purpose; and that they be empowered to act in conjunction, and to communicate, with other societies, with a view to secure their co-operation in carrying out this most important object.

SOME NOTES ON THE REPAIRS OF HENRY VII.'S CHAPEL.

IT would be interesting if we could learn from authentic documents the cost of the repairs of both the exterior and interior of religious and other large buildings. This, with notes of the peculiar quality of the stone used, might in many instances lead to useful results. We should see how soon any structure, without care, falls into a state of total ruin. The magnificent hall of Kenilworth, complete in Queen Elizabeth's days, three centuries or so since, is now a crumbling wreck: the roofs have fallen: great trees have grown into and split the walls; and ere long the elaborate details will have passed away, and be lost in mounds of crumbling dust. Other places might be mentioned which are in a similar condition; and throughout Scotland many of the strong castles, which were intact in Oliver Cromwell's days, are in the same condition as Kenilworth. The hall at Seaton Delaval, in Northumberland, which was partly destroyed by fire, is now in such a ruinous state that without knowing the circumstances many would think it had been uninhabited for centuries.

Respecting Henry VII.'s Chapel, which had, at the beginning of the present century, been built only about 300 years, in a period of thirty-three years no less a sum than nearly 70,000*l.* was spent in repairs, chiefly of the exterior. This large expenditure was probably caused by neglecting to meet the decay in time; for we find that during the three centuries which had elapsed from the foundation of Henry VII.'s Chapel to the year 1803, it had undergone little repair, and its external state had become so completely ruinous, that the safety of the whole fabric was endangered. Some years before that, in 1793, it had been necessary to repair the roof at an expense of about 1,900*l.* This was defrayed by the revenues of the church; but reparation on a more extensive scale being required, Mr. James Wyatt, the surveyor-general, was employed in restoring a part over the eastern window, for the purpose of ascertaining the expense of repairing the whole; when a fire occurred in the roof and lantern of the Abbey Church, through the neglect of the plumbers.*

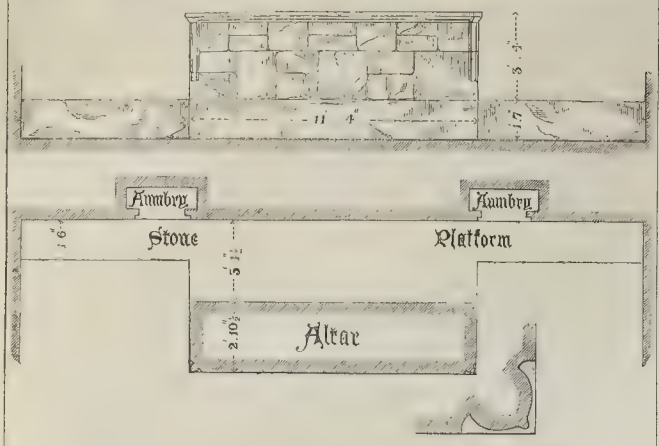
At the period the fire happened the chapel was in a deplorable condition. The two western turrets had been found in such a dangerous state that they were in progress of being taken down: the windows were propped by timbers: several of the flying buttresses had sunk through the decay of their abutments; and all the exterior ornaments, battlements, pinnacles, &c., were utterly dilapidated; so that the entire building had assumed the appearance of an almost shapeless ruin. The south and south-east sides were particularly decayed, the weather having made deeper inroads upon the fronts than on the opposite sides.

The revenues of the dean and chapter not being sufficient for carrying out the necessary repairs, Dr. Vincent, the dean, applied to Parliament for assistance, and in 1807 a committee was appointed to inquire into the matter, and a grant of 2,000*l.* voted. This committee consisted of the Right Hon. Charles Long (afterwards Sir Charles), chairman; the Marquis of Stafford, the Marquis of Buckingham, the Right Hon. Reginald Pole Carew, Sir George Beaumont, Henry Banks, Mr. William Locke, Mr. Thomas Hope, Mr. J. Townley, Mr. Richard Payne Knight, Mr. H. Baker, Mr. John Flaxman, R.A.; Mr. J. Banks, R.A.; Mr. Charles Rossi, R.A.; Mr. Richard Westmacott, R.A.; and Mr. Charles Beloe, secretary—an able body for carrying out the intended purpose.

During the examination it was estimated by Mr. James Wyatt, the architect, that the necessary repairs would amount to about 14,800*l.*, and the ornamental to about 10,400*l.*; and that the whole might be completed in about three years. An account was also delivered in to the committee by Mr. George Vincent, chapter-clerk, stating that 28,749*l.* had been expended by the chapter in repairs, within the last twenty years.

In 1808 measures were taken to commence the work, and the committee above named recommended that the repair of the chapel should be executed in Bath stone, except the sills of the windows, for which Hopton Wood stone should be used. That they might be sure that this was best for the purpose, Mr. Thomas Gayfere, the Abbey mason, had directions to go to St. Alban's Abbey Church and Woburn Abbey, to inquire into the nature of Totternhoe stone; then to go forward to Bath to inspect the quarries in its neighbourhood, and on his return to report on the qualities of the stone which he had examined, and make a statement of prices, modes of conveyance, working, colour, &c. The result was that a preference was given to the produce of the quarries belonging to Messrs. Pierce, at Coombe-down, in Somersetshire, to the south-east of Bath; and an agreement was entered into with the proprietors for the delivery of any quantity of that stone on the quay, at Bath, "well and properly prepared and scapelled," at the charge of 14*s.* per ton: the expense of its further transit to London was to be defrayed by the purchasers.

* The Abbey Church was once before in danger from fire through the negligence of workmen, on the 13th of December, 1738.



STONE ALTAR, BALLINTUBBER ABBEY, COUNTY MAYO, IRELAND.

In August 1808, the plinth, which is of Kentish stone, was new faced and repaired, and a few months afterwards the groins at the east end of the vaulting were strengthened by iron cramps, but the general restoration of the chapel was not commenced until the spring of 1810.

This delay arose in the first instance from the want of a conveyance for the stone, on account of the demand of transports for the service of the Government; and when at length a ship was obtained in December, 1808, and a cargo shipped, the vessel was wrecked at the back of the Island of Portland. It was then determined to have the stone brought to London by inland navigation, but the incomplete state of the Berks and Wilts Canal caused some additional loss of time, and the first cargo that was sent from Bath to Abingdon was obliged to be unshipped several miles from the latter place, and conveyed thither by land: from thence it was despatched in large barges down the river to London, where it arrived in the beginning of May, 1809; and it was perhaps, after all, a fortunate circumstance that so much time should have elapsed before the commencement of the repairs, as it afforded a better opportunity of making the requisite admeasurements, studying the ornaments, and laying down the drawings for moulds, which was done in the drawing-room floor at Mr. Gayfere's house in Abingdon-street, by Mr. Gayfere himself, and Richard Lane, his foreman.

Meanwhile, the House of Commons granted another 1,000*l.*, and unfortunately some misunderstanding took place between the committee and the dean of the abbey respecting the extent of the repairs, which led to the production of the following letter:—

"MR. GAYFERE,—Unless you receive an injunction from the House of Commons to stop your proceeding in the repairs of Henry VII.'s Chapel, or to alter the nature of that repair, you are hereby directed to commence the repair, and prosecute it in such manner as was originally directed by the Committee for Superintending Public Monuments.

"W. VINCENT, Dean of Westminster.

"May 11th, 1809."

In 1810, the committee reported that the turret and flying buttress had cost the sum of 1,651*l.* and 1,500*l.* further was voted by the Parliament.

The restoration of the north-east turret and buttress, which had been commenced on the same day that those to the south-east were finished—viz., March 31—was completed on the 13th of October; and on the 14th, the upper or east clerestory window, between the restored turrets, was begun. It was finished on the 26th January, 1811. The large angular or bay window below it, which had been commenced on the preceding day, was completed on the 10th of June. The upper parapet was begun about the end of March; and so the repairs were carried on progressively, until the whole was completed by the restoration of the western or stair turrets, and of the small windows of the south aisles in the last months of 1822, and the scaffolds were struck on Christmas Eve.*

* Many fragments of the ancient chapel of St. Mary were found among the rubble during the progress of the repairs—among them some bases of capitals and columns of Reigate and Purbeck stone, wrought in a similar style to that of the Abbey Church.

In the base of the ornamented dome which crowns the south-east turret, the following inscription was cut:—

"Restored 1809, Anno Regni 50 Geo. III. William Vincent, Dean; James Wyatt, Architect; Jeremiah Glanville, Clerk of the Works; Thomas Gayfere, Mason."

Similar inscriptions were cut on the other turrets, only varying in the date of the year in which they were executed, and in substituting the name of John Ireland, dean, for that of Vincent, after the decease of the latter. On the three first grants, amounting only to 4,500*l.*, no less a sum than 408*l.* 6*s.* 2*d.* was exacted in fees by the officers of the two Houses of Parliament and the Treasury. The charge of the architect was five per cent. From 1807 to 1822, each year sums of various amounts were granted by Parliament. In all the cost was over 42,000*l.*

It will be seen that the works occupied thirteen years, instead of the three years estimated by Mr. Wyatt.

STONE ALTARS.

WILL you allow me to add to the list of existing altars, published in the pages of the *Builder*, that of Ballintubber Abbey, county Mayo, a plan and elevation of which are annexed. The abbey is a Romanesque building, roofless, and a ruin; but mass is still celebrated at the original high altar; and has been, with occasional interruptions since the suppression,—the worshippers crowding round the altar, under the protection of the vaulted ceiling of the choir.

The altar is constructed, like the abbey, of black limestone. There were originally four other altars, one of which still remains undisturbed, in form and style the same as the high altar, but without the moulding on the angles. It is 3 feet 5½ inches high and 5 feet 6 inches long. I noticed altar-slabs at Adare, county Limerick; and, doubtless, there are many more existing in various parts of Ireland. S. J. NICHOLL.

THE REQUIRED ROAD FROM BROMPTON TO BAYSWATER.

IT is ardently to be hoped that the variety of schemes, or other cause, may not lead to the postponement of the much desired road between Bayswater and Brompton, so long as to render its completion difficult in time for the Great Exhibition. We have had before us the working drawings of a mode proposed by Mr. George A. Fowke, for taking the sunk road he proposes, through the centre of the bridge piers. The road in this case would be 6 feet below the water: iron is proposed as the material to be used to keep the water back.

The same proposition, however, forms part of the plan proposed by Mr. Harry R. Newton, who has been long in the field, and has given much time and attention to the matter. Mr. Newton, we are informed, proposed a sunk road, adopting the line of the haha, in 1856.

An esteemed correspondent writes as follows:—

"You will have seen that Mr. Cowper has proposed a plan for the road between Bayswater and Kensington, a combination of the sub-way and sunk way; indeed, but for the tunnel portion, it would be identical with Mr. John Martin's original plan, which that by his daughter, Miss Martin, illustrated in your pages, was intended to supersede, to meet the objections to encroaching upon the gardens. It remains to be seen whether the public will consent to Mr. Cowper's plan, especially as he admits that 'it is only for the accommodation of the localities interested, and not for the general public;' and farther, it is not for general traffic, nor to be open at all hours. Mr. Cowper is not, however, prepared to pledge himself to any particular project, but says 'that a subway is a *sine qua non* to her Majesty's assent.' On the score of funds, if the Government will not contribute to the road, they surely might waive their right to the gravel excavated, and which I see is estimated, 'at a minimum, to be worth 17,000*l.*,' or nearly half the cost of the work."

ARTS OF CONSTRUCTION, KING'S COLLEGE.

WE have before us the programme of the lectures to be delivered by the newly appointed professor, Mr. Kerr, whose duties commence with the opening of the Lent term, on the 21st instant. The province of this professorship does not include fine art, but is confined within the limits of science. Nevertheless, as it does not follow that the fundamental points of artistic treatment should be ignored, and this especially at a time when both architects and engineers are becoming more and more impressed with the principle that all building may be rendered beautiful, and ought to be so,—we are glad to perceive that Mr. Kerr finds himself able to recognize the decorative element. The following is the programme:—

1. Nature of materials: their organic structure, manufacture, general uses, qualities, decay, preservation.
2. Mechanics of construction, and strength of materials.
3. Practice of construction: processes of trade and tools.
4. Use of machinery in construction.
5. The delineation and specification of works.
6. Practice of building design.
7. Practice of engineering design.
8. Measurement and valuation of works.
9. History of buildings and engineering.
10. Decoration of construction.

MONUMENT IN LICHFIELD CATHEDRAL, TO THE MEMORY OF MAJOR W. S. R. HODSON.

THIS monument, which is now being erected in Lichfield Cathedral, has been executed by Mr. Thomas Earp, from the designs and under the superintendence of Mr. Street.

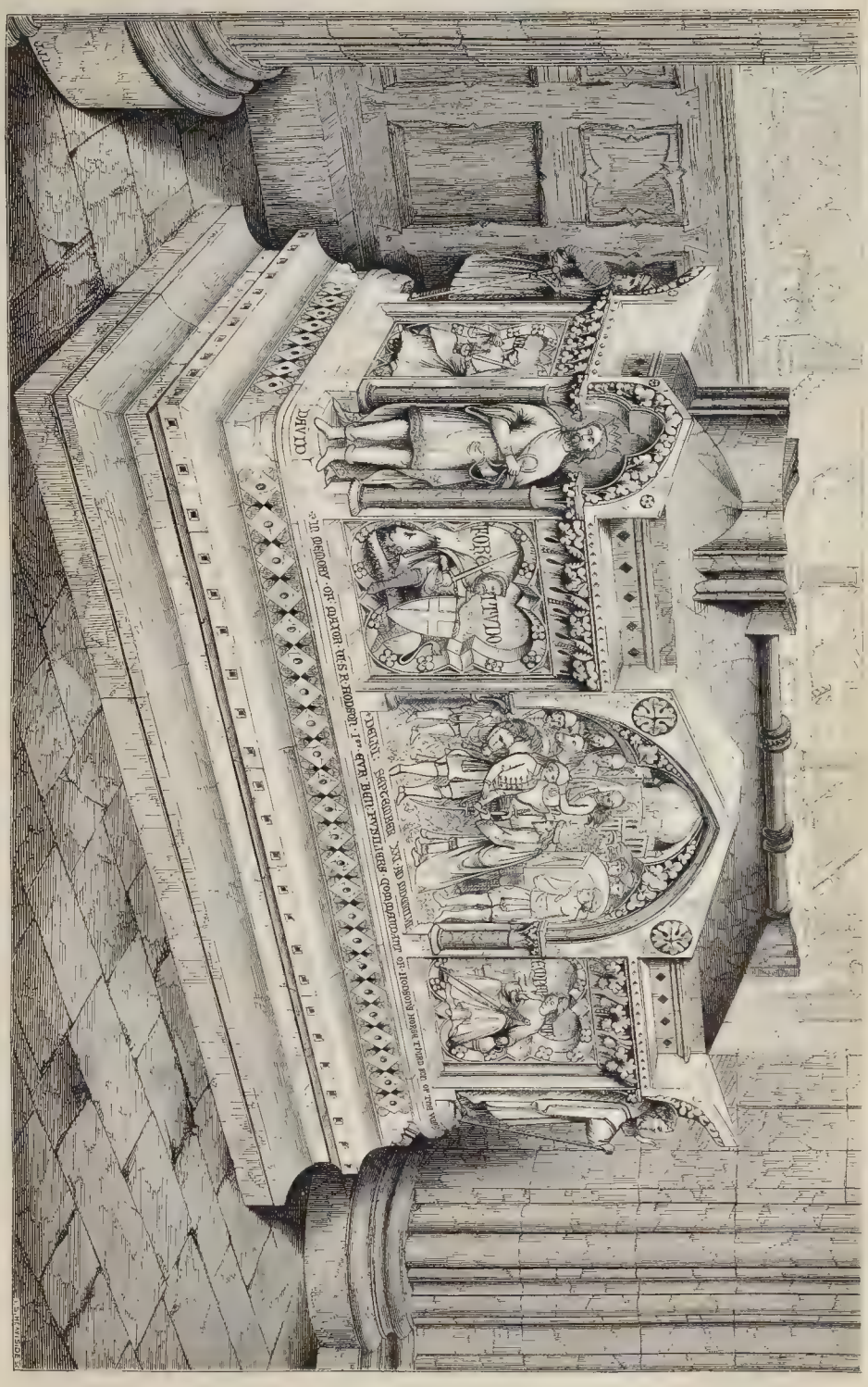
The funds have been provided by a subscription among Hodson's companions in arms and other friends in India and England.

Major Hodson's career and untimely death are familiar to all. It will suffice to say here that he was born in March, 1821, and died of a wound received at the taking of Lucknow, on the 12th of March, 1858.

The monument is executed in various materials. The main portion is yellow Mansfield stone. The cross on the top is of serpentine: the sculpture of figures in the angles, of the central subject, and of the four virtues, is of alabaster: the inlaid patterns are of marble and spar; and a portion of the base is of black limestone.

The subject represented in the centre of the side is the submission of the King of Delhi to Major Hodson, on September 21st, 1857,—a subject so notable in the life of Major Hodson, and so important in the history of our Indian dominions, that Mr. Street has represented it rather than any Scripture subject, which could have only an indirect reference to Major Hodson's character. The other panels contain sitting figures of the military virtues, — Fortitude, Justice, Temperance, and Mercy; and at the four angles are figures, in niches, of David, Joshua, St. Alban, and St. George.

THE LEYDEN MONUMENT.—A large silver salver has just been prepared, at the expense of the Leyden Memorial Committee, for presentation to Mr. H. M. Orrock, architect, Edinburgh, as an acknowledgment of his gratuitously furnishing a design for the Leyden monument, and assisting in completing the structure.



MONUMENT IN LICHFIELD CATHEDRAL TO THE MEMORY OF MAJOR HODSON.—MR. STREET, ARCHITECT.

PROFESSIONAL PRACTICE AND CHARGES.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A SPECIAL general meeting of members only was held on Monday, the 13th instant, at the House in Conduit-street, to receive a report from the Council, on professional practice and charges. Professor Donaldson presided; and there were 62 members present; namely, 38 fellows and 24 associates.

After careful consideration of several clauses of the report, the meeting was adjourned to Monday, the 27th instant. The proceedings were strictly private,—more of the character of a friendly conference on the part of members of the profession than anything else; and we mention the fact of the meeting mainly that provincial bodies of architects may know that the subject of professional charges has long been and is still under the consideration of the Institute; and that, if no publication on the matter has yet been made, it is simply because a contrary course was deemed wiser.

THE ARCHITECTURAL MUSEUM: WORKS SUBMITTED IN COMPETITION.

THE premiums offered by the council of the Architectural Museum, amounting to about 100*l.*, have elicited a very satisfactory response. Ninety-five specimens, in the whole, have been sent in, and are now arranged in the gallery at Brompton. They well deserve a visit. The competitors for the two prizes offered for a carved panel, representing Queen Eleanor watching over Edward I. when wounded, are seven in number. The first, marked "Veritas," is particularly good. Of stone capitals there are eleven specimens; of wood carving, eleven; all creditable, and some remarkable. Three competitors appear for the prizes offered for a wrought iron door handle (one sends a clever piece of free-hand work, in the shape of a vine branch, with grapes and a bird): six are under the head stained glass, and six send portions of actual works. For the prizes offered for tile pavements, there are eight Gothic designs and nineteen Classic.

We must endeavour to look at these works again; and, in the meanwhile, congratulate the members of the Architectural Museum on the response made to their offers.

LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.

THE seventh meeting of the session was held on Wednesday evening, at the Royal Institution. Mr. Jas. M. Hay, the president, occupied the chair, and there was a large attendance of members present. The president alluded in feeling terms to the decease of the Prince Consort, which had thrown a nation into mourning, and cast a gloom over every household in her Majesty's dominions; and said that, while the sympathy for our widowed Queen was as heartfelt as it was universal, they, as architects and lovers of art, had especially to regret the death of his Royal Highness, from the recollection of what he had done to promote the interest of art, and extend its influence among the people.

Amongst the donations to the Society was the illuminated work, entitled "The Sermon on the Mount," from Messrs. W. & G. A. Audsley, architects, of this town, of the beauty of which we have already spoken.

Mr. S. Huggins read the paper for the evening which was on "The Walls and Rows of Chester." In the course of it he said,—Chester was haunted by a thousand lofty or affecting reminiscences for the thoughtful and susceptible visitor. Almost every object that met the eye was tinged with the magic of the past, rich in the beauty of history and legend, and eloquent with touching memories,—with memories of times which, coming to us through the gray mists of poetry and fiction, possessed a beauty and glory beside which the great triumphs of the present age, soul-stirring as they were, looked somewhat prosaic. Here were, harmoniously mingling together, monuments, memorials, symbols of past and widely-different states of social existence,—relics and mementos of that succession of races, of Celt and Roman, of Saxon and Norman, which had played their renowned parts on our island, and of those momentous events to which Britain was indebted for her present greatness,—events which, arising out of the sterling national character, its love of liberty, and sworn enmity to oppression and wrong, every true Englishman looked upon with pride as the sources of his present privileges. The most important, though not the most unique, feature of the city, that which contributed most to its beauty, and enabled you the better to behold and appreciate all others, was the walls, which, though the work of man, were as vital as the rock on which they were built; as much recognized by nature as the trees which clung to or cast their shadow on them. The walls were said to have been originally built by the Romans, and there was a Roman grandeur in their conception which greatly favoured the supposition. They presented in many parts a most imposing aspect to the surrounding localities, and gave a grandeur to the outskirts of the city which few masonic constructions could have secured. But it was their ministry to the pleasure of the inhabitants by the delightful promenade they afforded, in which consisted their chief value. Though no longer needful for defence, they were anything but useless. There was scarcely a more delightful promenade in England, for the charms which on either hand presented themselves; and insensible must he be who would not be interested or at least amused by the striking contrasts and diversity of objects, the pleasing or deeply interesting scenes, he witnessed. A characteristic of Chester that deserved particular notice in any account of its architecture was that, owing to the apparent contentedness of the wealthy to dwell among their poorer fellow-citizens, it contained houses of all classes, from the highest to the lowest, all mixed up together in the most easy and natural manner imaginable. This, he considered, was one great source of the picturesqueness of the place, and he remarked that there was something in it pleasing to the moral sense as well as to the sense of beauty. Chester, though eminent for the beautiful, was somewhat behind in the useful. It was wanting in sanitary regulations. In some localities it was too densely built upon, and contained houses deficient of light and air. It had a handsome railway station, but that was not connected with the city by a proper thoroughfare. There was a deficiency of bridges connecting the two sides of the river. There was a gate wanting to connect the walls across Grosvenor-street. He remarked upon the character and position of the various public buildings, and expressed his surprise at the meanness of the building devoted to the post-office,—a public department which, from its importance, might be expected to be located in one of the finest edifices in the city.

GLASGOW ARCHÆOLOGICAL SOCIETY.

VITRIFIED CONSTRUCTIONS.

THE usual monthly meeting of this society was held on the 7th instant, Mr. J. T. Rochead, V.P., in the chair. Several new members were elected and donations presented, after which the secretary submitted a proposal for procuring permanent accommodation for the Archæological and other societies in Glasgow, on a principle somewhat analogous to that of the Architectural Union Company in London. The proposal originated with the Philosophical Society and the Institution of Engineers, who requested the co-operation of the Architectural, the Archæological, and other societies, and requested that a member of each should be delegated to form a general committee to take up the whole matter. The meeting appointed the secretary as their representative.

Mr. Keddie, professor of natural history in the new college, then read a paper "On the remains of a vitrified fort or site in the island of Cumbrae, with notes on the vitrified forts of Berigonium, Glen Nevis, Craig Phadrick, and Bute." Numerous fragments from these were exhibited. Mr. Keddie could not propound any theory which would account for the mode in which these singular edifices were constructed, or for their construction at all. They may be regarded as peculiar to Scotland, where the remains of between forty and fifty are known. In England there are none, and in Ireland only one.* The materials of which the walls are composed have evidently been selected with a view to their fusibility, and in some cases must have been brought from a considerable distance. Thus, in the case of the fort at Dun Macsniochan, which occupies the summit of a hill composed of schistose rock and limestone, the walls are composed of green stone, gneiss, granite, and conglomerate. These walls are 12 feet in thickness, and show traces of heat all through, while at two of the angles they are completely vitrified throughout. The supposition that the vitrification has been caused by accidental conflagrations, or by the sites being used for beacons or bonfires, was thought absurd. In many instances the sites are not in positions where beacons could have been of the slightest use; besides, such means would be totally inadequate to fuse into a solid mass walls from 8 to 12 feet thick, and extending in some cases to upwards of 300 feet in length. Whatever may have been their use, or the mode of their construction, it is evident that a uniform system has been followed in every case, marking a peculiar epoch in the history of architecture.

Mr. Rochead mentioned that, in the course of the excavations for the Wallace monument on the Abbey Craig, a vitrified wall had been disclosed. It had been necessary to remove part of it; but the remains, and other relics, including human bones, spear-heads, &c., would be carefully preserved.

* Accounts have been given of structures very like them, so far as their vitrified nature is concerned at least, on the plateau or high land of North America.

INSTITUTION OF CIVIL ENGINEERS.

ON Tuesday, January 14th, Mr. Hawkshaw, F.R.S., President, in the chair, delivered his inaugural address, in which he adverted to the wide range of subjects embraced by the profession of a civil engineer, and observed that in no pursuit was progress more apparent than in it. Thus, within the last thirty years, about 70,000 miles of railway had been made in different countries, at an outlay of eleven hundred millions of pounds sterling, fully one-half of which expenditure had been made under the direction of British engineers. Again, in 1835, the swiftest Atlantic packets depended wholly on sails, and the voyage occupied twenty days; whereas now the journey was performed by steamers in nine days. Ten years ago, the steamboats plying between Holyhead and Dublin, then as now among the fastest afloat, had attained a speed of seventeen miles an hour, whilst last year the new boats reached a speed on their trial trips of 20½ miles an hour. Since 1848, the speed of her Majesty's screw line-of-battle ships had been doubled. During the same period the build and construction of steamboats had been greatly improved; and the doubts which prevailed until very lately whether iron was the best material for line-of-battle ships seemed now nearly dispelled, although the rapidity with which iron fouled would, unless some remedy could be devised, always be a source of trouble. The precise and the best mode of constructing iron ships of war was next considered; and it was urged that, by the adoption of an improved system, the whole of the iron used in their structure might be made to add to the strength of a ship, as well as be useful for its defence, which was not the case at present. With regard to speed, it was with steamers as with locomotive engines, a question rather of what velocity we could afford to pay for, than of what rapidity could be physically attained; for there was no doubt the speed of either could be accelerated beyond any point yet reached, and probably beyond any point the nation could at present afford. With respect to railways there was an anomaly which, before long, would require attention. Thus, to make way for passenger trains, goods and mineral trains were in many cases hurried on, manifestly to the prevention of due economy.

In grouping engineering works, the electric telegraph might be classed with railways and with steam navigation. All were agents of intercommunication, tending to the same important ends; but of the three the electric telegraph was, by the peculiarity of its operation, the most wonderful. Since 1839, when the first public telegraph was established, about 14,500 miles of telegraph had been opened in this country; 100,000 miles in the rest of Europe; upwards of 48,000 miles in the American States; and the total extent of telegraph at this moment could not be less than 200,000 miles. On land, this most useful discovery had been uniformly successful. Like railways, it had grown (in Great Britain by public support alone) into an "institution." Ocean telegraphy had been less fortunate in its results.

Simultaneously with the rapid advance of these works, there had been great progress in another branch of engineering,—gunnery,—with which civil engineers had latterly become connected. Within the last few years the range of artillery had been doubled; the weight of the gun in proportion to that of the projectile had been reduced one-half; and the capacity for powder, of the elongated as compared with the round shell, had been more than doubled. This great advance in the destructive power of cannon had rendered most of the old fortifications useless. As ships were being clothed in iron mail, so it seemed probable that iron would be largely used in modern

fortifications, and for embrasures that material offered great advantages. Forts might in some cases be built principally, if not wholly, of iron; and Mr. Hawkshaw hoped it would be adopted for the superstructure of the large sea-forts at Spithead, the construction of the foundations for which had been intrusted to him.

Having noticed some of the advantages that might result from a greatly improved quality of iron, or a cheap manufacture of steel, or of a metal approaching steel in character, including the possibility of increasing the size and power of cannon, of constructing bridges of greater span, and of reducing the at present unwieldy size of paddle and screw shafts, crank axles, and other portions of all sorts of machinery, attention was called to great facilities afforded by the use of iron cylinders in sinking and securing foundations.

There was one other subject connected with mechanics, which had hitherto been barren of result—the discovery of a new motive power—for the steam-engine remained the only tame giant that was usefully subject to the will of man. So long as motive power was to be obtained through the intervention of heat, or until a cheaper fuel than coal could be found, it seemed improbable that the steam-engine would be superseded by any other machine; though it would not be safe to predict that considerable improvements might not be made in the steam-engine, or in engines to be worked by coal.

In conclusion, the President observed that engineers might feel, when labouring on great public works for facilitating the intercourse of nations, that they were not merely conquering physical difficulties, but were also aiding in a moral and social work; for it was distance and separation that led to misapprehension and prejudice, to ignorance and mistrust, to rebellion and war.

At the monthly ballot, the following candidates were balloted for and duly elected:—Messrs. A. L. Light, J. R. Mosse, and J. C. Smith, as members; the Lord Richard Grosvenor, M.P., and Messrs. H. A. Hunt, jun., and H. H. Keeling, as associates.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

AT the meeting on January 8th, Mr. T. J. Pettigrew, V.P., in the chair, expressed, on the part of the officers and council of the Association, at this, the first, meeting for the year, their deep and unfeigned regret, in which every member of the body participated, for the decease of his Royal Highness the Prince Consort. The Association had enjoyed the honour of his Royal Highness's patronage at their congress held in 1855 at the Isle of Wight; and it had also received from his Royal Highness a donation to the funds, to aid in the illustration of the antiquities of that locality.

Various new associates were elected.

Mr. Godwin communicated a letter he had received from Mr. Perkins, together with a copy of the *Worcester Herald*, relating further particulars of the discovery made at Worcester cathedral, and of which an account had been sent to the previous meeting by the Dean of Worcester.

A discussion ensued, in which Mr. Pettigrew alluded to, and produced a drawing of, the leaden coffin of Dr. William Harvey, the discoverer of the circulation of the blood, at Hempstead, Essex, which is in the human form. These, he stated, belonged to the seventeenth century. Drawings are promised by the architect of the discoveries at the cathedral.

Mr. Syer Cuming exhibited three early seals, in the possession of the corporation of Canterbury, and gave a particular description of them. They were of the major or custos of the city,—the seal for the recognizance of debtors, and one of the baptism of the Saviour, probably belonging to the Hospital of St. John the Baptist, or Northgate Hospital. Mr. Cuming read some notes on Roman remains found in Exeter, and alluded to the Penates discovered in 1778, upon which a paper was read by Mr. Pettigrew at the late congress. The bronze Penates were laid upon the table, being two of Mercury, one of Mars, one of Ceres, and another of Apollo.

Amongst various other matters sent, Mr. G. R. Wright exhibited an oval ivory miniature of Queen Elizabeth, supposed to be by Zucchero. Mr. Solly produced two miniatures of the queen by Isaac Oliver and Hilliard (?), both from Dr. Mead's collection.

The remainder of the evening was occupied in the reading of a curious and interesting paper by the Rev. C. H. Hartshorne, being illustrations of domestic manners during the reign of Edward I., which gave rise to an extended conversation.

THE PROPOSED MEMORIALS OF THE PRINCE CONSORT.

THE meeting convened by the Right Hon. William Cubitt, Lord Mayor, and held at the Mansion House, on Tuesday last, was large and influential. The Lord Mayor opened the proceedings with much feeling and good taste, and announced the munificent intention of the Society of Arts, as conveyed in a letter from Mr. Le Neve Foster, to subscribe 1,000 guineas to any monument to His Royal Highness the design of which may be approved by Her Majesty. The Bishop of London, in moving a resolution, seconded by Colonel Wilson, declaring the meeting to be of opinion that a lasting memorial of the Prince should be erected, commemorative of his many virtues, and expressive of the gratitude of the people, made an admirable and touching address. On the motion of Lord Stratford de Redcliffe, it was determined that the memorial should be of a monumental and national character, and that its design and mode of execution should be approved by the Queen. It was also determined that committees should be formed throughout the kingdom to raise subscriptions. An influential central committee to carry these resolutions into effect was nominated; and a cordial vote of thanks to the Lord Mayor, proposed, in a spirited address, by the Earl of Coventry, closed the proceedings.

About 4,000*l.* were subscribed. A sub-committee have since got to work, and circulars are being sent out far and wide to obtain subscriptions. The mayors of towns and lord-lieutenants of counties will be invited to co-operate.

The suggestion, which originated in the *Builder* some years ago, that the obelisk presented to our Government by Mahommed Ali, late viceroy of Egypt, and which then lay, as it still does, half buried in the sands of Alexandria, should be brought home, is now revived in connection with the project of a metropolitan memorial of the prince. This obelisk, a correspondent of the *Times* suggests, should be erected on the site of the transept of the Crystal Palace of 1851 in Hyde-park. Another correspondent of the same paper states that the monolith in question is now too much defaced and injured to be worth the trouble and expense; and that 10,000*l.* would be required for the purpose. With the proposal that our Egyptian obelisk should be brought home we still agree; but, although it would be an excellent memorial of ancient Egypt, the idea of converting it into a memorial of Prince Albert seems to us undesirable. It might be all very well for a semi-barbarous people, who *could not* of themselves construct a fitting memorial of one of their great and good men, to steal a stone from the ancient Egyptians for the purpose; but a monument by Englishmen, to a prince such as he was whom we have lost, must be one far more worthy of both, and of the age we and he have lived in, than such a project would indicate. If a granite monolithic obelisk be considered and decided to be the best form for such a memorial, of the patron and the active head of British art and science in the middle of the nineteenth century, let us have a fresh one; and one which, in its noble proportions, shall even excel those of Egypt herself.

For our own part, however, we should greatly regret such a determination. We hope to see the best art-power of the country elicited, and a noble compound of architecture and sculpture set up, such as the Prince himself would have delighted in.

The Manchester Memorial.—On Thursday, 9th of January, the general committee appointed to carry out the memorial of the late Prince Consort, held a meeting in the Manchester Town Hall. The Mayor presided; and several names were added to the committee, and numerous subscriptions announced. One of the difficulties of the committee appeared to be to fix on the shape which the memorial should take. There was a perfect deluge of projects, though it seemed to be understood that a statue would form part of any that was adopted. A new tower to the cathedral, and an independent architectural tower, were mentioned. The latter would be lost among so many vast chimney towers, which do not decorate the city. The favourite scheme was the purchase of the Botanical Gardens, with the intention of forming them into a public park for Stretford, Hulme, and Chorlton; but there were difficulties in the way; and ultimately it was agreed that the memorial should include a statue, and "such further permanent and substantial" project as the subscriptions would secure. The Manchester subscriptions had, on Saturday, reached about 1,500*l.*

The Salford Memorial.—The subscription for this purpose was initiated with a praiseworthy promptitude, and had on Saturday last amounted to the sum of 1,306*l.* 18s. 2d. A handsome statue of the Prince Consort, it is promised, will be placed in such a position within Peel Park as to correspond with the statue of her Majesty the Queen, at the present time adorning the Park.—A working-men's meeting has been held in the Mayor's Parlour, Town Hall, Salford, for the purpose of organizing a committee to assist in the Salford Albert Memorial. The meeting was a very spirited one; and a committee, with officers, was appointed. The Mayor was in the chair, and he offered the room in the hall for the service of the newly-appointed committee. The same offer was made from the Working Men's College.

An Ipswich Memorial.—It is proposed to raise a subscription in Ipswich for the erection of a memorial of the Prince.

REPAIRING THE SILVERING OF LOOKING-GLASSES.

THE repairing of the silvering on the backs of looking-glasses has hitherto been considered a very difficult operation. A new and very simple method, however, has recently been described before the Polytechnic Society of Leipsic. It is as follows:—Clean the bare portion of the glass by rubbing it gently with fine cotton, taking care to remove every trace of dust and grease. If this cleaning be not done very carefully, defects will appear around the place repaired. With the point of a knife cut upon the back of another looking-glass, around a portion of the silvering of the required form, but a little larger. Upon it place a small drop of mercury: a drop the size of a pin's head will be sufficient for a surface equal to the size of the nail. The mercury spreads immediately, penetrates the amalgam to where it was cut off with the knife, and the required piece may now be lifted and removed to the place to be repaired. This is the most difficult part of the operation. Then press lightly the renewed portion with cotton: it hardens almost immediately, and the glass presents the same appearance as a new one.

UTILIZATION OF THE METROPOLITAN SEWAGE.

THE Metropolitan Board of Works, at their usual meeting last week, took into consideration a report of the Main Drainage Committee, stating "that the committee entertain very favourably the proposition for dealing with the sewage of the northern area of the metropolis, contained in the communications from the Hon. William Napier and Mr. William Hope; and recommend the Board to assent to the principle of a concession of the sewage for a term of fifty years, provided the requisite authority be granted by the Legislature to the Board, and subject to the introduction of all necessary clauses in the Bill for the protection of the Board and of the public interests confided to them, and for insuring the fulfilment by the company of the obligations undertaken by them."

The proposal, which emanates from an incipient company, is that some 20,000 acres of sandy soil on the Essex coast shall be irrigated with the metropolitan sewage until it forms a soil on the top of the sand, 10 inches in depth, for agricultural purposes; the company to pay a per centage for it should the project prove successful. In moving the adoption of the report, Mr. Wilkinson said, a committee of twenty-one gentlemen had almost unanimously recommended the concession of the sewage to a private company, and their engineer had reported favourably on the plan: he therefore moved "That this Board assents to the proposal of the Hon. W. Napier and Mr. Hope, representing the Metropolis Sewage and Essex Reclamation Company, in the terms of the communication to the Board; providing the grant from the Crown and the requisite authority of Parliament be obtained in the ensuing session, and that the solicitor of the Board do see that all the necessary clauses are inserted in the Bill to convey the necessary authority of the Board."

Mr. Doulton moved as an amendment,—"That all the documents and report of the committee be printed and placed in the hands of members, and that the subject be adjourned for a month."

Various opinions, generally favourable, were expressed as to the project, though it was feared it would be offensive and injurious to the residents in Maldon, Chelmsford, Southend, Gravesend, Dartford, and many other places, if not to the metropolis itself; and at length the amendment was carried by a majority of 17 to 13.

CHURCH-BUILDING NEWS.

Iver Heath (*Bucks*).—A new church, called St. Margaret's, which will shortly be opened, has been erected at the cost of the gentry residing in the neighbourhood of the Heath, and with the aid of the Diocesan Society, and the Windsor and Eton Church Building Society. The style is Decorated, and the architect has given to each window in the nave special tracery. The church is built of Bath stone, faced with dressed flints: it is in the form of a cross, having chancel, nave 24 feet wide, without aisles, and north transept: the tower (which is open to the church) occupies the position of the south transept. The edifice is calculated to hold 240 adults and forty children; the latter being accommodated in a gallery in the tower over the robing-room. Over the children's gallery is a ringer's gallery; the tower being finished externally with battlements, enriched with quatrefoils, &c. Carved gargoyles project diagonally from the angles, and the ball-flower mills at intervals the hollowed chamfer which runs up the angles or quoin stones of the tower. The roof of the church is of open timber, carried by carved ribs springing from stone corbels, the timber being stained and varnished. The roof is covered with red and black Staffordshire tiles laid in stripes on felt. The seats and screen (inclosing robing-room) are of pitch pine, French polished. A reredos completes the church. It consists of a mural arcade the width of the chancel, formed by columns of polished red serpentine marble, from the Lizard Rock, at Penzance, the interspaces being filled with the Commandments, &c., illuminated and relieved with gold. The windows of the chancel are of stained glass: figures of the Evangelists fill the four side windows. The chief subject of the east window is "The Ascension." The subject chosen for the transept window is "Christ blessing little childen." The stained glass, which is an offering from several ladies living in the vicinity, has been executed by Messrs. Heaton & Butler, of London. The church has been built by Messrs. Fassnidge & Son, of Uxbridge, from the designs and under the superintendence of Mr. C. F. Reeks, of London, architect.

Salehurst.—Salehurst church, which for a long time has been in a most dilapidated condition, has within the last six months been undergoing a restoration. The work has been carried out at a cost of nearly 1,400*l*., by voluntary contributions. The plans were furnished by Mr. Brandon, of London, and the work was executed by Mr. Edward Piper, of Robertsbridge.

Weston-Super-Mare. — A gentleman, resident in the west of England, has expressed his intention of placing in the hands of Archdeacon Law, of Weston-super-Mare, the sum of 50,000*l*. towards founding a theological college, which will be commenced immediately.

Lyncombe.—The Lyncombe, Widcombe, and St. James's Cemetery has been consecrated by the Bishop of Bath and Wells. It is situate on the Bristol road, and occupies a plot of ground, eight acres in extent, and about five acres of which were consecrated, the remaining three acres being set apart for Nonconformist burials. There is an entrance lodge at the gates, and two chapels stand in the centre of the ground. These chapels are precisely similar externally, and are connected by a cloister, forming a distinct *porte cochère* to each entrance, between which is an arch supporting the bell-turret common to each building. Half only of the foundations of this turret rest on consecrated ground. The belfrey is surmounted by a tapering spire, rising to something like 100 feet. Each chapel is built in the form of a cross. The unconsecrated chapel is fitted up with a tribune at the extreme end for the minister. The consecrated chapel, of the same plan, is divided into a chancel and nave by a marble step: the east end, or apse, is paved with encaustic tiles. The style of the edifice is that which prevailed during the reign of Edward III. Mr. J. E. Davis was the architect, and Mr. D. Aust, the builder. The carving of the stonework was executed by Mr. G. Porter. The ground has been laid out by Mr. Butler, of Widcombe, nurseryman.

Whittington (*Derbyshire*). — The foundation stone of the new parish church was laid on the 1st of January, by Miss Smith, of Beauchief Abbey. The old church is not to be removed until the new one is completed, which will be situate on an adjoining site. The style is Geometrical Gothic; and the edifice will consist of nave, north and south aisles, chancel, organ-chamber, and vestry, with towers at the south-west corner, forming entrance-lobby, &c., which will be surmounted by a broach spire, in stone, rising to 100 feet in height. It is to be built throughout with native stone: the facing of quarried Wingerworth stone, in 6-inch courses, of a green tint, with cleansed white stone dressings, will form a contrast. Accommodation will be afforded for 600 persons. The works are being carried out by Mr. J. W. Thompson, of Derby, contractor, from a design by Messrs. Giles & Brookhouse, of Derby, architects, selected in a limited competition.

Bowling (*near Bradford*).—A new chapel and schools have been lately erected at Bowling, near Bradford, for the New Connection Methodists, at a cost of 1,300*l*.; Mr. T. C. Hope, of Bradford, architect. The chapel is 65 feet long, including the semicircular recess for the organ and singers' gallery behind the ministers' platform; 43 feet wide, and 23 feet high from floor to ceiling; and will accommodate 400 persons on the ground-floor,—there being no gallery. The school behind the chapel is 46 feet long, 18 feet wide, and 14 feet high to the ceiling. Suitable vestries and class-rooms are provided. The building is in the Italian style of architecture. The ceiling of the chapel is panelled in plaster: a panelled and ribbed cone running round the chapel, and springing from a consol cornice, joins the flat ceiling at a distance of 9 feet from the walls. The contractors are—for masons' work, Mr. Thomas Peel; joiners' work, Mr. Charles Neal; plumbers' work, Mr. John Schofield; plasterers' work, Mr. John Bolton; slaters' work, Mr. James Smithies; painter's, Mr. Ellis; and smiths' work, Mr. William Rhodes.

Birmingham—We are asked to state that the Church of the Messiah is heated with hot-water pipes, and upon the principle known as "Weeks's one boiler system;" and so arranged that any one of the aisles of the church and either of the schools can be heated separately, or entirely shut off. The apparatus, our informant states, serves for ventilation also.

Barnby Dun. — The church of Barnby Dun, according to the *Doncaster Gazette*, has lately undergone a restoration. The whole work will not be finished until spring. Messrs. Hardman, of Birmingham, have lately placed in the east window of the chancel a specimen of stained glass at the cost of Mr. J. H. Newsome. The figures represent our Saviour, supported by the patron saints St. Peter and St. Paul, with St. Thomas and St. James. In the north aisle Messrs. Hardman have also erected another stained glass window, the subjects being the Agony, Crucifixion, and Resurrection of our Saviour.

Gainsborough.—The chapel built by Miss E. Anderson for the inmates of the Gainsborough Union has been opened. It is a plain building of coloured brick, with a low-pitched roof. The architect was Mr. John Codd, of London. The east window is of painted glass, by Mr. Wailes. The builder of the chapel was Mr. Young, of Lincoln.

Edinburgh.—St. Mary's new Free Church, in Albany-street, has been opened for Divine service. The structure of the building is the fulfilment of a design by Mr. J. T. Rochead, of Glasgow. The principal ornament on the outside is a spire, covered with tracery and carved work, and rising to the height of 150 feet. The length of the church from the pulpit to the end of the nave is 81 feet: the nave is 3 feet by 31 feet; and the side galleries are 48 feet long. Below the church are the school-room (48 feet by 26 feet), a ladies'-room, beadle's house, and other apartments. The contractors who executed the works are:—Masons' work, Messrs. A. & W. Adam, Glasgow; joiner, Messrs. Sanderson & Muirhead, Edinburgh; plasterer, Mr. J. Dairn, Glasgow; stone carving, Mr. Sheets, Glasgow; painting, Mr. T. Upton. The works have been executed under the superintendence of Mr. John Maclean. The cost of the church was originally estimated at 7,000*l*., but it has reached to upwards of 12,000*l*. Of this sum, 10,000*l*. have been already subscribed by the congregation. The church is seated for about one thousand.

PROVINCIAL NEWS.

Birkenhead.—A new drill-shed for the local Volunteers has been inaugurated. The idea of the building is taken from a shed designed by Captain Fowke, R.E., for the 1st Middlesex Engineer Volunteers. The roof is constructed of circular ribs in three thicknesses, of ¾ inch spruce-boarding, breakey joints, and diagonally nailed. These ribs are placed 10 feet from centre to centre, with purlins 6 feet apart running longitudinally, with spars 2 feet 6 inches from centre to centre, nailed to ridge piece and wall plates. The whole framing is further stiffened with diagonal bracing, and the whole is boarded with ½ inch spruce boarding, covered with asphalted cloth. Eighteen skylights are introduced into the roof, filled in with rough plate glass 6 feet 6 inches by 2 feet 6 inches, with gable lights 10 feet by 9. The ordinary entrance to the building is from Church-street, opposite Messrs. Laird's iron ship-building yard. Another entrance is obtained from Priory-street. The length of the building is 200 feet, the breadth 52 feet, and height 28 feet 6 inches. At night upwards of 200 gas jets throw a strong light throughout. An orchestra, capable of accommodating 150 performers, has been erected on acoustic principles.

Bradford.—The new county court is now open. The building is in Manor-row. It has a frontage of about 70 feet, and is built of stone in the Italian style. The principal front is two stories in height, of a plain character. The lower story is rusticated, and has six semicircular arched-headed openings, with large key-stones carved into masks. On the right is the private entrance of the judge and registrar, and on the left that for the public to the court and offices. The upper storey has six semicircular-headed windows with moulded architraves and carved key-stones. A projecting cornice on carved ornamental trusses runs the whole length of the front. The court on the first floor is about 52 feet long, 32 feet wide, and 24 feet high. It is lighted by five large windows. The works have been carried out by Messrs. Wilson, of Bradford, from the designs and under the direction of Mr. C. Reeves, county-court surveyor: Mr. J. Collett has acted under him as clerk of the works. The cost of the building has been about 3,500*l*., exclusive of fittings and furniture.

SCHOOL-BUILDING NEWS.

Chilham.—The new schools which are being erected in this village are progressing, the greater part of the roof being covered in. The style is Gothic, and the building has several ornamental stone windows. Mr. Blandford, of Maidstone, is the architect.

Tuddenham.—A new national school has been erected and opened at Tuddenham. The new school is built upon a piece of glebe land adjoining the north side of the churchyard, from the designs of Mr. F. Barnes, of Ipswich, architect. The building is of red brick, and in the Elizabethan style of architecture; and the front is formed by the schoolmistress's house, behind which is a school-room, 34 feet by 16 feet, lighted by two pointed windows on either side, and another at the east end, and a class-room, 11 feet by 9 feet, on the south side: a playground for the children lies to the east.

Puddlehinton.—The ceremony of opening the new school for this parish, which had been postponed owing to the death of the Prince Consort, took place on New Year's day. The old schoolhouse was a dilapidated old place some little distance up the village; but the new building has been raised close to the church, and consists of a school-room, 33 feet by 17 feet, and a residence for the teacher, surrounded by about a quarter of an acre of land, affording space for a playground and garden. The designs were by Mr. J. Hicks, of Dorchester, and the work has been executed by Mr. Wellspring, of the same place. The walls are of flints, with brick bands and quoins. The cost is about 400*l*.

THE HANOVER-SQUARE ROOMS.

THERE are few inhabitants of the metropolis who do not connect with the Hanover-square Rooms interesting associations,—who do not remember agreeable evenings, pleasant meetings there. Coming into the hands of Mr. Cocks, the well-known music-publisher and something more (we have his alms-houses in view), they have been redecorated, and now present a very bright and agreeable aspect. The ceiling of the large room (the only decorations of which previously to these alterations were the old pictures by Cipriani) has been ornamented with enrichments in composition and "carton pierre;" a trellis pattern being placed in the bands across the ceiling, and a laurel in the longitudinal bands, with a crest ornament on the ceiling round each panel. The pictures themselves are left; and we can scarcely blame the act; but they produce the effect of dark spots. The panels are painted pale green, relieved with white and gold enrichments, and a small margin of light red. The panels of the transverse bands are cobalt blue, with white and gold enrichments and pink margins. The fluted pilasters on the walls have been retained, but the cornice over them has been deepened about 7 inches, and has

been enriched by the addition of mouldings; and with festoons of fruit and flowers to the frieze all round. The old royal box has been entirely removed, and a new one reconstructed in wood and "carton pierre," surmounted by an arched top, handsomely enriched, having a lozenge with the royal cypher supported by the figures of two boys; the top being supported by two pilasters and the figures of two female Caryatides terminating in scroll work, with fruit and flowers running down the panels of the pilasters. Looking-glasses are made to add to the effect of this end of the room. The front of the orchestra has been ornamented with musical trophies and festoons of fruit and flowers, with medallions placed over the two doorways at the sides. The organ has been removed, and a coved recess formed, with a looking-glass inserted. The pilasters are finished white and gold; the cornice mouldings the same; with a cobalt blue frieze, and white and gold ornaments. The walls are a warm grey, with panels of two light greens. The panels over the looking-glasses are each filled with a medallion, painted in bas-relief, of some of the most celebrated composers—Bach, Beethoven, Handel, Haydn, Weber, Rosini, Purcell, and others, with their names, and the century in which they flourished. In the two wide panels in the orchestra are painted medallions of Calcott and Bishop. The plinth round the room under the pilasters is decorated in imitation of various coloured marbles. The royal box is finished in white, buff, and gold, with paintings representing Peace and Plenty, and the Four Seasons (these latter four are not yet fixed), and crimson and gold damask hangings. The old method of lighting by means of sunlights has been dispensed with, and a novel mode of lighting has been introduced by suspending from the ceiling, along each side, hemispheres of silvered glass, with the flat sides upwards, having twelve jets to each, radiating to the centre, in a star-like form underneath. The tea-room adjoining has had an ornamental ceiling put to it, with other decorations of a suitable character. The lower room has also been embellished.

The contractors for the general building works and part painting were Messrs. J. & H. Cocks, of Mile-end: the "carton pierre" and composition enrichments were executed by Messrs. Jackson, of Rathbone-place; the painting, gilding, and other decorative works, by Mr. Charles Smith, of Upper Baker-street, assisted by Mr. Earle, artist; and the gas-fitting is by Mr. D. Hulett, of Holborn. The whole was done in ten weeks, under the direction of Mr. Thomas Dyke, architect.

The Hanover-square Rooms are about to commence a new life, and we have no doubt it will be a merry one.

THE STOCKTON AND DARLINGTON RAILWAY COMPANY'S NEW WORKS, DARLINGTON.

THESE works, intended to provide for the repairs and maintenance of the rolling stock required for the new lines of railway, cover an area of about two acres of ground, and consist of engine and tender shops, machine and fitting shops, and boiler and smiths' shops. As regards the materials of construction, various were the suggestions offered. That of Mr. Dixon was at last adopted, as it was found to be the most convenient, as well as the most suitable; for the various shops can be enlarged to almost any extent at any future time, without materially affecting the present erection. His plan consists of a series of brick pillars and arches to divide the several shops and support the roofs. The pillars are T-shaped, placed 18 feet apart, centre and centre, and are 6½ feet broad in the wide part, and 20 inches thick: the short part is 2 feet 6 inches broad, and 20 inches thick, making the wall 3 feet 4 inches thick in the centre of the pier. This short part is carried up to the springing of the arches, and terminates in a moulded stone cap, upon which rests the cast-iron girders to support the travelling-cranes. The arches are semicircular, and about 20 feet high from floor to soffit. Only a portion of the entire plan has been erected, and is in the shape of the letter L, the long side being about 368 feet. The ridge of the roof runs parallel with this long side, which is covered in three spans, two being 50 feet clear, with a roadway between them of 35 feet. Upon each side of the road the one end is devoted to engine and tender shops, the other to machinery and fitting shops. The roofs are constructed of wood and iron, viz., wood tie-beam, principal rafters, collar-beam, and struts with cast-iron sockets and wrought-iron suspension-rods, and is very light. The principals are placed 18 feet apart, being over the piers; and the purlins are trussed with an iron bar and straining-bolt: the bars are attached to inverted T-plates bolted to the principal rafters, and form a longitudinal tie to the roof. The height from floor to underside of tie-beam is 28 feet. The roofs are covered with Welsh slates, within about 9 feet of the apex; the remainder upon each side being filled in with cast-iron bars, and glazed with Hartley's patent rough-plate glass. The gutters between the roofs are lead.

The cost of the building alone is about 15,000*l*. Mr. Cudworth is the engineer. The plans were prepared by Mr. Wm. Peachey. The contractors were for brickwork and mason-work, Mr. D. Hurworth, Darlington; the carpenter and joiner's work, Mr. James Kirby, of Scarborough; slating, Mr. Henry Sanderson, of York, one part; and Mr. George Pattison, of Darlington, the other; ironwork, Messrs. Close, Ayre, & Nicholson, of York; plumbing, glazing, gas and water fitting, Mr. G. Walsh, of Halifax; painting, Mr. F. Moore, of York; turntables, Messrs. Cowan & Co., Carlisle. Mr. James Falconer has been the clerk of the works.

SMOKY CHIMNEYS.

CERTAIN chimneys draw well ordinarily, but are subject to violent fits of smoking in certain winds, and generally in boisterous weather, blowing both flame and smoke into the room to an intolerable extent. For this particular class of nuisance I have for many years past adopted a very cheap and permanent remedy, which has never failed.

Instead of a common chimney-pot, I fix, in the like manner, a 9-inch drainpipe, 2 feet long, socket downwards, which gives it a firm seat; and on this I fix another like drainpipe, having two 4-inch double junctions, inserted obliquely into the 9-inch pipe. When the wind blows, it rushes into these lateral openings; which, having a turn upwards, direct its blast against the downward current from the top of the pot. The fixing should be in cement, and you have a cheap chimney-top, which will neither perish nor blow off.

I use nothing but drain pipes for chimney-pots, which, as well as being cheaper and stronger than anything else, admit of a second or third story being added to them if the draught be dull, or the branch pipe top as I have described, if subject to downward gusts. For kitchen flues, 12-inch pipes are safer. T. E.

DO MOULDINGS IMPROVE ARCHITECTURE?

ARCHITECTURE, to be of any value, must embody in itself the highest, noblest, and purest form of thought of the age in which it is built. It should not be an impersonation of the common sentiment of the age; because that, with few exceptions, is morally bad; man, in all ages alike, being an imperfect being, with but little control of his passions. Popular literature is only a slight guide to the feelings of the age: sensation novels do not represent the actual sentiment of men in 1862. We are anything but sensational in our intercourse with one another; but they show this, that our lives are so conventional and unnatural, that we are the victims of fashion, and mere machines; and that, in order to be pleased in our leisure hours, we must have something unnatural and overstretched.

On the opposite side, we have a school of naturalists in art, politics, and philosophy. The critical spirit of Germany is of this school. The whole tendency is to ascertain the true and beautiful by the most natural laws of reason. It is certainly the healthy side of our age; and, if too material to produce any great sentiment, like the thirteenth century. It has, at any rate, its good points. It is the age of reason. The twelfth and thirteenth were the ages of faith.

Before we proceed further with the inquiry, we will just glance back at those twelfth and thirteenth centuries. They were noble ages. Although religious ages, inasmuch as men confessed a faith and did not doubt that faith, they were no more pure morally than the present age of reason, from man in all ages being the same weak creature, unable to govern himself either by faith or reason. Were men more romantic in their characters than now? On the whole, very little. Men in the present day run willingly into danger in the same way as then; and the idea of everybody fighting for his faith, and only for it, is now exploded. The proportion of religious Crusaders was certainly small. The romance of the Middle Ages was more the character of the literature than of the man. It was, in fact, the noble literature, the great poem of the Early Mediæval age that was romantic: the men were robust, hard, veritable men; open, and generally opposed to meanness; and, when touched upon at certain moments, religious in their faith; and fond of the romance as sung to them by the bards. They were exceedingly fond of fighting and plunder: they were consequently hardy men; and as the opposite to this they respected woman, but they did not trust her; and apparently she was not very chaste,—exceedingly frail then as now. A really good woman seems, at least in the romance, to have been rare. "The Niebelungen Lay," "The Metrical Tales of King Arthur," and the "Romance of France," contain examples of the contrary in great abundance, but very few good. Man or woman, it would be who could combine feeling and reason equally! But, perhaps, woman would lose her charm as woman, were she critical like Bunsen. The twelfth century men being robust men, they built strongly. The sentiment of their sculpture was purely natural: there was no sought-for sentiment, no imaginary sentiment, and consequently false, as we find in Sassoferrato, or in another form, in modern German art. It was very natural, like their romance: it was a purer form of their own life. Now, what is to be sentiment embodied in modern art. The higher form of the age is reason. Hence we build, or should build, a strong architecture, — a pointed arch, because it is strongest. Our ideas of beauty are those which reason has pointed out: nature is our idea of beauty. Hence the sentiment of expression in our sculpture and painting must be strictly natural, with as much feeling as our reason will admit us to throw into it, and as pure as we can make it. As before said, reason is the higher principle of the age; the trait our great thinkers admire: that the lives of men in the year 1862 are reasonable, no one after five minutes thought will admit. The lives of men are selfish: they never were more selfish than at present. Doing good to others forms a very small part of the general daily occupation of this gold-hunting age. Charity does not consist in a millionaire giving 500*l*. to an hospital, but in doing or giving something which is really a sacrifice of one's personal comfort. It is not exactly a manly age; yet the best form of modern man is an admirer of manliness, and consequently a lover of nature. Shall we get the feeling into sculpture, as the twelfth century men did? I think not; simply because we do not believe as they did. If a man has got the simple faith of one of that age, he will not be able to give that feeling. But we are a doubting age, full of reason without feeling. I speak of the thinking class. They were a robust age, but full of faith and feeling, with little reason. They built strongly, because they were hardy men: we build strongly, because it is more rational. Thus I believe that, although we gain much, we must lose much; because much feeling cannot exist with much reason. However, let us see how much faith and feeling we can get into this age of reason. I am afraid it will be but little. Our Roman Catholic friends ought to aid us in this matter: they are living in the age of reason, but they have much faith: they ought to produce some good art, when they have an opportunity to build a church on anything like a large scale. Pugin possessed a great deal of both elements, but art was not then so advanced as now: as regards the workmanship, he could only form workmen out of bad elements: now there is a body bred up in good principles. At any rate, our architecture must be massive: now mouldings, tracery, mullions, corners cut away for pillars, crockets, and the like, take away from the massiveness. Let our architecture be thick and manly: mouldings are neither massive nor manly. Let the architecture of the day be a moral lesson to us, better than ourselves. That man had any notion of the pointed arch being the strongest and best, when he introduced it in the thirteenth century, I think not: he adopted it as a matter of taste: it was some development of an idea he had got elsewhere; perhaps in the East, because no sooner was the pointed arch introduced than architecture began to decay: it became thin, full of mouldings, tracery, and went on getting worse, through the Decorated and Perpendicular periods. This shows that there was very little reason in the Gothic architect: he had no sooner got the strongest and most perfect form of arch, than he began to thin and cut it away: this is a lesson to our generation. Our duty it is to be as massive, strong, and constructive as possible. We are guided by reason: he adopted the pointed arch as a question of taste: we adopted it because of its strength. The twelfth century man was hardy and robust, and built accordingly; but directly he took to Pointed, he began to give up these traits, and lost himself in thinness and com-

plications of mouldings. The expression of art, too, sculpture and painting, lost its vigour: there was not that hardy purity in the fourteenth, there was in the twelfth: they began to set up their own ideas in preference to nature. A Madonna and Child of the fourteenth, compared with the same of the twelfth, is like modern German Dusseldorf art, compared with Rossetti or E. B. Jones: it is conceit compared with honest English nature. What we must combine in our age then is the strongest form pointed, with the massiveness of the Romanesque; and this combination must exist, because it is most in accordance with reason. As to our sentiment, it must be thoroughly natural, reasonable, with so much of passion and feeling as our rationalistic age will permit.

ALPHONSE WARINGTON.

GLASGOW WATER SUPPLY.

SIR,—In your rapid but interesting sketch of the "History and Progress of Glasgow," there are a few inaccuracies in the figures having reference to the water supply, which you will perhaps be kind enough to allow me to correct. They are, no doubt, to some extent, typographical errors. The total quantity which the corporation is permitted to draw from Loch Katrine is 50,000,000 gallons per day, and the quantity at present withdrawn is under 20,000,000. The works are, of course, executed on a scale sufficiently large to convey the full supply. The average inclination in the aqueduct from Loch Katrine to the Mugdock Service Reservoir, near Glasgow, a distance of twenty-six miles, is under 2 feet per mile, the tunnels having a fall of 10 inches, and the pipes across valleys 5 feet per mile.

The saving to the inhabitants in soap and other articles of private and trading consumption is estimated not at 100,000*l.*, but at about 40,000*l.* per annum, equal to a free gift to the city of 1,000,000*l.* sterling; being a sum greater than the cost of the new works.

The saving in soap alone in trading establishments, such as bleach and print works, is from one-half to five-eighths of the quantity which was previously used.

These facts cannot be too strongly impressed on the minds of the public, as they show the importance and economy of *soft water* supplies. My anxiety that they should be correctly stated, is my apology for troubling you with this letter.

JOHN FREDERICK BATEMAN.

P.S.—The works were opened by the Queen on the 14th October, 1859, and by the following March the whole city on the north side of the Clyde was supplied with Loch Katrine water.

"ARCHITECTURAL MODELS."

I AM inclined to think models executed in such materials as mentioned by "A Young Architect" in the *Builder*, viz., "cardboard or ordinary strong drawing-paper," are too fragile, and very liable to get crushed by the clumsy fingering these things too frequently meet with. Now, as I generally amuse myself by modelling the works carried out under my superintendence, permit me to recommend to your readers the following model as being simple in its execution, effective in appearance, and almost proof against rough handling, or any ordinary fall such a thing may be likely to receive.

Let a joiner prepare, according to such a drawing as you may furnish, to a small scale, a solid block or several blocks, as may be required, in *clean* pine; or, what is better still, mahogany, the shape of the proposed building. Having obtained your blocks, proceed to draw, to the same scale of course, all the elevations required, which ink in, and cut out precisely as described by "A Young Architect," with this exception,—you must make your drawings shorter every way by about one-eighth of an inch in every 6 inches than your wood blocks, to allow for the expansion or stretching of the paper when damped. Also allow as much paper below the ground-line as your block will admit of, for turning under. Having accomplished this, damp the sheet of elevations, and proceed to cover the blocks on the same principle as you would lay down a sheet of drawing-paper on the drawing-board, but using strong gum instead of the ordinary glue. A word respecting the gumming. Suppose your building to have four sides, the portions required to be gummed will be those which you have allowed below the ground-line, and one angle of the building. Always select angles for the joints. Now, having proceeded so far with your works, the sooner you get covered in the better. Draw, ink in, and cut out your roof on the same principle as you have done the elevations; making, of course, all your joints at the hips and ridges. If you purpose having overhanging eaves, use cardboard instead of paper.

When all is quite dry, proceed to colour as you may think best. After this, the whole should receive one coat of very clear size, and one coat of the lightest coloured paper-varnish, which will protect it from getting stained by exposure, and which will also enable you to *wash* it, if necessary. A good effect may be obtained where slight projections occur, such as base courses, quoins, string courses, cills, &c., by sticking on in a neat manner strips of cardboard in their respective positions, and by merely varnishing the doors and windows. A few words more, and I have done. Great care must be taken to entirely cover the model with size before applying the varnish. The paper used should be good cartridge, not too thick; and the varnish the very best. Two things more are indispensable to secure success,—patience and clean hands.

G. G. H. Clerk of Works.

AN OPINION OF A CLERK OF WORKS'S DUTY.

SIR,—As the duties of a clerk of works have been brought forward in your valuable Journal, will you please allow an old subscriber to offer a few remarks upon this subject? As the representatives of the architect, their duties are at all times of great responsibility, providing they act honestly by their employers. And all important as their correct knowledge of drawings should be, and essential as it is for them to thoroughly understand getting out working and detail drawings; measuring up and valuing any extra work; also to be able to direct the workmen in the execution of the various parts of their duties; to be at all times quick of perception to any errors which may occur; and to be able readily to have all such mistakes rectified;—all important, I repeat, and valuable as this knowledge is; yet I believe their knowledge of the various building material to be used is of much more vital importance to their employers; to see at a glance, as materials come upon the works, whether this load of timber is the right quality, or this or that block of stone is from the quarry, and the right bed of the quarry as specified;—also the strength of the various cements and lime, and every other material which is to be used.

This, I maintain, is a very difficult part of their duty; and unfortunately is very often overlooked; and which often causes serious expenses, after a few years, to the proprietor of the building, by the premature decay of inferior timber, substituted in the place of that which should have been of a better quality, and of a more durable nature; or the shelling off of the stones when placed upon their wrong bed; or perhaps, what is still worse (especially in freestone), the insertion of soft porous stones, which are totally unfit to be placed in any exposed situation, and should be excluded from all external work.

The man who can go into the timber-markets, and there be able to select which is good or bad material; or can enter any of the quarries, and there point out which is the most durable and best beds of stone to choose from; and, if required, give instructions how to quarry from any particular bed he may wish to select for his job,—I say such a man as this, in my humble opinion, is far more fitting to fill the situation of clerk of works, than many (which too frequently is the case) who are brought, by the influence of some one in power, from the office of the architect, to superintend the erection of a building, the practical part of which they know nothing about—not even so much as some of the very men they are appointed to direct.

T. W. JAMES.

THE PLASTERERS' STRIKE IN MANCHESTER.

SIR,—The monster evil which we, particularly in the building trade, have to contend with is that of strikes. Strike is the order of the day—an infatuation which no amount of reasoning or argument can change or even modify: notwithstanding our cheap and free institutions, all got up with praiseworthy effort for the intellectual advancement of the working man, it is to be deplored that we still find him with "strike" for his motto. "Strike" is the way in which he will reason, and "strike" is his weapon with which he deals out destruction and misery to all concerned.

It matters not how absurd and unreasonable his demands may be, or how unprepared the employer is for such advance with hundreds or it may be thousands of pounds worth of contracts, all obtained and calculated from the cost of labour previous to such demand. It matters not what agreement may have been entered into, if such agreement be binding only by honour for a three or six months' notice; as, for example, take the plasterers of Manchester at present out on strike.

In the rules last supplied to the employers by the body or association of plasterers in Manchester, *vide* rule 9, is the following clause, viz., "Either party wishing to make any alteration in the rules, to give three months' notice in writing; the notice to expire between the 1st of May and the 1st of August ensuing." Yet withal they have now struck work, with two weeks' notice, and that not in writing, and in several cases without any notice whatever, for a further reduction of three hours per week in winter.

It is only a few months since they had three hours conceded to them,—thus making 51 hours per week,—4½ hours less than in summer, and for which they are only reduced 1s.,—another concession on our part; as they were up to last winter reduced 2s. for the 4½ hours.

The disputed three hours per week, and for which they have turned out, would bring the total to 48 hours, 16 of which they work by candle-light; and, considering the nature of the employment, is not equal to eight hours of daylight; and when employed outside they work from light to dark: this actually would make the entire week consist of less than 40 hours; which, with the summer hours of 55½, gives an average of 52 the year round.

The present average is 54½; and, with the wages paid, the plasterers of Manchester, taking all into consideration, are already in advance of any other branch of the building trade in Manchester, if not in England.

All this we have explained to the workmen, and reasoned with them in every way, anxious if possible to avoid any hostile movement.

Until the contracts in hand were finished we even offered them the three hours per week, that is, to have breakfast and begin work at half-past seven; our object being to reduce as much as possible the unprofitable, and to themselves dangerous, candle-light work: but they indignantly refused the offer.

We then proposed to have the matter settled by arbitration: this they also refused; and, as we are unable to bear any additional burden,—the profits of the trade having already been reduced until it is almost impossible to live by it, the prices being considerably lower than they were fifteen or twenty years ago, while the cost of labour is forty per cent. higher;—we have now no other alternative but to apply for other, and, it is to be hoped, more conscientious and reasonable workmen; and to appeal to our architects and the public for their assistance in carrying out our object against an unjust and unwarrantable strike.

A MASTER PLASTERER.

Manchester.

Books Received.

The Builder's and Contractor's Price-Book for 1862. Revised by GEORGE R. BURNELL, Architect. London: Lockwood & Co., Stationers'-hall-court.

THIS price-book, for some time heretofore published by Mr. Weale, has been fully revised by Mr. G. R. Burnell, with a view to "the interests both of employer and of employed." Our knowledge of the editor's carefulness, and of the extent of his information, would lead us to place great confidence in it.

VARIORUM.

"The Stamp and Tax Office Manual. By Francis Muir. Blackwood & Sons, London, 1861." The author of this "Guide to the Public, in their Transactions with the Stamp and Tax Office" is himself a surveyor of stamps and taxes, and therefore, from his office, a competent person to prepare such a work as this, in which is given a full digest of the stamp laws and the laws relating to the property and income and assessed taxes. The stamp duties are also added to the manual when required in the one volume. An index to the manual affords ready reference to the various subjects.——"Handbook of the Sliding Rule; with numerous Examples and Tables. By W. H. Bayley, H.M.'s East-India Civil Service. London: Bell & Daldy. 1861." In this volume is shown the applicability of the slide rule to,—1. Arithmetic (including interest and annuities); 2. Mensuration (superficial and solid, including land surveying). The work has thus been enlarged beyond its intended size, in order to make it a manual of arithmetic and mensuration adapted for schools. The author recommends the slide-rule made under his directions, and referred to in the article "Slide-Rule," by Professor de Morgan, in the new edition of "Knight's British Cyclopædia (Arts and Sciences).——"The Engineer's, Architect's, and Contractor's Pocket-Book for 1862." London: Lockwood & Co.; by assignment from Weale. 1862. "Adcock's Engineer's Pocket-Book for 1862." London: Simpkin, Marshall, & Co. 1862. Each of these pocket-books contains an immense mass of useful matter, including almanack and tables, but we do not feel inclined to institute any special comparison between them on their respective merits.

Miscellanea.

WORKS OF ART.—The Correctional Tribunal of Paris has just decided that impressions obtained by means of photography are not to be considered works of art, and susceptible of being pirated, as the proofs given by photography are the result of a mere material operation. The tribunal also founded its judgment on the fact that M. Daguerre had formerly sold his process to the State, which intended that the public should enjoy the full benefit of it.—*Galignani.*

SURVEYOR, TOXTETH BOARD OF HEALTH.—Mr. J. A. Hall, of Willenhall, was elected engineer and surveyor to the Toxteth Local Board of Health, Liverpool, on the 7th inst.

THE PRINCE CONSORT'S TOMB.—Mr. Humbert, the architect of the late Duchess of Kent's mausoleum, has inspected the ground in Frogmore Gardens which has been selected by her Majesty for the Prince Consort's tomb. The position will probably be near the road leading from the residence of the late Sir George Couper to Shaw Farm. The design is at present unsettled.

SANITARY CONDITION OF GALWAY.—According to the *Galway Vindicator*, which has concentrated the local public opinion on the subject, the local board of guardians have consented to carry out the provisions of the Removal of Nuisances Act (1848) as applicable to the town; so that steps are about to be taken to put it in a sanitary condition, of which it stands much in need, as the *Vindicator* has fully shown.

WARMING RAILWAY CARRIAGES.—The directors of the Eastern Counties Railway Company have determined on adopting the system of warming railway carriages by means of the waste steam from the engines, which has been recently carried into effect on the London and North-Western line. Experiments as to the feasibility of the plan have just been made at Stratford Station, with, it is said, highly favourable results; and the improvement is to be carried out without delay and without exception of class.

THE CRIMEAN TESTIMONIAL.—"A Constant Reader" takes the liberty of calling attention to the two disgraceful apologies for "lamp-posts" at present affixed to the "Crimean Testimonial" in Waterloo-place. They have remained in their present state (and may be seen any day in passing) ever since the monument was finished. Now that the "Great Exhibition" is nearly completed, and numbers of our foreign friends are likely soon to be visiting this country, it is high time that this eyesore should be removed.

NEW LIGHTHOUSE ON THE CLYDE LIGHTED WITH GAS.—The improvements on the channel of the Clyde between Greenock and Dumbarton have caused the erection of a new lighthouse on a perch opposite to Port-Glasgow harbour. The new lighthouse is of iron, circular-shaped, 11 feet in diameter, and resting on a circular ashlar foundation. The lantern is about 6 feet in diameter, and is covered by a copper dome, the whole rising about 30 feet above high-water mark. It has been lighted with gas, which is conveyed from Port-Glasgow through a pipe sunk at the bottom of the river, and the gas can be turned on and off in Port-Glasgow.

THE ROADS IN HOLLOWAY AND KENTISH TOWN.—SIR: Will you kindly use your pen to remedy a grievance for a poor pedestrian who has to struggle through the Junction-road, Upper Holloway and Kentish Town, to Camden-road Station, to reach the city every morning, in mud ankle deep? There is no footpath; and at night it is most dangerous; for vehicles are driven on the wrong side of the road, at the risk of a poor fellow's life, who has the same struggle to reach his home after ten hours' heavy toil in the city. A cry for help at your hands has never been in vain.—R. C.

FIRST CITY OF LONDON ENGINEERS.—Her Majesty has been pleased to accept the services of the 1st City of London Engineers. Most large cities and towns have such corps; and arguments are not wanting why the city of London, the heart of commerce, should bear its part of the work of defence. The security given by the Volunteer Rifle Brigades has achieved much; but the advance of time changes more and more the mode of modern warfare; and science, skill, new inventions, and ever-changing tactics throw an unusual burden on that part of the regular army devoted to the study and practice of this branch of the service. Hence the large call on the Royal Engineers for Canada. Our Government, therefore, encourages the formation of corps of Volunteer Engineers to "supplement the regular forces, and effect the destruction or formation of railways, bridges, roads, and works of defence." This is the object of the corps, and it is to be composed of architects, civil and mechanical engineers, builders, artisans, and other scientific persons. Doubtless there are many in London of these professions and trades who will join such a corps on account of the course of instruction in military engineering by the commanding officer, Lieut.-Col. H. Garnet Man, which will immediately be entered upon. Particulars can be obtained of the Honorary Secretaries, Head Quarters, Church-court Chambers, Old Jewry.

OPENING OF THE DARLINGTON STREET RAILWAY.—The commencement of the new year witnessed the opening of a street railway in Darlington. Although two months have hardly passed since the project was started, there is now a company formed, with the whole of the capital (4,000*l.*) taken up, and a tramway of nearly two miles laid down.

INTERNATIONAL COLLEGES.—A plan has been suggested by Mr. Eugene Rendu, and is now under the consideration of the French Minister of Public Instruction, for establishing four international colleges of education, at Oxford, Paris, Rome, and Munich, where youths of from eight to sixteen are to receive their education, remaining two years at each of these establishments.

MANCHESTER ARCHITECTURAL ASSOCIATION.—A meeting of this association was held at the rooms, George-street, on the evening of Wednesday, the vice-president in the chair. After the usual preliminary business, Mr. H. Thomas read a paper on "The Royal Castles of North Wales, their origin and history," which comprised an account of their general arrangement, and a review of those historical events by which they have been rendered objects of interest.

FALL OF A BUILDING AT ROCHDALE.—At Woodside, Rochdale, an old building which was the theatre seventy years ago, and has, of late, been occupied as a wool warehouse, fell to the ground. A man slept on the premises, on the ground floor, to watch the place, and was suddenly awoke by the noise: he jumped out and rolled under the bed. Fortunately, the corner of the floor on which his bed stood remained firm, while the remainder was entirely broken up.

SANITARY CONDITION OF DORCHESTER: VENTILATION OF SEWERS.—Some discussion has taken place in the Dorchester council on the subject of a proper ventilation of the sewers, on a complaint by a resident that a ventilating shaft near his premises gave forth very unwholesome and offensive gases, although it professed to have a charcoal deodorizer connected with it. The Mayor said he had got the ventilator "covered up as well as possible with ashes;" upon which a councillor stated that he hoped something else would be done in the matter; as he lived at the end of a drain; and, if the air-shafts were closed up, the gases would escape into his place. The complaint was referred to the local committee for general purposes.

THE WINDSOR DRAINAGE.—At a meeting last week of the Windsor Board of Health, the town surveyor was called upon to state the real condition of the drainage; which he responded to by stating that all the main drainage and branches were in a most satisfactory state; but that within the last year there was much cause to complain of inattention to closets on the part of the people. It is to be anxiously hoped, whatever private visitors to Windsor may be induced to do by this now somewhat qualified approval by its own surveyor of the sanitary state of Windsor, that the rumour that her Majesty intends very shortly to return to the castle with the Royal Family is not correct; and that no assurance, however unqualified, of the excellence of the general drainage of the town will be held sufficient to justify neglect of that thorough investigation, especially of the state of the castle and the royal apartments, which we have already urged. That some hidden cause of typhoid fever lurks there and ought to be diligently searched for and rooted out, there is no good reason to doubt.

THE NORWICH SCHOOL OF ART.—The prizes of this school were delivered by the mayor, at a well attended *soirée* of the friends and pupils, held in the Rooms of the Free Library. The statue gallery and class-room were decorated, and various works of art exhibited. The mayor, before presenting the prizes, made a few observations on the progress of the Institution, and the mournful event which caused them to postpone the *soirée* a short time ago. He was sure they would be able to fully appreciate the late Prince's character as the patron of art in this county. The country would show their appreciation of the Prince Consort — not only as a patron of art, but as a promoter of agriculture —by erecting a memorial of him; and he (the mayor) hoped Norfolk and Norwich would not be backward in the movement. The mayor afterwards announced his intention to give ten guineas to the school, and leave it to the master to determine what shape the prize would assume. He concluded by mentioning that at the meeting of subscribers, although not well attended, the reports presented were highly satisfactory, and calculated to increase the confidence which all must feel in the school.

IRON GATES FOR THE EAST INDIES.—Messrs. Cottam & Co., of Oxford-street, have just now completed some elaborate iron gates for the new palace now being erected at Moorshedabad, for the Nawab Nazim of Bengal, under the direction of Mr. G. W. Vivian. It is a large building of Italian character, without much beauty externally. The carriage-gates, 20 feet in height, have wrought-iron frames, filled in with handsome castwork, and slide on rollers into the wall on each side, being suspended from a wrought beam at the top. With the two side gates, framework, and hangings, the cost will be about 600*l.*

GERMAN EVANGELICAL CHURCH, HALTON-STREET, ISLINGTON.—This building, of which we presented an engraving and description in our number of the 30th of March last, having been completed, was inaugurated by services in German, on the 5th inst.; the Rev. Dr. Christlieb, the minister, preaching in the morning, and the Rev. T. Kübler, of Hooper-square, Whitchapel, in the evening; and by a public meeting, conducted in English, with the exception of some pieces of sacred music in German, on the evening of the following Monday. The works have been executed by Mr. Sargeant (the gas-fittings being supplied by Mr. Peard), under the superintendence of Mr. T. W. Constantine, architect.

DEATH OF A CARRON WORKMAN WORTH 10,000*l.*—John Andrew, a locally celebrated Carron workman, has just died, at the age of seventy-eight. For upwards of sixty years, he had been connected with the Carron Ironworks. For about the last five years, he had retired from labour. Prior to that, his department in the works was that of a foreman iron-dresser, and letter-cutter of loam goods, which, in former days, was very lucrative. The deceased amassed about 10,000*l.*, a very considerable portion of which he "made" in Carron. His habits of living were unusually moderate, even for a frugal Scotsman. He was never known to spend a single farthing on luxuries.

THE SHREWSBURY SEWERAGE.—A local correspondent in a position to know assures us that our efforts have fully roused the good people of Shrewsbury from their lethargy; and, according to the local *Chronicle*, Mr. Hawley Edwards, who appears to have agreed with our suggestion that the borough surveyor, however able, has quite enough to do besides giving all the time and consideration requisite to the planning of a new system of sewerage, has obtained, of his own motion, a special report and plan from an engineer (Mr. Curley, of Ludlow), whom he has consulted on the subject. This plan the *Chronicle* regards to be greatly superior to that already proposed, and presents the report to its readers for their consideration. The estimate for the new plan of sewerage is that 20,000*l.*, instead of 32,000*l.*, the amount of Mr. Tisdale, the surveyor's, estimate of his plan, will be sufficient. We do not profess to judge as yet of the merits of either plan; and we hope it will not be considered that it is on the merits or demerits of the surveyor's plan that we urge that some other engineer should be employed.

TENDERS.

For building parsonage at Llanarth, Cardiganshire, for the Rev. D. J. Jones, vicar. Mr. R. J. Withers, architect:—

Jones	£1,214	0	0
Davies	1,137	5	0
Williams (accepted)	1,077	0	0

For building new church in the Kennington-road, Lambeth. Mr. H. E. Coe, architect:—

Patman & Fotheringham	£5,685	0	0
Willson	5,397	0	0
Higgs	5,389	0	0
Hill, Riddell, & Robinson	5,371	0	0
Thompson	5,362	0	0
Downs	5,039	0	0
Jackson & Shaw	4,997	0	0

For pulling down and re-building St. Mary Tower parsonage, Ipswich. Mr. R. M. Phipson, architect:—

Haxell	£1,047	0	0
Luff	1,040	0	0
Gibbons	994	0	0
Baldiston	980	10	0
Smith (accepted)	920	11	0
Hunt	990	0	0

For a new engine-shed, Brighton Station, for the London, Brighton, and South Coast Railway Co. Mr. R. Jacomb Hood, engineer. Quantities supplied by Mr. Charles H. Driver:—

Wilson	£8,856	0	0
Lucas	7,689	0	0
Macey	7,496	0	0
Myers	7,080	0	0
I'Anson	6,574	0	0
Bull	6,538	0	0
Cheseman	6,450	0	0
Fabian (accepted)	6,380	0	0

For 3 feet by 2 feet half-brick sewer, at Hackney; in cement, block invert, 12-inch pipe, side entrance, air-shaft, gullics, and old sewer to be broken up and filled in. Mr. Lovegrove, surveyor:—

Dodd	£778	0	0
Shearing	525	0	0
Wood	483	0	0
Dethick	480	0	0
Hill, Kiddell, & Co.	463	0	0
Pound	435	0	0
Haywood	421	0	0
Blakmore	419	0	0
Arthur	394	0	0
King & Howe	361	0	0
Cole (accepted)	320	0	0

The Tender of Mr. Dankley, of Blisworth, has been accepted for the militia depôt at Warwick. Amount, 7,019*l.* from quantities furnished by Messrs. R. L. Curtis & Son.

TO CORRESPONDENTS.

Ground Granite.—(A correspondent asks if there be "any composition of ground granite used as a coating for external plastering, and which, when finished, has the appearance of real granite." If there be, we do not know o (L)

Mr. H.—F. S.—J. D. F.—Dr. G.—M. D.—Dr. S.—E. C. R.—J. F. P.—Mr. R.—C. B. (has already appeared).—E. T. B.—R. M. P.—Mr. H.—J. H. L.—C. M. D.—A. W.—T. E. K.—H. B. & B.—F. G. S.—E. W.—

TO SUBSCRIBERS.

A coloured Title-Page for last year's Volume may be obtained, gratis, on applying personally at the Office. The Index to our last Volume will be found in the present Number as a Supplement, also gratis.

The Volume will be bound (on being sent to the Office) for 3s. 6d.; or Covers for that purpose may be obtained at 2s. 6d. each (broad), and 2s. (narrow).

It is necessary to state whether the Advertisements are or are not to be bound in the Volume.

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-Office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

Ready this day, demy 8vo price One Shilling,

THE EDUCATION of the MIDDLE CLASSES in ENGLAND.
By F. V. THORNTON, Rector of Brown Candover, Hants.
SMITH, ELDER, & CO. 65, Cornhill.

Just Published, price 4s. for 1862, the Fifty-second Edition of

SKYRING'S BUILDERS' PRICES, calculated from the market price of materials and labour, containing the Metropolitan Buildings Act, and a variety of new and useful information.
SIMPKINS & CO. Stationers'-court, London; and may be had of all Booksellers.

THE QUARTERLY REVIEW, No. CCXXI. is published THIS DAY.
CONTENTS:—
I. RAILWAY CONTROL.
II. THE PRINCESS CHARLOTTE.
III. POPULAR EDUCATION—THE NEW CODE.
IV. ICELAND—THE CHANGE OF FAITH.
V. THE LATE PRINCE CONSORT.
VI. SPAIN AS IT IS.
VII. LORD CASTLEREAGH.
VIII. THE AMERICAN CRISIS.
JOHN MURRAY, Albemarle-street.

This day is published,

ESSAYS in HISTORY and ART.
By R. H. PATTERSON, Author of "The New Revolution; or, The Napoleonic Policy in Europe."

Colour in Nature and Art.
Real and Ideal Beauty.
Sculpture.
Ethnology of Europe.
Utopias.
Our Indian Empire.
The National Life of China.
An Ideal Art Congress.
Battle of the Styles.
Genius and Liberty.
Youth and Summer.
Records of the Past: Nineveh and Babylon.
India: its Castes and Creeds.
"Christopher North"—In Memoriam.

In Octavo, price 12s.
W. BLACKWOOD & SONS, Edinburgh and London.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

TO DISTRICT AND OTHER SURVEYORS.—An Architect and surveyor of some experience, with good testimonials and recommendations, wishes to obtain (by purchase) a SHARE IN THE BUSINESS of a gentleman holding Surveyorships. Is quite competent, and will desire to take an active part.—Address M. L. care of Mr. Horwood, 4, Pleasant-row, Highbury-corner, N.

AN Architect and Surveyor, in want of OCCASIONAL ASSISTANCE, would be glad to meet with a Young Man who is capable of making both finished and working drawings from sketches and instructions given, and who could be willing to come to terms. Applications to be made in writing, stating experience and salary expected.—Address, X. Y. W. care of Messrs. Smith & Son, 280, Strand, W.C.

AN ARCHITECTURAL ASSISTANT is WANTED in the Office of a Firm in large practice in London. Good Gothic draughtsmanship, united with general and accurate theoretical knowledge of style and detail, are the chief requisites. Salary, 100*l.* per annum.—Application to be made by letter only, with simple references, to ALPHA, care of Mr. Johnson, 425, Strand, W.C.

ELECTION of DISTRICT SURVEYORS under the Metropolitan Building Act, 1855.—The Metropolitan Board of Works here by give notice, that they will on FRIDAY, the 24th day of JANUARY instant, at TWELVE o'clock at noon, at their Office, Spring-gardens, Charing cross, proceed to the ELECTION of THREE SURVEYORS for the Districts of Bethnal-green, St. James's, Westminster, and Putney and Roehampton. Applications in writing, with certificates of competency under the Building Act addressed to the Clerk of the Board, will be received at the Office of the Board until THURSDAY, the 23rd instant, at FOUR o'clock p.m. Each candidate must state in his application the district or districts for which he applies, and must be in attendance at the meeting of the Board on the 24th instant.

JOHN FOLLARD, Clerk of the Board.
Spring-gardens, January 11, 1862

TO PARENTS AND GUARDIANS.

OUT-DOOR APPRENTICE WANTED, in an old-established business, where a thorough knowledge of gas engineering, gas-fitting, brass-finishing, smith's and other work, may be acquired. Moderate premium required.—Address, R. & H. Office of "The Builder."

TO FRET LEAD GLAZIERS AND CUTTERS.

WANTED, TWO or THREE first-rate HANDS.—Apply to LAVERS & BARRAUD, Endell-street, Bloomsbury.

TO BRICKLAYERS.

WANTED, a BRICKLAYER, to CONTRACT at PER ROD for the labour of brickworks of ten or twelve seven-room houses, in the parish of Islington, that would agree to take a carcase or house in whole, or part payment, as may be agreed. Address, C. D. Office of "The Builder," on or before TUESDAY next.

WANTED, in the Office of an Architect and Surveyor in the country, a thoroughly experienced ASSISTANT. Must be well up in design and construction, and a good colourist.—Apply, stating age, salary required, testimonials, and giving references, by letter only, to A. B. C. 24, Bermondsey-wall, London.

TO PATTERN MAKERS.

WANTED, a good WORKMAN. Must be able to carry out work from scale drawings, and thoroughly understand his trade. Good wages given, and constant employment. None but a first-rate workman, with a good character for sobriety, need apply.—Address, pre-paid, to G. 10, Wood lane, Shepherds-bush, London.

TO GLASS PAINTERS.

WANTED, immediately, a good FIGURE PAINTER.—Address, stating terms, and reference to last employer, to Messrs. PILCHER & SON, Morgan's-lane, Tooley street, Borough.

TO ENGINEERING DRAUGHTSMEN.

WANTED, TWO or THREE thoroughly competent Constructive and Mechanical DRAUGHTSMEN. Terms, 3*l.* per week.—Apply, by letter only, to X. Y. Abbott, Barton, & Co. Advertisement Contractors, 35, Wellington street, Strand, W.C. stating experience and qualifications, and giving references.

WANTED, a good Out-door ASSISTANT and TIMEKEEPER. One acquainted with Sanitary Works preferred.—Address, in own handwriting, stating age, present occupation, and salary required, with test morials, to the City Surveyor, Gloucester, not later than the 22nd of JANUARY next.

WANTED, a Builder's or Engineer's CLERK. He must be a good accountant, quick in calculating and squaring up quantities in all kinds of work out hand, and trace neatly. Salary, at the rate of 100*l.* per annum. To save trouble, none need apply whose character for the above qualifications, together with strict sobriety, integrity, and industry, will not bear the strictest investigation.—Applications, with testimonials and reference, to be addressed in applicant's handwriting, stating age, &c. to the Engineer of The Monmouthshire Railway and Canal Company, Dock-street, Newport.

TO PARENTS.

WANTED, in the Office of an Architect and Surveyor in full practice, a YOUTH as ARTICLED PUPIL. He would have unusual opportunities of acquiring a thoroughly practical knowledge of the profession.—Address by letter only, J. S. 47, New Buildings, Prince Albert-road, South Kensington

WANTED, a YOUNG MAN, who understands COPYING DRAWINGS.—Address, with sample of drawing, and terms for weekly engagement, to W. L. 1, Leadenhall-street, E.C.

TO STAIRCASE HANDS.

WANTED, immediately, FIVE or SIX FIRST-CLASS WORKMEN, who thoroughly understand their business. Must be rapid in executing and fixing geometrical hand-rails.—Apply at once, by letter, to E. RIDDELL, 23, Morleton-terrace, Pimlico.

WANTED, TWO or THREE WOOD CARVERS, who can copy Natural Foliage.—Apply at once to JAMES O'SHEA, 15, Exchange-street, Cheetham-road, Manchester

TO CARPENTERS AND JOINERS.

WANTED, a good GENERAL HAND, for a Jobbing Shop. State age, and lowest wages for a permanency.—Address, O. A. City News Rooms, 103, Cheapside.

WANTED, a SITUATION as FOREMAN in or out of a TIMBER YARD. Aged 40, with good character.—Address, A. B. Post-office, Battle, Sussex.

WANTED, by a Man who has had twenty years' practical experience, an ENGAGEMENT to take the MANAGEMENT of a BRICKFIELD. Would prefer taking the work by contract. Would not object to go abroad.—Address, W. S. Post-office, Lower Norwood, Surrey.

WANTED, by the Advertiser, by trade a Carpenter and Joiner, aged 44, a SITUATION as SHOP or OUT-OF-DOOR FOREMAN. Good references.—Address, I. W. L. No 8. Mill-place, South-street, Wandsworth.

TO ARCHITECTS.

WANTED, by a Gentleman (of good abilities, Goldie), an ENGAGEMENT. He will be found of value to any architect requiring assistance.—Address, G. B. P. 114, Euston-road, St. Pancras

WANTED to APPRENTICE, a strong, active Youth, aged 18, to a good working trade. The carpentering, mechanical engineering, or building, preferred. A moderate premium will be given and an old or first place preferred.—Address full particulars to H. J. B. Post-office, Ramsgate.

TO PLUMBERS.

WANTED to ARTICLE a YOUTH, aged 18, as above.—Address, J. B. 9, Brunswick-place, Brook-street, Clapton.

WANTED, by an Experienced Hand, a SITUATION as WORKING FOREMAN of BRICKLAYERS. Aged 30. Good references from present employer.—Address, G. Z. Crown Library, Lower Norwood

TO CARPENTERS AND BUILDERS.

WANTED, by a Young Man, a SITUATION as IMPROVER in the above trade.—Address, D. G. 35, Northumberland street, Marylebone road.

TO ARCHITECTS, BUILDERS, AND ESTATE AGENTS.

WANTED, by a Practical Man, aged 41, a SITUATION as CLERK of WORKS, or General Building Foreman. Ten years' testimonials from a General Builder. Understands church work.—Address, H. MILSOM, Langley road, Chippenham, Wilts.

TO JOBBING MASTERS.

WANTED, by a PAINTER and PAPER-HANGER, an ENGAGEMENT as GENERAL JOBBING HAND. Can work in the following branches:—Gas-fitting, bell-hanging, carpentering, and upholstering. No objection to the country. Address, G. S. 18, Frances street, Chelsea.

TO JOINERS AND OTHERS.

WANTED, by a steady, active Man, a SITUATION as MANAGER or FOREMAN. Can make working drawings, and can lay out architect's plans. No objection to the country. Reference can be given, if required.—Address, Mr. ROGERS, care of Mr. Clode, Baker, 5, Broadley-terrace, Blandford-square, N.W.

TO ARCHITECTS AND BUILDERS.

WANTED, by a thoroughly practical Man, a RE ENGAGEMENT as CLERK of WORKS or GENERAL FOREMAN. Has had many years' experience on first-class works, and in measuring up works.—Address, H. T. H. Office of "The Builder."

TO BUILDERS.

WANTED, by a First-class Handrail and Staircase Hand, STAIRS and RAILS of any description, having had long experience in the above. No objection to take by the piece. Good reference can be given.—Address, J. G. C. P. Eberly, 24, Thurnhill-place, Caledonian road, N.

WANTED, a SITUATION as FOREMAN in a TIMBER-YARD, with good character from late employers.—Address, S.B. 11, Willmott-square, Bethnal-green-road.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man (a Wesleyan), who is a good draughtsman, has had some experience in measuring and estimating and is well up in the routine of a Builders' office, an ENGAGEMENT as CLERK where his present experience would be available.—Address, S. M. office of "The Builder."

TO IRONMONGERS.

WANTED, Constant EMPLOYMENT, by a Steady Man, in the Tin, Zinc, Iron-plate, and Copper line.—Address, T. J. 10 Boyds-gardens, Ebury-square, Pimlico.

TO ENGINEERS AND OTHERS.

WANTED, by a Young Man, a SITUATION as ENGINE DRIVER, high or low pressure. Can work the lathe. Good reference.—Address, B. S. No. 11, Hill-street, Dorset-square, N.W

TO TIMBER, LIME, CEMENT, AND DRAIN-PIPE MERCHANTS.

WANTED, a SITUATION in either of the above, by a Young Man, a LATH-RENDER. No objection to work at a trade, and to be generally useful. Beer and Cannon Yard. Address, A. B. 6, New-road, Commercial road, Peckham, S.E.

TO IRONMONGERS AND BUILDERS.

WANTED, a JOB, by a good BELL-HANGER, GAS-FITTER, and GENERAL HAND. Town or country.—Address, J. P. 5, Portland-place, South Clapham-road, London.

TO GLAZIERS.

WANTED some good LEAD GLAZIERS. Apply at Mr. WARRINGTON'S Stained glass Works, 19, Polygon-mews, Elgware road.

WANTED, an ENGAGEMENT, by a Young Man, who is a neat draughtsman, good penman, and accountant, and can assist in taking out quantities, estimating, &c.—Address, H. H. Post-office, Church street, Hackney, London, N.E

WANTED, a SITUATION as BUILDER'S CLERK, or CLERK of the WORKS, by a thoroughly proficient, experienced, practical man. Satisfactory references as to character and ability.—Address, W. S. at Mr. Bowman's, No. 9, Rutford's-row, Islington.

TO BUILDERS

WANTED, to APPRENTICE a YOUTH to a Carpenter and Joiner, as IN-DOOR, in town only.—Address, stating premium and terms, to Mr. SCRIVEN, Auctioneer, &c. No. 130, High Holborn, Bloomsbury, W.C.

TO BUILDERS AND CONTRACTORS.

WANTED by a practical Young Man, a SITUATION in a Builder's or Contractor's Office. He is competent to prepare working and finished drawings and estimates, take out quantities, measure up work, and to perform the usual office duties.—For particulars, apply to A. B. Post-office, 26, Oxford-street, W.

WANTED, by a Youth, a SITUATION as TIMEKEEPER or STOREKEEPER in a Builder's Yard. Good references given.—Address, S. H. Rose Cottage, Woodcote-place, Norwood, S

WANTED, EMPLOYMENT by a thorough practical man, as CLERK of WORKS, or FOREMAN to Builder. Is a good draughtsman, well acquainted with domestic and farm architecture, road making, drainage, &c. Can take out quantities, measure up work, including land and timber, &c.—Address, C. D. Beehive Inn, Aldershott.

TO PLUMBERS AND BUILDERS.

WANTED, by a Young Man, of good experience, a SITUATION, as PLUMBER and GASFITTER. Is well used to roofing. Good reference can be given. No objection to a country job. Address, W. G. Office of "The Builder."

TO ARCHITECTS, ENGINEERS, AND SURVEYORS.

THE Advertiser, who has had considerable experience in the above profession, is desirous of an ENGAGEMENT as JUNIOR PARTNER in an established Practice. First-class references and testimonials. Premium according to advantages offered. Address, H. H. 67, Thomaston-street, Everton, Liverpool.

TO ARCHITECTS, &c.

THE Advertiser, a thoroughly efficient Architectural Draughtsman and Clerk of Works, is desirous of an ENGAGEMENT. Has had twelve years' experience, and is a good leveller and surveyor.—Address, H. care of Messrs Turner & Dunnett, Solicitors, James-street, Liverpool.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser is desirous of obtaining a SITUATION in an Office as MANAGING CLERK. He is thoroughly acquainted with [illegible] practice, and qualified to prepare any kind of drawings, supply [illegible] quantities, to superintend the erection of buildings, to conduct surveys, and to use the level and the [illegible]. Salary, [illegible] moderate. References and testimonials furnished upon application to S. K. F. Office of "The Builder."

TO ARCHITECTS.

THE Advertiser is desirous of an ENGAGEMENT in London. He is a neat and careful Draughtsman, Leveller, and Surveyor, and is well up in office routine. Goldie preferred. First-class references. Salary moderate.—Address, D. B. General Post office, Burnley, Lancashire.

GENERAL FOREMAN OR FOREMAN OF CARPENTERS.

RE-ENGAGEMENT WANTED, by an experienced man, aged 42, capable of carrying out any works. Can be well recommended, and having been with his present employer nearly four years. Would have no objection to take the management of an estate of houses.—Address, Mr. Mrs. Stanley, 47, Upper Ebury-street, Pimlico.

TO BUILDERS.

PLASTERING WANTED by a practical Man, Materials and Labour, or Labour only. Good references given. Town or country.—Address, X. Y. 25, Pulford-street, Pimlico

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCUPATION is sought in an Office by a Youth, 17 years of age, who has had a year's instruction in office drawing and out-door surveying.—Address, J. A. care of Mr. Calder, Stationer, 199, Oxford street.

TO IRONMASTERS, &c.

A YOUNG GENTLEMAN, aged 22, having had seven years' experience in the Counting House of a Wholesale and Retail Iron and Oil Merchants (in the country), but who is now acting as Confidential CLERK for the same firm, wishes (in order to better his position) to obtain either a similar ENGAGEMENT, or as TRAVELLER under any Wholesale House. The latter preferred.—Address, X. Y. Z. Office of "The Builder."

TO ARCHITECTS, BUILDERS, AND SURVEYORS.

AN expeditious and accurate Surveyor's Assistant would be glad to render EVENING ASSISTANCE to parties needing engraving drawings, taking probe sections, taking off quantities, abstracting and billing works, or otherwise, on moderate terms.—address, DELTA, office of "The Builder."

AN experienced Land Agent's and Surveyor's Clerk is open to an ENGAGEMENT Aged 30. Well up in surveying and valuing, tithe measuring and valuing, preparing all kinds of plans, specifications and estimates, and assessing dilapidations, &c. Now engaged with a leading firm. Twelve years' references. Salary moderate.—Address, R. E. S., Cumis's Hotel, Covent Garden, London.

TO BUILDERS, PAINTERS, AND DECORATORS.

A MASTER PLUMBER and PAINTER wishes to recommend a steady and industrious man as WORKING FOREMAN of PAINTERS and DECORATORS. A four years' character as to ability, &c. will be given.—Address, J. B. 21, Lupus-street, Pimlico S.W.

A THOROUGHLY Practical Man wishes for a RE-ENGAGEMENT as GENERAL FOREMAN, to take charge of a Job, or as Foreman of Carpenters and Joiners. Well understands designs, &c. Can be well recommended.—Address, A. B. 38, Boston-place, Dorset-square, N.W.

TO ARCHITECTS, &c.

A THOROUGHLY PRACTICAL CLERK of WORKS is open to a RE-ENGAGEMENT. Testimonials, first class.—Address, M. N. B. 7 Boundary-street Post-office, Hermondsey, London.

A GENTLEMAN is desirous of a SITUATION in any line of business where his services as an Accountant, Disbursing, with a general knowledge of mercantile and engineering trade would be of value. Advertiser has had experience. Address, P. R. Hamilton's Library, Ipswich.

TO ARCHITECTS, BUILDERS, &c.

A THOROUGHLY PRACTICAL CLERK of WORKS, or BUILDER'S FOREMAN, will be open to a RE-ENGAGEMENT after the 20th instant. Has carried out some of the most extensive works in the district. Is used to abstracting, taking off, measuring, and taking out quantities, and is used to having to manage a builder's business, being well up in every branch. Unexceptionable references from employers and architects. Address, ALPHA, 14, Carlisle-street, Soho, W.

A PLUMBER is in want of a SITUATION. Address, J. N. Post-office, Barnes, Surrey.

TO ARCHITECTS, &c.

A FIRST-CLASS Draughtsman and Designer is open to an ENGAGEMENT in Town, or to take the Management of an Office. A thorough practical knowledge of the various styles for a good perspective, draughtsman and colourist.—Address, L. Z. 5, Claborne-place, Grey's-inn road.

TO ARCHITECTS, BUILDERS, &c.

A YOUNG MAN wishes for a SITUATION with either of the above, as JUNIOR CLERK, and DRAUGHTSMAN. He writes a good hand, understands drawing plans and the general routine of an office. Testimonials unexceptionable.—Address, Z. Z. 22, A, New Bond-street, W.

A GOOD THREE-BRANCH HAND wants a CONSTANT SITUATION; is also a good gas-fitter and paper hanger, and understands general repairs to dwelling-houses.—Address, J. B. N. Mile's Furnishing Factory, 21, Henry-street, Pavilion-road, St. John's-wood.

TO ARCHITECTS.

A SSISTANT.—The Advertiser desires an ENGAGEMENT as ASSISTANT, in a London office. Has had considerable experience in working drawings, details, and specifications, and is acquainted with the orders of architecture. Has a thorough knowledge of the German language. First-class testimonials and references.—Mr. L. I. Mr. Adams, stationer, Victoria-terrace, South Hampstead, N.W.

TO ARCHITECTS, SURVEYORS, BUILDERS, &c.

A YOUTH, who has just completed his articles in a London office, wishes for a SITUATION in an office where he could improve himself. A salary would be expected. Address, ALPHA, Hodges's Library, Post-office, Paddington, W.

TO PLUMBERS.

A YOUNG MAN wishing to be IMPROVED in the PLUMBING, as a good Plumber, and is willing to fill up his time in ditto. Wages and so on is the object as improvement.—Address, B. 2. 2, Newcastle street, Clerkenwell.

TO ARCHITECTS.

AN ENGAGEMENT is desired in a good Office, by a gentleman whose articles are just expiring. Is well acquainted with the usual routine, is a neat draughtsman and colourist, &c. London preferred. Salary a secondary consideration.—Address, F. P. to J. P. Post-office, Guildford.

TO ARCHITECTS.

A YOUNG MAN wishes to meet with a RE-ENGAGEMENT, in an Architect's Office. Is a good draughtsman, and well up in the routine of an office. Has been five years with one employer. Moderate Salary, not for annum.—Address, F. T. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

AN expeditious DRAUGHTSMAN, having had the advantage of practical experience, desires a RE-ENGAGEMENT. Is desirous to prepare working and detail drawings, specifications, &c. Good references.—Address, A. B. 120, High-street, Camden-town.

TO ARCHITECTS, &c.

A FULLY QUALIFIED ASSISTANT, who is a good draughtsman, colourist, designer, and accustomed to meeting with an ENGAGEMENT. References will be given to some of the leading firms in the profession. Terms moderate.—Address, J. C. 47, Frederick street, Gray's-inn road, W.C.

TO BUILDERS.

TO BE SOLD, a Second-hand Steam Engine, 10-horse power, with Boiler, Pump, and Gearing complete. Has been in use about 12 months, and is in good working order.—Apply to Messrs. Bryceson, Brook-street, Euston-road, London, N.W

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL.

GREAT EXHIBITION, LONDON, 1851.

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1780)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, all cut to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and practical experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

EXPOSITION UNIVERSELLE, PARIS, 1855.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

WHITE AND PARLBY'S

NEW ILLUSTRATED CATALOGUE OF PAPIER MACHE AND CARTON PIERRE ENRICHMENTS.

PARTS I. TO V. NOW READY, EITHER OF WHICH WILL BE FORWARDED POST FREE, ON RECEIPT OF TWELVE STAMPS. SPECIMEN SHEET, WITH PARTICULARS, SENT ON APPLICATION, ENCLOSING POSTAGE STAMP.

WHITE AND PARLBY,

49 & 50, GREAT MARYLEBONE STREET, LONDON, W.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l*. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2*s*. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3*s*. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

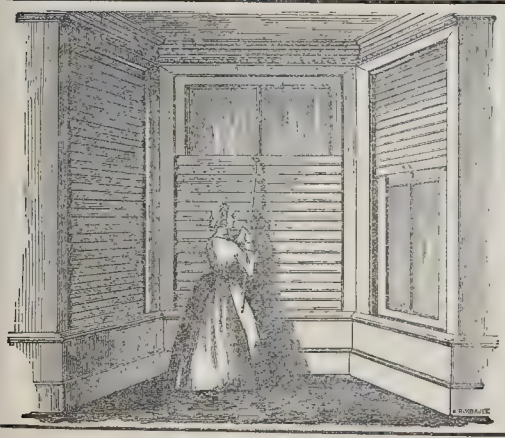
MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW



REDUCTION IN PRICE

OF

CLARK'S

NEW PATENT REVOLVING SHUTTERS,

FOR

SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

MARBLE AND STONE WORKS,

WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.

ADAMANTINE CLINKERS.

BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.

BLACK GLAZED HEADERS, RUBBERS, and BRICKS.

BEART'S PERFORATED BRICKS.

BROSELEY TILES.

BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Wrexleal re Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.

CEMENTS, Roman, Portland, Keene's, Parian, and Lias

CUTTERS, Red, White, Black, and Yellow.

COPING TILES and BRICKS.

CHIMNEY POTS of every sort.

DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.

DOOR JAMBS, White and Red.

ENCAUSTIC TILES.

FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.

FIRE CLAY, FLUE LININGS.

GROUND LIME.

GUERNSEY GRANITE.

GARDEN EDGING.

GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.

GROOVED VITRIFIED STABLE BRICKS.

HAIR for PLASTERERS.

INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.

KENTISH RAG-STONE and FLINTS.

LATHS.

LIME, Grey Stone, Chalk, Flare, and Blue Lias.

MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPLERS

ORNAMENTAL RIDGE and ROOFING TILES, Buff and Red.

PLASTER of PARIS.

RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.

RIDGES, Plain, Roll-topped, and Ornamental.

ROAD MATERIALS.

SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.

SLATES from Penmant's Quarries.

STAFFORDSHIRE PAVEMENTS and RIDGING Buff, Red, and Buff Terra-cotta Paving Tiles, of various designs. Buff and Red Perforated Quarries. Ridging Tiles in great variety. Plain, Ridged, Grooved, Tabbed Ridge Tiles of different Patterns, and Grooved Tiles, with Crest ornaments, Antefixes, &c., all Buff, for the Buff coloured Tiles. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.

SAND and BALLAST.

TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.

TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.

URINALS.

WHITE GLAZED BRICKS and TILES.

YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.

YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK-STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.

LIMEKILN-HILL, LIMEHOUSE, E.

Wherever required, the best quality —

GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.

ROMAN, PORTLAND, KEENE'S, MARLIN'S, and PARIAN CEMENTS.

COWLEY and KENT BRICKS.

WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.

Ditto and ditto WALL COPING BRICKS and TILES.

YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.

WHITE, BLACK, and RED RUBBERS.

STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BUFF, and BUFF, also in GARDEN EDGINGS

TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS

Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN

DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.

WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size

GLAZED STONEWARE DRAIN PIPES, TRAPS, &c

RED DRAIN PIPES, TILES, and CHIMNEY-POTS.

TERRA COTTA, and ENRICH CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.

HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS

Goods forwarded by Railway with despatch.

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.—JOHN GOFFIN

& CO. are prepared to supply PORTLAND CEMENT, of the best quality, at as low a quality, on advantageous terms. PERRY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.

White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

STRINGFIELD and BLYTH,

Sole Consignees of

NELSON'S BLUE LIAS LIME.

Orders addressed to Messrs. S & B Bangor Wharf, CAMDEN TOWN, N.W.

will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.

Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TAYLHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c., Stoneware Drain-pipes, &c.

No. 1, SOUTH WHARF, PEARD STREET, PADDINGTON.

PARIAN CEMENT for INSIDE WORK.

With this material houses may be finished and occupied in one-fourth the usual time. Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,

SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE GOODS MERCHANTS.

ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT

combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not aggregate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institution of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare every quality of Portland Cement.

Agent in Liverpool JOHN MCKENZIE, 45, Seel-street.
Do. do. Manchester—THOMAS OAKDEN.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY,

on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Sanksside, London.

N.B. Shipping Merchants and Brokers' Orders promptly executed.

PURE HYDRAULIC LIME, Manufactured

from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into wagons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Coaster River

Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parg's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the engineers of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference

GREY STONE LIME.

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOULDHAM HALL GREY STONE LIME WORKS,

ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS:

12, UPPER GROUND STREET, BLACKFRIARS, S.

7, NORTH WHARF ROAD, PADDINGTON, W.

O. MCARTHY, CARMAN, and SAND

and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet street, City. Sand from above or below Bridge, delivered by the yard or part of a barge. Ballast, screened or unscreened, by the yard or part of a barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT WORKS,

Northfleet, Kent.

Messrs. ROBINS & CO.

To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the special wishes of their numerous friends and the public generally, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, in lots to suit purchasers, by them for all purposes to which it is applicable.—Orders received at Great Scotland-yard, Whitehall, for the Works.

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER and CO.

(Contractors to Government),

34 WHARF, HARROW-ROAD, PADDINGTON, W.

Every article manufactured at the Crown Works and Mines, Brierley-hill.

FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.

Shipments on the shortest notice.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS.

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Jarvis & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Kilns at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALPONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS.

IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade from monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING

Buff, Red, and Buff Terra-cotta Paving Tiles, of various designs. Buff and Red Perforated Quarries. Ridging Tiles in great variety. Plain, Ridged, Grooved, and Tabbed Ridge Tiles of different pitch, and Grooved Ridge Tiles, with Crest Ornaments, in Green, Buff, and Red, for the different periods. Vitrified Stable Pavings, grooved, of various sizes. Blue Facing Bricks, &c.

J. & W. EASTWOOD,

Builders' road, Lambeth; and Kent-road Bridge.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.

SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.

SCOTT'S PATENT PLASTER.

GREY STONE LIME, of very superior quality. CHALK LIME.

Shipping orders promptly executed.

MARTIN'S PATENT FIREPROOF CEMENT

Is 35 per Cent. Cheaper than any other internal Cement in use.

Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.

186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1½d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

APPLY TO

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.	
⅜-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d.	per square.
½-inch "	12s. 6d.	12s. 6d.	13s. 6d.	"
1-inch "	14s. 6d.	15s. 0d.	15s. 6d.	"
1¼-inch "	—	18s. 0d.	19s. 0d.	"

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Batt-ns ..... £11 10s. "
Spruce Deals ..... £16 10s. "

½-inch Matched Lining ..... 13s. 0d. per square.
¾-inch " ..... 16s. 0d. "
1-inch " ..... 19s. 0d. "

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.	
⅜ by 7 Flooring from	12s.	12s. 9d.	13s. 6d.	per square.
½ by 7 "	13s.	13s. 6d.	14s. 6d.	"
1 by 7 "	15s.	15s. 6d.	16s. 6d.	"
1¼ by 7 "	17s.	16s. 6d.	19s. 6d.	"

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP.

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of price.—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.



SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT

AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

SEASONED WAINSCOT OAK,

30,530 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Planks, from 3s. 3d.; Mahogany, 6d.; 2¼ Yellow Battens, 11l. 10s.; 1 inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Carriage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames. For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic wharf, Pimlico, London, S.W.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent upon their List Prices for Mouldings. A large stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

BUILDERS and CARPENTERS, and OTHERS, have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities.

All sawn goods carriage free within three miles.

¾-inch Flooring (well prepared)	11s. 6d.	¾ inch do. 13s.	per square
Yellow Deals, sound and good	12l. 10s.	per 120, or 3½d.	per foot.
Spruce Deals	10l. 10s.	2¾d.	"
Yellow Battens, excellent quality	11l. 10s.	2d.	"
Pine Planks, dry, 12 ft. 3 in. by 11 ft. 3 in.	21l.	3s. 6d.	"

Seasoned Mahogany, Plank and Board, 6d. per foot.

A very large Stock, ready sawn and seasoned.

ALFRED CARTER, Old Bethlem green road, S.E.

PATENT MARBLE WORKS,

183, GREAT PORTLAND-STREET, PORTLAND PLACE, and BEAUMONT STREET, CALEDONIAN-ROAD, PATENT MARBLE SLABS and PANELS, of any size, and in all kinds of Marble for Dining Halls, Staircases, Corridors, Bath rooms, &c. Also Columns, Pedestals, Arcades, CHIMNEY PIECES, Table tops, and Pavements, &c. at very moderate prices.

THE NEW ARTIFICIAL STONE CHIMNEY PIECES, in handsome designs, and very strong and durable, from 7l. 5s. to 30l.

VICTORIA MARBLE WORKS,

38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with extensive SHOW-ROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

COLUMNS in MARBLE, GRANITE, &c. Columns having been so extensively used in architectural decorations, the Westminster Marble Company now keep in stock a great variety of coloured MARBLE for Mediæval works, and they are enabled, with the assistance of machinery, to execute orders at a considerable reduction in price. Marble Roofs, &c. &c. sold at a low rate.—Westminster Marble Works, Earl-street, Horseferry road, Millbank.

10l. PER MONTH

BOX MARBLE CHIMNEY-PIECES, 7-inch fronts, and 2 feet 6-inch openings, for 1l. 1s.; handsome truss chimney-piece, 10-inch jambs, 10-inch shelf, and 2 feet 10 inch opening, for 2l. 2s. A large assortment of superior chimney-pieces on view.—R. SPRAGGS, 49, Holsworth street, Hackney.

LITTLE CASTERTON FREESTONE.

Apply for prices, &c. to

OCTAVIUS N. SIMPSON, STAMFORD;

and see Specimens at the Office of

Messrs. PINDER SIMPSON & SONS, 23, Saville row, London, and at the Museum of Practical Geology, Jermyn street, W.

This stone (which is a perfect oolite), is in good blocks of any portable size, and is about 50 per cent cheaper than Bath. It will stand ANY WEATHER, and is recommended as a very handsome but durable material for restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent street; and 39, 40, and 41, Warwick street, W.

EDWARDS, BROTHERS, & BURKE, PROPRIETORS.

The largest and most important Stock of Chimney Pieces in Europe on view at the above named Establishment.

Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.

Estimates for every description of Marble Stone and Granite Work.

JOHN BAZLEY WHITE & BROTHERS,

MARBLE MERCHANTS,

MILLBANK-STREET, WESTMINSTER.

Marble of all kinds, and of best quality, in Block and Slab.

Marble Mortars, &c.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

CAEN and AUBIGNY STONE.

FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.

Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.

Depôt—GRANITE WHARF, East Greenwich.

Office—4, Three Crown-square, Borough.

THE NORTH-WESTERN STONE WHARF, Canal Bridge, Camden town, is the cheapest Stone Wharf in London. Also a large STOCK of all sorts of YORKSHIRE and other STONE, GRANITE CURBING, and PITCHING, as always on hand to select from. Self-faced paving at 27s. per 100 feet; 14-inch tooled, ditto, 31s. ditto; 12-inch Hare hill Slate, 33s. ditto; and all kinds of stone, at equally low prices.—W. ASPINALL, Proprietor.

N.B.—Country orders, to ensure punctual attendance, must be accompanied by a remittance.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Unsafe imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 49 and 51, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,

No. 1, BOLD TERRACE, CHESTER.

FOREST of DEAN STONE.—
Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.)
The FOREST of DEAN QUARRIES, COLEFORD,
GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.
That from their "Goxty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Dark-hill" Quarries, is decidedly superior to it.
Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

HY. GEORGE & COMPANY,
CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.
Grindstones, Steps, Sills, Cills, Landings, Paving, and all descriptions of Yorkshire Stock. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

BATH! BATH!! BATH!!!
ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons' Work prepared ready for fixing.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connection generally throughout the Kingdom, that they have their
NEW and IMPROVED PRICE LISTS, English Edition, 1862,
Ready for distribution, and which can be had on application.

BLOCK STONE! BLOCK STONE!
The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall.
Points, Architects, Builders, and Masons, are requested to call and examine the quality.
SAMUEL TRICKETT has plenty of stones that are good building stones, and requires no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also NOTE delivered direct from the Quarries to all parts of the Kingdom.
The BEST and CHEAPEST STONE-WHARF in LONDON.
Address, SAMUEL TRICKETT, Isle of Dogs, E.
A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is now used for the New Westminster Bridge
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the material forwarded on application
EDGE RUNNERS OF SUPERIOR QUALITY.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding two tons; or worked at the Quarries and delivered free from quarry at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

POLISHED GRANITE WORKS
ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship. Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent 404 Euston-road, N.W.

VALE of WARDOUR FREE STONE,
TISBURY, WILTSHIRE.
T. F. LILLY, Quarryman and Stone Merchant, begs to introduce to the notice of Architects, Builders, Masons, Stone Merchants, and Builders, the FREE STONE raised from recently-opened QUARRIES at TISBURY and the neighbourhood.
Geologically this Stone is identical with the Portland Oolites, and its workable properties present a medium between that material and the Bath stone. Numerous buildings of undoubtable antiquity attest the durability and texture of the stone of this district. Amongst these may be cited SALISBURY CATHEDRAL, TISBURY CHURCH, the PORTICO of ROMSEY, WILTON ABBEY, &c. erected from Chilmark and other Quarries immediately adjacent to those under notice. The beds are of considerable thickness, and blocks of any ordinary size are readily obtained. Some of the beds are nearly white, and others of a cream colour; there is considerable variety in strata, the greater portion of the beds being remarkably fine, and are peculiarly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly fitted to stand the action of water or exposure to those tests which usually affect and disintegrate the common free stone.
Specimens of the Stone may be seen at Messrs FOOLE & SONS, Marble and Stone Works, Great Smith street, Westminster, S.W.; and in the Museum of Practical Geology, Jermyn street, Nos 311 and 312, Case V., and any quantity may be obtained of Messrs. KNIGHT & SON, Bacon Wharf, Millwall, London, or direct from the Tisbury Quarries.
Orders for Worked Stone carefully executed at the Quarries. Samples forwarded, and any other information may be obtained of Mr. T. F. LILLY, Gillingham, Dorset.

MARKET WHARF, REGENT'S PARK
BASIN WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods. SCOTT & WOOD invite the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

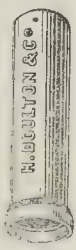
RANSOME'S IMPERISHABLE SILICEOUS STONE
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes
For estimates and priced illustrations and inspection of stock apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich.

GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Reedding in all its branches to the trade. 2 inch Gilt Beads, 7s per dozen 6 feet lengths; best ditto, 12s.
G. REES, 57, DRURY LANE,
Four Doors from Drury-lane Theatre. Established in 1800.

TO ARCHITECTS, BUILDERS, and DECORATORS.—Cast Work, Centre Flowers, Shop Front Trusses, Capitals, and every description of Ornament for internal and external decorations, executed in Plaster, Carton Pierre Composition, and every kind of Cement, at reduced prices, by W. & E. HERBERT (Sons of the late John Herbert, of Parker-street, Drury-lane), Modellers, 247, Euston-road, St. Pancras.

DOULTON & WATTS,
LAMBETH POTTERY, LONDON.
3s. 9d.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.
The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.
The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
Be particular to order the
3s. 9d. Enamelled Stoneware Closet and Trap.



HENRY DOULTON & CO.'S
GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.
Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.
PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.
The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.
HENRY DOULTON & CO.
High-street Lambeth. London.

ENCOURAGE COUNTRY MANUFACTURE.
WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS
MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.
M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.

PUMPS
OF ALL
DESCRIPTIONS.
WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.
PORTABLE STEAM-ENGINES FOR HIRE OR SALE
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

ARMANI AND CO.
IMPORTERS DIRECT FROM THE MINES OF
PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,
LONDON, SEYSSEL ASPHALTE, PARIS,
AND BY H.M.'S ROYAL LETTERS PATENT,
MANUFACTURERS OF
1851. METALLIC LAVA. 1844.
FOR PRICE AND PARTICULARS APPLY AT THE
OFFICE, 6, GUILDHALL-CHAMBERS,
BASINGHALL-STREET.
MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effectual non-conductor.
INODOROUS FELT, for lining walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

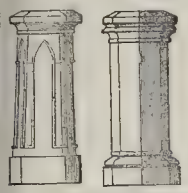
JAMES STIFF & SONS,

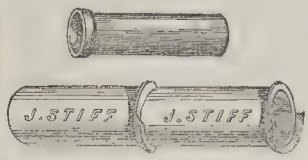
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

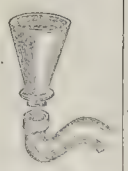
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs GLADDISH'S, Pedlar's-acre, Lambeth; Docksted Wharf, Bermondsey, Pratt Wharf, Camden town.
Messrs BLACKMORE & SON'S City FLWharf, City Basin
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danvers Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

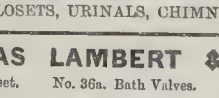
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED

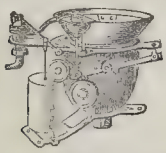


SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

THOMAS LAMBERT & SON,

No. 57. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



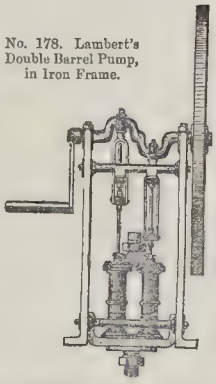
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

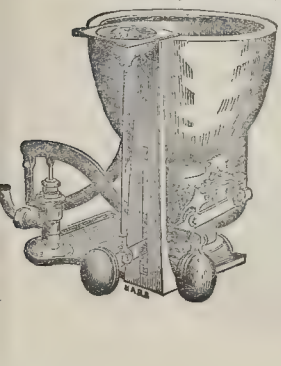
SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

HAYWARD TYLER & CO.

ENGINEERS AND BRASSFOUNDERS,

84 AND 85, UPPER WHITECROSS STREET, LONDON, E.C.



HOWARD'S PATENT

REGULATING VALVE,

MANUFACTURED BY H. T. & CO.

Has been fixed in every situation, and proved to be

THE ONLY EFFICIENT VALVE

FOR

SUPPLYING CLOSETS WITH WATER WITHOUT THE COMPLICATED ARRANGEMENT OF CRANKS AND WIRES.

The "Great Eastern" has been fitted with these Closets, and hundreds are now in operation in many large establishments in the metropolis.

H. T. & Co. solicit an inspection at the Manufactory, where they may be seen in operation.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

Sole Agent for Birmingham:

R. BROWN, 95, PRITCHETT ST.

TERRA-COTTA VASES, STATUES,

TAZZÆ, &c.—The nobility, gentry, and architects are respectfully informed that JOHN M BLASHFIELD has REMOVED his Establishment from Praed street, Paddington, to a New Gallery at No 15, GREAT MARLBOROUGH STREET, W where specimens of Terra Cotta Works of Art may be seen, and orders for London should now be addressed. Orders for the country and applications for estimates for new designs should be sent direct to the Terra-Cotta Works, Stamford, Lincolnshire

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield street North, City-road Basin, N. Thirdly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and thirdly, that the "Reports of the Juries," page 881, of the Great Exhibition, as to the grant of a First-class Medal, and rank the Manufactories as "now as long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
„ 8-inch Pavings, at 37s. 6d. per 1,000.
„ Kiln Bricks, at 36s. per 1 000.
„ Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

IMPERISHABLE TESSELATED PAVEMENTS,

combining a highly decorative and economical substitute for ordinary floors of their perishable coverings MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall passage, conservatory, verandah, frieze, &c will be sent on application to Benthal Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

MINTON & CO.

HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,

TO 50, CONDUIT STREET, REGENT STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

FAIENCE WARE AND PLAIN TILES.

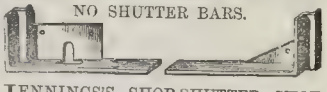
DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT

TERRA COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769 and the recipient of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishment, suitable for the Palace, Mansion, or Cottage, which will be found to be unrivalled in price, quality, and durability; and the Works of this Establishment have stood the test of time

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.



NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE.

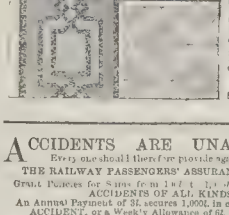
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops retired to in every principal street in London.

When ordering the above send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depot, Holland street, Blackfriars-road.



SOLID PARQUET FLOORS,

ARROW-SMITH'S PATENTED,

From 1s. per foot, in various woods, inch thick, grooved, ogged, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 80, New Bond street, W.

ACCIDENTS ARE UNAVOIDABLE.

Every one should therefore provide against them.

THE RAILWAY PASSENGERS' ASSURANCE COMPANY

Grant Policies for Sums from 100 to 1,000 for assuring against ACCIDENTS OF ALL KINDS.

An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.

Apply for Forms of Proposal, and Information to the PROVINCIAL AGENTS the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64 CORNHILL, LONDON, E.C.

1,247,317 have been paid by this Company as COMPENSATION for 56 Fatal Cases, and 5 041 Cases of Personal Injury.

The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS

Empowered by Special Act of Parliament, 1849.

64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

SALES BY AUCTION.

WALWORTH BUILDING MATERIALS of EIGHTEEN HOUSES, 1 Glass-range of Glass-shelving, Scaffolding, &c.

MR. PULLEN, HORNE, & EVERSFIELD are instructed by the Workmen's Company of Bricklayers to SELL by AUCTION on the PREMISES, on TUESDAY, JANUARY 21st, and THURSDAY, JANUARY 23rd, at TWELVE o'clock, all the excellent BUILDING MATERIALS, FIXTURES, and FITTINGS of EIGHTEEN HOUSES, in Bath-street, Walworth-road, comprising about 500,000 stock bricks, 90 pieces of slating, 3 squares of flooring, 3 open tanks, stout rafters, joists, girders, and other excellent timber; 200 squares of boarded floors, 500 pairs of glazed sashes, large assortment of doors, partitions, mantels, and all the usual requisites for the trade; also the Fixtures, in 3 bath-rooms, 3 sets of kitchen-fittings, 3 cisterns, 3 hot-water boilers, 3 ranges, the Pulling-down of about 1,000 superficial feet of garden walls; lead gutters and pipes, cisterns, stoves, ranges, coppers, and numerous other lots. May be viewed the day previous, Catalogues had of the Auctioneers, 54, Parliament-street, Westminster, S.W.

LLOYD'S MARBLE WHARF, PIMLICO.—TO SCULPTORS, MASONS, AND OTHERS.

MESSRS. PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. F. Lloyd & Co. to SELL by AUCTION, on the PREMISES, a large Varied-all Rough, Dressed, and Finished, Stock, on WEDNESDAY, JANUARY 22, at ELEVEN for TWELVE, about 150 blocks of MARBLE, consisting of statuary, white, Sicilian, sculpture, black, and gold, Belgian, Serravezza, and Mexican, and Vert-Vert; also about 20,000 feet of SLAB, of nearly all the above varieties. Lithographed Lists may be had of the Auctioneers, 54, Parliament-street, Westminster, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

LONDON, CHATHAM, and DOVER RAILWAY METROPOLITAN EXTENSION.—Fourth Portion Clearance Sale. Building Materials of about Twelve Houses, Wrought Iron Girders, &c.

MESSRS. PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, JANUARY 24, the whole of the BUILDING MATERIALS taken in TWENTY-FIVE MODERN HOUSES, situate in Lower Wilton-road, Maze-pond, Arthur-street, and Hamilton-road, Walworth-road; comprising useful brickwork, slated roofs, excellent timber and flooring-boards, sashes, doors, chimney-pieces, lead gutters, stoves, ranges, and a great variety of interior fittings of a better description. May be viewed the day previous, and catalogues had at Mr. VIGERS'S Offices, 3, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

TO BUILDERS AND OTHERS. Extensive Sale of the Second Portion of Sash Timber and Fittings of Seventeen Houses taken up Also the Materials of a Mansion taken down in the Park, and removed; and several large, handsome Pairs of Sashes and Frames, and other Fittings, removed from some extensive alterations at Windsor Castle.

MR. F. HALL & SON will SELL by AUCTION, on FRIDAY next, JANUARY 24th, at TWELVE o'clock, on the PREMISES, opposite the Turnpike, Kingsland-street, Westminster, three Assortments of MATERIALS, comprising about 800 moulded, panelled, cabin, and other doors; 80 pairs of sashes and frames; several pair of lofty sashes and frames, suitable for a chapel or concert-room; handsome stained glass windows; pair of Venetian sashes and frames, with silvered glass; folding-doors; plate glass doors; capital long joists; 5,000 feet of clean flooring and lining boards and battens; 50 feet of rubbers and quarter-bed; cast-iron balusters, handrail, 90 feets of cable drawers, and wash-stands; two very excellent range orders and fronts, nearly all complete; oak plank, and other effects—May be viewed, and catalogues had, on the Premises; and of the Auctioneers, Kensington, S.

FLEET-STREET, in the City of London.—First-class Freehold Property.

MESSRS. BEADEL & SONS have been favoured with instructions TO SELL by AUCTION, at the MART, Bartholomew-lane, on TUESDAY, the 28th day of JANUARY, 1862, at TWELVE for ONE, in one lot, the important SHOP PREMISES, situate and No. 78, Fleet-street, in the City of London, in the occupation of Mr. Edward Hall, as a glass and china dealer. The premises have a frontage of 21 feet 6 inches, and a depth of about 35 feet. The front is of an elaborate design, and has superb sheets of plate-glass to the ground floor, and is now in the occupation of Mr. Hall. The basement is a part of the warehouse of the shop, and is on the same floor as the level between floor and ceiling. There are three floors above the shop, and a basement beneath. The situation of the property for business purposes is almost without parallel, being in the heart of one of the greatest city thoroughfares. Particulars, with conditions of sale may be obtained of Messrs. BIRCH, INGRAM, & WHATELY, Solicitors, 68, Lincoln's-inn-fields, W.C.; at the Auction Mart; and of Messrs. BEADEL & SONS, No. 25, Gresham-street, E.C.

ISLE of WIGHT, Cowes and Newport Railway.—To Contractors for Works, Brickmakers, and Others.

MESSRS. FRANCIS PITTIS & SON will SELL by AUCTION, in a FIELD close to the Terminus, at West Cowes, on TUESDAY, the 21st of JANUARY, 1862, at TWELVE o'clock, the CONTRACTOR'S PLANT now forming in the above railway: comprising forty-five railway waggons, three pile engines, three carts, one timber-truck, barrows, planks, a few tons of rails, sleepers, bolts, spikes, fish-plates, pumps, hand-cranes, new tackle, fencing-posts and rails, tile-machine, hack-covers, 50,000 bricks, 20 tons of timber, forges and tools, glass slates, timber, four cart-horses, harness, pony and chaise, &c. &c.—Catalogues of FRANCIS PITTIS & SON, Auctioneers, Newport.

TO IRONFOUNDERS, ENGINEERS, MILLWRIGHTS, and OTHERS. About 50 Tons required to find, being a further portion of the Salvage from the Great Fire in Tooley-street. Also a quantity of Old Oak and Fir Timber

MR. PEAKE is favoured with instructions from Messrs. to SELL the same at wharf prices, to SELL by AUCTION, on their premises, Oak's-yard, at the Dock Wharfs, on TUESDAY, JANUARY 21st, 1862, at TWELVE for ONE, a valuable and special consignment of the remainder quantity of CASTIRONS, partly screw-cut, but a great portion of them only slightly damaged at the late fire. It consists of numerous iron condensers, cups and bases, ornamental work, brackets, racks, barrels, girder-shoes, cog, trunk, and other wheels, strong chains; also a great quantity of useful iron in various shapes, adapted for and used in the erection of warehouses—May be viewed two days prior and morning of sale, and catalogues obtained of Messrs. SPOOKS & STOCK, Architects, Duke-street, London Bridge; and at Mr. PEAKE'S Offices, 44, Tooley-street, Southwark, E.C.

BANKRUPTCY WORKS.—Riverside Builder's Yard, with Handsome Residence and Property attached, situate Nos. 23 and 30, Chelsea walk, corner of Cadogan-pier, Chelsea.

MR. FRED. GODWIN will SELL by AUCTION, at the MART, on TUESDAY, JANUARY 28, at ONE, by order of the Mortgagees, the LEASE, for 97 years, direct from the Crown, of 3,200 ground rood, of the Frontage, No. 30, Chelsea walk, and the spacious premises, comprising large yard, and new timber pits, carpenters' painters', and other shops, stabling, counting-house, recently erected, &c. Also, the workmen's Shed and House, No. 29, Cheyne walk, let at 10s. per week. And You are a bad, the will be sold with several Portions of the Freehold Property, and that of Mr. DRAKE & WILKINSON, 151, Bermondsey-street, Southwark; at the Pier Hotel, Cadogan-pier; and of Mr. GODWIN, 3, Halkin-terrace, Belgrave-road, S.W.

VALUABLE BUILDING MATERIALS, taken down for public improvements.

MR. C. F. SMYRK will SELL by AUCTION, at the PREMISES, Grace-lane, and Wellington-street, Camberwell, on MONDAY, JANUARY 20, at TWELVE for ONE, about 200 lots of superior MATERIALS of every description; including modern fittings, iron railing, 9 valuable passage, dressers and shelves, stoves and ranges, &c.—Catalogues on the premises; or at Mr. SMYRK'S Offices, 109, Fleet-street, City; or forwarded.

TO BUILDERS, IRONMONGERS, SMITHS AND OTHERS

MESSRS. FULLER & HORSEY are instructed by the Trustees to SELL by AUCTION, on MONDAY, FEBRUARY 3rd, and following day, on the PREMISES, No. 247, Tottenham-court-road, and Bull Head yard, Crown-street, St. Giles's, the WORKMANSHIP, PLANT, IMPLEMENTS IN TRADE of a retiring Builder: Mahogany presses, 4 feet by 7 and 5 feet by 8 feet, town cart and springs, useful horse, harness, stable utensils, and numerous other effects. To view, the SATURDAY previous, 11 o'clock, when catalogues may be had on the premises; or, previously, of JAMES McGREGOR, Esq. Solicitor, Sussex-place; and of Messrs. FULLER & HORSEY, Auctioneers, London, E.C.

TO TIMBER MERCHANTS, CABINET MAKERS, BUILDERS, AND OTHERS

MESSRS. THOMAS EDWARDS & SON will SELL by AUCTION, without reserve, on TUESDAY, 21st JANUARY, 1862, and following day, at TEN for ELEVEN o'clock precisely, by order of the Executors of the late Mr. William Cook, on the PREMISES, No. 118, Curtain-road, Shoreditch, the entire stock of well-SEASONED STOCK IN TRADE, consisting of 200 feet Builders' mahogany, 250 feet of ditto mahogany, 1,000 feet cedar, in logs, planks, and boards; also walnut, mahogany, and rosewood veneers; 600 dry pine planks (both white and yellow), quantities of rosewood, American black walnut, Italian walnut, and other woods; useful horse, van, cart, harness, truck; patent chaff cutting machine, iron safe, and other effects. To view two days previous, and on the morning of Sale. Catalogues may be had on the Premises, of Messrs. ROSCOE & HINCKES, Solicitors, 14, King-street, Finsbury square; and of the Auctioneers, 15, Pinners' Hall, Old Broad-street, E.C.

GOUGH STREET and PHŒNIX PLACE, near GRAY'S INN LANE.—Valuable Mahogany, Rosewood Materials, Horses and Carts, of a Pickford and Contractor, to Quit the Premises, the greater portion being left for another sale next.

MR. JOHN WALLEN is instructed by the Proprietors (who have concentrated their London business at their old premises, which they have extended), to SELL by AUCTION, on the PREMISES as above on THURSDAY, JAN. 23rd, and following day, at ELEVEN, valuable MACHINERY; consisting of a rack saw-bench, by Horne; a vertical frame deal saw, by Parsons; a circular saw table, by Chambers; a large and powerful mortice mill, by Garforth, and a jug mill, by Norton & Borrie; Gwynne's centrifugal pump, leading main shafting, two cast-iron 4-inch pipe-to-carts, three dobbin carts, twelve painters' stages, stone, & marble bath, a quantity of wheeling planks, numerous step ladders, metal and other sashes, casks, keys in full boats and barrels, about 1,000 feet of iron piping, rolling, steel and other, straps, deal bay racks, stoves, &c.; a variety of other new and old materials, and a large quantity of firewood. To be viewed two days before the sale. Catalogues had on the Premises; and of Mr. JOHN WALLEN, No. 65, Old Broad-street, E.C.

CHARING CROSS RAILWAY.—Building Materials. Twelfth Clearance Sale

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is instructed by the Directors, to SELL by AUCTION, on the PREMISES, on the 29th day of JANUARY next at ONE o'clock precisely, the valuable sound MATERIALS of the SOUTH-EASTERN RAILWAY, comprising capital stock brickwork, excellent plate glass of halved-sized squares, sashes, and frames, in fine condition, and timber, joists, and floors, doors and frames, lead pipes, and a variety of useful fixtures and fittings. May be viewed the day previous to sale, and Catalogues then obtained of Mr. MARSH, Charlotte-row, Mansion-house; of Messrs. WILLIS & HARROW, Land Surveyors, West Malling, Kent, Surrey, and Alton, Hants; and of Mr. EDWARD RYDE, Surveyor to the Company, at the Offices, in the South-Eastern Railway Terminus, London Bridge.

N.B. The arcade having been so recently erected, regardless of expense, the Auctioneers have great confidence in recommending these materials to the attention of the trade generally, and especially to such as who may be fitting up trade or business premises.

HACKNEY.—TO BUILDERS AND OTHERS. Valuable BUILDING LAND and Five Unfinished RESIDENCES.

MR. MARSH will SELL by AUCTION, at the MART, on THURSDAY, Next, JANUARY 23rd, at ONE o'clock punctually, a valuable BUILDING LAND, presenting unusual frontages to the Stanley and Napier Roads, and Lower Clapton-road, within five minutes' walk of the North London Railway station, also FIVE UNFINISHED RESIDENCES, adjoining, proposed to be finished and let, or sold subject to the ground-rents, which are fully secured and let, or sold subject to those rents amounting to £67 per annum, and held upon a building agreement and two leases from the Governors of St. Thomas's Hospital, one for 99 years, from June 24th, 1859, at moderate ground rents—May be viewed, and particulars of sale obtained, at the Mart; of E. G. WRIGHT, Esq. Solicitor, 23, Southampton-street, Bloomsbury; and at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion House.

WALTHAMSTOW.—TO BUILDING SOCIETIES AND OTHERS.

MR. MARSH will SELL by AUCTION, at the MART, on THURSDAY next, JANUARY 23, at ONE punctually, a valuable ENCLOSURE of FREEHOLD MEADOW LAND, containing 4a. 3r. 30p., known as Hale-end Meadow, and Hale-end, Walthamstow, Essex, on the high road from Woodford to Chingford, and late in Epping Forest, possessing an important and extensive frontage to the same road, admirably adapted for the erection of villa residences, which, from the facilities now afforded by railway communication, are in much demand in this locality.—Particulars of sale, with plans attached, may be obtained of Messrs. LUCAS & SHOWLER, Solicitors, Trinity-place, Charing-cross: and at Mr. MARSH'S Office, 2, Charlotte-row, Mansion House.

MUSWELL-HILL, NEAR THE ARCHWAY-ROAD, AT HIGH DATE.

MR. MARSH will SELL by AUCTION, at the MART, on THURSDAY next, JANUARY 23, at ONE punctually, a valuable ENCLOSURE of FREEHOLD ACCOMMODATION PASTURE LAND, containing 3a. 3r. 30p., known as Bull Meadow, and a crate near the Woolwich Inn, At Lane's-end, close to the road from Highgate to Muswell-hill; let to Mr. Rimpton at a rental of 4l. 4s. per annum. Particulars of sale may be obtained at the Woolwich Inn; of Messrs. BISCHOFF, COXE, & BOMPAS, Solicitors, Coleman-street; and at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion-house

MUSWELL-HILL.—FREEHOLD BUILDING LAND

MR. MARSH will SELL by AUCTION, at the MART, on THURSDAY next, JANUARY 23, at ONE punctually, in one lot, TWO capital PLOTS of valuable FREEHOLD BUILDING LAND, most eligibly situate at Muswell-hill, and offering excellent sites for the erection of Villa Residences. Particulars of sale may be obtained at the Mart; and at Mr. MARSH'S Offices, Charlotte-row, Mansion-house.

TO TIMBER MERCHANTS, CABINET MAKERS, &c.—Extensive Sale of fine Beech Timber, Ashampstead, Berks.

MR. W. BROWN is favoured with instructions from John Hopkins, esq. to SELL by AUCTION, at the GEORGE INN, PANGBOURNE, on TUESDAY, the 21st JANUARY, 1862, at ONE for TWO o'clock precisely, in suitable Lots, about SEVEN HUNDRED prime MAIDEN BEECH TREES, of large dimensions with fine top and limbs, standing in Hopkins's and Lovegrove's Beech Row, Ashampstead. The attention of Timber dealers is particularly drawn to this first class lot of timber. The trees are principally straight grown, and many of them from 60 feet to 70 feet and a half to two loads, and the quality is well known as remarkably sound, clean, and free grained. The timber is well situated for removal, being close to the main road leading to Pangbourne, from which it is only four miles distant, where is conveyance by road, river, or rail, to all parts of England. Every facility will be given to approved parties as to payment of a deposit. John Bunce, the woodman, of Ashampstead, will show the timber.—Catalogues may be had of the Woodman; at the New Inn, Ashampstead; at the George, Pangbourne; Angel, Basingstoke; Crown, Marlow; Bear, Maidenhead; Wheel, Henley; at the Offices of the Auctioneer, 174, Friar street, Reading; or forwarded by post on application.

Under a Bill of Sale. BERMONDSEY.—17,000 Pieces of PAPER HANGINGS, Eight Tons of White Lead, and Colours.

MR. H. KEMP will SELL by AUCTION, at the FACTORY, Rye Corner, Bermondsey, on MONDAY, at ONE, without reserve, a large stock of PAPER-HANGINGS in flocks, gilt satins, Sienna and Scagliola borders, gilt bronze oaks, oblongs, Damask, and copies of various designs; also 8 tons of WHITE LEAD and DRYERS VARNISH, and Effects.—Viewed morning of sale, and Catalogues had at the Factory, and Auctioneer's Office, 27, Colman-street, E.C.

DESIGNS and ESTIMATES for STEAM MACHINERY and IRONWORK of every description.—Mr. SOAMES, Consulting Engineer, 153, London-hill street (late of Meriden Iron Works).

BUILDERS, CONTRACTORS, and OTHERS, requiring Designs, Working Drawings, Specifications, Surveys, &c. on moderate terms, can meet with a gentleman of large experience by addressing A. B. C. Mr. Ingram, News-office, 58, Charles-street, Westminster

T. PETTITT & CO. LITHOGRAPHERS and GENERAL PRINTERS, Frith-street, Soho square, W. beg to inform Surveyors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary speed and accuracy, and most respectfully solicit a trial. A scale of charges and specimens submitted on application.

To Surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West-end, must be evident from the great convenience it may afford where despatch is required.

Working Drawings and Estate Plans carefully drawn and printed.

Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, this qualifies us thus to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.

Specimens of Writing and scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.

Lithographers, &c. 5, Ave Maria-lane, E.C.

THE ARCHITECTS', BUILDERS', CIVIL ENGINEERS', and MECHANICAL DRAWING CLASSES.—Offices, 76, Old-street, E.C.—Day Classes, conducted by Mr. T. J. HILL.—Terms, 3l. 3s. per quarter; Evening Classes, by W. J. W. YOUNG.—Terms, 1l. 1s. per quarter. These Classes are now open for 1862, every day and evening, except Saturday. Quarters may be taken at date of entering. Subjects taught:—Architectural, Mechanical, Ornamental, and Perspective Drawing, Working, Detail, and Colour Drawing, Taking out Quantities, &c. Prospectuses free.

CIVIL ENGINEERING, ARCHITECTURE, and SURVEYING.—Mr. WINDER, 18, Abingdon-street, Westminster, continues to execute DESIGNS, take out Quantities, and make Valuations for Public Companies, and all Works in the above professions, at moderate charges, and with accuracy and despatch.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs HYDE, SMITH, & LEWIS, Architects, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras. 24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, Two Guineas per Quarter, Five Shillings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street London. ROBERT M. LATHAM, Secretary.

DRAWING MODELS.—J. D. HARDING'S, complete in hard wood, 11. 11s. 6d.—WINSOR & NEWTON, 38, Rathbone place, London, and all Artists' Colourmen.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VICE-PRESIDENT of WORKS to the Institution.—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many hundreds and other persons have lately examined it, and there is not the least apparent difference since the first being down, now several years, and I am informed that it is to be generally used in the houses that are being erected here."

NB. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on the Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON

GAS COMPANIES, GASFITTERS, AND PLUMBERS CAN BE SUPPLIED WITH

SCOTT'S NEW PATENT LEATHER-WASHERS, for union-joints, high-pressure water-taps, and screw-joints in general, at 3s. per thousand, in ½, ¾, ⅞, ½, and 1 inch sizes.—A "time is money" saving, highly commended, the Patentee remarks that a considerable saving is ensured by having WASHERS ALWAYS AT HAND, ready cut, in every size, and sorted thicknesses, ensuring an exact fit without any TRIMMING after.—Manufactured only by the Patent S. L. B. Company, Worcester, and supplied to the Trade by all Wholesale Factors and Warehouses.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY. FURNITURE, HOUSEHOLD and OFFICE. WINE and SPIRIT WARRANTS. SHARES, DEBENTURES, &c. BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Balance-sheets Prepared, and Matters of Creditors Convened. Mr. RICHARD CROSLEY, ACCOUNTANT and BUSINESS AGENT 17, Mountgate-street, Bank, London.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, January 18, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

E. DUNNING, Sc.

VOL. XX.—No. 990. JANUARY 25, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

London on the Thames: East of Blackfriars-bridge,—the North Bank.—From the Adelphi to Waterloo-bridge.—Remains of the Savoy Palace.—A Steep Road from the River to the Strand.—Thames Bank Architecture,—a near View.—From Hungerford-bridge towards Lambeth,—the South Bank 61

Pulpit, Wrotham Church, Kent.—Messrs. Newman & Billing, Architects 60

CONTENTS.

Progress of the Metropolitan Main Drainage: the Works North of the River 53

On the Essentials of a Healthy Dwelling, and the Extension of its Benefits to the Labouring Population 55

Professor S. Smirke's Lectures on Architecture at the Royal Academy: Lecture I. 57

Sanitary Movements 58

The Excessive Loss of Lives in British Mines: the Accident in Northumberland 59

The Sanitary State of Windsor 60

Pulpit, Wrotham Church, Kent 60

London on the Thames.—The Desired Embankments 62

On the Present Aspect of the Fine and Decorative Arts in Italy, with especial reference to the recent Exhibition in Florence .. 62

Royal Institute of British Architects 64

Proposed Competition for the Completion of the Duomo of Florence 65

Competition Designs for the Houses of Parliament, Sydney 65

The Architectural Association 66

Archæological Institute 66

Proposed Memorials of the Prince Consort 66

The Lewis 67

Metropolitan Board of Works.—London, Chatham, and Dover Railway Station, in Blackfriars-road 67

Edenbridge Church 67

Analysis of the Designs for Blackfriars-bridge 67

Spontaneous Combustion 67

Books received: Smith's Diagrams; Variorum 67

Miscellanea 68

THE BUILDERS' BALL, in AID of the

FUNDS of the BUILDERS' BENEVOLENT INSTITUTION, under the special Patronage of the Right Hon. the LORD MAYOR and the LADY MAYORESS, will be held at Willis's Rooms, St. James's, on THURSDAY, 20th FEBRUARY next.

COMMITTEE OF MANAGEMENT.

Mr Stanley G. Bird.
Mr. T. Cozens.
Mr. J. Chapman.
Mr. C. Fish.
Mr. W. Hutchens.
Mr. T. G. Howard.
Mr. J. Morris.
Mr. D. Nicholson.
Mr. G. Plucknett (Treasurer).
Mr. C. T. Stirling.
Mr. J. Thorn.
Mr. W. Todd, jun.

STEWARDS.

Mr. W. Lee, M.P.
Mr. T. Abbott, jun.
Mr. H. D. Austin.
Mr. G. Bean.
Mr. J. Bird.
Mr. G. Bell.
Mr. F. Bacon.
Mr. T. E. Bolding.
Mr. M. Cole.
Messrs. Collins & Stanbury.
Mr. S. Cuming.
Mr. W. Dunnage.
Mr. W. R. Dunnage.
Mr. W. Ellis.
Mr. W. L. Edwards.
Mr. C. Formby.
Mr. Alderman Lawrence.
Mr. B. J. Green.
Mr. W. Horner.
Mr. S. Honeywill.
Mr. W. Harrap.
Mr. R. J. Hickman.
Mr. M. Hall.
Mr. G. Jennings.
Mr. W. H. Jackson.
Mr. John Jay.
Messrs. Lucas, Brothers.
Mr. J. Long.
Mr. G. Myers.
Mr. J. C. Notley.
Mr. E. L. Price.
Mr. W. Phillips, jun.
Mr. Alderman W. A. Rose.
Mr. A. A. Robinson.
Mr. C. Richardson.
Mr. R. Rice Richardson.
Mr. W. R. Rogers.
Mr. T. Robinson.
Mr. W. Stirling.
Mr. G Spencer Smith.
Mr. R. Scace.
Mr. Alfred Smith.
Mr. C. D. Sewell.
Mr. R. Thomas.
Mr. L. Trickett.
Mr. W. Wood.

Gentlemen desirous of promoting the interests of the Institution by becoming Stewards, will please forward their names to the Hon. Sec. Mr. JOSEPH BIRD, 10, Silver-cottages, Regent's Park; or at the Offices, 23, Southampton-street, Bloomsbury. Double Ticket, 21s.; Lady's ditto, 8s.; and Gentleman's, 14s. Refreshments included.

January 24th, 1862.

ARCHITECTURAL ASSOCIATION.—

Members are hereby informed, that the ARCHITECTURAL ASSOCIATION will meet at the Goods Department of the Great Western Railway, to VIEW the WORKS of the UNDERGROUND RAILWAY, on SATURDAY, the 25th Instant, at THREE o'clock precisely.

ARTHUR SMITH, } Hon. Secs.
C. J. ADAMS, }

THE ARCHITECTURAL MUSEUM,

South Kensington Museum, W.—SUBSCRIBERS, and all interested in the progress of the ARTIST WORKMAN, are invited to inspect the Specimens of Stone and Wood Carving and Coloured Decoration sent in competition for the PRIZES offered by the Council of the Architectural Museum, and now exhibited in the Gallery. Due notice of the award and of the presentation of the prizes will be given.—The Museum will be closed on WEDNESDAY evenings until further notice, and will be open on SATURDAY evenings instead.

J. J. R. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Secretary.

13, Stratford-place, W.

GEOLOGY.—KING'S COLLEGE, London.

Professor TENNANT, F.G.S. will commence a COURSE of LECTURES on GEOLOGY, on FRIDAY MORNING, JANUARY 24th, at NINE o'clock. They will be continued on each succeeding WEDNESDAY and FRIDAY, at the same hour. Fee, £1 15s. 6d.

R. W. JELF, D.D. Principal.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—

NOTICE to BUILDERS.—TENDERS are required for WORKS to be done in CONSTRUCTING SCHOOLMASTER'S QUARTERS, at Arbour-hill, Dublin.

Parties desiring to Tender for the above Work must leave their names at the District Royal Engineer's Office, Lower Castle-yard, Dublin; or at the Royal Engineer's Office, Royal Barracks, on or before TUESDAY, the 4th day of FEBRUARY, 1862, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

Office of Commanding Royal Engineer in Ireland,
Dublin Castle, 22nd January, 1862.

WAR DEPARTMENT CONTRACT.—

NOTICE to BUILDERS.—TENDERS are required for WORKS to be done in CONSTRUCTING a RIDING SCHOOL, at Island Bridge Barracks, Dublin.

Parties desiring to Tender for the above work must leave their names at the District Royal Engineer's Office, Lower Castle-yard, Dublin, or at the Royal Engineer Office, Island Bridge Barracks, on or before SATURDAY, the 8th day of FEBRUARY, 1862, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

Office of Commanding Royal Engineer in Ireland,
Dublin Castle, 22nd January, 1862.

NOTICE to BUILDERS.—TENDERS are

required by the Directors of the Temperance Permanent Land and Building Society, for the COMPLETION of FIVE HOUSES at St. John's-wood. Persons desirous of Tendering may see the Plans and Specifications, and obtain further information, at the Offices of the Society, between TEN A.M. and FOUR P.M. on and after MONDAY, 27th. Tenders are to be delivered or sent to the secretary of the Society, at or before FOUR o'clock, on TUESDAY, FEBRUARY 4, sealed, and endorsed "Tenders for Houses at St. John's-wood." References and security may be required, and the lowest, or any Tender, will not necessarily be accepted.

HENRY J. PHILLIPS, Secretary.

Offices, 34, Moorgate-street.

P.S.—The Directors of this Society will shortly require Tenders for erecting several more Cottages on their Estate at Stratford. Plans and Specifications are in course of preparation.

TO IRONMONGERS and IRON-

FOUNDERS.—The Peterborough Cemetery Commissioners will CONTRACT for Cast-Iron PALISADES, 4½ feet high, with two double-gates of the width of 10 feet at the entrance, and two side gates, 4 feet wide each, with locks and bolts complete, including fixing in the stone, pillars, and coping (which will be erected by the Commissioners), and two coats of red-lead and two coats of paint, of approved colour. The fixing is to be commenced on the 2nd day of JUNE next, and completed on the 6th day of JULY next, under the direction and to the satisfaction of Mr. JAMES RUDDLE, Local Surveyor, Peterborough, subject to the forfeiture of 1l. a day, as ascertained damages, for every day the same remains incomplete after that day. One half of the price to be paid on Mr. RUDDLE'S certificate, and the next on the 1st day of November next. Sealed Tenders, with drawings of the palisades and gates, and the names and addresses of two sureties for the performance of the Contract, to be sent to my Office, on or before MONDAY, the 3rd day of FEBRUARY next; but the Commissioners are not pledged to accept the lowest or any Tender. The Contract is to be prepared by me, and to be entered into and signed by both parties, and paid for in moieties. Further particulars may be obtained of Mr. RUDDLE, at his Office in Newtown, Peterborough.—By order,

NELSON WILKINSON, Clerk to the Commissioners.

January 7, 1862.

BOARD of WORKS, Whitechapel District.

A Meeting of this Board will be held on MONDAY, the 27th day of JANUARY, 1862, at SIX o'clock in the evening, at the Office, No. 15, Great Alie-street, Whitechapel, to receive TENDERS from persons willing to CONTRACT, for the period of one year, for the EXECUTION of the several PAVING WORKS connected with the district described in the specification or schedule of Contract prepared by direction of the Board, a copy of which, with the form of Tender, may be obtained at the Office of the Board upon payment of 1s., which sum will be returned to persons Tendering. All Tenders must be delivered at the Office of the Board before FOUR o'clock in the afternoon of the day of meeting; and any Tender which is not upon the printed forms prepared by the Board, and duly sealed by the person or persons Tendering, will be rejected. The Board do not bind themselves to accept the lowest or any Tender. Persons Tendering, or their representatives, are required to attend the Meeting of the Board.

ALFRED TURNER, Clerk to the Board.
15, Great Alie-street, Whitechapel, 14th January, 1862

TO BUILDERS.—CLIFFORD PRIORY,

HEREFORDSHIRE.—Persons desirous of CONTRACTING for the ERECTION and COMPLETION of a new RESIDENCE and OFFICES, for B. Haigh Allen, esq. at Clifford Priory, Herefordshire, within two miles of the market town of Hay, may inspect the plans and specifications, and obtain copies of the quantities and other information, by information at Clifford aforesaid, or at our Offices in Derby, any day after the 23rd instant (Sundays excepted). Tenders, according to form, to be sent free by post, addressed to us, on or before SATURDAY, the 1st day of FEBRUARY. It is to be understood that Mr. Allen does not pledge himself to accept the lowest Tender. The works are to be commenced immediately, and completed within the year if possible. Building stone may be obtained and quarried on the estate, free of charge. Two mail coaches pass each way daily through Clifford, from Hereford to Hay.

STEVENS & ROBINSON, Architects,
January 13th, 1862. 17, Tenant-street, Derby.

TO BUILDERS.—Persons desirous of

CONTRACTING for the ERECTION of a new HOUSE and Out offices at Stantonbury, near Wolverton, may see the plans and specifications, and obtain a bill of the quantities, at the Office of Mr. E. F. LAW, Architect, Northampton. Tenders to be delivered to the Architect on or before SATURDAY, the 8th day of FEBRUARY next, and endorsed. The lowest or any Tender will not necessarily be accepted.

E. F. LAW, Architect.
Northampton, January 20th, 1862.

CONTRACTS.

TO IRONFOUNDERS and PIPE-

MAKERS.—BIRKENHEAD WATERWORKS.—The Birkenhead Improvement Commissioners are ready to receive TENDERS for the DELIVERY of about 400 TONS of CAST-IRON PIPES, of 20 inches, 15 inches, and 12 inches diameter. Specifications and form of Tender may be obtained of Mr. BATEMAN, 16, Great George-street, Westminster, or at the Commissioners' Offices, Birkenhead.—By order,

AMBROSE WALN, Clerk of the Commissioners.

Birkenhead, 18th January, 1862

TO BUILDERS.—The Stockton and

Darlington Railway Company are prepared to receive TENDERS for the ERECTION of OFFICES in connection with the New Engine Works at Darlington. Plans and specifications can be seen from MONDAY, JANUARY 27, to WEDNESDAY, FEBRUARY 5, 1862, at the Company's Offices, Northgate, Darlington. Tenders are to be sent in on or before THURSDAY, FEBRUARY 6, 1862, addressed to the Secretary, at the Railway Offices, and endorsed "Tender for Offices." No pledge is given that the lowest or any Tender will be accepted.

THOS. MAC NAY, Secretary.

Railway Offices, Darlington, January 18th, 1862.

TO BUILDERS.—TENDERS are required

for certain ALTERATIONS and ADDITIONS to a HOUSE in the Regent's Park. Plans and specification may be seen at Mr. J. BELCHER'S Office, 5, Adelaide-place, London Bridge, any day, between the hours of TEN and FOUR, until the 1st of FEBRUARY instant.

BUILDERS willing to TENDER for

ERECTING HOUSES to the amount of about 3,000 guineas, close to a railway station nine miles from London, can inclose cards to C. at the Office of "The Builder." Cash as the works proceed.

CONTRACT for the SUPPLY of

BUILDING MATERIALS for CONVICT PRISONS.—Persons desirous of TENDERING for the SUPPLY of TIMBERS, Deals, Slates, Lime, Sand, Bricks, Lead, Glass, Wrought and Cast Iron, Ironmongery, Gas and Water Pipes, White Lead, Oils, &c. for twelve months, from the 1st of APRIL next to the 31st of MARCH, 1863, for the Pentonville, Millbank, Brixton, Portland, Portsmouth, Chatham, Dartmoor, Parkhurst, and Woking Prisons, and Bridge at Fulham, are requested to forward their Tenders (prepaid), addressed "The Directors of Convict Prisons, 45, Parliament-street, Westminster, S.W." on or before SATURDAY, the 1st of MARCH, 1862, at noon.—Forms of Tenders will be supplied on application at the several Prisons beforenamed, or at the Office of the Directors, 45, Parliament-street, on and after SATURDAY, the 25th of FEBRUARY, 1862.

45, Parliament-street, January 22, 1862.

TO STONEWARE MANUFACTURERS.

The Sandown Local Board of Health are prepared to receive TENDERS from persons willing to SUPPLY about 1,000 feet of 12-inch STONEWARE SOCKET PIPES, an about 1,100 feet of 9-inch ditto, with junctions and bends. The specification, with the conditions of contract, may be seen at the Office of the Surveyor to the Board, Mr. F. NEWMAN, 16, George-street, Ryde, on and after MONDAY, the 27th instant. Sealed Tenders to be delivered at my Office, at Sandown, by Noon, on FRIDAY, FEBRUARY 14th, and endorsed "Tender for Stoneware Pipes."

T. B. HALL, Clerk to the Local Board.

Sandown, Isle of Wight, January 21st, 1862.

TO BUILDERS.—The Burial Board for the

Townships of Whitby and Ruswarp, in the North Riding of the County of York is prepared to receive TENDERS for the various WORKS required in the ERECTION of TWO CHAPELS, Superintendent's House, Entrance Gates, and Iron Railing. The drawings, specifications, and conditions may be seen, and copies of the bills of quantities obtained, on application at our Office, on and after MONDAY, the 20th instant. Tenders sealed and endorsed will be received by us on or before WEDNESDAY, the 29th instant. Any further information may be had on application to the Architects, Messrs. PRICHETT & SON, York or Darlington.

STEPHENSON & SON, }
JOHN BUCHANAN, } Clerks to the said Board.

Whitby, January 16, 1862.

TO BUILDERS.—Persons desirous of

furnishing TENDERS for the ERECTION of a BANK at Oundle, Northamptonshire, for the Stamford, Spalding, and Boston Banking Company, can obtain particulars upon applying to Mr. WILLIAM EVE, Surveyor, 3, Union-court, Old Broad-street, E.C. Tenders will have to be sent in on or before the 7th day of FEBRUARY next. The Company do not bind themselves to accept the lowest or any of the Tenders.

HENRY McCALLA, C.E. Architect.

25, Westbourne place, Eaton-square.

TO CARPENTERS willing to TENDER

for the ERECTION of SHEDS and other BUILDINGS, to be constructed chiefly of Wood, can inspect the Drawings and specification at the Architect's Office, after TUESDAY, JANUARY 28th. The right is reserved of rejecting the lowest or any Tender, which are to be delivered FEBRUARY 3rd, FOUR o'clock punctual.

25, Westbourne place, Eaton-square.

TO BUILDERS.—DEVONPORT, STONE-

HOUSE, and CORNWALL HOSPITAL.—Persons desirous of TENDERING for the ERECTION of this Hospital at Devonport may inspect the drawings and specifications between the hours of TEN A.M. and FOUR P.M. at my Offices, Bank Chambers, Plymouth, until SATURDAY, the 22nd FEBRUARY, where TENDERS, sealed and endorsed "Tender for Hospital at Devonport," must be delivered not later than ELEVEN A.M. on MONDAY, the 24th FEBRUARY. The Trustees do not bind themselves to accept the lowest or any Tender.

ALFRED NORMAN, Architect.

Ker-street, Devonport, 20th January, 1862.

[For remainder of Contracts see next page.

CONTRACTS.

THE LOWESTOFT IMPROVEMENT ACT, 1854.—To CONTRACTORS for PUBLIC WORKS. The Commissioners, acting in execution of the above Act, do hereby give notice that they will meet at their Office, in the Town Hall, in Lowestoft, on MONDAY, the 10th day of FEBRUARY next, at the hour of ELEVEN in the forenoon, to receive and open sealed TENDERS from persons willing to contract with them for the AMENDMENT and RECONSTRUCTION of a TIMBER QUAY HEADING to part of the TOWN QUAY or WHARF, on the south side of Lowestoft Harbour, and other Works connected therewith, in completion of the present Quay Heading. Plans and Sections of the proposed Works, with Specifications and General Conditions, may be inspected at the said Office of the Town Surveyor, in the Town Hall, between the hours of TEN A.M. and TWO P.M. on and after SATURDAY the 18th day of JANUARY instant. All Tenders to be addressed to JAMES FITO, Esq., Chairman, and left at the Secretary's Office; and no Tender will be received after TWO P.M. of SATURDAY, the 8th day of FEBRUARY next. The Commissioners do not bind themselves to accept the lowest or any Tender. By order,

WM. R. SEAGO, the Clerk.

Commissioners' Office, High-street, Lowestoft,
16th January, 1862.

TO BUILDERS.

PERSONS desirous of TENDERING for the REBUILDING of the PRINCIPAL PORTION of WITHAM LODGE, in the county of Essex, can, by letter, name their approximation as may Offices at Chelmsford, after the 25th of JANUARY Quantities will be supplied to those builders who make application for same previous to the 31st INSTANT. No other Builders will be asked to Tender. The lowest or any Tender will not necessarily be accepted.—By order, FRED. CHANCELLOR, architect, &c. 25, Old Broad-street, London, and Chelmsford, Essex.

PERSONS willing to TENDER for PULLING DOWN some OLD BUILDINGS at Twickenham, and CLEARING the SITE for BUILDING PURPOSES, can obtain the specification at the Office of the Auctioneer, where power is reserved to reject the lowest or any Tender. Tenders to be delivered free of expense, WEDNESDAY, JANUARY 29th, 1862, by which day only. HENRY M'CALLA, C.E. Architect.

Office, 25, Westbourne place, Eaton-square.

WORKINGTON DOCKS. — To CONTRACTORS.—TENDERS are invited for the CONSTRUCTION of a WET DOCK for the Right Hon. Earl of Lonsdale, at Workington, in the County of Cumberland. Lithographed specifications and conditions may be obtained, and the drawings seen, on and after MONDAY, the 6th JANUARY, 1862, at the Offices of Messrs. LUMB & HOWSON, Solicitors, Whitehaven; or of Mr. A. M. HENDEL, C.E. 8, Great George-street, Westminster. Sealed Tenders, marked on the outside cover "Tender for Workington Dock," must be delivered to Messrs. LUMB & HOWSON, Solicitors, Whitehaven, on or before TUESDAY, the 28th inst. at TWELVE o'clock at noon. The Earl of Lonsdale does not bind himself to accept the lowest or any Tender.

8, Great George-street, Westminster, 1st January, 1862

CAPSTANS, New or Second-hand. WANTED, TENDERS for SIX, for BATHING MACHINES.—Address, R. HOWARD, 52, Albion-place, Gwell-street, London.

FOR CONTRACTORS' WAGGONS, DOBBIN CARTS, BARROWS, and RAILWAY PLANT, Apply to HUGHES & MARCH, Engineers and Timber Merchants, Falcon Works, Loughborough.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS, BUILDERS, and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-Iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

GAS BREEZE, put on board Barges in the River, and at the Regent Canal. For price and terms, apply to MEESON & CO. 5, George-yard, Lombard-street, E.C.

GILT BORDERING for ROOMS, from 1d. per Lot. Best and cheapest House in London for every description of Room Bordering, Pale or Frame Mouldings, and Portrait Frames of every description, at the very lowest prices. Regilding in all its branches to the trade. ¼-inch Gilt Beads, 7s. per dozen 6 feet lengths; best ditto, 12s.

G. REES, 57, DRURY LANE,

Four Doors from Drury-lane Theatre Established in 1830

TO ARCHITECTS, BUILDERS, and DECORATORS.—Cast Work, Centre Flowers, Trusses, Cornices, and every description of Ornament for Internal and External Decoration, in Fibrous Plaster, Carton Pierre Composition, and every kind of Cement, at reduced prices, by W. & E. HERBERT (Sons of the late J. H. Herbert, of Parker-street, Drury-lane), Modellers, 322, Euston-road, St Pancras.

TO CAPITALISTS or SURVEYORS.—A GENTLEMAN, with 3,000l. or 4,000l. at command, may hear of a favourable opportunity of realizing a large profit from investment in ground-rents in London. For further particulars application could be conducted personally. References exchanged.—Address, X. Y. Law Institution, Chancery-lane.

ARCHITECTURAL PHOTOGRAPHS at greatly reduced prices.—PENTON'S Views of Cities, Churches, and Public Buildings, also Portraits, Landscapes, Antiquities, Views in Rome, Tivoli, Italian Cottages, also the Principal Buildings in Tuscany, London, and Venice, 2s. 6d. to 5s. each. T. H. GLADWELL, Importer of Foreign Photographs, 21, Gracechurch-street, London, E.C.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOOTWAYS OF LONDON STONES. CARY & PRIER, DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.

H. PIGGOTT,

89, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, "as made by E. GOUGH & CO." (Patent protected and laid exclusively by them at the Houses of Parliament, and Palaces in other parts of the kingdom), and recommended for all kinds of offices, counters, shops, halls, passages, and lobbies, where warm, noiseless, dry, and neat floor is required. GOUGH & BOYCE, 12, Rosebery, Cannon street. Manufactory: Greenwich road.

DREDGER TO LET.—A DREDGING BOAT, in excellent repair, fitted with Machinery, combining all the latest improvements; will dredge 3 feet deep, and is well calculated for River-work; width does not exceed 11 feet; draught of water, 3 feet. Now lying at Peterborough, and may be seen by applying to Mr. WILLIAM READ, Boat builder, of that place.—For further particulars, inquire of Mr. GEORGE SIDDONS, Oundle.

HAY'S PATENT WATERPROOF GLUE is patented by Mr. HAY, Admiralty Contract at the Royal Naval Dockyard, Portsmouth, as of universal application, is a safe article for marine glue, and one third of the cost, namely, 22l. per ton.

It is invaluable for calking the seams of ships' decks, being the cheapest and most durable material ever yet used for that purpose. It has been tried for upwards of seven years in Her Majesty's ship "Brodie," perfectly resisting during that time the action of the sea and weather.

It stops cracks and defects, likewise all nails to adhere most firmly; will bind any two surfaces together, and may, therefore, be used for all kinds of joinery, and is particularly applicable to wet or boarding and flooring, and is a preservative for all iron and wood when applied when new. It holds or stores will prevent dry rot. This article is especially adapted for application according to subjoined and other to graphic works.

Directions for use and prices may be had, for which it is to be requested

London Agents,

Messrs. G. C. WARDEN & CO.

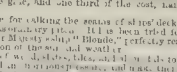
12, Lime-street, Fenchurch-street, E.C. Railway, Chandos street, Landport, Portsmouth.

GEORGE WEEKS, Manager.

JOHN HERBERT & SON, MODELLERS, &c. 42, PARKER-STREET, DRURY-LANE. Cornices, Centre Flowers, Shop-front Trusses, & FIRST-RATE WORK AT REASONABLE PRICES.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING. A STOCK OF THE ABOVE ALWAYS ON HAND. JAMES LYNE HANCOCK, VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD (opposite Spencer-street), LONDON, E.C.

POLONCEAU and LIMMER ASPHALTE.



ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially adapted for Roofs of Dwelling Houses. This Asphalte is now extensively used for paving Stables, Cowhouses, and Pig-sties, and is the cheapest and most durable material for the purpose. For Patentees and Prices, &c. &c. apply to JOHN PILKINGTON, 17, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

PRIZE MEDAL, LONDON, 1851.
GOLD MEDAL, PARIS, 1844.

ARMANI and CO. Importers direct from the Mines of SEYSSEL (FRANCE), SEYSSEL-VOLANT-FERRETTE (Savoy), MAESTU and MONTORIA (Spain), BASTENNES (Landes), &c. &c.

SEYSSEL ASPHALTE,

And by H.M.'s Royal Letters Patent, Manufacturers of

METALLIC LAVA.

For Price and Estimates apply at the OFFICES, 6, GUILDHALL CHAMBERS, BASINGHALL-STREET.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT, For Damp Walls and Lining Iron Houses. 2, DOWGATE-HILL, London; and 2, GORE PIAZZA, Liverpool

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in producing the following extract from Sir RAYMOND JARVIS, Bart., Alnwick, dated 3rd March, 1852. He says, "I have much pleasure in stating that the Gutta Percha Tubing for Pump Service, I ran state with much satisfaction, it stands well. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From the above it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF ROAD, CITY-ROAD, LONDON

GAS COMPANIES, GASFITTERS, AND PLUMBERS CAN BE SUPPLIED WITH SCOTT'S NEW PATENT LEATHER-WASHERS, for meters, high pressure water taps, and screw-joints in general, at 3s. per thousand, in ½, ¾, ⅞, 1, and 1 inch diameters. As "time is money," when rightly employed, the Patentee trusts that a reference to the above-named list of WASHERS ALWAYS AT HAND, will suit, in every size, and sorts of thicknesses, nothing can exceed their value in stopping leakage after. Manufactured only by the Patent S. L. B. Company, Worcester, and supplied to the Trade by all Wholesale Factors and Warehouses.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED to the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Supported by Rollers in Rails in front. In London. What ordered Here, Shod as CINDER THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland-street, Blackfriars road.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

JOHN DOWNEY, Lime and Cement Merchant, of 11, Millbank-row, S.W., and Lime Burner, Belvedere and Wilmington, of Hermitage Steam Wharf, Wapping, E., has opened the

VICTORIA WHARF, NINE ELMS, S.

For the supply of Building Materials, BRICKS, TILES, SLATES, LIME, CEMENT, HAIR, LATHS PLASTER, SAND, BALLAST, GLAZED DRAIN PIPES, and RED BOARDS. TERRA COTTA, SQUARE TAMP, and COPING BRICKS; SUFFOLK and OTHER PAVIORS; STAFFORDSHIRE and FIRE CODES, MALM, STOCK, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by large or small quantities.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINE.

Adapted for hand, horse, or steam-power, will make one-third more in quantity of first-class goods, in solid and hollow bricks, tiles, piped, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.

Licences to Manufacture granted for certain districts

For price and particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

BRICKS.—500,000 capital Old BRICKS, cleansed and delivered within two miles of Blackfriars or London Bridge, at 29s. per 1,000, for cash.—Apply to Mr. C. J. SMYRK'S Offices, 104, Fleet-street, City.

BRICKS.—Near the Pond, Clapton. Very superior, readily sawn, STOCKS, cleansed and loaded, at the rate of 28s. per 1,000.—Apply on the Premises, or to Mr. C. J. SMYRK'S Offices, 104, Fleet-street, City.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Grizells, Place, or Stock Bats, by barge, also gaule, in the Thames or canals, on reasonable terms, either for cash or approved bills.

Belvidere-road, Lambeth, January, 1862.

FIRE BRICKS, LUMPS, and TILES, of every description.

JOHN NEWTON & CO.

HONDURAS WHARF, 74, BANKSIDE, SOUTHWARK, S.E.

Beg to solicit the patronage of Ironmasters, Gas Companies, Engineers, Builders, &c. &c.

Depôt for Ramsay's Newcastle Fire Bricks, Clay Retorts, Sanitary Pipes, Chimney Tops, Patch Chunkers, &c. at the lowest prices.

Shipping orders executed with despatch.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chemical, and Smelting Purposes, and in any business or manufacture where an intense heat is required. For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch-street, E.C.

POLYTECHNIC.—Next Monday Evening, the 27th, at Seven o'clock, GRAND EXTRA JUVENILE EVENING and Fête Gratuitous Distribution of Thousands of beautiful Toys, Knives, Scissors, Cannons, &c. throughout the Juvenile Visitors.—The Optical Pantomime and all the other entertainments.

POLYTECHNIC.—Every Morning and Evening, at Four and Nine, the highly successful Comic Optical Pantomime of Harlequin and Mother Goose; or, the Golden Egg, being a revival of the late Joey Grimaldi's most favourite piece. In order that full effect may be given to the pantomimic tricks, Mr. Childe has been engaged with his Phantasmagoria Apparatus. Mr. G. A. Cooper will enact the "chorus" for the pantomimic characters, and sing various comic songs. Beautiful series of Photographs, by Mr. England, artist of the London Stereoscopic Company, of "Scenes in America." Magical Wonders and Mysterious Transformations, by Mr. J. Matthews. All the other Lectures and Entertainments, and Last Grand Juvenile Day, Thursday morning and evening, the 30th January, and sixth gratuitous distribution of Toys, Knives, Cannons, &c. from the Christmas Tree. Open from Twelve till Five, and Seven till Ten

HORTICULTURAL GLASS WAREHOUSE.

THOMAS MILLINGTON,

87, BISHOPSGATE-STREET WITHOUT, E.C.

Lists forwarded on application.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho square, W. and George-yard, Cranbourn-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at the extensive Warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

PATENT and BRITISH PLATE GLASS. JAMES HEDLEY & CO. beg to inform Architects, Builders, and the Trade generally, that the new Tariff of Prices for the above will be sent on application, they will also on receipt of particulars furnish estimates for any description of Glass now manufactured. Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 95, Soho-square, London.

STAINED GLASS and WALL PAINTING. NOTICE OF REMOVAL. MESSRS. CLAYTON & BELL, Late of No. 24a, Cardington-street, Euston-square, Have removed to 311, REGENT STREET, W. (Adjoining the Polytechnic Institution). Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

STAINED GLASS WINDOWS for CHURCHES and DWELLINGS. HEATON, BUTLER, & BAYNE Will forward, post free, on receipt of Thirty Stamps, their ILLUSTRATED PRICED CATALOGUE of STAINED WINDOWS, with a Treatise on the Progress and Practice of the Art. Stained Glass Works, 24a, Cardington street, Hampstead road, London, N.W.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL COLOURED PHOTOGRAPHIC, and every description of GLASS, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

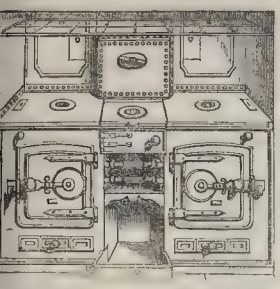
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Flated, Rough Plate, Photographic, and every description of Glass.

Estimates and Price lists forwarded free on receipt of business card addressed to

R. METTAM & CO.

30 and 31, PRINCES STREET, SOHO, LONDON, W.

CHEAP WINDOW GLASS! CHEAP WINDOW GLASS for Builders, Plumbers, Painters, Glaziers, and the Trade generally supplied with every description of Window Glass at WHOLESALE PRICES. Sashes glazed. Lists and estimates given at GRIST'S Glass Warehouse, 47, Chiswell-street, Finsbury, E.C. opposite Whitbread's Brewery



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 23*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 5*l.* 5*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 Illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gasoliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 84, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

ST. PANCRAS IRON WORKS COMPANY,

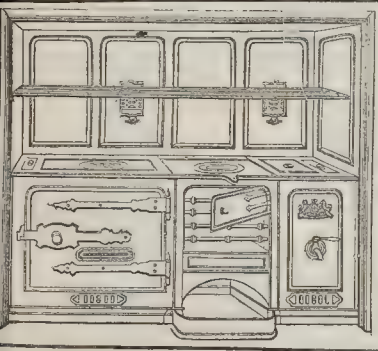
OLD ST. PANCRAS ROAD, LONDON, N.W.

PROFESSOR VARNELL'S STABLE ARRANGEMENTS.

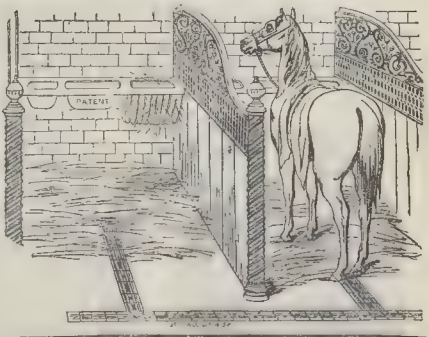
RECOMMENDED BY THE
ROYAL
VETERINARY COLLEGE.
INSPECTION OF THE
FULL-SIZED STALLS AND LOOSE BOXES,
ERECTED AT THE WORKS FOR SHOWING
THESE INVENTIONS, IS INVITED.
Every Description of Stable Furniture.
ILLUSTRATED LISTS ON APPLICATION.



CAST AND WROUGHT IRON WORK OF EVERY DESCRIPTION,
PLAIN AND ORNAMENTAL.
GATES, CIRCULAR STAIRCASES, STAIR-CASE, BALCONY, TOMB.
AND
OTHER RAILING;
VERANDAHS, IRON SASHES, CASEMENTS, SKYLIGHTS, CORRUGATED IRON ROOFS
AND
HOUSES, COLUMNS, GIRDERS, FLITCHES, TANKS IN WROUGHT AND CAST IRON, &c. &c.

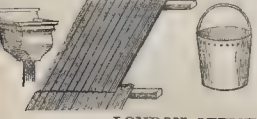


ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR **HIGH-PRESSURE-WATER**; OR STEAM.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



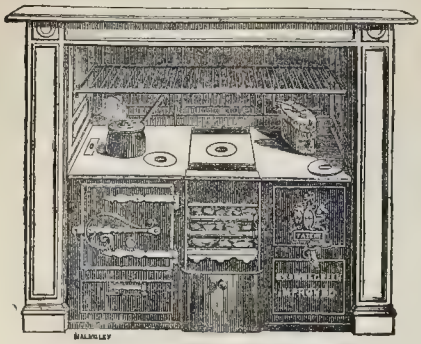
PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.
Ironroofs erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Berkley-street, Birmingham, and Limehouse, London.
LONDON OFFICE—61A, MOORGATE STREET, E.C.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large Assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates, handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Wood, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as Lists and Plans of Bedroom Furnitures, sent free by post. HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court Road, W.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS, Building Towns, Estates, and of the most extensive Mansions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give immediate references of Churches, Dwelling Houses, &c. &c. who have adopted their Hot water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10*s.*

This Range produces first class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen alone are employed.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat, viz. that reflected from the upper or concave surface,—to be projected parallel with the floor, instead of directly to the ceiling, as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction, thus thoroughly warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which is intended to be kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black on the top, and obviates any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

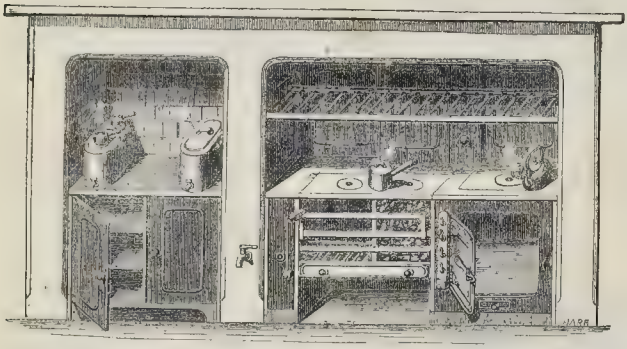
IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18*s.* 6*d.*

BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.
F. THOMAS, AGENT.

ILLUSTRATED PROSPECTUSES POST FREE.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE, —ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

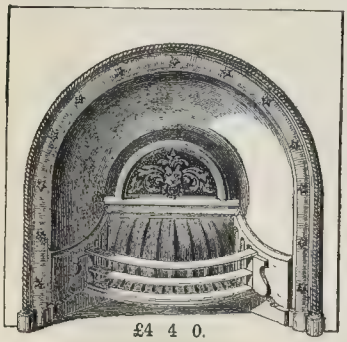
WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

Nos. 6 and 15, LEICESTER STREET, LEICESTER SQUARE,

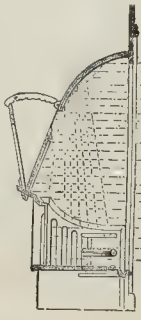
Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.



£4 4 0.

It is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



STOCK AT No. 159, SHOREDITCH, LONDON.



BURT AND POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tipped Sheets and Tiles for export.
IRON WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

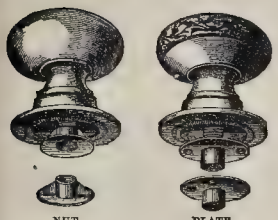
SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.



NUT PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

, Illustrations and particulars sent upon application.

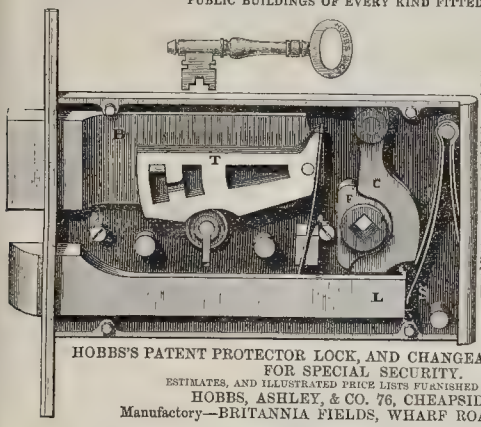
TO ARCHITECTS, BUILDERS, AND CABINET-MAKERS.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

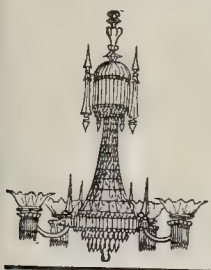
FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES, AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.



THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF

CRYSTAL, BRASS, & ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY.

WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.



PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS AND CUPBOARD TURNS,

GOTHIC, DROP, AND OTHER DOOR-HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.





Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY AND CO.

MANUFACTURERS, BIRMINGHAM.

CHUBB'S WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

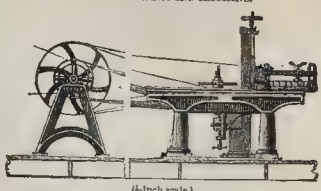
OF VARIOUS SIZES, FOR STRONG ROOMS,

AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

WARMING by HOT WATER or HOT AIR.

Mr. ALFRED MAY, 259, HIGH HOLBORN, begs to call the attention of Architects and others to his well-selected and extensive assortment of Hot water Apparatus and Hot-air Stoves, adapted for all kinds of public institutions, gentlemen's houses, conservatories, warehouses, shops, &c. Estimates given, and efficiency of the Apparatus warranted.

S. WORSSAM & CO.'S PATENT IMPROVED TENONING MACHINE.

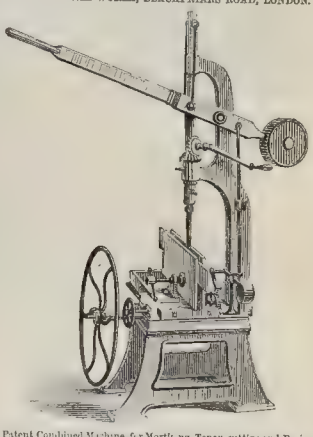


(¼-inch scale.)

This machine is adapted for working either hard or soft wood, and is fitted with an arrangement for cutting double tenons. It is made in two sizes, the smaller being adapted for cabinet makers' and joiners' purposes, and the larger for railway carriage builders, &c.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

POWIS, JAMES, & CO.

VICTORIA WORKS, BLACKFRIARS ROAD, LONDON.



Patent Combined Machine for Mortising, Tenon-cutting and Boring. (The only patent in the United Kingdom for one machine to do the three kinds of work.) Makers of all kinds of Sawing and Wood-Cutting Machinery, Steam Engines, &c. &c. Office, 2b, Watling-street, London, E.C., where Drawings and Prices can be had on application.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles.

Price 20*l.*



Drawings sent on application

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.

PEALS CAST TO ORDER.



NAYLOR, VICKERS, & CO.

SHEFFIELD.

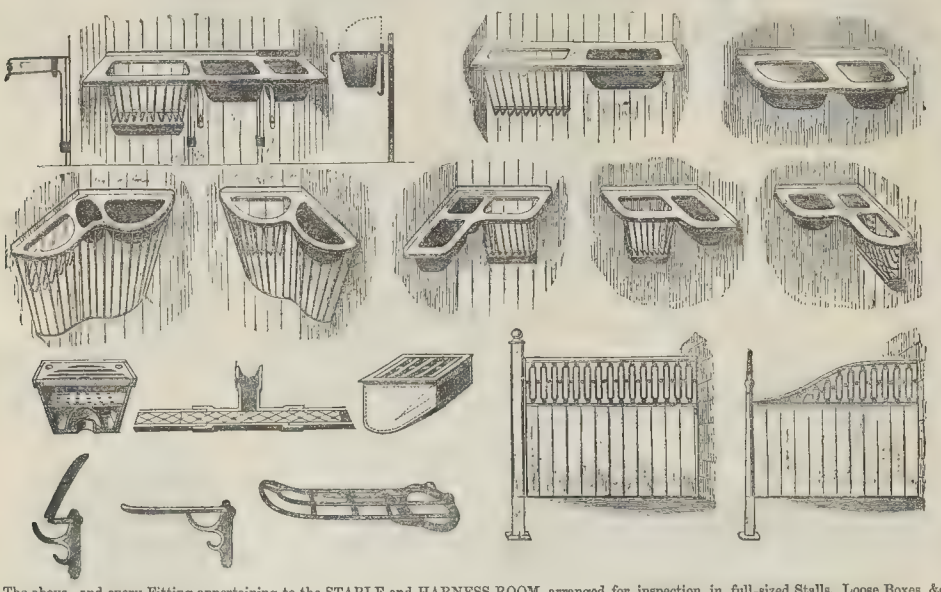
COTTAM & COMPY. 2, WINSLEY STREET, OXFORD STREET, LONDON W.

COTTAM'S PATENTED AND REGISTERED

STABLE AND HARNESS-ROOM FITTINGS.

ORIGINAL INVENTORS OF THE UNDER-FEEDING PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, AS ONE FIXTURE.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM arranged for inspection in full-sized Stalls, Loose Boxes, &c. a portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to

Knightley's Patent Stable Floor.

COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—Winsley Street is the Street opposite the Pantheon.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET LONDON.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,

STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES, COMMUNION RAILINGS, SCREENS, GATES, &c.



Illustrated Price Catalogue of Patterns in Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY STREET, OXFORD STREET,
LONDON, W.

FIRE-PROOF CONSTRUCTION.—FOX & BARRETT'S PATENT.

This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

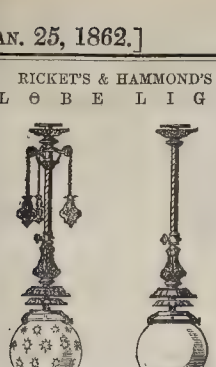
The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

RICKET'S & HAMMOND'S
GLOBE LIGHT.



A SHADOWLESS GAS BURNER.
AGAR STREET, STRAND, LONDON, WC

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED
TUBE for GAS; Galvanized ditto, for Water; High-pressure Locks, &c. Manufacturers of Dr Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

CAUTION to ARCHITECTS and
BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Fleteuton, 65, Princes street, Leicester square, London, and NONE ONLY are WARRANTED.

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH
and BLIND LINES,
TO BUILDERS, CARPENTERS, and BLIND MAKERS.
AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the COTTON LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give such satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the best and all requisite, complete fixings, at the following prices:—
Three-eighths inch diameter ..... 1s. 0d. per foot.
Half-inch diameter ..... 1s. 6d. „
Five-eighths-inch diameter ..... 2s. 0d. „
R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.
Offices—130, Strand, London.
„ Gateshead-on-Tyne.
„ 37, Dale street, Manchester.
„ 68, Anderston-quay, Glasgow.
„ 17, South Castle street, Liverpool.
„ Cockburn's Buildings, Dundee.
„ 7, Frederick street, Aberdeen.

PATENT BITUMENIZED PIPES for
WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in suitability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. on the square inch (equal to 540 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven feet lengths, and the joinings are simple and inexpensive. These pipes have been in use for nearly three years, and have given the most perfect satisfaction. Further particulars as to Joints, &c., and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr. ALEXANDER YOUNG, 14A, Cannon-street, London, E.C.

NAILS and IRONMONGERY,
from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery, of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham-street, London, E.C.

IRON ROOFING of CORRUGATED IRON,
Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also, Portable Buildings for Dwellings, Farm Houses, Churches, Chapels, Schools, Concert or Dancing Rooms, Offices, &c. suitable to all Climates, fixed complete, in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDALL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

PRIZE MEDAL for SUPERIOR LOCKS
was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, Chubs, Glasses, and Wood Furniture, Bolts of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, and the New Registered Venetian Ventilator, so much admired.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 50 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

DEVAUX'S PURE THICK ROOFING
OF ZINC laid upon Mr. Edmeston's principle to insure durability, by
D. HAYWARD,
LONDON ZINC WORKS, No. 97, Blackman-street, Borough.

MALLEABLE IRON CASTINGS.
RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

BELL'S PATENT CAST-IRON SINKS, PLAIN or GALVANIZED.
These admirable and economical Sinks are perfectly sealed from the escape of effluvia, and cannot get out of order.
WROUGHT IRON and STEEL GIRDERS; WROUGHT-IRON SASHES; STABLE FITTINGS, with Patent SPRING-TOP GRATINGS; WROUGHT-IRON STALL and LOOSE BOX POSTS, with REGISTERED HINGES. Column Girders, Rain Pipes, and MOULDED HEADS in Stock, in great variety; Gutters, Coal Plates, &c. &c.
HOOD & SON'S CASTINGS WAREHOUSE,
68, UPPER THAMES STREET.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS
AND GASFITTERS



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.



NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Orford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices in connection with his Old Establishment, No. 18, Beaufort-street, Manchester-square, running out of Baker street, Portman square, London W

PATENT WROUGHT IRON WINDOWS,
manufactured by the GENERAL IRON FOUNDRY COMPANY (Limited). HENRY ROGERS, Manager. Lyon's Wharf, 43, Upper Thames street, E.C. Iron. These windows combine the advantages of great strength with lightness and cheapness, and they have been very highly approved by many of the most eminent architects of the day. They are peculiarly well adapted for factories, railway stations, prisons, and hot-house purposes, and also for ship-building, as it is impossible to break them by fair means. Lists of prices can be had on application.

"ALLEN'S" PATENT SMOKE CONSUMING APPARATUS and REGULATING VALVE. This valve is the simplest and cheapest of all the inventions yet introduced for the purpose of effecting more perfect combustion of fuel, in all kinds of furnaces. Testimonials of the highest possible character are daily given by the parties who have them in operation.—Price, No. 1, 3l. 3s.; No. 2, 4l. 10s. for furnace-door complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN-TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have met with an unqualified approval. The article may be had of all Ironmongers, and of the General Iron Foundry Company (Limited), 43, Upper Thames street, Makers of Gas and Water Pipes, Hot Water Pipes and Connexions, Chemical and Soap Pans, Furnaces, and all other kinds of Castings, for manufacturing and building purposes.

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article made in their factories. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Path in book and Price lists, 12 to Nos. 53 and 56, High Holborn.

VENTILATION.—M'KINNELL'S PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its accessibility, and its being ordinarily self-regulating, the pure air flowing in perceptibly inwards, while the noxious products of respiration and combustion are simultaneously carried off. It has been applied in many of the Royal Buildings at Windsor, the Government Offices in London, and extensively in churches, public halls, schools, offices, dwelling-houses, factories, stables, and in ships, for which it has been adopted by her Majesty's Emigration Commissioners.—Patentee, JOHN M'KINNELL, 15, Langham-place, London, W. Description and testimonials on receipt of one stamp.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also,
BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Nails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS.
THE BRYMBO COMPANY, North Wales, beg to inform Contractors and others that they have made arrangements to SUPPLY the LONDON MARKET through their Agent, Mr. F. FORD, No. 9, Lawrence Pountney-hill, Cannon-street, City, with
CASTINGS OF FIRST QUALITY,
FROM THEIR OWN SUPERIOR IRON, MADE FROM THE BEST HEMATITE AND ARGILLACEOUS ORES.
All orders promptly attended to, and at moderate prices.

TO PLUMBERS.—TO BE SOLD, a PATENT LEAD PIPE ENGINE, with casting moulds, tools, dies, &c. complete, for manufacturing pipe from ½ inch to 2 inch bore. Apply, by post-paid letter, to Mr. JAMES LE LIEVRE, South Esplanade, Guernsey.

STEAM-ENGINE and AIR-PUMPS.—TO BE SOLD, cheap, together or separately, a 10-horse power condensing TABLE ENGINE, and two pairs of 6-inch diameter double-acting Air-pumps, now erected for driving Paper-making machinery, &c. at the Mills of Messrs. Wyldbore & Craddock, No. 16, Bishopsgate-street-within, E.C.

GALVANIZED IRON and
ZINC WORKS.
Galvanized Black Sheet Iron, corrugated and plain, always in stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
TRADE MARK. Wolverhampton, Staffordshire.

TRADE MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

VENTILATION—PURE AIR



Sheringham's Ventilator for the admission of Pure Air through an
EXTERNAL WALL.
With single pulley, from 6s. each; with leading pulley, from 8s. 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the supply of each apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, the action of the fire in the House is closed for the evening, at which time a constant supply of fresh air is kept up.—HAYWARD, BROTHERS, Sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

SQUARES.—W. F. STANLEY,
late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
2, GREAT TURNSTILE, HOLBORN,
LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTORS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT,
20, WESTMINSTER BRIDGE-ROAD, LAMBETH,
Near Astley's Theatre.
Respectfully informs the public that a Illustrated Price-List will be forwarded free on application. The present will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

EDELL & CO. 8, BATH-STREET, CITY-ROAD, and 12, Grafton-mews, Fitzroy-square, continue to execute LEAD GLAZING FOR CHURCHES, Chapels, &c. in quarry or geometrical patterns, at the LOWEST PRICES. Estimates and patterns forwarded, on application, to any part of the country. Church Leads, 30s. per cwt.; Free Leads, 37s. per cwt. for cash. All orders for lead to be sent to 12, Grafton-mews, Fitzroy-square.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS FOR DECORATING PUBLIC AND PRIVATE BUILDINGS, OR ROOMS MADE IN ANY STYLE, AND ESTIMATES GIVEN. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. HAVING NOW GREATER FACILITIES FOR THE MANUFACTURE, A REDUCED TARIFF OF PRICES IS BEING PREPARED. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

WHITE AND PARLBY'S
NEW ILLUSTRATED CATALOGUE OF PAPIER MACHE AND CARTON PIERRE ENRICHMENTS.
PARTS I. TO V. NOW READY, EITHER OF WHICH WILL BE FORWARDED POST FREE, ON RECEIPT OF TWELVE STAMPS. SPECIMEN SHEET, WITH PARTICULARS, SENT ON APPLICATION, ENCLOSING POSTAGE STAMP.

WHITE AND PARLBY,
49 & 50, GREAT MARYLEBONE STREET, LONDON, W.

VIEILLE MONTAGNE ZINC.
THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4*l*. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2*s*. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3*s*. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

BUNNETT AND CO.
The Original Inventors and Patentees of every recent Improvement,
MANUFACTURE THEIR WELL-KNOWN
SUPERIOR REVOLVING IRON SHUTTERS
OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.
Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

THE BRITISH AND FOREIGN MARBLE GALLERIES,
WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.
EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

HUBBUCK'S PATENT WHITE ZINC PAINT.
BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil, covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON
N.B.—WHITE ZINC DOES NOT REQUIRE BOND AND SURETIES ON EXPORTATION, NOT BEING CONTRABAND OF WAR, LIKE WHITE LEAD.

TRACING and DRAWING PAPERS.—
WATERLOW'S TRANSPARENT TRACING PAPERS.
LEON'S ENDLESS FRENCH TRACING PAPERS.
ENDLESS TRACING LINEN AND CLOTH.
WHATMAN'S DRAWING PAPERS and CARTRIDGES.
ENDLESS DRAWING CARTRIDGES, 54 INCHES WIDE.
MOUNTED DRAWING PAPERS ALWAYS READY
WILLIAMSON'S SECTIONAL LINES for ENGINEERS.

WATERLOW & SONS,
WHOLESALE and EXPORT STATIONERS
(Contractors with her Majesty's Stationery Office, and the principal Railway Companies in England).
London-wall, and Parliament-street, London. Samples sent free.

The Builder.

VOL. XX.—No. 990.

Progress of the Metropolitan Main Drainage: The Works North of the River.

HE growth of this metropolis must be considered one of the wonders of the modern world, and is without precedent in the ancient world. In proportion as it is extraordinary, so does it call for extraordinary measures for the preservation of the health of the persons inhabiting the city—now a vast community numbering three million souls. There is no doubt of this responsibility: both warning and reminder to take every possible precaution come to us from time to time in the shape of pestilence. The Great Plague is a remarkable instance of the imperative occasion for extra provision for increase of population; for who shall say it was not the accession of the hundred thousand strangers who flocked to reside in London upon the Restoration that brought it to pass? The great loss of life among the stalwart troops in the Crimea is another instance of the deadly effect of a large population locating on a site unprepared for their reception and not properly attended to. In our own time the pestilence comes to us in newer guise,—cholera, diarrhœa, diphtheria, and typhoid fevers; but its visits, in whatever form, all represent but one fact,—that we neglect proper sanitary provisions.

The new main intercepting drainage, now being laid down, is one of our efforts to convey away from our midst, matter, the emanations from which are found to be poisonous to the human system. The sewerage that existed before was very faulty. First, it was not of sufficient extent: secondly, it conveyed all the sewage from the high levels through the low-lying levels on the banks of the river Thames; and, thirdly, it discharged the nothing, seething filth, through the 110 outlets, into the heart of the river Thames, which once fair stream by this means assumed the conditions of a loathsome monster open sewer. On occasions of high tides the low-lying neighbourhoods were flooded,—not with water, but with sewage. Some of these 110 outlets, being considerably below high-water mark, were, and still are, closed by flood-gates,—some for sixteen hours out of the twenty-four, others for twenty hours out of the twenty-four, during which time the insufferable contents of the sewers, frothing, foaming, chopping, and lashing impotently against the closed flood-gates to escape, are forced by their own accumulations back into cellars and basements of dwellings into low-lying grounds. The filth which, under the veiled term of sewage, is thus allowed to ferment and fill our houses and streets with gases of ineffable subtilty, includes much more than mere watercloset liquescencies. There are the percolations of crammed churchyards, the rain-washings of the streets, alleys, and yards, which lick up as much as is soluble, and carry away with them even more of filthy objects, horse and cattle dung, sweepings and scrapings lying on their surfaces; refuse from hospitals, infirmaries, and dispensaries; fishmongers' and fishmarket washings and offal; slaughterhouse offal; fellmongers', glue-makers', candle-makers', bone-dealers', tanners', knackers', scum boilers', and tripe-dressers' liquid refuse; decayed leaves and vegetables; paper and rags; refuse from chemical works, gas works, and dye works; branches of trees from Hampstead ditches; dead rats, dead dogs and cats, and, sad to say, dead babes. People sicken and die too soon.

The same causes are at work all over the kingdom, as we have shown for years. The sewage matter of one town is thrown into the river, and some few miles further down the inhabitants of a second town will take their water-supply from it; and just below this, again, discharge their own sewage matters into it. Thus the sewage of Newcastle is discharged into the Tyne, and carried down to North and South Shields; the exulcerations of Sheffield go down to Doncaster, and thence past Kingston-upon-Hull; and, as we write, Shrewsbury, acting upon our advice to purify itself, is deliberating upon plans which erroneously pour the sewage into the beautiful Severn, whose waters, sweeping past Bridgnorth, lave the city of Worcester; and so disease is constantly breeding in our rivers all over the country. We breathe and drink putridity, but not with impunity. The practice costs us 15,000 deaths a year by typhoid fever, 27,000 deaths annually by cholera, dysentery, and diarrhœa, and forces us to look on and see 60,000 little children annually pine, languish, and die of infantile diarrhœa. So our sloth, and disregard, and niggardness are by no means cheap; indeed, it would take a nice calculation to prove that such high death-rates are less costly than supplies of pure water and proper disposal of the drainage.

After years of agitation and consideration it was resolved to improve the drainage of London. Meanwhile thinking men began to see, uneasily, that in this immense amount of sewage going to waste and doing positive harm besides, there was an inexhaustible supply of the material for manure, but the problem was how to manufacture it to an applicable form. Inquiry, experiment, and discussion kept this fact constantly in view. There was the sewage, there was the still increasing population, among whom it was perilous to leave it, and there were our agricultural districts sending to the other side of the world for manure; in a word, there was the horse to put the saddle upon,—the only question was, how could it be done? Our other large towns waited the issue.

Among the numerous eminent persons consulted first by the Commission of Sewers, and, secondly, by the Metropolitan Board of Works, there were those who believed that the sewage could be applied to the land in a liquid form; and others who thought it inapplicable except in a solid form; and then again there were sub-divisions of opinion on both of these theories. There were those who thought deodorization improved the value of sewage; and those who thought deodorization extracted from it its best properties; and then again there were various opinions respecting the merits of the different deodorizing agents. Above this mass of conflicting evidence there was one fact constantly in men's minds,—the sewage must be "moved on." Whether capable of use in this form or that, it could be dealt with more conveniently out of London; so, as we have said, it was resolved that the daily measure of fifty-two millions of gallons of sewage should be forthwith conducted safely out of London.

An Act was passed, "with a view to the health of the metropolis," to alter and amend the Metropolis Local Management Act (1855), and to extend the powers of the Metropolitan Board of Works for the purification of the Thames and the main drainage of the metropolis (2nd August, 1858), which authorized the Board to borrow, upon such bonds, debentures, and other securities as the Commissioners of Her Majesty's Treasury might approve, the sum of three million pounds sterling. This sum might be raised in sums from time to time, but not later than the 31st day of December, 1864. The Board was empowered to assess, and cause to be raised in each year, during forty years, a rate of threepence in the pound on the property in the metropolis. The scheme now in course of execution, embracing about fifty miles of intersecting sewers, was matured, and estimated to cost precisely three million pounds. Operations were commenced in February, 1859. All this our readers have heard before, and they have been fully informed of the nature of the works. In our volume for 1860 (XVIII.) especially, we gave a series of elaborate articles, descriptive of the intended works, and the scope of the contracts, and afterwards of progress. The public, however, will be glad of the reiteration of some of the more salient points, and to know what the aspect of the works now is.

As the Thames divides London into two portions, it naturally divides the drainage also into two parts. The new works on the northern side of the river are to consist of three lines of tunnels, with branches, which will intercept all the drainage matter from the collateral and old tributary sewers, and convey it to an immense reservoir at Barking Creek, fourteen miles below London-bridge; and thence, by tubes, during the first two hours of ebb tide, to the bottom of the middle of the river, and there deposit it beneath a body of water 60 feet deep, and twenty times greater than that into which it is discharged at the present outfalls; and which body of water, it must be observed, is ebbing towards the sea. The new works on the southern side of the river consist of two lines of tunnels with branches, which extend to a reservoir on Erith marshes. Our attention, however, is at present confined to the scheme on the north side of the river.

The upper line, which is 9 miles long, and is called, as all know, the Main High Level Sewer, traverses the highest and breeziest, and one of the healthiest parts of London, where many charities and institutions connected with the public health have fixed their habitations, and in which there are four parks, three commons, two reservoirs for public waterworks, and two cemeteries. It starts, appropriately, from the *Vale of Health*, and, significantly, under the shadow of *Parliament Hill* near the Hampstead Ponds; crosses Highgate-road; Swain's-lane, leading to the Highgate Cemetery, and Maiden-lane, leading to the Small-Pox Hospital; takes a long wavy sweep in the Tufnell Park-road; passes, northwards, the City Prison and the new Cattle Market; makes a bend into the Holloway-road; passes at right angles into the Tollington-road; traverses Hornsey-road; sweeps through the Great Northern Railway; crosses the New River within a stone's throw of the New River reservoirs and filter-beds above Highbury Vale; skirts Newington Park; takes to the Manor-road by the Abney Park Cemetery; crosses High-street, Stoke Newington, at the foot of Stamford Hill; substitutes the Hackney-brook in the Rectory-road; borders Shacklewell, Hackney-downs, Kingsland, and Dalston; goes athwart a second great railway company's line—the North London branch of the North-Western; wanders through East London's Victoria Park; crosses Sir George Duckett's canal, and arrives at a penstock chamber at Old Ford—a junction to whose important functions we shall hereafter refer. The enormous sewer whose course we have thus traced, and which varies in size from a diameter of 4 feet to the gigantic dimensions of 12 feet by 9½ feet, is completed.

The second and centre line, called the Main Middle Level Sewer, is, with its branches, 12½ miles long. This line is now in course of formation. We shall describe the practical nature of the highly-interesting operations. At present we give a realization of the district that it passes through. It starts from the city of the dead—Kensal Green;

crosses the Grand Junction Canal; dashes through the lands and lines of a potent railway company—the Great Western; wanders through the last vestige of the once rural character of this district—Portobello Farm; skirts the young aristocratic *locale* of Westbournian groves, roads, terraces, places, squares, and crescents; dives through the Kensington Park estate; and, coming to Notting-hill, joins, at right angles, the Uxbridge-road. It then takes a pretty straight course by the verge of Kensington Gardens and Hyde Park—where the Ranelagh storm-overflow runs out of it; down the Bayswater-road; under the site of the gallows at Tyburn Gate, past the head of the Edgeware-road; past the Marble Arch; tunnels deeply the longest and straightest commercial artery of London—Oxford-street; through the *western-central* district of prim squares and wide streets of sullen-looking houses; and under Lamb's Conduit-street, near which it is soon after joined by the Piccadilly branch—which, commencing at Piccadilly, serves the parishes of St. James, St. Martin's-in-the-Fields, and St. Paul's Covent Garden; receives the refuse of the "bloods and drabs" of Drury-lane, and invites by its capacious dimensions the proper tributary drainage of this terrible district, which is almost devoid of any; stretches into the legal grim labyrinth of Lincoln's-Inn-Fields and its dependent inns of court and Chancery, where the men of law, overcrowding in chambers in the basements, in chambers in the ground, first, second, and third floors, and in chambers in the attics, will not be much refreshed by the perfumed effluvia that will be emitted through the ventilators of the sewer-tunnel at every 200 yards. The main is next joined by a large tributary from Coppice-row; and, thus augmented, enters the watchmakers', secret-springers', surgical silversmiths', lapidaries', silverers' and lacquerers', goldsmiths', and working-jewellers' region of Clerkenwell; tunnels under Goswell-street, Golden-lane, and Bunhill-row in the E.C. district; travels past the mad-house of St. Luke in the Old Street-road; and makes, by a short cut under houses, for High-street, Shoreditch: it then proceeds in another straight course under Church-street and the dense and poor district of Bethnal Green, beneath sombre "London Shadows," through Green-street; where it is again augmented by the Aldgate branch—which is to creep under new Commercial-street, the notorious Brick-lane, the Jews' quarter, the Cambridge-road and Globe-road; through the Eastern Counties' Railway; by the Victoria Park Cemetery; joining the main line in Globe Town. The main line thence, dipping under the Regent's Canal, proceeds through old suburban brick-fields and freehold land societies' building-plots, laid out and partly built upon—a cheerless melancholy route—to the same penstock chamber at Old Ford.

The penstock chamber is a subterranean junction, into which the High and Middle Level Sewers converge, and from which two large tunnels, to be known as the Northern Outfall, are to carry the sewage through a maze of dirty waters—the river Lea—which is now the temporary receptacle of the sewage, the East London Waterworks, Pudding Mill River, City Mill River, Waterworks River, under the Eastern Counties Railway, across the Stratford-road, over acres of desolate market-gardens, to a station at Abbey Mills, West Ham.

The third and lowest level—the Main Low-level Sewer—is not yet fully developed, as its course will, in some measure, depend upon the perfection of a kindred scheme, bearing as vitally upon the public health, and now under legislative consideration—the Thames embankment. But it will commence in Belgravia; travel through the New Victoria-street to legislating Westminster; whence, joined by the Penitentiary branch, it will extend past the water-terraced gardens of Whitehall, and of their Graces of Buccleuch and Northumberland, and others of the nobility; past the coal-bargy length of wharfage between Hungerford and Waterloo Bridges; beneath the stately establishment of Somerset House—that mausoleum of national taxation, wherein are concentrated the offices for stamps, licenses, taxes, inland, card and dice revenues, and registrars of births, marriages, and deaths; before the remarkable realms of the *fourth estate*,—the publishing offices and printing houses of the literary world; below the law-haunted demesnes of the Temple, where it comes within the City and the jurisdiction of the Lord Mayor. It is then to glide under Blackfriars Bridge, to continue its route beneath the shadow of St. Paul's Cathedral, under Southwark Bridge, under the crowded jetties, piers, and landing-places of the penny and halfpenny river steamboats, and below those mines of immeasurable wealth, the premises of the City merchant princes, to London Bridge. Afterwards it will thread the cheesy, fishy, fruity, and nutty vicinage of Thames-street; the Tower, the Mint, the Minories, the sea-faring, rum-smelling, oleaginous, exporting and importing, vinous, international environs of the docks; and quickly pass, through the Blackwall Railway, into the appropriately-named Commercial-road East. It will then go through the heart of the *eastern* district, to engulph the dregs from the nuisance-indictable factories which thickly crowd in Limehouse and the skirts of Bow Common; penetrate Bromley New Town; cross the Dock Junction of the North-Western Railway into a low-lying tract swarming with rivers and mud creeks; and arrive at an odoriferous pumping station, adjacent to the Channelsea River at West Ham Abbey Mills, where the sewage is to be raised up to the level of the Northern Outfall, by a pumping establishment of 656-horse power.

The three streams of sewage now flowing on three parallel levels are then conducted by three brick tunnels, 9 feet in diameter, stretching side by side, above ground, on an artificial high embankment, almost in a direct line, six or seven miles long, over low-lying market-garden fields, dank swampy grazing pastures, and peaty marshes, to the outfall reservoir near Barking Creek.

Besides these three long lines of intercepting sewers there is a western division, which provides for the drainage from Acton, Hammersmith, Chiswick, and Fulham,—an area of twenty-one miles. This drainage will be brought to the banks of the Thames near Chelsea, where it will be pumped up and deodorized, and the clean water discharged into the river. As we may not have occasion to refer to this division again, we may state here that the section at Acton has been completed, at the cost of about 9,820*l*.

We must now mention that the old main sewers, which are about 170 miles in length, although relieved of the bulk of their work, are not to be altogether discarded. They are to do duty as safety-valves, or storm-overflows; that is to say, the new main drains or tunnels, at certain heights and places, will have communication with the old main drains; so that if suddenly filled by any unusual storms, the new drains will overflow into the old main drains. Storms of an extent likely to fill these monster drains are, of course, of rare occurrence; but they still do happen, upon an average, twenty-four times in a year, and it is quite imperative to provide for them. The district and private sewers, of an approximate length of 1,600 miles, and the smaller drain-pipes, estimated by a similar calculation at 4,000 miles, will remain in use. If all the cesspools which, in many crowded districts still pollute the metropolis, were removed, as they should be, the house drainage should measure not less than 10,000 miles.

The works now in progress are, as our readers may remember, in two separate contracts, the Middle Level and the Northern Outfall. The former of these is let to Messrs. Brassey, Ogilvie, & Harrison. Part of the Uxbridge-road is now in the occupation of the contractors, where the thoroughfare is stopped, and they are rapidly forming the junction of the Ranelagh storm bell-mouth overflow. Oxford-street is also in their hands; and here the sewer is at a depth that calls for tunnelling. Along the line of road on the southern side from Hyde Park-terrace to Bond-street, at intervals of 350 yards, there are scaffold stages surmounting the shafts, up and down which the men and materials are hauled; and at intervals between these are tall wooden stations, with telegraphic boards for regulating the lines of sights from which the workers below have, under the able guidance of Mr. Lovick, the superintending engineer of this line, to adjust the junction of the tunnelling from shaft to shaft to the utmost nicety. There are other conical-storied brick chimney-stack looking erections for similar use: these and the wooden erections have, of course, under the prevailing advertising mania, become placarded. Between these the ordinary traffic is undisturbed, and the northern side is quite clear. There are some few instances in which the shafts nearly touch the pavement, when such vicinity causes an inconvenience to the shopkeepers adjacent. But these interests are considered as much as is compatible with the execution of the works. The wooden temporary offices of the resident engineer and clerks of the works, and those of the contractors and their clerks, are placed either in quiet streets, like Hereford-street, or where there is the least traffic: the formidable erections covering the contractor's stores of bags of lime and other materials are very properly placed in the least frequented part of the road near Tyburn-gate.

Under the conduct of an active official, Mr. G. Bell, we will assume a miner's dress, and descend, by ladders, one of the shafts—that in front of Hereford-street. After leaving the surface we pass a bed of gravel. The water in this caused an obstruction to the sinking of the shaft: this was overcome by much pumping, by forming a coffer dam, and puddling in the ordinary manner. Below this the descent is continued through a bed of stiff clay, shored and braced by planks and baulks of timber. Arrived at the great depth of 56 feet, there are tramways formed in both directions in which the tunnel is being excavated or formed. Along this the trucks of clay are propelled by men, and brought to the base of the shaft, raised by a rope windlass above the shaft, and the clay thrown out into a stage beneath which carts can be easily filled. The process is old-fashioned and slow, as the space for mining the tunnel is confined, and can employ few hands. The clay, when hoisted, is carted to waste, at a great cost, to Shepherd's-bush. Proceeding along the dark sewer by the aid of candlelight, we note that it is a circular tube four 4½ rims thick, 5 feet 6 inches diameter, and has a fall of 1 in 1,338. It is lined with hard bricks. The lower part of the circle is bedded in concrete, to secure it from settlement, and built in Portland cement to a rising of 3½ feet, as the basis most impervious to soakage from the sewage. The method resorted to, to prop up the clay previous to inserting the centres for the brickwork, is similar to that employed in coal-mining. The same characteristics will be presented in the seven miles of tunnelling on this line.

The shafts are intended to be permanent features in the scheme. They will be furnished with circular stone staircases, winding round a ventilating shaft, affording means of communication, by which the sewer can be inspected, flushed, and cleansed at any time: they will also afford escapes for the men thus employed; who, unconscious of a thunder shower descending upon a distant part of London, are sometimes caught by sudden floods, and have to run for their lives. The staircases will be rather peculiar in form, for they are as nearly as may be in the centre of the road; and it will be necessary to have the iron trap-door entrances on the footways: they will therefore depart from the well-form, and become egg-shaped as they near the surface.

The operations for the lower part of Oxford-street are not yet commenced, and these are likely to be further delayed for fear of impeding the traffic during the International Exhibition: but we must say, emphatically, the more speedy the completion of this great sanitary work the better.

Of a totally different character are the means by which the Alexandrine-like line is formed at the other extremity of its length. Commencing at the penstock chamber, at Old Ford, it is gradually burrowing towards Fleet-ditch, where it will meet the extended works from Oxford-street. In Green-street and in Bethnal Green-road, there are 400 men, eighty carts, a stationary centrifugal steam force-pump raising sewage, and a centrifugal steam-lift and force-pump, upon a shifting scaffolding, raising water, double bucket falls, two steam portable rotary cranes, a great moveable scaffold having a double steam hoist and double-wide discharging-shoots, trains of ballast-waggons on a railway, wooden offices, and piles of millions of bricks in possession of the thoroughfare. The land is so much lower here than at the west end of the metropolis, that it becomes necessary to build the sewer by means of open cuttings. These require more elbow room than tunnelling, and admit of steam-power being brought to bear, and progress is made at railroad pace. 850 feet of ground in Bethnal Green-road are open ahead, going westwards, from the Cambridge-road: 625 feet of 10 feet barrel are finished; and a length of 500 feet, extending to Essex-street, is stoutly fenced off for further cuttings.

The profits of contractors in works of this magnitude and novelty depend materially upon economical management. The occasions on which machinery can be made use of as a labour-saving power must be seized with vigilance, and a sharp eye must be kept upon the contrivances so as to make any practical improvements which the exigencies of the work may suggest. The processes of making the cutting, here 13 feet wide and 18 feet deep, and of constructing the brick barrel-sewer, we saw thus systematized by Mr. J. W. Butler, who represents the contractors at this end of the line. As soon as the navvies have got below their depth, after breaking open the

macadamized crust; and they can no longer cast the earth into the carts and waggons waiting to carry it away; a stage is made, from which a second set of men throw up the earth cast upon it from below: when the men are again out of their depth, the sides of the cutting are boarded, and strutted with baulk timbers: heavy beams are then placed transversely over this grave-like opening; and baulk sleepers, furnished with metal rails, are placed longitudinally upon them; forming the skeleton of a railway, upon which the steam travelling hoist and the travelling centrifugal lift and force-pump are stationed, or propelled, and set in motion. The cutting here is through a deep stratum of gravel: the excavations are raised by the former machine; and the water, which finds its way into the cutting in great volumes,—by the latter. The removal of the gravel is further assisted by the steam rotary cranes on the bank of the cutting; one of which is made on a new principle suggested by the development of the works. Instead of the upright boiler being placed in the centre of the truck on which the whole of the machinery stands, it is stationed at one end of it, so as to balance the weight of the material hoisted. The spade form of the iron tubular skip is also a novelty, borrowed from the works of the Victoria Bridge in Canada. When full and hoisted, and turned to overhang the cart waiting to take the gravel to the contractor's yard, for the purpose of sifting, it is made to open in the centre and quietly discharge its bulky contents—without startling the horse,—an incident which is not an uncommon occurrence in the management of the old square wooden skip. In the course of this cutting it became necessary to cut through one of the district tributary sewers, which, as it may be assumed to be a sample of the condition of most of them, unmistakeably demonstrates the imperfect manner in which some vestries attend to the drainage of their parishes. Both the bricks and mortar were of an inferior sort, and it was nearly choked with slimy black muddy matter. The required depth of the enormous cutting being cleared, and a bed of concrete formed, the level—2 feet fall in a mile—and direction of the sewer are laid down by Mr. J. Anderson, the engineering clerk of the works for this division. The invert of the barrel is formed in rims of brickwork; the centres fixed and the sewer completed; upon which the earth is filled in, the roadway made good, and all evidence obliterated of the great work entombed beneath.

From the Cambridge-road to Regent's-canal, there is a length of 2,760 feet of open cutting; but Green-street being very narrow, the operations here are on a more confined scale: there is more manual labour and less machinery: the trucks used are of a smaller size; and one of the footways has to be occupied by a tramway. The character of the work offers diversity here: first, the great iron water main crosses the cutting, and has to be raised, twisted, and diverted, according to the necessities of the case; then a sewer empties itself into the cutting, and keeps the centrifugal steam-force pumping-engine in restless motion, to remove the sewage—an unwholesome operation for the inhabitants. A further variety is found in the construction of the Globe-street bell-mouth junction, the cross section at the head wall of which resembles the mouths of two tunnels—one large, the other small—amalgamating into one of colossal proportions. A length of 160 feet of "special" construction is to take place here—100 feet under the canal, and 30 feet on each side, of tapering junctions. To suit the crotchets of a troublesome canal company, the sewer has been altered in form and construction more than once. It is to be formed 14 feet wide, with brick sides and counterforts, and flat top, with iron girders and brick arches—the top of the girders being within a few inches of the bottom of 7 feet water in the navigable canal. The cofferdam is now in progress to form one-half of the sewer at a time, so as not to impede the navigation. This work should have been executed last year, but we learn that the impediments placed in the way by the canal company have precluded its commencement until this moment, and caused the inhabitants of Green-street to endure the nuisance of the sewage pumping for two or three months. On the opposite side of the canal, a length of 4,430 feet of sewer, 12 feet wide and 12 feet high, with semicircular top, straight sides, and segmental invert, conveys us to the terminus of Messrs. Bowyer's contract at the penstock chamber, Old Ford.

This chamber is a building of importance and magnitude, erected by Mr. Moxon. Above it is a residence for the persons in charge, and a room for the machinery for raising or lowering by weights the ponderous iron sewer-gates or penstocks, which regulate the flow of the sewage. The mid and north level rivers of sewage fall in vast steaming cataracts into the chamber, whence, separated by a cutwater, they are divided into the two northern outfall sewers. Provision is made for storms here, by special storm sewers, to carry away the waters of extraordinary floods, which might otherwise choke the chamber to bursting point, to the River Lea. As a temporary arrangement, the storm overflow sewer is now conveying the sewage into the River Lea—an unhealthy alternative.

The Northern Outfall, or continuation of the conveyance of the sewage from this point to Barking Creek, by means of double and treble lines of parallel sewers, each 9 feet in diameter, is undertaken by Mr. George Furness. It is the largest contract yet entered into; is presided over by the resident engineer, Mr. Cooper; and work to the value of about 150,000*l.* has been executed. The character of the operations is here again changed, and contrivances of quite a different order are put in requisition. Instead of the sewers being sunk, they are supported at an elevation; and on account of the low-lying, swampy nature of the district they traverse, this elevation has to be gained by artificial means; and the route is successively obstructed by the feeder of the East-London Waterworks, seven branches of the river Lea, four railways, a main road, several occupation roads, and a great peat moss: further, the marshy nature of the land entailed the construction of culverts to drain it, and the execution of parallel cross trenches, to contain concrete piers for a viaductal superstructure in others. A contractors' railway has been formed, to convey train-loads of bricks and concrete in waggons, with junctions and sidings, to plots of gravel land, containing sixty acres, purchased by Mr. Furness expressly for the purpose of a supply of ballast to form the concrete: steam-cranes are at work: steam concrete-mills, specially constructed for manufacturing the vast quantities required, have been stationed along the line; a skeleton railway on piles, for five parallel lines, placed to convey and to tip the concrete-waggons at one end of a section, while a leviathan travelling-scaffold concrete-feeder is tipping the concrete at the other; and steam-mills for grinding lime have been erected at the river wharf at Barking.

From the penstock chamber we pass through one of the two outfalls, and note that they are made of four rims of brickwork, and rest on a lofty bank of concrete. We speedily come to the first of the sewage-ducts over the river Lea, where piles are driven, and coffer-dams are formed, and the brick piers and abutments completed. This sewage-duct is to be, as are the six others, tubular in form, and to be constructed with iron girders and plates. A little further on a tunnel is specially forming to enclose the feeder of the East London Waterworks, which is to run immediately below the sewers: bad foundations and troubles from water have to be battled with here. The mass of concrete embankment, 40 feet wide at the apex and 100 feet at the base, rising 20 feet high above the surface, is stretching across the swamp, to mitre with the embankment of the Eastern Counties Railway, through which the sewers are to tunnel, the level being calculated to a nicety, which brings their crowns within a few inches of the lines of rails. Passing by a network of piers of bridges and hollow trenches, to drain marshes, in various stages of construction, we come to another branch of the river and the Stratford-road. To suit the level of this road, "special construction" is again resorted to: the two sewers are cunningly eased by lessening their height, and dividing them into four compartments. The traffic has been temporarily diverted: houses have been taken down; and the road is to be raised some few feet to admit of the passage of the sewers.

The works being all in active operation, and rather crowded at this point, the office of the engineering clerk of the works, Mr. Anderson, is placed here, where we observe another feature expressive of the magnitude of the works. The working drawings are lithographed, and printed copies are circulated to the officials, and parties interested in the undertaking. Passing along another length of the great concrete embankment bed for the sewers, and observing that bridges over the Abbey Mill-line and accommodation roads have been formed, and is in progress, we arrive at the pumping station at Abbey Mills, and the bridge at the Channelsea river. Here foundations and piers in brickwork, and Bramley fall-stone springers, are completed, ready for the iron sewer-tubes, and works are in various stages of progress to swell their visible extent; for it must be borne in mind that the sewage of the main low level is pumped up here, and the lines of outfall sewers are now three in number. Between this point and Plaistow, a railway, the North Woolwich, has been lowered to permit the sewers over it, and the abutments, piers, and wing walls of the sewage-ducts over this and the Bow and Barking railways made ready to receive the iron-work. Between Plaistow and East Ham various portions of the outfall sewers are in different stages of completion. A most ingenious contrivance for making concrete is in active operation. A long, lofty stage is erected, up which, by an incline, the lime and ballast are conveyed: these are then, in proper portions, shovelled into ten hollows, in which wheels are fixed and revolved by steam power, very much in the manner of coffee-grinding in a mill, from each of these orifices are formed and spouts attached, down which the concrete, ready mixed, issues; and by the side of each of which a man is stationed, to direct a hose pouring water to liquefy the concrete when it comes out too thick or clogged. A train of ballast-waggons is ready below, into which the concrete is shot, and a locomotive conveys it to any required point along the skeleton line of piles, among which the concrete is discharged, by tipping the waggons, all hot. As some millions of cubic yards of concrete are swallowed up in forming the prodigious embankment, it will be readily seen how useful steam concrete-making mills must be. A question has been naturally raised as to how far concrete, in such a mass, will settle sufficiently firm to prevent the slightest deflection occurring to the inverts of the brick sewers: the fall, 2 feet in a mile, being so slight, any casualty would necessarily be accompanied by disastrous consequences. A pit was dug under our observation in some concrete that was laid down in August last, and this seemed to be very hard set and firm. The inverts of the sewers on the apex of the concrete embankment are laid in beds of blue lias. A sack of this lime was accidentally dropped into the canal, and was not recovered for three months, when the sack with its contents were hauled up—in a state of petrifaction. From East Ham to the outlet at Barking the soil is swampy, and a prehistoric peat-moss is met with. As it would be impracticable to excavate the whole of this, cross trenches are dug through the peat and submerged forest of trees until a foundation is gained 20 feet deep: concrete is filled into these up to the ground, and a viaduct formed of brick piers and semi-circular arches, upon which the three lines of intercepting sewers are intended to be carried: about sixty of these cross trenches have been excavated and filled in with concrete ready for the superstructure. And so, attracted by the appearance of merchant-craft in full sail up and down the river we find we have arrived at the site of the proposed great sewage reservoir and the outlet of the Northern Main Drainage at Barking Creek; while a fleet of barges laden with bricks, and barges piled with Dorking lime, a great mill grinding the lime by steam, and an army of ghostly men, all white, handing the ground lime about in bags, explain to us how the voracious Northern Outfall works are fed.

These, then, are the details of the Northern Main Drainage works in London, and which are said to be the result of the engineering intelligence of the country. They are conducted by Mr. J. W. Bazalgette, the engineer to the Metropolitan Board of Works.

The varied investigations ordered by the board have occupied the good offices of Stephenson, Rendell, Sir John Burgoyne, Captains Harness and Vetch, Drs. Letheby, Odling, Miller, Hoffman, and Frankland, Professor Brande, T. Wickstead, C.E., and many other scientific persons.

The new system has, however, several drawbacks. The one that most concerns the public health is that these monster intercepting drains are, we fear, to be ventilated into the streets: the one that most concerns the public pocket is that it provides for the waste instead of the utilization of the sewage; for the proposition made by the Hon. Wm. Napier and Mr. Wm. Hope, V.C., to the Board of Works, for a concession of the sewage of the northern area, to convey it to the Foulness Sands and Dengie Flats, there to reclaim from the sea 20,000 acres of lands, and convert thereon the sewage into manure, is no part of the scheme itself. A second drawback that concerns the public health is that there will be scores of miles of tributary sewers which will not be under the management of the main drainage officers, but under the direction of the surveyors of parishes. There is also another drawback that concerns the

public purse: to repair and improve these tributaries, and cover other open sewers, an additional half million pounds will be required.

ON THE ESSENTIALS OF A HEALTHY DWELLING, AND THE EXTENSION OF ITS BENEFITS TO THE LABOURING POPULATION.*

IN considering the *first* part of my subject—the circumstances conducive to the healthfulness of a dwelling—some will be named which cannot be strictly termed "essentials," inasmuch as their absence may be compensated for. Such is the case where localities, though not elevated, have a good soil, and are well drained. It may perhaps appear scarcely necessary to add, that the healthy state of a dwelling will not be insured by any one, or even by the union of several, of the features essential thereto, in the absence of others, which are of equal importance.

The condition "of *healthy*," in regard to dwellings, arises out of a combination of circumstances, which comprise—

1st. Those appertaining to the locality, including its soil, a free circulation of pure air, an efficient drainage, an ample supply of pure water, and a good aspect.

2nd. Those which are structural.

3rd. Those which depend mainly, though not wholly, on the occupants themselves; external and internal cleanliness, and a proper use of structural arrangements.

1. In regard to locality. High and dry situations having a free circulation of air, whether occupied by groups of buildings, as in towns, or by isolated dwellings, as in the country, are proverbially healthy; whilst those which are low and damp, or surrounded by confined air, are the opposite. Experience, afforded by the state of troops when encamped, or when in permanent barracks, or in hospitals, is conclusive on this point. It is a known fact that the mortality of troops in Jamaica has been diminished from 120 to 20 per thousand, by their removal from the plains to the hills. And it is well ascertained that ague, dysentery, and fever, prevail in localities where the surface of the ground is naturally wet, and insufficiently drained; or where there exists an accumulation of decaying matter, of which one sure indication is the presence of an abundance of flies. Dampness of situation is also productive of mental depression and bodily feebleness, which excite a craving for intoxicating drink. The embosoming in trees, or any other obstruction to a free circulation of air immediately round a dwelling, is prejudicial to health, and should therefore be avoided.

A *soil* of gravel is unquestionably the most healthy, and next to it one of sand. Clay soil, which, from its non-porous nature, retains the rainfall, is a frequent cause of the dampness so prevalent in the lower stories of houses in many localities, an evil felt as much in some which are elevated, as in those at a lower level, and a fruitful source of sickness amongst servants as well as the occupants of small houses, whether in towns or in the country. The precautionary measures which should be adopted where the soil is of clay will be noticed under the head of construction. A soil of chalk is usually attended with the disadvantage of its being necessary to sink a considerable depth for water; whilst its chemical properties † imbibed in the process of filtration are injurious to some constitutions. Tanks or reservoirs for storing rain water are, in such cases, often the most suitable expedient. Loose soil close to a house is a frequent cause of damp, which might be remedied by a flagging of stone or asphalte; and in many situations a dry drain ought to be formed round the building. Care should therefore be bestowed in regard to the surface of the ground about a dwelling, as well as in the selection of its site.

Drainage of the Soil and Surface.—Wherever dwellings are built on naturally wet ground it is essential to their being healthy that ample provision be made for draining the soil, as well as for ordinary surface drainage, and for the carrying off of surplus fluid from the house itself. The necessity for this description of drainage is generally more manifest in the country than in towns, their gradual formation and progressive increase having been generally accompanied with surface drainage under some form or other. Good surface drainage is, however, peculiarly necessary in towns built on an uneven surface, as is the case with the metropolis, which stands on low hills in the midst of an imperfectly-reclaimed swamp, partially underlaid by a stratum of peat. The lower levels on either side of the Thames, where the drainage has been most inefficient, were much more severely visited by the cholera * than the higher parts of the metropolis.

House Drainage.—The providing efficient means for house drainage, as well as a good surface drainage, is a duty which, in the case of towns, obviously devolves on the public authorities. The consequences of a past neglect of this duty have been remarkably manifested at Windsor, where the prevalence of fevers and choleraic complaints having led to an investigation, the drainage of the town was found to be very defective, and without any proper ventilation to carry off the gases which form in the sewers; whilst, on the contrary, at the Castle, a separate and perfect system of drainage having been provided, no disease existed. The case of Bedford might be cited as another instance recently before the public. House drainage should, as far as possible, be kept without the building, although the valuable modern improvement of glazed earthenware tubes, with perfect sockets, has greatly diminished the risk of an evil formerly so prevalent. Especial care ought to be taken that the pipes which discharge into them are properly trapped, in order that they may not become a medium for the escape of foul air into the dwelling.

Cesspools under basement floors, so common formerly, have been the cause of sickness and deaths innumerable. During the cholera in 1849, to my knowledge, several cases wholly traceable to this cause occurred in one house. Whenever these latent sources of mischief are discovered, they should be removed as quickly as possible. In many houses of the first magnitude, both in the metropolis and in the country, which are not of recent construction, this evil exists, as well as that of defective drains, causing the ground under the house to become sodden with fetid matter. The gases which originate in these places, and diffuse themselves over the dwelling, constitute one of those conditions of local impurity which exercise a powerful influence when the state of the atmosphere is favourable to an outbreak or spread of cholera, fever, or other kindred complaints. The abolition of cesspools within all dwellings is therefore a sanitary measure of the first importance.

Pure Water.—For an ample supply of pure water, one of the most important accessories to a healthy dwelling, the public authorities should, in the case of towns, be held responsible. The contamination of our rivers by their being unscrupulously, and at the same time most wastefully, made the receptacles of sewage, has rendered them very generally incapable of supplying the neighbouring population with pure water. Fully admitting the improvement which, in respect to its supply of water, has taken place in our own metropolis, it still remains far behind the metropolis of the Roman empire, and even many of its provincial cities. Those who have traversed the Campagna di Roma can never forget the gigantic aqueducts whose ruins proclaim how abundantly and at what cost Rome was supplied with water. The practice which has to such an extent prevailed in our towns of obtaining water from wells, sunk not unfrequently near to a churchyard, has been very prejudicial to health, though its sparkling appearance and freshness to the taste might lead to the contrary supposition. Its impurity is generally caused by an infiltration from some neighbouring drain, cesspool, or other deposit of putrifying matter. Many such instances in the metropolis† might be referred to.

For dwellings in the country good drainage and ready access to pure water are not less essential than they are in towns, and they ought, therefore, to be made the subject of deliberate investigation before the locality of a dwelling is decided on.

The Aspect of Dwellings is often greatly dependent on local circumstances, and has an influence on their salubrity, which is too much overlooked. In preference to all others, a southern aspect should be chosen, and, when that is unobtainable, one inclining either to the east or to the west, so that the rays of the sun may enter at some part of the day. Rooms to be chiefly occupied in the height of the summer are exceptional, though, in such cases, I should give the preference to an eastern or a north-eastern over a due northern aspect. In towns the difficulty of obtaining a sunny frontage may frequently be great, if not insurmountable; but the importance of having the sun's rays within the dwelling for some portion of the day, especially in rooms occupied by children, or by invalids, should never be forgotten. I could point to a large convalescent asylum in the country which is so arranged that the spacious gallery used by the patients for exercise during the greater part of the day is without the cheering and warming rays of the sun. Such defects tend to defeat the main spirit of the institution, and are a discredit to all concerned in the building.

The *structural* features essential to a healthy dwelling have now to be considered. In pointing them out I shall aim at the same brevity which has characterized my remarks on those appertaining to *locality*; and, not doubting that your own recollections will supply the corroborative passages which might be adduced from Vitruvius, from Alberti, and other eminent authorities, I abstain from quoting them, in order to avoid unnecessarily encroaching on your time and patience.

To secure the healthy condition of a dwelling, its *structure* must be,—1. Dry; 2. Warm; 3. The number and area of its apartments must be in proportion to the number of their occupants, and due provision must be made for all the requisites appertaining to daily life; 4. It must be well lighted; 5 It must be properly ventilated, and be free from noxious vapours of every kind.

1st. In order to a house being *dry* it must stand on a dry *foundation*; and where this is not otherwise obtainable, artificial means should be adopted, either by forming a stratum of concrete —varying in depth according to circumstances, but never less than 12 inches; by a bedding of slate in cement; or by a bed of asphalte, laid through the whole thickness of the wall under the floor level.

The lowest or basement floor should be raised not less than about 8 inches above the external surface; and if the floors are of wood, the ground beneath them ought to be excavated so as to give a clear depth of not less than 12 inches, which should be ventilated by means of air-bricks built in the external walls.

Floors of stone or of slate should either be hollow, resting on brick courses, or be laid on a dry bed, prepared for the purpose, which is also essential in the case of brick or tile floors. In some parts of the country lime and sand floors are pretty generally used for cottages; and, when properly made, with a dry substratum, are said to last upwards of 40 years. I have used Portland cement for the floors of living-rooms in fireproof dwellings; but in places where there is much wear, stone is preferable. Bed-rooms ought in our climate, when not matted or carpeted, to have boarded floors.

External Walls must be weather-proof, of sufficient thickness to secure dryness and warmth. On the facilities for obtaining a good and *non-porous* material may depend whether brick, stone, or flint be used: whichsoever it be, good mortar is essential to dryness.

In some places, concrete, Pisé or cob, with an external facing of plaster, or rough cast, may be employed with advantage provided the foundation be dry, and the roof project sufficient. Hollow walls conduce greatly to dryness and warmth; they may be formed either wholly of brick, or externally of one of the other materials before named, and be lined with brick or tile, a small hollow space being left between. The same advantages are derivable from the use of hollow bricks, and they are also well adapted for the lining of walls. A glazing on the external surface of brickwork is an effectual preventive of damp, and it is to be regretted that suitably-glazed bricks are not easily obtainable at a moderate price. Their smooth surface is a great recommendation for internal work, on account of its non-retaining properties.

For the Covering of Roofs.—Slate has with us

* By Mr. Henry Roberts, F.S.A.

† A process for softening water derived from chalk has been put in operation at Woolwich, and is said to be successful. In an article "On Sanitary Legislation," in the *British Almanac* for 1859, this process is noticed, and also the serious inconvenience often occurring from the oxydation of iron pipes used for soft-water supplies, the only effectual remedy for which is an internal coating or varnish.

* I have the authority of Dr. Farr for stating that if the mean of cholera epidemic of 1848 and 1854 in London be taken, nearly 11 per 1,000 of those living under 10 feet of elevation died to 1 per 1,000 of those at the highest elevation; and that if London be divided into terraces of different degrees of elevation, the mortality from an epidemic of cholera is, in round numbers, inversely as the elevation.

† One was recently mentioned to me by the medical officer to the General Post-office as having been the cause of much internal derangement to several of the *employés* in that establishment, and which had led to his recommending the use of the patent carbon filter. In late reports of the Registrar-General reference is made to a well at Sandgate as containing 40·96 grains of impurity per gallon, and in another at Hampstead as containing 53·66 grains. Whilst the water from Loch Katrine, recently brought to Glasgow at a cost of 1,500,000*l.*, contains only 2·35 grains; the water supplied to London by six of the leading companies was found lately to contain from 17·84 to 21·68 grains.

so many recommendations that its general adoption may be readily accounted for; the evils attendant on its use arising from changes in the temperature should be particularly guarded against by boarding, felt, or by double plastering. Tiles are generally found to be warmer in the winter and cooler in the summer than slates, and requiring less lead are in that respect more economical. Projecting eaves should invariably have gutters, to prevent the drip which is often the cause of damp in the walls and foundations: the same evil arises from a stoppage of the rain-water pipes consequent on their being either too small, or their heads being unprotected from the intrusion of birds'-nests, leaves, &c.

For the roofs of town buildings more particularly, a fire-proof construction,* such as was described in my paper of 21st January, 1850, has many obvious advantages to recommend its general adoption. But the practice, so extensively prevalent, of forming rooms for servants in the roof runs an opposite tendency. In reference to fire-proof constructions, I would take this opportunity of recalling a suggestion in a paper read by my friend Mr. S. Smirke, 5th November, 1860, on the use of coke, which, from its lightness, appears to be equally suitable for the purpose of vaulting as the volcanic scoria or pumice known to have been thus applied in many important buildings in Italy and Sicily.

When the immense destruction of property caused by fire, and too often accompanied by the loss of life, is considered, the question of an efficient system of fireproof construction, generally applicable, appears to me to merit the very serious consideration of the Institute of British Architects; and I therefore venture this passing remark, though the suggestion is not immediately connected with my subject.

Wood, of an inferior quality, or unseasoned, when used in any part of a dwelling-house, is a false economy, whilst the cracks and shrinkages caused thereby are often prejudicial to health.

Lead, a material which enters into the construction of most dwellings, should be used with great caution for pipes which convey drinking-water, and ought to be dispensed with altogether for cisterns, excepting those for the service of closets, on account of the injurious effects produced by the chemical action, which frequently takes place when the water in them is soft. Iron, properly varnished or enamelled, may be substituted for both purposes; and for cisterns, slate is very suitable. The offensive and unwholesome smell which often proceeds from sinks of lead or ordinary stone renders the substitution either of slate, of glazed stoneware, or of enamelled iron, very desirable.

2. *Warmth.*—This in a dwelling depends not only on its aspect, its dryness, the materials used, their proper application and substance, as I have already noticed, but also on the *structural* plan, particularly on the relative position of the doors and fireplaces, as well as of the windows and spaces for beds, which should be so contrived that the occupants will not be exposed to draughts. With all our regard for comfort, it is surprising that we do not more frequently endeavour to modify the effects of our variable climate, by the use of double sashes, which are so common in many parts of the Continent: this would be a means of retaining more of the small portion of genial warmth which passes into the room from our wastefully-constructed open fireplaces, a subject on which, in connection with the artificial warming and ventilation of dwellings, something more will be said hereafter.

3. *The number and dimensions of the apartments* essential to health in a dwelling must be proportionate to the number of its occupants, and suitable provision must be made for all that appertains to a well-ordered domiciliary life, not only that of the master and mistress, as well as of the children, but also that of the servants, whose health and morals it is the duty of their employers to care for.

The amount of *space* required for health being greatly dependent on efficient ventilation, it will be considered under that head. In most dwellings the scale of accommodation chiefly depends on the means and circumstances of the occupants, in which the variety is so great, that I shall not attempt giving anything but a brief outline of what may be termed the minimum provision, which ought to be made for a family consisting of parents and children of both sexes, belonging to the labouring class, undoubtedly the most numerous section of the community. A labourer's dwelling in the country should have a small entrance-lobby, a living room, not less than 150 feet in area, a scullery of from 60 to 80 feet area, in which there should be a stove or fireplace, for use in summer, as well as a copper and sink: there should also be a small pantry. Above should be a parent's bedroom, of not less than 100 feet area, and two sleeping-rooms for the children, averaging from 70 to 80 feet superficial each, with a distinct and independent access. Two of the sleeping-rooms, at least, should have fireplaces. There ought also to be a properly lighted, ventilated, and drained closet, as well as suitable, inclosed, receptacles for fuel and dust. The height of the rooms, in order to their being healthy, should be scarcely less than 8 feet, and even 9 feet would be desirable but for the extra expense. With a view to ventilation the windows should reach nearly to the ceiling, and the upper part be invariably made to open. In windows which have transoms as well as mullions, some of the upper compartments may be hung on centres for this purpose.

It may be deemed almost Utopian to indulge the hope of seeing such accommodation as this placed within reach of those of the labouring population who are doomed to reside in towns; but those who for several years have been striving to place the benefits of a healthy dwelling within their reach, whilst knowing by experience something of the numerous difficulties to be overcome, and being fully aware that in many cases it may be impossible to accomplish all that is desirable, ought not on that account to be daunted in the pursuit of an object of such great and widespread importance.

In returning from this digression, to the structural features of a healthy dwelling, I would point out the great importance of direct external ventilation and light to all water-closets, including those for servants' use. It is obvious that constructive defects here must be a very serious evil. The pipes to water-closets should be protected from the effects of frost. I notice also that it is of much importance the chimneys should draw so that the smoke will properly ascend; when it does not, the air is greatly contaminated by its escape into the dwelling. The smoking of chimneys, if not caused, as it often is, by the want of sufficient air in the apartment,* or by bad management in the first lighting, or in the putting on of fuel, frequently arises from the proximity of more lofty buildings, or of trees, and too often from a defect in the construction, such as being too large to insure a continuous upward current; an evil which may sometimes be cured by a contraction of the throat. For all ordinary chimneys, flues 9 inches square—or, which is decidedly preferable—10 to 11 inches diameter, are quite sufficient. Kitchen chimneys are exceptional.

4. *Light*, well diffused over all parts of a dwelling, is essential to its being healthy; a dark house is not only gloomy and dispiriting, but is always unhealthy. We know, on high medical authority, that "the amount of diseases in light rooms, as compared with dark ones, is vastly less." Light ought to be diffused over the whole dwelling, so that no dark corners be left to invite a deposit of that which is untidy or offensive. Happily, the motive which in times past led so much to an exclusion of the light of heaven, no longer exists; and, though ages may pass ere the evils resulting from a vicious legislation are entirely swept away, yet the removal of the tax on windows, and of that on glass, must, amidst much to discourage those who have long and zealously laboured in the cause of sanitary amelioration, be regarded as most valuable concessions in its favour.

5. *Ventilation and Artificial Warming.*—These are questions of vital importance in regard to dwellings, though, judging from the neglectful indifference of multitudes, their value is far from being duly appreciated by the educated, and even by some in the scientific classes of the community. Were it otherwise, the closeness perceptible on entering many of their dwellings, the oppressive heat of the rooms, the sickening fustiness in the apartments occupied by the servants, and too often in those of the children, would certainly not exist. When the number of hours passed within doors by every human being in a civilized state is considered, it will be manifest that the breathing of vitiated air for so large a portion of the twenty-four hours, must be as injurious as living on unwholesome food.*

---

* I adopted the hollow-brick fire-proof construction here referred to, in the roof and floors of the two ranges of model dwellings for families built in Streatham-street, Bloomsbury, and in Portpool-lane, as well as in the Cottage Improved Prince Consort's model houses at the Exhibition of 1851. Recently the efficacy of this mode of construction was tested at the Streatham-street houses by a violent conflagration, through accident, setting fire to the wood-work of the roof of a single apartment, to which the fire was limited. Hollow bricks, with wrought iron girders, are now very extensively used for floors in Paris. Thirty years since, when constructing Fishmongers' Hall, I used over the kitchen and some other places a vaulting of earthen pots, hollow necks being then scarcely known, though they have been found in the remains of Roman buildings in this and other countries.

* The late Mr. Thomas Cubitt told me that he had frequently cured smoky chimneys in houses of his own building, well known to be amongst the best in London, by an imperceptible admission of a little air over the room doors, the woodwork fitting so closely that sufficient air could not, when they were closed, gain admission to the room.

PROFESSOR S. SMIRKE'S LECTURES ON ARCHITECTURE AT THE ROYAL ACADEMY.

LECTURE I.†

STATUES fringing the sky-line, I said, should I think be subdued in attitude and treatment. Such, however, as I have remarked, was most certainly not the opinion or the practice of the sculptors of the seventeenth century. Michelangelo had, in the palmy days of art, made his Moses look like no common piece of humanity, but rather like a sculptured fragment of rock, in solemn repose, and instinct with supernatural dignity; whilst the patriarch, when treated in the naturalesque school of the degenerate period I now refer to, never failed to be represented as a remarkably active, impetuous old man, admirable chiefly for the violent development of the muscles, throwing himself into very unseemly attitudes, and striking the rock with his rod more like an excavator than a patriarch. Such, also, is the general character of their architectural sculpture.

The apostles and fathers of the church were men upon whom we should be taught to look with reverence by the quiet dignity of their mien, and by that deep intellectual abstraction which is best represented by a steady composure of manner and general absence of energetic action. But where are we to seek for such examples of architectural sculpture from the chisels of the eminent masters of the fantastic schools of this period? On the contrary, the Holy Fathers are made to look like posture-masters performing for the public diversion, and are seen on their pedestals, throwing their limbs about and ruffling their drapery in a way utterly subversive of that personal dignity which, as I have remarked, seems to appertain to their character.

It is not to be wondered at that when taste in sculpture had reached this bathos, our own art should have been dragged down with it to the same level. Indeed, there is, I think, good reason to apprehend that far too intimate a union had unhappily subsisted between those two sister arts.

So long as a fine taste and a high æsthetic feeling prevailed, no danger came, nor could come, from the cultivation of both these arts by one mind; indeed, it was the glory of our art to be intimately allied to the sister arts. But when that truth of feeling and nicety of judgment had passed away which taught those who practised both arts to discriminate well between the special requirements of each, a fusion was the result, mischievous to both, but which was more particularly injurious to our art; for a sculpturesque treatment of architecture is likely to lead to far graver errors than an architectural treatment of sculpture. The latter may be liable to become cold, rigid, formal, and even unnatural; but the former is sure to become, as indeed it did become, insufferably lax and vicious, violating all the proprieties of our staid and sober art—an art which can never indulge in caprices without great risk to character and certain loss of dignity.

To say the truth, without, however, meaning the slightest disparagement of the sister art, I would express my belief that most of the errors of architecture, in its decadence, may be traced to the injurious influence that sculpture exercised over our art. The habit of a sculptor's mind would naturally lead him to exercise his inventive faculties in designing and modelling, out of the plastic material with which he is most familiar, forms and combinations of forms that would produce picturesque groups, and an ornamental or at least pleasing arrangement of lines, and of chiaroscuro; and, when he comes to execute his conceptions in stone or marble, he would of course seek to construct his work, if not out of a single block, at all events in as few as possible; because joints, and especially bed-joints, he is of course always anxious to avoid or conceal. All the proprieties, therefore, of *masonic construction*; the sound bonding together and truthful bedding of

* To be continued. † See p. 40, *ante*.

stones; the avoidance of false bearings, and all such-like considerations, are entirely foreign to his art; and are, in fact, subjects which never, or rarely, demand his study, nor even need his attention *as a sculptor*. Hence it is, probably, that we find that the sculptor of the seventeenth century, when he produced works of architecture, was very prone to treat his buildings, however large, rather like magnified copies of small sculptural models, than as purely architectural works; that is to say works built up on the true principles, and according to the known rules, of good architectural construction.

When we call to mind the practice so prevalent and so popular, at the period of which I treat, of erecting in churches huge architectural pageants of a most ostentatious character, but of very slight and temporary materials and construction, as chapelles, ardentes, and catafalcos, when the funeral obsequies of some high ecclesiastical or political dignitary were performed, it seems not unlikely that this prevalent fashion, on which, as it is well known, artists of highest eminence were often engaged, conduced to, or at least accelerated that degraded character of architecture which we so much deplore, and which so injuriously influenced our art in subsequent times.

Those vast architectural shams, the catafalcos, were put together by the flimsiest contrivances: there was, of course, a lavish superfluity of statuary; for it was of mere lath and plaster; and the drapery was often—I believe usually—real linen, steeped in glue and whiting, to give it a fictitious rigidity, and something of the superficial aspect of stonework.

By such-like artifices it became easy to "body forth," for a day's ceremony, some "baseless fabric of a vision," highly picturesque and imposing perhaps; indeed, when treated by men of genius and ability, very striking and even magnificent; for, as I have said, men of the highest rank in art were not, in those days, averse to lend themselves to these ephemeral productions.

In presenting such unreal mockeries to the view, masonic proprieties were neither required nor regarded. The boldest and least fastidious practitioners would probably indulge and amuse their fancies in realizing the semblance of impossible structures; and as it was just as easy and inexpensive, out of the lath and plaster, or clay and stucco, in which they worked, to present to the devout and admiring congregation a galaxy of clouds and glories, and to group together all the cardinal virtues, and the whole hierarchy of saints, as it was to exhibit the most gorgeous domes and the richest colonnades; it is not to be wondered at that the productions of the two arts got irretrievably intermingled and confounded as well as corrupted.

That such a practice or fashion, prevailing among a people of strong æsthetic feeling, but of lax principles of taste (and such were the Italian people of the seventeenth century), should lead to a similar style of designing in works of a more permanent character, seems natural and almost inevitable.

First in interior architectural design we should expect to find, what in truth we do find, that altar-pieces, baldachinos, and monuments, became strange medleys of the two arts, although worked out, perhaps, in real marble and brass; and then the vicious tendency would necessarily spread itself to exterior architecture.

I think that it may be said, with strict truth, that exactly in proportion as this sculpturesque spirit pervaded architecture, so that art became deteriorated. It has been truly said, by a high authority from this place, that painting and sculpture each excite our admiration the most when their special characters are kept most clearly defined, and when each art limits itself to the doing that which it is by its nature best qualified to do. Sculpture can very imperfectly represent distance; and should, therefore, avoid as much as possible attempting backgrounds. Painting, on the other hand, is peculiarly competent to produce such effects, by its power to represent space and distance; and, therefore, the painter who places all his figures on the same plane does not avail himself fully of the capabilities of his art. So, also, the painter abandons one of his highest privileges when he neglects to use colour; whilst the sculptor who uses colour (unless he does so with infinite caution and exercises great moderation and abstinence) runs a serious risk of turning his statues into dolls.

Our own art is amenable to the same law. It is always most triumphant when it attempts to do that only which it is its special province to do. Thus then, to apply our remarks to the subject in hand, I should say with great confidence that the architect who so designs his building as to render it doubtful whether sculpture may not legitimately lay claim to the work as its own is a traitor to his art, and despoils it of its birthright.

Many instances of such self-debasement present themselves among the works of the degenerate days of which I treat. It seems an ignoble task to hunt up for criticism and condemnation such examples of the abuse of genius; but such is the task I have imposed upon myself. Italy well earned the honour of having been the garden in the soil of which were nurtured all the most beautiful productions of modern art; but it was unfortunately in that same too fertile soil, that with greatest exuberance sprung up those wild extravagances which ultimately brought so great discredit on the arts, and on none more so,—perhaps on none so much, as on architecture.

I believe that it is to that *fatal facility* which characterized the practice of all the three arts at this period that we must mainly attribute their common decline. Wholly wanting in the thoughtfulness and deep feeling of Raffaelle, and of some who preceded, as well as of some who immediately followed him, the painters sought, for the most part, gorgeous and showy effects, at the expense of all the higher qualities of their art: so, as I have already remarked, the sculptors of this declining age designed impetuously and executed dexterously, but the sentiment of their art had evaporated, and its greatness had gone; and so, to return to our own art, the architects of the happier and earlier period were enthusiastic without wild extravagance, refined without pedantry, and always knowing well when to refrain from and when to indulge in the graces of decoration: none knew more thoroughly than the later, more advanced, quatro-centists *how* and *when* to give a zest to their work by the most charming ornamentation; whilst none appear to have known better than they the value of breadth, simplicity, and even of perfect plainness, when their good taste and judgment prompted an abstinence from ornamentation. But I have on former occasions dwelt sufficiently on the merits of the masters of that great period, and have already endeavoured to urge on you the careful study of their works. I name them now, that you may feel more sensibly the contrast presented by the architecture of the degenerate age which followed. It is my aim to deter you from the evil examples set us by the licentious throng of the seventeenth century by holding up their errors for your reprobation and rejection. Through the ignorance of some, the contumely of others, and the loose habit of speaking common enough to most of us, the term "Italian architecture" is apt to be applied to buildings of the most diverse and opposite character. It is an instance of the same laxity of speech by which styles of the utmost contrariety, from the simple, austere, and honest architecture of the early Rhenish buildings down to the florid extravagances of Adam Kraft, have all been indiscriminately classed under the one large, unmeaning, and inappropriate term "Gothic." It is through the same thoughtless and perhaps ignorant way in which the general term "Italian" architecture has been customarily applied, that gross injustice has been done to works of the highest quality.

The vague and superficial knowledge, both of some of those who have written and of those who have spoken on our art, has too often led them to place under the same category the beautiful works of Bramante, Raffaelle, and Giulio Romano with the truly barbarous architecture of Borromini, Fischers, and too many others. The Italians were, as I have already said, themselves the first corrupters of the Italian style; and among those corrupters Borromini stands out in strong relief as a prominent delinquent; for, as he was one of the most reckless practitioners, and one of the most sinful contaminators of style, so was he one of the most active and prosperous. Prosperous he truly was; for with that fatal facility on which I have been animadverting, he occupied a long course of practice in spreading over Italy a numerous and conspicuous progeny of ugliness. Prosperous, however, he was not to the end. By a kind of poetical justice which does not always attend upon the guilt of offending artists, he died miserably, the victim of jealousy and envy. Bernard Fischers was another instance whom I have adduced as one of the false lights of this vicious period. Vienna, to this day, is, in its public buildings especially, distinguished by the bad taste of Fischers; and I know no city so sadly disfigured by the school to which he belonged.

Milizia is a cantankerous critic, it is true; but he is perhaps justified when he condemns Fischers' triumphal arch at Vienna as "un capo d'opera di stravaganza." The wildest disciple of Borromini, he says, could not have invented a more capricious and irrational design.

I revert now to the question, What was the cause of this great and general degradation of art in Italy? It may be that the political and social condition of that country had for some time been degenerating; whilst other more northern countries were rising into wealth, and advancing in the political scale of Europe. Yet it cannot be said that political preponderance will always be found on the same side of the balance as æsthetic excellence.

We might readily point, in the history of Europe, to notable instances of the contrary.

For example, I am aware of no wonderful development of artistic taste having accompanied the brilliant epoch of Frederick the Great, or the extraordinary political ascendancy of Charles V. Going back to an earlier period, we shall find that in Mediæval times, when the social and political condition of Europe was very dark; and when, in the language of an old contemporary chronicler, "nobles and bishops built castles, and filled them with devilish and wicked men, and oppressed the people;" at that very period, foul, as it certainly was, with most of the vices which disgrace Christianity, a school of art existed which has been advantageously compared by many with that of the Greeks.

It is clear, therefore, that there are more subtile influences which will at least, sometimes, operate favourably for the development of art, besides the accumulation of mere material wealth and political power.

Neither will peace, alone, of necessity, bring æsthetic excellence among other blessings in its train, as we are very apt to say, and very willing to believe, when we would paint the horrors of war.

The Greek states, for example, brought the fine arts to a climax of excellence never since fully attained, although they were for ever engaged either in warring on each other, or in preparing and defending themselves against extermination from barbarian hordes.

So the Italian states, among whom art received its second birth, were constantly plunged in internecine wars. How often were the great masters of our art called away to superintend the erection of gloomy fortifications, and ponderous, unseemly, loop-holed walls, for the protection of those very cities which they were engaged in beautifying! How often were great and glorious works of art arrested in mid progress by the incursions of neighbouring rivals, or by the threatened devastations of foreign hosts, or by the exhaustion of the public purse consequent on these deadly strifes!

These instances, which might be greatly multiplied, are sufficient to show that a stormy political atmosphere is by no means of necessity inconsistent with the existence of a highly excited state of artistic ardour.

I would not, however, for a moment be supposed to pledge myself to the paradox that war is favourable to the cultivation of art. Very far, indeed, from that is the fact. All that I would wish you to infer from the remarks which I have just been making is, that the arts have been found to prosper notwithstanding war. But there is one condition which I believe to be clearly and positively essential to the permanent well-being of the arts, and that is, public prosperity. I suppose it to be impossible to cite an instance of the general decay of the material interests of a country not being accompanied by a corresponding degradation of the fine arts in that country; whilst, on the other hand, the sound, social prosperity of a people will generally be found to be accompanied by an elevation of their standard of taste, as well as by a widely spread appreciation of the fine arts.

The proudest works of Mediæval France date about the period when St. Louis, by his wise government, raised the character and consolidated the strength of his country. In England, the rule of Edward III. marks the periods of the highest point of excellence to which Mediæval art reached in our country; and precisely that warlike and heroic period was the most brilliant in the political annals of our middle ages.

I need not do more than point to the age of the Medici, in Florence, as the period most embellished by the fine arts, and as the period when the Italian Peninsula stood foremost as the most politically eminent among all civilized nations; and we have already seen, from the retrospect I have been taking of the architecture of the Italian Renaissance, that the debasement of the three sister arts was simultaneous with the decay of Italian political greatness. It is not for me to

attempt to explain these coincidences. It needs a larger and far clearer view of the philosophy of history than that to which I can pretend before I can presume to lay open the causes of these phenomena, the existence of which is all I can venture to assert.

Perhaps, too, the inquiry into those causes would hardly profit us here, for it belongs rather to the domain of the political economist, than to that of the artist. No doubt every ingenious mind must feel an interest in these general views, but they can scarcely be expected to bear us much fruit, nor to afford us practical rules of conduct in our search after æsthetic excellence, a search which should ever be uppermost in the artist's mind, be he student or professor. To trace the progress—not the occult causes—of decay in our art has been my chief object in the few desultory remarks which I have this evening addressed to you. It is but a sorry theme; and I may be blamed, perchance, by some, for having lingered so long among these ruins of a fine art, and for having sauntered so long upon the banks of that stream of polluted art which deposited its slime over so wide a portion of Europe, and during so long a period; whilst I might, with so much more pleasurable a feeling, have been leading you on to admire beauty amidst the charms of a happier age. But it is my conviction that much benefit is to be derived from the bold and unhesitating denunciation of whatever we must recognize as faulty. There are sermons in stones, whether they be fashioned by the hand of a master, or rudely hewn by the chisel and mallet of a prentice hand. The diagnosis of disease is, in truth, best studied, not in the healthy, but in the disordered subject. I have laid bare before you some sad cases of such disordered subjects this evening. It was, as you well know, the Spartan philosophy to deter the youthful mind from vice by exhibiting openly to the public gaze the unhappy and repulsive results of vice.

All that I ask of you is that you will note, and heedfully observe, these errors of our art, even whilst you pass them contumeliously by; and that you will study them well, for the mere purpose of propounding them as objects which neither love of novelty, nor the attractions of singular ingenuity, or of great technical skill, should ever tempt you to imitate or to repeat.

SANITARY MOVEMENTS.

THE sad death of the Prince Consort is likely to promote the sanitary movement in favour of the thorough and efficient drainage of dwellings, to which it has evidently already given a stimulus.

Wolverhampton.—The question of the sewerage of the town was to be brought before the council on Monday, when the chairman of the sewerage committee was to propose the adoption of a report presented to the council on the subject in November last, and further to move—"That the sewerage committee be, and they are hereby authorized and charged to carry out a general system of sewerage in the borough, at an expense not exceeding 35,000*l.*; and that the aforesaid report form the basis of the operations of the said committee; it being understood that a sum not exceeding 7,000*l.* shall be spent annually in the execution of the proposed works until the whole are completed." Already, however, a handbill denouncing the proposal, on the ground that the rates will thereby be increased, had been issued, and a meeting called to oppose it.

Brighton.—The town surveyor has reported in favour of carrying the sewage of the town further out into the sea in front of the beach by sewage-pipes, as some time since proposed by the surveyor, and partially carried out; but now by a length of pipe 550 feet in length, and 24 inches in diameter, instead of 750 feet in length and 3 feet in diameter, as proposed; the town council having objected to the cost of the latter. The surveyor states that the pipe already laid answers the purpose well, and that no nuisance arises from it; which is an assertion scarcely consistent with a complaint made by a correspondent of the very paper which gives the surveyor's report, that bathers on the beach are disgusted with stenches which the bathing-machine attendants, afraid to disclose the truth, endeavour to persuade their customers are only the wholesome smells of sea weeds. The town surveyor, however, satisfied with the result, further proposes that "the principle already adopted should be improved and extended." Glad as we are to find the Brighton people at length actually doing something towards the sweetening of their town, we think it is much to be regretted that their authorities have gone to work in this way; as we feel assured the result will be far from being so satisfactory as the plan some time since proposed of carrying the sewage either to the east or to the west, clear of the town by a sufficient distance; even should they be obliged then to cast it into the sea; but with the ultimate hope of utilizing it on the coast.

Bedford.—The Bedford public are much indebted to the local *Times* for the large space which it opens in its weekly columns to a discussion of sanitary subjects. The last two issues, like many previous ones, treat at some length on the sanitary condition of Bedford,—its comparative mortality and healthfulness; of malaria; of cesspools and fever; bad drainage a cause of fever; and one of our own recent articles on Typhoid Fever. The ventilation of such subjects must be preparing the way for great sanitary improvements in Bedford.

Nottingham.—The subject of drainage and sewage is engaging the attention of the Nottingham Council, where some discussion has just been going on as to it. The questions more immediately at issue are local in their nature; but one of these relates to the river Leen as the natural channel for the drainage of the Meadows district. Meantime, we regret to observe that there is a very great increase on the infant death-rate of the town, which is said to have progressed, in spite of the exertions of the Sanitary Committee and the Council generally to improve the sanitary condition of the borough. It is to be hoped the cause is not, as supposed, beyond the control of the Committee. The condition of the dwellings of the poor is admitted to be very bad; and surely much more could be done to improve these in regard to drainage, as well as in other respects.

Croydon.—The subject of outfall for the sewage here is still one of anxiety and annoyance. The local Board of Health have had to change the outfall into the river Wandle several times, in consequence of complaints and injunctions, and the Vice-Chancellor has just granted a new injunction, so that another shift must probably be made.

Yeovil.—Some excitement has been recently caused in this town from the receipt of a letter by the Board of Guardians from the medical department of the Privy Council, accompanied by a report, made by Dr. Greenhow, as to the sanitary state of the town. It appears that, in consequence of the alarming extent to which lung diseases prevail among the population of the Yeovil Union, Dr. E. H. Greenhow was employed, in the autumn of last year, to investigate the sanitary condition of the population. The result of that visit is now made known in a report, in which the doctor sums up his observations as follows:—"As far as could be ascertained, the great prevalence of pulmonary diseases among the population of Yeovil, as shown by the excess of mortality above the normal rate, is caused by the sedentary habits of the people; by the small, imperfectly ventilated, and often over-crowded cottages in which they dwell; and, in the case of men and of a small proportion of females and children, by the close, ill-ventilated factory-rooms in which they work."

Hastings.—From the ninth half-yearly report of the Hastings Cottage Improvement Society, it appears that the average amount of the gross rents received during the past six half-years has been at the annual rate of 10·91 per cent., and that the net rents have been at the rate of 7·27 per cent.; the outgoings for rates, taxes, insurance, repairs, collecting, &c., having been at the rate of 3·64 per cent. During the last six half-years the society's average total income from all sources has been at the annual rate of 12·76 per cent. on the paid-up capital, and the net income has been at the annual rate of 7·49 per cent.; out of which sum the shareholders have received a dividend of 6*l.* per share, clear of income-tax (which is paid on the gross rental by the society); and the remainder has been added to the reserve fund.

Wishaw.—In an article on "Sewage turned to good account," the *Scottish Farmer* says:—"The sewage of a country town like Wishaw, whose population at the late census (1861) was nearly 8,000, must, if properly collected and applied, be of some economic value. It is so, and with good practical results. In 1857, a neighbouring proprietor—through whose grounds, and near his mansion-house, the small brook called Whinnyburn carried the refuse of the town, and created an offensive nuisance when allowed to flow or fester unconfined—having threatened, through his law-agent, legal proceedings against the town, with a view to have the nuisance complained of cured or abated, the Right Hon. Lord Belhaven and Stenton came voluntarily forward, and offered to lead the sewage accumulating in Wishaw down to his own farm of Carbarns, on the banks of the Clyde. The sewage flows a considerable distance in an open channel: it is then confined in large spigot and faucet salt-glazed pipes, and led to a large reservoir or tank at the highest possible level at the home-farm. From thence a main and numerous branch pipes distribute the proceeds over the several fields. The branches are provided with plugs for fixing lengths of leather or gutta-percha hose, and the liquid applied to the crops guided by the hand of a labourer. It is also led over pasture and hay-fields by means of channels rutted by a plough-furrow or spade. The results have been most satisfactory, yielding in increased production a large per-centage on the capital and labour expended."

THE EXCESSIVE LOSS OF LIVES IN BRITISH MINES.

THE ACCIDENT IN NORTHUMBERLAND.

MOST of our readers will have heard of the fearful accident which occurred at the New Hartley Colliery, on Thursday in last week, when the beam of a pumping-engine broke in two; and one half, weighing twenty tons, fell down the pit; killing five men who were being hoisted up, and breaking down the shafts so as to entirely bury 215 others who were employed in the pit, and who were not got at down to Wednesday last, previous to which it was found that carbonic acid gas had accumulated in the shaft to add to the other difficulties in the way of extricating the poor people below, and who had ever since the accident been without any supply of food. No wonder, therefore, that most if not all of them have since been found dead.

The wholesale loss of lives in our mines is something dreadful to contemplate. Northumberland, however, is not the worst county in this respect. In South Staffordshire, according to a clerical gentleman who has descended into no less than four hundred of our pits to preach the gospel, and who appears to be well acquainted with the subject generally, there are seven times as many accidental deaths in proportion to those occurring in the mines of Belgium, for example; and fifty per cent. more even than those occurring elsewhere in Great Britain.

To the arduous and dangerous labours of our various kinds of miners, as of our seamen, Great Britain is, in a measure, indebted for its prosperity. It is a matter for much regret that the loss of life amongst these classes of the community is so far above the average.

We all admire the brave daring and hardihood of our sailors: their kind of life, notwithstanding risks and inconveniences, has many pleasures; but this cannot be said of those whose duty it is to descend into dark and noisome mines. The deeds of the miners are not very generally brought before the public notice. Those, however, who have had an opportunity of becoming acquainted with the coal-miners of the north of England, Gloucestershire, and some other districts, know the manner in which they face danger, and the zeal with which, in defiance of fire, explosions, water-rushes, &c., they venture to the rescue of unfortunate comrades.

It must be confessed that in many instances there is a degree of rashness on their own part which leads to fatal results; but the improved intelligence of those men will help to prevent this. There are, however, other important improvements to be brought into use in the management of mines (particularly those of coal) which will prevent many of those startling accidents which are unfortunately too common. We are glad, therefore, to direct attention to an association which has been formed for the purpose of attempting to improve the condition of the British miner.

In furtherance of this object a meeting has just been held in the Westbourne Hall, Bayswater, when it was announced that the president of this society is Sir Fitzroy Kelly, and the vice-presidents are Lord Carew, Mr. Frank Crossley, M.P., Mr. W. Scholefield, and Mr. B. B. Cobbett, F.R.S. Mr. Harvey Lewis, M.P., was in the chair, and several clergymen and other persons of influence took part in the proceedings.

It is estimated that the number of workmen, and boys who find occupation in the various mines of this country, is about 2,000,000,—nearly a fifteenth of the whole of our population, and about twice as many as those who are engaged in connection with our railways. As regards the miners, there is an average yearly number of 1,000 killed in mines, and about 10,000 injured.



PULPIT, WROTHAM CHURCH, KENT.—MESSRS. NEWMAN & BILLING, ARCHITECTS.

These figures show that one in every 200 of those employed in this labour is more or less injured. Besides this, as we have before remarked, the ill-ventilated condition of many mines causes a large additional amount of ill-health, suffering, and loss of life. This is clearly shown by the circumstance that although our agricultural labourers are not so well cared for as they should be, the average duration of their lives is only forty-five years. This is, however, great in comparison with that of the miner, the average length of whose life is only twenty-seven years.

In connection with this matter there is an extensive field for useful exertion. We therefore trust that the example which has been set at Bayswater will be followed by the formation of similar associations elsewhere.

THE SANITARY STATE OF WINDSOR.

IT is satisfactory to observe that on one of the chief points, as regards the town of Windsor, to which we have drawn attention,—namely, ventilation of the sewers and house-drains,—a letter has been sent to the Mayor from Mr. Simon, of the Medical Department of the Privy Council Office, stating that the lords of her Majesty's Council are anxious to learn what steps have been taken to improve the drainage, and more especially to provide proper ventilation for the sewers and house-drains, as recommended in their lordships' letter of 27th April, 1860; the absence of this important provision having been believed by their lordships to have had much influence in causing the lamentable epidemic of typhoid fever which prevailed in Windsor about three years ago. The late Mr. Austin had inspected the town, it may be remembered, and had discovered that there was this "great defect still existing," and to which he drew urgent attention, as far outweighing all the improvements which had been accomplished.

After the letter from the Privy Council was read, a report by the local surveyor was presented to the meeting, wherein it is admitted that "it was not deemed advisable to introduce any more ventilating pipes." In this report, it is observed that "the main trunk sewer had several shafts brought up to the surface during the construction of the works by Mr. John Roe, which were considered sufficient for the purpose of allowing the gases to pass off." Mr. Austin, however, according to this same report, had "expressed a desire to have ventilating shafts introduced at the head of each sewer, immediately in front of the flushing tanks," which, however, was considered by the local authorities as an impracticability.

The meeting, having considered the letter and report, unanimously resolved that Mr. Roe be requested to assist the surveyor in inspecting and reporting as to the ventilation of the main sewer and branch and house-drains, to enable the Board to reply to the letter from the Privy Council; and a committee was formed, including the mayor, to meet and communicate with Mr. Roe.

PULPIT, WROTHAM CHURCH, KENT.

IN the parish church of Wrotham, not long since restored and decorated, the handsome pulpit represented by the accompanying engraving has been erected. It is of Caen stone, with Derbyshire marble columns and alabaster caps and cornices, the upper part being similar to that in the refectory of Beaulieu Abbey, near Southampton. The whole has been carried out by Mr. J. W. Seale, architectural sculptor, of Walworth, from the designs and under the superintendence of Messrs. Newman & Billing, architects, London.

In the tile pavement of the church we find the following inscription in Latin:—"Blanche Emma Lane instituted the restoration of St. George's Church, Wrotham, A.D. 1860."

During the progress of the repairs, as the plaster was being taken from the wall to the left hand of the altar, an ancient tomb, supposed to be that of John of Wrotham, the founder of the church, was discovered by the workmen. The arch is of Kentish rag-stone, and means were adopted for its preservation. The coffin was composed of several stones, and the skeleton inside was entire.

ORNAMENTAL BRICKWORK, HAMPTON COURT PALACE.—A correspondent directs attention to some handsome brick chimneys in progress at Hampton Court Palace. "There are three recently erected in the north front, also some brick cornices, that would amply reward any admirer of brickwork for a journey to see them."

LONDON ON THE THAMES.



East of Blackfriars Bridge: the North Bank.



From the Adelphi to Waterloo Bridge.



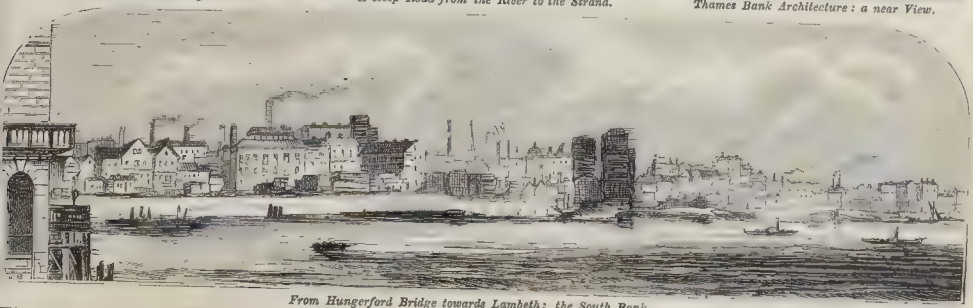
Remains of the Savoy Palace.



A steep Road from the River to the Strand.



Thames Bank Architecture: a near View.



From Hungerford Bridge towards Lambeth: the South Bank.

LONDON ON THE THAMES.

THE DESIRED EMBANKMENTS.

"THAMES, the most loved of all the Ocean's sons,"

has got into a sad mess: dirty is his bed, and squalid are his banks. We have made a few sketches to show what is the actual aspect, on the river, of—

———"The glorious city,
Which holds the fair, the rich, the gay, the witty."

Before long now Parliament will be asked to settle something as to the embankment; and, doubtless, before the next summer has passed the work will be commenced; we hope, on both sides of the river; and that in the course of a short time we shall have a clearly defined and substantial margin to our great river, and a roadway extending on the north from Westminster to the Tower and on the south throughout such a distance as will afford the required convenience and prevent the damage which is caused by floods. In arranging this matter there should be no half measures: To stop short on the north side, as is proposed by some, at Blackfriars Bridge, would be a mistake; for, independently of other considerations, a better roadway along the part of Thames side which leads from Blackfriars to Tower-hill, is most necessary for the accommodation of the present large and constantly-increasing traffic. From morning till night these narrow streets are choked. In the vicinity of the Custom House and Billingsgate, the confusion is generally so great, that it is not easy for even foot passengers to make their way.

Besides other advantages the new embankment shadows forth the prospect of a remedy for the unsightly architectural appearance, which now disfigures the banks of the most populous, wealthy, and prosperous City in the world.

At the present time, when passing along the Thames, from the Houses of Parliament towards the east, there is, landward, but little to gratify the eye. On the south, with the exception of the venerable remains of Lambeth Palace (St. Saviour's is nearly hidden), the space near the water is covered with modern buildings, which are without general or harmonious design: ranges of sheds and temporary structures, to a large extent, occupy sites which might be improved in value and appearance. On the north and south sides much of the evil complained of has been caused by the want of a distinct margin, which has caused the river to be encroached upon by wharfs and various buildings. If, for instance, we look from Hungerford Bridge towards the Adelphi, the gradual intrusion of dwellings and constructions upon the Thames will be readily noticed. The Adelphi-terrace, and the streets, such as Buckingham-street, Villiers-street, and others, which are composed of substantial houses, leading from the Strand towards the river, have in front of them premises which are, doubtless, useful to the present coal traffic in this part of the metropolis in the way it is now managed, but are neither picturesque nor beautiful. On a near view, the dilapidated condition of some places, the waste of space, and the inconvenience of such a neighbourhood for this business, would surprise those who, not being acquainted with this locality, might pay it a visit. Denham sings,—

"In that blest moment, from his oozy bed,
Old Father Thames advanced his reverend head;
His tresses dripp'd with dews, and o'er the stream
His shining horns diffused a golden gleam,
Graceful on his urn sup, car'd the moon that guides
His swelling waters and alternate tides;
The figured streams in waves of silver roll'd,
And on their banks Augusta rose in gold."

Our sketches show how Augusta in this quarter has been tarnished.

Along the line of the Strand the gradient from the water is very steep, and with difficulty, even in favourable weather, powerful teams of horses raise the coal-waggons to the roadway. The "wear and tear" upon carriages and horses is greater than would occur upon several miles of ordinary road. It is remarkable, in these days of steam-engines and railways, to see such doings in one of those steeps,—to witness the action of the drivers and the horses, and to hear the loud voices of the men, the cracking of whips, the clattering and rattle of the horses' feet and waggon-wheels. In these parts things seem to be carried on in much the same way in which they were 100 years ago; while in other directions inclined planes have been brought into use, great docks made, where coal-ships of upwards of a thousand tons each may be loaded or unloaded in a single day. Along the colliery and other railways the "black diamonds" are carried in all directions; and already the suburban railways, with cheapness and dispatch, bring immense quantities of various kinds of coal from the Victoria Docks and other parts of the Thames, and from inland places, to the northern portions of the London district. And, as the system of the metropolitan railways is extended, this public convenience will be increased.

We have just now more particularly referred to this circumstance from the fear lest the places of business alluded to may interfere with some comprehensive and meritorious design for beautifying the banks of the Thames. It should, however, be considered, in this case, that so rapid and considerable are the changes in connection with the metropolitan coal supply, that but little supply from this district may be needed after a few years have passed. Even should they be retained, however, there is no reason why the new north river roadway should not be rendered both useful and ornamental.

In all designs for this purpose, advantage should be taken of objects of beauty and interest which remain along the metropolitan portion of the Thames. York Gate should not be hidden. Waterloo Bridge, particularly the land approaches in connection with Somerset House, is very fine, and might be suggestive for the continuation of new works. The view at present is chaotic. Byron scarcely exaggerates:—

"A mighty maze of bricks and smoke and shipping,
Dirty and dusky, but wide as eye
Could reach, with here and there a sail just skipping
In sight, then lost amidst the forestry
Of masts; a wilderness of steeples peeping
On tiptoe through their sea-coal canopy;
A huge dun cupola, like a foolscap crown
On a fool's head—and there is London town."

Year after year the water-views of St. Paul's have been damaged by the erection of shapeless blocks of buildings; and so the master-piece of Sir Christopher Wren, the chief glory of the city, has been hidden from points of sight where its beauty would be most apparent. It will be a noble work to open out a prospect of the cathedral from the proposed embankment.

Having glanced at the northern margin of the Thames as it is at present, it is worth while to look at Sir Christopher Wren's plan for restoring the City after the Great Fire of 1666. The effect which might have been produced by following the great architect's advice can be imagined; nor can we fail to note, as to other parts, at what enormous cost, in modern days—even in Queen Victoria's reign—alterations have been made which only in a small degree approach in usefulness to Wren's propositions.

The commissioners continue to meet, with reference to the embankment of the southern side. They have received about twenty plans for improving and embellishing that bank of the river. At their last meeting—

The Lord Mayor, who presided, said it was not a very easy thing to see a way to a solution of the difficulties with which this question of embanking the Surrey side of the river is surrounded; and he was apprehensive that in many cases they would be compelled to leave the wharf walls where they were. The inhabitants on the Surrey side said their walls were so low that the water came over them, and were so defective that it percolated through them; and the only remedy was that they should raise and repair them. The inhabitants on this side further said they had as much right to have an embankment as the inhabitants of the north side; but the answer to that was that the commissioners, in laying down their plan for the Middlesex and northern side, had not done it so much in conformity with the wishes of the inhabitants, as they had recommended it rather in spite of them. They had said in many cases they were sorry this did not suit them; but it must nevertheless be done to meet the more imperative necessities of the case involved in the public accommodation, and the requirements of the enormous traffic, between the City and West-end and other metropolitan districts. There was nothing of this sort on the Surrey side carried on on the edge of the river, as upon the northern edge; and the requirement might be met by the formation of new thoroughfares. On the northern side there was a large amount of vacant space to be reclaimed, and they could afford to buy up or compensate; but on the Surrey side every yard was occupied. It might be desirable to embank the south side all the way along, and construct handsome quays and promenades; but it could not be done without an enormous amount of money; and the public had not got it to spend. The commissioners had now received all the plans they intended to take, and would not recommend any without first of all fully consulting the interest of all the parties concerned.

We long earnestly to see the works commenced, and expect that the changes and improvements on the banks of the Thames will be so great and rapid, that in a few years our present illustrations will be looked at with wonder and doubt.

ON THE PRESENT ASPECT OF THE FINE AND DECORATIVE ARTS IN ITALY, WITH ESPECIAL REFERENCE TO THE RECENT EXHIBITION IN FLORENCE.

AT the Society of Arts, on Wednesday, the 22nd inst., Mr. M. Digby Wyatt read a very interesting paper on the recent manifestation of Italian capabilities made at the Exhibition in Florence, the result of a personal examination. The demands on our space by lectures at this moment prevent us from printing the whole of it; and, as we have already given our own accounts of the collection, we quote at present some of the more general observations it contained: we shall however return to it:—

Every student of the "Divina Commedia" must remember the almost passionate terms in which Dante mourns over that transition from simplicity of life and manners to a luxurious indulgence of the intellect and senses which no sumptuary laws, however stringent, were ever able to subdue. Long and vainly the nobles strove during the fourteenth and fifteenth centuries to preserve for themselves a monopoly in splendour; but wealth, accumulating in the hands of the citizens, ultimately broke up their ineffectual blockade;—how, and with what results, may be traced in the chronicles of Villani and Corio; in the excellent "Discorso di Guglielmo Manzi sopra gli spettacoli, le feste, ed il lusso degl' Italiani nel secolo XIV;" and in Muratori's grand collection of writers "rerum Italicarum"

Out of the superabundant gains of the industry and commerce of Florence, Siena, Geneva, Venice, Lucca, Pisa, and Milan, and out of the accumulated riches drawn by an all-powerful priesthood from its spiritual tributaries in all parts of the world, one cannot fail to be struck with the very large proportion which was obviously expended in supplying this apparently insatiable craving for beauty. Sums of money which would frighten the nobles, commercial or hereditary, even of this kingdom, were lavishly expended on the great monuments of Italian art. Taking, for instance, such a city as Palermo, we find, even at the present day, not tens, but twenties and thirties of churches lined throughout with marble mosaic of the most costly description. The riches of St. Mark's, at Venice; St. Peter's, at Rome; the Certosa, at Pavia; St. Anthony, at Padua; and the churches of the Annunziata and San Matteo, at Genoa, appear almost beyond estimation; while not only in monuments such as adorn these cities are the boldest dimension and the grandest scale adopted, but every inch of wall surface, and every piece of church furniture, however insignificant, is made as elaborate as human ingenuity and human hands can make it.

To such an exuberant extent was this apparent craving for enrichment indulged, that where, as happened in many cases, funds were wanting to complete the ambitious designs of the founder of some great monument, his successors, rather than leave the work altogether unfinished, have endeavoured to realize, by paint and every kind of ingenious expedient, the effect so ardently desired by the original founder of the edifice. Hence proceed many of those illusive perspectives which almost convert flat ceilings into airy cupolas, and carry out the eye of the visitor in the *salone* or grand apartment of the *piano nobile*, or principal floor of an Italian residence, through apparently interminable arcades, to an exuberant landscape, alive with statues and fountains.

An amusing definition of what an Italian of the sixteenth century understood as indispensable domestic ornaments may be found in a little book written by Castiglione Saba, and entitled "Ricordi overro Ammaestramenti," for a reference to which, and, indeed, for the loan of which, I am obliged to the kindness of Sir Charles Eastlake. In one chapter the writer tells us how pleasing to the eye and how necessary are terra cottas by such men as Paganino da Modena; musical instruments by Lorenzo de Pavia or Bastiano da Verona; that carvings should be supplied by Michelangelo, Donatello, Alfonso Lombardi (one of the great Venetian Lombardi), and Cristofero Romano. Antique medals, he says, are necessary, as well as those of Giovanni Corona, of Venice. Verocchio and Pollaiuolo, we are told, should supply the bronzes; and cameos and intaglios should be by Pietro Maria, and especially by Giovanni di Castello.

We may pass over the list of worthy painters given by the author, but not so the terms in which he notices the marquetry works of Fra Damiano da Bergamo, and the armour and glass work, the current productions of Milan and Venice. To fittingly supply such necessities no artist was too proud; and there yet exist, more particularly in the great Florentine collection of drawings by the old masters in the galleries of the Uffizii, ample evidences of the powers in designing ornaments, as applied to industrial productions, possessed by artists whose more special fame rests upon that which we habitually contradistinguish from such classes of art, by designating as fine art. To enumerate a few of these may not be unprofitable, by way of directing the attention of young artists to some of the worthiest masters of their craft.

As designers of wood and marble carving we note the names of Baldassare Peruzzi, the great Sienese architect; Giorgio Vasari, Raffaelle Da Monte Lupo, Michelangelo, Montorsoli, Guglielmo della Porta, Il Riccio (the author of the magnificent candelabrum in bronze at the church of St. Anthony, at Padua), Giovanni Battista Trotti, better known as Il Molosso, Lilio da Novellara, and an artist of exquisite refinement, Francesco Salviati. For stucco work we meet with designs by Giovanni Battista Cremonini, and Marco da Faenza; and for friezes with those of Gaudenzio da Ferrara, Giulio Campi, and Amico Aspertini. For miscellaneous designs of all kinds, we find beautiful studies by Pielino del Vaga, Francesco Zuccheri, Polidoro da Caravaggio, and Prospero Fontana. Cellini, Bernardino Pocchetti, Giulio Romano, and many others, brought their great accomplishments to bear upon the production of beautiful metal-work; while Pelegrino Tibaldi, Matturino, Morto da Feltro, Giovanni da Udine, Bacchiacca, Pinturicchio, Pietro Perugino, and many others, shone in arabesques and cognate descriptions of design. Their ability, indeed, to minister to the smaller wants of the great Italian nobles, led, in many cases, to the artists so exercising their lesser talents (if they may be so described) receiving commissions calculated to bring out their capabilities in the loftiest directions.

Any one desirous of tracing the important part which the requirements of industrial art played in the lives of many of the most eminent Italian artists, and which I cannot now do more than point to, may find ample materials awaiting his investigation in the autobiographies of Ghiberti and Cellini, in the writings of Vasari and Baldinucci, in the "lettere Sanese" of della Valle, in the Italienische Forschungen of Von Rümohr, in the Beiträge zur neuern Kuntsgeschichte of Förster, and last not least, in the collections of original notes and documents illustrating the history of Italian art, by Gaye, Gualandi, Carlo Pini, and the brothers Milanesi.

Did time permit, I would willingly dwell in detail on mosaic, sgraffito, intarsiatura, fresco, and gesso painting; terra-cotta, majolica, stucchi, niello, glass making, and others of those arts, transmitted by the curious MS. treatises known as "secreta" from generation to generation, in which Italy so long enjoyed a monopoly of celebrity, if not of actual production; but I feel that the second branch of our inquiry this evening is too important to be set aside for matters even of such interest as I do not doubt these ancient arts of Italy might be made to assume.

Turning from their yesterday to their to-day, we cannot but observe that, in almost every department in which their ancestors excelled, the modern Italians exhibit, if not a considerable power of production, at least very respectable exceptional proficiency; and, if not within the walls of the Florentine exhibition, at least in contemporary art-productions elsewhere, we may trace a partial revival of almost every ancient process known to the Italians of Medicean times.

It is probably in the purely fine arts that the principal degeneracy is to be recognized: in the strictly technical there exists by no means the same falling away. The reason for this may not be hard to trace, in the amount of liberty which has for many years past been enjoyed by the lower orders, as compared with that moral and mental subjection in which the middle classes have been held. While every-day necessity, and the passage of interminable "forestieri," have created sufficient demand to stimulate the capabilities of the workmen, the apparent hopelessness of their careers has unquestionably deterred many, who, from the middle classes, would have supplied proficient artists and designers from entering upon those severe studies by which alone excellence in the higher branches of art can be attained.

To proceed with some little method, it will be well to take first of all the three generally-received fine arts—Architecture, Painting, and Sculpture; and then the leading art-industries in succession, noting briefly the apparent condition of each, in Italy, at the present date.

With regard to architecture, it may be observed that the pernicious influence exercised by Bernini and Borromini, whose trivialities obtained excessive vogue during the greater part of the seventeenth century, tended to the production of that *rococo* style which caused a great deterioration in the florid ornament of the Roman, Venetian, and Northern Italian schools. But, extravagant as Bernini was, it would be unjust to deny that he frequently redeemed his excesses, as in the colonnade of St. Peter's and in the church of St. Agnese, in the Piazza Navona, at Rome, by great facility of design, and a certain not unnoble bravura of style. Borromini's great follower, Guarini, out-Herodes Herod, and demonstrated, by an *argumentum ad absurdum*, the ridiculous consequences of adopting the whimsicalities of Borromini.

The brilliant talents of Vanvitelli, and the majestic scale upon which he worked out the immense palace at Caserta, tended to maintain the dignity of the art during the greater part of the eighteenth century; and showed that magnificence and grand conceptions of pictorial effect had not yet deserted Italian architecture. From his death, in 1773, architecture, and ornament also, greatly declined; and, although monuments upon a large scale have been frequently erected since that period in Italy, but few of them are worthy, in any quality excepting that of scale, to rank with the purer taste of earlier times.

The feeble classicisms of the style of the empire were generally slavishly reproduced in Italy during the early part of the present century; and until comparatively recent days little of considerable merit has been executed.

The works of Piranezi, Albertolli, Cicognara, and Canina; and the illustration principally by foreigners (such as Percier and Fontaine, Maxois, Grandjean, Famin, and Montigny, Gauthier, Letarouilly, Zahn, Gütensohn; and Thürmer, Grüner, Taylor and Crecy, Willis, and Hessemer) of their great monuments of art, have led to a return to a purer class of architectural ornament than had been previously in vogue; while the earnest writings of the Count Selvatico, and the translation of Rio's "Poésie Chrétienne," have introduced to the Italian architects those rational principles of design, including the treatment of constructive form and of ornament, originated amongst us by the younger Pugin.

The great scale of the existing edifices, and the reparations which it has been necessary to make from time to time to save them from destruction, have constantly maintained Italian artisans in the practice of rivalling the ancient work; so that, in every department of building, hands at least abound, perfectly capable of carrying out the most difficult designs.

No better illustration of this abundant material power could probably be given, than the rapidity and dexterity with which the buildings for the Exhibition were adapted to their present purpose in a few weeks only, under the skilful direction of the architects, Signori Presenti of Cortona and Martelli of Florence.

The feeble academic system which has until recently prevailed, and under which the professorial chairs were not unfrequently occupied by political parasites, rather than by duly qualified professors of real abilities—coupled with the lack of occupation—has certainly enfeebled the powers of the last generation of architects in Italy; although there are, of course, some honourable exceptions to such a reproach.

Among them I would place conspicuously the Cavaliere Niccolò Matâs, of Florence, who is now on the eve of completing a work which must for ever do honour to his country. I allude to the restoration of the façade of the Church of Santa Croce, which is being conducted upon a scale of nobleness, worthy in every respect of the building in which are deposited "ashes" which, as Byron says, are in themselves "an immortality of dust." The whole of this work, which is of enormous extent, is carried out in different-coloured marbles, wrought with an exactitude worthy of the celebrated masonry of the shrine of Orcagna, in the Or San Michele, so highly praised by Vasari. The sculpture is being executed by the most distinguished sculptors of Florence; and the result of their combined abilities is such as could scarcely, I believe, be rivalled at the present time, by designers, artists, and workmen in any of the capitals of Europe.

Scarcely less praise should be awarded to the authors of the noble restoration, now making, of the Bargello at Florence—the old palace of the Podestas.

Very recently a programme has been put forth, inviting designs from Italian and other artists, for completing the façade of the cathedral at Florence. The greatest praise is due to the Italians for their earnest desire to remedy so great a blot as the incomplete state of this façade has always been to that noble building, Santa Maria del Fiore, the master-piece of Arnolfo di Lapo and Brunelleschi. . . . .

[After commenting on various departments of the Exhibition, the reader proceeded to add a few remarks touching the even more important question of the possible Italian Art-Industrial future, as there foreshadowed.]

As there can be no fire without fuel, so there can be no fruitful production without education; and it is from the withdrawal of the restrictions which have hitherto tended to discourage every class of practical instruction, throughout most of the States into which Italy has been divided, that the probably most prolific source of future benefit is to be anticipated. Thus, in the fine arts, although many costly literary works—such as the "History of Painting," by the late Professor Rossini, of Pisa; the "Illustrations of the Certosa of Pavia," by Durelli; of Milan, by Cassina; of Venice, by Cicognara; of Ancient Art, by Canina; of the Museo Borbonico, by the Neapolitan Government; and of the Florentine and other academies—have been produced mainly in answer to a foreign demand, there is an almost entire blank in the contemporaneous supply of what may be understood as school books of art fit to place in the hands of workmen and students. Since the days of Mengs Algarotti and Visconti, but few Italian writers have followed closely those theories of esthetics which have largely engaged public attention in Germany, France, and England, and still fewer have endeavoured to methodize and popularize those texts for the practical instruction of the student.

Gioberti's eloquent and learned essays, "Del Buono," and "Del Bello," are far too ethereal to be palatable to the general reader; while the master mind of Nicolini, the early bent of which inclined strongly towards the solution of art questions, as evidenced in his excellent discourses on Orcagna, Michelangelo, Leon Battista Alberti; on "The Connection between Poetry and Painting;" and on "The Influence of the Arts on Social Life," became subsequently engrossed by political, literary, and educational questions, of even more serious import to Italy.

Among modern writers on the subject of the fine arts, the Count Selvatico, the Marchese Ricci, and the Marchese Roberto D'Azeglio, may be considered as having effected the largest amount of good; but there is still much to be hoped for, now that it is possible for the books published in any one part of Italy to be read in others, besides those in which, having eluded the Scylla of state censure, they were imperilled and imprisoned by the Charybdis of heavy and almost impassable barriers of state dues and inquisitorial police.

To the workman, however, there are practical sources of instruction, even more valuable than the text-books of his art. These are to be recognized in the works of his contemporaries. What can be imagined more instructive for an apprentice than to have placed under his eyes the best performances of his master contrasted with those of other manufacturers? What more beneficial than to be able to examine the productions of those who in any special branch of industry are superior even to the master he has been accustomed to recognize as to him its practical head? Such instruction is to be derived from exhibitions such as that under notice; and it is to be hoped that the present may be but the first of a long series in which, from year to year, and in different localities, the Italians may take stock of their own advancement, and from time to time enjoy opportunities of comparing their own productions with those of other, and perhaps, in a commercial sense, more advanced, nations of Europe. The tendency and ultimate result of such comparisons and such stimulants will no doubt be, in Italy, as their action has already frequently proved in other countries, to convert exceptional into staple productions, and to lead to the confirmation of a manufacturer, treading with hesitating steps the path of novelty, in branches of industry ultimately destined to confer riches and honour on the land in which they may be originated. There is, too, in these exhibitions, a species of combination and subordination of means to a common end, the moral effect of which, for the Italians especially, cannot but be most excellent; and may tend strongly to correct, by a system of aggregation,

the tendency to isolation so largely developed, even among the working classes, by antecedent social and political restrictions. . . . . .

What is most wanting in us is an ardent desire for the beautiful. I am far from saying that this desire does not exist in a large and rapidly-increasing per-centage of the English people; but with us it is so interjectional a sensation as to lead to comparatively little practical result. The rich man, who sees a picture or statue which pleases him, will buy one or other, or both; but how seldom with the least consideration of special fitness for supplying any particular want—much thought of, long cherished, and carefully determined upon. The nature of such a want, and the best mode of supplying it, will occupy the earnest thoughts of the Italian; but with an Englishman, in a general way, the inclination will be but desultory; and, if not supplied at a moment when strongly felt, it will pass away, and perhaps never meet with realization at all.

Another lesson of great importance to us may be derived from the fact that, both in the past and in the present, the Italians have never been in the habit of looking at any one art as perfect in a condition of isolation from others. To produce for them the effect of beauty or nobleness all must contribute. Colour is just as essential as sculpturesque form; and both must be held in subordination by the symmetrical conditions of architectonic disposition of lines and spaces.

We, unfortunately, now see too many of the great monuments of Italian art stripped of half their furniture; but if, from the relics of perishable objects preserved in museums, such as that at South Kensington, we attempt to restore to those denuded monuments, to those ransacked palaces, "those banquet-halls deserted," the embellishments we recognize as having formerly belonged to them, we shall at once see that the attainment of a really perfect effect in monuments, the beauty of which was dependent upon the combination of the Fine Arts, could only, in Italian eyes, be properly effected by super-adding with profusion all that the industry and ingenuity of the most skilful workman could produce in the Industrial Arts.

To this union of all the fine arts among themselves, with the industrial arts attending as their handmaids, we must look as the most important element in all magnificence; and if we would emulate the Italians, we must not rest until we have learned to blend all cognate arts and industries in harmony.

The third great merit in the best Italian production, whether in a small article of industry, or in the most magnificent monument, is nobility of inclination.

The mistake, for instance, of building the front of a palace in stone, and suddenly dropping off, the instant the corner is turned, into brick, might occur to even a millionaire in this economical age, but would scarcely have presented itself to a Medici, or a Farnese, in the old days of Italian magnificence. Not that the wealth, or the inclination to do what is handsome, might be less in the one case than in the other, but that public opinion and system would keep the patrons of old straight, and allow those of to-day to fall into what cannot but be regarded as an architectural meanness.

It would be, of course, too hard to point to any particular cases where hundreds are almost daily guilty of committing similar solecisms in taste; but unless we are to look for the exemplification of nobility of structure to those whose means place it within their power, how can we expect it from those to whom an increased expenditure might be a really important consideration.

Nobility of material lavishly used, ample space, solidity of structure, and the gift to the eye of something obviously designed rather to please than to pay, together with the effect that such departures from rigid utilitarianism produce instinctively on the spectator,—sources of effect lavishly indulged in in Italy at every period of her history,—are only beginning to be appreciated amongst us in the present day.

At the times when architects, such as Inigo Jones, Wren, Gibbs, and Chambers, endeavoured to maintain in this country the principles of grand Italian architecture, founded upon the universal practice during the best Classical and Mediæval periods, marble, oak, and stone, were freely used. Cortiles and loggias, colonnades and arcades, were not banished as profligate waste of ground and money. Carving, and the elaborate working out of ornamental features in true and just proportions, were considered to be essential to fine effects. Paintings were not to be hung as by accident against walls—here a Madonna, and there a set of boors drinking—but allotted places were provided for them, in the vaults and on the walls of the principal apartments. Sculpture, too, found its niches; and, when English talent failed to supply it, the services of foreigners, in despite of strong insular prejudices, were freely enlisted. And it was precisely when the public taste adopted a meaner class of building materials, a grudging spirit in the distribution of space, and a lower kind of internal decoration, that the arts of design in this country, with some few honourable exceptions, fell to zero. From that pitch (if I may use the expression) of degradation and disintegration, they are now happily rising into a concrete and perfect form, with a reaction, the vigour of which is scarcely to be paralleled in the world's history. We are beginning to do better in each separate department of production: we are beginning to recognize that excellence in one must necessarily be combined with excellence in others; and we are beginning, in fact, to learn and practise the very system still lingering in the hearts and habits of the Italians. May we advance with them, and they with us;—for it is one of the happiest conditions of all true art, that, if it be worthily carried to perfection, its universality must breed honourable emulation, but never envy or jealousy.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE ordinary meeting of members was held on Monday evening last, at the House in Conduit-street, Mr. M. D. Wyatt, V.P., in the chair.

Mr. T. H. Lewis, hon. sec., submitted some specimens of zinc forwarded by Mr. James Edmeston. Zinc similar to that submitted had been used at the Victoria Station, Pimlico, and was said to be unequalled in quality to any hitherto introduced into England.

The Chairman observed that, before proceeding to the main business of the evening, he wished to bring under their notice a communication which had been received from the Art Design Committee of the Great Exhibition of 1862. The committee were anxious to receive drawings of art designs from deceased members of the profession, such as Gibbs, Adams, Soane, Smirke, Pugin, Barry, and others who might have left designs for ceilings, mural works, and so forth. As our professional forefathers had done so much of the work which now excited our admiration, it would be well, if possible to show how they did it.

Mr. Godwin said he was glad the chairman had brought the subject under notice, as he believed there was a general feeling out of doors that it was of no use offering designs unless they had applied for space. He believed that many persons would like to know whether the Fine Art Committee was still open to the loan of pictures, to make up a series, or to illustrate a particular school.

The Chairman said, that the arrangement for the receipt of pictures was very nearly completed, but that the arrangements of the Art Design Committee were altogether incomplete, as they had received but few offers of loans of subjects. Among the drawings required in this department were those of Flaxman, Stothart, and others of the period.

Mr. Henry Roberts then read a paper "On the Essentials of a Healthy Dwelling, and the Extension of its Benefits to the Labouring Population," part of which will be found elsewhere.

At the conclusion,

Mr. Chadwick, on the invitation of the Chairman, observed that humanity was much indebted to Mr. Roberts for the manner in which he had brought the subject of healthy dwellings before different Associations and before the public. Great advantage had already accrued from a knowledge of what he might term the generalities of the subject; but he thought the time had now arrived when they could advance beyond generalities, and treat the subject analytically. There were many important questions which might be treated in that way, such as warming and ventilation; the best mode of constructing walls and windows; what was the minimum size for a living-room for five persons, and for a sleeping-room for two persons, or for one person; what was the best description of drainage, the ordinary cesspool being abolished; and what should be its substitute; what was the best description of closet, as some required two gallons of water to flush them, and others but half a gallon; and so on. All these were practicable matters, the solution of which would confer great benefit upon society. He apprehended that economy in construction would depend, to a great extent, upon the amount of demand. In the case of warming, a poor man's fireplace in London might consume a hundred-weight of coals while in Warwickshire the consumption might be double that quantity. Some stoves consumed much more fuel than others; therefore it was desirable to know which was the most economical of the two. In the case of walls, he was surprised that greater attention was not paid to the subject. Those who had paid attention to the ravages of epidemic diseases in the dwellings of the poor knew that an absorbent wall would retain the "dead man's smell" adhering to it for a considerable time. The cost of a damp wall was to be estimated, not only by the disease which it retained and emitted, but by the fuel which it required to dry it. He remembered cases in which fever existed in every house in a certain locality. The inhabitants were ordered to remove, and the walls and ceilings of some of the houses were carefully limewashed. In other houses this precautionary process was not adopted; and the result was that, when the fresh population came to reside in them, the disease broke out again; whereas there was no return of the epidemic in the houses that had been thoroughly cleansed. He had repeatedly suggested the importance of using non-absorbent bricks in the construction of the dwellings of the poor; as every ounce of moisture got rid of contributed to make the dwelling more healthy. This portion of the subject had been brought under the notice of his late Royal Highness the Prince Consort, who had highly approved of the introduction of hard burnt brick in lieu of the soft badly-baked brick too often used. Some years ago the Department with which he (Mr. Chadwick) was connected had some specimens of nine-inch wall constructed with bricks 9 inches by 18 inches; and it was found that by the use of such bricks a wall could be built at a cost of 3s. per superficial yard, much superior to the common wall, costing perhaps 4s. or 5s. per superficial yard. Upon ascertaining this, he went to the late Mr. Thomas Cubitt, and mentioned the matter to him. His answer was—"It may be cheaper and better, as you represent it to be; but if I were to introduce it I should have to get machinery adapted to produce such bricks; and after I had gone to all that trouble and expense the workmen would strike, and I would be involved in a struggle with them." During a recent visit he had made to Lancashire, he had been informed that a certain firm were manufacturing a brick with great pressure; and that it was to all intents and purposes a non-absorbent brick; but that the other brick-makers had induced the bricklayers to strike rather than use the new brick. He mentioned this circumstance to show the difficulties which lay at the bottom of questions like these. At the same time, if they were submitted to an analytical course of examination, it was probable that the investigation might lead to some practical result. Considered in this light, it might also be possible to diminish the cost of dwellings, which was an important element of consideration. A good deal had already been achieved by analytical examination in the way of reducing the cost of large buildings, such as barracks, hospitals, &c.; and he himself had suggested to the late Lord Herbert whether that which had been accomplished so successfully in the case of barracks might not also be effected in reference to the dwellings of married non-commissioned officers. The architect must of course take the materials at hand; but as in all cases the best and most economical materials and methods were not yet generally used or carried out, it was evident that much benefit might be derived from careful analytical investigation.

Mr. Jennings said he was anxious to say a few words, as he could not agree with what had been stated in reference, amongst other things, to the abolition of cesspools in country cottages; because experience had shown that it was impossible for the poor man to make his garden profitable, without using the manure to be obtained from that source. He spoke as a holder of cottage property, and as one who had tried to realize what was called the model cottage system in different counties in England. The great desideratum, in improving the dwellings of the agricultural poor, was to induce them to occupy their cottages properly. There would not, he was persuaded, be any difficulty in inducing persons of capital to build cottages, if the inmates used them properly. The fact, however, was, that the tenants destroyed the cottages, pasted up the ventilators, and refused to use the accommodation and conveniences furnished to them. He agreed that it was important to prevent the underletting of small tenements, but the tenants would do it; and if the landlord turned them out for doing so,

he was denounced as a very hard-hearted person. Again, with regard to the Removal of Nuisances Act, he was prepared to contend that the provisions of that Act, so far from being beneficial in country places, were injurious, in consequence of the manner in which they were carried out. In a case where he himself was the owner of cottage property, he put down 9-inch pipes, but in a few months they got stopped up. The sanitary committee called upon him to relay them, but he did not think it worth his while to do so. It was better to pull the cottages down. He had six cottages at the top of a hill, with excellent sanitary arrangements, but the sanitary committee decided that the privies were to be drained away, and insisted upon his clearing away the cesspools. He refused to do so, preferring to eject the tenants and lock up the cottages. They remained closed for two years, until the sanitary committee was done away with, and the inspector, with a salary of 20*l.* a year, lost his situation. These impediments being removed, the cottages were again let. As an illustration of the difficulty of removing prejudices among a rural population, he might mention that when building some barracks, or dwellings, for quarrymen in Wales, he proposed to board the floors of the cottages, instead of introducing slate, in the usual manner; but the people objected, and declared that they would have the floors laid down with slate, in the old fashion. The question of ventilating cottages was not one of such great difficulty, if the occupiers would not paste up the ventilators. He had prevented this operation in the case of some almshouses which he had constructed at Epping Forest, by carrying up a ventilating flue in every stack of chimneys. By this means, the occupiers were unable to interfere with the ventilation. In some cottages which he had erected in Berkshire, the occupiers pasted up the whole of the ventilators: in other cases, he found that the inhabitants preferred paved floors to their cottages to boarded ones; while, in other cases, the cottages which had the fewest number of conveniences were preferred to those which had the most. With regard to the absorption of bricks, he found the best course to adopt was to build two 4-inch walls—in fact, a hollow wall; but if ventilation by windows was required, he found that sashes to open down from the top must be used, instead of casements. With regard to roofs, he quite agreed that great evil resulted from carrying up small rooms in the roof. The great advantage of slate over tile roofs to cottages was, that the catchment of rain water from the former was much more considerable than from the latter, and rain water was of great service to the cottager. The diminished catchment of water from tiles arose from the fact that the tile absorbed far more water than slate; for, while heavy dew even would fall from the latter, it would be completely absorbed by the former. The most comfortable cottage roof was one in which a felt covering was laid down under the slate. Another cause of the want of ventilation in cottages was the habit too often practised of laying oil-cloth upon the boarded floors, a practice which, while absorbing the moisture of the floor, prevented ventilation and rotted the boards.

Mr. Godwin (being called on by the chairman), observed that it was a matter of some difficulty to jump up spasmodically at so late an hour as that at which they had arrived (a quarter past ten o'clock), and attempt to deal with so large and momentous a question as that involved in the paper read by Mr. Roberts. He felt, however, that if time permitted he could say a great deal; because he confessed that he never heard a laugh raised on the subject of sanitary reform (and Mr. Jennings must admit he had evoked more than a smile by his objections), without feeling a sentiment akin to indignation. We all knew that thousands of our fellow creatures were dying every year because the sanitary arrangements of their dwellings were not what they ought to be. We knew that over crowding among the poor caused typhus and other fevers, and we knew that the emanations from decaying matter would produce typhoid fever, which was desolating the homes of many, and had destroyed that valuable life which the whole country was now deploring as a national loss. When it was known that attention to, and the application of, known principles in reference to those evils would remove them, it was, he thought, desirable that we should approach the consideration of them with a seriousness commensurate with their vast social importance, and endeavour to advance knowledge by investigation rather than damp it by incidental illustrations of ignorance or misapplication. We knew that if we put our hand into a candle, it would be burnt, and science and experience had shown us with equal fidelity that if we lived in places where sanitary arrangements and precautions were disregarded, we would die before our time. How was it that the returns of mortality showed that in one place the deaths per annum were 17 in 1,000, while in another the deaths amounted to 34 in 1,000? The reason was that we did not apply our minds with seriousness to the investigation of the subject, and did not apply the knowledge within our reach to the mitigation of the evil. He scarcely knew in what manner they could best proceed in order to arrive at a practical conclusion; but it occurred to him that if a committee of the Institute were appointed, or a mixed committee, to investigate all the improvements that had been suggested, with the view of building a dry and healthy dwelling for the poor, some good might result. Surely, for instance, a brick might be so made as to be dry and impervious to moisture, and at the same time capable of adhering to mortar. Let this subject for once be considered; as also the best description of stove for the poor man's dwelling, and the rich man's too; something which would not consume twice as much coal as was necessary; and, above all, let them have a well-ventilated room,—a subject upon which so much was said but so little done. By the present system of ventilation, or rather non-ventilation, we put ourselves into a room at night which was as close as an egg-chest; literally reminding us of the illustration used by the old parson in Scotland, who, annoyed by the shutting of all apertures, told his congregation that, if he preached in a barrel, they would put a cork in the bung-hole. In like manner, we felt that we were living in unhealthy places, and yet we made no attempt to improve them. So also with our roofs. We went on year after year, and generation after generation, building the same kind of roof. We might have arched roofs, or incombustible flat roofs, or some other variety of roof that might conduce to health, and be constructed cheaply; but we made no advance in the way of improvement. Even in our legislation on the subject we had failed. All the clauses in the Building Act relating to those matters had failed to answer the end in view. One of the clauses in question declared that every sleeping-room in the roof of a house should be 7 feet high for over half its area; but the builder deposes, when before a magistrate, that the room is only intended for lumber; and thus the Act of Parliament is evaded; and, if a summons be taken out by the district surveyor, it is dismissed. The law declares that a penalty of 20*s.* per night shall be inflicted for every night in which a person was permitted to sleep in a room of less than the height laid down; and a rich harvest might be derived by any one who would turn informer for the purpose; but everybody knew that such penalties were never exacted, owing to the difficulty of proving the offence. So also with the 100-feet area at the back required by the Act of Parliament: everybody knew that it was constantly evaded. He was quite sure that all who heard him felt of one mind on this subject; and he hoped it would not be supposed that, in a society of architects, there was any doubt about it. They did not doubt it, because they knew very well that, under certain conditions, a house would be healthy; and that, if these conditions were disregarded, the house must be the opposite to healthy.

Mr. Horace Jones expressed a hope that another evening would be devoted to the discussion of the subject, and that Mr. Godwin would open it.

The Chairman said they were already one evening in arrear, but that there was no reason why a subject of such importance should not be submitted to all the light which a discussion might throw upon it.

Professor Kerr moved a vote of thanks to Mr. Roberts for his paper; and also submitted a resolution to the effect that the subject be taken into consideration on a future evening.

Mr. Horace Jones seconded the motion.

Mr. Papworth inquired whether that evening month, the 17th of February, would suit for the discussion, as it was very desirable that the members of the Institute should have full notice of it.

Ultimately that evening was decided on.

The Chairman expressed his hope that Mr. Chadwick would also attend, as well as the Hon. Arthur Kinnaird, and other gentlemen then present, who had taken great interest in the subject, but who were precluded by the lateness of the hour from taking part in the discussion.

The vote of thanks having been carried *nem. con.*,

Mr. Roberts acknowledged the compliment; and observed that, if he had not been compelled to condense his paper materially, some of the observations made by Mr. Jennings would have been neutralized.

PROPOSED COMPETITION FOR COMPLETION OF THE DUOMO OF FLORENCE.

WE have received a communication from a distinguished Italian, signed "Giovacchino Vaccà," complaining of the course pursued in respect of a former competition of designs for the desired façade of the cathedral of Florence; and, as the new competition appears to have awakened attention in England, we give an English dress to a portion of the latter. The writer says,—It was made known throughout Europe, both by the newspapers and by printed circulars, in the year 1843, that a special committee had had meetings with the noble object of carrying out an old wish of the Florentine people, viz., — that of seeing their beautiful cathedral completed with a façade worthy of so rare a monument; not the invention of a modern architect; but a restoration of an ancient monument found incomplete, following every indication which might reveal the wish of the original architect, who for some reasons had not the opportunity afforded him of completing it. This committee, which had, as their guiding principle, the public good and the honour of art, was enthusiastically received; so that contributions flowed in from all sides, and had it not been for the cold breath of base passions, this noble public desire would already have been fulfilled. The writer goes on to say, that the design by the Cav. Matas, being made on a large scale, with all the necessary studies, was approved by the public of all classes; and the day for the sovereign approval had arrived, when H. R. H., early in the morning, received a visit from a certain person who, with his rhetoric, upset the scheme. Having obtained this victory, the opposite party set forth other plans, which were but imitations of Matas's design, and they must certainly have made use of the same measurements, it being known that from the time of the Cav. Matas, in 1843, to Cav. Baccani, in 1859, no one had taken measurements on the top of the building, a task which could not be hastily done, and which requires time, and several men to accomplish it.

Meanwhile, some foolish remarks were spread abroad which caused Cav. Matas to publish a pamphlet illustrated by drawings. Another assembly was announced for April 18th, 1859, under the presidency of H.R.H. the Archduke Ferdinand, to decide whether it should be settled by public opinion. And now a third committee has been announced very like the preceding one, and relative to which we read the following:—"That the occurrence of the first Exposition in Florence is an auspicious event and happy opportunity for the carrying out of an idea which, born in time of sorrowful servitude, it would be to our shame if, in a time of liberty and prosperity, it were not acted upon and completed." All this is very well: the intentions appear excellent; but, in an assembly of so many lawyers, and in a country where these occupy a first position, no one would ever think that, after the work of the first committee, and after the publication of the project of Matas, their decision could have been set aside.

I respect every authority, and I admit that the king may give the order to whomever he pleases, but not convoke an assembly to deliberate on a subject which has already been discussed in its minutest particulars. If the celebrated architects of Europe are jealous of their honour, not one would deign to compete in this arena: after the occurrence it would not be easy to gain a second applause so universal as that obtained in the first competition. Only second-rate men, and presumptuous ones, who are the most inexperienced, will condescend to this, by means of which they may carry off a palm, not caring of what quality.

COMPETITION DESIGNS FOR THE HOUSES OF PARLIAMENT, SYDNEY.

OUR readers are already aware that, out of the twenty sets of designs submitted, six were selected bearing the following mottoes:—"I bide," "Hora e Sempre," "Palladio," "Fide et Virtute," "Sic fortis Etruria crevit," and "Follower of Wren." An inquiry, intrusted to the Colonial architect, involved labour and care, and occupied several months in its performance, the designs being extremely elaborate, and each of them, with one exception, being found to cost over half a million of money to carry out. A

letter from one of the competitors whose design was not selected, pointing out that neither of the six designs complied altogether with the conditions, was also referred to the Colonial architect, whose report upon this objection was, that they were all sufficiently within the prescribed terms to be properly taken into consideration. The principal objection appears to have been, that the designs marked "I bide" and "Palladio" violated the condition which required that the elevations should be "without colour or shading of any kind," a perspective view of the former being very artistically coloured, and one of the latter being shaded with sepia. It was, however, stated by the Minister for Works in the Assembly, in answer to a question, that the design marked "I bide" had not been disqualified on account of one of the drawings being coloured, that drawing being merely an addition to another perspective view which was in accordance with the conditions, and the design being complete without it.

The commissioners ultimately made the following award:—

First premium (600*l.*) Design marked "I bide." Second premium (300*l.*) Design marked "Hora e Sempre."

Upon opening the sealed papers the commissioners found that the design marked "I bide" was the production of Mr. William Henry Lynn, of 64, Upper Sackville-street, Dublin. It is in the Gothic style, and bears a general resemblance to the Doge's palace at Venice. The cost of executing this design, as estimated by the Colonial architect, would be 642,205*l.*

The architects of the design marked "Hora e Sempre" are Messrs. Stent & Laver, of 127, Great Portland-street, Portland-place, London, and Ottawa, Canada West. There were two designs under the above motto,—the one Grecian, and the other Gothic. Both of the designs were considered by the commissioners, but they have given their award upon the Gothic design. The Classic design of "Hora e Sempre" would cost to execute 656,641*l.*, and the Gothic design 505,113*l.*

Of the twenty designs sent in for competition, eleven came from Europe, and of the remaining nine only five are attributed to Sydney architects.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday, the 17th instant, at the house in Conduit-street.

The chair was taken by Mr. T. Roger Smith.

The following gentlemen were, on ballot, elected members of the association:—Mr. J. Johnson, 10, Cliff-street, New North-road; and Mr. North, 35, Radnor-street, Chelsea.

The secretary announced that an arrangement had been made for the members to avail themselves, on the afternoon of Saturday, the 25th instant, of the invitation to inspect the works of the underground railway.

Mr. Druce called attention to the advertisement for designs for the new façade for the cathedral at Florence, and inquired whether information on the subject could be obtained in London.

The Chairman presumed that the particulars might be obtained at the office of the Italian Legation in Park-lane.

Mr. Druce then read a paper on the subject of "Public Memorials;" which we shall print hereafter.

At the conclusion,

The Chairman observed, that the paper was of unusual interest, at a moment when the country was about to erect a national memorial to perpetuate the memory of a great and good man.

Mr. Rickman was of opinion that when we were about to erect a memorial such as that referred to by the chairman, the chief object to be kept in view should be the utility and appropriateness of the design, rather than the talent of its author. It would be the duty of the sculptor, the artist, and architect, to consider how this could be best carried out. The late Prince Consort had himself set the example of combining the utmost taste with the greatest utility; and it now remained for those who survived him to remember his example in doing honour to himself. He begged to propose a vote of thanks to Mr. Druce for his interesting paper.

Mr. Spiers seconded the motion, and suggested that a new National Gallery would be a useful and appropriate memorial, especially as the beautiful in art would have to be kept in view. If anything in the nature of a statue were decided upon, he hoped care would be taken that the pedestal should be adorned with suitable bas-reliefs, illustrative of the public services of the Prince Consort. The monument at Orleans to the memory of Joan of Arc was, in his opinion, an admirable specimen of what a memorial statue should be.

Mr. Ridge denied the truth of the allegation made elsewhere, that our sculptors and architects had entirely failed in designing monuments of an artistic character. He did not approve of the utilitarian suggestion, because he considered that the nation ought to erect a monument purely from its love of the prince, apart from any other motive.

The Chairman, having described what in his opinion should be the chief characteristics of a memorial, objected to the adoption of a public building, on the ground that in many cases such institutions had become in the progress of time perverted from their original purpose, and had lost the names of the founders, as in the case of many of the colleges at Oxford and Cambridge. For these reasons he hoped that the proposed memorial would be of a distinctly individual nature; perpetuating the name, and, if possible, the features of the late lamented prince. Although the paper read by Mr. Druce embraced a great variety of subjects appropriate to the occasion, he had omitted to refer to memorial churches, which, in his (Mr. Smith's) opinion, afforded beautiful and appropriate models. A column also, when well treated, was a suitable object; such columns, for instance, as that at Brussels and the column of July in Paris. Perhaps the finest combination of sculpture and architecture of which we ourselves could boast was that lately erected at Westminster.

After some further discussion the vote of thanks was adopted *nem. con.*

The paper to be read at the meeting on the 31st instant will be "On the Preservation of Stone," by Mr. Chase.

The drawing in the class of design for this week is "a shop front."

ARCHÆOLOGICAL INSTITUTE.

A MEETING of this Society was held on the 10th inst., Mr. Tite, M.P., in the chair.

Mr. Petrie communicated drawings and a notice of remains of a church of circular form, called the Girth House, existing in Orkney, near the ruins of the palace of Jarl Paul, who resided there in the twelfth century. As an example of this peculiar type, of which so many are to be found in the northern parts of Europe, this little church is believed to be unique in North Britain. In general plan it precisely resembles the little church at Altenfurt, near Nuremberg. It is remarkable that no church of this form exists in Ireland.

Professor Donaldson then made some remarks on this curious class of ecclesiastical structures, and the examples in our own country, all of which belong to the twelfth century; and Mr. Tite invited attention to the Round Church at Northampton, which he had lately visited.

A memoir was read, addressed by one of the foreign correspondents of the Institute, Count Tyszkiewicz, a learned Associate of the Society of Antiquaries of Wilna, and illustrative of various primeval antiquities—entrenchments, tumuli, &c.—in Lithuania. Of these a series of careful plans were sent for comparison with those of similar remains in Britain.

A discourse was then delivered by Mr. E. Lloyd, of Ramsgate, controverting the opinions of the Astronomer Royal and of Mr. Lewin, relative to the spot where Cæsar landed in Britain. Mr. Lloyd's views appeared to be grounded on careful examination of the localities, with which his residence in Kent had made him familiar; and in support of the received opinion that the Portus Itius, whence Cæsar set forth, was at Wissant, he relied upon Ptolemy, and Cæsar's statement that he sailed from the port nearest to Britain, with the distinct assertion that he landed in Cantium, a name which, Mr. Lloyd maintained, strictly applied to the Isle of Thanet, and never extended further than Dover and Canterbury.

A notice was then read of the Breden stone, the remains of a Roman pharos on the western heights at Dover, and which was exposed to view last summer in the course of forming barracks. The shapeless mass of masonry, known formerly as the Devil's Drop, is mentioned by Lambarde and other writers on Kentish antiquities: it probably marked the site of a Roman pharos, on the west side of the harbour at the mouth of the Door. The Lords Warden were in olden times sworn into office on this Breden stone, which had been covered up with chalk and rubbish, and concealed from view in 1806, to be again exposed for a few days during the recent operations, and again wholly lost and forgotten.

PROPOSED MEMORIALS OF THE PRINCE CONSORT.

The National Memorial.—On Wednesday, at three o'clock, the executive committee for raising a memorial of the late Prince Consort held a meeting at the Mansion-house. There were present the Lord Mayor, president and treasurer; Sir Wentworth Dilke; Mr. Gregson, M.P., Mr. George Cubitt, M.P., Alderman Abbiss, Alderman and Colonel Wilson, Mr. Charles Hill, Mr. Godwin, Mr. J. Spicer, Mr. Foster White, and Alderman Salomons, M.P. The Lord Mayor read a letter which had been addressed to him by Viscount Palmerston, from Broadlands, inclosing 100*l.* from the fund. It was announced before the close of the meeting, that the fund up to yesterday afternoon amounted to about 11,000*l.* A resolution was passed by the committee, authorizing the Lord Mayor, as president, to put himself in communication with the Governor-General of India, with the view to afford the people of India an opportunity of subscribing towards the fund.

Among the proposed Metropolitan memorials is an "Albert Park-drive, or walk, from Primrose Hill to Hampstead," including a portion of the heath, and an obelisk, or other monument, such as an arch, on some part of the ground, inscribed to the memory of the Prince. Another project is the erection of model cottages in the east, west, south, and north of London, with baths and washhouses, and schools.

A Birmingham Memorial.—At a large meeting, convened by the mayor, it was unanimously resolved to erect "a great public memorial" to the Prince. The mover of the first resolution, the Rev. Dr. Miller, said he was "entirely opposed to anything that should have the slightest appearance of utilitarianism about it." The seconder, the ex-mayor, hoped that workmen would have an available opportunity of contributing. A committee was appointed to consider the most suitable form of memorial; but the general feeling seemed to be in favour of a statue. One of the local papers expresses a hope that if it is to be a statue it will be "one to which the inhabitants can point with some degree of pride, and without the humiliating knowledge that it has never been honestly paid for;" and that it will be "something immeasurably superior, both in design and execution, to the statues at present in existence in the town," as "an inefficient memorial of the kind would be ten times worse than no memorial at all." The editor, however, is in favour of some more utilitarian idea.

A York Memorial.—The High Sheriff of Yorkshire has convened a county meeting for the 31st instant, for the purpose of adopting an address of condolence to her Majesty; and it is suggested by the *York Herald* that the meeting should "at the same time resolve on the erection of a magnificent testimonial" in the city of York.

A Chesterfield Testimonial.—A movement has been commenced in this town to raise a fund for a memorial. The form spoken of is that of a row of model cottages; the rents to be given, conditionally, in aid of the Chesterfield hospital. There is something not pleasant to reflect on, however, in the many attempts to turn the memorials of our great men to some other account of a more worldly description, however charitable, or otherwise excellent, its special purposes may be. If the Chesterfield people wish to aid the Chesterfield Hospital, why do they not do it in a straightforward way, and not under the false pretence of erecting a memorial in honour of the dead. Even model cottages, although one of the innumerable objects which the Prince was anxious to promote the extension of, ought to stand on their own basis, as a social and sanitary improvement, and not be smuggled into existence under the deceptive guise of an expenditure ostensibly designed to provide for a grand national cenotaph, or tombstone, as it were, to his memory. It is only in America that tombstones are made use of for the twofold purpose of commemorating the dead and promoting the welfare of the living; and really, if such suggestions as to aiding hospitals, erecting model cottages, and baths and washhouses, &c., are to be carried out, we are only taking a long stride towards the unseemly mode of advertising the businesses of widows and orphans on the tombstones of their fathers or husbands.

A Malvern Memorial.—Exertions are being made to place in the Priory Church a stained glass window as a memorial of the Prince.

The Manchester Memorial.—It has been decided that this memorial shall consist of a statue, in the first instance; but considerable difference of opinion still exists as to the disposal of any surplus funds. The various proposals would include the establishment of a convalescent hospital, the purchase of the Botanical Gardens as a public park, the opening of a pleasure ground to be called the "Prince's Walk," or the erection of model cottages. The Bishop of Manchester, who was present, said he fully approved the erection of a statue; but none of the other proposals seemed to him so appropriate as a plan he was not then prepared to speak of, but as to which he should be glad to confer with any small committee, specially appointed to consider how the funds should be applied; and the plan in question was one for supplying what he personally knew to have been felt by his Royal Highness himself to be a great want of the people of Manchester. But is it about "a great want of the people of Manchester" that this "memorial committee" ought to be thinking or deciding, or is it not? It is as to the fittest form which a monument to a truly noble and beloved prince ought to assume

and not of any "want," great or small, of "the people of Manchester," that they ought to be considering; and we earnestly hope that, under the circumstances, they will cast aside all such mean, double-purposed, and selfish motives as that of their own wants.

THE LEWIS.

A CORRESPONDENT writes:—"You would oblige a few scientific readers of your publication by informing them as to the time when the Lewis was first used as a mechanical appliance.

"The Lewis is now in general use, both in architectural and engineering works. It is inserted, as you know, into large blocks of stone, as a connecting medium for hoisting masses of several tons weight. The Lewis is triangular and tripartite in form, consisting of two outside pieces of iron divergent at base: the centre is a wedge; all three being ringed at top to receive the hook from the lever power which is to hoist the block out of ship or elsewhere, and to lay it in destined position.

"Please to say the probable date at which the Lewis appliance was first used in this or any other country; *i. e.* whether before or subsequent to the English Reformation?"

For some time it was supposed that the Lewis was first used by a French artisan employed on the works of Louis XIV., and received its name in compliment to the king. It was known, however, long before this. Many of the stones of Whitby Abbey were found, when part fell, to have a cavity at the top similar to those now cut for the purpose of raising stones by the Lewis. We have a recollection, moreover, of some evidence showing that a similar arrangement was not unknown to the ancients.

SCHOOL-BUILDING NEWS.

Parwich (*Derby*).—A new school has been opened here. The style, according to the *Derbyshire Advertiser*, is Gothic; and it is built of dressed limestone, obtained from a quarry in the neighbourhood, belonging to Mr. T. W. Evans, M.P. The outlines are of freestone from Birchover. The lining is of brick. Length of schoolroom, 43 feet 3 inches; breadth, 19 feet 6 inches; height, 20 feet. Turret entrance, 19 feet 6 inches by 7 feet; height of turret, 34 feet; in which is to be placed a clock 2 feet 9 inches in diameter. Class-room, 14 feet 6 inches by 18 feet 6 inches; cloak-room, 15 feet 5 inches by 7 feet 9 inches; height, 9 feet. A school residence is attached.

Leominster.—The new British Schools, Leominster, have been opened. The architect was Mr. Maesfield, of Kington; and the builders were Messrs. Cox & Davies, of Leominster. The schools are 60 feet long by 20 feet wide. The expense incurred for the erection is estimated at 380*l*.

METROPOLITAN BOARD OF WORKS.

LONDON, CHATHAM, AND DOVER RAILWAY STATION IN BLACKFRIARS ROAD.

AMONGST other proceedings at the meeting of the Board on Friday the 17th, Mr. Vulliamy, the superintending architect of the Board, read the following report relative to the additional property required for station purposes by the London, Chatham, and Dover Railway:—"With regard to the proposed station arrangements of the London, Dover, and Chatham Railway on the east side of Blackfriars road, near the bridge, to carry out which the necessary plans, &c., have been deposited by the Company, I have to report that, if the scheme be matured in accordance with the deposited plans, showing the boundary of the property proposed to be acquired for the purposes; the new street now being formed by this Board from the High-street, Borough, to the Blackfriars Bridge-road, will, for the first 280 feet of its length, commencing at the Blackfriars Bridge-road, be inclosed in a tunnel, or between retaining walls on either side, or by some other such mode equally detrimental and fatal, in my opinion, to the new street in question; and I recommend that steps be taken to oppose the proposed schemes by all possible means in Parliament."

The Chairman said that the proposal would convert the first portion of the street into a tunnel and materially affect the drainage.

On the motion of Mr. Deputy Harrison, the report was referred to the Main Drainage Committee for consideration and report.

EDENBRIDGE CHURCH.

SIR,—In my paper "On the Conservation of Architectural Remains," I noticed the removal of a very curious and interesting window from the church above named. I had ascertained that this had been done by some local mason, but while writing I did not recollect that the church had also undergone a general and careful reparation. I am anxious to sever this work of restoration from the little piece of Vandalism which I pointed out, and which, I learn, had been perpetrated a year and a half before the undertaking of the larger work, and under a previous incumbent. I need hardly say that Mr. Ainslie, the architect who directed the restoration, had nothing to do with the removal of the window, which, in fact, had been effected before he became acquainted with the church. GEORGE GILBERT SCOTT.

ANALYSIS OF THE DESIGNS FOR BLACKFRIARS BRIDGE.

THE following Analysis of the Designs and Estimates sent in on the 28th of June, 1861, to the Bridge House Committee, was prepared by one of the competitors, Mr. R. W. Mylne.

Name of Engineer.	Number of Arches	Span of Centre Arch.	Navigable Headway above Trinity Level at Centre.	Summit Level of Roadway above Trinity High-water Mark.	Breadth of Bridge.	Estimated Cost, including Approaches, Temporary Bridge, and Removal of Old Bridge.
STONE.		ft. in.	ft. in.	ft. in.	ft. in	
Sir J. Rennie	3	236 10	25 0	..	64 9	410,000*l.*
Mr. R. W. Mylne	5	156 6	26 0	33 9	68 5	366,000*l.* (Excl. of Property Compensation.)
Mr. G. Rennie.....	5	150 0	27 0	34 6	70 0	315,000*l.* (Exclusive of Embankment.)
Ditto	5	125 0	26 6	32 0	70 0	270,000*l.* (Excl. of Approaches and Embankmt.)
WROUGHT IRON.						
Mr J. Fowler	3	275 0	23 0	..	80 0	325,000*l.*
Ditto	5	185 0	22 0	27 0	80 0	980,000*l.*
Mr. J. Hawkshaw	3	200 0	26 0	..	80 0	350,000*l.* (Exclusive of Approaches.)
Ditto	5	145 0	25 0	..	80 0	350,000*l.* (Exclusive of Approaches.)
Mr. P. W. Barlow	3	250 0	26 6	..	72 0	149,372*l.**
WROUGHT-IRON GIRDER.						
Mr. R. P. Brereton	5	220 0	27 6	30 3	58 0	161,000*l.**
CAST IRON.						
Mr. T. Page..... ..	3	280 0	26 0	31 9	75 0	285,000*l.** (Amended 18th July to 245,000*l.*)
Ditto	5	156 0	24 0	27 9	75 0	Not estimated.
Mr. G. Rennie.....	5	180 0	26 6	..	60 0	210,000*l.* (Exclusive of Embankment.)
Ditto	5	173 0	27 0	32 0	70 0	250,000*l.* (Excl. of Approaches and Embankmt.)
Ditto	5	160 0	27 0	34 0	70 0	210,000*l.* (Exclusive of Embankment.)
Messrs. Bidder & Clarke	5	172 0	25 0	..	80 0	176,000*l.**
Mr. R. W. Mylne	5	163 6	26 0	33 7	68 5	290,000*l.* (Excl. of Property Compensation.)
Mr. J. Cubitt	5	150 0	25 0	29 9	70 0	245,000*l.*
Mr. T. Greenhill	5	152 0	28 0	..	60 0	245,000*l.*
Ditto	7	120 0	28 0	..	60 0	Not estimated.
Mr. J. Brunlees	5	172 0	27 0	..	70 0	84,496*l.*

Those marked * propose to execute the work without a temporary bridge.

SPONTANEOUS COMBUSTION.

A FIRE which, but for the early discovery of it, might have been most disastrous, recently occurred at a gentleman's residence, in the country. Owing to a dense volume of wood smoke, it was sometime before the seat of the fire could be approached; and, when it was subdued, it was found to have originated in a small brick-arched cellar, which had long been used as a storage for wood, and before the fire occurred was about half full of sawn blocks, ready for domestic use. Some of this wood had been in the cellar (which was rather damp but warm), for several years.

In the absence of any trace as to the true origin of the fire, it was suggested that it might have arisen from the decomposition of the wood, producing spontaneous combustion. As this is a question of some moment, and more so for the future than the past, I shall be glad of the opinion of any of your readers as to the probability of a fire arising from such a cause. I may add that the proprietor of the house was past the entrance to the cellar in question about ten o'clock in the evening, and that the fire was first discovered about half-past two on the following morning. ONE WHO WAS AT THE FIRE.

Books Received.

Diagrams, for the Black Board, of Ornamental and other Forms. By WALTER SMITH, Head Master of the Leeds School of Art.

WE have here a set of copies, forty in number, intended for the use of teachers of elementary freehand drawing, but equally available for those who would teach themselves. In the first case the designer, Mr. Walter Smith, recommends they should be "drawn, on a large scale, upon the black board for a junior class, and afterwards be copied, the same size, by the older pupils, as intermediate exercises between drawing from the black board and Dyce's Outlines." They may be obtained at Chapman & Hall's. Their fitness for the purpose, and low price—one shilling,—should lead to their being largely used.

VARIORUM.

"Crysal; or, A Story *with* an End. By Frances Freeling Broderip. Illustrated by Thomas Hood, and published by Saunders & Otley," is an irreproachable and charming little book for children, and more than children. Every one knows the "Story *without* an End" (a story of the wonders of creation). Mrs. Broderip finds, in telling the same story, a very good and great end,—the instruction it should convey to the thoughtful mind of a child. Mr. Hood, her brother, who illustrates it, must have, in addition to other merits, that of industry in a large degree.——"Description of Edward Finch's proposed Improvements in the Metropolis. London: Wilson, Royal Exchange, 1861."—Mr. Finch's scheme was submitted to Lord John Manners and the Board of Works, in 1858; and placed before the Thames Embankment Commission in 1861. By this scheme of improvement, the channel of the Thames from Nine Elms, on the west, to Deptford Creek on the east, would be cut off from the river; which would be diverted into a straight cut across the Surrey side, between the two points referred to; while the old channel would be thus at once convertible into a great lake, or great Serpentine, as it were, which would justify, at last, the French topographer's description of London, as "a city lying on the banks of the Serpentine." This great lake Mr. Finch would have supplied with pure fresh water from the Thames at Hammersmith, by a straight cut or navigable feeder entering it at Millbank. The lake would constitute one vast dock, with locks at each end, and a level of water equivalent to a perpetual full tide on the Thames. The sewage he proposes to withdraw to suburban districts for agricultural purposes through intercepting sewers, which formed a portion of his scheme of 1858. Of the cost of this scheme Mr. Finch says nothing.——"The Quarterly Review: No. 221. January, 1862. London: Murray." In this very good number of the *Quarterly* there is a comprehensive and valuable article on railways, the main conclusion from which is, that "the means of railway control, which may best be available for the benefit of the public, are competition and publicity." The number also contains an appreciative and excellently-written eulogy of the Prince Consort; the general sorrow for whose loss becomes the greater the longer it is dwelt on.——"The Church Builder; a Quarterly Journal of Church Extension in England and Wales. No. 1. January, 1862. Price 3d. London: Rivingtons, Waterloo-place." This little quarterly is published in connection with "the Incorporated Society for promoting the Enlargement, Building, and Repairing of Churches and Chapels in England and Wales;" and it is illustrated with engravings. To those who have not an opportunity of seeing the *Builder*, it may be a useful substitute so far as church-building news is concerned.——"A Charge to the Grand Jury of Winchester. By A. J. Stephens, LL.D., Recorder of Winchester. Second edition. London: Stevens, Bell-yard, Lincoln's Inn. 1861." This intelligent address treats of the amount of crime in England and Wales, and on prisons, punishments, reformatories and industrial schools, education among the criminal and destitute classes, and on convict prisons in Ireland.

ENGINEER VOLUNTEERS.—Her Majesty has been graciously pleased to approve and accept the service of Engineer Volunteers at Torquay. The corps is numbered as the first in the county of Devon. Mr. Edward Appleton, architect, has been unanimously nominated as the senior officer.

Miscellanea.

THE BUILDERS' BALL.—The annual ball in aid of the funds of the Builders' Benevolent Institution will take place at Willis's Room, St. James's, on Thursday, the 20th of February next, under the patronage of the Right Honourable the Lord Mayor Cubitt and the Lady Mayoress, who will honour it with their presence. We have no doubt it will be a plumper.

CONSULTING ENGINEER TO LIVERPOOL DOCKS AND HARBOUR BOARD.—On the recommendation of the Works' Committee of the Board, it has been resolved to appoint Mr. Hartley consulting engineer to the Board, and to pay to him the sum of 500*l.* annually as a retaining fee; he to be remunerated for any services he may render in that character, according to the usual fees and charges of civil engineers.

HIGHBURY NEW PARK, ISLINGTON.—A correspondent complains bitterly of the state of Quadrant-road. A house which has been occupied by him for three years at 100*l.* a year is still unapproachable. The road has not been completed and given up to the parish, so that the vestry cannot be called on to repair it. His solicitor would probably obtain a better result with the ground landlord.

"ABOUT LONDON."—Mr. Mark Lemon, in his second part, treated of Old London City without the Walls, and in his third part, of what presented itself to view in a route from London to Westminster. The last involved views of outer Temple Bar; Drury-lane, looking to the Strand; old Savoy Palace; the Strand, from Charing-cross; old Whitehall; Holbein's Gate; Ranelagh; and old Covent Garden. All these places are full of story, and Mr. Lemon told it pleasantly and well. He will recommence the course, in the Gallery of Illustration, next week; and we advise all who have the opportunity to go and hear him.

TO CLEAN CARPETS.—To clean a Brussels carpet, it should be taken up, and well beaten. If a valuable carpet, it would be better to take it to pieces. Make a solution of four pailfuls of rain-water to one bag of ox-gall; and, with a hard sponge and a little common soap, rub the solution well into the right side of the carpet, then rinse it well with plenty of rain-water, and hang it up in the air to dry. A more expeditious way of proceeding is merely to stretch the carpet after having it well beaten, wash it in the same manner, and rub it dry with coarse towels. There is rather an unpleasant smell, but it speedily disappears.—*Field.*

THE UNITED OPERATIVE MASONS' ARCHITECTURAL UNION AT EDINBURGH.—This association, we observe, announces the reopening of class for the study and practice of architecture. The chairman of the association, in a communication to the *Edinburgh News*, thus speaks of its purposes: "The objects of the association are to furnish to the brethren a complete knowledge of the intricacies in connection with their trade, at a scale of prices merely nominal, and was originally constituted on the occasion of the late struggle, when we secured, by shortening our hours of labour, more time for study and self-improvement, and embraced, as being a step in the proper direction and a favourable opportunity to adopt, as a pastime, the most manly of all the arts. The progress that has been made by the brethren has been rapid, and the general results most profitable and inviting.

SALES OF PROPERTY IN LONDON.—Freehold premises, No. 18, Coleman-street, let at 60*l.* per annum, 1,520*l.*; leasehold premises, known as "Mitre Chambers," No. 157, Fenchurch-street, let at 965*l.* per annum, term 35 years from 1854, ground-rent 300*l.* per annum, 3,200*l.*; at the Mart, by Messrs. Chinnock & Galsworthy, leasehold residence, No. 9, Clarges-street, Piccadilly, let at 300*l.* per annum, ground-rent 36*l.* 15*s.* per annum, term perpetually, renewable every 14 years on payment of a fine of 183*l.* 15*s.*, 3,620*l.*; leasehold house, 15, Upper Belgrave-place, Pimlico, let at 60*l.* per annum, term 88 years from 1792, ground-rent 6*l.* 2*s.*, 530*l.*; freehold house, No. 17, Carlisle-street, Soho-square, let at 67*l.* 6*s.* per annum, 1,030*l.*; freehold house, No. 90, Dean-street, Soho, let at 90*l.* per annum, 1,380*l.*; freehold premises, No. 91, Dean-street, let at 185*l.* per annum, 2,620*l.*; freehold residence and factory, No. 92, Dean-street, let at 70*l.* per annum, 900*l.*; leasehold residence, No. 16, Chelsea-villas, West Brompton, let at 35*l.* per annum, term 93 years from Lady-day, 1859, ground-rent 4*l.* 12*s.* 3*d.*, 320*l.*; leasehold warehouses, No. 38, Noble-street, City, term unexpired 15 years, let at 180*l.* per annum, ground-rent 60*l.*, 700*l.*

IRON GATES FOR THE EAST INDIES.—We are requested to state that our mention of Messrs. Cottam & Co. as "of Oxford-street" should have been "of Wisley-street, Oxford-street."

SHEFFIELD TRADE OUTRAGES.—The executive council of the Amalgamated Society of Engineers have passed a resolution declaring,—

"That the Amalgamated Society have neither connection nor sympathy with those who have been guilty of these great crimes: on the contrary, they abhor them, and denounce their perpetrators in the most emphatic manner, and most positively refuse to be associated with them, or to be considered responsible in any degree for their conduct;—

That in the eyes of this society the outrages, as reported, are heinous and diabolical, and so entirely foreign to anything which this or any other respectable trade society could encourage, that the executive council hesitate in believing that any society in existence could be guilty of suggesting or approving such deeds of malignant violence."

LANDSLIP AT THE METROPOLITAN UNDERGROUND RAILWAY.—At the cutting in rear of the houses facing the Clerkenwell Police Court, while the workmen were engaged, the earth suddenly gave way or sunk, and upwards of twenty tons of earth were forced into the cutting, fortunately without injuring any person, while the strong timbers forming the shoring were bent under the weight forced upon them. In a very brief period upwards of 200 men were brought together from the different parts of the works, and were set to work to stop a further slip. The houses on either side have in many places the walls cracked, and those who occupied them are having their furniture, &c., removed in great haste.

"NEW HARTLEY COLLIERY."—Accidents arising from the peculiar and sudden breaking of cast-iron beams might be generally averted by casting the plate or plates forming the beam with a groove on its lower side, in which is to be placed a proportionate wrought-iron bar through the whole length, bolted to each other at intervals.

GEORGE WALCOTT, C.E.

TENDERS.

For re-building the chancel of the parish church of St. Oswald, Rand, Lincolnshire, for the Rev. C. A. Lloyd, rector. Mr. R. J. Withers, architect:—

Clark	£349	0	0
Smith	322	16	0
Wallis (accepted)	250	0	0

For building convent at Bayswater. Mr. H. Clutton, architect. Quantities supplied by Mr. Crocker:—

Pritchard	£4,999	0	0
Foster	4,879	0	0
Macey	4,868	0	0
Brass	4,766	0	0
Myers	4,628	0	0
J'Anson	4,568	0	0
Piper & Wheeler	4,564	0	0

For erecting and completely furnishing twelve houses, four of which are shops, situate near the Dockyard Railway Station, Woolwich, for Mr. William Jackson. Mr. Wm. Gosling, Architect:—

Lidbetter	£3,200	0	0

For alterations and additions to a shop and private dwelling-house, situate at Church-hill, Woolwich, for Mr. Henry Appleby. Mr. William Gosling, architect. Quantities supplied:—

Lidbetter	£450	0	0
Thompson	440	0	0
Greenwood	430	0	0
Wickens	425	0	0
Lonergan	400	0	0

For new Independent chapel, Abingdon, for Rev. S. Lepine. Mr. James S. Dodd, architect. Quantities supplied by Mr. Albert W. Dodd:—

Hallam & Co.	£2,100	0	0
Wall & Hook	1,942	0	0
Chesterman	1,929	0	0
Ellis	1,875	0	0
Todd	1,788	0	0
Bowler	1,786	4	0
Thomas	1,770	0	0
Bartlett	1,750	0	0
Winter	1,731	15	0
Walters	1,684	10	0
Winterborne & Rolls	1,675	0	0
Young & Co.	1,644	0	0
Casey & Co.	1,350	0	0

For building new vagrant wards, and other alterations, at the Sherborne Union, Dorset. Messrs. Haggett & Pocklington, architects:—

Hull & Hellier	£459	0	0
Guppy	397	10	0
Down	373	10	0
Croad (accepted)	370	0	0
Penny	364	0	0

For alterations to The Poplars, Kew Bridge, Middlesex. Mr. J. S. Jackman, architect:—

Nye	£319	0	0
Adamson & Son	292	0	0
Brunsden (accepted)	225	0	0

For iron-work on boundary wall at Heston churchyard. Mr. J. S. Jackman, architect:—

St. Pancras Iron Works	£99	15	0
Hart & Son	69	0	0
Cottam & Co.	62	0	0
Hill & Smith	61	10	0
Nye (accepted)	59	0	0

For erecting and finishing seven warehouses in New-gate-street, and King Edward-street, City, for Messrs. Faudell and Phillips. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Cubitt & Co.	£11,643	0	0
Holland & Hannan	10,670	0	0
Clemance	10,450	0	0
Pritchard & Shelton	10,414	0	0
Lucas (brothers)	10,400	0	0
Ashby & Sons	10,288	0	0
Wills	10,189	0	0
Hill, Keddell, & Co.	9,989	0	0
Myers & Sons	9,965	0	0
Nicholson & Son	9,925	0	0
Lawrence & Sons	9,620	0	0
Piper & Wheeler (accepted)	9,629	0	0*

* The two lowest tenders being of the same amount, the matter was arranged by the parties interested drawing for the same.

For new militia barracks and additions to court houses at Warwick. Mr. W. Kendall, architect. Quantities supplied to Mr. Dunkley by Mr. D. J. Brown:—

Sawyers	£8,876	0	0
Briggs	8,590	0	0
Dutton	8,560	0	0
Chambers & Hilton	8,020	0	0
Green	7,697	0	0
Marriott	7,500	0	0
Hart	7,425	0	0
Clark & Son	7,390	0	0
Clark	7,353	0	0
Todd, J. & W.	7,144	0	0
Fox (brothers)	7,140	0	0
Dunkley	7,019	0	0

For the Gospel Oak Schools, Kentish Town. Mr. Thomas M. Rickman, architect. Quantities supplied by Mr. Cates:—

Brass	£3,880	0	0
Myers	3,733	0	0
Sanders	3,721	0	0
Browne & Robinson	3,557	0	0
Dove	3,525	0	0
Jackson & Shaw	3,482	0	0
Batterbury	3,319	0	0
Sharpington & Cole	3,177	0	0
Maers	3,133	0	0

For a pair of villas, Witham, Essex. Mr. F. Chancellor, architect:—

King	£1,435	18	0
Glasscock	1,250	0	0
Sharpington & Cole	1,231	0	0
Wood	1,193	0	0
Todd	1,149	0	0
Gardner	1,075	0	0
Gibbons	1,039	0	0
Saunders	1,034	0	0
Brown	995	0	0

For new photograph house, at Malmesbury. Mr. T. S. Lansdown, architect:—

Mills	£152	0	0
Brown	150	0	0
Lidiate	150	0	0
Weeks	144	0	0
Cordy	135	0	0
Barrett	126	0	0
Sheppard	120	0	0
Phillips	119	10	0

For new Wesleyan chapel and schools, Swindon, Wilts. Mr. T. S. Lansdown, architect. Exclusive of old materials:—

Lidiate	£1,045	0	0
Sheppard	990	0	0
Phillips	992	10	0
Barrett (accepted)	858	12	10

For the supply of glazed stoneware pipes, &c., for the town of Alton. Mr. J. W. Penfold, C.E.:—

Patent Bituminized Company	£2,376	5	7
Bourne Valley Pottery Company (Creeke's patent capped pipes)*	1,283	18	9
King	1,203	4	9
Jennings (patent pipes)	1,148	1	3
Northern	1,119	6	4
Stiff	1,107	18	8
Gibbs & Co.	1,066	2	10
Cliff & Son	1,043	12	2
Smith	1,027	19	0
Jennings	1,020	10	3
Doulton	1,020	6	7
Payne	1,015	16	6
Bourne Valley Pottery Company*	976	13	8
Mountague	856	11	0

* Accepted. Creeke's patent to be used with a portion of the ordinary socket-pipes.

For a set of new farm buildings, for Mr. Hugh Keene, Penn's Lodge, near Wooten Bassett, Wilts. Mr. T. S. Lansdown, architect:—

	No. 1. Plain Tiles.	No. 2. Sealey's Roman Tiles.	No. 3. Dutch Slates.
Phillips	£1,262 15 0	0 0 0	0 0 0
Lidiate	1,129 10 0½	£1,271 11 0½	£1,320 17 6½
Cordy	1,112 6 3	1,196 15 6	1,229 10 6
Lansdown	1,030 17 8	1,156 4 8	1,178 0 8
Barrett*	1,160 0 0	1,107 16 8	1,139 2 8*

* Accepted.

TO CORRESPONDENTS.

Strong Rooms.—(C. R. S. wants to know "the best means for rendering a *fire-proof* strong-room *dry*—it is situate in a basement story—and whether it should have ventilation or not, as is required for the preservation of valuable deeds and papers." Several years ago we made some observations touching this question. It is sometimes a very difficult thing to get a strong-room dry, and we shall be glad to receive the results of experience).

D.—J. O.—S. & C.—Habitans in urbe—M. & Son.—R. L. B.—J. W.—G. S. R. (write to publisher with name and address).—W. S. G.—G. G.—Capt. R. F. L. J.—C. H. D.—C. B.—J. F. S.—W. B.—J. J. A.—J. D. F. (too late).—S. S. (often proposed).—E. W.—Mr. G.—A Young Architect.—M. P.—H. R.—J. D.—A. H. (declined with thanks).—E. R. (thanks).—W. H. (thanks).—J. H.

TO SUBSCRIBERS.

The Volume will be bound (on being sent to the Office) for 3s. 6d.; or Covers for that purpose may be obtained at 2s. 6d. each (broad), and 2s. (narrow).

It is necessary to state whether the Advertisements are or are not to be bound in the Volume.

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and NOT to the "Publisher."*

Post-Office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

Just Published, price 4s. for 1862, the Fifty-second Edition of SKYRING'S BUILDERS' PRICES, calculated from the market-prices of materials and labour, containing the Metropolitan Buildings Act, and a variety of new and useful information

SIMPKINS & CO. Stationers' court, London; and may be had of all Booksellers.

Demy 8vo. 10s. 6d.

A HOUSE for the SUBURBS, Socially and Architecturally Sketched. By THOMAS MORRIS.

New edition, with Illustrative Designs, contains:—Choice of Sites and Landscape Gardening—Economy of Space, and Price of Land—Ancient Habitations and Modern Houses—Arrangement—Aspect—Style—Pictorial Treatment—Counsel on Cost—Materials—Decoration—Sanitary Safeguards—Culinary Conveniences—The Solar Greenhouse House Farm, &c.

London: SIMPKIN, MARSHALL, & Co. Stationers'-hall-court, E.C

THE QUARTERLY REVIEW, No. CCXXI. is published THIS DAY.

CONTENTS:—

I. RAILWAY CONTROL.
II. THE PRINCESS CHARLOTTE.
III. POPULAR EDUCATION—THE NEW CODE.
IV. IRELAND—THE CHANGE OF FAITH.
V. THE LATE PRINCE CONSORT.
VI. SPAIN AS IT IS.
VII. LORD CASTLEREAGH.
VIII. THE AMERICAN CRISIS.

JOHN MURRAY, Albemarle-street.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:—
13, PENCHURCH-BUILDINGS, PENCHURCH-STREET, E.C.

TO DISTRICT AND OTHER SURVEYORS.—An Architect and surveyor of some experience, with good testimonials and recommendations, wishes to obtain (by purchase) a SHARE IN THE BUSINESS of a gentleman holding Surveyorships. Is quite competent, and willing to take an active part.—Address M. L. care of Mr. Horwood, 4, Pleasant-row, Highbury-corner, N.

WANTED an APPRENTICE, in extensive Marble Works (West-end), to learn the art of sculpture, mason, and polisher; in or out doors.—Apply, by letter, to F. K. Office of "The Builder."

WANTED, a FIGURE-MODELLER, at the Terra-Cotta Works, Broxbourne.—Apply, stating terms, &c. by letter only, to JAS. PULHAM.

TO BUILDERS' FOREMEN.

WANTED, by a London Builder, a steady, active, and practical FOREMAN. He must be conversant with every department of the building trade, and fully capable of the management of works generally and taking out quantities. A good estimator indispensable. Address, by letter only, stating age and salary required, to A. Z. care of Mr. Paxon, Stationer, 33, Skinner-street, Snow hill, E.C

TO BUILDERS' FOREMEN.

WANTED, by a London Builder, a competent person as General FOREMAN (a joiner by trade); one who has been accustomed to the charge of men, and is capable of conducting works in every branch; must be a neat draughtsman, and capable of taking out quantities.—Address, stating age, last engagement, and salary required, to Z. Robert's Library, Pimlico

WANTED, a first-rate ENGINEERING DRAUGHTSMAN; also an expeditious and accurate ARCHITECT and SURVEYOR'S ASSISTANT, who has been employed in a Quantity Surveyor's Office.—Address, stating terms, F. G. H. Office of "The Builder."

WANTED, a BUILDER'S CLERK, in a London Office. Must be competent to measure and estimate, and generally understand the office routine.—Address, with full particulars, to D E. Office of "The Builder."

TO LAND SURVEYORS' ASSISTANTS.

WANTED, immediately, for a few weeks, a first-class ASSISTANT, who thoroughly understands land surveying and levelling.—Address, stating experience and terms, to R M PHIPSON, Architect, Norwich.

TO GLASS PAINTERS.

WANTED, immediately, a good FIGURE PAINTER.—Address, stating terms, and reference to last employer, to Messrs. PILCHER & SON, Morgan's-lane, Tooley-street, Borough

WANTED, a SITUATION as FOREMAN in or out of a TIMBER YARD. Aged 40, with good character.—Address, A. B. Post-office, Battle, Sussex.

TO BUILDERS, CONTRACTORS, &c.

WANTED, by a thoroughly efficient Clerk, a RE-ENGAGEMENT as CASHIER, COLLECTOR, LEDGER CLERK, PRIME-COST CLERK, or otherwise. Has had twelve years' experience, can make a set of drawings, &c. Undeniable testimonials can be given, and security if required. No objection to the country. Address, X. Y. G. care of Mr. Butterworth, 143, York-road, Lambeth.

TO BUILDERS AND OTHERS.

WANTED, by a thoroughly Practical Man, a SITUATION. Fifteen years' experience. Can prepare plans and estimates, and is fully competent to manage the business in all its branches, or to carry out improvements on an estate. Good references.—Address, W. PREDDY, 45, Bread-street, City.

TO ARCHITECTS, BUILDERS, AND ESTATE AGENTS.

WANTED, by a Practical Man, a SITUATION as CLERK of WORKS, GENERAL FOREMAN, or SUPERINTENDENT on a Gentleman's Estate. Can make working and finished drawings, and measure work. The advertiser has had good experience in agricultural and other buildings. Address, W. W. 20, Grafton road, Kentish-town.

WANTED, by a thoroughly practical Man, a RE ENGAGEMENT as CLERK of WORKS or BUILDER'S FOREMAN.—Address, A. A. 30, Wigmore-street, Cavendish-square, W.

TO MASTER PLUMBERS, BUILDERS, AND OTHERS.

WANTED, by a steady Young Man, a constant SITUATION as good PLUMBER. He is willing to fill up his time with gasfitting, painting, or glazing. Upwards of two years' good reference from last employer if required. No objection to town or country.—Address, A. B. 31, Westbourne-street, Pimlico, S.W.

TO BUILDERS AND OTHERS.

WANTED, EMPLOYMENT on STAIRS, or any description of Joiner's Work, by the Piece. Good reference and surety given if required.—Address, B. 16, Westmoreland-street, Pimlico.

TO BRICKMAKERS, &c.

WANTED, by a Practical Man, a SITUATION as FOREMAN. He thoroughly understands the Making and Burning Bricks, Tiles, Pipes, and a perfect knowledge of Working Clayton's Patent Brick Machine or others.—Address, W. C. 9, Storey-street, North Woolwich, Kent.

TO PLUMBERS AND BUILDERS.

WANTED, by a good Plumber, a SITUATION as PLUMBER or GLAZIER. Good references as to character and workmanship.—Address, J. B. 8, Castle-street East, Berners-street, Oxford-street, W.C.

WANTED, a SITUATION as PLUMBER. Painting and Glazing if required.—Address, W. B. No. 47, Princess-street, Portman-market. Reference if required.

WANTED, a SITUATION as ESTIMATING CLERK, General Foreman, Clerk of Works, or to Take Charge of Extensive Works. First-rate testimonials from Architects and Builders.—Address, E S. Office of "The Builder."

TO ARCHITECTS, BUILDERS, &c.

WANTED, by the Advertiser, EMPLOYMENT in making drawings, specifications, estimates, surveys, &c. at a moderate remuneration.—Address, H. B. 38, Great Western-terrace, Westbourne Park-road, W.

TO ARCHITECTS AND BUILDERS.

WANTED, by a thoroughly practical Man, a RE ENGAGEMENT as CLERK of WORKS or GENERAL FOREMAN. Has had many years' experience on first-class works, and in measuring up works.—Address, H. T. H. Office of "The Builder."

TO BUILDERS AND OTHERS.

WANTED, constant EMPLOYMENT, by a thorough good Plumber. Can do gasfitting, zinc work, painting, and glazing.—Address, W. B. 4, North-cottages, Green-street, Marlborough-road, Chelsea, London.

TO PLUMBERS, BUILDERS, &c.

WANTED, by a first-class Plumber, a constant SITUATION in the country. Can do painting and glazing.—Address, stating terms, G. W. H. 32, Haddington-place, High street, Camberwell.

WANTED, by an experienced PLUMBER, a SITUATION, to take charge, or on GAS or WATER-WORKS. No objection to go abroad. Unexceptionable references.—Address, J. B. 4, Park-street, Cambridge.

WANTED, by a Young Man, CONSTANT EMPLOYMENT as PLUMBER. No objection to a little painting or glazing.—Address, W. J. 12, Woodfield-road, Harrow-road, N.W.

TO BUILDERS, PLUMBERS, AND OTHERS.

WANTED, by a respectable and experienced Young Man, a SITUATION as a good PLUMBER, PAINTER, &c. Will estimate for work if required, to find materials or without. A good reference can be given.—Address, H. V. J. Bell, 27, Tichborne-street, Piccadilly.

TO BUILDERS, PLUMBERS, AND PAINTERS.

WANTED, by a Young Man, aged 22, a SITUATION as PLUMBER, PAINTER, GLAZIER, and PAPERHANGER. Wages not so much an object as a constant place. Town or country. Good reference.—Address, R. C. 27, Dean-street, Soho, W.C.

TO BUILDERS AND OTHERS.

WANTED, by a Steady Young Man, CONSTANT EMPLOYMENT in a Mason's or Builder's Yard. Has a thorough knowledge of the trade in all its branches, including letter-cutting and gilding; has been well accustomed to jobbing work, and would be suitable for a monumental yard or cemetery. Good references can be given, if required.—Address, M. Y. care of G. Harding, Bell-lane, Erdington, near Birmingham.

TO ARCHITECTS, &c.

WANTED, by the Advertiser, an ENGAGEMENT as CLERK of WORKS, or ASSISTANT in an Architect's Office. Is a good draughtsman and accountant, and has had considerable experience in designing. Can give first class testimonials from Government and private offices for the last fifteen years.—Address, R. E. Post-office, Banbury, Oxon.

TO ARCHITECTS, BUILDERS, AND OTHERS.

WANTED, by a steady, active Man, an ENGAGEMENT as MANAGER for FOREMAN. Can make working drawings, and carry out architects' plans. No objection to the country. Reference can be given, if required.—Direct, Mr. FOSTER, 29, Sherborne-street, Blandford square, N.W.

WANTED to ARTICLE, a Youth, aged 16, as CARPENTER and JOINER. Moderate premium given.—Address, J. S. 149, Long-lane, Bermondsey.

TO BUILDERS, PLUMBERS, &c.

WANTED, EMPLOYMENT, by a good PLUMBER. To fill up time with painting and glazing, or would take plumbing piecework, at a low figure.—Address, PLUMBER, Mr. Fisher, 75, Old-street, St. Luke's.

TO BUILDERS, CONTRACTORS, AND HOUSE-AGENTS.

WANTED, by a thoroughly Practical Man, a SITUATION as FOREMAN of BRICKLAYERS or GENERAL FOREMAN, or to take Brickwork or Plastering. Brickwork done in a superior manner at 33s. per rod; Plastering at lowest possible price. References first-class.—Address, C. M. 14, Hertford-cottages, Hertford-road, Kingsland-road, N.W.

WANTED, EMPLOYMENT, by a thorough practical Man, as CLERK of WORKS, or FOREMAN to a BUILDER. Is a good draughtsman, well acquainted with domestic and farm architecture, earthwork, drainage, &c. Can take out quantities, measure, &c. Has just completed some extensive works. Good reference.—Address, C. D. Beehive Inn, Aldershott.

TO SURVEYORS OR BUILDERS.

WANTED, by a Gentleman, who is a good ACCOUNTANT and DRAUGHTSMAN, with general knowledge of quantities, a SITUATION in the above, or similar offices Salary moderate.—Address, P. B. Hampton's Coffee-house, Ivy-lane, E.C.

TO ARCHITECTS, &c.

WANTED, an ENGAGEMENT, by a Young Man, aged 22, who is a neat draughtsman, good accountant, and can also assist in taking out quantities, measuring-up work, estimating, &c. Has been five years with two architects and surveyors. Unexceptionable references, if required.—Address, Y. Z. Post-office, Great Malvern, Worcestershire.

WANTED, by a Carpenter, an ENGAGEMENT as JOBBING-HAND. Can take any branch in house repairs; bell-hanging, gas-fitting, plumbing, painting, paper-hanging, &c. Town or country.—Address, W. H., Wolz, Baker, opposite the Burial-ground, Chelsea College.

TO BUILDERS AND OTHERS.

WANTED, a JOB, or PERMANENCY, by a respectable Married Man of experience, aged 32, as PLUMBER or THREE-BRANCH HAND. Can do writing, if required. Is or near town preferred.—Address, A. B. 10, Queen-street, Worship-street, Finsbury, E.C.

WANTED to APPRENTICE, immediately, two Brothers, both having a taste for drawing; one to an Architect, Surveyor, or Civil Engineer; and the other to a Builder, Auctioneer, Upholsterer, Decorator, or Land Valuer in extensive business; and in-doors preferred.—Direct full particulars and terms to Mr. REARDEN, 91, Piccadilly, London. Liberal premiums will be given.

THE Advertiser is desirous of an ENGAGEMENT as ARCHITECT and SURVEYOR'S ASSISTANT, or CLERK of WORKS. Has had twelve years' experience, is a first-class Draughtsman, and could take the entire management of the office and works in progress.—Address, H. care of Messrs. Turner & Dunnett, Stationers, James-street, Liverpool.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, an Architect and Surveyor, with considerable ability, is desirous of JOINING a Gentleman with an established practice as JUNIOR PARTNER. Premium according to advantages offered.—Address, H. H. 67, Thomaston-street, Everton, Liverpool.

TO ARCHITECTS.

THE Advertiser is desirous of a RE-ENGAGEMENT. Can prepare finished, detail, and working drawings. Understands perspective and colouring.—Address, R. W. Office of "The Builder"

TO ARCHITECTS, &c.

THE Advertiser will be happy to PREPARE GENERAL or WORKING DRAWINGS, PERSPECTIVES, &c. at his own chambers, or to render occasional assistance in an office.—Address, E. S. care of Mrs. Hadnutt, 45, Chandos-street, W.C.

TO QUANTITY SURVEYORS, AND OTHERS.

THE Advertiser, who is quick at squaring dimensions, abstracting, billing, &c. taking plans of property, and a good draughtsman, and can land survey and level, is open to a RE-ENGAGEMENT. Unexceptionable references can be given from previous employers. Aged 24. Salary moderate.—Address, SURVEYOR, Mr. Stroguell's, Post-office, 116, King's-road, Chelsea, S.W.

TO ARCHITECTS.

THE Advertiser seeks an ENGAGEMENT in London. Is a neat and careful draughtsman and colourist; understands surveying, levelling, measuring, &c.; and is thoroughly acquainted with office routine. Unexceptionable references. Salary moderate.—Address, V. V. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a quick and excellent Draughtsman, who has had great experience in construction, preparing detail, working, and other drawings, and can assist in the preparing and checking quantities, is open to an ENGAGEMENT Terms moderate. Address, G. G. 39, Michael's-place, Brompton, S.W.

TO BUILDERS.

PLASTERING WANTED by a practical Man, Materials and Labour, or Labour only. Good references given. Town or country.—Address, X. Y. 55, Pulford-street, Pimlico.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, writing specifications, measuring, and making up Builders' accounts, disputed or otherwise. Satisfactory references to Architects and Builders.—Address, X. Y. Z. 20, Charlotte street, Portland-place.

OCCASIONAL ASSISTANCE, at a moderate charge, will be rendered by an experienced Surveyor, Builder's Accountant, and Draughtsman, engaged in a leading office. Address, S. E. C. Office of "The Builder."

TO CARPENTERS AND BUILDERS.

EMPLOYMENT WANTED, by a steady Man, as SHOP FOREMAN. Can take the management of a small business, take out quantities, &c. Can get out staircasing and handrailing.—Address, J. C. 33, Brad-street, Cornwall-road, London, S.

EMPLOYMENT WANTED, as BUILDER'S CLERK, CLERK of WORKS, to manage an Estate, or other confidential situation, by an active middle-aged Man. Has a thorough, practical knowledge of building in all its branches, can take out quantities, and measure up work. Unexceptionable references. Salary moderate. Country preferred.—Address, J. C. 35, Clarendon-square, St. Pancras, N.W.

CLERK (JUNIOR).—WANTED, by a Young Man, a SITUATION in a Builder's Office. Two years' experience.—Address, H. M. 28, Berwick-street, Pimlico, S.W.

TO BUILDERS AND OTHERS.

CLERK.—WANTED, by a respectable Young Man, aged 22, a SITUATION as above. Understands bookkeeping, squaring dimensions, quick at figures, and the general duties of a Builder's Office. Can be well recommended. Six years' good character. Wages moderate.—Address, G. J. S. Office of "The Builder."

TO BUILDERS AND SURVEYORS.

BUILDERS' ACCOUNTS.—A SURVEYOR of great experience in Builders' Accounts, has now some TIME DISENGAGED to Measure and Make up, or to Make up from the Books. Is also well practised in the Arrangement of Disputed Accounts, References, &c. &c.—Address, C. R. B. 18, Cardington-street, Hampstead-road.

A DRAUGHTSMAN, who has been for some time an IMPROVER with an Architect of large practice in the City, wishes for a SITUATION as ASSISTANT. He is fully competent to prepare working and detail drawings, and is a pretty good colourist. A moderate salary required.—Address, F. H. R. M'CLARY'S, 32, St. James's-street, S.W.

TO ARCHITECTS, &c.

A FIRST-CLASS DRAUGHTSMAN and DESIGNER is open to an ENGAGEMENT in town, or to take the management of an office. Has a thorough practical knowledge of the various styles, and is a good perspective draughtsman and colourist.—Address, L. Z. 5, Calthorpe-place, Gray's-inn-road.

TO ARCHITECTS.

A YOUNG MAN, who has just served his articles, and can produce good references, wishes to obtain an ENGAGEMENT as ASSISTANT to an Architect, either in town or country. A moderate salary required.—Apply, A. B. 168, Commercial-street, Newport, Monmouthshire.

TO ARCHITECTS.

AN ARCHITECTURAL DRAUGHTSMAN is desirous of obtaining a SITUATION in the Office of an Architect in town. Reference can be given, if required.—Address, Y. Z. Marke's Post-office, Church-street, Croydon, Surrey.

TO IRONMASTERS, &c.

A YOUNG GENTLEMAN, aged 22, having had seven years' experience in the Counting-house of a Wholesale and Retail Iron and Oil Merchant's (in the country), and who is now acting as confidential CLERK for the same firm, wishes (in order to better his position) to obtain either a similar ENGAGEMENT, or as TRAVELLER under any Wholesale House. The latter preferred.—Address, X. Y. Z. Office of "The Builder."

TO BUILDERS.

A YOUNG MAN, an experienced Joiner and good Staircase Hand, is in want of a JOB at PIECEWORK. Will not object to a job at the bench, or to do a good staircase in the country. Good reference.—Address, T. E. No. 1, William-cottage, Acton-street, Kingsland road, N.E.

TO CIVIL ENGINEERS AND SURVEYORS.

A PRACTICAL LAND SURVEYOR, of twenty six years' experience, wishes for an ENGAGEMENT Terms moderate Good references.—Address, E. P. S. care of Mr. J. Moore Smith, Architect, 3, Sackville-terrace, Strafford, E.

AN experienced BUILDERS' ESTIMATOR and MEASURER desires a RE-ENGAGEMENT.—Address, A. B. C. Post-office, 12, Parliament-street, S.W.

A YOUNG MAN, aged 22, wishes to get into a Builder's Shop as IMPROVER in joiner's work. Has been in the trade four years Town preferred. Address, W. R. Post-office, Brompton-row, S.W.

TO ARCHITECTS.

A GOOD and expeditious DRAUGHTSMAN, who is perfectly capable of getting up working and finished drawings, perspectives, &c., is a good colourist, and understands the routine of an office, is desirous of meeting with an ENGAGEMENT. Terms moderate.—Address, C. B. H. 47, Frederick-street, Gray's-inn road.

TO ARCHITECTS.

A YOUNG GENTLEMAN wishes a RE-ENGAGEMENT in an Architect's Office; is a good draughtsman, and well up in construction, &c. Has been in the office of an architect of good standing. Salary, 80l. per annum.—Address, G. H. M. Office of "The Builder."

AN experienced Land Agent's and Surveyor's Clerk is open to an ENGAGEMENT. Aged 30. Well up in surveying and mapping, timber measuring and valuing, in preparing architectural plans, specifications and estimates, and assessing dilapidations, &c. Now engaged with a country firm. Twelve years' references. Salary moderate.—Address, R. E. S. Clunn's Hotel, Covent garden, London.

TO ARCHITECTS, BUILDERS, &c.

A YOUNG MAN, aged 28, is desirous of an ENGAGEMENT. Is a first-class draughtsman, good accountant, and has a practical knowledge of building in general. Salary moderate. First-class references.—Address, A. Z. Office of "The Builder."

A YOUNG MAN, a Carpenter and Joiner by trade, who has been in a small way of business, wishes for a SITUATION as FOREMAN in a GENERAL JOBBING SHOP, or to take the entire management of a small business. Would not object to fill up his time at the bench, or in any other way where he could be most useful; or would be glad to meet with a good situation to look after house property, superintend building fund repairs on an estate, collect rents, &c.—Address, J. C. H. Office of "The Builder."

TO ARCHITECTS AND BUILDERS.

FOR SALE, Three First-class STATUARY MARBLE CHIMNEY-PIECES, executed by an eminent sculptor in Italy. Price moderate. Apply to GODDARD & LLOYD, 29, St. Mary-at-hill, E.C. where they are now on view.

PURE STATUARY MARBLE! slab in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS, 363, EUSTON-ROAD, London, N.W. Prices moderate.

M. W. J. has also an extensive Stock of beautiful British and Foreign MARBLE CHIMNEY PIECES, &c. always on view. Architects entrusting their orders to the Establishment will find their Designs carried out with great care and exactness. Established 1821.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

JOHN WREN

Begs to inform Architects, &c. that he has OPENED the above extensive Premises with Show-rooms, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and Foreign orders executed with promptness and personal attention.

LITTLE CASTERTON FREESTONE, Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. FINDER, SIMPSON & SONS, 2, Saville row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone which is a perfect oolite, is raised in blocks of any scantle size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, (with long quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRIERS.

Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.

Depôt—GRANITE WHARF, East Greenwich.
Office—4, Three Crown-square, Borough.

THE NORTH-WESTERN STONE WHARF, Canal Bridge, Camden town, is the cheapest Stone Wharf in London. Also a large STOCK of all sorts of YORKSHIRE and other STONE, GRANITE CURBING, and PITCHING, is always on hand to select from. Self-faced paving at 27s. per 100 feet; 14-inch tooled ditto, 33s. ditto 14-inch Mare-hill Slate, 33s. ditto; and all kinds of stone, at equally low prices.—W. ASPINALL, Proprietor.

N.B.—Country orders, to ensure punctual attendance, must be accompanied by a remittance.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Bath slabs, &c. Table tops, Baths, Wall-linings, &c. A New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 29 and 49, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,

No. 1, BOLD TERRACE, CHESTER.

TO BUILDERS, CONTRACTORS, &c.

SLATES, TILES, IRON, TIMBER, DEALS, &c

WILLIAM DAWBARN & CO. LIVERPOOL,

Beg to acquaint their connection generally throughout the Kingdom, that they have their

NEW and IMPROVED PRICE LISTS, English Edition, 1862,

Ready for distribution, and which can be had on application.

FOREST of DEAN STONE.—Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,

Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.

That from their "Gorsty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone; but that from their "Bri k hill" and "Dark-hill" Quarries, is decidedly superior to it.

Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

BATH! BATH!! BATH!!! ROBERT STRONG,

STONE MERCHANT and QUARRY OWNER, BOX HILL, near BOX HILL GROUND STONE, OF THE BEST QUALITY.

Masons' Work prepared ready for fixing.

AGENT IN LONDON:

SAMUEL TRICKETT, ISLE OF DOGS, E. and JERUSALEM COFFEE-HOUSE, E.C.

BLOCK STONE! BLOCK STONE! The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.

SAMUEL TRICKETT has plenty of stones that are good building stones, and others that require no INDURATION, yet they are uniform in color and good tint. Parties would do well to see his Stock; also NOTE delivered direct from the Quarries to all parts of the Kingdom

The BEST and CHEAPEST STONE WHARF in LONDON.

Address, SAMUEL TRICKETT, Isle of Dogs, E.

A large quantity of Rawn Headstones for Sale. A Quantity of Grindstones for Exportation.

BELLMAN & IVEY, SCAGLIOLA MARBLE MANUFACTURERS, 14, BUCKINGHAM-STREET, FITZROY SQUARE, Hosking, W.

Execute, in the most workmanlike manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most valuable marbles, of which they have for inspection a large assortment, including

THE ARCHITECTURAL SCREEN,

exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute

PLASTERERS' WORK OF EVERY DESCRIPTION, IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.

Also Manufacturers of Superior and Improved Plaster of Paris.

JOHN BAZLEY WHITE & BROTHERS, MARBLE MERCHANTS, MILLBANK-STREET, WESTMINSTER.

Marble of all kinds, and of best quality, in Block and Slab. Marble Mortars, &c.

POLISHED GRANITES, TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by WILLIAM & JOHN FREEMAN, 27, MILLBANK STREET, LONDON, S.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall SHOW ROOMS, 9, CANNON STREET, E.C. London Agents—TREGELLES & TAYLOR. Manager—JAMES J. TRETHAN, Liskeard.

This Granite is selected for the New Westminster Bridge.

DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTS' DESIGNS and models for the material forwarded on application.

EDGE RUNNERS OF SUPERIOR QUALITY.

RED MANSFIELD STONE. WHITE MANSFIELD STONE. YELLOW MAGNESIAN or BOLSOVER LIMESTONE.

Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.

Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

POLISHED GRANITE WORKS ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr DAVID WILLET, London Agent, 404, Euston-road, N.W.

VALE of WARDOUR FREE STONE, TISBURY, WILTSHIRE.

T. P. LILLY, Quarry Owner and Stone Merchant, begs to introduce to the notice of Architects, Contractors, Stone Merchants, &c. Builders, the FREE STONE raised from recently opened QUARRIES at TISBURY and the neighbourhood.

Geologically it is a stone midway between the Portland Oolites, and its Bath stone. Numerous samples of considerable magnitude against the durability and texture of the Stone of these quarries. Amongst these may be noted SALISBURY CATHEDRAL, TISBURY CHURCH, the POULTRY CROSS at SALISBURY, WILTON ABBEY, &c. erected from Chilmark and other Quarries immediately adjacent to those now noticed. The beds are of considerable thickness, and blocks of any ordinary size are readily obtained. Some of these are nearly white, and others of a cream color; there is consequently variety in strata, the grain of some of the beds being remarkably fine, and are peculiarly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly fitted to stand the action of water, or exposure to those tests which usually affect and disintegrate the common free stone.

Specimens of the Stone may be seen at Messrs. POOLE & SON'S, Marble and Stone Works, Great Smith street, Westminster, S.W. and in the Museum of Practical Geology, Jermyn-street, Nos. 311 and 312, Case V. and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Millbank, London, or direct from the Tisbury Quarries.

Orders for Worked Stone carefully executed at the Quarries Samples forwarded, and any further information, may be obtained of Mr. T. P. LILLY, Gillingham, Dorset.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Ashlar, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods. SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest rates. Headstones, Ledgers, Sleets, Landings, &c. cut on the shortest notice. Country orders promptly attended to.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.

Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich, and at the Architectural Exhibition, 9, Conduit-street, London.

TO BRICKMAKERS POTTERS, BUILDERS, &c.—Blue Bricks can be made in any yard, with almost any clay. Many pavement lots, cheaply clear or shale, in any pottery, to burn hard and good, selling for road metal or cinders. Water, coal, or waste of fuel for burning or paint. The information is the result of the two years' built work, 1 and work, and expense. To get to sell JOSEPH HALL, Brickmaker, Woodville, Burton-on-Trent

TERRA-COTTA VASES, STATUES, TAZZÆ, &c.—The nobility, gentry, and architects are respectfully informed that JOHN M. BLASHFIELD has REMOVED his Establishment from Praed-street, Paddington, to a New Gallery at No. 16, GREAT MARLBOROUGH STREET, W. where specimens of Terra Cotta Works of Art may be seen, and orders for London should now be addressed. Orders for the country and applications for estimates for new designs should be sent direct to the Terra-Cotta Works, Stamford, Lincolnshire.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street, City-road Basin, N. finally, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and lastly, that the "Reports of the Juries," page 981, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

MINTON & CO, HAVE REMOVED FROM ALBION-PLACE, BLACK FRIARS, TO 50, CONDUIT STREET, REGENT-STREET. ENCAUSTIC AND OTHER PAVEMENTS. EARTHENWARE AND PLAIN TILES. DESIGNS AND ESTIMATES PREPARED. MANUFACTORY, STOKE-UPON TRENT.

IMPERISHABLE TESSELATED PAVEMENTS, containing a superior cement and economical substitute for ordinary Roman Tesselæ, in any design. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, farm, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Work with every article in the most elegant and invaluable Material in sculptural and Architectural Enrichment, suited for Churches, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.

An Illustrated Priced Catalogue will be forwarded upon the receipt of a post postage stamps.

BRICKS, PANTILES, AND PAVINGS. J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 42s. 6d. per 1,000.
" 8-inch Pavings, at 27s. 6d. per 1,000.
" Kiln Bricks, at 30s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7s. per 100.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1797.—Apply for PRICED CATALOGUES of St. Cecilia, Seraphine, and other Organs of Small Dimensions suitable for Building, &c. of Organs in all parts of the country. Church Organs of any size built, repaired, or improved, on moderate terms, and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the QUEEN and the late Prince Consort, and maker of the Great Clock for the Houses of Parliament, 87, Strand (adjoining Coutts's Bank), and 33 and 34, Royal Exchange, invites inspection of his Stock of Watches and Clocks, which comprises every description, from the Cheapest to the Most Costly. Gold Watches, Keyless, Lever, &c. ..... 8 Guineas.
Gentlemen's do. do. ..... 10 "
Ladies' do. do. Horizontal Watches ..... 18 "
Strong Silver Lever Watches ..... 5 "
Gentlemen's do. Chronometer Balance Watches ..... 40 "
Do. do. ..... 25 "
Marine Chronometers ..... 36 "
Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Gold Keyless Watches, Gold Chains, &c.

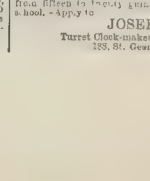
DENT, 81, Strand (adjoining Coutts's Bank), 34 and 33, Royal Exchange; and the Clock and Marine Chronometer Factory, 3, Clerkenwell, London.

BENSON'S WATCHES and CLOCKS.

"Perfection of mechanism."—Morning Post.

Gold, 5 to 100 Guineas.

Silver, 2 to 50 Guineas.



BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, describes and prices every variety of watch, enables persons in any part of the world to select with the greatest certainty the article best adapted to their views. Watches sent to any part of the world, post or parcel post on receipt of a remittance.

J. W. BENSON,

33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.

(Established 1749)

THE VILLAGE CLOCK.—A serviceable, well made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to

JOSEPH FAIRER,

Turret Clock-maker to H. M.'s War Department, 188, St. George street East, London.

GALVANIZED IRON AND ZINC WORKS.

VANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK.
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

VANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

SHEET ZINC AND METAL PERFORATING WORKS.

FRANCIS RUMMENS,

HŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.

HIGHLY APPROVED ROOFING ZINC,
BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.
ZINC SLATING NAILS.

FINE ART CASTINGS, STATUES, BUSTS,

RELIEFS, CAPITALS, AND BASES OF COLUMNS, HIGHLY ORNAMENTAL AND INTRICATE CASTINGS IN ANY METAL.

ROBINSON & COTTAM,

THE STATUE AND IRON FOUNDRY, LOWER BELGRAVE PLACE, PIMLICO, S.W.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

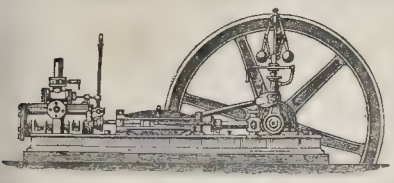
The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and Contractors, Builders, and Others, that they have purchased the above extensive and well-engned Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.
PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,

ND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF
HORIZONTAL
AND
VERTICAL
STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB WINCHES, &c.
SEVERAL ALWAYS READY FOR DELIVERY.
Price List forwarded on application.

BRICK-MAKING BY STEAM POWER.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,

ach producing from 100,000 to 130,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS,
" BRASSEY & CO.,
" BAKER & SON,
SOUTH-EASTERN RAILWAY COMPANY,
Mr. GEORGE FURNESS,
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO.

FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works, or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.
ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

TONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

IORTAR-MILLS,

CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

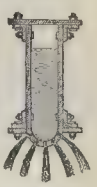
MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent Aid in Ventilation.



It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of Threepence; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

Full particulars will be sent on application to the Inventors and Makers,
MUSGRAVE, BROTHERS,
Ann-street Iron Works, Belfast.

WILLIAM HOOD'S
GIRDERS for EXTINGUISHING FIRES.



The advantages to be derived from using the Patent Improved Girders are,—
In case of fire an immediate and continuous supply of water over all parts of the room in which the fire may be.
The doing away with the necessity of opening any doors or windows to get at the fire.
The application of the hose or conducting pipe to the external walls of the building, preventing the possibility of danger to any of the men employed in extinguishing the fire.
The preventing the girders from getting heated, thereby doing away with any expansion or any deterioration in the iron's strength.
RAILWAY FOUNDRY, READING.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.
RAIN-PIPES, &c.—F. A. TIDDEMAN & CO. St. Anne's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large Stock of Rain Pipes, Heads, Shoes, Elbows, &c. Half-round and O-G Gutters, Socket Pipes for Water or Gas, Flange Pipes, Hot Water Pipes and Connections, Sash Weights, and other Castings; Iron-work for Bakers' Ovens of every description, fitted complete, to be had in Sets or in Parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful Crane.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE.
E. GOLLOP, Proprietor, Wellington Foundry, 68, Charles street, City-road, London, E.C.—Every variety of the Patent Hinges kept in stock ready for delivery. Foundry for small, soft, and malleable castings.

STABLE PAVING BRICKS.
DAVISON'S IMPROVED.



F. & G. ROSHER, Sole Agents.

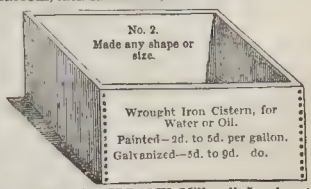
These bricks have now been in use for the last ten years, and their complete success justifies the advertisers in recommending them to the notice of architects, builders, and others
The great advantages of these bricks over all others for similar purposes are,—
1st. Their cheapness. 2nd. Their great durability.
3rd. Their construction, whereby the channels on the surface act as drains, rendering the beds dryer, and effecting a CONSIDERABLE SAVING IN THE ITEM OF STRAW BEDDING.
They may be also used with advantage for paving cattle sheds, coach houses, yards, &c. Channel bricks to correspond are also supplied.
Prices and all particulars may be obtained on application to Messrs. F. & G. ROSHER, Ward's Wharf, Upper Ground-street, Blackfriars-road, S.; and at Kingsland Basin, Kingsland road, N. who have always stocks on hand; or to CHARLES DAVISON & CO. FIRE BRICK and TILE MANUFACTURERS, QUEEN'S FERRY, near FLINT, NORTH WALES



SMOKY CHIMNEYS. — The best Cure is the PATENT ALBERT CHIMNEY CAP, 260 on Buckingham Palace; in use also at St. James's Palace, Windsor Castle, Government buildings, mansions, halls, club-houses, and buildings in general. Prospectuses on receipt of two postage stamps.
JAMES BARTON,
Iron Works, 370, Oxford-street, W.
N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Rain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Paneling, Loop and other Brackets, Cast levers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Scale-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.
CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London, E.

IRON CASTINGS of every description; WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS; IRON WINDOWS, HOT-WATER PIPES, RAIN-WATER PIPES, and GUTTERS, PIPES for GAS and WATER, manufactured by
JAMES HAYWOOD, Junior, Phœnix Foundry, Derby.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 8s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1½d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

APPLY TO

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,

¾-inch Matched Lining ..... 13s. 0d. per square.
¾-inch ,, ... 16s. 6d. ,,
1-inch ,, ... 19s. 0d. ,,

J. TERRY & SON, 109, Borough Road, S.E.

MOULDING WORKS.

Wm. Geo. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

CLERIHEW & LASCELLES,

(Late **WATERLOW, DRAPER, & WEBB**),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

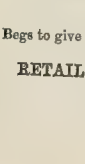
J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



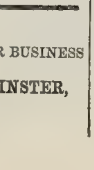
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.



SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT

AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

SEASONED WAINSCOT OA
30,300 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTION
Yellow Deals, from 3s. 3d.; Spruce, from 2s. 8d.; Pine from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; Waste Flooring, from 14s 9d.; 1-inch Yellow, from 15s. 3d.; from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock
PETERSBURG WOOD in London FOR SALE. Deliver
all railways in London, and alongside of any craft on the
Thames.—For further particulars, apply to Messrs. J. & E. KNIG
Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, Lon
S.W.

ALFRED ROSLING & SONS beg
inform their Customers and the Building Trade generally,
they are enabled to allow a discount of 15 per cent. upon their
Prices for Mouldings. A large Stock of Dry Flooring at low price
Southwark-bridge Wharf, Bankside, S.E.

BUILDERS and CARPENTERS,
OTHERS, have submitted to their notice these very rea
prices, the lowest consistent with really useful qualities
All sawn goods carriage free within three miles.
¾-inch Flooring (well prepared), 11s. 6d. ; inch do 13s. per sq
Yellow Deals, sound and good .... 19l. 10s. per 120, or 3½d. per fo
Spruce Deals ,, 16l. 10s. ,, 2½d. ,,
Yellow Battens, excellent quality 11l. 10s. ,, 2½d. ,,
Pine Planks, dry, 12 ft. 3 in. by 11 ft. 2in. ,, 3s. 6d. ,,
Seasoned Mahogany, Plank and Board, 6d. per foot.
A very large Stock, ready sawn and seasoned.
ALFRED CARTER, Old Bethnal-green-road, N.E.

PATENT VENEERED HANDRAIL
without Heading Joints, and the wreathed or circular p
appearing the natural growth of the wood. Established upward
30 years. In consequence of an improved steam apparatus, giv
greater facility to the manufacture, a very considerable reductio
the prices has recently been made. Price Lists forwarded by post
inclosing a postage-stamp; and Patterns to any part, on a refere
being given in London.
N.B Columns, &c. Veneered for the Trade.
JOHN MELVILLE, 84, John street, Pitfrey square, London, W.

STAINING DEAL TO IMITATE AI
KINDS of WOOD. It requires NO SIZING, and will sta
exposure to the weather. Light Oak, 4s. per gallon; Middle Oak,
per gallon; Dark and all other woods, 6s. per gallon. Varnishes
W NAYLOR'S Stains may be had at the Factory, 4a, James str
Oxford street; also Manufacturer of Improved Knotting and Lea
tive Varnishes.

GRAINERS and the TRADE SUPPLIE
with THOMAS KERSHAW'S COLOURS, prepared thick
graining every description of wood in all their purity of tone
colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also Lay be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest price
Agents for Kershaw's Graining Machines

IMPORTANT to BUILDERS an
PAINTERS. Genuine White Lead, 20s. per cwt.
Linseed Oil, 2s. 9d. per gallon; Boiled Oil, 3s. 6d. per gallon.
Turpentine, 5s. 6d. per gallon.
Fine Pale Oak Varnish, 7s 6d per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses,
30, Upper Ebury-street, and 45, Colonhill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—
TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWA
COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'
PATENT GRAINING APPARATUS, for producing an imitation
the various woods. They are very extensively used, and with gre
success. They are very cheap, and will repay the cost of them in tw
days' working; they only require a trial, and any person studying h
interest would not be without them. A prospectus will be sent upo
the receipt of a stamped directed envelope addressed to T. KERSHAW
Patent Graining Tool Manufacturer, 33, High-street, Marylebon
London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon
the receipt of a Post-office order for 22s.

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior qualit
for the last eighty-four years, and may always be depended upon a
the best that can be made.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES
(C. A. Watkins's Patent), warranted secure, best bristles, an
of superior manufacture, at moderate prices. Varnish Brushes
Stipplers, and Graining Tools of the most improved construction. T
be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.
F. TUCK, Oil and Colour Warehouse, 138, St. Albans-place,
Edgware-road, W.

CROWDEN and GARROD
(successors to THOS. KENT & CO.), the celebrated
PAINTING and GENERAL BRUSH
MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
*** Also Manufacturers of the Patent India-rubber Knife-boards,
Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

KEENE'S and PARIAN CEMENT for
Internal uses.—These well-known hard Stuccoes dry quickly,
and can be painted upon within a few days.
Made and sold by JOHN BAZLEY WHITE & BROTHERS,
Millbank-street, Westminster.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14 SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent,
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

JOHNS & CO.'S PATENT PERMANENT
STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,
Office, 5, George-yard, Lombard-street.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS,
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA-COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway will despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms. PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

STRINGFIELD and BLYTH,
Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & R. Bangor Wharf, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PARIAN CEMENT for INSIDE WORK.
With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.,
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.
Agent in Liverpool—JOHN McKENZIE, 42, Seel-street.
Do. do. Manchester—THOMAS OAKDEN.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise,
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks, the HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parys Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT WORKS,
Northfleet, Kent.
Messrs. ROBINS & CO.
To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. — Orders received at Great Scotland-yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines, Brierley-hill.
FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co, Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the month's price-lists.
N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

SCOTT'S PATENT CEMENT.
RICKMAN & CO. LEWES,
LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

MARTIN'S PATENT FIREPROOF CEMENT
Is 35 per Cent. Cheaper than any other internal Cement in use.
Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.
186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—

HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.
High-street, Lambeth, London.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,
WHARF, No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



PAN, 4s. 6d.



TRAP, 2s.

HALF SOCKET PIPES are so perforated as to receive the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz :—
Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACK HOLLAN & CO'S (Office of Wharf, Cut by Basin
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Bayswaterarms Wharf, Greenwich. Mr. GEORGE ALLEN'S, Baxter's Wharf, Chelsea.
Mr. LAWLESS'S, Dock, Wharf, Gateshead, Hatton
Mr. HENRY TURNER'S, 2, South Wharf, Pried-street, Paddington.

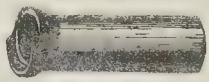
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,
ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL,

MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

DRIVING BANDS, HOSE, VALVES, &c.

THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their VULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable than leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, cold, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Cart, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.

All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.

THE LEATHER CLOTH COMPANY, Limited,
56, CANNON STREET WEST, LONDON, E.C.

PELICAN LIFE INSURANCE

OFFICE, ESTABLISHED IN 1797,
70, Lombard-street, E.C. and 57, Charing-cross, S.W.

DIRECTORS.

Octavius E. Coope, Esq.
Wm. Cotton, Esq. D.C.L. F.R.S.
John Davis, Esq.
Jas. A. Gordon, Esq. M.D. F.R.S.
Edward Hawkins, Jun. Esq.
Kirkman D. Hodgson, Esq. M.P.
Henry Lancelot Holland, Esq.
William James Lancaster, Esq.
John Lubbock, Esq. F.R.S.
Benjamin Shaw, Esq.
Matthew Whitting, Esq.
M. Wyvill, Jun. Esq. M.P.

ROBERT TUCKER, Secretary and Actuary.

Examples of the amount of Bonus awarded at the recent division of profits to Policies of Ten Years each effected for the whole term of life at the undermentioned ages :—

Age when Assured	Duration of Policy.	Bonus in Cash.	Bonus in Reversion	Sum Assured and Bonus.
20	7 years	£29 7 0	£206 0 0	£235 7 0
	14 years	36 9 0	73 16 0	109 5 0
	21 years	44 8 0	89 0 0	133 8 0
30	7 years	49 18 6	84 13 0	134 11 6
	14 years	61 2 0	130 10 0	191 12 0
	21 years	75 2 6	168 0 0	243 2 6
50	7 years	98 4 6	127 10 0	225 14 6
	14 years	127 2 6	144 10 0	271 12 6
	21 years	144 1 0	156 10 0	300 11 0

*** For Prospectuses, Forms of Proposal, &c. apply at the Offices as above, or to any of the Company's Agents.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



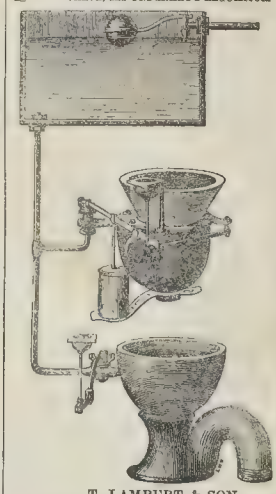
In expectation of a greatly increased sale, D. & W. have determined to manufacture the same excellent article of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

The objections to the Glass Closet-pan have been, that they are not only dear and liable to breakage, but that, after a short period, the glass crazes, and the Pans become DISCOLOURED and UNFIT for USE.

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the 3s. 9d. Enamelled Stoneware Closet and Trap.

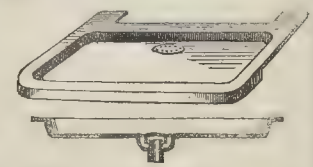
PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

PATENT CAST-IRON KITCHEN SINKS,

with TRAPS complete; manufactured by the Patentees, NEWTON, CHAMBERS, & CO. Thorncliffe Iron Works, near Sheffield.



Long.	Wide.	Deep.	* Plain	Galvanized.	Enamelled.
21 in.	15 in.	4	5s. 6d.	10s.	14s. each.
30 „	18 „	4	7s. 6d.	12s.	15s. „
36 „	18 „	4	8s. 6d.	14s.	22s. „
42 „	20 „	4½	10s. 6d.	18s.	27s. „
48 „	20 „	4½	12s. 0d.	21s.	31s. „

* These Sinks are covered with a Preparation which will prevent the possibility of their getting rusty.
To be had in London only of
Mr. J. JONES, Iron Merchant, 6, Bankside London.

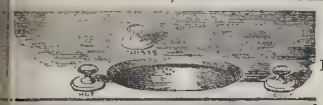
J. TYLOR & SONS,

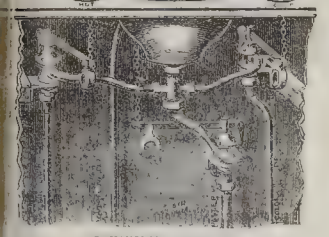
MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

To be seen in action at the Manufactory,
WARWICK LANE,
And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent street, London.
ILLUSTRATED CATALOGUES ON APPLICATION.

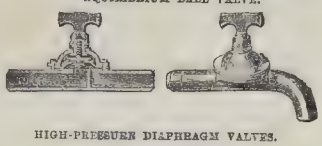




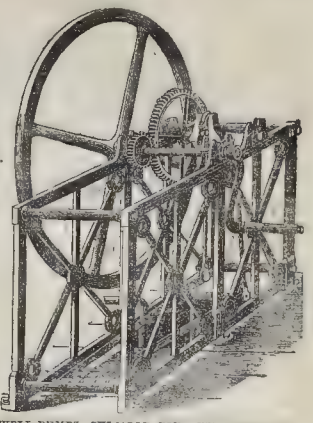
LAVATORY APPARATUS.



EQUILIBRIUM BALL VALVE.



HIGH-PRESSURE DIAPHRAGM VALVES.



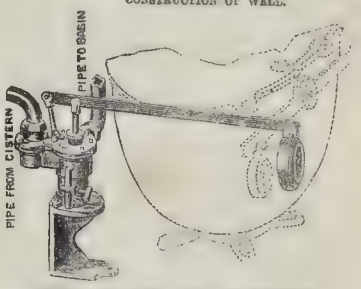
WELL-PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 35.

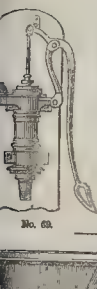
WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2½ in.	short 1 ft. 7 in.	Fitted for lead,	1 1 0
2½ „	long 2 3	gutta percha	1 10 0
3 „	ditto 3 6	or cast iron	2 4 0
3½ „	ditto 3 6	flanged pipe,	2 9 0
4 „	ditto 3 6	as required.	3 16 0

2½ „ short, with 15 feet of lead pipe attached, ready for fixing 2 0 0
2½ in. long ditto ditto 2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.



No. 69.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch....	£6 0 0	Larger sizes when required.
3 „	7 5 0	
3½ „	8 0 0	

Fitted to the best Plank, 5 ft. 9 in. high.

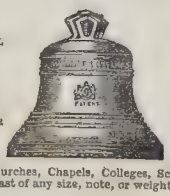
Where strength is not an object, a lighter Pump can be supplied.

2½ inch £4 15 0
3 „ 5 15 0



WARNERS' BATHS can be had of either Copper, Zinc, or Galvanised Iron. Price, from 3*l.* 10*s.* each. J. W. & SONS also supply all Fittings requisite for the same.

A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384. No. 383

WARNERS' HIGH PRESSURE COCKS are made with gland Stuffing boxes and Loose Valves. They can always be made sound after wear, and re-leathered with facility.

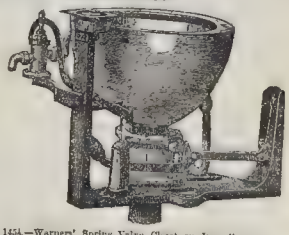
All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

J. WARNER & SONS'
PRICED
ILLUSTRATED CATALOGUE
WILL BE FORWARDED POST-FREE ON APPLICATION.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 1454.—Warners' Spring Valve Closet on Iron Frame, with vulcanised India rubber valve, and patent supply valve attached, plain handle, and white basin £3 13 0
Sunk handle extra 0 3 0
Blue basin, extra 0 1 6



No. 1464.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £3 0 6
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0
The above Prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

TO BUILDERS, IRONMONGERS, SMITHS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by the Trustees to SELL by AUCTION, on MONDAY, FEB. 3rd, and following day, at ELEVEN o'clock, on the PREMISES, No. 24, Tottenham Court-road, and Bull Head yard, Crown-street, Soho, in lots, the STOCK and IMPLEMENTS IN TRADE of a Stove and Range Manufacturer, including 50 self-acting kitchen ranges, from 3 feet to 5 feet 9 inches wide, many of them with wrought-iron back boilers; one 5 feet kitchener; 25 polished-steel register stoves, with ornamental and other mountings; 50 fine cast register stoves; 12 pedestal, bar, and hall stoves; 2 wrought-iron strong-room doors, 30 polished steel, fenders 30 sets C S fire-irons, wrought-iron ovens, stove-fronts, cable-fittings, galvanized hot-water cisterns, 30 registered fronts, some costly carved patterns, 8 smiths' forges, bellows, anvils, top and bottom tools, stocks and dies, drilling machine, vices and benches, lever punching-press, 4 tons rod and bar iron, low cart on springs, useful horse, harness, stable utensils, and numerous other effects. To be viewed on SATURDAY previous to the sale, when catalogues may be had on the premises; the previous portion of JAMES McGREGOR, Esq. Solicitor, 2, Bise-lane; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

Commanding Business Premises, Tottenham Court-road.

MESSRS. FULLER & HORSEY are instructed by the Trustees, with consent of the Mortgagee to SELL by AUCTION, on the PREMISES, on MONDAY, FEBRUARY 3rd, 1862, at ELEVEN o'clock, the valuable LEASE, with Possession, of those Commanding Business Premises, situate No. 247, Tottenham Court-road, a few paces from New Oxford-street, comprising a double-fronted shop, having a frontage of 15 feet 6 in. by a depth of 60 feet, and back frontage of 21 feet, show-rooms and dwelling house over, and back entrance into Tavistock Mews; held on lease from his Grace the Duke of Bedford for a term of years, at the very low rent of 80l. per annum.—To be viewed till the sale. Particulars may be had on the premises; of JAMES McGREGOR, Esq. Solicitor, 10, Bise-lane; of Messrs. TIPPETTS & SON, Solicitors, 2, Bise-lane; and of Messrs. FULLER & HORSEY, 13, Billiter-street, City, E.C.

RANELAGH WORKS.—Riverside Builder's Yard, with handsome Residence and Property attached, situate Nos. 29 and 30, Cheyne-walk, near the Cadogan Pier, Chelsea.

MR. FRED. GODWIN will SELL by AUCTION, at the MART, on TUESDAY, JANUARY 28, at ONE, by order of the Mortgagee, the LEASE, for 97 years, direct from Lord Cadogan (at 20l. ground-rent), of the Residence, No. 30, Cheyne-walk, and the spacious premises, comprising large yard, and saw and timber pits; carpenters' workshops, and other shops, stabling, counting-house, &c. inclosed by entrance-gates. Also, the well-placed Shop at 1 Rose, No. 29, Cheyne-walk, let to Mr. Rice Reader and Yard also in hand, and will be sold with possession.—Particulars and plans are preparing, and may be had at the Mart; of Messrs. DREW & WILKINSON, 151, Bermondsey street, South-wark; at the Pier Hotel, Cadogan Pier; and of Mr. GODWIN, 3, Halkin-terrace, Belgrave square, S.W.

FLEET-STREET, in the City of London.—First-class Freehold Property.

MESSRS. BEADEL & SONS have been favoured with instructions TO SELL by AUCTION, at the MART, Bartholomew-close, London, on TUESDAY, the 28th day of JANUARY, 1862, at TWELVE for ONE, in one lot, those magnificent SHOP PREMISES, situate and being No. 78, Fleet-street, in the City of London, in the occupation of Mr. Charles McLeay, looking-glass manufacturer. These premises have a frontage of 14 feet 6 inches, and a depth of about 85 feet. The front is of an elaborate design, and has superb plate glass in sash fronts, and wide doors on first and second floors. The height of the greater portion of the very extensive shop is 18 feet 6 inches in the clear between floor and ceiling. There are three floors above the shop, and a basement beneath. The actual use of this property for business purposes is also of that parallel, being in the best part of one of the greatest city thoroughfares. Further particulars and conditions of sale may be obtained of Messrs. BIRCH, INGRAM, & WHATELY, Solicitors, 68, Lincoln's-inn-fields, W.C.; at the Mart; and of Messrs. BEADEL & SONS, No. 25, Gresham street, E.C.

CHARING CROSS RAILWAY.—Building Materials.—Twelfth Clearance Sale

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is instructed by the Directors, to SELL by AUCTION, on the PREMISES, on day of JANUARY first, at ONE o'clock punctually, the valuable sound Materials of the SOUTH-EASTERN ARCADE: comprising capital stock brickwork; several plate-glass and glazed shop fronts, sashes, and frames, roof flooring, boards, timber, slates, lead, cast-iron columns, sash frames, lead in gutters, and a variety of useful fixtures and fittings. May be viewed the day previous to sale, and catalogues then obtained of Mr. MARSH, Charlotte-row, Mansion-house; of Messrs. WILLIS & HARROW, Auctioneers, West Molesey, King-ton, Surrey, and Adam Bis, Esq. and Mr. EDWARDS, Surveyor to the Company, at his Offices, in the South-Eastern Railway terminus, Lond n bridge.

N.B. The arcade having been so recently erected, regardless of expense, the auctioneers have great confidence in recommending these materials to the attention of the trade generally, and especially to persons who may be fitting up trade or business premises.

TO BUILDERS AND OTHERS.—ABSOLUTE SALE ON MONDAY NEXT.

MR. WM. HOLLINGSWORTH will SELL by AUCTION, at the SALE-ROOMS, 13, High Holborn, on MONDAY next, at TWELVE precisely, the STOCK-IN-TRADE of a BLACK and GENERAL IRONMONGER, including a large assortment of locks, bolts, latches, screws, hasps, and bolt fixings, brass-work, register and elliptic stoves, kitchen-ranges, piping, guttering, lead, tin, various tools and ware, iron-safes, a set of counter-scales and 7-lb. weights, weighing machine, sprung truck, and other effects. Catalogues at the Auction Offices, 13, High Holborn.

COUGH STREET and PHŒNIX PLACE, near GRAY'S INN LANE. Valuable Machinery, useful Materials, Horse and Carts, of a Builder and Contractor, to clear the Premises, the greater portion being fit for other business

MR. JOHN WALLEN is instructed by the Proprietors (who have concentrated their Business at their old premises, which they have extended), to SELL by AUCTION, on the PREMISES as above, on MONDAY, 27th and following day, at ELEVEN, valuable MACHINERY; consisting of a rack saw-bench, by Horne; a vertical frame deal saw, by Parsons; a circular saw bench, by Chambers; a large and powerful pugmill, by Shuttleworth, and a pugmill, by Norton & Borrie; Gwynne's centrifugal pump, hoseing and pulley, mortising machine and iron punch, 20 feet 3 inches span, two cast iron screw cranes, four dobbin carts, four painters' stages, stone, a marble bath, a quantity of wheeling planks, step ladders, metal and other skylights, sashes, doors, useful boards and quantities of copper and brass screws, four cast iron fluted columns, piping, railing, strong cantilevers, strips, deal trucks, stoves, &c.; a variety of other new and old materials, and a large quantity of firewood.—To be viewed one day before the sale. Catalogues on the Premises; and of Mr. JOHN WALLEN, No. 68, Old Broad-street, E.C.

TO BUILDERS, CARPENTERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, at 143A, EUSTON-ROAD, on MONDAY, 27th JANUARY, at TWELVE, a few PLANKS, DEALS, and BATTENS, 7,000 feet quartering, feather-edge boards, 30 squares 3/4 inch and 1/2 inch flooring, Avris rail dis square, 30 doors, slating, battens, capital strong timber carriage, and cask.—2, Cardington-street, Hampstead road.

IMPORTANT SALE OF TIMBER AT HUNGERTON, NEAR LEICESTER.—TO BE SOLD, by AUCTION, by

JOHN HOLLAND, on THURSDAY, the 6th day of FEBRUARY, 1862, at the BLACK BOY INN, in Hungerton aforesaid, 35 LOTS of very superior TIMBER, consisting of 120 Oaks, 200 Ash, 25 Willow, 120 Elm, Poplar, Beech, and other timber trees, well worth the attention of timber Merchants and Ship-builders. To view, apply to Mr. MUGGLETON, at Baggrave, of whom catalogues may be had; as also at the Office of Mr. F. MILES, Surveyor; and the Auctioneer's Offices, Leicester. Hungerton is eight miles from Leicester, six from Syston railway station, and situated on good roads. Dinner on the table at ONE; Sale to commence at TWO o'clock precisely.

IMPORTANT to CONTRACTORS, ENGINEERS, MILLWRIGHTS &c.—SALE of CONTRACTORS PLANT and MATERIALS.—Messrs. Hemingway, Pearson, & Cooper, having completed their contracts for the Bute Docks and other works at Cardiff, have instructed

MR. MARK MARKS to SELL by AUCTION, on TUESDAY, WEDNESDAY, and THURSDAY, the 11th, 12th, and 13th of FEBRUARY, the whole of their valuable PLANT, MACHINERY, &c.: comprising an excellent horizontal steam engine, of 35-horse power, with boiler complete, by Butler & Co. of Leeds; one of Galloway's patent steam boilers, 18 feet by 6 feet, a planing machine, 17 feet 6 inches long, planing 13 feet by 3 feet 6 inches by 3 feet 6 inches, and self-acting in all its cuts; two punching and shearing machines, a new mortising, and surfacing, and drilling machine, plate-bending ditto; weigh-bridge, to weigh 10 tons, and a powerful quarry crane, capable of lifting 12 tons; several mortar-mills, with shafting; a large quantity of contractors' rails; about 100 earth waggons, with wrought iron wheels; 10 coal waggons; 38 permanent ballast-waggons; carts and harness, a quantity of smith's tools, anvils, bellows, wrought-iron hearths, and one 6-feet blower; a capital saw-mill frame and bench, and several good saws; an extensive range of workmen's huts; office-fittings and furniture, large Miner's safe, level, theodolite, &c. together with a quantity of other materials and stores too numerous to admit of details. Also, at the same time, a well-built Dredger—will dredge a depth of 26 feet, has two connected horizontal high pressure engines, with 10½ inch cylinders, and 2 feet stroke; one multitubular boiler (Rees's patent), 20 feet by 8 feet 6 inches, very nearly new; one donkey engine, for feeding boiler, heating apparatus, &c.; has also on deck several powerful winches and hawse, and is in very good working condition. Also a good steam tug, the "Adelene" (as she is now rendering engines, 23½-inch cylinders, 3 feet 6-inch stroke (by Marshall, of Shields); one multitubular boiler, 8 feet long by 14 feet by 8 feet 6 inches; with four furnaces, steering very little forward, one donkey engine for feeding boiler. The last tows well, and has very recently undergone a thorough repair. Also four Hopper Mud Barges, each about 100 tons burthen, with sailing rigs, complete and ready for work; and several small boats.—Catalogues may be had one week previous to the day of Sale, and in the meantime the whole may be seen on application to the Contractors, at their Offices, Herbert-street, Cardiff.

To Owners of Unfinished Houses, Builders, Decorators, and Others. A large Stock of Rich and Modern French and English Paperhangings.

MESSRS. DEBENHAM, STORR, & SONS will SELL by AUCTION, in their LARGE ROOM on the Ground floor, 26, King-street, Covent garden, on WEDNESDAY, JANUARY 29, at ELEVEN, a large and varied STOCK of FRENCH and ENGLISH PAPER-HANGINGS, of rich and useful designs, in damasks, satins, flocks, golds, chintzes, landscapes, marbles, borders, and fillings, suitable for the decoration of drawing-rooms, dining-rooms, bed-chambers, staircases, offices, and other apartments; in all, upwards of 10,000 pieces. May be viewed the day prior, and Catalogues had at once on application.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway station, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

OXFORD-STREET.—TO BE LET, on a building lease, a valuable PLOT of GROUND, containing about 6,000 superficial feet, and having a frontage of upwards of 45 feet to Oxford-street, with a return frontage of upwards of 90 feet to Perry's place.—For particulars apply to Messrs. ROBERT JOHN and HENRY CLUTTON, 9, Whitehall place, Westminster

LEATHERHEAD.—A fine TRACT of BUILDING LAND, commanding beautiful views and an extended line of frontage to turnpike-road, in a most desirable locality, within a few minutes' walk of the Railway Station, TO BE LET, at moderate ground-rents, with right to purchase the Freehold within a given time, for building Detached Villas and Private Residences only.—Apply to WHITE & SONS, Land Agents, Dorking.

TO BUILDERS AND OTHERS.

MESSRS. HARDS & VAUGHAN are instructed by the Trustees to SELL, on terms exceedingly advantageous to the Purchaser, together or separately, THREE CARCASES of first-class Family Residences, each in a forward state, and let to Tenants, in the Parade, at Clapham Common, one of the favourite localities near Blackheath, Greenwich Park, and Railway Station.—Apply to Messrs. HARDS & VAUGHAN, Auctioneers and Land Agents, Church-street, Greenwich.

TO BE LET, a BRICK and TILE YARD, in Hambledon, near Fareham and Cosham, Hants. TO BE LET, a BRICK and TILE YARD, with Clayton's Patent Machines, Dies, &c. and a Farm. Also, some Pastures and Premises. Entry immediately.—Apply to R. KENNETT, Esq. Petersfield, Hants.

TO COACH-BUILDERS, UPHOLSTERERS, &c.—Extensive and handsome PREMISES TO BE LET, at No. 78, Wells-street, a few doors from Oxford street, comprising three magnificent floors and a basement. Length, 74 feet; width, 29 feet, inside measurement.—Apply on the premises.

BUILDING GROUND, CITY of LONDON.—TO BE LET, on a BUILDING LEASE for 80 years, a PIECE of GROUND on the North side of Commercial-street, in the City of London. Plans of the ground may be seen, and further particulars obtained, upon application at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

BELVEDERE, near Erith, Kent, S.E.—To BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES near London.—This beautiful Park is to be thrown open for building at the new year, 1862. Probably no district to the east of London has equal natural advantages. The beauty of the river and land scenery is well known. The soil is dry and healthy, the water pure and abundant. There are stations on the North Kent Railway at Erith and at Belvedere. The former, near to the east end of the Park; the latter, within four minutes' walk of the west end of the Park, and 15 minutes' walk from the centre of the estate. By the end of 1863, it is expected that there will be complete railway communication to Charing Cross. Pretty near to the Belvedere Station and Lessees Beach (close to the Belvedere Church and Schools) are already (within two years) nearly covered with buildings, viz. villas of different classes, from 25l. to 70l. per an., all shops of various descriptions; some plots, however, may still be had there. Some sites in the park are just let, and it is intended to grant leases of other similar plots for ninety-nine years, for erecting villas of a superior description. Plots will be laid out contiguous to four principal roads running through the park. These are the Park-road, leading from the Belvedere station to Brook-street; the Avenue-road and the Tower-road, each leading from the public Erith-road at different points to the Tower; and the Valley-road, leading from the Erith Lodge to the archway in the park. The ground rents are very moderate.—Applications for terms and for other particulars may be addressed to Messrs. WM. G. HABERSHON & PITE, Architects, 38, Bloomsbury-square, W.C. Mr. STICKLAND, Lessees Heath, will show the ground to persons applying. The mansion will also be let on lease after April, 1862, for an hotel or public school, or other public institution.—For particulars apply to Messrs. NORTON & HOGGART, Old Broad-street, E.C.

HOTEL SPECULATION.—The finest PLOT of GROUND on the South Coast can now be secured for erecting a first-rate Hotel. It contains about an acre, with 400 feet of frontage towards the sea.—Address, A. Z. care of Mr. Hollinshed, 14, North bank, Regent's-park, N.W.

TO BRICKMAKERS.—TWENTY ACRES of good EARTH, free from grit, adjoining the Thames, ten miles from London, TO BE LET.—Apply to C. P. B. Post-office, Dagenham, Essex.

GUILDFORD. — To BUILDERS and OTHERS.—LAND TO BE LET, on building lease, for nine-nine years, on very eligible terms, is situate close to the town, near church, and within ten minutes' walk of the Railway Station. It is well adapted for villas of a superior class, with good gardens, and such are in very great demand. This is an excellent opportunity for builders or intending residents.—Further particulars can be obtained of Mr. J. R. CAPRON, Solicitor; or Mr. T. GOODCHILD, Architect, Guildford, where plans can be seen.

ELIGIBLE FREEHOLD BUILDING LAND TO BE LET, at Forest Hill, Twickenham, Brighton, Romford, Kentish Town, Old Ford, and Southgate, at moderate ground rents, with option of purchase. Advances, if required.—Apply to D. CAMPBELL, Esq. Architect, 2, Bartholomew lane, Bank; or of Mr. J. K. FREWER, Oakfield-road, Penge, S.E.

WANTED, with early possession, Six or Twelve Acres of FREEHOLD LAND, within one or three miles of the City, on the south side. If with a good house it will be preferred.—Parties having such for disposal may send particulars to R. A. 93, Budge-row, E.C.

TO BUILDERS and OTHERS.—SELHURST-PARK, Norwood, near the Junction Station.—The Choicest Building Land in the Neighbourhood for Public Buildings or LEADING HOUSES, to let at 45l. to 65l. Excellent bricks of every class on the estate. Proximity to the Junction Station, enables materials to be readily supplied. All roads made. Several first-class houses erected, all of which have been let before finished; and others are in course of completion. Natural drainings from all parts of the estate. Air proverbially healthy, water good and abundant, drives and walks beautiful; nine miles, or 15 minutes from City; 34 minutes from West-end; 4 minutes from Crystal Palace; 30 minutes from Brighton. The Train leaves Farringdon-street, hill-half past twelve o'clock.—Particulars at Selhurst park Office; or to Messrs. FRANCIS FULLER & CO. Cornhill, E.C.

WANTED, to PURCHASE, an ARCHITECTURAL PRACTICE, of a first class, extensive, and remunerative nature, of a gentleman about to retire from the profession; or Half Share of one of eminence, where the Advertiser's practical experience in Gothic Architecture, and business, both in the Office and on the Works, would be found of the first order. Particulars of expenses, and net profits per annum, for the last three or five years, and amount of commissions upon work at present engaged upon, or Works required in either case, directed to H. Mr. Rearden's, 91, Piccadilly, W. shall meet with immediate attention, and be treated with strict confidence.

TO BE DISPOSED OF, the BUSINESS of a BUILDER of twenty years' standing. The Lease of Premises, Stock, Plant, and Furniture (price, about 700l.) the Proprietor retiring from business.—Address, O. W. P. Office of "The Builder."

TO GAS ENGINEERS, BRASS WORKERS, &c.—An old-established and well-known BUSINESS, in the centre of the City, TO BE DISPOSED OF, in consequence of the death of the Proprietor. No agents need apply.—Apply by letter to T. J. B. FYLE, 1, Huggin-lane, Upper Thames-street, E.C.

TO PLUMBERS, PAINTERS, and HOUSE DECORATORS.—TO BE DISPOSED OF, with immediate possession, an old-established, first-class BUSINESS in one of the most flourishing towns (and on the line of railway) in Suffolk. Returns £1,100 per annum. The reasons given by the proprietor for relinquishing it. To any wishing for a really good business, the above offers unusual opportunities.—Apply by post to F. L. *Journal* Office, Ipswich

TO YOUNG ARCHITECTS. — TO DISPOSE OF, the PAPERS and GOODWILL of an old-established Architectural Practice in one of the most prosperous towns in Yorkshire. For particulars, address A. Z. care of W. Blackett, esq. 7, Furnival's Inn, London, E.C.

T. PETTITT & CO. LITHOGRAPHERS, and GENERAL PRINTERS, Frith-street, Soho-square, W. beg to inform Contractors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary neatness and accuracy, and most respectfully solicit a trial. A scale of charges and specimens submitted on application.

To Surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West-end, must be evident from the great convenience it may afford where despatch is required.

Working Drawings and Estate Plans carefully drawn and printed.

Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organise, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.

Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO. Lithographers, &c. 5, Ave Maria-lane, E.C.

CIVIL ENGINEERING, ARCHITECTURE, and SURVEYING.—Mr. WINDER, 18, Abingdon-street, Westminster, continues to execute DESIGNS, take out Quantities, and make Valuations for Dilapidations, and all works in the above professions, at moderate charges, and with accuracy and despatch.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c. Mathematical instruments, supplied at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, &c. for giving Instruction in every branch of the Profession. Terms for the Course of three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Assistants, Pupils, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Sciography, and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms—Day Pupils, the usual Guinea per Quarter; Evening Pupils One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, without the use of Drawings, Boards, Rules, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford st. Russell-square.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet street, London. ROBERT M. LATHAM, Secretary.

DRAWING MODELS. — J. D. HARDINGS, complete in Lead wood, 17 lbs 6d. — WINSOR & NEWTON, 38, Rathbone place, London, and all Artists' Colourmen.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, January 25, 1862.

The Builder

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XX.—No. 991. **FEBRUARY 1, 1862.** Price Fourpence.

ILLUSTRATIONS.

mingham Cemetery: Lodge and Entrance Gates.—Mr. R. arke, Architect 79
nument to the late Dr. Browne, (R. C.) Bishop of Elphin..... 78

CONTENTS.

Condition of Glasgow: Survey of our Towns 69
Restoration Question with Reference to Cathedrals 70
Essentials of a Healthy Dwelling 71
absorbent Materials in Construction: Healthy Dwellings.... 72
essor Smirke's Lectures on Architecture at the Royal Aca- my: Lecture II. 73
Sanitary State of Windsor Castle 74
Proposed Memorials of the Prince Consort 75
Decorative Art in Italy; and the Florence Exhibition 75
ehouse Construction: Fire Clay 77
offee and the American Mineral Oils 77
ist-church Schools, West Bromwich, Competition 77
itectural Institute of Scotland 77
nument in Memory of the late Right Rev. Dr. Browne, (R. C.) shop of Elphin, Ireland 78
opolitan Board of Works: Election of District Surveyors ... 78
ingham Cemetery 78
New-Hartley Colliery Accident 81
Late Prince Consort's Tomb 81
ration of the Building for the International Exhibition 81
Small Approaches to the Great Exhibition 82
don Church 82
urements and Tenders: the System pursued in Glasgow ... 82
ol-building News 84
ed Glass 84
ch-building News 84
al Memorials 84
Sheffield School of Art 86
men's Houses out of Town 86
"Skip," Middle Level Sewer 86
and Wrought Iron Girders: Fairbairn's Statement 86
ay Houses of Parliament Competition 86
s received: Garth on Educational Minute, &c. (Longmans) .. 87
llanea 87

RCHITECTS' BENEVOLENT SOCIETY.

PATRONS.
Sir Robert Smirke, A. J. B. Beresford Hope, Esq. M.P.
PRESIDENT—Sydney Smirke, Esq. R.A.
TRUSTEES.
Hardwick, Esq. R.A. Charles R. Cockerell, Esq. R.A.
Geo. Gilbert Scott, Esq. R.A.
TREASURER—William Tite, Esq. F.R.S. M.P.

List of Subscribers and Annual Report may be obtained of the Secretary. Subscriptions will be received by WILLIAM TITE, St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, reat Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

IVIL ENGINEERING.—UNIVERSITY COLLEGE, LONDON.—PROFESSOR POLE, F.R.S. Mem. C.E. will commence his COURSE, on MONDAY, the 3rd of UARY, at a Quarter past FIVE, p.m. Lectures will be red during the months of FEBRUARY, MARCH, APRIL, and Days of Lectures, MONDAYS and WEDNESDAYS, of the three weeks in each month. Hours, a Quarter past Five to r past Six, and half-past Six to Half-past Seven, on each day. or the Course, £1 on payment of 10s. College fee, in addition. ourse is open to any gentleman who is not attending other s in the College.

EDW. S. BEESLY, A.M. Dean of the Faculty of Arts.
CHAS. C. ATKINSON, Secretary to the Council.

nary 24, 1862.

RCHITECTURAL EXHIBITION,

9, Conduit-street, W.—The spaces for Building Materials and ditions are now at once to be RE-LET. DRAWINGS are to be n on MONDAY, the 3rd of MARCH, before 6 p.m. The Exhibi- his year will contain an entire collection of all the sketches and s of the late A. Welby Pugin.

JAS. FERGUSSON, F.R.A.S. } Hon.
20, Langham place, } Secs.
JAS. EDMESTON, F.R.I.B.A. }
5, Brown-court, Old Broad-street

IENCE INSTRUCTION. — The Con- tinuation of a Course on the best methods of acquiring and municating knowledge in the following branches of Science will delivered at the SOUTH KENSINGTON MUSEUM, on the fol- g MONDAY evenings, at 8 p.m.

ture I. Vegetable Physiology and Economic Botany. Edwin ester, M.D. F.R.S. 3rd Feb.
ture II. — Mechanical Physics. Rev. B. M. Cowie, M.A. Feb.
ture III.—Metallurgy. J. Percy, M.D. F.R.S. 17th Feb.
ture IV.—Mining. W. W. Smyth, M.A. F.R.S. 24th Feb.
ture V.—Chemistry. Professor Hofmann, F.R.S. 3rd March.
ture VI.—Physiology. Professor Huxley, F.R.S. 10th March.
ons engaged in education, upon registering their names, will Tickets, at 6d. each, for the whole course.

By order of the Committee of Council on Education.

HE BUILDERS' BALL, in aid of the Funds of the Builders' Benevolent Institution, is fixed to take at WILLIS'S ROOMS, St. James's, on THURSDAY, 20th UARY, 1862. Gentlemen desirous of promoting the interests Charity by becoming Stewards, will be pleased to forward their s to the Hon. Secretary, Mr. JOSEPH BIRD, at the Office, 21, ington-street, Bloomsbury.

BUILDERS' BENEVOLENT INSTITUTION.—AN ELECTION OF THREE PENSIONERS, two males and one female, will take place in MAY next. Candidates may obtain forms of application (to be returned on or before the 24th of FEBRUARY) at the Office, 23, Southampton-street, Bloomsbury. Pensions, £21 per annum for males, and £20 for females

31st January, 1862. A. G. HARRIS, Secretary.

INTERNATIONAL EXHIBITION, 1862. SEASON TICKETS.

SEASON TICKETS are now for SALE, between the hours of TEN and FIVE daily, at the Offices of Her Majesty's Commissioners, 454, West Strand, London, W.C. There will be two classes of Season Tickets, neither of which will be transferable. The first price, 3*l.* 3*s.* will entitle the owner to admission to the opening and all other ceremonials, as well as at all times when the building is open to the public. The second, price 5*l.* 5*s.* will confer the same privileges of admission to the Exhibition, and will further entitle the owner to admission to the Gardens of the Royal Horticultural Society at South Kensington and Chiswick (including the Flower shows and Fêtes at these Gardens), from the 1st of FEBRUARY to the 18th of OCTOBER.

Prices of Admission.—On the 1st of May, on the occasion of the opening ceremonial, the admissions will be restricted to the owners of Season Tickets. On the 2nd and 3rd of May, the price of admission will be 1*l.* for each person, and the Commissioners reserve to themselves the power of adjusting three other days, when the same charge will be made. From the 5th to the 17th of May, 5*s.* From the 19th to the 31st of May, 2*s.* 6*d.* exc pt on one day in each week, when the charge will be 5*s.* After the 31st of May the price of admission on four days in each week will be 1*s.*

Applications through the post (stating Christian name and surname) must be addressed to the Secretary, and must be accompanied by Post-office orders, payable to J. S. Mayo, Esq., at the Post-office, Charing-cross. No cheques or country notes will be received.

Cases for preserving the Season Tickets may be obtained at the offices, 1*s.* each. By order,

F. R. SANDFORD, Secretary.

TO CIVIL ENGINEERS, ARCHITECTS, SURVEYORS, and the PUBLIC in GENERAL.—JOHN ARCHBUTT & SONS having completed their alterations, respectfully solicit a VISIT to their Premises, where will be found an extensive STOCK of New and Second Hand THEODOLITES, LEVELS, PUCKER SEXTANTS, and all kinds of Surveying and Drawing Instruments, Telescopes, Opera Glasses, Microscopes, &c. &c. — 99, WESTMINSTER BRIDGE ROAD, LAMBETH, S. — An Illustrated Price List forwarded free.

COMPETITIO S.

DRINKING-FOUNTAIN MANUFACTURERS and OTHERS are invited to send in DESIGNS for STREET FOUNTAINS, accompanied with prices, for the Committee of Works of the Vestry of the Parish of St James and St. John, Clerkenwell.—By order, ROBERT PAGET, Vestry Clerk.

Vestry Hall, 23, Upper Rosoman-street, E.C. January 27, 1862

CONTRACTS.

NOTICE to BUILDERS.—TENDERS are required by the Directors of the Temperance Permanent Land and Building Society, for the COMPLETION of FIVE HOUSES at St. John's-wood. Persons desirous of Tendering may see the Plans and Specifications, and obtain further information, at the Offices of the Society, between TEN A.M. and FOUR P.M. on and after MONDAY, 27th. Tenders are to be delivered or sent to the Secretary of the Society, at or before FOUR o'clock, on TUESDAY, FEBRUARY 4, sealed, and endorsed "Tenders for Houses at St. John's-wood." References and security may be required, and the lowest, or any Tender, will not necessarily be accepted.

HENRY J. PHILLIPS, Secretary.

Offices, 34, Moorgate-street.

P.S.—The Directors of this Society will shortly require Tenders for erecting several more Cottages on their Estate at Stratford. Plans and Specifications are in course of preparation.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a new HOUSE and Out-offices at Stantonbury, near Wolverton, may see the plans and specifications, and obtain a bill of the quantities, at the Office of Mr. E. F. LAW, Architect, Northampton. Tenders to be delivered to the Architect on or before SATURDAY, the 8th day of FEBRUARY next, and endorsed. The lowest or any Tender will not necessarily be accepted. E. F. LAW, Architect.

Northampton, January 20th, 1862.

TO IRONFOUNDERS and PIPE-MAKERS. BIRKENHEAD WATERWORKS.—The Birkenhead Improvement Commissioners are ready to receive TENDERS for the DELIVERY of about 400 TONS of CAST-IRON PIPES, of 20 inches, 15 inches, and 12 inches diameter. Specifications and form of Tender may be obtained of Mr. BATEMAN, 16, Great George-street, Westminster, or at the Commissioners' Offices, Birkenhead.—By order,

AMBROSE WALN, Clerk of the Commissioners

Birkenhead, 18th January, 1862

TO SCAVENGERS, DUST CONTRACTORS, MASONS, PAVIORS, CARMEN, AND OTHERS. The Vestry of St. George the Martyr, Southwark, will meet at the Vestry Hall, in the Borough-road, Southwark, on MONDAY, the 10th day of FEBRUARY, 1862, at SIX o'clock in the evening, to open TENDERS for SCAVENGING the WARDING, for the REMOVAL of DUST, &c. for MASONS' and PAVIORS' WORK, for SUPPLYING GUERNSEY GRANITE, FLINTS, SPALLS, YORKSHIRE PAVING, and for the HIRE of CARTS, HORSES, and DRIVERS.—Forms of Tender and particulars may be obtained at the Vestry Clerk's Office. The parties tendering, or their representatives, must attend at the Vestry Hall, on the evening above mentioned. The Vestry does not engage to accept the lowest or any Tender. Every Tender must be delivered at the Vestry Clerk's Office, before FIVE o'clock on the day above named.—By order,

Vestry Hall, Borough road, DANIEL BIRT, Vestry Clerk.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for WORKS to be done in CONSTRUCTING SCHOOLMASTER'S QUARTERS, at Arbour-hill, Dublin.

Parties desiring to Tender for the above Work must leave their names at the District Royal Engineer's Office, Lower Castle-yard, Dublin; or at the Royal Engineer's Office, Royal Barracks, on or before TUESDAY, the 4th day of FEBRUARY, 1862, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

Office of Commanding Royal Engineer in Ireland,
Dublin Castle, 22nd January, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for Works to be done in CONSTRUCTING a RIDING SCHOOL, at Island Bridge Barracks, Dublin

Parties desiring to Tender for the above work must leave their names at the District Royal Engineer's Office, Lower Castle-yard, Dublin, or at the Royal Engineer Office, Island Bridge Barracks, on or before SATURDAY, the 8th day of FEBRUARY, 1862, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

Office of Commanding Royal Engineer in Ireland,
Dublin Castle, 22nd January, 1862

LONDON DISTRICT.—To BUILDERS and OTHERS.—WAR DEPARTMENT TRIENNIAL CONTRACT for WORKS and REPAIRS.—The Commanding Royal Engineer, London District, hereby gives notice, that sealed TENDERS will be received at the War Office, Pall-mall, London, S.W. addressed to the Director General of Contracts, on or before the 21st of FEBRUARY, 1862, for WORKS and REPAIRS at the undermentioned Stations, separately or otherwise, for six months from the 1st of APRIL, 1862, to 31st MARCH, 1865, inclusive, viz.—

London, comprehending the Tower of London, all the Barracks and other Buildings within five miles of that place, and Turnham-green Militia Barracks.

Royal Hospital and Chelsea Barracks.

Hounslow, Hampton Court, and Kneller Hall Barracks, and Richmond Militia Barracks.

Windsor Cavalry and Infantry Barracks, and Belvedere Fort.

Militia Barracks, Barnet

Militia Barracks, Hatfield.

Militia Barracks, Uxbridge.

Schedules and printed forms of Tender, price 7*s.* 6*d.* each, and all necessary information, may be obtained on application at the Royal Engineer Office, 11, James-street, Buckingham-gate, London, S.W. from THURSDAY, the 6th, to SATURDAY, the 15th of FEBRUARY, 1862, between the hours of TEN A.M. and THREE p.m.

The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, London District, 11, James-street, Buckingham-gate, January 25th, 1862.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Oliver's Gap, Theddlethorpe, St. Helen's, in the county of Lincoln, may inspect the drawings and specification at the Coast Guard Watch-house, Saltfleet; or at this Office, between the hours of TEN and FOUR, from MONDAY, the 27th day of JANUARY, to SATURDAY, the 8th of FEBRUARY now next ensuing, and both inclusive (Sunday excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon of the 8th of FEBRUARY, under seal, and directed to the Commodore Controller General of the Coast Guard, and endorsed, "Tender for Oliver's Gap Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 21st day of January, 1862, at the Admiralty Coast Guard Office, 12, Spring-gardens, London, S.W.

TO BUILDERS.—The Stockton and Darlington Railway Company are prepared to receive TENDERS for the ERECTION of OFFICES in connection with the New Engine Works at Darlington. Plans and specifications can be seen from MONDAY, JANUARY 27 to WEDNESDAY, FEBRUARY 5, 1862, at the Company's Offices, Northgate, Darlington. Tenders are to be sent in on or before THURSDAY, FEBRUARY 6, 1862, addressed to the Secretary, at the Railway Offices, and endorsed "Tender for Offices." No pledge is given that the lowest or any Tender will be accepted. THOS. MAC NAY, Secretary.

Railway Offices, Darlington, January 18th, 1862.

TO CARPENTERS willing to TENDER for the ERECTION of SHEDS and other BUILDINGS at Hampstead, to be constructed chiefly of Wood, can inspect the Drawings and Specification at the Architect's London Office. The right is reserved of rejecting the Lowest or any Tender, which are to be delivered on MONDAY, FEBRUARY 10, FOUR o'clock punctual.

A. W. D. LEATHER, Solicitor.

1, Bond place, Leeds, 22nd January, 1862.

TO BUILDERS.—The Leeds King-street Warehouse Company, Limited, are prepared to receive TENDERS for the ERECTION of THREE first class WOOLLEN WAREHOUSES, in King-street, Leeds. The plans and specifications of the same may be examined, by parties proposing to Tender, at the Office of Mr. CUTHBERT BRODRICK, Architect, 2, Park place, Leeds, from MONDAY, the 27th inst. to MONDAY, the 10th of FEBRUARY next. Bills of quantities will be provided for parties requiring them. Sealed Tenders, addressed to "The Directors of the Leeds King-street Warehouse Company, Limited," are to be delivered at the Company's Office, 1, Bond-place, Leeds, not later than WEDNESDAY, the 12th of FEBRUARY next. The Company do not bind themselves to accept the lowest or any other Tender.

A. W. D. LEATHER, Solicitor.

1, Bond place, Leeds, 22nd January, 1862.

[*For remainder of Contracts see next page.*

CONTRACTS.

BOROUGH OF SOUTHAMPTON.—TO CONTRACTORS, SCAVENGERS, and OTHERS.—Notice is hereby given, that the Southampton Local Board of Health are prepared to receive TENDERS from any persons or persons willing to enter into a CONTRACT for the proper REPAIRING, CLEANSING, and WATERING of the PUBLIC STREETS, for the Removal of House Refuse, and Other Like Works within the Borough. The Contract will be for three years, from the 25th day of MARCH, 1862. Detailed specifications of the Works may be seen upon application to Mr. J. G. POOLE, the Surveyor to the Local Board of Health, at Lansdowne House, Southampton. Sealed Tenders, endorsed "Tender for Scavenging Works, &c." must be delivered to me on or before SATURDAY, the 15th day of FEBRUARY next. No pledge is given to accept the lowest or any other Tender.—By order,

CHARLES E. DEACON, Clerk to the Local Board of Health.
Southampton, January 24, 1862.

THE TOTTENHAM LOCAL BOARD of HEALTH will receive TENDERS for the ERECTION of a New CORN EXCHANGE, at Monument Pleasant, Tottenham Place, specifications, and forms of Tender to be seen at the Offices of the Board, Tottenham High Cross, where sealed tenders, marked "Tenders for New Exchange," must be lodged, on or before FRIDAY, the 7th day of FEBRUARY next, at SEVEN o'clock, p.m.

W. HEATH, Clerk.

CONTRACT for WATERING.—The BOARD of WORKS for the HOLBORN DISTRICT will meet at the WORKHOUSE, in Little Gray's-inn-lane, on MONDAY, the 10th FEBRUARY, 1862, to receive TENDERS in writing from Persons desirous of CONTRACTING for WATERING several of the CARRIAGE WAY PAVEMENTS throughout the District for half a year from Lady-day next. The Board do not bind themselves to accept the lowest or any Tender, as it will any Tender be not under the Bank of England rate it will be left to the option to be returned forthwith if the Tender be not accepted, and if accepted retained until the Contract and Bond shall be duly executed. Printed forms and full particulars may be had of Mr. LEWIS H. ISAACS, C.E. Surveyor to the Board, at the Offices in Little Gray's-inn-lane, between the hours of TWELVE and ONE daily. One half of the Contract and Bond to be paid by the Contractor. Tenders will not be received after ONE o'clock on the day above-named.

S. W. HOPWOOD, Clerk.
Clerk's Offices, 47, Chancery-lane, January, 1862.

THE Board of Works for the Holborn District will meet at the Workhouse, in Little Gray's-inn-lane, on MONDAY, the 10th FEBRUARY, 1862, to receive TENDERS from persons desirous of CONTRACTING, for Twelve months from Lady-day next, as follows:—First, for REMOVING the DUST and ASHES from the houses in the district (except Ely-place and Ely-mews); and secondly, for CARTING AWAY the Slop and Street Sweepings when collected and swept, by the men employed by the Board for that purpose. No Tender will be read unless a 20l. note is inclosed, the same to be returned forthwith if the Tender be not accepted, but if accepted, retain it until the Contractor shall duly execute the Bond. The Board do not bind themselves to accept the lowest or any Tender. Printed forms and full particulars may be had of Mr. LEWIS H. ISAACS, C.E. Surveyor to the Board, at the Offices in Little Gray's-inn-lane, between the hours of TWELVE and ONE daily. One half of the expense of the Contract and Bond to be paid by the Contractor. Tenders will not be received after ONE o'clock on the day above-named.

S. W. HOPWOOD, Clerk.
Clerk's Office, No. 47, Chancery-lane, January, 1862.

TO CONTRACTORS for SEWERS, BUILDERS, and OTHERS.—The Board of Works for the Holborn District will meet at the Workhouse, in Little Gray's-inn-lane, on MONDAY, the 10th day of FEBRUARY, 1862, to receive TENDERS for the SUPPLY of MATERIALS, the EXECUTION of JOBBING and MEASURED WORKS required for the sewers and drains will in the district for twelve months from Lady-day next. Printed forms of Tenders and schedules of prices upon which Tenders must be based may be had of Mr LEWIS H. ISAACS, C.E. Surveyor to the Board, at the offices in Little Gray's-inn-lane, between the hours of TWELVE and ONE daily, on payment of 10s. which will be returned on receipt of the Tender. The Board do not bind themselves to accept the lowest or any Tender, nor will any Tender be read unless a 20l. Bank note is inclosed, the same to be returned forthwith if the Tender be not accepted, but if accepted retained until the Contract and bond shall be duly executed. The contractor will be required to enter into a contract and find two responsible sureties to execute a bond with him for the due performance of such contract, the proper charges for the execution of such bond to be paid by the contractor. Tenders will not be received after ONE o'clock on the day above named.

S. W. HOPWOOD, Clerk.
Clerk's Offices, 47, Chancery-lane, January, 1862.

BOARD of WORKS for the HOLBORN DISTRICT.—To PAVIORS.—The Board will meet at the Workhouse, in Little Gray's-inn-lane, on MONDAY, FEBRUARY 10th, 1862, to receive TENDERS for EDGING the granite CARRIAGE-WAY PAVING, in Chancery-lane, from Holborn to the boundary of the district, and relaying with new Mount's red paving. A specification of the works and form of Tender may be seen on application to Mr. LEWIS H. ISAACS, C.E. the surveyor to the Board, at the Offices, in Little Gray's-inn-lane, between the hours of TWELVE and ONE, daily. The Board do not bind themselves to accept the lowest or any Tender. Tenders will not be received after ONE o'clock on the day above-named.

S. W. HOPWOOD, Clerk.
Clerk's Offices, 47, Chancery-lane, January, 1862.

ELTHAM, Kent.—To BUILDERS and CONTRACTORS.—Persons desirous to TENDER for the ERECTION of a PAIR of semi-detached COTTAGES at Eltham, kent, can see the plans and specifications at the office of Mr. THOMAS CHESTER HAWORTH, Surveyor, Eltham, S.E. to whom the Tenders must be sent, sealed, on or before FOUR o'clock on FRIDAY, the 7th of FEBRUARY. The lowest or any Tender is not necessarily to be accepted.

NEVERN, PEMBROKESHIRE.—To BUILDERS.—Persons desirous of submitting TENDERS for the proposed RESTORATION and REBEATING of the PARISH CHURCH of NEVERN, near Newport, Pembrokeshire, may inspect the Drawing and Specifications on application to Mr. DAVID PHILIPS, Schoolmaster, Nevern, from the 24th instant to the 12th FEBRUARY, inclusive. Tenders to be sent by post, prepaid, on or before THURSDAY, 13th FEBRUARY, addressed to the Architect, Mr. R. J. WITHERS, 51, Doughty-street, London, W.C. and of whom further information may be obtained. The lowest or any Tender will not necessarily be accepted.

J. JONES, Vicar.
Nevern, Pembrokeshire, 23rd January, 1862.

SOUTHAMPTON LOCAL BOARD of HEALTH.—TO SCAVENGERS, HAULIERS, and OTHERS. Notice is hereby given, that the Local Board of Health of Southampton are prepared to receive TENDERS from any persons willing to SUPPLY and LAY DOWN certain New PAVING in Vaults in parts of the Town. Specifications, Forms of Tender, &c. may be seen upon application to Mr. J. G. POOLE, the Surveyor to the Local Board of Health, at Lansdowne House, Southampton. Sealed Tenders, to be endorsed "Tender for Paving," must be left at my office on or before SATURDAY, the 15th day of FEBRUARY, 1862. No pledge is given to accept the lowest or any other Tender.—By order of the Local Board of Health,

CHARLES E. DEACON, Clerk.
Public Health Office, Southampton, January 24th, 1862.

TO BUILDERS.—Tenders are invited for the ERECTION of a LUNATIC ASYLUM, at LEITER-KENNEY, for the County of DONEGAL.—Parties who wish to TENDER for the EXECUTION of the WORK, are requested to sign their intention by letter, addressed to Mr. M. HOUSTON, Architect, 40, Westland-row, Dublin, not later than the 5th of FEBRUARY next, and will then send on (as conveniently as may be) the Specification, &c. for the Work. On SATURDAY, the 1st of FEBRUARY, at TWELVE o'clock, to attend at SURVEYOR'S on behalf of the builders, for taking out the quantities of the work. The building will be required to be completed throughout by the acceptance of a Tender or Tenders to be understood that the lowest or either of the Tenders will not necessarily be accepted, and security will be required for the due execution of the work.

Dublin, January 24, 1862.

DEODORIZATION of SEWAGE.—The Tottenham Local Board of Health are prepared to receive TENDERS for the PURCHASE and DEODORIZATION of the SEWAGE of TOTTENHAM, with the use of the buildings, plant, dwelling, and premises vacated by the representatives of the late Mr William Higgs.—The premises may be inspected, and further particulars obtained, on application to the Clerk, at the Offices of the Board, High Cross, Tottenham, where Tenders must be forwarded on or before the 1st day of MARCH next.

WM. HEATH, Clerk.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A Meeting of this Board will be held on MONDAY, the 10th day of FEBRUARY, 1862, at SIX o'clock in the evening, at the Office of the Board, No. 15, Great Alie-street, Whitechapel, to receive TENDERS for CLEANSING the STREETS and GULLIES, for REMOVING the DUST and other REFUSE within the District, and for WATERING the ROADS and STREETS of portions of such District, for the period of One Year, to commence from the 1st day of APRIL next. Persons disposed to contract may obtain printed forms of the several Tenders, and such information as they may require, at the Office of the Board. Sealed Tenders, in which a 10l. note is to be inclosed, must be delivered at the Office of the Board, before FOUR o'clock in the afternoon of the day of meeting; and any Tender which is not upon the printed forms prepared by the Board, and duly signed by the person or persons tendering, as well as the necessary particulars required, will be rejected. Persons tendering are required to attend the Board at HALF-PAST SIX o'clock, in order that a preliminary agreement may be signed by the Person whose Tender is accepted. The Board, however, do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board
15, Great Alie-street, Whitechapel, 20th January, 1862.

THE Commissioner of Woods and Forests in charge of Her Majesty's Land Revenues in England hereby gives notice, that TENDERS will be received for a new FARM-HOUSE at Eltham, in the county of Kent. The plans and specifications may be inspected on application to Mr. JOHN CLUTTON, 9, Whitehall place, Westminster. Tenders to be addressed to the Hon. CHARLES A. GORE, Office of Woods, No. 1, Whitehall-place, Westminster, S.W. endorsed, "Tender for new Farm house at Eltham," to be sent in on or before TWELVE o'clock on MONDAY, the 10th of FEBRUARY. The Commissioner does not bind himself to accept the lowest or any Tender.

CONTRACTS, 1862.—Parish of St. George, Hanover-square.—Such Persons as are willing to CONTRACT with the Vestry of the said Parish for the following WORKS and MATERIALS, for One Year, from the 25th day of MARCH, 1862, viz.—
Supply of Flint and Gravel.
Supply of Guernsey Granite.
Purchase of the Cinders and Ashes.
Carting away the Slop and Sweepings of the Streets.
Dung-carriers and Horses for Day-work.
Spreading Water in the Streets.
Masons' Works.
Paviors' Works.
Supply of Paving Materials.
Supply of Thames Ballast, Sand, and Hogging.
Supply of Wrought Tools and Hammers for Stone-breaking, and of Repairs of the same.
Smiths' Works.
Carpenters' Works.
Supply of Bass Brooms.
Drain-pipes.
Shoeing of the Horses.
Veterinary Care of Horses.
Must enclose in Proposals, sealed up, at the Offices at the Board Room, Maddox-street, Grosvenor-square, or at the Board room, 49, Lower Belgrave-place, Pimlico, on or before SATURDAY, the 15th of FEBRUARY, 1862. Persons tendering are desired to take notice that all proposals must be made upon and strictly in accordance with the printed forms of Tender, to be obtained at either of the above Offices. Further particulars may be obtained on application to Mr. E. C. RICHMAN, Surveyor, at the Office, 43, Lower Belgrave-place, any morning between the hours of NINE and ELEVEN o'clock. Contracts to be prepared by the Parish Solicitor at the expense of the Contractors, and the Vestry do not bind themselves to accept the lowest or any Tender.

JOSEPH HENRY SMITH, Clerk to the Vestry.

GARTON in HOLDERNESS, YORKSHIRE.—To BUILDERS.—Persons desirous of submitting TENDERS for BUILDING a small PARSONAGE HOUSE and OFFICES, at Garton, twelve miles from Hull, are informed that the drawings and specifications may be inspected at the Rectory, Easterwick, near Hedon, from the 3rd to the 17th FEBRUARY, inclusive. Tenders to be delivered by post, pre-paid, on or before TUESDAY, 25th FEBRUARY, addressed to the Architect, Mr. R. J. WITHERS, 51, Doughty-street, London, W.C. of whom further information may be obtained. The lowest or any Tender will not necessarily be accepted.

J. W. ASHE, Vicar.
Rectory-house, 24th January, 1862.

TO STONEWARE MANUFACTURERS.
The Sandown Local Board of Health are prepared to receive TENDERS from persons willing to SUPPLY and LAY DOWN 12-inch STONEWARE SOCKET PIPES, and about 1,0 feet of 9-inch pipes, at the rate per lineal foot required. Further conditions of contract, may be seen at the Office of the Surveyor to the Board, Mr. F. NEWMAN, 16, George-street, Ryde, on and after MONDAY, the 27th instant. Sealed Tenders to be delivered at my Office, at Sandown, by Noon, on FRIDAY, FEBRUARY 14th, and endorsed "Tender for Stoneware Pipes."

T. B HALL, Clerk to the Local Board.
Sandown, Isle of Wight, January 21st, 1862.

TO BUILDERS.—DEVONPORT, STONEHOUSE, and CORNWALL HOSPITAL.—Persons desirous of TENDERING for the ERECTION of this Hospital at Devonport may inspect the drawings and specifications between the hours of TEN and FOUR daily at my Offices, Bank Chambers, Plymouth, until SATURDAY, the 22nd FEBRUARY, where TENDERS, sealed and endorsed "Tender for Hospital at Devonport," must be delivered not later than ELEVEN A.M. on MONDAY, the 24th FEBRUARY. The Trustees do not bind themselves to accept the lowest or any Tender.

ALFRED NORMAN, Architect.
Kerr street, Devonport, 24th January, 1862.

THE LOWESTOFT IMPROVEMENT ACT, 1854.—TO CONTRACTORS for PUBLIC WORKS.—The Commissioners, acting in execution of the above Act, do hereby give notice that they will meet, at the Town Hall, in Lowestoft, on MONDAY, the 10th day of FEBRUARY next, at the hour of ELEVEN in the forenoon, to receive and open sealed TENDERS from persons willing to contract with them for the AMENDMENT and RECONSTRUCTION of a TIMBER QUAY HEADING to part of the TOWN QUAY or WHARF, on the south side of Lowestoft Harbour, and other Works connected therewith, in completion of the present Quay Heading. Plans and sections of the purpose Works, with Specifications and General Conditions, may be inspected daily at the Office of the Town Surveyor, in the Town Hall, between the hours of TEN A.M. and TWO P.M. on and after SATURDAY, the 25th day of JANUARY instant. All Tenders to be addressed to JAMES PAGE, Esq., the Chairman, and left at the Surveyor's Office; and no Tender will be received after TWO P.M. of SATURDAY, the 8th day of FEBRUARY next. The Commissioners do not bind themselves to accept the lowest or any Tender.

By order,
WM. R. SEAGO, the Clerk.
Commissioners' Office, High-street, Lowestoft,
1st December, 1862.

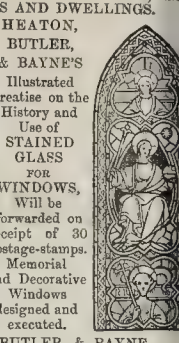
TRACING and DRAWING PAPERS.—
WATERLOW'S TRANSPARENT TRACING PAPERS.
LEON'S ENDLESS FRENCH TRACING PAPERS.
UNITE TRACING CLOTH AND NOTE BOOKS.
WHATMAN'S DRAWING PAPERS and CARTRIDGES.
ENDLESS DRAWING CARTRIDGES, 24 INCHES WIDE.
MOUNTED DRAWING PAPERS ALWAYS READY.
WILLIAMSON'S SIX IONIC LINES for ENGINERS.

WATERLOW & SONS,
WHOLESALE and EXPORT STATIONERS
(Contractors with her Majesty's Stationery Office, and the principal Railway Companies and Joint-Stock Banks),
London wall, and Parliament-street, London. Samples sent free.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.

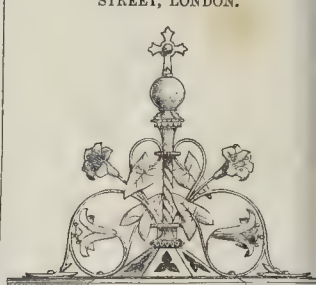


HEATON, BUTLER, & BAYNE'S Illustrated Treatise on the History and Use of STAINED GLASS FOR WINDOWS, Will be forwarded on receipt of 30 postage-stamps. Memorial and Decorative Windows designed and executed.



HEATON, BUTLER, & BAYNE.
Works:—Cardington-street, Hampstead-road
London.

HART & SON,
MEDIÆVAL METAL WORKERS,
53 to 58, WYCH STREET, and 20, COCKSPUR STREET, LONDON.

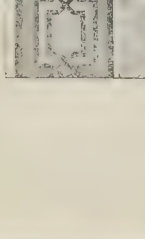


FONT COVERS, ALMS BOXES, LOCKS, HINGES, HANDLES, BOLTS, TOMB RAILING, &c. &c.
LECTERNS, CORONAS, GAS STANDARDS, MONUMENTAL BRASSES, &c. &c.

TO ENGINEERS, BOILER-MAKERS BUILDERS, and OTHERS.—TO BE SOLD, a bargain, a HALF-CORNICE BOILER, 25 horse-power, 18 feet long, and 5 feet diameter, with a 2-feet 8-inch tube through the centre.—For particulars, apply to Mr. E. L. PRICE, Wholesale Colourman, 26, Upper Ebury-street, Pimlico, S.W.

ACCIDENTS are UNAVOIDABLE. Every one should therefore provide against them
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100l. to 1,000l. assuring against ACCIDENTS OF ALL KINDS
An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.
Apply for Forms of Proposal or any Information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
1,2357 have been paid by this Company as COMPENSATION for 56 Fatal Cases, and 3,041 Cases of Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALES PATENT INLAID MOSAIC TILES; also supply TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.: also, the Architectural Pottery Company's patent orange-tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No. 36, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.



SOLID PARQUET FLOORS.
ARROWSMITH'S PATENTED,
From 1s. per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered
For Halls, Staircases, Corridors, Reception rooms, Libraries, Billiard and Ball Rooms, Picture Galleries Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.
SHOW ROOMS, 80, New Bond-street, W.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

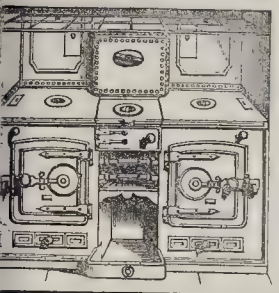
ROLLED GIRDERS AND JOISTS, SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS, WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c. AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 84, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

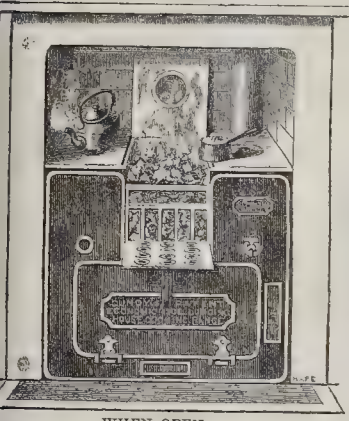
They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15s. to 33*l.* 10s.; Bronzed Fenders, with standards, 7s. to 5*l.* 12s.; steel Fenders, 2*l.* 8s. to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3s. to 18*l.*; Chimney-pieces from 1*l.* 8s. to 100*l.*; Fire-irons, from 2s. 3d. the set to 4*l.* 4s. The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

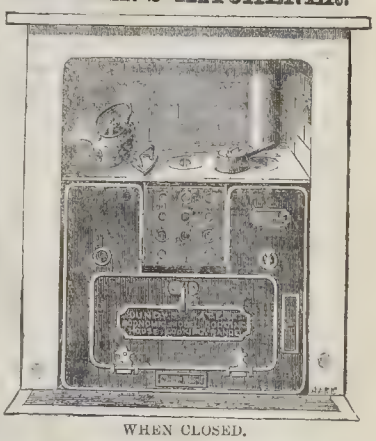
39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The fine passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of THE MANUFACTURER,



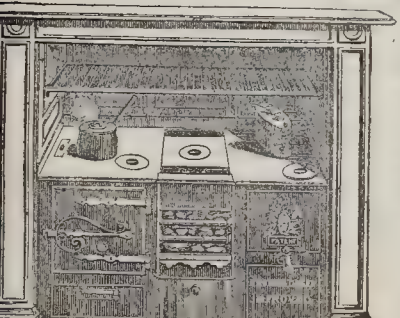
WHEN CLOSED.

WILLIAM ADDIS, Nos. 6 and 15, LEICESTER-ST. LEICESTER-SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10s.

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges.

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs or Estimates, as I execute correct workmanship only.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke-curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat, and that reflected from the upper or concave surface, to be projected [illegible] instead of directly to the ceiling, as is done by the flat surface of the arch of the Patentee's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed [illegible] warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which intended to be kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black on the top, and obviates any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18s. 6d.

81 BROWN & GREEN'S LONDON WAREHOUSE, 81

81, BISHOPSGATE-STREET WITHIN, E.C.

F. THOMAS, AGENT.

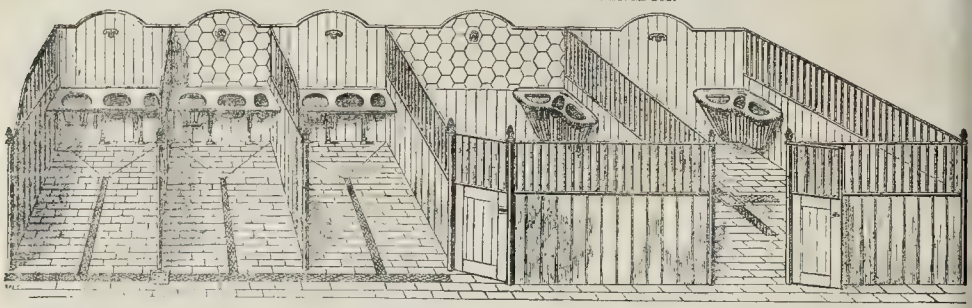
ILLUSTRATED PROSPECTUSES POST FREE.

COTTAM AND CO. 2, WINSLEY-STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail th quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portabl Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VEN TILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harnes Rooms, the most complete that can be imagined. KNIGHTLEY'S PATENT STABLE FLOOR.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

PROFESSOR VARNELL'S STABLE ARRANGEMENTS.

THESE

FITTINGS

HAVE BEEN AWARDED

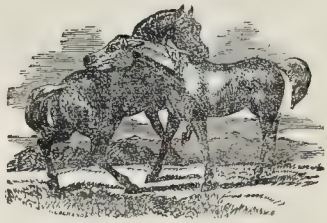
THREE

SILVER MEDALS,

AND ARE

RECOMMENDED BY THE

ROYAL VETERINARY COLLEGE.



ARE SECURED BY

SEVEN SEPARATE PATENTS

(LATEST 1859),

And are Shown in Full Size.

STALLS,

LOOSE BOXES.

ST. PANCRAS IRON WORKS, OLD ST. PANCRAS ROAD,

OPPOSITE THE OLD CHURCH.

PATENT WROUGHT IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equ to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast Iron GUTTERS, to the adoption of another and less effectiv mode of draining, while the cost is prevented exceeding that of Cast Iron, by the employment of specially-adapted machinery.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE. Cleanliness, Comfort, Economy, Impervionsness to infection, Prevention of Crib-biting, &c. with the better thriving of the Horse, are some of the characteristic advantages of this invention.

The Halter Ball, attached by a New Improvement, works noiselessly on the Guide Bar, and almost without friction.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily; are self-acting, and cannot he put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airin from any wet or moisture. They will be found *great preservatives of the harness.*

"ROYAL VETERINARY COLLEGE, LONDON.

The PROPRIETORS of the ST. PANCRAS IRON WORKS have recently fitted up the Interior of a Stable in this Institution, consisting of two stalls and one loose box; and it is with pleasure that I bear my testimony to the neatness, stability, and general adaptation of the means provided for the health and comfort of the horses.

These inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) CHARLES SPOONER, Principal Professor."

EVERY DESCRIPTION OF STABLE FURNITURE.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

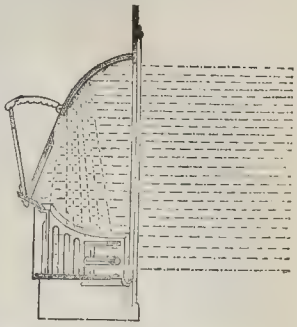
TO ARCHITECTS, BUILDERS, and th PUBLIC Generally. — THOMAS WILLIAM COWAN be to call their attention to Rae's Patent Self-cleansing DOMESTI CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompso and most of the medical authorities, declare to be the only perfe water cistern at present in use. The improvement is applicable old as well as new cisterns, which are made to any size and form, a of any material. T. W. Cowan keeps a large stock in hand, whi may be seen at the Works. T. W. Cowan manufactures all kinds Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Fl Driving Machines, Air Hammers, Hot-air Apparatus, Brewing App ratus, &c. &c.—KENT IRON WORKS, BRIDGE-STREET, GREE WICH, S.E.—Illustrated Priced Catalogues, post free, on applicatio

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.

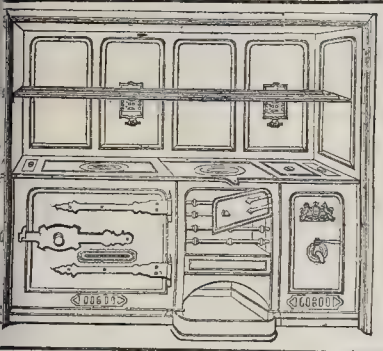


£4 4 0.

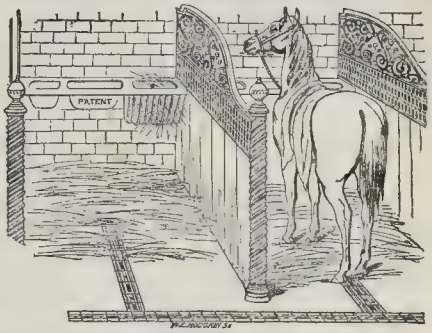
IT is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



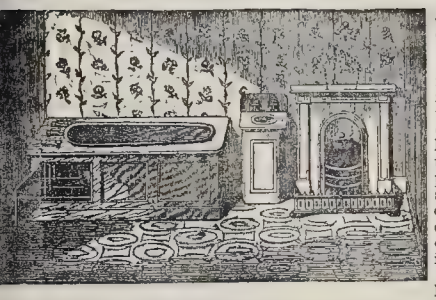
STOCK AT No. 159, SHOREDITCH, LONDON.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK OF OTHER CASTINGS KEPT



J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their BATH APPARATUS, represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

SHEET ZINC AND METAL PERFORATING WORKS.

FRANCIS RUMMENS,
PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.
HIGHLY APPROVED ROOFING ZINC,
BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.
ZINC SLATING NAILS.

MUSGRAVE'S PATENT STABLE

FITTINGS and HARMLESS LATCH BOXES.
MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.



At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended;" being the only prizes conferred on any competitor in this class.

Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann street Ironworks, Belfast.

HAWKINS'S REGISTERED CHAIN.

This newly invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fixing up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

NAILS and IRONMONGERY,

from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery, of every description, at the LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham street, London, E.C.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also, Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Concert or Dancing Rooms, Theatres, &c. suitable to all Climates, fixed complete, in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, out of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references to Churches, Dwelling houses, Warehouses, &c. &c. where they have fixed their Hot water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c &c.

FINE ART CASTINGS, STATUES, BUSTS,

RELIEFS, CAPITALS, AND BASES OF COLUMNS, HIGHLY ORNAMENTAL AND INTRICATE CASTINGS IN ANY METAL.

ROBINSON & COTTAM.

THE STATUE AND IRON FOUNDRY, LOWER BELGRAVE PLACE, PIMLICO, S.W.



THE LONDON

WARMING AND VENTILATING COMPANY,

LIMITED,

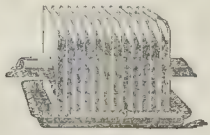
26, GREAT GEORGE-STREET, Westminster, S.W.

MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

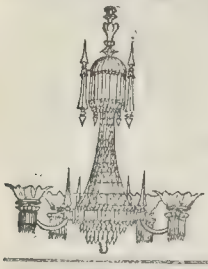
The cost is less and the effect greater than that of any other known plans.



The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL, the various offices of the "Department of Science and Art," and at the Architectural Societies' House 9, Conduit-street, Regent-stree

Particulars and testimonial forwarded on application.



THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF

CRYSTAL, BRASS, & ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY.

WORKS LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C., AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61A, MOORGATE STREET, LONDON, E.C.

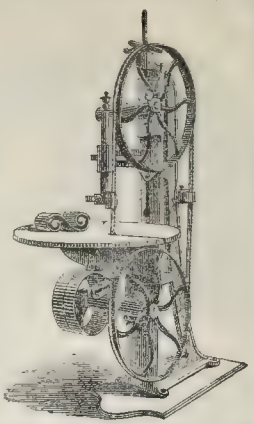
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

POWIS, JAMES, & CO

VICTORIA WORKS, BLACKFRIARS ROAD, LONDON.



NEW PATENT ENDLESS BAND-SAWING MACHINE (the only patent in the United Kingdom for an improvement in this class of machine). Makers of all kinds of Sawing and Wood Cutting Machinery, Steam-Engines, &c. Office, 29, Watling-street, London, E.C. Where drawings and prices can be had on application.

THOMAS ROBINSON

and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles.

Price 20*l.*



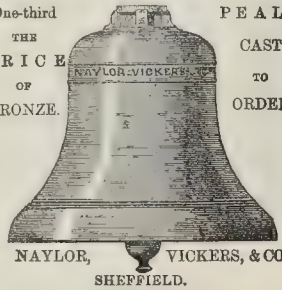
Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



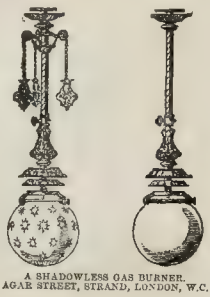
PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.

RICKET'S & HAMMOND'S

GLOBE LIGHT.



A SHADOWLESS GAS BURNER.

AGAR STREET, STRAND, LONDON, W.C.

CHUBB'S LOCKS,
with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on Application.
CHUBB and SON,
57, ST. PAUL'S CHURCH-YARD, LONDON,
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,
according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instruction of Sir Snow Harris, by O. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.
J. W. GRAY & SON, 114, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d. per foot.
Half-inch diameter	1s. 6d. ,,
Five-eighths-inch diameter	2s. 0d. ,,

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
,, Gateshead-on-Tyne.
,, 27, Dale-street, Manchester.
,, 66, Anderston-quay, Glasgow.
,, 17, South Castle-street, Liverpool
,, Exchange-buildings, Dundee.
,, 7, Frederick-street, Aberdeen.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS. GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED
TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
BULLIT & CO. 85, High Holborn.

CAUTION to ARCHITECTS and
BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of
SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER-TIGHT WATER BAR; and
SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH
and BLIND LINES
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country

PATENT BITUMENIZED PIPES for
WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in ondability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one fourth the weight, and when laid down are 30 per cent. cheaper than iron pipes. They are made in seven feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.
Further particulars as to Joints, &c and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

TO PLUMBERS.—TO BE SOLD, a PATENT LEAD-PIPE ENGINE, with coating moulds, rods, dies, &c. complete, for manufacturing pipe from ¼-inch to 2-inch bore. Apply, by post-paid letter, to Mr. JAMES LE LIEVRE, South Esplanade, Guernsey.

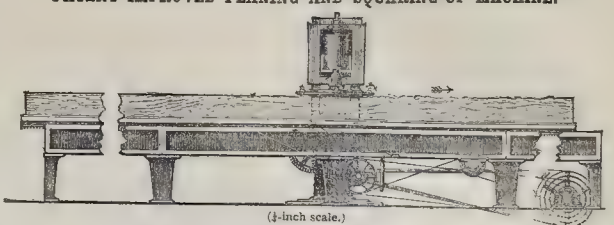
A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICES.
14, Stanhope-street, Clare-market, London.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.
HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road W.

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tinned Sheets and Ties for export.
IRON-WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

WARMING by HOT WATER or HOT AIR.
Mr. ALFRED MAY, 259, HIGH HOLBORN, begs to call the attention of Architects and others to his well selected and extensive assortment of Hot-water Apparatus and Hot-air Stoves, adapted for all kinds of public institutions, gentlemen's houses, conservatories, warehouses, shops, &c. Estimates given, and efficiency of the Apparatus warranted.

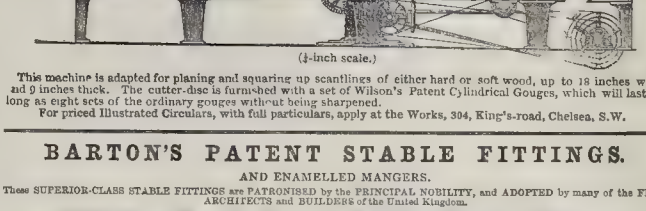
S. WORSSAM & CO.'S
PATENT IMPROVED PLANING AND SQUARING-UP MACHINE.



(¾-inch scale.)

This machine is adapted for planing and squaring up scantlings of either hard or soft wood, up to 18 inches wide and 9 inches thick. The cutter-disc is furnished with a set of Wilson's Patent Cylindrical Gouges, which will last as long as eight sets of the ordinary gouges without being sharpened.
For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

BARTON'S PATENT STABLE FITTINGS.
AND ENAMELLED MANGERS.
These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



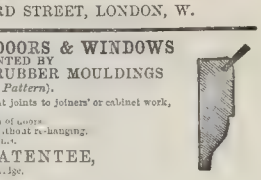
J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford street, where an extensive Assortment of all kinds of Stable Furnitures, upon the most modern principles, is to be seen
ILLUSTRATED LISTS ON APPLICATION.
JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.



DRAUGHTS & DUST ROUND DOORS & WINDOWS
EFFECTUALLY PREVENTED BY
GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS
(Can be had any Length or Pattern).
The neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work, OLD or NEW
Self-acting Spring Stops for the bottom of doors.
The most imperfect doors can be made perfect without re-hanging.
The Trade supplied on liberal terms.
JOHN GREENWOOD, PATENTEE,
19, Arthur street West, London Bridge.



THE LEAMINGTON PRIZE KITCHENER.

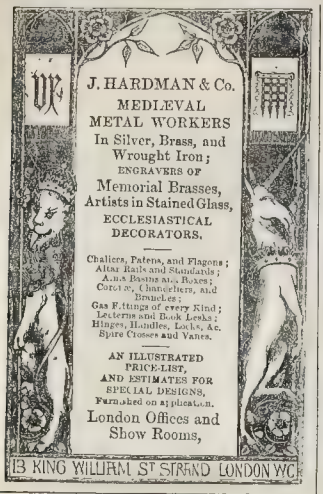


These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.
The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.
A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.
All Goods delivered free within five miles.
BURT AND POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS.
33 and 65, York-street, Westminster.

DEVAUX'S PURE THICK ROOFING ZINC,
FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS
And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. EDMESTON, Esq. F.R.I.B.A. by whom a certificate is given.
ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.
Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.
MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.
N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.

W. HARMER & SON
Beg to inform their Customers and the Trade generally, that having recently Removed into their new Premises, No. 3, HORSEFERRY ROAD (which communicates in the rear with their Warehouse and Workshops in New Peter street), they have thereby been enabled largely to increase their Stock of BUILDERS' and CABINET MAKERS' IRONMONGERY, and which they are now selling at a considerably REDUCED LIST of PRICES, in consequence of the depression of trade in the manufacturing districts.
W. HARMER & SON,
IRONMONGERS, SMITHS, IRON AND ZINC MERCHANTS,
Nos. 3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W
ESTABLISHED 1817.

CASTINGS AND WROUGHT IRONWORK
OF EVERY DESCRIPTION.
GLOVER, BROTHERS,
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.
Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.



J. HARDMAN & Co.
MEDIÆVAL
METAL WORKERS
In Silver, Brass, and Wrought Iron;
ENGRAVERS OF
Memorial Brasses,
Artists in Stained Glass,
ECCLESIASTICAL DECORATORS.

Chalices, Patens, and Flagons; Altar Rails and Standards; Alms Basins and Boxes; Corona, Chandeliers, and Branches; Gas Fittings of every Kind; Lecterns and Book Desks; Hinges, Handles, Locks, &c. Spire Crosses and Vanes.

AN ILLUSTRATED PRICE-LIST, AND ESTIMATES FOR SPECIAL DESIGNS, Furnished on application.

London Offices and Show Rooms,

13 KING WILLIAM ST STRAND LONDON WC

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

PEARD & JACKSON
MANUFACTURERS OF
MEDIÆVAL ART METAL WORK
159 HIGH HOLBORN WC

BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gaseliers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.

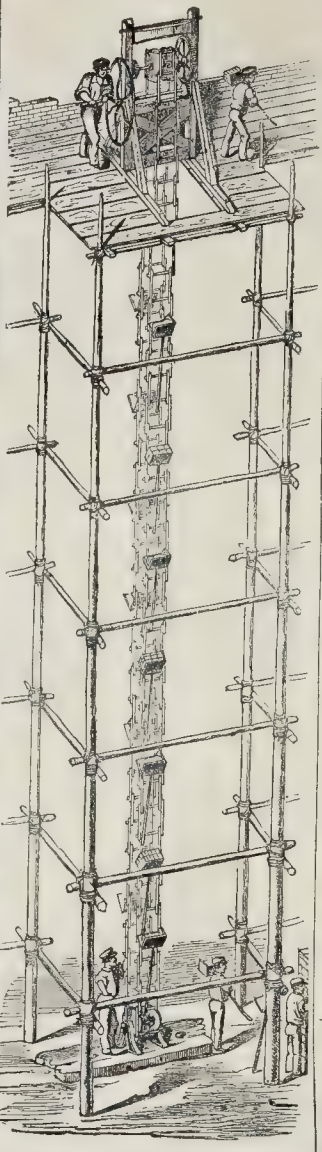
DEPOT for BROWN'S PATENT CLOTH-PADDED WOOD STRIPS, which, when applied to windows, doors, show cases, &c. COMPLETELY EXCLUDE air-draughts dust, water, and the injurious effects of gas. Samples, with illustrations, and directions for use forwarded on receipt of three stamps for postage.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-list, 12s.—Nos. 55 and 56, High Holborn.

VENTILATION.—M'KINNELL'S PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its avoidance of draughts, and its being ordinarily self regulating—the pure air flowing imperceptibly inwards, while the noxious products of respiration and combustion are simultaneously carried off. It has been applied in many of the Royal Buildings at Windsor, the Government Offices in London, and extensively to churches, public halls, schools, offices, dwelling-houses, factories, stables, and in ships, for which it has been adopted by her Majesty's Emigration Commissioners.—Patentee, JOHN M'KINNELL, 15 Langham place, London, W. Description and testimonials on receipt of one stamp.

IRON CASTINGS of every description; WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS; IRON WINDOWS, HOT-WATER PIPES, RAIN WATER PIPES, and GUTTERS, PIPES for GAS and WATER, manufactured by
JAMES HAYWOOD, Junior, Phœnix Foundry, Derby.

AGER'S PATENT HOIST
FOR
ECONOMISING LABOUR AND COST IN



RAISING BUILDING MATERIALS.
COLLINS & STANBURY,
49, BREAD STREET, BIRMINGHAM
SOLE AGENTS & MANUFACTURERS.
Two Labourers with this Machine will raise Fifteen Hods, 40 feet high, in five minutes.

Price 20*l.* complete, with chain sufficient for 40 feet.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London W

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-Iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS.
THE BRYMBO COMPANY, North Wales, beg to inform Contractors and others that they have made arrangements to SUPPLY the LONDON MARKET through their Agents, Mr F. FORD, No. 9, Lawrence Pountney-hill, Cannon street, City, with
CASTINGS OF FIRST QUALITY,
FROM THEIR OWN SUPERIOR IRON, MADE FROM THE BEST HEMATITE AND ARGILLACEOUS ORES.
All orders promptly attended to, and at moderate prices.

STEAM-ENGINE and AIR-PUMPS.—TO BE SOLD, cheap, together or separately, a 10 horse power condensing TABLE ENGINE, and two pairs of 8-inch diameter double acting Air pumps, well suited for diving or pile-sinking operations. Address, P C, care of Messrs. Whitmore & Craddock, No. 16, Bishopsgate-street-within, E C

GALVANIZED IRON and ZINC WORKS,
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton Staffordshire.
TRADE MARK

TRADE MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

FOUR-HORSE ENGINE, by Frasi, TO BE SOLD, with saws, saw bench, shafting riggers, straps, boiler, steam gauge, &c. complete. Price, 60 Guineas. May be seen at work.—Apply to Mr. HAWKE, 3, Bride-lane, Fleet street.

DEVAUX'S PURE THICK ROOFING ZINC laid upon Mr. Edmeston's principle to insure durability, by
D. HAYWARD,
LONDON ZINC WORKS, No. 87, Blackburn street, Borough.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.

COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, of numerous designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

TO BRICKMAKERS, IRONMONGERS, AND BUILDERS.
IMPROVED STEEL BRICK-MOULDS.
FASSNIDGE, BROTHERS, MANUFACTURERS of the above ARTICLES, beg to acquaint their customers and the trade generally, that they are now prepared to SUPPLY their superior make of BRICK-MOULDS for the ensuing season, and keeping a large stock on hand, of all sizes, are enabled to execute any orders intrusted to them with dispatch.—FASSNIDGE, BROTHERS, Brick-Mould Makers and Ironmongers, Uxbridge, Middlesex.
Established A.D. 1703.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL

GREAT EXHIBITION, LONDON, 1851.

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1760)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.

EXPOSITION UNIVERSELLE, PARIS, 1855.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS FOR DECORATING PUBLIC AND PRIVATE BUILDINGS, OR ROOMS MADE IN ANY STYLE, AND ESTIMATES GIVEN. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. HAVING NOW GREATER FACILITIES FOR THE MANUFACTURE, A REDUCED TARIFF OF PRICES IS BEING PREPARED. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

WHITE AND PARLBY'S

NEW ILLUSTRATED CATALOGUE OF PAPIER MACHE AND CARTON PIERRE ENRICHMENTS.

PARTS I. TO V. NOW READY, EITHER OF WHICH WILL BE FORWARDED POST FREE, ON RECEIPT OF TWELVE STAMPS. SPECIMEN SHEET, WITH PARTICULARS, SENT ON APPLICATION, ENCLOSING POSTAGE STAMP.

WHITE AND PARLBY,

49 & 50, GREAT MARYLEBONE STREET, LONDON, W.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

INTERNATIONAL EXHIBITION, 1862.

ESTIMATES AND DESIGNS FOR SHOW CASES, METAL STANDS, &c.

With or without Revolving Machinery, by

BUNNETT & CO., ENGINEERS AND FOUNDERS,

DEPTFORD, KENT, S.E.; 17, QUEEN STREET, CHEAPSIDE; and 435, PARLIAMENTARY STREET, GLASGOW.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.



REDUCTION IN PRICE

OF

CLARK'S

NEW PATENT REVOLVING SHUTTERS,

FOR

SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3, PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

VIEILLE MONTAGNE ROOFING ZINC.

Messrs. CHARLES DEVAUX & CO. 62, King William-street, London Bridge, Bankers and Consignees of the Vieille Montagne Zinc Mining Company, finding that the Roofing Zinc stamped with their name, conjointly with the name of the Vieille Montagne Zinc Mining Company, is becoming in great demand, think it necessary to remind Architects, Engineers, and the Public, that their Architect, Mr. EDMESTON, of 5, Crown-court, Old Broad-street, E.C. will, at all times when required, give information on behalf of Messrs. DEVAUX & CO. as to the right system of laying the metal so as to insure durability; and, unless proper precautions are taken, failure may very possibly take place.

A competent person is specially employed by Messrs. DEVAUX & CO. whose business it is to be prepared at all times to call with models, and to give explanations when requested. Messrs. Devaux & Co. give no preference to any zinc worker, requiring only as far as they can, that the right mode of laying the zinc is adhered to wherever it is laid; they have for that purpose taken up the foregoing business on behalf of their correspondents, La Vieille Montagne Company.

MARBLE AND STONE WORKS,

WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the South Kensington Museum, and at the Architectural Exhibition, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil, covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

N.B.—WHITE ZINC DOES NOT REQUIRE BOND AND SURETIES ON EXPORTATION, NOT BEING CONTRABAND OF WAR, LIKE WHITE LEAD.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

TO BE DISPOSED OF, cheap, a PLUMBER'S MOULD for CASTING LEAD, with Wrought-iron Head-pan, large Lead Pot, Furnace Doors and Pans, Iron Tank Cart, &c. complete.—Apply by letter to Q. care of Mr. Watson, Stationer, 3, St. Ann's-lane, General Post-office.

CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses unequalled purifying and antiseptic properties, and is the most powerful disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly unproper and unpalatable, such as purifying nitre pure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c. as well as in the skilful (or poaching), and maintaining personal purity.—Obtainable of all first-class Chemists. In Bottles 1s. 3d., 2s. 6d., 4s. 6d., and 7s. per Gallon. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.

Wholesale of the Patentee, Batterseа, Surrey, S.W.

KAMPTULICON, or ELASTIC FLOOR CLOTH, as made by GOUGH & BOYCE, the Original Patentees, and supplied exclusively to them at the Houses of Parliament, and numerous other Public Offices. It is especially adapted for churches, mansions, public rooms, shops, and passages, being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. 12, Bush-lane, Cannon-street, London.—Forwarded to all parts of the country.

POLYTECHNIC.—Every Morning and Evening, at Four and Nine, the highly successful Comic Optical Pantomime of Harlequin and Mother Goose; or, the Golden Egg, being a revival of the late Joey Grimaldi's most favourite piece. In order that full effect may be given to the pantomimic tricks, Messrs. Childs & Hill have been engaged with their Phantasmagoria Apparatus. Mr. G. A. Cooper will enact the "chorus" for the pantomimic characters, and sing various comic songs. Beautiful series of Photographs, by Mr. England, artist of the London Stereoscopic Company, of "Scenes in America." Magical Wonders and Mysterious Transformations, by Mr. J. Matthews. All the other Lectures and Entertainments. Open from Twelve till Five, and Seven till Ten.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Sesquialtera, and other Organs, usually in stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or removed, as we have removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

THE QUARTERLY REVIEW, No. CCXXI. is published THIS DAY.

CONTENTS:—

I. RAILWAY CONTROL.
II. THE PRINCESS CHARLOTTE.
III. POPULAR EDUCATION—THE NEW CODE.
IV. ICELAND—THE CHANGE OF FAITH.
V. THE LATE PRINCE CONSORT.
VI. SPAIN AS IT IS.
VII. LORD CASTLEREAGH.
VIII. THE AMERICAN CRISIS.

JOHN MURRAY, Albemarle-street.

Now ready, in One large vol. 8vo. 800 pp., price 16s. cloth,

A MANUAL of CIVIL ENGINEERING. By WILLIAM JOHN MACQUORN-RANKINE, C.E. LL.D. F.R.S.L. & E. Regius Professor of Civil Engineering and Mechanics in the University of Glasgow.

With numerous Diagrams.

CONTENTS—Engineering Geodesy, or Field-work: Surveying, Levelling, Planning—Materials and Structures: Principles of Stability and Strength, Earthwork, Masonry, Carpentry, Metallic Structures—Combined Structure: Lines of Land Carriage, Waterworks, Inland Navigation, Tidal and Coast Works.

London: GRIFFIN, BOHN, & CO. Stationers'-hall court.

AN ILLUSTRATED CATALOGUE of the INTERNATIONAL EXHIBITION

Will be issued with the Art-Journal for 1862 (commencing on April 1), each part of which will consist of twenty-four illustrated pages, and contain about one hundred and twenty engravings. No extra charge will be made for the Art-Journal containing such Illustrated Catalogue; nor will any payment be required for the introduction with Critical and Explanatory Notices—of any object of Art engraved.

THE ART-JOURNAL.

For January, 1862, contains the first of a Series of Selected Pictures, executed in line by eminent engravers, from Works by leading British Artists; also a Line Engraving after Turner; and various Articles, extensively illustrated by Wood Engravings of the highest attainable merit.

London: JAMES S. VIRTUE.

KELLY'S PRACTICAL BUILDERS' PRICE-BOOK; or, Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an abstract of the New Building Act for regulating the Construction of Buildings. Revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by Steel Engravings and numerous Woodcuts. Royal 8vo. price 8s. neatly bound.

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL; and may be had of all Booksellers.

Of whom may be had, New Editions in Quarto, of the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET-MAKING, Revised by TREDGOLD: being a new and complete System of Lines, for the Use of Workmen; founded on Geometrical and Mechanical Principles. Ten parts at 2s. or in boards, 20s.; containing upwards of 120 Steel Plates, and numerous Woodcut Diagrams.

2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING (revised by TREDGOLD), both plain and ornamental; containing a new and complete System of Lines for Stone Cutting, for the Use of Workmen; the Formation of Mortars, Cements, Concrete, to which is added a variety of new designs for Mural Tablets, Tombs, Gravestones for Cemeteries, &c. &c.; and a description of the various materials employed. Ten Parts at 2s. or in boards, 20s.; containing upwards of Ninety Steel Plates and Numerous Woodcuts.

3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the FIVE ORDERS of ARCHITECTURE; containing plain and simple Rules for Drawing and Executing them in the purest style; including an historical Description of Gothic Architecture. Illustrated by upwards of One Hundred Steel Engravings, executed by Artists of first-rate talent, including numerous Diagrams, &c. Twelve parts at 2s.; or in boards, 24s.

4. DESIGNS for COTTAGE and VILLA ARCHITECTURE: containing Plans, Elevations, Sections, Perspective Views, and Details, for the Erection of Cottages and Villas. By S. H. BROOKS, Architect. Beautifully engraved on steel, with Direction for Building, and the estimated Cost of each Edifice. Twelve parts at 2s.; or in boards, 28s.

5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views and Details of Churches, Chapels, Schools, Almshouses, Gas Works, Markets, and other buildings for public purposes. By S. H. BROOKS, Architect. Beautifully engraved on steel. Ten Parts, at 2s. or 22s. boards.

6. THE HOUSE DECORATOR and PAINTER'S GUIDE: containing a series of Designs for Decorating Apartments with taste, and suited to the various styles of Architecture. By H. W. and A. ARROWSMITH, House Decorators to her Majesty. Ten Parts, at 2s.; or in boards, 22s.

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION: containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the Origin of Colour, the Laws of Harmonious Colouring, the Manufacture of Pigments, Oils, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by actual specimens of Hand Brush Graining and Marbling. Ten Parts, at 2s.; or in boards, 22s.

THE ENGINEERS' and MECHANICS' ENCYCLOPÆDIA, a new and enlarged edition, comprehending Practical Illustrations of the Machinery and Processes employed in every description of Manufacture of the British Empire. Illustrated by upwards of 2,000 Wood Engravings. By LUKE HERBERT, Civil Engineer, &c. The rapid progress of Mechanical Science has developed many of the important facts since the first publication, in 1835, of the Encyclopædia. The Inventions and discoveries recently made have engaged the sedulous attention of the Editor; for, as the value of each was tested by experiment, a description was accurately prepared. By the selection of new articles, and care in the revision of old ones, this edition has now become systematically enriched; so that it may be received as fully and faithfully expressing "the existing state of Engineering and Mechanism, adapted to the wants of Practical Men." In two large 8vo volumes, cloth lettered, price 30s.

The Builder.

VOL. XX.—No. 991.

The Condition of Glasgow.—Survey of our Towns.



HOWEVER anxious we may be to avoid errors, and our correspondents to afford correct information, a slip in figures will occasionally occur. Thus, in speaking of the tunnel on the Edinburgh and Glasgow railway beginning at *Cowlairs** (not "Carstairs"), the cost is stated at nearly 2,000,000*l*. The amount given to us by one who should know was, "nearly 200,000*l*.," and even this sum is pronounced too large by others. A commentator anxious to discredit the real point and intention of our articles, is of course willing to reply to such an obvious misprint rather than tackle the real question at issue. The thinking part of the population, however, will not suffer their attention to be thus led away.

In the previous papers concerning Glasgow we had to describe a city which, in the natural progress of opulence, has increased in population like a township in Texas, and in wealth like an Italian republic of the Middle Ages. We must now, like faithful historians, reverse the picture, and show that this sunlight has its shadows. A different class of travellers than Smollett and Defoe began in our generation to record their observations on Glasgow. In the year 1839, Mr. Jellinger Symonds, one of the assistant commissioners on the hand-loom inquiry, described Glasgow as a city in which population and commerce had exceeded all ordinary experience; but in which disease and drunkenness, depravity and crime, had arrived at their climax. Ten years later, Mr. Edwin Chadwick, in his general sanitary report, tells us that the population he found in the wynds and closes of Glasgow was the worst he ever saw, or of which he had been able to obtain any account. The reader will be able to judge how far our humble experience supports this view. We know something of the worst parts of London. We have, in course of this inquiry, examined the slums of Stafford and Wolverhampton, seen the filth of Newcastle-upon-Tyne, and inspected the nuisances of Shrewsbury; yet we must acknowledge that the condition of the lowest districts and the lowest classes of people we saw in Glasgow took us by surprise. Since our first visit, some years ago, much has been done in the shape of reform. But enough remains to warrant the strong assertion that no other part of the British empire presents more extreme features of misery and wretchedness than Glasgow.

Within a circle of ten minutes' walk from the Police-office, in Albion-street, we plunged into a labyrinth of the most horrible closes and wynds we ever saw. Situate on both sides of the High-street, the Gallowgate, the Salt Market, and the Trongate, these closes may well represent the minute ramifications of vitiated arterial blood. The same features were strongly developed in the whole; that is to say, old, crazy, dilapidated, and sometimes ruinous tenements, teeming with inhabitants of every age and of both sexes. The Pipehouse-close, leading off the High-street, was the first we examined. The "lands" here are usually five or six stories in height. Most of the apartments, as far as we could guess, were not above 9 or 10 feet square, and 7 or 8 feet in height. In such an apartment sometimes two families ate their meals and slept together. There was not the slightest provision for ventilation; in some cases there was no provision for light. Of course there was no drainage; and we will not pretend to describe the effect of this in producing surface filth. In one cellar in a close in the Gallowgate, without a window, we found an old applewoman living. She was nearly eighty years of age. She said, in reply to our inquiry, that the place "was not what she would like;" but she added, with a tone of resignation, that she had not very long to live, and that it would last her day. One close, called "the dark close," leading off the Salt Market, is walled in, and built over with the surrounding and superincumbent buildings; yet the hovels in this close were all crowded with population, chiefly women and children, the male portion at the time of our visit being absent.

The salt-market of Glasgow, immortal in story, has undergone one of those changes which, in the progress of civilization, mark the fate of certain nations. It is in a state of chronic decay. Nothing, we suspect, can save it from ultimate destruction. A narrow slimy roadway was absolutely swarming with squalid groups of unfortunate women and their criminal *confrères* of the opposite sex. We could observe here misery and degradation in their most revolting aspect. In one of its narrow filthy closes we came across a phenomenon which those who have minutely studied the lower districts of large towns will alone understand. This was a large, dingy, ominous-looking tenement, called "The Free Land," which, if it have a proprietor, has at least given him no rent for twenty-five years. It is inhabited, of course, by the very *élite* of the *classes dangereuses;* that is to say, by the greatest felons and the worst prostitutes in the city. This free land, we were informed, was the scene of many a midnight crime. We could scarcely look at the place without the inquiry unconsciously arising in our mind,—What a struggle for existence must virtue have there? Of the condition of one of the miserable inhabitants the following lines from Coleridge are all we need give as a description:—

> "So here he lies,
> Crusted with evil till his very soul
> Unmoulds its essence, hopelessly deformed
> By sights of ever more deformity."

What are called "the wynds" of Glasgow, *par excellence*, are a number of narrow crowded alleys, leading from the Trongate to the Bridgegate. We will not describe them in detail. And it is but fair that we should state they have of late years been signally improved. Some of the most ruinous tenements have been pulled down; better houses have been built. A church has been erected in the very heart of the district. We observed also a public privy and a public well attached to every close; improvements in the right direction, although quite insufficient. The courts in the Gorbals district—the Southwark of London—which we visited, are in a worse condition with respect to paving, drainage, and water supply, than some of the wynds.

It is painful to dwell on the over-crowding of these districts. All will observe the superabundance of females, and particularly the number of infants at the breast. This fact, taken in connection with our recent statistics, may shed some light on the cause of what is in truth the greatest blot on the Glasgow escutcheon—its high rate of infantile mortality. It is well known that a low or high rate of infantile mortality is the surest test of health or disease in a community. Now, in Glasgow, 50 per cent. of children born die under five years of age. If this startling result, which appears on the very front of all the Glasgow mortality tables were not enough, we have before us another element of a still sadder complexion. Glasgow has also the highest proportion of still-born children in the kingdom; the ratio is one to every twelve births.

We will not pretend to say that this enormous infantile mortality is altogether due to sanitary defects, for other causes are at work. In the first place, the proportion of births is larger in Glasgow than in either London or Paris; for it is a law of nature that, when children die quickly, they are produced quickly. Secondly, females in Glasgow are often called upon by necessity to labour hard when their situation demands repose. In the third place, the morals of the Glasgow poorer classes seem to need attention. For example, during the year ending September, 1860, the bodies of twenty-five new-born infants were found by the police exposed in the streets; and we confess it was not without a feeling of horror and astonishment we learnt that, in the same year, upwards of one hundred helpless innocents had died of poison, drowning, suffocation, burning, and want of breast milk.

The Glasgow people themselves attribute this frightful evil exclusively to the Irish or Roman Catholic portion of the population. In the year 1852 it was pointed out that the Roman Catholic children under five years of age constituted forty-five per cent. of the whole deaths from small-pox throughout the city. The parents had, it should seem, a superstitious horror of vaccination. This Irish population is most formidable in point of numbers. Dr. Strang estimates the amount at 100,000,—nearly one-fourth of the whole population of Glasgow; for, although the figures by the last census only appear as 60,000, it cannot be supposed that the number of Irish *natives* affords an adequate idea of the real number of Irish *inhabitants*. The children born in Glasgow, or elsewhere, during the last ten years, figure in the enumeration returns as *Scotch*, although they must needs be imbued with the habits, sentiments, and religion of the inhabitants of the sister island. Indeed, this Irish element would seem to be a social difficulty of great magnitude with Glasgow. The opposition of races and creeds, of skilled and unskilled labour, is everywhere conspicuous. The evil, we believe, was peculiarly exemplified during the years of the Irish famine, when hundreds of poor families were found daily hurrying to Glasgow as a city of refuge, clad in the last rags of poverty, and exhibiting the last symptoms of famine fever. But thousands who fled from their miserable and starving homes in Munster and Connaught only arrived in Glasgow to find their graves. Of course, the children were not long in following the parents.

While, therefore, we must admit, to some extent, the truth of this inference, it is impossible to say that it contains the whole truth. In the first place, the Irish population is not all poor; and secondly, the Scotch population is not all rich. There is a considerable intermixture of Scotch in the Roman Catholic people. Again, the statistics of all European countries show that it is not the poorest parents who commit child-murder. Finally, there are fewer illegitimate births among the Irish than the Scotch—an element in mortality-tables that sanitary economists will understand better than we can describe.

And the truth is, we suspect, that the Glasgow

* See page 1, *ante*.

closes, wynds, and vennels, are about the most unhealthy places in Europe. The next worst, in all probability, are the closes of Edinburgh. But in Edinburgh the east wind which prevails more than two-thirds of the year, and kills off the aged and delicate inhabitants with frightful certainty, blows through the narrow alleys, 200 feet above the level of the sea, like air in the funnel of a blast furnace. Notwithstanding their defective drainage, these closes are thus at once ventilated and purified. In Glasgow, on the other hand, which has a predominating west wind, surcharged with moisture, where it rains every alternate day —that is, on the average, exactly six months in the year—and where the soil is marshy, comparatively level, and ill drained, the poor inhabitants are literally condemned to breathe the noxious gases which proceed from their own refuse. There is another element: they are also condemned to breathe the poisonous gases of the innumerable manufactories by which they gain their subsistence, most of which are discharged by the chimneys, but not a few are discharged into the drains.

It may seem that we dwell with a painful pertinacity on this subject of drainage. We were told in Glasgow, when inquiring as to the infantile mortality, that the drainage had nothing to do with it. But it is surely too late in the day for us to show the connexion with that and other sanitary evils. Some reformers, indeed, among whom we mention Lord Shaftesbury, go so far as to hold the doctrine that crime is no longer dependent upon poverty or high wages, but is invariably to be found most abundant in filthy and overcrowded districts. But whether this hypothesis be correct or not, there is nothing more certain than the fact that the first, most essential, and most absolute condition of human existence is an abundant and ever-changing supply of pure air. Now the Glasgow closes do not possess this. As we have previously stated, they have no underground drains; and are supplied, where they are supplied at all with necessary convenience, by public privies. These, however, will never bring about a pure sanitary condition, since they only serve to accumulate the noxious gases in particular spots; and the fact is that the Glasgow authorities are so annoyed, and no wonder, at the pollution of their noble river, that they prefer the principle of cesspools to the principle of sewers. But of all means of getting out of the difficulty, this is about the worst. Whether a covered sewer or an open ditch is the best channel for drainage has long been a settled question among civilized people.

But it also happens that the liquid refuse of the chemical works, gas works, distilleries manure-manufactories, &c., is discharged into the common sewers, and then the smell created is insufferable. It was stated to us on competent authority, that in the district of St. George's-road, the gases evolved from the gully-holes of the common sewer were so poisonous as to create fever. Even in the fashionable crescents of the west-end, we have ourselves been painfully sensible of a highly-vitiated atmosphere. Thus we may conclude that the subtle poisons of the sewer gases exercise as deadly an influence on the richer quarters of the city as the surface ordure does on the dwellings of the poor. This, we must point out, is a most serious calamity. We have no hesitation in saying that the inhabitants of Glasgow had better inhale the smoke which proceeds from the tall chimney of St. Rollox Chemical Works, than the gases which are evolved from their sewers. In the one case the evil is palpable and apparent: in the other it is latent and unseen; silently entering the overcrowded drawing-rooms and the solitary bed-rooms, and doing its work, without the knowledge of its victims. In all commercial cities where the local manufactures are a source of wealth and revenue, the community are somewhat too apt to overlook their defects. But the day must soon arrive when no manufacture, however lucrative, shall be permitted to contaminate the atmosphere, either by the gases it evolves through its chimneys or by the liquids it discharges into the drains.

One of the numerous contradictions we found in Glasgow was, that while overcrowded to an extent which baffles description in the poorer quarters of the city, its fashionable and suburban districts are over-built to an extent which almost exceeds belief. At this moment there are upwards of 5,000 empty houses in Glasgow! This fact was apparent from the census of 1861; but we subjoin some figures, from which we derive more recent information. These are the numbers, according to the valuation roll of the city, made up to the 15th August, and published in the *Glasgow Herald* of November 11th, 1861.

Empty Dwelling-houses:—

Under 10*l.*	3,549
10*l.* and under 30*l.*	1,195
30*l.* and under 60*l.*	206
60*l.* and upwards	57
	4,917

Premises other than Dwelling-houses unlet.

Under 10*l.*	373
10*l.* and under 30*l.*	466
30*l.* and under 60*l.*	176
60*l.* and upwards	166
	1,181

Now it is very important that we should thoroughly understand the evils which proceed from this overbuilding. In the first place, it gives us a highly incorrect idea of the average number of inhabitants to each house, and hence an erroneous deduction with regard to the social progress of Glasgow. For example, while other cities in the kingdom show a proportion of at least five inhabitants to each house, Glasgow, by the census of 1861, shows a proportion of only 4·72. This ratio in all probability will now appear as 4·5. In fact it seems, *ex facie* of the statistics, that the overcrowding of the Gallowgate and Salt Market is balanced by the empty crescents and squares of Kelvin-grove and Govan. But no man in his senses will be prepared to maintain that the one evil counteracts the other. In the second place, the misdirection of capital is very great. We have been told that those empty houses represent a rental of at least 100,000*l.* per annum.

We had something more to say, but our present space is exhausted, and we must conclude. Although Glasgow has done much for her purification, yet more remains undone. Something must be attempted for the Kelvin: something must be done for the Clyde. Infants must not be permitted to die like lambs in a snow-storm. The "Irish element" must be more assimilated. The smoky chimneys must be improved. The day will doubtless arrive when we may expect a better condition of things; but as it stands this great commercial city affords matter for grievous reproach, and shows the slowness with which knowledge travels, the difficulty with which prejudices are overcome. The shadows are black in the city of St. Mungo.

THE RESTORATION QUESTION WITH REFERENCE TO CATHEDRALS.

In the paper read before the Institute of Architects* I took a small parish church as my supposed subject for restoration because, from their comparative obscurity, their less subjection to public opinion, and the smaller importance attached to their architectural features, these buildings are much more exposed to the caprices of those who have to deal with them than more magnificent structures such as our great cathedrals. It might also be supposed that I could have added that the nobler edifices are more uniformly in the hands of architects of known skill and good feeling: such, however, would hardly, perhaps, be borne out by fact; as some of them are, I believe, repaired without the intervention of any architect. The principles urged in the case of parish churches have a tenfold cogency when brought to bear upon cathedrals. Here we are dealing with the greatest productions of Mediæval art; and it would, clearly, be monstrous to treat them otherwise than as works whose value and the importance of their authenticity is impossible to over-estimate. Up to the present generation this has been but little felt; and we consequently find that where the stone has greatly decayed,—as at Chester, Lichfield, Worcester, &c.,—the repairs have been carried out (up to within the last forty years) with scarcely any regard to the original design. More recently, however, this has not been the case, so far as intention at least goes; though the repairs having been often carried out by mere masons, detail have been mistakenly executed, and minor alterations more deliberately made, which are, to say the least, exceedingly annoying; and what is more so, when such errors are pointed out to the guardians of the church by antiquarian societies &c., the parties offering their suggestions are uniformly snubbed, and the error is defended as is a vital truth had been assailed.

What we have, however, most to fear, as regards our cathedrals, is *over-done restoration.*

The direction of the works has often been left practically in the hands of a single member of the chapter whose idea of restoration is the renewal of every decayed stone, and the chipping down the rest to correspond with it,—a process destructive both to the authenticity of the details (which cannot bear much resemblance to their original forms after having their surfaces reduced in all directions) and equally abhorrent to good taste, but which continues in many quarters to be held to be the right course to pursue. The proper course is, clearly, to renew only those stones which are absolutely perished to such a depth as to have entirely lost all trace of their old form; to insert in their places stones of the very same size and similar in every way; leaving the remainder untouched, though closing the joints carefully against the admission of wet. The patched appearance which this for a time gives is, to my eye, not unpleasing. It shows a building well cared for, but without any tampering or smartening up; and, if the building be of different dates, it leaves the evidences of its architectural history unobliterated; every stone which retains its form being left to speak for itself.

Imagine for one moment—by way of illustration—that unequalled "history in stone," the eastern half of Canterbury Cathedral, so admirably described and unfolded by Professor Willis, if the hand of undiscriminating restoration had passed over it. The works of Lanfranc, of Conrad, of William of Sens, and of the English William, whose intricate interminglings now form a history at once so perplexingly entangled and so charmingly *dis*entangled; and which together present the very best illustration existing in this country of the changes of architectural detail from the Conquest to the full establishment of Pointed architecture, and must ever form the very text-book of the architectural history of that period, as being at once the most perfect in its steps, the most completely chronicled, and the most admirably deciphered. Imagine, I would say, this treasury of art-history reduced to an unmeaning blank by the hand of the restorer,—either all indiscriminately renewed, or one half renewed and the other scraped over to look like it;—the coarsely axed work of the Early Norman mason, the finer hewing of his successor, and the delicate chiselling of the third period, all scraped down to the semblance of the new work by the same indiscriminating *drag*, or replaced by new masonry, uniting all periods into one, or else making a mimic copy of their distinguishing characteristics! I take an extreme imaginary illustration, because the work in question, as it remains in its authenticity, forming the most precious page of our architectural history, is so well known as to place the principle I am speaking of in a clearer light than if I took a less marked example; but if the mere suggestion of such Vandalism would call down public indignation, does not the same apply to cases of less general interest? and are we not equally bound to adhere to the true principles in cases of less notoriety?

I admit, however, that there do exist cases where the true principle cannot be carried out;—that is to say where, as at Chester Cathedral, the entire mass of the stonework has perished, and where the old forms can only be discovered by long and laborious search for little corners and nooks in which a mere fragment of the original remains. These are the exceptions which by no means invalidate the rule. It is a great misfortune that they exist, but they must be dealt with on their own merits, and not permitted to throw discredit upon the true principle for general application.

In such cases as those last named the right course seems to be, irrespectively of any question

* See pp. 22, 42, *ante.*

of undertaking the restoration, to get an architect of acknowledged judgment to undertake a perfect and long-continued investigation of the nearly lost details. Scaffoldings should from time to time be raised, to enable him to examine studiously and laboriously every part of the surface, and to remove the mouldings, and other nearly obliterated forms, wherever there is the smallest vestige of them to be traced; and every such vestige should, if possible, be indurated. By such a process the architect would, in the course of time, feel his way, little by little, to the original design; and, by laying down absolute measured drawings with minute descriptions of all he discovers and all which he is able fairly to infer from the evidence thus obtained, he may be able at last to make, with more or less of certainty, a restoration on paper of the lost and partially-recovered design which in any case would be most useful; but which, if a restoration *de facto* were at any future time determined on, would be absolutely invaluable; for, by that time perhaps, the actual evidences would have perished.

Not only are the repairers of our cathedrals a great deal too fond of renewing old details, but they are apt to forget the importance of preserving the old stones which have been replaced, as evidences (*pro* or *con*) of the truthfulness of the reproduction.

I saw recently at York a man lowering a carved and crocketted canopy from the Chapterhouse, which was to be replaced by a new one; and to my inquiry what they did with these original fragments, he replied, in his broad dialect, "We sell 'em, sir, for rockery." Even this ignominious fate is better than to sell them as building materials. We have indeed often seen most valuable architectural details preserved by being used in grottos and "rockery;" but surely it is not right to make over the carved work of the artists of olden time to our contractors as "superfluous materials."

The right course (if indeed it is right to throw out such carved work at all, which I think is very seldom the case) is to have a kind of museum in the precincts of every cathedral (possibly in the triforium), where all authentic fragments of carving, and specimens, at least, of all replaced mouldings, &c., should be carefully conserved.

In speaking of cathedrals, there is one point which I will mention which is somewhat pressing. It happens that the old arrangement of choirs is far from being well suited to present use. The choirs were intended for considerable ecclesiastical bodies (whether monastic or capitular); and congregational uses were secondary: with ourselves, the clerical bodies (especially the portions of them usually present) are small, and the congregational use is of primary moment. As, therefore, the choir is usually severed from the nave by a massive screen of stone, it follows that either the congregation must be crowded into the choir—which was not intended, nor is at all well suited, for their accommodation,—or the stone screen must be removed, and the nave opened out.

Either of these necessitates an interference with the old fittings, the one by the addition of seats, the other by the substitution of an open for a close screen, and the removal of the returned stalls.

My object in adverting to this is to press those who have to effect either of these alterations to do so with as much regard as is possible for the old work. I confess that when the ancient stone screen remains, I should always feel loath to meddle with it. However this may be, it is of the greatest importance to retain the old arrangement and the old fittings as far as we possibly can.

I take some blame to myself that at Ely, although I retained the old stalls in general, I did not re-use those of the bishop and dean, but substituted new ones of more ornate character. I think I was wrong, though the circumstances made it difficult to do otherwise.

In another instance, which I will not name, where there remained the old desk-ends of the fourteenth century of great beauty and interest (nearly the only ones of that age remaining in England), they were, only a few years back, removed, without any reason whatever, and the workmen allowed to appropriate them. I have a part of one now in my office, which was lent to me by one of the workmen, and a most valuable relic it is—the only one of its type in this country.

At another cathedral, now in course of rearrangement, where the chapter is one of ancient foundation—in which case its great officers were the dean, the precentor, the chancellor, and the treasurer—whose places were at the four corners of the choir; there remained the stalls of the fourteenth century, tallying in number with the ancient capitular body, which is still, in theory, kept up. It was the only instance I know of in which the stalls of *all* the four great officers were made larger and more dignified than the others; but, strange to say, while the other stalls have been preserved, and the true number kept up, it is said that all these four ancient official stalls are to be omitted; those for the dean and precentor being renewed on a design wholly different from the old ones, and those of the chancellor and treasurer assimilated to the stalls of the ordinary prebendaries.

I earnestly hope that this, which I feel sure must have arisen from inadvertency, may be reconsidered. I will only add, on this subject, that woodwork of an age anterior to the fifteenth century is so scarce and so valuable, that, whenever any relics of it remain, they should be most carefully and religiously preserved.

G. Gilbert Scott.

THE ESSENTIALS OF A HEALTHY DWELLING.*

Unnecessary as it is for me to describe to you the component parts of the air; the process of its deterioration in passing through the lungs; or to dwell further upon those sources of impurity and other accessory influences in and about a dwelling which tend to vitiate the air within; it may be useful, before giving the results of my own observations on the means of obtaining efficient ventilation, that I should notice one important preliminary consideration,—that of the space required to keep a healthy man in full vigour,—on which very different opinions have been expressed. Experience gained in poorhouse dormitories, in prisons,† &c., had led to the conclusion that from 450 to 500 cubic feet are requisite, and that the ventilation should be such as will cause an entire renewal of the air about once in the hour. Observations made at the Model Lodging-house, in George-street, St. Giles's, which is a confined situation, satisfy me that the cubical space of 535 feet, which is provided in the dormitories of that building for each inmate, is, with proper ventilation, abundantly sufficient to render them healthy: such was proved to be the case, even when the cholera raged in the neighbourhood, and had not a single victim out of the 104 men who lodged within its walls. From this fact I think it reasonable to infer that the unhealthiness of the Wellington Barracks, Westminster, where the cubical space per man allowed in the dormitories is stated to be 500 feet, must have arisen, not from want of space, but from some other existing evils, particularly the defective ventilation, pointed out in the report made to the General Board of Health by the Commission on Warming and Ventilation.

As mistakes with regard to space tend to create imaginary difficulties, and either impede sanitary reform, or cause a serious unnecessary expenditure,‡ I think it of use to notice two recent errors on this point which have come under my observation,—one in the *Quarterly Review*; where, in an article on "Labourer's Homes," it is stated that "The Lodging-house Act requires an allowance of 700 cubic feet per person;" another, in a publication by Dr. Druitt, entitled "The Health of the Parish," where it is said that "It has been decided at Bow-street that every inmate of a family ought to have 400 cubic feet of space." On inquiring at Bow-street as to the latter decision, I learned that the magistrates have no power to determine the space, and was referred to the Assistant Commissioner of Police, who informed me "that 30 feet superficial is the space allowed to each lodger in the metropolitan common lodging-houses; the rooms averaging 8 feet high, which is equal to 240 feet cube; and that 50 feet superficial is allowed to each police-constable lodged in a station or section-house; the rooms on an average being 9 feet high," which is equal to 450 cubic feet. The Poor-Law Board, without laying down any fixed rule, applicable to all circumstances, adopts as a basis of calculation an allowance of 500 cubic feet for every person in sick wards,* and 300 cubic feet for every healthy person in the dormitories.

Dwellings for all classes of persons, in order to their being healthy, should be so constructed as that they will be everywhere accessible to pure air, and be free from stagnation in any part; and, whilst it is obvious that the state of the surrounding air must have much influence on that within the dwelling, the renewal of the latter should always be sought from the purest source, instead of the supply being drawn, as it often is, from a low damp situation or a confined internal court.

Considered practically, the main question with regard to ventilation is, in what way the air which has become vitiated can be renewed with a supply of pure fresh air without the creation of a draught injurious to health. To do this, the air must enter copiously, but almost imperceptibly; and, when used or become vitiated, its exit should be both continuous and complete. Ventilation is of two kinds,—natural and artificial; the former being effected by means of windows and doors, with the crevices round them, as well as by chimneys and fireplaces, which are important agents in natural ventilation, and may also, by scientific arrangements, be made conducive to an efficient system of artificial ventilation peculiarly applicable to dwelling-houses.

In new buildings improvements may be easily adopted which are not always applicable to old buildings; but, as far as circumstances allow, they should be carried out, from a settled conviction that pure air is indispensable to a healthy state, both of body and mind.

Windows properly constructed, made to open at the top as well as below, and suitably placed, afford the most ready means for the natural ventilation of dwellings; besides which are the various contrivances of louvrets of perforated glass, zinc, tin, &c.

Chimneys act as ventilators whenever a fire is lighted in a room: the lower stratum of air being immediately set in movement, a current of air is established from the crevices round the doors and windows, or from any other openings, towards the chimney, whereby much of the vitiated air is carried off. This process of ventilation takes place in a slight degree when there is no fire in the chimney; and, therefore, bed-rooms are much more healthy with a chimney than without. It should not, however, be forgotten that a large portion of the vitiated air ascends above the chimney opening; and, therefore, it is essential that a provision be made for its removal thence whenever perfect ventilation is desired.

An independent supply of fresh air may be introduced into most rooms which have a fireplace, by conveying it through a pipe or channel formed under the floor or in the wall to an air-chamber constructed at the back or sides of the stove, in order that it should be there warmed before entering the room. I have seen in Edinburgh a solid fire-clay bed-room chimney-piece and grate formed so as to leave, when it is set, a cavity round it, which appears well adapted for this purpose. The same or a separate pipe or channel may also be used for feeding the fire with air, independent of that in the room; for this purpose, it should pass out at the cheeks of the stove, rather than beneath the grate, which is liable to cause a diffusion of dust in the room. Such a supply of air tends to render chimney ventilating valves more certain in their action than they often are, owing generally to an insufficient draught in the chimney, which causes the emission of smoke into the room. These valves would be invaluable for the discharge of vitiated air, which is their intended purpose, were it not for this occasional ingress of smoke. The most effective means of avoiding that evil is the carrying up an independent flue in close contact with a smoke flue constantly in use, as that from the

* By Mr. Henry Roberts, F.S.A. See p. 56, *ante*.

† The space allowed in the cells of prisons should not be regarded as an absolute criterion; at the Model Prison, Pentonville, there are about 800 cubic feet.

‡ The Report of the Government Commissioners on Warming and Ventilation says at folio 99:—"Under all the circumstances we would urgently direct the attention of the Minister at War and the Horse Guards to the *absolute necessity* of providing more room and accommodation for the soldier in barracks; and that instead of 500 cubic feet of space, 700 to 800 cubic feet should be allowed per man; or, as in the case of the Wellington Barracks, that only ten persons should occupy the space allotted to sixteen; and that these regulations should be enforced as soon as extra spaces can be provided throughout the whole of the United Kingdom." In a previous part of the report, at folio 92, are found the following apposite remarks, which scarcely appear to have emanated from the same mind:—"The continuous removal of impure air, as it arises, is of very much greater importance than the cubical contents of air in a room." In the soldiers' rooms, which are constantly occupied, the amount of cubical space can be of very little importance; for, how lofty soever the rooms may be, unless the heated and impure air can pass away, the space will soon be occupied by air unfit for respiration, and the greater or the less size of the room will only resolve itself into a little more or a little less time before the air is brought into an impure condition." "The soldiers' rooms are about 12 feet in height: with good ventilation this might be reduced to 11 feet or even 10 feet without disadvantage.

* In order that the amount of space now deemed requisite in hospitals may be readily compared with the above, I quote the following:—"In solid-built hospitals the progress of the cases will betray any curtailment of space much below 1,500 cubic feet. In Paris, 1,700, and in London 2,000, and even 2,500 cubic feet are now thought advisable."—Miss Nightingale's "Notes on the Sanitary Condition of Hospitals."

kitchen: the air within the ventilating flue is by this means rarefied, and the action of the valve rendered more efficient. Tubular flues, of pottery, made double for this express purpose, are found to answer well, and have the advantage of occupying but little space, whilst they are not liable to the objection pointed out to me many years since by an eminent builder, who had found that cast-iron flue-linings, having no mortar joints, acted as a dead shore in the wall. In cases where the chimney-valve, being fixed in the flue, causes an ingress of smoke, the most effectual remedy is, I believe, Dr. Arnott's smokeless grate, with the draught duly regulated by a contraction of the vacant space over the fire. These grates economise fuel considerably.

Ordinary grates, I may here remark, are alike wasteful of heat and fuel, both of which would be much economised by the substitution of a stove projecting slightly into the room, and combining the chief advantages of the one known as Dr. Arnott's ventilating stove with the cheerful open fireplace. I have seen some such stoves in use on the Continent; and I believe that the only valid reason against their adoption in England, beyond the force of custom, is the difficulty—not, however, an insurmountable one—of applying them to fireplaces with the ornamental chimney-pieces in such general use. One of the most useful modern improvements in grates is that of forming the back and linings with fire-brick instead of iron.

The intimate connection between warming and ventilation has led to a digression, in returning from which I remark that, in order to render natural ventilation effectual, the openings required for the escape of vitiated air should be placed either in the ceiling or near to it.* How far the admission of fresh air also in the upper part of the room be objectionable on the ground that the air vitiated by breathing, which ascends in consequence of its relative lightness, is in that case only diluted, and not entirely replaced by pure air, remains, I believe, yet to be determined by properly-conducted experiments.

With all the various contrivances and arrangements proposed for the admission of fresh and the exit of vitiated air, unaided by those appliances which are scarcely consistent with the term natural ventilation, none have come under my observation which secure uniform action, and fully guarantee that the distinct provision made for the exit of vitiated air shall not become the medium for the ingress of cold air on a change of temperature in the apartment, the frequent consequence of which is a draught more or less perceptible. In order to avoid this evil, various means have been adopted, according to circumstances, with varying success. The use made of chimney-shafts for this purpose has been already noticed. Tubes or shafts of wood, of clay, or of metal, are also available, provided a constant outward current is maintained by such an application of heat as will sufficiently rarefy the air. Hot water has been and may often be applied externally for this purpose with advantage. I have used gas inclosed within an upright shaft partly of wood; the light being placed behind a square of glass, and the air entering through perforated zinc, with a hopper inclosure. By these means the combined benefit of light and ventilation are obtained from the same quarter. In many situations this simple plan might be easily adopted; and in dwelling-houses generally I believe that gas might frequently be rendered a valuable contribution to ventilation, instead of being injurious to health. As a sunlight, with a double tube, it has been so employed with success.

The utilization of heat from stove fires, from hot water, or from gas in ordinary use about a house, is apparently so natural and easy a means of obtaining a motive power to assist in the ventilation of dwelling-houses, that I have noticed them under the head of *natural*, rather than of *artificial* ventilation, to which I must now refer.

Artificial ventilation is ordinarily effected by the action of valves, fans, pumps, screws, furnaces, stoves, or other artificial heat, and a variety of contrivances, whereby air is either drawn out or forced into an apartment. In the one case, the space occupied by the vitiated air, which is withdrawn, is replaced by an admission of pure fresh air; and in the other the pure air forced into the apartment causes a displacement of the vitiated air, for the escape of which due provision must be made. In both cases a just proportion between the volume of air which ought to enter and that which should be expelled is necessary; and in order that the fresh air may be adapted for use at all seasons of the year, means must be provided for warming it prior to its distribution in the apartment. The best means for effecting this is, I believe, by bringing it into contact with heated fire-brick, suitably arranged in stoves or furnaces. When heated iron is used for this purpose, the air is liable to be deteriorated, or, as is commonly said, burnt. Hot-water, which is similarly employed, has not this injurious effect.

Nothing can be more inconsistent with a healthy system of warming than those arrangements which provide only for raising the temperature of the air already in the apartment, vitiated as it may be. Such is mostly the case when the German hot-air stove is used, and also when hot-water is circulated in pipes through the apartments; but either may be employed with impunity as an auxiliary to an open fire.

Whether suction or propulsion be preferable as a motive power, for effecting the change of air in ventilation, is a question which has been much discussed here, as well as in Paris and Brussels. After examining both systems in their practical application, the latter appears to me decidedly preferable; excepting in peculiar cases, when the power of suction may be more readily applied.

When fresh air is forced into an apartment, through suitably-placed openings, it becomes more generally diffused than it does when its entrance is dependent on the withdrawal of the vitiated air by means of suction, the tendency of which is to draw the fresh air towards the point of exit, instead of leaving it to disperse and circulate freely. Suction involves the further disadvantage of setting in movement whatever noxious vapours may be within its reach.

Whilst artificial ventilation is mainly applicable to public buildings, to manufactories, and to dwelling-houses of considerable magnitude, its principles may often be adopted in numerous instances occurring in an architect's practice.

For this reason, as well as on account of the great influence which ventilation exercises on health, more has been said on this branch of my subject than some may consider necessary. I cannot, however, quit it without expressing a regret that the science of ventilation* has not been more thoroughly mastered, and its practical application more simplified than it would seem to be from the Report of the Government Commissioners on Warming and Ventilation, known doubtless to many of you; and which, with its mass of practical information, appears to me to have failed in placing the subject in that clear light which was contemplated on the suggestions made by Dr. N. Arnott, in 1849, for an investigation by "a committee of eminent scientific men, comprising chemists, engineers, and physicians."

3. Having considered those circumstances in regard to a healthy dwelling which appertain to the locality, and those which are structural, it remains for me to notice very briefly "those which depend mainly, though not wholly, on the occupants themselves,—external and internal cleanliness, and a proper use of structural arrangements.

The most suitable provision for rendering a dwelling dry, or for its efficient ventilation, will not secure the health of the occupants, if there be either around or within the abode an accumulation of dirt, whether in a solid or in a liquid state. Houses may, to all appearance, be very desirable dwellings; but, if the drainage be out of order, or there are cesspools within their precincts, or untrapped and foul sinks, there is no safety for the inmates. Nor can the close proximity of stables be a matter of such indifference as might be supposed, from the practice so prevalent in the most wealthy parts of the metropolis; for one inevitable consequence is that in the summer many windows which should be opened for ventilation remain closed, in order to exclude the noxious fumes of the dung-heaps.

Neglect of sanitary laws is as much manifested in the country as it is in towns, and on the Continent not less than it is in England. It would be easy to point to spots where the air is unrivalled for purity, and the scenery around of surpassing beauty; and yet such are the accumulations about the dwellings that it is often difficult to enter the doors without wading through a stream of filth, alike offensive to the sight and to the smell. Can it be a matter of surprise if such violations of the known laws by which God regulates the health of his creatures be visited with sickness and premature death? With equal certainty as to the issue, we may predict that those who live in close proximity to black and stagnant pools, to foul ditches, or to sluggish open drains, will periodically suffer from fever or dysentery; as we do that the house in flames will be consumed, if the destructive element be not extinguished; or that the neglected garden will be overrun with weeds and become a wilderness.

Internal cleanliness in the houses of the wealthy and all that as matters of daily routine are connected therewith, including proper attention to the sinks and traps, as well as the ventilation generally, is, in the main, left to the care of servants;* and often through their ignorance rather than their culpable neglect, the health of the family, and especially that of the younger children, is very seriously injured, without the slightest apprehension as to the cause. Many instances might be cited in proof of a fact which is calculated to arouse even the most self-indulgent, and to induce them to co-operate in such a diffusion of sanitary knowledge as will alone insure, that which is dependent on the occupants themselves, a proper use of the structural arrangements essential to a healthy dwelling. The middle classes would contribute less grudgingly than they now often do, towards the cost of public sanitary improvements, and would even urge their extension, if they were better acquainted with the laws of health; whilst a practical knowledge of such of them as relate to indoor life, whether it be that of the dwelling-house, the manufactory, or the workshop, would lead them duly to appreciate the advantages of cleanliness and good ventilation, and to see that their benefits were extended more generally to those hives of human industry where numbers of working people congregate for many successive hours, partly by gaslight.

If the want of knowledge and forethought debar many in the upper and middle walks of life the full enjoyment of a healthy dwelling, how much more is it the case in regard to the labouring population, most of whom are under the further disadvantage of having scarcely any choice as to the external circumstances of their dwellings, and often but little as to the internal accommodation? The difficulties arising therefrom with which working people have to contend, in most thickly-populated towns, are well known to be very great. I shall not dwell upon them here, nor attempt to point out the degree in which they are increased by habits of intemperance—the most fruitful cause as well as consequence of domiciliary wretchedness. Such a calculation as would show the probable amount expended by the working population in the metropolis and its suburbs in the 10,200 houses open for the retail sale of intoxicating liquors would be instructive, both as to one fruitful cause of the evil, and also as to legislative measures of an indirect character needed for its removal.†

---

* In a certain description of common rooms ventilation may be effected by means of wooden tubes perforated with holes, or having chinks at the angles: in some cases they may be carried across the ceilings, and in others be fixed at the angles: they have also been used for admitting fresh as well as for the exit of vitiated air. These tubes distribute the air more generally, and are not so likely to be closed as either Sherringham's or Hart's ventilators, both of which are very useful in many situations. A cheap cottage ventilator may be made with a triangular piece of zinc fixed in an upper angle of a window, and perforated in the centre, with a projecting rim formed round the perforated part, in order to receive a moveable cover, which may be hinged.

* A simple test, whereby the deterioration of the air could be readily ascertained, is a great desideratum.

NON-ABSORBENT MATERIALS IN CONSTRUCTION.

HEALTHY DWELLINGS.

I have perused with great interest the paper read by Mr. H. Roberts at the last meeting of the Institute of Architects, "On the Essentials of a Healthy Dwelling," and the discussion which followed. The efforts now put forth in the cause of sanitary reform cannot be too highly appreciated; but it is of the utmost importance that every step should be in the right direction, otherwise mischief may be the result, notwithstanding the best intentions.

It seems to have been assumed in the discussion that walls to be dry and warm should be constructed of non-absorbent or non-porous material. Mr. Roberts, in his paper, and Mr. Chadwick, in his remarks, particularly insisted on this. The latter gentleman observed that "he had repeatedly suggested the importance of using non-absorbent bricks in the construction of the dwellings of the poor; as every ounce of moisture got rid of

* The recent publication in a cheap form of Miss Nightingale's highly practical Notes on Nursing affords the means of conveying many valuable lessons on this subject to domestic servants. I have endeavoured to give some practical instruction in a lecture entitled, "Home Reform; or what the Working Classes may do to Improve their own Dwellings."

† To be continued.

contributed to make the dwelling more healthy." The object and purpose I cordially agree with, but my experience in the use of materials does not lead me to the same conclusion as to the means. On the contrary, I venture to assert that no material can be dry and warm that is not to a certain extent porous and absorbent. A building properly roofed in may be damp from two causes. The sub-soil may be humid and the walls porous and thin, in which case the moisture will rise from the floor and will penetrate the walls by capillary attraction; or the damp may arise from condensation of the moisture in the atmosphere on the inner face of the walls and floor. In the first case the remedy is simple and easy; by using a sound hard brick for the walls, and making them sufficiently thick, and for the floors by laying underneath a non-absorbent material. The second cause of internal moisture is much more difficult to deal with, and will be found to exist just in proportion to the use of non-absorbent materials in the walls. There is no building material, except glass and metal, so non-absorbent as slate; yet a house built with slate is known to be cold and damp. I resided in one in Wales for some time, and a more chill and comfortless habitation I never experienced. Again, wood we know is much more absorbent than either brick or stone; yet a wooden house is proverbially warm and comfortable. A wall of three-inch plank, well jointed, is more effectual in keeping in the warmth than a fourteen-inch brick wall. A little consideration will make this plain and intelligible. All substances conduct heat just in proportion to their density or specific gravity. The same principle will apply generally to their power of absorption inversely as the density. The effect, then, is this: a wall built with non-absorbent material rapidly rises and falls in its temperature. The air inside a house being usually warmer than that outside, has a greater capacity for moisture. As the wall conducts away the warmth, the temperature falls, and the superabundant moisture condenses at the dew point on the face of the wall. Where the material is absorbent the conducting power is much slower; and, if any condensation takes place, it is to a great extent absorbed, to be again abstracted as the temperature of the apartment rises.

I am not pleading for imperfect material; but I believe it to be impossible to make a nine-inch brick wall perfectly dry, whatever may be the quality of the bricks. If porous, the wall will be pervious to damp; and if non-absorbent, the moisture will be deposited on the inside on every sudden fall of temperature. A fourteen-inch wall of hard sound bricks, partially vitrified, will protect from damp both from without and within, under all ordinary circumstances. A case lately occurred in the course of my practice, which will illustrate the above remarks.

A vault was constructed, in connection with a banking establishment, made of strong iron plates, rivetted together and surrounded by brickwork. This vault was accessible from the large room of the bank by a short flight of steps, the air during the day circulating freely from one to the other. Iron being a non-absorbent material, the vault might have been expected to be perfectly dry. On the contrary, it was found that papers deposited in it became saturated with moisture; whilst, in the room above, they were quite dry. The fact was, the warm air coming in contact with the iron walls, which rapidly conducted away the heat, was lowered in temperature, and discharged its humidity. The remedy applied was simply a small heating apparatus to keep up the warmth, which has completely answered its purpose.

I cannot help thinking there must be some mistake in Mr. Chadwick's statement that a wall constructed with hard-burnt bricks, 9 inches by 18 inches, could be built at a cost of two-thirds or three-fourths of that of an ordinary 9-inch wall. The cost of moulding bricks four times the ordinary size must be much greater, and the weight being so much heavier, the setting must cost more in proportion, whilst the mortar would be the same, or nearly so.

J. A. PICTON.

PROFESSOR SMIRKE'S LECTURES ON ARCHITECTURE AT THE ROYAL ACADEMY.

LECTURE II.

DR. MOORE tells us, somewhere, of his having met on his continental travels with a Scotch tourist who was delighted with the mountain scenery of Italy, and was expressing his admiration of one of the sub-Alpine lakes, when he was rebuked by the doctor, who assured him that there were some scenes of similar character in Scotland of not inferior beauty and sublimity; and specified one as particularly worthy of his admiration, which turned out to be part of the Scotch laird's own paternal estate. He had, in fact, been born in the midst of natural beauties, so familiar, or so lightly regarded by him, that they had escaped his recollection, or, perhaps, even his notice. A similar indifference is apt to be felt by us towards all objects that are too easily accessible. In such cases familiarity breeds contempt, whilst we are wont to show and to feel unusual zeal and animation when the object of our research is remote, or accompanied in its attainment by the stimulus of difficulty.

Thus it is that we live surrounded by stores of knowledge, of which we rarely avail ourselves; museums which we seldom visit, and libraries which we never consult. Many such neglected mines of knowledge exist in London: many a rich vein is daily trodden, as it were, under our very feet, without tempting us to extract from it the treasure it contains.

I purpose on this occasion to invite your attention to one of the greatest of these depositories of intellectual wealth,—the Library of the British Museum.

Without attempting to bring before you even the shortest or most meagre enumeration of all the objects of interest to the architectural student which that vast repository may contain (such an enumeration would, indeed, be as much beyond my powers as it would certainly be beyond the narrow limits of a lecture),—without attempting any such task, I propose now to indicate to you a few of the more striking specimens of the literary and artistic wealth which are in so great abundance in the library of the British Museum, at our disposal; accompanying them with such remarks as may be naturally suggested by the consideration of the objects themselves, as I enumerate them. I do not design here to touch upon the antiquities at the British Museum: a critical examination of these, or even a correct appreciation of them, would be beside my purposes as well as beyond my powers. To enter that department would assuredly lead us into antiquarian disquisitions, which I am anxious to avoid, as being foreign to my duties within these walls.

The first book I shall advert to is a very large folio volume, descriptive of the great Flavian amphitheatre in Rome; and appears to have been the result of long and careful examinations, made chiefly during the excavations by the French whilst in military occupation of Rome in 1811, 1812, and 1813. The author was a French architect, Mons. Paris, who had long been a resident in that city, having quitted his native country at the outbreak of the great Revolution. He seems to have been a painstaking and intelligent observer; and the delicately-executed drawings of which this volume consists, with the very minute notes explanatory of them, bear testimony to his great carefulness as an architectural draughtsman. He appears to have quitted the practice of his profession as an architect early, and to have been engaged for some years in the decorations of the royal theatres and of the opera, at Paris. During his subsequent exile in Italy those studies were made, one of the fruits of which was the magnificent volume I have alluded to.

Probably there never was executed so complete a monogram of any one building. The only subject of regret is that the drawings generally do not distinguish so clearly as one would wish between those parts which are the representations of the actually surviving portions of the building and those parts which are the conjectural restorations of the ingenious antiquary himself. Some of the drawings, however, are not open to this criticism, but are beautifully-executed delineations of the edifice in its revived state; and I can safely affirm that all the drawings bear very strong marks of having been the work of a painstaking and scrupulous artist. The work was intended and fully prepared for publication: it has remained, however, in MS., and ultimately became by purchase the property of the Trustees of the British Museum in 1847.

In many respects the Colosseum at Rome is one of the remarkable buildings of antiquity. It has all the attributes of grandeur. In its actual dimensions, I believe it to be the largest single building ever erected; unless we except the Pyramids of Egypt, which are, perhaps, hardly to be classed as works of regular architecture. Its simplicity of character and unity of design are also sources of grandeur. There is a breadth of manner, and a noble abstinence from trivial ornamentation in its external architecture, which greatly elevate the character of the building. There is a majesty, even, in its stupendous strength. It stands a monument of consummate constructive talent; a talent not parading itself, like a Mediæval cathedral, by the perpetual manifestation of great efforts;—lateral thrusts, and counterbalancing weights; huge picturesque masses of masonry piled up solely to resist the tendency to self-destruction constantly operating on the structure. This immense building, on the contrary, stands, and has stood for eighteen centuries, not by any straining exertion, but simply because all the laws of static science have been scrupulously regarded. I am justified in saying that it has stood for eighteen centuries; because, notwithstanding the concussions of earthquakes and tempests, and the erosive agency of natural causes, it still stands with few marks of substantial injury, except those which it has received from the destructive hands of man.

It has been for ages the quarry whence ready-worked stones have been continually abstracted, and whole palaces have been the result of such spoliation. Yet it survives, next after the Pyramids, the greatest architectural monument in the world.—

> "A ruin, yet what a ruin! From its mass
> Walls, palaces, half cities, have been reared;
> Yet oft the enormous skeleton ye pass,
> And marvel where the spoil could have appeared."

I must not dwell much on the structural merits of the building; but I cannot refrain from expressing my persuasion that the very ablest practical mason of the present day might study with great profit the jointing, bonding, and bedding of this mass of masonry; while the brickwork is equally admirable;—the dexterous economy of labour by which rubble-work, consisting of broken fragments of stone embedded in Pozzolana cement, is strengthened by an artful introduction of bonding courses of brick; these bricks being often of very considerable size, and always of excessive hardness. All this union of economy of labour with the utmost strength is indeed well calculated to excite the admiration of every practical eye; yet this wise economy of labour and materials, which is apparent throughout, was never allowed to interfere with that stability of workmanship which was evidently a paramount consideration with the builders. The three-quarter columns, for example, of which there are on the exterior so great a multitude, are not built as insulated blocks of stone applied to the surface of the wall for the mere sake of ornament; but are built in and bonded with the general masonry of the walls; contributing, therefore, to their strength quite as much as to their embellishment; in fact, the very reverse of what was very commonly the case with the slender shafts of Mediæval architecture, which were often inserted to give lightness and richness of effect to the pier against which they stand; serving, it is true, to convey to the mind's eye the idea of support to the corresponding members of the archivolts, and continue down their lines; but not practically forming any real integral part of the pier or jamb against which they stand. That this was, at all events, often the case, is obvious from the fact that there are few Mediæval buildings that have not been more or less deprived, either by natural decay or by violence, of their slender nook-shafts; the arch moulding which was made apparently to rest on them remaining, nevertheless, perfectly unaffected by the removal of them.

It must be remembered that in their working the column as an integral part of the wall behind it, as is, I believe, invariably done at the Colosseum, a considerable amount of extra labour and some loss of material were incurred by thus sinking the circular shaft out of the solid block,—a labour and waste, however, which appear never to have been heeded when the perfect stability of the work was in question. These columns, thus constructed, act strictly and effectively as buttresses, giving great lateral support, while they so largely contribute to the ornamentation of the structure.

In like manner we see the vast blocks of stone forming the entablatures tailed into and bonding with the rest of the masonry;—not merely laid upon the pillars to convey the idea of construction, but really forming an essential part of the wall masonry.

It is, indeed, very manifest that extreme durability was ever a foremost consideration in the mind of those able Roman masons. A curious instance of this feeling occurs in the construction of the steps of the numerous public staircases. Being open, and therefore constantly exposed to the weather, it is obvious that had the steps been simply laid on each other in the usual way nowadays, the wet would have been liable to penetrate or be driven through the joints; and so, in the course of years, the gradual but constant penetra-

tion of wet would have injuriously affected the vaults and arches beneath on which these steps were laid. To prevent this a very ingenious and, I should imagine, a very effectual contrivance was devised, consisting of a sinking cut into the face of the tread where the riser of the step beds upon the tread of the step beneath it; which sinking, as Mr. Paris very satisfactorily shows, was made to receive a covering, or what workmen call a listing, of mastic or cement of some kind, well calculated effectually to exclude wet.

I must, however, no longer dwell on these practical subjects, which might be multiplied to almost any extent; all tending to prove that there were master-minds among the builders of Rome as well as among its military and political chiefs. Although this wonderful building now presents to our view little more than a vast mass of bare masonry and brickwork, deformed by time and by barbaric depredations, it is not to be doubted that its internal embellishment was as gorgeous as might be expected from Roman builders who were so addicted to magnificence, and who might be supposed to be especially lavish in the adornment of this, the most highly favoured centre of attraction to the pleasure-loving citizens of Rome. Mr. Paris furnishes us with careful drawings of fragments of ornamental details which fully confirm this supposition: minutely enriched stucco linings appear to have decorated the interior of the halls and corridors; and notwithstanding the ravages that these ruins have for ages been subjected to in the search for precious marbles, fragments of fluted columns yet survive, of richly-coloured marbles, carved most elaborately. The extent to which this elaboration was carried may be in some measure inferred from the immense amount of labour bestowed upon so subordinate a detail as the fluting of the shafts of the marble pillars.

It should, however, be observed, in justice to the architects of the Colosseum, that the somewhat excessive extent of minute decoration, as indicated by the few surviving specimens, is confined to the interior; whereas the exterior, both in the constructive features and in the details, is remarkable for general simplicity.

In this building, as in most of the Roman monuments of the best period, a greatness of manner eminently distinguishes its exterior architecture; a circumstance well worthy of your note in the proneness to crowded ornamentation at the present day so prevalent. Without going back to remoter and simpler times, we shall, indeed, find that in Roman art, in its best and purest days, and in Mediæval art at the justly-applauded epoch of the thirteenth century, and in Renascent art at its period of freshness and beauty, when Bramante and Raffaelle designed,—at all these epochs of art we shall find no vulgar overloaded decoration, but abundant evidence of that just appreciation of the value of ornament which knows how to use it with due effect, and when it may be usefully dispensed with.

I will not dismiss this remarkable volume from your notice without noting the extraordinary dimensions of the building which it illustrates. I find the length of the major axis to be 580 feet, and of its minor axis, 480 feet; whilst the height from the ground-line outside the building to the summit of the exterior wall is 160 feet. Mr. Paris makes an elaborate calculation of the actual number of sittings afforded by its marble benches: the result is 44,090 persons. The stories, therefore, of those (like Fontana and others) who represent the number of persons accommodated to have been 80,000, or even more, were either wild exaggerations; or it may be that this high number might have been obtained by counting the multitudes who could have been crowded into the numerous corridors, on the broad platform at the highest part of the amphitheatre, and possibly, too, on the arena itself.

I will now invite your attention to two splendid folio volumes of drawings preserved in the Royal Library, of which they form a part. The drawings are executed very carefully and cleverly in outline, slightly shadowed and tinted, upon vellum. The series comprises plans and views of the chief royal palaces of France, together with some original designs, by Jacques Androuet du Cerceau, one of the most eminent among the originators of the Renaissance in France, born about 1515.

These valuable and interesting drawings were made for Catherine de Medicis, and certainly formed part of the Royal Collection of France. How they subsequently became transferred to their present place on the shelves of our great public library is not recorded.

It is not my intention to particularize all the buildings represented in these volumes; indeed, so rich was the French crown in Châteaux and Maisons de Plaisance in the sixteenth and seventeenth centuries, that it would extend my notice far beyond its proper limits were I to do so. All the earlier examples are characteristic of the transitional period when they were erected. In plan they retain much of the type of a Mediæval fortification; and this may have been probably occasioned in some cases by the erection of the palaces on the foundations of some more ancient castles of a strictly military character. But there are few that retain any provisions whatever for active defence: the bastions become clusters of embowed windows, enriched with many architectural embellishments; and the intervening curtains are occupied entirely by wide windows, lofty chimneys, and other features of domestic architecture, to the exclusion of the loopholes and frowning machicolations of the preceding ages. Those highly-picturesque buildings, the Château de Chambourg and that of St. Germain au Laye, for example, are buildings of this mixed character. They are described as Bâtiments de Plaisance, and present throughout the evidence of their having been built for agreeable residences; whilst, on the contrary, the plan alone of these buildings would convey the idea of a strictly fortified place, with moat and drawbridge, and like appendages.

The Châteaux of Blois and of Amboise are interesting examples of this picturesque transitional style; one of the prominent features of which is the very steep and conical roof, enriched by most elaborate cresting and finials; the latter rising often to a considerable height, sometimes of metal, and sometimes executed in glazed and coloured terra-cotta.

The variety imparted by these means to the sky-lines of the roofs is one of the chief sources of the picturesque in the buildings of this date in the north of Europe. It is worthy of note that at the Château Amboise, the chapel, which is conspicuous in the group of domestic buildings which compose the château, is strictly Gothic in general outline as well as in its details; having lofty and slender pinnacles and buttresses, and traceried windows; whilst, as I have stated, every other part of the palace is in that particular phase of the Renaissance which prevailed in France after the general discontinuance of the Gothic manner. This distinction would seem to indicate that a sense was felt of the propriety of adopting for ecclesiastical buildings a character of architecture differing from that employed in designing domestic buildings.

I have on a former occasion expressed my opinion that such a distinction seems not unfounded in reason and good sense. To adopt a strictly Mediæval style of design in all its purity and completeness in the erection of a domestic building—a private residence, for example, where all the luxurious requirements and refinements of modern social life are necessarily to be expected—is a task full of embarrassment and difficulty to the architect; necessitating frequent departure from ancient types; whilst, on the other hand, the Mediæval style lends itself with great facility to the construction of a church or chapel in its familiar form, and with its necessary adjuncts.

There seems, indeed, a moral as well as æsthetic propriety in thus setting apart a special style to buildings of a sacred character; visibly distinguishing it from a building erected for domestic and, as it were, vulgar uses;—a distinction analagous to that which led the Egyptians to preserve a hieratic character in their sacred writings, as well as in their sacred architecture, long after classic forms and demotic alphabets had become familiar to them. I may add, with reference to this example at Amboise, that there are no indications whatever to justify a supposition that this Gothic chapel is not coeval with the surrounding buildings of the château; which are, as I have said, of a perfectly Renascent aspect.

The Château Valeri, which is in the same early French style, is particularly notable for the boldness and vigour with which it is designed—a manner so broad and forcible as to well merit the character of grandeur.

The Château de Montargis is an example of great interest, having less of the Renaissance element in its style of architecture. The sectional views convey an excellent idea of the interior of the château as it appeared at the time of Catherine de Medicis. The capacious chimney-breast in the great hall is especially observable, as characteristic of the style of the period. On the front of this chimney-breast is represented, in sculptural relief, the romantic story, which tradition has handed down, of the faithful "Dog of Montargis," who avenged the death of his master: to quote the somewhat quaint old French phraseology in which the volume adverts to the legend, it describes the subject of the sculpture as "L'histoire digne de mémoire d'un combat d'un gentilhomme contre un chien, lequel gentilhomme, étant vaincre par le chien, confess a avoir tué son compagnon, maître du celluy chien."

This practice of sculpturing or painting some family legend, or other interesting historical incident, over the huge chimneypiece round which the members and retainers of a family were habitually assembled, seems agreeably characteristic of the habits of the time; and presents a contrast very unfavourable to the manners, and even to the taste, of the present day, when we compare these simple, and perhaps somewhat rude, yet vigorously-expressed illustrations of our social state, with the paltry ornamentation of a modern parlour, shabby, unmeaning looking-glass and putty frame which usually usurp this place of honour in the best living-room of our modern dwelling-houses. The chimneypieces or fireplaces themselves suggest similar observations. In the case before us of the great hall of the Château Montargis, the chimneypiece, as represented in this book, is typical of that feature in all the great halls of the fifteenth, sixteenth, and seventeenth centuries, throughout Europe. A great canopy or hood advances forward, overhanging a hearth capacious enough for the combustion of fuel sufficient to warm the whole household collectively. This overhanging chimney-breast is not usually carried by the projecting piers of solid masonry or brickwork which nowadays generally limit greatly the radiation of heat, and send it up the chimney rather than into the room. The breast, on the contrary, is usually carried by pillars, or other carved supports, attached to the wall, and ornamenting as well as supporting the hood which is to carry off the smoke; at the same time projecting so moderately, and occupying comparatively so small a space, as to cause very little obstruction to the radiation of warmth.

No doubt these rude contrivances may not be always very effectual in carrying off the smoke; but it may well be questioned whether a little smoke was not more than compensated for by the genial embrace which these old fireplaces offered to the old social circle. Besides, let us candidly admit, with all the unsociable contractions which modern science has engendered, are we not still occasionally a little troubled by smoke?—smoke, without any compensating beauty, and for which we get nothing in return but damaged furniture and, perchance, a ruffled temper.*

THE SANITARY STATE OF WINDSOR CASTLE.

We are glad to learn that, Sir James Clarke having suggested to the chief commissioner "that a searching examination be made into the sewerage, drainage, and general sanitary condition of Windsor Castle and its suburbs," Mr. Robert Rawlinson, of the Local Government Act Office, has been requested, in conjunction with Mr. Starey, of the Office of Works, and Mr. John Turnbull, clerk of works at the castle, to examine as to the sanitary state of the castle, with a view to making such improvements as may be found necessary, and to report on the same as soon as practicable.

We learn that the sewerage and drainage of the castle underwent complete revision and reconstruction some ten or twelve years ago. Every old sewer and cesspool had been removed, even to the tainted bricks and soil—the spaces having been filled with lime concrete. The sewers and drains are regularly flushed and permanently ventilated. All the closets within the castle have also been, from time to time, reconstructed and ventilated. The late Prince Consort paid strict attention to works of general improvement at the castle. Sir James Clarke is known to be an advanced sanitarian, and Mr. Turnbull fortunately had seen the necessity for proper subsoil drainage and sewerage in Worsley Old Hall, which works he devised and executed just before entering upon his duties at Windsor Castle. The experience of Mr. Rawlinson may probably suggest some improvements in details. His report, if published, will inform us how much sanitary work has been done, as also the sanitary condition of the castle at this time.

As typhoid fever is known to be generated amidst gases of decomposition, it may be as well to have Buckingham Palace, Balmoral, Holyrood, and Osborne examined by a sanitary engineer.

* To be continued.

THE PROPOSED MEMORIALS OF THE PRINCE CONSORT.

THE sub-committee met in the Mansion House on Wednesday last, the Lord Mayor in the chair, and proceeded with the organization of arrangements for procuring subscriptions. The amount promised to that time was nearly 21,000*l.*

Numerous suggestions as to the form the memorial should take have been addressed to the committee; but at present they confine themselves solely to raising a fund. When the amount is known they will then be better able to consider what should be done with it. For our own part we desiderate a grand union of the arts in honour of one who knew and loved them all. We see in the mind's eye a magnificent Temple enshrining a noble statue of the Honoured One. Upon and around the pedestal are groups and *relievi* illustrating his character; while other *relievi* and paintings, in the entablature and elsewhere, set forth the incidents of his life. The worker in metal, the glass-painter, the mosaicist, have co-operated with the architect and sculptor: marbles of all sorts join with the richest materials of their several kinds and the cunningest art; and we have at once a fitting monument for the Hero of the family-life, and an evidence of the position to which the arts have attained amongst us. A large sum would of course be needed to make the vision a reality—but what of that? It would be a good investment for the country; a worthy evidence of the national feeling: that which would give joy and elevation of thought to generations, would be cheap at a very large sum. The genius required to produce it might be more difficult to find than the money; but even that we think would be forthcoming if properly called out.

AMONGST the many other suggestions as to the form which a metropolitan memorial should take, is one for the completion and adornment of the interior of St. Paul's Cathedral, according to the design of its great architect; an excellent object in itself; but not very distinctive, we fear, of the purpose in view. Such a work would constitute a much more fitting tribute to the memory of Wren, and would give special emphasis to the celebrated "circumspice," as well as honor to the architect. Another suggestion is that of a correspondent of our own, under the signature "Habitans in Urbe," that clock-towers might be erected in various parts of the metropolis to the memory of the Prince; and so far such a suggestion would be in accordance with our idea, inasmuch as our correspondent suggests a combination of architectural with sculptural art; a statue of the Prince forming a feature in his sketch of such a tower as he proposes. The idea, however, does not strike us as very appropriate; although the association of time with eternity, as indicated by a clock-tower, is certainly not so much out of keeping with the object in view as in many other suggestions, where the main design appears to be regarded as of very secondary and insignificant importance indeed.

The provincial movement continues; but the Lord Mayor of London, having sent a circular throughout the provinces, requesting contributions to the one great central and national monument, local memorials in the mean time become a secondary object; although, already, not a few towns appear to contemplate the carrying out of both purposes, as at Southampton, Brighton, Cambridge, Hull, and elsewhere. At Hull the local memorial is proposed to take the form of a statue in the Town Hall; but there are various suggestions here as in other places, such as that of a local school of art. In Cambridge, suggests A. B. C., in one of the local papers, "a great and much required good would be done" were "a school for the benefit of Cambridge and the neighbourhood" erected. At Brighton a county meeting is to be held as to a local memorial; but opinions are divided as to whether contributions to the national monument should supersede the local one. At Southampton a statue is spoken of. At Derby a stained-glass window is to be placed in All Saints Church by the parishioners as a memorial of the Prince.

The proposal that the Birmingham memorial should assume an educational form has been thrice negatived, and one of a monumental character has been almost unanimously sanctioned, both in committee and at a public meeting on the subject. Sir Francis Scott, in advocating a combination of architecture with sculpture, appears to have restricted himself to the idea of a monolith, ornamented in *bas-relief;* the most prominent object being a head of the Prince, and others being subjects illustrative of his visits to Birmingham. Mr. Henry Godwin, architect, had previously written to us, making the same suggestion.

In reference to a proposed national monument in Edinburgh, a meeting has been held in Fifeshire, at which a committee was appointed to act in concert with the Central Committee in Edinburgh. Colonel Balfour, Vice-lieutenant of the county, who is one of the local committee, expressed himself as desiring much that Scotland should erect a monument in Edinburgh rather than join with England; and the meeting unanimously approved of the object contemplated.

It is stated, we may here very appropriately add, that the sale of photographs of the late Prince Consort in Paris is something quite surprising; one shopkeeper having, it is said, disposed of no less than 30,000!

THE DECORATIVE ARTS IN ITALY; AND THE FLORENCE EXHIBITION.

WE return to the paper read by Mr. M. Digby Wyatt, at the Society of Arts:—

To the Cavaliere Sella, and to his exertions in the Italian Parliament, that nation is indebted for the conversion of an Exhibition, limited, as originally contemplated, to the illustration of Tuscan manufactures only, into one in which evidence, greater or less according to circumstance, is to be found of the artistic and industrial capabilities of almost every district of that united kingdom, whose existence as such every well-wisher to the cause of liberty, and every one who honours the ancient traditions of excellence in design still preserved in that favoured land, must ardently desire should be preserved.

The task of the critic who would attempt to minutely characterize individual productions, so far removed from the eyes of those he may have to address as to render impossible any appeal on their parts from his judgment to material evidence, must, it appears to me, be alike unjust to those whose works may be criticised, tedious to those addressed, and too one-sided to be either interesting or profitable. I propose, therefore, to take a broader view of the entire subject of the Italian decorative and industrial arts than I should probably do if the means of rectifying any errors of individual judgment on my part were within the reach of those to whom I venture to offer the following observations.

The natural sequence of emotions most readily to be imagined as occurring to an educated Englishman on entering the Exhibition building at Florence would be, as it appears to me, somewhat as follows:—Firstly, his memory would revert to those old glories of the days of Florentine independence, of Genoese and Venetian magnificence, and of Roman Pontifical autocracy, in which the fine and decorative arts are known to have reached a pitch of perfection scarcely rivalled in the palmiest days of Greece and of the Augustan empire. He would naturally inquire what those old Italian arts and industries were, how far they co-existed and were united, and under what social conditions they were developed?

His second inquiry would naturally be, how much of that ancient power still lingers in the hands of the descendants of those by whom the original greatness was attained?

The third subject of investigation would probably be, after taking stock of the present, what materials still exist amongst the Italians likely to carry to a higher perfection than has been as yet attained in recent times, the arts for which "*Italia la bella*" was once so famous?

Recognizing, as no one can fail to do, the retarding influences which have so long operated to fetter and depress the wonted vivacity of that highly imaginative people, it is indeed an interesting problem to endeavour to trace the direction in which a greater degree of personal liberty than they have hitherto been permitted to enjoy may tend to revive those energies which have too long been overshadowed by a baneful condition of social oppression. From her past and her present may thus, to a certain extent, be augured an Italian future.

In all this, doubtless, there must be some moral for us; and the fourth aspect under which any Englishman, anxious for the augmentation of his country's greatness, would naturally regard the present evidences of capacity manifested at Florence, would be to consider what convenient improvement his countrymen may derive from the lessons to be at present learnt in Italy?

Following this order of investigation, my remarks will be grouped in subordination to these four leading aspects, under which the subject may be regarded. We shall therefore consider first—and far too briefly for the grandeur of the theme—what the old Italian arts and industries were.

It appeared to those in whose hands the initiation of the Great Exhibition of 1851 rested, as likely to prove an important element in preparing the way for a due appreciation of that display, that a collection of works, illustrating the perfection to which industrial processes had been carried in ancient and Mediæval times, should be submitted for general study and investigation by the public, previous to their being called upon to estimate the relative value of corresponding cotemporary processes. Many of those I have the honour of addressing cannot forget the success which attended that Exhibition, inaugurated under the auspices, and mainly through the direct action, of the Society of Arts.

A similar idea seems to have struck the Italians, and to have led to the bringing together a very remarkable collection of specimens of ancient Italian technical art; mainly through the active exertions and public spirit of a Florentine medical man and distinguished connoisseur, the Dr. Guastalla, whose energy has already tended to infuse new life into the administration of the Florentine museums. Several of the princely Italian families co-operated in this good work, the proceeds arising from which, it was determined, should be voted to charity.

Within the walls of a large house, in the new Piazza dell' Indipendenza, were consequently crowded together a great quantity of objects, illustrating almost all those industries with the choicest specimens of which Italy was wont, from the end of the fourteenth to the beginning of the seventeenth century, to supply the factitious necessities of the most highly-cultivated portion of the royalty, aristocracy, and rich "bourgeoisie" of Europe.

With such examples of these arts as we may be now thankful to possess in the Museum at South Kensington, it is little necessary for me to dwell in detail upon the classes of objects collected in the Casa Guastalla. It may be sufficient to say, that bronzes worthy, if not wrought by the hands, of men such as Ghiberti, Cellini, Donatello, Michelangelo, and John of Bologna, were not wanting. Neither were the finest Venetian glasses, Milanese and Ferrarese arms and armour, Sienuese and Florentine illuminations, Umbrian Majolica, enamels of various kinds, goldsmiths' work, silver repoussé work, iron work, niello, medals, lavori di commesso, or mosaics, and coins, cuir bouilli, tapestries, rare tissues, lavoro all' Azzimina or damascening, tarsia or marquetry, and marble, ivory, and wood carving.

Where so much was beautiful, it seems almost invidious to dwell upon points of remarkable interest; but it would be treason to the royalty of excellence to pass over two or three objects especially celebrated in the history of art, and now brought under public notice after ages of seclusion, if not neglect.

The most interesting of all was probably that patera in bronze, which Vasari relates that Donatello worked for the noble Casa Martelli, to show how perfectly it was within his power to rival the exquisite fragments of antique bronze casting and chasing, which in his days were as much the rage among great Italian collectors, as majolica and "vieux Sèvres" have been lately among French and English. As perfect almost as it could have been when it left the hands of that rare artist, this beautiful piece of sculpture justifies all the praises which Cicognara has so lavishly bestowed upon it in his "History of Sculpture."

Another specimen, of little less historical interest, was the bust in marble, representing Marietta Strozzi, wife of Celio Calcagnini di Ferraro, by that great sculptor, who unfortunately died too young to leave much behind him, Desiderio da Settignano. Jealously preserved in the family of her descendants in that palace, the architecture of which, by Benedetto da Majano and Pollaiuolo, has mainly stamped the Tuscan palatial style with its easily-recognized distinctive feature, there can be no doubt of the true descent of this beautifully-preserved work of art.

Another item, small in bulk, though great in artistic value, was also contributed from the same collection—a little key in chiselled steel, ascribed to Benvenuto Cellini, and, if not actually executed by him, eminently worthy of his most dexterous hand, and of all that skill which he appears to have acquired in the workshop of Paolo Arsago, the Milanese.

Probably, as far as unique curiosity is concerned, the most interesting groups of objects in this collection, were the very important series of coins of different Italian cities and mints; the medals of

illustrious personages, by Pisanelli, Sperandio, Cellini, Pollaiuolo, and others; and a very curious collection of cut and stamped leather work, which the energies of the purchasers for the South Kensington Museum may, I hope, ere this have acquired for our admiration in this country.

Important as the objects in this collection unquestionably were, as filling up the detail of the still-life of those pictures, in which the stately Gonzagas, Medici, Sforzas, Strozzis, and Dorias occupied the foreground, it is of course in the great monuments and permanent museums of the country that we learn to recognize how inseparable the perfection arrived at in these minor arts was from that great sublimity attained in the noblest efforts of the architect, the painter, and the sculptor.

It is precisely in this union of imagination of the loftiest kind with perfect technical dexterity in art productions, on either the vastest or the most minute scale, that the great strength of the excellence of the finest Italian designs in old time consists. All these relics, whether taking the form of gigantic churches, of stately palaces, of heroic works of sculpture, of extensive frescoes, of elaborate furniture, of pottery, glass, and even ornamental leather, show how absolutely indispensable to personal enjoyment art then was. * * *

Of the architectural designs in the Exhibition I am sorry to be unable to speak in laudatory terms. The most industrious amongst the artists appear to be Niccole Bregalia and Panfilo Rosati, of Naples, who produce many drawings of architectural fragments and restorations from Pompeii, executed in the French academic style. In the remainder there is but little merit, although in water-colour drawings there is evidence of considerable command over the delineation of architectural form.

The modern paintings of the Exhibition have been so fully and ably commented on in the pages of the *Times* by Galenga's brilliant pen; of the *Athenæum*, by Mr. Trollope, and of other journals, that I do not propose to dwell at any length upon them, but would simply remark that the old school of David and the classicists, as represented in Italy by Camuccini, and to a certain extent by his rival, Benvenuti, appears rapidly dying out; and in place of the well-drawn but artificially grouped and badly-coloured gallery pictures, such as many of those of the late Professor Bezzouli, of Florence (one of which figures in the place of honour in the great gallery of the Exhibition), *genre* and landscape paintings, less carefully drawn, but embracing more romantic incident, livelier action, more natural effect, and far better colour, appear to predominate.

There are, however, two large gallery pictures which merit the highest possible commendation. One is, "The Expulsion from Florence of the Duke of Athens," by Professor Stefano Ussi, which is a noble historical picture; and the other a picture of great power, by Domenico Morelli, of Naples, called "The Iconoclasts," the subjects of both it will be seen, rendering tribute to the importance, the one of political, the other of spiritual, liberty.

Among the best of the pictures of less pretension than these two, may be noted, "The Procession of the Burial of Buondelmonte," by Altamura, of Naples; two other pictures by Morelli; "The Council of Ten in the Courtyard of the Palazzo Ducale, on their way to the Hall of Council," by Celintano, of Naples; "Some Incidents of the War," painted by Carlo Ademmolo, of Florence; and "The Battle of Magenta," by Induno, of Milan, a smart *souvenir* of Vernet. Of the Neapolitan school one has to remark the specially improved character of the colouring and mode of painting.

For the same reason that I have so summarily disposed of the paintings in the Florentine Exhibition, I would refrain from entering into detail upon the subject of sculpture; but as, proportionately, the monuments in the latter art are of a superior quality to the evidences of ability presented by those of the former, I think it but just to indicate a larger number of those works which appeared to me to possess distinguished merit.

To say that the spirit of Canova is yet dead in Italy would be incorrect; but one is happy to recognize that, while much of his effeminacy and artificial composition is disappearing, much of his beauty of form and delicate finish in marble working is satisfactorily preserved. The care he bestowed in modelling the articulations of limbs, and the extremities generally, is rivalled in most of the best works now exhibited, although some few, otherwise excellent, fail in those important details.

The work which has attracted most attention, and with good reason, is the well-imagined and gracefully carried-out figure of "A Girl Reading," by Pietro Magni, of Milan. That sculptor, with Strazza (the author of the "Ishmael," in the Exhibition of 1851), and Vela, of Milan, an artist of great talent, may be looked upon as leading representatives of the Romantic school of sculpture in Italy, as opposed to the more academic style, which finds its ablest representatives in Cambi, Santarelli, Costoli, and Fantacchiotti.

Dupré, of Florence, a sculptor of very great power, partakes of the merits of both classes, but falls slightly, in some of his works, into that leading defect of inattention to pure beauty of form with which the Romanticists, in aiming at expression, rather than the "beau ideal," may be occasionally reproached.

The most absolutely Canovesque of sculptors is, apparently, De Fabris (lately deceased), whose "Love and Psyche" is one of the honied but feeble reminiscences of the subject so dearly loved by his master, the father of modern Italian sculpture.

It is to be regretted that Tenerani, of Rome, Canova's favourite Italian pupil, has not contributed to this exhibition, since his great powers would have gone far to vindicate the school of that really fine artist, under whose influence Tenerani's best works have been produced.

The principles upon which I believe the popularity of Magni's statue of the "Girl Reading" is founded, appear to me so important, and, indeed, so novel in their application to modern sculpture, that I think it my duty to dwell for a few minutes upon them. A maiden, of no great pretensions to beauty, either of form or feature, and in the simplest dress, is represented, seated on a common rustic chair, reading. There is no very great study evidenced in the arrangement of the lines, either of the figure or of the draperies, and, indeed, in one important particular, the modelling of a portion of the bosom, a manifest defect is to be observed. The head is very truthfully modelled, and the expression is one of quiet concentration on the theme of the volume, in the study of which the reader's whole attention seems to be absorbed; that theme being, as may naturally be imagined, at the present juncture, the development of Italian liberty under the sovereignty of Victor Emmanuel. Such elements may not, in description, perhaps, appear likely to result in the production of a striking work of art; and yet the power of this small statue is such as to arrest and enchain the attention of every one coming within sight of it.

The potency of the spell I believe to mainly consist in the concentration of purpose manifested in the whole composition. There is no straining for effect—to borrow a theatrical phrase, "no playing to the foot-lights"—and none of that coquetry, half conscious of nudity, and evident flirting of the damsel with the spectator, which distigure so many ordinary representations of female form. Other charms are unquestionably the ease, nature, and simplicity of the whole arrangement. Nothing is allowed to interfere with the tranquillity of the action, and such is the effect of this appearance of quiet, that almost instinctively the spectator treads, as he passes, with lighter foot, and speaks "in bated breath," lest he may startle the marble maiden who sits wrapt in her brooding fancies, as it were, unconsciously before him. A second of Magni's works, "An Indian Mother," seated in a shawl swung over the branches of some trees, in such a manner as to make the figure appear entirely unsupported, is a *tour de force* in marble working, the slight tendency to extravagance in which is to be overlooked in the elegance of the action and the careful modelling of every portion.

A third work, by the same sculptor, is of considerably less merit. It represents a statue of Socrates, and, whether intentionally or not on the part of the artist, conveys an almost instinctive reminiscence of what one cannot but fancy the sovereign of United Italy himself might be with little else upon him than a rather scanty shirt. The compliment, if it be meant for one, is indeed somewhat dubious.

Vela, another Milanese, contributes one figure only, and that of an almost too voluptuous cast of beauty and attitude—"Spring," a nymph bounding upwards, but, as it were, caught and entangled in the vernal flowers from which she seems to be rising. In delicacy of modelling, and that truthful rendering of flesh in marble, which the Italians term *morbidezza*, there is nothing, I think, in the whole Exhibition to equal it. It is to be regretted that other works of Vela's are not to be found at Florence.

The most ambitious figure is certainly the "Daughter of Zion in her Desolation," by Morelli of Leghorn; but in aiming at grandeur the sculptor has neglected beauty, and thus fails to engage the sympathies of the spectator.

Fantacchiotti of Florence, who enjoys a great and deserved local reputation, exhibits several works of very considerable merit, the best being the monument to the late wife of Mr. Spence, an English artist, long resident at Florence. The figure, which is that of a very beautiful matron, is represented as extended, after the manner of some of the finest of the cinque-cento monuments, on a bier, recalling, in many particulars, the general form of the ancient sarcophagus. In front are amorini, and beneath are square tablets, inserted, as it were, in a plain and well-designed pedestal. The special merit of this work is twofold. In the first place, all that may be called pure sculpture,—that is, the representation of the human form, and the draperies and ornaments connected with it—is thoroughly good; and in the second, these elements are combined with such conventional lines, masses, and ornaments, as adapt the whole composition for alliance with whatever may happen to be the architectural form of the structure in which this beautiful work may be destined to be placed. What the consequences of the common want of skill in similar combinations may be, it is scarcely necessary to point out to an audience whose remembrances of St. Paul's and Westminster Abbey would, probably, be too poignant for me to do more now than hint at.

Strazza, whose "Ishmael" in the Exhibition of 1851, and whose "Audace," in the Crystal Palace, have made us well acquainted with his capabilities, fails to sustain them at Florence in his statue of the "Sposa Novella," which has, however, received the compliment of purchase by the king. Neither strikingly beautiful nor very expressive of its title, the modesty of the recent bride seems rather of that affected class the freedom from which I have already commended in Magni's masterpiece.

Santarelli, of Florence, a well-known artist, exhibits a "Shepherd Boy," which has merit; but his "Magdalen" is too close a reminiscence of that of Canova, and fails to sit up comfortably. The infant's "Prayer of Innocence" is offered up rather by a little man than by a true bambino.

The same reproach as to want of youthfulness in form may be applied to the "Amore Mendicante" of Cambi; the general intention and action of which, however, is clever and expressive. The same sculptor's "Eve" recalls far too much and too many of the leading defects of our English academician Bailey.

Pierrotti of Milan exhibits a very good anatomical study in the shape of "A Hunter Killed by a Snake." The subject is a difficult one, and has been well mastered by the skill and knowledge of the artist.

In the true academic style, Costoli's "Death of Menecæus" is to be highly commended, as being thoroughly well modelled, and well balanced in a difficult *pose*. His "Charity," a large bas-relief, is by no means so good.

Dupré shows a "Mater Dolorosa," the character of which is sublime and devotional in a high degree. He has also a "Sappho," in an attitude not altogether dissimilar to, although in no way plagiarized from, that of the well-known work of Pradier; and a sculptured pedestal for, apparently, a large flower-basin. The modelling and composition of the figures in alto-relievo which decorate the latter, it is no small praise to say are, I consider, fully equal to those we so much admired in Professor Drake's pedestal in the Great Exhibition of 1851,—a somewhat similar work. The attitude and expression of the "Sappho," and the draperies are admirable; but some portions of the nude have been modelled from rather too low a type of female beauty to be altogether satisfactory in a work of ideal art.

Admitted into the fellowship, if not the nationality, of Italian sculptors, are the well-known American and English artists, Power and Fuller. The "Greek Slave," and "Youth holding a Shell," the Proserpine, and many admirable busts by the former, are too well known in this country to need dwelling upon; but with his "America" we are not so well acquainted. Unlike the life and vivacity of that population, whose every breath it appears must be drawn in an atmosphere of *sensation*, and whose vital energies seem inexhaustible, the embodiment of the sublimated essence of modern republics is tame and dead; but, like at least the major section of that unhappy continent, she stands but feebly and totteringly, and one touch only seems wanting to overthrow the unstable goddess.

By the latter artist (Captain Fuller), there is a remarkably good figure of a "Drowning Boy,"

dmirably modelled, and full of energetic action. The tempest-tossed sailor lad still struggles, though evidently unavailingly, with the elements which overpower him.

This scanty list by no means exhausts the excellencies, or perhaps rightly points to the salient defects, of the really fine collection of works of sculpture, which it is not too much to say formed the leading feature of the Florentine Exhibition: but I feel that it is necessary to quit the field of pure sculpture for that application of the art which lends its highest graces to industrial production.

The two most distinguished workers in this department of industry, worthy maintainers of the fame Brustolone acquired for Italian wood carving in the last century, are well known in this country—Barbetti and Pietro Cheloni, of Florence.

The former exhibits a grand door, carved with no less than twenty-nine alto-relievos, of biblical subjects, treated somewhat after the manner of the celebrated gates of Ghiberti. Unlike them, however, the sculptures under notice have been executed in walnut wood, as a commission for the Prince Demidoff, for the entrance door to whose Russian chapel at San Donato, near Florence, they are intended. The general design is, it appears to me, monotonous, from its extreme rectangularity, and is ill arranged in the junctions of the vertical and horizontal divisions with the semi-circular head of the door. The carving is, however, executed in so masterly a style as to constrain an admiration for the details, which fails to be excited by the general aspect of the whole.

The same artist contributes a large oak bench, the seat of which is hinged, in order that the lower part may answer the purpose of the *cassapanca*, which formed so leading a feature in the Italian interiors of the quattro and cinque cento periods. In general design this work is better than the door just referred to, and leaves behind a feeling of more entire satisfaction.

The capability for the most important works, shown by these productions, is destined to be put to an even loftier purpose, since Barbetti and his sons are now engaged in the execution of a magnificent case, 6 feet 6 inches high, entirely wrought in ivory and ebony, to hold the National crown of Italy. Of this grand work a full-sized water-colour drawing was exhibited, and I fully believe that the realization of the design (which is exceedingly good), will be not unworthy of the ancient glories of Italian ornamental carving.

Cheloni works in a manner which very perfectly reproduces the delicate handling of Mino da Fiesole, Civitale da Lucca, and Andrea Ferrucci, and proves that, with judicious encouragement, he may become a formidable rival to the most distinguished amongst the Parisian magnates in the production of luxurious furniture. His bookcase, and, above all, a single little panel in wood, fully justify this assertion. It is to be hoped that this fine bookcase, as well as the case for containing the national crown, by Barbetti, may form ornaments in our Exhibition next year, where they cannot fail, I think, to be greatly admired.

The only rivals, although there are, of course, many approaching the excellence of Barbetti and Cheloni in ornamental carving, are Antonio Superchi, of Parma, and Professor Giusti, of Sienna. The former exhibits only a small panel, carved in soft wood, with arabesque ornament. It is, however, a masterpiece. The latter works in ivory, and appears to be well supported by English patronage, since his miniature reproduction of the celebrated fountain of Jacopo della Quercia at Sienna, and his exquisite little picture-frame, have been produced, the former for the Earl of Northesk, and the latter for the Marquis of Northampton. For the Count Agostino da Gori, Giusti has wrought a little coffer or box to contain autographs of men of science, artists, poets, &c. The shrine is by no means unworthy of the relics.

Time will not permit of my dwelling at greater length upon individual specimens, or even extending my catalogue of ingenious artists. It may suffice to say, briefly, that in marble, stone, ivory, ebony, and plastic compositions, the application of sculpture to industry forms, probably, the most distinguished feature of the industrial portion of the Florentine Exhibition.

It would be unfair to the Italians to pass from the subject of applied sculpture, without noticing one form of it in which, from classical times to the present, they have maintained a decided pre-eminence over other nations. I allude to the art of working in gems and precious stones.

The names of Girometti and Odelli of Rome, are celebrated, and their productions still command very high prices, in proportion, perhaps, to the labour, but too great for the art displayed; as, for instance, the single cameo of Signor Girometti is valued at no less than 30,000 francs, or 1,200*l.*, a price, possibly, as the Italians say, "da combinarsi." Neither of these artists, in my judgment, sustains his previously-acquired reputation; while the intaglios of Berini, of Milan, a less known man, are, if not so valuable, far more agreeable, being both designed and wrought in better taste, and rather reproducing Grecian than ancient Roman styles of execution.

WAREHOUSE CONSTRUCTION: FIRE-CLAY.

I HAVE read with much attention the letters which have appeared in the *Builder*, at different times, advocating the use of fire-bricks in the construction of warehouses, &c.; but in my opinion none offer such good suggestions as are contained in a letter signed "H. H. V.," in the *Times* of 1st July, a copy of which I now send you. Mr. Hussey Vivian, M.P. for Glamorganshire, has authorized me to say that he was the writer of the letter referred to, and will feel pleasure in giving any information to parties requiring it, his address being Park Wern, near Swansea.

R. F. L. J.

The subject has been carried farther in our columns since the date of Mr. Hussey Vivian's letter, so that we do not think it necessary to reprint it. On the question of fire-clay doors, Mr. Glover has sent us a communication in reply to a recent correspondent, in which he says,—the question is not whether fire-clay doors can stand the trial which he puts, but it is this,—can they be used under certain conditions and arrangements to withstand the effects of heat and water, under all and every contingency? I fearlessly say that they can; but, as applied in the ordinary way, they cannot do so. In this may lie the difference between a practical and a merely theoretical knowledge.

It is well known that no description of fire-clay will stand against white heat and water (there is one material which will, but it is too expensive for commercial purposes), but how much less can iron be trusted in connection with it. From extensive, and, I may say, costly experiments, under every kind of condition, I have found that an expansive material like iron cannot be trusted with clay, be it covered or protected as it may.

As regards the walls after a conflagration not being injured, I would ask what man would risk his reputation by restoring a building upon them? In the very nature of things they must be practically useless.

Whatever may be said about sunken floors, your correspondent will find that the plan will be adopted. "Locomotion" is provided for by an easy inclined plane; and it is only necessary to say, in reference to the "soaking" of goods, that the choice is between that and destruction. But besides this it should be remembered that, in the presence of a body of water, such as a sunken floor would retain, the intense heat would be lessened, and the carcass of the building left intact.

But, by my system of shutters and doors, a fire can be suppressed even without water or engines, or even in the absence of fire-clay doors.

PARAFFINE AND THE AMERICAN MINERAL OILS.

THE American mineral oil trade is becoming so important that it is believed we shall be soon importing it for distillation into gas instead of exporting coal for gas-supply to America. At present it is said that no less than 20,000 barrels of petroleum, as it is sometimes called, are on their way to England. The importance of this trade may be conceived when it is considered that, besides the extraordinary extension of paraffine here for light in private dwellings, where it is used just as the American mineral oils are used in America; and also the probable adoption of it in many cases for distillation into gas; these oils are also used for various other purposes, as in the production of the fashionable dyes called Magenta, Rossine, &c.; the manufacture of solid paraffine candles; and for lubrication of machinery. But perhaps one of the most extensive uses to which the cheaper and more dangerous kinds of these oils is put may be found to be the adulteration of the purer or safer forms, such as that distilled by Young from the Boghead mineral; and, since much of what is called petroline, and paraffine, is explosive and dangerous, the *importance* of the subject presses itself all the more strongly on the public notice. It is questionable, too, whether much of the adulterating material be not of the nature of naphtha and camphine, which have been so long notorious in this respect.

A *test* of the specific gravity of all such oils was lately brought under notice; but what signifies the specific gravity if, as now appears, some of the worst kinds used be a mixture of oils of different specific gravities? An oil even with too high a specific gravity to burn well in the peculiar kind of lamps now in use for such oils may be mixed with explosive oils of a very low specific gravity, which will still be explosive, although the mixed material may show a good average specific gravity. Considerations such as these suggest a preference for the test which we some time since suggested of applying a lighted match to a very small quantity of the oil; when, if explosive, it will immediately burst into flame; but if good paraffine, it will not so easily take light; while the best of all is that which requires a wick to enable it to burn by mere application of a match. Mr. Herepath, the well-known chemist, now advises this plan; recommending a few drops to be spread upon a saucer or plate and touched with a lighted match. Some ingenious mechanic ought also to apply himself to the further improvement of paraffine lamps; if we mistake not they are at present improving in the wrong direction, so as to give less light with a greater expenditure of oil than formerly; and this is but too likely to be the case so long as the lamps are *invented* by those whose chief interest and desire is to sell (not these, but) their own peculiar oil. It is evident, too, that tradesmen who profess to be agents of respectable manufacturers make this a mere blind to enable them to sell dangerous oils got from other quarters because they are cheaper and yield more profit, even though the foolish knaves are thereby ultimately destroying their own business by disgusting the public with "paraffine," good, bad, or indifferent, on account of the uncertainty of this beautiful, cheap, and useful light; which, moreover, even apart from the explosive nature of the adulterating sorts, constitutes, when so adulterated, a perfect lamp-black manufactory, from the immense volumes of smoke which it is perpetually apt to give off, even under pretty careful management.

CHRIST CHURCH SCHOOLS, WEST BROMWICH, COMPETITION.

AT a committee meeting held on Monday evening last, the design of Mr. John Weller was selected for these schools. There were nineteen competitors. There are to be three school-rooms—one for 150 boys, one for 150 girls, and one for 150 infants: class-rooms are provided for each school-room. There is also a residence for the schoolmaster.

ARCHITECTURAL INSTITUTE OF SCOTLAND.

A MEETING of the Architectural Institute of Scotland was held in the Institute's rooms, George-street, Edinburgh, on Monday, the 13th ult., Mr. J. D. Peddie, president, in the chair.

A paper was read "On the Sanitary Condition of the Dwellings of the Operative Classes in Edinburgh, and the means of improving them," by Dr. Alexander Wood, Vice-President of the Royal College of Physicians of Edinburgh. It was an elaborate and interesting memoir, fully confirmatory, so far as the subject extended, of the particulars recently given by us of the condition of Edinburgh.

The members of the Institute are invited to contribute papers or communications upon the following subjects of architectural interest:—

Scottish Castellated Structures; Ecclesiastical Edifices; the Ancient Domestic Architecture of Scotland; Architecture of other Countries, ancient and modern; Farm Buildings; Cottages for the Working Classes, &c.; the application of Glass, Iron, and Brick-work to Drains and other Structures; Interior Decoration; Ventilation and Sewerage; and, in general, on any subject connected either with the mechanical and constructive, or domestic branches of architecture.

The Council will be happy to afford opportunities at any of the stated meetings of the Institute, for the exhibition of designs and models, or of any material, implement, or work of art, connected with architecture, building, or the relative arts.

Fellows and Associates are reminded of their privilege of admitting their apprentices to the



MONUMENT TO THE LATE DR. BROWNE, (R.C.) BISHOP OF ELPHIN.

meetings of the Institute by a Session card. Lists of the subjects of competition for the prizes offered by the Institute to apprentices may be had on application to the secretary.

MONUMENT IN MEMORY OF THE LATE RT. REV. DR. BROWNE, R.C. BISHOP OF ELPHIN, IRELAND.

This elaborate monument has recently been erected in the Roman Catholic Church at Roscommon, to commemorate the late Catholic bishop of that portion of Ireland. Owing to the limited space, and utter absence of all ecclesiastical character, of the church, which was formerly the court-house of Roscommon, a mural tomb was the only form which could be adopted.

The materials of the design, which is from the pencil of Mr. Goldie, are Caen stone, with marble shaftlets; inlays of spar and marble; and a bassorelievo, in white marble, of the head of the deceased. The general idea has been suggested by the cinque-cento mural monuments so frequent in the churches and cloisters of Southern Italy, freely rendered in this case into a Gothic treatment.

The work was executed from the drawings of the architect, by Mr. H. Lane, sculptor, of Birmingham and Dublin. The total cost of the monument was 80*l*.

METROPOLITAN BOARD OF WORKS.

ELECTION OF DISTRICT SURVEYORS.

On the 24th ult., the Board proceeded to elect district surveyors for Bethnal-green, St. James's, Westminster, and Putney and Roehampton. The following is a list of the candidates:—R. Kerr, G. W. Mayhew, H. Stevens, H. Field, S. S. Markham, H. S. Legg, J. J. Cole, Sidney Godwin, S. Salter, W. Lightly, J. Billing, A. Cates, J. Liddiart, H. Laxton, E. Roberts, J. W. Papworth, J. Houle, G. O. Lane, A. Peebles, E. L. Paraire, F. Todd, — Haynes.

The six highest on the first voting for Bethnal-green, ranked in the order in which the ultimate votings placed them, were—H. Stevens, Knightly, Kerr, Billing, Markham, Field. Mr. Stevens was accordingly elected.

For St. James's, Westminster, the six stood,—Kerr, G. W. Mayhew, Legg, Markham, Lightly, Field. Mr. Kerr was therefore elected.

For Putney and Roehampton, Mr. H. Field was elected.

BIRMINGHAM CEMETERY.

On a previous occasion we gave views and plans of the chapels now in course of erection for the cemetery at Witton.* To these illustrations we now add, as promised, a view of the Lodge and Entrance Gates.

* See p. 13, *ante*.



BIRMINGHAM CEMETERY: LODGE AND ENTRANCE-GATES.—MR. R. CLARKE, ARCHITECT.

THE NEW HARTLEY COLLIERY ACCIDENT.

THE terrible tragedy of the New Hartley Pit
as been brought to a close. The 219 men and
oys sleep the sleep of death, and have been car-
ed to their last resting-place. It will be long,
owever, before the stunning effect of this blow
ill be forgotten, not only by the 400 and more
widows and children who have been so suddenly
eprived of their means of support, but also by the
ublic. In whatever way we consider this calamity,
is most appalling. Patiently awaiting a deliverance
hich they were destined not to realize, the poor
llows all placed themselves within a very short
stance from the shaft and the furnace; and this
ould seem to have been a chief cause of their
eath. It is reported that further in the mine
e air was comparatively pure; and it seems
range that experienced men who had spent the
ief part of their lives in the coal-pit should not
ve endeavoured to escape as far as possible
om the danger. It was natural for them, how-
er, to remain near the point whence hope of
liverance was to be looked for, although a more
ientific knowledge would have shown the danger
this. It was on Thursday, the 16th of January,
rly in the morning, that the beam of the
draulic engine fell and buried all who were in
e "yard seam." There appears to have been
ly one written record kept by any of the miners,
d this was made on Friday, the 17th, the day
er the accident, in the time-book of Amours, the
ck overman, whose body was found near the
nace, and is as follows:—

"Friday afternoon, half-past two o'clock.
Edward Armstrong, Thomas Gledston, John Hardy,
omas Bell, and others, took seriously ill. We all
d a prayer meeting at a quarter to two o'clock, when
bs, Henry Sharp, H. Gibson, and W. Palmer [here is
lank] exhorted us again, and Sharp also."

This shows that the pent-up gas was, even at
s early time, beginning to perform its deadly
rk; but, up to the following day (Saturday),
e imprisoned miners gave the well-known signal
"jowling" that some of them still existed.
the course of that day, however, all further indi-
ions of life within the pit ceased.
Notwithstanding all this evil, it is so far con-
ing to think that the men and lads passed away
thout bodily anguish; and that the occurrence
s caused an extraordinary display of noble feel-
g and bravery. As soon as the news of the condi-
n of the men spread abroad, the most skilful view-
and managers of mines thronged from all parts
Northumberland and Durham, and even from
re distant places, to New Hartley; all anxious
be useful. Medical men were no less prompt;
l the ordinary workers from neighbouring col-
ies came in hundreds to volunteer services
ich could only be performed at the risk of life.
y and night, and day after day, the sinkers
d the most wonderful exertions to clear the
ft of the wreck of the brattice which choked
pit. Slung in ropes, amid the falling of stone
l shale and the rush of water which poured
wn the shaft, the noble fellows wrought bravely
endeavouring to liberate those inclosed below.
e difficulty of this task can only be appreciated
those who are familiar with this kind of labour.
r such exertions as these we want some suitable
ward. Besides the medals of the Royal Humane
ciety, we need, in this country, other and well-
ognized decorations for such occasions. The
hop of Durham, who has in this case so well
own his sense of the duties of his high office,
his wanderings amongst those desolate in the
ghbourhood of the pit, met with some of these
n. His lordship says:—

They were simple, humble men, with not the slightest
earance of any pride in their work: they seemed to
nk that they were only doing their duty; and that
re was not a man in the place who would not have
e it, if they had not done it. *I call these men the real
ces of our country:* I feel that Northumberland may
l be proud of these men. I feel that our whole country
y be proud of these men. I had sooner see such a
n, and shake him by the hand, than I would see many
an who has exposed his life and shown the greatest
very, not in saving, but in slaying his fellow-
atures."

We have some knowledge of the good
alities of the coal-miners of the north of
gland, and know the justice of the Bishop of
rham's remarks. The deeds of George Ste-
enson, at Killingworth Colliery, are still re-
mbered; and we trust that the present
anity will lead to the enforcement, by Parlia-
ntary enactments, of regulations which will
the means of preventing wholesale slaughter
such valuable human life. The Government,
s satisfactory to observe, have already moved
the matter, as the following letter will
w:—

"Whitehall, Jan. 24, 1862.

"Sir,—I am directed by the Secretary, Sir George Grey, to request that you will transmit to him, at your earliest convenience, a return showing the number of single bratticed shafts in the several collieries in your district; and their depth, diameter, and the mode in which they are subdivided; and also of the number of collieries in your district with more than one separate and distinct shaft, and stating in each case whether ventilating furnaces are used below ground.

"I am further to request that you will state your opinion as to the practicability of requiring that in all large collieries there should be two distinct shafts.

"I am, sir, your obedient servant,
"H. WADDINGTON."

"Matt. Dunn, Esq., Inspector of Mines."

Double shafts in all large collieries ought to be insisted on.

The Earl of Durham, who is a large coal-owner, said with great emotion, at the Newcastle-upon-Tyne meeting, that of all the catastrophes by sea or land he had ever read of, he thought that nothing could approach this awful calamity at Hartley Colliery. The mere thought of it was enough to unman any one. After recommending that ample provision should be made for the widows and orphans, his lordship said:—"There is one other thing to be said in connection with this: it ought to be a warning and a lesson to all engaged in mining operations—and to all employers of labour, such as myself—to spare no expense, to leave no means untried, to secure, as far as is humanly possible, the safety of the men committed to their charges."

The colliers have held several meetings, at which an opinion has been expressed that a Government commission should be appointed to inquire into the manner of working the pits, and respecting other abuses of which they complain. The general opinion of the public will be in favour of this; for, while some of the coal-owners display a wish to do their duty to the men, there are others who are careless. Although of late years great improvement has been made, there is still much to be done in the advancement of education amongst the coal-miners; and this is to some extent rendered difficult in consequence of the demand which there is for boys, both down the pits and at the banks. Nevertheless, there should be some more strict regulations as to this than there are at present.

Not only in connection with this accident but also with others, valuable lives would have been saved if there had been two shafts instead of one: a double shaft would also be useful for ventilation and other purposes. No doubt such a work is costly, but that must not be weighed in comparison with the lives and health of the workmen. Arrangements of this kind should be enforced; and, indeed, it would be to the interest of the colliery owners themselves were they obliged to have a double shaft in such a case as this. It would, doubtless, diminish the cost of ventilation otherwise; and, in preventing such accidents as this, much money would be saved. The loss to the owners themselves in the present instance is said to be something like 10,000*l.*

A coroner's inquest, which seems to have been far too much hurried, has been held on the bodies of those who were killed by the falling of the engine-beam, and has resulted in a verdict of accidental death: there must, however, be another and very searching inquiry as to whether the engine was safe and strong enough for its work.

Robert Taylor, the person who was working the engine at the time of the accident, in reply to questions by Mr. Dunn, the Government inspector of mines, says that the engine was going at its ordinary speed—seven strokes a minute. All the working gear was in order: the steam-pressure was 14lbs. to 1 inch; and, so far as he had observed, everything appeared perfect. He then heard the breaking of the beam and the crash, and then ran away to the handles and stopped the engine. On further examination, Taylor said that something had been done to this beam about a month before. "They got her lifted off the gudgeons, and one of the hydraulics broke: it was for the purpose of getting in new brasses. He was witnessing this process at the handles of the pump, and thought, so far as he knew, the pump was lifted 3 inches. After that repair the engine went on as usual." He also stated that, in consequence of the hydraulics falling, the beam came down upon the chocks: he had not observed that the beam had got any injury by this fall.

Coroner—"Was not the cross-head injured by the sudden jerk?"

Taylor—"No, it was only the beam which broke."

Coroner—"Then the beam received no perceptible injury from that?"

Taylor—"She came into the house and broke the cross-head."

This witness could give no idea of the weight the beam would have to carry, but Mr. Dunn remarked, that, with spears and buckets, and the column of water, the weight would be a long way over 20 tons.

Mr. Dunn to Witness—"Did she work well after you got the new brasses in?" "No, sir, she went down on to the old brasses again."

Coroner—"Did the beam appear to be sound?" "No, there appeared to be a hole under each side under the gudgeon."

"Could anything occur in the shaft so as to lay an extra stress on the pump at the time of the accident?" "There might, but I think the engine was working free enough at the time when the beam broke."

The severe frost may have caused the fracture: such accidents frequently take place, as, for instance, the other day at Chatham, as we have elsewhere noted.

As regards the New Hartley beam, the evidence of Taylor shows that it was not without fault: but we must know more respecting this.

We lately gave some statistics respecting the short duration of the lives of coal-miners. The average length of life of these men is only twenty-seven years. The destruction by accidents is enormous; and not only the best (disinterested) scientific opinion, but also the dictates of common sense, show that this can be prevented; and, even should we pay a trifle more for our coals, we must use all means to prevent such awful accidents as have been so frequent and so fatal.

Not only in the North of England, but also in the metropolis and throughout the country, subscriptions for the support of the large number who have been brought to distress by this event are being raised. A large sum will be required to provide effectual aid. The Queen, in the midst of her own trouble, in a way most touching and womanly, has shown her sympathy by anxious inquiries at the very first rumour of the accident, and repeated the kind expressions of her "tender sympathy," in the midst of "her own misery," with the widows and orphans, for whose behoof, moreover, she has contributed 200*l.* towards the sum required, which has been estimated at 17,000*l.* Already more than one half of it has been subscribed. And while those of wealth and rank are assisting, it is pleasant to notice that various classes of workmen are also contributing. The miners of the north are a numerous body, most of whom would not much miss the value of half a day's work. This alone would produce a large sum; and there can be now no objection made to contribute this to the general stock; for three of the workmen are appointed to form part of the committee of management.

THE LATE PRINCE CONSORT'S TOMB.

THE mausoleum for the late Prince Consort was commenced on Monday last. It is to be erected in the grounds at Frogmore, as our readers know, within a short distance of the one lately put up for the Duchess of Kent.

Mr. George Dines is doing the work, under Mr. Humbert's direction, and is getting out the ground preparatory for the concrete foundation.

DECORATION OF THE BUILDING FOR THE INTERNATIONAL EXHIBITION.

THE entire direction of the decoration of the building is committed to the hands of Mr. Crace, who has now completed a specimen of the colouring he proposes to adopt in the great nave. The roof is coloured a light warm grey, with upright scroll ornaments in maroon red rising from the sides to the apex of the roof. The main arches of the nave are painted in a series of panellings in deep red and blue, with margins of fawn colour, relieved with light lines and ornaments, and divided at the joints of the timbers by gilt stars on circles of black. On the crown of each arch is to be inscribed the name of a country; and to avoid the succession of repeated lines of the same colour, variety is produced by alternating or counterchanging the colourings. Thus, if one rib is painted in panels of blue, red, and blue, the next is red, blue, and red; so that by thus varying them, monotony is avoided, and the richness of the whole is increased by the effect of one colour against the other. The arched ribs are formed of three thicknesses of timber, of which the edges of the outer ones are defined by spacings of black and white, while the centre one is painted red.

The series of iron columns supporting the roof will probably be painted pale bronze colour, relieved with light coloured lines, and having the capitals painted red and blue alternately, the raised ornaments being richly gilt. This, however, is not quite determined. The objects to be exhibited will be relieved by masses of red drapery

and the banners of the arms of various countries. We confine ourselves to a simple statement of the intention, until we have a better opportunity to judge of the effect of the work.

THE SMALL APPROACHES TO THE GREAT EXHIBITION.

We begin to despair of anything satisfactory being now done in the way of opening up convenient or even decent approaches to the International Exhibition building. The Brompton-road—the highway to South Kensington—which must and will inevitably be widened ere very long, is still untouched, and but too likely to remain as it is, at least till the Exhibition time shall have come and gone, although that is a time when the widening of this main approach to it would have been of immense importance—indeed, of absolute necessity to the public and strangers from all quarters, whose anathemas on London thoroughfares will be much more forcible than pleasant. Moreover, the success of the Exhibition may be materially interfered with by the difficulties of approach to it; and these difficulties will often turn the scale against a projected visit, especially after the first whet of curiosity has been satiated.

All this is the more to be regretted considering how easily and cheaply both the Brompton-road and the road across Hyde Park might be opened up. Along the greater part of the Brompton-road, from Sloane-street to the Museum, there are strips of waste ground actually bordering the road, and awaiting a mere levelling with pick and spade, and covering with road metal, to complete a spacious thoroughfare, to the great improvement of the adjoining house property itself; the owners of which, so far from presenting obstacles in the way of effecting it, ought to be glad to have it done, and aid in its accomplishment. All this we urged previous to the 1851 Exhibition; but, if the improvement were advisable then, how much more so now, that the road in question actually constitutes the main approach from the whole metropolis to the Exhibition building? The facility with which communication from Oxford-street and the Uxbridge-road might be opened up across Hyde Park, too, we have so often pointed out that all we need now do is express our great regret that it should be longer delayed. It would be like the opening of a road through the impenetrable bush dividing two populous colonies; for such really are the districts divided, as to public conveyance, by Hyde Park.

The only hope of this important diversion of the traffic which is certain to choke up the narrow way by Knightsbridge, during Exhibition time, rests between Mr. Cowper and the committee of parishioners appointed to wait upon him on the subject, and who have reported the result of their consultation with him. That result may here be given in their own words:—

"The committee, therefore, are unanimously of opinion that, as the first commissioner does not feel justified in giving up the land necessary for making the road; and as, when made, it would remain under the control of the first commissioner, and be limited to such traffic as he might consider expedient; the Government ought to provide the necessary funds.

As it is evident from the foregoing statement that no permanent road will be constructed without the sanction of Parliament; and as there is no probability under those circumstances of its being open in time for the Exhibition, the committee are strongly of opinion that some arrangements should be made for a temporary road during the season of the Exhibition of 1862."

As soon as the report was signed, a copy of it was sent to the chief commissioner; and after an interval of some days Mr. Cowper sent a communication to the special committee, in which it is proposed to construct the road forthwith, but subject to a toll to be levied until the cost of the road be defrayed.

Since the above was written, we understand the matter has been settled by the interposition of the Society of Arts, who will find the money by issuing debentures, and look to the tolls for reimbursement.

KIMPTON CHURCH.

This fine Early church, which withstood the rude use to which it was put by the Parliamentarians, as a stable, in the seventeenth century, has just been re-opened, after having undergone extensive works, in the way of restoration and enlargement, since 1851.

The re-seating and perfect restoration of the chancel and private chapel were carried out by Lord Dacre, of the Hoo, in the parish. The re-seating of the nave and south aisle followed, through the exertion of the Rev. Frederick Sullivan, the vicar, with extensive works in repairs and the restoration of the internal walls and stonework, which was very much mutilated, and, in parts, unsafe. The old screens, with the chancel seats, are restored. The stalls were formerly richly decorated with paintings: the seven acts of mercy were found, which, unhappily, could not be preserved; but some earlier work at the east end of the chancel was discovered, and remains in an almost perfect state. Destroyers defaced with thick coats of whitewash all the coloured decorations; and over this, under the soffites of the arches, they stencilled in oil-colour the different characters of their playing-cards. Thus, even now, faint outlines can be traced of aces, clubs, hearts, and spades, which have so sunk into the walls as to defy removal without wanton destruction. The Commandments, as originally directed by the canon of Elizabeth, were found over the chancel arch. A few of the origiual encaustic tiles remained. These are re-laid, and the pattern preserved in the new tiles. The remains of a very singular cist, as is supposed, containing bones and wood within, were found in the churchyard, formed of embossed tiles, filled in with colour, somewhat resembling majolica ware, of beautiful design.

The wants of the parish requiring an increase of accommodation, a new aisle on the north side of the church has been built. Much remains yet to be done to the walling. The whole of the external masonry is in a sad state of decay. The chancel and nave are covered with flat modern roofs, plastered underneath; whilst the south-aisle roof, which is a good specimen of Perpendicular work, has undergone almost as much repair as it will bear. In order to obtain light, from the accumulation of the earth and the rising ground behind; and to secure pitch enough for the tile roof; it was necessary to carry up two gables in the north wall, which are each filled with windows of three lights, and two smaller windows between. A two-light window fills the east wall. The roof of this aisle is of fir, enriched with carving, and stained. The pulpit and prayer-desk are of oak, and handsome in design. A new font has been added, and the tower inclosed by a screen.

The work has been carried out under the direction of Mr. Joseph Clarke, architect; and executed by Messrs. Warren & Son, the contractors, of Hitchen.

MEASUREMENTS AND TENDERS.

THE SYSTEM PURSUED IN GLASGOW.

At a meeting of the Glasgow Architectural Society, held on the 20th of January, Mr. Alexander Thompson in the chair, Mr. James Howatt read a paper "On the Art of Measuring, and its practical bearing on those concerned." He said the art of measuring was an ancient and honourable occupation; and an onerous occupation, too; as was taught us by the experience of more than a quarter of a century. Some men scouted the need of a measurer, and declared the fees paid to him as lost money, which was a mere cobweb covering a great truth. This idea should never be held by those about to build; as the employment of a measurer was the cheapest method of executing a difficult problem, and the surest method of arriving at truth. Another cobweb that might be easily brushed away was a feeling on the part of many that the duties of a measurer were very simple, and might be accomplished by any one. And it is not only the ignorant but the would-be wise who act upon this assumption. Mr. Howatt gave instances of inaccurate measurements to illustrate this part of his subject; and then proceeded to demolish another cobweb; which consisted in the assertion, sometimes made by those who seemed to be utterly ignorant of the amount of labour expended on measurements and estimates, that the fees were too large. He spoke advisedly when he said that many pieces of work did not pay for the actual time employed on them, much less remunerated them for the years of preparation and expense necessary to qualify a measurer for his duties; while in no case were they more than adequately remunerated. Without entering into details he would say that, in his opinion, the duty of a measurer in preparing estimates was to lay down broad and well-digested principles, which he must carefully and consistently carry out; and not, as in a schedule which very recently came under his observation, to have one principle for measuring a front wall and another for measuring a back wall. Were this done they would not have tradesmen saying that they must know the measurer before they could know the mode of measurement. Again, he held that, in preparing his measurement, a measurer mu use the same care that the principles of th estimate be accurately carried out therein. kindred feeling ought to exist between arch tects and measurers from the close connection their duties; and a like feeling of respect shoul exist between measurers and contractors; neith the one nor the other usurping a position he is n entitled to hold. Finally, on this head he woul say to all—architects, measurers, and contracto alike—in their dealings with each other, "b courteous."

Mr. Howatt then brought under the notice o the society the necessity of having for every build ing of any importance detail plans and a specifica tion, which, it seemed to him, were quite indispen sable to a proper and correct estimate. They al knew what mischief occurred when measurement exceeded estimates to any large amount, and th consequent difficulties in settlement. Sometime they had plans so small and minute, that the line (say in the cornice) must bear an unheard o weight of interest, and the stating a size and girth for these puzzle the most astute measurer. Ye according to such size and girth only was the con tractor bound. The architect sometimes con sulted these, and made his details to correspond therewith; but oftener, without any reference t them, he set his brains to work and made out the most elegant moulding he could. Now, were detail plans furnished for the more important part of the work, this would in great measure be avoided, and the constant outcry for heavy cube material in place of the lighter material supposed by the contractor to be required, would be put down at once, and the tantalising examination of blue ink prices very much avoided. He was aware that this was not always the architect's fault: he knew that some proprietors were un reasonable, and demanded plans which would require to be got up by types and steam, instead of by the creative genius of the brain and pencil. Nevertheless, if they (architects) set themselves to demand time for the proper execution of their work, and to show the loss proprietors would sustain by not having proper detail plans and a specification, they would gradually get this matter fixed in the public mind as something conducive to cheapness and comfort. Cases of violation of good taste in buildings, as well as the marring of particular forms consonant to the period the building is intended to represent, result from this,—not from any want of ability, but from want of arrangement at the commencement of the work. Moreover, this careful preparation of the plans would render unnecessary the great changes often introduced into buildings, which often placed measurements and estimates in contrast to each other. The terms used in specifications should also be clear and well defined. After throwing out some hints unfavourable to the employment of incompetent measurers, Mr. Howatt came to deal with the question of "no after-measurement." There were many difficulties to contend with in preparing an estimate from plans; but one great objection to "no after-measurement" was that it induced, on the part of the contractor, a niggardliness of material and workmanship that was plainly prejudicial to the work, as everything he could save was clear gain to him; while, in the other case, all contractors knew that any little more or less than the quantity provided in the estimate would be re-measured, and the value given. He had, therefore, no inducement to scrimp materials and work, being assured that the middle-man would give him what was the true meaning of the estimate in his after-measurement of the work. He would repeat that nothing could be more honourable, as between man and man, than a carefully prepared measurement, priced upon the basis of that agreed in estimate.

A very animated conversation followed. Mr. Honeyman considered that the present system of making contracts in Glasgow was in many respects highly objectionable. He complained that the schedule of quantities had been allowed to usurp the place of the specification. Practically, the specification was of no use except to guide the measurer; and the result was that many architects, including some of the highest standing, had discontinued making out specifications altogether; contenting themselves with merely giving the measurer some general instructions, and leaving the details in a great measure to his discretion. It thus happened that the contract was based on a document too meagre to serve the proper purpose of a specification, and yet in some respects so minutely specific that, according to the present system, it rendered the specification to all intents and purposes a dead letter; and hence many dis-

greements, and extras in the final measurement. He was of opinion that the schedule should be simply a table of quantities; it being the contractor's, and not the architect's business, to see that it was sufficiently detailed to enable him to tender for the work in accordance with the plans and specification.

Mr. Wilson concurred with Mr. Honeyman in considering that the schedule, according to the present system, embraced either too much or too little. He thought it should merely give the quantities. He considered that the measurer stepped completely beyond his province when he described any portion of the work on his own responsibility. He thought such a course should not be tolerated.

Mr. Kennedy approved generally of the present system. He thought nothing could be fairer for all parties than the practice of remeasurement when the work was completed.

Mr. Hair, Mr. McCoard, and other contractors, complained of the want of uniformity in the modes of measurement adopted by different measurers, which often led them into mistakes, and was a constant source of annoyance.

It may be observed that the usual practice in Glasgow is this. The plans and specifications, or explanatory notes, as more generally happens, are given by the architect to the measurer; who, from these, prepares schedules of the quantities of the various works. These "schedules" are then issued to selected tradesmen, to be returned to the architect by a certain date, "correctly cashed and summed," and accompanied by letter of offer. In certain exceptional cases one contractor takes the whole work; but, as a rule, a separate contract is made for each department. Six may be regarded as about the average number of schedules for each department of the work issued; and the lowest offerer is considered entitled to be accepted. Each schedule contains the following clause:—"The work to be measured when finished, and whether more or less than now estimated, to be regulated by the prices contained in this schedule and corresponding slump sum in letter of offer." The said letter of offer forms part of the schedule, and it binds the contractor to execute the work according to the plans and specification thereof, by ——, architect, *in conformity with and to the extent of the above estimate, for the sum of* ——." When the work is finished, it is again measured, and the contractor's account is made out in terms of the above provisions; and the measurement is generally twice as large a document as the original schedule. Such a system seems to open a wide field for carelessness, if nothing worse, in preparing the original estimate, and dissatisfaction when the cost is finally ascertained.

SANITARY MATTERS.

Wolverhampton.—At the meeting before alluded to of the Wolverhampton Town Council, after considerable discussion, the resolution adopting a thorough system of sewerage for the town, at a total cost of 35,000*l.*, was agreed to; but with the provision that the works should not be commenced until January, 1863; and then to be proceeded with to an extent not exceeding the expenditure of 7,000*l.* a year. The town has been in a ferment for several weeks past, during which the "battle of the sewerage" has been fought at Board and other public meetings. The postponement of a vital work until the commencement of another year, and then extending it by paltry fibblets over a period of five years, is scarcely warrantable in an important town like Wolverhampton.

Winchester.—At the usual weekly meeting of the Drainage Committee, the chairman said he could not pass over one monstrous misrepresentation which had been publicly made as to the healthiness of the town; namely, that "the mortality for five years past has been but 18 in 1000 of the population!" Now, this period of five years is just that for which "the gentleman holding a high official position in this city" obtained the facts published from the office of the Registrar-General. They would scarcely believe those facts show the mortality of the five past years have been 22 per 1,000 instead of 18, as the adversary of sewerage asserts. Such, however, is the actual truth. On his statement, the deaths in 1856 were 1 in 45; in 1857, 1 in 45; in 1858, in 42; in 1859, 1 in 40; and in 1860, 1 in 55. The average of those five years was, therefore, in 45 2-5ths, or about 22 per 1,000. He would leave it to the committee to judge whether such a misrepresentation as that was pardonable. *The Medical Circular* draws a sickening picture of the state of Winchester as a city "filled with stinking cesspools, the contents of which ooze up under the hearthstones, and exhale their fœtid effluvia into the atmosphere." The Hants County Infirmary, which stands in this city, is in a state of dilapidation, and defective in accommodation; penned in with dwelling-houses; undermined with cesspools; and cannot be drained except upon a comprehensive plan, that shall embrace the sewerage of the entire city. The patients are consequently placed under the most unfavourable conditions; and the medical officers, one and all, complain of the disadvantages of the building, and particularly insist upon the paramount necessity of improving the drainage. The Court of Governors, therefore, have just held a meeting, at which they have resolved to remove the hospital out of so filthy a town, and have appointed a building committee to see to it. The cost of an efficient system of drainage, as remarked by the *Hampshire Independent*, would be the merest trifle, compared with the loss the people of Winchester must ultimately sustain if they persist in their present course of obstinacy and folly.

Salisbury.—At the meeting of the Winchester Drainage Committee referred to above some statistics as to sanitary progress in Salisbury were brought forward. These statistics show that previous to the drainage of the town the number of deaths was 27·7 in 1,000,—amongst the worst in the kingdom; while since the drainage was carried out the mortality has been less than the average of the whole kingdom, having last year reached no more than 14·6 in 1,000, which is actually below that of the healthiest agricultural district. And this, be it noted, cannot be a mere accidental coincidence of low mortality with drainage because the result is general and frequently occurs in cases of efficient drainage. The drainage of Salisbury cost 13,000*l.*, and the water-supply 14,000*l.*; and the whole is paid up by a rate of 1s. 3d. in the pound.

St. Helier's (Jersey).—It will not be pleasant tidings to those who like Jersey as a place of sojourn, that typhoid and typhus fevers have been prevalent for some time at St. Helier's, and this, according to the *Jersey Times*, without a single step having been taken to get rid of it permanently. There is, it appears, an absurd multiplication of offices in the same individual, and to this is ascribed the neglect, as well as to ignorance. The state of the hospital, too, must be very bad, since more than 33 per cent. of the fever-patients have died there, while only 8·33 per cent. have died when treated at their own homes by the dispensary medical officers. The high rate of mortality in the hospital, however, has had no influence as yet in inducing the establishment of even a separate hospital for fever patients. In the comparatively small town of St. Helier's there have been, it is said, nearly 400 cases of typhus fever, or a new one every day, during the past year.

PROVINCIAL NEWS.

Reading.—The new borough police buildings are now approaching completion. Considerable disappointment, says the local *Mercury*, has been felt at the defect in the large hall of the new assize buildings, which renders it unfit for any public meetings. On the occasion of the county meetings for passing a vote of condolence with her Majesty the Queen, the echo was so great that few could distinctly hear what was said by the different speakers.——The windows, frames, and glass have now been put into the Abbey Gateway, and they improve its exterior aspect. The old timber which was taken out of the building when being pulled down, some of which was of immense thickness, was found to be in an excellent state of preservation, beautifully grained, and almost as hard as iron; and required great labour to cut it up and refit it; but the work was successfully carried out by Mr. Matthews, builder.

Reigate.—The new public hall has been opened. It stands on the south side of High-street, and is in the Gothic style. The material is native firestone (presented by Lord Monson from quarries on the Gatton estate), having Bath stone dressings, relieved with various coloured bricks. The façade to the High-street comprises the principal entrance to the hall and corridor, with a shop on each side. The main hall, which is capable of holding 500 persons, is slightly raised above the street level, and is 70 feet long, 35 feet wide, and 36 feet high, and has an open roof, the main timbers of which are in sight. It is lighted by twelve windows, the upper part of each filled with metalwork, and made to open, for ventilation, upwards of 20 feet above the floor. There is a timber gallery at the north end, approached by a staircase without entering the hall. The warming is provided for by two of Pierce's pyro-pneumatic stoves, which supply warm air. The gas-lighting is by means of a number of small pendant star burners. A corridor extends along the west side of the hall, to which it communicates, affording access to the ladies' retiring-rooms and the lecturers' or anteroom. A staircase leads from the entrance-hall to the ground-floor, which is 13 feet in height, and comprises mechanics' institution, with classroom; a museum, and Freemasons' lodge rooms; the three large rooms being each 35 feet long and 21 feet wide. The whole of the interior woodwork is executed in yellow deal, slightly stained and highly varnished. Mr. William Carruthers, of Reigate, was the builder; and the designs were prepared by Mr. John Lees, of Reigate, architect. The cost was about 3,500*l.*

Cannock (Staffordshire).—On the 16th, the new public rooms, a structure erected under the superintendence of Mr. Johnson, architect, were to be opened by a *soirée*. The building contains a room capable of seating 400 persons; a smaller one, which will accommodate 150; a library and reading-room; and a ladies' waiting-room.

Stoke-on-Trent.—The medical committee of the governors of the North Staffordshire Infirmary having felt it desirable, from the unhealthiness of the present site, and the fact that the building is cracked and undermined, to erect a new infirmary, the general committee advertised for a site of ten to twenty acres, and selected a piece of ground near the "Mount," and adjoining the road from Stoke to Newcastle, which was offered for 300*l.* an acre, and recommended it to the governors for purchase. At a recent meeting the governors received the report, but resolved that it should be printed and distributed to each governor; adjourning, meantime, for two months.

Stockport.—The following is a statement, from the local *Advertiser*, of the weights of the various materials used and removed in the construction of the new covered market:—

	Tons.	Cwt.
Earth removed	560	0
Stone	143	0
Brickwork	25	0
Pipes and brickwork, &c. for sewers	106	0
Boulders taken away	500	0
New setts	54	0
Cast and wrought-iron	136	0
Timber	52	0
Slates	71	0
Glass	15	0
Tiles for floor	197	0
Stench traps	1	12
Paint	1	10
Total	1,862	2

Birkenhead.—The Wallasey music-hall, at the corner of Claughton-road and Atherton-street, is a parallelogram with a frontage to the former of 52 feet and the latter of 112 feet. There are four principal entrances, two to Claughton-road, one to Atherton-street, and one for the musicians, performers, and officials, communicating directly with the different parts of the building, platform, &c. &c. A covered porch, approached by a flight of steps, leads to a vestibule on either side, communicating with the entrance hall and grand staircase. Midway in the hall is a corridor leading to the supper-room, which is 48 feet by 30 feet, and of proportionate height. It is quite free from pillars or other encumbrances. On either side of the corridor last named are cloak-rooms, each supplied with lavatories, conveniences, &c. Adjoining the supper-room is a room designated the serving-room, the purpose being that of an ante- or butler's-room. The grand staircases at the entrance-hall consist of a double flight, one on either side, the bannisters of iron, with the monogram B M H interlaced in the foliage. These lead to the upper hall or anteroom leading to the great hall. The great hall is approached by two doors of great height. The great hall platform is raised, and will contain fifty of a chorus and thirty-five musicians, in addition to the pianist and principal singers in front. The style is Romanesque. The great hall is lighted by three sun-burners of sixty-three lights each. The building is warmed by an apparatus on Dr. Arnott's principle. The decorations were supplied by Mr. Dawson, of this town, lately the managing assistant of Herr Sang, of London, who decorated the Royal Exchange, Carlton Club, and other principal metropolitan buildings. The design was selected out of those by sixteen competitors, and the architect was restricted to 4,000*l.*, which included the lighting and warming, the decorations, and the architect's commission. The architect was Mr. Walter Scott, of Liverpool; and the builder, Mr. J. Hogarth, of Rock Ferry.

Scarborough.—It is in contemplation at Scarborough to erect a large hotel, club, &c., on the east side of St. Nicholas's Cliff. The probable cost

of the building is stated to be 87,000*l.* at the most; and this sum will include not merely the cost of a hotel, with every modern improvement, but also the price of the site, the cost of extensive club and billiard-rooms for visitors and residents, similar to those at Bath, Cheltenham, and other places of fashionable resort; the decoration and furniture of such hotel, club, and billiard-rooms; and a terrace carried forward to the foreshore, under which will be erected a row of some fourteen three-storied houses and shops. Should a limited company be formed to carry out these improvements, 100,000*l.* is the most amount of capital that will be created, and the greater portion of this sum is already provided.

SCHOOL-BUILDING NEWS.

Long Ashton.—The new range of National school buildings just erected in the village of Long Ashton has been formally opened. The site is about half a mile beyond the parish church. The architect was Mr. James Wilson, of Bath. The building is in the Early Decorated style, of Nailsea pennant stone, with freestone dressings; and comprises dwelling-house for the master and mistress; a boys' school, 50 feet by 20 feet, capable of accommodating 100 boys; a girls' school, 46 feet by 18 feet; and to each school is attached a class-room. The boys' school has an open roof, and is lighted with seven triplet windows, and a circular window filled with stained glass. The girls' school is also open-roofed, and is lighted with three triplet windows. The boys' school is surmounted by a bell-turret, supported by four Purbeck marble columns, with carved capitals. The whole of the work has been carried out by Messrs. E. & J. Tucker, of Long Ashton, builders. The cost of the building was 2,200*l.*; and it was opened free of debt.

Wattisfield.—In answer to an advertisement for tenders for building the parochial schools at Wattisfield, eleven tenders were received, ranging in amount from 380*l.* down to 306*l.* The tender of Mr. Fake, of Bury, for 320*l.*, was accepted; the estimate of the architect, Mr. Johnson, of Bury St. Edmund's, being 350*l.* The general plan comprises a school-room, 33 feet 6 inches by 17 feet, to contain sixty scholars; having two fireplaces so placed as to admit of the room being divided by a curtain or otherwise, between the boys and girls; a class-room, 11 feet by 10 feet, with gallery to hold two classes; and two lobbies for boys and girls, which are obtained by the school roof being continued down between the projecting class-room and teacher's residence; which latter, however, is not to be built at present, in consequence of the want of sufficient funds. This lean-to roof is broken by an ornamental bell-gable. The school-room is lighted by five dormers in the roof and a two-light window at the east end. The class-room is lighted by a two-light window to the west; each lobby having a small window; all of which will be glazed with Hartley's patent quarry glass. The roofs will be open-framed in deal of high pitch, stained and varnished, and plastered between the rafters. The design, in the early fourteenth century character, is to be carried out in red bricks with white brick dressings.

STAINED GLASS.

Wrotham Church. — Another new memorial window has just been erected in the parish church of Wrotham, at the west end of the north aisle. It is of two lights, and the facsimile of the old one, which it replaces; the stone work being executed by Messrs. Sutton & Vaughan, of Maidstone. The subjects are the Raising of Jairus's Daughter and the Parable of the Ten Virgins, both by Messrs. Hughes & Ward, of London. In the quatrefoil above is a group of three angels, the centre one bearing a scroll on which are the words "Blessed are the dead which die in the Lord." In the tabernacle work, the figures of the Four Virgin Martyrs—S.S. Cecilia, Agatha, Perpetua, and Catherine, are introduced. The window is the gift of the rector's family.

New Church, Bramcote (Notts). — A stained glass window has been executed by Messrs. Heaton, Butler, & Bayne, of London, for the recently-consecrated church at Bramcote, in memory of the late Miss F. T. Longden. The subject of it is the Crucifixion, with the figures of the Three Maries and St. John on either side. It was erected for Mr. Sherwin Gregory.

Chester Cathedral.—The two windows which it was resolved to erect in the south aisle of the cathedral, to the memory of the late Canon Slade, are now finished. It was proposed to illustrate the Old and New Testament dispensations, more especially with reference to the calling and practice of the two ministries. One window, accordingly, is filled with subjects from the Old Testament, and the other with subjects from the New. Those in the Old Testament window are—1. The dedication of Samuel to God; the panel beneath containing a representation of the altar of burnt offering. 2. Samuel called by the Angel to minister, and coming to Eli; beneath, the priest offering the various sacrifices. 3. The gift of the spirit of prophecy by Elijah; beneath, the Angel touching the lips of the Prophet with a live coal. 4. The reward received by Elijah in being taken up to heaven before death; beneath, the special care of God over his people, in Elijah being fed by the ravens. The New Testament window has—1. The baptism of our Saviour; beneath, Christ blessing little children. 2. The Sermon on the Mount; beneath, our Saviour in prayer. 3. Christ delivering the charge to St. Peter; beneath, the baptism of Cornelius the Centurion. 4. The pastor's final reward, our Saviour conferring the crown of glory; beneath, St. Paul preaching,—the lower compartments thus typifying respectively Blessing, Prayer, Baptism, and Preaching. The windows were executed by Mr. Wailes, of Newcastle-upon-Tyne. The Dean and Chapter provided the new tracery of each window. This aisle, in place of the debased style of windows which it formerly had, is now filled with adaptations from the Decorated windows of St. Oswald's. Mr. Wailes was paid for the windows 300*l.*

CHURCH-BUILDING NEWS.

Bromley (Middlesex).—The mission church and national schools of St. Michael and All Angels, Bromley, were opened by the Bishop of London on the 28th of December last. The building is 78 feet in length by 35 feet in width, and is in the Pointed style of architecture, with an open-timbered roof, divided into six bays, with principals and ribs springing from stone corbels of varied design. The whole of the timbers and boarding of roof are stained and varnished. The height of the edifice is 42 feet from floor to ridge. At the south end on either side is a large class-room communicating with the principal room by folding partitions and doors, which are thrown open for Divine service, and give a total accommodation for 650 adults and 350 children on the week-day. The west class-room is fitted with a children's gallery. Adjoining the east class-room are a vestry with porch, lavatories, and conveniences, which latter are fitted up with Kinniple's patent apparatus. There is an entrance with porch at the north end of the main room. The buildings are of brick with ornamental string courses in red bricks. The arches to windows are in coloured gauged bricks of varied designs. A bell-cote rises from the side of the south gable, surmounted by a gilt cross. The walls, internally, are lined with white bricks and pointed, relieved with coloured brick gauged arches to windows and recesses. The recesses on the eastern side (from which no light could be procured) are filled up with the Beatitudes, from the Sermon on the Mount, painted on zinc by Mr. Castell, of South-Molton-street. Bath stone is used for mullions to windows, copings, water-tables, &c. The floor of the principal room is paved with wood by the Metropolitan Wood-paving Company. The room is heated by one of Gurney's patent stoves, and lit by two large sunburners made by Mr. Evans, of London Bridge. The whole has been carried out under Messrs. Morris & Son, of London, architects, by Mr. Brown, of Ratcliff, builder, at a cost, including all fittings, of about 2,200*l.*, exclusive of the site.

Crayford (Kent).—The church of this place was re-opened on the 1st of the new year, after an extensive restoration and reseating, under the directions of Mr. Joseph Clarke, the diocesan architect. This church was before restored by Sir Cloudesley Shovell, the famous admiral; a great fire, happening in his time, doing considerable damage, and leaving traces which were found in prosecuting the present works. Originally a Norman church existed on the site, with conventual or other ecclesiastical buildings round, the foundations of which were found, and remain under the present floors. There was, then, no doubt a church of the usual arrangement, with a nave and aisles; but in later times these disappeared, and the space between the outer walls, north and south, was equally divided, and a third Pointed arcade built, thus forming two naves. The original Third Pointed chancel, of which portions remain, was left with the singular and almost unique arrangement, in England at least, of a central row of shafts with the last half arch of the arcade dying or butting on to the hall, over a low depressed chancel arch. Considerable trace of the original work remain; and these, we under stand, have been preserved. Very little traces o colour were found, but some singular models o small shafts, with bases and caps, in gypsum, or coarse kind of plaster, of Early Third Pointed work, turned on a lathe, were found, built in, i the centre of a Third Pointed wall, showing they had been used as a guide to the workmen in cutting the orginal masonry, as is supposed, of the sedilia. The greater part of the internal masonry has been restored; and the whole church, including the Draper and south chapels, wherein some of Sir Cloudesley Shovell's family are buried, re-seated with benches. The floors have been levelled. All the vaults, of which there are many, are ventilated by a series of pipes carried through the walls, and the whole surface covered with concrete. The masonry of the east window is new, and filled with stained glass, by a lady in the parish, executed by Messrs. Ward & Hughes. Another window in the north aisle has been filled with glass by Messrs. Clayton & Bell, the gift also of a lady. A new font has been presented. Messrs. Price were employed for the heating, and a new clock, by Benson, has been added. The gas fittings are by Messrs. Skidmore, carried out in a novel manner. The cost of the works will amount to 1,500*l.*, and they have been done by Messrs. Miles & Melton, of Dartford. The exterior of the church, with the roofs of the double naves, is left for future restoration.

Wrecclesham.—On New Year's-Day the church here was re-opened by the Bishop of Winchester. The enlargement will add about 100 sittings to 360. The interior has been transformed by the rebuilding of the chancel, which has been lengthened considerably, and by the building of a new south aisle, separated from the body of the church by Gothic columns and arches. The pews have been remodelled, a new pulpit and reading-desk provided, and an organ, by Bryceson, replaces the harmonium formerly used. The cost of the whole, exclusive of the organ, is 780*l.*, of which 630*l.* have been raised. Mr. Howell, of Guildford, was the architect employed, and the work has been executed by Messrs. Goddard, of Farnham.

Salisbury.—Workmen have been engaged in erecting a scaffolding between the four columns which support the tower and spire of Salisbury Cathedral, for the purpose of enabling Mr. Scott to examine the several parts of the structure, in order to ascertain the best means of repairing and strengthening it. It has become necessary to expend, in repairs and in effecting improvements conducive to the security of the fabric, a sum amounting to 10,000*l.*, or thereabouts; and this sum is to be provided and expended by the commissioners, under the superintendence of, and according to plans and specifications to be prepared by, the architect of the dean and chapter. It may be remembered that the spire of this cathedral, which is 400 feet high, has for years past been some 22 inches out of perpendicular; arising, it is supposed, from a settlement at some distant period or other; and that the tower and spire were not a part of the design when the edifice was first built. It is thought that their erection was the "improvement" for which the materials of Old Sarum were used by virtue of letters patent granted by Edward III. to Bishop Wyvil and the dean and chapter in 1331.

PUBLIC MEMORIALS.*

I am going to ask your attention to a few remarks on a subject both of professional and national importance. I need not, I think, take up your time in proving that such is the case.

By no works is the state of art in a country more judged of by foreigners visiting our metropolis, than by the last new statue, column, cross, or any other form of memorial set up in our streets.

No work of art is more sure to be sought out and visited by strangers and foreigners than is the memorial, of whatever kind, that has been recently erected as a testimony of the respect and gratitude of the nation, to a great and good man, known not only in this country, but all over the continent, or, perhaps, throughout the world.

Every one that has heard of him (and, perhaps, many have much admired his character, and taken a daily interest in his actions while he was living) is sure to be anxious to see what sort of memorial has been reared in honour of him.

* A paper read by Mr. Randall Druce, before the Architectural Association, on the 17th of January.

Is it worthy of the man to whom it is erected? s it worthy of the age which he helped to en- ghten and improve? Is it calculated to keep n the minds of those who see it his character, ircumstances, and history? If to celebrate an vent, and not an individual, does it do so vorthily and distinctively? Does it, in fine, as uch as possible fulfil in every variety and par- icular the objects that such a memorial ought to nd might fulfil. Such questions, varied as the adividuals who gaze at them, but mostly to such nd and purpose, either pass silently through the ninds, or are given audible expression to by the lifferent classes of spectators; and, according to he answers given to them by the memorials hemselves, are the opinions of the thinking men f the day in all countries to a very large extent ffected, as to the state of art in the country, nd as to the capacity of the people for producing reat works of art.

Independently of the public attention naturally alled to works of art of this kind by their asso- iation and connection with men of, perhaps, ontinental reputation, or with events of, perhaps, nternational importance, public memorials are ore open to public criticism, and more liable to e taken as examples of the art-progress of the ountry, because the sites that are or ought to e chosen are naturally the best known, the most ublic, and the most conspicuous,—the public quare, the public gardens, the public parks: they tand out in front of the public buildings, may be he only object of art in a public park, or erected n the only resting and breathing place in a public rossing in a public street.

But wherever placed they are always objects of uriosity and interest, for some time after their rection, to the inhabitants of the city or town n which they are erected. And to foreigners and ther visitors to that city or town, they become rom henceforth special objects and things that nust be seen, as long as that city lasts. Is it ot so with such memorials abroad and in our wn country towns that have not been before isited in the minds of those whom I am now ad- ressing? Do not the memorials in the public treets or in the churches have much to do with he character for art given, by each of you, to he country or town you visit? If so, it is an mportant subject, both to the profession and to he nation. I will endeavour, therefore, to lay efore you the principal things that I consider ecessary to be thought of and kept in mind, oth in selecting and designing public memorials. think that the designs for public memorials hould always be selected by public competition, y which I mean one open to all the country, and ot a limited one, in which some half dozen men re invited to compete.

I have been led to this opinion for the follow- ng reasons:—That public memorials, as usually rected, have the special peculiarity of being on debateable land, between architecture and sculp- ure, and properly belonging to both; that, there- ore, an open unlimited competition has the ad- antage of putting before the promoters of the cheme in a clearer and a more impartial way than ny other mode the respective merits in that par- icular case of the treatment of the subject in iew, either in an architectural or a sculptural anner, or architecturally designed, combining oth; that it affords to those who are to have the anagement of it and the selection of the mode f carrying it out the opportunity of receiving uggestions as to the peculiar fitness of some par- icular selection in a special case,—happy sugges- ons, perhaps, that may altogether alter the mode which the money subscribed is to be spent, and et more fitly show respect to the memory, and nd down to posterity the peculiar characteris- cs, of that peculiar man, than any other mode hat could be devised.

I think it well that the committees in these ases—but in these cases, of course, only—should ot too closely specify the peculiar mode of struc- re that they propose to raise.

I say that the precise kind or form of building ould not be too closely specified only for this ason, because I am of opinion that, were the estion, whether architectural or purely sculp- ral memorials should be selected, decided after ceiving the designs, and not before, in a ort time those erected for the future would be uch improved, and we should have a much greater ance of seeing in them that happy mixture hich we now seldom see, and which I cannot but ink desirable.

Public memorials may consist of any out of a eat variety of structures; many buildings that e not necessarily so in themselves becoming so being selected as suitable in peculiar cases; and few of us can otherwise than think that in raising some useful institution or public building, devoted to a special purpose, but of a nature to be useful to and promote the prosperity and well- being of the nation at large, the respect and gra- titude of the nation are better shown than in any other way;—that in this way, more than in any other, are the peculiar merits, peculiar labours, and peculiar character of the man recorded to whose memory and honour it is erected.

Can you better honour and show forth the peculiar character, labours, and merits of a scholar than by founding a school or college, and calling it by his name?—or a philanthropist or public benefactor than by founding an hospital, baths, or other building of public use and benefit?—or by furthering in any manner the same objects which he in his lifetime laboured to advance in his native town, or the town in which he dwelt, and which he loved to improve and benefit, or in a place in which it is more wanted,—a deviation from the ordinary rule which you know would be in accord- ance with the spirit in which he acted when he was alive?

So we will first consider the peculiar modes of treatment necessary to be kept in mind in this mode of raising a memorial to a public man by raising a building and institution of the kind that most harmonizes with his tastes, objects, and labours during his lifetime.

In this case we must take care not to lose sight of the special object of the founding, in the useful objects of the building. A statue of the person to be kept in remembrance should be placed in a conspicuous position in the building; and in the lower portions bas-reliefs should be introduced where they can be well seen; representing his struggles, his labours, and the peculiar good he did; and the interior may very appropriately have among its decorations views of the house in which he was born, the places most associated with him as the scenes of his successes or his useful labours; while other frescoes on the walls may be well filled with a series of historical scenes in which he acted a prominent part. While, if he was a successful inventor, or helped materially to develop or improve some useful branch of manufacture, illustrations of the peculiar invention, peculiar mode of manufacture, and representations of the particular art-manufacture produced, may, if skil- fully treated, help to fulfil the historical and me- morial purposes of the building, and also to vary and enrich its decoration.

The commemoration of any great and good public man by a single statue representing him, executed in either marble or bronze, and placed on a pedestal, is a custom which we find among the Greeks and Romans, and which we have derived from the Renaissance architect, who revived the custom of the Romans with their architecture.

In the various museums at home and abroad, we find some very beautiful examples of such, of emperors and citizens, graceful and dignified; mostly, however, by Greek artists.

In the Museum at Naples are some fine exam- ples of Roman equestrian statues. The Renaissance sculptors took these as models; as, for instance, Donatello is said to have taken the celebrated bronze equestrian statue of Marcus Aurelius, in the Capitol at Rome, as his model for his fine statue of Erasmo da Narni, commonly known as Gatamelata, executed for the Signoria of Venice, about 1450.

This was the first equestrian statue of modern times: a cast of it is to be seen in the Crystal Palace. It is a fine example of its class, and one well worthy of study. Our own Charles I. is another early and fine example; as is, also, the pedestal of the artistic treatment of that im- portant member of this form of memorial.

This designing and treatment of the pedestal is one of the weakest points in our modern sculp- ture memorials. Sculptors, at the present time, seldom or never being employed as architects; and, therefore, not considering it necessary to study architectural composition, as did sculptors in the Renaissance times; their pedestals generally show this, greatly to the detriment of the whole composition.

As commonly erected in our squares and streets, a single statue on a pedestal, without anything on that pedestal to indicate what the occupation, attainments, and achievements of the person re- presented were, always appears to me but a bare and empty way of commemorating a great man, or of representing the creative art of the country. I would at least add four bas-reliefs to it, if nothing more could be done; and in those four bas-reliefs much could be shown, of why the statue of that man was raised on the pedestal. Thus enriched and increased in value as a memorial structure, a naturally and yet majestically designed statue is, when placed on a really beautiful and elegantly-proportioned pedestal, a graceful and pleasing ornament in the public street.

What a pity that so fine a statue as the Richard I., of Marochetti, should be on so mise- rable a pedestal. Let us hope that the English copy of Foley's Hardinge will be placed on a pedestal more worthy of so great a work. A pedestal for an equestrian statue requires to be much higher, more important, and of a much bolder character than that at Westminster.

But as the principal ornament in a large space, a single statue on a pedestal is not sufficiently important, and something more of a structure is naturally called for; and then come very con- flicting opinions as to what should be erected. Some have been brought up with the idea that nothing is so fitting as an obelisk, which we de- rived from the Egyptians, who did not, however, themselves use them for this purpose; but, being precious on account of being monoliths, and on account of the cost of working and the cost of transport and raising in their places, they were accounted worthy of being dedicated to the gods, and their four sides contained the inscriptions setting forth the name of the king who dedicated them and the deity to whom they were dedicated. The Romans who transported them from Egypt were the first to use them as memorials or pillars of victory. But many, even now, seem to con- sider that they are the very thing, and that very thing is very often erected; but I must say that, with all respect for the ancient Egyptians—and a very great respect I have for them—though a grand object on certain sites, I am always sorry to see them erected in this country or in other countries for our national memorials; and the votaries of these massive remembrancers seem to me to admit their weak points by adding to them all sorts of devices which have little other effect than that of diminishing their grandeur.

If really elegantly designed and completely carried out, another very favourite form is grand and appropriate, although in its usual form objec- tionable from being a member of a building diverted from its original use: I allude to the single column with or without statue. The use of this and kindred forms for this very purpose is of very ancient date. In India, we find pillars with very beautifully-executed capitals, and sur- mounted by a lion, erected by Asoka in the middle of the third century B.C., commemorative of his having adopted the Buddhist religion, and con- taining the creed and principal doctrines of Buddhism. Feroze Shah re-erected one of these as a pillar of victory at Delhi. They are mono- liths. In Cabul are two built examples of pillars, rudely imitative of these, probably Buddhist monuments, commemorative of some sacred spot or great event. In Roman times we find them in the form of columns, similar to those used in the support and decoration of their temples, but with this difference, that several of them were orna- mented with sculpture. At Alexandria was one erected by Diocletian; at Arsinoë by Alexander Severus, and at Mylassa. All these were Corin- thian.

In Rome, herself, are two of the Doric order,—that of Trajan and Marcus Aurelius. There is one shown in Mr. Fergusson's "Handbook" of a very elegant and suggestive form. The shaft is ornamented with a scale-like pattern of leaves, and its base is surrounded by eight statues: it is at Cussi, near Beaum, in France, and probably be- longs to the time of Aurelian. Very near akin to these, and capable, I think, of more beauty, as well as being free from the same objections as the pillar, from being an essentially supporting mem- ber wrongly used when isolated, are towers which, from very early date, have been used for this pur- pose; that is to say, as pillars of victory;—in India, by the Buddhists, the Jains, and the Mahom- medans; and found erected by the latter wherever their Saracenic architecture prevailed, especially in those countries where the custom had originally existed. At Chitore, in India, is a remarkably- beautiful example of these towers, or pillars of victory, built in later times by the Jains. It was erected by Khumbo Rana, to commemorate his victory over Mahmoud of Malva, in the year 1439.

In China we find the pagodas erected as memo- rials. The celebrated porcelain tower at Nankin was erected in 1412, as a monument of gratitude to an empress of the Ming family. It is octagon, and 236 feet high, and owes its beauty of effect almost entirely to the brilliancy of the coating of porcelain, with which both the walls and both sides of its projecting roofs are covered.

The second bar pagoda on the Canton river is also commemorative. It is a pillar of victory

erected to commemorate a naval victory; so that we see that pillars and their kindred forms have been both used from very early date for this purpose, and also in very widely-parted and different countries; and the Roman examples have been copied or taken as types of many similar memorials in Paris, and all over the Continent.

In Byzantine times we find them used at Venice, in front of the Doge's palace; and I remember a very beautiful little example of Italian Gothic work in one of the streets of Florence, supporting four canopied niches filled with sculpture.

I do not think that in this country we have been happy in our adaptations of the Roman form; not that they are allowed to have a fair chance, for who ought to judge of the merits of a structure till it is finished? and our Nelson column still lacks its lions. When shall we see them? May they indeed be lions worth the trouble of ladies and gentlemen walking up to see when they do come.

But as long as the Classic style was the only one in which this—in itself certainly good and appropriate form of memorial—was supposed to be admissible, it was difficult to do much that was original, or differing much from those already erected: but now, many thanks to a recent example set in this metropolis, we are set free, and columns as varied as the columns in our different churches and other buildings may, at least, take their turn with other forms of memorials; and with their pedestals, ornamented by bas-reliefs, or supporters—animals, may be, or figures, bases, bands, capitals, and crowning figure, give great scope for skill in design, taste, and sculptural execution. A picturesque form is to be found in Switzerland, which I think is worthy of study: it is a short massive column, with carved capital, supporting a statue of some local hero, standing in the centre of the round or octagonal basin of a fountain or conduit, suggesting the useful combination, in the streets of our towns, of memorials and drinking-fountains.*

* To be continued.

THE SHEFFIELD SCHOOL OF ART.

The annual *conversazione* of this school has just been held. It was quite as successful as in former years, though the show of oil paintings was less numerous than last year, when it received valuable accessories from Mr. Gillott, of Birmingham. Lord Wharncliffe's contributions, brought by his youngest brother from China, of part of the spoils of the Emperor's Summer Palace, were very curious and valuable. His lordship presided, and read an agreeable address. The prize drawings of the students, and the number of prizes awarded, attest the success with which the work of the school is prosecuted by Mr. Young Mitchell. It was stated that under his care the students have increased from 200 to 1,200.

Lord Wharncliffe, in the course of his address, referred to the aptitude of the nations of the east for colour. If we are wishful to ascertain who were the nations surpassing all others in their skill of grouping or contrasting colours, we must not look to ancient Greece or Italy, but further still, and perceive in the Eastern nations those who have attained to the greatest knowledge of the treatment of colour, particularly in their designs for textile fabrics. Unable to draw correctly, as they almost always are, yet they appear to have an intuitive acquaintance with the principles of colouring, and to apply them with a boldness and success to which European nations cannot attain. Who has not been struck with the profusion of colour, yet perfect harmony of it, visible in all manufactures imported from the East—and then been surprised at the miserable, crude imitations of them attempted both in France and England. When I was in the lovely and romantic vale of Cashmere, in 1854, I became the purchaser of several shawls for myself and friends. The merchant from whom I bought them, Hadji Sahib by name, produced some numbers of the *Art Journal* as being the source whence he drew a large number of his designs; but the colour in which they were to be worked was left to the taste of his Hindoo weavers. If we go still further East, to a country now happily on a better footing with us than it has ever been before, we see that although the form and taste in art are grotesque, yet that there are signs of extensive former knowledge of ceramic art, as also that of enamelling. You will find among the various objects of interest presented to your inspection some very large and magnificent copper enamels captured at the Summer Palace in Pekin, and brought to this country by my youngest brother, who was on Lord Elgin's staff.

Mr. Cole, while alluding to the art collection in the school, said it included one article whose possession by the nation might be looked upon as a culminating instance of the growth of the love of art in the last ten years. It was a piece of metal-work in the shape of a candlestick, for which the Government had recently given 1,200*l*. It was a very grim-looking specimen, but it derived its value from the fact that it was perhaps the earliest ornamental work in metal which was known to exist in this country. It was made in the twelfth century, for Gloucester Cathedral. It was carried off by Thomas à Becket into Normandy, and remained there until the French revolution, when it was sold, and passed into the hands of various French dealers. From auction to auction it was passed on; and, within the last four years, it sold for 800*l*.; but, within the last four years, he was happy to say that the English Government had had the courage to bid against that of France; and the candlestick was now permanently secured to England. He believed the Sheffield school was the second where this work of art had been exhibited. He recommended the workers in metal to avail themselves of the opportunity to examine it before it was removed. He regarded the manner in which that work of art had been acquired as being very satisfactory; because, ten years ago, a minister would almost have looked for an impeachment if he had spent 1,200*l*. in an article which was to be devoted to the public instruction. In his reference to Mr. Sykes as a Sheffield student, he said he was sorry Mr. Sykes was not as sound in body as he was vigorous and genial in intellect, and that he was obliged to go to Italy for the benefit of his health. He felt a real pride and gratification to know that if there was any name amongst their art-students which was likely to be handed down to posterity, it was that of Godfrey Sykes. He could confidently say that during the last 300 years there had been produced no works finer in character or exhibiting more genius than those terra-cotta columns which Mr. Sykes and two fellow-students of Sheffield had modelled, and which may now be seen in the Royal Horticultural Gardens in London. In these works of art there was found another connecting link of the late Prince's influence. During the progress of those very works, his Royal Highness would often go down to Mr. Sykes's studio, and would not merely offer suggestions, but would, as though he were a worker himself, take the modelling-tool or the paint-brush and endeavour to demonstrate his meaning visibly in lines before the student. The speaker said he sincerely believed that the loss of the Prince Consort to art in this country was as great as the loss of Henry IV. to Protestantism in France.

WORKMEN'S HOUSES OUT OF TOWN.

If you will allow me, I should like to call attention to a subject in which I know the *Builder* has always taken an interest,—I mean the improvement of workmen's homes. I believe it is intended, next spring, to try the experiment of building cottages a short distance in the country for the London workmen, to and from which some of the railway companies have agreed to take them, if there are as many as 1,000, at the rate of 2d. per day. If this experiment should succeed, and be found to pay, as I hope it will, I think it will be a very great benefit to the working classes, and will be highly appreciated by them.

Perhaps there may be some little difficulty in finding out whether the 1,000 tenants for which the railways stipulate would be forthcoming, in case the houses were built: if so, it might be met by having an office at which those who wished to take houses might bespeak them. If I may judge by the manner in which I have heard the scheme spoken of, I should say that 1,000 would very soon be wanted. As a suggestion, I would ask, might not the railway companies build the houses themselves, and include the fares in the rent? Even then, the rent would be less than must be paid for two rooms in any respectable part of central London.

I have just been reading Mr. Roebuck's recent lecture "On Popular Education," in which he institutes a comparison as regards comfort and happiness between the home-lives of the brain-workers and hand-workers,—or, as he says, between the educated and uneducated classes,—which is by no means flattering to the latter; and he considers that it is education that makes the difference between the two. There is no doubt that it does; but may not the difference in the character of the homes themselves have something to do with it? When a clerk has finished his day's employment a walk is a pleasant change for him. He can therefore have a home of his own by taking a house a short distance in the suburbs, where rent is cheaper; but when the artisan has finished his day's labour he wants rest; so he generally takes one or two rooms as close as he can to his work; and, when a man's home consists of only one room, he cannot feel any very great pride or pleasure in it.

A London Workman.

THE "SKIP," MIDDLE LEVEL SEWER.

Sir,—In last week's number of the *Builder*, among other remarks on the works of the Middle Level Sewer, you mentioned the peculiarities of a skip now in use upon the works; at the same time saying the form is "borrowed from the works of the Victoria Bridge in Canada."

I beg to say I had the honour of being in charge of the mechanical department of the works of the Victoria Bridge, and constructed several descriptions of skips for that work; but the one in question was designed by myself, a few weeks since, expressly for Mr. Butler's work on the Middle Level Sewer. The advantages of this skip are as follows:—It lowers but a short distance in depositing its contents; at the same time concentrates the materials to the middle of the cart or what else there may be to receive it, without spilling it over the sides.

But the greatest advantage is when the material is of an adhesive nature, such as clay: the rounded shape of the bottom dividing in the middle, allows the whole load to slip out freely, and thus avoid the trouble of scraping and digging out of corners, as is often the case with ordinary skips.

This skip may be useful for many other purposes; further improvements are now being made to perfect it, and a patent is being applied for.

Woodford. J. Wyman.

CAST AND WROUGHT IRON GIRDERS.

FAIRBAIRN'S STATEMENT.

Sir,—In looking through "The Engineer's, Architect's, and Contractor's Pocket-book" for the present year, published by Lockwood & Co., I find, at page 353, an extract from Fairbairn's treatise on cast and wrought iron, which reproduces the statement that a wrought-iron beam of the same depth, bearing, and strength, as a cast iron one, would only weigh a little more than one-third that of the cast-iron beam. Mr. Fairbairn's formula $W = \frac{a\,d\,c}{l}$ is the same for both cast and wrought iron, by altering the constant C from 26 for cast iron to 75 for wrought iron, which does give the bottom flange of the cast iron beam about three times the area, and consequently about three times the weight, of the bottom flange of the wrought-iron beam; but Mr. Fairbairn also teaches that the top flange of a wrought iron beam should be twice the area, and consequently twice the weight, of its bottom flange; and that the top flange of a cast iron beam should be only one-sixth of the area, and consequently of the weight, of its bottom flange. The top flange of the wrought iron beam would therefore be four times the area, and consequently four times the weight, of the top flange of the cast iron beam. If we call the bottom flange of the wrought iron beam 2, its top flange would be 4, which, together, would equal 6; while the bottom flange of the cast iron beam of equal strength would be 6, and its top flange 1, which together equal 7, instead of nearly 18, as should be the case did the wrought iron beam weigh only a little more than one-third that of the cast iron beam. A reference to this erroneous conclusion in Mr. Fairbairn's treatise appeared in your journal of October 13th, 1855.

T. M.

SYDNEY HOUSES OF PARLIAMENT COMPETITION.

Sir,—I am indebted to the last number of the *Builder* for the first authentic information I have received regarding the competition designs for the Houses of Parliament at Sydney. For myself, I can honestly affirm that I have succeeded in this competition to the full extent of my expectations: but I am not, therefore, insensible or indifferent to the fact that, in common with other competitors, I have been unjustly treated; and I think it is very important for the interests of our profession that unfairness in the management of such a competition should be exposed. I therefore claim your assistance.

Having seen only one brief description of the plans, and knowing nothing more about them, I shall confine my remarks to one point, and it is this,—that the conditions of the competition have been violated, to the prejudice of those competitors who respected them, and that the architect who most grossly violated the conditions has been most highly rewarded. That statement is

apable of a categorical denial, I fancy, if capable of de-tal at all. The explanation of the Minister for Works, e reported in your columns, is a marvel of *simplicity*—a certain sense. The author of the design marked I bide," sent a perspective view in outline only—did e?—besides one "very artistically coloured." What a nowing fellow! How well he calculated the effect which ere outline drawing produces in a public exhibition hen set side by side with pictures very artistically oloured—even the modest sepia drawing of "Palladio" ust have looked dingy beside it! However, it must be imitted that the commissioners were placed in a diffi-ult position. I am quite willing to believe that the de-gn of "I bide" was really the best of the lot; and, for ne, I would have exonerated them from any blame in ie matter if they had simply prevented the exhibition of ie coloured and shaded designs. The conduct of the uthors of "I bide" and "Palladio" must, however, be iewed very differently by every honourable member of ie profession. And I cannot close these remarks with-ut—by way of practical application—expressing my con-iction that if the Royal Institute of British Architects ould devise some means which would insure the igno-minious expulsion from the profession of every man who eliberately took a mean advantage of his brethren, it ould conduce infinitely more to the elevation of our rofession in every respect than the plucking of heca-mbs of youthful aspirants for honourable distinction.

My own design, being one of the six, is said to have olated the conditions: to this I can only plead "not uilty." I have not the least idea in what respect it can said to be so.

The author of the design bearing the motto

"FIDE ET VIRTUTE."

SIR,—I shall be much obliged by your supplying omission made by the Sydney papers, in noticing e authorship of the successful designs, and from hich you quote in your last number. The address hich accompanied my design was,—"*Wm. enry Lynn, architect* (*Messrs. Lanyon, Lynn, Lanyon*), 64, *Upper Sackville-street, Dublin*."

"I BIDE."

Books Received.

me Points of the Educational Question practically considered with reference to the Report of the Commissioners and the New Minute. By ARTHUR GARFIT, M.A., Curate of Richmond, Surrey. London: Longmans & Co. 1862.

E author of this volume urges his views both ly and moderately. He is careful, in the pre-e, to intimate, on this at present rather warmly-scussed question, that he is not going to prove erybody in the wrong, nor to attempt to set erybody right. His views are moderate as ll as his mode of dealing with the question. is of opinion that the new minute will cause a le pressure at first; but that it will give an pulse to education, and be found in the end to wholesome; leaving practical men such as the hor more unfettered in their work; giving istance more in proportion to merit; and tend-to probe their weak points, and so to lead them amend these. There is no fear, the author nks, of the minute leading to a more secular n of education.

To those who are not fully informed on the ole question, Mr. Garfit, in the earlier chapters his volume, gives, by way of introduction to remarks on the report and minute, a sketch of past history of the Education movement, which l afford inquirers an insight into the present ition of the whole question.

Miscellanea.

THE PATENT OFFICE.—The Commissioners of ents have recently issued their annual report. this it appears that the surplus of income over enditure is estimated at 20,000*l.* per annum. e Commissioners are of opinion that this sur-s, or a portion of it, should be devoted to lding a suitable patent office and museum, and ther recommend that a library should be ned.

LENDAL-BRIDGE, YORK.—The town-clerk tes that the Lendal-bridge committee has ered into a contract with Messrs. Hawks, wshay, & Co., of Gateshead, for the iron work Lendal-bridge, that the tender amount alto-her to about 3,600*l.*, that the work is to be mpleted in five months and a half, viz.; by the of July; and that in four months and a half -half of the roadway is to be given up to the poration. The following tenders were also in, in addition to the one which was epted:—

J. Whitelaw, Dunfermline	£6,012
J. Carrick, Pimlico	5,713
Cliffe, Bradford	5,023
Handyside & Co., Derby	4,920
Randallstaff, London	3,744
Calvert & Co., York (withdrawn)	3,317
Head, Ashby, & Co., Stockton-on-Tees	3,170
The Brymbo Iron Company, Wrexham	2,932

NEW STATUE OF LUTHER.—A new statue of Luther has just been erected at Mohra, his native village, near the house in which he was born on the 11th November, 1483. This statue, which is in bronze, is 9 feet high, and stands upon a pedestal of 10 feet in height. This work of art, done by the sculptor Miller, cost 14,000 florins, nearly 1,200*l.* subscribed almost entirely by the Protestant princes of Germany.

A PILE OF GOLD.—It is stated that a contribution to the Great Exhibition will be sent from our colony of Australia, in the shape of an obelisk, or pyramid, representing what would be the size of a nugget of all the gold sent thence to Europe during the last ten years. This pyramid, 10 feet square at the base, and 42 feet high, would, it is estimated, if it were solid gold, weigh 800 tons, of the value of 104 millions sterling. Such, then, is the vast amount of wealth derived from this one colony since the Great Exhibition of 1851.

PRESENTATION TO AN ENGINEER AT CARDIFF.—The employés of the Rhymney Railway have presented the general superintendent, Mr. W. R. Page, with a testimonial of their appreciation of his gentlemanly bearing and uniform kindness during the period of four years in which he has been engaged upon the line. Mr. Page was formerly deputy superintendent of the Taff Vale Railway for a great number of years, and has been connected with railway engineering in Cardiff for a period of twenty-two years. Being about to sever his connection with the Rhymney Railway, the employés and a great number of personal friends presented Mr. Page with a massive gold watch, gold chain, and appendages, of the value of 50*l.*, and also an elegantly-carved cruet-stand, silver salver, and four silver salts.

THE DAVY MONUMENT.—There is much stir in the *Cornish Telegraph* as to the doings of the Working Men's Committee at Penzance who have this matter in hand. A writer under the signature of Publicola states the grounds of complaint. "I told you," he says, "that the advertisement in the *Builder* was for columns only. The secretaries required columns, and so the competitors sent columns. Mr. Perrow, however, the successful competitor [and one of the Committee's own body too], favoured them with designs for a tower and a column, and the tower is accepted! Comment upon such conduct as this would appear superfluous. The ten other competitors, who in their simplicity thought the advertisement meant what it contained, and that, when designs for columns were asked for, columns were required, are virtually left out of the contest; and the lucky Mr. Perrow, with his unasked-for tower, is received." Professor Faraday, we may add, has subscribed ten guineas, with the proviso that his name shall not appear on the prospectus.

TELEGRAPHIC PROGRESS.—At a dinner recently given to Sir Charles Bright at Liverpool, he said that when he first became connected with the Telegraph Company—some ten years ago—the number of miles worked by the company was something under forty, while the present mileage is upwards of 4,000. The staff employed at that time did not exceed, or much exceed, a score in number; while probably 1,500 would not be far off the present number. At that time there was only one telegraph in existence in this country; and, whilst the charge for a messsage from London to Liverpool was 8s. 6d., the messages were frequently re-transmitted at Rugby and Birmingham. At the present time we have in Great Britain and Ireland something like 15,000 miles of line, and the annual receipts are about 350,000*l.* There is now, in addition to the 15,000 miles of line in Great Britain, some 48,000 miles of line in America, 80,000 miles in Europe, and a smaller but very rapidly-increasing mileage in Australia; the total amount of land lines of telegraph in the world being not far off 150,000 miles.——The British and Irish Magnetic Telegraph Company and the Electric and International Telegraph Company have both decided upon a further reduction of charges for private telegraphic dispatches. The charge for twenty words to London at present is 4s., which will be reduced to 2s. 6d. after 1st February. The following is said to be the scale of charges about to come into force:—Twenty-word messages, 1s. up to 25 miles, 1s. 6d. to 50 miles, 2s. to 100 miles, 2s. 6d. to 200 miles, 3s. to 300 miles, 4s. to 400 miles.——The telegraphic communication between Calais and England has been interrupted for some days, the cable having been broken in mid-channel, by the anchor, it is supposed, of some vessel. A buoy has been placed at one end of the cable, and an active search is being made to get up the other.

THE "ODDITY OF THE ENGLISH."—The following anecdote, illustrative of the "oddity of the English," is now going the round of the papers at Naples. When the telegraph was first opened to Newfoundland, Lord P., a distinguished member of the Senate, came to the office, and said he wished to send a message. "The line is not yet opened to the public, my lord." "But you know me: I have 20,000 shares in your line, and I will give 200*l.* sterling for a message and answer." "Your lordship must wait two hours for a reply." The message was:—*Send me the strongest possible electric spark.*" Lord P. waited till he heard as follows:—"*In one minute the spark.*" His lordship then applied his cigar to the wire, and walked off contentedly, with a light which cost him 5,000 fr. The story is seriously repeated from paper to paper, and is generally believed "without a struggle."

THE BRITISH AND EASTERN STEAM NAVIGATION COMPANY.—Under this title a company is being formed to meet the urgent demand for the immediate establishment of a line of steamers by the overland route, to carry passengers and cargo at the lowest possible rates. For several years there has been a constant demand for increased accommodation by the overland route; and within the last twelve months so unceasing has this been that hardly a mail arrives without bringing Indian newspapers, urging the necessity for more steam accommodation, both for passengers and freight; promising any company that may start a line the warmest support of the Indian public. The directors, comprising Sir Henry Leeke, Captain W. Dicey (late officiating Master Attendant, Calcutta), and others, are well acquainted with the route, and know the requirements of the country. We look to see the new company in operation within six months.

THE KILKENNY ARCHÆOLOGICAL SOCIETY.—The annual meeting of this thriving association took place on the 8th January, Mr. P. Burtchaell, C.E., in the chair; when ten new members were elected. The report of the committee for the year was then read by the secretary. In allusion to the death of the Prince Consort it remarked: "Your committee cannot avoid reminding the members that, although, in consequence of a rule laid down by the Prince for his guidance in regard to local associations, our list of members did not embrace the Prince's name; yet his Royal Highness has been, since the year 1855, a life-member of the Society, having contributed to its funds the sum of 25*l.*—five times the usual life composition. That the 'Journal' of the Society was deemed worthy of a place in the Prince's private library is no mean testimony to its merits when the literary attainments of his Royal Highness are taken into account." Various presentations were made to the Society and other business transacted. The new fact of an Irish Runic inscription was brought under notice by the Rev. James Graves, who, however, did not authenticate it as such. The inscription occurrs at the "Lettered Cave" at Knockmore, county Fermanagh.

THE MULLER ORPHANAGE AT BRISTOL.—Mr. Müller's third Orphan House, at Bristol, is now all but completed. Like its predecessors it has been erected without any one having been either directly or indirectly asked to subscribe a single sixpence; and not one farthing of debt has been contracted. In answer to prayer, Mr. Müller tells us, all this has been done. In the autumn of 1858 the ground was purchased upon which the new house stands, at a cost of 3,631*l.* 15*s.* Mr. Müller's original intention was to provide accommodation for 300. Subsequently he resolved to make provision for 400; but ultimately, on finding that the extra accommodation would involve no great extra outlay, he decided on building a house large enough to contain 450 orphan girls from eight years of age and upwards. The original estimate for building was 35,000*l.* The total receipts for the building fund of the third house, from the commencement to the time the accounts were last made up, have been 46,600*l.* 17*s.* 3*d.* The edifice has no pretensions to architectural grandeur, except from its vast size and the variety of outline, adopted by the architect in its design. In addition to open fires in the different rooms the entire building is heated with hot-water. The provisions made for cooking are complete and economical. The building contains ninety-four different departments, viz.—thirty-six on the ground-floor, thirty-five on the first, and twenty-three on the second floor. The length of the building exceeds 550 feet; and it is lighted by 390 windows, the glass for which was supplied gratis by a glass manufacturer and a glass merchant.

Birkenhead Cemetery Competition.—The prize and other designs, eleven in number, are being exhibited to the public in the Argyle Rooms, Birkenhead. The exhibition was opened on Thursday, and will close with the week.

Effect of the Late Frost on Iron.—A remarkable instance of the effect of severe frost on iron has occurred at the Ordnance-wharf, Chatham. The large steam-crane was brought into requisition to lift some heavy guns, but scarcely had one weighing 95 cwt. been attached to the gear, than the massive chain which held it suddenly snapped when the cannon was only a few feet from the ground. Not the slightest flaw could be detected in the metal of which the chain is composed, the chain itself being made to sustain double the weight, and only a few days before had been used in lifting weights of seven tons.

Liverpool Architectural Society.—The eighth meeting of the session, on the 22nd ultimo, was presided over by Mr. Goodall. Mr. G. A. Audsley read the paper for the evening, entitled "The True Principles of Architectural and Decorative Art, or Conventionalism *versus* Naturalism." Mr. Audsley, in his paper, advocated conventionalism as the true principle of decorative art, in opposition to naturalism; and urged that the sculptors of the present day should return to the principles of the ancients,—that they should use the symbol of a flower, for instance, in ornamentation, instead of the flower itself, and avoid naturalism as they would a poison. A vote of thanks was accorded to Mr. Audsley, after which a discussion took place on the paper.

The Worcester School of Art.—The tenth annual meeting of this School has been held, under the presidency of Lord Lyttelton, Lord-Lieutenant of the County. According to the report read, there has been a deficiency in the receipts compared with the expenditure, of about 14*l*. It was stated, however by the chairman, that, during the past year, 248 students had attended the Central School, 36 the class at Pershore, 17 the class at Droitwich, and 100 at Bromsgrove; making in all, 401, or an increase of 41 over the total of the year 1860. The master reports that the pupils of the Worcester Cathedral School have made most satisfactory progress during the year 1861. The number of public schools receiving regular instruction in drawing from masters of the Central School remains the same as in the preceding year; namely, at Worcester, St. Martin's, St. Peter's, and St. John's National Schools, and the British Schools in Clapgate; at Bromsgrove, the National School. The schools in which drawing is taught by their own masters, with occasional visits only from masters of the Central School, are the West Midland Railway School at Worcester, and the National School at Pershore. In these seven schools about 625 children receive instruction in drawing; which, though quite elementary, will no doubt in many instances afford them permanent benefit. Including these children, the total number of persons taught during the past year, either in the Central School or in those connected with it, as above described, is about 1,064.

Monumental.—A tribute to the memory of the late Mr. Braidwood has been raised by the members of the M division of police. It is a carved monument of Portland stone, designed and executed by Mr. S. H. Gardiner, of the New Kent-road. The illustrative portion of the memorial represents the excitement and peril of a fireman's life. A wreath of laurel stands out in relief, round which entwines a fire-hose, encircling the inscription. It will be placed against a wall, supported by iron brackets, in such a position as to mark the spot where Mr. Braidwood was so suddenly buried in the ruins.——A stone seat has been placed in Holwood Park, Keston, Kent, as a memorial of Mr. Wilberforce, the great champion of negro emancipation. The seat has been erected at the cost of Earl Stanhope. It is placed at the foot of the old oak beneath which a conversation took place between Pitt and Wilberforce, which led the latter to resolve on trying to abolish the slave trade, and is intended for the use of the public.——A monument has been erected in Mitcheldean churchyard to the memory of the late Mr. Timothy Bennett. It is an ornamented Gothic cross, 9 feet high, of white marble. The cross is erected upon a Gothic pedestal, containing an inscription. The two new windows, presented by the late Mr. Bennett to the church, have also been finished since his death. One is placed at the end of the south-east aisle, the other over the organ. The artist was Mr. Bell, of Bristol. The large west window is also about to be restored as a memorial of the late Mr. Bennett.

Explosion of a Kitchen Boiler through Frost.—One of these dangerous and often fatal explosions, which have been of such frequent occurence during the frost of recent years, and more especially in the north of England, has happened in Bury New-road, Manchester. A child was dreadfully scalded by the steam, and burned by the heated grate and burning ashes, and has since died from the frightful injuries she received. The fireplace in the kitchen of the adjoining house was also forced out, and in both houses several windows were broken. The cause of the accident is believed to have been the stoppage of the supply of cold water by the frost, and the consequent undue generation of steam.

Co-operation in Rochdale.—The sixty-eighth quarterly report of the Rochdale Equitable Pioneers' Co-operative Society, dated December 17, 1861, deals with transactions which represented, during the quarter, the receipt and the disposal of nearly 50,000*l*. During the quarter the Society received for goods sold 42,844*l*. 18s. 5d. This amount represents an increase over the receipts for sales during the previous quarter of 324*l*. 2s. 2d. The profit to be divided during the quarter just expired is 4,512*l*.; and the dividend paid is 2s. 1d. upon each 1*l*. of purchase money. The entire profits for the year 1861 amounted to 18,020*l*; "which," as the report observes, "must have been beneficial to a great many members in procuring the common necessaries of life during the present depression of the cotton trade."

Exhibition Clubs.—A suggestion made by us is being carried out in various places to enable workmen to visit the International Exhibition. Thus at the Spring-warehouse connected with the Atlas Steel and Spring Works, Sheffield, a club has been formed to raise a fund to enable the workmen to visit the Exhibition. Subscriptions from 6d. to 2s. 6d. per man are received. A large number of the workmen have become members. The workmen in the employ of Messrs. John & Richard Ibberson, contractors, David-street, Manchester, have also commenced a fund, by payment of sums varying, according to their means, from 2s. 6d. to 6d. weekly. It is received by one of the men, who acts as secretary, and paid over to a member of the firm, who is elected treasurer, and banked weekly. If any member falls sick or is thrown out of employment, he can have back the amount he has paid, but no interest. The interest is to be divided at the close of the fund, according to the amount subscribed by each.

New Disaster at the Dundee Dock Works.—Another disaster of a serious nature has occurred at the New Dock Works. The east wall of the Lock of Camperdown Dock has been ruined in a moment. After the fracture in October last, of the east wall of the dock, says the *Warder*, it was resolved by the trustees to exclude the sewerage from the lock, pending the construction of a new sewer at a distance from the dock walls, by a cofferdam at its northern extremity. A contract was concluded with Carstairs, Mitchell, & Co. to execute the work, and to pump out the sewerage from the area of the lock, under the superintendence of Mr. Leslie and Mr. Stevenson, engineers. The work went on very successfully: the cofferdam had just been completed: the sewage was almost pumped out; and it was expected that operations would now be in progress for preparing to complete the masonry of the lock walls. An immense discharge of sewage, however, has suddenly burst from the bottom, at a point to the southward of the lock; and it has been discovered that the wall is rent throughout its whole length. The lock was speedily filled with the sewage.

Painting, as a Branch of Education for a Builder's Apprentice.—At the Sherborne police court, an apprentice to a carpenter, builder, and joiner, was charged with refusing to obey the lawful commands of his master; the defendant having refused to aid in painting a farm-house under a repairing contract. The complainant gave evidence that it had always been the custom in his business for his apprentices to do such work. For defendant it was shown that no such work was included in his indentures. The magistrates considered house-painting to be included in a builder's work; but a case having been laid before the Recorder of Exeter, the result was an opinion that the magistrates were wrong; for, supposing the case to be reversed, and that the lad was apprenticed to a painter; he could not be compelled to make doors. The bench decided that after this opinion they could not do otherwise than dismiss the case; and, on consideration, they thought, if defendant was bound to do what complainant asked, he might be made to build a wall. They, however, would allow complainant a case if applied for within a proper date.

Copper in Durham.—A new company is about to be formed for the working of a copper mine near Colliery Dykes, in the county of Durham. Samples of the ore have been pronounced worth upwards of 30*l*. a ton.

Swiss Railways.—The Swiss Federal Tribunal has pronounced sentence in a suit instituted by Mr. Brassey against the administration of the Central Railway Company, and has decided—1. That the Central Railway shall pay Mr. Brassey the balance due to him under the agreement; 2. That the subsidiary claim of 1,200,000f. made by Mr. Brassey is dismissed; and 3. That the same course shall be adopted as to the claim of the Central Company, requiring of Mr. Brassey an indemnity of 690,000f.

Redhill and Reigate Cottage Improvement Society, Limited.—The fifth annual general meeting of this Society took place on 18th January, when the report was read and adopted. It states that the Society had now thirty-nine freehold cottages, occupied by about 200 people; that the loss from empty cottages has been 1*l*. 4s., and from bad debts *nil.*; that the rents for the year amounted to 403*l*. 4s., of which 302*l*. remained at the disposal of the shareholders. A dividend of 5 per cent., less income-tax, was declared.

Proposed Pier at Blackpool.—A project has been started for the construction of a pier at Blackpool. At a meeting recently held, Mr. Galloway, of Manchester, a gentleman connected with the firm which erected the pier at Southport, gave it as his opinion that a pier, constructed on the principle laid down in the sketch which he produced, would, if carried out 450 yards, and made of the width of 21 feet, cost about 7,500*l*. The strength of the structure at this price would be considerably greater than that of the erection at Southport. A committee was formed for the purpose of making the preliminary arrangements, and of deciding on a suitable plan.

New Bridge at Twerton.—A bowstring girder-bridge has just been erected across the river at Twerton. It is said to be built on a new principle, invented by Mr. Joshua Williams, of Bradford-on-Avon; who calls his invention "The Aerial Bridge." It is built with wood, and was erected in twelve days by two carpenters and one smith. In length it is 116 feet clear of the abutments, and it does not weigh more than 4½ tons. There is very little vibration, it is said; and it is estimated that it will bear 19½ tons weight. The extreme length of the bridge is 122 feet, including the stone abutments. It cost less than 70*l*. The inventor states that the principle is applicable to large plans, and would be suitable for railways and other purposes requiring great strength.

The Fortifications at Portland.—On the east side of the island, which is very seldom visited, the convicts, according to the *Dorset Chronicle*, have been kept busily at work in excavating, trenching, throwing up earthworks, and blowing up rocks, at the East Weir. Batteries have thus been formed at various levels above that of the sea, but all below the Verne Fort, and far more destructive than the fort itself. The works have now been brought to that stage when more skilled labour is requisite, and hence they have been partly handed over to civil labour, and the foundation-stone of permanent barracks, magazines, and stores, has been laid. Messrs. Jay & Co., of London, have the contract for these casemated works.

Gas.—We learn from a paragraph quoted in the *American Gas-light Journal* that the experiments with water-gas are highly satisfactory. About 73 parts of it are derived from water, and the remainder from oil, purchased at nine cents. per gallon. The light is said to be of a better colour than coal gas, and in every respect superior. The same journal, in speaking of the "sound condition of gas companies," says,—"While the shares on railroads, banks, and other corporations, exhibit fluctuations in value and an uncertainty as to paying dividends upon their capital stock, the condition of gas-light companies shows a marked contrast. Our foreign exchanges are filled with dividend notices of gas companies; and particularly in England, where the price of gas is very low, the returns are large, and afford a gratifying evidence of the profitable nature of the business, and of the accommodation offered to capitalists in the way of investment."

TENDERS.

For stabling, at Putney Heath, for Mr. John Bruce. Mr. Robt. Blessley architect:—

Fawcett	£525 0 0
Avis & Son	495 0 0
Adamson & Sons	458 0 0
Dawson	419 5 0
Manley & Rogers (accepted)	415 0 0

or covered farm buildings, Tillingham Hall, Essex, for
stees of Dean Clarke's Charity. Fred. Chancellor,
hitect:—

Wood	£789	0	0
Glasscock	775	0	0
Cook	716	0	0
Sharpington & Cole	687	0	0
Stammers	687	0	0
King	674	0	0
Patten	605	0	0
Todd	557	0	0
Saunders	554	0	0
Gibbons	547	0	0

For Lliw Reservoir Embankment and Conduit, from
lygwyn to Morriston, Swansea Waterworks, Contract
. 1. Mr. Rawlinson, engineer:—

Mansergh	£32,434	6	10
Barnes	32,134	1	2
Dixon & Sleight	31,470	19	2
Buxton	30,426	2	10
Baker	29,091	14	10
Griffiths & Thomas	29,015	16	10
Williams (accepted)	27,449	5	8

For the Surbiton Hill Drainage. Mr. Robert Brown,
gineer:

Dowell	£5,480	0	0
Walton	5,354	0	0
Sherren	4,500	0	0
Holbeen	4,040	0	0
Cuzens	3,950	0	0
Walker	3,898	0	0
Pound	3,799	0	0
Ellis	3,704	0	0
Gash	3,600	0	0
Hill & Co	3,582	0	0
Kent	3,567	0	0
Bugbird & Son	3,562	0	0
Rowe	3,472	0	0
Perry	3,460	0	6
Hartland & Bloomfield	3,358	0	0
Thirst	3,369	0	0

For clearing, draining, and fencing forest land. Mr.
m. Doyley, surveyor:—

Denning	£607	0	0
Jarvis	286	0	0
Morris	220	0	0
Pound	216	7	0
Chilton	190	0	0

For new drying-lofts, at Messrs. Glover & Boulcott's,
ong-lane, Bermondsey. Mr. F. J. Milman, architect.
uantities supplied —

Marsland & Son	£550	0	0
Penlington	544	17	0
Leake	512	8	6
Jennings	497	0	0
Messrs. Coleman	495	0	0

For alterations at the Sun Tavern, Knightsbridge, for
r. E. Williams. Mr. T. Muncey, architect:—

Baugh & Bryant	£400	0	0
Lawrence	391	0	0
Cowland	387	10	0
Green	379	0	0
Selleck (accepted)	340	0	0
For Pewter Work.			
Gerardin & Watson	91	15	0
Bentley	89	0	0
Sanders	68	10	0

For pulling down old buildings, at Twickenham, for
r. George Scovell. Cleaning and stacking the mate-
ials. Mr. Henry McCalla, architect:—

Anstep	£57	0	0
Harris	53	13	0
Porter, Wilmot square	48	0	0
Turner	45	0	0
Sharp & Hodgett	40	0	0
Porter, Bunhill-row	35	0	0
Canes	35	0	0
Tatum	28	15	0
Holmes & Humphreys (accepted)	23	4	0
Saunders	20	0	0
Woolger	18	10	0

For sundry alterations at 116, High-street, Camden
own, for Mr. Pain. Mr. Henry McCalla, architect:—

Partridge & Crutch	£225	0	0
Pugh & Wallis	189	0	0
London Building Company	179	0	0
Simmonds & Argent	175	0	0
Porter	119	0	0
Head	112	0	0
Minty	110	0	0

For the erection of a new boys' school, at the West
am Union, Leytonstone. Mr. John W. Dennison,
chitect:—

Reed	£315	0	0
Pilkington	289	0	0
Savill	275	0	0
Patman & Fotheringham	266	0	0
Hedges	248	0	0
Read	245	0	0
Rivett	227	0	0
Page (accepted)	199	10	0

TO SUBSCRIBERS.

The Volume will be bound (on being sent to the Office) for 3s. 6d.; or Covers for that purpose may be obtained at 2s. 6d. each (broad), and 2s. (narrow).

It is necessary to state whether the Advertisements are or are not to be bound in the Volume.

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other communications should be addressed to the Editor," and* NOT *to the "Publisher."*

Post-Office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

TO CORRESPONDENTS.

J. C.—D. W. (there is no such book).—E. D.—G. W.—J. H. M. (the probability is that the stonework, if scraped, will not last so long as it would otherwise).—Semper Idem (the right quantity is 5 feet and 9 parts).—A. and D. should go to school again.—J. C. (shall have decision shortly).—C. H. D.—J. C. (thanks).—W. D.—W. H.—F. W.—R. L. B. (will be answered in due time).—A Builder (commission as to embankment of south side of Thames is still sitting, but has declined to receive any more plans).—Mr. J.—F. J. P.—*.—R. B.—A Subscriber.—H. de M.—G. W. S.—Young Beginner.—S. E. T. W. G.—G. N.—W. I.—J. A. C. (any operative chemist).—J. A. D.—E. D.

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

TO DISTRICT AND OTHER SURVEYORS.—An Architect and surveyor of some experience with good testimonials and recommendations, wishes to obtain (by purchase) a SHARE IN THE BUSINESS of a gentleman holding Surveyorships. Is quite competent, and willing to take an active part.—Address M. L. care of Mr. Horwood, 4, Pleasant-row, Highbury-corner, N.

THE MALTA and MEDITERRANEAN GAS COMPANY (Limited).—MANAGER of WORKS at Malta WANTED.—Applications for the above Appointment are invited from duly qualified parties.—Every information can be obtained at the Office of the Company, 30, Cornhill

January 25, 1862. R. P. ROWSELL, Secretary.

STOREKEEPER, &c.—WANTED, by a Metropolitan Gas Company, a COKE CLERK and STOREKEEPER, of thorough business habits, and who has a good knowledge of accounts. Hours of attendance from 6 a.m. until 6.30 p.m. Salary to commence at £1 4s. 9d. Age not to exceed 40.—Applications, with particulars of engagements, and copies of testimonials, to be addressed COKE CLERK, Watling's, News Office, 410, Strand, W.C.

WANTED, a Thoroughly Experienced CLERK. He must be a good Draughtsman, able to take out quantities and work at accounts. Address, in own handwriting, stating age, reference, and salary required, to GEO. HUNT, Builder, Evesham, Worcestershire.

WANTED, a Thoroughly Experienced FOREMAN, to take the management of a Brickyard. Address, in own handwriting, stating age, where last employed, references, and wages required, to GEO. HUNT, Builder, Evesham, Worcestershire.

TO BUILDERS' FOREMEN.

WANTED, an experienced GENERAL FOREMAN, to SUPERINTEND the ERECTION of a VILLA RESIDENCE a short distance from town.—Address, stating particulars, wages required, and where last engaged, to L. M. N. Office of "The Builder."

TO MASONS.

WANTED, a FOREMAN of MASONS. None need apply but those who have filled a similar situation before. State terms, and references to previous works and employers. Application can be made, by letter only, to J. E. W., 19, Westmoreland-terrace, Newcastle-on-Tyne.

TO BUILDERS FOREMEN AND CLERKS OF WORKS.

WANTED, by a London Builder, a FOREMAN, to take charge and superintend a new building in London.—Address, stating full particulars, and salary required, to B. X. Office of "The Builder." None need apply who have not filled a similar situation.

TO ARCHITECTS, CONTRACTORS, BUILDERS, AND OTHERS.

WANTED, an active JUNIOR PARTNER in an old-established business, carried on for many years by a Builder and Contractor. Capital required, 1,000*l.* to 2,000*l.*—Apply to Mr. ALFRED ALLOTT, Prior-court, Sheffield.

TO JOINERS.

WANTED, a Person for a Constant SITUATION, who thoroughly understands the Horticultural Work and making working drawings.—Apply to Mr. DURRANT, House Agent, No. 2, Holland place, Kensington.

WANTED an APPRENTICE, in extensive Marble Works (West-end), to learn the art of sculpture, mason, and polisher; in or out doors.—Apply, by letter, to P. K. Office of "The Builder."

WANTED, by an experienced PLUMBER, a SITUATION, to take charge, or on GAS or WATER-WORKS. Not objected to go abroad. Unexceptionable references.—Address, J. B. 4, Park-street, Cambridge.

WANTED by an Experienced PLUMBER, a SITUATION. Has a thorough knowledge of bath and hot-water work in all its branches, can turn his hand to any other part of the business. Would take piecework. Good references can be had if required.—Address, M. S. 21, Lonsdale-road, Ledbury-road, Bayswater.

TO TIMBER-MERCHANTS, &c.

WANTED, a SITUATION as CLERK, TRAVELLER, or other useful capacity, by a practical young man of ten years' experience in the trade. First-class references.—Address, SYLVA, Messrs. Simpson & Steen's, Market place, Wolverhampton.

TO TIMBER MERCHANTS, &c.

WANTED, a RE-ENGAGEMENT, as CLERK or FOREMAN, in a retail yard or sawing mills. Sixteen years' unexceptionable references. Security if required.—Address, A. R. care of Mr. Harman, 6, Anderson-street, King's-road, Chelsea.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

WANTED, a RE-ENGAGEMENT (town or country) as ASSISTANT, or as CLERK of WORKS. Well versed in details, can measure and value, is a good judge of materials, can survey, level, estimate, and abstract, and has a thorough knowledge of sewer and drainage works.—Address, A. Z. 5, New-street, City-road, London.

WANTED, by an Architect and Surveyor's Assistant, in the West of England, a SITUATION, in town or country. Excellent references as to abilities as a draughtsman or knowledge of quantities.—Address, I. O. C. S. care of Alpha, 47, Arlington-street, Camden Town, London.

WANTED, by a Young Man, aged 22 years, a SITUATION as TIMEKEEPER. Last situation four years. Address, C. E. W. 103, George-row, Bermondsey, S.E.

TO ARCHITECTS, &c.

WANTED, by the Advertiser, an ENGAGEMENT as CLERK of WORKS or ASSISTANT in an Architect's Office. Is a good draughtsman, accountant, and measurer; and has had considerable experience in designing. Can have first-class testimonials, from Government and private offices, for the last fifteen years.—Address, R.E., Post Office, Banbury, Oxon.

WANTED, a SITUATION, by an experienced FOREMAN of BRICKLAYERS. Thoroughly understands setting out work and drawings. First-class references can be given. Age 38.—Address, F. B. Crown Library, Lower Norwood, S.

TO CARPENTERS AND JOINERS.

WANTED, by a Young Man, aged 20, a SITUATION as IMPROVER in the above.—Address, C. R. 50, Bolton-street, New Camden-town.

WANTED, a SITUATION, as PLUMBER. No objection to fill up time in painting if required.—Address, stating terms, J. W. Mr. Hanson's, 7, Elizabeth-street, Walworth-common, London.

TO BUILDERS, &c.

WANTED, a SITUATION as THREE-BRANCH HAND.—Address, R. C. T. 3, Seymour-place, Bryanston-square.

WANTED, a RE-ENGAGEMENT by an ARCHITECT and SURVEYOR'S ASSISTANT. Is a good draughtsman, prices at quantities and the usual office routine.—Address, T. S. Office of "The Builder."

TO BUILDERS, PLUMBERS, &c.

WANTED, a Constant SITUATION as PLUMBER, or Three-branch Hand.—Address, W. T. Hayes's Coffee House, 150, St. John-street.

TO BUILDERS.

WILL be disengaged, and open to an ENGAGEMENT in a few days, a Practical Man, as GENERAL SHOP FOREMAN, thoroughly acquainted with the different branches of the building trade.—Address, C. M. Mr. Sheath's, Baker, corner of West-street, Sutton, London, S.

TO PLUMBERS, &c.

WANTED, by a Young Man, a SITUATION to IMPROVE himself in PLUMBING. Has been a long time in the above.—Address, A. B. No. 6, Samuel-row, John-street, Stoke Newington.

WANTED, a SITUATION as BUILDER'S CLERK, by an experienced Practical Man, who is thoroughly competent to undertake all other duties. Unexceptionable references as to character and ability.—Address, E. H. care of Mr. Ashby, No. 61, Coleman-street, City.

WANTED, a SITUATION, by a Young Man, who has been employed for the last six years as a civil engineer and architect's draughtsman.—Address, O. P. care of Mr. Fortune, Balshill, Lancashire.

TO BUILDERS AND CONTRACTORS.

WANTED, by a practical Man, a RE-ENGAGEMENT as GENERAL or WORKING FOREMAN of CARPENTERS and JOINERS, or to take CHARGE of a JOB. Is conversant in drawings, and measure up work, &c.—Address, J. M. M. 78, Lillington-street, Pimlico, S.W.

TO BUILDERS, PLUMBERS, AND PAINTERS.

WANTED, by a Young Man, who has served six years to the trade, a SITUATION as PLUMBER PAINTER, and GLAZIER. Wages, 25s. per week. Good references. Address, C. B. No. 27, St. Ann's-court, Wardour street, Oxford-street, W.C.

TO BUILDERS.

WANTED, to APPRENTICE a YOUTH to a Carpenter and Joiner, as indoors, in town only.—Address, stating premium and particulars, to Mr. SCRIVEN, Auctioneer, &c. No. 150, High Holborn, Bloomsbury, W.C.

TO ARCHITECTS AND BUILDERS.

WANTED, by a thoroughly practical Man, a RE-ENGAGEMENT as CLERK of WORKS or GENERAL FOREMAN. Has had many years experience in alterations, repairs, and in measuring up works.—Address, H. T. H. Office of "The Builder."

TO PLUMBERS, BUILDERS, &c.

WANTED, by a Youth, aged 19, a SITUATION as an IMPROVER. Has been used to jobbing work. Would be glad to improve in one or all its branches. Plumbing preferred. Has been at the trade four years.—Address, REUBEN LAWRENCE, Sandy lane, Birmingham.

WANTED, by the Advertiser, aged 27, by trade a CARPENTER, an ENGAGEMENT with a Builder, or in any out-door employment. Has a practical knowledge of building in all its branches, can take out quantities, prepare plans, and measure up works. Good references. Salary moderate.—Address, A. R. H. 334, Euston-road, N.W.

TO ARCHITECTS.

WANTED by a Gentleman, a RE-ENGAGEMENT. He is qualified for an Assistant in a Gothic Office. He has good abilities in Design, a good Draughtsman, and quick at Perspective. Terms moderate.—Address, P. P. 114, Euston-road, St. Pancras.

TO ARCHITECTS AND SURVEYORS.

WANTED, by a Young Man, a SITUATION in the Office of an ARCHITECT, &c. Is a good draughtsman, and well acquainted with the duties of an architect's office. Age, 22. Salary, 30s. per week. Address, X. L. Office of "The Builder."

TO PAINTERS.

WANTED, to APPRENTICE an active Young Man, 17 years of age, to a PAINTER and DECORATOR. He has been nine months in an architect's and engineer's office.—Address to WM. BURNS, C.E. Beach terrace, Sheerness, Kent.

TO BUILDERS, CONTRACTORS, &c.

WANTED, EMPLOYMENT as GAS-FITTER, HOT-WATER, or STEAM-PIPE FITTER. Has had considerable experience in fixing galvanized iron Piping. Would prefer taking work by contract.—Address, A. K. Ponsonby-terrace, Pimlico.

TO ARCHITECTS AND GENERAL CONTRACTORS.

WANTED, an APPOINTMENT TO GO ABROAD, either as Representative of an Architect, or as General Manager for a Contractor; is practically acquainted with building in all its detail, accustomed to the preparation of detail and working drawings, and to the measuring up of works and settlement of accounts; has for the last few years officiated as Clerk of Works, previous to which was accustomed to the charge of works and workmen. Age 40. Satisfactory reference will be given.—Address, A. B. Office of "The Builder."

WANTED, by a Young Man, aged 25, a SITUATION in a BUILDER'S or CONTRACTOR'S Office; has served his Apprenticeship to a Builder, and, for six years since that time, has been fully employed in a Builder's Office as ACCOUNTANT. Can make Plain Drawings, take out Quantities, and measure all kinds of Work, and would make himself generally useful. Would have no objection to go abroad.—Address, B. C., Post-office Pembroke Dock.

TO ARCHITECTS AND BUILDERS.

WANTED, by a Married Man, a SITUATION in an ARCHITECT'S or BUILDER'S Office. A good DRAUGHTSMAN and ACCOUNTANT, has a practical knowledge of building.—Address, F. W., 11, Grosvenor-road, St. John's Wood.

WANTED, by the Advertiser, a SITUATION in an Architect's or Surveyor's office. Is a first-rate draughtsman, and possesses a thorough knowledge of detail and construction. Terms moderate.—Address, OMICRON, care of Mr. Nash, News Agent, Union passage, Bath.

TO ARCHITECTS AND SURVEYORS.

WANTED, by the Advertiser, who has served his articles, a SITUATION in either of the above Offices. Good references.—Address, R. S. Office of "The Builder."

TO MASTER PAINTERS, &c.

THE Advertiser, who is a good Workman, is in WANT of a SITUATION, as a WHITER and GRAINER. To fill up his time at painting, &c. Good references given. No objection to any part of the country.—Address, H. Y. 25, Ernest-street, Regent's Park, N.W.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who has recently had the Management of an Office, is desirous of a RE-ENGAGEMENT in town. Is a good designer, and thoroughly understands construction, writing specifications, getting up perspectives, taking surveys of dilapidations, measuring up works, taking plans of property, &c. Terms moderate.—Address, R. S. T. Agar's Library, Park-street, Camden-town.

TO ARCHITECTS.

THE Advertiser is desirous of a RE-ENGAGEMENT. Can prepare finished, detail, and working drawings. Understands perspective and colouring.—Address, R. W. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

THE Advertiser is desirous of obtaining a SITUATION in an Office as MANAGING CLERK. He is thoroughly acquainted with business routine, would be qualified to prepare any kind of drawings or designs, to take out quantities, to superintend the erection of buildings, to conduct surveys, and to use the level and theodolite. Salary, 150l. per annum.—References and particulars furnished upon application to S. K. P. Office of "The Builder."

SURVEYOR and DRAUGHTSMAN.—The Advertiser is open to an ENGAGEMENT in either of the above capacities. Has a thorough knowledge of land drainage and irrigation.—Address, J. R. A. Post-office, Upper Charles-street, Westminster, S.W.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, writing specifications, measuring, and making up Builders' accounts, disputed or otherwise. Satisfactory references to Architects and Builders.—Address, X. Y. Z. 20, Charlotte-street, Portland-place.

TO ARCHITECTS.

A YOUNG MAN wishes to meet with a RE-ENGAGEMENT in an Architect's Office. Is a good Draughtsman, and well up in the duties of an Office. Has been five years with two Architects of good standing. Salary, 80l. per annum.—Address, F. T., Office of "The Builder."

TO RAILWAY SURVEYORS, ENGINEERS, &c.

ASSISTANCE in the getting up SURVEYS, or in CARRYING OUT PERMANENT WORKS, can be rendered upon moderate terms, by a YOUNG MAN, well qualified in every respect, and possessing first-rate testimonials, whose time is not fully occupied.—Address, F. H. BARFIELD, Surveyor, &c. Farringdon, Berks.

TO ARCHITECTS, BUILDERS, CONTRACTORS, &c.

A YOUNG MAN wishes for a SITUATION with either of the above as JUNIOR CLERK and DRAUGHTSMAN. He writes a good hand, and is capable of making neat plans, tracings, &c. Testimonials unexceptionable.—Address, C. E. care of Mr. Shapcott, 54, Rathbone-place, Oxford-street.

AN experienced and rapid Draughtsman, thoroughly acquainted with construction and detail drawings, is open to an ENGAGEMENT. Good references can be given. Address, M. S. Office of "The Builder."

A FIRST-CLASS Perspective and General Architectural Draughtsman desires EMPLOYMENT in the metropolis. Terms moderate. Satisfactory references.—Address, N.E.Y. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

A GOOD and expeditious Draughtsman, in his 27th year, requires an ENGAGEMENT, either temporary or permanent. Good references. Salary very moderate.—Address, A. T. care of Mr. Broomhead, 36, Great Swinton street, Gray's-inn-road, W.C.

A STAIRCASE HAND wishes to enter into an ENGAGEMENT. Is used to Geometrical and Gothic work. References, if required.—Address, E. T. S. 4, Charlton King's-road, Camden-town, N.W.

TO ARCHITECTS.

A GOOD DRAUGHTSMAN, having a thorough knowledge of construction, and accustomed to the duties of an Architect's office. References can be given of the ensuing architects. Specimens of drawing forwarded.—Address, A. B. C. 24, Percy-street, Tottenham court-road.

TO ARCHITECTS.

A GENTLEMAN, who has been three years with an architect, is desirous of an ENGAGEMENT, as IMPROVER. Is a neat Gothic draughtsman, and colourist, can assist in taking out quantities, superintending works, &c. Salary a secondary consideration.—Address, J. P. Care of Messrs. J. Rhind & Co. 91, Fore-street, E.C.

A CLERK of WORKS is open to a RE-ENGAGEMENT in town or country. First-class references.—Address, A. B. C. 125, High street, Camden-town, N.W.

TO ARCHITECTS, &c.

AN Experienced and Practical Draughtsman and Designer is open to an ENGAGEMENT, or to take the Management of an Office, in Town. First-class perspective draughtsman and good colourist.—Address, L. Z. 3, Calthorpe-place, Banner's-field road.

AN ASSISTANT of experience in detail and construction, a good perspective and geometrical draughtsman and colourist, accustomed to office routine, is open to an ENGAGEMENT.—Address, A. B. G. Office of "The Builder."

AN industrious and energetic Young Man, who has had four years' experience in an Accountant's Office, desires, in order to better his position, to meet with an ENGAGEMENT, either as CLERK, BOOK-KEEPER, or TRAVELLER. He has a thorough knowledge of book-keeping and accounts in general, and his character will bear the strictest investigation. No objection to the country.—Address, W. V. W. Office of "The Builder."

AN ARCHITECT is desirous of engaging the services of a First-class DRAUGHTSMAN, DESIGNER, and COLOURIST, to take charge of new office, and assist in Competition Drawings. A fixed salary will be given, and a commission upon all works obtained in competition. Address—S. L. S. City Surveyor's Office, Oxford.

TO STONEMASONS.

A CLERGYMAN wishes to recommend a respectable and intelligent young man as FOREMAN in a Stonemason's Yard. He is an excellent mason and engraver.—Address, Rev. G. W. H. Littlemore, Oxford.

TO ARCHITECTS, SURVEYORS, &c.

AN ASSISTANT, who has had twelve years experience in London, is desirous of an ENGAGEMENT. Is capable of getting up working and finished drawings, perspectives, &c. Understands Land Surveying and Levelling; has also had considerable practice in the management of house property. Unexceptional reference can be given.—Address, H., Messrs. ADAMS & Co., 9, Parliament-street, S.W.

TO BUILDERS, CONTRACTORS, &c.

AN Experienced Clerk, whose time is uncompied after FOUR p.m., would be glad to render ASSISTANCE, on reasonable terms.—Address, C.C., care of Librarian, Lite rary Institute, Hammersmith, W.

A THOROUGH Practical Man is desirous of a RE-ENGAGEMENT to TAKE CHARGE of a JOB, either in town or country. Unexceptionable references, or bail given. Age, 32. Wages, 2l. 2s. per week.—Address, Y. Z. X. Office of "The Builder."

A YOUNG MAN, who has been five years in the Office of an Architect is desirous of IMPROVING himself in London. Salary no object.—Address, S. S. Post-office, Nottinghill.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY. FURNITURE, HOUSEHOLD and OFFICE. WINE and SPIRIT WARRANTS. SHARES, DEBENTURES, &c. BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Balance sheets Prepared, and Meetings of Creditors Convened Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

A NEW BRICK and LIME WHARF and DRAWDOCK, JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the VICTORIA WHARF, NINE ELMS, S. For the Sale of Building Goods generally. BRICKS, TILES, SLATES, LIME, CEMENT, HAIR, LATHS, PLASTER, SAND, BALLAST, GLAZED DRAIN-PIPES, AND RED GOODS; TERRA-COTTA; SPLAY, JAMB, AND COPING BRICKS; BUFFOLK AND OTHER PAVIORS; STAFFORDSHIRE AND FIRE GOODS; MALMCUTTERS, PICKINGS, &c. A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

BRICK-MAKING MACHINERY, capable of moulding 25,000 bricks per day, TO BE SOLD. May be seen at Bling near Southampton, and particulars obtained of the Patent Pug Brickmaking Company (Limited), No. 61, Moorgate-street, E.C.

BRICKMAKING. BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINE. Adapted for hand, horse, or steam-power, will make one-third more in quantity of first class goods, in soft and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order. Licences to Manufacture granted for certain districts For price and particulars apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

FIRE BRICKS, LUMPS, and TILES, of every description. JOHN NEWTON & CO. HONDURAS WHARF, 74, BANKSIDE, SOUTHWARK, S.E. Beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. &c. Depôt for Ramsay's Newcastle Fire Bricks, Clay Retorts, Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chemical, and Smelting purposes, and in any business or manufacture where an intense heat is required.—For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch-street, E.C.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Grissells, Place, or Stock Bats, by large storage lots, in the Thames or Canals, on reasonable terms, either for cash or approved bills. Belvidere road, Lambeth, January, 1862.

TO enterprising BUILDERS and OTHERS. The Advertiser desires ASSISTANCE to PATENT and introduce an INVENTION of the greatest importance to the trade, the production of which is moderate in expense; or the Invention for Sale. Address, for particulars, prepaid, to A. B. Z. care of S. & E. Holman, 76, Lower Thames street, E.C.

TO CONTRACTORS and RAILWAY COMPANIES.—5,000 permanent, 3,000 temporary, SLEEPERS, and FIVE MILES of RAILWAY FENCING, in Scotch fir, TO BE SOLD cheap, and to be delivered either by rail or shipping.—For particulars, apply to W. D. HARDING, King's Lynn, Norfolk.

TO BUILDERS. H. CARY, WORKING UPHOLSTERER, 9, WYNDHAM-STREET, BRYANSTONE-SQUARE, W.

HAY'S PATENT WATERPROOF GLUE (so invented by Mr. HAY, Admiralty Chemist at the Royal Naval Dockyard, Portsmouth), is of universal application, is a substitute for marine glue, and one third of the cost, namely, 22l. per ton.

It is invaluable for calking the seams of ships' decks, being three times as durable as ordinary pitch. It has been tried for upwards of seven years in Her Majesty's ship "Blonde," perfectly resisting during that time the action of the sun and weather.

It causes joints of wood, slates, tiles, and all metals to adhere most firmly; will stand an enormous pressure, and make them water-tight.

It is a substitute for black paint, and is considerably cheaper as applied to weather-boarding and fencing; and is a preservative for all iron and woodwork, and when applied to bricks or stones will prevent damp. This composition is especially adapted for application as a coating to submarine and other telegraphic wires

It is requested that on all orders the purpose for which it is required be stated.

London Agents. Messrs. G. C. WARDEN & CO. 19, London-street, Fenchurch-street, E.C. Factory, Chandos-street, Landport, Portsmouth. GEORGE WEEKS, Manager.

FODELL & CO. 8, BATH-STREET, CITY-ROAD, and 12, Grafton-mews, Fitzroy-square, continue to execute LEAD GLAZING FOR CHURCHES, Chapels, &c. in quarries or geometrical patterns, at the LOWEST PRICES. Estimates and patterns forwarded, on application, to any part of the country. Church Leads, 30s. per cwt.; Pret Leads, 35s. per cwt. for cash. All orders for lead to be sent to 12, Grafton mews, Fitzroy square.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS, SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES. CARY & PRIER, DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Manufacturers and temporary Awnings on sale or hire. Orders per post receive the most prompt attention. H. PIGGOTT, 89, Bishopsgate-street Without, E.C. Manufacturer, by appointment to her Majesty's Honourable Board of Ordnance.

DREDGER TO LET.—A DREDGING BOAT, in excellent repair, fitted with Machinery, combining all the latest improvements. Will dredge 6 feet deep, and is well calculated for River-work; width does not exceed 11 feet; draught of water, 3 feet. Now lying at Peterborough, and may be seen by applying to Mr. WILLIAM READ, Boat builder, of that place.—For further particulars, inquire of Mr. GEORGE SIDDONS, Ormside.

JOHN HERBERT & SON MODELLERS, &c. 42, PARKER-STREET, DRURY-LANE. Cornices, Centre Flowers, Shop-front Trusses, &c. FIRST-RATE WORK AT REASONABLE PRICES.

INDIA-RUBBER MILL BANDS WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING. A STOCK OF THE ABOVE ALWAYS ON HAND. JAMES LYNE HANCOCK, VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

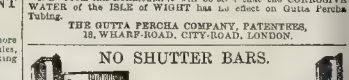
ASPHALTE FLOORING. WOODS & COCKSEDGES PATENT PORTABLE ASPHALTE CALIDON and APPARATUS, with full instructions for use. Thrice highly commended by the Royal Agricultural Society of England. The most effective apparatus for preparing the best, cheapest, and most healthy flooring for agricultural and other buildings. Made only by WOODS & COCKSEDGE (late Woods & Son), Suffolk Iron Works, Stowmarket. London Agents: RICHARDS & CO. 117 and 118, Bishopsgate Within.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM S. R. RAYMOND JARVIS, Esq., VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF-PRICE, on THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up. Sold by all Ironmongers, and the Inventor, GEORGE JENNINGS, Sanitary and Engineering Depôt, 36, Rupert street, Bleckfriars-road.

MESSRS. T. J. HILL'S & J. W. YOUNG'S DRAWING CLASSES. Offices, 70, Old-street, E.C.—These DAY and EVENING CLASSES are now open, for giving instruction in Architectural, Mechanical, Ornamental, and Perspective Drawing. Quarter commences from date of entrance. Prospectus at the Office free.—See advertisement in "The Builder," January 18, 1862.

HAND-RAILING.—The Advertiser will send (free), on application, DRAWINGS, showing his system of PERMETRICAL HAND-RAILING, which requires the least number of bevellings of any system yet published. By this system a rail can be got out for any stairs 2½ by 2; inches), out of 3-inch plank, cut square through the plank.—Address, Mr. PAWSON, Tolleshy, Middlesbrough.

TO CIVIL ENGINEERS and OTHERS.—SURVEYING, Levelling, Drawings made, Quantities taken out, and Roads and Bridges Designed, on reasonable terms, by G. B. JERRAM, C.E. 45, Lonsdale-square, London, N. N.B. A permanent Engagement with an Engineer would be accepted

T. PETTITT & CO. LITHOGRAPHERS and GENERAL PRINTERS, Frith-street, Soho square, W. beg to inform Surveyors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary speed and accuracy, and most respectfully solicit a trial. A scale of charges and specimens submitted on application. To Surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West-end, must be evident from the great convenience it may afford where despatch is required. Working Drawings and Estate Plans carefully drawn and printed. Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession. Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO. Lithographers, &c. 5, Ave Maria-lane, E.C.

CIVIL ENGINEERING, ARCHITECTURE, and SURVEYING Mr WINDER, 18, Abingdon-street, Westminster, continues to execute DESIGNS, take out Quantities, and make Valuations for Dilapidations, and all works in the above professions, at moderate charges, and with accuracy and despatch.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. YDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving nstruction in every branch of the Profession. Terms for the Course hree Months, Two Guineas. No Extras.—24, Guilford-st. Russell-uare.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers ils, Assistants, Clerks of Works, &c. Established by Messrs YDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving AY and EVENING INSTRUCTION in Architectural, Engineering, d Mechanical Drawing; Perspective, Isometrical and Geometrical rawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c ions.—Day Pupils, Three Guineas per Quarter; Evening Pupils, ne Guinea per Quarter, Five Evenings per Week, from 7 to 10. ere are no extras. The Terms include the whole of the above, with e use of Drawings, Boards, Rulers, &c.—For Prospectuses of the rawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding atents—their cost, and the mode of procedure to be adopted—issued ree of charge by the General Patent Company (limited), 71, Fleet-street ondon. ROBERT M. LATHAM, Secretary.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 25, 26, and 31, Warwick-street, W.
EDWARDS, BROTHERS, & BURKE, PROPRIETORS.
The largest and most superior Stock of Chimney-pieces in Europe on view at the above-named Establishment.
anufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
stimates for every description of Marble Stone and Granite Work.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria ilway Station, and at Commercial road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED above extensive Premises with commodious SHOWROOMS, well ocked with CHIMNEY-PIECES of the most modern designs and perior workmanship, and at the lowest possible prices.
N.B. Estimates given. Country and foreign orders executed with promptness and personal attention.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of ssrs. PINDER SIMPSON & SONS, 29, Saville row, London, and at the Museum of Practical Geology, Jermyn street, W. his stone (which is a perfect oolite), is raised in blocks of any itable size, and is about four feet thick in the bed. It will stand Y WEATHER, is much used for water-works, and for the building restoration of churches. When used as ashlar work it is not essary to place it bed-wise. It works freely with a tooth-saw, and rought at a cheaper rate than any stone in the kingdom.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, Engineering and Building purposes. Supplies direct from the arries, by vessel or railway. Direct communication with the prinal ports for EXPORTATION. Wharf prices and estimates for ial contracts, including quarry work or other labour, forwarded application.—Office, 27, Millbank-street, London, S.W.

MAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late P. FOUCARD, STONE RCHANTS and QUARRYMEN.
argoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—4, Three Crown-square, Borough.

FOREST of DEAN STONE.—
Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,
re prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general uses, suitable for every purpose to which stone is applied.
hat from their "Gosty Knoll" Quarry is similar in quality to the kshire "Park Spring" Stone, but that from their "Brick-hill" "Dark-hill" Quarries, is decidedly superior to it.
rices quoted on application, delivered on board vessel or rail, at ney, with cost of transit to any port or railway station in the ted Kingdom.

BATH! BATH!! BATH!!!
ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons' Work prepared, ready for fixing.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

BLOCK STONE! BLOCK STONE!
The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall. Architects, Builders, and Masons, are requested to call and mine the quality.
SAMUEL TRICKETT has plenty of stones that are good building nes, and require no INDURATION, yet they are uniform in colour good tint. Parties would do well to see his Stock; also NOTE, vered direct from the Quarries to all parts of the Kingdom.
The BEST and CHEAPEST STONE-WHARF in LONDON.
Address, SAMUEL TRICKETT, Isle of Dogs, E.
A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at Great Exhibition, 1851, and Two First-class Medals at the Paris ibition.
rashy imitations of this beautiful material are being palmed upon public. Architects are therefore requested to see that the name "MAGNUS" is upon each article.
himney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, a New Illustrated Catalogue of which can be had at the Pimlico le Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in les; also Slabs and Cisterns, delivered at any station in quantities ot less than five tons. Prices forwarded and estimates given on plication. Address,
No. 1, BOLD TERRACE, CHESTER.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connection generally throughout the Kingdom, that they have their
NEW and IMPROVED PRICE LISTS, English Edition, 1862,
Ready for distribution, and which can be had on application.

ROBERT WHITE, SLATE MERCHANT, SHEFFIELD.
ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor Mold Junction and Garston.

THE NORTH-WESTERN STONE WHARF, Canal Bridge, Camden-town, is the cheapest Stone Wharf in London. Also a large STOCK of all sorts of YORKSHIRE and other STONE, GRANITE CURBING, and PITCHING, is always on hand to select from. Self-faced paving at 27s. per 100 feet; 15-inch tooled, ditto, 31s. ditto; 1-inch Hare-hill Slate, 33s. ditto; and all kinds of stone, at equally low prices.—W. ASPINALL, Proprietor.
N.B.—Country orders, to ensure punctual attendance, must be accompanied by a remittance.

JOHN BAZLEY WHITE & BROTHERS, MARBLE MERCHANTS, MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parksping, Hardhill, &c. &c.
Grindstones, Sl. ns, Sills, Copping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents TREGELLES & TAYLOR.
Manager, JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the material forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

VALE of WARDOUR FREE STONE, TISBURY, WILTSHIRE.
T. P. LILLY, Quarryman and Stone Merchant, begs to introduce to the notice of Architects, Contractors, Stone Merchants, and Builders, the FREE STONE raised from recently-opened QUARRIES at TISBURY and the neighbourhood.
Geologically this Stone is identical with the Portland Oolites, and its workable properties present a medium between that material and the Bath stone. Numerous buildings of considerable antiquity attest the durability and texture of the Stone of this district. Amongst these may be cited SALISBURY CATHEDRAL, TISBURY CHURCH, the POULTRY CROSS at SALISBURY, WILTON ABBEY, &c. erected from Chilmark and other Quarries immediately adjacent to those under notice. The beds are of considerable thickness, and blocks of any ordinary size are readily obtained. Some of the beds are nearly white, and others of a cream colour; there is considerable variety in strata, the grain of some of the beds being remarkably fine, and are peculiarly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly fitted to stand the action of water, or exposure to those tests which usually affect and disintegrate the common free stone.
Specimens of the Stone may be seen at Messrs. POOLE & SON'S, Marble and Stone Works, Great Smith-street, Westminster, S.W.; and in the Museum of Practical Geology, Jermyn-street, Nos. 31 and 32, Case V.; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Tisbury Quarries.
Orders for Worked Stone carefully executed at the Quarries. Samples forwarded, and any other information may be obtained of
Mr. T. P. LILLY, Gillingham, Dorset.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

RANSOME'S IMPERISHABLE SILICEOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes.
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich.

PLASTER of PARIS.—If you want GOOD PLASTER, you must purchase ROBESON'S (established 1830), not the cheap country-made article sold by most of the agents and dealers, but PLASTER manufactured on the premises.
MOUNT PLEASANT, GRAY'S INN LANE, HOLBORN.
Unequalled superfine and fine.

FURNESS'
PATENT WOOD-WORKING MACHINES,
FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.
Prices and every information respecting these celebrated and well-known machines can be had on application to
WILLIAM FURNESS,
73, LIME STREET (late of Lawton Street), LIVERPOOL.
The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

PFEIL AND STEDALL,
IRON MERCHANTS AND WHOLESALE IRONMONGERS,
5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.



J. GURMAN,
Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows.
They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.
Send stamped envelope for Prospectus and Sectional Drawings.
Windows may also be seen at the Kensington and Conduit-street, Museums, London.



MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

DRIVING BANDS, HOSE, VALVES, &c.
THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their VULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable than leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, cold, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Cart, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.
All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.
THE LEATHER CLOTH COMPANY, Limited,
56, CANNON STREET WEST, LONDON, E.C.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of Various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Drain'ng, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS. Also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.—JOHN GOFFIN

& CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms. PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

STRINGFIELD and BLYTH,

Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLAIE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the kingdom by canal or rail.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT

combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.
Agent in Liverpool—JOHN MCKENZIE, 42, Sicil street.
Do. do. Manchester—THOMAS OAKDEN.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
ROMAN CEMENT made with the above works many times and fresh from the kilns daily. A great advantage to dealers and newer contractors, especially in winter times.
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the Lias cements so much of which is now brought into the market, and costs as Portland.
PLASTER OF PARIS, both coarse and fine, of very superior quality and low cost.
LIME.—Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the barge or yard, and may be had fresh ground daily, by steam power, for concrete
BRICKS from our fields in Kent, by the barge alongside, on the river or canals, or by cart from the above wharf, of good quality and moderate price.
A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain, Pan, and Paving Tiles, Hair, Laths, Chimney-pots, &c. always Kept in stock.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PORTLAND CEMENT WORKS

NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise,
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY,

on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants and Brokers' Orders promptly executed.

PURE HYDRAULIC LIME, Manufactured

from the best HALKIN MOUNTAIN LIMESTONE, and supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pant-y-Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

GREY STONE LIME

WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
19, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND

and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT WORKS

Northfleet, Kent.
Messrs. ROBINS & CO.
To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines, Brierley-hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

WHITE and RED SUFFOLK FACING BRICKS

and other KILN GOODS,
By Messrs. Allen & Co. Bullington, near Sudbury.
The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.
The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.
The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.
The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.
The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.
The WELL DEEP BLACK RUBBING and BUILDING BRICKS, and the WELL and CHALFONT dark and bright RED RUBBERS.
COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, } SOLE CONSIGNEES.
WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade from the Brick-fields.
N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.

—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

MARTIN'S PATENT FIREPROOF CEMENT

Is 35 per Cent. Cheaper than any other internal Cement in use.
Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.
186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,
LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

000 Dry Prepared Flooring Boards ..... } from 11s. 6d. per square
000 Pine Planks ..... from 3s. 6d. each
000 Yellow Deals..... from 3s. 3d. each
000 Spruce ditto ..... from 2s. 9d. each

5,000 Yellow Battens ..... from 11l. 10s. per 120
50,000 feet Spanish and Honduras Veneer..... } from 1½d. per foot
Maple ditto ..... from 1d. per foot

APPLY TO

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅝-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch „	12s. 6d.	13s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1¼-inch „	—	18s. 0d.	19s. 6d. „
llow Deals, 3 by 9 ..... £19 10s. per 120.	⅝-inch Matched Lining.....		13s. 0d. per square.
llow Battens ..... £11 10s. „	¾-inch „		16s. 0d. „
ruce Deals..... £16 10s. „	1-inch „		19s. 0d. „

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅜ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their achinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every descripon of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, om whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER. & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

HE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

TAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

10, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



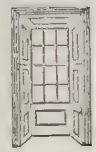
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.



SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

ITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

B. J. HUDSON,

egs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK.

With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

KEENE'S and PARIAN CEMENT for internal uses.—These well-known hard Stuccoes dry quickly, and can be painted upon within a few days.

Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster.

PORTLAND CEMENT.

GREAVES & KIRSHAW,

14 SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours,

GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,

Office, 5, George-yard, Lombard-street.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 9x Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ⅞ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

BUILDERS and CARPENTERS, and OTHERS, have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities

All sawn goods carriage free within three miles.

4-inch Flooring (well seasoned)	11s. 6d.	¾ inch do.	12s. per square
Yellow Deals, seasoned and good	19l. 10s.	per 120, or	3½d. per foot.
Spruce Deals	16l. 10s.	„	2½d. „
Yellow Battens, excellent quality	11l. 10s.	„	2½d. „
Pine Planks, dry, 12 ft. 3 in. by 11 ft.	21s.	„	3s. 6d. „

Seasoned Mahogany, Plank and Board, 6d. per foot.

A very large Stock, ready sawn and seasoned.

ALFRED CARTER, Old Bethnal-green-road, N.E.

HORTICULTURAL GLASS WAREHOUSE.

THOMAS MILLINGTON,

87, BISHOPSGATE-STREET WITHOUT, E.C.

Lists forwarded on application.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fittings, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PAINTED GLASS WINDOWS AND MURAL DECORATION.

LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford-street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 20, Soho-square, W. and George yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS and WALL PAINTING.

NOTICE OF REMOVAL.

MESSRS. CLAYTON & BELL,

Late of No. 21A, Cardington street, Euston-square,

Have removed to

311, REGENT STREET, W.

(Adjoining the Polytechnic Institution).

Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. METTAM & CO.

30 and 31 PRINCES STREET, SOHO, LONDON, W.

CHEAP WINDOW GLASS! CHEAP WINDOW GLASS! Builders, Painters, Glaziers, and the Trade generally supplied with every description of Window Glass at WHOLESALE PRICES. Sashes glazed. Lists and estimates given at

GRIST'S GLASS WAREHOUSE,
47, Chiswell-street, Finsbury, E.C. opposite Whitbread's Brewery.

TERRA-COTTA VASES, STATUES, TAZZE, &c.—The nobility, gentry, and architects are respectfully informed that JOHN M. BLASHFIELD has REMOVED his Establishment from Fraed-street, Paddington, to a New Gallery at No. 16, GREAT MARLBOROUGH STREET, W. where specimens of Terra Cotta Works of Art may be seen, and orders for London should now be addressed. Orders for the country and applications for estimates for new designs should be sent direct to the Terra-Cotta Works, Stamford, Lincolnshire.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road South, N. Jointly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor, and also, that the "Reports of the Jurors," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories shown so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACK FRIARS, TO 56, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galeries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishment, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

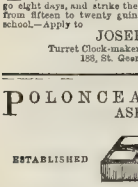
BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 37s. 6d. per 1,000.
" 8 inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 30s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, 45s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English in hunter Watches	18 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	23 "
Marine Chronometers	35 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of Ladies' Jewel in Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

BENSON'S WATCHES and CLOCKS.
"Perfection of mechanism."—*Morning Post.*

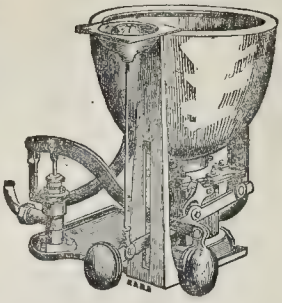


Gold, 5 to 100 Guineas.
Silver, 2 to 50 Guineas.
BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, descriptive of every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free and safe by post on receipt of a remittance.
J. W. BENSON,
33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.
(Established 1749.)

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to
JOSEPH FAIRER,
Turret Clock-maker to H. M.'s War Department,
188, St. George-street East, London.

POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED 1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the general annoyance. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

HAYWARD TYLER & CO.
ENGINEERS AND BRASSFOUNDERS,
84 AND 85, UPPER WHITECROSS STREET, LONDON, E.C.



HOWARD'S PATENT
REGULATING VALVE,
MANUFACTURED BY H. T. & CO.
Has been fixed in every situation, and proved to be
THE ONLY EFFICIENT VALVE
FOR
SUPPLYING CLOSETS WITH WATER WITHOUT THE COMPLICATED ARRANGEMENT OF CRANKS AND WIRES.
The "Great Eastern" has been fitted with these Closets, and hundreds are now in operation in many large establishments in the metropolis.
H. T. & Co. solicit an inspection at the Manufactory, where they may be seen in operation.

DOULTON'S PATENT OPERCULAR, OR LIDDED PIPES,
Permitting Examination and Cleansing without Disturbing any Part of the Invert of the Drain or Lessening its Capacity.
SOCKET JOINTS.



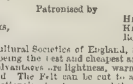
WATER LINE WHEN OPEN.



ADVANTAGES.
I. The Pipes may be laid whole as ordinary Socket Pipes and their ends need only be removed should necessity arise.
II. On the removal of the ends the drain is laid open throughout its entire length, and may be cleaned without disturbing any part of the invert.
III. The advantages of inspection are obtainable without any imperfect joints or other complication, which would allow either the escape of the sewage contents of the drain, or the entry of the surrounding soil.
IV. The capacity of the drain is not lessened when under examination, as is shown by the cross section.
V. The introduction of junctions is facilitated.
VI. The upper part or cover be no thicker in the piece with the Pipe, fits with a perfection and accuracy only possible by this peculiar mode of manufacture, and it cannot slip laterally.
VII. Perfect ventilation is secured, and increased strength obtained.
VIII. Simplicity of construction, and consequent economy.
IX. They may be laid alternately, or at any intervals, with ordinary Socket Pipes.
Manufactured by HENRY DOULTON and CO.
Offices, HIGH STREET, LAMBETH, LONDON. Manufactories, HIGH-STREET, LAMBETH ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is porte de, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 45 lbs. to the square of it feet, the roofs of cottages, small sheds, &c. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

ARMANI AND CO.
IMPORTERS DIRECT FROM THE MINES OF
PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,
LONDON, SEYSSEL ASPHALTE, PARIS,
AND BY H.M.'S ROYAL LETTERS PATENT,
MANUFACTURERS OF
1851. METALLIC LAVA. 1844.
FOR PRICE AND PARTICULARS APPLY AT THE
OFFICE, 6, GUILDHALL-CHAMBERS,
BASINGHALL-STREET.
MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862.
By Her Majesty's  Royal Letters Patent.
F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, ROBERT'S PARK.
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its use and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully solicited to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their wants. The original and sole Roofing Manufactories are F. McNEILL & CO'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER (upwards of Three Millions of Feet); also the GREAT EXHIBITION BUILDING of 1862, of near One Million Feet. A Liberal Discount allowed to the Trade.



the only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.

Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent street, W.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON. NEAR **LEEDS**

MANUFACTURERS OF THE LARGEST SIZES OF

SALT-GLAZED SOCKETED DRAIN-PIPES,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

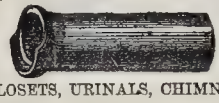
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED

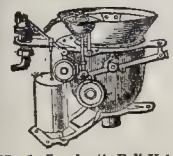


SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

THOMAS LAMBERT & SON,

No. 57. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



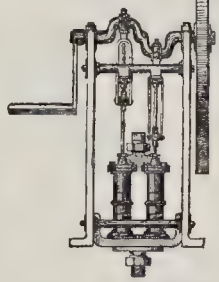
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.

T. KENT'S PAINTING-BRUSH MANUFACTORY

Is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes

Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for grahing every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

30, LONDON WALL, E.C.

Where also may be obtained their

CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,

Together with all kinds of Colours and Varnishes,

Warranted of the purest quality and at the lowest prices.

Agents for Kershaw's Graining Machines.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.

Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 6d. per gallon.

Turpentine, 5s. 6d. per gallon.

Fine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Colebill-street, Pimlico, S.W.

Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO.

at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.

PAINTING BRUSH MAKERS,

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

And of their Agents,

SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

F. TUCK, Oil and Colour Warehouse, 188, St. Alban's-place, Edgware road, W.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 45-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.

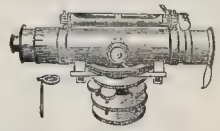
Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S

IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH,

Near Astley's Theatre,

Respectfully informs the Public that his Illustrated Price List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s each; with leading pulley, from 8s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union street, Borough, London; and of all respectable Ironmongers, Builders, &c.

J. TYLOR & SONS,

MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.

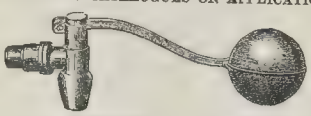
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

To be seen in action at the Manufactory,
WARWICK LANE,
And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, London.

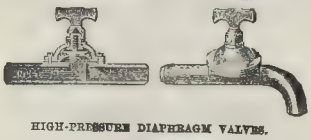
ILLUSTRATED CATALOGUES ON APPLICATION.



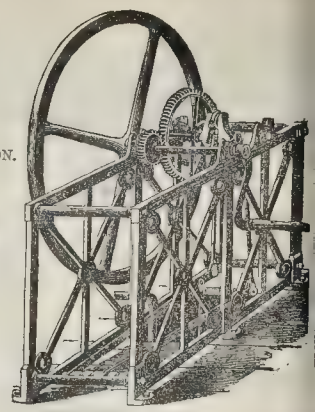
LAVATORY APPARATUS.



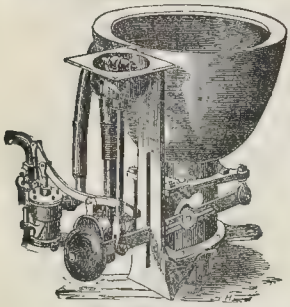
EQUILIBRIUM BALL VALVE.



HIGH-PRESSURE DIAPHRAGM VALVES.



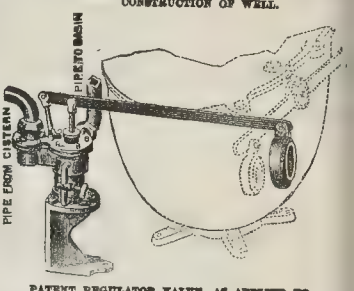
WELL-PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.
High-street, Lambeth, London.

JAMES STIFF & SONS,

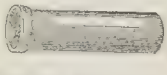
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.



HALF-SOCKET PIPES are supplied to the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also of the following Wharfs, viz.:—
Messrs GLADDISH'S, Bellamy's-wharf, Lombard-street, and Holborn Wharf, Bevan-buildings, Pratt Wharf, Camdentown.
Messrs BLACKBURN & CO.'S, City-road Wharf, Lady Bank.
Messrs GILES, SHARRATT and CO.'S, St John's-road and Turnhill Wharfs, Colebrook-row, Pentonville.
Mr. A. RIGBY, Islington-green Wharf, Cross-street.
Mr. GEORGE ALLENS, Denyer's Wharf, Chelsea.
Mr. LAVERS, Dorset Wharf, Caledonian Road.
Mr. HENRY TURNER, 2, South Wharf, Bishop's-road, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.





UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT the Patent Regulator Water Closets, Valves, Gas Meters, &c. on the same principle at CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

Sole Agent for Birmingham:
R. BROWN, 95, PRITCHETT ST.

FOR CONTRACTORS' WAGGONS, DORBIN CARTS, BARROWS, and RAILWAY PLANT, Apply to HUGHES & MARCH, Engineers and Timber Merchants, Falcon Works, Loughborough.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DORBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.

GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

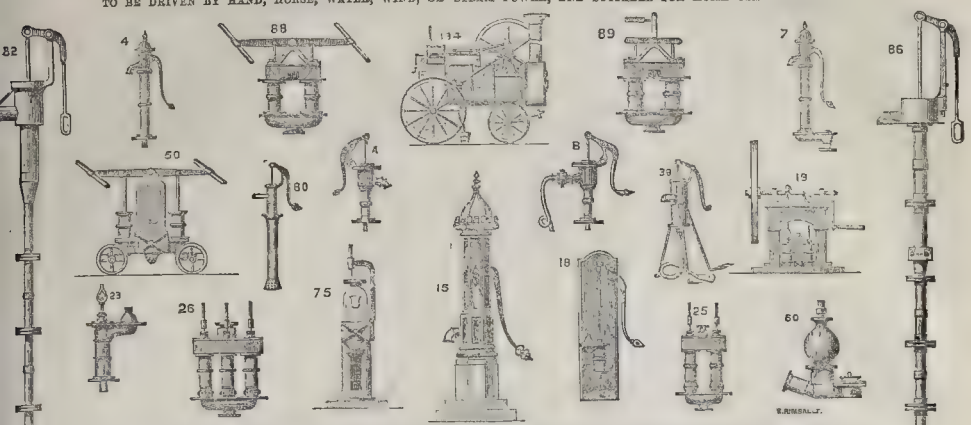
TO ARCHITECTS, BUILDERS, and DECORATORS.—Cast Work, Centre Flowers, Bloop Front Trusses, Capitals, and every description of Ornament for Internal and External decorations, executed in Plaster, Carton Pierre Composition, and every kind of Cement, at reduced prices, by W. & E. HERBERT (Sons of the late John Herbert, of Parker-street, Drury-lane), Modellers, 242 Euston-road, at Pancras.

BENJAMIN FOWLER & CO., WHITEFRIARS-ST., FLEET-ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DEEP OR SHALLOW WELLS, CUTTINGS, TANKS, &c., FOR MANUFACTURING, DOMESTIC, AGRICULTURAL, CONTRACTING, AND ALL OTHER PURPOSES;

TO BE DRIVEN BY HAND, HORSE, WATER, WIND, OR STEAM POWER, AND SUITABLE FOR HOME USE OR EXPORT.



No. 82.—Fowler's Portable wrought-iron Contractors' and Excavators' Pumps, plain or galvanized, in any lengths. 4-inch to 9-inch barrels.

No. 4.—Fowler's Improved cast Bored Pumps, for general purposes, with brass valves, to suit hose tubing, screwed or flanged. 2½ inch to 5-inch barrels.

No. 88.—Fowler's Portable Barrel wrought-iron Portable Contractors' Pumps, for hand or steam power, in any lengths, to any depth. 6-inch to 20-inch barrels.

No. 134.—Portable Steam Engines, of best modern construction, for Pumping, Sawing, Winding, &c. for Hire or to Order.

No. 7.—Fowler's Patent Side Valve Pumps, with ready means of access to valves, and improved brass buckets. Sizes 2½ inches to 5 inches.

No. 50.—Holman's Patent Portable Double-barrel Force Pumps, for emptying cesspools, pumping water from pits of shale works, for mortar mixing, wetting clay &c. 4-inch to 7-inch barrels.

No. 80.—Fowler's Improved short Cottage or Conservatory Pumps, with cocked turned and improved brass valves. Each piece can be had separate, or flanged pipes.

No. 4.—Fowler's Iron Force Pumps, mounted with handles, tinned, screwed, or ready for hose pipes; and fitted complete as seen in the cut.

No. 89.—Fowler's Wrought Portable Contractors' Pumps, plain or galvanized, with sliding suctions. 4-inch to 9-inch barrels.

No. 8.—Fowler's Improved Portable wrought-iron or copper Pumps on tripod legs, with improved valves and unions for hose.

No. 39.—Holman's Patent Double barrel Force Pumps, brass barrels, doors to valves, fly wheel, and winch handles, for supplying cisterns in mansions, &c.

No. 23.—Fowler's horse or steam Deep well Pumps, on square rails with various gears for working same.

No. 19.—Fowler's Treble barrel brass or iron Deep-well Pumps, with or without steam or horse gear for working same. 2½ inch to 12 inch barrels.

No. 75.—Holman's Patent Double-action Pumps, ready to connect to steam or horse power. 3-inch to 15-inch barrels. These will be found excellent and simple pumps for brickmakers' and manufacturers' purposes.

No. 26.—Fowler's Ornamental Public Pumps of various patterns. Drawings and estimates can be had to suit any position.

No. 18.—Fowler's Improved brass or iron Lift and Force Pumps on planks, with tinned screwed, or flanged outlets and tails. 2-inch to 3-inch barrels.

No. 25.—Fowler's Double Brass Barrel Deep Well Pumps, 2½ inch to 6-inch barrels. Frames and Gear for working same by hand or steam power.

No. 60.—Fowler's Improved Hydraulic Rams, for raising water to considerable elevations, where a fall can be obtained from a stream, pond, or spring.

No. 90.—Fowler's Portable Contractors' Pumps, with curtain heads extra strong, and suited for depths from 30 to 200 feet, 3-inch to 8-inch barrels, to be worked by hand or steam power.

Nearly the whole of the above are kept in Stock, either complete or in a forward state.

ILLUSTRATED CATALOGUES MAY BE HAD ON APPLICATION, OR FREE BY POST.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.

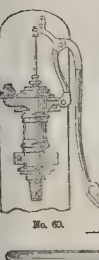

No. 85.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2¼ in.	short	1 ft. 7 in.	Fitted for lead, 1 1 0
2½ „	long	3 3	gutta percha 1 10 0
3 „	ditto	3 6	or cast iron 2 4 0
3¼ „	ditto	3 6	flanged pipe, 2 2 0
4 „	ditto	3 6	as required. 2 10 0
2½ „	short, with 15 feet of lead pipe attached, ready for fixing		3 0 0
2½ in.	long ditto	ditto	3 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.


No. 60.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the Introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch....	£6	0 0
3 „	7	5 0
3½ „	8	0 0

Larger sizes when required.

Fitted to the best Plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4	15 0
3 „	5	15 0



WARNERS' BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from £1. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.


No. 384. No. 383.

WARNERS' HIGH PRESSURE COCKS are made with gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re leathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

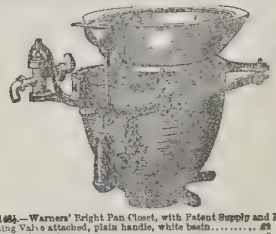
J. WARNER & SONS' PRICED ILLUSTRATED CATALOGUE WILL BE FORWARDED POST-FREE ON APPLICATION.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 1454.—Warners' Spring Valve Closet on Iron Frame, with vulcanised India rubber valve, and patent supply valve attached, plain handle, and white basin £2 15 0
Sunk handle extra 0 3 0
Blue basin, extra 0 1 6



No. 1464.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin..... £2 0 0
Sunk Handle, extra..... 0 2 0
Blue Basin, extra..... 0 1 0

The above Prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

TO BUILDERS, IRONMONGERS, SMITHS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by the Trustees to SELL by AUCTION, on MONDAY, FEB. 3rd, and following day, at ELEVEN o'clock, on the premises, No. 247, Tottenham-court-road, and Bull Head yard, Crown-street, Soho, in lots, the STOCK and IMPLEMENTS IN TRADE of a Stove and Range Manufacturer, in the following lots:—Lot 1, 4 black iron stoves from 3 feet to 5 feet 6 inches wide, many of them with wrought-iron back boilers; one 5 feet kitchener; 25 polished-steel register stoves, with ormolu and other mountings; 30 fine cast register stoves; 12 pedestal, bar, and hall stoves; 3 wrought-iron strong-room doors, of polished steel, fitted with 3 sets C. S. locks irons, wrought iron ovens, stove fronts, stable fittings, galvanized hot water cisterns, 30 register fronts, some costly carved patterns, 8 smiths' forges, bellows, anvils, top and bottom tools, stocks and dies, drilling machine, vices and benches, lever punching-press, 4 tons rod and bar iron, town cart on springs, useful horse, harness, stable utensils, and an enormous other effects.—To be viewed on SATURDAY previous to the sale, when catalogues may be had on the premises; or, if preferred, of JAMES M'GREGOR, Esq. Solicitor, Size-lane, and of Messrs FULLER & HORSEY, 7, Hatton-garden, London, E.C.

Commanding Business Premises, Tottenham Court-road.

MESSRS. FULLER & HORSEY are instructed by the Mortagees, under an absolute power of Sale, to SELL by AUCTION, on the PREMISES, on MONDAY, FEBRUARY 3rd, 1862, at ELEVEN o'clock, the valuable LEASE, with Possession, of those Commanding Business Premises, situate No. 247, Tottenham Court-road, a few paces from New Oxford-street, comprising a double-fronted shop, having a frontage of 15 feet 6 in. by a depth of 60 feet, and back frontage of 21 feet, show-rooms and dwelling house over, and a back entrance in Tyndale Mews. Held for a term of 21 years, at the very low rent of £50 per annum. To be sold in One Lot. Particulars may be had on the premises; of Messrs. TIPPETTS & SON, Solicitors, 2, Size-lane; and of Messrs. FULLER & HORSEY, 13, Billiter-street, City, E.C.

CHARING CROSS RAILWAY.—Building Materials.—Twelfth Clearance Sale.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is instructed by the Directors, to SELL by AUCTION, on the PREMISES, on Monday, JANUARY 31st, at ONE o'clock punctually, the valuable sound MATERIALS of the SOUTH EASTERN ARCADE, comprising capital brick & brick-work, excellent plate-glass and glazed shop-fronts, sashes, and frames, useful flooring-boards, strong timber in joists, and 12 doors, doors and frames, lead in gutters, and a variety of useful fixtures &c. May be viewed the day previous to sale, and catalogues then obtained of Mr MARSH, Charlotte-row, Mansion-house; of Messrs. WILLIS & HARROW, Auctioneers, West Molesey, King-ton, Surrey, and Alton, Hants; and of Mr EDWARD RYDE, Surveyor to the Company, at his offices, in the South-Eastern Railway Terminus, London bridge

N.B. The arcade having been so recently erected, regardless of expense, the auctioneers have great confidence in recommending these materials to the attention of the trade generally, and especially to persons who may be fitting up trade or business premises.

IMPORTANT SALE OF TIMBER AT HUNGERTON, NEAR LEICESTER.—TO BE SOLD, by AUCTION, by

JOHN HOLLAND, on THURSDAY, the 6th day of FEBRUARY, 1862, at the BLACK BOY INN, in Hungerton aforesaid, at 3 for 4 of very superior TIMBER, consisting of 139 Oaks, 260 Ash, 35 Willow, 120 Elm, Poplar, Beech, and other timber trees, well worth the attention of Timber Merchants and Ship-builders. To view, apply to Mr. MUGGERIDGE, at Hungerton, of whom catalogues may be had; as also at the Office of Mr F MILES, Surveyor; and the Auctioneer's Offices, Leicester. Hungerton eight miles from Leicester, six from Syston railway station, and situated on good roads. Dinner on the table at ONE; Sale to commence at TWO o'clock precisely.

IMPORTANT to CONTRACTORS, ENGINEERS, MILLWRIGHTS &c.—SALE of CONTRACTORS PLANT and MATERIALS.—Messrs Henthorn, Pearson, & Cooper, having completed their contracts for the Bute Docks, and other works at Cardiff, have instructed

MR. MARK MARKS to SELL by AUCTION, on TUESDAY, WEDNESDAY, and THURSDAY, the 11th, 12th, and 13th of FEBRUARY, the whole of their valuable PLANT, MACHINERY, &c.: comprising an excellent horizontal steam engine, of 30 h.p. power, with boiler complete, by Messrs. Fox & Co of Leeds, one of Gall wag's patent steam boilers, 6 feet by 6 feet; a planing machine, 17 feet 6 inches long, planing 18 feet by 3 feet 6 inches by 3 feet 6 inches, and self-acting in all its cuts; two tenoning and shaving machines, two new cutting and surfacing lathes, drilling machine, plate bending ditto; weigh-bridge, to weigh 10 tons, and a powerful quarry crane, capable of lifting 12 tons; several contractor-mills, with shafting; a large quantity of contractors' rails; about 100 earth waggons, with wrought iron wheels; 10 coal waggons, 36 permanent bat-load waggons; 2 carts and harness, a quantity of smiths tools, anvils, bellows, wrought iron hearths, and one 3-feet blower; a capital sawmill from end to end bench, and several good saws; an extensive range of workshops and stables; office fittings and furniture; a large Milner's safe, level, theodolite, &c, together with a quantity of other materials and fixtures too numerous to admit of details. Also, at the same time, a well-built Dredger—will dredge a depth of 26 feet, has two connected horizontal high pressure engines, with 10½-inch cylinders, and 2 feet stroke; one multitubulous boiler (Ross's patent), 20 feet by 5 feet 6 inches, very nearly new; one donkey engine, for feeding boiler, hoisting apparatus, &c.; has also on deck several powerful crabs and davits, and is in very good working condition. Also a good steam tug, the "Adeline," she has two condensing engines, 22½-inch cylinders, 3 feet 6-inch stroke (by Marshall, of Shields); one multitubular boiler, 8 feet long by 11 feet 6 in by 8 feet 6 inches; with four furnaces requiring very little fuel, and one donkey engine for feeding boiler. The boat tows well, and has very recently undergone a thorough repair. Also four Hopper Mud Barges, each about 100 tons burthen, with sailing doors, gearing, &c, complete and ready for work; and several small boats.—Catalogues may be had one week previous to the day of sale, and at the mansion the whole may be seen on application to the Contractors, at their Offices, Herbert-street, Cardiff.

TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

MR. EDWIN WHITE will SELL, without reserve, at 12, Holborn Bars, on TUESDAY next, at ONE, a large and genuine stock of French and English PAPER-HANGINGS, in every variety: 107 Chimney-pieces, wrought in statuary, veined Sicilian, dove, ruge royal, black, black and gold, and other marbles; enamelled slate, and hard stone; and 12 Water Closets, complete.—View and catalogues on MONDAY and Morning of Sale.

UPPER TOOTING.—FREEHOLD RESIDENCE, and valuable BUILDING LAND, within half a mile of the Balham Station.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on WEDNESDAY, FEBRUARY 19th, at TWELVE, in lots, a valuable FREEHOLD PROPERTY; comprising a detached Cottage Residence, with stabling, coach-house, and large walled garden, late in the occupation of Mr. Parish; and an eligible plot of Building Land, possessing a frontage of 102 feet to the main road, and offering a choice site for a few residences of superior class, or for several houses of a smaller character. The whole comprises 1a. 3r. 7p. Particulars and plan (now ready) of Messrs RUSH & SON, Solicitors, Austinfriars; and of the Auctioneers, 80, Cheapside

MARBLE SAW MILLS, CLEMENT STREET, VAUXHALL ROAD LIVERPOOL.—By order of the Proprietor, who is retiring from the Business.

MESSRS. ABRAHAMS & WALSH have received instructions to SELL by AUCTION, as above, on TUESDAY, FEBRUARY 4, 1862, the STOCK of MARBLE SAWING and ENGINEERS' MACHINERY, &c.; comprising about 500 blocks of vein, Sicilian, statuary, black, dove, Baldilla, Irish red, Devon, and Levante marbles; twenty marble and stone chimneypieces; also blocks of stone for sawing, 30,000 feet of sawn slabs, black, vein, statuary, fossil, Baldilla, dove, &c.; together with a considerable 16 horse tower engine, with two boilers; another engine, 8-horse power; four circular saw frames, waggons, wrought iron cranks, shafts, and other machinery; also, a fourton travelling crane, with chains, blocks, sheaves, bolts, &c., and other travelling crane the Premises may be viewed two days prior to the sale, and catalogues had of Messrs. ABRAHAMS & WALSH, 93, Great Portland-street, London, W.

IN BANKRUPTCY.—To PLUMBERS, PAINTERS, and GLAZIERS

MR. VIGERS is instructed by the Assignees of Mr. John Holbrook, to SELL by AUCTION, on the PREMISES, No. 5, Warwick-terrace, Chelsea (near Pont Street Station), on WEDNESDAY, FEBRUARY 5, at ELEVEN o'clock precisely, to receive proposals for LETTING, on BUILDING LEASE, for eighty years, certain PORTIONS of FREEHOLD GROUND, situate in Newgate-street and Watling-street.—Further particulars with conditions and printed forms of proposal, may be had on the Premises at this Office, where plans of the ground may also be seen. The Commissioners do not bind themselves to accept any proposals delivered at all events. Persons making proposals for their plots of land must attend personally, or by a duly authorized agent, on the above-mentioned day; and the parties will be required to execute an agreement, under bond, at once. JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, January 10, 1862

FREEHOLD BUILDING GROUND, EIGHT HOUSES with SHOPS, in the best part of Commercial road East, TO BE LET.—Apply to J. J. FROST, Rope Works, Tavern Fields, St Saviour's.

TO BRICKMAKERS.—TO BE SOLD or LET, at royalty, a FREEHOLD ESTATE, of about two acres, containing a large quantity of brick earth. It is situate within two miles of the City, and close to a railway station and coal depot.—Messrs. DEBENHAM & TEWSON, 80, Cheapside.

FREEHOLD LAND for MANUFACTORIES, either TO BE SOLD or LET on LEASE. It is situate in the Lea, and must almost immediately, or by a duly authorized agent, on the above-mentioned day; and the parties will be required to execute an agreement, under bond, at once. JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, January 10, 1862

FREEHOLD BUILDING GROUND, EIGHT HOUSES with SHOPS, in the best part of Commercial road East, TO BE LET.—Apply to J. J. FROST, Rope Works, Tavern Fields, St Saviour's.

TO BRICKMAKERS.—TO BE SOLD or LET, at royalty, a FREEHOLD ESTATE, of about two acres, containing a large quantity of brick earth. It is situate within two miles of the City, and close to a railway station and coal depot.—Messrs. DEBENHAM & TEWSON, 80, Cheapside.

FREEHOLD LAND for MANUFACTORIES, either TO BE SOLD or LET on LEASE. It is situate on

The Builder.

AN ILLUSTRATED JOURNAL FOR THE Architect, Engineer, Operative & Artist.

VOL. XX.—No. 992. FEBRUARY 8, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Castle : Northumberland 97

y-Tops 96

CONTENTS.

: the Town and Castle 89

r Sharpe's Lectures on Architecture at the Royal Aca-
—Lecture II. 90

Exhibition and Deodorization : Charcoal Filters 92

Fires 92

uildings 92

king and Boring in the Royal Horticultural Gardens,
ington 93

ation of Ancient Monuments : Royal Institute of British
ects 93

ead Cemetery Competition 95

Chimneys 96

's Palais de Justice" Competition 96

anies for Snowed up Travellers 96

on Germinating Wheat 96

ng Song 96

ts 96

ion of Civil Engineers 96

ntly executed Deep Wells and Borings 96

ils of the Prince Consort 96

of Female Artists 100

hitectural Association 100

al Engineer Department : Military Builders 100

Archæological Association 100

Matters 100

building News 101

Glass 101

ial News 101

Exhibitors 102

and Skilled Labour 102

al Association for the Promotion of Social Science : Lon-
Meeting, 1862 102

ct and Pupil : Wimbridge v. Edwards 102

ceived ; Johnson's Specimens of Early French Architec-
..... 102

nces 102

E BUILDERS' BALL, in AID of the

FUNDS of the BUILDERS' BENEVOLENT INSTITUTION, the auspices and Patronage of the Right Hon. the LORD MAYOR LADY MAYORESS, will be held at Willis's Rooms, St. James's RSDAY, 20th FEBRUARY next.

COMMITTEE OF MANAGEMENT.

tanley G. Bird.	Mr. J. Morris.
. Cozens.	Mr D. Nicholson.
. Chapman.	Mr G. Piucknett (Treasurer).
. Fish.	Mr. T. Stirling.
. Hutchons.	Mr J Thorn.
. G. Howard.	Mr. W. Todd, jun.

STEWARDS.

. Abbott, jun.	Mr. John Jay.
. D. Austin.	Mr T. E. Knightley.
. Bean.	Mr. W. Lee, M.P.
. Bird.	Messrs. Lucas, Brothers.
. Bell.	Mr. Alderman Lawrance.
. Bacon.	Mr J. Long.
. E. Bolding.	Mr G. Myers.
. Cole.	Mr. J. H. Notley.
s. Collins & Stanbury.	Mr. E. L. Price.
. Canning.	Mr. W. Phillips, jun.
. Dowell.	Mr. Alderman W. A. Rose.
Dunnage.	Mr. A. A. Robinson.
. M. Dunnage.	Mr. C. Richardson.
Ellis	Mr. R. Richardson.
. L. Edwards.	Mr. W. R. Rogers.
. Forsyth.	Mr. T. Robinson.
. J. Green.	Mr. W. Sturling.
. Horner.	Mr G Spencer Smith.
. Honeywill.	Mr R. Scarr.
Harrap	Mr. Alfred Smith.
. J. Hickman.	Mr. C. D. Sewell.
. Hall	Mr R. Thomas.
Jennings	Mr. S. Tarrett.
. H. Jackson.	Mr. W. Wood.

Gentlemen desirous of promoting the interests of the Institution by becoming Stewards, will please forward their names to the Hon. Sec., JOSEPH BIRD, 10, Hanover-cottages, Regent's Park ; or at the Offices, 23, South Audley-street, Bloomsbury. Double Ticket, 21s., Single ditto, 8s. ; and Gentleman's, 11s. Refreshments included.

January 24th, 1862.

ILDERS' BENEVOLENT INSTITU-

TION.—An ELECTION of THREE PENSIONERS, two males one female, will take place in MAY next. Candidates may ob forms of application (to be returned on or before the 24th of JANUARY) at the Office, 24, Southampton-street, Bloomsbury. Pensions, £24. per annum for males, and £20. for females.

A. G. HARRIS, Secretary.

January, 1862.

IENCE INSTRUCTION. — The Con-

tinuation of a Course on the best methods of acquiring and communicating knowledge in the following branches of Science will be delivered at the SOUTH KENSINGTON MUSEUM, on the following MONDAY evenings, at 8 p.m.

Lecture I.—Vegetable Physiology and Economic Botany. Edwin Lankester, M.D F.R.S. 3rd Feb.

Lecture II. — Mechanical Physics. Rev. B. M. Cowie, M.A. 10th Feb.

Lecture III.—Metallurgy J. Percy, M.D. F.R.S. 17th Feb.

Lecture IV.—Mining. W. W. Smyth, M.A. F.R.S. 24th Feb.

Lecture V.—Chemistry. Professor H Enman, F.R.S. 3rd March.

Lecture VI. Physiology. Professor Huxley, F.R.S. 10th March.

Persons engaged in education, upon registering their names, will have Tickets, at 6d. each, for the whole course.

By order of the Committee of Council on Education.

ARCHITECTURAL EXHIBITION,

9, Conduit street, W.—The spaces for Building Materials and Inventions are now at once to be RELET. DRAWINGS are to be sent in on MONDAY, the 3rd of MARCH, before 6 p.m. The Exhibition this year will contain an entire collection of all the sketches and designs of the late A. Welby Pugin

JAS FERGUSSON, F.R.A.S. 20, Lyndham place, JAS. EDMESTON, F.R.I.B.A. 5, Brown-court, Old Broad-street } Hon. Secs.

LECTURES on APPLIED MECHANICS,

Professor WILLIS, M.A., F.R.S., will commence a course of Thirty-six LECTURES on APPLIED MECHANICS, on MONDAY, the 10th FEBRUARY, at TWELVE o'clock, at the GOVERNMENT SCHOOL of MINES, Jermyn-street, to be continued on each succeeding Tuesday, Wednesday, Thursday, Friday, and Monday, at the same hour. Fee for the course, £2.

LECTURES on GEOLOGY—Professor RAMSAY, F.R.S., will commence A course of Thirty LECTURES, on GEOLOGY, on MONDAY next, the 12th FEBRUARY, at ONE o'clock, at the GOVERNMENT SCHOOL of MINES, Jermyn-street, to be continued on each succeeding Tuesday, Wednesday, Thursday, and Monday, at the same hour. Fee for the course, £2. TRENHAM REEKS, Registrar.

TO CIVIL ENGINEERS, ARCHITECTS,

SURVEYORS, and the PUBLIC in GENERAL.—JOHN ARCHBUTT & SONS having completed their alterations, respectfully solicit a VISIT to their Premises, where will be found an extensive STOCK of New and Second-Hand THEODOLITES, LEVELS, POCKET SEXTANTS, and all kinds of Surveying and Drawing Instruments, Telescopes, Opera Glasses, Microscopes, &c. &c. — 92, WESTMINSTER BRIDGE ROAD, LAMBETH, S.—An Illustrated Price List forwarded free.

NATIONAL ASSOCIATION for the

PROMOTION of SOCIAL SCIENCE.—LONDON MEETING JUNE, 1862.—The LORD MAYOR has convened a PUBLIC MEETING at the MANSION HOUSE, for TUESDAY next, the 11th instant, at TWO o'clock, for the purpose of forming a Reception Committee, and otherwise forwarding the preparations for the above Meeting. The attendance of all who are interested in social improvement is earnestly requested. By order of the Executive Committee,

12, Old Bond-street, W. J. H. RANDALL, Secretary.

COMPETITIONS.

TO CIVIL ENGINEERS, BUILDERS, &c.

Notice is hereby given that the Council of the Borough of Lyme Regis, Dorset, REQUIRE a PLAN, SPECIFICATION, and ESTIMATE for CARRYING OUT certain Works at the Cobb or Harbour there; to be sent to the Town Clerk, at his Office, on or before the 1st day of MARCH next, when the person only whose Plan, Specification, and Estimate is approved of by the Council will be paid the sum of fifteen guineas.—Full particulars of the intended works can be obtained at the Offices of the Cobb Clerk or Town Clerk, Lyme Regis.

GEORGE HINGESTON, Town Clerk.

Dated February 5th, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—

NOTICE to BUILDERS.—TENDERS are required for Works to be done in CONSTRUCTING a RIDING SCHOOL, at Island Bridge Barracks, Dublin.

Parties desiring to Tender for the above work must leave their names at the District Royal Engineer's Office, Lower Castle-yard, Dublin, or at the Royal Engineer Office, Island Bridge Barracks, on or before SATURDAY, the 8th day of FEBRUARY, 18-2, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government surveyor.

Office of Commanding Royal Engineer in Ireland,
Dublin Castle, 22nd January, 1862.

WAR DEPARTMENT CONTRACT.—

NOTICE to BUILDERS.—TENDERS are required for WORKS to be done in PAINTING, externally and internally, the HUTS and other BUILDINGS at the Curragh Camp, including whitewashing and repairs previous to painting.

Parties desiring to Tender for the above Work must leave their names at this Office, or at the Royal Engineer Office, Curragh Camp, on or before MONDAY, the 17th day of FEBRUARY, 1862, and pay the sum of 7s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

Office of Commanding Royal Engineer in Ireland,
Dublin Castle, 1st February, 1862.

HAMMERSMITH.—OFFERS for BUILD-

ING SIX-ROOMED HOUSES may be sent to Mr. FLEMING, Solicitor, 22, Cannon-street, City, where plans and specifications may be seen.—BUILDING-LAND TO LET.

KING STREET, GREENWICH.

PREMISES TO BE LET.

The Trustees of Sir John Morden's College are prepared to receive TENDERS for TAKING the following PREMISES, situate as above, on repairing leases, for twenty-one years from Lady-day next; viz:—

The Gloster Coffee-house and Gardens, in the occupation of Mr. Larkin.

The Angel Coffee and Chop-house.

The House, Shop, and Premises adjoining, in the occupation of Stapleton and others.

The London Hotel, in the occupation of Mr. Swiggs.

The Commercial Hotel and Dining-rooms, in the occupation of Mr. Kirkland.

The Private Houses, Nos. 4 and 5.

The Greengrocer's Shop and Premises, in the occupation of Mr. Pallant.

Tenders to be delivered at the Office of Messrs. SMITH & WILLIAMS, Architects, Frederick's-place, Old Jewry, E.C. on or before the 18th instant.

London, February 7, 1862.

CONTRACTS.

TO ROAD-MAKERS, GENERAL CON-

TRACTORS, &c.—LIVERPOOL CEMETERY.—The Burial Board for the Parish of Liverpool is prepared to receive TENDERS for EXECUTING the various WORKS required in laying out and forming the LIVERPOOL CEMETERY, at Anfield Park, Walton, including the making of roads and walks, the levelling, shaping, trenching, and digging of the ground, the laying on of drains, and other similar operations.—Plans, sections, and specifications of the work intended to be done, as prepared by Mr KEMP, Landscape Gardener, will lie for inspection at the Offices for the Board, No. 12, Clayton-square, Liverpool, on and after WEDNESDAY, the 5th inst between the hours of ELEVEN and THREE. And sealed Tenders, addressed to the Chairman of the Board, marked "Tender for Ground-work," must be delivered at the Offices of the Board, as above, on or before the 19th inst. The Board will not bind itself to accept the lowest or any Tender.—By order,

GEO TURVEY, Clerk to the Board.

12, Clayton-square, Liverpool, February 3, 1862.

TO BUILDERS.—LIVERPOOL

CEMETERY, ANFIELD PARK, WALTON.—The Burial Board for the parish of Liverpool are prepared to receive TENDERS for the ERECTION of the REGISTRAR'S HOUSE and OFFICES, ENTRANCES, LODGES, and BOUNDARY WALLS in the above Cemetery. The plans and specifications can be seen, and other particulars obtained at the Offices of the Board, 12, Clayton-square, on and after MONDAY, the 3rd day of FEBRUARY next.—Sealed Tenders addressed to the chairman of the Board, endorsed "Tender for Buildings," are to be sent in on or before the 17th day of FEBRUARY. The Board do not bind themselves to accept the lowest or any of the Tenders.—By order,

LUCY & LITTLER, Architects } to the Board.
GEORGE TURVEY, Clerk }

12, Clayton-square, Liverpool, January 24, 1862.

LONDON DISTRICT.—To BUILDERS

and OTHERS.—WAR DEPARTMENT TRIENNIAL CONTRACT for WORKS and REPAIRS.—The Commanding Royal Engineer, London District, hereby gives notice, that sealed TENDERS will be received at the War Office, Pall-mall, London, S.W. addressed to the Director General of Contracts, on or before the 21st of FEBRUARY, 1862, for WORKS and REPAIRS at the undermentioned Stations, separately or otherwise, from the 1st of APRIL, 1862, to 31st MARCH, 1865, inclusive, viz

London, comprehending the Tower of London, all the Barracks and other Buildings within five miles of that place, and Turnham-green Militia Barracks.

Croydon and Carshalton Barracks.

Hounslow, Hampton Court, and Kneller Hall Barracks, and Richmond Militia Barracks.

Windsor Cavalry and Infantry Barracks, and Belvedere Fort.

Militia Barracks, Barnet.

Militia Barracks, Hatfield.

Militia Barracks, Uxbridge.

Schedules and printed forms of Tender, price 7s. 6d. each, and all necessary information, may be obtained on application at the Royal Engineer Office, 11, James-street, Buckingham gate, London, S.W. from THURSDAY, the 9th, to SATURDAY, the 15th of FEBRUARY, 1862, between the hours of ELEVEN a.m. and THREE p.m.

The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, London District, 11, James street, Buckingham gate, January 25th, 1862.

COAST GUARD CONTRACT.—NOTICE

to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at Oliver's Gap, Theddlethorpe, St. Helen's, in the county of Lincoln, may inspect the drawings and specification at the Coast Guard Watch-house, Saltfleet; or at this Office, between the hours of TEN and FOUR, from MONDAY, the 27th day of JANUARY, to SATURDAY, the 8th of FEBRUARY now next ensuing, and both inclusive (Sunday excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at noon of the 10th of FEBRUARY, under seal, and directed to the Commodore Controller General of the Coast Guard, and endorsed, "Tender for Oliver's Gap Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 31st day of January, 1862, at the Admiralty Coast Guard Office, 19, Spring-gardens, London, S.W.

BOROUGH OF SOUTHAMPTON.—TO

CONTRACTORS, SCAVENGERS, and OTHERS.—Notice is hereby given, that the Southampton Local Board of Health are prepared to receive TENDERS from any person or persons willing to enter into a CONTRACT for the proper REPAIRING, CLEANSING, and WATERING of the PUBLIC STREETS, for the Removal of House Refuse, and other like Works within the Borough. The Contract will be for three years, from the 25th day of MARCH, 1862. Detailed specifications of the Works may be seen upon application to Mr. J. G. POOLE, the Surveyor to the Local Board of Health, at Lansdowne House, Southampton. Sealed Tenders, endorsed "Tender for Scavenging Works, &c." must be delivered to me on or before SATURDAY, the 15th day of FEBRUARY next. No pledge is given to accept the lowest or any other Tender.—By order,

CHARLES E. DEACON, Clerk to the Local Board of Health.

Southampton, January 24, 1862.

SOUTHAMPTON LOCAL BOARD of

HEALTH.—To STONE MERCHANTS, PAVIORS, and OTHERS. Notice is hereby given, that the Local Board of Health of Southampton are prepared to receive TENDERS from any person or persons willing to SUPPLY and LAY DOWN certain New PAVING in various parts of the Town. Detailed specifications of the works may be seen upon application to Mr. J. G. POOLE, the Surveyor to the Local Board of Health, at Lansdowne House, Southampton. Sealed Tenders, to be endorsed "Tender for Paving," must be left at my Office on or before SATURDAY, the 15th day of FEBRUARY, 1862. No pledge is given to accept the lowest or any other Tender.—By order of the Local Board of Health,

CHARLES E. DEACON, Clerk.

Public Health Office, Southampton, January 24th, 1862.

[For remainder of Contracts see next page.

CONTRACTS.

TO BUILDERS.—DEVONPORT, STONE-HOUSE, and CORNWALL HOSPITAL.—Persons desirous of TENDERING for the ERECTION of this Hospital at Devonport may inspect the Plans and Specifications at the Board Room of the Hospital, 9 a.m. and FOUR p.m. at my Offices, Bank Chambers, Plymouth, until SATURDAY, the 22nd FEBRUARY, where TENDERS, sealed and endorsed "Tenders for Hospital," must be received not later than ELEVEN a.m. on MONDAY, the 24th FEBRUARY. The Trustees do not bind themselves to accept the lowest or any Tender.

ALFRED NORMAN, Architect.

Ker street, Devonport, 20th January, 1862.

WELCHPOOL WATERWORKS. — The Welchpool Local Board of Health will be prepared to receive Sealed Tenders, on or before the 10th of MARCH next, for LAYING and JOINTING about 6,500 yards of CAST-IRON PIPES, and for Providing and Fixing Stopcocks, Hydrants, and other Works, in accordance with certain specifications, drawings, &c. copies of which, and of the forms of which Tenders are to be made, may be obtained of Messrs. ROBERT DYMOND & SONS, Surveyors, Exeter, at 10s. 6d each. The Board do not pledge themselves to accept the lowest or any Tender.

ALFRED MEREDITH, Clerk to the said Local Board.

Town Hall, Welchpool, 28th January, 1862.

TO BUILDERS.—Persons desirous of submitting TENDERS for the ERECTION of a new MANSION and OFFICES, at Dunraig, Perth, N.B. may see the drawings and specifications at the Offices of the Architects, WM. G. HABERSHON & PITE, 38, Bloomsbury-square, London; and on application to the Clerk of Works (Mr Jones), at Duncruh Park, Dunning. The Architects do not bind themselves to accept the lowest or any Tender

THE CONSERVATIVE LAND SOCIETY. HERTFORD ESTATE.—No. 3.—TENDERS are invited for the EXECUTION of WORKS in ROAD-MAKING and DRAINAGE on the whole of the Estate, situate near the Towns of the Ware and Hertford Branch of the Eastern Counties Railway. The following particulars are stated, in order to enable approximately the extent of the proposed works; but parties tendering will have to take out quantities themselves.

New Road, or feet wide, including footpaths, 526 feet run.		
Do 27	"	130 "
12 inch Pipe Sewer		215 "
Do do		500 "
9 inch Pipe Drains from Gulleys		60 "

No. 6 Gulley Cesspools with Gratings.

The roads, generally, will be about the natural level of the ground. Plans and Specifications may be seen, and after WEDNESDAY, FEBRUARY 12th, at the Offices of the Society's Surveyor, Mr JAMES WYLSON, 33, Norfolk street, Strand, W.C.; also at the Offices of Messrs. MEDCALF & SON, Estate Agents, &c. Fore-street, Hertford. Tenders, endorsed "Tenders for Works at Hertford," to be sent in to the Surveyor on or before MONDAY, FEBRUARY 17th. The Committee do not bind themselves to accept the lowest or any Tender submitted. Plots on the two estates (Nos. 2 and 3), adjoining the station, are on Sale—Apply as above; and also to C. L. GRUNEISEN, Secretary, at the London Offices

NEVERN, PEMBROKESHIRE. — To BUILDERS. - Persons desirous of submitting TENDERS for the proposed RESTORATION and REPAIRS of the PARISH CHURCH of NEVERN, near Newport, Pembrokeshire, may inspect the Drawing and Specifications on application to Mr. DAVID PHILLIPS, Schoolmaster, Nevern, from the 27th instant to the 12th FEBRUARY inclusive. Tenders to be sent to Mr. Prebendary Griffiths, Nevern, on or before THURSDAY, 13th FEBRUARY, addressed to the Architect, Mr R. J. WITHERS, 31, Doughty street, London, W.C. and of whom further information may be obtained. The lowest or any Tender will not necessarily be accepted. J. JONES, Vicar.

Nevern, Pembrokeshire, 24th January, 1862

CONTRACT for the SUPPLY of BUILDING MATERIALS for CONVICT PRISONS.—Persons desirous of TENDERING for the SUPPLY of Portland Cement, Deals, Slates, Lime, Iron, Bricks, Lead, Glass, Wrought and Cast Iron Ironmongery, Oils and White Paint, White Lead, Oils, &c. for twelve months from the 1st of April next, for the undermentioned Prisons, viz. Pentonville, Millbank, Brixton, Portland, Portsmouth, Chatham, Parkhurst, Dartmoor, and Woking Prisons, and the Refuge at Fulham, are requested to forward their Tenders addressed to the Secretary of Convict Prisons, 3, Parliament street, Westminster, S.W." on or before SATURDAY, the 1st of MARCH, 1862, at noon.—Forms of Tenders may be had on application at the several Prisons as before named, or at the Offices of the Directors, 45, Parliament street, on and after SATURDAY, the 25th of FEBRUARY, 1862.

By Parliament-street, 22nd January, 1862

TO BUILDERS.—Colne Valley and Halstead Railway.—The Directors are prepared to receive TENDERS for the ERECTION of a BOOKING OFFICE, WAITING ROOMS, DWELLING for STATION MASTER, and OFFICES in connection therewith, at Halstead Station. Drawings and specifications may be seen, and Forms of Tender obtained, on and of Mr. WATT, at the Railway station Halstead, on and after TUESDAY, the 11th inst. The Tenders to be sent in before TWELVE o'clock at Noon on MONDAY, the 24th inst. addressed to the Secretary at Halstead Station. The Directors do not bind themselves to accept the lowest Tender. EDMUND HARVEY, Secretary.

Halstead, 8th February, 1862.

TO CONTRACTORS and OTHERS.—CLEANSING and DUSTING.—The Vestry of the Parish of St. George in the East proceed, at the Vestry Hall, Cable street, on THURSDAY, the 13th FEBRUARY, at SIX o'clock in the evening, to receive TENDERS for CLEANSING the several STREETS in the said Parish, for a period of Twelve months, and for Collecting, Carting, and Carrying away the Dust, Dirt, Ashes, &c. (except Refuse of Trade, Manufacture, or Business), from the 25th day of MARCH next, for a term of one year, and for a term of three years, as the Vestry may then determine, agreeably to a specification, copies of which may be had at the Vestry Hall, between the hours of TEN and FIVE, on payment of 2s. No Tender will be read which does not contain a full list of the Inhabitants and Shops, as in evidence that such Tender is made bona fide, which sum, with the amount paid for the specification, will be returned on FRIDAY, the 14th FEBRUARY, to each person whose Tender is not accepted, and retained in the case of the Contract is executed. The Contractor will be required to enter into a Bond with Sureties, in such a form as may be required by the Clerk of the Vestry, for the due performance thereof. The Vestry do not bind themselves to accept the lowest or any Tender. W. L. HOWELL, Vestry Clerk

Vestry Hall, 3rd February, 1862.

RAILWAY STORES.—The Directors of the Dublin, Wicklow, and Wexford Railway are ready to receive TENDERS for supplying them, in Dublin, with such quantities of the following articles as they may require from time to time during a year, namely:—

IRON—Plate, Bar, Angle; Castings, Wire, Rivets, &c.
STEEL—Best converted, cast &
BRASS—Bearings, Castings, &
COPPER—Sheet, Rolling, Wire, &
LEAD—Sheet and Rolling, Pig, Shot, Pipe
IRONMONGERY—Locks, Hinges, Latches, &c., Builders', Coach, and Miscellaneous
LAMPS (Signal), Oil, Candles, &c.
TOOLS—Files, &c.
GLASS, Plate
COACH TRIMMINGS and FURNITURE.
LEATHER—Goods, Belting, Hose, &c.
INDIA-RUBBER ARTICLES
CANVAS—Waggon Covers, Tarpaulings, Hose, Ropes, Matting, &c.
COTTON WASTE; Wicks, Calico, Flannel, &c
OILS: Grease, Tallow, Soap, Candles, &c.
PAINTS, Colours and Varnishes, of sorts.
TURNERY, Brooms, and Brushes.

Further information, and form of Tender and Contract, may be obtained on application to the Superintendent at the Company's Stores, Grand Canal Quay, Dublin, where a specification or particulars of the several kinds of articles required may be seen. Tenders are to be addressed to the Secretary of the Company, 35, Westland-row, Dublin, so as to be received not later than ELEVEN o'clock, a.m. on THURSDAY, 27th FEBRUARY, 1862.—The Directors do not bind themselves to accept the lowest or any Tender. A. MOORE, *Sec. pro tem.*

DEODORIZATION of SEWAGE.—The Tottenham Local Board of Health are prepared to receive TENDERS for the PURCHASE and DEODORIZATION of the SEWAGE of TOTTENHAM, with the use of the buildings, plant, dwellings, and premises vacated by the representatives of the late Mr. William Higgs. The premises may be inspected, and further particulars obtained, on application to the Clerk, at the Offices of the Board, High Cross, Tottenham, where Tenders must be forwarded on or before the 1st day of MARCH next. WM. HEATH, Clerk.

EXTENSION OF TIME.

TO BUILDERS.—The Leeds King-street Warehouse Company, Limited, are prepared to receive TENDERS for the ERECTION of THREE first class WOOLLEN WAREHOUSES, in King-street, Leeds. The plans and specifications of the same may be examined, by parties proposing to Tender, at the Office of Mr. CUTHBERT BRODRICK, Architect, 2, Park-place, Leeds, from MONDAY, the 27th inst. to MONDAY, the 17th of FEBRUARY next. Bills of quantities will be provided, for parties respecting them. Sealed Tenders, addressed to "The Directors of the Leeds King-street Warehouse Company, Limited," are to be delivered at the Company's Office, 1, Park-place, Leeds, not later than WEDNESDAY, the 19th of FEBRUARY next. The Company do not bind themselves to accept the lowest or any Tender

A. W. D. LEATHER, Solicitor.

1, Bond-place, Leeds, 23rd January, 1862.

TO SEWER CONTRACTORS and OTHERS.—The Oxford Paving Commissioners are prepared to receive TENDERS for CONSTRUCTING an OPEN SEWER along a portion of the Trill Mill Stream in the city of Oxford. The drawings and specifications of the required works and the general conditions of the contract may be seen at the Office of Mr. NEVE, for and FOUR p.m. at the Commissioners' Office, Town Hall, Oxford; or particulars obtained by letter addressed to Mr. JOHN GALPIN, the Surveyor. Tenders are to be made on printed forms, which may be obtained at either of the Clerk or the Surveyor to the Commissioners, and must be delivered, sealed, at my Office, No. 4, St. Giles's-street, Oxford, on or before TWELVE o'clock at noon on MONDAY, the 10th day of MARCH next, endorsed "Tender for Open Sewer." The Commissioners do not bind themselves to accept the lowest or any Tender.

FREDERICK J. MORRELL, Clerk to the Commissioners.

Feb. 5, 1862

PRESBYTERIAN BAPTIST CHURCH, GREENWICH.—BUILDERS desirous of TENDERING for the ERECTION of the above CHURCH may inspect the Plans and Specifications, and have copies of the quantities, on application to the Architect, Mr. R. P. MORGAN, Lovell Cottage, Lewisham, S.E., where the Tenders are to be delivered not later than MONDAY, the 18th instant. The Committee will not be bound to accept the lowest Tender.

THE LONDON, CHATHAM, and DOVER RAILWAY.—TO BUILDERS, CONTRACTORS, and OTHERS. The Directors of the London, Chatham, and Dover Railway are prepared to receive TENDERS for the ERECTION of SIX GAIE KEEPER'S COTTAGES, viz.—

One	in the parish of	Gillingham,
Two	"	Rainham,
One	"	Teynig
One	"	Buckland,
One	"	Luddenham.

Tenders may be made for the whole number or for one or more of the cottages, and must state the time within which the work is to be completed. The Specifications and Conditions of Contract may be seen at the Office of Mr. WILLIAM MILLS, Resident Engineer, No. 33, Castle street, Canterbury. Tenders to be sent, marked outside, "Tender for Gatekeepers' Cottages," to F. HOLROYD, Esq., 31, Great George street, Westminster, on or before the 11th of FEBRUARY, 1862. The Directors do not bind themselves to accept the lowest or any Tender.

TO WELL-SINKERS and BORERS for ARTESIAN WELLS.—The Town Council of the Borough of Doncaster, being desirous of obtaining a better supply and quality of Water for the inhabitants of the town, are willing to receive TENDERS or BORING to ascertain if WATER can be had by means of an ARTESIAN WELL. The Tenders to state the cost per yard for the boring, the Contractor to find all implements, and Plant. The Town Council do not pledge themselves to accept the lowest or any Tender. JOHN BUTTERFIELD, the Steward, 2, Horse-fair, Doncaster, will afford every information, and point out the sites or sites of the intended work. Sealed Tenders, with references, must be addressed to the Mayor, Town Hall, Doncaster, and delivered before MONDAY, the 24th day of FEBRUARY next.

Doncaster, February 4th, 1862

GARTON in HOLDERNESS, YORKSHIRE.—TO BUILDERS.—Persons desirous of submitting TENDERS for BUILDING a small PARSONAGE HOUSE and OFFICES, at Garton, twelve miles from Hull, are informed that the drawings and specifications will lie for inspection at my House, Eastmount, near Bridlington, from the 3rd to the 17th FEBRUARY, inclusive, and may be delivered by post, prepaid, on or before THURSDAY, 20th FEBRUARY, addressed to the Architect, Mr. R. J. WITHERS, 31, Doughty street, London, W.C. of whom further information may be obtained. The lowest or any Tender will not necessarily be accepted. J. W. ASHE, Vicar.

Eastmount, 28th January, 1862

CONTRACTS, 1862.—Parish of St. George, Hanover-square.—Such Persons as are willing to CONTRACT with the Vestry of the said Parish for the following WORKS and MATERIALS, for One Year, from the 25th day of MARCH, 1862, viz.—

Supply of Flint and Gravel.
Supply of Guernsey Granite.
Purchase of the Coulers and Ashes.
Carting away the Slop and Sweepings of the Streets.
Burning of Carts and Horse for Day Work.
Supplying Water in the Streets.
Masons' Works
Paviors' Works.
Supply of Paving Materials.
Supply of Thames Ballast, Sand, and Hogging.
Supply of Wrought Tools and Hammers for Stone-breaking, and Repairs of the same.
Smiths' Works
Gasfitters' Works.
Supply of Brass Rods.
Lead pipes.
Shoeing of the Horses.
Veterinary Care of Horses.

May deliver in Proposals, sealed up, at the Offices at the Board-room, Mount-street, Grosvenor-square, or at the Board-room, 44, Lower Belgrave-place, Pimlico, on or before SATURDAY, the 15th of FEBRUARY, 1862. Persons tendering are desired to take notice that all purposes must be made upon and strictly in accordance with the printed Forms of Tender to be delivered at either of the above Offices. Further particulars may be obtained on application to Mr. E. C. RICHMAN, surveyor, at the Office, 44, Lower Belgrave-place, and by calling between the hours of NINE and ELEVEN o'clock. Contracts to be prepared by the Parish Solicitors at the expense of the Contractors, at the Vestry do not bind themselves to accept the lowest or any Tender.

By order,
JOSEPH HENRY SMITH, Clerk to the Vestry.

BOARD of WORKS, WHITECHAPEL DISTRICT.—A Meeting of this Board will be held on MONDAY, the 10th day of FEBRUARY, 1862, at SIX o'clock in the evening, at the Office of the Board, No. 15, Great Alie-street, Whitechapel, to receive TENDERS for CLEANSING the several STREETS and ALLEYS, for REMOVING the DUST and other REFUSE within the District, and for WATERING the ROADS and STREETS of portions of such District, for the period of One Year, to commence from the 1st day of APRIL next. Persons disposed to contract may obtain printed forms of the several Tenders, and such information as they may require, at the Office of the Board. Sealed Tenders, in which a 10*l.* note is to be inclosed, must be delivered at the Office of the Board, before FOUR o'clock in the afternoon of the day of meeting; and any Tender which is not upon the printed forms prepared by the Board, and duly signed by the person or persons tendering, as well as by the persons proposed as sureties, will be rejected. Persons tendering are required to attend the Board at HALF PAST SIX o'clock, at which time a preliminary agreement may be signed by the Person whose Tender is accepted. The Board, however, do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk to the Board.

15, Great Alie-street, Whitechapel, 29th January, 1862.

COLCHESTER NEW CATTLE MARKET. The Corporation of Colchester are ready to receive TENDERS for the FORMATION of the NEW CATTLE MARKET. Fol. par culars, with plans and specifications, can be seen, at the Office JAMES COOKE, Esq. C.E. Colchester, between the hours of TEN o'clock in the Forenoon and FIVE o'clock in the Afternoon, for MONDAY, the 3rd day of FEBRUARY, to SATURDAY, the 15th day of FEBRUARY next. Tenders to be sent, under cover, addressed to the Town Clerk, Colchester, on or before THREE o'clock in the Afternoon of FRIDAY, the 21st day of FEBRUARY next. The Corporation will not be bound to accept the lowest or any Tender—By order of the Market Committee. SAYERS TURNER, Town Clerk.

Town Clerk's Office, Colchester, 30th January, 1862

HULL CORPORATION WATER WORKS.—To WELL-SINKERS, CONTRACTORS, and OTHERS.—The Water Committee of the Borough of Kingston-upon-Hull, are desirous of receiving TENDERS for the SINKING a SHAFT and making a BORE-HOLE at the Derringham Springs, and other Works connected therewith. Plans and specifications can be seen and every information obtained, on application to me, at my Office, at Stoneferry, on and after the 11th instant. Sealed Tenders, addressed to the Chairman of the Water Committee, and endorsed "Tenders for BOREHOLE WELLS, &c." the Town Clerk, not later than the 25th day of the Water Committee do not bind themselves to accept the lowest or any Tender.—By order, THOMAS DALE, Resident Engineer.

Engineer's Office, Stoneferry, Hull, February 3rd, 1862.

TO BUILDERS and OTHERS.—The Commissioners for Baths and Washhouses for the Parish of Saint George, Hanover square, invite TENDERS for sundry REPAIRS, PAINTING, &c. at the two Establishments in Davies-street, Berkeley-square, and Lower Belgrave-place, Pimlico, where specifications may be had in connection with the respective superintendents, from NINE o'clock a.m. to FOUR p.m. until SATURDAY, the 15th day of FEBRUARY, 1862. Tenders to be sealed and endorsed "Tenders for Repairs," addressed to Mr. W. H. BANISTER, Board-room, Mount street, Grosvenor-square. No Tender will be received after ELEVEN o'clock in the morning of the 17th day of FEBRUARY, 1862, when the Tenders will be opened. The Commissioners do not pledge themselves to take the lowest Tender.—By order of the Commissioners,

W. H. BANISTER, Clerk.

BUILDING LAND in WAPPING.—The BOARD of WORKS for the Limehouse District are prepared to receive TENDERS for the whole or any part of a Building PARCEL of LEASE certain PLOTS of LAND in High street and Red Lion-street, Wapping, suitable for warehouses and other purposes. For particulars and conditions, and form of Tender may be obtained upon application to Mr. CHARLES DUNCH, Surveyor, at the Office of the Board, White Horse-street, Commercial-road, E.

SWANSEA LOCAL BOARD of HEALTH and WATER-WORKS.—To IRON-FOUNDERS, BRASS-FOUNDERS, CONTRACTORS, and OTHERS. The Local Board of Health for the District of Swansea, in the county of Glamorgan, do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following Contracts.—

Contract No. 2. For Supplying Cast-Iron Water-Pipes, and other Castings.

Contract No. 3.—For Supplying Sluice Valves, Hydrants, and other Steel Fittings.

Contract No. 4.—For Laying and Jointing Cast-Iron Water-Pipes Fixing Sluice Valves and Hydrants, and for other Works.

Plans, Specifications, and Forms of Tender for any or all of these Contracts may be obtained on payment of 1*l.* for each contract, on and after the Office of the Town Clerk, Guildhall, Swansea; or at the Office of ROBERT RAWLINSON, Esq. Civil Engineer, 34, Parliament-street, Westminster. Sealed Tenders, endorsed "Tender for Contract No. 2, 3, or 4," must be forwarded to the Office of the Town Clerk, Guildhall, Swansea, on or before TUESDAY, the 25th day of FEBRUARY, 1862. The Local Board do not bind themselves to accept the lowest or any Tender

C. B. MANSFIELD, Town Clerk.

Guildhall Offices, Swansea, 4th February, 1862.

TO PAINTERS and the BUILDING TRADE.—TO BE DISPOSED OF, for 200*l.* the LEASE of HOUSE and BUSINESS at the West-end. Rent, 70*l.*; lot off, 42*l.*—Apply to Mr MAY, 61, Park-street, Oxford-street.

TO BUILDERS.—To be DISPOSED OF In a good town near London, and close to a railway station, an established BUSINESS in full work, with considerable connexion with good selling-lease, and the premises most convenient for an active business.—For particulars apply to J. W. D. Office of "The Builder." No agency business will be entered into without satisfactory exchange of references.

TO YOUNG ARCHITECTS.—To DISPOSE OF, the PAPERS and GOODWILL of an old-established PRACTICE in one of the most prosperous towns in Yorkshire. For particulars, address A. Z. care of W. Blackett, esq. 7, Furnival's Inn, London, E.C.

TO PAINTERS, PLUMBERS, and GLAZIERS.—TO BE LET, an old established BUSINESS. An excellent opportunity for a preserving young man, as a good Grainer, Painter, and Plumber.—For further particulars apply to Messrs. JOHNHARE & CO. Oil-Merchants, Bristol.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, as made by GOUGH & BOYCE, the Original Patentees, and has exclusively by them at the Houses of Parliament, and numerous other Public Buildings. It is specially adapted for churches, mansions, public rooms, shops, and passages, being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. 12, Bank side, Cannon street, London.—Forwarded to all parts of the country.

KAMPTULICON or, ELASTIC FLOOR CLOTH. TAYLOR, HARVEY, & CO. MANUFACTURERS and PATENTEES, 19, Gutter-lane, Cheapside. WORKS, DEPTFORD-GREEN.

HARD CORE or DUST-PICKINGS, for roadmaking or wharfing purposes. A large quantity of this material to be GIVEN AWAY.—Apply, or send barges to MARK TOMKINS, & CO. Contractors, St. George's Wharf, 81, Wapping-wall, E.

GREAT EXHIBITION, 1862. TWO large POLISHED DEAL SHOW-CASES TO BE DISPOSED OF. Fitted with drawers under counter, with glass tops, and inclosed underneath, 9 feet high by 9 feet long each. Well made, and in very good order. Now at the Crystal Palace, Sydenham.—Apply to Messrs. MARLAND & SON, Builders, Walworth road.

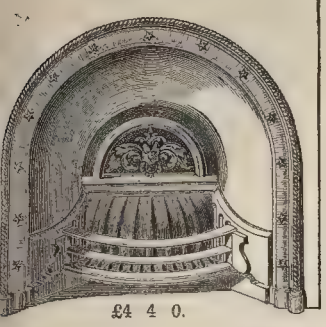
TO BUILDERS, PAINTERS, &c.—OAK GRAINING, in oil, 4*d.* per yard, in quantities of not less than sixty yards. Specimens of the work may be seen at the Mr. Sparrow's Tabernacle. Writing, &c. Reference given.—Apply to C. PATTEN, 12, Maida hill, Edgware-road.

IRON ROOM TO BE SOLD.—Length, 23 feet, height, 12 feet. Has been used till lately as a school-room.—Apply, by letter, J. W. 40, Norfolk-street, Strand, W.C.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, 53, Charles-street, City-road, E.C. near the Canal Bridge, E. GOLLOP, Sole Proprietor.

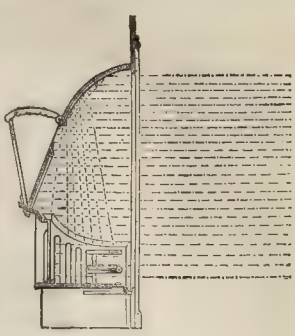
A large Stock of the Patent Hinges kept ready for delivery, consisting of floor-springs, gate-hinges, rising-hinges, rising spring hinges, rod-rising spring-hinges, double-acting spring-hinges, rising and rod-rising door back-springs, &c.—Price List and drawings on application as above.

LARK & HUNT'S PATENT VESTA REGISTER GRATE.



£4 4 0.

IT is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



STOCK AT No. 159, SHOREDITCH, LONDON.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

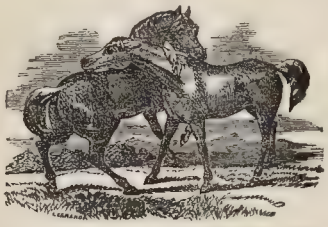
ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

PROFESSOR VARNELL'S STABLE ARRANGEMENTS.

RECOMMENDED BY THE
ROYAL
VETERINARY COLLEGE.

INSPECTION OF THE
LL-SIZED STALLS AND LOOSE BOXES,
ERECTED AT THE WORKS FOR SHOWING
THESE INVENTIONS, IS INVITED.
very Description of Stable Furniture.
LLUSTRATED LISTS ON APPLICATION.



CAST AND WROUGHT IRON WORK OF EVERY DESCRIPTION,

PLAIN AND ORNAMENTAL.

GATES, CIRCULAR STAIRCASES, STAIR-CASE, BALCONY, TOMB,
AND
OTHER RAILING;
VERANDAHS, IRON SASHES, CASEMENTS, SKYLIGHTS, CORRUGATED IRON ROOFS
AND
HOUSES, COLUMNS, GIRDERS, FLITCHES, TANKS IN WROUGHT AND CAST IRON, &c. &c.

. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their
BATH APPARATUS,
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET. LONDON.

GALVANIZED IRON AND ZINC WORKS.

ALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

ALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr. ALEXANDER YOUNG, 14a, Cannon street, London, E.C.

TO PLUMBERS.—TO BE SOLD, a PATENT LEAD-PIPE ENGINE, with casting moulds, rods, dies, &c. complete, for manufacturing pipe from ¼-inch to 2-inch bore. Apply, by post-paid letter, to Mr. JAMES LE LIEVRE, South Esplanade, Guernsey.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare-market, London.

LIGHTNING CONDUCTORS.

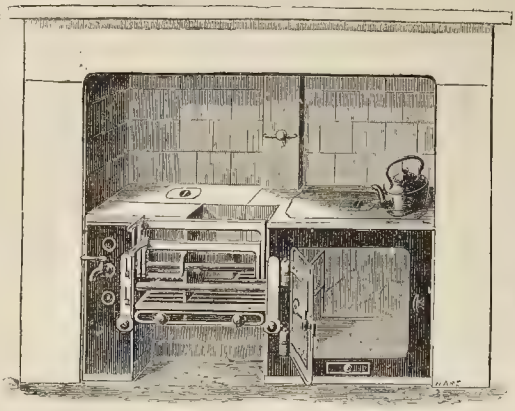
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d.	per foot.
Half-inch diameter	1s. 6d.	,,
Five-eighths-inch diameter	2s. 0d.	,,

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—120, Strand, London.
,, Gateshead-on-Tyne.
,, 27, Dale-street, Manchester.
,, 68, Anderson-quay, Glasgow.
,, 17, South Castle-street, Liverpool
,, Exchange-buildings, Dundee.
,, 7, Frederick-street, Aberdeen.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.



This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

SHEET ZINC AND METAL PERFORATING WORKS.

FRANCIS RUMMENS,
PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.
HIGHLY APPROVED ROOFING ZINC,
BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.
ZINC SLATING NAILS.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.
The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of
IRON-FOUNDERS AND SMITHS.
CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.
PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

J. GURMAN,

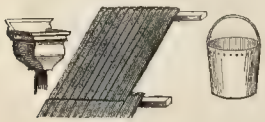


Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.



Send stamped envelope for Prospectus and Sectional Drawings.
Windows may also be seen at the Kensington and Conduit-street, Museums, London.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.
Ironroofs erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Berkley-street, Birmingham, and Limehouse, London.
LONDON OFFICE—61A, MOORGATE STREET, E.C.

HART & SON,

MEDIÆVAL METAL WORKERS,
53 to 58, WYCH STREET, and 20, COCKSP
STREET, LONDON.



FONT COVERS, ALMS BOXES, LOCKS, HINGES, HANDLES, BOLTS, TOMB RAILING, &c. &c.
LECTERNS, CORONAS, GAS STANDARDS MONUMENTAL BRASSES, &c. &c.

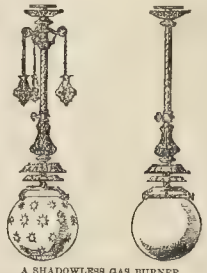
JOHNSTON, BROTHER

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

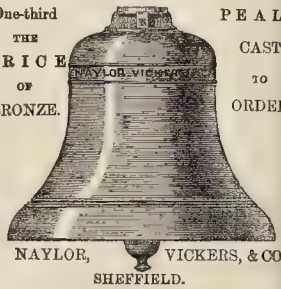
RICKET'S & HAMMOND'S
GLOBE LIGHT



A SHADOWLESS GAS BURNER.
AGAR STREET, STRAND, LONDON, W.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

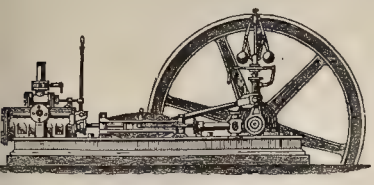
NAYLOR, VICKERS, & CO.
SHEFFIELD.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH

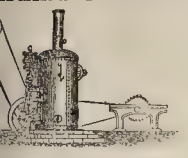
and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,
D LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,

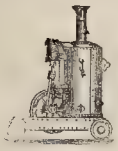


MANUFACTURERS OF
HORIZONTAL
AND
VERTICAL
STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB WINCHES, &c.
SEVERAL ALWAYS READY FOR DELIVERY.
Price List forwarded on application.

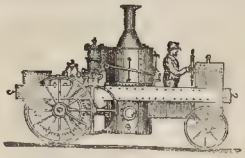
APLIN'S PATENT PORTABLE STEAM-ENGINES & BOILERS.



Stationary Engine, Fig. 1.
From 1 to 30 horse power.



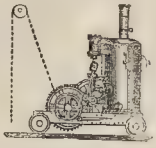
Portable, Fig. 2.
From 1 to 30 horse power.



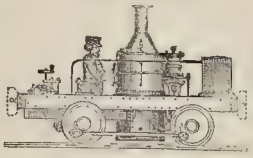
Roadway or Traction Engine, Fig. 3.
From 6 to 27 horse power.



Steam Crane, Fig. 4.
st from 30 cwt. to 10 tons.



Hoisting Engine, Fig. 5.
To hoist from 10 cwt. to 5 tons.



Contractor's Locomotive, Fig. 6.
From 6 to 27 horse power.

Further particulars and prices, on application to
ALEXANDER CHAPLIN & CO., PATENTEES AND SOLE MANUFACTURERS,
CRANSTON-HILL ENGINE WORKS, GLASGOW.



BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.
an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST ELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call l attention to the beautiful and varied productions in ART BRONZES and METAL WORK ed for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.



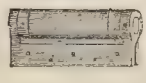
PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR-HANDLES.



PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.

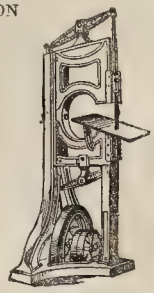




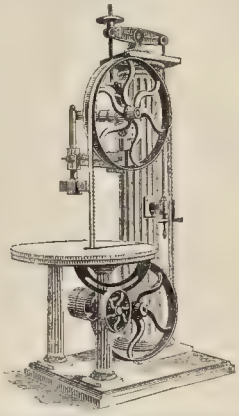
Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY AND CO.
MANUFACTURERS, BIRMINGHAM.



THOMAS ROBINSON
and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l*.
Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.

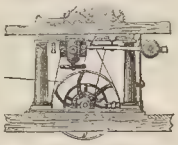


POWIS, JAMES, & CO.
VICTORIA WORKS, BLACKFRIARS ROAD, LONDON.



Patentees of the ENDLESS BAND-SAWING MACHINE, shown above, being the ONLY PATENT in the United Kingdom for an IMPROVEMENT in this class of Machine. Also Patentees of the COMBINED MACHINE, for MORTISING, TENON CUTTING, and BORING, and makers of all kinds of SAWING and WOOD-CUTTING MACHINERY, as a STEAM-ENGINE.
Drawings and Prices upon applications at the Office, No. 26, WATLING STREET, CITY, E.C.

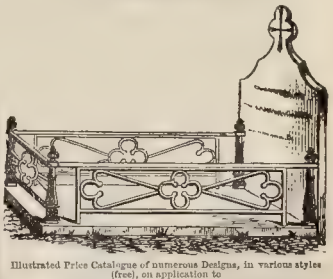
S. WORSSAM & CO.'S PATENT
SMALL MOULDING MACHINE.



(¼ inch scale.)

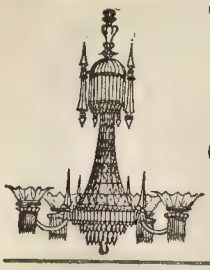
Will stick single mouldings of any pattern and of any width not exceeding 6 inches, at rates varying from 12 to 28 feet a minute. It will also make sash bars, mould skirting, or cut out eaves, troughing, &c.—Fully priced Illustrated Circulars, with full particulars, apply at the Works, 294, King's-road, Chelsea, S.W.

IRON RAILINGS for ENCLOSING
TOMBS and GRAVES,
COMMUNION RAILINGS, SCREENS, GATES, &c.



Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY STREET, OXFORD STREET,
LONDON, W.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 53, High Holborn.



THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF

CRYSTAL, BRASS, & ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY.
WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,
STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.
Descriptive, Illustrated, and Priced Catalogues free per post.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

BELL'S PATENT CAST-IRON SINKS, PLAIN or GALVANIZED.

These admirable and economical Sinks are perfectly sealed from the escape of effluvia, and cannot get out of order.
WROUGHT-IRON and STEEL GIRDERS; WROUGHT-IRON SASHES; STABLE FITTINGS, with Patent SPRING TOP GRATINGS; WROUGHT-IRON STALL, and LOOSE BOX POSTS, with REGISTERED HINGES. Column Girders, Rain Pipes, and MOULDED HEADS in Stock, in great variety; Gutters, Coal Plates, &c. at

HOOD & SON'S CASTINGS WAREHOUSE,
68, UPPER THAMES STREET.

COTTAM'S
PATENT INVENTIONS FOR STABLE REQUISITES,

Awarded a prize at the Paris Exhibition,
Patronized by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the Kingdom.
In use at her Majesty's Stables, Aldershott and Balmoral.



COTTAM & COMPANY, Winsley-street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Water-trough, and Wrought-iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S Patent Noiseless Halter Guide and Collar Rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, possesses cleanliness, and is economical in its results.

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, is a most essential addition to their fittings; it is never in the way; can be placed and replaced in an instant; while its cheapness, simplicity, and utility in keeping the contents of the troughs clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED

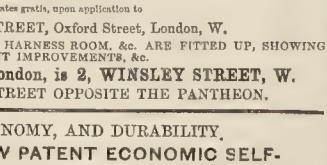
can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT-IRON VENTILATING BRACKET preserves the shape and allows a free admission of air to the under parts of the saddle.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanized, and enamelled. Iron gates, fencing, hurdles, &c.



KNIGHTLEY'S PATENT STABLE FLOOR.

Illustrated Catalogues and Estimates gratis, upon application to

COTTAM & CO. 2, WINSLEY STREET, Oxford Street, London, W.

WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

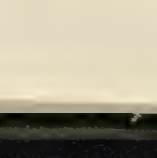
N.B.—WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.



NUT PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and particulars sent upon application.

FIRE-PROOF CONSTRUCTION

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been extensively adopted, and its application has been extended to a EVERY DESCRIPTION OF BUILDING, whether public or priv
The system combines ECONOMY with great simplicity of con tion, perfect security from fire, increased durability, and many important advantages.
The floors and roofs are formed by a combination of joists of wr or rolled iron with concrete, so constructed that each floor becom effect a beam of artificial stone with ribs of iron; the structure arsing great strength and rigidity, and forming a fire-proof found adapted to receive a finished surface, either of the ordinary floo boards, or of cement, asphalte, tiles, slate, or other material.
Some of the largest and most important buildings in the kin are now in course of erection upon this principle, which is re mended to the notice of all who are interested in building, be superseding the necessity for cast-iron girders and brick arches, a bringing the great desideratum of fire-proof construction, ava ordinary dwelling-houses and domestic buildings, within the rea every one.
Further information may be obtained of the Proprietor of th Patent,
Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

DAY and GAS-LIGHT REFLECT

MANUFACTURER.—THOMAS FOX, 90, Hatton Garden,
These Reflectors never tarnish, require no cleaning, and are thu effective and durable qualities recommended to the public.
N.B.—The usual discount to builders and the trade.

WROUGHT-IRON TANKS, CISTER

GIRDERS, FUNNELS, &c. plain or galvanised; CAT TROUGHS, IRON CART-BODIES, &c



BURNEY & BELLAMY, Mill-wall, London.

MUSGRAVE'S PATENT SLOW CO

BUSTION STOVE. This Stove is the nearest approach Warming by Hot Water, and an excel Aid in Ventilation.
It will burn in Churches from Satur till Sunday Evening, without atten during the hours of worship. In halls burn day and night for weeks, with li cars. Capable of warming a large apartm for twenty-four hours, at a cost of Th pence; and deserving of special attent because of its safety, healthfulness, d bility, and extreme simplicity
Full particulars will be sent on appli tion to the Inventors and Makers,
MUSGRAVE, BROTHERS,
Ann-street Iron Works, Belfast.



WILLIAM HOOD'S

GIRDERS for EXTIN-

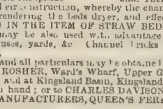
GUISHING FIRES.

The advantages to be derived from using the Patent Improved Girders are,—
In case of fire an immediate and continuous supply of water over all parts of the room in which the fire may be.
The doing away with the necessity of opening any doors or windows to get at the fire.
The application of the hose or conducting pipe to the external walls of the building, preventing the possibility of danger to any of the men employed in extinguishing the fire.
The preventing the girders from getting heated, thereby doing away with any expansion or any deterioration in their strength.
RAILWAY FOUNDRY, READING.



STABLE PAVING BRICK

DAVISON'S IMPROVED.



F. & G. ROSHER, Sole Agents.

These bricks have now been in use for the last ten years, and the complete success justifies the advertisers in recommending them the notice of architects, builders, and others
The great advantages of these bricks over all others for simil purposes are,
1st. Their cheapness. 2nd. Their great durability.
3rd. Their construction, whereby the channels on the surface each drains, rendering the bed dryer, and effects a CONSIDERABL SAVING IN THE ITEM OF STRAW BEDDING.
They may be also used with advantage for paving cattle-shed coach houses, yards, &c. Channel Tiles to correspond are al supplied.
Prices and all particulars may be obtained on application to Messr F & G ROSHER, Ward's Wharf, Upper Ground-street, Blackfria road, S.; and at Kingsland Basin, Kingsland-road, N. who have alwa stocks on hand; or to CHARLES DAVISON & CO. FIRE BRICK a TILE MANUFACTURERS, QUEEN'S FERRY, near FLINT, NORT WALES.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

RAIN-PIPES, &c.—F. A. TIDDEMA

& CO. St. Anne's Wharf, Earl-street, City, near Blackfria bridge, keep a large Stock of Rain Pipes, Heads, Shoes, Elbows, & Half to mid and O-G Gutters, Socket Pipes for Water or Gas, Flan Pipes, Hot Water Pipes and Connections, Sash Weights, and oth Castings; Iron-work for Bakers' Ovens of every description, fitt complete, to be had in Sets or in Parts. Prices equal to all comp tition. Contracts taken to any extent. Goods landed. A powerf Crane.

LOSH, WILSON, & BELL

NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work Cast-Iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES,
Office, No. 7, Size-lane, London.

MOREWOOD & CO

(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulde Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

CHUBB'S

WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

OF VARIOUS SIZES, FOR STRONG ROOMS,

AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

FINE ART CASTINGS, STATUES, BUSTS,

RELIEFS, CAPITALS, AND BASES OF COLUMNS, HIGHLY ORNAMENTAL AND INTRICATE CASTINGS IN ANY METAL.

ROBINSON & COTTAM,

THE STATUE AND IRON FOUNDRY, LOWER BELGRAVE PLACE, PIMLICO, S.W.

[AILS and IRONMONGERY, from BIRMINGHAM direct.
uilders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery, of every description, at the LOWEST BIRMINGHAM PRICES,
complete List of which will be forwarded upon application to RANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street, London, E.C.

ON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, rs, and Railings; also, Portable Buildings for Dwellings, Farm ouses, Churches, Chapels, Schools, Concert or Dancing Rooms, tres, &c. suitable to all Climates, fixed complete, in town or ry, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.



EATING BY HOT WATER.

OHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
ildings of every description, and of the most extensive dimen- on is effectually warmed by Hot Water. JOHN WEEKS & CO ive innumerable references to Churches, Dwelling houses, Ware- se, &c. &c. where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

AVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial egulator is the only efficient Instrument for insuring wholesome niform lighting, equalizing the pressure, and preventing any olarity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c &c.

OBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
anufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
ERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS



SMOKY CHIMNEYS.—The best Cure is the PATENT ALBERT CHIMNEY CAP, 260 on Buckingham Palace; in use also at St James's Palace, Wind or Castle, Government buildings, mansions, halls, club-houses, and building in general. Prospectuses on receipt of two postage stamps
JAMES BARTON,
Iron Works, 370, Oxford-street, W.
N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

ANNON IRON FOUNDRY, 80, Goswell- street, St. Luke's.—JONES & BLAXTON, having made great tions to their STOCK of PATTERNS, beg to inform the Trade that can now supply them with Plain and Ornamental Iron Columns, rs, Railings, Gates, Iron Casting, Balconies, Window Guards, andahs, Ornamental Staircase Panels, Iron Staircases, Tomb louses, Trellis Panelling, Lamp and other Brackets, Cantilevers, el Bars, Water-closet Work, Area Gratings, Fly and other Wheels, el Plates, &c.
AKERS' OVEN WORK, Forge Backs and Troughs, Rain-water e and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. ys in stock.
CASH-IRON PIPES, IRON-WORK FOR OVENS, &c.

AUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the stitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and TH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
e above are most respectfully requested to observe that all UINE ARTICLES are stamped with the NAME and ADDRESS, TH, Patentee, 69, Princes street, Leicester-square, London, and H ONLY are WARRANTED.

ANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large rtment of Brass Bedsteads, suitable both for Home use and For dest Climates; handsome Iron Bedsteads with Brass Mountings, elegantly Japanned; Plain Iron Bedsteads for Servants, every cription of Wood Bedstead that is manufactured, in Mahogany, h, Walnut Tree Woods, Polished Deal and Japanned, all fitted h Bedding and Furnitures complete, as well as every description bedroom Furniture
EAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as Bedding and other articles of Bedroom Furniture, sent by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road W.

KAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.
heets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, s, Hoops, Nails, Screws, and Manufactured Articles, supplied to Trade. Galvanized Tinned Sheets and Tubes for export.
IRON-WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

WARMING by HOT WATER or HOT AIR.
Mr. ALFRED MAY, 220, HIGH HOLBORN, begs to call the attention of Architects and others to his well-selected and extensive assortment of Hot-water Apparatus and Hot-air Stoves, adapted for the warming of public institutions, gentlemen's houses, conservatories, greenhouses, shops, &c. Estimates given, and efficiency of the Apparatus warranted.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s. Nos 55 and 56, High Holborn.

VENTILATION.—M'KINNELL'S PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its avoidance of draughts, and its being ordinarily self-regulating—the pure air flowing imperceptibly inwards, while the noxious products of respiration and combustion are simultaneously carried off. It has been applied in many of the Royal Buildings at Windsor, the Government Offices in Downing-street, and extensively in churches, public halls, schools, offices, dwelling-houses, factories, stables, and in ships, for which it has been adopted by her Majesty's Emigration Commissioners. Patentee, JOHN M'KINNELL, 15, Lancaster-place, London, W. Description and testimonials on receipt of one stamp.

IRON CASTINGS of every description; WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS; IRON WINDOWS, HOT-WATER PIPES, RAIN-WATER PIPES, and GUTTERS, PIPES for GAS and WATER, manufactured by
JAMES HAYWOOD, Junior, Phœnix Foundry, Derby.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 23, Davies-street, Three Doors from Oxford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Bradford-street, Manchester-square, running out of Baker-street, Portman-square, London W

TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS.
THE BRYMBO COMPANY, North Wales, beg to inform Contractors and others that they have made arrangements to SUPPLY the LONDON MARKET through their Agents, Mr. F. FORD, No. 9, Lawrence Pountney-hill, Cannon-street, City, with
CASTINGS OF FIRST QUALITY,
FROM THEIR OWN SUPERIOR IRON, MADE FROM THE BEST HEMATITE AND ARGILLACEOUS ORES.
All orders promptly attended to, and at moderate prices.

GALVANIZED IRON and ZINC WORKS
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
TRADE MARK. Wolverhampton, Staffordshire.

TRADE MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

DEVAUX'S PURE THICK ROOFING ZINC laid upon Mr. Edmeston's principle to insure durability, by
D. HAYWARD,
LONDON ZINC WORKS, No. 97, Blackman-street, Borough.

TO BRICKMAKERS, IRONMONGERS, AND BUILDERS.
IMPROVED STEEL BRICK-MOULDS. PASSNIDGE, BROTHERS, MANUFACTURERS of the above ARTICLES, beg to acquaint their customers and the trade generally, that they are now prepared to SUPPLY their superior make of BRICK-MOULDS for the ensuing season, and keeping a large stock on hand, of all sizes, are enabled to execute any orders intrusted to them with dispatch.—PASSNIDGE, BROTHERS, Brick-Mould Makers and Ironmongers, Uxbridge, Middlesex
Established A.D. 1768

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W NAYLOR'S Stains may be had at the Factory, 4a, James-street Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be inspected their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon.
Turpentine, 5s. 6d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, near Pimlico, Chelsea, S.W.
Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 23, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 19, Raven-row, Mile-end, E.
F. TUCK, Oil and Colour Warehouse, 138, St. Albans-place, Edgware-road, W.

HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

PAINTED GLASS WINDOWS AND MURAL DECORATION.
LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at less expense than usual.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars

STAINED GLASS and WALL PAINTING
NOTICE OF REMOVAL.
MESSRS. CLAYTON & BELL,
Late of No. 24a, Cardington-street, Euston-square,
Have removed to
311, REGENT-STREET, W.
(Adjoining the Polytechnic Institution).
Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
E. METTAM & CO
30 and 31 PRINCES STREET, SOHO, LONDON, W.

CHEAP WINDOW GLASS! CHEAP WINDOW GLASS!—Builders, Plumbers, Painters, Glaziers, and the Trade generally supplied with every description of Window Glass at WHOLESALE PRICES. Sashes glazed. Lists and estimates given at
GRIST'S GLASS WAREHOUSE,
47, Chiswell-street, Finsbury, E.C. opposite Whitbread's Brewery.

PATENT and BRITISH PLATE GLASS
JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass in or manufactured Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and Temporary Awnings on sale or hire. Orders per post receive the most prompt attention.
H. PIGGOTT,
56, Bishopsgate-street Without, E.C Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

JOHN HERBERT & SON, MOWERS, &c.
42, PARKER-STREET, DRURY-LANE.
Cornices, Centre Flowers, Shop-front Trusses, &c.
FIRST-RATE WORK AT REASONABLE PRICES.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3, PER SQUARE up to 25 feet span. Sheets of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryles from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil, covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

THE ART-WORLD.
NEW ILLUSTRATED ART PAPER.

On SATURDAY, MARCH 1, 1862, Price Fivepence (stamped for Post Sixpence), No. 1 of

THE ART-WORLD,
AND INTERNATIONAL EXHIBITOR;

A WEEKLY ILLUSTRATED JOURNAL OF
PAINTING, SCULPTURE, ARCHITECTURE, ORNAMENTAL ART AND MANUFACTURES, ENGRAVING, PHOTOGRAPHY, POETRY, MUSIC, THE DRAMA, &c.

Edited by HENRY OTTLEY,
ASSISTED BY WRITERS OF EMINENCE IN THE VARIOUS DEPARTMENTS OF ART.

"Everywhere I see an aim and use
Rise the sure Iron Wills of Art" LONGFELLOW.

This Journal will give a faithful report of all the probable, and likely, in the whole circle of the Fine and Decorative Arts; Original Articles upon the History of Art, and the Interests of Artists in the Past and in Present; Reviews of New Books relating to Art and Belles Lettres; besides a summary of the Proceedings of Artistic and Learned Societies, Art On Dits, Notes of Important Sales of Works of Art and Virtù, Correspondence, &c. especially illustrated in a novel style.

The tone of criticism in the "Art-World" will be candid and impartial, intolerant of giving error and presumptuous mediocrity, generous and encouraging in every case where merit or promise is recognized.

The contents of the International Exhibition of 1862 coming within the scope of Fine or Decorative Art, will be amply described and illustrated in the "Art World." Each number of the "Art World" will contain 32 handsome quarto pages, printed in the best style, upon paper of a fine quality.

Published by S. H. LINDLEY, at the Office, 19, Catherine-street, Strand, where Communications for the Editor, Advertisements, &c. are to be addressed; and by KENT & CO. Paternoster-row.

MOSELEY'S ENGINEERING AND MECHANICS.
New Edition, corrected, in 8vo. with Woodcuts, price 24s.

THE MECHANICAL PRINCIPLES of ENGINEERING AND ARCHITECTURE.
By the Rev. HENRY MOSELEY, M.A. F.R.S.
By the same Author, the Fifth Edition, fcp. 8vo. price 8s.
ILLUSTRATIONS of PRACTICAL MECHANICS.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

Now ready, in fcap. 8vo with 34 Plates, price 9s. 6d. cloth,

CONVERSATIONS on NATURAL PHILOSOPHY in which the Elements of that Science are familiarly explained, and adapted to the comprehension of Young Persons.
By JANE MARCET, Author of "Conversations on Political Economy" &c. &c. &c. "Chemistry" (14th Edit. 10s. 6d.), on "Vegetable Physiology" (9s.), and on "Land and Water" (5s. 6d.).
The Thirteenth Edition, thoroughly revised and improved.
London: LONGMAN, GREEN, & Co. 14, Paternoster-row.

TWO SERIES OF FAIRBAIRN'S USEFUL INFORMATION FOR ENGINEERS.
The First and Second Series, in Crown 8vo. with Illustrations, price 10s. 6d. each Series,

USEFUL INFORMATION for ENGINEERS
By WILLIAM FAIRBAIRN, LL.D.
Corresponding Member of the National Institute of France; President of the Literary and Philosophical Society of Manchester, &c.
Also by Mr FAIRBAIRN, Vol I. 8vo. price 18s.
TREATISE on MILLS and MILLWORK.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

Stereotyped Edition, in post 8vo. price 4s. 6d.

TABLES of SIX FIGURE LOGARITHMS: containing the Logarithms of Numbers from 1 to 10,000 of Times and Tangents for every Minute of the Quadrant, and of Sines for every Six Seconds of the First Two Degrees; to which are added Formulæ for the Solution of Plane and Spherical Triangles, and a Table of Constants. Superintended by RICHARD FARLEY, of the "Nautical Almanac" Office.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

PROFESSOR DE LA RIVE'S WORK ON ELECTRICITY.
In 3 vols 8vo. with Coloured Woodcuts, Price £1 16s. cloth,

A TREATISE on ELECTRICITY, in Theory and Practice.
By A. DE LA RIVE, late Professor of the Academy of Geneva.
Translated for the Author by C. V. WALKER, F.R.S.

"One of the best text-books of electricity to be found in Europe."—*Athenæum*.

"In the study of electricity the pupil will find the work of M. de la Rive to be his best guides, a truly philosophical and practical treatise, written by one who has ex-tended the boundaries of the science by his own ingenious and elaborate researches; who has united with patience every available source of information, and who possesses the rare power of setting out in a clear and popular exposition the results of his own labours and those of others."—*North British Review*.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

In post 8vo with 209 Figures on Wood, price 6s. cloth,

THE ELEMENTS of MECHANISM, designed for Students of Applied Mechanics.
By T. M. GOODEVE, M.A. Prof. of Nat. Phil. in King's College, London.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

In crown 8vo. price 10s. 6d. half-bound, 500 pp.

MEN of the TIME: a Dictionary of Eminent Living Characters (including Women). A New Edition, thoroughly Revised, and for the greater part re-written, with the addition of Several Hundred New Articles.
By EDWARD WALFORD, M.A. late Scholar of Balliol College, Oxford.
London: ROUTLEDGE, WARNE, & ROUTLEDGE, Farringdon street.

PEPPER ON MINES.—In this volume the entire Construction of Mines is fully explained; also the Various Modes of Working in Them, the Manner in which they are Ventilated, Drained, Lighted, &c. Numerous Tables of Scantlings, Weights, &c. are given.
London: ROUTLEDGE, WARNE, & ROUTLEDGE, Farringdon street.

THE QUARTERLY REVIEW, No. CCXXI. is published THIS DAY.
CONTENTS.—
I. RAILWAY CONTROL.
II. THE PRINCESS CHARLOTTE.
III. PARLIAMENTARY REFORM—THE NEW CODE.
IV. ICELAND—THE CHANGE OF FAITH.
V. THE LATE PRINCE CONSORT.
VI. SPAIN AS IT IS.
VII. LORD CASTLEREAGH
VIII. THE AMERICAN CRISIS.
JOHN MURRAY, Albemarle street.

THE DICTIONARY of ARCHITECTURE
The names of new Subscribers are desired to be received. For every information, apply to ARTHUR CATES, Hon. Sec. 9 Conduit street, Hanover-square.

ARCHITECTURAL PUBLICATION SOCIETY.
THE DICTIONARY of ARCHITECTURE,
Part I. for 1860, completing the letter F, is nearly ready for issue. The Illustrations for 1861 will be ready next month. To avoid delay in the delivery, Subscribers are therefore requested to forward any subscriptions still outstanding. ARTHUR CATES, Hon. Sec. 9, Conduit-street, Hanover-square, February 6th, 1862.

AN ILLUSTRATED CATALOGUE of the INTERNATIONAL EXHIBITION
Will be issued with the ART-JOURNAL for 1862 commencing on April 1), each part of which will consist of twenty four illustrated pages, and contain about one hundred and twenty engravings. No extra charge will be made for the Additional Illustrations in the Illustrated Catalogue; nor will any subscription be required for the introduction with Critical and Explanatory Notices of any object of Art engraved.

THE ART-JOURNAL
For February contains these and other Articles of Selected Pictures:—
"THE SWING," engraved in Line by E. GOODALL, R.A. Painted by F. GOODALL, R.A.
"BRIGHTON CHAIN PIER," engraved by R. WILLIS, after J. M. W. TURNER, R.A.
And various Articles, Tales, and Poems, illustrated by Wood Engravings of the highest attainable merit.
London: JAMES S. VIRTUE.

On 1st of February, price 2s. No. CXCVIII. (XCVII. New Series).
THE ECCLESIOLOGIST. Published under the superintendence of the Ecclesiological Society.
Contents. On Italian Ecclesiastical Architecture (continued). Queen's College Chapel, Cambridge.—Ely Cathedral.—Galway Collegiate Church.—Mr. Burges's Supplemental Notes on Florence.—Point de Galle, Ceylon (with a Photograph).—St. Mary's College, Harlow (with an Engraving).—The Prince Consort.—The Great Exhibition.—Johannes Scholasticus of Early French Architecture.—The Sarum Missal.—Discovery of the Lost Key of Mind.—Congregational Singing.—Ancient English Choral Service (with eight pages of music).—The Proposed New Psalter.—Hymns, Ancient and Modern.—All Saints, Hawkhurst.—Reports of Societies, &c.
London: J. MASTERS, Aldersgate-street, and New Bond street.

Dedicated, by Permission, to the Right Hon. Lord Palmerston.
DESIGNS for MONUMENTS, TOMBS, GRAVESTONES, &c. price 10s. complete in one volume.
By JOSEPH J. ROBINSON, Stone-cutter, Derby.
The designs in this volume are suitable for either Cemetery or churchyard. To each forwarded free to any part of the kingdom for cost, three stamps.

Just published, price 6d. Per post, for seven stamps.
THE CORPS of ROYAL ENGINEERS, and its RE ORGANIZATION.
By an OFFICER.
London: EDWARD STANFORD, 6, Charing-cross, S.W.

POLYTECHNIC.—The remarkable optical effects introduced into the Comic Pantomime of Harlequin and Mother Goose, or the Golden Egg, having interested and astonished both young and old, will be continued daily, at Four and Nine o'clock, for a few weeks longer. In order that full effect may be given to the pantomimic tricks, Messrs. Child & Child have been engaged with their Phantasmagoria Apparatus. Mr. G. A. Cooper will enact the chorus for the pantomime of Harlequin, and sing various comic songs. Professor J. H. Pepper will resume his scientific lectures this week. Open from Twelve to Five, and from Seven to Ten.

T. PETTITT & CO. LITHOGRAPHERS and GENERAL PRINTERS, Frith-street, Soho-square, W. S. to inform Surveyors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary speed and accuracy, and most respectfully solicit a trial. A scale of charges and specimens will be transmitted on application.

To Surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West-end, must be evident from the great convenience it may afford where despatch is required.

Working Drawings and Estate Plans carefully drawn and printed.
Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to the Friends and the Profession generally for the kind support received by them, W. has enabled them to organize, in addition to the previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the greatest accuracy and despatch so essential to the profession.

Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.
Lithographers, &c. 5, Ave Maria-lane, E.C.

CIVIL ENGINEERING, ARCHITECTURE, and SURVEYING.—Mr. WINDER, 18, Abingdon-street, Westminster, continues to execute DESIGNS, take out Quantities, and make Valuations for Dilapidations, and all works in the above professions, at moderate charges, and with accuracy and despatch.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extra.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineer Students, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week for Three Months. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London.
ROBERT M. LATHAM, Secretary.

MICROSCOPES.
HIGHLEY'S QUEKETT'S BEALE'S.
A descriptive Illustrated Catalogue, by post, two stamps.
SAMUEL HIGHLEY, Private Teacher of Elementary Science, 79, Dean street, Soho, London, W.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTORS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT,
20, WESTMINSTER BRIDGE-ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully informs the public that his Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
8, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

HAY'S PATENT WATERPROOF GLUE (as invented by Mr. HAY, Admiralty Chemist at the Royal Naval Dockyard, Portsmouth) is of universal application, is a substitute for marine glue, and one-third of the cost, namely, 22*l.* per ton.

It is invaluable for caulking the seams of ships' decks, being three times as durable as ordinary pitch. It has been tried for upwards of seven years in Her Majesty's ship "Blonde," perfectly resisting during that time the action of the sun and weather.

It causes joints of wood, slates, tiles, and all metals to adhere most firmly; will stand an enormous pressure, and make them water-tight.

It is a substitute for black paint, and is considerably cheaper as applied to weather-boarding and fencing; and is a preservative for all iron and woodwork, and when applied to bricks or stones will prevent damp. Its composition is especially adapted for application as a coating to submarine and other telegraphic wires.

It is requested that on all orders the purpose for which it is required be stated.

London Agents.
Messrs. G. C. WARDEN & CO.
12, London-street, Fenchurch-street, E.C. Factory, Chandos-street Landport, Portsmouth.
GEORGE WEEKS, Manager.

The Builder.

VOL. XX.—No. 992.

Alnwick: the Town and Castle.



AT present, many of us entertain vague ideas on the subject, but we readily allow that something should be done to insure the public health (under Providence). We are not so clear, nor so unanimous, as to what that something should be. The difficulty presses upon us. The larger our population, the more imperative it becomes to put into practice those laws which are necessary for the physical well-being of man. Through inattention to these laws, 237,498 lives were sacrificed in the nine years ending 1856, and fever has entered the palaces, and made nations sorrowful.

The duties of Boards of Health, too, are scarcely understood. These bodies sometimes labour under the impression that, having called in an eminent engineer to consider the state of the town under their charge, and to carry out drainage and waterworks, their duties are over — that their battle is fought; when, in point of fact, their duties may be considered to have commenced, or at all events the responsibilities connected with them to be unshared, from the day that these primary works were completed. Influenced by the latter consideration, we have surveyed Alnwick—a town which, nine years ago, was placed in the hands of Mr. Rawlinson, who laid down a comprehensive drainage and a water supply. Previously to this good work, in 1849, the town had been visited by cholera. As if to show the efficacy of the improvements, in 1857, when the fell disease again swept over the metropolis and large towns, with devastating effect, the shadow of its wings wrought no ill in Alnwick. But at the present writing an epidemic—scarlatina—is raging with virulence. As near as may be computed, 10 per cent. of the population either are, or have been, visited with some form of this disease. The local *Mercury* records, among other cases, the deaths of four individuals in one family:—"On the 20th ult., the infant daughter; on the 23rd ult., aged 32, Sarah, the wife; 24th ult., aged 2½, Mary Jane, the daughter; 28th ult., aged 9, William, the son; being four of the family of Mr. Howey Sharpe."

Alnwick is situate in Mid-Northumberland, about three miles off the North-Eastern line of railway. Passengers bound thither alight at a small, uncovered, comfortless station, at Bilton, and are thence conveyed, by a single branch line, over a pretty ride of green country, with here and there a white farmhouse, with sea and hills in view, and over a fir-planted dell, through which runs a thread of a burn, white and sparkling like a film of frost, to Alnwick. The town is built in a valley upon the banks of the Aln,—an unnavigable stream, and is encompassed by hills and moors. In the picturesque country behind these hills, to the east, is Howick, the seat of the statesman Earl Grey; to the north is Falloden, the seat of Sir George Grey, her Majesty's secretary of state; in the west is Eslington, a residence of Lord Ravensworth; and behind the fir-crested hills on the north-west, lies Chillingham Castle, the seat of the Earl of Tankerville. The Aln comes trickling down from among the hills in the west country, where there is wealth of prehistoric relics,—camps, cairns, and cists,—over porphyritic pebbles, and roots of trees and mosses, and upturned stepping-stones, getting broader and broader by the way, till it flows between banks brinked with trees, through a noble park by the foot of the Abbey of Hulne, and past the remains of the famous Abbey of Alnwick; is dammed out into a broad mill-stream; passes beneath a stone bridge; is again an ornamental sheet of water; flows calmly on through the tastefully laid out dairy-grounds of his grace the Duke of Northumberland; glides beneath a light suspension-bridge, beneath a handsome stone bridge, bearing on its eastern parapet a fac-simile of the lion that guards Northumberland House; and sweeps grandly past Alnwick Castle. This, as our readers know, is the seat of the monarch of these parts,—the Duke of Northumberland. We give a view of it.*

The outline of Alnwick Castle, as seen from the opposite banks of the river, has been considerably altered since our last account, of the works in progress there. The common attribute of a castle is impregnability; but this the alterations in question have certainly not compassed. As we stand on the opposite bank of the river and examine the aspect of the building, noting the green eminence on which it stands, which the Celtic occupiers of the county would have called a breast, so gently sloping and yet so roundly swelling, we count five exposed entrances. One is the main internal entrance from the barbican, now full in view externally, by reason of the removal of the ancient towers which formerly protected the castle from this point of sight; a second is a new gateway leading outwards on the south side; a third in the sallyport tower, with a parapeted flight of steps; a fourth leading up a loftier flight of steps by the constable's tower to a terraced walk at the base of the old curtain wall; and that which appears a fifth gateway, after more scrutiny, turns out to be an arched recess, which carries part of the new line of a terraced walk. Further alterations are apparent in the façade of commissioner's, clerk's, steward's room, and servant's hall offices, facing the south, which a century since were built on the banks of the moat: these have had the sash-windows picked out, and others of ecclesiastical type inserted. This same line of frontage embraces the long range of kitchen-offices. This large bulk of building is all without the confines of the castle, an arrangement that is also an innovation upon precedent. The building operations of the year have been further marked by the partial erection of a very large room in the stableyard, which has laundries and washhouses in the vaulted cellars. The large room is to serve as a place in which to give dinners, concerts, and theatrical entertainments to the ducal tenantry and tradespeople, and in the intervals of this festive service it will be used as a coach-house. This hardly comes up to our previous expectation of a Percy banqueting-hall, more especially as being in the stable-yard, it is but in the outskirts of the castle instead of in that innermost place which ancient hospitality offered to guests. The only other banqueting-room in the castle is that on the site of the ancient Percy's dining-hall, which is but of ordinary palace dining-room dimensions. There are, too, other novelties peeping over the battlements—common red tile chimney-pots. In explanation of this incongruity, we learn that in spite of the application of every modern appliance, the smoke nuisance cannot be overcome. The smoke-curing doctor at one time applied a device which made the parapets appear to be covered with rooks; but this odd-looking contrivance was of no avail, and the old-fashioned chimney-pot is now under experiment. The castle being exposed full front to the north and east winds, has always been a prey to eddies and whirls; and the destruction of the outer ward by the removal of the Falconer's and Armourer's towers has left it still more unprotected from these troublesome borderers.

The castle was completely sewered from Mr. Rawlinson's plans at an early date. Like those of all ancient palaces, such drains as there were were found to be full of the accumulations of ages. Hard and soft water were conveyed from private reservoirs in the ducal parks; and water-closets have been provided adjacent to nearly every bedroom. The Duke of Northumberland was among the first to recognize the importance of sanitary reform. We shall cite in proof of this, shortly, the experiments that have been made with the Alnwick sewerage. Meanwhile, we find our way over the Lion bridge to the barbican, and pass into the interior of the castle. Internally, the Italian decorations of the castle have been progressing apace with the works of the exterior; and those who sat in the Royal Institute of British Architects and heard Professor Donaldson describe how "the legends and ballads, the hills, the valleys, and the plains of the surrounding country" were to be interwoven with the Roman style, may now see how this has been done. The costly decorations of ceilings, chimney-pieces, shutters, doors, and dados, to the state rooms, library, ante-room, saloon, drawing-room, and dining-room, have been carried out in the greatest minutiæ with the same acanthus scroll-forms peculiar to the ornament of the cinque-cento period, without any deviation or device whatever to recall the traditions of the house as promised by the professor. Even the furniture, the looking-glass frames, and picture-frames, are being carved in the same style; and a foreign gallery of pictures—the Commucini gallery—has been imported to complete the Italian *ensemble*. Of the twenty-one men and six boys we saw in our former visit carving these delicate and famous decorations, we learn that five are dead, several others gone on their various ways, leaving a small remainder to complete the furniture and picture-frames; while the head, Signor Bulletti, is now seeking employment at Newcastle, where, says an advertisement in the Newcastle journal, communications addressed to him at the office of that paper will have prompt attention. The question of the preference of the wood work over plaster has not been borne out either; as, for the six ceilings which have been panelled and carved in wood, twelve have been effected in equally rich decorations in plaster. A further fact interesting to English architects is the joint conduct of the work by two architects—the one Italian, the second English. For some time it was a matter of doubt whether the decorations of the grand staircase and vestibule would be given to foreign or native skill. In anticipation of English decoration, the staircase walls were built of polished stone; but this has been since cut away, and a plaster surface made for Italian ornaments.

The new gateway on the south side of the castle leads to the gardens, which are situate some quarter of a mile to the east of the castle. Here we find that his grace has found employment for a large number of men in the additions and alterations to the gardens, which are now in course of development to a size and magnificence commensurate with the increased accommodation in the castle. Several acres of sloping lands have been added to the gardens, which were already extensive enough to boast of peacheries, pineries, and vineries; and these, with the addition of a new conservatory, will enable them to vie with those of any nobleman in the kingdom.

Emerging into the town by the stern and cunningly contrived barbican, and crossing the now filled-in moat and paved way in place of the drawbridge, we face a wide, roomy street called Bailiff-

* See p. 97.

gate. The whole of this street has been recently lowered several feet, and the sunny side of the street paved handsomely with York flags, the less fortunate shadowy side being provided with but a narrow footway of a porous, indigenous sandstone. The execution of this scheme has entailed the drawback of the erection of a flight of steps up to the doors of the houses, and, as these are guarded with iron railings, they are likely to be dangerously in the way in the dark, unless the gas-lamps which we see newly placed prove an efficient remedy. With the exception of Sundays, when the parishioners wend their way to the church at the end of the street, half a dozen persons are rarely to be seen at a time in Bailiff-gate. There are many localities where there is more traffic that stand in need of similar improvement. The first house in the street, called the commissioner's, is of a square form and colossal proportions, which, unfortunately, overwhelm and overshadow the picturesque barbican of the castle to which it is adjacent. The rest of the same side of the street is composed of neatly-fronted houses with small-paned windows,—the residences of the duke's bailiff, the duke's solicitor, the duke's clerk of works,—a passage-way leading to tenements, or "rooms to let," where a large ash-pit serves many families, a neatly-fronted Roman Catholic chapel and schools, set back from the line of houses, the residence of Dr. Hedley, with a peep of a beautiful country through the open carriage-entrance, a shop or two, the Red Lion Inn, where horses are lodged in the rear, who walk up a flight of steps and pass through the main passage of the house, a house or two more, another passage with a small farm-yard in the rear, haystack, stabling, and piggeries; and, at a right angle, a row of small houses overlooking the east end of the old parish church. At the end nearest the castle of the opposite side of the street there is a ruined building, supported by massive buttresses, inclosed in a space boasting a few trees, and next to it the entrance to a small square of ruinous buildings, partly tenantless, yet where there are occupants of rooms over stables and under ruined granaries, and where there is a vast ash-pit on one side adjacent to a tenantless building—a forlorn and dejected-looking place—and next to this again some neatly-fronted solicitors' offices, with the objectionable flights of new external steps to the doors projecting on to the pavement as before-mentioned, then Hubbick's veterinary surgery and forge, and small house or two and a shop. The parish church is situate on a piece of high table-land in the midst of a crammed and partially-closed church-yard. It has undergone many alterations, both externally and internally. It is now remarkable for a late perpendicular tower and a south aisle with windows and pinnacled buttresses, of excellent perpendicular workmanship, which, though fretted and worn, and out of the perpendicular, should be scrupulously preserved. The interior is a heterogenous mixture of oddments which, almost for the curiosity of their appearance, might be retained without offence; a chancel ceiled with elaborately-thin plaster fan-groining of the Georgian era, high canopied stalls for the ducal pews, faded and tattered banners, helmets and gauntlets of no ancient date, whitewash and colourwash, high pen-pews facing all parts of the compass, and huge galleries which are so close to the ceiling that sky-lights have been inserted to give light to the occupants.

At the west end of the churchyard the land falls to a low level, descending a road called Canongate. This is a long street, occupied on both sides by tenements, in some few cases of a neat description, with a greater proportion of those of a poorer kind. At the head of the street, where you may turn and see the old parish church behind you, or the richly-wooded ducal parks and dim Cheviot Hills, in the distance, before you, are the gas-works. On the west side going down the street is a row of dilapidated thatched cottages, with a second row close upon them in the rear. In all cases the tenements are portioned off as rooms to let, separate families occupying each room, and nearly all using yards, water-closets, and ash and offal pits in common. Sewerage has been applied, and an abundant supply of water laid on to this district; but with these exceptions, it still possesses the unsanitary conditions which were conducive to choleraic disease and fever described in the report to the General Board of Health in 1850, as is proved by the fact of the prevailing epidemic having now visited it. Pigsties, stablings, with imperfect drainage for them, vast ash and offal pits, garden soil 4 feet above the level of the floors, all crowd close upon the houses; and the percolations from them soak gradually down from the highest to the lowest points. The road is unevenly macadamized, and poor pebble gutters, with gratings at intervals, are used in common by the tenants, mostly of the front rooms, as places on which to dispose of their slops and suds. The paving is narrow, broken, and bad, and scavenage but rarely applied. One particular spot, called Canongate-hole, is perhaps in a worse condition than others, as no particular place is provided for the ashes, offal, and manure from the dwellings and pigsties; nor are they carried away: these accumulations lie about in soddened heaps. At the lowest end of the street one owner of property has attempted to put his tenements into a comfortable and habitable state. Seven different families occupy as many rooms, for whom are provided, in a nicely paved yard, seven lock-up coal-places; but even these increased comforts stop short of sanitary requirements: only two dark water-closets are provided for the seven families, and but one ash and refuse pit, which, at the period of our visit, was crammed full, disseminating a choking odour, and swarming with rats. The adjacent property belonging to the same owner is kept with much nattiness: each tenant must take his turn to cleanse the yards and the water-closets, which latter are kept clean though they are dark! but the ash-pit is again a large reservoir of ammonia-yielding refuse, covered and pitch dark, with a small trap-door, through which the offal is put in and got out. These are savoury conditions compared to those of other properties in the same street; but as if to prove that neatness is of no avail where there are these accumulations, an occupant of one of the front rooms has been attacked by the prevailing epidemic. We must urge that sanitary reform does not cease with the application of sewerage and water-supply: it simply begins with them. The contiguity of the rotten contents of ash and offal pits is as dangerous to health as imperfect drainage: want of light and ventilation are equally so; and the crowding of families into single rooms is quite as pernicious. This said Canongate, the old road to Alnwick Abbey of which but the gateway remains, is the main thoroughfare through which thousands of excursionists from Berwick, Newcastle, Sunderland, Shields, and other towns, flock on their way to the duke's parks and grounds, which are always freely thrown open to them. On the day of the local flower-show held on the site of Alnwick Abbey, the 5,000 visitors who pass down Canongate must carry away with them impressions that are not very complimentary.

Re-ascending Canongate we notice opposite the gasworks, besides Walker-gate, a second road branching off immediately under the churchyard, and called Painter's-hill, where there are houses in much too close contiguity to such a deadly neighbour. The very neat and comfortable-looking parsonage is set back in the glebe land facing us as we climb the last length of the steep street. The incumbent, the Rev. Court Granville, we learn from many lips, is a zealous worker among the poor, and is staunch in his endeavour to ameliorate the condition of their dwellings; and, glancing at the sloping street which he may see from his windows, we must own there is work for him ready to his hand. Skirting the parsonage grounds a road up a steep hill, called Northumberland-street, having a few nice houses with a breezy westerly aspect facing the moors on one side of it, leads to a lofty gateway tower known as Potter-gate, built on the site of one of the ancient towers on the town walls. Referring again to the report of the state of the town at the time of the prevalence of the cholera, the street which runs from this gateway then enjoyed an unenviable notoriety. It is wide and airy, and leads downwards to Narrow-gate, a low and narrow street in the heart of the town. Near the gateway tower, and standing back from the houses, is the Presbyterian Chapel; and close to this is the minister's very neat house. The houses, however, get of an inferior character as they descend the street; and at the lowest part, which opens, as we have said, into Narrow-gate, a mausoleum-like public water-pant is built in the centre of the road. The houses in the neighbourhood of this pant are inhabited by the Irish poor. Here whole families, or rather tribes, live in dark rooms one behind another, down yards, with either a borrowed light or with windows in which the glass has been superseded by paper, rags, bits of sacking, or wisps of straw; and here the national characteristics of the race are maintained. The familiar *fracas* are conducted in the open street with all the national spirit; and woe betide the unlucky philanthropist who would interfere, or even the passer-by who is not on the most vigilant guard. Out come pokers and even fenders as impromptu weapons in the friendly war. One group of buildings, nick named "the tunnel," which was mentioned i the report before-noticed as being in too terri ble a condition to be described—"a long, dar passage, badly flagged, with the irregularitie filled with putrid urine, leads into a yard which a perfect nursery for sickness,"—might be sti mentioned in the same terms. Cavillers and pe sons averse to sanitary reform, who entertain th theory that the seeds of disease are "in the air, and alight on individuals, or countries, or citie by some unknown agency, point to the fact tha this Tunnel escaped scatheless in the choleraic visitation. But it must be borne in mind that when a given spot is inhabited b tramps or other migratory persons they leav the sources of ill health, that their mode of livin breeds, behind them; and although they them selves may not suffer from the hot-bed of diseas thus reared, their stationary neighbours do. Thi is clearly shown now, when the great works a the castle have given permanent employment t a numerous body of Irish labourers, who, being con sequently permanent residents, have fallen unde the laws that rule sanitary science—resulting a the present writing in three deaths from scarle fever in the identical tenements known as th Tunnel. It is not assuming the prophetic mantl unadvisedly to say, that as long as the Tunnel re mains as it is, zymotic disease will never b absent from Alnwick.

We are now in the elbowed centre of Narrow gate; and there we will stop for a time.

PROFESSOR SMIRKE'S LECTURES ON ARCHITECTURE AT THE ROYAL ACADEMY.

Lecture II.*

I must not pursue the subject of chimneys further than just again to remind you of the æsthetic advantages afforded by the old mode of treating the chimney hearth. The contemptible little pinched up compositions of thin, flat, marble slabs which now usually decorate this social centre of domesti hospitality contrast most painfully with the large and generous treatment of the fireplace, and with the sculpture and painting, which were lavished during the period to which I am adverting, on thi place of honour in the halls of former days.

Although time has left us but few illustrative examples of these fireplaces in England, we have but to visit Nuremberg, or any of the older cities of the Netherlands, to find noble examples still surviving the wreck of time. Even the great hal in the Hôtel de Ville, in Paris, probably familia to you all, which is of the time, probably o Francis I., affords a most remarkable example sufficient to dwarf down into insignificance every similar object I have met with in England, al though I am aware there are examples of the time of Henry VIII., of Elizabeth, and of Charles I. of no mean character.

At the magnificent Châteaux of Blois and Gaillon, the most remarkable features are their gardens. They are, of course, laid out in the formal artificial manner usual in the gardens o the early period to which these examples belong In the centre of both these gardens is a fountai of much elegance of design, although the jets o water issue from sources not altogether unobjec tionable. The practice of throwing the water from the mouths of human masks cannot be de fended, although it is a very common expedient It was suggested probably by the gargoyles o Mediæval times, when monsters, often of the most preposterous design, were made to emit water, both in fountains and at the eaves of roofs; but these, also, may claim a far more ancient origin. We know how commonly the rainwater which fell on the roofs of Greek temples were made to issue from the mouths of lions carved on the cyma of the cornice: they were, in fact, the true gargoyles of the Greeks. The practice may perhaps be partly due to æsthetic causes; for there are few subjects more captivating to the sculptor than the lion's head, so admirably sculpturesque in the breadth and even in the grandeur of its details. But still another and remoter origin may be assigned to the practice. The overflowing of the Nile, which, as you know, annually reanimates that arid country, and gives occasion to so much periodical rejoicing, occurs when the sun is in Leo,—a coincidence quite sufficient to lead the Egyptians to adopt the lion's mouth as the source from whence their liquid treasures were made to issue.

At the fountains of the Château d'Anet jets of water are seen issuing from Diana's bow, and from

* See p. 73, *ante*.

the horns of her accompanying stag. I am, indeed, bound to admit that the rude artists of this not highly-polished nor very fastidious age caused jets to flow from still more exceptional, although, perhaps, more natural sources.

These devices are common enough at the period of which we are speaking, and can only be excused on the ground of the extreme difficulty (which all must have felt who have tried their hands at designing fountains) of devising any perfectly unobjectionable, and yet ornamental mode of emitting the water. But, perhaps, the most notable feature in these early French gardens is the arcade, or covered way, which incloses the whole area. As a gallery offering a sheltered walk at all seasons of the year, whether too hot or too wet for out-of-door exercise, these covered walks must always have been a welcome refuge. The luxury was probably borrowed from the Italians, with whom these arcades or colonnades had already become a favourite adjunct to the villa. They, also, in their turn, may claim a classic origin. Those who have read Pliny's description of his Villa Laurentina will remember how he dwells on the crypto porticus as one of the luxuries of his favourite retreat—a luxury which, though preserved in the cloisters of the Middle Ages, seems to have been, without good reason, overlooked and neglected in modern gardening.

In these French gardens I also perceive indications of the pergola, or trellissed walk, which forms so elegant as well as so commodious a part of almost every well-appointed Italian garden.

I will not further detain you by dwelling on the other beautiful chateaux represented in these volumes, although they present to us most attractive objects, such as Château Chenonceau, one of the most theatrically-picturesque buildings that can be imagined—Château Chantilli, perfectly Mediæval in its general design, although in its details savouring strongly of the more modern style that Catherine di Medicis encouraged, and had, in fact, introduced into France—Château d'Anet, less Gothic, but equally varied, original, and picturesque.

Such are the contents of these curious and valuable volumes. A careful and critical examination of them will satisfy any impartial mind that they take a very narrow view of the subject who fancy that all architecture necessarily divides itself into the Classic and the Gothic schools, and that, therefore, if we reject the one, we must necessarily adopt the other. Such, happily, is by no means the case. I have on a former occasion endeavoured to show that such was not the case when the quatro-centists of Italy put away Mediævalism in art with the casque and gauntlet which they had outgrown. They were too good artists and too sensible men not to perceive that modern civilization required something more than a return to columns and pediments, and they accordingly struck out a style of design perfectly original, and in many respects more beautiful than anything that had preceded it.

In the same way we find that when, a little later, the artistic and inventive genius of France was directed to the production of designs in the Renaissent style, it never occurred to their fertile minds that it was incumbent on them to plunge into a purblind system of copying the works of former times. On the contrary, we see in these buildings of the time of Catherine that a style of great beauty and force was possible, which yet was equally remote both from Greek and Gothic. True art is ever young and productive; it needs only adequate incentives and encouragement to warm it into life. A well-stored portfolio of photographs would turn any man, however uneducated in art, into an architect, if the careful repetition of old forms be all that is required of him.

As I have devoted this evening to looking into a few books, I must be excused if in closing one volume and opening another, I find myself following a somewhat desultory course. It does not, however, appear to me to be necessary to observe any especial, historical sequence. The book which next comes to hand is a splendid volume of earlier date than that to which we last adverted, and is not without a certain amount of romance in its history, for it consists of verses composed by the Duke of Orleans after his capture at the battle of Agincourt, and with which composition he beguiled the tedium of his imprisonment in England. The illustrations are beautifully-executed miniatures, and of great interest as explanatory of the buildings, habits, and costume of the period. One of these illustrations is of especial interest, as it presents a view of London in the fifteenth century. It is taken on the banks of the Thames, and represents the Tower in the foreground and the bridge in the middle distance. The very rapid shoot of the current at the bridge is plainly indicated. At a short distance from the Tower is seen the creek of "Bellyne's gate," on the banks of which creek and below bridge is a considerable building, probably the Custom-house. The architecture of this building is portrayed with great minuteness, and is manifestly drawn from the actual objects, not conventionally but with considerable effort at correctness of representation. It is worthy of observation that that the lowest story consists of an arcade of perfectly Renaissance character, the arches being circular, or nearly so, springing from ordinary columns apparently very much like Roman Doric.

The superstructure, however, is of quite Mediæval character, presenting a series of steep gables of dissimilar designs and with the windows apparently mullioned. The perfectly Italian aspect of the lower part of the building seems to me to be conclusive evidence of the existence of the style of the Renaissance in England very much earlier than is usually supposed.

The Porta Honoris at Cambridge is generally pointed to as one of the earliest, if not the earliest, example in England of the quasi-Classic style. This gateway, however, must be nearly 150 years later than the building, near Old London-bridge, so carefully delineated in this illumination.

Now that I am touching on the subject of illustrated manuscripts, I need not omit allusion to the remarkable book known as the "Codex Aureus." It forms part of the Royal Library collected by George III., and is certainly one of the gems of that collection. It has many claims on our attention, inasmuch as it appears to be beyond a doubt that it was executed for Charlemagne. It is enriched with magnificent illustrations, which may be fairly presumed to be specimens of the highest art which Europe in the beginning of the ninth century was capable of producing, and is, moreover, considering its great age, in excellent preservation. The prevailing character of the architectural features is manifestly what it is usual to designate as Romanesque. Each page represents one arch divided into three subordinate compartments by slender pillars carrying three arches. This arrangement of arches seems to have taken its rise somewhere about the period in the history of architecture with which this volume is contemporaneous; perhaps, indeed, even earlier.

The practice of building small arches in a continuous series, springing from the capitals of small pillars, bears a far earlier date. We find them in abundance at the Palace of Diocletian. Such small arcades occur, too, at the building near Ravenna called Theodoric's Palace, and a continuous range of them originally encircled the multangular tomb of that monarch. These small arcades, arranged in successive superimposed orders, came to be used to excess, as you, no doubt, well know, and covered the towers and gables of the Lombardic and subsequent ages. I may add that in paintings and mosaics of so early a date as the fourth century, represented in Seroux d'Agincourt's great work, these arcades abound.

But in the illustrations of a manuscript preserved in the Laurentian Library, at Florence, to which the date of the fourth century is assigned, a more distinct foreshadowing occurs of the Gothic mullioned window. It represents a large semicircular arch, comprising within its span four minor arches, thus dividing it into four narrow openings. It is true the head of the large comprising arch is blanked: there is shown on it a circle, probably decorative only, and not perforated; but the transition from this to an ordinary four-light Gothic window is easy and natural. In the "Codex Aureus," to which I have been referring, we have very plainly this germ of the Gothic window, and we have it even more distinctly developed in MSS. of the ninth century, of which representations are given by D'Agincourt. But not only were these small arcades the putative parents of mullioned windows; to them, also, it can hardly be doubted, we owe the triforium of our ecclesiastical architecture. I cannot refrain from here reminding you of the analagous use of these subordinate arcades in the Westminster Hall, as built by our William Rufus. In the twenty-sixth volume of the "Archæologia" you will find the representation of that triforium story forming an open arcaded passage-way, obtained in the thickness of the wall. This curious feature in the domestic architecture of the twelfth century I had the pleasure of being the first to explore and delineate, when the interior of the walls of Westminster Hall was opened out and exposed to view, under my brother, Sir Robert's directions, with a view to the reface of masonry of those walls in 1837.

I have, perhaps, detained you too long in thus tracing the pedigree of these mural arcades, but they are of some importance in the history of architecture. It may be difficult to point to any feature more strongly characteristic of Mediæval architecture, or more definitely distinguishing it from strictly Classic art.

In the singular works of early Christian architecture to which I have been adverting it is impossible not at once to recognize a strong savour of Byzantine art. There is, for example, in the Codex Aureus an almost infinite variety of frets and friezes introduced of a quasi-Classic character, all most carefully and elaborately executed, and with a manual dexterity and precision which seem to imply great practice in such works. The Greek labyrinth fret occurs in utmost variety, and those interlacing patterns that stamp a peculiar character on the art of ornamental design in this Byzantine style occur in these illuminations in utmost profusion. Whether accompanying runic inscriptions in Ireland, in Norway, or elsewhere, or whether seen carved in stone in the earliest Christian buildings of Lombardy, or worked in mosaic on the walls of Greek churches, or depicted upon vellum in these beautiful manuscripts now under our consideration, there is a similarity of design and a general agreement in the manner of treatment which is certainly well worthy of observation. What adds especial interest to this curious kind of ornament is that it was not, apparently, derived from or suggested by any similar ornament in the preceding Classic school. Could it have been traced back to ancient Rome, we should not have been surprised at its occurrence in localities so widely apart, and in styles of design so widely differing; but nothing, as far as I know, occurs in Roman art from whence these intricate interlacings could have been derived—unless, indeed, we may suppose that the *guilloche* was the parent of this ornament, which would, in that case, take back the idea to Athens itself, and to how much remoter a period I know not. Even Assyrian art is not without traces of it.

Whether so derived, or whether it was the original product of a Teutonic or a Byzantine mind, certainly its wide prevalence is remarkable. It seems not unlikely that the facilities which these interlaced ornaments afforded of producing the device of a knot having no ends, would recommend it to the favour of the early Christian artists as an emblem of eternity, as well as of brotherhood. But whatever its origin, the idea was certainly most prolific. Besides being productive of a variety of mere ornaments, such as we see on this MS. of the time of Charlemagne, it suggested no doubt the monsters devouring their own tails, which we see so commonly portrayed in Mediæval sculpture; and the true lovers' knots depicted in a thousand familiar, although unmeaning shapes, on our walls and ceilings, down to the time of Elizabeth, and, for aught I know, to the present day.

That warns me that I must not now introduce to your notice any more of the literary and artistic treasures stored up in our magnificent national collection. I am well aware of the very superficial nature of these few slight notices: they present to you but the faintest glimpse of the almost endless stores that the liberality of the country has been enabled to accumulate under the guidance and with the assistance of her best scholars. In calling your attention to the few books which I named, I am, I fear, subjecting myself to the sarcasm of the old Greek author who tells us of a certain "Scholastic" who, being desirous of recommending a house to the favour of his friends, carried about with him a brick or two by way of specimen of the entire mansion. Yet scanty and very inadequate as the samples may be which I have this evening laid before you, I feel sanguine in the belief that my few remarks and criticisms will not have been made in vain, if they have produced in your mind a desire to seek for further satisfaction at the fountain-heads; to consult them for yourselves, and to liberalise and enlarge your studies by a wider field of investigation.

A careful contemplative study of the causes of the almost awful sublimity of the Coliseum, for example, is calculated perhaps to encourage and even to generate a greatness of manner, and to elevate the artistic tendencies of the mind; and to teach us that the grandest effects, in our art, are far more readily attainable by simple general forms than by resorting to that excessive elaboration and subdivision of details which (perhaps I may be permitted to say) is one of the least commendable tendencies of the present day, and against which it would be well that you should be on your guard.

Then, again, a critical examination of the interesting production of the age of the Renaissance

in France—an examination so greatly facilitated by the two beautiful volumes of Catherine de Medicis, which I have been adverting to, is well calculated to fertilize the mind of a young architect, and to show to him how the combination of two very different kinds of beauty is capable, in the alembic of Genius, of being made to produce still another beauty—a *tertium quid*—differing very materially from its two components, yet partaking of the merits of both.

Such an examination would, furthermore, satisfy him that it was no mere love of innovation, no mere freak of fashion, that led our forefathers to lay aside in their architecture the stern and rigid air of Mediævalism. They abandoned mullions and tracery in their windows, and made them wide, and square, and open, not in sport and for the sake of a frivolous change, but because they were beginning to learn to appreciate more fully the value of light and air, and because they began to perceive that there were other means of excluding an enemy and securing their personal safety and an inviolate hearth besides loopholing and crenellating their dwellings. An inquiry into these great changes in their habits of building is a curious and not an unprofitable inquiry. It is common enough to hear it said that the revival of a taste for classical literature led to the study and subsequent adoption of Classical architecture. Whereas the two revivals were, in truth, strictly contemporaneous; and it is by no means improbable that they may be regarded, not as one being consequent on the other, but that both were necessary results of a common cause—namely, the advance of civilization, involving the acquirement of new habits and new wants.

The other volumes of which I have this evening made mention have an antiquarian rather than a practical value, and to that extent are, no doubt, less suitable subjects for me to urge on your attention here. Yet those manuscripts are samples of a great store of similar works which our national Museum may be justly proud to possess, and which, whilst they are of the highest literary and historical value, must ever be precious also in the eyes of artists, inasmuch as the illuminations which adorn their pages represent faithfully the condition of the fine arts during the Mediæval period, and are, as it were, the golden link that connected the ancient with the modern schools of painting and design.

SEWER VENTILATION AND DEODORIZATION.

CHARCOAL FILTERS.

AN official report has been made by Mr. Haywood, the engineer and surveyor to the City Sewers Commission, and Dr. Letheby, their medical officer of health, as to the experiment with charcoal in sewer deodorization and ventilation on Dr. Stenhouse's principle, to which we lately drew attention.

The district experimented upon is in the eastern portion of the City. It includes a space bounded by Bishopsgate-street on the west, from Cornhill to Widegate-street; by Middlesex-street and Somerset-street on the east to the City boundary; and by the Minories and then by Leadenhall-street to Cornhill on the south; the whole of the main throroughfares above-named being included in the area. It comprises a space of about 59 acres, with about 1,700 houses, and about 14,000 inhabitants.

The points to which attention was directed by the two reporters were the following,—

"1st. The deodorizing power of the charcoal.
2nd. The length of time that the same charge of charcoal will continue to deodorize the sewer gases.
3rd. The effect the air filters have on the ventilation and temperature of the sewers.
4th. The exact cost of the experiment, so as to obtain data from which to estimate the probable expense of the process if it were applied to the whole city, or even to the metropolis."

The deodorizing power of the charcoal (continues the report), has been satisfactorily proved to be complete. Not only have there been no complaints from the public of stenches from the ventilating gratings, but we have ascertained by actual observation that the odour of the sewer gases is not perceptible when they have traversed the charcoal.

As to the duration of the powers of deodorization, the reporters state that they have hardly sufficient proof. The charcoal seems to lose much of its power when saturated with water: this we ourselves anticipated. If kept dry, the charcoal would not require renewal oftener than once a year; but in the existing circumstances it required renewal once a month.

As to the effect of the air-filters on ventilation, the reporters state that they cannot give a very positive opinion. The ventilator did not seem to be so perfect as in other cases; but the differences as to temperature which denoted a difference of degree in ventilation were extremely slight. Danger to workmen in the sewers has not been materially increased by the application of charcoal to the ventilators. The reporters recommend charcoal respirators for the use of these men.

With respect to the cost of the process:—The expenditure incurred in fitting up the 104 ventilating shafts was 918*l.* 18s. 5d., which is at the rate of about 8*l.* 16s. 8d. per ventilator; but an experiment, it is remarked, is necessarily more costly than an established system; and a much less sum than this may be taken as a fair average of the probable expense of extending the process even to the whole of the City. The total expense of reparation and renewal of damaged trays, frames, and coverings, averaged 16s. 6d. per ventilator per annum. The cost of supervision, supplying and changing the charcoal, was 8s. 9d. per ventilator, making together 1*l.* 5s. 3d. per ventilator per annum. The very large cost for reparation was mainly attributable to the repeated breakage of one class of apparatus used. This item might, therefore, at a future day be considerably lessened.

The general conclusions from these experiments and from the consideration of collateral evidence are,—

"That dry charcoal in the presence of atmospheric air is a powerful means of destroying the mephitic gases and vapours of sewers and house drains; that the charcoal filters may be used with efficacy in the course of the air channels from the drains and closets of houses, as well as in the ventilation of the public sewers; that, in applying the charcoal, those contrivances should be used which offer the least resistance to the free passage of the air; and, lastly, that the situation of the filters is best when the charcoal is protected from wet and from dirt, and is easily accessible."

LONDON FIRES.

NEXT after the accounts of the public health there are few reports more important than the yearly official report of the Superintendent of the Metropolitan Fire Brigade. To the report for 1861 we miss the well-known signature of the veteran Mr. Braidwood; and find, instead, that of the new superintendent, Capt. E. M. Shaw. From the report we learn that the fires of the past year have been considerably in excess over those of 1860. The increase of 1861 is 127 fires; but, compared with an average of twenty-eight years during which the establishment has been in existence, the increase is 391. When we refer to the subsequent list, which for the purpose of more easy reference is given in a tabular form, we find that the increase of fires is far greater than we can account for by the additional number of houses which have been erected in the metropolis.

1861.	
Total number of calls throughout the year	1,409
Of these false alarms were.....	89
And chimney alarms	137
Of those which may be classed as fires there were.....	1,183

And it is worth while to remark, that of this number the result, notwithstanding the exertions of the firemen, was the total destruction of fifty-three buildings, &c. Thus one in every twenty-two premises was entirely burnt out; and 332, over one-fourth of the whole, were considerably damaged: there were 798 cases of slight damage.

When considering this most important subject it should be noticed that the "totally destroyed" list, fifty-three, is *twenty-five* in excess of the average of the past twenty-eight years.

The increase of the number of fires which have ended in total destruction is to be accounted for by the terrible fire in Tooley-street, which resulted in the almost total destruction of thirty-three buildings. On this great fire the report says: "There is every reason to believe that, but for a serious delay and deficiency of water, and some violent explosions which took place at the commencement, the fire would have been confined to the building in which it originated."

In six of the other cases mentioned as having been totally destroyed, the supply of water was either late or deficient. Of the premises which have been entirely burnt, twenty-five, or nearly half, are described as in the use of dangerous trades, such as cabinetmakers, carpenters, hay and straw salesmen, steam saw-mill, &c.

The hand land- and steam water-engines are reported to be in effective condition; and the land steam fire-engine renders such good service, that three others of a similar description will shortly be added; and, ere long, this description of fire-engine will likely come into general use; for, b the introduction of a simple contrivance, th difficulty and danger of rapidly heating the wate has been avoided. This consists of the applica tion, in the fire-box, of a small jet of gas, whic keeps the water constantly boiling: this costs bu little, and prevents risk from the machinery whe steam is raised fifteen minutes from cold water and it also insures the raising of sufficient steam in less than five minutes.

For long before his death, it was the opinion o Mr. Braidwood that the increase of the number o fires was to a considerable extent to be attributed to the growing use of gas. This is, perhaps, no to be wondered at, when we consider the nov extensive introduction of gas into warehouses churches, libraries, railway stations, dwelling houses, shops, workshops, theatres, &c.

The number of fires in premises in which ga is used amounted to 796, while those which occurred where there was no gas amounted to 387,—about one-half of the whole of the London fires of the past year. But, although a considerable number of these fires are given distinctly as having originated from gas lighting; when we consider the immense extent of the various industries which are now carried forward; the hurry which in these days is connected with various branches of busi ness; we cannot but think that if, now, the use of oil lamps and moveable and other candle-lights were extended into all such establishments as those to which we have just referred, the number of fires would be far greater than they are at present. There is, however, a manifest want of care in the use of gas-lights in many warehouses and workshops. The superintendent remarks that moveable gas-brackets are frequently placed within 20 inches from a roof; and he suggests that in no case should they be at less than 36 inches from the ceiling; that they should be protected by a hanging shade; and on the sides by stops on the swivel-joint, which would prevent the joint moving beyond a safe distance: this could readily be done; and might with advantage be made a stipulation in connection with fire insurance. In some of the great warehouses and depôts in the east of the metropolis, with vast interiors in which goods of almost every description are constantly being loaded and unloaded, we have often seen the blazing gas-lights moving in all directions in the wind without any kind of protection: in such cases damage may be produced by the firing of a piece of straw or cord, some part of a packing-case, &c., cause a vast amount of ultimate mischief.

All measures should be tried to lessen the number of fires. When, however, we find that the spread of the Tooley-street fire is clearly attributed to the want of a timely water-supply, and to the explosive material contained in the wharf; and that other serious fires have been attributed to want of water in time; measures should at any rate be taken to prevent the continuance of large fires in consequence of the want of water. Of the evils of large warehouses we have before now spoken.

FARM-BUILDINGS.*

AGRICULTURE, a patriarch among the arts and sciences, must be now viewed with new light, for farming has been developed in so remarkable a manner of late years, that it has become not only a manufacturing but a chemical process. Stall feeding has been ascertained to admit of the most rapid growth of flesh, and the, therefore, approved practice has called for new arrangements in farm-buildings. In lieu of the traditional farmyard—the open square, littered with straw, surrounded rectangularly by sheds, barns, stables, lofts, &c.—a cattle village is required, possessing individual residences for every animal reared or used. Henco in a large farmstead, rows and rows of stalls are required, which are furnished with every appliance, cleanliness, order, and good economy can suggest; and the planning of these, in combination with other requisite buildings, so as to secure the best aspects the respective sites will allow—the most warmth and least chill for the beasts—the best disposition of the various departments, so as to save unnecessary expenditure of labour,—demands an experienced, as well as accomplished, mind.

It is conceded that in farm-buildings properly concentrated the straw barn should be central, or as nearly so as possible; that the machinery for cutting, and the apparatus for cooking the different articles of diet for horses and cattle, should

* "The Book of Farm Buildings: their Arrangement and Construction." By Henry Stephens, F.R.S.E., and Robert Scott Burn, engineer. (Blackwood & Sons). 1861.

be easily communicated with from this point; and that the sheds of the animals requiring the greatest bulk of these materials for their litter and food, should be nearest to these depôts; while the accommodation for young stock, sheep, milch cows, and pigs, may conveniently diverge from this centre—the dairy and poultry yard approaching the confines of the farm-house. It will be seen by this arrangement, the carrying to and fro of food and manure is reduced to the minimum of labour. The farmer's wife is close to her dairy, the butter-milk and other dairy refuse are close to the pigs, the milch cows and pigs are handy to the dairymaid. In the same way the stables should be grouped with the buildings accommodating the different departments that pertain to the work and food of the horses: so that when a horse is taken from the stable, it is close to the cart and implement sheds; and these are, again, for the convenience of repairs, in the immediate neighbourhood of the blacksmith's and capenter's sheds or shops.

Agriculture alone requires but few farm-buildings. Even barns for the holding of corn are superseded to a great extent. For it is found that corn is best kept in the stackyard till the time comes for it to be threshed; when the sheaves are conveyed to the machine in the threshing-house, whence the grain is taken away in sacks, and the straw conveyed to the straw-barn. The new threshing-machines which are taken to the field promise to number even the comparatively modern threshing-house amongst the things that are of no further use. But when stock is taken into account, it is found economical to provide the most complete and convenient farm-buildings that can be devised. Modern farmeries are therefore not much more than groups of cattle-dwellings; the exceptions being the stack-yard, the threshing-house, straw-barn, granary, engine and boiler house, steaming or cooking room, root-house, farm-servants' cottages, cart and implement sheds, gig-house. Old-fashioned plans of farming allowed the cattle the run of the inclosed yard, which was well littered with straw. Here they were, to some extent, protected from the winds, and their manure concentrated on a given, if not a small space; but great waste was involved, not only in the washing away of the best qualities of the manure thus exposed, but in the conversion of cattle food into animal heat instead of marketable meat. Flesh being formed by food, it becomes a matter of utility and economy to take care that the train of this formation is not diverted by any necessity arising in the animal system for heat; hence modern farming provides good housing for stock, so that heat being thus furnished, the whole of the food contained may be converted into flesh. However, cattle yield a double source of profit—meat and manure; and the contrivances for securing both of these must be equally taken into account.

Good housing means warm, dry, and well-ventilated compartments in covered sheds. In the case of cattle, for the proper and economical collection of manure, these are built with sunken flooring, on which litter is laid; and for its easy distribution over the farm tramroads are often made use of. In stables it is not found judicious to have the floors lower than the level; but boxes for cattle are excavated to a depth of 2 feet. In both, feeding passages at the heads of the stalls are made, which, like the dung-passages behind the stalls or boxes, are furnished with tramways, along which the food can be wheeled with great saving of labour.

We are gradually approaching a still more complete order of things. The perfection of agricultural machinery will yet work wonders, as the most experienced of our farmers are the first to assure us. The triumphant application of town sewage as a manure will inaugurate another era in the history of farming. And it may be that the conversion of other substances to manure, by chemical processes or otherwise, will call for the erection of buildings on the homestead suitable for such manufacturing purposes.

The authors of the Book of Farm-buildings set out with an expression of their conviction that farm-buildings should be adapted to the description of farm on which they are built, and that it ought to be possible to tell by a glance at them whether it is pastoral farming, or dairy farming, carse, common, suburbial or any other description of farming that is carried on by their aid. So far all must agree with them; but when they assume that they are the originators of this theory we must differ from them. This is a principle fully recognized, and not less so in what we may call bucolic architecture than in any other phase of the noble art. Our authors lay claim to further originality in the suggestion of the arrangement by which the straw barn is made the central-point in farm-buildings; and here again we must demur, as prize essays on farm-building, written at the invitation of the Royal Agricultural Society so long as twelve years ago, particularly insisted on this identical disposition. We have one more crow to pluck with them on the score of an implied recommendation of their work "to the mechanic who may be constructing or the agriculturist who may be planning highly interesting varieties of farm-buildings" in preference to the employment of an architect. We confess we cannot guess by what train of thought persons at all acquainted with building matters can bring themselves to recommend a measure that has always been found to be neither wise nor cheap. The only persons who might, with propriety, pursue the hazardous proceeding of amateur building are emigrants,—and to colonists about to commence or extend agricultural or stock-rearing operations we would, certainly, speak in favour of this compendious guide.

The illustrations are copious, showing details of the construction of embankments, dams, weirs, culverts, drains, dry stone-dykes, wells, tanks, farm road, as well as of every part of farm buildings. The designs for farm-houses, however, are no more nor less than designs for villas, some of which have been avowedly published as such in another work by Mr. Scott Burn. Whether something more characteristic and unmistakeable would not be more appropriate is, of course, a question of importance. If pastoral farm-buildings should be distinctly known from dairy farm-buildings, it does not seem quite clear why the farm-house should not enjoy a similar distinctive character, and be immediately distinguishable from a suburban villa.

The subject of farm labourers' cottages has been freely gone into, and as freely illustrated. In a work of this kind it would be impossible to urge too far the importance of due attention to the provision of good housing for labourers. If warm, dry, well-ventilated abodes assist the formation of flesh and preservation of health in cattle, how economical it must be to provide the same for the labourer. If over-crowding damp, dark, unventilated stables produce glanders, mange, blindness, coughs, swelled legs, and inflamed lungs among the horses occupying them, we may be sure that dwellings equally badly constructed will produce as much evil among their human inhabitants. As Cobbett urged, "if we suppose the great Creator to condescend to survey his works in detail, what object can be so pleasing to him as that of the labourer, after his return from the toils of a cold winter's day, sitting with his wife and children round a cheerful fire?" And what, we may ask, is likely to be more displeasing than the spectacle of many of his creatures dragging on a miserable existence in a damp, dismal abode?

Among the practical suggestions of an economical tendency is the proposal to place an iron kiln floor over the boiler-house, by which means an apartment heated by warm air would be obtained for the drying of grain, sacks, or barn-cloths. All contrivances to make necessary expenditure serve supplementary purposes must assist the realization of remunerating profits.

Not the least interesting part of the volume before us is that giving plans of Flemish, American, and French farmsteads. American farming is full of novelties. An American farmstead, for the sake of economy, is constructed in the form of a large barn, within which are cow-stalls, sheep-sheds, stables, machine-rooms, boiling-houses, implement-houses, waggon-sheds, carpenters's sheds, and, in a word, as much accommodation as is required. Some American farmers will fatten as many as a thousand head of cattle at a time; and pigs in as great a proportion. Sty feeding or rearing is out of the question for the latter, who therefore roam about. As, in their endeavour to keep themselves warm of winter nights, the weaker ones were frequently smothered by the stronger, a contrivance called a sifting piggery has been resorted to. This consists of a shed divided into three compartments, to the first of which there are very small entrances, only large enough to admit the smallest hogs; and to the second entrances of sufficient size to admit the middling-sized hogs: this sifting process leaves the third division in undisputed possession of the largest hogs. Another curious arrangement is made in favour of the pigs. The floors of corn-cribs are raised about three feet above the level of the ground for the purpose of admitting pigs beneath them to pick up scattered corn, and whose intrusion for this purpose is expected to prevent *the accumulation of rats.*

Messrs. Stephens & Burn show their own plans of farmsteads by isometrical plans, which are completed into isometrical perspectives by dotted lines,—a novel mode of illustration, enabling a clear idea of the interior of the different parts to be obtained at the same time that the exterior form is seen.

WELL-SINKING AND BORING IN THE ROYAL HORTICULTURAL GARDENS, KENSINGTON.

IN the paper read and discussed at the Society of Arts on Wednesday evening, the 29th ult., "On some recently-executed deep Wells and Borings," much valuable information was given as to works at a distance, in France and parts of England; but nothing was said of some wells recently made, or attempted to be made, near home. It would have been interesting to have learned all the facts as to a well and boring now on hand at the head of the Serpentine, Hyde-park. A well has also been sunk and bored at Kensington, which is to supply water for the Royal Horticultural Gardens, and probably also for the Great Exhibition Buildings of this year. We give the facts connected with this work as we have recently learned them. The contractors for the new well at Kensington are, as our readers know, Messrs. Easton, Amos, & Sons. Mr. Tilly, of Enfield, has performed the work of sinking and boring.

Stratification passed through.

Feet.		Feet.
18.	Made ground	18
22.	Loamy gravel; little water	40
198.	Hard blue clay; "London clay"	238
54.	Pebbles, sand, and water	292
20.	Green sand and water	312
4.	Live grey sand and water	316
1.	Flints, surface of chalk	317
84.	Chalk, beds of flints, and water	401

401 feet vertical.

The well is 5 feet clear in diameter; and has 9-inch brickwork in cement, from the surface to a depth of 200 feet, vertical. The bore-hole is 201 feet deep from bottom of well. Water rises to within 130 feet of surface, or to some 70 feet deep in shaft. The pumps, lifting water at a rate of 100 gallons per minute, only reduce the head some 18 inches, and this speedily rises to its level when pumping ceases: 100 gallons per minute are equivalent to 144,000 gallons each day. The water, in quality, is pronounced "excellent:" it is, in fact, chalk spring-water.

At 312 feet in depth the water from the green sand was not so abundant, but stood at 20 feet higher level than at present. The chalk, therefore, though containing more water, must have a lower general level than the water in the green sand.

The contractors have fitted up some beautiful pumping machinery, both for the deep lift from the well and for garden fountains and cascades. The tall chimney is, however, an ugly structure. After Mr. Rawlinson's work on "Tall Chimneys," it seemed less likely that we should find the old, plain, tapering furnace shaft, amidst the ornamental work of the Royal Horticultural Gardens.

CONSERVATION OF ANCIENT MONUMENTS.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE ordinary general meeting of members was held on Monday evening last, at the House, in Conduit-street.

The Chairman, Mr. Digby Wyatt, V.P., observed that the chief business before the meeting that evening was the consideration of the paper lately ready by Mr. Scott, on the Conservation of the Various Ancient Monuments scattered throughout the kingdom. He had no doubt but that in the interval that had elapsed since the reading of the paper, many gentlemen had been led to consider the subject, and would be prepared that evening to throw additional light upon it. He had himself ventured to throw out a suggestion that they should take a general view of restorations, inasmuch as the great monuments of art being as it were common property, possessed a common interest in the eyes of the architect and archæologist, and were entitled to all the care and protection which could be extended to them. The best description of restoration was, in his opinion, to hold the hand and only gently aid where assistance was absolutely required, to prevent the ravages of decay. Having said thus much, he would call upon Mr. Scott (who, perhaps, had some additional happy thoughts or suggestions to offer), to open the discussion.

Mr. Scott, R.A., in responding said, that he had

very little to add to the paper which he had already read, and the inordinate length of which would, he should hope, be sufficient to prove that he had done all in his power to exhaust the subject. At the same time he would like to add a few words in calling attention to that part of the paper which related to proposals and suggestions, and to the motion with which he had ventured to bring it to a conclusion. The general subject to which he wished to direct the attention of the profession and the public was the great damage done to ancient remains by time and neglect, and also by ruthless alterations and "over restorations." Now, although it was impossible to arrest effectually the hand of time, or, perhaps, to prevent some causes of destruction, there could be no doubt but that much might be done to reduce the effect of these causes, and to extend the duration of those unrivalled remains with which our country was so richly studded. His general suggestion was, that with regard to restorations there should be some viligant watch constantly kept over them by persons whose particular tastes and studies rendered them fit for the duty; and he thought it was also right and proper that such a suggestion should proceed from the Institute of Architects, and that from that Institute should emanate such communications as might be considered necessary to insure the preservation of those monuments, whether ruins or buildings, still in use, which were subject to the same causes of decay, or subject to the more frequent danger of over-restoration and ruthless injury by way of alteration. No one who had visited our ancient ruins could have failed to observe the constant disintegration going on; and if the suggestions which he had offered were carried out with reference to them alone, so as to arrest that decay, it would be well worth the trouble. But when to the ordinary decay to which he referred as so fatal to our unrivalled monuments was to be added the ill-judged restoration of churches and other buildings, it was evident that the appointment of a vigilance committee was still more loudly called for. In the latter class of cases time and the elements were not the only causes of destruction. They had to contend with the will of men; and this could only be done by setting up a strong and firm will of their own, which would be effectual towards mitigating the evils of which they complained. He therefore proposed that they should form a small standing committee of the Institute, who should not only for themselves observe what was going on, but who should keep up a constant system of communication with antiquarian and architectural associations all over the kingdom, to induce them to form centres of observation in their own districts. It seemed to him that by adopting such a course they might, to say the least, do a great deal of good, although they might not be able to effect all they wished. With regard to the modern "restoration" of churches, he could not suppose that all the persons who damaged those sacred edifices were moved to do so from any bad instinct, but rather from not having sufficiently considered the subject. One useful object, therefore, would be to consider the entire principle of restorations, and to lay down a code of rules, as suggestions only, but which should be circulated liberally thoughout the kingdom. This, in his opinion, was one of the first things which should be done, as it would indicate to others interested the course which the Institute considered ought to be taken. This was all he had to say at present, and he should conclude by suggesting that the committee should take the initiative in laying down, in conjunction with other architectural and antiquarian bodies, a code of rules for the preservation and conservation of our ancient monuments.

A resolution to appoint a committee having been proposed,

Mr. Street expressed the pleasure with which he rose to second the proposition, because it appeared to him that the committee which Mr. Scott wished to see appointed might effect much good. He wished, however, before referring more immediately to that part of the subject to refer, in opposition, to a view which had been taken by one or two gentlemen who had followed Mr. Scott on the first evening when the subject was discussed, namely, that it might be well to memorialize Government to appoint a commission to draw up reports on the state of our ancient monuments. This was, in his opinion, a proposition so fraught with danger to the buildings themselves, to the individuality of artists, and to the success of the architectural profession, that he hoped the committee proposed by Mr. Scott would take the place of Government in the matter, so as to prevent departmental interference. They had only to cross the Channel to see the effect of Government interference by way of commission. That commission had no doubt acted with great energy and skill. They had catalogued the public buildings all over the country, and their reports to the Minister of the Interior were of great value. But unfortunately those reports had cut both ways. They had recommended that funds should be applied for the wholesale restoration of buildings, and the consequence was that general damage was done to all the buildings taken in hand by the Government. He feared that if the suggestion for Government interference were carried out, the first thing would be the appointment of a Government secretary to attend on the Government commission, and then there might be a Government architect, who might perhaps be an engineer, or perhaps be neither an architect nor an engineer. Mr. Scott had referred to a vigilance committee, which would enforce a *veto*; but such a power could not be obtained without an Act of Parliament, and that Act of Parliament they were not likely to ask for, nor would it be granted if they did. He was of opinion that a committee which would from time to time deal with the question, and obtain assistance from gentlemen out of the profession, who were also men of learning and taste in such matters, was calculated to do much good. By such means, suggestions could be obtained from all quarters, which would perhaps have the effect of making architects study those buildings more than they did at present. He was surprised that on the last evening of discussion it appeared to be forgotten that a large number of our buildings had already guardians especially appointed to take care of them. All the churches in England, for instance, had legal guardians in the bishops, the archdeacons, and rural deans, whose peculiar province it was to see that our ancient buildings were preserved and conserved. He thought, therefore, that suggestions ought to be made to them in the first instance. In some dioceses, no works of church restoration were allowed to be commenced without the consent of the diocesan. As an illustration, he might mention that in the diocese of Oxford the bishop insisted upon having the plans submitted to him; he then consulted with his professional adviser, and thus a certain safeguard against mutilation was secured. As a general rule, however, bishops knew nothing whatever about the edifices in their diocese, until perhaps they were called to consecrate them. The archdeacons and the two houses of convocation might, also, deal with the subject. There were also a great number of societies throughout the country, whose assistance and co-operation might be asked. Other facilities might likewise be brought into operation. Mr. Parker, for instance, had published two most valuable works on ecclesiastical typography, in reference to the diocese of Exeter and Ely. Every church in the diocese of Oxford was shortly described in that work, which, if consulted before any works of restoration were commenced, might be productive of great advantage. The Cambridge Camden Society, too, had obtained a good deal of information on the subject, under the head of "Church Schemes," which might be collected and placed in the library. It was, however, quite certain that no organization which the Institute could set on foot would do good without the careful education of architects. Mr. Scott had already referred to this subject, and had said some things which were as unpleasant to hear as they were undoubtedly true; for he had said that greatly as old buildings had suffered from the ravages of the elements and of time, still that they had suffered more by restorations at the hands of incompetent persons. This was a sad thing to be obliged to say, but there could be no doubt of the fact, that many churches were "restored" by gentlemen who had never studied the subject, but had merely undertaken the work as a matter of business in the ordinary way. One of the things which was mainly wanted was that architects should themselves take the trouble of studying old buildings. Upon this subject Mr. Scott had offered many useful suggestions, and the proposed committee might probably collect more. He (Mr. Street) was disposed to lay great stress upon the necessity of the personal attention of the architect to the buildings he undertook to restore. It was impossible for an architect thoroughly to understand a building unless he measured it carefully and drew it with his own hands. Whenever, therefore, the work of a good man turned out to be wrong, they might depend upon it that he had delegated the duty to others, and that the work had been done without his own personal attention. Holding this view as to th responsibility attaching to an architect, he thoug that no architect should undertake a restoratio unless he was prepared to give his personal atte tion to it. He thought they should rather pr them up with iron than rebuild them; and, f his own part, he would much rather strengthe an ancient roof with iron supports, or an ancie wall with buttresses, than destroy them and repla with new work. He was aware that it was dif cult to find a builder who would carry out one views in this respect—for builders preferred ne walls to old ones; and that it was also difficult t find clients who preferred old work to moder Depend upon it if old work was once allowe to go down, it was a hundred to one if it ev went up again. He also held as a general ru that it was better to design a new building than t reproduce an old building that could not be kept u He admitted there was great difference of opinio There were likewise some details in the matter c church restoration which, if attended to, woul prevent many lamentable failures. He owned t being a great enemy to the application of ne plaster to old walls. It was, in his opinion, bette to preserve a wall in a rude and crude state, tha to cover it over with an abominable coat of pla ter. He did not believe that church walls wer ever plastered in ancient times, except in case where they were intended to be painted. Th rough wall, carefully repaired and pointed was fa better than a coat of plaster. Again, in th course of restoration, we often found ancient frag ments for which it was impossible to find a us In such cases he thought it was desirable to form a small museum for the preservation of them. A case might be constructed somewhere in th church, in which they could be reverentially pre served. Another subject to which he wished t refer was the abstraction by architects of curiou fragments from church buildings. In his opinion they had no right whatever to take them away and the proper course to adopt was to leave them in the building. It should also be remembere that, for the effectual and satisfactory restoratio of works, it was necessary that the architec should study old buildings in the same neighbour hood by the same workmen. This, he was aware required time; but then it should be remembere that the architect must always be a student, an that, wherever he found any similarity betwee ancient buildings, he ought to take a note of it This, of course, should be done when the architec was young; for one of the reasons why ther were so many inferior restorations was, that th majority of young architects did not devote as much time as they ought to the study of th architecture of their own country.

Mr. Hayward said that by a peculiar accident instead of being landed last autumn in America he found himself in Ireland, and that having made his way to Dublin, he proceeded to make himself acquainted with the noblest and most interesting buildings in that metropolis. He went, of course, to the cathedral of St. Patrick, and found it in the hands of restorers; that was, of builders and masons. He inquired who had charge of the works, but he could not ascertain that any one had charge but the builder. He had found a person who was called the clerk of the works, and he had also spoken to the builder, but he was unable to find out any person under whose control the works were carried on. It might, perhaps, appear at first sight improper that any one should interfere in so noble and generous a work as that which was now going on at the cathedral, but he hoped that the proposed committee would inquire by what means or upon what authority, in an architectural sense, the present works of restoration were being carried out. He had been given to understand that one gentleman in Dublin was at the sole expense of the restoration; but it depended upon the manner in which they were done whether architects would henceforward have reason to be grateful to Mr. Guinness for his generosity. The Cathedral of St. Patrick presented a curious example, as one side of the church differed from another. The restoration of the choir was carried out some years ago in a very unsatisfactory manner; and now that the whole body of the church was about to be submitted to the "restoring" process, it was very desirable that some one should be responsible for the manner in which the work was done. He presumed that the dean had something to do with it, but he regretted that the name of no architect was forthcoming. With regard to the suggestions made in the paper, he considered that they were very valuable. A suggestion had also occurred to him (Mr. Hayward) which he thought it right to mention. Passing through Essex a short time ago, he was attracted

to a little Norman chapel, where he found some masons at work. He got into conversation with the churchwarden, and from him he learned that no architect had been consulted with reference to the building. The churchwarden subsequently sent him word that some old paintings had been discovered in the church. He forthwith repaired to the place, traced the paintings, and endeavoured to interest the gentlemen in the neighbourhood in their preservation. In this, however, he was unsuccessful. Eventually, the churchwarden informed him that the walls had been all plastered over; and when he (Mr. Hayward) grumbled at the iconoclism, he was told that some boards had been put over the paintings, that they were plastered over, and that whenever he (Mr. Hayward) wished to bring an Archæological Society to look at them, all that would have to be done would be to knock down the boards. This, however, was better than total destruction; and he confessed he was himself disposed to adopt the churchwarden's precaution, rather than submit to the annihilation of such ancient remains.

Mr. Giles ventured to express a hope that the proposed committee would be appointed. Speaking of his own experience, he might say that some years since he found himself commencing life in a country district of great interest. The only knowledge he possessed was that he was aware of his own ignorance; but the first thing he did was to establish an archæological society. The society itself flourished; but he found that he could not bring its interest to bear on the present subject mainly from the want of some central court of appeal. Throughout the length and breadth of his own district (Somersetshire) he was perfectly amazed at the destruction that was going on in ancient buildings, and the difficulty which he had himself experienced in saving a bit of old wall, of pointing the interior of an old wall instead of plastering it, was greater than he could well describe. He invariably found that everybody was in favour of new work and new plaster, and that there was a general disinclination to preserve what was bequeathed to us by our ancestors.

Mr. Godwin said he regretted that the remarks Mr. Street had made, supporting Mr. Scott's motion, were equivalent to the abandonment of the idea of endeavouring to interest the Government in the subject; for he felt persuaded that all that was wished could not be done without something of that sort. The last speaker had shown how the Somersetshire Archæological Society had failed in its attempt to preserve the monuments of the district: other societies had failed; and it was quite possible that the Institute might also fail. There was an archæological society in nearly every county in England; and the Society of Antiquaries, moved by Mr. Ruskin, had already made some attempts in the direction to which we were aiming, but nothing absolutely good had been done in the matter. He (Mr. Godwin) believed that good would follow from appointing a committee, but that more might be accomplished by an appeal to the Government. On the last occasion when the matter was discussed, he had referred to the endeavours made by Mr. Britton and others, in the year 1840, to originate some such movement as that now projected. As a very young man, he had worked with Mr. Britton, who, among other efforts, had addressed a letter to the late Mr. Hume, the political economist, showing the damage which had been done to our ancient monuments in various parts of the country, notwithstanding the better spirit that was springing up. Mr. Britton gave a list of some buildings needing care, and ultimately induced Mr. Hume to obtain a committee of inquiry of the House of Commons. The committee sat and took evidence, and published a blue-book, which in due course was buried, and nothing further came of the matter. In the year 1845, Mr. Wyse submitted a motion for the formation of a museum of national antiquities, and a commission for the preservation of the national monuments; but the motion failed, although every one admitted the necessity that existed for some such commission. That necessity was not lessened by the local efforts which had been made from time to time; and, therefore, it seemed to him, now that Government was more awake to the importance of the subject,—when members of the House of Commons no longer laughed at art questions,—and when reporters no longer closed their note-books when art was mooted,—the time had arrived when a fresh appeal might not be made in vain. A different feeling was now abroad, and he thought there would be no difficulty in inducing government to obtain information with reference—for example—to the state of the buildings and monuments in the hands of the Department of Public Works. In Scotland, for instance, there were many such buildings, including the ancient palaces of royalty; and he believed that, if they could get categorical replies to certain questions in reference to the state of those structures, they would have a body of facts to begin with. He did not see why, because an abuse might be possible in connexion with the proposed appeal, that they should set their face against doing a large amount of good; and, therefore, he was in favour of moving the Government. Having referred to the exertions of his lamented friend, Mr. Britton, he might be permitted to add that they were deeply indebted to him, and he regretted that his name appeared to have died away, although but a few years had elapsed since he was among them. When they looked to the works he had published, to the appeals which he had made, and to his extraordinary exertions at an early period in the cause of their art, they could form an estimate of how much the present state of knowledge had been advanced by the efforts which he had made, and which included his persistent endavours to interest the Government in the preservation of ancient monuments.

Mr. Scott said he saw the benefit as well as the danger of Mr. Godwin's suggestion; but that in his opinion both were fair subjects for the consideration of the committee, who could best judge in what manner the attention of the Government could be called to the subject. As far as the buildings at present in Government care were concerned, there could be no doubt whatever as to the propriety of representations.

Mr. Papworth inquired whether the action of the proposed committee was to be confined to England only, and, if not, how far it was to be extended?

The Chairman said there was no limitation in the wording of the motion, but that it was competent to any member to move an addition to the resolution if he pleased.

Mr. Scott remarked that he really had not thought of the point to which Mr. Papworth had called attention; but he was of opinion that they should begin at home, and finish, before they meddled with other countries. If, however, any great works of demolition were going on—in France, for instance—it might be desirable to make a special representation.

Mr. Papworth, having put other questions with respect to the constitution of the committee, stated at some length the objections which he entertained to it. He believed that the institution of a court of appeal which might sit in judgment upon the work of fellow architects would be a very ill-advised proceeding, and be attended with many difficulties and great inconveniences. He apprehended, also, that a committee sitting *en permanance* would require a secretary, and possibly an assistant-secretary. Such a machinery would entail considerable expense; and he, for one, objected to the funds of the Institute being devoted to such a purpose. He thought that if the committee were to draw up and circulate suggestions only, they would be doing as much as could be expected of them, without exposing the shortcomings of others. He strongly objected to a code of rules, or to rules at all, because the committee would have no power of enforcing them. He also objected to a standing committee, on the ground that such tribunals were generally irresponsible. Mr. Papworth concluded by moving certain verbal amendments to the original motion, in order to carry out his view.

Mr. Jennings was also opposed to the appointment of a "standing" committee, although he thought it very desirable that a committee should be appointed to consider what steps should be taken in connection with the preservation of ancient buildings generally. He was of opinion that such a committee might, by judicious suggestions, effect a great deal of good in the general matter of restoration when repairs were going on. He thought it not improbable that in the course of the ensuing session a bill would be brought in on the subject of ecclesiastical dilapidations. He admitted that it was difficult to provide against the tyranny of governments and of corporations acting upon architects. At present the exertions of the clergy throughout the country were very beneficial in the restoration of parish churches, and in his opinion they were more useful than any other body of men. It would therefore be desirable to communicate with them, and to induce them to communicate with the proposed committee. They might also communicate with the owners of ruins, who, in many cases, might be induced, by proper representations, to take means for their preservation. For his own part, he would have preferred a committee of the Council if it were more permanent; but perhaps the better course would be for the council to appoint a committee every year. If the committee was composed of good working men, they would, of course, be re-appointed; if not, changes could be made without giving offence.

Mr. Godwin, with every desire that a committee should be appointed, showed that if the resolution was passed as it stood the whole power of the Institute would be given to the committee (the members of it being then unknown); and urged the necessity of an alteration in the words.

Mr. Kerr said that there was no precedent for the appointment of such a committee. The Council could appoint a committee for the investigation of a certain subject, but it had no power to appoint a committee of this nature. After the very sensible remarks which had fallen from Mr. Papworth, he confessed he was jealous of the action of a committee in its legislative character. Any suggestion emanating from the Council would no doubt receive attention; but it was a different thing to set up that which some persons might call, but which he did not call, an inquisitorial committee to sit upon the works of their architects. Without in the least degree wishing to detract from the scheme proposed, he certainly invited the meeting to pause before it appointed a committee to lay down rules and regulations.

The Chairman thought the Institute might be more useful in an affiliated condition than as the nucleus of other affiliations. He thought, in fact, that they would do better as planets than as suns, if they could induce other societies to move in the matter. He reminded the meeting that the Cambridge Camden Society had already drawn up admirable rules on the subject, and that the proposed committee, in all probability, would not be able to devise anything better. What was really wanted were watchfulness and the development of that local spirit of conservatism which he was happy to say was now being rapidly recognized.

Mr. Scott said the evils of which he complained were taking place at this moment, in spite of the Camden Society, and if not stopped would be carried on until our ancient churches had lost all their value. He reminded the meeting that the Institute was the only Society in the country which represented architecture in a legal and formal way.

Mr. Papworth then moved an amendment to the effect that a committee be appointed to draw up a series of practical suggestions for the treatment of ancient buildings requiring reparation, and that the committee report their recommendations to a general meeting for confirmation.

After some discussion the amendment was seconded by Mr. Horace Jones, put from the chair, and negatived.

Mr. Kerr then moved another amendment, to the effect that the council be requested to appoint a committee to investigate the subject of the conservation of ancient buildings, and to recommend to the council from time to time any measures which the said committee might deem desirable.

Mr. Porter seconded the amendment: on a division it was lost by two.

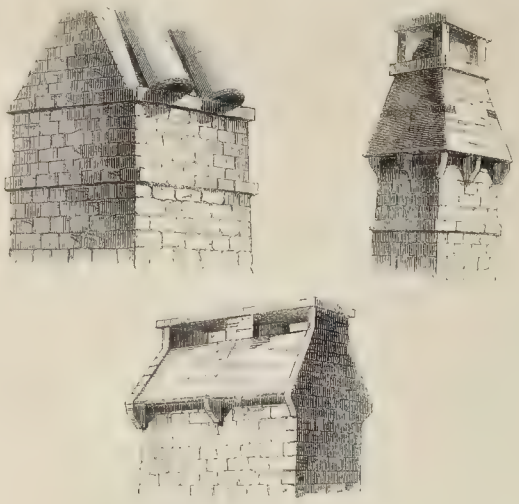
Some discussion ensued with reference to one or two suggestions of verbal emendations, and ultimately, these being made, the original resolution was put, and carried unanimously, in the following form:—

"That the council be requested to nominate a committee to draw up a series of practical rules and suggestions for the treatment of buildings requiring reparation, and to put themselves in communication with other architectural and antiquarian societies with a view to obtaining their co-operation in considering such measures as their united wisdom might suggest for the promotion of the faithful and authentic conservation of ancient monuments and remains, and to report on the same to this Institute."

Mr. Harry Oliver, Associate, of 7, Bedford-row; Mr. John Robinson Botham, of Birmingham; and Mr. George Knowles, of Leeds-road, Bradford, Yorkshire, were on ballot elected fellows of the Institute.

BIRKENHEAD CEMETERY COMPETITION.

AT their last meeting, it was stated that the Cemetery Committee had received a tender from Mr. Hugh Yates, of Liverpool, offering to erect the chapels and other buildings, according to the plans of Messrs. Lucy & Littler, at the sums named by the committee in advertising for plans. The committee have awarded the first premium for designs sent in to Messrs. Lucy & Littler, and the second to Mr. Reed, and have appointed Messrs. Lucy & Littler architects to carry out their own plans.



CHIMNEY-TOPS.

SMOKY CHIMNEYS.

I FEEL sure that, if our chimney doctors would but take a lesson or two from the contrivances in use over the Channel, such as these selected at random from a host of which not two are alike, the object of all being to direct the wind upwards, we should hear less of down-draughts, and should gain infinitely in picturesqueness. In superior work the upper part of the shafts might be constructed with stone louvres on every side. I can speak with experience that this simple plan has cured several chimneys that used to smoke in high winds, and which now draw even better then than in calm weather. J. S.

BRUSSELS "PALAIS DE JUSTICE" COMPETITION.

THE Belgian Government selected designs from those sent in competition, by a Brussels architect, an Antwerp architect, and an English firm, Messrs. Green & De Ville; but, in lieu of presenting the premiums offered, have awarded greatly reduced sums. Endeavours are being made, we believe, through the Royal Institute of British Architects, to induce the Belgian Government to reconsider this very shabby and unjust proceeding.

INN LIBRARIES FOR SNOWED-UP TRAVELLLERS.

MANY wandering architects, and other studious artist-travellers, whose pursuits lead them into out of the way places, have had the painful experience of being "snowed-up," or from stress of weather imprisoned, in some comfortless hostlery, without intellectual fellowship; their view confined to some neighbouring hedge or barn-like buildings; and, what is almost worse than this, without a single readable book or newspaper of recent date. We know few greater miseries than to be placed in this kind of imprisonment. In many places the solace of two or three volumes wherewith to while away a few hours is now to be had where such things were not thought of a dozen years ago; but numerous districts are still benighted; and it is a circumstance worthy of note, that in those neighbourhoods in which the fewest books are to be found the demand seems to be greatest for all manner of quack medicines; and the spare walls, and gate-posts, are gay with the announcements of the wonderful virtues of pills and such-like nostrums. Other results of a want of general knowledge might also be noticed. It is, however, in inns of greater pretensions than those to which we have alluded, that the want of a small but well-selected library is often experienced; and, both in England and Scotland, in large hotels, fitted with almost every other luxury, we have found that a reading-room or library, which should be a necessity in all such establishments, was completely overlooked.

In a famous hotel in Edinburgh every apartment is provided with a copy of the Sacred Scriptures; the gift, we believe, of a well-intentioned visitor. This is very commendable; and a great deal of good might be done if travellers to such neighbourhoods as the Valley of the Wye were to leave, at some of the places of their sojourn which are most ill-provided in this respect, the cheap railway-book they may have in their carpet-bag.

In many large towns much visited by passing tourists, persons may ask in vain, in some of the best inns, for the standard books of the topography, &c., of the neighbourhood. This is a great want to many, who might be led by such publications to feel much additional interest in the locality.

In places like Manchester, Birmingham, Newcastle-on-Tyne, and other towns, in which there are literary or mechanics' institutes, we have always been provided with information, and had ready access to books; and this we believe is willingly given to such strangers as can show any useful purpose. Some, however, are unwilling to ask a favour of even this description; and it has struck us that it would be useful and of mutual benefit, if it were understood generally throughout the kingdom, that the presentation of the admission-card of any member of a recognised institute, at a similar establishment in towns through which he was passing, or in which he was temporarily staying, should be the means of obtaining him (as a sort of acknowledged right) access to such sources of information as he might require.

BREAD FROM GERMINATING WHEAT.

PROFESSOR NICKELS has recently directed the attention of the Agricultural Society of Nancy, France, to a very simple process of treating germinating wheat, so as to make it fit for use in bread. On account of the heavy rains in many parts of France last autumn, the harvest was gathered in a damp state, and much of the wheat germinated, so as to be unfit for food. This serious evil attracted the attention of Mr. Nickels, who immediately made experiments to ascertain some cheap and efficient method of removing it; and he succeeded in obtaining very satisfactory results, simply by the use of salt. The two principal ingredients of wheat are starch and gluten, both of which are insoluble in water, but become soluble after germination. Thus the starch becomes dextrine; the gluten loses that elasticity necessary to make good dough; and the bread made from it is heavy, indigestible, and injurious to health. By the addition of salt, however, the gluten is restored to its natural state of insolubility, and is rendered fit for making good bread. Mr. Nickels ascertained that about 4 oz. of salt, mixed with 13 lbs. of flour from germinated wheat, yield about 17 lbs. of excellent bread. About 2 lbs. of salt, worth 1½d., will be sufficient for 110 lbs. of flour, producing about 143 lbs. of bread.

A PARTING SONG.

A QUAINT old mansion—
Long ago,
They reared its crested roofs;
And men who climbed to fix the vane
That glows in sunshine, and in rain
And wind creaks wearily,
And sighs drearily,
Lie low, lie low.

We do not sigh for them:
We know
Tower and chamber all are proofs
How earnestly they wrought; that heart
Guided the hand in every part.
Of work pleasure
Was a measure
By which to go.

Years since
Were ringing hammers heard,
And planks of oak were side by side
Fashioned to floorings firm and wide,
Where for men cheerfully,
And anon tearfully,
The lots were cast.

But long they all have left:
We find
'Tis void and out of date;
Nor men, nor children, thrive nor smile
Within the sombre shadowy pile.
A day or two
Will leave nor clue
Nor trace of it behind.

And they will pull it down
We know:
Sleeper and iron rail well set
In placid curve, will sweep above
The site of the old place we love.
Shall this beget
In us regret?
Not so—not so.

The wondrous legends told
Of it
Will be forgotten; but below
The shifted rocks will tell a tale
In every shell, that shall not fail
For interest ever,
And lack never,
A worthier song.

Rejoice! for plenty and great peace
To-day
Draw nearer, as we onward go,
The burden of our longings past and here.
Therefore we spare the carven mansion dear;
And shall say tearfully,
But withal cheerfully,
'Tis pass'd away."

J. S. B.

THE LEWIS.

WITH reference to the remarks in a recent number upon the antiquity of the Lewis, a correspondent bears out our impression by pointing attention to a note in Newton's "Vitruvius," chap. ii., book 10:—"Piranesi, in the third volume of his 'Antichita Romana,' asserts that he found in some of the ancient buildings stones that had holes cut in their upper surfaces in such a form as to suit the dove-tail shape of the modern Lewis."

INSTITUTION OF CIVIL ENGINEERS.

ON January 28th; Mr. Hawkshaw, President, in the chair; the paper read was "On the Form and Materials for Iron-plated Ships, and the Points requiring Attention in their Construction," by Mr. Joseph D'A. Samuda.

The author stated that, iron-plated ships having now become a necessity, it was important to ascertain, first, the best description of construction of ship and armour; and secondly, the best form and dimensions of vessel. He thought that the time had arrived, when the Admiralty should see the propriety and the advantage to the public service of abandoning the monopoly of restricting all advance in the construction of mail-clad vessels to plans and systems emanating from themselves; and that it would be far better to trust to the engineering skill of this country, leaving it free to take the initiative in improving this branch of national defence, and the Admiralty only exercising a veto within such limits as experience fitted them to form a judgment upon.



ALNWICK CASTLE; NORTHUMBERLAND.*

[* See p. 83, *ante*.

ON RECENTLY-EXECUTED DEEP WELLS AND BORINGS.

AT the Society of Arts, on the 29th ult., Mr. G. R. Burnell read a paper on this subject. It had especial reference to the doubtful success of artesian wells excepting under particular circumstances. In the course of it he said:—One of the earliest of the attempts made in England at sinking an artesian well to the lower green sand was the one made, almost unintentionally, by the town of Southampton. It was commenced by a preliminary boring through the London clay to the chalk, which was reached at a depth of 480 feet from the surface; the upper strata traversed consisting of the sands, clays, and plastic mottled clays of the Hampshire tertiary series. It seems that the well-borer employed carried the boring to a depth of 50 feet beyond the surface of the chalk already mentioned; and he then reported that an ample supply of water was to be obtained from that formation. A shaft was sunk, on faith of this report, commencing with a cast-iron lining of 13 feet diameter, which it was proposed to carry to a depth of 160 feet, and then to commence boring with a hole of 30 inches diameter, diminishing gradually to 20 inches in the chalk. The cylinders used were, however, found to be too weak for the purpose they were intended to fulfil: they collapsed in places; and, in driving, they assumed a direction seriously out of the perpendicular. The contractor failed when the cylinders had been thus badly lowered to the depth of about 60 feet, and the works were then taken out of his hands, and placed in those of Mr. Docwra, one of the most able well-sinkers and water-works contractors of our country and of our day. With great trouble he drove the shaft completely down to the chalk, finishing it with a clear external diameter of 9 feet 4 inches. Part of it was lined with cast-iron plates, and part of it with brickwork in cement. The brickwork lining was carried 3 feet into the chalk, and below it the shaft was continued to the total depth of 562½ feet from the surface, in the solid chalk, without any lining, and with a clear diameter of about 7 feet: a boring was then commenced of 7½ inches diameter, and was carried down eventually to a total depth of 1,317 feet from the surface. The chalk formation was found here to have a thickness of 851 feet, and the works were suspended when the boring had traversed only 12 feet of the chalk marl. Now at Chichester, where Mr. Gatehouse had also sunk a deep well to the upper green sand about the same period, the thickness of the chalk marl was found to be 61 feet: the upper green sand and gault are of variable thicknesses, but the greatest depth recorded for them was that of the new well at Passy, where they were about 274 feet deep. It is, therefore, very probable, that if the Southampton well had been carried down 330 feet further, or to a total depth of 1,650 feet in round numbers, the problem as to the possibility of finding water from the lower green sand, in the Hampshire basin, might have been solved. In the well at Chichester this solution could be even more easily attained; for the boring had actually been carried about 130 feet nearer to the probable surface of the lower green sand; leaving only 200 feet still to be traversed.

It would be impossible to record all the important works undertaken of late years for obtaining water by means of artesian wells; but the circumstances connected with the history of those attempted at Calais, Kentish-town, and Harwich, are so singular, that it behoves us to dwell upon them. At Calais the well was sunk through the chalk and the whole series of the subcretaceous strata, to a total depth of 1,047 feet from the surface; but no water was obtained from it; and the boring passed, at the depth abovenamed, into the transition rocks, in which it was carried for a further depth of 103 feet. At Kentish-town, the Hampstead Waterworks Company endeavoured to secure an artesian supply, in order to comply with the provisions of the Metropolis Waterworks Act of 1851. They had very wisely consulted Mr. Prestwich upon the geological questions involved in the preliminary inquiries; and they employed Messrs. Degousée & Laurent, the best known and the most successful well-borers up to that period, on the Continent. Geologists and practical men alike in this instance reasoned that, because the lower green sand outcropped around the edges of the chalk basin containing the London tertiaries, in precisely the same manner that the lower green sand outcropped around the chalk basin containing the Paris tertiaries; therefore, there was every *à priori* reason to believe that the subcretaceous formations would continue under London; and furnish, as had been the case at Paris, the water for a well carried down to them. Acting upon this belief, the company commenced boring in the chalk, at the bottom of a shaft previously sunk to the depth of 539 feet from the surface. The boring was commenced with a diameter of 12 inches, reduced to 10 inches in the intermediate part, and finishing with a diameter of 8 inches. The work began on the 10th of June, 1853, and was carried on with every appearance of success for a considerable time. The strata traversed were found to occur in their regular order, and of the anticipated thicknesses, until the boring had traversed the gault formation at the depth of 1,113 feet 6 inches from the surface; but when, as Mr. Prestwich said, everybody believed, that "a very few more turns of the augur would tap the water-bearing sands of the lower green sand formation," it was found that the borings passed at once into a series of beds consisting of alternate layers of red sandstones, red clays, conglomerates, red sands, and rounded pebbles, which geologists are now disposed to class amongst the new red sandstone series. It is very difficult to form any decided opinion as to the real nature of a deposit which has only been explored by the boring tool, especially when the diameter of the bore was only 8 inches, as at Kentish-town; and I confess that for my own part, as I said before in this room and shall have occasion again to repeat, I am disposed to regard the beds of red clays and sandstones rather as being members of the Wealden series than of the new red sandstone. But in either case it was evident that the water-bearing strata were interrupted under London, and that there was no probability of obtaining a supply of any description from them in that district. In fact, the Hampstead Waterworks Company, after the failure of this attempt, were compelled to sell their interests to the New River Company, and the well was stopped at the depth above quoted, added to the depth traversed in red sandstones and clay, or at a total depth from the surface of 1,302 feet.

About the same time that this unexpected result was obtained at Kentish Town, Mr. P. Bruff, C.E., was employed upon an attempt to obtain water for the town of Harwich, either by a deep well in the chalk, or by traversing, if necessary, the strata below the chalk. Several attempts appear to have been previously made at Harwich to obtain a supply from the chalk, but they had failed, in consequence of the infiltration of salt water into the wells sunk close to the sea-shore. Mr. Lankaster Webb, of Stowmarket, a town situate upon the high lands of the valley of the Gipping, the main affluent of the Orwell, had executed a well 895 feet deep through the drift clays and gravels over the chalk, the cretaceous formation, and the upper green sands and gault. I do not know the level of the ground at Mr. Webb's factory; but, as a rough guess, I should say that it was about 240 feet above the high-tide level at Harwich; and I am not, therefore, surprised that the persons connected with the well at the latter town should have expected that upon traversing the chalk they would meet with a supply of water under the true artesian conditions. It happened, however, that, after the Harwich boring had passed through the drift, the tertiary strata, the chalk, the upper green sand, and the gault, to the depth of 1,025½ feet from the surface; it passed, not into the lower green sand, but into a black slaty rock, which Mr. Prestwich pronounced to be a common grey slate of the palæozoic series, whose precise position in the series could, however, hardly be defined on account of the absence of fossils. Thus, at Calais, and, I believe, also at Ostend, the lower green sand is wanting, and is replaced by a member of the carboniferous series: at Kentish Town the lower green sand is absent; and it is replaced, perhaps, by the new red sandstone beds; whilst at Harwich the lower green sand is replaced by the very earliest clay-slate rocks.

Now there may be drawn from these unexpected results of the deep borings in the tertiaries of what may be specially named the London basin some valuable scientific and practical conclusions. These may be briefly stated as follows:—1st. That, at present, geology is only so far advanced as to enable us to state with tolerable certainty what we shall *not* find under the surface, but by no means to justify any positive assertion as to what we *shall* find; thus, knowing that the London clay is on the surface, we may be certain that the crag will not be found beneath it; but it by no means follows that necessarily the chalk, the lower green sands, the oolites, or the usually subordinate strata, should be there. 2nd. That the first attempt to sink an artesian well through a previously untried stratum is at all times a hazardous experiment; and that it is, therefore, one which should never be tried by those who only work with the money raised by forced taxation. It was upon the latter ground that Mr. Ranger very properly recommended the town of Southampton to stop the philosophical experiment upon which they had already incurred so large an outlay; and it is certainly wiser to leave the solution of these problems to municipalities possessed of private resources, or to private enterprize, than to expend upon them the money wrung from the ratepayers. 3rd. And, possibly, this may be the most important conclusion of all: it would appear to be proved by the occurrence of the earlier strata in the geological series at Calais, Kentish-town, Harwich, and if I be not mistaken, at Ostend also, that Mr. Godwin Austin's theory of an upheaval of the carboniferous series existing between its extremity on the French coast and its reappearance in the Bristol and South Wales coal-field is correct. A full discussion of this important inquiry would be misplaced in this paper; but I cannot refrain from repeating what I myself have said before; viz. that, from all that is at present known, it would be more rational to seek for coal under London than for soft water. At the same time I would carefully guard myself against any appearance of encouraging an attempt of the former description, unless it were distinctly undertaken as a speculation, with great, nay, almost infallible, chances of loss.

MEMORIALS OF THE PRINCE CONSORT.

WHILE district meetings, as at Chelsea, &c., are being held in the metropolis for the promotion of the movement in favour of a central and national monument to the Prince, the same object is being carried out in the large towns, and in many of even the smaller ones. At Harrogate the feeling is very divided, as to whether the inhabitants should contribute to the national monument, or should erect a local one; and a meeting on the subject is to be held shortly for the express purpose of deciding this question. It is urged that, for 100*l.*, an obelisk, or some other form of a local memorial, could be erected; whereas all that could be realized towards the metropolitan monument would be but as a drop in the bucket. At Dover it has been resolved to have a local memorial. At Gloucester the City Council have been considering whether the inhabitants should be called upon to subscribe to the national monument or to a local one. Some of the councillors approved of both, and a subscription-list was at once opened in aid of the central monument. A committee, however, has been appointed to consider the subject, and the county is to be invited to join in the movement. At Worcester a proposal has been made to realize funds for Albert Colleges, or an Albert Institute. At Liverpool the subject of a memorial has been before the Council, who, though in favour of a local monument, are opposed to the subscriptions being sent to London. A committee has been appointed to take charge of the matter; and it is considered probable that a resolution passed several years since to erect statues of her Majesty and the Prince, at St. George's Hall, will be now carried into effect. The council, at their last meeting, indeed, agreed to set apart the sum of 5,000*l.* from the burgh fund, to be appropriated to the erection of an equestrian statue of the Prince, to be placed in the area on the east side of St. George's Hall. Mr. Jackson, M.P., has offered to erect, at his own expense, a memorial statue of the Prince in the Birkenhead Park. At Birmingham the working men have had a meeting, and appointed a committee to aid in the local movement. It was highly gratifying to witness the warm feeling in favour of the object in view with which the working men addressed their fellows; and all appeared to feel as if in the Prince's death they had lost a personal friend. While the general committee at Manchester have agreed not to arrive at any decision as to the precise form the local monument shall assume till they see how much is collected, the mayor is endeavouring, in a truly liberal and forcible way, to influence the decision, by offering, instead of the 500*l.* towards a statue which he had already promised, to provide a statue itself, in Carrara marble, should the committee be disposed to erect, out of the funds subscribed, a suitable building for its reception and preservation. The committee meantime have agreed to hold a special meeting to appoint a subcommittee to consider and report on the best plan of dealing with the surplus subscriptions after the erection of a statue. The movement in favour of a Scottish memorial at Edinburgh is still proceeding actively with the object in view. At Glasgow

the Lord Provost has been canvassing for subscriptions towards a local monument, and so far his proposal met with liberal support. A highly influential meeting was then held in the council chambers, to adopt measures for the erection of a memorial. The Lord Provost occupied the chair, and moved a resolution in favour of the promotion of a local memorial. Sir Archibald Alison seconded the resolution; and in the course of his speech said that he had heard members both of the former and the present cabinet say that there were not three men in Europe of abilities equal to those of the Prince Consort. The resolution was unanimously agreed to, and a committee to carry out the object was appointed. A list of subscriptions was then read, which showed that 2,700*l.* had already been subscribed. At a county meeting in Aberdeen a local memorial has been resolved on, and a committee appointed.

The death of the Prince Consort, we may here add, is to be the subject of a prize poem, for which the new chancellor of the University of Cambridge offers a gold medal as the prize.

SOCIETY OF FEMALE ARTISTS.

The sixth exhibition of lady-artists now open at the gallery of the New Water-Colour Society, Pall-mall, consists of 284 works, the last number, not in the catalogue, being a clever pen-and-ink sepia drawing by Mrs. Boyle. The collection is more even in merit than has sometimes been the case. Miss Louisa Rayner occupies a place of honour worthily with a large and forcible view of the Interior of Rosslyn Chapel. The same lady has some other good architectural works. Miss Kate Swift and Miss G. Swift are two of the most important exhibitors, and show progress. 61, "Fountain of the Virgin Mary, Nazareth," by Mrs. Roberton Blaine; 62, "Rydal Water," Mrs. Oliver; 65, "Study of Colour," Florence Peel; 68, "The Absent Scholar," Mademoiselle Sophie Jobert; 106, "The Loch of Lowes," Mrs. J. W. Brown; 173, "Waiting for a Customer," Mrs. Backhouse; 183, "Resting at the well," Mrs. Paul Naftel; 238, "The Little Coquette," Angélique Razè (a new and promising young member), are conspicuous in the collection. Mrs. Valentine, Bartholomew, Mrs. Dundas Murray, Lady Belcher, Miss Lucy Archer, Mrs. Withers, Miss Weigall, Miss Pocock, and Mrs. Thorneycroft, are also amongst the exhibitors.

THE ARCHITECTURAL ASSOCIATION.

The ordinary meeting of members was held on Friday evening (the 31st ult), at the House in Conduit-street.

The chair was taken by the president, Mr. Blomfield.

Mr. Arthur Smith (Hon. Sec.), stated that about forty members of the Association had availed themselves of the invitation of the contractors to visit the works of the Underground Railway on the previous Saturday, and had been much interested by the inspection.

Mr. A. Church then read a paper on the preservation of stone.

At the conclusion,

The Chairman inquired whether the saline atmosphere was found to be detrimental to freestone or soft stone.

Mr. Church replied that, curious though it might appear, it was a fact that there was no place in the interior of the country to which seaside spray was not carried, and which did not affect more or less the stone used for building purposes.

Mr. Trotman, of the firm of Bartlett, Brothers, of Camden-town, described the difference between the process of preserving stone as carried out by those gentlemen, and that known as "Ransome's process." In the latter process there were two solutions—the first the agent, and the second the re-agent,—the first soluble, the second intended to be insoluble. In the process as applied by Bartlett, Brothers, the solutions were applied together, and as one. Potash was also used, to a certain extent free, and to a certain extent in combination.

Mr. R. T. Smith observed that there were two descriptions of induration likely to be brought under the notice of architects,—one, that in which decay of long standing had set in, and the other that description of local decay caused by the stone being in an exposed situation. He was afraid they were bound to arrive at the conclusion that no process had yet been sufficiently tested by time to inspire perfect confidence. He would be glad to know from Mr. Church what description of stone was in his opinion best calculated to resist the London atmosphere.

Mr. Church said that he thought Portland stone, when well selected, was the best. The better descriptions of magnesia limestone and dolamite were also well calculated to resist the peculiar atmosphere of the metropolis.

Mr. T. R. Smith considered that we made a mistake by using the soft Bath stone so much for public buildings. Other stones might be procured, from Yorkshire, for instance, at a very little increase of expense.

The Chairman said that he had often wished to use other stone, but that he was compelled to use Bath stone because it was so much cheaper than others.

After some further discussion,

Mr. Spiers moved a vote of thanks to Mr. Church for his paper, which was put and carried *nem. con.*

The Chairman announced that at the next meeting Mr. Herring would read a paper on the non-desirability of substituting colour for form.

The following gentlemen were, on ballot, elected members of the Association:—Mr. J. Johnson, 10, Clift-street; and Mr. North, Radnor-street, Chelsea.

THE ROYAL ENGINEER DEPARTMENT.

MILITARY BUILDERS.

We have received two or three elaborate letters reiterating the objections taken to the present constitution of the Royal Engineer Department, and the arguments to show the injustice suffered by the civil officers,—the so-called clerks of the works. Our readers are all tolerably well acquainted with this view of the case, and we do not find it necessary to print the statements. Official inquiry is going on, and it may be expected that some alteration will be made. The men who do the work ought to have the responsibility and the credit.

One of our correspondents, commenting on the proposition that the work should be wholly done by soldiers, thus writes:—

"It must not be supposed that the sappers, when they enlist, are the best tradesmen as bricklayers, carpenters, &c.; and even were they the best, the military organization of the rank-and-file unfits them for working at their trades. The military parades and multifarious duties of a soldier, which must first be attended to, distract their attention, deteriorate their mechanical skill, and destroy all their interest in the handicraft of artificers' work. Their remuneration, 1s. 1d. per diem working pay,—their military pay being the equivalent for military duties and its restraints,—is no inducement for them to labour; and even if they were better paid, their first object, after making up their minds to become good hardworking mechanics, would be to purchase their discharge from the army. These men will neglect and forget their duties as soldiers, or as working tradesmen: they cannot attend to both in a proper manner.

Labour is but a small percentage in house-building. The sapper soldier has no interest in economizing the costly material he uses: the public, even at 1s. 1d. per diem, pay him the full value of his work, and great losses may accrue from an unnecessary waste of material. Our great building firms need feel no uneasiness on account of the Royal Engineers entering the field of competition as 'builders.' Imagine this military corps—officers and men—undertaking without civilian aid to build a large barrack like that for the Guards at Chelsea. What inferior design and workmanship! Who could calculate its cost? and would the building be completed before 'Lord Macaulay's New Zealander arrives to view the ruins of our mighty modern Babylon after the decline and fall of the British empire?'

Should the War Minister decide to make civilians of the engineer officers, no obstacle is likely to be thrown in the way by the parties doomed. The clerks would rejoice in the 'good time coming;' and the clerks of works, next to being placed in a proper position, in their own department, would welcome emancipation on almost any terms.

One thing is certain: the reform of the department cannot be long delayed. The adoption of the scheme suggested in the January number of *Colburn's Magazine*, is not probable. It is understood that Lord Panmure's idea, when in office, was to call to his aid an architect of position, and place him in the War Office, as the 'Architect-in-Chief' for barrack works. A 'Surveyor-General' should be associated with him, and suitable deputies appointed, to perform the principal professional work of design, &c., in the London office, and to make frequent inspection throughout the country; the existing civil staff being placed in local charge, to carry out the works at the out-stations, under the central authority in London."

BRITISH ARCHÆOLOGICAL ASSOCIATION.

On January 22; Mr. T. J. Pettigrew, F.R.S., in the chair; Mr. Moore forwarded particulars relating to the discovery of a Roman villa, in a field called Chessells, West Coker, Somersetshire, at the depth of 2 feet, was a kind of rude stone pavement, on which and in the joints between various articles were found. The villa seems to have been destroyed by fire, and the spot rifled, but there were numerous tesseræ, bones, horns, and portions of plastered walls, coloured. In reference to the discovery of a leaden coffin, at Worcester Cathedral, announced at the previous meeting, Mr. Cuming mentioned other instances in which coffins had been found of human form. These were of James IV. of Scotland, buried at the monastery of Sheen in 1513; of Mary Countess of Arundel, in the chapel formerly belonging to the College of the Holy Trinity, at Arundel, in 1557; of Henry Prince of Wales, in a vault on the north side of Henry VII.'s Chapel, at Westminster, in 1612; and of Thomas Sutton, the founder of the Charter House, who died in 1611. This example is very singular; for on its upper part is a mask, with a square Egyptian beard, as seen on the mummy cases, having an Osirian representation.

The chairman stated that his attention had been called, by the local surveyor of the Board of Health at Bow, to the discovery of a portion of a sepulchral slab of Purbeck marble, on digging a sewer on the site of the ancient Abbey of West Ham. He and Mr. E. Roberts had visited the spot, and found it to be 26 inches in length and 23 inches in breadth, giving a representation of the lower part of a Calvary cross, with trefoils and quatrefoils at the sides. The character of the work was neither pure nor good, and belonged to the commencement of the fourteenth century. The chairman also reported that inquiries had been made in regard to the preservation of the house visited during the congress, at Chester, in 1849, known as God's Providence House, having carved in wood on its front, "God's Providence is mine inheritance." This had been threatened with destruction, and it was intended to have had a brick front built instead of the present one of most remarkable character. By the laudable exertions of the Chester Archæological Society, this has been averted.

After various exhibitions, Mr. Planché read a paper "On a remarkable tomb at Albrighton, county Salop, which was illustrated by two very elaborate drawings, by Mr. Hillary Davies, of Shrewsbury. The tomb is of the thirteenth century, and almost entirely covered with armorial bearings. Mr. Planché demonstrated how impossible it was to assign with anything like confidence any of the shields sculptured upon it, to particular families without the farther assistance of colour: he, however, pointed out two or three that might be tolerably well depended on; and gave his reasons for believing that it was a monument to one of the De Willy or Willighley family, connected with the Pichfords, and probably commemorated Andrew Fitz Nicholas de Willy, slain at the battle of Evesham, in 1265.

SANITARY MATTERS.

Reigate.—The drainage of Reigate has long been a vexed question, upon which local party feeling, here as elsewhere, has at times run very high. Happily, however, there is now union and hope of amendment. Covered drains are to be generally extended, and the danger to public health lessened. The open drain from Reigate Hill and part of Wray Park, running through Nutley-lane and West-street, is about to be covered in by means of a pipe drain: this is hailed with delight by those who have hitherto suffered from the noxious vapours arising therefrom. A more comprehensive system, however, is much required.

Brighton.—The town council, by a majority of 32 to 18, have approved of the plan of the surveyor for the drainage of this town, and have referred it back to the Works Committee, by whom it was submitted, "to report upon the proper steps to be taken for proceeding with the works, and for raising money for defraying the expenses."

Winchester.—The local drainage committee is proceeding perseveringly in their laudable endeavours to cleanse "the dirty city," as it has been called. At last week's meeting, Mr. H. Moody

said some persons had expressed themselves offended by this name being given to Winchester, and it ought to be thoroughly understood what was meant by it. He made an inquiry the other day, and found that in the parish of St. Lawrence, which contained just over sixty houses, thirty of them had their cesspools inside the house, and all the others were in closely-confined courts. The Chairman (Dr. Crawford) said he believed there was one block of nine houses there, only one of which had a cesspool outside. Mr. G. Jacob said he was unfortunate enough to have three in his house. Dr. Smith said the town pump was in very bad company, and he thought its character was rather "shaky."

Ipswich.—At the council meeting last week Ald. G. Josselyn read a letter from Mr. P. R. Burrell. In it the writer said;—"I have had the opportunity this autumn of making myself acquainted with the different systems of sewerage adopted by the towns of Leicester and Rugby. By both systems the towns are freed from all sewage matter and the noxious influences arising therefrom; but in the former case, that of Leicester, the cost has been large, 22,000*l.*; the annual expense considerable, about 1,100*l.*; and the profit derived from the solid refuse nothing; as it is of so little value that it is given away gratis to induce people to remove it. In the latter case, that of Rugby, the cost was considerably less, about 1,000*l.*; the annual expense moderate, about 300*l.*; and the sewage water made to yield some profit by being leased for a term of years to a neighbouring proprietor for the purposes of irrigation. It is now generally admitted that the only way of utilizing town sewage is by irrigation, as the land is a natural and perfect deodorizer; thoroughly filtering the water and giving off the unabsorbed portion in a pure and pellucid state. I believe this plan, which is entirely free from all former objections of contaminating the river Orwell, to be the only one available for sewering the town of Ipswich. I would undertake to use the whole of the sewage; to lay down the necessary pipes and hydrants on my land; and pay a certain rent (to be fixed hereafter) per acre; the agreement to be binding on both sides for twenty-one years." The letter was unanimously referred to the sewerage committee; the mayor remarking that there was no question about its importance.

Hawick.—In an article "On our Sanitary Condition," the editor of the *Border Advertiser* says;—"To aid the Town Council in their endeavours to revolutionize our sanitary condition, and to mark the advent of a new epoch in our march of progress, we this week commence the first of a series of pen-and-ink sketches descriptive of the present state of our closes, lanes, bye-paths, alleys, and streets, beginning at the eastern extremity of the town." The writer very appropriately looks first at home; or, in other words, he begins with "the favoured spot where the literati do most congregate;" and asks *them* why they "do not bestir themselves in obtaining some redress for the filthy state" of their neighbourhood.

CHURCH-BUILDING NEWS.

Market Rasen.—The following tenders for the restoration of the parish church have been received:—Smith & Binns, Lincoln, 1,050*l.* 10s.; Wallis & Son, Rasen, 1,310*l.*; Freeman, Rasen, 1,318*l.* The amounts are net, and Messrs. Smith & Binns' tender has been accepted. The work will shortly be commenced.

Welby.—The church of Welby, which was re-roofed and restored externally last year, has just been completed by being cleared of the old pewing, which has been replaced by open benches of deal, stained. The pulpit and reading-desk (also new) are of oak, and the panels have been filled with the old Jacobean carving, which formed a part of the old pewing, with good effect. There is also a new communion rail of oak, supported by foliated wrought-iron standards. The aisle, &c. are paved with red and black quarries in patterns. The works connected with the interior restoration have been carried out by Messrs. Morrison & Brutnell, under the superintendence of Mr. R. W. Johnson, of Melton Mowbray, architect.

Stratford (Essex).—We are requested by the architect of the proposed church of St. Paul, Stratford, Mr. E. B. Keeling, to explain that the cost of 5,500*l.* includes endowment and expenses, besides 3,400*l.* for the works, let to Messrs. Dove, Brothers.

Oatlands Park, Walton-on-Thames.—A new church has just been erected in this beautiful locality, to supply the increasing wants of the residents and visitors. It consists of a nave, 65 feet by 24 feet 6 inches, a south aisle, 56 feet by 15 feet 6 inches, a chancel, with apsidal termination, 25 feet by 20 feet, and a south chancel aisle, 15 feet by 14 feet. There is a wooden porch, with glazed sides, at the western extremity of the south aisle. The bell-turret is on the east gable of the nave, over the chancel arch. The south aisle is divided from the nave by four arches, on piers, quatrefoil on plan; and the roofs consist of a series of framed rafters, pentagonal in form, boarded, and covered with red tiles of an admirable colour. The style is Flowing Middle Pointed, the windows exhibiting variety in the tracery. The walls externally are faced with Kentish rag, and internally, with Bath stone; the latter being also used for all the windows, doors, strings, and other details. The church will accommodate about 350 worshippers, and the cost has been 2,400*l.* The architects employed were Messrs. Francis, and the builders, Messrs. Keyes & Head. The edifice was to be opened on the 2nd inst.

Nailsea.—The parish church of Nailsea, near Bristol, which had fallen into a lamentable state of decay, has, during the last twelve months, been undergoing a course of renovation, and is now re-opened for divine service. The gallery in the south aisle has been removed. The high-backed pews in the upper part of the church have been taken down to give way to a number of open stained deal seats, providing thus the addition of a considerable number of sittings. The edifice is now fitted with sittings for 400. All the existing windows are new; and the stained glass which was scattered through them has been collected, and placed in one of the east windows. The restoration of the chancel has been undertaken solely by the rector, the Rev. F. Brown, at a cost of about 200*l.*, including a stained-glass window. A new open stained deal roof has been put up in the chancel. Arrangements for lighting the church for evening service have likewise been made. The walls have been re-plastered; and during the process a priest's door, which had heretofore been concealed from view, was discovered in the chancel. The roof of the church has been re-slated. The entire cost of the work has been about 1,000*l.* The work has been executed under the direction of Messrs. Fripp & Co., of Bristol, architects, by the contractor, Mr. Robert Newton, of Nailsea. The glass was provided by Mr. Bell, of Bristol.

Hooton.—The new church of St. Paul, Hooton, has been consecrated. The edifice has been designed in the Lombardo-Gothic style of architecture. Its site is almost immediately to the north-east of the Chester-gate of entrance to Hootonhall, and is closely adjoining the public road. The edifice consists of a nave and chancel, with transepts surmounted by a lantern at their intersection. The nave is furnished with side aisles; and the chancel, whose eastern termination is a semi-circular apse, is surrounded by an ambulatory. The central lantern rises on a square pedestal above the four central pillars, chamfered off into an octagonal base supporting the lantern, which is crowned by a pyramidal spire. Exteriorly some effect has been obtained by the arrangement of two kinds of stone of which the edifice has been built. One of these is the Stourton stone, of a warmish grey colour: the other is a dark red stone got from Mr. Naylor's quarries on the Hooton estate, near Eastham. The window and door dressings, and the window shafts, are of the Hooton stone, with the exception of a band or two of Stourton stone, while the external pillar shafts are of Hooton, and the capitals of Stourton. Its total length from west to east is 105 feet. The width across the transepts is 52 feet. The width of both nave and chancel is the same, namely, 19 feet; and the aisles on each side are 8 feet wide. The total height of the lantern is 95 feet. Mr. J. K. Colling, of London, was the architect; and Messrs. Holme & Nicol, of Liverpool, were the contractors.

STAINED GLASS.

Eastham Church.—The west window of this old church has just been filled with stained glass, executed by Messrs. Ballantine & Son, Edinburgh. The window has two upright lights, with top tracery, and illustrates the Annunciation. In the dexter light is the angel presenting to Mary a stalk of lilies, and in the sinister is the Virgin bearing a pot of budding lilies. These figures are surmounted by early canopies. In the top central trefoil the dove is seen descending amid golden rays. All the openings are surrounded by borderings.

Lincoln Cathedral.—A stained window, by Messrs. Clayton & Bell, of London, is now being placed in the new buildings, at the east end of Lincoln Cathedral, to the memory of Dr. Butler, the late Dean of Peterborough. The top part represents the twelve Apostles; and in the compartments below are represented our Lord and Mary in the garden, supper at Emaus, St. Thomas and our Lord, Christ's charge to Peter, Peter and John, our Lord rising from the tomb, Angel and Soldiers, three Marys, Agony in the Garden, Pilate washing his hands, Bearing the Cross, and the Entombment of our Lord. The window, which is 19 feet 9 inches by 11 feet, was presented by Mrs. Butler.

St. Luke's, Leek.—The east window of the south aisle of St. Luke's Church, Leek, has recently been filled with stained glass, which bears the following inscription:—"To the glory of God, and in memory of Elizabeth Worthington, died June 1, 1861, aged 90 years, by her children. 1862." The window is of three lights, and the subjects are the Annunciation, Crucifixion, and the "Noli me tangere." The tracery and other portions are filled with escutcheons, emblazoned with the symbols of the Passion of our Lord; and the whole is intertwined with the vine-leaf, which gives it much richness and relief. The window possesses much breadth of effect, and harmony and richness of colouring, and is in every respect, as a work of art, worthy the reputation of its maker, Mr. Warrington, of London. Another window was a short time previously filled with stained glass by Mr. Nall, the first churchwarden, from Mr. Wailes, of Newcastle.

Ladbroke Church (Warwickshire).—A stained glass window has been erected in the south side of this church, by the Rev. A. Turner, twenty years rector of the parish, to the memory of his only daughter, who died in France, on Ascension Day, 1861. The window is of three openings, the centre one being filled with the subject of the Ascension, and in the side figures of Faith and Hope, under canopies, in which are introduced the Lamb and Pelican. It was designed and executed by Mr. W. Holland, of Warwick.

Broseley Church.—It is intended to erect a stained-glass window in the south aisle of Broseley Church, in memory of the late Mr. George Pritchard, and also to erect a public fountain to his memory.

Gloucester Cathedral.—The workmen of Messrs. Ward & Hughes, of London, have commenced the replacing of the glass in the great east window of this cathedral. Some months ago it was removed and forwarded to London, where it has been cleaned and releaded, under the superintendence of Mr. Winston. No modern glass, according to the *Gloucester Chronicle*, has been added. The stonework of the window has been entirely restored, under the direction of the cathedral architect, Mr. Waller.

Hunmanby Church.—A stained-glass window has been placed in the parish church, in memory of Mr. W. Sheriton, late agent to Admiral Mitford, of Hunmanby Hall. This window is from the establishment of Mr. Wailes, of Newcastle-on-Tyne. In design it is illustrative of the parable of the Good Samaritan, and comprises six distinct subjects in compartments, the upper tracery containing two angels, with scroll.

PROVINCIAL NEWS.

Colchester.—Government has accepted the tender of Messrs. Lucas, Brothers, for the erection of the new Cavalry Barracks, in extension of Colchester camp. The original estimate was 52,000*l.*, and the amount of the contract is understood to be 49,700*l.* Seven other firms tendered for the undertaking. The works are to be completed in twelve months. The barracks, which are for a regiment of cavalry on the home strength, and are to be formed in blocks, affording accommodation for about seventy-two men each, will be built of red brick, two stories high, except the officers' quarters, which are to be of three stories. Although these works will exhaust the Parliamentary grant of 60,000*l.*, made during the last session; it is understood that further sums will be asked for in order to carry out the entire plan, which embraces suitable accommodation for two or three batteries of artillery and a strong body of royal engineers. This scheme will bring together the various branches of the service, and make Colchester the principal military station of the eastern district of England.

Rochester and Chatham.—At a special meeting of the Estate Committee of the Corporation, the erection of the new town quay, the plans and drawings for which were laid before the committee by Mr. Andrews, the city architect, was considered,

The new quay will occupy, as nearly as possible, the site of the old town quay, which was taken by the bridge wardens, several years since, on the occasion of the building of new Rochester bridge, and who have presented the city with the site on which to erect the new town quay, which will be formed at the vacant piece of ground between the railway bridge and the offices of the water-bailiff. The plans were approved, and the work will shortly be commenced. The cost will be from 1,000*l.* to 1,500*l.*

Cardiff.—The two additional wings and rearrangement of the entire building of the Cardiff Infirmary are nearly completed. These extensive alterations have been effected at a cost of nearly 3,000*l.* The architects employed are Messrs. Paull and Robinson.

THE 1862 EXHIBITORS.

Sir,—Now that the Commissioners have issued a list of prices for season tickets, and shown how much visitors without them will have to pay, I ask, through the *Builder*, what is to be done for the exhibitors. In 1851 we had to pay the same as any one else; the only favour granted to us, after a deal of noise, being that we were allowed to enter gratis on the closing day of the exhibition, when many of the best things had been removed from the building.

I trust, however, that this time the Commissioners will act more liberally, and either grant a *free pass to each exhibitor*, at any rate in the fine-art sections, which is what they ought to do, or else issue exhibitors' season tickets at 1*l.* 1*s.* each.

Exhibitor.

STRIKES AND SKILLED LABOUR.

Sir,—In perusing each weekly issue of your valuable periodical, one cannot help being struck by the constantly occurring notice of *strikes* in every department of mechanical labour; and it becomes painfully evident that this unhealthy state of the labour market requires the earnest attention of the state physician. No work of magnitude is at present being carried out on which this system has not told, often to the grievous loss of the contractor, and social and moral harm to the labourer and his family. One cause of this evil may, I think, be attributed to the system of preventing more than a certain number of apprentices being articled in certain workshops. Thus it is evident that, whilst there is no lack of work to be done, we are not providing sufficient skilled workmen to do it. The workmen are divided into Unionists and non-Unionists, the former on all occasions refusing to work where one of the latter is employed; so, whilst work and capital increase in the country, skilled workmen decrease; and it is only by throwing more of this skilled labour into the market, and increasing the body of non-Unionists, that the evil will be in any measure remedied.

The means by which this may be attained are not novel, though the application may be. We must take the rough ashlar of refuse humanity and labour to dress it to the smooth ashlar,—a *useful* member, if not an ornament, of society. Amongst the useful and ill-educated poor our reformatories are doing a very great deal of good, and it is to be hoped that the day is not very far distant when no such very slouching character as Poor Joe, "who never knowed nothink," will be recognizable by this generation. "Much has been done, yet more remains to do." Are these youths, when again turned from their home, fit to labour truly to get their own living? I fear, from the criminal returns, that question cannot be quite satisfactorily answered.

In our model prisons another course is adopted, and men are taught therein some useful occupation,—basket-making, tailoring, shoemaking, &c., &c.,—and then when again let loose on society they in most cases are able by the work of their hands to obtain an honest living. Why not employ the same means with the convicts at Dartmoor, Portland, the dockyards, &c.? Why not turn these members of society, at best only good labourers or bad workmen, as they are at present released, into those very skilled artisans of whom we are so much in want. Their term, varying from three to any number of years' penal servitude, gives time to convert the unskilled into the skilled labourer, and turn those beetle-browed, mischief-brooding, unhappy masses of villany into self-respectful, thoughtful, happy members of a useful community; able, if set down in any part of the world, to do a good day's work for an honest day's pay; in fact, an acquisition rather than a burthen to their neighbours. For example, how few really good clever masons there are, how difficult to be got at, and how independent when employed; fully accounting for the stiff unadorned buildings we see everywhere. Yet we have boundless resources in men and limestone at Portland; the one only waiting to be taught the mode of working the other. And by properly using his chisels and his drawing-board, his fancy tutored, how would a man's mind be elevated by feeling himself rapidly becoming a skilled art-mason: he would be born, as it were, again, in a new world, with a new idea of and a new place in it; and, by thus opening a path to honourable distinction among his fellows, it would only be by neglecting those attendants on the truly industrious—sobriety and perseverance—that he could fail to become honoured and happy in that state of life in which it had pleased providence to place him;—carpenters, joiners, plasterers, brick and tile makers, learned in cunning devices, and turned out thorough workmen. No trade might be without its representative;—allowing men to choose that for which they felt themselves best adapted, and giving them on their leaving certificates of their proficiency; and further, *allowing* them to exceed their term (if a short one) to enable them to thoroughly learn their art. Surely this country would be celebrated in all parts of the world for the character of her workmanship; and I believe that ere long the competition which would naturally arise between the excellency of convict and free labour would have a most beneficial effect on the British workman. Nor do I consider that the labour-market would be ever overstocked; although I cannot but suppose skilled workmanship would be cheaper and more often visible than at present: this would be a great benefit to the general public. The labourer may say he is not sufficiently paid; but, if he looks around, he will see he can oft times make three times as much as the poor clergyman, who, having had to expend large sums on his education, yet has to live, tax his brain and energies on his mission of mercy, and often have to provide for a large family, on 60*l.* a year. Or, if he looks to those who employ him, how many architects or engineers, often in the prime of life, will he see who have also had large sums expended on their education, are men of talent, and whose income is but half that of the skilled workman whose work is designed and guided by him.

J. J. A.

NATIONAL ASSOCIATION FOR THE PROMOTION OF SOCIAL SCIENCE.

London Meeting, 1862.

The preparations for the sixth annual meeting of this Association, to be held in London in June next, are now in active progress. It is intended to secure the support of the entire metropolis; and the Lord Mayor, anxious that the City should take the lead, has convened a public meeting, to be held at the Mansion House on Tuesday next, the 11th instant, when a Reception Committee will be formed, and other steps taken to promote the success of the Congress. A numerous attendance is expected, as several leading members of the Association will take part in the proceedings. The Lord Mayor will take the chair at two o'clock precisely.

ARCHITECT AND PUPIL.—WIMBRIDGE *v.* EDWARDS.

This was an action (in the Court of Exchequer) for a breach of contract, under which the defendant had undertaken, in consideration of a premium of 99*l.* 19*s.*, to teach the plaintiff's son the business of an architect. The defendant pleaded that he had not neglected to teach the plaintiff's son, but that the latter had refused to obey his lawful commands.

The plaintiff is the gatekeeper of Victoria-gate, Hyde Park; and he apprenticed his eldest son to the defendant, an architect in Brunswick-square, in September, 1858, paying 99*l.* 19*s.* premium. The plaintiff's son remained with the defendant for about two and a half years, when he left, on the ground that the defendant employed him in colouring plans, instead of teaching him the profession practically.

Before the plaintiff's case had closed, an arrangement was arrived at by which a juror was withdrawn, on the terms that the defendant should pay the plaintiff 20*l.* for costs out of pocket.

Leicestershire Architectural Society.—The general annual meeting of this society has just been held at Leicester, when the usual report was read, the seventh since the formation of the society, and adopted. The accounts showed a balance of 26*l.* in hand. Various articles of interest were exhibited at the meeting. It was resolved that the general meeting in the summer of 1862 be held at Bosworth.

Books Received.

Specimens of Early French Architecture, selected chiefly from the Churches of the Ile de France, and Illustrated in Geometrical Drawings and Perspective Views. By Robert J. Johnson, Architect, 10, Belgrave-street South, Pimlico. Parts 1, 2, and 3.

Mr. Johnson proposes to give in this work some of the best specimens of French architecture of the twelfth and thirteenth centuries, in about a hundred plates; of which at least one half will be devoted to plans, elevations, sections, and details, of the various buildings, from actual measurement: the remainder will consist of perspective views, drawings of sculptured capitals, and other decorative features. Various portions of Laon and Noyon Cathedrals are given; also that of Nôtre Dame, at Chalons-sur-Marne, with one of its towers and the old spire. St. Leu d'Efferent is fully illustrated, as the fine character of its work deserves. The noble desecrated church of St. Frambourg, at Senlis, is also illustrated; with a number of smaller buildings, such as Cauffry, Angry, and Cambronne, well worthy of careful study.

The author says,—"The examples have been selected to display that nobleness, simplicity, and masculine vigour so strikingly characteristic of the architecture of the period in France; and it is believed that those who are studying Christian architecture, either as antiquaries or practical men, will find the result of a laboriously-measured series of specimens of the utmost value."

The third part, just published, appears to have had scarcely the same amount of time given to it as the first and second. We hope a sufficient number of names will be sent to Mr. Johnson, as subscribers, to encourage him to complete his intention in his best possible manner. He is evidently quite able to do it well, and the result would be a very valuable work.

Miscellanea.

Wages in Melbourne, Victoria.—In 1854 the wages of masons, blacksmiths, and carpenters in Melbourne was 30*s.* a day. The rate is now 9*s.*, but the expense of living is only two-fifths of what it was at the period referred to.

The Wages Question.—Meetings of the nail-forgers of the Lye district have been held, at which it has been resolved that there should be a general strike, unless the 20*s.* rate was paid by the masters. In order, however, to show their desire of conciliation, the men resolved first to visit the masters, and ask if they would consent to pay the ordinary rate of wages. This was done, and at a recent meeting it was announced that the masters had expressed their willingness to pay the 20*s.* rate. There were some four or five dissentients among the masters, and the hands in their employ were accordingly put on strike. It was also resolved to take measures to put down the truck system.

Address on Land and Building Societies.—Mr. William Chambers, the journalist, delivered an address on "Land and Building Societies as conducted in England," at a public meeting of the Architectural Institute of Scotland, held last week at Edinburgh. There was a large attendance. The chair was occupied by Mr. J. D. Peddie, senior member of the council of the Institute. Mr. Chambers gave a very interesting account of the building societies' proceedings at Birmingham, Wolverhampton, London, &c. In Birmingham, he stated, there are from 8,000 to 9,000 houses with gardens allotted, and partly already paid for, and partly in course of being paid for, by the working-class inhabitants; 90 per cent. of whom are mechanics, with 24*s.* to 30*s.* a week. Their average annual investment is 18*l.* The societies thus receive about 150,000*l.* per annum in redemption of the dwellings, which appear to average 120*l.* to 180*l.* each; including 40*l.* to 50*l.* each for land or site. Mr. Chambers speaks of 10,000 members belonging to the Birmingham societies. Throughout England and Wales there are said to be 2,000 land and building societies, comprehending more than 200,000 members. The money paid in to the societies now amounts to above eleven millions, of which upwards of eight millions have been invested in property; part of the overplus having been repaid with interest. Mr. Chambers regards the cultivation of habits of prudent forethought and frugality, sobriety, self-respect, and independence, as amongst the most important of the results of the movement.

CITY IMPROVEMENTS.—It has been decided to utilize the space the recent fire formed in Paternoster-row, by opening a street into it from St. Paul's Churchyard. To effect this long-desired improvement, it will be necessary to widen the narrow and inconvenient thoroughfare of London-House-yard; and the inhabitants of the locality have been served with notices that their tenements will be required for the proposed alteration.

PROPOSED PUBLIC PARK AT GATESHEAD.—At a public meeting held in the Town Hall, Gateshead, the report of the committee appointed to negotiate with Mr. Askew and Sir Walter James, Bart., relative to the purchase of ground for a public park, was read. The committee recommended that an offer be made to Sir Walter James of 6,000*l.* for his 30 acres of the Shipcote estate, (which he had offered for 7,000*l.*), but subject to the condition that they should be at liberty to withdraw their offer at any time during the next six months. The report, after some discussion, was adopted by a large majority. "Sir Walter and Lady James," says the *Gateshead Observer*, "have accepted the offer made them by the Gateshead committee, of the sum of 6,000*l.* for 30 acres of land at Shipcote. Gateshead is in a fair way, therefore, of having a beautiful place of recreation provided; and with the hills improved, and good roads made, a long-desired consummation will be gratefully acknowledged by ourselves and our fellow-townsmen."

BLACKFRIARS BRIDGE. — The report of the Bridge House Estates Committee, recommending Mr. Page's design of a new bridge of three arches, at an estimated cost of 245,000*l.*, is now under the consideration of the Court of Common Council, who have held one special meeting on the subject, which was adjourned for a fortnight,—to this day, Friday. Mr. Vallance, the chairman of the committee, moved the adoption of the report, and expressed his opinion against a proposed bridge of five arches, which he said would better suit the purposes of the London, Chatham, and Dover Railway Company; and in favour of the one with three arches, which he maintained would give much more water-way. This was denied by Deputy Fry, one of the minority of the committee, who insisted that they had not a sufficiency of professional assistance; so that the report was the result of the deliberations of unpractical and unscientific men. Mr. Page, he said, had estimated the bridge at 280,000*l.*; but, after Mr. Cubitt had proposed to erect the structure for 245,000*l.*, Mr. Page had found he had made some extraordinary mistake in his calculations; and then undertook to build the bridge at Mr. Cubitt's estimate. Mr. Page, he added, had admitted a mistake of 3 feet 6 inches in the gradients; and he (Mr. Fry) believed the Surrey side level would require to be raised 5 or 6 feet, or to the first-floor windows.

MISTAKEN ORDERS.—*Galignani* informs us that the Civil Tribunal of Limoges gave judgment in a suit between Mr. Elias Robert, sculptor, and Mr. Ardant, mayor of the town, which had arisen under the following circumstances:—In September, 1860, a bronze statue of Marshal Jourdan, modelled by Mr. Robert, was inaugurated at Limoges; and the mayor, in his speech on that occasion, after enumerating the eminent men born in the Limousin, among whom was Marshal Bugeaud, asserted that he too should have his Elias Robert, and that a statue should be erected to him the following year. After the ceremony Mr. Robert waited upon the mayor; and from what then passed between them he concluded that the mayor had given him an order for a statue of Marshal Bugeaud. Count de Cardaillaick, who was present at the interview, also came to the same conclusion. Mr. Robert accordingly, on his return to Paris, applied to the Duke d'Isly for the costume worn by the marshal in Africa, and proceeded rapidly with his model. In March it was completed, and Mr. Robert informed the mayor that it was ready for his inspection; but that official immediately replied that Mr. Robert was labouring under a lamentable mistake in supposing that any positive order had been given for the statue; and also that the committee appointed to organize the subscription had decided that the artist should be chosen by competition. As the mayor absolutely refused to acknowledge having given any order to Mr. Robert, the latter applied to the Civil Tribunal to compel the mayor to indemnify him for the six months' labour he had employed on the model. The mayor's counsel declared that his client could not have given any absolute order; that although he might have promised to use his influence with the committee in favour of Mr. Robert, he had done nothing more. The court, in the absence of all documentary evidence, adopted that view of the case, and rejected Mr. Robert's demand.

FATAL ACCIDENT AT THE UNDERGROUND RAILWAY WORKS.—An inquest has been held before Mr. Payne, coroner, at St. Bartholomew's Hospital, on the body of Patrick Casserley, aged 42, who was employed as a labourer at the underground railway works at Clerkenwell. In descending the shaft he did not wait for the skip, but caught hold of the rope to let himself down; missed his hold; and fell head foremost nearly 60 feet. He died from the injuries received. Verdict, accidental death.

FALLING OF A BRIDGE ON THE DORSET CENTRAL RAILWAY.—An accident has occurred at Pitcomb, on this line, the arch over the turnpike road suddenly giving way. A large portion of the lower ring of brickwork fell into the road. An engine from Templecombe was approaching at the moment; and before the signal to stop could be made, the engine, to the relief of the spectators, passed safely over the remains of the bridge. The contractor having determined to pull down the damaged arch, labourers were at once set to work, and the remains were soon cleared away, the abutments only being left standing. It has been determined to put a flat iron top to the bridge.

PRIMROSE-HILL.—Those who feel how inestimable, in every point of view, is such a tract of open ground, will regret to hear that the whole northern side of the hill, from the wooden paling which passes across near its summit, to the railway, including about fifty acres of land, is now likely to be covered with houses. The southern portion of the hill was obtained, we believe, through the instrumentality of Prince Albert, from the Eton College, the trustees of which received land from her Majesty's Government in exchange. The northern portion is now offered on building leases, with the other part of Chalcot Estate, extending over the fields as far as Belsize, near Hampstead. The fifty acres in question might now be obtained by Government by exchange, as before; and the great importance of this purchase is much increased by the fact that the contemplated building over Chalcot Estate will render every acre of open space more and more valuable to the public.

THE TIMBER TRADE. — Messrs. A. F. & D. Mackay, of Liverpool, in their annual timber circular, say:—The trade in wood during the past year has been affected to a considerable extent by the complications which were threatened in America. These checked building operations, which in turn were further impeded and considerably circumscribed by strikes. Happily, these last-named causes have been temporarily alleviated, if not absolutely removed; and there seems reason for believing that operatives and employers see more clearly their mutual and common interests, and that this perception will lead to a better feeling on both sides. The stocks on hand, at the conclusion of the previous year, were, generally speaking, moderate in amount; and during the year 1861 the imports were rather larger than they had been in the year preceding. The year's business has not been so profitable as might have been desired to either the producer or the shipowner.

THE LATE CATASTROPHE IN THE HIGH-STREET OF EDINBURGH.—Two reports, by professional men, on the fall of the tenement in the High-street, on the 24th November last, are known to be in the hands of the authorities. One of these is the joint report of Messrs. James Leslie & David Stevenson, civil engineers, to whom the matter was remitted by the Procurator-Fiscal two days after the fall of the building. It is understood that these gentlemen attribute the catastrophe to the subsidence and ultimately sudden fall of the wall running from east to west which existed in the centre of the building, and that such fall was occasioned by the wall having been on the lower floors pierced by successive alterations for the "improvement" of the property, till it became quite incapable of sustaining its own weight, independent of that of the upper floor, the joists or beams of which ran into and rested upon it. The other report is by Mr. John Dick Peddie, architect, made subsequent to, and with knowledge of, Messrs. Stevenson & Leslie's report. It is understood that Mr. Peddie substantially concurs in those gentlemen's views of the causes of the catastrophe, though he attributes more weight to certain specified alterations of the central wall than they do. We believe that Mr. Peddie also expresses much regret that examination of the building had not been made immediately on symptoms appearing of the subsidence of the wall, and also that the examinations on the Saturday previous to the catastrophe of Sunday morning, which were only partial, had not been more searching and complete.—*Scotsman.*

ACCIDENT AT THE EXHIBITION BUILDING.—On Saturday last, whilst a smith was driving in the rivets of one of the girders with a sledge-hammer, William Powell, his assistant, suddenly raised himself to an upright position, and received the full force of the intended blow on his head. The unfortunate man's death was instantaneous, his skull being shivered to pieces.

EAST LONDON MUSEUM AND LIBRARY. — We have received a letter, signed, on behalf of the Working Men's Association, "R. T. Robinson, chairman; W. T. Rogers and W. Dutchess, secretaries," satisfactorily accounting for the funds collected by them (6*l.* 2*s.* 11*d.*), and expressing the regret with which they find themselves unable at the present moment to effect anything towards the end proposed, through the dissolution of the parent committee. They obtained 10,500 signatures to a petition, and complain that it was not so effectively used by the parent committee as it should have been. They say, however, they are still willing to work, if properly set going.

YORKSHIRE ARCHITECTURAL SOCIETY. — The annual meeting of the members of this society was held at York on Wednesday. The Rev. T. Bayly, one of the hon. secretaries, read the minutes of the proceedings of the committee for the past month, and also the annual report, which narrated the operations of the society for the past year, the most prominent of which have previously been mentioned in our columns. From a statement of accounts presented to the meeting it seems that the society has a balance in hand of 64*l.* 5*s.* 5*d.* Mr. J. C. Swallow, who had announced his intention of reading a paper on "Early Christian Art," to be illustrated with drawings, stated that as the attendance of the members of the society was so limited, he should, by permission of the meeting, decline reading his paper on that occasion, and give it at some future time under more favourable circumstances.

VENICE; HER ARCHITECTURE AND PICTURES. On the 27th ult. a lecture was delivered at the Philosophical Institution, Bristol, by Mr. J. B. Atkinson, on "Venice; her Architecture and Pictures." Commenting on Gothic architecture he said, the early years of hard conflict for simple existence being passed, days for more joyful growth ensue. The capital is crowned with flowers: garlands are hung about the arches: roses adorn the spandril: the ivy threads the fillet: the window weaves itself into foliated tracery: the vault entwines in a lace-work of branches, rising from forest stems; and thus the fabric swelled: first it struggled into strength, and then it sprung into liberty and beauty. This was Gothic architecture from a naturalistic point of view. Some critics, however, were wholly sceptic: others, again, had faith, which led them beyond nature into the sphere of the spiritual and the supernatural. Gothic architecture, it had been said by these enthusiasts, not without show of reason, is the Christian religion thrown into stone, embodying in visible form the aspirations of faith and hope, the catholicity of the Christian church, the semblance of divine mysteries, the gloom which shrouds the sinner, the light which shines upon saints and the beauty of holiness to all believers. In the just combination of these somewhat conflicting claims the lecturer deemed the truth would be discovered. He thought that ecclesiastical Gothic in Venice was inferior to the cathedrals of the North; but that in the adaptation to secular purposes Venetian Gothic was without a rival. The Italian Renaissance was defended against the charges of Pagan and corrupt. The lecturer explained the peculiar adaptability of the Italian Renaissance to the wants of modern civilization, as seen especially in the palaces of Venice; and in conclusion he suggested that "the battle of the styles" should end in peace. He next described the Venetian school of painting as seen in the works of Titian, Tintoret, and Veronese. Venice being thus constructed, her architecture and pictures were criticised first in their liberty; secondly, in their lawlessness; and lastly, in their luxury. In Venice all styles were found in such close juxta-position that flat-topped windows, round arches, and pointed arches often mingled in utmost freedom. Venetian architecture was always indeed in transition, passing into some unaccustomed development with the fickleness of a republic ever eager for change, and the falseness of an oligarchy tainted by corruption. But secondly, in Venetian art, especially in the later Renaissance, they had to deplore that freedom degenerated into debauch. The commerce that enriched did not always enlighten, the arts which refined at length pandered to corruption: they rose in abstemious virtue: they sank in the intoxication of excess.

Sewer Gases in Houses, drawn by the Heat of Fires.—No trap has been made to prevent heat from drawing up the gases from sewers, especially if very old and highly saturated with sewage matter. New houses are less likely to have foul-smelling drains than old ones,—Osborne and Balmoral less than old Windsor. Twenty-or thirty years have caused drains to be foul. What will they be in sixty years? In this "winter of our discontent" it becomes a question, "Who is safe?" No paper has opened my eyes like the *Builder* on this deep-seated evil. Good must arise from it.—C. M. D.

Gas.—The Worcester Gas Company have declared a dividend at the rate of 7 per cent. per annum.——The Newcastle Gas Company have declared a dividend for the half-year of 6½ per cent. per annum. The extensions and improvements lately effected in the company's works have not only enabled the directors to give to the town a plentiful supply of good gas during the winter, but to project various needful extensions and alterations in the sizes of the mains.——The directors of the Collingham Gas-light and Coke Company report the plant and buildings in good condition; a large increase in the consumption of gas; and in all respects the prospects of the company satisfactory. They recommend that the dividend be 6 per cent.

A High-minded Architect and Flighty Friends.—The German correspondent of the *Revue Britannique* mentions the circumstance that the chimney of a manufactory at Hagen, more than 400 feet in height, having been put out of perpendicular by a storm, the architect succeeded in setting it right; and on the 29th of October last, wishing to celebrate his success, erected a wooden chamber on the summit of the chimney, properly lighted, and invited to it a number of his friends. The steam-engine which had been used to raise the materials lifted the guests to it with the rapidity of lightning, and at the close of the banquet brought them safe and sound to earth again. This architect, continues the writer, is worthy to be an Englishman. A son of Albion could not have done better!

The Dance of Death; or, Arsenic in Ball-Dresses and Wreaths.—Most of our readers will have heard of the death of a poor girl who earned her livelihood by artificial-flower making; chiefly in the deadly green, of lively hue, which arsenic gives to wreath-leaves; and in the preparation of which leaves the faces of the poor victims of fashion require to be wrapped tightly round with towels; in spite of which the subtle powder penetrates the system and does its deadly work in hundreds of cases, as in the recent instance just referred to. This sad occurrence seems to have excited alarm, as well it might, amongst a far different class of society than that of the poor flower-girls; and we observe, from the *Times*, that the Right Hon. William Cowper lately requested the well-known chemist, Dr. Hofmann, of the Royal College of Chemistry, carefully to examine the green-colouring matter of some artificial leaves from a lady's head-dress which Mr. Cowper sent him, and which, perchance, had adorned the brow of some fair lady of his acquaintance. Dr. Hofmann did so; and, on analysis, found that, in a single dozen of these leaves, there were ten grains of arsenic; so that in the ball-wreath of a lady there must be at least forty grains,—a quantity capable of killing twenty persons!! The central ornament of these "lovely wreaths" ought assuredly to be a death's head and cross-bones; and so should the prevailing pattern of those beautiful green tarlatans so much in vogue of late for ball-dresses; and which, according to Professor Erdmann, of Leipsic, consist of a judicious mixture of tarlatan and "half its weight" of arsenic, in the form of "Schweinfurt green," loosely laid on with starch, and dusting off "in clouds" by the slightest friction! A ball-dress requires, it seems, about twenty yards, which contain 900 grains of white arsenic; and a Berlin physician has satisfied himself that sixty grains powder off from a single dress at a single ball! Well may Dr. Hofmann remark that "the arsenic-crowned queen of the ball, whirling along in an arsenic cloud, presents, under no circumstances, a very attractive object of contemplation;" but the spectacle is a still more repulsive and fearful one when the poisoning of the poor people who manufacture such wreaths and dresses is also considered. Dr. Hofmann's letter to Mr. Cowper has very properly been handed over to the Ladies' Sanitary Association; and, with a letter to the *Times*, signed "Georgiana Cowper and Elizabeth Sutherland, Secretaries" to that society, it has been published, for the *grave* consideration of fashionable ladyhood.

The New "Colston's Hall," Bristol.—Progress is being made with the preliminary arrangements for commencing the works. The plans prepared by architects for this contemplated building have been sent in for the examination and choice of the committee. The competitors are Mr. J. H. Hirst, Messrs. Popes & Bindon, Messrs. Fosters & Wood, Messrs. Fripp & Ponton, Mr. J. A. Clarke, Messrs. Godwin & Hine, Mr. W. Pocock, Mr. H. Masters, Mr. J. B. Gabriel, and Mr. T. R. Lysach.

Cement for Rooms.—A recent invention by M. Sorel is described to us. He states that the invention consists in the discovery of a property possessed by oxychloride of zinc, which renders it superior to the plaster of Paris for coating the walls of rooms. It is applied in the following manner:—"A coat of oxide of zinc mixed with size, made up like a wash, is first laid on the wall, ceiling, or wainscot, and over that a coat of chloride of zinc applied, being prepared in the same way as the first wash. The oxide and chloride effect an immediate combination, and form a kind of cement, smooth and polished as glass, and possessing the advantages of oil paint, without its disadvantages of smell, &c."

The Ruins of Chichester Cathedral Tower.—A sale by auction was lately held in the Cathedral yard, of the greater portion of the stone which belonged to the old structure. All the moulded stone has been preserved, either to be worked into the new structure, or to serve as models for its restoration; also the stones which have been considered useful for the rebuilding have been retained. A considerable quantity of small ashlar rubble and flints has been disposed of. The total sum yielded was 235*l.*, the price being rather above the price of bricks at the same measurement. The larger portion was purchased for the erection of a dissenting place of worship at Funtington.

New Mineral Paste.—A new material has just been produced by Mr. J. S. Manton, of Regent-street Works, Birmingham, which is said to be likely to enter largely into the manufacture of many articles in connection with the Birmingham and Sheffield trades. The new material consists of mineral, earthy, arenaceous, or other such substances, including animal shells of all kinds, as pearl or oyster, glass, pebbles, marble, slate, ballast, or slag. These are powdered and amalgamated into a paste under a great heat. In this state the material, as a plastic composition, is capable of a very extended application to the fine arts. It can be readily transferred to dies, and will receive the sharpest impression. It may be made of any required colour, and is susceptible of a surface as polished as the best finished ivory.

Crozier Testimonial, Banbridge.—The design of Mr. W. J. Barre, of Belfast, for the pedestal on which is to stand, in the town of Banbridge, the colossal statue of the late Captain Crozier, R.N., by Mr. Joseph R. Kirk, has been selected as the best out of about fifty submitted in competition to the committee. According to the *Dublin Builder*, "the pedestal is designed after the English manner of the thirteenth century, and consists of a subplinth, base, shaft, and cornice. The subplinth is 14 feet square and 2 feet high, splayed about 6 inches. On the centre of the north side is carved, in Mediæval characters, the name Crozier. Upon the subplinth stands the base of superstructure, with the bases of the buttress-piers radiating from the angles diagonally. Immediately from the base rises the die of the pedestal, which is here broached into octagonal form on plan, and is surrounded at four angles by flying buttresses rising out of the diagonal piers before named. Upon the arches and the part of the buttresses from which pinnacles usually rise (here cut horizontally), are placed four polar bears, carved, life size, and each intended to stand in a different *pose*. The shaft, which is octagonal, rises from the die to a height of 9 feet, and is surrounded by eight pillars placed at its angles, each with moulded base and capital carved in emblematical foliage. Above these pillars are eight arched and foiled opes, with carved rope angles and bosses supporting the cornice, which will have carved monograms, anchors, heads of polar dogs and bears, and other emblematical illustrations of incident in Arctic voyages. Over the cornice is a weathered broach diminishing to an octagonal platform, 3 feet 9 inches in diameter, upon which is to stand the statue. The entire height of the pedestal is 17 feet, the height of the statue 7 feet 6 inches. The material will be, for subplinth, Armagh limestone; columns round shaft, polished red granite; and the remainder of Glasgow sandstone.

Erection of Five New Drinking-Fountains in Clerkenwell.—The vestry of St. James's, Clerkenwell, has decided upon erecting five new drinking-fountains, viz,—A standard fountain on Clerkenwell-green, one at the junction of Spencer-street and St. John-street-road, and another near the Cobham's head, Coldbath-square, and two mural fountains—one near the Belvidere Tavern, and the other at the corner of Wilderness-row.

Lectures on Science Instruction.—The first of a course of lectures on "Science Instruction" was given at the South Kensington Museum on Monday last. The subject was Vegetable Physiology and Economic Botany, and the lecturer Dr. Lankester. The Rev. B. M. Cowie, Dr. Percy, Mr. W. W. Smyth, Professor Hofmann, and Professor Huxley, on their various subjects, will follow on succeeding Monday evenings.

The Muller Orphanage at Bristol.—With reference to the statements which have been made, that the original estimate for building, speaking of the third Orphan House, was 35,000*l.*, and that the total receipts for the Building Fund of the third house from the commencement to the time the accounts were last made up have been 46,600*l.* 17*s.* 3*d.*; the architects, Messrs. Fosters & Wood, say the facts are these: the original estimate for the second and third houses was 35,000*l.* The total receipts on account of the second and third houses are reported to have been 46,600*l.* 17*s.* 3*d.* The third house has cost, exclusive of ground and furniture, somewhat under 20,000*l.*

Fire at Battersea.—On Tuesday night, about nine o'clock, great alarm was caused in the immediate district of Vauxhall, Battersea, and Wandsworth, in consequence of the sudden outbreak of an extensive fire in the premises known as Messrs. Cochrane's, the contractors for building the new Westminster Bridge. The property in question covered several hundred yards of ground. The portion which faced the public road was from 400 to 500 feet long. This consisted of immense piles of timber, probably 60 or 70 feet high, at the top of which were immense "travellers," each weighing three or four tons. Stretching about midway of this structure extended, almost to the water-side, a tremendous range of workshops, used as fitting, planing, and erecting shops, in which a large quantity of machinery and partially-finished work was deposited, roughly estimated at several thousand pounds sterling. The damage done was very great. It is stated that the completion of Westminster Bridge will not be interfered with by the accident. It is to be hoped not, for this structure has already dragged its slow length along until the public are tolerably well tired.

The Sheffield Trade Outrages.—From a letter forwarded to us by the president and secretary of the Association of Organized Trades of Sheffield, which comprises twenty-five trades and upwards of 3,000 members, we find that, at a numerous meeting of delegates of this association, on the 29th ult., a long discussion was held on the subject of these outrages; and a statement was prepared, of which a copy is sent us, repudiating, in strong terms, all connexion and all sympathy with such villanous tactics. To the thousands of worthy men among whom, as unionists, unfortunately, the guilty persons must still be classed, such a blot upon their respectable body cannot but excite in them both pain and indignation; but we think that less of the indignation might have been levelled against those who have felt it their duty to society, and to trades' unions themselves, to denounce so persistent and so pernicious a code of secret tactics; adopted, most assuredly, by Sheffield unionists, although not countenanced by the published rules of their joint association, and, indeed, we understand, not even practised at all in any but a very few of the trades in union. Some of the strongest advocates of trades' unions have taken part in the denunciation of the crimes in question; and it is worse than useless to call, as the Sheffield unionists do, upon those who thus have publicly taken part against these crimes, to "prove" the connexion of the unionists with them. Where crimes are secretly committed, the public are justified in suspecting even where they cannot prove; and unfortunately the innocent but too frequently thus suffer along with the guilty, or even while the really guilty are safely ensconced from blame or suspicion in the midst of the secrecy in which their deadly doings are involved. Till such doings as those at Sheffield *are* at an end, the whole body of the Sheffield unionists cannot but be exposed to public suspicion and obloquy; and we sincerely trust that we *have* heard the last of the Sheffield trade outrages.

DRAINAGE OF TENBY.—At a special meeting of the Tenby Local Board of Health it was resolved "that Mr. Cole's services be engaged to make duplicate copies of the plans, sections, and estimates, and whatever else may be required to obtain the Secretary of State's sanction to borrow 3,000*l.* for the purpose of draining Tenby."

HAWTHORNE TESTIMONIAL.—We mentioned a short time since that some of the friends and admirers of Nathaniel Hawthorne in this country were about to present him with a testimonial of their consideration, and had chosen for that purpose a marble medallion of himself, executed by Mr. Küntze, of Newman-street, Oxford-street. The subscription list, which lies at Messrs. Smith & Elder's, 65, Cornhill, will close, it is said, early in March. Some few subscribers are still wanted. The list includes some good names.

MANCHESTER.—The extension of the School for the Deaf and Dumb, Old Trafford, is now completed. The additions consisted in extending the back part of the building 24 feet, for a printing-office; additional play-room, sewing-room, and assistants' room; and also to increase the size of the school-room and dormitories, now making each 77 feet 6 inches by 27 feet 6 inches. The object in view was not to accommodate a larger number of pupils, but to give more space to the existing inmates, with a freer circulation of air. This has been accomplished by a system of ventilating shafts (as cornices) round the rooms, and conducted into flues, the air of which is rarified by the heat of the smoke-shaft adjoining. The dormitories have also louvres placed in the roofs; and the cubical space for each individual has been increased from 430 feet to 630 feet, making a perceptible difference in the salubrity of these apartments. Messrs. Southems, Salford, were the builders; their estimate being 1,120*l.*, whereof 40*l.* were deducted for old materials. Mr. James Redford, of Manchester, was the architect.

TENDERS.

For building three houses and shops for Mr. Josias Pidgeon, in The Grove, Stratford, Essex; Mr. John M. Dean, architect, Stratford. Quantities supplied by Messrs. Hovenden & Heath:—

Reed	£1,769	0	0
Rivett	1,643	0	0
Wood & Son	1,509	0	0
Case	1,477	0	0
Hedges	1,448	0	0
Ennor	1,439	0	0
Perry (accepted)	1,395	0	0

For two blocks of stabling, &c., and two cottages, at Tanner's-hill, Deptford, for Mr. Christian Glock; Mr. W. C. Banks, architect, Lewisham. Quantities supplied:

J. Smith, jun.	£800	0	0
Loder	778	0	0
Soper	749	0	0
Searle (accepted)	735	0	0

For alterations at the Central London District Schools, Hanwell. Quantities not supplied:—

Bailey	£585	0	0
Clements	427	0	0
Child, Son, & Martin	393	0	0
King	324	0	0
Reynolds	302	0	0

For building houses for Sisters of Mercy, Victoria-street, Westminster; Mr. H. Clutton, architect. Quantities supplied by Mr. Crocker—:

Smith	£8,884	0	0
Jackson & Shaw	7,945	0	0
Pritchard	7,153	0	0
I'Anson	6,880	0	0
Myers	6,869	0	0
Macey	6,820	0	0
Piper & Wheeler	6,750	0	0

For erecting a house at Forest-gate, Essex, for Mr. J. Littlefield; Mr. S. W. Iron, architect:—

Jacobs	£525	0	0
Hemmings	480	0	0
Sargeant	479	0	0
Read & Son	473	0	0
J. & W. Smith	479	0	0
Larke	457	0	0
Rivett	451	0	0

For erecting a house for Mr. H. D. Cuff, at Forest-gate, Essex; Mr. S. W. Iron, architect:—

Jacobs	£515	0	0
Sargeant	493	0	0
Hemmings	490	0	0
Read & Son	483	0	0
J. & W. Smith	467	0	0
Rivett	462	0	0
Larke	457	0	0

For the re-building of the parish church of the Holy Trinity, Starthforth, Yorkshire; Messrs. W. & J. Hay, architects. Quantities not supplied:—

Marrin	£1,629	0	0
Appleby & Carter	1,580	0	0
Appleby	1,560	0	0
Robson	1,335	0	0
Jones	1,306	0	0
Borrowdale (accepted)	1,275	0	0

For offices, Mincing-lane, for Messrs. Anderson; Mr. W. A. Boulnois, architect:—

Lucas	£10,769	0	0
Conder	10,272	0	0
Smith	10,098	0	0
Macey	9,969	0	0
Longmire & Burge	9,947	0	0
I'Anson	9,890	0	0
Holland	9,865	0	0
Trollope & Sons	9,737	0	0

For completing five houses at St. John's-wood, for the Temperance Permanent Land and Building Society:—

Gummon	£681	0	6
Chamberlain	653	12	0
Fawcett	585	0	0
Nutt	552	0	0
Potter	500	0	0
Shilton	480	0	0
Richards	479	0	0
Cordwell (accepted)	420	0	0

TO CORRESPONDENTS.

H. C. G. (we have no further information.) -Mrs. de M. P. T. - J. B.—G. G.—J. E.—D. M.—T. M. R.—E. W.—W. M. T.—A Carpenter (there is no rule.)—J. J. L.—J. T.—A Country Parson (no satisfactory mode for all cases: apply to some respectable bell-founder on the subject.)—Mimtor.—S. W. L.—J. B.—A Landlord (shall appear.)—W. R. too late.)—F. T. M. (constantly recommended in various shapes.)—A Surveyor.—One who knows nothing about Mining.

TO SUBSCRIBERS.

The Volume will be bound (on being sent to the Office) for 3s. 6d.; or Covers for that purpose may be obtained at 2s. 6d. each (broad), and 2s. (narrow).

It is necessary to state whether the Advertisements are or are not to be bound in the Volume.

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-Office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:—
13, PENCHURCH-BUILDINGS, PENCHURCH STREET, E.C.

PARTNERSHIP.—GENERAL CONTRACTING, BUILDING, and BRICKMAKING BUSINESS.—WANTED, a PARTNER, with 3,000*l.* to 5,000*l.* Any spirited man of business with the above sum at command may invest it with security and realise an ample return. Satisfactory references given and required.—Apply to Mr. CANNON, Auctioneer and Estate Agent, 7, Pope's Head-alley, Cornhill.

TO DISTRICT AND OTHER SURVEYORS.—An Architect and surveyor of some experience with good testimonials and recommendations, wishes to obtain (by purchase) a SHARE IN THE BUSINESS of a gentleman holding Surveyorships. Is quite competent, and willing to take an active part.—Address M. L. care of Mr. Horwood, 4, Pleasant-row, Highbury-corner, N.

CLERK of WORKS.—WANTED, for about five months, a CLERK of WORKS, who can be well recommended. One who has been engaged upon waterworks will be preferred.—Address, with references, to C. E. Office of "The Builder."

WANTED, in a Builder's and Contractor's Office, a Thoroughly efficient ASSISTANT. Must have a thorough knowledge of the business, and be capable of estimating, measuring, and valuing, and have a knowledge of drawing. Undeniable references required. Address, stating age, salary required, and where last engaged, to H. S. Office of "The Builder."

WANTED, a BOILERMAKER. One who has been accustomed to repairing boilers will be preferred. Address, A. B. 12, Dartmouth-terrace, New-road, Rotherhithe.

TO BUILDERS.

WANTED, a thoroughly practical Man, two evenings in the week, to give a young man some instruction in Building Construction, Iron, &c.—Address, stating terms, by letter only, W. GEORGE, 1, Hans-terrace, Danvers-street, Chelsea, S.W.

WANTED an APPRENTICE, in extensive Marble Works (West-end), to learn the art of sculpture, mason, and polisher, in or out doors.—Apply, by letter, to F. K. Office of "The Builder."

WANTED, by an experienced PLUMBER, a SITUATION, to take charge, or on GAS or WATER-WORKS. No objection to go abroad. Unexceptionable references.—Address, J. B. 4, Park-street, Cambridge.

TO TIMBER MERCHANTS, BROKERS.

WANTED, an ENGAGEMENT, by the Advertiser, a Young Man, to go abroad, in any branch of the Timber Trade, or to superintend the working of a Saw-mill and conversion of timber. Also a good accountant and book-keeper.—Address, W. F. Post-office, Bridge-road, Lambeth, S.

TO ARCHITECTS, &c.

WANTED, a RE-ENGAGEMENT, temporary or otherwise, to make finished, working, or detail drawings, survey, &c. either in town or country. Terms moderate.—Address, W. H. 38, Great Western-terrace, Westbourne-park road, W.

WANTED, a SITUATION, by a Working Foreman of Bricklayers, who has just completed a job. Good references can be given by applying to the builder or clerk of works on the estate.—Address, B. B. Mr. Kurr's, 59, Caledonian-road.

WANTED, by a respectable Man, a SITUATION as CLERK, TIMEKEEPER, WAREHOUSEMAN, MESSENGER, or any other of trust and activity. Can square dimensions, is a good penman, ready at accounts, and willing to make himself generally useful. No objection to go abroad. Good reference.—H. D. 24, Little Windmill-street, Golden-square, W.

TO WAREHOUSE ARCHITECTS AND SURVEYORS, &c.

WANTED, by the Advertiser, aged 33, an ENGAGEMENT, either temporary or otherwise, in the city or West-end. Is a sound, practical draughtsman, has a knowledge of quantities, measuring up work, and making up of estimates. Satisfactory references. Salary, 1*l.* 10*s.* per week.—Address, prepaid, X. L. care of Mr. Moody, 3, Conduit-street, Regent-street, W.

TO BUILDERS.

WANTED, by an experienced middle-aged Man, a RE-ENGAGEMENT as SHOP or SHOP and GENERAL FOREMAN.—Address, MOORE, Mr. Williams, No. 5, Ashley-terrace, Shepherdes-walk, City-road.

WANTED, by a Young Man of steady business habits, a SITUATION as FOREMAN in a General Jobbing Business. Is a carpenter and joiner by trade. Can do a little drawing, and keep accounts. Could take the entire management of a small business.—Address, X. Y. Post-office, High-street, Deptford.

WANTED, by a Young Man, a SITUATION, in a BUILDER'S or SURVEYOR'S OFFICE. A small salary only.—Address, A. B. C. Mr. Harverson, Glass Cutter, Knaresland.

TO JOBBING MASTERS OR UNDERTAKERS.

WANTED, by a steady Young Man, a constant SITUATION as CARPENTER or HANDY MAN. Can work at the bench, or do the general repairs of house, could attend funerals, and would make himself generally useful. Can have a good character. Wages not so much an object as constant employment.—Address, E. B. 45, East-street, Manchester-square.

TO ARCHITECTS AND OTHERS.

WANTED, by a Young Man, a RE-ENGAGEMENT as JUNIOR ASSISTANT. He is a neat Draughtsman, accustomed to Office routine, and willing to render himself useful. Small but progressive salary required. Good testimonials from former employers.—Address, C. E. 23A, New Bond-street.

TO ARCHITECTS, BUILDERS, AND LAND-AGENTS.

WANTED, by a Practical Man, a SITUATION as CLERK of WORKS, GENERAL FOREMAN, or to Superintend Building Works on a Gentleman's Estate, having filled a similar situation. Can make working and finished drawings, measure up work, and keep builders' accounts.—Address, HOMO, 105, High-street, Camden-town.

TO SURVEYORS AND BUILDERS, AND GENTLEMEN ABOUT TO BUILD ON THEIR ESTATES.

WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK of WORKS, or BUILDER'S GENERAL FOREMAN. Has a general knowledge of the trade generally. Would take charge of an estate. No objection to town or country. Can get out working and detail drawings. Has carried out some extensive jobs in town and country. Good references and testimonials from the Surveyors and Builders under whom he has acted out their works.—Address, A. B. C. District Post-office, Commercial-road East.

WANTED, a SITUATION, as WORKING SHOP FOREMAN, or GENERAL FOREMAN. Good reference.—Address, A. B. 4, Sidney-terrace, Mile-end.

TO BUILDERS' FOREMEN.

WANTED, a thorough practical FOREMAN, capable of taking the entire charge of the erection of buildings in London, and accustomed to town Work. One capable of taking out quantities and valuing work will be preferred.—Address, stating age, salary required, and where last employed, by letter only, prepaid, to DELTA, Office of "The Builder."

TO PLUMBERS AND BUILDERS.

WANTED, by a respectable Young Man, who is a thoroughly good three-branch hand, a SITUATION as such. Can do gasfitting and work zinc, if required.—Address, P. G. 1, Gopsall street, St. John's-road, Hoxton.

TO BUILDERS AND OTHERS.

WANTED, by a competent, respectable Man, a BRICKLAYER, partial or permanent EMPLOYMENT in the general repairs of houses, or the care of a small job where trust is required. Good references can be given.—Address, R. W. No. 5, Stangate, Lambeth, S.

TO BUILDERS AND OTHERS.

WANTED, by a practical Builder, a SITUATION, as SHOP or OUT-DOOR FOREMAN. Town or country. Or to manage a business. Has been in business on his own account for several years. Good reference as to ability and integrity.—Address, G. P. Office of "The Builder."

TO ARCHITECTS AND BUILDERS.

WANTED, by a thoroughly practical Man, a RE-ENGAGEMENT, as CLERK of WORKS, or GENERAL FOREMAN. Can take out quantities, or measure up works.—Address, W. H. K. Post-office, St. Alban's, Herts.

WANTED, by a Young Man, aged 21, a SITUATION, in the country, as JUNIOR CLERK. Could keep a set of books and act as timekeeper, &c. and correspondent. Good references.—Address, R. M. Mr. White's, 7, New-street, Dorset-square, N.W.

WANTED, by a thoroughly practical Man, a RE-ENGAGEMENT as CLERK of WORKS, or BUILDER'S FOREMAN, either in town or country. A joiner by trade.—Address, A. C. Office of "The Builder."

TO PLUMBERS, PAINTERS, GLAZIERS, &c.

WANTED, a SITUATION as WORKING FOREMAN. Is well acquainted with the general trade, measuring up work, &c. six years in the last two situations. No objection to a short distance in the country.—Apply, by letter or personally to R. V. 7, Upper Berkeley-street West, Hyde-park-square, London, W.

TO BUILDERS AND SMITHS.

WANTED, by the Advertiser, a SITUATION as WORKING or MANAGING FOREMAN of SMITHS. Well acquainted with all the various branches, having had great experience.—Address, M. C. 10, Cole's-terraces, Barnesbury-road, Islington.

TO BUILDERS, &c.

WANTED, a SITUATION as BUILDER'S CLERK, by an experienced practical man, thoroughly competent to undertake all office duties. Unexceptional references as to character and ability.—Address, E. H. care of Mr. Ashby, 61, Coleman-street, City.

TO CONTRACTORS AND OTHERS.

WANTED, by a fully-qualified and experienced Man, PIECEWORK, either separately or together, Carpenter and Joiner's work, in town or country.—Monthly payments.—Apply to R. H. Boddington's Library, Notting-hill-gate, W.

TO BUILDERS AND PLUMBERS.

WANTED, a SITUATION, by an Experienced PLUMBER and GASFITTER. No objection to the country. First-class references, if required.—Address, C. H. 5, Rochester-row, Pimlico, S.W.

TO CARPENTERS AND BUILDERS

WANTED, by a Young Man, a SITUATION as IMPROVER in the above trade.—Address, W. R. Post-office, Brompton-row, S.W.

TO ARCHITECTS, &c.

WANTED, by the Advertiser, an ENGAGEMENT, as CLERK of WORKS, or ASSISTANT in an Architect's Office. Is a good draughtsman and accountant, and has had considerable experience in designing. Can give first-class testimonials from Government and private offices for the last fifteen years. Address, R E. Post-office, Banbury, Oxon.

TO PLUMBERS AND BUILDERS.

WANTED, by a thoroughly practical PLUMBER, PAINTER, and GLAZIER, an ENGAGEMENT in the above. Gas-fitting, if required. Address, A. D. Mr. Blackburn, Stationer, 11, Park-terrace, Regent's Park, N.W

TO PLUMBERS AND BUILDERS.

WANTED, EMPLOYMENT, by a practical Plumber, who thoroughly understands the business in all its branches. Has no objection to fill up his time with glazing or plain painting. References, if required: in or near London.—Address, R. R. 38, Clerkenwell-green, London, E.C.

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, a SITUATION as AGENT. Is a thoroughly practical man, and used to work of magnitude.—Address, R. W. Office of "The Builder"

WANTED, by a respectable Young Man of good practical and theoretical experience, and who is a good builder's draughtsman and can take out quantities, a SITUATION in a first-class Builder's Office, or on some good building preferred. Thoroughly confidential, and cash security, if required. Address, C. B. A. Office of "The Builder"

TO ARCHITECTS AND BUILDERS.

WANTED, by a respectable Young Man, an early riser and of industrious habits, a SITUATION, to superintend the erection of a public building or mansion, either in town or country. Understands estimating, drawing, measuring work, &c. Good references. Salary moderate.—Address, A. B. 221, High-street, Borough, London, S.K.

WANTED, by a Young Man, aged 19, EMPLOYMENT as a SIGN and GLASS WRITER and EMBOSSER. Has had five years' experience.—Address, D. S. 34, Great Titchfield-street, Oxford-street, W

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by an experienced Practical Man, a Carpenter and Joiner by trade, a RE-ENGAGEMENT as GENERAL or WORKING FOREMAN either in town or country. Good references.—Address, W. J. care of Mr. Baker, 8, Union-place, Queen's-elm, Brompton, S.W.

WANTED, by a Young Man, a SITUATION where he can improve in the Plumbing and Gasfitting, having served for years to the above business. Can fill up his time by painting and glazing. Address, JAMES MAGLES, No. 5, Greenchain Lane, Londonhall-street City

WANTED, by a thoroughly Practical Man, a RE-ENGAGEMENT as BUILDERS' FOREMAN of CARPENTERS. Fourteen years' reference from last employer. Address, C. S. No. 30, Prior-place, East street, Walworth, S.

WANTED, a SITUATION as FOREMAN of CARPENTERS on a Nobleman's or Gentleman's Estate Understands cabinet-work, French polishing, &c. Good references given. Address, W. M. W. 63, Charlington street, Oakley square, London, N.W.

WANTED, by a Young Man, a SITUATION as CLERK in an Architect's Office. Would be glad to make himself generally useful at a low salary. Ten years' good character.—Address, M. 8a, Red Lion-square, Holborn.

TO BUILDERS AND MASTER PAINTERS.

WANTED, a constant SITUATION as PAINTER & GLAZIER. Thoroughly acquainted with jobbing plumbing.—Address, J. E. Office of "The Builder."

TO BUILDERS AND PLUMBERS.

WANTED, EMPLOYMENT as PLUMBER, or THREE-BRANCH HAND, by a Young Man aged 20.—Address, H. B. Mr. Parker's, 9, Bridge-court, Westminster Bridge.

TO BUILDERS AND OTHERS.

WANTED, a RE-ENGAGEMENT as GENERAL FOREMAN. Has had the charge of a firm for the last ten years, can make working drawings, and is a thorough practical man. Reference can be given.—Address, A. B. 29, Sherborne-street, Blandford-square, S.W.

WANTED, by a SHOP FOREMAN and experienced STAIRCASE HAND, a SITUATION. Good reference can be given from present employer. No objection to the country. Eight years' experience in town. Address, Q. E. A. 43, Charing cross, London.

TO ARCHITECTS, &c.

WANTED, a SITUATION, by a respectable Young Man, fully competent to prepare finished, working, and detail drawings. Is a fair colourist, and acquainted with the general duties of an architect's office. A temporary engagement not objected to. Good references.—Address, J. P. care of "Librarian," Grange-road, Hampstead road, N.W.

WANTED, an ENGAGEMENT, by a Young Man, aged 29, who is a neat DRAUGHTSMAN, good ACCOUNTANT, and can also assist in taking out quantities, measuring up work, estimating, &c. Has been five years with two Architects and Surveyors. Unexceptionable references, if required.—Address, Y Z Post-office, Great Malvern, Worcestershire.

TO ARCHITECTS, BUILDERS, &c.

WANTED, a RE-ENGAGEMENT, by an active and experienced CLERK of WORKS. Is a neat draughtsman, quick at measurements and qualities of materials Or would take charge of a builder's business, being well up in all branches. References from architects and employers.—Address, ALPHA, 14, Carlisle-street, Soho, W.

WANTED, a SITUATION as IMRPOVER In a good JOINER'S SHOP, by a sober, steady Young Man, aged 23.—Address, R. J. 36, Denbigh-street, Pimlico.

TO LAND, ESTATE, AND HOUSE AGENTS.

THE Advertiser, aged 25, is desirous of an ENGAGEMENT. To any one requiring assistance, the undersigned feels confident his references and previous experience would prove satisfactory. In the event of an engagement with a view to a permanency, as partnership or otherwise, capital could be advanced. Address, W. H. WALKER, 1, Shaftesbury-crescent, Vauxhall Bridge road, Pimlico, S.W

TO LANDOWNERS, PUBLIC COMPANIES, OR OTHERS.

THE Advertiser is desirous of meeting with an ENGAGEMENT, as GENERAL MANAGER and OVERLOOKER. Is thoroughly competent to make out plans and estimates, lay out estates, and to carry out any works connected therewith. Can make out working drawings, and set out for all trades in building however complicated the works. Has also a thorough knowledge of the timber trade, measuring, &c. Would like to take the management of a Country Builder's Establishment, and instruct one or two sons in all matters relative to buildings and drawings.—Address, Z. 4, Regent's park road.

TO ARCHITECTS.

THE Advertiser, who wishes to improve, offers his SERVICES to an ARCHITECT, in town, on very moderate terms. Can produce excellent references and testimonials Address, W. X. Mark's Post-office, Church-street, Croydon, Surrey.

TO BUILDERS, CONTRACTORS, &c.

THE Advertiser is desirous of obtaining an ENGAGEMENT in a builder's or contractor's office. He has been engaged for the last eight years in the office of one of the principal firms in London.—Address, A. B. 5, Gloucester-terrace, Cambridge-heath, N.E.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a quick and excellent DRAUGHTSMAN, who has had great experience in construction, preparing detail, working, and other drawings, and can assist in checking and abstracting quantities, is open to an ENGAGEMENT Terms moderate.—Address, G. G. 39, Michael's-place, Brompton, S.W.

THE Advertiser, aged 19, having just completed his articles with an Architect, wishes for an ENGAGEMENT in an Architect's, Engineer's, or Surveyor's Office, either in town or country.—Address, A. Z. Post-office, Wallingford, Berks.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who is a good Draughtsman, has a knowledge of perspective, and is quick at accounts, wishes for an ENGAGEMENT in a London Office.—Address, E. A. 15, Portman-terrace, Globe-road, Mile-end.

TO ARCHITECTS.

THE Advertiser, who since completing his Articles has been for two years with a builder doing an extensive business in the City, is desirous of a RE-ENGAGEMENT. Thoroughly understands construction, quantity taking, estimating, &c.—Address, E. W. Post-office, Leytonstone, N.E.

TO ARCHITECTS.

A YOUNG MAN wishes to meet with a RE-ENGAGEMENT in an Architect's Office. Is a good Draughtsman, and well up in the duties of an Office. Has been five years with two Architects of good standing. Salary, 80 per annum. Address, F. T., Office of "The Builder."

TO PARENTS AND GUARDIANS.

AN Architect and Civil Engineer has an opening for a RESIDENT PUPIL. Premium, including board, 25 l.—Address, C E Office of "The Builder"

TO ARCHITECTS

A YOUNG GENTLEMAN, who has been for some years in the office of an eminent surveyor in the city, is desirous of a RE-ENGAGEMENT.—Address, BETA, care of Mr. G. Street, Advertising Offices, 30, Cornhill, E.C

TO BUILDERS, UPHOLSTERERS, AND HOUSE-AGENTS.

A PRACTICAL HOUSE DECORATOR is prepared to CONTRACT for WORK in the above trade. All work guaranteed to be done in the best style.—Address, G. E 6, Brewer's green, Westminster, S.W.

TO ARCHITECTS AND SURVEYORS.

AN experienced CLERK of WORKS is open to a RE-ENGAGEMENT.—Address, W. R. D. 139, Cheapside.

A RESPECTABLE YOUNG MAN wishes for a permanent SITUATION in a first-class Joiner's Shop in London, or its neighbourhood. Place more object than wages Address, W. SAGE, care of Mr Padgham, Builder, Pluckley, near Ashford, Kent.

A FIRST-CLASS JOINER WANTS a RE ENGAGEMENT, as WORKING SHOP FOREMAN Can give good reference. Age, 36.—Address, J. N. St. Martin's Coffee-rooms, 37, St. Martin's-lane, W.C.

TO ARCHITECTS.

A GOOD DRAUGHTSMAN, who has been six years in the profession, desires an ENGAGEMENT in an Office of good practice, where he may have opportunities of seeing works carried out, &c Understands perspective, taking working drawings, &c.—Address, M. B. A. at Deacon's, London hall street.

TO PLUMBERS, BUILDERS, &c.

A YOUNG MAN, aged 20, who has been six years with his late employer, is desirous to ARTICLE himself to a PLUMBER, for improvement, for one or two years, in town or country. Wages no object, as a further insight into the above is required.—Address, J. J. 8, Bridge-terrace, Woodfield road, Harrow-road, Paddington, W.

TO BUILDERS.

A YOUNG MAN, a Carpenter, is in WANT of a SITUATION, as IMPROVER, at the bench.—Address, E. B. 2, Bromell's-road, Clapham, Surrey.

TO BUILDERS AND GENTLEMEN.

A FOREMAN, carpenter by trade, wishes for an ENGAGEMENT. In town or country.—Address Y. Z 1, Buxton terrace, Plaistow, Essex

TO ARCHITECTS, &c.

AN experienced and practical DRAUGHTSMAN and DESIGNER is open to an ENGAGEMENT, or to lose the management of an office in town first class perspective draughtsman and good colourist.—Address, L. Z. C, Cattisor's place, Gray's Inn-road.

TO PLUMBERS.

A YOUNG MAN wishes to ARTICLE himself to the PLUMBING. Has been some time in the trade No objection to give a small premium. Good character.—Address, G. M. F. Mr. Coleman's, Stationery, Wandsworth, S.W.

TO ARCHITECTS.

A YOUNG MAN, who has been five years in the profession, is desirous of an ENGAGEMENT, as IMPROVER, in a London Office. Salary no object. Address, S. S. Post-office, Notting-hill.

AN AGENT is DISENGAGED, who has had great practical experience in general and Government contracts, and private business, also in measuring and estimating, is desirous of an ENGAGEMENT with a London house, or business in London or its vicinity.—Address, 407, Office of "The Builder."

TO ARCHITECTS AND BUILDERS

A SURVEYOR of considerable practical experience, having completed his arrangements, is now prepared to undertake the supply of BILLS of QUANTITIES of any magnitude with the utmost dispatch Applications to MESSRS. URA, Office of "The Builder," will meet with prompt attention.

A YOUNG MAN, of practical experience, is in want of a SITUATION as WORKING FOREMAN of MASONS, having just finished a job. Good reference can be given.—Address, H. W. 24, Upper James-street, Camden Town, N.W.

TO MASTER PLUMBERS AND BUILDERS.

AN experienced PLUMBER is in WANT of a SITUATION, in town or country Unexceptionable references.—Address, BURTON, 2, Cockerill's-buildings, Bartholomew-close, London.

TO ARCHITECTS, &c.

A GENTLEMAN, who has had charge of building works of magnitude, and who possesses a sound knowledge of constructions, desires a permanent or temporary ENGAGEMENT, upon works or in an office; or he will give reasonable assistance Fifteen years' experience.—Address, P. 43, Lamb's Conduit street, W.C.

AN ARCHITECT'S ASSISTANT desires a RE-ENGAGEMENT, to prepare any of the drawings required in buildings in the Gothic or Italian styles. He is conversant with detail and construction, and is a good perspective draughtsman. Could take the management of an office.—Address, S. W. R. Office of "The Builder."

AN experienced Land Agent and Surveyor's Clerk is open to an ENGAGEMENT. Aged 30 Well up in surveying and mapping, timber measuring and valuing, in preparing architectural plans, specifications and estimates, and assessing dilapidations, &c. Now engaged with a country firm Twelve years' reference. Salary moderate.—Address, R. E. S. Cluan's Hotel Covent-garden, London.

TO SUB-CONTRACTORS.—TO LET, the LABOUR to about 900 Rods of Brickwork in the Country None without capital need apply, by letter only, to O. M. Office of "The Builder."

GUILDHALL, London, 28th January, 1862. BUILDING LEASES The Committee for Letting the Bridge-house Estates will meet at GUILDHALL, on FRIDAY the 14th MARCH next, at TEN o'clock precisely, to receive TENDERS for BUILDING LEASES of TWO PLOTS of GROUND, on the west side of High-street, in the Borough of Southwark. A plan of the ground and conditions for letting may be seen, at the Architect's Office, Guildhall. FERDINAND BRAND, Comptroller.

GUILDHALL, 27th January, 1862.—The Committee for Letting the City's Lands will meet at Guildhall, on WEDNESDAY, the 12th FEBRUARY next, at ONE o'clock precisely, to receive PROPOSALS for a BUILDING LEASE for eighty years of a PIECE of GROUND on the north side of Queenhithe Dock, in the City of London; also to receive PROPOSALS for LEASES of a House, No. 178 Bute-street; a House, No. 80, Gowell-street; a House, No. 82, Windmill-street; and a House, No. 57, Bauner-square, Finsbury.—Plans of the property may be seen, and further particulars and forms of Tender obtained, upon application at the Architect's Office, Guildhall, FERDINAND BRAND, Comptroller.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive MANUFACTURING PREMISES, known as TREDEGAR WORKS, Bow Marsh Shop, 61 by 24 feet, two ranges of Workshops, 71 by 25 feet. Steam-engine house, forge, stores, stabling, counting-houses, and all other conveniences, suitable for a large factory. For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

TO CAPITALISTS, BUILDERS, &c.—BROMPTON GROVE ESTATE, near to the International Exhibition, and to Sloane street. The Freeholders are prepared TO LET PLOTS of GROUND, suitable for Builders, on moderate ground rents. The sewers, gas, roadways, and pavements are completed. The houses built, and those to be erected, are of a superior class, and only to be let to the highest respectable class of tenants. For full particulars inquire of the Architect's Office, on the Estate; or of G. A. BURN, Esq. 9, New Broad-street, E.C.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from which the premises have an easy access. Half an hour from London, and is approached by an entrance lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

FREEHOLD BUILDING GROUND, for EIGHT HOUSES with SHOPS, in the best part of Commercial-road East, TO BE LET—Apply to J. J. FROST, Rope Works, Sun Tavern Fields, Shadwell

TO BRICKMAKERS.—TO BE SOLD or LET, at a royalty, a FREEHOLD ESTATE, of about twenty acres, containing a large quantity of brick earth. It is situate within two miles of the City, and close to a railway station and canal. Messrs. DEBENHAM & TEWSON, 80, Cheapside.

FREEHOLD LAND for MANUFACTORIES, either TO BE SOLD or LET on LEASE. It is within two miles of the City, abuts on a canal, and is close to a railway station.—Messrs. DEBENHAM & TEWSON, 80, Cheapside.

TO BUILDERS and OTHERS.—FREEHOLD LAND TO BE LET, upon building lease, suitable for house from 40 l. to 60 l. per annum. Money advanced if required.—Apply to Mr. JOHN WIMBLE, Architect, 2, Walbrook, E.C.

GUILDFORD. — To BUILDERS and OTHERS.—LAND TO BE LET, on building lease, for nine or nine years, on very eligible terms, is situate close to the town, near a church, and within one minutes' walk of the Railway Station. It is well adapted for villas of a superior class, with good gardens, and such property is very great demand. This is an excellent opportunity for those desirous of securing eligible sites. Further particulars can be obtained of Mr. J. R CAPRON, Solicitor; or Mr. T. GOODCHILD, Architect, Guildford, where plans can be seen.

TO BUILDERS and OTHERS.—SELHURST-PARK, Norwood, near the Junction Station.—The freeholder will co-operate with respectable builders in ERECTING HOUSES, to let or sell to 37. Excellent bricks of every class on the estate. Opportunity to the above Skilful trades-men to be readily supplied. All roads made. Several detached houses erected, all of which have been let before finished; and others are in course of completion and letting rapidly. Situation of parts of the estate. Are particularly healthy, water good and abundant; it is also a most beautiful; nine miles, or 15 minutes from City; 24 minutes from West end; 5 minutes from Crystal Palace; 50 minutes from Brighton. Trains constant from six a.m. till half-past twelve at night.—Particulars at Selhurst-park Office; or to Messrs. FRANCIS FULLER & CO. Cornhill, E.C.

PURE STATUARY MARBLE! and in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS, 363, EUSTON ROAD, London, N.W. Prices moderate.

M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, Always on view Architects & intending purchasers will find these Designs carried out with great care and exactness. Established 1821.

VICTORIA MARBLE WORKS, 33, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and near Grosvenor road, Pimlico, S.W.

JOHN WREN

Begs to inform Architects, Sculptors, Builders, & the Public that he has OPENED the above Show Premises with commodious SHOWROOMS, well lighted, for the DISPLAY of the most beautiful designs and superior workmanship, at the lowest possible prices

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 20, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late F. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—4, Three Crown-square, Borough.

BELLMAN & IVEY,
SCAGLIOLA MARBLE MANUFACTURERS,
14, BUCKINGHAM-STREET, FITZROY-SQUARE,
LONDON, W.
Execute, in the most workman-like manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION,
IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.
Also Manufacturers of Superior and Improved Plaster of Paris.

FOREST of DEAN STONE.—
Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.
That from their "Gosty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Dark-hill" Quarries, is decidedly superior to it.
Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

BATH! BATH!! BATH!!!
ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons' Work prepared ready for fixing.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

BLOCK STONE! BLOCK STONE!
The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall, Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.
SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also HOTH, delivered direct from the Quarries to all parts of the Kingdom.
The BEST and CHEAPEST STONE-WHARF in LONDON.
Address, SAMUEL TRICKETT, Isle of Dogs, E.
A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 38 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,
No. 1, BOLD TERRACE, CHESTER.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connection generally throughout the Kingdom, that they have their
NEW and IMPROVED PRICE LISTS, English Edition, 1862,
Ready for distribution, and which can be had on application.

THE NORTH-WESTERN STONE WHARF, Canal Bridge, Camden-town, is the cheapest Stone Wharf in London. Also a large STOCK of all sorts of YORKSHIRE and other STONE, GRANITE, CURBING, and PITCHING, always on hand to select from. Self-faced paving at 27s. per 100 feet; 14 inch coped, ditto, 31s. ditto; 14-inch Hare hill Slate, 33s. ditto; and all kinds of stone, at equally low prices.—W. ASPINALL, Proprietor.
N.B.—Country orders, to ensure punctual attendance, must be accompanied by a remittance.

JOHN BAZLEY WHITE & BROTHERS,
MARBLE MERCHANTS,
MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed in the finest material and workmanship. Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the material forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

VALE of WARDOUR FREE STONE,
TISBURY, WILTSHIRE.
T. P. LILLY, Quarryman and Stone Merchant, begs to introduce to the notice of Architects, Contractors, Stone Merchants, and Builders, the FREE STONE raised from recently-opened QUARRIES at TISBURY and the neighbourhood.
Geologically this Stone is identical with the Portland Oolites, and its workable properties present a medium between that material and the Bath stone. Numerous buildings of considerable antiquity attest the durability and texture of the Stone of the district. Amongst these may be cited SALISBURY CATHEDRAL, TISBURY CHURCH, the POULTRY CROSS at SALISBURY, WILTON ABBEY, &c. erected from Chilmark and other Quarries immediately adjacent to those under notice. The beds are of considerable thickness, and blocks of any ordinary size are readily obtained. Some of the beds are nearly white, and others of a cream colour; there is considerable variety in strata, the grain of some of the beds being remarkably fine, and are peculiarly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly fitted to stand the action of water, or exposure to those tests which usually affect and disintegrate the common free stone.
Specimens of the Stone may be seen at Messrs. POOLE & SONS, Marble and Stone Works, Great Smith street, Westminster, S.W.; and in the Museum of Practical Geology, Jermyn-street, Nos. 311 and 312, Case V.; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Tisbury Quarries.
Orders for Worked Stone carefully executed at the Quarries. Samples forwarded, and any other information may be obtained of
Mr. T. P. LILLY, Gillingham, Dorset.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Range Slates, Slabs, &c. &c. Also Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested: prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

FOR SALE.—About 20,000 FIRE-BRICKS, in excellent condition, near the River Lea.—Apply to view to WM. MABY, Craven Lodge, Stamford-hill.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, Isle of WIGHT.—Second Testimonial:—
"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars road.

PORTLAND CEMENT WORKS, BRISTOL (close to the Railway Station and Docks. Cost of transit to London, 7s. per ton), TO BE SOLD or LET. The lease seventeen years unexpired. There are three pair of nail stones, one pair heavy edge runners, large iron revolving ditto, and pan, wash-mill, elevators and crushers, spacious backs, drying stones, 30-horse power high-pressure engine, two boilers, kilns, good dwelling-house, and warehouse.—Apply to Mr. CHARLES ISAACS, Spring Villa, Clifton, near Bristol.

TO PRINTERS, PUBLISHERS, ENGINEERS, ORNAMENTAL IRONFOUNDERS, &c. &c.—ENGRAVINGS of every description of MACHINERY, Ornamental Cast-Iron Work, Maps, Plans, and Pictorial Work, for general Book and Catalogue Illustration, executed in the first style of the art, and 25 per cent. below the ordinary wood engraving.—DE LACY & SONS, Engravers, 28, Houndsditch, Sunderland.

TO BE DISPOSED OF, a neat SPIRAL STAIRCASE (equal to new), suitable for a second-floor shop or show-room. It has open cut strings, returned nosings, and moulded brackets; also, mahogany continued hand-rails and fancy top balusters. Height from floor to floor, 9 feet 11 inches; extreme length of tread, 2 feet 8 inches.—For particulars, apply to 17, Foregate-street, Worcester.

YNISYMUDW SANITARY PIPE WORKS.—MANUFACTURERS of SALT-GLAZED STONEWARE and CHEMICAL PIPES, from 2 to 24 inches in diameter; DINAS and FIRE BRICK. CLOSET-PANS, GULLEY-TRAPS, CHIMNEY-TOPS, FLOWER VASES, and TERRA COTTA in all its branches. The nobility, gentry, architects, and others can be supplied from the above works by applying to the YNISYMUDW PIPE WORKS, Swansea Vale, South Wales.

TO BUILDERS, BRICKMAKERS, and BALLAST-BURNERS.—A large quantity of excellent COKE BREEZE FOR SALE, at the Western Gas-Works, Kensal green. Good facilities for transit by boats on the Grand Junction Canal, or by the Great Western Railway from a siding to the Works.—Apply to the Manager as above.

TO CONTRACTORS, BUILDERS, and OTHERS.—100 good Navvie Barrows, 10 Dobbin Carts, 3 one-horse Brick Carts, 1 two-horse ditto, 1 Joiner's Cart, 2 T imber Carriages, 1 Railway Van, 1 Builder's Van, 2 Earth Waggons, and 2 Hand Trucks. The above, occupying space most urgently required for the purpose of carrying out a large Government contract, will be SOLD at reduced prices. May be viewed at GEORGE ELL'S, Euston Works, 366 and 368, Euston road, N.W.

REPAIR of FURNACES.—Mr. E. HEATH, 46, Parker-street, Drury-lane, the Inventor of the Indestructible Fire clay for lining and repairing furnaces, fire flues, fire-wells, &c. will be happy to wait on engineers and others requiring his services in the application of his fire-clay, which is more durable than fire-bricks, can be applied instantly to all sorts of fractures, without the displacement of brickwork, and will resist the heat of the strongest furnace, the moment of application.

PRIZE MEDAL, LONDON, 1851.
GOLD MEDAL, PARIS, 1844.
ARMANI and CO. Importers direct from the Mines of SEYSSEL-FRANGY (Savoy), SEYSSEL-VOLANT-PERRETTE (Savoy), MAESTU and MONTORIA (Spain), BASTENNES (Landes), &c. &c.
SEYSSEL ASPHALTE,
And by H.M.'s Royal Letters Patent, Manufacturers of
METALLIC LAVA.
For Price and Estimates apply at the
OFFICE, 6, GUILDHALL CHAMBERS, BASINGHALL-STREET.

FOR CONTRACTORS' WAGGONS, DOBBIN CARTS, BARROWS, and RAILWAY PLANT, Apply to HUGHES & MARCH, Engineers and Timber Merchants, Falcon Works, Loughborough.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

TO ARCHITECTS, BUILDERS, and DECORATORS.—Cast Work, Centre Flowers, Shop Front Trusses, Capitals, and every description of Ornament, Interior and external decoration, executed in Plaster, Carton Pierre Composition, and every kind of Cement, at reduced prices, by W. & R. HERBERT (Sons of the late John Herbert, of Parker-street, Drury-lane), Modellers, 242 Euston-road, St. Pancras.

FODELL & CO. 8, BATH-STREET, CITY-ROAD, and 12, Grafton-mews, Fitzroy-square, continue to execute LEAD GLAZING FOR CHURCHES, Chapels, &c. in quarry or geometrical patterns, at the LOWEST PRICES. Estimates and patterns forwarded, on application, to any part of the country. Church Leads, 30s. per cwt.; Fret Leads, 37s. per cwt. for cash. All orders for lead to be sent to 12, Grafton-mews, Fitzroy-square.

GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Regilding in all its branches to the trade. 2 inch Gilt Beads, 7s. per dozen 6 feet lengths; best ditto, 12s.
G. REES, 57, DRURY LANE,
Four Doors from Drury-lane Theatre. Established in 1800.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These pencils are prepared in various degrees of hardness and shade

H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
	B B B B ditto ditto.

M medium.
Sold by all the principal Stationers in town or country.

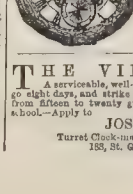
TRACING and DRAWING PAPERS.—
WATERLOW'S TRANSPARENT TRACING PAPERS.
LEON'S ENDLESS FRENCH TRACING PAPERS.
ENDLESS TRACING LINEN AND CLOTH.
WHATMAN'S DRAWING PAPERS and CARTRIDGES
ENDLESS DRAWING CARTRIDGES, 51 INCHES WIDE.
MOUNTED DRAWING PAPERS ALWAYS READY.
WILLIAMSON'S SECTIONAL LINES for ENGINEERS.
WATERLOW & SONS,
WHOLESALE and EXPORT STATIONERS
(Contractors with her Majesty's Stationery Office, and the principal Railway Companies in England)
London-wall, and Parliament-street, London. Samples sent free.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	16 "
Strong Silver Lever Watches	6 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do. do.	23 "
Marine Chronometers	35 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

BENSON'S WATCHES and CLOCKS.
"Perfection of mechanism."—*Morning Post.*
Gold, 5 to 100 Guineas.
Silver, 2 to 50 Guineas.



BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, descriptive of every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free and safe by post on receipt of a remittance.
J. W. BENSON,
33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.
(Established 1749.)

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas: not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to
JOSEPH FAIRER,
Turret Clock-maker to H. M.'s War Department,
153, St. George-street East, London.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,
MANUFACTURE THEIR WELL-KNOWN
SUPERIOR REVOLVING IRON SHUTTERS
OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.
Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

INTERNATIONAL EXHIBITION, 1862.
ESTIMATES AND DESIGNS FOR SHOW CASES, METAL STANDS, &c.
With or without Revolving Machinery, by
BUNNETT & CO., ENGINEERS AND FOUNDERS,
DEPTFORD, KENT, S.E.; 17, QUEEN STREET, CHEAPSIDE; and 435, PARLIAMENTARY STREET, GLASGOW.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,
ESTABLISHED 1826,
Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.
DESIGNS FOR DECORATING PUBLIC AND PRIVATE BUILDINGS, OR ROOMS MADE IN ANY STYLE, AND ESTIMATES GIVEN. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. HAVING NOW GREATER FACILITIES FOR THE MANUFACTURE, A REDUCED TARIFF OF PRICES IS BEING PREPARED. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

WHITE AND PARLBY'S

NEW ILLUSTRATED CATALOGUE OF PAPIER MACHE AND CARTON PIERRE ENRICHMENTS.
PARTS I. TO V. NOW READY, EITHER OF WHICH WILL BE FORWARDED POST FREE, ON RECEIPT OF TWELVE STAMPS. SPECIMEN SHEET, WITH PARTICULARS, SENT ON APPLICATION, ENCLOSING POSTAGE STAMP.
WHITE AND PARLBY,
49 & 50, GREAT MARYLEBONE STREET, LONDON, W.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

DRIVING BANDS, HOSE, VALVES, &c.

THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their VULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable than leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, cold, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Cart, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.
All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.
THE LEATHER CLOTH COMPANY, Limited,
56, CANNON STREET WEST, LONDON, E.C.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINE.
Adapted for hand, horse, or steam-power, will make one-third more in quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.
Licenses to Manufacture granted for certain districts.
For price and particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

FIRE BRICKS, LUMPS, and TILES, of every description.
JOHN NEWTON & CO.
HONDURAS WHARF, 74, BANKSIDE, SOUTHWARK, S.E.
Beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. &c.
Depôt for Rathay's Newcastle Fire Bricks, Clay Retorts, Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c. at the lowest prices.
Shipping orders executed with despatch.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chemical, and Smelting purposes, and in any business or manufacture where an intense heat is required.—For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch-street, E.C.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Gravel's, Place, or Stock Batts, by barge alongside, in the Thames or canals, on reasonable terms, either for cash or approved bills
Belvidere-road, Lambeth, January, 1862.

BRICKS.
BEST KILN-BURNT BRICKS, of superior common quality, can be supplied by the Million. Also,
FINE WHITE AND RED FACING BRICKS.
WHITE, RED, AND BLACK CUTTERS.
VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES
WHITE AND GREY LIME AND GLAZED STONEWARE PIPES.
Vessels can anchor in the King's-mouth, at the East Cowes Park Estate, on the river Medina, Isle of Wight.
RICHARD LANGLEY, Agent.

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
STOCKTON AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1795.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or repaired, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

CAUTION.—LAMBERTS' HIGH-PRESSURE VALVE COCKS.—Whereas certain persons have been recently selling and selling these valves of an inferior quality, and unlike Messrs. Lamberts' name: I hereby give notice of the illegality of such proceedings, and that legal proceedings will be taken against the persons so manufacturing and selling the said valve cocks, as the case may be. DAVID WOOLF,
Solicitor to Messrs. Lambert,
17, King-street, Cheapside.
"Birmingham,
20th January, 1862.
Gentlemen,
Having manufactured inadvertently Equilibrium Ball Valves bearing your name, we hereby undertake, in consideration of your forbearing any further proceedings, to desist from so doing, and to pay all the expenses you may have incurred.
We are, Gentlemen,
Your obedient servants,
ROXBURGH, BROS.
Messrs. Lambert & Son, Lambeth."

TO CONTRACTORS and RAILWAY COMPANIES.—5,000 permanent, 5,000 temporary, SLEEPERS, and FIVE MILES of RAILWAY FENCING, in Scotch fir, TO BE SOLD cheap, and to be delivered either by rail or ship.—For particulars apply to W. D. HARDING, Kirkstall, Leeds.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards ..... } from 11s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
8,000 Yellow Deals..... from 3s. 3d. each
14,000 Spruce ditto ..... from 2s. 9d. each

5,000 Yellow Battens ..... from 11l. 10s. per 120
50,000 feet Spanish and Honduras Veneer..... } from 1½d. per foot
Maple ditto ..... from 1d. per foot

APPLY TO

SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
1 inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1 inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals..... £16 10s. ,,

¾-inch Matched Lining..... 13s. 0d. per square.
½ inch ,, ... 16s. 0d. ,,
1-inch ,, ... 19s. 0d. ,,

J. TERRY & SON, 109, Borough Road, S.E.

MOULDING WORKS.

Wm. Geo. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP.

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



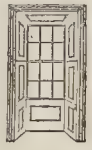
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.



SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6d. PER FOOT

AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

B. J. HUDSON,

begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 3d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2d Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

BUILDERS and CARPENTERS, and OTHERS, have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities.

All sawn goods carriage free within three miles

¾ inch Flooring (well tongued), 11s 6d. ¾ inch do. 12s per square
Yellow Deals, second good .... 19l 10s. per 120, or 3½d per foot.
Spruce Deals ,, 16l. 10s. ,, 2½d. ,,
Yellow Battens, excellent quality 11l. 10s. ,, 2¼d. ,,
Pine Planks, dry, 12 ft. 3 in. by 11 ft. 2 f. ,, 3s 6d. ,,
Seasoned Mahogany, Plank and Board, 6d. per foot.

A very large Stock, ready sawn and seasoned.

ALFRED CARTER, Old Bethnal-green-road, N.E.

TERRA-COTTA VASES, STATUES, TAZZI, &c.—The nobility, gentry, and architects are respectfully informed that JOHN M. BLASHFIELD has REMOVED his Establishment from Pratt-street, Paddington, to a New Factory at No. 16, GREAT MARLBOROUGH STREET, W. where specimens of Terra Cotta Works of Art may be seen, and orders in London should now be addressed. Orders for the country and applications for estimates for new designs should be sent direct to the Terra-Cotta Works, Stamford, Lincolnshire.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Thirdly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and Thirdly, that the "Reports of the Jurors," Page 781, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACK FRIARS, TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON TRENT.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, fireplace, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be supplied from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishment, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

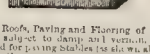
BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
,, 8-inch Pavings, at 57s. 6d. per 1,000.
,, Kiln Bricks, at 36s. per 1,000.
,, Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as it will not, like the cement of joints, prevent the generation of ammonia). For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Pantiles, Barn Floors, &c. with instructions to lay it down.

PARIAN CEMENT for INSIDE WORK.

With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard sculptural imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

KEENE'S and PARIAN CEMENT for internal uses.—These well-known hard Stuccoes dry quickly, and can be painted upon within a few days.

Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster.

PORTLAND CEMENT.

GREAVES & KIRSHAW,
14 SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.

PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Penuant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.
Goods sent per Rail with all Despatch.
Cheques crossed Bank of England, to order.
Post-office Orders payable at Vauxhall or Edgeware-road.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS
COWLEY and KENT BRICKS
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Dito and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, for DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY POTS
TERRA COTTA and CEMENT CHIMNEY TOPS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

STRINGFIELD and BLYTH, Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH, BANGOR WHARF, CAMDEN TOWN, N.W. LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME. GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.
Agent in Liverpool JOHN McKENZIE, 42, Seel street.
Do. do. Manchester—THOMAS OAKDEN.

COLES, SHADBOLT, & CO. CEMENT MANUFACTURERS, LIME BURNERS, BRICK MAKERS, SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS, CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS, FRINDSBURY, near ROCHESTER, KENT.

GEORGE ALLEN (late W. & T. N. ALLEN), LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,
Office, 5, George-yard, Lombard-street.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory or from Wharf in Upper Thames Street, Bankside, London.
N.B. Shipping Merchants' and Builders' orders promptly executed.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, and supplied for the construction of the Liverpool and Birkenhead Docks, the HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVANS.
EVANS, Manager, Parry's Lime Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No application attended to without a banker's reference.

GREY STONE LIME
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or uncreened, by the yard or per barge Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT WORKS, Northfleet, Kent.
Messrs. ROBINS & CO.
To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS
E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines, Brierley-hill.
FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr William Ludgater, of the Uppell and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS by Mr. W. Gilbert, of Tipton, near Tyvidale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the monthly price-list.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

MARTIN'S PATENT FIREPROOF CEMENT

Is 35 per Cent. Cheaper than any other internal Cement in use.
Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.
186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,
LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

JAMES STIFF & SONS,

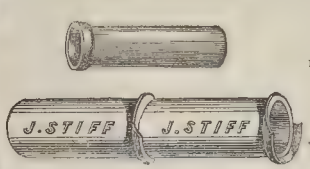
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & COS City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



HENRY DOULTON & CO.'S

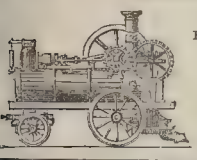
GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.
PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.

High-Street, Lambeth, London.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.
N.B. Steam-power, with Workshops, to Let.

BRICK-MAKING BY STEAM POWER.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,

(Each producing from 100,000 to 130,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS,
" BRASSEY & CO.,
" BAKER & SON,
SOUTH-EASTERN RAILWAY COMPANY,
Mr. GEORGE FURNESS,
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO.

FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works, or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.
ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



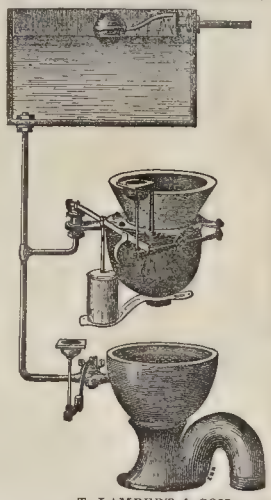
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

The objections to the Cheap Closet pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze erases and the Pans become DISCOLOURED and UNFIT for USE.

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the 3s. 9d. Enamelled Stoneware Closet and Trap.

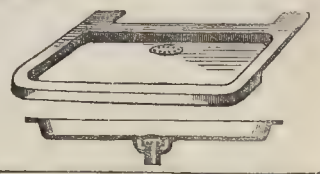
PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

PATENT CAST-IRON KITCHEN SINKS,

with TRAPS complete; manufactured by the Patentees, NEWTON, CHAMBERS, & CO. Thorncliffe Iron Works, near Sheffield.



Size. Long.	Wide.	Deep	* Plain.	Galvanized.	Enamelled.
24 by	18 by	4	5s. 6d.	10s.	15s. each.
30 ,,	18 ,,	4	7s. 6d.	12s.	19s. ,,
36 ,,	18 ,,	4	9s. 6d.	14s.	22s. ,,
42 ,,	30 ,,	4½	10s. 6d.	18s.	27s. ,,
48 ,,	30 ,,	4½	12s. 0d.	21s.	31s. ,,

* These Sinks are covered with a Preparation which will prevent the possibility of their getting rusty.
To be had in London only of
Mr. J. JONES, Iron Merchant, 6, Bankside London.

CROGGON and COMPANY,

Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,
For Damp Walls and Lining Iron Houses.
2, DOWGATE-HILL, London; and 2, GORE'S PIAZZA, Liverpool

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 5s. each; with leading pulley, from 6s. 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

SALES BY AUCTION.

BUILDING MATERIALS.

MESSRS. FULLER & HORSEY are instructed by the Midland Railway Company to SELL by AUCTION, on the PREMISES, Nos. 1 to 14, Denham-terrace; Nos. 1 to 14, Seaton-street; Nos. 1 to 7, Bolton-street; and No. 54, Bidborough-street, Agar Grove, near the Midland Railway Goods Station, Camden-road, on THURSDAY, FEBRUARY 13, 1862, and following days, at TWELVE o'clock each day, in lots, without reserve, the capital NEW MATERIALS of Thirty-three Six-roomed HOUSES, consisting of about 250 tons of brickwork, 5 tons lead, 340 pairs six-light glazed sashes and frames, 200 squares sound flooring-boards, 20,000 feet run flooring joists and rafters, 180 register and Rumford stoves, 34 kitchen ranges, 42 chimney-pots, stone sinks, 240 painted 4 l pagnel four panel doors, 32 four-panel street-doors, 33 pairs folding shutters, 7 pairs sliding ditto, 200 squares slating, 7,000 feet run stair laths, 300 yards cast-iron rainwater pipe and gutter ng, 44 zinc cisterns, 25 dressers, sideboards, closets, stairs complete, with mahogany handrails, 200 slate shelves and pieces, 4,200 feet super York paving, 700 feet rough granite curb, 2 feet 6 in. at the coping, 300 feet iron and cast iron ornamental railing, 33 iron gates, 1 pair folding-gates, 7 feet wide 8 feet high; 2 iron chimney-pots, and other effects.—To be viewed the day previous and catalogues had on the premises, of Messrs. BEALE & MARIGOLD, Solicitors, 10, Park-street, Westminster; and 150, Waterloo-street, Birmingham; and of Messrs. FULLER & HORSEY, Billiter-street, City, E.C

TO ENGINEERS, MACHINISTS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, with the machinery at the works of the Asbestos Patent Machine Boot and Shoe Company, Limited, Randolph road, Gravesend, on THURSDAY, FEBRUARY 13, 1862, the valuable collection of ENGINEER'S TOOLS, used in the construction of the patented machines, viz. :—Two lathes, three years (principally by Whitworth, Smith, Hancock & Tennant, and Shipham, Hill, and Stubbs), in bed 8 ft. 12 inch centres, new cutting lathe, with 24 feet bed and 8-inch centre screw cutting slide, with 15 feet bed, 9-inch centre screw cutting slide, with 12 feet bed, 9-inch centre self-acting screw cutting lathes, with 6-feet 6 inches movable gap beds; three 6-inch centre screw cutting lathes, with 5 feet 6 inches beds, one 5-inch centre ditto, ditto, with 14 feet bed, master's lathe, one 18-inch four-slide lathes (various), two self-acting planing machines, to take in 2 feet 6 in. between by 2 feet 6 inches high, and 2 feet wide by 2 feet high; three self-acting vibrating machines, 9, 12, and 15 inch strokes, with traversing tables; self-acting slotting machine, to take in 2 feet diameter; one self-acting horizontal boring machine, two self-acting drilling machines, one self-drilling machine, self-acting slotting and drilling machine, wheel-cutting machine, 1 set of Whitworth's gauges, from 1 inch to 2 inches; sets of stocks, taps, and dies, from 4 inch to 1½ inch; steel dies, tablets, planed surface plates, 12-horse power pedestal high-pressure steam-engine, with 4-inch cylinder horizontal high-pressure steam-engine, by Bullivant; one 2-horse power direct-acting steam-engine, two return flue steam boilers, 13 feet 6 inches and 14 feet 6 inches long, 4 feet diameter; two cylindrical steam-chests, 9 feet long, 2 feet 6 inches diameter, 500 feet flanged steam pipe, 1,000 feet turned forged shafting, 4,000 feet leather driving-bands, 20 riggers, fittings of all the shafting, 6 vices, anvils, stoves, and benches, three tons rod and bar iron, one ton cast and sheer steel, four grindstones, double-purchase crab, 14 ton gyk blocks and falls, six joiners' benches, weighing machine, gas-fittings, office furniture, and a large quantity of miscellaneous property. To be viewed on Friday, Saturday, and Monday previous to the Sale, by catalogues only, which may then be had at the Offices on the Premises, or previously, of Messrs ARNOTT, SON, & MORRIS, Solicitors, 6, Old Jewry, E.C.; of F. MAYNARD, Esq. Public Accountant, 19, Broad street, E.C. Manager; and of Messrs FULLER & HORSEY, Billiter-street, London, E.C.

IMPORTANT TO CONTRACTORS, ENGINEERS, MILLWRIGHTS &c.—SALE of CONTRACTORS PLANT and MATERIALS.—Messrs. Hemingway, Pearson, & Cooper, having completed their contracts for the Bale Docks and other works at Cardiff, have instructed

MR. MARK MARKS to SELL by AUCTION, on TUESDAY, WEDNESDAY, and THURSDAY, the 11th, 12th, and 13th of FEBRUARY, the whole of the valuable PLANT, MACHINERY, &c.: comprising an excellent horizontal steam engine, of 35 horse power, with boiler complete, by Butler & Co. of Leeds; one of Galloway's patent double-cylinder 16 horse power, a planing machine, 17 feet 6 inches long, planing 13 feet by 3 feet 6 inches by 3 feet 6 inches, and self-acting in all its cuts; two punching and shearing machines, two screw-cutting lathes, 18 feet bed, one drilling machine, 5 plate bending slits; weigh bridge, to weigh 10 tons, and a powerful quarry crane, capable of lifting 12 tons; several mortar-mills, with shafting; a large quantity of contractors' plant, about 300 earth waggons, with wrought iron wheels; 10 coal waggons; 38 permanent ballast waggons; carts and harness, a quantity of smith's tools, anvils, bellows, wrought iron hearths, and one 3-feet blower; a capital saw mill frame and bench, and several good sawing; an extensive range of workmen's and stables; counters, desks and furniture, large Milner's safe, level, theodolite, &c. together with a quantity of other materials and stores too numerous to admit of details. Also, at the same time, a well-built Dredger—of 40 tons burden, 60 feet deep, 26 feet, has two compound horizontal high pressure engines, with 20-inch cylinders, and 2 feet stroke; one multitubular boiler (Ross's patent), 20 feet by 7 feet 6 inches, very nearly new; one donkey engine, for feeding boiler, heating apparatus, &c.; has also a deck with pumps, full rigging and chains, and is in very good working condition. Also a good steam tug, the Cadiz, 30 tons burden, with engines, 30-inch cylinders, 2 feet 6-inch stroke (by Marshall, of Shiddle); one multitubular boiler, 8 feet long by 14 feet by 8 feet 6 inches; with four furnaces requiring very little fuel, and one donkey engine for feeding boiler. The boat tows well, and has very recently undergone a thorough repair. Also four Hopper Mud Barges, each about 100 tons burthen, with falling doors, gearing, and chains complete and ready for work; and several small boats.—Catalogues may be had one week previous to the day of Sale, and in the meantime the whole may be seen on application to the Contractors, at their Offices, Herbert-street, Cardiff.

TO CONTRACTORS, TIMBER MERCHANTS, AND OTHERS.—Three Hundred and Thirty-seven OAK TIMBER TREES, now growing in Strawberry grove Coppice and Willsell Coppice, on Down place Park, adjoining the Wimborne and Ringwood Road, near Guildford, Surrey, TO BE SOLD by AUCTION, by

MR. DRURY, at the WHITE HART HOTEL, Guildford, on SATURDAY, FEBRUARY 15th, 1862, at THREE for FOUR o'clock in the afternoon, in two lots, the property of William F. Faviell, esq. subject to such conditions as may be had ten days prior to the day of sale. The above is situate about 23 miles from the Guildford station on the L. S. W. Railway, South Eastern Railways, and near to the turnpike road to Guildford, and the navigable river Wey above and below Guildford. The timber may be viewed any time previous to the sale, on application to Mr. THOS. WYKES, Bookwell Farm, near Down-place Park, where printed particulars and conditions may be had; and of the Auctioneer, Highstreet, Guildford.

ISLE OF DOGS, POPLAR.—Important Manufacturing Premises, with extensive Frontage to the River Thames; also (under an order of the Court of Bankruptcy) the Engineers' Plant, principally manufactured by Messrs. Shepherd, Hill, & Co.

MESSRS. PRICE & CARK will SELL by AUCTION, on the PREMISES, on TUESDAY, the 18th FEBRUARY, the LEASEHOLD PROPERTY known as ALPHA WORKS, Isle of Dogs, a short distance from the Greenwich ferry, having a river frontage of 100 feet by a depth of 200 feet, on which are erected a Brick Factory (98 feet by 45 feet), a spacious smithy, and other substantial premises; held for an unexpired term of about fifty-three years, at 137l. 10s. per annum; also, in lots, an 8-horse power horizontal steam engine, a 3-horse direct-acting ditto, a 14-feet cylindrical Scott's patent steam generator, two powerful drilling machines, a 13-inch, and one 11-inch centre self-acting lathe, a double lath (with 7 feet bed), wrought iron planing, screwing, and vice, a plate fitting machine, various benches, &c. The premises may be viewed until, and the plant one day previous to the sale.—Particulars and catalogues on application, 48, Chancery lane.

CAMDEN-TERRACE, CAMDEN TOWN, N.W.—ON MONDAY, FEBRUARY 10th, at TWELVE for ONE,

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES as above, a quantity of Beams, deals, and battens, and about 500 yellow and white Scotch quarterings, new, sare, 3,000 feet dry white; one hundred 30 squares of featheredge and match boards, slating, battens, panels, laths, doors, sashes and other desirable purchase erals, four dormer lights, and useful building materials.

2, Cardington street, Hampstead-road, N.W.

OLD WROUGHT AND CAST IRON, GUN METAL, &c.

HOUSES OF PARLIAMENT.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings to SELL by TENDER, on MONDAY, FEBRUARY 10th, about 4 TONS of OLD WROUGHT and CAST IRON, and a quantity of GUN METAL CASES, ZINC, & Iron Gratings in the Court of the New Houses of Parliament, near the Office of Mr. KELLY, the Clerk of the Works, who will point out the lots. May be viewed on Saturday and Monday, and Tenders for the same are to be delivered at the Offices of PULLEN, HORNE, & EVERSFIELD, 30, Parliament street (where forms may be obtained), on MONDAY, FEBRUARY 10th.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—Sixteen Cast Cleaning Sills.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works, to SELL by AUCTION, on the PREMISES, on WEDNESDAY, FEBRUARY 12, at TWELVE, in lots, all the BRICK and MATERIALS, FIXTURES, and FITTINGS UP of SIX HOUSES and RANGES of WORKSHOPS, situate in Castle-street, in Southwark-square, Southwark bridge-road, comprising capital sound bricks, a large quantity of slates and pantiles, prime timber in roofs and floors, sound flooring boards, glazed sashes, 3 copper cisterns, counter pieces, floors, fire-grates, York paving, dressers, fencing, sinks, and 1 set, stoves, ranges, coppers, and other useful and valuable materials and fittings up. May be viewed the day previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 30, Parliament street, S.W.

BUILDING MATERIALS, White Horse-street, Commercial-road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Executors of Mr. Thomas Bell, deceased, to SELL by AUCTION, on the PREMISES, on TUESDAY, FEBRUARY 25th, at TWELVE, in lots, by order of the Board of Works for the Limehouse District, to clear the site for their new offices, all the valuable BUILDING MATERIALS, PANTILES, and FITTINGS-UP of six houses, situate Nos. 27 to 32, White Horse street, Commercial-road, near the Stepney station, comprising several sound bricks, a large quantity of slates, 1 pantiles, stout rafters, joists, girders, and other useful timber, glazed sashes, doors, fur lots, chimney-pieces and interior fittings, sound flooring boards, shop fronts, stoves, ranges, lead gutters and pipes, coppers, and useful fixtures and fittings up.—May be viewed the day previous. Catalogues had of CHARLES BUNCH, Esq., Surveyor to the Limehouse District Board of Works, White Horse-street, Commercial-road East, and of PULLEN, HORNE, & EVERSFIELD, 30, Pore street, City E.C. and 14, Parliament street, S.W.

LONDON, CHATHAM, and DOVER RAILWAY.—Metropolitan Extension.—Eleventh Chatham Sale.—Building Materials of about Thirty Houses, Walworth-road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, in the course of the present month, all the excellent BUILDING MATERIALS of about Thirty Modern Houses (several of a superior description), sheds, stabling, at 1 other premises situate on the west side of Walworth-road, and Brighton-street, and in front of the Walworth-road.—Further particulars in a few days, when catalogues may be had at Mr. VIGERS'S Offices, 3, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 30, Pore street, E.C. and 30, Parliament street, S.W.

TO BUILDERS and OTHERS.—IRONMONGER'S STOCK. The Stock-in-Trade of Mr. John Grice, of 18, Cross-street, Walworth-road, in consequence of his premises being taken by the London, Chatham, and Dover Railway.

MESSRS. GLASIER & SON are instructed to SELL by AUCTION, at TAYLOR'S DEPOSITORY, opposite the Elephant and Castle (where the Sale is being removed to, the Railway Company requiring the premises), on WEDNESDAY, FEBRUARY 19 and following days, at TWELVE for ONE, the whole of the capital STOCK-IN-TRADE of Mr. John Grice, comprising about 250 register stoves, of modern and ornamental patterns, Berlin black and fine cast, self-acting kitchen ranges, kitcheners, cottage ranges, sheep at ves, about 50 elliptic stoves, upwards of 150 high, low, and broad fenders, about 80 sets of fire irons, scythes, spades, shovels, locks, bolts, bars, hinges, latches, screws, nails, and general builders' ironmongery; bell furniture, brass furniture, plain and japanned furniture, furnishing ironmongery, weighing machines as 1 weights, smiths' tools, two useful cart horses, three spring carts, three sets of cart harness, and sundries.—May be viewed the day prior and morning of Sale; and catalogues had at the Place of Sale; at GARRAWAY'S; and of the Auctioneers, 41, Charing cross, S.W.

TWO DAYS' SALE OF MAHOGANY AND TIMBER.

FOR SALE, by PUBLIC AUCTION, in the Canons' Marsh, Bristol, on WEDNESDAY and THURSDAY, the 19th and 20th days of FEBRUARY, 1862, at ONE o'clock precisely, Lunch eon at Half-past Twelve o'clock. For account of Importers.

25,000 Spruce Deals, Battens, Scantling, Boards, and Ends
5,000 Quebec Pine Deals
2,000 St. Petersburgh Redwood Deals
2,000 St. Petersburg White wood ditto
5,000 Onega and Archangel Red Deals, Battens, and Boards
5,000 Wyborg Redwood Deals
2,000 Swedish Deals and Battens
200 Logs Quebec Waney Board Timber
300 Loads Quebec Yellow Pine
50 Loads Quebec Red Pine
130 Loads Quebec Red Timber
300 Loads St. John Island Timber
100 Logs Fresh St. John Birch
70 Logs Fresh P. E. Island Birch
200 Loads Miramichi Board and Pine Timber
60 Walnscot Oak Logs
300 Loads Swedish Timber
50 Fathoms Pipe Staves, St. Petersburg, and Quebec Lathwood
5,000 Flooring Boards

With other Goods.

SECOND DAY, THURSDAY, FEBRUARY 20.

122 Logs Mexican Mahogany, just arrived per "Helen"
39 Ditto ditto Cedar
15 Tons Log lands
36 Logs Quebec Walnut
4,000 Feet Birch Rock for Veneers
A Quantity of Mahogany and Cedar Board.

Catalogues will be issued on the Week of Sale.

For further particulars apply to BARNES & SONS, Brokers.

Canons' Marsh, Bristol, February 5th, 1862.

TO BUILDERS, CONTRACTORS, SHIP OWNERS, BARGE-BUILDERS, and OTHERS.—Ship Timber, two Anchors, two Chain Cables, four Punts, and a Quantity of Sails, &c.

MR. SITGRAVE will SELL by AUCTION, on WEDNESDAY, FEBRUARY 12, at TWELVE, on the PREMISES, opposite Messrs. Young's Dock, Emmett street, Limehouse-hole, the MATERIALS of the hull of the Revenue Cruiser HARPIE, comprising a quantity of English oak, teak beams, floors, futtocks, knees, fir deck planks, four spars, cabin fittings, a set of sails, 3 pairs boats, 350 canvas lone sleeping, 30 signal lamps, and a variety of useful materials and other effects.—May be viewed one day prior to the Sale; and Catalogue had on the Premises, of the Auctioneer, 23, Lime-street, E.C.; or will be forwarded per post.

CHARING CROSS RAILWAY.—Building Materials.—Twelfth Clearing Sale.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, under instructions from the Directors, will SELL by AUCTION, on the PREMISES, on TUESDAY, FEBRUARY 11th, and following days, the very valuable sound MATERIALS of the SOUTH-EASTERN ARCADE: comprising capital stock brickwork, excellent plate glass and glazed sloop fronts, sashes, and frames, useful flooring boards, strong deal joists, and floors, some mahogany shop-fittings, doors and frames, slates laid in gutters, and a variety of useful fixtures and fittings. May be viewed the day previous to sale, and catalogues then obtained of Mr. MARSH, Charlotte row, Mansion-house: of Messrs WILLIS & HARROW, Auctioneers, West Molesey, King-ton, Surrey, and Alton, Hants: and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices, in the South-Eastern Railway Terminus, London bridge.

N.B. The arcade having been so recently erected, regardless of expense, the auctioneers have great confidence in recommending these materials to the attention of the trade generally, and especially to persons who may be fitting up trade or business premises.

TO BUILDERS and OTHERS.—Several valuable BUILDING PLOTS, near the Regent's park. To LET on Building Leases. For particulars and plans apply to R. H. MOORE, Architect, 10, Walbrook, Mansion house.

ELIGIBLE COPYHOLD PROPERTY FOR SALE.—A PROPERTY, about two acres in extent, situate Lambeth, in the direct line to the new bridge, with frontage on three streets with valuable buildings, partly on hand, the remainder on leases which will expire in about twelve years.—For particulars apply to Mr. GRITTEN, 8, Parliament-street, S.W.

BETHNAL-GREEN.—BUILDING LAND at Low Ground-rents.—PLOTS of LAND, for small houses, near Green-street, Bethnal-green, on the estate of the late Sam. Smiley, esq. The sewers and roads are completed.—For particulars apply to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial road, E.

TO BUILDERS and OTHERS.—An Opportunity seldom occurring.—TO BE SOLD or LET, FREEHOLD GROUND, containing about 12,000 square feet, close to the Oval. Large quantity of materials on the ground ready for use.—Apply to Messrs. HOVENDEN & HEATH, Surveyors, No. 4, Broad street Buildings.

BUILDING-LAND, near London.—Freehold.—One to Thirty Acres TO BE LET, suitable for villa residences for 99 years, on favourable terms. Plans and drawings for villas and shops ready. Advances for sale or by way of mortgage can be entered into.—Apply to Mr. JOHN ELDMESTON, Esq. Architect, No. 5, Crown-court, Old Broad street, E.C.

TO IRONFOUNDERS, ENGINEERS, RAILWAY COMPANIES, &c.—TO BE LET, EXTENSIVE PREMISES, adjacent to the South Western Railway, Wandsworth, and the River Thames, commanding a frontage of 255 feet, and covering an area of upwards of an acre. The premises comprise large foundry, erecting shops, steam power, planing machine, &c., and all the usual plant necessary for carrying on an extensive business. They have for the last half-century been occupied by a celebrated London firm of iron-founders, and are well known in the trade as an excellent business, and are to be disposed of solely in consequence of the decease of the present partner. The plant, which is in good working order, and the Lease may be taken at a valuation. Any concern which has an old and established connection, offers an opportunity to persons very rarely to be met with.—For further particulars apply to Mr. JOHN R. EWBLE, 24, St. Swithin's lane, E.C. Principals or their solicitors will only be treated with.

ALLOTMENT of FREEHOLD BUILDING SITES, in eighteen counties.—The CONSERVATIVE LAND SOCIETY.—Notice is hereby given to the holders of rights of allotment to shareholders, and to the general public, that the FIRST ALLOTMENT for the present financial year is fixed for WEDNESDAY Evening, the 12th of FEBRUARY, 1862, on which occasion will be offered, at the TOWN-HALL, Newark-upon-Trent, SIXTY-NINE valuable FREEHOLD BUILDING SITES, on two estates, situated in the above town, respectively, at No. 1, Northgate, 73 plots, at No. 2, Beaconhill, 96 plots. Plans of the estates will be sent by post, on receipt of seven stamps, for each estate for plans, describing the particulars free of charge. Holders of rights can exercise their power of selection at any of the open plots of the society's estates, in the thirteen counties, on this occasion.

CHARLES LEWIS GRUNEISAN, Secretary.

Offices, 31, Norfolk street, Strand, London W.C.

GALLERY or LOFTY ROOM WANTED on ground floor, with or without other accommodation, and well lighted, in the north west of Charing-cross. To be entered at Michaelmas or Michaelmas next.—Apply, by letter, to A. B. care of Sly, Llewellin, esq. 22, Chancery-lane

COLLIER ESTATE, DEPTFORD, KENT.—TO BE SOLD by PRIVATE CONTRACT, the whole of the ESTATE, consisting of Sixty Houses, and 800 feet of Building ground sufficient for forty more houses, in Collier street, producing a rental of £1,300 per annum, and held on Building Leases, the Ground Rents of the estate at a ground-rent of 260l. for thirty-nine years unexpired at July last next. No additional ground-rent payable if ground covered. The property is let to respectable tenants.—Apply to Messrs. ADAMS & CHILD, Esq. Solicitor, 7, Tarnwell place, Lincoln's-inn-fields, City; or to J. ELLIOTT, Esq. Solicitor, 2, Great Knightrider street Doctors' Commons.

BUILDING GROUND, CITY of LONDON.—TO BE LET, on a BUILDING LEASE for 80 years, a PIECE of GROUND, fronting the Queenhithe Dock, in the City of London. Plans of the ground may be seen, and further particulars obtained, upon application at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

ST. THOMAS'S HOSPITAL.—The Governors of St. Thomas's Hospital will be glad to be informed of any vacant Plot of Freehold Land for Sale, on the Surrey side of London bridge, within a short distance from their present Hospital, suitable for the site of a new Hospital.—Address, R. HAGGALAY, Esq. Treasurer, St. Thomas's Hospital, S.E.

TO BUILDERS, MERCHANTS, and OTHERS.—The FREEHOLD TO BE SOLD, or on LEASE, at a Ground Rent, a PAIR of ELEVEN ROOMED, SEMI-DETACHED VILLAS, all finished. They are covered in with compo'd, and portions of the floors laid, and tenants ready to take them. On account of the purchase-money may remain on mortgage.—Address, W. A. GALE, Esq. Carshalton.

SAWING-MILLS.—TO BE LET, with immediate possession, a well-arranged SAWING-MILL, conveniently situate in Yarmouth-town, Great Yarmouth, comprising 20 horse power Steam-Engine, Planing Machine, Vertical Deal Frames, two Circular Saw Benches.—For particulars, apply to Messrs. ISAAC PRESTON & SON, Great Yarmouth.

BELVEDERE, near Erith, Kent, S.E.—To BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES near London.—This beautiful Park is to be thrown open for building on the 25th of MARCH next. The district to the east of London has equal natural advantages. The beauty of the river and land scenery is well known. The soil is dry and healthy, the water pure and abundant. There are stations of the North Kent Railway at Erith and at Belvedere. The former, near to the east end of the Park, the latter, within four minutes' walk of the west end of the Park, and the Plumly and Lesness Heath portions of the estate. By the end of 1863, it is expected that there will be complete railway communication to Charing Cross. Plainly, close to the Belvedere Station and Lesness Heath (close to the Belvedere Church and Schools) are already (within two years) nearly covered with handsome villas of different classes, from 25l. to 70l. a-year, and shops of various descriptions; more sites, however, may still be had there. Some sites in the park are just let, and it is intended to grant leases of other similar plots for ninety nine years, for erecting villas of a superior description. Plots will be laid out contiguous to four principal roads running through the park. These are the Park road, leading from the Belvedere station to Bexley-street; the Avenue-road and the Tower-road, each leading from the public Erith-road at different points to the Tower; and the Valley road, leading from the Erith-road to the centre of the park. The ground rents are very moderate.—Application for terms and for other particulars may be addressed to Messrs. WM. G. HABERSHON & PITT, Architects, 9, Bedford-row, W.C.; or to Mr. STICKLAND, Lesness Heath, who will show the ground to persons applying. The London will also be let on lease after April, 1863, for an hotel or public-house, or other public institution.—For particulars apply to Messrs. NORTON & HOGGART, Old Broad-street, E.C.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, February 8, 1862.

The Builder

AN JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 993. FEBRUARY 15, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Norwich Corn Exchange.—Messrs. T. D. Barry & H. Butcher, Architects 115

Taylor's Portable Steam-Crane.—Metropolitan Drainage Works.. 114

CONTENTS.

French Explorations in Greece, Asia Minor, and Syria: Delphi.. 103

A Plea for our Pit-Workers: The Hartley Colliery Accident 106

The Essentials of a Healthy Dwelling, and the Extension of its Benefits to the Labouring Population 107

Accident in the Waterloo-road 108

Fall of Houses in Hackney 109

Professor Smirke's Lectures on Architecture at the Royal Academy. Lecture III. 109

The Social Science Association 111

"Croydon Sewage *v.* London Sewage" 111

The Sanitary Condition of Windsor 111

Memorials of the Prince Consort 112

The Davy Monument 112

Houses of Parliament, Sydney 112

The Site for St. Thomas's Hospital 112

Fall of an Arch 113

Application of Town Sewage 113

The Approaches to the Great Exhibition 113

Depression of Trade in the Manufacturing Districts 113

Banstead and Epsom Downs Railway 113

Blackfriars Bridge 113

Portable Steam-Crane 114

British Institution 114

Corn Exchange, Norwich 114

On Early Printed Books 116

Public Memorials 117

Church Building News 118

School Building News 119

Application of Wood Charcoal to Sewer Ventilation 119

Non-Alcoholic Beverage in Construction 119

Glasgow its Empty Houses and its House-Factors 119

What of Westminster Bridge? 120

Proceedings under Metropolitan Building Act 120

Patents connected with Building 120

Books received: Life Among the Colliers (Saunders, Otley, & Co.); Various 120

Miscellanea 120

THE BUILDERS' BALL, in AID of the FUNDS of the BUILDERS' BENEVOLENT INSTITUTION, under the especial Patronage of the Right Hon. the LORD MAYOR and the LADY MAYORESS, will be held at Willis's Rooms, St. James's on THURSDAY next, 20th FEBRUARY next.

COMMITTEE OF MANAGEMENT.

Mr. Stanley G. Bird.
Mr. T. Cozens.
Mr. J. Chapman.
Mr. C. Fish
Mr. W. Hutchone.
Mr. T. G. Howard.
Mr. J. Morris.
Mr. D Nicholson.
Mr G. Plucknett (Treasurer).
Mr. T. Stirling.
Mr. J. Thorn.
Mr. W. Todd, jun.

STEWARDS.

Mr. T. Allbott, jun.
Mr. H. D. Austin.
Mr. G. Bean.
Mr. J. Bird.
Mr. G. Bell.
Mr. F. Bacon.
Mr. P. E. Bolding.
Mr. M Cole.
Messrs. Collins & Stanbury.
Mr. S Cuming
Mr. J. Dowell.
Mr. Dunnage.
Mr. W. J. Dunnage.
Mr W Ellis
Mr. W. L. Edwards.
Mr. C. Formby.
Mr. R. J. Green.
Mr. W. Horner.
Mr S. Hayward.
Mr. W. Herrup.
Mr. R. J. Hickman.
Mr. M. Hall.
Mr. G. Jennings.
Mr. W. H Jackson.
Mr John Jay.
Mr. T. R. Knightley.
Mr. W. Lee, M.P.
Messrs Lucas, Brothers
Mr. Alderman Lawrence.
Mr J. Long.
Mr. G. Myers.
Mr. J. H. Notley.
Mr. E. L. Price
Mr. W. Phillips, jun.
Mr. G. G. Pilcher.
Mr. Alderman W. A Rove.
Mr. A. A. Robinson.
Mr. C. Richardson.
Mr. R. Richardson.
Mr. T. Robinson.
Mr. W. Stirling
Mr G. Spencer Smith.
Mr. R. Scace.
Mr. Alfred Smith.
Mr. C. B. Sewell.
Mr. R. Thomas.
Mr. S. Trickett.
Mr. W. Wood.
Mr. Thos. Yeo.

Gentlemen desirous of promoting the interests of the Institution by becoming Stewards, will please forward their names to the Hon. Sec. Mr. JOSEPH BIRD, 10, Hanover-cottages, Regent's Park, or at the Offices, 24, Southampton-street, Bloomsbury. Double Ticket, 21s.; Lady's ditto, 8s.; and Gentleman's, 11s. Refreshments included.

February 18th, 1862

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of THREE PENSIONERS, two males and one female, will take place in MAY next. Candidates may obtain forms of application (to be returned on or before the 24th of FEBRUARY) at the Offices, 24, Southampton-street, Bloomsbury. The Pensions, 24*l.* per annum for males, and 20*l.* for females.

31st January, 1862. A. G. HARRIS, Secretary.

BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the ENGINEER ESTABLISHMENT of the DEPARTMENT of PUBLIC WORKS in INDIA will, in the year 1862, be OPEN to PUBLIC COMPETITION.

A Competitive Examination will accordingly be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates may be admitted to the examination, and of the rules respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter.

(Signed) DE GREY and RIPON.

India Office, 13th July, 1861.

N.B.—All communications to be addressed to the "Under Secretary of State for India."

SCIENCE and ART DEPARTMENT of the Committee of Council on Education, South Kensington.

The Examination of Science Schools and Classes by the Science and Art Department will take place on the following days, between the hours of SEVEN p.m. and TEN p.m. each evening.

Subject VII. Botany	Subdivision I. Vegetable Physiology and Economic Botany.	30th April
	Subdivision II. Systematic Botany.	1st May
Subject II. Mechanical Physics.	Subdivision I. Theoretical Mechanics.	2nd May
	Subdivision II Applied Mechanics.	3rd May
Subject IV. Chemistry, Inorganic and Organic.	Subdivision I. Inorganic Chemistry.	5th May
	Subdivision II. Organic Chemistry.	6th. May
Subject III Experimental Physics.	Subdivision I Acoustics, Light, and Heat.	7th May
	Subdivision II Magnetism and Electricity.	8th May
Subject V. Geology and Mineralogy.	Subdivision I. Geology.	9th May
	Subdivision II. Mineralogy and Mining.	10th May
Subject VI. Natural History.	Subdivision I. Animal Physiology.	12th May
	Subdivision II. Zoology.	13th May
Subject I. Practical Plane and Descriptive Geometry, Mechanical and Machine Drawing, and Building Construction.	Subdivision I Practical, Plane, and Descriptive Geometry.	14th May
	Subdivision II. Mechanical and Machine Drawing.	15th May
	Subdivision III. Building Construction, or Practical Architecture.	17th May

Applications for this Examination of the Department of Science and Art must be made not later than the 31st MARCH. The form to be filled in will be furnished on application to the Secretary, Science and Art Department, South Kensington, London, W.

Candidates in London, who wish it, may be examined at the South Kensington Museum

By order of the Committee of Council on Education

NATIONAL ASSOCIATION for the PROMOTION of SOCIAL SCIENCE.

LONDON MEETING, JUNE, 1862

At a Preliminary Meeting, held at the Mansion House, on Tuesday, February 11, 1862,

The Right Honourable the LORD MAYOR in the chair,

It was moved by the Right Honourable Sir JOHN PAKINGTON, Bart. M.P.; seconded by the Recorder of London; and supported by Mr CAVE, M.P.:

1. "That this Meeting, strongly approving of the objects of the Association for the Promotion of Social Science, desires to express its earnest hope that the 8th Annual Meeting of that Association, to be held in London in June next, in conjunction with the Congrès de Bienfaisance, will receive the hearty support of the City, and of the whole metropolis."

Moved by Sir F. H. GOLDSMID, Bart. M.P. Q.C., seconded by Alderman ROSE; and supported by Mr. SAMUEL MORLEY,—

2. "That, in order to make the necessary preparations for the foreigners who are expected to attend, a General Reception Committee be now appointed, to consist of the following noblemen and gentlemen; with power to add to their number."

[The names will be hereafter announced.]

Moved by Mr SAMUEL GURNEY, M.P.; seconded by Admiral Sir THOS. HASTINGS; and supported by Mr. GODWIN, F.S.A.—

3. "That a Subscription list be now opened to defray the expenses of the London Meeting of the Association, in conjunction with the Congrès de Bienfaisance."

Subscriptions will be received at the Office of the London Meeting, 12, Old Bond street, W.; by ANDREW EDGAR EYRE, Pro. Secretary, by Messrs. RANSOME, BOUVERIE, & CO. 1, Pall-mall East, S.W.; Messrs. HEYWOOD, KENNARD, & CO., 4, Lombard-street, E.C.; and Mr. GEORGE LEDGER, 4, Chalotte-row, Mansion House, E.C.—By order of the Executive Committee,

12, Old Bond-street, W. J. H. RANDALL, Secretary.

EVENING LECTURES at the GOVERNMENT SCHOOL of MINES, Jermyn-street.—Dr. TYNDALL, F.R.S. will commence a Course of TEN LECTURES, on LIGHT, on SATURDAY, the 22nd FEBRUARY, at SEVEN o'clock; to be continued on each succeeding Saturday evening until 1st April, when they will be delivered on Tuesday and Saturday evenings. Tickets for the whole course, price 5*s.* may be had at the Museum of Practical Geology

TRENHAM REEKS, Registrar.

ART-UNION of LONDON.—Subscription, One Guinea.—Prizeholders select from the public exhibitions. Every subscriber has a chance of a valuable prize; and, in addition, receives an impression of a large and important fine engraving by C. W. Sharpe, from the original picture by Fred. Goodall, A.R.A. entitled, "RAISING THE MAYPOLE," now ready for delivery.

444, West Strand. GEORGE GODWIN, } Honorary
February LEWIS POCOCK, } Secretaries.

LECTURES to WORKING MEN.—GOVERNMENT SCHOOL of MINES, Jermyn-street.—The THIRD COURSE, consisting of SIX LECTURES on ELECTRICITY, by Dr. TYNDALL, F.R.S. will be commenced on TUESDAY next, the 18th instant, at EIGHT o'clock. Tickets may be obtained, by working men only, on MONDAY, the 17th FEBRUARY, from TEN to FOUR o'clock, upon payment of a fee of 6*d.* for the whole course. Each applicant is requested to bring his name, address, and occupation written on a piece of paper, for which the ticket will be exchanged.

TRENHAM REEKS, Secretary

TO CIVIL ENGINEERS, ARCHITECTS, SURVEYORS, and the PUBLIC in GENERAL.—JOHN ARCHBUTT & SONS having completed their alterations, respectfully solicit a VISIT to their Premises, where will be found an extensive STOCK of New and Second Hand THEODOLITES, LEVELS, POCKET SEXTANTS, and all kinds of Surveying and Drawing Instruments, Telescopes, Opera Glasses, Microscopes, &c. &c. — 20, WESTMINSTER BRIDGE ROAD, LAMBETH, S. — An Illustrated Price List forwarded free.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, W. The spaces for Building Materials and Inventions are now at once to be RE-LET. DRAWINGS are to be sent in on MONDAY, the 3rd of MARCH, before 6 p.m. The Exhibition this year will contain an entire collection of all the sketches and designs of the late A. Welby Pugin.

JAS. FERGUSSON, F.R.A.S. 20, Langham-place, } Hon.
JAS. EDMESTON, F.R.I.B.A. 5, Brown-court, Old Broad-street } Secs.

COMPETITIONS.

NEW CARLISLE BRIDGE.—The Committee appointed to carry out this Undertaking are now prepared to receive PLANS and SPECIFICATIONS for the ERECTION of a NEW BRIDGE, on the present site, the full breadth of Sackville-street. The Committee will pay 30*l.* for the best and most approved plan, 10*l.* for the second, and 5*l.* for the third. The Plans and Specifications to be the property of the Committee. Letters and communications seeking information to be addressed to the Committee, at the Imperial Hotel, Sackville-street

ROBERT G. COLLIS,
GEORGE DELANY,
E. B. KINAHAN,
SAMUEL M'COMAS, } Hon. Secretaries.
ALFRED C. REYNOLDS, Assistant Secretary.

TO SURVEYORS and OTHERS. — The directors of the Tranmere Freehold Land Society are prepared to receive PLANS, on or before the 24th MARCH, 1862, for LAYING OUT and ALLOTTING the ESTATE belonging to the Society, in Higher Tranmere; consisting of about 40 statute acres. Premiums will be given for the best and second best plans. Each plan to be accompanied with an estimate of the cost of the formation and construction of the roads and sewers, and also of the laying out of the land. No payment will be made for any plan but the premiums above-mentioned.—For particulars, apply to Mr. JOHN QUINN, Chairman of the Society, 22, Lord-street, Liverpool; or to Mr. H. P. PRIEST, Secretary, Market-cross Chambers, 19, Market street, Birkenhead.

CONTRACTS.

EXTENDED TIME for TENDERS.—PRESBYTERIAN BAPTIST CHURCH, Greenwich.—Builders desirous of TENDERING for the ERECTION of the above CHURCH, may inspect the plans and specifications, and have copies of the conditions, on application to the Architect, Mr R H MOORE, 10, Walbrook, London, E.C. where the Tenders are to be delivered not later than MONDAY, the 24th inst. The committee will not be bound to accept the lowest tender

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for Works to be done in CONSTRUCTING a RIDING SCHOOL, at Island Bridge Barracks, Dublin.

Parties desiring to Tender for the above work must leave their names at the District Royal Engineer's Office, Lower Castle yard, Dublin, or at the Royal Engineer Office, Island Bridge Barracks, on or before SATURDAY, the 8th day of FEBRUARY, N.S., and pay the sum of 10*s.* 6*d.* for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

Office of Commanding Royal Engineer in Ireland,
Dublin Castle, 22nd January, 1862.

WAR DEPARTMENT TRIENNIAL CONTRACT.—WOOLWICH DISTRICT.—TENDERS are required for EXECUTING the WORKS, &c. that may be required in the following Trades, for the period from the 1st April, 1862, to the 31st March, 1865, viz.:—Bricklayers, Masons, Paviors, Carpenters, Plasterers, Slaters, Plumbers, Smiths and Iron-founders, Painters, Glaziers, and Paperhangers, and Gasfitters.

Parties desiring to Tender for the Contract must leave their names at this Office, on or before the 20th day of MARCH, 1862, and pay the sum of seven shillings and sixpence for the Schedules and Forms of Tender.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, 11th February, 1862

ARMY CONTRACTS. TENDERS will be received at this Office until noon on the 27th instant, from Parties who may be willing to enter into CONTRACTS for the SUPPLY of HOUSE COALS, Wallsend, in such quantities as may be required for the year from 1st April, 1862, for the use of the Royal Military College, Sandhurst.

Forms of Tender and Conditions of Contract may be obtained on application at this Office, and no Tender will be noticed unless made on such prescribed form and delivered at this Office by the hour appointed. ALFRED SALWEY, Deputy Commissary-General.

Commissariat, South Camp, Aldershot, February 8, 1862.

ARMY CONTRACTS.—TENDERS will be received at the Office until NOON on the 25th instant, from parties who may be willing to enter into CONTRACTS for the undermentioned FUEL and LIGHT, consisting of COALS, COKE, WOOD, COMPOSITE and DIP CANDLES, in such quantities as may be required for the use of Her Majesty's Land Forces and Military Departments at Aldershott Camp, for ONE YEAR, from 1st APRIL, 1862.

Forms of Tender and Conditions of Contract may be obtained on application at this Office; and no Tender will be noticed unless made on such prescribed form, and delivered at this Office by the hour appointed.

ALFRED SALWEY, Deputy Commissary-General.

Commissariat, South Camp, Aldershott,
February 8th, 1862.

[For remainder of Contracts see next page.

CONTRACTS.

LONDON DISTRICT.—To BUILDERS and OTHERS.—WAR DEPARTMENT TRIENNIAL CONTRACT for WORKS at 1 REPAIRS.—The Commanding Royal Engineer, London District, hereby gives notice, that sealed TENDERS will be received at the War Office, Pall Mall, London, S.W. addressed to the Director General of Contracts, on or before the 21st of FEBRUARY, 1862, for WORKS and REPAIRS at the undermentioned STATIONS, separately or otherwise, from the 1st of APRIL, 1862, to 31st MARCH, 1865, inclusive, viz.—

London, comprehending the Tower of London, all the Barracks and other Buildings within five miles of that place, and Turnham-green Militia Barracks.

Croydon and Cavalry and Infantry Barracks, and Belvedere Fort.

Hounslow, Hampton Court, and Keeller Hall Barracks, and Richmond Militia Barracks.

Windsor Cavalry and Infantry Barracks, and Belvedere Fort.

Militia Barracks, Barnet.

Militia Barracks, Hatfield.

Militia Barracks, Uxbridge.

Schedules and printed forms of Tender, price 7s. 6d. each, and all necessary information, may be obtained on application at the Royal Engineer Office, 31, James-street, Buckingham Gate, London, S.W. from THURSDAY, 16th ult., to SATURDAY, the 15th of FEBRUARY, 1862, between the hours of ELEVEN a.m. and THREE p.m.

The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, London District, 31, James street, Buckingham gate, January 29th, 1862

SWANSEA LOCAL BOARD of HEALTH and WATER-WORKS.—To IRON-FOUNDERS, BRASS-FOUNDERS CONTRACTORS, and OTHERS.—The Local Board of Health for the District of Swansea, in the county of Glamorgan, do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following Contracts, viz.—

Contract No. 2.—For Supplying Cast-iron Water Pipes, and other Castings.

Contract No. 3.—For Supplying Sluice Valves, Hydrants, and other Street Fittings.

Contract No. 4.—For Laying and Jointing Cast-iron Water Pipes, Fixing Sluice Valves and Hydrants, and for other Works.

Duplicate Specifications, Bills of Quantities, and Forms of Tender, may be obtained on payment of 1l. for each contract on application at the Office of the Town Clerk, Guildhall, Swansea; or at the Office of ROBERT RAWLINSON, Esq. Civil Engineer, 34, Parliament-street, Westminster. Sealed Tenders, endorsed "Tender for Contract No. 2, 3, or 4," as the case may be, addressed to the Office of the Town Clerk, Guildhall, Swansea, on or before TUESDAY, the 25th day of FEBRUARY, 1862. The Local Board do not bind themselves to accept the lowest or any Tender.

C. B. MANSFIELD, Town Clerk.

Guildhall Offices, Swansea, 4th February, 1862

TO BUILDERS and OTHERS.—

TENDERS for RE-BUILDING the GRAMMAR SCHOOL at HALSTEAD. Notice is hereby given that Plans with Specifications prepared for RE-BUILDING the HALSTEAD GRAMMAR SCHOOL, may be examined at the GRAMMAR SCHOOL, from WEDNESDAY, the 29th instant to WEDNESDAY, the 26th instant, inclusive, on or before which day sealed Tenders (addressed "Tender for the Grammar School") are to be sent to the Treasurer. The acceptance of the Tenders is dependent on the approval of the plans by the Charity Commissioners and the Trustees of the Grammar School do not bind themselves to accept the lowest or any Tender.

GEORGE WILLIAM HARRIS, Clerk to the Trustees.

Halstead, Essex, 11th February, 1862

ST. PANCRAS, MIDDLESEX.—To CONTRACTORS and OTHERS.—Notice is hereby given, that the Parish Vestry, sitting in Vestry assembly, the Vestry of the Parish of St. Pancras, will meet at the OFFICES of the SURVEYOR of WORKS on MONDAY, the 25th FEBRUARY next, to receive TENDERS from persons willing to CONTRACT for SUPPLYING Gravel, Ballast, Sand, and Mount Scott GRANITE; for supplying FLINTS, GRAVEL, and other Roadway Materials; and for CARTAGE, agreeably to a specification which may be seen at the said Office daily. Security will be required for the due performance of each contract. Further particulars will be given by letter, may be obtained on the deposit of 1l. for each contract, at the Office of Mr. WILLIAM BOOTH SCOTT, Chief Surveyor, as under. The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be received or accepted unless made out on one of the printed forms. Tenders must be delivered by Noon in the said MONDAY, 25th day of FEBRUARY 1862.

CHARLES WORRELL, Chief Clerk of the Department of Works.

10, Upper-street, Islington-road, February, 1862.

TO STONE MERCHANTS and PAVIORS.—The Vestry of the Parish of Rotherhithe will meet on TUESDAY, the 4th day of MARCH next, at HALF-PAST SIX o'clock in the evening precisely, at the Board Room in the Workhouse, Deptford Lower-road, to open and consider TENDERS from such persons as may be disposed to enter into CONTRACTS for the supply of the following articles, viz.—

For the use of the Vestry, GUERNSEY GRANITE SPALLS, YORK PAVING, HALF-SOVEREIGNS for CARRIAGE PAVING, CURB, &c. for the year, to be delivered alongside Wharf at Rotherhithe Parish Pitcher and Scrapple of Yard has been piled, may be obtained at the Clerk's Office, 61, Paradise-street, Rotherhithe. Tenders to be sent to the Clerk's Office, on or before TWELVE o'clock on TUESDAY, the 4th day of MARCH, after which time no Tender will be received. The Vestry require the parties tendering, or some persons on their behalf, to be in attendance at HALF PAST SIX o'clock on the day appointed for opening Tenders. The Vestry will not accept the lowest or any Tender, unless approved of

By order, R. SHAFTO HAWKS, Clerk.

14th February, 1862

TO BRICKLAYERS, &c.—The Vestry of the Parish of Rotherhithe will meet on TUESDAY, the 4th day of MARCH next, at HALF-PAST SIX o'clock in the evening precisely, at the Board Room in the Workhouse, Deptford Lower-road, to open and consider TENDERS from such persons as may be disposed to enter into CONTRACTS for the following Works, viz.—The Works to be executed pursuant to Drawings and the terms of a specification, which may be inspected, and any further information had, on application to the Surveyor at the Vestry hall, Queen Anne-street, Deptford. The contractor will be required to enter into a contract, to be prepared by the Clerk to the Vestry at the expense of the contractor, and to execute and find two approved sureties to join him in a bond for the sum of 100l. for the due performance of the contract. Tenders, bearing the names and addresses of proposed sureties, endorsed "Tenders for Brickwork, &c." are to be delivered at the Office before THREE o'clock on the afternoon of the day of the meeting. The Vestry do not bind themselves to accept the lowest or any Tender. THOMAS PRICE, Clerk to the Vestry

Vestry hall, Baner-street, Mile-end-road, February 6, 1862.

TO BUILDERS and OTHERS. — Notice is hereby given, that plans and specification for RE-TORING and ALTERING the CHURCH of ST. MARY at NORTHILL in the county of Bedford, will be lying at the Rectory, at Northill, on SATURDAY, the 15th day of FEBRUARY, at 11 o'clock in the forenoon by experts, at all persons desirous of tendering for the Work, and sealed up separate Tenders, directed to the Rev. A. S. POTT, Northill Rectory, Biggleswade, on or before the 20th instant. The lowest Tender will not necessarily be accepted. The contractor will be required to enter into the usual legal bond for the performance of the works with two good and approved sureties.

TO CONTRACTORS. NEW BAPTIST CHAPEL, MANNINGHAM-LANE, BRADFORD. — Drawings and specification may be seen, at the School-room of Salem Chapel, Bradford, Yorkshire, from MONDAY, the 3rd to FRIDAY, the 7th of MARCH, 1862, both inclusive. Tenders for the whole or parts of the works will be received up to TEN o'clock, on SATURDAY morning MARCH 8th. Quantities supplied upon written application to the undersigned. PAULL & AYLIFFE, Architects, Burnley

Dated February 11, 1862.

TO SEWER CONTRACTORS and OTHERS. The Oxford Paving Commissioners are prepared to receive TENDERS for CONSTRUCTING an OPEN SEWER along a portion of the Trill Mill Stream in the city of Oxford. The drawings and specifications of the required works at the general conditions of the Contract may be seen between the hours of NINE and FOUR p.m. at the Commissioners' Office, Town Hall Oxford; or particulars obtained by letter addressed to Mr. JOHN GALPIN, the Surveyor. Tenders are to be made in printed forms, which may be obtained either of the Clerk or the Surveyor to the Commissioners, and must be delivered, sealed, at my Office No. 4, St. Giles's-street Oxford, on or before TWELVE o'clock at noon on MONDAY, the 10th day of MARCH next endorsed "Tender for Open Sewer." The Commissioners do not bind themselves to accept the lowest or any Tender.

FREDERICK J. MORRELL, Clerk to the Commissioners.

Feb 5, 1862

TO BUILDERS.—CLIFTON WESLEYAN CHAPEL.—Persons desirous of TENDERING for the ERECTION of the above, may see the drawings and specification at the Offices, 5, Park street, from the 14th instant till 28th instant, on or before which the Tenders are to be sent in, sealed and endorsed "Tender for Clifton Wesleyan Chapel." The Trustees do not bind themselves to accept the lowest or any Tender

FOSTERS & WOOD, Architects.

Bristol, February 6th, 1862

BOARD of WORKS, WHITECHAPEL DISTRICT.—A Meeting of this Board will be held on MONDAY, the 24th day of FEBRUARY, 1862, at SIX o'clock in the evening, at the Office, No. 15, Great Alie-st. Whitechapel to receive TENDERS from persons willing to CONTRACT for the CONSTRUCTION of a BRICK SEWER, in Goulston-street, Whitechapel, within the said district. Plans, sections, and specifications may be inspected, and further particulars, with printed forms of Tender, obtained, on application to Mr. FLICKER, Surveyor, between the hours of TEN and FOUR at the Offices of the Board. Sealed Tenders, in which a ten pound note is to be inclosed, must be delivered at the Office of the Board, before FOUR o'clock on the day of meeting; and any Tender which may be received after the hour fixed in the Bond and not signed by the persons tendering, as well as by the persons proposed as sureties, will be rejected. The Board do not, however, bind themselves to accept the lowest or any Tender

ALFRED TURNER, Clerk to the Board.

15, Great Alie street, White chapel, 12th February, 1862

BUILDERS and CONTRACTORS desirous of TENDERING for the ERECTION of a DWELLING-HOUSE at Lottsford, Stanmer Park, Ware Herts, can see the Plan and Specification at the Lodge of Mr. CHAPMAN, Builder, and at the Office of the Architect, as below, on and after THURSDAY, 20th instant. The contractor will be required, and no Tenders will be received unless from the same, before the delivery on THURSDAY, 27th instant, at the Office of the Architect, who reserves the right of rejecting the lowest or any Tender.

CHARLES CHAPMAN, Architect.

Office, 7, St. Mildred's court, Poultry, E.C

DRAINAGE WORKS, ALTON, HANTS. TO CONTRACTORS and OTHERS.—The Alton Local Board are prepared to receive TENDERS for LAYING PIPES, ERECTING FILTER TANKS, and executing other Works for the Drainage of the Town of Alton. Copies of the Drawings, with Forms of Tender and Specification may be obtained, and the Specification and Drawings inspected, on application to the undersigned, or to Mr. T. W. PENFOLD, 3, Charlotte-row, Mansion-house, London. Tenders to be sent in on or before TUESDAY, 4th MARCH next. The Board do not bind themselves to accept the lowest or any Tender

WILLIAM TREMMLE, Clerk to the Board

Alton, 1st February, 1862

NOTICE of TENDER.—ST. MARY'S CHURCH, BIDEFORD. Builders desirous of TENDERING for RE-BUILDING BIDEFORD CHURCH, may inspect the plans, specifications, and conditions prepared by MR. EDMUNDSWORTH, Architect, Exeter, at the Office of Mr. ROBERT GLANVILLE, Bideford on MONDAY, the 17th FEBRUARY till MONDAY, the 3rd of MARCH. Sealed Tenders to be addressed to the Secretary, at Bideford MARCH 10th, 1862, and delivered at the Vestry Hall by Noon on the following day. The Churchwardens do not bind themselves to accept the lowest or other Tender. Each person will be required to pay 10s. previous to the issue to him of the plans, to meet the expenses.

By order, J. POWELL Captain R.E

KING STREET, GREENWICH. PREMISES TO BE LET.

The Trustees of Mr. Thomas Gadsden are prepared to receive TENDERS for TAKING the following PREMISES, for the above, one part or parts, for twenty years, or for Long Leases for 21 Years.

The Garden Coffee House and Gardens, in the occupation of Mr. Lukin.

The Angel Coffee and Chop-house.

The Bakery, Shops, and Premises now being, in the occupation of Stapleton and Sons.

The London Hotel, in the occupation of Mr. Swigg.

The Commercial Hotel and Dining rooms, in the occupation of Mr. Kirkland.

The Private Houses, Nos. 4 and 5.

The Greengrocer's Shop and Premises, in the occupation of Mr. Pelham.

Tenders to be delivered at the Office of Messrs. SMITH & WILLIAMS, Architects, Frederick's-place, Old Jewry, E.C. on or before the 18th instant.

London, February 7, 1862

TO ROAD-MAKERS, GENERAL CONTRACTORS, &c.—LIVERPOOL CEMETERY. — The Burial Board of the parish of Liverpool are prepared to receive TENDERS for LETTING by CONTRACT the WORKS to be executed in the LIVERPOOL CEMETERY, at Anfield Park, Walton, adjoining the Leeds and Liverpool Canal, and the Leeds, Bridgewater, and Liverpool Junction Railway, comprising the formation of roads, and other ornamental operations. Plans, sections, and specifications of the work intended to be executed may be seen at the Burial Board Office, Exchange-buildings, Liverpool, and at the Office of the Board, No. 5, Clinton-place, Live-st., next-door WEDNESDAY, the 19th inst between the hours of ELEVEN and THREE o'clock. Sealed Tenders addressed to the Chairman of the Board, endorsed "Tender for Cemetery Roads," are to be delivered at the Office of the Board, No. 5, Clinton-place, Live-st., next-door to the Post Office, Lime-street, Liverpool, on or before the hour of TWELVE o'clock at noon on MONDAY, the 3rd day of MARCH next. Each Tender must be delivered at the Office of the Board as above, on or before the hour named. The Board will not necessarily accept the lowest or any Tender. By order, GEO. TURVEY, Clerk to the Board.

15, Castle-street, Liverpool, February 4, 1862

TO BUILDERS.—LIVERPOOL CEMETERY, ANFIELD PARK, WALTON. — The Burial Board for the parish of Liverpool are prepared to receive TENDERS for the ERECTION of the following BUILDINGS and WORKS in the CEMETERY, viz.—LODGES, and BOUNDARY-WALLS at the above Cemetery. The plans, specification, and conditions of contract, may be seen at the Offices of the Board, No. 5, Clinton-place, Live-st., next-door WEDNESDAY, the 19th inst between the hours of ELEVEN and THREE o'clock. Sealed Tenders addressed to the Chairman of the Board, endorsed "Tender for Cemetery Buildings," are to be delivered at the Office of the Board, No. 5, Clinton-place, Live-st., next-door to the Post Office, Lime-street, Liverpool, on or before the hour of TWELVE o'clock at noon on MONDAY, the 3rd day of MARCH next. Each Tender must be delivered at the Office of the Board as above, on or before the hour named. The Board will not necessarily accept the lowest or any Tender. By order, GEO. TURVEY, Clerk to the Board.

15, Castle-street, Liverpool, February 4, 1862

TO BUILDERS.—Persons desirous of submitting TENDERS for a CHAPEL to be ERECTED at Woolwich, Kent, may inspect the drawings and specification, and obtain quantities, with further particulars, upon application at the Offices in Derby, or at the Residence of the Rev. R. SERGEAN 11, Brewer-street, Woolwich, on and before the 18th instant. Tenders to be delivered to the Rev. R. SERGEANT not later than TWELVE o'clock Noon on THURSDAY, the 27th instant, endorsed "Tender for Chapel." The Committee do not pledge themselves to accept the lowest or any other Tender.

GILES & BROOKHOUSE, Architects.

Victoria Chambers, Derby, 12th Feb. 1862.

THE WORCESTER PLEASURE GROUNDS COMPANY, Limited.—TO BUILDERS.—WANTED TENDERS for the ERECTION of a PAVILION, to be constructed of Wood and Glass. Plans and specifications may be seen after the 1st instant, at the Offices of Mr. A. F. WATKINS, 50, Foregate-street, Worcester; and sealed Tenders obtained of the Architect, J. GRANSTON, No. 1, Temple-row West, Birmingham. Tenders to be sent to the Secretary, endorsed "Tender for Pavilion," on or before SATURDAY, the 8th of MARCH next. The Directors do not bind themselves to accept the lowest or any Tender by order of the Directors.

ALFRED P. WATKINS, Secretary.

50, Foregate-street, Worcester, Feb 12 h 1862.

WELCHPOOL WATERWORKS.—TI Welchpool Local Board of Health will be prepared to receive Sealed Tenders, on or before the 10th of MARCH next, for LAYING and JOINTING MAIN PIPES, and CASTING PIPES, as well as for providing and Fixing Sluice-cocks, Hydrants, and other Works, in accordance with certain specifications, drawings, &c. copies of which and of the forms of Tender may be had, made to the Surveyor, Mr. ROBERT DYMOND & SONS, Surveyors, Exeter, at 10s each. The Board do not pledge themselves to accept the lowest any Tender.

ALFRED MERLDTH, Clerk to the said Local Board

Town Hall, Welchpool, 28th January, 1862.

EXTENSION OF TIME.

TO BUILDERS.—The Leeds King-street Warehouse Company, Limited, are prepared to receive TENDERS for the ERECTION of THREE first class WOOLLEN WAREHOUSES, King-street, Leeds. The plans and specification of the same may be examined by parties proposing to Tender, at the Office of Mr. CUTHBERT BRODRICK, Architect, 2 Park-place Leeds, from MONDAY, the 27th inst. to MONDAY, the 17th of FEBRUARY next. Bills of quantities will be provided for parties requiring them. Sealed Tenders, addressed to the Directors of the Leeds King-street Warehouse Company, Limited, are to be delivered at the Company's Office, 1, Bond place, Leeds, not later than WEDNESDAY, the 19th of FEBRUARY next. The Company do not bind themselves to accept the lowest or any other Tender.

A. W. D. LEATHER, Solicitor.

1, Bond place, Leeds, 23rd January, 1862.

TO WELL-SINKERS and BORERS for ARTESIAN WELLS. The Town Council of the Borough of Dorchester, being desirous of obtaining a better supply of spring Water for the use of Boats of the Town, are willing to receive TENDERS for BORING to ascertain if WATER may be found in an ARTESIAN WELL. The Tenders to state the cost per yard of the boring, the Contractor to find all implements and plant. The Town Council do not pledge themselves to accept the lowest or any Tender. Mr. ALFRED HERBERT FIELD is the Council Surveyor, to whom Tenders are, until after every other Tender, and plant of the same size of the intended work. Sealed Tenders, with references, must address and sent to the Mayor, Mansion House, Dorchester, on or before MONDAY, the 24th day of FEBRUARY next.

Dorchester February 6th, 1862.

HULL CORPORATION WATER WORKS.—To WELL-SINKERS, CONTRACTORS, and OTHERS. The Water Committee of the Borough of Kingston upon Hull, are ready for receiving TENDERS for the SINKING a SHAFT and BORING an ARTESIAN WELL, at the Pumping Station, at which the Works connected therewith. Plans and specification can be seen, and every information obtained, on application to me, at the Office in Stoney-street, Hull. Sealed Tenders, addressed to me, for the Chairman of the Water Committee, must be sent in to ROBERT WELLS, Esq. the Town Clerk, not later than the 25th instant. The Water Committee do not bind themselves to accept the lowest or any Tender.—By order, THOMAS DALE, Borough Engineer and Engineer.

Engineer's Office, Stoneferry, Hull, February 3rd, 1862.

TO IRONFOUNDERS and OTHERS.—The Croydon Local Board of Health are prepared to receive TENDERS for the undermentioned IRON PIPES and PIPE FITTINGS, viz.—

200 6-inch cast-iron socket pipes, 9 feet long, exclusive of socket and to weigh 12cwts. each.

1,000 2 inch cast iron socket pipes, 6 feet long, exclusive of socket and to weigh 41 lbs each

10 Junction pieces, 6-inch out of 4 inch.

20 " " 3-inch out of 3 inch.

20 " " 3-inch out of 2 inch.

10 " " 2-inch out of 2 inch.

10 Blind sockets or caps for 2 inch pipes.

50 " " 3 inch pipes.

All pipes and castings to be of good iron, even grained, and free from flaws defects, and must be to short notice, and to be delivered into the railway trucks at Deptford, within one month of the order being given. Tenders stating the price for each pipe, and the price per cwt. for the pieces or castings, to be delivered at the office H. KEMP HARRIS, Esq. High street, Croydon, on or before MONDAY the 3rd of MARCH, 1862. The Board do not pledge themselves to accept the lowest tender

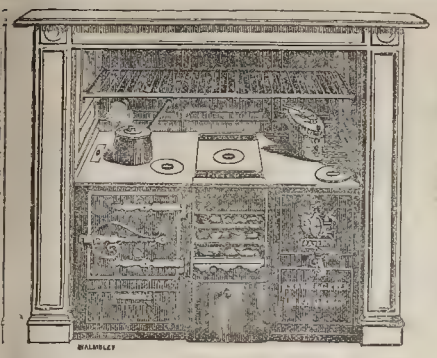
Croydon, February 12, 1862.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 25, Davies-street, Three Doors from Oxford-street,

For the supply of Builders, Upholsterers, Cabinet-makers, Bankers, and the Trade in general, at wholesale prices. In connection with the Old Establishment, No. 18, Bran Hood-street, Manchester square, running out of Baker-street, Portman-square, London W

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Hall's Patent Self cleansing DOMESTIC WATER CLOSET, which he has FIXED in his Premises, and in addition to all the usual advantages, declares to be the only perfect water closet at present in use. The improvements are applicable to all new buildings, and can be fixed to any existing drain, at a trifling cost. F. W. Cowan keeps a large stock in hand, which may be seen at the Works. F. W. Cowan has other improved closets, and a new safety valve, which he can supply at a moderate price, and of any material



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10*s.*

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges.

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen, at a moderate

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat,—viz. that reflected from the upper or ore slope,—to be projected parallel with the floor, instead of directly to the ceiling, as is done by the flat surface of the usual Register Grate; while the warm air, drawn from the space over and in front of the Vesta Grate is dispersed in a fan-like direction, thus thoroughly warming the room. Also, by the introduction of a central door, which is intended to be kept shut when the fire has burnt up, the admission of air to the chimney is materially checked. This prevents the fire burning black at the top, and renders any trouble with the chimney unnecessary.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18*s.* 6*d.*

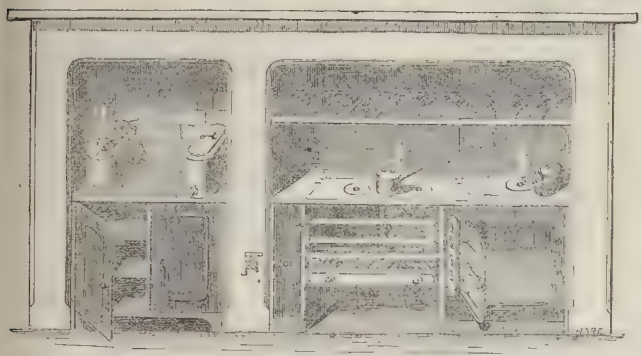
BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.

F. THOMAS, AGENT.

ILLUSTRATED PROSPECTUSES POST FREE.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE, -ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

Nos. 6 and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

PROFESSOR VARNELL'S STABLE ARRANGEMENTS.

RECOMMENDED BY THE
ROYAL VETERINARY COLLEGE.

INSPECTION OF THE
FULL-SIZED STALLS AND LOOSE BOXES,
ERECTED AT THE WORKS FOR SHOWING
THESE INVENTIONS, IS INVITED.

Every Description of Stable Furniture.
ILLUSTRATED LISTS ON APPLICATION.

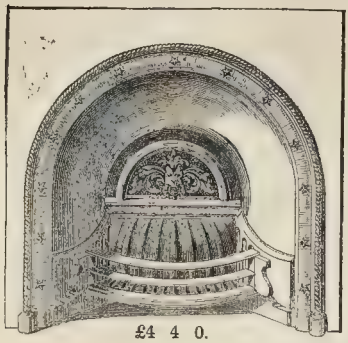


CAST AND WROUGHT IRON WORK OF EVERY DESCRIPTION,

PLAIN AND ORNAMENTAL.

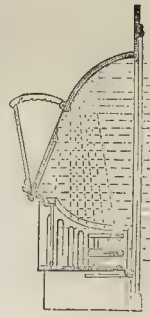
GATES, CIRCULAR STAIRCASES, STAIR-CASE, BALCONY, TOMB.
AND
OTHER RAILING;
VERANDAHS, IRON SASHES, CASEMENTS, SKYLIGHTS, CORRUGATED IRON ROOFS
AND
HOUSES, COLUMNS, GIRDERS, FLITCHES, TANKS IN WROUGHT AND CAST IRON, &c. &c.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE

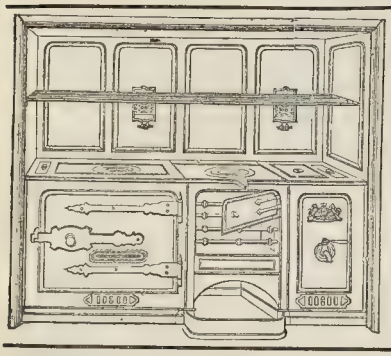


£4 4 0.

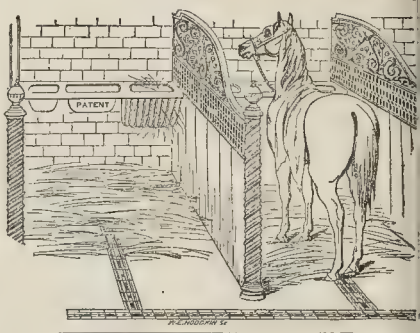
It is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



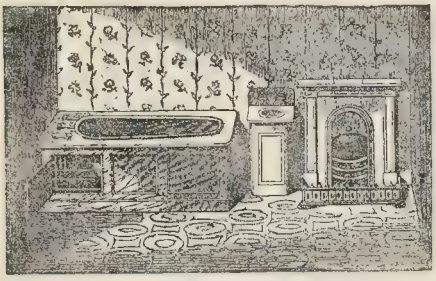
STOCK AT No. 159, SHOREDITCH, LONDON.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their
BATH APPARATUS,
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.
Illustrated Catalogues to be had of the Manufacturers,
J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET. LONDON.

GALVANIZED IRON AND ZINC WORKS.
GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.
VAVASSEUR AND CO.
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

MALLEABLE IRON CASTINGS.
RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. Established 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.



At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended," being the only prizes conferred on any competitor in this class.
Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging wire-safes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fixing up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

CHUBB'S LOCKS,
with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on Application.
CHUBB and SON,
57, ST. PAUL'S CHURCH-YARD, LONDON,
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.
PATENT LIGHTNING CONDUCTORS,
according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.
J. W. GRAY & SON, 114, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—
Three-eighths-inch diameter..... 1s. 6d. per foot.
Half-inch diameter ..... 1s. 9d. „
Five-eighths-inch diameter ..... 2s. 0d. „
R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.
Offices—130, Strand, London.
„ Gateshead-on-Tyne.
„ 27, Dale-street, Manchester.
„ 68, Anderson-quay, Glasgow.
„ 17, South Castle-street, Liverpool
„ Exchange-buildings, Dundee.
„ 7, Frederick-street, Aberdeen.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

SHEET ZINC AND METAL PERFORATING WORKS.

FRANCIS RUMMENS,

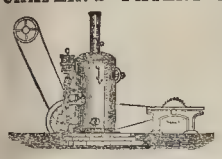
PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.

HIGHLY APPROVED ROOFING ZINC,

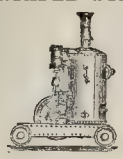
BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.

ZINC SLATING NAILS.

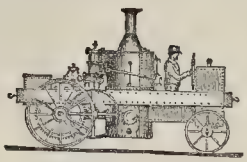
CHAPLIN'S PATENT PORTABLE STEAM-ENGINES & BOILERS.



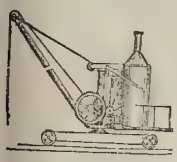
Stationary Engine, Fig. 1.
From 1 to 30 horse power.



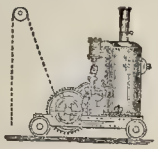
Portable, Fig. 2.
From 1 to 30 horse power.



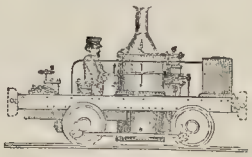
Roadway or Traction Engine, Fig. 3.
From 6 to 27 horse power.



Steam Crane, Fig. 4.
To hoist from 30 cwt. to 10 tons.



Hoisting Engine, Fig. 5.
To hoist from 10 cwt. to 5 tons.



Contractor's Locomotive, Fig. 6.
From 6 to 27 horse power.

Further particulars and prices, on application to

ALEXANDER CHAPLIN & CO., PATENTEES AND SOLE MANUFACTURERS,

CRANSTON-HILL ENGINE WORKS, GLASGOW.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

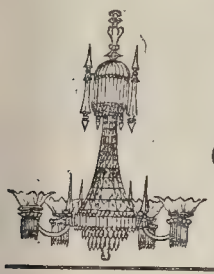
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.



THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF

CRYSTAL, BRASS, & ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY.

WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61a, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, PIRMINGHAM HEATH BIRMINGHAM.

DAY and GAS-LIGHT REFLECTOR

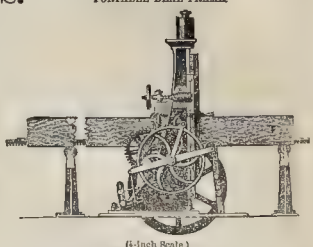
MANUFACTURER.—THOMAS FOX, 20, Hatton Garden, E.C.

These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.

N.B.—The usual discount to builders and the trade.

S. WORSSAM & CO.'S PATENT

PORTABLE DEAL FRAME.

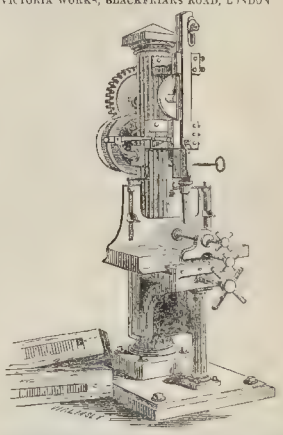


(¼-inch Scale)

This machine is so constructed as to require no foundations for fixing; it can be driven either from an underground or overhead shafter from a portable engine and is peculiarly useful for builders and contractors.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

POWIS, JAMES, & CO.

VICTORIA WORKS, BLACKFRIARS ROAD, LONDON



IMPROVED STEAM POWER MORTISING MACHINE, for Railway Waggon, Building, and other heavy work. Makers of all kinds of Sawing and Woodcutting Machinery, Steam engines, &

Office, 29, Watling street, London, E.C. Where Drawings and Prices can be had on application.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l*.



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.

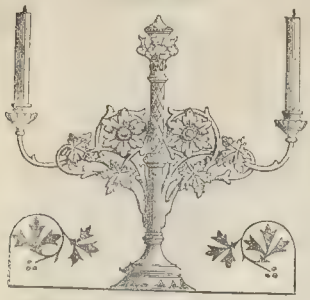


PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

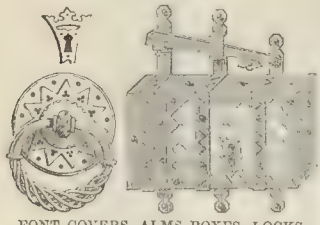
SHEFFIELD.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS
AND GASFITTERS.

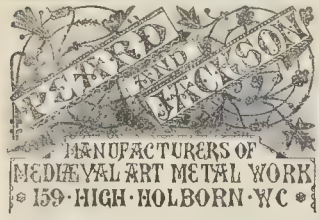


Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

HART & SON,
MEDIÆVAL METAL WORKERS,
53 to 58, WYCH STREET, and 20, COCKSPUR STREET, LONDON.



FONT COVERS, ALMS BOXES, LOCKS, HINGES, HANDLES, BOLTS, TOMB RAILING, &c. &c.
LECTERNS, CORONAS, GAS STANDARDS, MONUMENTAL BRASSES, &c. &c.



BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vases, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Brackets, Stands, Easels, Gasaliers, Coronæ, &c. &c. Post-free, on receipt of 6 postage stamps.

DEPOT for BROWN'S PATENT CLOTH PADDED WOOL STRIPS, which, when applied to wet Doors, show NO & COMPLETELY EXCLUDE them from water, and from the ill effects of gas. Samples, with illustrations and directions for use forwarded on receipt of three stamps for postage.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, of numerous designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER LIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 63, Princes-street, Leicester square, London, and SUCH ONLY are WARRANTED.

GREAT NORTHERN IRON WORKS,
CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.
The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well arranged Iron Foundry, where they intend to carry on the business of
IRON-FOUNDERS AND SMITHS.
CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.
PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

FURNESS'
PATENT WOOD-WORKING MACHINES,
FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.
Prices and every information respecting these celebrated and well-known machines can be had on application to
WILLIAM FURNESS,
73, LIME STREET (late of Lawton Street), LIVERPOOL.
The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

PFEIL AND STEDALL,
IRON MERCHANTS AND WHOLESALE IRONMONGERS,
5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.

CASTINGS AND WROUGHT IRONWORK
OF EVERY DESCRIPTION.
GLOVER, BROTHERS,
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.
Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

BOND & SCAMMELL (late Thomas Pugh & Co.)
WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, LONDON, E.C.

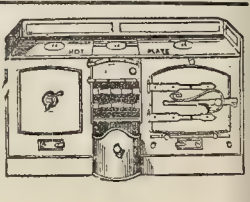


PATENTEES AND PROPRIETORS OF THE
PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.
SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.
A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.
All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

W. HARMER & SON
Begs to inform their Customers and the Trade generally, that having recently Removed into their new Premises, Nos. 3, HORSEFERRY ROAD (at the corner of the same with their Warehouse and Workshops in New Peter street), they have thereby been enabled largely to increase their Stock of IRONMONGERS' and CARPENTERS' IRONMONGERY, and which they are now selling at a considerably REDUCED LIST of PRICES, as compared with those prevailing in the trade in the manufacturing districts.
W. HARMER & SON,
IRONMONGERS, SMITHS, IRON AND ZINC MERCHANTS,
Nos. 3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

DEVAUX'S PURE THICK ROOFING ZINC,
FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS
And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. EMERSON, Esq. F.R.I.B.A., by which a certificate is given
ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.
Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.
MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.
N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.

THE LEAMINGTON PRIZE KITCHENER.
These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.
The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.
A large STOCK of SELF ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.
All Goods delivered free within five miles.
BURT AND POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS.
33 and 65, York-street, Westminster.



RICKETT'S & HAMMOND'S

GLOBE LIGHT.



A SHADOWLESS GAS BURNER.
AGAR STREET, STRAND, LONDON, W.C.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ironmakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

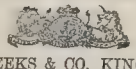
WROUGHT-IRON TANKS, CISTERNS, GIRDERS, PUNNELS, &c. plain or galvanised; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

LOSH, WILSON, & BELL,
NEWCASTLE ON TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES
Office, No. 7, Size-lane, London.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Nails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring uniform and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

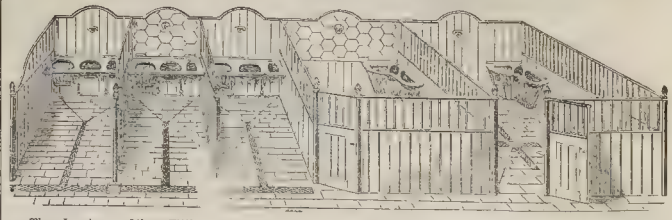
TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern book and Price-lists, 12s. Nos. 55 and 56, High Holborn.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding as in Furnishers complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road W.

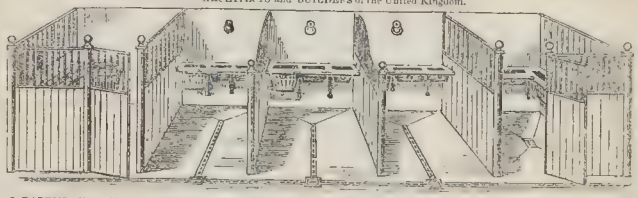
SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles supplied to the Trade. Galvanized Tinned Sheets and Tiles for export.
IRON WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

COTTAM & CO. WINSLEY STREET, LONDON, W.
PATENTEES AND ORIGINAL INVENTORS OF
THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,
COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation, preventing foulness in the back, facility in fixing, safety from accident, durability in construction and cleanliness in use.
STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.
COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.
KNIGHTLEY'S PATENT STABLE FLOOR.
ILLUSTRATED CATALOGUES FREE, on application to
COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.
COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET,
N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

BARTON'S PATENT STABLE FITTINGS.
AND ENAMELLED MANGERS.
These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now in view of the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Fittings, upon the most modern and improved principles, is to be seen.
The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four postage stamps.
JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.



DRAUGHTS & DUST ROUND DOORS & WINDOWS
EFFECTUALLY PREVENTED BY
GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS
(*Can be had any Length or Pattern*).
The neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work, OLD or NEW.
Self-acting Spring Stops for the bottom of doors.
The most imperfect door can be made air-tight without re-hanging.
The Trade supplied on liberal terms.
JOHN GREENWOOD, PATENTEE,
10, Arthur-street West, London Bridge.



VENTILATION.—M'KINNELL'S PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its avoidance of draughts, and its being a cord nearly self regulating—the inner air flowing at a rate proportionate inwards, while the noxious products of respiration and combustion are simultaneously carried off. It has been applied in many of the Royal Buildings at Windsor, the Government Offices in London, and extensively in churches, public halls, schools, offices, dwelling-houses, factories, stables, and in ships, for which it has been adopted by her Majesty's Emigration Commissioners. Patentee, JOHN M'KINNELL, 15, Langham place, London, W. Description and testimonials on receipt of one stamp.

IRON CASTINGS of every description; WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS; IRON WINDOWS, HOT-WATER PIPES, RAIN-WATER PIPES, and GUTTERS, PIPES for GAS and WATER, manufactured by
JAMES HAYWOOD, Junior, Phœnix Foundry, Derby.

DEVAUX'S PURE THICK ROOFING ZINC laid upon Mr Edmeston a principle to insure durability, by
D. HAYWARD,
LONDON ZINC WORKS, No. 67, Blackman street, Borough.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect incombustibility; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.
Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr. ALEXANDER YOUNG, 14a, Cannon street, London, E.C.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired. 6s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 300 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market London.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all Sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

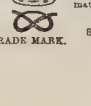
TO PLUMBERS.—TO BE SOLD, a PATENT LEAD PIPE ENGINE, with casting moulds, rods, dies, &c. complete, for manufacturing pipe from 4-inch to 2-inch bore. Apply, by post-paid letter, to Mr. JAMES LE LIEVRE, South Esplanade, Guernsey.

TO BRICKMAKERS, IRONMONGERS, AND BUILDERS.
IMPROVED STEEL BRICK-MOULDS.
FASSNIDGE, BROTHERS, MANUFACTURERS of the above ARTICLES, beg to acquaint the Customers and the trade generally, that they are now prepared to SUPPLY their superior make of BRICK MOULDS for the ensuing season, and keeping a large stock on hand, of all sizes, are enabled to execute his and orders intrusted to them with dispatch.—FASSNIDGE, BROTHERS, Brick-Mould Makers and Ironmongers, Uxbridge Middlesex.
Established A.D. 1778.

TRADE  MARK.

CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought Iron Tubes.

TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS.
THE BRYMBO COMPANY, North Wales, beg to inform Contractors and others that they have made arrangements to SUPPLY the LONDON MARKET through their Agent, Mr. F. FORD, No. 9, Lawrence Pountney-hill, Cannon-street, City, with
CASTINGS OF FIRST QUALITY,
FROM THEIR OWN SUPERIOR IRON, MADE FROM THE RESULT HEMATITE AND ARGILLACEOUS ORES.
All orders promptly attended to, and at moderate prices.



GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.
TRADE MARK.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

MARBLE AND STONE WORKS,

WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF

PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perretto (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,

LONDON, **SEYSSEL ASPHALTE,** PARIS,

AND BY H.M.'S ROYAL LETTERS PATENT,

MANUFACTURERS OF

1851. **METALLIC LAVA.** 1844.

FOR PRICE AND PARTICULARS APPLY AT THE

OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4*s.* PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2*s.* 6*d.* PER FOOT

AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil, covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

The First and Cheaper Edition, in 8vo. price 42*s.* cloth,

GWILT'S ENCYCLOPÆDIA of ARCHITECTURE, Historical, Theoretical, and Practical. Comprising

I. *History of Architecture.*
1. Origin of Architecture.
2. Architecture of various Countries
3. Architecture of Britain.
II. *Theory of Architecture*
4. Construction
5. Materials used in Building.
6. Use of Materials
7. Medium of Expression.
III. *Practice of Architecture.*
8. Principal Parts of a Building.
9. Combinations of Parts.
10. Public Buildings.

With a supplement on Gothic or Pointed Architecture, its Periods, Styles, &c.; a Glossary of Terms used by Architects, including an Alphabetical List of the Principal Architects of all Times and Countries and their Works, and a Catalogue of the most useful Works on Architecture; and a copious Index. Complete in One Volume of 1,142 pages, illustrated with 1,762 Engravings on Wood by R. Branston, from Drawings by J. S. Gwilt.

"It should be possessed and used by every architectural student." *Builder.*

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

PROFESSOR MAX MULLER'S LECTURES.

The Second Edition, revised, in 8vo. price 12*s.*

LECTURES on the SCIENCE of LANGUAGE, delivered at the Royal Institution of Great Britain in April, May, and June, 1861.

By MAX MULLER, M.A. Fellow of All Souls College, Oxford; Corresponding Member of the Imperial Institute of France.

"It is not often that a book so good in every way as this can be published. None but the subject and genius of the author could make any book interesting; but when with these attractions a book combines the philosophical importance of its doctrine, as well as the greatest possible and the purest lucidity of style, it will command attention from the only who read for pleasure as from the few who read for higher purposes."—*Globe.*

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

TWO SERIES OF FAIRBAIRN'S USEFUL INFORMATION FOR ENGINEERS.

The First and Second Series, in Crown 8vo. with Illustrations, price 10*s.* 6*d.* each Series,

USEFUL INFORMATION for ENGINEERS

By WILLIAM FAIRBAIRN, LL.D.

Corresponding Member of the National Institute of France; President of the Literary and Philosophical Society of Manchester, &c.

Also by Mr. FAIRBAIRN, Vol. I. 8vo. price 16*s.*

TREATISE on MILLS and MILLWORK.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

THE LATEST EDITIONS OF MRS. JAMESON'S WORKS ON SACRED AND LEGENDARY CHRISTIAN ART.

The Third Edition, greatly improved, in 2 vols. square crown 8vo. with 17 Etchings and 28 Woodcuts, price 31*s.* 6*d.*

SACRED and LEGENDARY ART: containing Legends of the Angels and Archangels, the Evangelists, the Apostles, the Doctors of the Church, St. Mary Magdalene, the Patron Saints, the Martyrs, the Early Bishops, the Hermits, and the Warrior Saints of Christendom, as represented in the Fine Arts.

By Mrs. JAMESON.

Also by Mrs JAMESON, in the same Series,

LEGENDS of the MONASTIC ORDERS. Second Edition, greatly improved, with 11 Etchings and 88 Woodcuts. 1 vol. 28*s.*

LEGENDS of the MADONNA. Second Edition, corrected and enlarged; 27 Etchings, 165 Woodcuts. 1 vol. 28*s.*

London. LONGMAN, GREEN, LONGMAN, & ROBERTS.

THE LIFE OF SIR M. I. BRUNEL, C.E.

On Tuesday next will be published, in One Volume, 8vo. with a Portrait and Woodcut Illustrations,

MEMOIRS of the LIFE of SIR MARC ISAMBARD BRUNEL, Civil Engineer, V.P. F.R.S. Corresponding Member of the Institute of France, &c.

By ISAMBARD BRUNEL, F.R.S.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

NEW EDITION OF HERSCHEL'S OUTLINES OF ASTRONOMY.

In 8vo with numerous Plates and Woodcuts, price 18*s.* cloth,

OUTLINES of ASTRONOMY. By Sir JOHN F. W. HERSCHEL, Bart. K.H. Member of the Institute of France, &c. The Fifth Edition, thoroughly revised and corrected to the present state of astronomical science.

Uniform with the above, in 8vo. price 18*s.* cloth,

SIR J. HERSCHEL'S ESSAYS from the *Edinburgh* and *Quarterly Reviews*, with addresses and other pieces.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

Just published, price 17*s.* 6*d.*

THE BOOK of FARM BUILDINGS: their Arrangement and Construction.

By HENRY STEPHENS, F.R.S.E.

Author of the "Book of the Farm," &c.

And ROBERT SCOTT BURN, Engineer

Royal octavo, pp. 552. Illustrated with twenty-eight Engravings on Copper, and 1,017 Engravings on Wood. Half-bound.

Uniform with the above,

THE BOOK of the FARM. By HENRY STEPHENS, F.R.S.E. 2 vols. royal 8vo. with Engravings. Price 31*s.* half-bound.

THE BOOK of FARM IMPLEMENTS and MACHINES. By JAMES SLIGHT and R. SCOTT BURN. Edited by HENRY STEPHENS, F.R.S.E. Royal 8vo., with 870 Engravings. Price 21*s.* half-bound.

THE BOOK of the GARDEN. By CHARLES M'INTOSH. 2 vols. royal 8vo. with 1,065 Engravings. Price 4*l.* 7*s.* 6*d.* half-bound. Each vol. sold separately—viz.: Vol. I. Architectural and Ornamental, price 21*s.* 10*s.*; Vol. II. Practical Gardening, price 11*s.* 17*s.* 6*d.*

THE FORESTER. By JAMES BROWN, Wood-Manager to the Earl of Seafield. Third Edition, greatly enlarged, royal 8vo. with numerous Engravings on wood. Price 15*s.* half-bound.

FARM ACCOUNTS:—A Practical System of Farm Book Keeping, being that recommended in the "Book of the Farm." By HENRY STEPHENS, F.R.S.E. Royal 8vo. Price 2*s.* 6*d.* Also, SEVEN FOLIO ACCOUNT BOOKS, constructed in accordance with the System. Price 22*s.*

WILLIAM BLACKWOOD & SONS, Edinburgh and London.

STABLE ARCHITECTURE. 2*l.* 2*s.*

Medium Folio.

By THOMAS EDWARD KNIGHTLEY, F.R.I.B.A. Architect, 23, Cannon-street, London.

The volume is handsomely printed in the best type, and the plates, twenty-eight in number, are executed chiefly in tinted lithography.

"The stable plans of Mr. Knightley are admirable, and afford the most perfect ventilation without a cold current of air."—HON. ADMIRAL ROUS.

THE DICTIONARY of ARCHITECTURE. The names of new Subscribers continue to be received. For every information, apply to ARTHUR CATES, Hon. Sec. 9, Conduit-street, Hanover-square.

ARCHITECTURAL PUBLICATION SOCIETY.

THE DICTIONARY of ARCHITECTURE. Part I. for 1860, completing the letter F, is nearly ready for issue. The Illustrations for 1861 will be ready next month. To avoid delay in the delivery, Subscribers are therefore requested to forward any subscriptions still outstanding. ARTHUR CATES, Hon. Sec. 9, Conduit street, Hanover-square, February 6th, 1862.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street London. ROBERT M. LATHAM, Secretary.

A CARD

MESSRS. CORDEROY, Surveyors (late of Hyde street, Mayfair), have REMOVED their OFFICES to 17, KING WILLIAM STREET, STRAND, LONDON, W.C Office at Portsmouth 13, Ordnance row, Portsea.

MESSRS. T. J. HILL'S & J. W. YOUNG'S DRAWING CLASSES. Offices, 79, Old street, E.C. These DAY and EVENING CLASSES are now open, for giving instruction in Architectural, Mechanical, and Perspective Drawing. Quarter commences from date of entrance.—Prospectus at the Office free.—See advertisement in "The Builder," January 18, 1862.

T. PETTITT & CO. LITHOGRAPHERS, and GENERAL PRINTERS, Fritil-street, Soho-square, W. beg to inform Surveyors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary speed and accuracy, and most respectfully solicit a trial. A scale of charges and specimens submitted on application.

To Surveyors resident in the West of London, the advantage of their Office being centrally situated in the West-end, must be evident from the great convenience it may afford where despatch is required.

Working Drawings and Estate Plans carefully drawn and printed.

Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.

Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO. Lithographers, &c. 5, Ave Maria-lane, E.C.

CIVIL ENGINEERING, ARCHITECTURE, and SURVEYING.—MR. WINDER, 18, Abingdon-street, Westminster, continues to execute DESIGNS, take out Quantities, and make Valuations for Dilapidations, and all works in the above professions, at moderate charges, and with accuracy and despatch.

TO YOUNG ARCHITECTS.—TO DISPOSE OF, the PAPERS and GOODWILL of an old-established PRACTICE in one of the most prosperous towns in Yorkshire. For particulars, address A. Z. care of W. Blackett, esq. 7, Furnival's Inn, London, E.C.

TO BUILDERS and TIMBER MERCHANTS.—TO BE DISPOSED OF, an OLD-ESTABLISHED COUNTRY BUSINESS of a BUILDER and TIMBER MERCHANT, offering an excellent opportunity to any one possessed of a moderate capital, as the connexion is highly respectable. Premises commodious and well adapted. Situate five miles from London, with railway communication. For further particulars, apply to Messrs. WATEREE & SONS, Auctioneers and Estate Agents, Chertsey, Surrey.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1793.—Apply for PRICED CATALOGUE of St. Cecilia, Sesquialtera, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or removed, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

JOHN HERBERT & SON, MODELLERS, &c.

42, PARKER-STREET, DRURY-LANE.

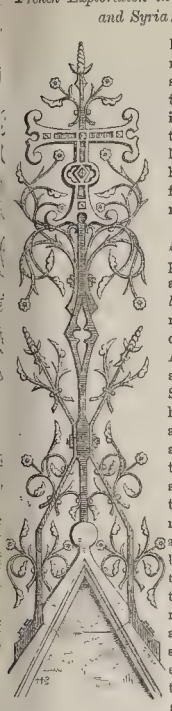
Cornices, Centre Flowers, Shop-front Trusses, &c.

FIRST-RATE WORK AT REASONABLE PRICES.

The Builder.

VOL. XX.—No. 993.

French Exploration in Greece, Asia Minor, and Syria: Delphi.



THE introduction to our recent notice of researches on the site of the city of Eleusis, speaking of French exploration, named several other localities in the East as having been lately visited for the investigation of remains of ancient art.*

In the "*Exposé de la Situation de l'Empire*," presented to the *Sénat* and to the *Corps Legislatif* on the 28th of last month, the expeditions of discovery in Syria and Asia Minor, accomplished at the expense of the State, are named as having produced important results for *érudition*, and in the enrichment of the national museums, and as having contributed to cast a new light upon many obscure points of ancient history. Such language, and the mention of the solicitude of the Emperor in the promotion of historical and archæological studies, in such a report; and the entire sections relating to science and letters, general education, the fine arts, and public works, serve to illustrate some of our remarks on the manner in which pursuits of the kind not immediately commercially remunerative, can present themselves to the higher instincts of the French mind. If in taking an enlightened view of the British national interests, it be recollected that there exist the Department of Art and the South Kensington Collections, we can scarcely say that much regarding these is owing to the initiation of a Government, or the willingness of Parliament.

The researches of Messrs. Wescher and Foucart of the French School of Athens, described in a report to the Director, dated the 15th of June last, from which extracts are before us, were not less important in their objects and results, than those of which we have given some account. The strictly architectural fragments, indeed, exhumed, are few, and secondary in comparison of value with the inscriptions; but all the results are of interest to architects, that is not excluding the documentary fragments which serve to amplify knowledge of the customs, and of the political and domestic life of the Greeks.

The remains of ancient Delphi are considerable enough to show that much might yet reward exploration on the renowned site. The Castalian fountain still pours from the rock; which retains niches for the offerings, and traces of its architectural decoration: there is a large basin, supposed to be the Bath of the Pythia, with steps and a stone seat; and a cavern with a portion of the steps leading to it, also remains. The terraces, in semicircular form of plan, on which the city stood, are still existing, faced with Cyclopean masonry; and, some years ago, excavations conducted by the Antiquarian Society of Athens, resulted in the discovery of certain "polygonal walls" profusely covered with inscriptions, and of the sites of three temples mentioned by Pausanias. On one portion of the constructed terraces are remains of the Gymnasium; near which, within a monastery, capitals of columns, triglyphs and other parts of friezes, are to be found; upon the hill was the Stadium, according to one authority 660 feet in length, but less perfect than that of Athens; and foundations which certain inscriptions have afforded reason to believe were those of the temple of Apollo, have been now for some years observable. The position of one of the ancient gates is also identified. In the church of the monastery are two large architraves of marble, and fragments of a *cathedra*; and near to the building is a recess in the rock, supposed to have been a sepulchre or oracular cave, within which on three sides, are other recesses, arched, the chief of which last, following one account, is "lined with painted stucco," and has "a bull's head finely sculptured above." It has been considered probable, judging from extensive remains of foundations, that the monastery occupies the site of one of the principal temples. Further: "near the fountain and church of St. Nicholas," says the writer in Murray's Handbook, "is an inscription in honour of the Emperor Hadrian, stating that '*The Council of the Amphictyons under the superintendence of the Priest Plutarch, from Delphi, commemorate the Emperor;*'" and upon a pillar in the last-named church is "another inscription, in which mention is made of a high priestess of the Achæans." So far say the published descriptions which we have at hand, of what was discernible up to within the last few years.

Very important researches, resulting in what is known respecting the site of the Temple of the Pythian Apollo, were made in 1840 by the celebrated Ottfried Müller, in cöoperation, we believe, with Professor Ulrichs; and it was here in July of that year, that the former learned individual received the germs of the malady of which he died. Three years after the event just referred to, some of the fruits of Müller's labours were published at Berlin, by his friend Curtius, in the shape of fifty-two inscriptions. These were derived from the "cyclopean" or *polygonal* wall, called *murus inscriptus*, supporting the terrace on which stood, as may now be concluded, the temple. The principal object of the expedition undertaken in the name of the French Government, was the *déblayement* of this wall; only nine or ten mètres of the length next the eastern angle, having been cleared by Müller. The handbook already named suggests that valuable remains must still be buried at Delphi, since, that in the time of Pausanias, 200 years after the oracle had fallen into contempt, the city had immense collections of works of painting and sculpture, and that though the gold and silver were seized subsequently, by conquerors, these were ignorant of the value of the marbles. It will be found, further on, that the French researches are corroborative of the supposition.

The excavations under the direction of Messrs. Wescher & Foucart, could not be taken up at the point left by Müller; they had to be commenced at a distance of about thirty mètres off. The former excavations are now nearly filled up; and a house has been built upon the wall. The Greek government having procured possession of the land for the French explorers, the work commenced; and last year, the wall had been uncovered for a length of forty mètres, down to the base at about six mètres. "Its imposing aspect," says the report, "with its great polygonal stones which describe the most capricious curves, with the three *hellenic* courses that crown it, and the strong Pelasgic substructure that serves for base, strike from afar the traveller at the moment when arriving upon the heights of Delphi, he embraces in one view the sacred precincts."

The wall was covered with inscriptions. Nearly 400 of these, of course unpublished hitherto, were found on the portion described. They have been divided into three classes. First, there are those which have reference to enfranchisement of slaves; secondly, such as confer the right of citizenship, or alliance, *προξενία*, on the friends and protectors of the Delphians; and thirdly, those which have relation to certain public games.

The inscriptions relative to the slaves cast much new light on one portion of the domestic life of the Greeks. The same form of words is repeated often, the details varying. It is discovered from these inscriptions that enfranchisement of slaves in the city of Delphi had a peculiar characteristic; it involved an act of religion. The master sought the Temple of Apollo, passed by the altar of the exterior, and advanced to the threshold of the great door,—which he did not cross,—the priests received the slave; and then these, in presence of the archons and a certain number of witnesses, gave to the donor, or rather vendor, the price of the slave that he disposed of to the god, who was invoked as guarantee for the oaths exchanged between the master and the enfranchised. Notwithstanding the ceremony, however, the business was of a commercial sort, wherein the master took care to have the best of the bargain. The first condition was the payment of a stated sum; but, at the price which is generally found named, the slave did not enter immediately into possession of his liberty; more frequently he had to remain with his master a certain number of years, or to the death of the said master or vendor, in every respect treated as a slave, and subject to having the contract annulled if convicted of having served badly. One, enfranchised, was bound to accompany his master wherever the latter might travel; another, to dwell in the master's house till the time of a son's marriage; a third, to take care of the master in his old age: others were to attend to a garden, to practise medicine, or to instruct young slaves in some occupation or craft: others were forbidden to quit the town, others to remain there; others to acquire the rights of citizenship. Sometimes, even after the master was dead, the enfranchised man was bound, twice a month, to crown the former's image with roses and laurels; the representatives of the vendor or master seeing to the performance of the obligations. Nevertheless, as the authors of the report say, "a great progress was accomplished. The slave ceased to be a body, a thing: he treated with his master." Both parties were equally subject to the oath taken before the god; both could, in cases of dispute, name arbitrators: thus the slave had the common rights. Moreover, the act of sale was under the protection of trustees, or persons whose duty it was to assist the slave if menaced; or, in their default, it was the right of the first comer to take the enfranchised from those who maltreated him,—more than by beating him, which seems to have been permitted,—and to conduct him to the temple, where he found a safe asylum. Incomplete as was the system in point of humanity; it is remarked that it contrasts favourably for the Greeks, with the treatment of slaves by the Romans. Curious information is also afforded in these inscriptions, of the nationality of the slaves. Besides those born in the house of the master, and Sarmatians, Cappadocians, Lydians, and Phrygians, there are mentioned a Jew and a Jewess, a great number of Syrians, many Galatians, and even Greeks, as Lacedemonians, three or four Italians, and what seems more extraordinary, a Roman woman. Many dates, and particulars of the relations between the states of Greece, are usefully given by the inscriptions of this class.

The second class of documents gives the names of the strangers who were constituted guests and friends of the holy city. At the period of the dissolution of the empire of Alexander, and the progress of the Roman power,—an epoch important, we may say, in the history of architecture,—the legend which placed, near the oracle of Apollo, the centre of the earth, seemed to become truth. There were strangers connected by the

See p. 37, *ante*.

bond of hospitality, to the sanctuary, from all parts of the civilized world. Roman citizens were amongst the number. Marseilles in France is often named.

The inscriptions of the third class refer to the public games called Σωτήρια, instituted by the Athenians and Etolians to commemorate the defeat of the Gauls when they had attempted to profane the sacred building. They supplement and explain a mutilated inscription at Athens. The "games" were grand competitive exercises in music, and sung and recited poetry; so that the documents enrich, as the French explorers say, with a new page, the history of the letters and arts of Greece.

The three classes of inscriptions possess another kind of interest, or epigraphically and philologically. Even from the errors of the letter-cutter, spelling as people spoke, it seems to be supposed that something may be contributed to the knowledge of the ancient pronunciation. Some of the inscriptions are in the dialect half Eolian and half Dorian, which is thought to be the foundation of modern Greek.

In the work of excavating the *murus inscriptus*, or wall as described, fragments were discovered sufficing to give an idea of the importance of the temple, and the date relatively to the age of Pericles; which it preceded. The *order* was Doric; and the columns found, seem to have resembled those now or lately standing at Corinth, in proportions of the shafts, and as to the existence of a covering of thin stucco. The date of the remains at Corinth has been placed at about the middle of the seventh century before the Christian era. Messrs. Wescher and Foucart even say, though without giving their authority, that the architects employed at Delphi, were Corinthians, and brought there the art of their country. Those of our readers who can turn to the commencement of the third volume of the *Builder*, will find an article embodying speculations on the origin of the terms "Doric," "Ionic" and "Corinthian." As regards the latter *order*, the ideas are more consistent than is the generally received story, with the absence of "Corinthian" in the locality from which that order is thought to have come; and the reputation of which locality for luxury, would be suggestive of the name for anything rich, wherever invented. The columns at Delphi appear to be somewhat smaller than those at Corinth, being stated as five *mètres* in circumference; the *entasis* is considerable; whilst the proportions are described as those of strength without massiveness of appearance; and the profile of the abacus seems to be resembling the nearly straight line of the same member of the order of the Parthenon.

The explorers also found, broken but in place, a marble column on a round pedestal, on which last there is an inscription setting forth a decree of the Delphians according to the citizens of Naxos the privilege of first consulting the oracle. The column and pedestal formed an isolated monument,—of what date, we have no information, further than the statement that the inscription is of the best epoch. Near this monument were found fragments of an Ionic capital. Not far off, there were other remains of columns, of white marble,—of less diameter, but of the same character of work,—which seem to have belonged to monuments similar to the last. About the same part of the excavation, the explorers had reason to expect that many other fragments of architecture and sculpture could be found. They had however to arrest their proceedings. But they had discovered the larger portion of a fine colossal sphinx of the archaic character of the more ancient remains in the museum of the Acropolis of Athens. The head was wanting; but it was evident that the work, as originally, very different to the Egyptian specimens, had corresponded with the description of Sophocles, or had displayed the breast and wings of the eagle, the body of the lion, and the head of a virgin.

At twenty *mètres* below the column elevated by the Naxians, a small "hellenic" terrace seemed to have been destined to support a monument. At the foot of this terrace, were found remains of a small hemicycle. The inscriptions on some of its stones, proved that it belonged to the Macedonian period: but the ornament has the character of taste and simplicity which marked the Greek works of the best date. On one small fragment, apparently that of a frieze, flowers as ornament are interlaced, of which the grace and lightness recalled to mind the arabesques of Raffaelle. Messrs. Wescher & Foucart add that they have collected with the greatest care the remains of the small building, as deserving the attention of an architect.

To the large number of inscriptions brought to light as already described, the explorers are able to add some curious documents of the same kind found elsewhere in Delphi or the environs. They mention one inscription as ranking with the most ancient of the kind in Greece; whilst some of its characters resemble curiously those of the Latin alphabet, which as generally observed have great analogy with the most ancient form of the Greek.

A PLEA FOR OUR PITWORKERS.

THE HARTLEY COLLIERY ACCIDENT.

This is not the first wholesale loss of life in the northern coal-fields; nor the second; nor the fiftieth. Time out of mind we have heard of explosions, inundations, and other casualties in coal-fields, all resulting in the deaths of large numbers of our fellow-creatures. Doubtless sympathy and horror have been expressed in their proper proportions; but what steps have been taken to prevent the recurrence of similar calamities? When we say that inspectors of mines have been appointed by Government, whose duty it is to examine the condition of mines and collieries in certain districts assigned to them, we have answered the question. What avail all the examinations of all the pits in the world, unless power be delegated to the inspector to enforce the carrying into execution means of safety for the workers in them of which he may find they are deficient. And what would even this power avail unless direct responsibility attached to the inspector for the non exercise of it. Something should be done. Preventive measures should be devised and adopted. This great loss should not be without its gain: the manes of the brave fellows just entombed should be appeased with the knowledge that out of their terrible fate there arose an improved mode of conducting colliery operations that will cause the wailings of widows and lamentations of the fatherless to be cries with which future generations will not so intimately associate the workings of our coal-measures.

Supposing that the inspector is a stranger to the district over which he is sent to preside; that his sympathies are unbiassed; that he is not the intimate friend of the chief colliery owners; and that their hospitalities do not make it difficult for him to pass unfavourable comment upon the condition of their property; his duties are intricate. He may perhaps have 200 collieries in his district. Changes are constantly taking place in them, and it would of course demand very frequent visits to them all to ascertain when the men in either of them were going to make any difference in their ventilation or "split their air;" where they were going to work off pillars; where they were about to enlarge a drift, or build a crossing. Yet it is imperative that he should know all these things. Would it be a very vexatious arrangement to make it the duty of the overman, or deputy, or underviewer, under whose conduct any of these operations were performed, to give notice of the same to the inspector? When the Government officer does visit a pit, he sees pretty much that which the local overman allows him to see. To make the system efficacious, it must be apparent that no information should be withheld. The only plan of insuring a faithful rendering of the details of all the workings, and all the appliances, would be to make the viewer responsible for all accidents resulting from causes of whose contingency, as possibly induced by new arrangements, the inspector had not been informed.

The first and last cause of loss of life in coal-mines is want of means of escape. Want of ventilation is but a consequence of the paucity of escapes: given two or more escapes, there would be exactly that much extra ventilation. Whether the destroyer be water or gas the fatality might be evaded by flight. At the first blush it seems wonderful that there should be found thousands of men willing to descend into the bowels of the earth, through one small hole, and there in pitchy darkness, in damp, in such cramped room they cannot stand upright, in danger of water rushing upon them at every blow they give the coal-seam in expectation of gusts of choke damp whose breath is death, grope and work, and work and grope, hour after hour, day after day, year after year, always in the same discomfort, always in the same danger. The very best help we can give the pitman is to furnish him with means to save his life—means to escape from the demons of the pit. We must not be thinking too much of the cost. Sooner or later,—perhaps the warning just repeated at Hartley, will be startling enough, perhaps some few thousand more lives must be sacrificed first,—but sooner or later it must come to this:—There must not be less than two shafts, or other means of egress, to any coal-pit. When possible there must be inclined roads. We cannot do without coal: the development of the wonderful tractibility of steam-power makes it more necessary to us every day. In Henry VIII.'s time, an Act sets out that the sellers of coal are of "greadie, covetous myndes:" their descendants must show that this character no longer applies to them. King Charles settled a tax of 1s. a chaldron upon all coal exported from Newcastle, on his natural son, Charles, Duke of Richmond and Lennox, and failing him, on his mistress, the Duchess of Portsmouth: a smaller mulct than that, with the present consumption, would cover the cost of additional life escapes.

It is disappointing that so little progress has been made in the arts of ventilating mines and of freeing them from water. When deep pits first began to be opened, simple mechanical contrivances were used to procure ventilation, such as large bellows with wooden tubes attached to them, or fanners similar to those attached to winnowing machines. In 1740 a fire-lamp, to rarify and put the air in motion, was used in Byker Colliery with success. Ventilating furnaces at bank were next employed: subsequently the underground furnace placed near the bottom of the upcast shaft was found to be an improvement upon those above ground; and at this stage the ventilation of mines reposes. There has been a project to substitute jets of high-pressure steam for the furnace, but apparently it has not been matured. One of the earliest methods of raising water from mines, after the simple adit, was by an endless chain to which buckets or troughs were attached, which were continually wound up full and returned empty, by means of a large axle raised across the pit's mouth. The power applied was either a waterwheel or horses. This plan answered well enough when the pits were not more than 30 or 40 fathoms deep: when they exceeded this depth, several lifts were resorted to. Two pits would be sunk with a drift communicating between them, along which the water would be conveyed from the deeper pit, and lifted up the shallower one to the surface. When the beds of coal so near as this to the surface threatened to become exhausted, ingenuity was taxed to master the approaches of the ever-encroaching enemy, and win a lower depth. Among other plans adopted, rifts were formed in the coal, and cuts made to the deep, from which the water was baled with scoops. In Agricola's work, published 1550, there are drawings of pumping machinery moved by waterwheels, and cranks, and beams; of an underground tram; also of fly-wheels attached to the common windlass, and in other combinations. What progress can we show commensurate with the lapse of three hundred years, since Agricola left us these details?

The whole conduct of coal-mines would appear to be nearly stationary; the one object being to get the most coal with the smallest expenditure. Nevertheless, there are many mines in which there are already two shafts. Let us descend Shilbottle Colliery, the property of Mr. Hugh Taylor, commissioner to the Duke of Northumberland. This was at first worked by means of an inclined road; but, the seam altering its course, it became difficult to follow it by this means; so a shaft was sunk in a convenient field. Water formed so considerable an obstacle, that it was found necessary to sink another shaft for the purpose of pumping it up. Excellent ventilation was thus, incidentally, gained. We may premise that this colliery is a most favourable specimen of its fellows, although the details of its workings will be found to be sufficiently disagreeable. Arrived at the pit-mouth, by the side of which—as at Hartley, and other collieries—is planted the ma-

TO SAW-MILL PROPRIETORS, &c.

WANTED, by a Practical Man, of many years' experience, the MANAGEMENT of a SAW-MILL. Is willing to make himself generally useful, and has no objection to town or country.—Address, J. W. 5a, Palace New-road, Lambeth, Surrey, S.

TO BUILDERS.

WANTED, by a middle-aged Man, versed in making working details, taking out quantities, and measuring, a RE-ENGAGEMENT, as WORKING SHOP, or SHOP and GENERAL FOREMAN.—Address, DELTA, care of Mr. Williams, 5, Ashley-terrace, Shepherdess-walk, City-road.

TO HOUSE DECORATORS AND BUILDERS.

WANTED, by a Young Man, aged 29, who has served his time to a West-end firm, and can be well recommended from other firms, a SITUATION as CLERK, or to take Charge of Work. Is willing to make himself useful in the business, a good plate glass cutter, &c. No objection to the country. Wages moderate.—Address, A. B. 26, Linton street, Islington.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, CARPENTER by trade, an ENGAGEMENT with a Builder, as CLERK or FOREMAN. Has carried out jobs, can prepare drawings, take out quantities, and measure work. Good references. Terms moderate.—Address, X Post-office, Aylesbury, Bucks.

TO BUILDERS.

WANTED, an ENGAGEMENT, by a London SHOP FOREMAN of the first school. No objection to the provinces.—Address, J. S T. 21, Sidney square Mile end, E.

TO BUILDERS.

WANTED, by a thoroughly-efficient SHOP FOREMAN, a RE-ENGAGEMENT in the vicinity of London. Is fully acquainted with the most improved London systems.—Address, ALPHA, 3 W. District Post-office, London.

WANTED, a SITUATION as FOREMAN of CARPENTERS on a Nobleman's or Gentleman's Estate. Understands cabinet work, French polishing, &c. Good references given as to abilities.—Address, W. M. W. No. 63, Charrington street, Oakley square London, N.W.

TO ARCHITECTS.

WANTED, by the Advertiser, an ENGAGEMENT as CLERK of WORKS or ASSISTANT in an Office. Is a good draughtsman, accountant, and measurer, and has had considerable experience in designing. Can have first-class testimonials from Government and private offices for the last fifteen years.—Address, R. E Post office, Banbury, Oxon.

TO PLUMBERS AND BUILDERS.

WANTED, by a thoroughly practical PLUMBER, PAINTER, GLAZIER, and GASFITTER, an ENGAGEMENT in the above Address, H B. at Mr. Bliers, 6, Homer-street, Bryanston-square, W.

TO BUILDERS AND OTHERS.

WANTED, an ENGAGEMENT on STAIRS, or any description of JOINERS' WORK, by the piece. Reference given, if required.—Address, C Office of "The Builder"

TO BUILDERS AND CONTRACTORS.

WANTED, a SITUATION as FOREMAN, by one who has had great experience in every branch of the trade; also extensive jobs in both town and country. Accustomed to machinery and the measuring of all kinds of work.—Address, J. W. Post-office, Hackney-road.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

WANTED, a RE-ENGAGEMENT, by a thoroughly practical Man, as CLERK OF WORKS, ASSISTANT, or GENERAL FOREMAN. Competent to make drawings, take out quantities, or measure works. Can survey and level, and is quantity with sanitary works. No objection to the country.—Address, A. B 5, New-street, Bath street, City-road, London, E.C.

TO MASTER PAINTERS, BUILDERS, &c.

WANTED, by a Good GRAINER, MARBLER, &c. EMPLOYMENT as above. No objection to fill up time at painting Town or country. Satisfactory references given.—Address, M. H. care of Mr. Davies, No 1, Lower-street, corner of Queen's Head-lane, Islington, London, N.

TO ARCHITECTS AND BUILDERS.

WANTED, by a Clerk of the Works, a RE-ENGAGEMENT. Is a good draughtsman, and competent to measure up works, and can be well recommended. Address, T. L, Clark's Library, Dorking, Surrey.

TO BUILDERS AND ARCHITECTS.

WANTED, by a Young Man (aged 23½), an ENGAGEMENT as above, either in the office or on a building. Is a good builder's draughtsman, and well up in office duties; can take out quantities, and has a knowledge of estimating and measuring. Salary and hours not so much an object as a good position.—Address, W. H. B. Office of "The Builder."

TO ARCHITECTS, BUILDERS, &c.

WANTED, by the Advertiser, aged 22, an ENGAGEMENT for a few hours daily, or three or four days a week. He is a good draughtsman, understands taking off quantities, and will verse it, but very accurate. The best reference and testimonials furnished if Salary moderate.—Address, M. N O Post-office, 107, Fleet-street, E.C.

TO PLUMBERS AND BUILDERS

WANTED, by a Young Man, a SITUATION as PLUMBER and GASFITTER. Is a good hand, and been well used to jobbing. Good reference can be given, and has no objection to a country job.—Address, G B. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, by a Mason of ability and experience, with a good knowledge of lines, a RE-ENGAGEMENT as WORKING FOREMAN, or to take the stonework of a job. First references.—Address, W. WHITEHEAD, Stonemason, Royston, Herts.

TO CABINETMAKERS AND UPHOLSTERERS

WANTED, a SITUATION as JOBBING CABINETMAKER, General Fixer, Repairer, and Polisher.—Address, E. B. 8, Pitt-street, St. George's-road, Southwark.

TO BUILDERS AND PLUMBERS

WANTED, by a Young Man, aged 29, a SITUATION as PLUMBER, PAINTER, and GLAZIER.—Address, H. B Mr. Parkes, 9, Bridge-court, Westminster Bridge.

TO ARCHITECTS.

THE Advertiser wishes to meet with an ENGAGEMENT, in an Architect's Office. Is well up in Gothic. A first-rate perspective and general draughtsman, &c. Good references can be given. Country preferred.—Address, NEANIAS, Office of "The Builder."

TO ARCHITECTS AND ENGINEERS.

THE Advertiser desires EMPLOYMENT as CLERK of WORKS, or in an Office. Has superintended the erection of large works, can design and draw carefully, and make land surveys. Occasional assistance rendered.—Address, P. 43, Lamb's Conduit-street, W.C.

To the PROPRIETORS of EXTENSIVE WORKS, CONTRACTORS, or OTHERS, having occasion to employ large numbers of Horses.

THE Advertiser, having had under his charge several hundred horses, and been engaged in their purchase, the purchase of their provender, and otherwise in the general management of them, is desirous of obtaining a SITUATION of the like kind. References unexceptionable.—Apply, by letter in the first instance, addressed to G G Post-office, Banbury.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who is an efficient draughtsman and quick accountant, desires a RE-ENGAGEMENT, in a London Office. Good references. Salary moderate.—Address, P. J 15, Portman-terrace, Globe-road, Mile-end.

STAIRS and HAND-RAILS, Town and Country. Piece-work. R. ROBERTS, 76, Great Portland-street, Portland-place, W.

ONE who has been articled to an Architect and Surveyor, in the City, and for ten years since has been engaged with architects and surveyors of eminence in getting out detail drawings, and taking out quantities, and has carried out several works himself, is desirous of profitably EMPLOYING his TIME either at his own office or at other's. He would be willing to treat with one in practice with a view to PARTNERSHIP.—Address, A. WINDER, 13, Abingdon-street, Westminster.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, writing specifications, measuring, and making up Builders' accounts, disputed or otherwise. Satisfactory references to Architects and Builders.—Address, X. Y. Z. 20, Charlotte-street, Portland-place.

CARPENTER and JOINER.—WANTED, by a steady Young MAN, EMPLOYMENT. Very handy at Jobbing. Wages moderate.—Address, J. G. 14, Tent-street, Bethnal-green.

TO BUILDERS AND SURVEYORS

BUILDERS' ACCOUNTS.—A SURVEYOR, of great experience in Builders' Accounts, has now some TIME DISENGAGED to Measure and Make up, or to Make up from the Books. Is a so well practised in the Arrangement of Disputed Accounts. References, &c. &c.—Address, C. B. 18, Carding ton street, Hampstead-road

TO ARCHITECTS.

THE Advertiser is desirous of an ENGAGEMENT, in town. Is a neat and careful draughtsman, is capable of assisting in making surveys, levelling, measuring, &c. and is well up in the routine of an Office. Gothic preferred. Salary, 25s. per week. Most satisfactory testimonials.—Address, A. C. Office of "The Builder"

TO CARPENTERS AND BUILDERS.

A YOUNG MAN is desirous of obtaining a SITUATION as IMPROVER at the BENCH. Has been seven years in the trade.—Address, J. D. No. 2, Great Ormond street, Queen-square.

TO ARCHITECTS.

A YOUNG MAN wishes to meet with a RE-ENGAGEMENT in an Architect's Office. Is a good Draughtsman, and well up in the duties of an Office. Has been five years with two Architects of good standing. Salary, 30s per annum. Address, F. T., Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

AN experienced CLERK of WORKS is open to a RE-ENGAGEMENT.—Address, W. B. D. 139, Cheapside.

AN experienced Land Agent and Surveyor's Clerk is open to an ENGAGEMENT. Aged 30. Well up in surveying and mapping, timber measuring and valuing, in preparing architectural plans, specifications and estimates, and assessing dilapidations, &c. Now engaged with a country firm. Twelve years' reference. Salary moderate.—Address, R. E. S. Clum's Hotel, Covent garden, London.

TO ENGINEERS AND PROPRIETORS OF MACHINERY.

AN ENGINEER, of considerable experience in the Management and Construction of Machinery, is desirous of an ENGAGEMENT or otherwise in some business or engineering firm where his time and a small capital might be profitably employed.—Address, B. Y. Office of "The Builder."

TO ARCHITECTS, CONTRACTORS, AND DISTRICT SURVEYORS.

AN Experienced Surveyor, first-class Draughtsman, and Colourist, holding an Estate Agency, having much of his time disengaged, desires to meet with an ENGAGEMENT to prepare finished, detail, or working Drawings, at his own Office. Would take Surveying and levelling, having had great experience in parochial and Parliamentary surveys. Unexceptionable testimonials and references.—Address, SURVEYOR, 13, Earl-road, Old Kent-road, S.E.

TO BUILDERS, PLASTERERS, PAINTERS, &c.

A SURVEYOR of experience is willing to make arrangements with any connected with the building trades, to measure up work periodically, or otherwise, and prepare quantities for estimates for buildings, alterations, and repairs, &c. at stated charges. References given.—Address, F. G. H. Office of "The Builder."

TO CIVIL ENGINEERS.

AN OPPORTUNITY now offers to a GENTLEMAN desirous of an introduction to a most respectable practice and connexion, upon very liberal and advantageous terms, by an engineer, retiring partially (or wholly) from his professional labours; most valuable to hydraulic, water or gas works engineers.—For further particulars and an interview, apply, in real name, by letter, to M. I. C.E. Mann Nephews, 39, Cornhill, E.C.

TO ARCHITECTS.

AN experienced CLERK of WORKS is open for a RE-ENGAGEMENT. Aged 42. Reference to London architects.—Address, J. C. Clerk of Works, Kersey Church, Ipswich, Suffolk; or 4, Caroline-villas, Ealing, W.

TO PAINTERS.

A FIRST-CLASS WRITER and GRAINER, of sober habits, may have CONSTANT EMPLOYMENT by applying to J. ETHERIDGE, Winchester.

TO BUILDERS AND OTHERS

A BRICKLAYER is in WANT of a JOB, Piecework, at per rod, or as FOREMAN, or WORKING FOREMAN. Good reference if required.—Address, J. W. 8, Albert-terrace, London-road, Southwark.

TO BUILDERS AND OTHERS

A YOUNG MAN, aged 24, WANTS a SITUATION as GAS-FITTER. Can do painting, &c. if required. Wages not so much an object as a constant. Excellent reference.—Address, J. PEARSON, 9, Bath-place, Church-street, Islington

AN ASSISTANT, who has been several years in the architectural profession, and is a neat draughtsman, and well acquainted with construction, and the general routine of an architect's office, wishing to devote himself more especially to Gothic art, would be glad of a SITUATION as an IMPROVER in a good Gothic office, at a moderate salary.—Address, M. M. Mr. Gill's, stationer, Queen's-road, Dalston, N.E.

AS TIMEKEEPER, GATEKEEPER, WATCHMAN, or PORTER Eleven years' character.—Address, A. B. C. 8, Parade, Lambeth-walk, Lambeth, S.

TO ARCHITECTS, BUILDERS, &c

A GENTLEMAN will be happy to PREPARE DESIGNS, General or Working DRAWINGS, PERSPECTIVES, &c. at his own Chambers, or to render occasional assistance in an Office. Terms moderate.—Address, E. P. 43, Chandos-street, Strand, W.C.

ARCHITECTURAL ASSISTANCE, either temporary or permanent; or the Advertiser would undertake to make perspectives and get up drawings at his own home.—First-class references.—Address, B. S. Post office, Penge, S.E.

AN industrious and energetic Young Man seeks an ENGAGEMENT as an ASSISTANT in an Office, TIMEKEEPER, or in any capacity where he could make himself useful. His character will bear the strictest investigation, and security given if required. No objection to the country.—Address, C. W. 6, Gloucester-place, Westmoreland road, Walworth, S.

TO ARCHITECTS &c.

AN experienced DRAUGHTSMAN, with a superior knowledge of detail and construction, is open to an ENGAGEMENT. References to some of the leading architects. Terms moderate.—Address, L. B K. Office of "The Builder."

TO ARCHITECTS, &c.

A FIRST-CLASS DRAUGHTSMAN and PRACTICAL DESIGNER, well acquainted with the various styles, and a good perspective draughtsman and colourist, is open to an ENGAGEMENT, or to take the Management of an Office in Town. Address, L. Z. 5, Calthorpe-place, Gray's-inn-road.

AN ASSISTANT is open to an ENGAGEMENT to PREPARE Fair Working and Detail Drawings, Perspective Views, &c. He has a good knowledge of styles and construction, and is a good colourist.—Address, D. P. R. care of Mr. Evans, Newsagent, King's road, Chelsea, S.W.

A STEADY YOUNG MAN wishes for IMPROVEMENT as CARPENTER and JOINER Has had eighteen months at the trade. Age nearly nineteen Good character. Address, stating particulars, to F. H. at Mr. Strickland's, Plumber, Southall, Middlesex.

TO CABINET MAKERS OR JOINERS.

A YOUNG MAN is desirous of EMPLOYMENT in a good shop, to improve himself. Has served his time to the cabinet-making.—Address, W. S. 24, Bancroft's Asylum, Mile end road

TO ARCHITECTS.

AN Architectural Draughtsman, 6½ years in the profession, and who can be well recommended, is desirous of an ENGAGEMENT, either in town or country. He is accustomed to prepare finished, working, and detailed drawings, and to the general routine of an office.—Apply to E. T. 32, Stanley-street, Ecclestone square, S.W.

TO BUILDERS AND CONTRACTORS

A THOROUGHLY COMPETENT MAN is desirous of a RE-ENGAGEMENT as GENERAL FOREMAN, having completed several extensive City jobs.—Testimonials of the highest description.—Salary, 2l. 2s. per week.—Address, A. Z. Office of "The Builder."

TO MASTER PLUMBERS AND PAINTERS

A YOUTH, aged 19, who has been five years in the painting and glazing, is desirous to meet with a SITUATION where he can LEARN the PLUMBING Address, R. C. 51, Gray's Inn lane, Holborn.

TO PLUMBERS.

A YOUNG MAN wishes to place himself as an IMPROVER to the above trade for one or two years. Has been in the trade four years. Address, W. B. N. 22, Brownlow-street, Long Acre

TO ARCHITECTS. &c.

A GOOD DRAUGHTSMAN seeks an ENGAGEMENT. Is competent to prepare finished working and detail drawings. A fair colourist, and otherwise acquainted with the duties of an architect's office. Good references. A temporary engagement not objected to.—Address, T. B. L. care of Librarian, Grange-road, Hampstead-road, N W

TO ARCHITECTS, SURVEYORS, &c.

AN ASSISTANT, who has had twelve years experience in London, is desirous of an ENGAGEMENT. Is capable of getting up working and finished drawings, perspectives, &c. Understands Land Surveying and Levelling; has also had considerable practice in the management of house property. Unexceptional reference can be given.—Address, H., Messrs. ADAMS & Co., 9, Parliament street, S.W.

POLYTECHNIC. — Monday Evening, at Eight, Musical Entertainment by George Buckland, esq. entitled "Ye Merrie Days of Ye Englyshe" On Monday and Friday Evenings, and Saturday at Three. Lecture by Professor J. H. Pepper, on the "Magnificent Field of Discovery, opened out by the New Material and Skill of Chemistry, and Experiments of Home and Interest" On Tuesday, Thursday, and Saturday, at Two and a Quarter past Seven, beautiful series of photographs of "Scenes in Algeria," by Mr. England, London Stereoscopic Company.—Modern Magic, by Mr. Matthews Last Week, and daily at Four and Nine, the highly successful optical Pantomime of Harlequin and Mother Goose, or the Golden Egg, with all the remarkable optical and phantasmagoria effects; description and comic songs by G. A. Cooper, esq.—All the other lectures and entertainments.—Open from Twelve to Five and Seven to Ten.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

30, LONDON WALL, E.C.

Where also may be obtained their

CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,

Together with all kinds of Colours and Varnishes,

Warranted of the purest quality and at the lowest prices.

Agents for Kershaw's Graining Machines.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 35, High street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to publish the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the Staining, Graining, and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

T. KENT'S PAINTING-BRUSH MANUFACTORY

Is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made them so celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes

Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon.
Turpentine, 5s. 6d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Colesbill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

MANCHESTER STAINED-GLASS WORKS
R. B. EDMUNDSON & SON,
Artists in Stained Glass, Etchers on Metal and painters of every description, ancient and modern, Illuminated Combinations, &c., together with new process on Plate Glass; Mural and Heraldic Decoration, Monumental Brasses, &c. Designs and estimates of application to R. B. EDMUNDSON & SON, having had upwards of thirty years practical experience in the manufacture of every description of glass for ecclesiastical purposes, have most of their glass in stock to order, and from their own receipts, all which will be found nearer to the old glass than any others at present introduced. Works New Wakefield street, Oxford-street, near the Bridge.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.
HEATON, BUTLER, & BAYNE'S
Illustrated Treatise on the History and Use of STAINED GLASS FOR WINDOWS, Will be forwarded on receipt of 30 postage-stamps. Memorial and Decorative Windows designed and executed.

HEATON, BUTLER, & BAYNE.
Works:—Cardington-street, Hampstead-road, London.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, ferneries, &c. &c. combining perfect transmission of light, durability, acainst rust or decay, and ever ready in the facility with which they are kept clean. A specimen with side or marble bottoms of various sizes, with or without fastenings, also of wood. Manufactured by LLOYD & SUMMERFIELD, Park Glass Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 25, Soho-square, West Side (George-yard), Oxford-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at the extreme wholesale prices only.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS and WALL PAINTING
NOTICE OF REMOVAL.
MESSRS. CLAYTON & BELL,
Late of No. 54a, Cardington-street, Euston-square,
Have removed to
311, REGENT-STREET, W.
(Adjoining the Polytechnic Institution).
Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. MEETAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS, BRICKMAKERS, and BALLAST-BURNERS.—A large quantity of excellent COKE BREEZE FOR SALE, at the Western Gas-Works, Kensal-green. Good facilities for transit by boats on the Grand Junction Canal, or by the Great Western Railway from a siding to the Works.—Apply to the Manager as above.

FOR CONTRACTORS' WAGGONS, DOBBIN CARTS, BARROWS, and RAILWAY PLANT, Apply to HUGHES & MARCH, Engineers and Timber Merchants, Falcon Works, Loughborough.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON ROAD, N.W.

TO ARCHITECTS, BUILDERS, and DECORATORS.—Cast Work, Centre Flowers, Shop Front Trusses Capitals, and every description of Ornament for internal and external decorations, executed in Plaster, Carton Pierre Composition, and every kind of cement, at reduced prices, by W. & F. HERBERT (late of the late John Hebert, of Parker-street, Drury Lane), Modeller, 242 Euston-road, St. Pancras.

FODELL & CO. 8, BATH-STREET, CITY-ROAD, and 12, Grafton-mews, Fitzroy-square, continue to execute LEAD GLAZING FOR CHURCHES, Chapels, &c. in quarry or geometrical patterns, at the LOWEST PRICES. Estimates and patterns forwarded, on application, to any part of the country. Church Lead, 30s. per cwt.; Fret Leads, 70s. per cwt. for cash. All orders for lead to be sent to 12, Grafton-mews, Fitzroy-square.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINE.
A lad fed for hand, horse, or steam power, will make one thousand per quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. &c., by this machine of the same cost and working expenses. They are easily turned out, and will last out of fire. References to Messrs. Baker and Co., Builders, Pimlico; Messrs. Cubitt and Co., Builders, &c.
Depôt for Ransome's Newcastle Fire Bricks, Clay Retorts, Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c. at the lowest prices.
Sopping orders executed with despatch.

FIRE BRICKS, LUMPS, and TILES, of every description.
JOHN NEWTON & CO.
HONDURAS WHARF, 74, BANKSIDE, SOUTHWARK, S.E.
Beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c.
Depôt for Ransome's Newcastle Fire Bricks, Clay Retorts, Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c. at the lowest prices.
Sopping orders executed with despatch.

STOCK BRICKS. — WANTED, about TWO HUNDRED and FIFTY THOUSAND sound hard STOCK BRICKS, to be delivered at the Tottenham Station, on the Eastern Counties Railway, or the Tottenham Canal, on the River Lea.—Apply to Messrs. HUMPHREYS & SON, Builders, Tottenham, Middlesex.

TO BUILDERS and CONTRACTORS.—FOR SALE, about 100,000 of good, hard, stock-burnt Kiln BRICKS, lying near Marsh Station, Eastern Counties Railway.—Apply to T. JAMES BUTCHINSON, Bookmaker, March.

FOR SALE.—About 20,000 FIRE-BRICKS, in excellent condition, near the River Lea.—Apply to WM. MABY, Craven Lodge, Stamford-hill.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for the Iron Chemical, and Smelting purposes, and in any business of manufacture where a intense heat is required. For testimonials and further particulars, apply to M. J. LAY, at the Company's Office, 4, Tavistock, Penzance, Cornwall, E.C.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Gravelly, Place, or Soft Bats, by barge alongside, in the Thames or canals, on reasonable terms, either for cash or approved bills.
Belvidere road, Lambeth, January, 1862.

BRICKS.
BEST KILN-BURNT BRICKS, of superior common quality, can be supplied by the Million. Also,
FINE WHITE AND RED FACING BRICKS.
WHITE, RED, AND BLACK CUTTERS
VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES.
WHITE AND GREY LIME AND GLAZED STONEWARE PIPES.
Vessels can land close to the Kiln's mouth, at the East Cowes Park Estate, on the river Medina, Isle of Wight.
RICHARD LANGLEY, Agent.

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W., and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, as made by GOUGH & BOYCE, the Original Patentees, and laid exclusively by them at the Houses of Parliament, and numerous other Public Offices. It is especially adapted for churches, mansions, public rooms, shops, and passages, being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. 12, Bish-lane, Cannon street, London.—Forwarded to all parts of the country.

KAMPTULICON or, ELASTIC FLOOR CLOTH.
TAYLOR, HARVEY, & CO.
MANUFACTURERS and PATENTEES, 19, Gutter lane, Cheapside.
WORKS, DEPTFORD-GREEN.

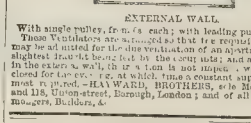
TO MASONS and SLATERS.—TO BE SOLD, a SLATE CUTTING MACHINE.—Apply at 2, Beaufort-place, Battersea bridge, Chelsea.

HORSE MORTAR-MILL.—WANTED, to PURCHASE, or on HIRE, at per week, a HORSE GRINDING MORTAR-MILL.—Apply to Messrs. HUMPHREYS & SON, Builders, Tottenham, Middlesex, stating terms, and where it may be seen.

TO BUILDERS, CARPENTERS, &c.—TO BE SOLD a bargain, a lot of DRY CUT DEALS, JOINERS' BENCHES, &c.; first rate scaffolding, Ladders, Horse and Cart, and a quantity of New Doors, Frames of 1 Sash-Frames, and the usual sundries. Inquire, 14, Cribbs street, Soho, W.

THE GREAT NORTHERN PLASTER WORKS, Newark-on-Trent.—CAPPERATA & CO. supply the best and cheapest PLASTER of PARIS that can be made.—Orders sent to D. BRUCCIANI, 30, Russell-street, Covent Garden, W.C. or direct to the Works, will be promptly executed.

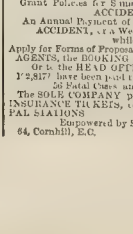
DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving the following letter FROM MR RAYMOND LARVIS, Park VENTNOR, I.W. [WHITE.—S. and T. Simmonds.—"March 15th, 1852.—I reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers very well. Many builders and other persons have lately examined it, and there is not the least appearance of decay since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

VENTILATION—PURE AIR.

Ventilator for the admission of Pure Air through an EXTERNAL WALL.
With single pulley, from 6s. each; with leading pulley, from 7s. 6d.
These Ventilators are so constructed that a requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being perceived by the occupier; and as they are placed in the external wall, the air is taken in not from within the house when closed for the exercise, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSE OF PARLIAMENT. Invites attention to the superb Watches and elegant dessin of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold, 1 bright Watch 3	8 Guineas.
Gentlemen's do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	25 "
Marine Chronometers	45 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of Ladies' and Gentlemen's Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

BENSON'S WATCHES and CLOCKS
"Perfection of mechanism."—*Morning Post.*

Gold, 5 to 100 Guineas.
Silver, 2 to 50 Guineas.
BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, describing of every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free and safe by post on receipt of a remittance.
J. W. BENSON,
33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.
(Established 1749.)

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to
JOSEPH FAIRER,
Turret Clock-maker to H.M.'s War Department,
158, St. George-street East, London.

ACCIDENTS ARE UNAVOIDABLE. Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies at Sixpence for 1000 assuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
12,817 have been paid by this Company as COMPENSATION for 38 Fatal Cases and 5,441 Cases of Personal Injury.
THE SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

chinery for the hoisting of the produce of the mine, and which is also marked by a smoking bank of cinders and a shining heap of coal, a loop is made at the end of an iron chain dangling by. Each person about to descend, having donned a miner's dress, must place one leg in this loop, and with both hands grasp the chain firmly. It is then unwound, producing a most oppressive sensation of insecurity as it swings to and fro on its downward journey. We are gradually lowered, till the opening through which we have descended becomes a small disc of light; and the chain, lengthening and lengthening still, lands us at the bottom of the shaft. We release ourselves from the clanking vehicle, and proceed to thread the main way. This is high enough to walk along if you hold your head on one side; but it is very cold, and would be perfectly dark, were it not for the small candles with which we are provided. There are trams along the roadway. Every here and there we pass junctions of smaller size, looking much like tributary sewers running into the main, at the farther ends of which men are at work, picking coal out of the seam. These junctions are not three feet high, but they are also laid with trams, on which boys, or putters, propel small waggons full of the coal from the spot where it falls beneath the blow of the miner's pick. There is a cross junction on the route, furnished with a turntable, where a collection of putters are awaiting our passage before they can pass further with their waggons: the sudden appearance of these boys, grinning and grimy, standing at the mouths of the tortuous coaly caverns, has something impish about it. Each carries a small flickering candle, whose tiny jet of flame assists the resemblance. Presently we come to the farthermost working, and this we will penetrate. We must crouch down on the rolley, or stand, on which the trucks of coal are placed, and bring our heads as close to our knees as we can: when reduced to the smallest possible compass, a boy pushes the rolley from behind, and we glide heavily along the trams. To raise our head an inch, is to come in contact with the top of the working: to put out either elbow, only to change one's uncomfortable position, is to come in contact with either side of it. At first we endeavour to keep clear a remembrance of the route, in case of accident; but what with junctions, dips here, ascents there, a turn here, and a twist there, the effort soon becomes a helpless piece of confusion, and there is nothing for it but an implicit confidence in the guide, or rather, propeller. After a crouched ride which conveys us a mile away from the base of the pit shaft, the end of the working is reached, and two or three men in distorted postures, with a small candle apiece, are found picking out the coal. As it is picked out and falls upon the bottom of the working, the boys collect it in trucks, which, when full, they propel to the main working, and tip out the contents to be conveyed in larger wains to the foot of the shaft.

We may retrace our steps. Crouching down once more we are pushed as before, and emerge safely in the main cutting, thankful that it has not occurred to the boys to have a mimic collision by the way—a pastime with which they sometimes recreate themselves. Damp is glistening above and around, and the footways are moist and sloppy; but still we can stand nearly upright; and after the confinement of the working from which we have just issued this appears no mean privilege. A long walk, in the course of which we repass the different workings, and our candles burn very low, brings us back to the base of the shaft. Placing our legs once more in the loop at the end of the chain, our previous extraordinary sensations are reversed; and, leaving darkness behind, we are gradually wound up to the surface. These are perhaps the least complicated conditions under which coals are mined. In Hartley colliery we have learned painfully there were three of these main ways, at different levels, with only one shaft for all. Seaton Delaval, North Seaton, and Newsham, three of the largest collieries in Northumberland, have but one shaft to each.

Is there any reason why the occupation of mining should be carried on in so much peril? Of course there must always be the peril, attached to any subterranean occupation, of the earth sinking; but there need be none of drowning or suffocation. With air, light, and a little more elbow-room, the conditions of mining would be materially improved. When a man has to scramble for half a mile on all fours in the dark before he can increase his speed and run to the base of the shaft his position is a dangerous one. If proper ventilation were secured, which we contend would be the case if proper modes of escape were provided, there would be no obstacle to the use of gas in mines—except the one mighty impediment to every amelioration—the expense. But it should be remembered that one good grows out of another: every foot of additional elbow-room is an air-reservoir of the same extent; and gas made at the pit would leave a residue of coke and coal-tar, both of which would be marketable commodities. We make bold to prophecy that the day is not far distant when safety-lamps and tallow candles will be thrown aside, and an Aladdin will arise who will enter into our mines and light them, to the great profit of the coal-owners and comfort to the pitmen.

A tabular statement of the most serious accidents that have occurred in the northern coalfield since the year 1658 shows that out of fifty-four wholesale losses of life only two were the result of inundations: forty-eight were caused by explosions; three by boiler explosions; and the last, at Hartley, by the sudden choking-up of the one shaft by the breaking of the beam upon which all the traffic of the mine depended. The statistics show us that the accumulations of gases are the most important foes to be combatted with. There is no way of dispersing these so sure as a free admixture of the external atmosphere. Where inclined open roadways are altogether impracticable, let us insist upon the sinking of at least two shafts to every mine. When a tunnel is formed by a railway company they build shafts at intervals, as matters of course. Why should not coal-mine owners do the same?

As another instance of the endeavour to lower the cost of working a coal-mine to the very lowest point, take a view of the pitmen's cottages in the districts over which we travel in the neighbourhood of Blyth, Cowpen, and the New Hartley pits. They are built in rows by the score, without an effort to produce an appearance of taste, or a feeling of comfort; rarely more than one story high, with the door opening into the room, and a water-butt by the side of it. A mound of ashes and refuse stands before each door, from which can be seen a row of isolated privies, and in some few cases in front of the houses there are dank, coally, miserable gardens, with broken-down railings, and in which a pigsty has been put up. The aspect of many a colliery village is certainly dismal and melancholy in the extreme: as though the uncertain tenure of a pitman's life made his lodging a matter of no account,—in a word generated an impression that any hovel was good enough for one who is here to-day and gone to-morrow. This should all be revised: in proportion as a man's occupation is tiresome, his home should be comfortable. Every collier's cottage should possess two airy rooms, its coal-larder, its trim garden: every colliery village should possess its reading-room, besides its school and church. Uncouth as an uneducated miner may be, there is no reason in the world why, with more information, his occupation should not become quite scientific in his own eyes, and thus a source of satisfaction and pleasure.

But to return to our theme. The little churchyard of Easdon being too small to admit of so many burials as resulted from the sad tragedy at Hartley, the Duke of Northumberland endowed the church with a piece of land adjoining, which was hastily consecrated by the Bishop of Durham. We know not how soon similar calamities may call for the enlarging of other churchyards, if we do nothing to prevent their recurrence. Owners of coal-mines may, through their representatives in the legislature, demur to the expense of providing for what they will consider exceptional cases; but the public, less interested in one sense, but equally so in another, must demand so much safety for their fellow-creatures labouring in mines as will be secured by the, at least, duality of shafts, which shafts should be so arranged as to serve for ventiducts, as well as life-escapes.

THE ESSENTIALS OF A HEALTHY DWELLING, AND THE EXTENSION OF ITS BENEFITS TO THE LABOURING POPULATION.*

I HAVE now to ask your attention to the second branch of my subject—the extension of the benefits of a healthy dwelling to the labouring population.

The numerous discussions bearing on this question which have taken place in Parliament, in the daily papers, as well as in other periodicals and pamphlets, might lead to the supposition that its importance is now duly estimated by the public; but those who have sounded the depth and scanned the wide-spread extent of the evil to be remedied well know that such is not the case, and have too often seen the responsibility of contributing to its removal ignored by those who ought to feel its weight; whilst in some deeply to be regretted instances the want of a due estimate of the difficulties to be overcome, and of the requisite practical knowledge, has led to the pursuit of measures which, owing to their non-remunerative pecuniary results, have tended seriously to retard the progress of the movement, which was practically commenced eighteen years since.

The pecuniary features of the question are of such vital importance, from their necessary bearing on the adequate extension of the work that I cannot here omit the expression of my belief that if the actual expenditure in providing improved dwellings for the labouring classes in towns had more generally been managed with such discretion as to yield the very moderate return of 4 per cent., or even of 3½ per cent., after the payment of all expenses and the providing a sinking, fund for the repayment of the money laid out there would have been no difficulty in obtaining from philanthropic capitalists an amount sufficient for building a very large number of improved dwellings; and in evidence that such a return is obtainable numerous examples might be instanced of that, and a higher rate of interest on the outlay having been regularly obtained. Whilst some of these will be noticed hereafter, I think it right to remark, in reference to certain exceptional cases, that due allowance should be made for the difficulties and extra expenses attendant on most new undertakings, as well as for the experimental nature of some of the establishments in which the accommodation provided has been of a very mixed character; the results in those instances showing, I believe, invariably, that new houses for families yield a better return on the outlay than lodging-houses for single persons; a purpose to which, however, old buildings have been adapted with very satisfactory pecuniary results.

Speculative builders, or those who are merely seeking what is usually called a good investment, would not, of course, consider 4 per cent. a sufficiently-remunerative return; but I confess to feeling some surprise that, amongst the many who have accumulated large fortunes in connexion with the building trade in the metropolis, I know of only one firm, that of Messrs. Newson & Son, having so invested a part of the gains derived, in a large measure, from the labour of the working classes. It may, however, be owing to my limited means of information in this respect that I am unable to name other instances in the metropolis; though in Edinburgh several such examples were lately pointed out to me, which I could not but regard with peculiar interest and as well worthy of imitation. Some notice of these buildings is given in my report made at the Glasgow meeting for the promotion of social science. I have also seen with pleasure, in a very useful monthly paper, the *British Workman*, which circulates extensively amongst that class of readers, a view and brief notice of a village near Lowestoft rebuilt by Sir Morton Peto, which is described as one of the most picturesque villages in the kingdom.

Architects have sometimes been reproached for a want of interest and for exercising so little influence in regard to the improvement of the dwellings of the labouring classes. Knowing, as I well do, how rarely the members of the profession* have to do with buildings of this class, such a charge is to me only one amongst many other proofs of the prevailing ignorance with regard to the measures and machinery best adapted to effect a remedy of the evil in question, and which I shall endeavour, as far as my ability and experience enable me, to point out, unbiased by any interest whatever, and only actuated by the earnest desire of contributing to an object which I believe is most intimately connected with the physical, the moral, and the religious improvement of the masses of our population.

The measures for effecting this much-needed reform may be classified under three heads:—

1. Those of a legislative character, and those for which the Executive Government are responsible.

2. Those which ought to be adopted by landowners and employers generally for the benefit of

---

* By Mr. Henry Roberts, F.S.A. See pp. 56, 71.

* My long and highly esteemed friends, Mr. Sydney Smirke and Mr. G. Gilbert Scott have manifested in their published works a warm interest in this object; the former, in his "Suggestions for the Improvement of the Western Part of the Metropolis," published in 1834, and the latter, in his "Remarks on Secular and Domestic Architecture," published in 1857;—whilst the voice and pen of Mr. George Godwin have not only been exercised unceasingly for its advancement, but often also in vindicating the position and feelings of the members of his profession with regard to the question generally.—H. R.

their dependents, whether as tenants or work-people constantly employed by them.

3. Those which originate from benevolent motives, and are undertaken either by associations or by individuals in order to aid in helping themselves those who need such aid.

In noticing successively these three classes of measures, some illustrative facts will be stated, which are partially the results of observations made during a residence of nearly five years on the Continent, for the recovery of health. Some of the investigations then made lead me to remark, in reference to the first class of measures, that a jealous respect for the rights of persons and property, which is our security for many of the inestimable advantages enjoyed under a free government, has a manifest tendency to impede the carrying out of such public improvements as those which, under arbitrary rule, have been effected with unprecedented rapidity on so gigantic a scale in the metropolis of a neighbouring country. What, I think, in our own metropolis, we have a right to complain of, and ought to feel ashamed at, is the bungling and pettifogging manner in which many of our new streets have been formed, and fine opportunities for obtaining magnificent effects irrecoverably lost. It would be invidious to point them out: they will readily suggest themselves to you. Time will not allow me to dwell on the important bearing which the formation of new streets has on my subject; or many facts which have come under my own observation might be stated, particularly some with regard to that great financial failure, Victoria-street, where several fruitless attempts were made to obtain from the managers, on reasonable terms, back land, as sites for dwellings suited to the displaced population, who, as a necessary consequence of the clearance which had been made, were huddled together in a frightful degree. This is but one example of what has so frequently taken place elsewhere in our own metropolis, owing to the want of a compulsory provision for the displaced poor. The same neglect on the part of the Government was the cause of an incalculable amount of suffering in Paris, when the people who tenanted its narrow and winding streets were forcibly ejected, and often their few articles of furniture placed on the *pavé*, they themselves not knowing where to seek shelter. I visited more than once, in the spring of 1858, a kind of encampment of 600 such families, formed not far from the Barrier de l'Etoile; and heard from some of them their pitiable tale, and the exorbitant rent they were paying for temporary hovels, which the police had warned them would be pulled down in three months, and they forced again to go, they knew not whither. From a sense of duty, and encouraged by the fact of the Emperor having caused the paper which I read before the Institute in 1850 to be translated and widely circulated in France, I thought it right to bring this subject under his Majesty's personal consideration, in a memorial, which was graciously received, and, I hope, has not been altogether fruitless.

Our own legislative measures tending to give to the labouring population the benefits of a healthy dwelling only comprised, when I addressed the Institute twelve years since, the passing of the Public Health Act, and the Nuisance Removal and Diseases Prevention Acts. Since then several measures, the necessity of which was dwelt upon in my paper, have been adopted, such as the removal of the tax on windows and on bricks, for which we are indebted to the administration under Lord John, now the Earl, Russell; the regulation of common lodging-houses (one of the most amongst the many valuable efforts of Lord Shaftesbury in this cause); the empowering, under the Labourers' Dwelling Act, the formation and general management of independent local associations, formed for providing improved dwellings, on the principle of joint-stock companies, with limited liability. Other bills have been passed for facilitating the construction of improved labourers' dwellings and cottages in Scotland and in Ireland; but, during the last session, a bill which would have given to English landowners, tenants in tail, the power of raising money for building improved cottages on their estates, very similar to that granted in Scotland, was, after it had passed the House of Commons with but little opposition, rejected by a majority of sixteen to thirteen in the House of Lords, at the close of a debate which had at least the appearance of showing how much less real interest is taken in this question than might have been inferred from several debates at the opening of the session, relative to the destruction of labourers' dwellings, consequent on the introduction of railways to the centre of the metropolis; the main result of which was the insertion of clauses in some of the railway bills obliging the companies to provide certain cheap trains at hours suitable for the conveyance of working people to and from the precincts of their residences out of town. A standing order, intending to apply to cases in which Parliament granted power to pull down houses for the working population, was passed by the House of Lords in 1853, at the instigation of the Earl of Shaftesbury; but, as far as practical results, it had become a dead letter.

That further legislative interference is indispensable to the remedying existing evils might be proved by abundant evidence. Excepting within the City of London,* and in the case of common lodging-houses, no power has yet been granted effectually to check the evil of overcrowding, in regard to which the medical officer of health in the City of London thus speaks: — "Without doubt it is the worst of all the unwholesome influences with which you have to deal; and until it is corrected you will never be secure from those outbursts of disease which appear to set your sanitary measures at defiance." A report made by the assistant commissioner of police on the condition of single rooms occupied by families in the metropolis without the precincts of the city authority, after giving in detail about forty most painfully-disgusting examples of overcrowding, says:— "It is evident, from these cases, which might be greatly multiplied, that all the evils which the Acts for regulating common lodging-houses were intended to remedy still exist, almost without abatement, in single rooms occupied by families; single rooms so occupied being exempt from the operation of the Act." The causes are the avarice of owners and the poverty or debasement of occupants; and the only hope of improvement seems to be in some legislative enactment.

In regard to the *overcrowding of cottages* in country districts, I might remind you of the numerous letters on that subject which not long since appeared in the *Times*, and were but the echo of what has been said and proved so often elsewhere. It was with a view to obtain reliable statistical returns on this important subject that the then Secretary of State for the Home Department was memorialized eighteen months since, and urged by a deputation from the council of the National Association for Social Science, to take advantage of the recent Census for this purpose; but, notwithstanding the unobjectionable character of the inquiry, and the ease with which it could be made, were fully admitted, the application proved fruitless.

After all that has been done within the past fifteen years by many proprietors in providing improved cottages on their estates, there are yet numbers who need to be made aware of facts which exist on their own property;† and there is reason to fear that with regard to others their obligations must be pressed home in such a way as they doubtless would be, were the registrar-general enabled to instance flagrant cases of neglect, and to show what the results are by unquestionable facts. I cannot help, therefore, regarding the loss of this opportunity as a matter for very serious regret, especially when it is remembered how little the Government can do directly towards the domiciliary reform, so greatly needed amongst the masses of the population.

By legislative enactments can alone be prevented the recurrence of those hardships and other great evils which have arisen out of the selfish system pursued in some "close parishes," where cottages have been pulled down in order to obtain relief from a burthen which is thereby thrown upon a neighbouring parish, regardless of the sufferings endured by the labourer, who is often, as a consequence, compelled to walk several miles to and from his work. A calculation of the positive loss from the waste of valuable time and strength thus expended was made by the late Sir Robert Peel; and yet, how many who have labourers in their constant employ need to be convinced that it is as much their interest to care for them in regard to their dwellings, as it is to provide well-situate, healthy, and convenient stables for their cattle?

The only other legislative measure which I shall point out as being especially needed is one tha would operate generally to prevent the building of small houses on undrained ground, and withou proper sanitary arrangements: such a fruitfu source of sickness and consequent expense to th public ought, without doubt, to be entirely inter dicted. It is an evil the extent or magnitude o which it would be difficult to estimate with accu racy.

As bearing on this, and several other point which have been referred to, I may quote th words used two years since by a right hon. gen tleman, the present First Commissioner of Works —"As yet the necessity of protecting life fro the influence of poisonous dwellings has not prac tically been acknowledged, though the principl is in the statute book."

It is unnecessary to occupy your time at an length with what has been done for the objec under consideration by the Governments of othe countries. That of Belgium has been aided therein by the zealous efforts of M. Ducpetiaux and in numerous other instances our example ha been attentively watched, if not followed. I some of them the pleasure has been afforded m of tracing the results of my own labours in thi cause, abroad as well as at home; rendered in th former case mainly through personal intercourse and the circulation of translated papers.

2. In noticing the measures which ought to b adopted by *landowners and employers generally* for the benefit of their dependents, such a tenants, or work-people in their constant employ I feel that a quotation from the letter of the lat Duke of Bedford, given at length in my forme paper, is the best reply which can be made to th excuses of many for their neglect of duty in thi respect:—"Cottage building, except to a cottag speculator, who exacts immoderate rents fo scanty and defective habitations, is, we all know a bad investment of money; but this is not th light in which such a subject should be viewed by landlords, from whom it is surely not too much t expect that whilst they are building and im proving farm-houses, homesteads, and cattle sheds, they will also build and improve dwelling for their labourers, in sufficient number to mee the improved and improving cultivation of th land. To improve the dwellings of the labouring classes, and afford them the means of greate cleanliness, health, and comfort in their ow homes; to extend education, and thus raise th social and moral habits of those most valuabl members of the community, are among the firs duties, and ought to be among the truest pleasures of every landlord."

The example which was set by his Grace in th building and improving the cottages on his estate in seven different counties involved, in the cours of eight or ten years, an outlay of about 70,000*l*. Another instance of princely expenditure on th same object is that of the Duke of Northumber land, which has been estimated at 100,000*l*. Th average cost of the cottages built by these tw noblemen may be stated at from 90*l*. to 120*l*. each.

The question of a *remunerative return* on th outlay in building cottages in agricultural dis tricts is one which impinges so closely on that o the rate of wages, that I shall not venture on it discussion. It would be hopeless to argue thi point with those who think that wages of 8*s*. t 9*s*. per week can properly maintain a workin man and his family, as well as pay the rent of a healthy dwelling. With the greatly increase prosperity of agriculture, such a rate of wage appears to me unaccountable, and altogether a variance with equity and sound policy.

The efforts made by some of our great manufac turers for the benefit of their work-people hav been in proportion to those just noticed. Many owners of mines, quarries, and works of variou kinds, can bear testimony to the great benefits resulting from their expenditure in providing proper dwellings for the people in their employ.

The same has been the case with reference to the cottages built in considerable numbers by several of the leading railway companies.* The secretaries of some of them, in speaking on the subject, have referred particularly to the great advantage of having the men ready at hand, in case of need, and removed from the temptation presented by public-houses. Government has acted on the same principle in regard to the police force; and, taking the idea originally from the model lodging-houses, barracks have been built, generally for those of them who are unmarried,—a good precedent, which might, doubt-

---

* The power referred to was conferred in 1851; and under the supervision of the able medical officer of health it is exercised with great benefit to the poor, as a diminution in the returns of mortality from 25 to 23 in 1,000, traceable to this and other sanitary measures, abundantly prove.

† A system of registration of the actual condition and extent of accommodation in existing cottages has been suggested by Dr. H. Acland, of Oxford, which, if generally adopted by proprietors, would, doubtless, elicit some very startling facts. Mr. Parker, of Oxford, will supply these forms of registration on the receipt of a postage stamp.

* The Great Northern has built 150 cottages at their station, near Peterborough; and the Brighton Company has built and acquired nearly 400 cottages for their men.

less, be adopted in many other instances with much advantage to both employers and employed. In such cases a sufficiently remunerative rent can generally be charged, and its payment guaranteed by a deduction from the wages.

On the Continent our example has in this respect been much followed. At the Paris Exhibition, 1855, there were many views of workmen's dwellings erected by their employers. In two of them particularly, the leading features of the Prince Consort's Exhibition Model Houses were strongly marked. One, constructed in 1853 at Bourges, provides accommodation for four families on the ground-floor, and for twenty single men on the upper floor. The other is that of the Cité Ouvrière des Verriers, at Escautpont, near Valenciennes, which comprises, in a central building, schools and other apartments used in common with some of the dwelling-houses; but the latter are chiefly contained in two detached blocks, forming the sides of a hollow square. In these buildings the frequent repetition of recessed entrances, with galleries to the upper floor, is, from the contrast of light and shade, productive of a novel and good effect.

I have visited dwellings for workpeople built by their employers, in Brussels, at Liege, and also at Mulhouse, one of the chief manufacturing places in France, where the idea of constructing a Cité Ouvrière originated in the receipt of a translation of my former lecture, sent by order of the Emperor. It was commenced in 1853 by an association of manufacturers, headed by M. Jean Dollfus, on a scale more extensive and complete than that of any similar establishment in France. A spacious road, planted on either side, runs between the main groups of cottages, and parallel roads run behind them. The houses are chiefly arranged in detached blocks of four dwellings each, placed in the centre of a square plot of garden-ground, which is divided equally between the tenants. Two of these dwellings front the main central road, and two the minor or back road,—an economical arrangement in regard to cost of construction, and one which admits of good internal ventilation, though not as perfect as when houses are built in pairs. The dwellings, though not precisely uniform in their disposition, have mostly a wide entrance, fitted up with a cooking-stove and sink. Beyond is a staircase leading to three bedrooms and a closet. The remainder of the ground-floor is devoted to the living-room, with a large recess behind the staircase, of sufficient dimensions to contain a full-sized bed. This compartment has a side window; and, in some cases, being partitioned off from the living-room, it forms a small separate room. There are, besides these, several rows of double houses, built back to back, each having a narrow strip of garden ground. Their arrangement cannot be commended as consistent with good ventilation; and the general appearance of the tenants indicated a decidedly inferior class of occupants, with want of cleanliness and propriety. In the summer of 1860 there were completed 480 houses, two-thirds of which had been sold to the occupiers; and 90 more were in the course of construction, land having been bought for 800 in the whole. Baths, a washhouse, and a bakehouse, as well as a public kitchen and *restaurant*, conducted by a Société Alimentaire, were opened when I visited the cité, in 1856; since which have been added a reading-room, a school, a lodging-house for unmarried men, and one for men on the tramp. * * * *

The scope of my paper will only admit a passing remark with reference to Benefit Building Societies,* of which Mr. Tidd Pratt stated recently that there exist 2,000, with a paid-up capital of 8,000,000*l*. A machinery so extensive, and having such resources, might, if well directed, accomplish much for the object under consideration; but it is to be feared that many of the houses built in connexion with these societies are inconsistent with a healthy and convenient dwelling. This evil, which has been pointed out to me by the late eminent Dr. Southwood Smith, and other sanitary reformers, would probably be most effectually remedied by the circulation of sound views on the subject, through the medium of Mechanics' Institutions and kindred associations. Here is a fruitful field for individual effort, in the cultivation of which much assistance might be derived from the exhibition of suitable plans for the dwellings of working people, as well as from small collections of domiciliary appliances conducive to health and comfort.

* Those who may desire information as to the working of some of these societies will find an account of the origin and progress of four such associations, in Yorkshire, given in a paper read by Mr. J. A. Binns, at the Bradford Meeting for Social Science, and published in the Transactions of the National Association for 1859.

The nucleus of such a collection was formed under my direction at the office of the Labourers' Friend Society more than twelve years' since, and the idea was carried out on a very small scale in the Prince's Exhibition Model Houses, 1851, as well as in the compartment belonging to the Labourers' Friend Society in the Exhibition itself.

Experience having shown me the great necessity for a general diffusion of sanitary knowledge, I was led to follow up the declarative resolution, in regard to the establishment of illustrative museums, already referred to as having been adopted at the Congrès d'Hygiène in 1852, by proposing at the Congrès International de Bienfaisance, held in Brussels in 1856, the following resolution:—"The Congress declares that it is of public utility that the working classes be enlightened by all possible means in regard to the improvement and keeping of their houses in good order. It declares that the instruction of the young in the labouring classes ought to comprise all which relates to the benefits resulting from good ventilation, and the evils resulting from humidity. Lastly, it thinks that the study of the science of preserving health is one which ought to be rendered accessible to all." The unanimous adoption of this resolution by the representatives of upwards of twenty different countries recognized the wide-spread extent of the ignorance referred to, as well as the serious nature of the evils resulting therefrom.

Scarcely any foreigners who visited the Exhibition of 1851 returned without examining the Prince's model houses; and but few left without carrying back to their several countries some of the publications bearing on the improvement of the dwellings of the labouring classes, which were there abundantly distributed. My own opportunities of judging of the effect of this little structure enable me to say that it gave to the movement an impulse such as it has not received from any other single effort, and the results of which have spread far and wide. The descriptive account of the building was translated into German at Berlin, and much of it also appeared in French.

The collection of sanitary and other appliances adapted to the circumstances of the working classes, which occupied part of the cottages, was the first public exhibition of the kind, and which I had hoped to see continued and increased, when, at the close of the Exhibition, the building was removed to Kennington-park, under the charge of the officer of the Woods and Forests; a proposal with that view having been made to the Chief Commissioner, Lord Seymour. The practical value of such a collection was recognized at the Congrès Général d'Hygiène, held in Brussels in 1852, where, on my proposal, "the utility of establishing in each country, and also in the principal centres of the population, a collection as complete as possible—a kind of museum where shall be gathered together models, plans, specimens of materials, &c., relating to hygienic amelioration and progress," was unanimously declared.

The Economical Museum, formed by my worthy friend Mr. Twining, at Twickenham, is an expansion of the same idea.

Amongst individual efforts for promoting the object under consideration, the prominence given to it as an object of vital importance in many public addresses by distinguished statesmen ought not to be forgotten: those of Lord Palmerston have justly carried with them all the weight and high official influence of Prime Minister.

Within the last five years many ladies have directed their zealous efforts to objects which tend in various ways to domiciliary improvement. The Ladies' Sanitary Association, the Female Domestic Mission, connected with Bible colportage, and meetings for the Instruction of Mothers, exercise a highly beneficial influence in this respect.

Notwithstanding, however, all our recent ameliorations, it is a well-ascertained fact that tens of thousands of human lives are sacrificed annually in Great Britain through ignorance and the culpable neglect of means within our own power. But, owing to the noiseless and almost imperceptible way in which such multitudes are lost and homes desolated, we witness no manifestation of the practical sympathy so justly shown by the public, when, through some lamentable accident, a score, or perhaps hundreds, are suddenly deprived of life, and their families of the means of subsistence. The misery and degradation in which vast masses of our fellow subjects are sunk, owing, in a great measure, to their domiciliary state, have been so often pointed at as a reproach to England, when I was recommending sanitary ameliorations to influential persons on the Continent, that the words, "physician heal thyself" were frequently in my mind.

And now, in conclusion, if the remarks offered and the facts stated have tended to show that it is not through the exclusive adoption of any one of the means which have been pointed out, nor by any infallible specific, that the benefits of a healthy dwelling can be extended to all classes of the working population, I yet entertain a sanguine hope that through the general and earnest adoption of a combination of suitable measures, existing evils will be greatly mitigated, if not entirely rooted out. Such an expectation is warranted by the well-known results of the improvements in our prisons, which are no longer hotbeds of fever and of moral contagion as they formerly were; whilst the ameliorations very recently introduced in our military barracks and hospitals have led to a diminution by one-half in the mortality of their inmates, as was lately stated by the Chancellor of the Exchequer. Encouraging facts like these should stimulate all to exertion in their various spheres of action, in order that the labouring population may, to apply the words of his Royal Highness the lamented Prince Consort, adopted in my motto, participate "in the blessings bestowed on us by the Almighty;" but which, in their case, "can only be realized in proportion to the help which we are prepared to render to them."

ACCIDENT IN THE WATERLOO-ROAD.

ON Monday last, owing to the assembling of a crowd at Wellington-terrace, not far from Waterloo Bridge, a portion of the pavement gave way, and some thirty persons were precipitated about 25 feet into the area beneath. Many of them were seriously injured, and one has since died.

The houses here are double, so to speak; the lower stories being approached from behind, the upper stories from the level of Waterloo Bridge-road. The area is 8 feet 2 inches in width, and this is bridged by stone landings, ranging from 4½ to 6 inches in thickness, and iron gratings. One landing and one grating appear to have fallen. Wooden bearers are placed under some of the landings to steady them; but they lodge, of course, on the top of the area wall and on a set-off of the front wall of the houses. The parts adjoining the fallen portion appear to be in a dangerous state.

FALL OF HOUSES IN HACKNEY.

ON Wednesday morning a fall occurred in the Amherst-road, Hackney, within fifty yards of the railway station. On the south side of the road just mentioned a range of houses, three stories in height, and having shop fronts, the rear abutting on the North London Railway, are in course of construction by Messrs. Amos, builders, of the Pembury-road, under the direction of Mr. Green, of Cannon-street. The roofs had been covered in; the carpenters were engaged in laying the floors; and plasterers and labourers were occupied on the front scaffolding; when a noise was heard, and the next instant the front walls the roofs and the whole of the floors of the second and third houses from the Hackney end of the road fell with a fearful crash, dragging with them a portion of the end or corner building. The front wall in falling carried away the scaffolding, and the men who were on it fell to the ground on the shattered brickwork with fearful violence. Three persons were unfortunately killed, and a large number most seriously injured—so much so, indeed, that several are not expected to survive.

An inquiry will forthwith take place, pending which we will not prejudge the case. The coroner has empowered an architect to examine the ruins, and report.

If other houses in the neighbourhood do not fall, it is not the fault of the builders.

PROFESSOR SMIRKE'S LECTURES ON ARCHITECTURE, AT THE ROYAL ACADEMY.

LECTURE III.*

IN my last lecture I touched upon a few of the more interesting objects on the shelves of the British Museum that have special reference to architecture. The subject is well-nigh interminable; for I doubt whether any library in the world equals that in the British Museum, either in extent or value; and I purpose, on a future occasion, to pursue the subject, and continue, in a cursory way, to direct your attention to such other works as seem to me best calculated to impart

* See page 90, *ante*.

instruction or to excite interest in the minds of those engaged in the pursuit of architectural knowledge. But I will *this* evening call your attention to another library, which may be in some sense regarded as a public library, but which is very different, no doubt, both in respect to extent and value, from that to which I have already adverted. I refer to the library which forms an important part of the Soane Museum. Being a library wholly formed by an architect, and bequeathed by him in trust for the express use of architects, it seems to have special claims on my attention here; and those claims are enhanced by the long connexion that existed between this Academy and Sir John Soane.

It is by no means my intention or desire to constitute myself the apologist or the critic of that, in some respects, remarkable man. With his personal peculiarities, with his temper and disposition, with his foibles and eccentricities, we have nothing whatever to do here. Let those who have no defects of temper or of character throw the first stone. *I* certainly will not venture to do so.

As an architect he was, undoubtedly, in some respects, remarkable. He sought for novelty and originality in whatever he did; and, not unfrequently, he succeeded in attaining the object of his search.

He was very deficient in greatness of style, delighting rather in small *conceiti* and whimsical contrivances to produce effect. Though he can hardly be said to possess genius in the higher sense of that word, he had much *ingenuity*. He, moreover, had some aspirations after the attractive but hazardous quality of the picturesque in architecture.

If I had declined, on the present occasion, to be the censor of his personal peculiarities; so I would equally refrain from investigating his *motives*; which may or may not have influenced him to devote his museum and library to its present semi-public purpose. Let us take the fact as we find it, and admit at once that the bequest was a liberal contribution towards the education of his professional posterity. It pleased Sir John to apply for and obtain the sanction of Parliament for the formation of a trust imposing on the trustees certain very clearly defined duties; which duties the trustees, by accepting their office, became morally and legally bound truly and faithfully to perform,—at all events until the same authority that imposed them shall have thought fit to modify or annul them.

I have ventured to say thus much publicly to you because the trustees have not unfrequently been made the subject of considerable misrepresentation. Sir John evidently desired to limit the examination of his collection to those only who studied architecture, either as professors or amateurs; certainly not intending to throw it open to indiscriminate view. That such was his intention is conclusively shown by the particular conditions which he so carefully imposed; and a trustee, like an executor, can by no means depart from, or even vary, a single condition laid down by the testator, without incurring the very serious charge of neglecting or exceeding the powers of his trust.

The museum, properly so called, will not engage our attention *this* evening. Those who have made themselves acquainted with its contents know that they are of a very miscellaneous character, comprising some objects of great value and interest, and some of a most trivial and insignificant nature.

It is to the library only that I am now about to advert, avoiding as far as may be possible such objects as exclusively concern the mere antiquary, inasmuch as the time at our disposal is very limited; and as the special purpose of these lectures is, by the very constitution of the Academy, confined to such objects as are calculated to further the professional education of the students. This same consideration excludes us also from adverting here to the rich stores of mechanical knowledge which are to be found on the shelves of this library.

That Sir John was perfectly aware of the high importance to every architect of a thoroughly practical knowledge of building is sufficiently apparent from the contents of his library, and was repeatedly dwelt on by him in the lectures which he delivered from this place. But it is to his books on architecture as a fine art that I am bound here to confine my attention, and it is certainly to the works of this character that the library owes its chief attraction, and from them it derives its chief value. It comprises nearly every architectural publication of value that appeared during his own professional career, down to the period of his death in 1837, as well as a large store of books of early date.

Among the earliest in the catalogue you will find Alberti's "Libri decem de re Edificatoriâ." Of this well-known book there are here six editions, but among those I do not find the original and earliest Latin edition of 1512. A folio edition, in Italian and English, appears to be that which its owner read with greatest ease, as it contains many marginal notes by him, and other evidences of his having carefully read it.

On a former occasion I have, from this place, expressed my admiration of Alberti's works at Rimini and elsewhere. His church of San Francesco is in the best style of the early Renaissance, before it had degenerated into the commonplace manner of the following century. It is worthy of note, that Vasari touches but slightly and with some apparent indifference upon the work, although he must have been especially familiar with it, seeing that Vasari dwelt some time in Rimini. In truth, Vasari, excellent he may be as a biographer, had, *as an artist*, but little genius; and he was unable to appreciate the somewhat dry, antiquated manner of Alberti. That artist not only possessed undoubted talent as a practical architect, but remarkable merit also as a writer. His book is full of valuable remarks, and attests at once his good sense and his erudition. What is also specially worthy of our observation is that he appears in an eminent degree to have united a minute and accurate technical knowledge with a fine æsthetic feeling. The distinction which he draws between *beauty* and *ornament* is, I think, most just and true. "Beauty," he says, "is something lovely which is proper and innate, and diffused over the whole body; whilst ornament is something superadded, or adventitious rather than innate."

Alberti, and I might say Alberti's school,—the school of the early Renaissance,—well understood the distinction between beauty and ornament. The vulgar of all ages, countries, and ranks, are apt to think that ornament means beauty; and that in order to be beautiful we must needs be lavish in ornamentation. This great error leads directly to that excess which degrades art, whether it be architecture or her sister arts. It was excess which marked the decadence of Roman and of Mediæval art; and it was the disfigurement of excess which stained the purity of the early Renaissance.

I speak, as it is fitting and becoming that I should speak, with great reserve, and in the most general terms, when touching on the state of our art in the present day; but I think I am only fulfilling a plain duty in denouncing the tendency to a meretricious use of ornament, which may perhaps be discerned amidst the conflict and rivalry of prevailing tastes.

No doubt, in this country, the greatest diversity of feeling exists in matters of art: so impatient of all restraint is our countryman, that there is no privilege that he more freely exercises, than that of differing from his neighbour in opinion;—and in *taste*, especially, we all proverbially and most widely differ.

Some will teach us that ornament, alone, is architecture, and that a building without ornament is but handicraft work, necessarily devoid of art, and beneath an artist's attention; whilst others will look with equal contempt upon all mere ornament, as a frivolous and puerile inutility, altogether unworthy of any serious regard. I believe that in this case, as in most others, each of these extreme opinions is equally remote from the truth.

At all events I am confident that, however we may be led away, by our imitative habits, into occasional extravagances and unseemly excesses, the natural bent of the English mind is towards moderation, in the use of ornament.

Flagrantly as we may sometimes err, and wild as may be the caprices we may sometimes indulge in; still, in the main, the tendency of public taste is of a plain, grave, and practical character; and I am very greatly mistaken if, when we regard—either on *this* side of the Atlantic or the other—the overloaded piles of enrichment which constitute the pretentious façades occasionally presented to us for our admiration, by far the majority of us fall into the unimpassioned and calculating inquiry of "*cui bono?*" Not only does this excess offend, as it appears to me, the naturally-simple taste of this country, but it is plainly at variance with the lessons daily taught us by our English climate. Moistness is the normal condition of our air, and clouds are the normal clothing of our sky. For at least two-thirds of the year our buildings are constantly liable to be drenched in rain, whilst for the remaining third they are subjected to the still severer trials of frost. And thus, in this matter, the dictates of common sense are in perfect harmony with the suggestions of our natural taste. I perceive that the short and pointed sentence which I have quoted from Alberti has led me into a somewhat verbose diversion. In this respect I am failing to profit by the example of my author, whose style of writing is as free from verbiage and prolixity as his style of architecture is exempt from frivolous and intrusive ornament.

The next book which comes to hand is of a very different character. Indeed, one is sometimes almost led to feel surprise how books so widely asunder in their character and quality can submit to the close and constant juxta-position that they are subjected to on our book-shelves.

The book, I say, which I now take up is that of Dietterlin's "Architectura de Constitutione, Symmetriâ, ac Proportione quinque Columnarum," published at Nuremburg, in 1598. It bears sad testimony to the rapid deterioration of art, and to a special proneness to a corrupt excess among our German neighbours.

In the extravagant and grotesque scrolls and cartouches which abound in this volume, we see at once from whence were derived the strange ornaments of our Elizabethan and Jacobite styles; although those styles, as displayed in our own country, might lay claim to the character of simplicity and sobriety by the side of these wild enormities of Dietterlin.

In a former lecture I expressed my belief that much of the degradation of architecture in the seventeenth century might be due to the practice at that period of the same individual pursuing all the three sister arts. Whilst any remnant of the purity of early art and of the good sense of the early artists survived, this combined cultivation of the fine arts was not attended by any evil consequences. On the contrary, the arts lent to each other that mutual aid from which they derived mutual advantage; but it was when the torch of genius had died out and our art fell into decay, that the dangers consequent on this union began to develop themselves. When men ceased to understand the true scope of each art, and to recognize their respective limits, they lost the power of designing well in *any* art. The sculptor and the architect became merged in one artist, who was fain to build up his clouds and to construct celestial glories as if he was erecting a stone wall; whilst, on the other hand, he designed buildings wanting many of the essential attributes of real architecture, buildings, indeed, that could only be made to stand by dint of ties and other hidden mechanical contrivances. The physical impossibility of executing in solid materials the architectural vagaries of Dietterlin, as exhibited in the designs before us, is sufficient evidence of his unfitness to design architecture. He seems to have been utterly regardless of the great fact that architecture is a *constructive* art, subject to static and dynamic laws. Far different was it in the good times of the previous century. I believe we may defy the most scrupulous critic to point out in any one picture of Raffaelle's, of Giulio Romano's, or of Michelangelo's, a single building or fragment of architecture which might not with perfect facility be executed, line for line, in stone or timber.

I touch with great reserve on the confines of my neighbours, and should regard it as presumptuous on my part to affect the critic in the sister arts; but still I would venture to urge on the students of the painting school, that, in the architecture which they may deem it proper to introduce in their pictures, they should never be unmindful of the *practicability* of the structures they represent. It appears to me that it is just as incumbent on the painter or sculptor to give to his building a suitable and sufficient base, as it is to place his figures properly and naturally on their feet: the error of representing an impossible structure is, in its degree, just as great as that of representing a man in an impossible attitude.

I must, however, at once revert to the Soane Museum. I find on the shelves a volume of drawings, chiefly executed on vellum, described in its manuscript title as "Disegni di Architettura del Anno 1400." It is a curious volume, the history of which I know nothing, although of its authenticity, for various reasons, there can be, I think, no reasonable doubt. The execution of the drawings is very indifferent, and there is little attempt at correct delineation; and yet there is not wanting freedom and a certain amount of manual and almost artistic dexterity. The volume seems to do for the fifteenth century what Willars de Honicourt's book of drawings, recently submitted to the Institue of British Architects, does for the thirteenth century.

There are between sixty and seventy drawings, but none bear any titles, and they are probably

original studies or exercises in architectural and ornamental design. A very little correction and modification would make some of these designs elegant compositions. I have upon a former occasion observed upon the absence of the regular orders of architecture in the early works of the Renaissance. This volume remarkably corroborates my statement. There is not, I believe, a single instance in the book of a dominant order determining the proportions of a building. Columns there are in abundance, and of a great variety of whimsical forms; but in all cases, I believe, each tier of columns and arches represents a separate floor. A constant use of arches and niches, a prevailing habit of panelling and enriching the panels with arabesques, as on the sides of square columns and pilasters; and a habit of covering all vacant spaces with square and circular panels and medallions, filled in either with slabs of coloured marble, or with foliage generally in somewhat flat relief;—these appear to be the prevailing distinctions of the quatro-cento style, which stands out with very marked differences from the style immediately preceding and succeeding it.

Another book which I must not pass by is a fine copy of the earliest edition, "Philiberte de l'Ormés Architecture," bearing date 1567. Under the auspices of Catherine di Medicis, he may be regarded as the introducer of the Renaissance into northern Europe. She came of a race eminently distinguished in the history of art; and the author in his dedication, eulogistically refers to her as delighting in architecture, and as sketching with her own hand the noble palaces which she caused to be erected.

It is curious to find at this early period the author groaning over the degeneracy of his profession, and complaining how few *true* architects there *then* were. Some self-styled architects were, he says, but mere "master masons;" whilst others were but geometricians, or men addicted to the literature, but neglecting the practice, of their profession. His imaginary portraiture of the beau-idéal of an architect savours of the quaint, allegorical, taste of his time.

He would represent an architect, he says (and there is an illustrative diagram of such a man), with three eyes;—*one*, for the observation of divine things and the works of God; the *second*, for the careful observation of things present and around him; and the *third*, for looking into the future, foreseeing, and so providing against, coming evils. He should also have four ears, indicating that it more behoves him to listen than to speak. *Four* hands should be given to him, that he might be the better able to do all that is required and expected that he should do; whilst his feet are to be winged, pointing out that he must be of quick intelligence and rapid in action. There are many other things worthy of observation in this curious volume, but I must hasten on to others.

I find a volume of original drawings by Carlo Fontana, formerly in the library of Paine, an eminent architect of the last century. It represents the state at that period of the Coliseum at Rome, and Fontana's supposed restoration of it, with his suggestion, certainly not a happy one, for the erection of a church within the area of the amphitheatre, to be dedicated to the Christian martyrs who suffered there. I need scarcely say that this monogram on the Coliseum is greatly inferior to that unpublished work on the same subject existing in the British Museum, to which I directed your attention last week. These drawings of the seventeenth century, by Fontana, are very neatly and ably executed, quite free from the dry hard manner prevalent among architects at a later date. The lines are in brown, and the shadows delicately indicated, with a cool, neutral wash, probably Indian ink, or some colour equivalent to it. This mode of execution was retained throughout the last century, for I find here a large folio volume, containing original drawings by Wren and others of his time, which are all similarly treated. Some also in the volume attributed to Inigo Jones are so executed.

The use of a brown outline with cool shadows was, I believe, pretty general among English as well as foreign artists, up to quite recent times; and it is perhaps doubtful whether the modern substitution of brown, sepia, shadows, with Indian ink outlines, can be regarded in any respect as an improvement.

Among the treasures which Sir John considered to be worthy of a place in the strong-room of his museum, I find a Roman missal of the early part of the sixteenth century, illustrated with miniatures of the greatest delicacy by Lucas van Leyden and his scholars. It is worthy of remark that all the architecture and ornamentation with which these miniatures are elaborately enriched are throughout very distinctly Gothic in style; *late*, it is true, but without any admixture of classic taste; and yet this artist died in 1533, and was therefore contemporary with Raffaelle and Giulio Romano. The co-existence of two schools so remote in character and spirit, yet geographically so near, as Flanders and Italy, shows how little social intercourse could have existed in Europe at that period. Whilst admitting his merits and superiority to others of his school, Lucas von Leyden is described by Fuseli as "ignorant of light and shade in masses;" and his forms are condemned as "lank, meagre, and ignoble;" and yet this artist was studying and painting within what is now a day or two's journey from the easels of Leonardo da Vinci, Michelangelo, and Raffaelle.

There are, I trust, few here present who are not aware of the beautiful work preserved in this same strong closet, known as the "Commentaries on St. Paul's Gospel," by Marino Grimani, illustrated by the beautiful illuminations of Giulio Clovio. This work, certainly the gem of the collection, presents a curious contrast in its architectural accessories with that to which I have just adverted. The style is strictly Raffaellesque, with medallions and arabesques such as we see in the loggia of the Vatican. I cannot pass from this magnificent and almost priceless manuscript volume without adverting to the elegant character of the handwriting. When we look upon the beautifully-uniform, clear, well-proportioned, deliberately-shaped, and, I would almost say, *dignified*, style of the lettering, and compare it with the caligraphy of the nineteenth century, in which the words look often more like the hasty unmeaning scratches of a bad pen than the expressions of a man's thought and sense, it must be admitted that the lapse of three hundred years has brought, in *this* respect, at all events, no improvements whatever.

Nor, perhaps, can this be wondered at when we find, as that eminent scholar, Mr. Panizzi, has lately proved, the great Bolognese painter, Francia himself, did not think it beneath him to unite the study and practice of typography with the highest efforts of a most gifted pencil.*

THE SOCIAL SCIENCE ASSOCIATION.

ON Tuesday last, at two o'clock, a public meeting, convened on a requisition to the Right Hon. the Lord Mayor, signed by upwards of 150 noblemen and gentlemen, was held in the Egyptian Hall of the Mansion House, to adopt measures preparatory to the forthcoming annual meeting of the National Association for the Promotion of Social Science, which is to be held in London in June next.

The requisitionists included, amongst others, the names of Lord Brougham, Earl Russell, the Earl of Carlisle, Earl Fortescue, the Bishop of London, Mr. Adderley, M.P.; Vice-Chancellor Sir W. Page Wood, Sir John Kay Shuttleworth, the Earl of Shaftesbury, Lord Stanley, Lord Lyttelton, Lord Calthorpe, Lord Talbot de Malahide, the Hon. W. Cowper (the First Commissioner of Works), Earl Ducie, and Lord Ebury.

The Lord Mayor, on taking the chair, explained the purposes of the meeting, and commented upon the public importance of the objects which the society aimed at achieving.

Mr. G. W. Hastings, the hon. secretary, read the requisition, setting forth the objects of the association, and the reasons for calling the meeting.

Sir John Pakington, M.P., moved the first resolution, "That this meeting, strongly approving the objects of the Association for the Promotion of Social Science, desires to express its earnest hope that the sixth annual meeting of that association, to be held in London in June next, in conjunction with the Congrès de Bienfaisance, will receive the hearty support of the City and of the whole metropolis."

This being seconded by Mr. Russell Gurney, the recorder, and briefly supported by Mr. Cave, M.P., was put and carried; and then, at the instance of Sir F. Goldsmid, M.P., seconded by Mr. Alderman Rose, a general committee of noblemen and gentlemen was nominated in order to make the necessary preparations for the meeting, and to afford an adequate reception for the numerous foreigners who are expected to attend.

A resolution was also passed, on the motion of Mr. S. Gurney, M.P., seconded by Admiral Sir Thomas Hastings, and supported by Mr. Godwin, authorizing the opening of a subscription list to defray the expenses of the London meeting of the Association in conjunction with the Congrès de Bienfaisance.

The First Commissioner of Works has granted the society the use of Burlington House and the adjacent grounds for the purpose of holding their sectional meetings.

* To be continued.

"CROYDON SEWAGE *v.* LONDON SEWAGE."

UNDER this title a pamphlet has been printed, the drift of which will appear from the following "Conclusions." The pamphlet has been called forth by the circumstance that the local board of health for the district of Croydon are promoting a Bill in Parliament to enable them to discharge a portion of the sewage of the parish into a sewer constructed by the Metropolitan Board of Works, at or near Bell Green, in the parish of Lewisham, by means of a sewer 2 feet 4 inches in diameter, and therewith to discharge the sewage and rainfall of the South Norwood District, which is under their jurisdiction; and it is stated in the print of the Bill that South Norwood and parts of the parish of Croydon adjoining thereto contain an area of 200 acres or thereabouts.

The conclusions referred to are as follows:—

"I. That on principle it will not be just to the ratepayers of the metropolis to connect the Croydon sewers, or the sewers of any of the other outlying districts, with the main sewers now in course of construction for draining the metropolis.

II. That the responsibility of the main drainage rests with the Metropolitan Board of Works, who, as a body, cannot legally sanction connexions with their sewers foreign to the purposes for which those sewers have been constructed.

III. That the ventilation of the sewers constructed under the Metropolis Local Management Act is of such vital consequence to the success of the measure and to the preservation of the health of the inhabitants, that the attention of the Metropolitan Board of Works should be at once directed to it, with a view to the means of ventilation being practically applied and in action simultaneously with the diversion of the drainage into the new sewers.

IV. That the main drainage works of the metropolis should be preserved in their integrity as originally designed for the sewage of London, and that the local boards of health at Croydon and other places beyond the metropolitan boundaries should construct outfall sewers, and convey the sewage from their districts to unobjectionable places."

On the important subject of the ventilation of the metropolitan sewers, the author of the pamphlet says:—

"Beyond the ancient surface-shafts and gratings in the carriage-ways of the streets, and the trap doors and gratings in the footpaths (the latter of which will only be opened occasionally as side entrances), it does not appear that any ventilation at all has been provided for the main sewers; and, if Croydon is to be taken as an example, the main drainage will prove a fruitful source of disease in the metropolis. At Croydon, immediately after the sewers were constructed, fever and dysentery became prevalent, and the mortality for several weeks was very alarming. During wet weather and the flowing of the Bourne water, for want of ventilation the foul air was forced from the sewers into the houses, and the malarious effluvia prostrated persons in a few hours."

We allu led to this at the time.

THE SANITARY CONDITION OF WINDSOR.

MR. ROE'S report on the state of the drainage at Windsor was brought before the Local Board of Health last week. After being read some discussion followed, and ultimately a resolution was passed to the effect that a reply be forwarded to the medical department of the Privy Council at once, informing that body that the Local Board had engaged the services of Mr. Roe, who had taken much trouble in investigating the condition of the drains, which he found to be, on the whole, efficient; but that he had suggested the adoption of some modern improvements with reference to ventilation; and that the Board would take the earliest opportunity of carrying these out, as far as their legal powers enabled them.

The consideration of the best mode of carrying out the suggestion of Mr. Roe was referred to a committee consisting of ten members, including the mayor, and who were requested to report to the Council.

In his report Mr. Roe goes into the subject of the ventilation of the sewers at some length; and of this portion of the report we may abstract a few passages:—

It appears that you have not carried out Mr. Austin's suggestion as to a general system of ventilation by the use of rain-water pipes, or shafts. On my asking why not, your officers informed me that the owners of houses feel disinclined to allow their rain-water pipes to be connected as air-shafts for the ventilation of the sewers: and the question as to the permission for separate shafts to be affixed to their houses has not been brought prominently before the owners and occupiers. But in a case of such consequence every means should be used to obtain the requisite ventilation; which, by concession of the

owners, might be done at comparatively small expense. Persons who may object to give leave might probably be induced by payment to grant it. But, if all other means fail, you should at once apply to the Legislature for enacting powers to carry out a matter of such vital importance to the whole district over which you have the sanitary supervision.

There should be pipe-shafts carried to a sufficient height, as near as convenient, or practicable, to the head of every branch sewer, and at proper points for the main sewer. The use of rain-water pipes I have an objection to for the sewers; but for the house-drains I joined Mr. Austin, in the year 1848, in recommending them strongly for use in the metropolis and elsewhere; and I have been pleased to find, since the issue of that recommendation, that the practice has long been in operation in Edinburgh, without the slightest annoyance. These shafts, in certain cases, should have a portion of the top part bent, so as to receive a valve to prevent down-draught; and the orifice should, in all cases, be placed so as to point towards the north-east.

As some parties may even object to carry up a shaft; then, in such cases, a form of trap should be used for the inlet to the house-drain, which, whilst it effectually prevented the escape of foul air at all times, would, at the same time, furnish, by an air valve, a supply of fresh air to the drain every time there was a discharge of water, and so fill up the area occupied by any foul air that might be displaced by the water; and, indeed, the colder atmosphere outside the sewers acting on the air-valve, would send a current of fresh air through the house-drain into the sewer, and so render the accumulation of foul air in the house-drain impossible. I know but one trap of this description; and, as I know that it has been successfully applied to first-class houses and to every part of a nobleman's mansion, I can recommend its use. These traps are easily procured, at a trifling cost. The patentee of this trap is Mr. James Lovegrove, Vestry-hall, Hackney, surveyor to the Board for the Hackney District, London. I quite agree with Mr. Austin that the works should be done at the public expense.

The vicinity of the Royal residence has procured so much notice for the sanitary state of Windsor; but it must not be supposed, from what has been said upon the subject of ventilation of sewers and house-drains, that Windsor is an exception to a regular system of ventilation. On the contrary, your sewers are ventilated in a similar manner to those of other towns; and, although house-drains in some cases have been ventilated, as in Edinburgh, by using the rain-water pipes; yet, if you now decide and carry out at once a judicious and systematic plan of ventilation for sewers and house-drains, you will be the first town to do so in the kingdom; and a noble example it will be, even as Windsor and Eton were the first to avail themselves of the advantages of good drainage.

MEMORIALS OF THE PRINCE CONSORT.

The National Monument.—The metropolitan committee have already had placed at their disposal 30,300*l*. The Earl of Derby appears to have had some confused idea that the Government had the command of this very handsome sum; and not being satisfied, apparently, with the intention to obtain her Majesty's approval of the form of the projected monument, which the committee from the first have intimated; his lordship, so soon as Parliament opened, asked what scheme the Government intended to bring forward for the disposal of the very large sums of money subscribed; as many persons, no doubt, like himself, had not subscribed to the memorial, in consequence of their ignorance as to how the money was to be disposed of. Lord Granville very properly replied that it was not the province nor wish of Her Majesty's Government to take any steps with a view to overrule the wishes of the subscribers as to the character of the intended memorial; and that he understood that on this point her Majesty would be consulted.

An Albert Cross.—Amongst the many proposals for commemorating the Prince and the national feeling for his loss is one to the effect that "as the Victoria Cross is our highest military distinction; the Albert Order, or Albert Cross, might be the equivalent reward for the arts of peace."

Canterbury.—The City Council have appointed a day for consideration of the question of a memorial of the Prince. It is suggested that it should take the form of a handsome iron bridge (in lieu of the present brick structure) over the riding gate, leading to the Dane John, and that its name be altered to the Albert Gate.

Dover.—At a common hall held here, it has been resolved to erect a lasting local memorial, and to reserve subscriptions for that purpose. It was also resolved that the memorial shall not be of a utilitarian but of a monumental order.

Southampton.—At a public meeting held here, the majority were in favour of a local memorial, but left the matter to a committee to report on; the expressed resolution, however, being to erect a lasting memorial of the Prince, commemorative of his many virtues, and expressive of the gratitude of the people.

Dorchester.—The corporation have resolved to open a subscription to aid in the national memorial.

Salisbury.—At a public meeting in this city it has been resolved to aid the national monument, and a subscription-list has been opened accordingly.

Gloucester.—The committee appointed to communicate with the lord-lieutenant of the county, and report as to the best course to be adopted with a view to raising a local memorial in this city, recommended a reference to a public meeting of the citizens to be convened by the mayor. It has been arranged, therefore, that a public meeting shall be held in the Corn Exchange on the subject.

Nottingham.—Here, at a preliminary meeting, a committee has been appointed to consider what course should be taken on the subject—whether to contribute to the memorial in London, or to erect one in Nottingham, and to report their recommendations to a future meeting of the inhabitants of the town and neighbourhood.

Norwich.—This city has resolved, at a public meeting, to aid the movement for a great national monument, and a subscription-list has accordingly been opened and advertisements issued to that end.

Manchester.—By a report of a meeting of the committee, it appears that it was the desire of the sub-committee of the Prince Consort's Memorial last week to receive suggestions from the public on the subject, addressed to the honorary secretaries or any member of the committee, before Wednesday last.

Leeds.—The mayor of Leeds having consulted a few of the principal inhabitants, proposes to call an early public meeting for the purpose of considering the expediency of entering into a subscription to erect a statue or some other suitable memorial of his Royal Highness.

Halifax.—The subject of erecting a monument in Halifax to the Prince has been introduced at a meeting of the town-council. There is a general feeling in favour of such a course, rather than subscribing to the national monument. The places suggested for containing the local testimonial are the new Townhall, which it was intended that the deceased Prince should have opened, and the People's Park. The subject was left with the mayor, Mr. Crossley, who promised to lose no time in ascertaining the opinions of the leading gentlemen of the town.

Edinburgh.—A small interim committee, with the Duke of Buccleuch as chairman, is at work, selecting local committees throughout Scotland; and through these local committees a general committee will be formed to carry out the proposed Scottish national monument to the Prince. A sub-committee meantime has been appointed to arrange details as to future procedure.

Dundee.—The Dundee Chamber of Commerce have resolved to testify their admiration of the high qualities and character of the Prince, by subscribing for a marble bust of his Royal Highness, to be placed in the reading-room of the Chamber. The execution of the bust has been intrusted to Mr. John Steell, of Edinburgh, R.S.A., who has already sculptured a bust of the Prince of Wales.

THE DAVY MONUMENT.

With reference to the letter signed "Publicola," a correspondent says, that "though Mr. Perrow, the successful competitor, sent a *column* for competition, as well as a tower, the tower was not put in competition, and the column was chosen, and *not* the tower. At the suggestion of Mr. Rogers, who gives the site, the committee, at a meeting specially held, adopted the tower, for reasons which will hereafter appear in the *Builder*. Mr. Perrow is not, nor was he at any time, 'a member of the committee,' as alleged. The competition was conducted in the most fair and honourable manner, and with an earnest desire to select only the best design. Mr. Perrow's *column* being, in the judgment of the committee, the best and most suitable for the purpose, was accordingly chosen."

HOUSES OF PARLIAMENT, SYDNEY.

The successful competitor, in answer to "Fide et Virtute," says,—"In the first place, I conceived it quite possible that some alteration might be made in that particular of the instructions which prohibited colouring or shading (as for such a work the prohibition seemed to me unreasonable), but at such a distance it was impossible to be certain. Secondly, I conceived it quite possible that other competitors, from a feeling similar to mine, might send in coloured drawings, notwithstanding the prohibition (nothing very new in the history of competitions). To provide for these contingencies, therefore, I made a coloured perspective *in addition* to my line drawing (the same perspective view in each case, same size, &c.). Being at the same time quite as anxious as your correspondent for fair dealing in these matters, and having no desire through my coloured drawing to obtain undue advantage, nor yet to run the risk of being disqualified if violating the conditions, I packed the coloured perspective quite distinctly from the other drawings in a strong brown paper envelope made for the purpose. This I pasted carefully down, and attached to the outside a memorandum explaining the nature of the contents, so that the envelope should not necessarily be opened, or the coloured perspective *even seen* in unpacking the other drawings, which latter were all connected together. With this information your correspondent may, perhaps, see that an apparent violation of a condition by a competitor does not, of necessity, warrant the charge of unworthy motives, or a desire 'deliberately to take a mean advantage of his brethren!'"

THE SITE FOR ST. THOMAS'S HOSPITAL.

We regret to observe that the governors of the hospital have advertised for a plot of land near the present building as a site for the new hospital. Considering the no longer doubtful fact that many lives are sacrificed by patients being treated in town hospitals who might, and indeed to a certainty would, have been saved, had the hospital occupied a suburban site; it is not to be wondered at, and the governors cannot blame the public suspicion indicated in the fact, that corrupt motives are dreaded for such a decision as they seem to have come to. One site talked of is Mr. Pott's vinegar-yard in Southwark Bridge-road, containing about five acres, surrounded by factories, nearly adjoining enormous gas-works, and close to the river. It is a curious fact, remarks a correspondent of the *Morning Post*, that there are six governors of the hospital of this family. Other and far preferable sites are indicated by those anxious, as we have before shown ourselves to be, that the main establishments of such hospitals should be suburban in site. Among those localities which have been recommended are Gipsy Hill, and Lewisham; either of which, and many others, would be accessible at all hours throughout the day by a run of a few minutes by railway. Such would be the case at Wandsworth, Camberwell, Blackheath, and elsewhere. Lewisham is considered to be a specially eligible place for a hospital; and it has been proposed that Guy's, which stands opposite the present St. Thomas's Hospital, should be devoted to pressing and temporary cases, or till the patients could be sent to Lewisham for convalescence. A college built in connexion with the hospital at such a place as Lewisham would also be desirable, as the students would thus be withdrawn very much from the temptations and vice of London. The new railway to Tonbridge is to have a branch to Lewisham, and the Charing-cross extension line will shortly be open to Lewisham. But whatever suburban site we may consider preferable, it should always be recollected that patients do not come from the present locality of the hospital, but from various places, many of them actually nearer to a suburban site than to the present hospital.

FALL OF AN ARCH.

An accident has occurred at St. Alban's Open Church, Cheetwood, now in course of erection, resulting in serious injury to two of the workmen engaged. The arch separating the nave from the chancel had just been completed, and the centre woodwork or frame had been removed a day or two before. This arch was supported by two pillars; one of the pillars resting against and being partially embedded in the transept wall, the other pillar in the like manner bearing against the side tower wall. The church being in the Early English style of architecture, the span of the arch was narrow, and it was acutely pointed, its apex being at a height of 50 feet from the ground. As already stated, after the stonework forming the arch had been completed, the wooden framework supporting it was removed, before the wall which had to be erected upon it was built. The wall had been since proceeded with, and had been carried to a height of 49 feet, nearly covering the arch, when it swayed on one side and fell into the nave. The two men at work on it fell with the mass of stonework upon them from a height of 50 feet; nevertheless they were rescued alive though severely injured. Mr. Ellis, one of the building contractors, was on the spot, and had every possible attention paid to them. The contractors for the building, Messrs. Hinchcliffe & Ellis, and Mr. Crowther, the architect, made a careful examination of the building immediately after the accident, and found that no injury had been sustained by any part beyond the arch which had fallen. It is not known who is blameable for the accident.

APPLICATION OF TOWN SEWAGE.

SOME experiments have been conducted by Mr. J. B. Lawes, at Rugby, with a portion of the sewage of the town, and a preliminary report on the subject will shortly be printed; but in the mean time we are able to give a few particulars as to the results.

The "Royal Sewage Commission," appointed to inquire into the best mode of distributing the sewage of towns and applying it to beneficial and unprofitable uses," having, through the kindness of Mr. G. H. Walker and Mr. J. A. Campbell, been able to experiment upon about fifteen acres of grass-land in the neighbourhood of Rugby, supplied with sewage; it is to this experiment the report alluded to will refer. The ground consisted of two fields, one of five acres and the other of ten acres. The latter was divided, so that there were three portions of land of about five acres each. Each of these portions, it was resolved, should be supplied with sewage as follows:—

One acre at the rate of 3,000 tons sewage per annum.
One " " 6,000 " "
One " " 9,000 " "

The remainder to be unsewaged.

The produce of one of the sets of experiments, of five acres, was to be given in the green state, to fatten oxen; of a corresponding set to be consumed green by milking cows; and of the third to be made into hay.

The produce without sewage was in each field equal to rather over two tons of hay per acre.

The results of the experiments with oxen show that sewaged grass is not adapted for the fattening of oxen without the addition of other food. Indeed, one of the animals on the sewaged grass weighed 52 lbs. less at the conclusion than at the commencement of the experiment, and the maximum increase of any one was 103 lbs. in sixteen weeks, or at the rate of only 6·4 lbs. per week; and those upon unsewaged grass gave only 4 oz.; and those upon sewaged grass only 4¼ oz. increase upon 100 lbs. live weight; whereas, feeding on good fattening food, such oxen should give about 1 lb. increase per 100 lbs. live weight per week; and, in fact, these very animals did afterwards give a somewhat higher rate of increase with 4 lbs. of oilcake per head per day in addition to the grass.

The following table will show the results of the experiments with cows when fed upon the green grass alone:—

	Without Sewage.	With Sewage.		
	Plot 1.	Plot 2.	Plot 3.	Plot 4.
Tons of sewage to be applied per acre, per annum		3,000	6,000	9,000
Tons of sewage required to end of November*	—	3,019	4,038	6,638
Tons of sewage actually applied to end of November*	—	1,503	3,145	4,678
Grass consumed per head, daily, lbs.	138·7	125·9		
Average yield of milk per head, daily, lbs.	25·05	26·53		
Weeks the produce of each acre would keep one cow	20·6	44·3	57·9	67·9
Gallons of milk the produce of each acre would yield	350·7	562·3	807·8	947·4
Value of milk from the produce of each acre at 8d. per gallon	£11 13 10	£18 14 10	£26 18 7	£31 11 7
Value of milk from the increased produce of 1,000 tons sewage		4 13 10	4 16 11	4 5 0

These results show that the quantity of milk obtained from the produce of each acre of land depended very much upon the quantity of sewage applied. Deducting the value of the milk obtained from the acre of unsewaged grass, reckoning it at 8d. per gallon, it appears that where the sewage was designed to be applied at the rate of about 3,000 tons per acre per annum, the produce from each 1,000 tons of sewage actually applied gave an increased amount of milk to the value of 1*l.* 13s. 10d.; where at the rate of about 6,000 tons, of 4*l.* 16s. 11d.; and where at the rate of about 9,000 tons, of 4*l.* 5s.

There was apparently but little difference in the average composition of the milk yielded from the unsewaged and the sewaged grass, whether respectively consumed alone, or in conjunction with oil-cake. That from the sewaged and more succulent grass was slightly more aqueous, and contained slightly less of the organic constituents—casein, butter, and sugar of milk—and slightly more of mineral matter during the early part of the season, when the cows had grass alone; but these relations are reversed during four weeks when oil-cake was given in addition.

The results of the experiments, therefore, so far as they are about to be reported on, show that the grass, given alone, is not at all appropriate food for fattening oxen. It is much better adapted for milking cows. But even for them, the addition of oil-cake or other concentrated food would, doubtless, prove a great advantage.

* In the five-acre field, in which the fourth cuttings were taken in October and November, the sewage "required" and "actually applied," are calculated up to the actual dates of cutting on each plot. In the ten-acre field, the fourth cuttings were not taken until late in December; but as they consisted of only a few cwts. from each plot, and the growth would be very little during that month, the quantities of sewage are reckoned only up to the end of November.

THE APPROACHES TO THE GREAT EXHIBITION.

NOTWITHSTANDING all the efforts of the press and others, nothing definite as regards the improvement of these approaches has been finally decided on. Sir Richard Mayne sent a communication, with suggestions on the subject, to the International Commissioners; who, however, informed him they had no power in the matter. Mr. Cowper, the Commissioner of Works, having written to the Metropolitan Board of Works, as before stated, the board last week proceeded to consider the subject of the proposed road through Hyde Park; and a resolution to the effect that it was not expedient for the board to make the proposed road having been moved and seconded; an amendment, referring the matter to the Streets Committee for consideration and report, was put and carried. Within little more than two months of the opening of the Exhibition, therefore, here the matter stands; and by the time the Streets Committee consider and report, and the board again consider that report, we wonder what time will remain for doing the work.

Many who have written, in leading articles and otherwise, on the subject of the opening of a public way across Hyde Park, appear to have the mistaken idea that the main object and purpose of such a way would be the accommodation of visitors to the Exhibition. This is a complete mistake. The want of such a public road to the separated districts north and south of the park has been greatly felt and complained of for years back, as every reader of the *Builder* well knows; and the incidental opening of the International Exhibition has only been considered, by those who know the urgency of the case, as an additional reason for having the immense roundabout of the park to public conveyances shortened by a cut across it.

We have not the least doubt that such a road must and will, ere long, be opened, and also that the Brompton-road will be widened as a thoroughfare; and it will be greatly regretted if these pressing conveniences be not at once realized, so that the Exhibition visitors shall have the advantage of them. The increase of houses and population north and south of Hyde Park has been very great of late years; and the increase of traffic and crowding of the thoroughfare along Knightsbridge and the Brompton-road has, during the same interval, been quite remarkable.

DEPRESSION OF TRADE IN THE MANUFACTURING DISTRICTS.

GLOOMY news come from the cotton manufacturing districts, which show how much the troubles of one nation react in evil on another. In Lancashire, the reports state that out of 257,392 operatives employed in the trade in the various manufacturing towns, there are only 69,000 fully at work; whilst 161,000 are working short time, and 27,000 entirely out of employment, and dependent altogether on parochial relief. At Preston, Bolton, and other chief towns of this county, it is feared that a still further extension of short time will be resorted to; and that ere long many mills will be on short time or entirely closed. At Staleybridge, where there are 10,330 operatives, 250 only are in full work: in Wigan, where there are 8,925 operatives, 1,410 only are in full work.

In Rochdale the comparison between this year and last stands as follows:—1861, 1,725 persons relieved; 1862, 3,231. Owing to the number in Rochdale who, it is said, will not accept relief on poor-law terms, an impression prevails that the board should rescind its regulations.

The relief returns from Oldham show that the distress is still on the increase there. Last week, out-door relief was administered to 2,105, against 1,823 for the previous week. Still, if it is any consolation, affairs were much worse in Oldham in 1857 and 1858. In the latter year, relief was administered in the third week of January to 2,716 persons, while 454 were in the workhouse: the same week this year there were 522 persons in the workhouse, and 1,823 relieved outside.

A few months ago the calamity which now prevails in our cotton districts could scarcely have been looked for. In the marvellous and sudden changes of these times, it is not easy to say in what way pressure may come, or on what classes it may weigh the heaviest: therefore those now in comparative prosperity should prepare for adversity.

Respecting the distress in Rochdale, Mr. Bright has remarked that in this district great good had been done in the time of pressure by the co-operative societies, which have been so successful there. We trust that the example which has been shown in this and some other neighbourhoods will be prudently followed in others; and that provision will thus be made "for a rainy day." The Post-Office Banks also afford an excellent opportunity of carrying out a most useful purpose.

BANSTEAD AND EPSOM DOWNS RAILWAY.

ON Friday, the 7th, the examiners declared the standing orders of Parliament were complied with, and the bill—brought in by Mr. Thomas Alcock, M.P., and Mr. Locke King, M.P.—was read for the first time on Monday.

The line will run out of the Sutton station of the Croydon and Epsom branch of the London, Brighton, and South-Coast Railway to Epsom Downs.

It will open up the hitherto unexplored region of Banstead, well known for its salubrity for building operations. "Surrey extra-metropolitan," to use the words of the Registrar-general, is reported most free from mortality in England.

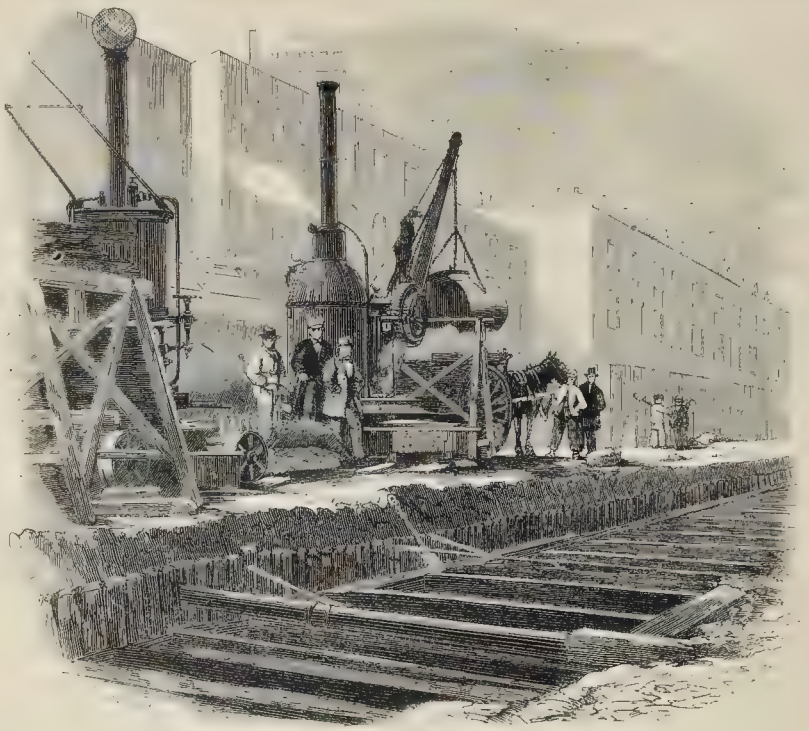
Railway accommodation has alone been wanting to render this fine district available for suburban residence. The easy accessibility of such a "breathing place" as Epsom Downs will tend much to improve the health of the London public.

The engineer and projector of the line is Captain L. Flower, of the 3rd Royal regiment of the Surrey Militia, under whom it will be carried out; and it is expected, should Parliament pass the bill, to be open for the spring races of 1863.

It is about 4½ miles long; the least curve is 20 chains radius; the steepest gradient 1 in 60; the earthworks chalk and flints, and the estimate (including all expenses) is 85,000*l.*

BLACKFRIARS BRIDGE.

BEFORE the publication of this sheet the corporation will probably have decided on adopting one of the designs submitted in competition, as our readers know, for the proposed new bridge at Blackfriars. Means have not been afforded us to offer an opinion of any value on the comparative merits of the designs, and we have reason to believe that the observations which have been laid before the public must be regarded for the most part as the pleadings of interested parties. The corporation, as it seems to us, have not taken such means to insure a wise selection as the great importance of the case demands. It is a question of more than a quarter million of money on the lowest estimate, probably very much more; and beyond that it is a question of convenience or inconvenience to the whole population for many years to come, and of benefit or injury to adjacent property. Let us hope that at their meeting this day (Thursday) they may decide on calling to their aid some of the best talent in the country to assist them in coming to a right judgment. The behaviour of cast iron in large spans, such as a three-arch bridge might admit of, has scarcely been investigated to the extent required. The question is further complicated by the fact that a railway bridge is about to be built in close proximity, the character of which is not generally known. Surely common sense would suggest the great desirability of making the two arrangements in unison, and not to leave the matter so that we may have, for example, the piers of one bridge obstructing the water-way of



TAYLOR'S PORTABLE STEAM CRANE.—*Metropolitan Drainage Works.*

the other, and their effect, artistically, mutually disadvantageous. On which head, with every consideration for the successful ability of Mr. Page, we are bound, looking at the Chelsea bridge and its toll-houses, to say that, if his design be selected, as recommended by the committee, some architect of acknowledged ability should be associated with him, so that we may have a dignified and beautiful structure, as well as a commodious and lasting means of transit.

PORTABLE STEAM-CRANE.

In our most recent account of the works now being executed by Mr. Furness for the Northern Outfall of the metropolitan drainage works, we mentioned, amongst other appliances used there to economize labour and time, the Steam-Crane. We have engraved a view of it at work. It is known as Taylor's double-cylinder portable steam-crane, and is coming into general use for engineering, and in contractors' and foundry yards. It can be adapted, as we understand, to move itself along the rails with the load suspended.

BRITISH INSTITUTION.

The exhibition of works of British artists, now open, consists of 635 pictures, and ten small pieces of sculpture. The general character of the collection is not high, but there are in it many agreeable pictures, of which we must content ourselves with naming a few. No. 1, "The Jury," J. Morgan, strongly suggestive of Webster, but undeniably a clever work. No. 28, "The Return of the Runaway," J. Clark, known by an engraving given some time since in the *Illustrated News*. 58, "Autumn," Alexander Johnston, a lovely female head, one of the best pictures in the gallery. 65, "The Temple of Minerva in Egira," Harry Johnson, is an excellent picture. 73, "Cardinal Wolsey and the Duke of Buckingham," J. Gilbert, more admirable for intention than result, but nevertheless standing out prominently amongst the pettinesses with which it is surrounded. No. 79, "The Land of Egypt," Frank Dillon, suggestive and elegant. No. 184, "Nadira," Frank Wyburd, a sensuous sultana dozily dreaming,—perfect so far as it goes. 273, "Mignon," and "Titania," a finished sketch, are the last two works of one who died too soon, the late H. H. Pickersgill. No. 311, "Shylock's Charge to Jessica," is not to be passed over; nor is 421, "A Pastoral Scene on the Shores of Lake Lecco," J. Lee Bridell. 464, "After the Spanish," W. Gale, is a finely-finished and sparkling little head, which soon found a purchaser. 590, "How I won the Victoria Cross: Taking the Taku Forts," produces an effect on the mind, and that is something in a collection where the exclamation rarely rises above, "how very pretty." Mr. J. Danby, Mr. H. Dawson, Mr. Geo. Stanfield, Mr. T. Danby, Mr. Niemann, and Mr. Dicksee, have contributed some very successful works.

CORN EXCHANGE, NORWICH.

We have already given particulars of the Corn Exchange which has been built for Norwich, and is now represented by our engraving. We may, however, repeat a few of the salient points, and add some information as to the construction. The hall is a parallelogram, 125 feet by 81 feet inside measurement, having three large entrances from Exchange-street, and an exit door below the floor of the hall, communicating with Little London-street. Two committee-rooms and other accommodation are provided in a recessed part of the site. Under the hall is a large cellar, facing Little London-street, to be used for the stowage of tables, stands, &c., which are to be let down through a trap in the floor above.

The side walls, internally, are constructed of brick, with white facings, and occasional bands of red bricks, the whole length being divided into six bays, the piers standing out from the recessed portions, and each recess being arched over so as to bring the whole to a uniform thickness at the top. The arches, which are semicircular, and alternately of red and white bricks, spring from stone impost mouldings, a moulded stone dado being also inserted above the plinth.

The roof, which is entirely of iron, is supported by five lofty columns on each side, dividing the building into what may be termed nave and aisles, with wrought-iron semicircular ribs of 20 feet span connecting the columns longitudinally with each other and the end walls, and transversely with the side walls. The nave or centre portion, 40 feet wide, is spanned by semicircular wrought-iron ribs, united by longitudinal iron purlins, and covered with stout galvanized corrugated iron. Below the eaves of the corrugated roof is a clerestory of ventilating sashes on pivots, regulated from the hall below; and along the whole length of the building is a central lantern light, equal to one-third the diameter of the nave, having on each side an upright story of ventilating sashes on pivots like those below, and with regulators in the hall.

The whole of the main curved ribs are of rolled iron from the usual sections of the Coalbrookdale and other works. They were all bent cold in a press at Norwich, and are put together in pieces, and (before being let into their places in the longitudinal pieces which form the gutters between the roofs) were almost as rigid as a tie-beam.

The scroll-work and connexion-plates are the only portions executed in cast iron, except the columns and longitudinal gutters.

The side roofs are entirely of T and L rolled iron.

The whole of the sashes are of wood.

The walls are 3 feet thick at the piers, with two 4½ sets-off on each side, leaving the panel part 18 inches thick. The brickwork up to the floor levels is built in cement.

The interior dimensions of the building are as follows:—from the floor to capital of nave columns, 27 feet; from the top of capital to springing of nave roof, 16 feet; or the whole height from floor to apex of nave roof, 66 feet. The height of the side walls, from the floor to the glass roof, is 41 feet. The building is to be lighted with gas wreaths, or coronæ, nine in number, three in each compartment of the roof. The floor is of English oak, 1¼ inch thick, dowelled.

The contractors for the whole building, except the roof, were Messrs. Ling & Balls, of Norwich, and the contract for the roof was taken by Messrs. Barnard, Bishop, and Barnards, also of Norwich, —the entire cost, when complete, being about 8,000*l*.

The buildings have been executed from the designs of Mr. T. D. Barry and Mr. Henry Butcher. The roofs have been adapted and carried into detail from the designs of the architects by Mr. E. A. Cowper. Mr. W. A. Smith was the clerk of the works, Mr. Potter the contractors' foreman.



NORWICH CORN EXCHANGE.—MESSRS. T. D. BARRY & H. BUTCHER, ARCHITECTS.

ON EARLY PRINTED BOOKS.*

John Day, whose productions are the last of those of the early English printers with which I shall trespass on your patience, must always be regarded as the first great Protestant printer of England; and Ames remarks of him, that "it looks as if he forebore printing during the reign of Mary, and employed his time in bringing the art to greater perfection, as appears by his works printed afterwards." His earliest book, however, was produced in 1546, in the reign of Henry VIII., being "An Account of the tragicall Death of David Beatoun, Bishop of St. Andrewes. Imprinted at London by John Day, dwelling in Sepulchre's Parish, at the Signe of the Resurrection, a little above Holburne Conduit." I have quoted this colophon in order to point out to you the conceit of his first typographical device. It is composed of a landscape with the sun rising, and a sleeping child, who is awakened by another child; and on a label, extending out of a very rich frame, are inscribed the words,—"Arise! for it is Day."

There are three specimens of his printing now exhibited from my own collection, in the first of which will be found the device described. It consists of the "Frutefull Sermons preached by the right reuerend Father and constant Martyr of Jesus Christ M. Hugh Latimer, newly emprinted, with others not heretofore set forth in print. 1571." There was an excellent edition of this most interesting book produced by the Parker Society in 1844, which is one of the rarest of the series so published.

Another of Day's books which I have now exhibited is entitled "Reformatio Legum Ecclesiasticarum, ex authoritate primum Regis Henrici VIII. deinde per Regem Edouardum VI. provecta ad auctaque. 1571."

The last specimen of Day's printing to which I shall call your attention is a very fine set of the "Part-Music of the Whole Psalmes—which may be sung to all Musicall Instrumentes: set forth for the Encrease of Vertue, and Abolishyng of other vague and trifling Ballades. Imprinted at London, by John Day, dwelling ouer Aldersgate, beneath Saint Martyn's. Cum gratia et priuilegeo Regiæ Majestatis per Septennium. 1563."

John Day must always be gratefully remembered for the many excellent books which he printed; and especially for his having produced "Taverner's Bible" and "Tindal's New Testament," "Latimer's Sermons," and the first four editions of "Foxe's Acts and Monuments;" and the original impression of the beautiful little volume of Christian prayers commonly known as "Queen Elizabeth's Prayer-Book." He died July 23rd, 1584.

In passing now to the subject of Illustrated Horæ, I should first remark that it is curious to find Caxton in his Proheme to the "Histories of Troy," taking some pains to convince his reader that he had been at great expense "to ordeyne this sayd booke in prynte, after the maner and forme as ye may here see; *for it is not wreton with penne and ynke, as other bokes ben*, to the end that every man may have them at ones." This was written in 1471; but in France, even thirteen years after this period, the earliest French printers were endeavouring to conceal the mechanical means employed for producing the Heures and Missals by the press, and to make them pass for the more common kinds of painted manuscripts. The occupation of the scribe, as a copyist of books, was lost in the new art of typography; but the skill of the illuminator was still required to make a printed book of prayers pass for a manuscript.

They are, however, often so well executed, as to require an experienced eye to distinguish between a volume of genuine writing and illuminations, and a well-painted book really printed on vellum. Originally these Offices actually contained manuscript leaves, interspersed with illustrations engraved on wood almost in outline, which were printed on stout vellum, and subsequently painted with strong opaque colours, heightened with lights and hatchings pencilled in gold, which made them very closely resemble coarse illuminations. At the commencement of the different Hours and Services were placed large whole-page engravings, representing the same subjects, following in the same order as those which were painted in the large miniatures of the manuscript Offices. The type also was cut in exact imitation of the Gothic text, as it was written by the best scribes of the time; and even the printed matter was set up with blanks for initials and paragraphs, which were inserted by the illuminators in gilded letters on coloured grounds.

As these were the characteristic features of the many fine and graphic specimens of "Heures Gothiques" produced by the earliest Parisian printers, the account of their first production, related by Brunet, is natural and consistent. He states that, soon after the introduction of printing into Paris, the booksellers of the city being very desirous of employing the art on some works likely to have a rapid sale, considered that those for which there would be the most general demand would be the books containing the devotions appointed for the canonical hours of prayer, and required by religious persons of all classes. "But," he continues, "the prayer-books with which they had been hitherto provided were written on vellum, decorated with initial-letters adorned with gold and colours, and almost always more or less embellished with miniatures, executed with various degrees of excellence. In the Calendar there were introduced small subjects delicately painted, representing the rustic labours, the ordinary occupations, and even the appropriate diversions, of all the months in the year; but to the great festivals, the saints' days, and to the Office for the Dead, there were prefixed large miniatures, either designed from the Holy Scriptures, or relating to the solemn mysteries which they celebrated. The other paintings referred to the lives of the saints who were commemorated; and there might almost always be found pictures of David and Bathsheba, the Adoration of the Magi, the Crucifixion, the Resurrection and the Ascension of Jesus Christ, the Martyrdom of St. John the Evangelist, &c. It is also to be remembered that, in some parts of the more valuable manuscripts, the pages were surrounded by borders of different degrees of variety and richness, generally consisting of flowers, birds, insects, and graceful arabesques, in which gold and the most vivid colours were happily united. It was, therefore, natural that these beautiful volumes should be regarded almost as valuable jewels, which were successively transmitted through families from one generation to another. As the people, therefore, were thus accustomed to recite their devotional hours from such decorated volumes, the question arose how far it would be possible to obtain any encouragement for plain and unadorned typography. To supply these decorations, therefore, recourse was had to the art of engraving on wood, which was employed to improve or reproduce, as nearly as possible, the designs first developed in the manuscript Horæ for the ornamentation of printed books."

"A bookseller named Simon Vostre was the first person in Paris who thus connected typography with engraving on wood; and with the aid of an artist whom Papillon calls Jollat, and Philip Pigouchet, a printer, he began to publish his 'Illustrated Gothic Hours' from A.D. 1486, or even two years earlier. These Hours were equally remarkable for the beauty of the vellum, the lustre of the ink, and, above all, for the variety of the ornamental borders. In the illustrations were introduced agreeable arabesques, combined with the most singularly grotesque subjects; and succeeded by compositions representing hunting-parties, games, events taken from the Holy Scriptures and from profane history and mythology; and finally by the several groups forming the Dance of Death. These subjects were all equally popular at the period; and the quaintly vivid expression of the drawing may be even still admired. The nature of the work required that these borders should be executed in small compartments; and this arrangement allowed of their being separated or varied, and re-united at will, to suit the form and size of the volume in which they were to be inserted. It was thus easy to give to different copies of the same edition of any of these Hours, the appearance of another impression, even when the greatest care had been taken to reproduce the text page for page. As the larger illustrations of these books were intended to be painted, they are in general printed less perfectly than the borders, but they are all executed in the same manner."

The descriptive list of these illustrated Horæ, drawn up by Brunet, and last printed in 1844, assigns the year 1486 as the earliest period when Philip Pigouchet produced a book of "Heures à l'Usaige de Rome" for Simon Vostre; but he also notices one bearing the date of 1484, inserted in the "Catalogue Capponi," which he had not seen. I have placed twelve good specimens of such volumes before you this evening, the oldest of which is dated 1491, though the calendar commences in 1480. They are all carefully described in the following list:—

I. 1480 (1491). "Heures a l'Usage de Romme: Acheuées le Premier iour de Mars. Lan de grace Mil quatre centz quatre vingtz & xi. pour Simon Vostre." Square octavo, in gatherings of eight: printed in Gothic letters on vellum, with figures and borders: most of the large subjects, with the initials and paragraphs, illuminated. Device of Philippe Pigouchet at the end. Eight leaves of calendar at the commencement. (Brunet, iv. 2, p. 777, col. 2).

II. 1498. "Heures a l'Usage de Rome: Acheuez Lan Mil.cccc.iiii.xx. & xviii. le xxii., iour de aoust pour Symon-Vostre." Small quarto, in Gothic letters on vellum, with figures and borders, including the Dance of Death, and the initials illuminated. Device of P. Pigouchet on the first page. (Brunet, iv. 2, p. 778, col. 2).

III. 1501. "Heures a l'Usaige de Rome: Acheuées le xvij. iour de Juillet. Lan m.cccc. & vng, par Thielman Keruer — pour Gillet Remacle." Octavo, in Gothic letters on vellum, with figures and borders, and the initials illuminated. There is not any impression of July, 1501, mentioned by Brunet.

IV. 1503. "Heures a l'Usage de Rome: Imprimées et acheuées a Paris le Cinquiesme iour d'Apuril. Lan Mil. cinq cens & trois. Par Jehan Pychore: et Remy de Laistre." Quarto, in Gothic letters on vellum, with figures and borders, and initials illuminated. The calendar extends from 1497 to 1520. (Brunet, iv. 2, p. 800, col. 2).

V. 1505. "Heures a l'Usaige de Romme: Acheuées le Premier iour de Octobre, L'an Mil Cinq cens et cinq. Par Guillaume Anabat—pour Germain Hardouin." Octavo, in Gothic letters, on vellum, with figures and borders, and the initials illuminated. The square device of Germain Hardouin. The calendar extends from 1505 to 1520. (Brunet, iv. 2, p. 792, col. 1).

VI. 1514. "Heures a l'Usaige de Rome: tout au long sans riens requerir avec les grand suffrages:—Imprimées a Paris par Jehan de la Roche, L'an Mil Cinq cens & quatorze, pour Guillaume Eustace." Octavo, in Gothic letters on vellum, with figures and borders, and completely illuminated in the best manner of printed books of devotion. Device of G. Eustace on the first page. The calendar from 1507 to 1527. This impression is not described by Brunet.

VII. 15 . (Marked 1515.) "Heures a l'Usaige de Rome. Imprimées a Paris par Gillet Hardouyn." Octavo, but the volume is without any other signature than Dj. Printed in Gothic letter on vellum with large pictures and figures, but without borders to the text. All the engravings and initials are well illuminated within architectural frames, and borders of flowers and gold lines are painted on every page. The calendar extends from 1515 to 1530, out of which the supposed date of the volume has been derived; but it is in reality without any time of imprint. On the first page is Hardouin's centaur device, coloured, and on the last is his mark of the arms of Portugal, plain, having beneath it the lines

"Bon ordre et bonne correction
Verre en ceste impression
Tout pour le mieulx."

(This impression is not described by Brunet.)

VIII. 15 . (Assumed to be 1510.) "Hore diue Virginis Marie secundum Vsum Romanum. Num totaliter ad longum, cum multis Suffragiis,—Parisiis, nouiter impressum opera Egidii Hardouyn,—pro Germano Hardouyn." Small octavo, in Roman type, on vellum, with sixteen large engravings and a number of small figures, but without any borders; the initials illuminated. On the first page Hardouin's centaur device. The calendar is from 1510 to 1530, but the volume is altogether without date. (Brunet, iv. 2, p. 793, col. 1.)

IX. 15 . "Heures a l'Usaige de Romme, tout au long sans riens requerir. Imprimées a Paris par Gillet Hardouyn." Large octavo, in Gothic letters, on vellum, without borders, but with eighteen large subjects, the almanack device, and small figures, all illuminated, with the initials and paragraphs, in the best manner of the painted printed "Hours." The calendar is from 1510 to 1524. (Brunet, iv. 2, p 792, col. 2.)

X. 15 . "Heures a l' Usaige de Romme: toutes au long sans riens requerir. Nouvellement Imprimées a Paris pour Germain Hardouin." Sextodecimo, on vellum, in the Gothic letter, without borders, but with half-page subjects, inclosed in gilded frames, and the whole illuminated with initials. At the commencement of the volume is a modern drawing of the Crucifixion, succeeded by the following inscription:— "Ferdinando Quarto Archidvci Austriæ, etc.: Domino svo Clementissimo dedit. Casp. sitnihr D. m.d.lxxxiii.

* By Mr. Tite, M.P., F.R.S. See p. 2, *ante*.

Cal. Xbris." The armorial ensigns of the archduke are painted on the opposite leaf. The calendar is from 1520 to 1538, but the volume is entirely without date. (Brunet, iv. 2, p. 793, col. 2.)

XI. 1522. "Heures a l'Usaige de Rome: toutes au long sans riens requerir.—Nouvellement Imprimées a Paris par Thielman Kerver.—Acheuées Le X. iour de Septembre. L'an Mil Cinq cens et xxij." Large square octavo, on paper, in Gothic letters, with many large subjects, small figures, and borders: printed rubrics and red initials; and the large device of Kerver on the first page. The calendar extends from 1522 to 1536. (Brunet, iv. 2, p. 790, col. 1.)

XII. 1529. "Missale, ad Consuetudinem Fratrum Predicatorum Ordinis Sancti Dominici. Parisiijs, ex Officina Libraria, Vidue spectabilis viri Thielmani Keruer in Vico Sancti Jacobi: sub Signo Unicornis, m.d.xxix." Small octavo, in Gothic letters, on paper, with many small figures, ornamented initials, three large subjects, and Kerver's large device on the last page. This impression is not noticed by Brunet.

We have now arrived at the last division of this bibliographical address, in which it was proposed to include typographical curiosities. Every one is aware that this is the point in which those lovers of old books who were formerly called bibliomaniacs are the most vulnerable and the least to be defended. But the time has long since passed away when the passion for collecting certain rare and peculiar books, without regard to their usefulness, merit, or beauty, was too often a failing with even well-educated persons; and Peignot's definition of the book-disease can perhaps now be applied to very few only of the more intelligent admirers of ancient printing and literature. "The bibliomania," he says, "is a passion for the possession of books, not so much to be instructed by them, as to have them, and to be delighted with the sight of them. The bibliomaniac ordinarily knows his books only by the titles, the frontispieces, and the dates; and, although he likes the best editions, yet he pursues with equal avidity those which have only some peculiarity in the title-page." But if our modern book-buyers are removed from this censure, they are still further out of the reach of the satirical verses of Sebastian Brandt and Alexander Barclay, who give the first place in their "Ship of Fooles" to a collector of unprofitable bookes; who speaks of himself thus:—

"Still am I busy bookes assemblyng,
For to have plentie it is a pleasaunt thing
In my conceyt, to have them aye in hande;
But what they meane do I not understande.

But yet I have them in great reverènce
And honoure, saving them from filth and ordure
By often brushing, and much diligènce:
Full goodly bounde, in pleasaunt covertùre
Of damas, sattin, or els of velvet pure:
I keep them sure; fearing least they should be lost,
For in them is the cunning whereon I me boast.

But if it fortùne that any learned men
Within my house fall unto disputation,
I draw the curtaynes to shewe my bokys then,
That they of my cunning should make probation:
I kepe them not to fall in altercation;
But while they commune, my bookes I turne and winde,
For all is in them, and nothing in my minde."

There are two early copies of the work whence these verses are taken, placed upon the table. There is the "Nef des Folles," printed at Paris in 1499; and there is the first edition of Barclay's translation: "The Shyp of Folys of the Worlde, imprentyd in the Cyte of London in Flete-strete at the signe of Saynt George, by Richarde Pynson to hys coste and charge. Ended the yere of our Sauiour m.d.ix. the xiiij day of Decembre."

This satire is now quite pointless to book-collectors. For though there may still exist the liking for large paper copies, and uncut copies; first editions, sensibly illustrated works, and books printed on vellum; all these will probably have intrinsical worth and beauty; and even the desire of possessing them is itself more wisely regulated than it was when the Bibliomania was described and attacked by the Abbé Rive, Dibdin, Dr. Ferriar, and the Rev. James Beresford. It is worth observing that much of this improvement has been really effected by some of the probable means of Cure of the Bibliomania suggested by the sagacity of Dr. Dibdin so long back as 1809; the best results of which he did not live to witness. The reprinting of scarce and valuable works, like the "English Chronicles" and the Somers and Harleian Tracts, and "Hakluyt's Voyages," was then in progress only; and they were all published at the highest prices of the period. Another remedy which he recommended was a more sound and accurate knowledge of bibliography, as a science leading to an intelligent acquaintance with the contents of books. With this design, Sir Samuel Egerton Brydges produced his "Censura Literaria," in ten volumes, commenced in 1809; and continued the subject in 1814, in the "Restituta," in four volumes more. In connection with Mr. Joseph Haslewood he also published "The British Bibliographer," between the years 1810 and 1814, in four other volumes; but all these excellent collections were regarded as being chiefly addressed to the initiated. "The Retrospective Review," however, which was commenced in 1820, and extended to fourteen volumes, rendered a very material service to a general understanding of the merits and contents of many of the best old books. In 1812 was established "The Roxburghe Club," being the first of those societies the members of which printed curious old books and poetry for presentation to each other. This was succeeded by "The Bannatyne Club," in 1823, the "Maitland Club," in 1828, and "The Surtees Society" and "The Abbotsford Club" in 1834. A great number of excellent and interesting volumes were produced by all these associations, many of them being from original memoirs and manuscripts of great historical value, never before printed. But they were for the most part both exclusive and expensive: and it was not until the formation of The Camden Society, in 1838, and those other literary printing societies which followed it down to the year 1846, that the public generally could derive much benefit from the system. Although they certainly perpetuated one great characteristic of the Bibliomania, a love for privately-printed books,—by such associations the knowledge and right appreciation of the old literature of England became more widely extended, and the collectors of books bought them with more discrimination, either to assist in the pursuit of a special subject, or to bring together some specimens of old works which might illustrate the history or the literature, the arts or the manners of certain periods, and so become instructive to all.

It has been upon this principle that I have myself acted; and this must be my apology for the very miscellaneous collection which I have placed before you to-night. No man's life is long enough, nor is any ordinary private fortune sufficient, to effect a great deal in the way of forming a good methodical library; and my life has been always too much occupied to allow me to do more, in the pursuit of bibliography, than to preserve some good types of several classes of scarce books; as a few illuminated manuscripts of the best periods; the series of Horæ and Early English typography already noticed; and a fair number of interesting Shakesperian relics. I have but a very few of the older printed Bibles and New Testaments, but such as I have now placed before you are of extreme rarity. There is the Bible by Myles Coverdale, published in 1535, and his New Testament, printed by Regnault, at Paris, in 1538, which was formerly in the possession of Dr. Daly; there is Tyndale's "Pentateuch" of 1530, "printed at Marlborow, in the Land of Hesse, by Hans Lüft;" there are Martin Lempereur's French and English New Testaments, printed at Antwerp in 1534 and 1535; and there is the New Testament printed at London by Richard Jugge, in 1552.

Of early editions of Shakspeare allow me to point out to you the four plays falsely attributed to him, all in quarto; and ten quarto editions of the genuine dramas, with an original copy of the sonnets and of the first folio. One of these small quarto tracts shows the play of "The Life and Death of King Richard II." in its original state as it was sold for one shilling, and not improbably at the Globe Theatre, where it was acted. With these works I may also notice that there is the first edition of Milton's "Paradise Lost," containing the first three title-pages.

I cannot conclude this very slight paper without apologising, in the most ample manner, for not having described or referred to any of the books which are before us besides my own. I found it, however, impossible properly to review so considerable a collection of specimens, because it seemed every day to increase in numbers and importance; and I can only hope that the few remarks which I have made may be accepted by this meeting as being generally useful for the illustration of our present Exhibition of Early Printed Books. Whilst offering my apology for my own deficiencies, I have the satisfaction of leaving in abler hands the *résumé*, which, I trust, will be given by Mr. F. Winter Jones, of the whole of this interesting, and, may I not add, marvellous collection.

I have now only to request that you will kindly excuse the length of this address, and the apparent self-laudation which you may suppose to be discoverable in it. But, as Rosencrantz says, "I had no such stuff in my thoughts;" for my real desire has been to show that both entertainment and instruction are to be found in the study of bibliography, and under the repulsive look of the Gothic type. I wished also to impress upon you the truth that, in our time at least, book-buyers are really book-readers; and that, whilst the mere collection and possession of old books is but an expensive passion and a fantastical weakness, to be well acquainted with their contents is to have the wisest of past ages discourse with us, whilst we enjoy all the advantages of the present.

PUBLIC MEMORIALS.*

GOING back to the architecture of the Romans, we find that they have furnished us with the originals of another class of buildings sometimes used for this purpose, but not, upon the whole, generally suited for it; although in particular positions, where such a structure is needed, it may be appropriate and add great grandeur to entrances of parks, of towns, or other approaches: these are triumphal arches, as they are usually called, although by no means universally used for that purpose, many of them having been erected to commemorate either the original construction or an important improvement or restoration of a public road; a ruler being rightly considered a great benefactor to his people who devoted his attention to these important works. Thus we find one at Rimini, erected in honour of an important restoration of the Flaminian way by Augustus; one at Susa, in Piedmont, to commemorate another restoration of the road there by the same emperor. When the harbour at Ancona was restored by Trajan, he erected the gateway still to be seen there, and another at Beneventum, when he repaired the Via Appia. At Pola, in Istria, another was erected for a similar purpose.

At Athens, and Antinoë, in Egypt, Hadrian erected arches to commemorate what he had done for those cities by the buildings he had erected in them.

But at Rome these arches were mostly used to commemorate a triumph which had passed along the road over which they were built; or they were erected in time for the triumphal procession to pass through, and then remain as memorials of the triumph. Examples of these are that of Titus, erected to commemorate the conquest of Jerusalem, and representing in its basso-relievi the spoils of the temple; the arch of Septimius Severus, which shows the addition, as was the custom in the latter days of the empire, of a smaller arch on each side for the footways, and the arch of Constantine. They were sometimes used as entrances and also to commemorate the building of the Roman bridges erected in Italy, France, Spain, and other parts of the world, as you well know such arches have been, in consequence of the Renaissance of Roman art, erected in London, in Paris, and other cities. The most recent, as well as one of the finest examples, is at the entrance from the country to the Ludwig Strasse, at Munich, the design of which is very good; and the group of Bavaria in her car, drawn by lions, is very suitable to its position and effective in its outline; and its grouping being, from its facing the same direction as the front of the arch, and yet, from the spreading nature of the group, sufficiently covering the whole width of the arch, a much more appropriate and graceful example of sculpture surmounting an arch than ours of the Iron Duke, which necessarily, from its form and sideway position, is singularly inappropriate.

As carrying out the very spirit of the principle of the use of these arches both for entrances and for memorials, although in a Gothic style, may be cited the Tsar Thor in the same city, it being the gate of the town, and yet its whole façade being covered with historical frescoes.

Although they can hardly be called public memorials: as, although memorials of public men, they were erected either by themselves during their lifetime or by their own families after their death; some instruction, in the spirit in which we are now getting to view the instruction to be derived from the examples of old times, may be learnt from the tombs of the older nations.

Certainly, if a lasting memorial is to be desired, something is to be learnt as to the value of stability in these erections, and of the means of obtaining it, and something of simple grandeur of effect from the first tombs of Egyptian kings, the Pyramids,—something of the historical value of enduring memorials in these rock-cut tombs; but from these little can be learnt of forms suitable for the purpose. From the Greeks little is to be learnt on the head; but among the tombs of the Romans are to be found many grand, and some few appropriate, forms for our purpose. Those to the emperors and other grand personages are fine: one, however, before the empire, that of Cecilia Metella, is of a very grand and effective form, that of a round tower, about 94 feet in diameter, with a bold frieze and cornice mounted on a square base about 100 feet square. That of Augustus consisted of a circular basement about 300 feet in diameter, and about 60 feet in height, adorned with twelve large niches: above this rose a cone of earth, divided into terraces, and planted with trees. Augustus laid out the grounds surrounding his tomb, and planted them in gardens for public use during his lifetime. That of Hadrian, built by himself, is now the castle of St. Angelo: its basement originally was a square about 340 feet each way, and 75 feet high: above this was a circular tower, about 235 feet in diameter and 140 feet high: the circular part was ornamented with columns. In the age of Constantine the smaller tombs became like smaller representations of the Pantheon.

One of the illustrations in Mr. Fergusson's handbook shows us a very singular example at St. Remi, in France, which comes more within our subject, and seems to give us a classical type of our memorial crosses. It stands on a square base decorated with bas-reliefs: the next stage springing with an arch on each face, with three-quarter Corinthian columns at each angle: the uppermost story consists of an open circular colonnade with a conical top. Another at Igel, near Treves, in Germany, is of a very singular form. This is a square building, ornamented with sculpture, with flat pilasters, cornice, and pediment, raised from its usual place to the level of the springing of an ogee spire, so as to resemble those church spires that are surrounded by four gables. This form very fully leads us to the consideration of another kind of memorial, which, in general outline, these last examples

* By Mr. Druce. Continued from p. 84.

much resemble. There is no form in my mind so suited for public memorials as the Mediæval form of memorial cross. There is room and scope for sculpture of every kind in the basement: there can be bas-reliefs in the niches; subordinate figures connected with the main figure; or, if an event is recorded, the statues of the several persons principally engaged in it; while above may be the principal figure of the subject of the memorial, much protected from the weather, and the whole elegantly surmounted by a spire. A beautiful example of a structure of this kind is the Shone Brunnen, or beautiful fountain at Nuremberg; which, again, shows a graceful combination of an architectural structure suitable for a memorial with the uses of a street drinking-fountain. This is mounted on two steps, in the form of an octagon, and surrounded above the steps by rich stone railing, at the angles of which are figures on short pedestals. If a public memorial be erected in our large churches or metropolitan churches or cathedrals, by all means let such memorials be more of a tomb than that of the usual form of memorial; and, above all, let it be in the style of the building in which it is placed; and, if possible, let it be so appropriate and so carefully designed for its special place that it may appear rather as an architectural adornment, and as if the original architect of the building had placed it there himself, and not such as he, if he were living, would exjet indignantly from the church, and such as many of us would much like to have a hand in helping him to do it. I need hardly say to you what was so much wanted not many years ago: never dies gn your modern memorial so as to require the defacing, even in the slightest degree, of the older building in which it is placed.

No men have ever understood the designing of tombs and memorial effigies of the notable men of their time better than the architects and designers of the Middle Ages, especially as regards their suitability to the churches in which they were placed: chapels may be crowded with them, and arches filled by them: arches may be made in the walls for them, or the floors of the aisles covered with them; yet the only result is, that the beauty and picturesque effect of the building have been much increased by them. For monuments like these our remarkable series of altar tombs of our kings, with their beautiful effigies in calm repose, are sufficient examples which may be varied in treatment and detail to an almost endless degree: those at Westminster, both of kings and knights, with their beautiful canopies; those, again, of the Scala family, at Verona, and that of Walter Gray, at York, and the Beauchamp tomb, at Warwick, are fine examples of different modes of treatment. A beautiful form of memorial for the interior of a church is a brass; but, unless protected by a railing, it seems to me that the wall of a building in which it is erected is better than the pavement.

There is one mode of memorial by which architecture is a great gainer, and by the aid of the custom of using which for that purpose, many a church, which would not otherwise be completed, is finished and beautified: that is, of inserting stained glass into the windows as memorials. It is a beautiful mode of recording the person, and of, at the same time, adorning God's house. I do not think that there is anything particular to be remembered in designing these: the design may be, if possible, appropriate; but, if not possible, it does not matter. Of course the subject must be sacred. The inscriptions are generally so difficult to read, that I think it is best to insure the memorial intentions of the window, as well as the decoration, by placing underneath a brass containing the inscription.

By all means, for the sake of the beauty of your buildings, encourage, whenever it is in your power, this beautiful mode of recording the great and good. To use a homely proverb, "two birds are killed with one stone." I would just say here what I always urge when I have the opportunity, that in designing memorial glass, let no one colour predominate, and do not attempt to make an historically recording fresco out of a painted glass window, for the material will not admit of it: colour is its chief and most legitimate object: leave all the rest to fresco itself.

Memorials of events seem to me to be even richer in opportunity for design than memorials of public men; for your principal sculpture, whether on a pedestal or on whatever kind of structure it may be reared, may then consist of a group either typical or descriptive of the event, and not of a single man.

A good instance of what may be done in this way is the beautiful group of the memorial to the inventor of printing, Johann Gattenberg, which, although erected as a memorial to him, will show you what I mean, as it introduces his two companions, Faust and Scheffer, grouped on each side of the main figure. Of the beauty of this you may yourselves judge at the Crystal Palace.

I cannot conclude a paper on this subject without alluding to the idea carried out by King Ludwig, of Bavaria, in two buildings, one at his capital, Munich, and the other at Ratisbon. The one at Ratisbon I have not seen, being obliged, when in Bavaria, to change my route; but the one at Munich was nearly finished when I was there, in 1852. These buildings are the Walhalla, at Ratisbon, and the Ruhmeshalle, or Hall of Fame, at Munich. The purpose of these buildings is to contain the statues and busts of the men who may have distinguished themselves or deserved well of their country; and I think the idea is good. And if a similar institution had been founded in our country, Westminster Abbey might have been saved many an incongruous statue.

The building at Munich stands on a considerable eminence outside the town, and consists of a long, low white marble portico of Doric columns, raised on many steps. It is massive and grand looking; although, I think, that had it been higher it would have been more effective. But, no doubt, when it is filled, in time, with the many busts and statues it is destined to receive, the appearance will be much enriched. In front of it is the celebrated statue of Bavaria, appropriately extending her arm to crown with a wreath which she bears in her hand her brave and illustrious sons. As the great master from whose poetic and fertile brain this beautiful statue proceeded did not live to see it erected on its pedestal, his honoured form was, no doubt, one of the first to be erected in the Hall of Fame.

The figure of Bavaria is 54 feet high, and the pedestal is 30 feet high, making in all a height of 114 feet. The seated lion at her side is 27 feet high. The casting was a work of great difficulty. It was begun in 1844, and completed, in various portions, in 1848. It was placed on its pedestal and exhibited to the people on October the 9th, 1850, and you will find the ceremony pleasingly and graphically described in Mrs Howitt's interesting little work, "The Art Student in Munich."

Both Schwantallar, the designer, and Stiegel Mayer, the greatest worker in bronze in Europe, who commenced the superintendence of the casting, died while the work was in progress; so that the rejoicings were in some measure clouded with sorrow.

This dedicating one building to the purpose of commemorating the great men of the country is a very good idea, and capable of great variation and extension; for, not only may a building be erected on purpose with an open portico, so that every statue added may increase and enrich the beauty of the façade, but this principle may be applied to special appropriate buildings, where the spaces for sculpture have been left, when, one after the other, statues of the eminent in the same calling or branch of public service to which the building is dedicated may, one by one, be added, greatly to the increase of the beauty of the building. Also halls might be erected, which, although containing nothing but portrait statues and busts, and commemorative bas-reliefs, would yet, if always open to the public, answer the double purpose of a hall of fame and a sculpture gallery. Likewise the same idea might be carried out with painting: a national portrait gallery, placed in a grand and suitable building, and interspersed with historical and illustrative pictures, would also serve the double purpose of a pictorial hall of fame and a picture gallery. But, before quitting the subject, I must touch upon one or two essential qualities which such memorials as those of which I have been speaking ought all of them, of whatever particular form, to possess.

They ought to be poetical in conception; but in this very thing there is great care required. The idea to be conveyed as the event to be commemorated may be well and fitly embodied in some poetical or allegorical form; but I think I have only to ask you to think for a moment on the absurdities that from time to time have crept into our monuments through an indulgence in embodiment of classical mythology, sufficiently to warn you of the danger of this.

Although one of the most artistic monuments lately erected is that of Frederick the Great, inaugurated at Berlin in May, 1851, designed by Professor Schinkel, the architect, and Professor Rauch, the sculptor; yet some of the bas-reliefs will, I think, afford us an example to avoid in this respect as well as to emulate.

What I see to avoid will be seen in the following description of the bas-reliefs, in the Hand-book to the Crystal Palace —

The 1st represents Frederick, who is presented by a good genius to his parents.

2nd. The Muse of History instructs him and rouses his ambition by unfolding the names and deeds of the heroes of old.

3rd. He receives his arms from Pallas.

4th. He is examining the web of a weaver of Silesia, famous for his linens. This subject expresses his encouragement of manufactures.

5th. He is leisurely playing the flute. Frederick not only patronized music, but was himself an excellent performer on the flute.

6th. He is seated in his cabinet at Sans Souci: an attendant places before him the celebrated bronze statue of the praying boy, for which he paid a sum amounting to 5,000*l.*, and which is now a principal ornament of the Museum at Berlin. This subject expresses his patronage of the fine arts: the greyhounds at his feet are also characteristic.

7th. The bas-relief at the south end represents the king seated on the column at Culmbach, and meditating on the vicissitudes of war.

The bas relief at the east repre-ents his apotheosis, where, seated on an eagle, he is borne into the regions of immortality. Admirable! Would that any pedestal on which any of our statues are placed would need such a description, and present such a catalogue. But then, alas! how rarely, as I have endeavoured to show ought always to be done, set forth the character and history of the man from his cradle to his grave? have we not his eminence and fame related, his early aptitude for arms forcibly depicted, showing that to be the principal occupation of his life? Then are we shown, lest we should think he was nothing but a soldier, that he not only patronized, but practised, the softer art of music—that he encouraged manufactures and the arts—that he did not thoughtlessly engage in war, and that his fame will live? Yes, truly admirable! Truly an example of what sculpture can do to render a memorial truly commemorative. Then, what is the fault, and why do I take this admirable work as an instance of the danger of mythological and allegorical sculpture? For this reason; that, with all its beauty, we have here such a medley of genuises, muses, goddesses, and eagles, high boot, modern coats, and Italian, pigtail, feathered cocked hats, that, beautiful as the memorial is, it seems to me to say plainly to all designers of such structures, make up your mind which you will do: either let the bas-reliefs represent historical facts alone—in which case use the costumes properly belonging to the date represented—or let them be entirely poetical or allegorical.

As you all know, both a small model of the whole of this memorial and full-sized cast of the equestrian statue are in the Crystal Palace.

Recurring to the requisite qualities of memorials, they ought not only to be poetical but beautiful; and in their very nature to be beautiful they must fully combine an architectural with a sculptural character. This necessarily involves an artistic and professional difficulty;—an artistic difficulty; as, at the present time, owing to the present mode of study, few, if any of us, either architects or sculptors, are capable of the twofold work of designing true architecture, and executing, at the same time, with our own hands, the figure sculpture: the professional difficulty is, that there must be choice of either sculptors or architects. Therefore, think that the present time,—that the example set in the above-mentioned memorial to Frederick, of two men being employed, one an eminent architect and the other an eminent sculptor, to be conjoint designers of the work,—is a good one. But I think, in this specially debateable ground between sculpture and architecture, that a completely open competition is the best means of bringing out the best suggestions and the special order of talent most needed in this class of structure; and if a design combining the highest standard of true architectural composition to be found amongst all the designs, with the most beautiful sculpture, be the work of a sculptor, let him by all means be employed to carry out the whole of the work; but if, on the other hand, the work that most of all the designs sent in combines these two most necessary qualities be the work of an architect, let him by all means undertake the superintendence of the work, and let it be left to him to appoint what really competent sculptor he pleases to execute the sculptor's part of the work. By this test alone, applied before the selection of the memorial, and not afterwards, in the shape of criticism, can we ensure for the future that completeness and perfection of design and composition, as well as well-executed figures for which our sculptors have been long justly celebrated,—that those who watch the progress of art have a just right to look for in our public memorials.

CHURCH-BUILDING NEWS.

Burwell.—Various restorations have been carried out at the parish church of Burwell since 1859. By this work of restoration 350 additional sittings have been obtained. The entire work of re-seating the church has been carried out by Messrs. Rattee & Kett. The woodwork was estimated to cost 1,050*l.*

Rochester and Chatham.—The dean and chapter, it seems, intend to remove some of the old houses in High-street which belong to the capitular body, and which now so greatly disfigure that portion of the city, in order to open a new entrance to the cathedral and deanery.——The works in connexion with the re-arrangement of the interior of St. Nicholas church, and the alterations and additions made to that edifice, are in such a forward state that in a few weeks' time the whole will be completed, and the church ready to be re-opened. The most extensive alterations have been effected in the interior, in order to provide additional accommodation for the inhabitants of the parish. The whole of the heavy lumbering pews, some of them dating two centuries back, have been swept away, and in their place have been erected light open seats, which entirely fill the body of the church and chancel. A gallery has also been erected round the church, which will afford accommodation for a large number. The alterations effected will provide sitting-room for about 670 persons. A stained-glass memorial Gothic window, the gift of Miss Spong, a parishioner, has been erected at the east end, over the communion table, in place of the small oriel window which formerly lighted that part of the chancel. This window, which is now completed, was manufactured by Mr. C. Gibbs, of London. It is divided into several compartments, the centre one of which represents our Saviour raising the widow's son at Nain. The south-west window is also to be filled in with stained glass at the sole expense of Mr. P. Wykeham Martin, one of the members for the city; Mr. Serjeant Kinglake, the other member, subscribing a sum towards the restoration fund equal to the cost of another window. The organ will be placed in a gallery especially built for it in the north-west end of the church.

Woodborough.—The new church erected here has been consecrated by the Bishop of Salisbury. In carrying out the work about 1,700*l.* have been spent, nearly the whole by the rector and his wife. The architect was Mr. T. H. Wyatt, and the building is capable of seating almost three times the number of persons that the old church could accommodate; and out of the 280 sittings which the church now affords, only thirty are appropriated. The original style of Gothic architecture which prevailed in the old church has been preserved throughout. In the interior a new north aisle has been added; and the church now consists of a nave, north aisle, chancel, vestry, and south porch.

Dudley.—The restoration and decoration of St. Thomas's is nearly completed. Exteriorly all the stonework, including that of the spire, has been restored. In the interior the panels of the Gothic roof are coloured with ultramarine, and the groins are white, enriched with gold on the facings. The capitals are of a slightly darker blue, alternating with white and gold. The decorations of the chancel have been carried out in the florid Gothic style. The fan roof is coloured in ultramarine, gold, and red; while the four columns in the angles have been ribboned black and yellow, with a running ornament. The two columns which divide the chancel from the nave are of a chocolate colour, with a gold running ornament; and the capitals of each are decorated with gilt oak and maple leaves. The walls are coloured a delicate green, and round them are chocolate colour, green, and red mouldings. The stained-window over the altar has been considerably relieved, and the painting ("The Ascension") brought out by the recesses being coloured chocolate, and the mouldings decorated to agree with the mouldings at the angles. The amount required to complete the restoration altogether is about 350*l.*

Liverpool.—At the monthly meeting of the burial board, Mr. Kemp, landscape gardener, produced the design, working drawings, and specifications for laying out the new parochial cemetery at Walton. The roads and walks will occupy

12¾ acres. The works are to be completed by the 20th of September next, under the penalty of 5*l.* a day for non-completion of the contract. Power is also reserved to Mr. Kemp, through the board, if the contractor does not make satisfactory progress, to employ extra labour and charge the same to the contractor, so that the cemetery may be opened at the appointed time. It was resolved that the plans be approved, and the works specified therein proceeded with, including the construction of about 800 brick graves for the interment of members of the Established Church, and 670 for the Dissenting and Roman Catholic portion of the community respectively, each grave being 9 feet by 4 feet 6 inches.

Warrington.—Trinity Church tower, at Warrington, is shortly to be erected, and the opportunity of putting up a clock will be taken advantage of. The design is that of Mr. B. P. Coxon, C.E. The structure will consist of an iron belfry, tower, and dome, in the Corinthian style of architecture, so as to correspond with the rest of the building. It will be some twelve feet higher than the original tower. The tower will shortly be proceeded with, and the erection will cost something like 200*l.*, exclusive of the clock.

SCHOOL-BUILDING NEWS.

Eton.—The new range of school buildings at Eton College, from the design of Mr. H. Woodyer, is carried on with considerable vigour. It is intended to meet the insufficiency of school accommodation at the college. The structure, which is in accordance with the style of the other college buildings, occupies a central position. The building consists of two wings, in the angle of which rises a tower, which will be seen throughout the main street of the college. The new building will supply thirteen additional school-rooms for the use of the boys, at a cost of 10,000*l.* The college also undertakes to rebuild Mr. Wayte's house at a further expense of 6,000*l.* The greater part of the sum required for the schools has already been subscribed by the college and masters, aided by several old Etonians. Her Majesty also subscribed 100*l.*, and the Prince Consort, 50*l.*

Bulkington.—The new parish schools here have been opened. The building stands at a short distance from the church. The style is Elizabethan, with pointed gables, perforated barge boards, and the exterior walls ornamented with black and coloured bricks in mosaic work, from the design of Mr. G. T. Robinson, architect, Leamington. Interiorly the schools are divided into two large rooms, 70 feet by 20 feet each, with open roofs and stained beams. At the junction of the two rooms is a class-room, common to both. The building and other necessary work has been performed under the direction of Mr. Hardy, of Chilvers Coton, builder, at a cost of 1,100*l.* The entire cost of the schools was about 1,700*l.*

APPLICATION OF WOOD CHARCOAL TO SEWER VENTILATION.

MESSRS. LETHEBY & HAYWOOD have recently reported, to the Commissioners of Sewers of the City of London, "On the Application of Charcoal in the Ventilation of Sewers," as you have already informed your readers. As I have had something to do with this question, please allow me to detail some particulars on the plans described.

The experiments, it appears, were commenced, 1859-60, in the eastern portion of the City of London, over a space of 39 acres, with about 1,700 houses, and some 14,000 inhabitants, on a total length of 25,587 feet of main sewer. The general conclusions come to by the reporters are,

That dry charcoal, in the presence of atmospheric air, is a powerful means of destroying the mephitic gases and vapours of sewers and house-drains.

That charcoal filters may be used with efficacy in the course of the air-channels from drains and closets of houses, as well as in the ventilation of public sewers.

That from the ascertained efficacy of charcoal in destroying dangerous emanations from sewers, the system may be generally applied with great advantage. This experiment is of great value, and will draw attention to the question; and, I hope, give public confidence to a plan so cheap, easy, and safe. But the readers of the *Builder* will not now learn for the first time that charcoal may be used with perfect efficacy for sewer and cesspool ventilation, as it was recommended in your pages before the recorded experiments commenced in the City; and for practical sewer ventilation, on an extensive scale, I may fairly claim precedence of the City experiments. The main sewers in the towns and districts of Worksop, Buxton, and West Ham, are fully ventilated through charcoal; and this form of sewer ventilation is also in use at Dorchester, at Swansea, and was put experimentally on certain sewers in Brighton.

During the Crimean war (1855) the Sanitary Commission was in communication with Dr. Stenhouse relative to a use of charcoal for purposes of disinfection and ventilation.

At the County Hospital, Winchester, a large cesspool of the worst kind, which could not be removed, was opened and ventilated through charcoal some twelve months ago, and with complete success.

The sewer ventilation of this metropolis is a question of the utmost importance; and any such safe improvement in our sanitary works will speedily be adopted, not only in Great Britain, but in other countries. At present the ventilating openings from the sewers of London rise, for the most part, direct from the crown of the sewer to the surface of the street; allowing unaltered sewer gases to escape from below; and stones, grit, and dirt to grind in by the traffic from above. There are two grave evils in this plan, both of which are avoided by forming side chambers for the street grating to be placed over, and intervening baskets or trays of wire grating or gauze to contain the wood charcoal. I have adopted this method in many hundreds of instances, on more than 300,000 feet in length of town sewers, and with complete success.

ROBERT RAWLINSON.

NON-ABSORBENT MATERIALS IN CONSTRUCTION.

ALL who have had experience in the construction of walls with dense non-absorbent materials will, I think, bear Mr. Picton out in his opinion that they create cold, damp, and uncomfortable dwellings.

It is well known among builders that a house, the walls of which are constructed entirely of the best Staffordshire blue brick, is not by any means so dry or comfortable as one in which common bricks have been used. I think, however, that there is another cause, in addition to the one he mentions, why this is the case, and which he may have overlooked. Mortar is a very absorbent material; and the brick having but small capacity for moisture, the joints soon get saturated after rain, and communicate their dampness to the inside plastering. In a common brick wall the reverse is the case; the brick acts as a sponge, and absorbs any superfluous moisture that may come through the joints; and the same amount of water being distributed through a much larger mass of material, it is not so appreciable. From the same cause, the moisture dries up more rapidly when the air begins to act upon the external surface of the brickwork, and in turn re-absorbs it. I know from experience that in a wall built of Penmaenmaur stone, it is next to impossible to prevent the water striking through, after a driving shower of rain, however good the mortar and pointing may be. I have seen a 2 feet 6 inch wall, one side of which was protected by an open shed, after a heavy day's rain, literally as wet on the inside as the out. The water appears to travel and spread itself over the entire surface of the stone, irrespective of pointing, even if done with oil putty. Very likely the smooth surface and imperfect combination of the mortar and stone facilitate this by capillary attraction; and the same result must follow, in a greater or less degree, the employment of any smooth non-absorbent material.

If we could employ some impervious material which is also a bad conductor of heat, the inconvenience arising from the condensation of moisture held in suspension by the atmosphere, by sudden changes of temperature, would not be felt. Though it is correct that the conducting power of various substances is *generally* in the ratio of their density, it is not universally true. On the other hand, density is no proof of non-absorbency. Cork, one of the lightest substances, is one of the least absorbent. India-rubber is another instance. Pressed brick, though denser than common hard-burned brick, is much more absorbent; and any one may trace the headers in a 9-inch wall faced with them, by the damp in the plaster around them. Again, I see in the experiments made by the celebrated Parliamentary Committee which selected the stone for the new Houses of Parliament, the quantity of water absorbed by the various stones is not always in the ratio of their density. This is, I think, sufficient proof that the absorbing power depends more upon the structure and nature of the substance than its specific gravity. Sandstone absorbs water much more rapidly than brick, and retains it for a longer period, though a more dense material. The extra thickness required to keep out the damp in stone walls over those of brick goes to prove this. It is astonishing how a through stone in a brick wall will conduct the damp to the inside of a house.

It is difficult to understand how wood can be considered more absorbent than either brick or stone. I should say the reverse is the case. It is not so good a conductor, and hence its superior warmth.

In conclusion, all members of the profession must feel indebted to any one who brings forward practical examples on such subjects; and further, it is the duty of those who possess such information to communicate it for the good of the public and their professional brethren.

T. MELLARD READE.

GLASGOW: ITS EMPTY HOUSES AND ITS HOUSE-FACTORS.

APPENDED to your recent article on "Glasgow" is an account of the number of empty dwelling-houses, which are very moderately estimated at 5,000., entailing a loss on rental of 100,000*l.* per annum!

With the notorious overcrowding of various portions of the city, these statements sound strange, "but strange, 'tis true." And how is the anomaly to be accounted for? The property of the city of Glasgow is mostly factored by a body of men who draw a fixed per centage on the rental from the landlord for their trouble. These factors are very generally grasping, selfish men, who for a paltry increase to their salary have gone on for a series of years adding to the rental of property, till the families, not only of artisans, but of the middle class, are obliged to crowd themselves into the smallest habitable space to prevent having to give the landlord and the tax-gatherer the full half of their incomes. Within a very few years property here has risen from 25 to 50 per cent., just through the instrumentality of these factors. Seldom, as in bygone days, do landlords retain their tenants for twenty or thirty years. Removals are the order of the day. The people really do not know where to locate themselves for the best. By these incessant "flittings" (which are quite modern and belong to the age of factors), property is damaged, and there is a consequent increase of repairs. In former days tenants were tenants in very many cases for life: now there is a constant exodus which would be obviated by reasonable rents. But the factor is largely benefitted by the repairs: the more the better for him, as he has an understood bargain with the tradesmen whom he employs, that he must have a per centage to himself for giving them the job!

If the price of the factorage of property in Glasgow were calculated, it would be found to amount to not much short of 100,000*l.*, or a sum equal to the rental of the whole unlet property in the city! And if to the above were added the repairs occasioned by the very frequent removals caused by the high rents charged, the burdens tenants have to bear unnecessarily would appear enormous, and frighten themselves.

These are facts which the Glasgow press cannot find room to make known to landlords, as it would spoil the factors' occupation; and the factors hold a very considerable advertising influence. Let "lairds" know that their property is being destroyed by factors, even when bringing in extravagant rents, instead of being cared for; and that they could let their houses at lower rents to settled tenants, and take as much money out of their property; and let them act upon these facts, and overcrowding, with its consequent evils, would speedily be brought within very narrow limits. Property factors are the real bane of property here,—the cause of the high rents,—the overcrowding of the hard-working population, and of the unlet high-priced property, as this class have taken to the suburbs, where they can have a splendid mansion for what in the town would cost them a ransom!

A LANDLORD.

WHAT OF WESTMINSTER BRIDGE?

SIR,—Can you give your readers any idea when Westminster Bridge will be entirely opened for traffic? It seems a most interminable job, and I am sadly afraid, if the press do not take the subject up, or some one in Parliament, it will not be completed in time for the Exhibition. I find it has been nearly eight years in hand, it having been begun in May, 1854,—surely abundance of time to finish such a work long ere this, as I see from a report of Mr. Page himself, furnished to Parliament on the motion of Mr. Hankey, that he (the engineer) saw no reason whatever why the bridge should not be opened by Christmas last; and now here we are in February, and no appearance of completion. Whatever may be the

cause, the effect is quite certain and apparent; and it does seem perfectly pitiable to see such a work as this, which forms a connecting link with one of the main roads or arteries of London, so spun out; more especially at this particular period, when parishes and districts are enlarging and expanding their roads and streets in order to afford every facility for traffic at the approaching season.

And now, sir, for the approach on the Surrey side: it seems pretty good; but did any one ever see such an approach at that on the Middlesex side?—a few houses removed, and a little island of them left, with the rough ends facing the bridge, where I can see the bill stickers have been at work.

Perhaps, sir, you can inform your numerous readers something about it; for if our public buildings or improvements, such as the Foreign Offices, the Thames embankment, &c., go on at this miserable, crawling rate, those who live in the reign of Albert III. may see them completed. A Surveyor.

P.S. The railway bridge at Chelsea was completed in a little over twelve months, and trains were running over.

PROCEEDINGS UNDER METROPOLITAN BUILDING ACT.

On the 28th of January, Mr. J. H. Parkinson appeared at the Thames Police Court, before Mr. Woolrych, at the instance of Mr. E. Woodthorpe, district surveyor of Limehouse, Ratcliff, Wapping, &c. &c., to answer complaint that, in rebuilding certain premises at the corner of Phœnix-place and Ratcliff-cross, he used a party-wall which was of insufficient thickness on the ground floor, and raised the same of the height he required in 4½-inch work; that he built a wall in extension of his party-wall of the same insufficient thickness, contrary to section 12 and to schedule 1.; that he built wood plates in the old party-wall, and allowed the ends of the joists to have a bearing on such wall, at a nearer distance than 4½ inches from the centre thereof, contrary to section 15, rule 2; and that he fixed the woodwork of the shop front nearer than 4½ inches from the line of junction of adjoining premises, contrary to section 26, rule 3.

Defendant, who appeared in person, stated that he considered the works executed by him to be merely a repair, the works being caused by the former premises being destroyed by fire; but, it having been proved by the district surveyor that the premises were demolished to more than half their cubic contents, Mr. Parkinson was ordered to amend the whole of the irregularities within eight weeks, and to pay the costs.

Mr. Stephen Peters was also summoned by Mr. Woodthorpe, inasmuch as he had greatly extended and altered a wooden erection, situate in Commercial-road, Limehouse, without giving forty-eight hours' notice thereof to the district surveyor, as required by the Act (section 36).

The surveyor stated that the building was originally placed upon wheels to evade the requirements of the Act; but that, on the 18th of January, he discovered that alterations and additions had been made, and that the building had been rendered in a measure permanent by the introduction of wooden uprights or quarters let into the ground, and supporting the roof, the sides being covered with weather-boarding and canvas. He considered the building in itself dangerous on account of the inflammable nature of the material used; and further, that the danger was increased by the purposes for which the building was used, viz., a rifle-gallery.

The defendant pleaded ignorance of the Act; and the case was adjourned for four weeks, at the magistrate's suggestion, to allow the defendant the opportunity of applying to the Metropolitan Board of Works for their permission for the structure to remain temporarily.

Large Warehouses.—At the Southwark Court, Mr. Alderman Humphery, the surveyor and occupier of a large range of newly-erected buildings on the west side of the dock of Hay's-wharf, in the vicinity of Tooley-street, was summoned before Mr. Burcham by Mr. Robert Hesketh, the district surveyor of Bermondsey and part of Southwark, for omitting to divide a certain building which is a warehouse, containing more than 216,000 cubic feet, that is to say, 516,204 cubic feet, by party-walls, in such manner that the contents of each division should not exceed the first above mentioned number of cubic feet.

The Alderman, who was in attendance, with Mr. Newman, his surveyor, objected to his worship's jurisdiction, inasmuch as he had on a former occasion decided the very point at issue. The building was erected, at an enormous outlay, by Alderman Humphery, some time ago, and prior to the late disastrous fire, which consumed many thousand pounds worth of goods stowed therein, as well as the interior and roof, leaving the outside walls standing and uninjured. When these premises were first erected, Mr. Hesketh summoned Alderman Humphery for precisely the same offence. His worship (Mr. Burcham) viewed the building prior to his deciding the case; and on the adjourned hearing he dismissed the complaint, considering that it did not come within the meaning of the clause of the New Building Act The walls were left standing and uninjured. All he had done was to restore the building into its former state exactly.

Mr. Hesketh denied that a greater portion of the building had been rebuilt, and that it came within the meaning of the Act.

Mr. Burcham asked him if the walls remained intact after the fire.

Mr. Hesketh said they did; but he was of opinion that it was to all intents and purposes a new building.

Mr. Burcham was of a different opinion, as, according to his own statement, all that had been done to the building was to repair it, and put it in its former position. His complaint did not come within the section of the Act quoted, therefore he should dismiss the summons.

Mr. Hesketh asked his worship to grant him a case, so that the point might be settled by the judges.

Mr. Burcham refused to accede to his request, inasmuch as he had already decided the point at issue on a former occasion, and no case was then asked for.

The Proposed Abbatoir for Brighton.—The town council of Brighton have resolved to alter the proposed site of the abbatoir. Some of the members are for abandoning the bill now in Parliament altogether; but by a majority of 16 to 15 it was resolved to amend the bill as regards the site.

PATENTS CONNECTED WITH BUILDING.

"Improvements in the Construction of Chimney-tops, or Appliances for surmounting Chimneys, in order to regulate the up-currents and prevent the down-draughts," *J. Durrant*, Fitzroy-square, and *N. A. Harris*, Bayswater, London. Dated 12th June, 1861.—This invention consists of a cylinder of metal, preferably zinc or earthenware, or other suitable material. On the top of this the patentees fix or attach or form a series of corrugated cells, opening towards the bottom, so as to receive the external air which passes out of the top into the interior of an open conical cap fixed there. These cells may be either slightly inclined or vertical. The band on which these cells are affixed, as before stated, opens into a conical cap, which is affixed to and opens into and encircles the cylinder. Round the outer periphery or surface is another series of conically-shaped cells, the bottom of which, being open, receives the outer air, and passes it into the interior of another conical cap placed directly over it, and concentric with the cylinder.

Sliding Window-sashes.—*E. Bing*, Ramsgate. Dated 13th June, 1861.—This invention consists in a method of fitting and furnishing sliding window-sashes whereby they may be readily removed from their position for the purpose of cleaning, and which may thereby be effected entirely within the building to which they are fitted.

Books Received.

Life amongst the Colliers. London: Saunders, Otley, & Co., Brook-street, Hanover-square. 1862.

The author of this very interesting and well-timed volume is a lady, who, as wife of a mine-owner in the north of England, went to live amongst the collier population, and made herself familiar with their peculiarities by useful intercourse with them. In her preface, she says: "When I first began my 'life,' I felt terribly at a loss to know what was right, or how I could best gain the good-will of my neighbours, and should have read with gratitude anything likely to help me. I hope I am not incurring the charge of vanity if I therefore put forth a few scenes of real life, as hints for the benefit of those similarly circumstanced." These hints are evidently written by a kindly, large-hearted, sensible woman, without either vanity or display, but with that innate tact and feeling which can render the most prosaic subject poetical and touching even while grotesque and amusing. The author has evidently gone amongst the rough but shrewd people with whom she had to do in a right spirit; and the utility of her endeavours for their good appears to have been very obvious. She established schools, a penny bank, a reading-room; and prepared and delivered lectures herself on subjects likely to interest and amuse her audience; besides inducing others also to lecture. But beyond all else she taught by personal intercourse. Of the effects of personal kindness, with which we can readily conceive she must have become well acquainted, the author says,—

"To all whom fortune places in a similar position, I say, before you concemn the collier for drowning overhours and money in beer, help him to something better. A little patience, a great indifference to manners, where the heart is good (who thinks of the dross when they have found the ore?) and it will be among a very different set of men to ours if you are not soon cheered on by the reward of success. The effect of personal kindness on our poor old people would seem an exaggeration, did I attempt to describe it. How often sixpence taken was worth a shilling sent!"

Of the peculiar manners of the colliers, many skilful and amusing sketches are given. Thus:—

"Walking in the middle of the road in a lone part, I was terribly startled by a man, whom I had not observed, panting himself in my way; and, without the slightest gesture or tone of kindness, demanding, 'Be you the missis?' I reckon ye are and I've been lookin' out for ye some time, to speak my mind.' An immense bill-sticker's brush in his hand made me think how 'knock-down' his arguments might be. I looked around for help, but in vain; so, 'assuming a virtue I had not,' said, courageously,—'And now you do find me, speak your mind, and let me pass on.' 'Well,' replied this terrible collier, 'I'm Bill Mosley; and it wor my barns as you sent bits o' dinner and clothes to when my missus wor ta'en away wi' fever—awhile sin'; and it's the Lord'll thank yer, for I can't. Good day!'"

VARIORUM.

"The Metropolitan Sewage: a Letter to the Chairman of the Metropolitan Board of Works, &c. By Thomas Ellis." The author of this pamphlet is a builder and contractor. He proposes the formation of a company for the supply of farmers and others with metropolitan liqu sewage from reservoirs on Hampstead-heath a Shooter's-hill, or other suitable heights, in which it is to be pumped by steam-engines, wh surplus sewage is deodorized and sent into t river. The profits he proposes to divide betwe the company and the Board of Works, and l estimates that the latter's share would amount t 700,000*l.* per annum, for the reduction of loc taxation. The scheme of the Hon. Wm. Napie Mr. Ellis ridicules as impracticable; especially o the somewhat inconsistent grounds that the pr posed field for irrigation is a quicksand, whic would take 1,379 years to "warp" by layers solid matter deposited by the sewage; an that even should the scheme be successfu so enormous a grazing farm in the hands one company would ruin the farmers a round. —— "Proceedings and Papers of th Kilkenny and South-east of Ireland Archæologica Society. Vol. III. New series. No. 34. Octo ber, 1861." This section of the third volume o this very active and useful society contains int resting papers, on the Suburbs of Kilkenny, rea by Mr. John Hogan; and on the Taking of the Ea of Ormonde, in 1600, read by the Rev. Jame Graves, M.R.I.A. These Transactions are illus trated by engravings. —— "Barr & Sugden Guide to the Flower Garden, &c. Barr & Sugden seed merchants and florists, King-street, Coven Garden. 1862." Though ostensibly a mere trad circular, this half-crown pamphlet is really a use ful work, containing much information, alon with long lists of flowers, pot-herbs, &c., whic cannot well fill so much space in the usual book on flower and kitchen-gardens. There are also few engraved illustrations.

Miscellanea.

Paraffine, or Rock Oil, in Shropshire.—Mr. G. Shepherd, C.E., is of opinion we have a abundant supply of paraffine in England, which ca be obtained at a very cheap rate. In the Shrop shire iron district, he says, there is a rock known to the miners as the "stinking rock:" this roc yields a great deal of mineral tar: it is found i sinking to the coal and ironstone, and it is many feet thick.

Cause of Fever in Clerkenwell. — A re spectable inhabitant of Clerkenwell last week stated at the Clerkenwell police-court, that should any person wonder why the mortality amongst children here was so high, they had only to take a walk to the church of St. Peter, Great Saffron-hill, and proceed across the "ruins" t the arches of Victoria-street, at the rear of th church: there they would find an issue of sewage of the most abominable description; — not a mere oozing, but a *bonâ fide* flowing out, at the rate of several gallons per minute, which has no only filled the arches of Victoria-street for nearly a hundred yards, but has formed a pool of large dimensions, into which have been thrown dead dogs, cats, fish, &c., till no words can convey an idea of the abomination that exists. The pool is dammed up by the walls of the church and schools where upwards of a hundred poor children are daily concentrated. This horrible nuisance has now existed for more than a month. He was referred to the parish authorities. It is stated that fever prevails in the House of Correction.

Royal English Opera, Covent-Garden.—The undying "Colleen Bawn," re-arranged by Mr Boucicault, with songs, duets, and so forth, written by Mr. Oxenford—an able and practised hand—forms the *libretto* of Mr. Benedict's new opera. "The Lily of Killarney." It contains much excellent and some charming music, which Miss Louisa Pyne (*Eily*), Mr. Harrison (*Myles*), Mr. Santley (*Danny Mann*), and Mr. Haigh (*Hardress*), sing very effectively. *Myles-na-Coppoleen's* ballad, "It's a charming girl I love;" the "Cruiskeen Lawn" (quartet for *Eily*, *Myles*, *Sheelah*, and *Father Tom*); *Eily's* song, "I'm alone, I'm alone" (admirably given); and *Hardress's* ballad, "Eily Mavourneen," have become popular at once. The opera has been received each night with the greatest favour; and will, we hope, continue to attract full houses. We are forced, nevertheless, and against our will, to express our belief that, as in the case of "Ruy Blas," a mistake has been made in selecting for a new opera a drama in which favourite actors are achieving a success. The efforts of the singers as actors are brought into dangerously close contrast with what has been already admired; and comparisons are instituted which, excepting in very few instances, prove disadvantageous. We shall be very glad to find that our fears were uncalled for.

TO CLEAN MARBLE.—The following is given by a correspondent:—Mix pumice-stone, very finely powdered, into a paste with verjuice: let it stand for two hours: with a sponge then rub it over the marble, and allow it to dry on; then wash it off with clean water, and dry it with soft linen.

VICTORIA STATION AND PIMLICO RAILWAY.—At the half-yearly general meeting of the shareholders in this company, the report of the directors stated that a further sum of 16,300*l.* had been expended upon the construction of the permanent station for the London, Chatham, and Dover, and Great Western Companies, the works of which are now so far advanced, that no doubt exists as to the fulfilment of the company's obligations by the appointed time.

INJURY TO A SPIRE VANE BY A GALE OF WIND AT MAIDSTONE.—The vane surmounting the spire of St. Paul's church, which was forced from the perpendicular during a recent gale of wind, has been removed. There is little doubt, remarks the *Maidstone Journal*, that the mishap was produced by the obstruction offered to the wind by the fancy work, and the connecting rod, only 1½ inch in diameter, was not strong enough to resist the strain. A smaller vane will be substituted. The expense is estimated at about 140*l.*

FIRE AT SEVENOAKS CHURCH.—The fine old parish church at Sevenoaks, Kent, which was repaired and beautified about forty years ago at an expense to the parishioners of 20,000*l.*, has narrowly escaped being totally destroyed by fire on a Sunday night lately. Soon after ten it was discovered that the roof at the chancel end was on fire. The greater portion of the roof was destroyed, but not much damage was done to the interior beyond that occasioned by water; and as the edifice was insured for 5,000*l.*, that will cover the loss. The fire originated from the overheating of a flue which passed through the roof, and as a crackling noise was heard while the congregation was assembled in the morning, it is supposed that the rafters were even then smouldering. There are more churches to be fired by their flues ere the cold weather be over.

THE CHELSEA LITERARY AND SCIENTIFIC INSTITUTION.—The first annual meeting of this new institution has been held in the Vestry Hall, King's-road. Lord Cadogan is the president; and among the vice-presidents are Viscount Chelsea, Mr. Thomas Carlyle, Sir Charles Wentworth Dilke, Bart., Mr. S. C. Hall, Mr. Tite, M.P., and other influential gentlemen. The annual report states that the number of members on the 31st December last was 381, of whom 232 held transferable annual tickets, 79 non-transferable tickets, and 70 quarterly tickets. The council point to the large proportion of annual members as a reason for congratulation. The number of volumes now possessed by the Institution is 710, viz., 446 vols. presented by members and friends, and 264 vols. purchased from the donation fund. There is also a daily supply from Messrs. Hookham's Library of 285 vols. at a cost of 40*l.* per annum. The council in conclusion state that the finances of the past year have been sufficient to meet every expense, and that no debt remains upon any department of the Institution.

GAS.—The City and other metropolitan gas companies are now about to have a more formidable opponent in Parliament than they have heretofore had,—namely, the City Sewers Commission; and it is to be hoped the Commission will be well supported by the gas-consuming public of the whole of the metropolis, for the protection of their own interests; otherwise the Commissioners may restrict themselves to the interests of the City proper, which alone they are called upon to protect.——The Gloucester Gas Company have lately extended their premises, and are now engaged in the erection of a gas-holder, 80 feet in width, 50 feet deep, and capable of storing 250,000 cubic feet of gas—nearly double the quantity contained in the holders at present in use. The new holder will be suspended from six iron columns, each weighing 6½ tons, and 56 feet in height. These columns are braced together at the top by girders, 5 feet in height, and weighing 5 tons each. The depth of the tank under the holder is about 25 feet. The whole of these works have been designed by Mr. McPherson, the resident engineer of the company. Mr. Spittle, of Newport, is the contractor constructing the new gas-holder, and the cost of the extension and new machinery will be about 10,000*l.* The local *Chronicle* remarks that the local public may hope that a reduction will be made in the price of gas as soon as the works are finished.——The Crowle Gas and Coke Company have declared a dividend of 9 per cent.

COLLIERY SHAFTS.—A correspondent writes, touching the accident at Hartley colliery:—"The opening of two shafts instead of one is an idea which at once occurred to most men of common sense; but there is another point which seems to me not to have attracted so much notice. I allude to the timber-bracing and planking with which the shaft is lined. It will be remembered that this planking was torn down, and its *accumulation* at the bottom of the shaft was the cause of the sealing up of the mine's mouth. I would propose that, instead of the present woodwork, *caissons of iron*, of moderate thickness, and made in lengths of (say) 10 feet, and strengthened by projecting flanges on their internal surface, should be substituted. If these caissons were made circular, strengthened as proposed, they would surely resist the pressure of the earth effectually, and not be subject to fall in periodically, or to be so completely smashed as the woodwork at Hartley."

THE SANITARY CONDITION OF NEWCASTLE.—At the quarterly meeting of the Council, as reported in the local *Courant*, Mr. Newton asked, first, in whose charge at present was the sanitary condition of Newcastle. The town was in a most discreditable and, he should think, dangerous state; and it seemed that either Mr. Dodds or his functionaries were deeply implicated in maintaining that disgraceful position. He wanted to know when the streets in the east part of the town—with the west he had not so much to do—were likely to be paved and flagged. Mr. Alderman Dodds said that Mr. Dawson had sole charge of the sanitary operations. He had been appointed by the Council; and it was his duty to report any nuisance to the Town Improvement Committee; who attended to it immediately. Mr. Newton: But you, and the Committee over which you preside, are responsible. Did Mr. Dawson do his duty, or did he not? Alderman Dodds thought he did not. Mr. Newton: Then why do you keep him? Alderman Dodds: Because we cannot get clear of him: the Council appointed him.

THE STEAM REGENERATOR.—At Messrs. Collinge's axle-factory, Bridge-road, Lambeth, experiments have been made with a steam regenerator, patented by Mr. P. Pigna and Captain Fernandez. Without diagrams it is difficult to convey a correct idea of the invention. A pipe receives all the steam that ordinarily escapes after acting on the piston, and condenses it in a receiver forming almost a perfect vacuum, which increases the effective force of the steam on the piston. By means of a special pump the condensed steam is sent through the regenerator, and thence by a second pipe into the boiler, which it reaches completely regenerated, and ready to act again on the piston in all its original force. The regenerator is applicable to all steam-engines, without alteration to the engines themselves; and among the results claimed for it are,—a saving of more than 99 per cent. of the feed-water, a proportionate reduction in the bulk and weight of boilers, and a saving of 50 per cent. in the fuel required for high-pressure engines, and of 32 per cent. for low-pressure engines. The honour of the invention is said to belong, as regards its scientific portion, to Mr. J. Imray, an English engineer, and to Mr. P. Pigna, an Italian engineer; and, as regards its practical details, to Mr. F. Datichy, a French mechanician. The experiments were considered highly satisfactory.

MONUMENTAL.—The statue of Dr. Jenner has been removed from Trafalgar-square to Kensington Gardens. It is placed on a new pedestal near the stone bridge spanning the Serpentine, on the Bayswater side.——Mr. Geflowski, of Liverpool, according to the local *Journal*, has been exhibiting a group of monumental statuary, executed in Carrara marble, to complete a tomb erected in the Roman Catholic Church at Wrexham by Mr. Pugin, for Mr. Thompson, the founder, in memory of his deceased wife. The figure is recumbent, life size. The details of the tomb will be completed by medallions which Mr. Geflowski has designed, representing the works of mercy.——We regret to observe, by a letter written by Mr. W. C. Kyle, honorary secretary to the Goldsmith Statue Fund, that 200*l.* are still wanting to secure this statue; while it is feared that, owing to the delay that has taken place, much even of what has been promised has been lost. The amount nominally subscribed amounts to something less than 900*l.* Of this sum a large amount still remains unpaid. It is believed that about 1,100*l.* would cover the expenses, and also pay for the statue. Mr. Foley, the sculptor, has contributed 100*l.*, reducing the cost of the statue from 1,000*l.* to 900*l.* The statue will be completed in two or three months.

WETHERBY WORKHOUSE COMPETITION.—We understand that nine designs were sent, in reply to the advertisements for this building, and that the one by Messrs. Pritchett & Son, of York and Darlington, has been selected, and is to be carried out by them as architects.

MEMORIAL OF THE LATE ROBERT STEPHENSON, WESTMINSTER.—A brass has been laid in the nave of the Abbey, presenting a figure of Mr. Stephenson in plain clothes, his arms folded across his breast. The inscription round the figure is, "Sacred to the memory of Robert Stephenson, M.P., D.C.L., F.R.S., &c., late President of the Institution of Civil Engineers, who died 12th October, A.D. 1859, aged 56 years." The memorial is by Messrs. Hardman, of Birmingham. Correspondents speak but poorly of it.

GRITTLETON HOUSE, WILTSHIRE.—We illustrated this mansion, built from the designs of Mr. James Thomson, for Sir John Neeld, in a former volume. Quite recently we have seen a series of water-colour drawings, made by the architect's son, Mr. John James Thomson, from sketches on the spot, to show the leading features of the structure, such as the great hall, the sculpture gallery, the drawing-room ceiling, and so forth. They are effectively coloured, and do credit to the skill and industry of the artist.

ARSENIC IN WREATHS AND DRESSES.—In a letter to the *Morning Post*, Dr. Letheby, the medical officer to the City Commission of Sewers, says,—The process you recommend, of setting fire to the tissue, and, whilst smouldering, after the flame is suddenly blown out, observing whether it has the odour of garlic or not, is very conclusive; but it requires practice to do it well, and the process is not always easily applied. If every lady would carry with her, when she is shopping, a small phial of liquid ammonia, instead of the usual scent-bottle, the mere touch of the wet stopper on the suspicious green [by turning it to blue] would betray the arsenical poison.

SALISBURY CATHEDRAL.—We understand that Mr. Scott visited Salisbury Cathedral last week, and made a minute examination of the pillars which support the tower and spire, and of the interior and exterior of the tower, and other parts of the building. The inspection of the former was effected by means of a lofty moveable scaffolding, some 80 feet high, which was constructed very many years ago, to enable the workmen to reach the ceilings of the cathedral. It was understood that the four massive pillars above referred to were perfectly sound; and that, although they appear to be bending beneath the immense weight which presses upon them, they are as well able to sustain it as ever they were. Since the columns were last plumbed no perceptible deviation from the perpendicular has taken place.

THE SANITARY CONDITION OF WINCHESTER.—A memorial requesting the council to take the subject of sewerage for Winchester into their serious consideration, and signed by 519 persons,—including 36 clergymen and 1 dissenting minister, 12 physicians and surgeons, 88 lady ratepayers, and the heads of nearly every banking, commercial, professional, and educational, as well as religious establishment in the city; and the whole representing by far the larger portion of the rateable property within the borough,—was last week laid before the council, who then proceeded to discuss the subject, with reference, also, to other memorials against doing anything of the kind. The result of a five hours' debate was a resolution to resist all inquiry, passed by a majority of 17 to 7! We have before now referred to the obstructives here.

PROPOSED INFIRMARY FOR THE COUNTY OF SURREY.—Measures are being adopted at Guildford for the establishment of an infirmary or hospital for the county. A permanent managing committee has been appointed, with full power to make all arrangements desirable for carrying out the object in view. Mr. Capes, in proposing the appointment of the committee, called attention to the opinions of the most eminent London surgeons as to the advantages possessed by a county hospital in numerous cases of illness, and to the probability that patients would be sent from the London hospital to any well-managed infirmary enjoying the pure air of the neighbourhood of Guildford. Special attention had lately, he remarked, been called by the *Lancet* to the influence of the "breezy downs" in promoting the cure of many diseases. It was, too, a most remarkable fact that while the average mortality after amputations in the London hospitals was not less than 25 per cent., only one patient had died out of more than thirty who had undergone amputation in Guildford and the neighbourhood during the last twenty years.

ACTION AGAINST AN ARCHITECT.—"COURTENAY *v.* LANDER."—This case is an action for negligence as architect in the erection of a temporary church in Pentonville. It was referred from the Court of Queen's Bench last year, and has occupied sixteen meetings before the arbitrator (Mr. Beasley). On Wednesday last the case was summed up, and it now rests in the hands of the arbitrator for decision.

NEW SCULPTURES FOR THE BRITISH MUSEUM. We understand that a fine group of "Europa and the Bull," of the size of life, found in the ancient Roman amphitheatre at Gortigna, in Crete, has lately been exhumed, and has been brought to England by her Majesty's ship *Scourge;* and that, within the last few days, it has been deposited within the British Museum, side by side with the Carian and Cyrenaic sculptures.

GLASGOW ARCHÆOLOGICAL SOCIETY. — The usual monthly meeting of this society was held on Tuesday night, the 4th inst., Mr. J. T. Rochead, V.P., in the chair; when a paper was read "On the Norwegian Invasion of Scotland in 1263," by Mr. Tennent, of Wellpark. The discussion which followed turned principally on the details of the battle of Largs, and the amount of credit due to the ancient Scottish and Norwegian accounts of this event.

LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.—The ninth meeting of the present session of this society took place on Wednesday evening, the 5th, at the Royal Institution, Colquitt-street. Mr. Hay occupied the chair. Several articles were presented as donations to the society. Two specimens of Chinese tiles, presented by Capt. Anderson, of the *Europa*, to the Free Library, were exhibited. The paper of the evening was by Mr. J. A. Picton, F.S.A., which was illustrated with views of different places and objects commented upon.

"SOUTH KENSINGTON MUSEUM."—During the past week, the visitors have numbered 15,522. The alteration in respect of Saturday evening, which is now made *free*, is working well; many now being able to utilize their half-holiday, and visit the collections, who could not do so before. It will be matter for regret if the Commissioners of the International Exhibition should select Saturday as the exclusive day there. The new glass-covered courts at the South Kensington Museum are approaching completion, and form noble apartments. The walls are being coloured, and the arrangement of cases has commenced.

LITERATURE IN THE WORKSHOP. — We have occasionally noticed the efforts made in some establishments by the workmen employed in them to promote their intellectual improvement by means of libraries, supported by trifling weekly subscriptions. We are glad to observe that the movement has been generally attended with success. At a recent meeting of the members of a library at Messrs. Cox & Wyman's printing-office, in the course of an address, the chairman (Mr. John Bate) said that the Committee deemed it a proof of the high estimation in which their institution was held when there were to be found, on an average, eighty individuals enrolled as members—often more—who were constantly seeking to gain information, and who could not fail,—at least, indirectly,—to improve their minds, and better fit themselves for their several occupations. Besides which (he proceeded to say) they obtained a relief from the monotony of labour even when mere amusement was all that was aimed at. Though their library was established purely for the mutual instruction and recreation of the members during their leisure,—a portion of time so necessary to the vigour of their industry,—it had also become of such daily utility that it could not well be dispensed with. It was remarked by a popular orator, that "there was nothing by which you could do so much good to the country and your race as by disseminating, amongst the men with whom you live, intellectual enjoyment." This was a fact which the members of this library could appreciate. It was a noteworthy circumstance that our greatest benefactors were those through whose genius or instrumentality books have been provided for the people. It was but yesterday that libraries for the people were thought of. And yet how numerous have they become! Scarcely a workshop or factory of any pretensions but what had its library. Knowledge and intellectual enjoyment being extended to the humblest individual, an improving influence in almost every sphere of life was manifested: trade flourished hand in hand with the arts and sciences; which latter, in their turn, lose nothing by the diffusion of their elevating and refining influences; and the community at large were impressed with a desire to increase the comforts of each other.

TENDERS.

For alterations to No. 1, Greek-street, Soho, for the House of Charity. Mr. Joseph Clarke, architect. The chapel and extension not included:—

Houghton	£2,069	0	0
Brown & Robinson	1,977	0	0
Trollope & Son	1,940	0	0
Piper & Wheeler	1,897	0	0
Warne & Son	1,893	0	0
I'Anson	1,869	0	0
Lawrence & Son	1,838	0	0
Foster	1,815	0	0
Ashby	1,562	0	0
Conder (accepted)	1,493	0	0

For a woodman's cottage, North Kilworth, Leicestershire. Mr. Joseph Clarke, architect:—

Bromwich	£245	0	0
Wells	225	0	0
Law (accepted)	224	18	0

For a national school and re-idence, at Southstoke, Oxon, for the Rev. P. H. Nind. Mr. Joseph Morris, architect. Quantities supplied:—

Briant	£453	0	0
Fisher	447	0	0
Winter (accepted)	426	16	3

For the erection of a pair of villa residences at Forest Gate, Stratford:—

Jacobs	£1,665	0	0
Sergant	973	0	0
Hemmings	970	0	0
Read & Son	956	0	0
Smith	937	0	0
Lack	914	0	0
Rivett	913	0	0

For the chapels, superintendent's house, and iron railing and gates, for Whitby Cemetery. Messrs. Pritchett & Son, architects:—

Masonry.			
Wood & Son	£1,140	0	0
Slating.			
Overend	79	5	8
Plastering.			
Braithwaite	40	15	0
Joiner's Work.			
Readman	233	8	0
Plumbing.			
Brown & Son	65	12	0
Painting.			
Readman	18	10	0
Ironwork.			
Hutton	80	0	0
	£1,667	11	8

For repairing the portion of Chancery-lane within the Holborn District. Mr. Lewis H. Isaacs, C.E., surveyor to the Board:—

Aspinall	£1,298	0	0
Sales	1,287	0	0
Mowlem & Co.	1,265	0	0
Sewell (accepted)	1,207	10	0

For pulling down and rebuilding 61, Wood-street, city. Mr. E. Woodthorpe, architect. Quantities furnished:—

Larke	£656	0	0
Brass	647	0	0
Turner & Sons	643	0	0
Conder	619	0	0
Jefferys	570	0	0
Cannon (accepted)	499	0	0

For six seven-roomed houses, Old Brompton. Mr. F. Kersey, architect:—

Patrick & Son	£3,700	0	0
Jackson	3,575	0	0
Pearson	3,499	0	0
Brass	3,300	0	0
Freeman (accepted)	3,300	0	0

For Baptist chapel and school, Ryde. Messrs Francis Newman & James Newman, architects. Quantities supplied:—

Kemp	£2,700	0	0
Sibley	2,574	0	0
Smith	2,396	0	0
Langdon, James & John	2,310	0	0
Jolliffe	2,300	0	0
Denham	2,200	0	0
Meader	2,140	0	0

For new reservoir for the Tottenham Local Board of Health. Mr. P. P. Marshall, engineer. Quantities taken out by Messrs Curtis & Tregg:—

Plowman	£2,735	0	0
W. Crockett	2,450	0	0
F. & T. Wood	2,187	0	0
Sawyer	2,100	0	0
J. J. Yeoman	1,962	0	0
W. Chapman	1,905	0	0
Hill & Co.	1,880	0	0
R. Harradine	1,827	0	0
W. H. Row	1,699	0	0
D. Dowel	1,698	0	0
Bugbird & Son	1,661	0	0
M. A. Humphreys & Son, Totham (accepted)	1,600	0	0
J. & C. W. Todd	1,591	0	0

For alterations and additions to a house and premises at Cranley, for Messrs. Crooke. Mr. H. Peak, architect, Guildford:—

Strudwick	£330	0	0
Mason & Son	326	0	0
P. Ilard	320	0	0
T. & J. Loe (accepted)	283	0	0

For parsonage at Warfield, near Staines. Messrs. Poulton & Woodman, architects, Reading:—

Bullen	£1,915	0	0
Davis	1,475	15	0
Shephard	1,429	0	0
Biggs	1,425	0	0
Woodruffe	1,424	15	0
Matthews	1,399	0	0
Cooper	1,363	0	0
Perry, jun.	1,385	0	0
Lawrence & Co.	1,375	0	0

For the erection of a pair of semi-detached cottages Eltham, for Mr. Chas. Wilson. Mr. Thomas Ches Haworth, surveyor, Eltham:—

Blackhaller & Gorrum	£726	0	0
Elliott	615	0	0
Thos. O. Todd	546	0	0
J. & C. W. Todd	519	0	0
J. Wass (accepted)	480	0	0

TO CORRESPONDENTS.

C. K. Mayence (thanks for offered assistance)—T. and B. (arrived too late. Send particulars)—A Subscriber (magnesian limestone)—R. L. B. (photographs have been safely received)—M. M. P.—F. R.—C. For the numbers required have been posted)—Admiral Rous—A. H. P. (we cannot adjudicate between employer and architect on *particular case*)—M. P.—W. K. (We cannot recommend)—D. M. R.—A Constant Reader—J. R. S. (in a case, the builder shall, of course be paid, but his power of recovering at law would depend on circumstances)—A. M. L. (letter in our columns a few weeks ago, to duties of clerks of works in Engineer Department, will give advice of what he wants to know)—J. W.—E. R. E.—S. C. (shall have been forwarded)—Captain F.—G. W.—A Londoner often suggests—C. H. (shall hear)—H. P. Sriram—R. & Son.—O.—A. Contractor—Agent—A Clerk of Works—Royal Engineer—A Civil Officer.—A. (we cannot advise, ask a solicitor)—Reigate School next week—M. T. O. G.—C. J. H. Rome ("Excavations" in type. Shall hear from us)

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-Office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

WILLIAM DE LA VALLEY, of Brow street, an Apprentice to Mr. WILLIAM WARRINGTON, 31, Cranbourne-terrace, Hyde-park, ABSCONDED from his parents and service, and is forbidden to harbour or employ him as Glazier, otherwise.

MR. WILLIAM ELLISON ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

CLERK of WORKS.—WANTED, a CLERK of WORKS; one accustomed to stone work preferred. Address, with particulars of experience and salary required, to D. Messrs. Wallace & Son, Bexhill, Sussex, S.E.

WANTED, immediately, in a Builder's Office, about twenty miles from London, a Young Man as CLERK of the GENERAL ASSISTANT. To further particulars apply at 5, Parliament-street, City, E.C.

WANTED, a good GOTHIC CARPENTER. To an Architect of eminence. A first-class workman will find constant employment, and furniture designed and executed to order. Apply by letter only, stating where last employed, to A. HAYBALL, Wheelwright, Sheffield.

WANTED, in a Builder's and Decorator's Office, a Youth about 16 years of age. One who has been in the business would be preferred.—Address, prepaid, stating full particulars and salary required, to J. M. N. Office of the "Builder."

WANTED, a Young Man, of good address and used to the sale of Paper-hangings, to ASSIST in a business of a RETAIL CHARACTER. Married preferred, as he will have to reside on the premises. Address, stating age, salary required, to Mr. R. A. SMITH, 16, Seven-dials place, Old Kent-road, S.

TO DRAUGHTSMEN.

WANTED, an experienced DRAUGHTSMAN, a competent Perspective and Surveyor's Work. A gentleman who has been in the habit of employing such a person will find WILLIS HALL, Basinghall-chambers, 71, Basinghall-street, London, E.C.

TO ARCHITECTS, BUILDERS, &c.

WANTED, a RE-ENGAGEMENT, by a active and experience CLERK of WORKS. Is a draughtsman, quick at measurements and quantities of taskers. Or would take charge of a builder's business, being well up in it practice. References from architects and employers.—Address ALPHA, 14, Carlisle-street, Soho, W.

TO TIMBER MERCHANTS, &c.

WANTED, a RE-ENGAGEMENT as FOREMAN, &c. in a Timber or Deal Yard, or to Superintend the Working of a Saw mill. Age 36; accountant and book-keeper; with 18 years' undeniable references. Security if required. Address, W. care of Mr. Hannah, 7, Anderston-street, Sloane-square, London.

WANTED, by a Young Man, a SITUATION as JUNIOR CLERK in a Builder's Office. Can trace and copy drawings. Three years' experience.—Address, A. B. No. 2, Bewick-street, London, S.W.

TO DRAUGHTSMEN AND BUILDERS.

WANTED, a SITUATION as CLERK of WORKS, GENERAL FOREMAN, or to SUPERINTEND BUILDING WORKS. Good references. Address, C. P. 45, Claremont-street, Clarendon-square, Somers-town, N.W.

WANTED, by a thoroughly Practical Man a RE-ENGAGEMENT as FOREMAN in a Stoneware, Drain pipe, or Terra cotta Works. Would have no objection to a situation as Burner. Understands glazing with the white enamel in all its branches. Twelve years' reference.—Address, B. A. 32, Barrett-street, Princes-road, Lambeth, Surrey.

WANTED, a RE-ENGAGEMENT, by a experienced Draughtsman, accustomed to working drawings in all styles, perspective, specification, and quantities. Good references. Salary no detail.—Address, H. N. at Shell's, 2, Ridinghouse-street, S.W.

TO ARCHITECTS AND SURVEYORS.

WANTED, by a well-qualified ASSISTANT, an ENGAGEMENT. Has two years in last situation with an architect of good practice. Is a first-class draughtsman and a neating hand, well versed in the various styles, details, and routine of offices. For reference address T. G. H. care of Messrs. Cheeseborough, Bunnett, & Son, 12, Bedford, Temple-bar, W.C.

TO WOOD ENGRAVERS AND OTHERS.

WANTED, a SITUATION, by a Draughtsman accustomed to Works of Ornamental Art, &c. Apply by letter, to A. B. 18, Upper St. Martin's-lane.

WANTED, by a good Workman, a SITUATION as WHITEWASHER and GRAINER. Is willing to fill up time by assisting at any other branch of the business. Good references given.—Address, A. B. 27, Charington-street, Oakley-square, London, N.W.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.
THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.
Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.
BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

BUNNETT AND CO.
The Original Inventors and Patentees of every recent Improvement,
MANUFACTURE THEIR WELL-KNOWN
SUPERIOR REVOLVING IRON SHUTTERS
OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.
Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

INTERNATIONAL EXHIBITION, 1862.
ESTIMATES AND DESIGNS FOR SHOW CASES, METAL STANDS, &c.
With or without Revolving Machinery, by
BUNNETT & CO., ENGINEERS AND FOUNDERS,
DEPTFORD, KENT, S.E.; 17, QUEEN STREET, CHEAPSIDE; and 435, PARLIAMENTARY STREET, GLASGOW.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,
ESTABLISHED 1826,
Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.
DESIGNS FOR DECORATING PUBLIC AND PRIVATE BUILDINGS, OR ROOMS MADE IN ANY STYLE, AND ESTIMATES GIVEN. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. HAVING NOW GREATER FACILITIES FOR THE MANUFACTURE, A REDUCED TARIFF OF PRICES IS BEING PREPARED. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

WHITE AND PARLBY'S
NEW ILLUSTRATED CATALOGUE OF PAPIER MACHE AND CARTON PIERRE ENRICHMENTS.
PARTS I. TO V. NOW READY, EITHER OF WHICH WILL BE FORWARDED POST FREE, ON RECEIPT OF TWELVE STAMPS. SPECIMEN SHEET, WITH PARTICULARS, SENT ON APPLICATION, ENCLOSING POSTAGE STAMP.
WHITE AND PARLBY,
49 & 50, GREAT MARYLEBONE STREET, LONDON, W.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL
GREAT EXHIBITION, LONDON, 1851.
49, RATHBONE PLACE, W.
GEORGE JACKSON AND SONS
(Established in 1730)
Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Cups, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.
The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.
Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.
DESIGNS MADE FOR ANY WORKS.
PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.
EXPOSITION UNIVERSELLE, PARIS, 1855.
LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.
AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1½d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

APPLY TO

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅝-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch "	12s. 6d.	12s. 6d.	13s. 6d. "
1-inch "	14s. 6d.	15s. 0d.	15s. 6d. "
1¼-inch "	—	18s. 0d.	19s. 0d. "

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. "
Spruce Deals ..... £16 10s. "

¾-inch Matched Lining ..... 13s. 0d. per square.
⅝-inch " ..... 16s. 0d. "
1-inch " ..... 19s. 0d. "

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅝ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 "	13s.	13s. 6d.	14s. 6d. "
1 by 7 "	15s.	15s. 6d.	16s. 6d. "
1¼ by 7 "	17s.	18s. 0d.	19s. 6d. "

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER. & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



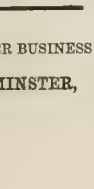
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.





J. GURMAN,

Inventor and Patentee of a New SASH POCKET and Fittings,

for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.

Send stamped envelope for Prospectus and Sectional Drawings.

Windows may also be seen at the Kensington and Conduit-street, Museums, London.



B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

SEASONED WAINSCOT OA
30,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS
Yellow Deals, from 3s. 3d.; Spruce, from 2s. 8d.; Pine P
from 2s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1
White Flooring, from 14s. 6d.; 1-inch Yellow, from 15s. 3d.; 1
from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock
PETERSBURG WOOD in London FOR SALE. Deliver
all railways in London, and alongside of any craft on the
Thames.—For further particulars, apply to Messrs. J & E. KNIG
Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, Lo
S.W.

ALFRED ROSLING & SONS beg
inform their Customers and the Building Trade generally,
they are enabled to allow a discount of 15 per cent. upon their
Prices for Mouldings. A large Stock of Dry Flooring at low pric
So thwark-bridge Wharf, Bankside, S.E.

BUILDERS and CARPENTERS,
OTHERS, have submitted to their notice these very red
prices, the lowest consistent with really useful qualities.
All sawn goods carriage free within three miles.

⅝ inch Flooring (well prepared), 11s. 6d.	⅝ inch do. 13s. per sq
Yellow Deals, sound and good ...	16l. 10s. per 120, or 3d. per f
Spruce Deals	" 16l. 10s.	" 2½d.	"
Yellow Battens, excellent quality	11l. 10s.	" 3d.	"
Pine Planks, dry, 12 ft. 3 in. by 11 ft. 9 in.	" 3s. 6d.	"
Seasoned Mahogany, Plank and Board, 6d. per foot.			

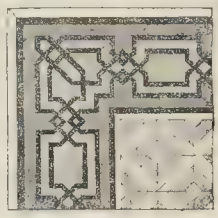
A very large Stock, ready sawn and seasoned.
ALFRED CARTER, Old Bethnal-green-road, N.E.

PATENT VENEERED HANDRAI
without Heading Joints, and the wreathed or circular
appearing the natural growth of the wood. Established upwa
40 years. In consequence of an improved steam apparatus, g
greater facility to the last Purchaser, a very considerable re
their Prices have recently been made. Price Lists forwarded by pos
inclosing a postage stamp; and Patterns to any part, on a refer
being given in London.
N.B. Columns, &c. Veneered for the Trade.
JOHN MELVILLE, 64, John street, Fitzroy-square, London, W

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SH
SHOP SHUTTERS are SHOD and LASCURED by the above
HALF THE COST OF THE UNSIGHTLY AND DESTRUCTI
SHUTTER BAR. Shops referred to in every public street in Lon
When ordering the above, send FINISHED THICKNESS of
shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street
Blackfriars road.



SOLI
PARQUET
FLOORS,
ARROW-SMIT
PATENTED
From 1s per fo
various wood
inch thick, groo
ongued, and
together, not
covered
For Halls, Stair
Corridors, Recep
rooms, Libraries
Bead and Ball Ro
Picture Galleries,
etting, Dados, Ce
Borders to Ca
Bay Windows, C
ces of Churches,
SHOW ROOM
80, New Bond-st
W.

GILT BORDERING for ROOMS, from
per foot. Best and cheapest House in London for e
description of Room Bordering, Picture Frame Mouldings, and Pi
Frames of every style of picture, at the very lowest prices. Repolis
all the trade. ¾-inch Gilt Beads, 7s per dozen
lengths; best ditto, 12s.
G. REES, 57, DRURY LANE,
Four Doors from Drury-lane Theatre. Established in 1800.

CONDY'S PATENT FLUID is adopted
the Leading Hospitals and by most Government Departm
It contains Nature's Deodorant (OXYGEN), possesses the exact
perties, and acts precisely in the same manner, as the great deodor
provided by Nature for purifying the air we breathe, and call
chemists OZONE; combining, therefore, the most powerful purif
properties with a perfectly innocuous and wholesome nature,
being without odour of its own, it forms the safest and most eff
disinfectant and deodoriser for sick rooms, slaughter houses, s
house-drains, sewers, cesspools, graveyards, &c., and is permane
useful for numerous domestic purposes, for which no other de
ising agents, on account of their pernicious character, can be emp
should never be employed for the purposes such as purifying
pure water, sweetening casks, removing and preventing tai
ment, grease, fat, &c. as well as to use in the bath for promoting
beautifying personal purity. Certain value of all Pretended Chem
in Bottles at 1s. 2d., 2s. 6d. each, or per Gallon, 10s. ONE GAL
MAKES THREE HUNDRED GALLONS ADAPTED FOR USE
Wholesale of the Patentee, Battersea, Surrey, S.W.

PARIAN CEMENT for INSIDE WOI
With this material houses may be finished and occupie
one-fourth the usual time, as Parian Stucco may be painted or pa
within forty-eight hours. A finer quality produces a beautiful and
resplendent imitation of marble.—Manufacturers, FRANCIS, BROTH
& FOTT, Nine Elms, London.

KEENE'S and PARIAN CEMENT
internal uses.—These well-known hard Stuccoes dry quic
and can be painted upon within a few days.
Made and sold by JOHN BAZLEY WHITE & BROTHERS,
Millbank-street, Westminster.

PORTLAND CEMEN
GREAVES & KIRSHAW,
14 SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALI

PLASTER of PARIS.—If you want GO
PLASTER, you must purchase RODESON'S (established 1
not the cheap country-made article sold by most of the agents
dealers, but PLASTER manufactured on the premises,
MOUNT PLEASANT, GRAY'S INN LANE, HOLBORN.
Unequalled superfine and fine.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The shortest Notice put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Drain, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, BUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED BRICKS
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

MARTIN'S PATENT FIREPROOF CEMENT

Is 35 per Cent. Cheaper than any other internal Cement in use.

Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.

186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.

SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.

SCOTT'S PATENT PLASTER.

GREY STONE LIME, of very superior quality. CHALK LIME.

Shipping orders promptly executed.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS—

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK-STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.

LIMEKILN-HILL, LIMEHOUSE, E.

Whereat can be had at all times, of the best quality

GREY STONE, CHALK, FLARE, and BLUE LIAS LIME.

ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS.

COWLEY and KENT BRICKS.

WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS

Ditto and ditto WALL COPING BRICKS and TILES

YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BRICKS and BLACK GLAZED HEADERS

WHITE, BLACK, and RED GLAZED TILES

STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS

TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, viz. DUTCH CLINKERS

Ditto, ditto ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN

PLAIN and ENGLISH WHITE GLAZED TILES, for Wall Linings, Back Kitchens, Dairies, Sculleries, &c. &c.

WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES

GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.

RED DRAIN PIPES, TILES, and CHIMNEY POTS.

TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, &c. &c.

HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.

Goods forwarded by Railway with despatch.

LIME WORKS, CHALK, FLINT, & BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and at any quantity, on such arrangements as may suit purchasers. PERCY WHARF, Great Sceales Yard, Westmuster, S.W. Manufactory—Great Yarmouth.

White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed

STRINGFIELD and BLYTH,

Sole Consignees of

NELSON'S BLUE LIAS LIME.

Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.

Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, Brentford, Chiswick, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.

No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cement with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank street, Westminster, who prepare one quality only of Portland Cement.

Agent in Liverpool—JOHN McKENZIE, 2, Beel street.

Do. do. Manchester—THOMAS OAKDEN.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,

LIME BURNERS,

BRICK MAKERS,

SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS

ST. JAMES'S and THORNHILL WHARFS,

CALEDONIAN ROAD, LONDON.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVERS WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours,

GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,

Office, 5, George-yard, Lombard-street.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise,

LONDON WHARF, BELVIDERE ROAD, LAMBETH

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants and Brokers' Orders promptly executed.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River

Price and particulars furnished on application to Mr. EVAN EVANS, Manager, Post's mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No approval is attended to without a banker's reference.

GREY STONE LIME.

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS,

12, UPPER GROUND STREET, BLACKFRIARS, S.

7, NORTH WHARF ROAD, PADDINGTON, W.

O. McCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Wellington Wharf, Whitefriars, Fleet street, City. Sand, from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or passage. Stocks Lime, and Gin Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT WORKS,

Northfleet, Kent.

Messrs. ROBINS & CO.

To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, or at the Works

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER and CO.

(Contractors to Government),

24 WHARF, HARROW ROAD, PADDINGTON, W.

Every article manufactured at the Crown Works and Mines, Brierley-hill.

FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non absorbent.

Shipments on the shortest notice.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields, and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,

IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere road, Lambeth; and Kent road Bridge, } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.

J. & W. EASTWOOD,

Belvidere road, Lambeth; and Kent-road Bridge.

JOHN DOULTON, BROTHERS, & CO.
LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractical person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is almost absolutely non-conductor
INODOROUS FELT, for damp walls and for ceilings, floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes &c. preventing the radiation of Heat, saving 25 per cent of Fuel, and deadening sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862.
By Her Majesty's Royal Letters Patent.
F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON, Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by
HER MAJESTY'S WORKS AND BOARDS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ISLAND OF WIGHT,
ROYAL BOARD OF GARDENS, KENSINGTON PARK.
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for covering, also used for under slates at the Royal Agricultural Society's House, in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its use and the manner of applying it, with TESTIMONIALS, some of them from upwards of one hundred years' experience from Architects, Builders, and Gentlemen, who have also kindly used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured by which a saving of at least 25 per cent in fuel is effected. The TRADE are respectfully informed that all orders MADE to the FACTORY, as the cheapest means of being supplied with a good article, and being certified to their use. The several works where the above roofing is made are F. M'NEILL & CO.'S Manufactories LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with M'NEILL'S FELT to be seen at the CAMPS of ALDERSHOT, CURRAGH, SHORNCLIFFE, and COLCHESTER; also at Three Miles of Fest; also the GREAT EXHIBITION BUILDING of 1862, of near One Mile on Feet. A Labor. Doubt about to the Trade

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

DRIVING BANDS, HOSE, VALVES, &c.
THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their VULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable than leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, cold, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Cart, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.
All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.
THE LEATHER CLOTH COMPANY, Limited,
56, CANNON STREET WEST, LONDON, E.C.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 2, Savile-row, London, and at the Mus. of Practical Geology, Jermyn-street, S.W.
This stone (which is a perfect colite), is raised in blocks of any portable size, and is about four feet beds in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ash, at work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connection generally throughout the Kingdom, that they have their
NEW and IMPROVED PRICE LISTS, English Edition, 1862,
Ready for distribution, and which can be had on application.

FOREST of DEAN STONE.—
Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.)
The FOREST of DEAN QUARRIES, COLEFORD,
GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.
That from their "Gosty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Birch-hill" and "Dark hill" Quarries, is decidedly superior to it.
Prices named on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

JOHN BAZLEY WHITE & BROTHERS,
MARBLE MERCHANTS,
MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

POLISHED GRANITE WORKS,
ABERDEEN—TOMBS, COLUMNS, PILASTERS, &c executed of the finest material and workmanship—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

SIXTY MARBLE CHIMNEY-PIECES
TO BE SOLD, in consequence of Monsieur Beernaert, of the Belgian and Westminster Marble Works, Millbank-street, Westminster, having discontinued his Show rooms in London. The above Chimney pieces consist of Carved Statuary, Bold Relief Royal, Bisque Trussed, &c. &c. The above will be sold at a great sacrifice—in fact, no reasonable offer will be refused.—Apply to Mr. PILTON, Westminster Marble Works, Earl-street, Horseferry-road, S.W.

VICTORIA MARBLE WORKS
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most recherché designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

THE BRITISH and FOREIGN MARBLE
GALLERIES, Warwick House, 142 and 144, Regent-street, and 29 30, and 31, Warwick-street, W.
EDWARDS, BROTHERS, & BURKE, PROPRIETORS.
The largest and most superior Stock of Chimney pieces in Europe on view at the above-named Establishment
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

HY. GEORGE & COMPANY
CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Marshill, &c. &c.
Grindstones, Sinks, Slabs, Coping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

CAEN and AUBIGNY STONE
FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—4, Three Crown-square, Borough.

BATH! BATH!! BATH!!!
ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons' Work prepared ready for using.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

BLOCK STONE! BLOCK STONE
The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall, Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.
SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are uniform in color and good tint. Parties would do well to see his Stock; also NOTE delivered direct from the Quarries to all parts of the Kingdom.
The BEST and CHEAPEST STONE-WHARF in LONDON.
Address, SAMUEL TRICKETT, Isle of Dogs, E.
A large quantity of Sawn Headstone for Sale. A Quantity of Grindstones for Exportation.

MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts, the Prize Medal of the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Timely imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney pieces, Tiles, Table tops, Baths, Washstands, &c. A New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have
A STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons. Prices forwarded and estimates given on application.—Address
No. 1, BOLD TERRACE, CHESTER.

THE NORTH-WESTERN STONE
WHARF, Canal Bridge, Camden Town, is the cheapest Stone Wharf in London. Large stock of KENTISH RAG, of all sizes, for YORK-SHIRE and other STONE, GRANITE CURBING, and PITCHING, is always on hand to select from. Self-faced paving at 22s. per 100 feet; 1½-inch tooled, ditto, 31s. ditto; 2-inch Hare hill Slate, 33s. ditto; and a full list of stone at equally low prices.—W. ASPINALL, Proprietor.
N.B. Country orders, to receive punctual attendance, must be accompanied by a remittance.

RED MANSFIELD STONE
WHITE MANSFIELD STONE
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

VALE of WARDOUR FREE STONE
TISBURY, WILTSHIRE.
T. P. LILLY, Quarryman and Stone Merchant, begs to introduce to the notice of Architects, Contractors, Stone Merchants, and Builders the FREE STONE raised from recently-opened QUARRIES at TISBURY and the neighbourhood.
Geologically this stone is identical with the Portland Oolites, and its workable properties present a medium between that material and the Bath stone. Numerous buildings of considerable magnitude attest the durability and texture of the stone of this district. Amongst these may be cited SALISBURY CATHEDRAL, TISBURY CHURCH, the POULTRY CROSS, SALISBURY, WILTON ABBEY, &c. recently from Chilmark and other Quarries immediately adjacent to these undertakings. The beds are of considerable thickness, and blocks of any ordinary size are readily obtained. Some of the stone is extremely white, and others of a cream colour; there is considerable variety in strata, the grain of some of these being remarkably fine, and are peculiarly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly fitted to stand the action of water, or exposure to those tests which usually affect and disintegrate the common free stone.
Specimens of the Stone may be seen at Messrs. POOLE & SONS' Marble and Stone Works, Great Smith-street, Westminster, S.W., and in the Museum of Practical Geology, Jermyn street, Nos. 31 and 32, Case V.; and any quantity may be obtained of Messrs. KNIGHT & SON, Bevon Wharf, Mile-end, London, or direct from the Tisbury Quarries.
Orders for Worked Stone carefully executed at the Quarries. Samples forwarded, and any further information may be obtained of
Mr. T. P. LILLY, Gillingham, Dorset.

GRANITE.—The Cheesewring Granite
Company, Limited, Liskeard, Cornwall
SHOW ROOMS, 6, CANNON STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the material forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application. - Office, 37, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Head-stone, Ledgers, Steps, Landings, &c. cut on the shortest notice. Country orders promptly attended to.

RANSOME'S IMPERISHABLE SILICEOUS STONE. ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden decorations executed to order; and an extensive stock on hand at reduced prices. Filters and Filtering Slabs for Domestic or Manufacturing purposes. For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACK FRIARS, TO 30, CONDUIT-STREET, REGENT-STREET. INCAUSTIC AND OTHER PAVEMENTS. EARTHENWARE AND PLAIN TILES. DESIGNS AND ESTIMATES PREPARED. MANUFACTORY, STORE-UPON-TRENT.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop. May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free. London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA COTTA WORKS, BLACK-FRIARS ROAD, LONDON, S. MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1763, and the recipient of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and valuable Material in Sculptural and Architectural Embellishment, suitable to the Palace, Mansion, or Cottage, which will be found to be equalled in price, quality, and durability; and the Works of this Establishment have stood the test of time. An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage stamps.

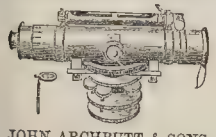
BRICKS, PANTILES, AND PAVINGS. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 36s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 77s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

TERRA-COTTA VASES, STATUES, &c.—The nobility, gentry, and architects are respectfully informed that JOHN M. BLASHFIELD has REMOVED his establishment from Praed-street, Paddington, to a New Gallery at 16, GREAT MARLBOROUGH STREET, W. where specimens of Terra Cotta Works of Art may be seen, and orders for London should be addressed. Orders for the country and applications for estimates for new designs should be sent direct to the Terra-Cotta Works, Ufford, Lincolnshire.

BEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Caledonia-street North, City-road Basin, N. finally, that the trade mark, "TERRO-METALLIC" is the exclusive right of the Proprietor; and thirdly, that the "Reports of the Juries," page 881, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED. Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s. Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises. Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use. Lists of Prices on application. 3, GREAT TURNSTILE, HOLBORN, LONDON, W.C. Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THODOLITES, LEVELS, CIRCUMFERENTERS, RULES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS, 20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre. Respectfully informs the Public that his Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING. A STOCK OF THE ABOVE ALWAYS ON HAND. JAMES LYNE HANCOCK, VULCANIZED INDIA RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON E.C.

ENCOURAGE COUNTRY MANUFACTURE.

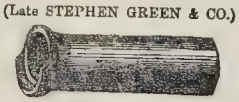
WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF SALT-GLAZED SOCKETED DRAIN-PIPES, BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT, WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N. From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

IMPERIAL POTTERIES, LAMBETH. JOHN CLIFF & CO. (Late STEPHEN GREEN & CO.)

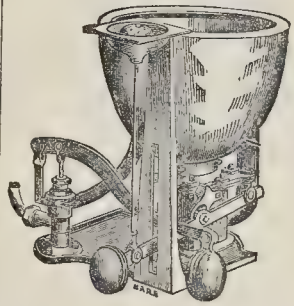
GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

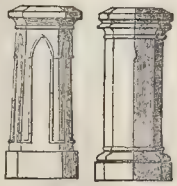
HAYWARD TYLER & CO. ENGINEERS AND BRASSFOUNDERS, 84 AND 85, UPPER WHITECROSS STREET, LONDON, E.C.

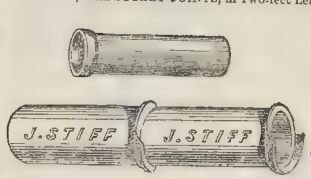


HOWARD'S PATENT REGULATING VALVE, MANUFACTURED BY H. T. & Co. Has been fixed in every situation, and proved to be THE ONLY EFFICIENT VALVE FOR SUPPLYING CLOSETS WITH WATER WITHOUT THE COMPLICATED ARRANGEMENT OF CRANKS AND WIRES. The "Great Eastern" has been fitted with these Closets, and hundreds are now in operation in many large establishments in the metropolis.

H. T. & Co. solicit an inspection at the Manufactory, where they may be seen in operation.

JAMES STIFF & SONS, MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c. LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON. STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz :—
Messrs GLADDISH'S, Pellar's-acre, Lambeth; Rockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs BLACKMORE & COE City-road Wharf, City Basin.
Messrs COLES, SHADBOLT, and CO.'S, St James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich.
Mr. GEORGE ALLEN'S, Denver's Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON & WATTS, LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.

J. TYLOR & SONS,

MANUFACTURERS,

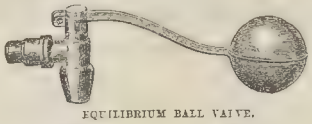
WARWICK LANE, NEWGATE STREET, LONDON.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

To be seen in action at the Manufactory, WARWICK LANE,
And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent street, London.
ILLUSTRATED CATALOGUES ON APPLICATION.



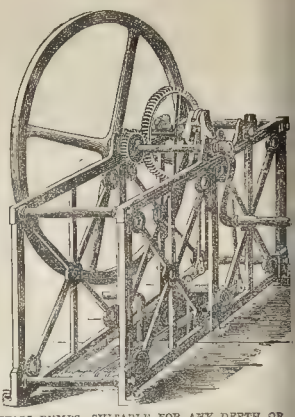
LAVATORY APPARATUS.



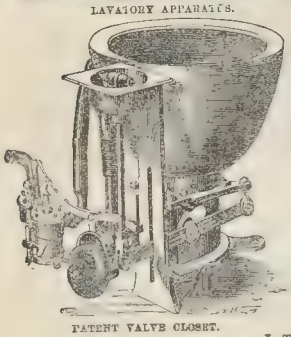
EQUILIBRIUM BALL VALVE.



HIGH-PRESSURE DIAPHRAGM VALVES.



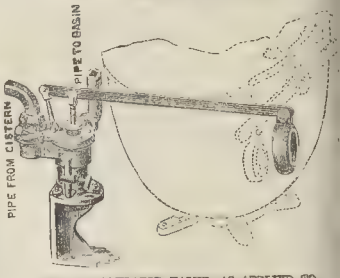
WELL PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



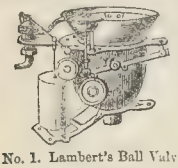
PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

THOMAS LAMBERT & SON,

No. 57. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



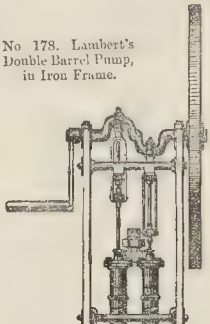
No. 36a. Bath Valves.



High Pressure Stop Valve.



No 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

HENRY DOULTON & CO.'S



GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.

High-Street, Lambeth, London.



TYE & ANDREW
NEW PATENT SIN
TRAP is universally admitt
to be the only perfect Trap
Sinks in Domestic Dwellin
Prospectuses on application
the Patentees, TYE & ANDRE
Brixton-road.

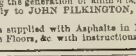
SUPPLIED BY ALL LEAD MER
CHANTS AND IRONMONGER

Sole Agent for Birmingham
R. BROWN, 95, PRITCHETT

HAY'S PATENT WATERPROOF GLU
(as Advised by Mr. HAY, Admiralty Contract
New Dockyard, Portsmouth) is of universal
stitute for hot pine glue, and one-third of the
ton.
It is invaluable for caulking the seams of ship
times as durable as ordinary pitch. It has been
seven years in Her Majesty's ship, "Blonde,"
that time the action of the sun and weather.
It retires joints of wood, slates, tiles, and all metals to adhere
firmly, will take an enormous pressure, and make them
It is a substitute for black paint, and is considerably
applied to weather-boarding and fencing; and is a
all iron and woodwork, and when applied to bricks or stones
prevent damp. This composition is especially adapted for
as a coating to submarine and other telegraphic wires.
It is requested that on all orders the purpose for which it is
be stated.

London Agents,
Messrs. G. C. WARDEN & CO.
12, London-street, Fenchurch-street, E.C. Factory, Chandos-
Landport, Portsmouth.
GEORGE WEBER Manage

POLONCEAU and LIMME
ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every descrip
especially in places subject to damp and vermin. This Asphal
now extensively used for paving Stables (as shown above), the ab
of joints preventing the generation of ammonia. For Estimates
Prices, &c. &c. apply to JOHN PILKINGTON, 16, Fish street
London, E.C.
Country Builders supplied with Asphalte in Bulk for coverin
Footings, Barn Floors, &c with instructions to lay it down.

MONEY.—IMMEDIATE CA
ADVANCES MADE ON
FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY.
FURNITURE, HOUSEHOLD and OFFICE.
WINE and SPIRIT WARRANTS.
SHARES, DEBENTURES, &c
BANKRUPTS' and INSOLVENTS' CASES CONDUCTED.
Balance-sheets Prepared, and Meetings of Creditors Conven
Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AG
17, Moorgate-street, Bank, London.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.
BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 36.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2½ in.	short 1 ft. 7 in.	Fitted for lead, gutta percha or cast iron flanged pipe, as required.	1 1 0
2½ „	long 3 3		1 10 0
3 „	ditto 3 6		2 4 0
3½ „	ditto 3 6		2 9 0
4 „	ditto 3 6		3 18 0
2½ „	short, with 15 feet of lead pipe attached, ready for fixing		2 0 0
2½ in.	long ditto ditto		2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.

A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

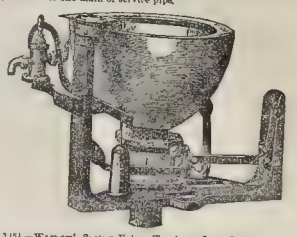
Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

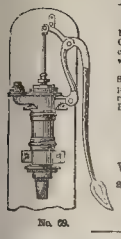
House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 1454.—Warners' Siphon Valve Closet on Iron Frame, with unlimited India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 0
Sunk handle extra 0 3 0
Blue basin, extra 0 1 6



No. 69.



No. 384. No. 383.

WARNERS' HIGH PRESSURE COCKS are made with gland Stuffing boxes and loose Valves. They can always be made sound after wear, and re leathered with facility.

All Warners' Cocks are tested with Hydraul Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the Use of Water Companies as an efficient substitute for the ordinary Bibtee Cock.



No. 1484.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin. £3 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

The above Prices are subject to a liberal discount.

WARNERS' BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.



Where strength is not an object, a lighter Pump can be supplied.

3½ inch	£4	15	0
3 „	3	15	0

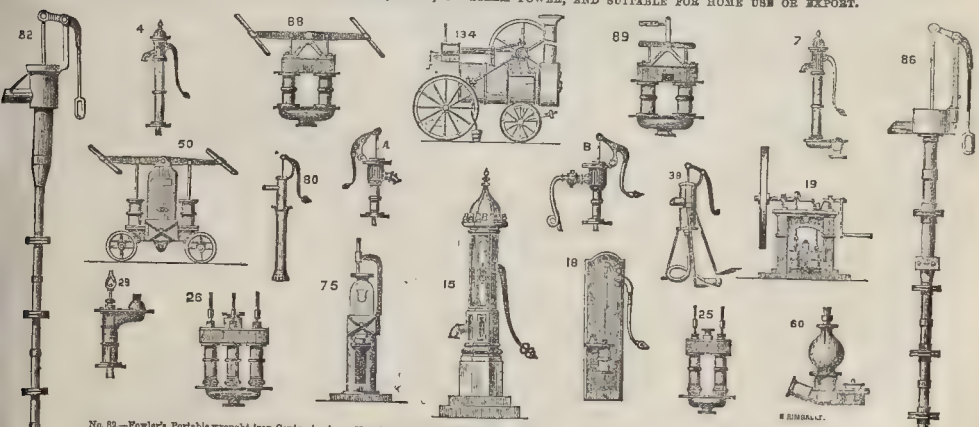
J. WARNER & SONS'
PRICED
ILLUSTRATED CATALOGUE
WILL BE FORWARDED POST-FREE ON APPLICATION.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BENJAMIN FOWLER & CO., WHITEFRIARS-ST., FLEET-ST., LONDON,
MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DEEP OR SHALLOW WELLS, CUTTINGS, TANKS, &c., FOR MANUFACTURING, DOMESTIC, AGRICULTURAL, CONTRACTING, AND ALL OTHER PURPOSES;

TO BE DRIVEN BY HAND, HORSE, WATER, WIND, OR STEAM POWER, AND SUITABLE FOR HOME USE OR EXPORT.



No. 82.—Fowler's Portable wrought-iron Contractors' and Excavators' Pumps, plain or galvanized, in any lengths. 4-inch to 9-inch barrels.

No. 4.—Fowler's improved cast Bored Pumps, for general purposes, with brass valves, tail-pieces tinned, screwed, or flanged. 2½ inch to 5 inch barrels.

Nos. 88 & 89.—Fowler's Double Barrel wrought-iron Portable Contractors' Pumps, for hand or steam power, in any lengths, to any depth. 6-inch to 30-inch barrels.

No. 134.—Portable Steam Engines, of best modern construction, for Pumping, Sawing, Winding, &c. for Hire or to Order.

No. 7.—Fowler's Patent Side Valve Pumps, with ready means of access to valves, and improved brass buckets. Sizes 2½ inches to 5 inches.

No. 50.—Holman's Patent Portable Double-barrel Force Pumps, for emptying cesspools, pumping water from ponds or shallow wells, for mortar mixing, wetting clay &c. 4-inch to 7 inch barrels.

No. 80.—Fowler's Wrought Portable Contractors' Pumps, plain or galvanized, with sliding suctions. 4 inch to 9 inch barrels.

Fig. A.—Fowler's Improved short Cottage or Conservatory Pumps, with gunmetal mountings and improved brass valves. Tail-pieces for lead, screwed, or flanged pipes.

Fig. B.—Fowler's ditto Force Pumps, nozzles with unions tinned, screwed, or ready for hose pipes; and tail-piece the same.

No. 38.—Fowler's Portable wrought-iron or copper Pumps on tripod legs, with improved valves and unions for hose.

No. 19.—Holman's Patent Double-barrel Force Pumps, brass barrels, doors to valves, fly wheel, and winch handles. For supplying cisterns in mansions, &c.

No. 23.—Fowler's brass or iron Deep-well Pumps, on square tails, with various gears for working same.

No. 26.—Fowler's Trelle barrel brass or iron Deep-well Pumps, with or without steam or horse gear for working same. 2½-inch to 12-inch barrels.

No. 75.—Holman's Patent Double-action Pumps, ready to connect to steam or horse power. 3 inch to 15 inch barrels. These will be found excellent and simple pumps for brickmakers' and manufacturers' purposes.

No. 15.—Fowler's Ornamental Public Pumps of various patterns. Drawings and estimates can be had to suit any position.

No. 18.—Fowler's Improved brass or iron Lift and Force Pumps on planks, with tinned screwed, or flanged outlets and tails. 2-inch to 5-inch barrels.

No. 25.—Fowler's Double Brass Barrel Deep Well Pumps, 2½ inch to 6 inch barrels. Frames and Gear for working same by hand or steam power.

No. 60.—Fowler's Improved Hydraulic Rams, for raising water to considerable elevations, where a fall can be obtained from a stream, pond, or spring.

No. 96.—Fowler's Portable Contractors' Pumps, with cistern heads extra strong, and suited for depths from 20 to 200 feet, 3-inch to 9-inch barrels, to be worked by hand or steam power.

Nearly the whole of the above are kept in Stock, either complete or in a forward state.

ILLUSTRATED CATALOGUES MAY BE HAD ON APPLICATION, OR FREE BY POST.

SALES BY AUCTION.

AGAR-TOWN.—To MARBLE MASONS, BUILDERS and OTHERS.—PULLEN, HORNE, & EVERSFIELD, are instructed to SELL by AUCTION, on the PREMISES Sicilian Wharf, Agar Town, THIS DAY (Saturday), and TUESDAY, FEBRUARY 25th, at TWELVE, a CARGO of MARBLE, consisting of Sicilian and Bastard Statuary, recently imported per "Alexandrine;" also, an assortment of vein, Sicilian, statuary, and various coloured marbles, in block and slab, seven three-quarter length female figures in Sicilian marble, suitable for gardens, and two figures of "Grief" in statuary, adapted for monumental purposes.—May be viewed two days previous, and catalogues had on the Premises; and of PULLEN, HORNE, & EVERSFIELD, 43, Parliament-street, Westminster, and 89, Fore-street, City.

N.B.—Approved bills at four and six months, and second-class railway fare will be allowed to purchasers above 30*l.* coming from a greater distance than twenty-five miles.

BUILDING MATERIALS, White Horse-street, Commercial-road.—PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on TUESDAY, FEBRUARY 25th, at TWELVE, in lots, by order of the Directors of Works for the Limehouse District, to clear the site for their new offices, all the valuable BUILDING MATERIALS, FIXTURES, &c.: FITTINGS-UP of six houses, situate Nos. 27 to 32, White Horse-street, Commercial-road, near the Stepney station, comprising a good sound brick work, a large quantity of plain and pan tiles, stout rafters, joists, girders, and other useful timber, slate slabs, paving, quarry, and landing-stones, chimney-pots, internal interior fittings, and flooring boards, shop fronts, stone paving, lead gutters and pipes, stoves, coppers, and useful fixtures and fittings-up.—May be viewed the day previous. Catalogues had of CHARLES DUNCH, Esq. Surveyor to the Limehouse Board of Works, White Horse-street, Commercial-road East; and of PULLEN, HORNE, & EVERSFIELD, 89, Fore-street, City E.C. and 43, Parliament-street, S.W.

LONDON, CHATHAM, and DOVER RAILWAY.—Metropolitan Extension.—Fifteenth Clearance Sale. Building Materials of about Thirty Houses, Walworth-road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on THURSDAY, FEBRUARY 27, at TWELVE, in lots, all the excellent BUILDING MATERIALS of about Thirty Mod'rn Houses (several of a superior description), sheds, stabling, and other premises, situate in and near Hanover-street and Hampton-street, and in front of the Walworth-road. May be viewed the day previous, and catalogues had at Mr. VICKERS's Office, 3, Frederick-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 89, Fore-street, E.C. and 43, Parliament-street, S.W.

TO BUILDERS and OTHERS.—IRONMONGER'S STOCK.—The Stock-in-Trade of Mr. John Grice, of 18, Cross-street, Walworth-road, in consequence of his premises being taken by the London, Chatham, and Dover Railway

MESSRS. GLASIER & SON are instructed to SELL by AUCTION, at TAYLOR'S DEPOSITORY, opposite the Elephant and Castle (where the Stock is being removed to, the Railway Company requiring immediate possession), on WEDNESDAY, FEBRUARY 26, and following days, at TWELVE for ONE, the whole of the capital STOCK-IN-TRADE of Mr. John Grice, comprising about 250 register stoves, in polished steel and Cornish bronze; Berlin black and fine cast, self-acting kitchen-ranges, kitcheners, cottage ranges, slide stoves, also 50 chimney-pieces, upwards of 100 bright steel, bronze, and Berlin black fenders; about 80 sets of fire-irons, scythes, spades, shovels, locks, bolts, bars, hinges, latches, screws, nails, and general builders' ironmongery; cutlery, furniture, house furniture, plain and fancy china mortice furniture, furnishing ironmongery, weighing machines and weights, smiths' tools, two useful cart horses, three spring carts, three sets of cart harness, and sundries.—May be viewed the day prior and mornings of Sale; and catalogues had at the Place of Sale; at GARRAWAY'S; and of the Auctioneers, 41, Charing-cross, S.W.

CREWE FREEHOLD BUILDING LAND.—TO BE SOLD, by AUCTION, pursuant to a Decree of the High Court of Chancery, made in a cause Blakemore *v.* Elleston, by the Vice-Chancellor Sir John Stuart, the Judge to whose Court the said Cause is attached, by

MESSRS. CHURTON, the Persons appointed for that purpose, on FRIDAY, the 28th FEBRUARY, 1862, at the CREWE ARMS HOTEL, CREWE, at TWO o'clock in the afternoon, SIXTY-SEVEN LOTS of FREEHOLD BUILDING LAND, of various dimensions, from 2,584 to 681 square yards, abutting on mill-street, Oak-street, the Nantwich-road, Small-lane, and on a new road from Oak-street to the Station, and another new road from Mill-street to the Railway Station, all at Crewe, in the immediate neighbourhood of the Railway Stations of the main line, and of the Manchester, Liverpool, North Staffordshire, and Shrewsbury and Birmingham Branches of the London and North Western Railway.—Particulars and Conditions of Sale, and Plans may be had (gratis) on application to Messrs. FISHER & HODGES, Newport, Salop; HENRY HEARN, Esq. 12, Regent-street, London, and Newcastle, Salop; Messrs. FINNIGER & WILKINSON, 28, John-street, Bedford row; Messrs. GREGORY & CO., Bedford-row; Messrs. BRIGHTON & SPEAKMAN, and RICHARD CHAMBERS EDLESTON, Esq. Nantwich, Cheshire; and Messrs. CHURTON, Auctioneers, Chester and Whitchurch, Salop; and at the place of sale.

Dated the 24th day of January, 1862

ALFRED HALL, Chief Clerk

EDMONTON.—Valuable Freehold Accommodation Plots, eligible for Building Purposes.

MESSRS. DEBENHAM & TEWSON will SELL, at the ANGEL HOTEL, Edmonton, on THURSDAY next, FEBRUARY 20, at SIX o'clock in the forenoon precisely, about 24 Acres of FREEHOLD PASTURE LAND (land tax redeemed), situate near the town of Edmonton, and having a frontage of 600 feet to the Southgate road, near Huxley's Farm. Three fourths of the purchase-money on each lot can remain at 5 per cent. Particulars and plans (now ready) of Messrs. STEVENS & BEAUMONT, Solicitors, Witham and Coggeshall, Essex; and of the Auctioneers, 80, Cheapside.

CHOICE FREEHOLD BUILDING SITES, at COLNEY HATCH, MUSWELL HILL, HACKNEY, and ANERLEY

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on FRIDAY next, FEBRUARY 21, at TWELVE, valuable FREEHOLD BUILDING LAND, comprising about an acre and a half, eligible for Villas or Cottage Residences, situate at Colney Hatch, abutting on the high road to Finchley Common, within five minutes' walk of the railway station; upwards of a quarter of an acre in the Lordship-road, Stoke Newington, adjoining Hackney station, offering an inviting site for one or a pair of villas; also, separately, Four Plots, eligibly situate on the rise of the hill, on the west side of the Durham-road, Anerley, adjoining the Cawdor Estate, and close to Victoria Park Railway-station; and a capital Plot, frontage about 50 feet 6 inches, abutting on the Station road, Anerley Railway station.—Particulars and plans (now ready) at the Mart; and of the Auctioneers, 80, Cheapside.

ASH, SURREY.—BRICKS! BRICKS!! BRICKS!!!—TO BE SOLD by AUCTION, by

MR. THOMPSON, in the BRICK-FIELD, near the Greyhound Inn, Ash, on FRIDAY, the 28th day of FEBRUARY, 1862, at ONE for TWO o'clock, by order of the Proprietor, Mr. Myers & Son, containing 1,000 PLACE BRICKS 600,000 hard burnt Stock ditto, together with a large quantity of Bats and Soils, to be sold in lots, 5,000 and upwards. The above bricks are situated ready to be loaded on trucks in the brick field on the railway from Aldershott to Ash Green Station on the South-Western Railway, and through the brick field with a three-quarters of a mile of the South Eastern Station, on the Reading and Reigate line, and within three-quarters of a mile of the Basingstoke Canal.

Superior Stock of General Ironmongery and Tools from an old City business, giving up this branch of their business.

MR. BULLOCK is directed to SELL, without reserve, at his ROOMS, 211, High Holborn, on TUESDAY next, at ELEVEN, the remaining STOCK of first-class IRONMONGERY, including circular and other saws, turning and other tools and tool chests, for gentlemen's use and the various trades, Barron's and other locks, and builders' requisites, steel letters and figures for the workers and workers in iron, patterns of iron steel wire, brass sheaved blocks, &c.—May be viewed, and catalogues had on Monday next, or prior thereto, on receipt of stamps.

BACK-ROAD, SAINT GEORGE'S EAST.

MR. TINDALE will SELL by AUCTION, on the PREMISES (near the Centenary Chapel), by order of the Executors of the late Joshua Wilson, on TUESDAY, 4th MARCH 1862, and following days, at EIGHT o'clock precisely, without reserve, the entire PLANT, STOCK-IN-TRADE, and UTENSILS of a BUILDER, comprising several thousand feet of dry yellow, white, and pine deals and planks, cut in various thicknesses; about 500 squares of dry prepared flooring and matched linings; sound oak scantling, benches and cramps, handsome mantelpieces, deals and screws, ladders, stays, powerful crab and screw jacks, scaffold-poles, boards, uprights and rods, bricks, tiles, slates, quantity of stores, glazed iron pipes, rain water gutterings, four builders' carts four wheeled chaise, harness, chaff-cutting machines, quantity of old building materials, large iron safe, and office fittings, furniture, and other effects. On view the day before Sale. Catalogues may be had on the premises, and of the Auctioneer, post-free, 1, Portland-place, Commercial-road, E.

TO ENGINEERS, MACHINISTS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, MARCH 4, at 11 for 12 punctually, at ELIAS'S Repository, next day, at the Works of Bernard's Patent Machine Boot and Shoe Company, Limited, Ranelagh-road, Grosvenor-road, Pimlico, in lots, the valuable collection of ENGINEER'S TOOLS used in the construction of the different patents' machines, new within three years (principally by Whitworth, Smith, Beacock & Tannett, and Shepherd, Hill, and Spinkes), including a 15-inch centre screw-cutting lathe, with 24-feet bed; a 10-inch centre screw-cutting lathe, with 15-feet gap bed; 9 inch centre screw-cutting lathe, with 12-feet bed; seven 7-inch centre self-acting screw-cutting lathes, with 6-feet 6 inches nine inches gap beds; three 6-inch centre screw-cutting lathes, with 5-feet 6-inches beds; one 6-inch centre hook-and-slide lathe, with 14 feet bed; another lathe, one inch, for sewing machines, with 7-feet bed; two self-acting planing machines, to take in 2 feet 6 inches wide by 2 feet 6 inches high, and 2 feet wide by 2 feet high; three self-acting shaping machines, 9, 12, and 15 in the strokes, and 4 screwing tables; self-acting slotting machine, to take in 3 feet diameter; one self-acting horizontal boring machine, two self-acting drilling machines, two self-acting upright drilling machines, self-acting wheel-cutting machine, set of Whitworth's gauges, from 1 inch to 2 inches; sets of stocks, taps, and dies, from ¼ inch to 1¼ inch; steel tools, ratchets, planed surface plates, 12 horse power portable high pressure steam-engine, one 10-inch cylinder horizontal high pressure steam-engine, by Bellhouse; one 2-horse power direct-acting steam engine, two return flue steam boilers, 13 feet 6 inches and 14 feet 6 inches long 4 feet diameter; two cylindrical steam-chests, 9 feet long, 2 feet 6 inches diameter; 500 feet flanged steam-pipe, 1,000 feet turned bright shafting, 3,000 feet leather driving-bands, 12 feet rollers, flanges of smiths' shop, three forges, anvils, vices, and benches, three tons pig and cast iron, one ton cast and sheet steel, four gun-barrels, double purchase crab, bottle jack, blocks and falls, six joiners' benches, weighing machine, gas-fittings, office furniture, and a large quantity of miscellaneous property. To be viewed on Friday, Saturday, and Monday previous to the Sale, by catalogues only, which may then be had at 6*d.* each, on the Premises, or previously, of Messrs ASHURST, SON, & MORRIS, Solicitors, 6, Old Jewry, E.C.; of F. MAYNARD, Esq. Public Accountant, 19, Bread-street, E.C. Manager, and of Messrs FULLER & HORSEY, Billiter-street, London, E.C.

GUILDHALL, London, 28th January, 1862.

BUILDING LEASES.—The Committee for Letting the Bridge-house Estates will meet at GUILDHALL on FRIDAY, the 14th MARCH next, at TEN o'clock precisely, to receive TENDERS for BUILDING LEASES of TWO PLOTS of GROUND, on the west side of High-street, in the Borough of Southwark. A plan of the ground and conditions of letting may be seen at the Architect's Office, Guildhall. FERDINAND BRAND, Comptroller.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive MANUFACTURING PREMISES, known as TREDEGAR WORKS, Bow Marshes, 61 by 61 feet, two ranges of brick slops 74 by 27 feet. Steam-engine boilers, forge, sheds, stabling, counting-houses, and all other conveniences, suitable for a large factory.—For further particulars and leave to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

TO BUILDERS and OTHERS.—FREEHOLD LAND TO BE LET, upon building lease, suitable for house from 40*l.* to 60*l.* per annum. Money advanced if required.—Apply to Mr. JOHN WIMBLE, Architect, 2, Walbrook, E.C.

GUILDFORD.—To BUILDERS and OTHERS.—LAND TO BE LET, on building lease, for ninety-nine years, on very eligible terms, is situate close to the town, near a church, and within ten minutes' walk of the Railway Station. It is well adapted for villas of a superior class, with good gardens, and such are in very great demand. This is an excellent opportunity for builders or intending residents. Further particulars can be obtained of Mr. F. CLARK, Solicitor, or Mr. T. GOODCHILD, Architect, Guildford, of whom plans can be seen.

TO BUILDERS and OTHERS.—SELHURST-PARK, Norwood, near the Junction Station.—The freeholder will co-operate with respectable builders in ERECTING HOUSES, to let at 45*l.* to 65*l.* Excellent bricks of every class on the estate. Proximity to the Junction Station, enables materials to be readily supplied. All roads made. Several detached villas erected, all of which have been let before finished; and others are in course of completion. Natural drainage from all parts of the estate. A proverbially healthy, water and road abundant, fairies and walks beautiful; nine miles, or 15 minutes from City; 24 minutes from West-end; 14 minutes from Croydon; 30 minutes from Brighton. Trains constant from six a.m. till half past twelve at night.—Particulars at Selhurst-park Office; or to Messrs. FRANCIS FULLER & CO. Cornhill, E.C.

BETHNAL-GREEN.—BUILDING LAND at Low Ground-rents.—PLOTS of LAND, for small houses, near Green street, Bethnal-green, on the estate of the late Samuel Emsley, esq. The sewers, roads, and paths are laid.—For particulars apply to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial road, E.

TO IRONFOUNDERS, ENGINEERS, RAILWAY COMPANIES, &c.—TO BE LET, EXTENSIVE PREMISES, adjacent to the South-Western Railway, Waterloo Terminus, and the River Thames, comprising a long frontage, and covering an area of upwards of an acre. The premises comprise large foundry, workshop, steam-power, planing machines, lathes, cranes and all the usual plant necessary for carrying on an extensive business. They have for the last half-century been occupied by a celebrated London firm of ironfounders, engineers, and agricultural implement makers, and the reason for letting is the retirement of the dissolution of the present partnership. The plant, which is in good working order, and the stock may be taken at a valuation. The owners, which have just been established a quarter of a century, will be happy to meet a person very ready to take part with. For further particulars apply to Mr JOHN R. FOWLER, 24, St. Swithin's-lane, E.C. Principals or their solicitors will only be treated with

SAWING-MILLS.—TO BE LET, with immediate possession, a well-arranged SAWING-MILL, conveniently situated in South-town, Great Yarmouth, comprising 20-horse power Steam Engine and other purposes. Particulars, and terms, and form of Tender may be obtained upon application to Mr. CHARLES DUNCH, Surveyor, at the Office of the Board, White Horse street, Commercial road, E.

UPPER TERRACE, ISLINGTON.—Several HOUSES in Upper terrace, Islington, TO BE LET on Lease, from 24th March next. For particulars, apply to Messrs WHITESIDE & SMITH, Solicitors, 63, Lincoln's-inn-fields.

PORTLAND CEMENT WORKS.—BRISTOL (close to the Railway Station and Docks. Conveyance to London, 7*s.* per ton), TO BE SOLD or LET. The business is of seventeen years' standing. There are three pairs of millstones, a heavy edge runners, large iron revolving table and pan, wash-mill, elevators and crushers, spacious sheds, drying stoves, 16-horse power high-pressure engine, two boilers, kilns, good dwelling-house, and warehouse.—Apply to Mr. CHARLES ISAACS, Spring Villa, Clifton, near Bristol.

TO BE LET on LEASE, from Midsummer next, the valuable and extensive range of FREEHOLD WAREHOUSES, No. 88, Leadenhall-street. The entrance to the yard from that street, and a portion of the buildings abut on Cree Church-lane.—For particulars, apply to Mr. EDWARD H. BURNELL, Bedford-row, W.C.

TO BE LET, with possession in April next, the WATER CORE-MILL, known as Charlton Mill, Dover, driving ten pairs of stones, and recently fitted with new work throughout, and a new turbine, all of which are in good working order, together with the dwelling and extensive premises and buildings thereto belonging.—Apply to Messrs. WALKER & JERWOOD, 12, Furnival's-inn, Holborn.

WOODFORD.—PLOTS of BUILDING GROUND TO LET, on the Grove Estate, within five minutes' walk of the Railway station, and close to the church, and twenty minutes by rail from Fenchurch-street; lies high and dry; was supplied by East London Water Company. Apply to the freeholder WASHINGTON SINGLE, Esq. the Grove, Woodford. Money advanced, if required.

TO COACH-BUILDERS, IRONMONGERS, UPHOLSTERERS, DRAPERS, &c.—TO BE LET, on the Lease of Fifty-five Years to be Sold, a Large PREMISES, with Counting-house, newly built, Lo-ath, Do feet, with 23 feet front, situate in the Premises, No. 3, Ed ington-green, or at 38, Rickett-street, Portman-square.

TO BUILDERS.—ELIGIBLE BUILDING LAND TO LET, in the suburbs of Lambeth (Southward), roads and sewers formed. Large or small plots, with or without stables, if required.—Apply to Mr. FARMINTER, Surveyor, 7, Whitehall-place.

VILLA RESIDENCES TO BE LET, in the immediate vicinity of London. Rents from 90*l.* to 35*l.* per annum.—Apply to Mr. FARMINTER, Surveyor, 7, Whitehall-place.

FREEHOLD LAND, for BUILDING, in most picturesque part of the county of Surrey, TO BE LET or SOLD, THE PRESIDENTS of the MARINE PASTURE LAND, containing over 7a acres, and having a frontage of more than 1,600 feet to the capital turnpike road from Kingston to Leatherhead to Dorking, also to the high road to Epsom and the Leathe head Railway station. The situation is high, and possesses charming views in every direction, the land level and well adapted for the erection of a superior residence, or of two excellent family residences. Epsom is about 14 miles distant, and the Caterham Woods, only a mile and a half. This property has another frontage of 800 feet, with a private road, which may be used as a carriage drive, and is applicable by letter to Mr. BULLOCK, Auctioneer and Land Agent, 211, High Holborn, W.C.

TO BRICK and TILE MAKERS and POTTERS.—TO BE LET, at Bishop's Stortford, ten minutes' walk from the Station, a PIECE of LAND; earth dry, chalk, and water. Will suit a brick-maker. Rent 5*l.* per annum.—Apply to Mr. Hart, 48, Cross-street, Islington.

A VALUABLE REVERSIONARY ESTATE, consisting of BUILDINGS covering an extent of two acres and more, producing a present annual income of 490*l.* per annum. The reversion will fall in in about twelve years, when the income will be from 2,500*l.* to 3,000*l.* per annum. For particulars apply to Mr. GRITTEN, 8, Parliament-street, S.W.

BUILDING LAND TO LET, close to the Richmond road, Dalston, for a term of 99 years, suitable for the erection of 12 semi-detached villas, with a frontage of 80 feet, and a depth of about 74 feet. The property will be let subject to the rights of the tenant of No. 8, who holds under an agreement for seven years, at a rental of 70*l.* per annum, and who will build a new villa, to cost 1,500*l.* on the property, for the first year. Further particulars may be had on the premises, or of Mr. CLARKSON, Solicitor, No. 17, St. Helen's-place, Bishopsgate-street; or at the Offices of Messrs. SHEARWIN, Vestry Clerk, No. 14, Mark-lane, where plans and particulars may be seen.

BUILDING-GROUND.—CITY.—Notice is hereby given that the Commissioners of Sewers of the City of London hereby propose to LET by LEASE, for the term of the Guildhall, the said City, on TUESDAY, the 25th of MARCH next, at ONE o'clock precisely, to receive proposals for LETTING, on BUILDING LEASE for eighty years, certain PLOTS of FREEHOLD GROUND situate in Newgate-street and Wat ing-street.—Further particulars with conditions and printed forms of proposal, may be had on application at the Office, where plans of the ground to also be seen. The Commissioners do not bind themselves to accept any proposal unless framed and signed in terms of the said printed forms. Plots of land not staked out previously, or by only authorized agents on the above-mentioned day; and the parties whose offers are accepted will be required to execute an agreement, under bond at the Sewers Office, Guildhall, January 10, 1862. JOSEPH DAW, Principal Clerk.

TO BE DISPOSED OF, a neat SPIRAL STAIRCASE (equal to new), suitable for a second-floor show-room. It has open cut strings, returned nosings, and moulded brackets; also, mahogany continued hand-rails and fancy cast balusters. Height from floor to floor, 9 feet 11 inches; extreme length of tread, 2 feet 8 inches.—For particulars, apply to 17, Foregate-street, Worcester.

LONDON: Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "The BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, February 15, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

C. G. LEAING, Sc.

VOL. XX.—No. 994. FEBRUARY 22, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

St. John's (R.C.) Church, Bath.—Mr. C. Hansom, Architect 133
Lodgings Afloat.—A Home on the Regent's Canal—A Berth to bring Death 139

CONTENTS.

Structural Improvements: Healthy Houses 125
Professor Smirke's Lectures on Architecture at the Royal Academy.—Lecture III. 128
Excavations in Rome 130
The Sanitary Condition of Keswick 131
Lodgings Afloat 132
Macclesfield Cemetery Competition 132
St. John's (R.C.) Church, Bath 132
The Condition and Aspect of Alnwick 134
The Proposed Memorials of the Prince Consort 135
St. Thomas's Hospital 136
Church-building News 136
Provincial News 136
House of Commons 137
The Architectural Association 137
Sutton's School, Sherborne 137
The Fall of Houses, Hackney 138
Proceeding under the Metropolitan Building Act: A Warning 138
Size of Flues 138
London Atmosphere 138
The Road from Brompton to Bayswater 138
Miscellanea 138

ART-UNION OF LONDON.—Subscription, One Guinea. Prizeholders select from the public exhibitions. Every subscriber has a chance of a valuable prize; and, in addition, receives an impression of a large and important line engraving by C. W. Sharpe from the original picture by Fred. Goodall, A.R.A. entitled, "RAISING THE MAYPOLE," now ready for delivery.
444, West Strand. GEORGE GODWIN, } Honorary
February. LEWIS POCOCK, } Secretaries.

THE ARCHITECTURAL MUSEUM, South Kensington Museum, W.—Session 1862.
Tuesday, March 11.—Distribution of Prizes to Artist-Workmen. Address by the President.
Tuesday, March 25.—On the Difference between Minster and Parish Churches. By E. A. Freeman, Esq., M.A.
Tuesday, April 8.—On Encaustic Tiles and Tile Pavements. By the Rev. Lord Alwyne Compton.
Tuesday, April 22.—On the History of the Temple Area at Jerusalem, with its Buildings and Substructures. By Dr. Ermete Pierotti, Architect to the Pasha of Jerusalem.
Tuesday, May 6.—On the Various Systems of Coloured Decoration of the Middle Ages. By W. Burges, Esq.
Tuesday, May 20.—On Ecclesiastical Architecture in Georgia and Armenia. By the Rev. George Williams, B.D.
Tuesday, June 3.—On the Formation of a National Museum of Architecture as viewed especially in its connection with the Medieval Styles. By G. G. Scott, Esq. R.A. F.S.A.
Tuesday, June 17.—On Labourers' Cottages and the Rents Bearing upon Architecture. By the Rev. Thomas James, M.A.
A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Secretary.
13, Stratford place, W., where letters and applications for cards should be sent.
Cards will be issued to Subscribers.
The Architectural Museum will be CLOSED on WEDNESDAY EVENINGS until further notice, and OPENED on SATURDAY EVENINGS till TEN p.m. instead.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, W.—The spaces for Building Materials and Inventions are now at once to be RE-LET. DRAWINGS are to be sent in on MONDAY, the 3rd of MARCH, before 6 p.m. The Exhibition this year will contain an entire collection of all the sketches and designs of the late A. Welby Pugin.
JAS. FERGUSSON, F.R.A.S. } Hon.
20, Langham-place, } Secs.
JAS. EDMESTON, F.R.I.B.A. }
5, Brown-court, Old Broad-street.

INTERNATIONAL EXHIBITION, 1862. Notice is hereby given, that the OFFICES of her Majesty's Commissioners, 454, West Strand, will be CLOSED on SATURDAY next, and that on and after MONDAY, the 24th of FEBRUARY, all letters and communications must be addressed to the Secretary, at the Exhibition Building, South Kensington, London, W. By order,
J. F. B. SANDFORD, Secretary.
Tuesday, 18th February, 1862.

NORTH LONDON GALLERY, MUSEUM, and SCHOOL of ART.—The PUBLIC MEETING to inaugurate the project of a new building for the above objects, is appointed to take place at the Theatre of the Literary and Scientific Society, Wellington street, Islington, on WEDNESDAY, the 26th instant, at Eight o'clock p.m.
The Right Hon. Earl GRANVILLE, K.G., Lord President of the Council, has kindly promised to take the chair.
The Lord Bishop of London.
The Right Hon. T. Milner Gibson, M.P.
Sir S. Morton Peto, Bart. M.P.
Robert Hanbury, Esq. M.P.
Rev. Daniel Wilson, M.A. Vicar of Islington
Thomas Sopwith, Esq. F.R.S.
George Godwin, Esq. F.R.S.
Francis Lycett, Esq.
And others are expected to take part in the proceedings.
JOSIAH HOULE, Hon. Sec.
No. 9, Guildford-street, Russell-square, W.C.

TO CIVIL ENGINEERS, ARCHITECTS, SURVEYORS and the PUBLIC in GENERAL.—JOHN ARCHBUTT & SONS having completed their alterations, respectfully solicit a VISIT to their Premises, where will be found an extensive STOCK of New and Second-Hand THEODOLITES, LEVELS, POCKET SEXTANTS, and all kinds of Surveying and Drawing Instruments, Telescopes, Opera Glasses, Microscopes, &c. &c.—20, WESTMINSTER BRIDGE ROAD, LAMBETH, S.—An Illustrated Price List forwarded free.

COMPETITIONS.

NEW CARLISLE BRIDGE.—The Committee appointed to carry out this Undertaking are now prepared to receive PLANS and SPECIFICATIONS for the ERECTION of a NEW BRIDGE, on the present site, the full breadth of Sackville-street. The Committee will pay £50 for the best and next approved plan, £20 for the second, and £10 for the third. The Plans and Specifications to be the property of the Committee. Letters and communications seeking information to be addressed to the Committee, at the Imperial Hotel, Sackville street.
ROBERT G. COLLIS,
GEORGE DELANY, } Hon.
E. H. KINAHAN, } Secretaries.
SAMUEL M'COMAS,
ALFRED C. REYNOLDS, Assistant Secretary.

TO SURVEYORS and OTHERS.—The Directors of the Tranmere Freehold Land Society are prepared to receive PLANS, on before the 25th MARCH, 1862, for LAYING OUT and ALLOTTING the ESTATE belonging to the Society, in Higher Tranmere; consisting of about 40 statute acres. Premiums will be given for the best and second-best plans. Each plan to be accompanied with an estimate of the cost of the formation and construction of the roads and sewers, and also of the laying out of the land. No payment will be made for any plan but the premiums above-mentioned.—For particulars, apply to Mr. JOHN QUINN, Chairman of the Society, 32, Lord-street, Liverpool; or to Mr. H. P. PRIEST, Secretary, Market-cross Chambers, 19, Market street, Birkenhead.

TO GAS ENGINEERS.—WANTED, PLANS and SPECIFICATION for the ERECTION of GAS WORKS at Chertsey, Surrey, capable of making and distributing 2,000,000 cubic feet (gas measure), and capable of increase of 50 per cent.; also an estimate of the cost of their erection, with all necessary mains and appurtenances. A premium of £50 will be paid for the plans and specification which shall be considered most suitable.—For further information apply at the Office of "The Chertsey Gas Consumers' Company Limited," Guildford street, Chertsey. Plans and specification to be sent to me on or before FRIDAY, the 28th instant.
HENRY G. GRAZEBROOK,
Secretary, Chertsey Gas Consumers' Company Limited
Chertsey, 14th February, 1862.

CONTRACTS.

TO SEWER CONTRACTORS and OTHERS.—The Oxford Paving Commissioners are prepared to receive TENDERS for CONSTRUCTING an OPEN SEWER along a portion of the Thrill Mill Stream in the city of Oxford. The drawings and specifications of the required sewer, and the general conditions of the contract, may be seen between the hours of NINE a.m. and FOUR p.m. at the Commissioners' Office, Town Hall, Oxford; or particulars obtained by letter addressed to Mr. JOHN GILPIN, the Surveyor. Tenders are to be made on printed forms, which may be obtained either of the Clerk or the Surveyor to the Commissioners, and must be delivered, sealed, at the Office, No. 4, St. Aldate's-street, Oxford, on or before TWELVE o'clock at noon on MONDAY, the 10th day of MARCH next, endorsed "Tender for Open Sewer." The Commissioners do not bind themselves to accept the lowest or any Tender.
FREDERICK J. MORRELL, Clerk to the Commissioners
Feb 5, 1862

THE Directors of the South-Eastern Railway Company are prepared to receive TENDERS for the MAINTENANCE and REPAIR of about one mile of ROAD at Redhill, near Reigate, Surrey.—Particulars may be obtained on application to Mr. EDWARD RYDE, Surveyor to the Company, London Bridge Station.

CONSERVATIVE LAND SOCIETY.—ROCHAMPTON PARK ESTATE. TENDERS are invited for the EXECUTION of WORKS in ROAD MAKING and ROAD-DRAINAGE on the above estate, situated at Rochampton, in the parish of Putney, Surrey. The following rough quantities are stated in order to indicate approximately the extent of the proposed works; but parties tendering will have to take out quantities for themselves:
New roads, 40 feet wide, including footpaths ..... 2,325 feet run.
9-inch pipe drains ..... 1,320 "
6-inch ditto, from gulleys ..... 220 "
No. 20 gully cesspools, with gratings.
Plans, sections, and specification may be seen on and after WEDNESDAY, the 26th instant, at the Offices of the Society's Surveyor, Mr. JAMES WYLSON, 33, Norfolk street, Strand, W.C. Tenders, endorsed "Tender for Works at Rochampton," to be sent to the Surveyor on or before SATURDAY, MARCH 8th. The Committee do not bind themselves to accept the lowest or any Tender submitted.

TO BUILDERS and OTHERS.—ST. MARY ISLINGTON, in the County of Middlesex.—METROPOLIS LOCAL MANAGEMENT ACT. Notice is hereby given, that a Committee of the Vestry will meet at the Vestry Offices, Upper-street, on WEDNESDAY, the 12th day of MARCH, 1862, at TEN o'clock in the forenoon precisely, to receive TENDERS for the DAY and JOBBING WORKS in connection with the contracts and repairs of SEWERS and GULLIES. The form of Tender and Contract (which all new) may be had at the above Office, on payment of 2s. 6d. Sealed Tenders must be sent in on before TEN o'clock on the day above mentioned. Persons tendering should be present at the meeting of the Committee. The Vestry do not bind themselves to accept the lowest or any Tender.
JOHN LAYTON, Vestry Clerk.
Vestry Offices, Upper-street, Islington, February 20, 1862.

CONTRACTS.

WAR DEPARTMENT TRIENNIAL CONTRACT.—WOOLWICH DISTRICT.—TENDERS are required for EXECUTING the WORK, &c., that may be required in the following Trades, for the period from the 1st April, 1862, to the 31st March, 1865, viz.: Bricklayers, Masons, Paviors, Carpenters, Plasterers, Slaters, Plumbers, Smiths and Ironfounders, Painter, Glazier, and Paperhangers, and Glaziers.
Parties desiring to Tender for this Contract must leave their names at this Office, on or before the 8th day of MARCH, 1862, and pay the sum of seven shillings and sixpence for the Schedules and Forms of Tender.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Woolwich, 11th February, 1862.

ARMY CONTRACTS for FUEL and LIGHT.—Sealed TENDERS will be received at this Office until NOON on the 3rd of MARCH, from persons who may be willing to enter into CONTRACTS for the SUPPLY of COALS, COKE, and CANDLES in such quantities as may be required for the Use of Her Majesty's Land Forces and Military Departments in any of the following places, from 1st APRIL, 1862, to 31st MARCH, 1863.

	Coals, Tons.		Coke.	Composite Candles 1lbs	Dip Candles 1lbs.
1. Hyde Park, South Kensington, & Kensington Palace New Barracks	Wallsend 937	1 Ton		1460	840
2. Regent's Park, St. John's Wood, and Portman-street Barracks	Ditto 488	8 ditto		1650	3740
3. Wellington, Saint George's and Knightsbridge Palace Barracks, Horse Guards, Infantry Guards, St. James's Park, and Royal Engineer Office, Buckingham Gate	Ditto ..... 1067 Wylam Moor 200	13 ditto		2906	1216
4. Military Store Establishment, Pimlico	Wallsend ..... 130 Tanfield Moor 10	400	Chaldrons	290	200
5. The Tower	Wallsend ..... 770 Dowlar's Merthyr ..... 130 Tanfield Moor 8	110 Tons		900	300
6. Hounslow and Kneller Hall	Inland Best 1200	12 ditto		1000	6000
7. Hampton Court	Ditto 350	—		40	500
8. Woolwich	Wallsend 1040	6 Tons		2200	500
9. Brighton with Coast Forts from New haven to Shoreham	Ditto 645	3 ditto		1690	6310
10. Croydon	Ditto 230	4 ditto		200	1400

The quantities above specified of each article of supply, are only approximate estimates of what may probably be required within the period of the Contract; but the Contractor will be held liable to deliver such quantities as may be demanded under competent authority, whether more or less than the above.
Separate Tenders for Fuel and for Light must be made for each of the above-mentioned Stations or Barracks, as separately grouped and numbered.
Forms of Tender and Conditions of Contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.
Tenders in the printed forms must be properly filled up and signed, and delivered at the said-named Office, under closed envelope (marked on the outside, "Tender for Army Supplies"), before NOON on the 3rd MARCH next.
FITZJAMES E. WATT, Deputy Commissary General.
Deputy Commissary-General's Office,
6, New-street, Spring Gardens, London, S.W. 1st February, 1862.

ARMY CONTRACTS.—Sealed TENDERS will be received at the Office until NOON on the 3rd of MARCH, from persons who may be willing to enter into CONTRACTS for the SUPPLY of WOOD, for Lighting fires in the London and Woolwich Military Districts, in such quantities as may be required for the use of her Majesty's Land Forces stationed in any of the following places, from 1st APRIL, 1862, to 31st MARCH, 1863.
1. Hyde Park and Kensington Palace New Barracks.
2. Regent's Park, St. John's Wood, and Portman-street Barracks.
3. Wellington, St. George's, and Buckingham Palace Barracks.
4. Tower.
5. Hounslow and Kneller Hall.
6. Hampton Court.
7. Croydon.
8. Woolwich.
Separate Tenders must be made for each of the above-mentioned stations or barracks as separately grouped and numbered.
Forms of Tender, and Conditions of Contract, may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.
Tenders on the printed forms must be properly filled up and signed, and delivered at the said-named Office, under closed envelope (marked on the outside, "Tender for Army Supplies"), before NOON on the 3rd MARCH next.
FITZJAMES E. WATT, Deputy Commissary-General.
Deputy Commissary General's Office, 5, New street, Spring-gardens, London, S.W. February 1, 1862.

TO CLOCKMAKERS.—TENDERS are required for a TURRET CLOCK, for the Tipton Parish Church New Schools, Staffordshire, particulars of which may be had from Mr. INSTON, at the Schools. No Tender will be necessarily accepted. To be sent in (under cover), to the Rev. W. KER, the Parsonage, Tipton, not later than TUESDAY, the 11th of MARCH next, exclusive.

N.B.—This advertisement will not be repeated.

[For remainder of Contracts see next Page.

CONTRACTS.

SOUTH DEVON RAILWAY.—The Directors are prepared to receive TENDERS for the ERECTION of TWENTY FIVE COTTAGES and a BLOCK OF FLATS, at their Newton Station Dwellings and Sheds, where any be seen on and after WEDNESDAY, the 19th instant, on application to Mr ROWELL, Architect, Station road, Newton Abbot; and Tenders are to be sent to me, on or before SATURDAY, the 8th of MARCH.—Printed copies of the specifications and conditions of contract will be supplied to the contractors at a charge of ten shillings.—The Directors do not bind themselves to accept the lowest or any Tender.

Engineer's Office, Dawlish, 19th February, 1862. P. J. MARGARY.

CHRISTCHURCH, SURREY.—ST. SAVIOUR'S, SOUTHWARK.—CONTRACT for WATER-CARTS, &c. The Board of Works for St. Saviour's District will meet at their Board-room, on WEDNESDAY, the 12th day of MARCH next, at SIX o'clock in the evening precisely, to receive TENDERS for the SUPPLY and USE (until further order) of good and efficient WATER-CARTS, with all necessary and proper water-casks and other working gear, also horses, drivers, and men to work the water into the carts, as may be required for the watering of the roads, &c. &c. in the PARISH of CHRIST CHURCH, within the district, and in part of WATERING the ROADS, STREETS, &c. in the PARISH of ST. SAVIOUR, within the same district, from the 25th day of MARCH, to the 29th day of OCTOBER, 1862. Not less than four carts, &c. will be required daily, for Christchurch, and not less than five carts, &c. for St. Saviour's. The carts, horses, and men are to be devoted wholly to the purpose of watering the above-named parishes, and are to be in constant work, to the satisfaction of the Board, or their surveyor, and the watering to be as directed from time to time by them or him. Tenders addressed to the Board, properly up and endorsed "Tenders for Supply of Water-Carts, &c." stating the aggregate amount for both parishes, and the amount for each parish separately, must be sent in before half-past SIX o'clock on the day of meeting. The contractor will be required to enter into a contract, and be at the expense of the Board. The draft of the contract and all particulars can be seen at the Board Office, Town Hall, Lambeth, between TEN and FOUR. The Board not being bound to attend at SIX o'clock for the above named day. The Board do not bind themselves to accept the lowest or any Tender.—By order of the Board,

HERBERT STURMY, Clerk.

Board Room, Estreet, Barkside, February, 1862.

PADDINGTON. TENDERS will be received by the Vestry of Paddington, on or before MONDAY, 3rd day of MARCH next, from parties willing to CONTRACT for the EXECUTION of the DAY and JOBBING WORKS of every kind required to be performed in constructing, altering, re-building, or cleansing sewers, drains, gully-holes, water-butts, pumps, &c., within the parish of Paddington. Specification and form of Tender may be had on payment of 5s. per copy, which will be returned on delivery of the Tender, between the hours of TEN and TWELVE, until the 3rd day of MARCH. The Vestry do not bind themselves to accept the lowest or any Tender, and they only whose Tender may be accepted will be required to provide two sureties for the due performance of the daily duty severally, for the due performance of the works.—By order,

ENGLEH FREDERICK AVELING, Vestry Clerk.

February 14th, 1862.

TO IRON FOUNDERS.—The Local Board of Health for the Borough of Leicester are desirous of receiving TENDERS for CASTING IRON GIRDERS and PARAPETS, and the WROUGHT IRONWORK, and DELIVERING and FIXING the same, to be erected over the river Soar, at Leicester, the drawings and specification of which may be seen at the Office of the Surveyor to the Board, DAY by DAY, between the hours of TEN and FOUR o'clock, and the Tenders for casting, wrought ironwork, delivery and fixing, are to be sent in not later than WEDNESDAY, the 19th day of MARCH next, endorsed "Tender for Ironwork," addressed to the Chairman of the Board, at the Town Hall.—The Committee do not bind themselves to accept the lowest or any Tender.

J. SLEATH, Surveyor to the Board.

Local Board of Health, 20, Silver street, Leicester.

February 14, 1862.

BOARD of WORKS for the STRAND DISTRICT.—To MASONS, PAVIORS, and OTHERS.—The Board will meet at No. 5, Tavistock street, Covent-garden, W.C. on WEDNESDAY, the 26th day of FEBRUARY instant, at HALF PAST SIX o'clock in the evening precisely, to receive TENDERS for the SUPPLY of MATERIALS and the Execution of the following and Measured Works required for the SEWERS and DRAINS, within the said district, for three years from Lady-day next. Printed Forms of Tender and Conditions of Contract, with Schedules of Prices, upon which every Tender must be based, may be obtained at 5, Tavistock-street, Covent-garden, between TEN and FOUR daily, on payment of 10s. 6d. where Tenders must be delivered, under seal, directed to the Clerk, and endorsed "Tender for Sewer Work," before TWO p.m. on the day of meeting. The contractor whose Tender is accepted will be required to enter into a contract, and find two responsible sureties to execute a joint and several bond for the due performance thereof. The Board does not bind itself to accept the lowest or any Tender.—By order,

JAMES H. F. LEWIS, Clerk.

Offices 5, Tavistock-street, Covent-garden, W.C. Feb. 15, 1862.

BOARD of WORKS for the STRAND DISTRICT.—To SEWER CONTRACTORS, BUILDERS, and OTHERS.—The Board will meet at No. 5, Tavistock street, Covent-garden, W.C. on WEDNESDAY, the 26th day of FEBRUARY instant, at HALF PAST SIX o'clock in the evening precisely, to receive TENDERS for the SUPPLY of MATERIALS and the Execution of the following and Measured Works required for the SEWERS and DRAINS, within the said district, for three years from Lady-day next. Printed Forms of Tender and Conditions of Contract, with Schedules of Prices, upon which every Tender must be based, may be obtained at 5, Tavistock-street, Covent-garden, between TEN and FOUR daily, on payment of 10s. 6d. where Tenders must be delivered, under seal, directed to the Clerk, and endorsed "Tender for Sewer Work," before TWO p.m. on the day of meeting. The contractor whose Tender is accepted will be required to enter into a contract, and find two responsible sureties to execute a joint and several bond for the due performance thereof. The Board does not bind itself to accept the lowest or any Tender.—By order,

JAMES H. F. LEWIS, Clerk.

Offices, 5, Tavistock street, Covent-garden, W.C. Feb. 15th, 1862

BOARD of WORKS for the STRAND DISTRICT.—STREET-WATERING CONTRACT.—The Board hereby give notice that the Board will meet on WEDNESDAY, the 26th day of FEBRUARY inst. at HALF PAST SIX o'clock in the evening precisely, to receive TENDERS for WATERING the several STREETS in the Strand District during the ensuing year. Parties intending to send in their Tenders are required to state separately the rate per week for all horses employed in the carts, horses, and men; and no Tender will be received unless the Bank of England note is enclosed, the same to be returned forthwith if such Tender shall not be accepted; and, if accepted, retained until a contract and bond shall be duly executed. Tenders are to be delivered before FIVE o'clock p.m. on the day of meeting, at the Offices of the Board, 5, Tavistock-street, Covent-garden, where conditions and forms of Tender may be obtained between TEN and FOUR daily. The lowest Tender will not necessarily be accepted.—By order,

JAMES H. F. LEWIS, Clerk.

5, Tavistock street, Covent-garden, W.C. Feb. 15, 1862

TO BUILDERS.—Caerleon Vicarage, three miles from Newport, Monmouthshire.—The plans, specifications, and quantities of the proposed new VICARAGE HOUSE, to be erected for the Rev. Newport, and HARRIS and Esq., may be seen at the Office of Mr. Whitehall, London, and at the 15th day of MARCH, 1862. The lowest or any Tender not necessarily accepted.

PRICHARD & SEDDON,
Diocesan Architects Llandaff, and 6, Whitehall, London.

6, Whitehall, February 14, 1862.

TO CONTRACTORS.—NEW BAPTIST CHAPEL, MANNINGHAM-LANE, BRADFORD.—Drawings and specification may be seen at the Schoolroom of the Chapel, Bradford, Yorkshire, from MONDAY, the 3rd to FRIDAY, the 7th of MARCH, 1862, both inclusive. Tenders for the whole or parts of the works will be received up to TEN o'clock, on SATURDAY morning, March 8th. Quantities supplied upon written application to the undersigned.

PAULL & AYLIFFE, Architects, Burnley.

Dated February 11, 1862.

ST. MARY, ISLINGTON.—CONTRACTS for PAVING, and MATERIALS for the REPAIRS of the ROADS, and the REMOVAL of ROAD SCRAPINGS, and WATERING the ROADS.—The Highways Committee of the parish of St. Mary, Islington, in the county of Middlesex, hereby give notice, that they intend to meet at the Vestry Offices, Upper-street, Islington, on THURSDAY, the 13th day of MARCH next, at ELEVEN o'clock in the morning precisely, to consider PROPOSALS for PAVING such parts of the parish, and REPAIRING and KEEPING in REPAIR the PAVED FOOTWAYS belonging thereto, as the Vestry shall from time to time direct. Also for SUPPLYING the Vestry with GRANITE, BALLAST, GRAVEL, and CORE and CLEAN FLINTS, in such quantities, and to be delivered at such places as the said Vestry shall from time to time direct. Also for CARTING the BROKEN STONE, and for the SUPPLY of TEAMS and CARTS, for the two divisions of the parish for REMOVAL of the ROAD SCRAPINGS, and for WATERING the ROADS. The Tenders for the removal of road scrapings and watering to be separate for each of the said wards, and no contractor is to be permitted to contract for more than two of such wards; but the Tenders for removal of road scrapings and for watering, may be given, together or separately, the whole to be contracted for from the 25th day of MARCH next, to the 25th day of MARCH, 1863.—Forms of Tender may be had on application, and the conditions upon which the Tenders are to be made, may be seen at the Offices of the Vestry, between the hours of TEN and FOUR o'clock daily. No other form of Tender will be accepted. All Tenders are to be sealed up, and left at the Offices of the Vestry, before ELEVEN o'clock on the day above-mentioned. Persons tendering are to attend in person or by their authorized Agent, at the said meeting of the Committee.—The Committee does not bind itself to accept the lowest or any Tender.—By order,

JOHN LAYTON, Vestry Clerk.

Vestry Offices, Upper-street, Islington, February 20, 1862.

BOROUGH of BLACKBURN.—TO MANUFACTURERS of EARTHENWARE DRAIN-PIPES, &c. The Corporation of the Borough of Blackburn are prepared to receive TENDERS for the SUPPLY of DRAIN-PIPES, Bends, Junctions, Syphons, Traps, &c. for the Borough. Specification, form of Tender, information obtained, on application to Mr. BRIERLEY, Borough Surveyor, Town Hall, Blackburn. Sealed Tenders, endorsed "Tenders for Drain-pipes, &c." may be delivered at the Town Clerk's office, Town Hall, Blackburn, not later than SATURDAY, the 1st day of MARCH next. None will be received after that day. The Corporation will not be bound to accept the lowest or any Tender.

HENRY HOWARD, Town Clerk.

Town Hall, Blackburn, February 19, 1862.

METROPOLITAN BOARD of WORKS.—TO CONTRACTORS, BUILDERS, and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the OFFICE of the BOARD, Spring-gardens, S.W. on FRIDAY, the 7th day of MARCH next, at TWELVE o'clock at noon, precisely, and will then be prepared to open TENDERS for the SUPPLY of MATERIALS and the EXECUTION of the DAY, JOBBING, and MEASURED WORKS of the Board in respect of the Main Sewers and incidental Works within the limits indicated upon maps deposited at the Office of the Metropolitan Board of Works, S.W. Tenders must be made separately for each of the areas shown upon such maps, viz.:—

Area coloured pink, and marked A.
Area coloured yellow, and marked B.
A certain green, and marked C.

The Tenders are to be put in at specified rates of prices, and are to be in such form as may be approved by the Board, who, however, reserve the right of accepting Tenders for either one, altogether, or in part, and the amount to be contracted for in each area. Parties desiring to submit Tenders may obtain printed forms, with general conditions, particulars, and schedules, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office of the Board, between the hours of TEN and FOUR p.m. (Saturdays, NINE, a.m. and TWO, p.m.) Each Tender is to include other items not here mentioned, but found necessary, and is to be delivered at the Office of the Board, before NINE o'clock p.m. on THURSDAY, the 6th day of MARCH next, and endorsed "Tender for Sewers Contracts," addressed to the Chairman of the Board, at the Office of the Board, Spring-gardens, S.W. Any Tender which is not delivered in the prescribed form, and in the manner required by the Regulations, will be rejected. Each Tender shall be accompanied with two approved sureties, to be bound jointly and severally in the sum of £300, for the due performance of the contracts. The parties tendering must be in attendance at the Board at TWELVE o'clock on FRIDAY, the 7th day of MARCH next. The Board do not bind themselves to accept the lowest or any Tender.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, 19th February, 1862.

TO IRONFOUNDERS and OTHERS. The Croydon Local Board of Health are prepared to receive TENDERS for the SUPPLY of the undermentioned IRON PIPES, and PIECES:—

500 3-inch cast-iron socket pipes, 9 feet long, exclusive of sockets and to weigh 12 lbs each.
1,000 2-inch cast-iron socket pipes, 6 feet long, exclusive of sockets, and to weigh 7 lbs each.
10 Junction pieces, 3 in. by 4 inch.
1 " " 4 inch by 6 inch.
20 " " 2 inch out of 3-inch.
50 " " 3 inch out of 6 inch.
10 Bib Brackets to supply 3 inch pipes.
50 " " 2 inch pipes.

All pipes and castings to be of good iron, even grained, and free from all flaws, defects, and holes, and to be truly bored and turned and the runway pieces of Portland cement of the cinder being gauged. Tenders, duly sealed, and endorsed "Tender for Iron Pipes," to be delivered at the Office of the Board, 19, High-street, Croydon, on or before MONDAY, the 3rd of MARCH, 1862. The Board do not pledge themselves to accept the lowest Tender.

Croydon, February 12, 1862.

VESTRY of ST. MARY, NEWINGTON, SURREY.—CONTRACT for PAVING, CURBING, BROKEN GRANITE (Guernsey, Bombay, and Port Philip), FLINT, KENTISH RAG, GRAVEL, and CLEANSING WORK.—The Paving Committee of the Vestry will meet at the Vestry Hall, Kennington, on MONDAY, the 10th day of MARCH next, at SEVEN o'clock in the Evening, to receive TENDERS from persons willing to CONTRACT with the Vestry for the SUPPLY and HOUSE for PAVING and CURBING to the extent, as to quantity, of about 60 miles per annum, or to such greater or less extent as the Board shall, at any time during the term of the Contract, direct. Tenders for the SUPPLY of Guernsey Granite, Bombay and Port Philip, Blue, Kentish rag, gravel, and sand, as the Vestry may require during the term of the Contract, to be delivered at the Vestry Yard, Mitcham-lane, Brixton, on or before the 25th March, 1863.—Further particulars of forms of Tender, may be had on application at the Office of the Vestry Clerk, at the Town Hall, Kennington, and no Tender will be received unless delivered at the Office of the Vestry Clerk, at the Town Hall, Kennington, on or before the Meeting on MONDAY the 10th MARCH next, and the several persons making Contract must attend the Committee at SEVEN o'clock on that day, or such Tenders will be rejected. Each Tender to be accompanied by a Bank of England note, which will be returned to the party tendering if not accepted, but if accepted, retained until a contract and bond shall be duly executed. Tenders are to be delivered before FIVE o'clock p.m. on the day of meeting, at the Offices of the Board, 5, Tavistock-street, Covent-garden, where conditions and forms of Tender may be obtained between TEN and FOUR daily. The lowest Tender will not necessarily be accepted.—By order,

JAMES H. F. LEWIS, Clerk.

5, Tavistock street, Covent-garden, W.C. Feb. 15, 1862

TO BUILDERS, &c.—NEW CHURCH ST. MARK'S, PRESTON.—Persons desirous of CONTRACTING for the ERECTION of the whole or any portion of a new CHURCH to be built at Preston, can see the plans and specifications at the Upper School-room, Welfield-road, Preston; and also at the Office of the Architect, Mr. E. G. PALEY, Lancaster, from TUESDAY the 25th FEBRUARY, to TUESDAY, 18th MARCH, inclusive. Tenders to be sent in, under cover, to the Rev THOS CLARK, West Cliff terrace, Preston, endorsed "Tender for St. Mark's Church," on or before SATURDAY, MARCH 22. The Committee do not pledge themselves to accept the lowest or any Tender

Lancaster, 19th February, 1862.

TWIZEL CASTLE.—To BUILDERS.—Persons desirous of CONTRACTING for the WORKS required in the RESTORATION and COMPLETION of TWIZEL CASTLE, in the county of Northumberland, are invited to apply to the Architect Mr. A. B. HIGHAM, 1, Higham-place, Newcastle-on-Tyne, who will forward an order to see the drawings, and furnish such particulars as may be deemed necessary. Application, accompanied with respectable references, to be made on or before the 3rd day of MARCH next. No pledge is given that the lowest or any Tender will be accepted.

Newcastle-on-Tyne, February 19, 1862.

TO BREWERS, BUILDERS, and OTHERS The Commercial Dock Company give notice that they are prepared to receive TENDERS for a piece of waste land now lying to let, a BUILDING LEASE (for 61 years from the 25th March, 1863) of a Plot of Ground, to front a Public House in the occupation of the "Swallow Gallery," which will be taken down by the Company. The ground is situate near the Parcenta Stairs, Rotherhithe, and nearly adjoins the new Entrance to the Commercial Docks. Tenders, under cover, and on the prescribed form, addressed to "The Secretary of the Commercial Dock Company," endorsed, "Tender for Lease," to be delivered at the Dock Office, 109, Leadenhall-street, on or before TWELVE o'clock, noon, on FRIDAY, 7th day of MARCH. For particulars and form of Tender, apply to Messrs. WARTERS & LOVEJOY, 25, Great Tower-street, at the Dock Offices, 106, Fenchurch-street. The Directors do not bind themselves to accept the lowest or any Tender.

J. GRIFFIN, Secretary.

Commercial Dock Office, 17th February, 1862.

DRAINAGE WORKS, ALTON, HANTS. TO CONTRACTORS and OTHERS.—The Alton Local Board are prepared to receive TENDERS for LAYING PIPES, ERECTING FILTER TANKS, and executing other Works for the Drainage of the Town of Alton. Copies of the quantities, with Forms of Tender (price 5s. 6d. each copy) may be obtained, and the Specification and Drawings inspected, on application to the undersigned, or to Mr T. W. PENFOLD, 2, Clement's Inn, Strand, London. Tenders to be sent in, under cover, by TUESDAY, 4th MARCH next. The Board do not bind themselves to accept the lowest or any Tender.

WILLIAM TRIMMER, Clerk to the Board.

Alton, 10th February, 1862.

TO MILLERS, PAPER MAKERS, MANUFACTURERS, and OTHERS—TO BE DISPOSED OF by PRIVATE CONTRACT, FOR Valuable Leasehold MILLS, all freehold, situated in one of the Midland Counties, on a navigable river, and within half a mile of a first class railway station, giving direct communication with the principal parts of England, and within an easy distance of the Port of Gloucester and the important districts of Birmingham and South Staffordshire. The Mills are well adapted to each other, and the property includes Six Tenements, with Gardens, recently built, now, and for some years past in the occupation of Messrs. Fourdrinier. Part of the purchase-money may remain on mortgage if desired. For further particulars apply to Messrs. WEBB & BLOOR, Solicitors and Valuers, Worcester.



SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.

These Blinds give a highly decorative finish to any room, whether fitted up in common, or in the most costly manner. In the latter case top boxes only are required, which need not project beyond the reveal. Where the room is low, as in old houses, they would not require a frame which need not project more than about 4 inches, and on the side wings or cast pieces, or any other ornamental. Prices moderate. A Liberal discount to Builders and the Trade.

R. LOWTHER & CO. 31, Regent-street,

(One door below the Pall Mall Circus)

VENETIAN AND ALL OTHER BLINDS WHOLESALE.

GREENHOUSES and SKYLIGHTS for the Million.

Mr. THOMAS NIXON, PLUMBER, &c. Horse Market, Kettering, begs to inform the nobility, clergy, gentry, and the public in general, that he has a method of sheet glazing, which is admirably adapted for greenhouses, cottages, and buildings in general, the frames being either portable or fixed. They require only light timber, and but little of that, and he can guarantee that they will keep dry for fifty years, without either putty or paint

NIXON'S SELF VENTILATING SKYLIGHT (Registered) was exhibited in 1851, and has stood the test of all weathers, and can prove by numerous testimonials. The supply of timber received from Ireland, he begs to submit to the public.

[Northampton Herald, September 18, 1861.

SIR,—I wish you to know that the greenhouse you sold me in 1859 has given me satisfaction, and has recommended many parties to get similar ones.—Yours, &c. R. HAUD.

Mr. T. Nixon."

This ventilation drives up all condensed damp, yet the process is not perceptible, and by horizontal lights in the ceiling, glazed tightly, and to open and shut at pleasure. It is quite as safe from wet. This is now the great question so much talked of, of ventilating public buildings.

TO BUILDERS.—BRASS SASH-BARS, and IRON or WOOD SHUTTERS. WANTED, cheap, for cash. Address, R. SMITH, 21, Church street, Camberwell.

WANTED, immediately, some temporary RAILS, weighing about 40 lbs. per yard; also, about Fifty Contractor's WAGGONS, in good condition.—Apply, by letter, to G. R. Commercial-road, Lambeth, S.

TO BUILDERS.—Persons desirous of submitting TENDERS for a CHAPEL to be ERECTED near Wisbech, Kent, may inspect the drawings and specification, and obtain quantities, with further particulars, upon application at No. 1, our Offices in Derby, or at the Residence of the Rev. R. SERGEANT, ..., Brewer street, Woodwich, on and after the 18th instant. Tenders to be delivered to the Rev. R. SERGEANT not later than TWELVE o'clock Noon on THURSDAY, the 27th instant, endorsed "Tender for Chapel." The Committee do not pledge themselves to accept the lowest or any other Tender.

GILES & BROOKHOUSE, Architects.

Victoria Chambers, Derby, 17th Feb 1862

TO BUILDERS AND CONTRACTORS.—Separate TENDERS are required for the ERECTION of TWO CHAPELS and ENTRANCE LODGE and GATES for Painswick Cemetery, Gloucestershire, and for LAYING OUT the GROUNDS and FENCING. The Plans and specifications may be seen on application to the Rev. A. J. BIDDELL, vicar of the parish, every day between TWELVE and FOUR. Sealed Tenders to be addressed to the Rev. A. J. BIDDELL, and sent in before ELEVEN o'clock on WEDNESDAY, the 5th of MARCH, 1862. Any party tendering must find sureties for the due performance, by the 1st day of September next of the Contract, and the Painswick Burial Board do not bind themselves to accept the lowest Tender or any Tender.

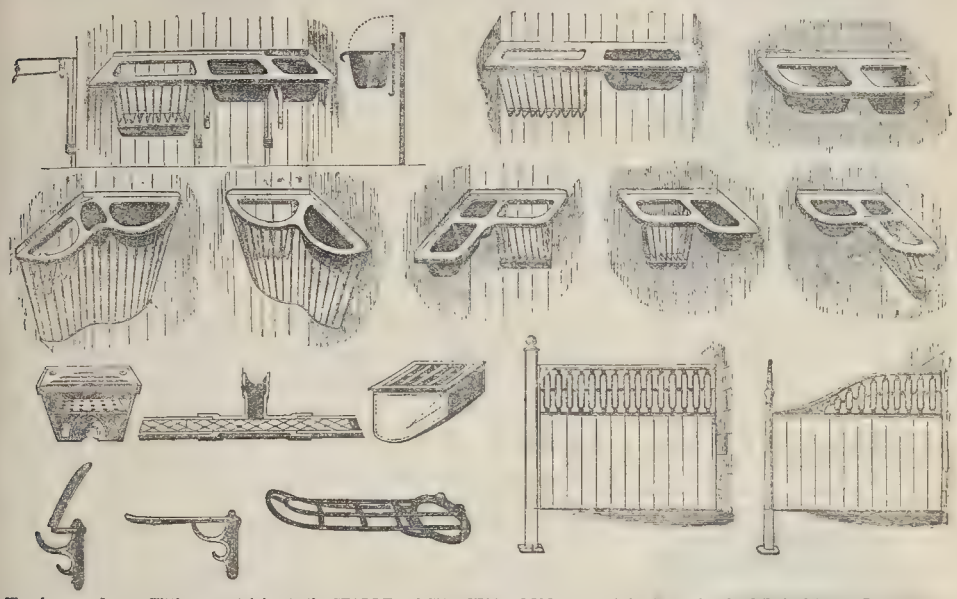
COTTAM & COMPY. 2, WINSLEY STREET, OXFORD STREET, LONDON W.

COTTAM'S PATENTED AND REGISTERED

STABLE AND HARNESS-ROOM FITTINGS.

ORIGINAL INVENTORS OF THE UNDER-FEEDING PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, AS ONE FIXTURE.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM arranged for inspection in full-sized Stalls, Loose Boxes, &c. a portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

Knightley's Patent Stable Floor.

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to

COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—Winsley Street is the Street opposite the Pantheon.

ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

PROFESSOR VARNELL'S STABLE ARRANGEMENTS.

RECOMMENDED BY THE

ROYAL VETERINARY COLLEGE.

INSPECTION OF THE

FULL-SIZED STALLS AND LOOSE BOXES,

ERECTED AT THE WORKS FOR SHOWING THESE INVENTIONS, IS INVITED.

Every Description of Stable Furniture.

ILLUSTRATED LISTS ON APPLICATION.



CAST AND WROUGHT IRON WORK OF EVERY DESCRIPTION,

PLAIN AND ORNAMENTAL.

GATES, CIRCULAR STAIRCASES, STAIR-CASE, BALCONY, TOMB,

AND

OTHER RAILING;

VERANDAHS, IRON SASHES, CASEMENTS, SKYLIGHTS, CORRUGATED IRON ROOFS

AND

HOUSES, COLUMNS, GIRDERS, FLITCHES, TANKS IN WROUGHT AND CAST IRON, &c. &c.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON

RAILWAY BRIDGE BUILDER.

RAILWAY STATION ROOFING

Manufactured in WROUGHT and CAST IRON, and Erected.

TANKS in WROUGHT and CAST IRON.

Wrought Iron Doors, Boiler and General Smiths' Work.

EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,

SHEETS, BARS, L and T IRON.

Bond Hoop Iron from Stock.

CRANE CHAIN AND CABLE MAKER.

CONTRACTORS' PLANT, RAILS,

WROUGHT AND CAST WHEELS AND AXLES.

WAGGON IRONWORK, PEDESTALS, &c.

AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

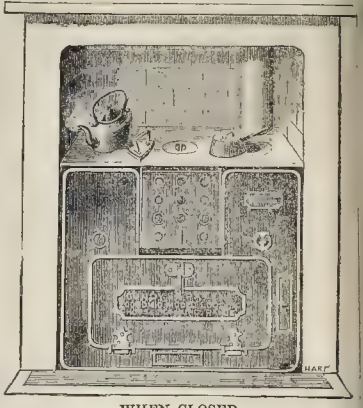
Orders requiring Despatch and Punctuality can be executed in a few days.

CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of



WHEN CLOSED.

THE MANUFACTURER,

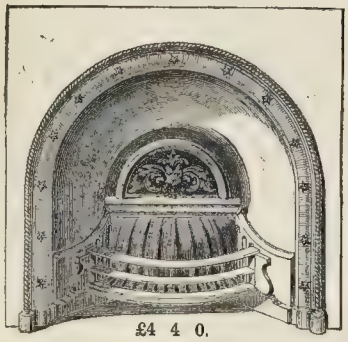
WILLIAM ADDIS, Nos. 6 and 15, LEICESTER-ST. LEICESTER-SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

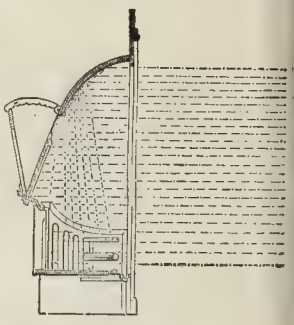
A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.

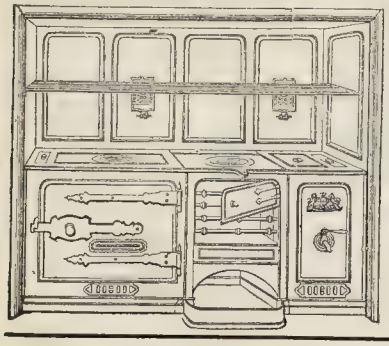


£4 4 0.

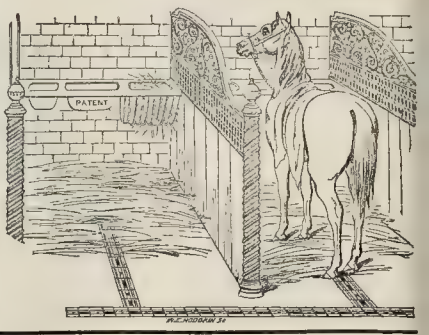
It is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



STOCK AT No. 159, SHOREDITCH, LONDON.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c &c.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price lists, 12s.—Nos. 55 and 56, High Holborn.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.



This Stove is the nearest approach to Warming by Hot Water, and an excellent Aid in Ventilation.

It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of Threepence; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

Full particulars will be sent on application to the Inventors and Makers,

MUSGRAVE, BROTHERS,
Ann-street Iron Works, Belfast.

STABLE PAVING BRICKS.
DAVISON'S IMPROVED.



F. & G. ROSHER, Sole Agents.

These bricks have now been in use for the last ten years, and their complete success justifies the advertiser in recommending them to the notice of architects, builders, and others.

The great advantages of these bricks over all others for similar purposes are,

1st. Their cheapness. 2nd. Their great durability.

3rd. Their construction, whereby the counters on the surface act as drains, rendering the beds dryer, and effecting a CONSIDERABLE SAVING IN THE ITEM OF STRAW BEDDING.

They may be also used with advantage for paving cattle-sheds, coach houses, yards, &c. Channel bricks to correspond are also supplied.

Prices and all particulars may be obtained on application to Messrs. F. & G. ROSHER, Ward's Wharf, Upper Ground street, Blackfriars-road, S.; and at Kingsland Basin, Kingsland road, N., which are always stocks on hand; or to CHARLES DAVISON & CO. FIRE BRICK and TILE MANUFACTURERS, QUEEN'S FERRY, near FLINT, NORTH WALES.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

RAIN-PIPES, &c.—F. A. TIDDEMAN

& CO. St. Anne's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large Stock of Rain Pipes, Heads, Shoes, Elbows, &c. Half-round and O-G Gutters, Socket Pipes for Water or Gas, Flange Pipes, Hot Water Pipes and Connections, Sash Weights, and other Castings; Iron-work for Bakers' Ovens of every description, fitted complete, to be had in Sets or in Parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful Crane.



SMOKY CHIMNEYS. — The

best Cure is the PATENT ALBERT CHIMNEY CAP, 300 on Buckingham Palace; in use also at St. James's Palace, Windsor Castle, Government buildings, mansions, halls, club-houses, and buildings in general. Prospectuses on receipt of two postage stamps.

JAMES BARTON,
Iron Works, 370, Oxford-street, W.
N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

CANNON IRON FOUNDRY, 80, Goswell-

street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Palisading, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Hanges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic out lings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH

and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country

HANDSOME BRASS and IRON BED-

STEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED

CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road W.

SKAIFE & COMPANY,

Manufacturers of
PATENT GALVANIZED IRON.

Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tipped Sheets and Tiles for export.

IRON-WORK GALVANIZED.

Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.

Iron roofs erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Berkley-street, Birmingham, and Limehouse, London.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

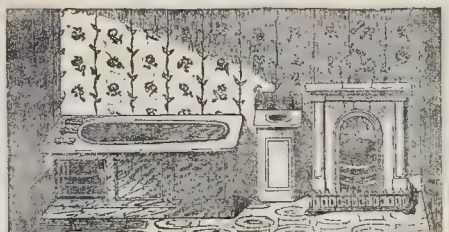
OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.







PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE-ACTION DOORS.



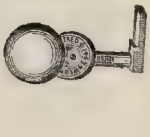
PATENT CASEMENT STAYS, FASTENINGS AND CUPBOARD TURNS,

GOTHIC, DROP, AND OTHER DOOR-HANDLES.



PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

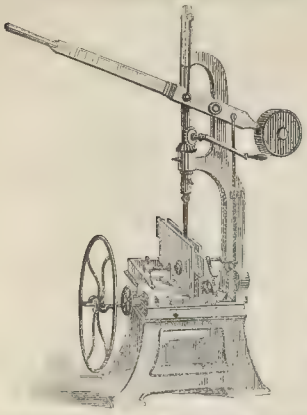
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



Builders', Cabinet, and Ship Brass Founders.

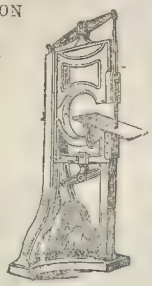
WILLIAM GREENWAY AND CO.
MANUFACTURERS, BIRMINGHAM.

POWIS, JAMES, & CO.
VICTORIA WORKS, BLACKFRIARS ROAD, LONDON.



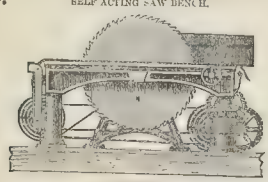
Patent Combined Machine for Mortising, Tenon-cutting and Boring. The only patent in the United Kingdom for one machine to do the three kinds of work. Makers of all kinds of Sawing and Wood Cutting Machinery, Steam Engines, &c. — Offices, 2, Wellington street, London, E.C., where Drawings and Prices can be had on application.

THOMAS ROBINSON
and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20l.



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.

S. WORSSAM & CO.'S PATENT
SELF ACTING SAW BENCH.



(¼ Inch scale.)

This Bench will take a Saw up to 42 inches in diameter, and is adapted for splitting deals, breaking down small timber, and all the purposes of an ordinary saw-bench. It is fitted with a rope-feed motion for bringing the stuff up to the saw, at rates varying from 30 to 60 feet a minute.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

IRON RAILINGS for ENCLOSING
TOMBS and GRAVES,
COMMUNION RAILINGS, SCREENS, GATES, &c.



Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY STREET, OXFORD STREET, LONDON, W.

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-Iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

CLAYTON, SHUTTLEWORTH, & CO.
ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,
STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.
Descriptive, Illustrated, and Priced Catalogues free per post.

MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.
By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

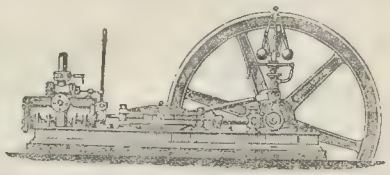
SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.
THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.
BOND & SCAMMELL (late Thomas Pugh & Co.)
WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.



NUT PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.
New and Original Designs in Cast Iron, Brass, Bronzed, Gilt, Carved Woods, &c. &c. to any Pattern.
THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.
A most complete and extensive stock of every description of locks, latches, brass founders, and ironmongery required for buildings, of the best quality manufactured, at the most moderate prices.
*** Illustrations and particulars sent upon application.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,
AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,
MANUFACTURERS OF
HORIZONTAL
AND
VERTICAL
STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB WINCHES, &c.
SEVERAL ALWAYS READY FOR DELIVERY.
Price List forwarded on application.



SHEET ZINC AND METAL PERFORATING WORKS.
FRANCIS RUMMENS,
PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.
HIGHLY APPROVED ROOFING ZINC,
BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.
ZINC SLATING NAILS.



THE NEW CRYSTAL STAR & SUN LIGHT.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
J. DEFRIES & SONS,
MANUFACTURERS OF
MEDIÆVAL AND OTHER GAS-FITTINGS,
CRYSTAL, BRASS, & ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY.
WORKS—LONDON AND BIRMINGHAM.
Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

RICKET'S & HAMMOND'S
GLOBE LIGHT.



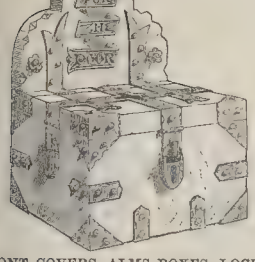
A SHADOWLESS GAS BURNER.
AGAR STREET, STRAND, LONDON, W.C.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS
AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

HART & SON,
MEDIÆVAL METAL WORKERS,
53 to 58, WYCH STREET, and 20, COCKSPUR STREET, LONDON.



FONT COVERS, ALMS BOXES, LOCKS, HINGES, HANDLES, BOLTS, TOMB RAILING, &c. &c.
LECTERNS, CORONAS, GAS STANDARDS, MONUMENTAL BRASSES, &c. &c.

CAST STEEL BELLS,
One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

IRON ROOFING of CORRUGATED IRON,
Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

BELL'S PATENT CAST-IRON SINKS, PLAIN or GALVANIZED.
These admirable and economical Sinks are perfectly sealed from the escape of effluvia, and cannot get out of order.
WROUGHT-IRON and STEEL GIRDERS; WROUGHT-IRON SASHES; STABLE FITTINGS, with Patent SPRING-TOP GRATINGS; WROUGHT-IRON STALL and LOOSE BOX POSTS, with REGISTERED HINGES. Column Girders, Rain Pipes, and MOULDED HEADS in Stock, in great variety; Gutters, Coal Plates, &c. at
HOOD & SON'S CASTINGS WAREHOUSE,
68, UPPER THAMES STREET.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham,
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

HEATING BY HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in exclusive operation, at their Premises, King's road, Chelsea.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths inch diameter	1s. 6d. per foot.
Half-inch diameter	2s. 6d. "
Five-eighths-inch diameter	3s. 0d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.
Offices 130, Strand, London.
" Gateshead-on-Tyne.
" 27, Dale-street, Manchester.
" 66, Anderson-quay, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER. THOMAS FOX, 99, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London W

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the
LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 36, Gresham street, London, E.C.

VENTILATION.—M'KINNELL'S PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its avoidance of draughts, and its being ordinarily self-regulating—the pure air flowing imperceptibly inwards, while the noxious products of respiration and combustion are simultaneously carried off. It has been applied in many of the Royal Buildings at Windsor, the Government Offices in London, and extensively in churches, public halls, schools, offices, dwelling-houses, factories, stables, and in ships, for which it has been adopted by her Majesty's Emigration Commissioners.—Patentee, JOHN M'KINNELL, 15, Langham place, London, W. Description and testimonials on receipt of one stamp.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market London.

IRON CASTINGS of every description; WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS; IRON WINDOWS, HOT-WATER PIPES, RAIN-WATER PIPES, and GUTTERS, PIPES for GAS and WATER, manufactured by
JAMES HAYWOOD, Junior, Phœnix Foundry, Derby.

DEVAUX'S PURE THICK ROOFING ZINC laid upon Mr Edmeston's principle to insure durability, by
D. HAYWARD,
LONDON ZINC WORKS, No. 97, Blackman-street, Borough.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz great strength, great durability, and perfect immunity from all corrosion, and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one fourth the weight, and when laid down are 40 per cent. cheaper than iron pipes. They are made in seven feet lengths, and the joints are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.
Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr. ALEXANDER YOUNG, 11a, Cannon street, London, E.C.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

TO BRICKMAKERS, IRONMONGERS, AND BUILDERS.
IMPROVED STEEL BRICK-MOULDS.
FASSNIDGE, BROTHERS, MANUFACTURERS of the above ARTICLES, beg to acquaint their customers and the trade generally that they are now prepared to SUPPLY their superior make of BRICK-MOULDS for the ensuing season, and keeping a large stock on hand, of all sizes, are enabled to execute any orders intrusted to them with dispatch.—FASSNIDGE, BROTHERS, Brick-Mould Makers and Ironmongers, Uxbridge Mill-pond.
Established A.D. 1776.

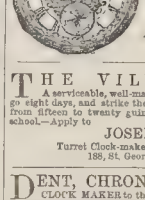
TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS.
THE BRYMBO COMPANY, North Wales, beg to inform Contractors and others that they have made arrangements to SUPPLY the LONDON MARKET through their Agent, Mr F. FORD, No. 9, Lawrence Pountney-hill, Cannon-street, City, with
CASTINGS OF FIRST QUALITY,
FROM THEIR OWN SUPERIOR IRON, MADE FROM THE BEST HEMATITE AND ARGILLACEOUS ORES.
All orders promptly attended to, and at moderate prices.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, sheds, slates, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

BENSON'S WATCHES and CLOCKS.
"Perfection of mechanism."—*Morning Post.*



Gold, 5 to 100 Guineas.
Silver, 2 to 50 Guineas.
BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, describes all of every construction of Watch, enables persons in any part of the world to select with the same certainty as if they were in London, and to have the Watch best adapted to their use. Watches sent free and safe by post on receipt of a remittance.
J. W. BENSON,
33 and 34 LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.
(Established 1749.)

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to
JOSEPH FAIRER,
Turret Clock-maker to H. M.'s War Department,
188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSE OF PARLIAMENT,
Invites attention to the superior workmanship and elegance design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	6 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	23 "
Marine Chronometers	35 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

FODELL & CO. 8, BATH-STREET, CITY-ROAD, and 12, Grafton-mews, Fitzroy-square, continue to execute LEAD GLAZING FOR CHURCHES, Chapels, &c. in quarry or geometrical patterns, at the LOWEST PRICES. Estimates and patterns forwarded, on application, to any part of the country. Church Leads, 30s. per cwt.; Fret Leads, 37s. per cwt. for cash. All orders for lead to be sent to 12, Grafton-mews, Fitzroy-square.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3, PER SQUARE up to 25 feet span Sheds of larger span, incinding posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.
Testimonials from Architects, Bankers, &c. of their security and durability forwarded.
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.
Agent for the Crystal Glass Pillars and Sash Bars.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil, covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

The Fourth and cheaper Edition, in 8vo. price 42s. cloth,
GWILT'S ENCYCLOPÆDIA of ARCHITECTURE, Historical, Theoretical, and Practical. Comprising:
I *History of Architecture.*
1 Origin of Architecture.
2. Architecture of various Countries.
3. Architecture of Britain.
II *Theory of Architecture.*
4. Construction.
5 Materials used in Building.
6. Use of Materials.
7. Medium of Expression.
III. *Practice of Architecture.*
8 Principal Parts of a Building.
9. Combination of Parts.
10 Public Buildings.
With a Supplement on Gothic or Pointed Architecture, its Periods, Styles, &c.; a Glossary of Terms used by Architects, including an Alphabetical List of the principal Architects of all Times and Countries and their Works, and a Catalogue of the most useful Works on Architecture; and a copious Index. Complete in One Volume of 1,164 pages, illustrated with 1,062 Engravings on Wood by R. Branston, from Drawings by J. S. Gwilt.
"It should be possessed and used by every architectural student."—*Builder.*
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

MEMOIRS OF SIR M I BRUNEL, C.E.
Just published, in One Volume, 8vo. with a Portrait engraved on Steel and 16 Illustrations engraved on Wood, price 14s. cloth,
LIFE of SIR MARC ISAMBARD BRUNEL, Civil Engineer, V.P. F.R.S. Corresponding Member of the Institute of France, &c.
By RICHARD BEAMISH, F.R.S.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

Just published, Illustrated by One Hundred and Seventeen Plates, Diagrams, Plans, and Woodcuts, in super-royal 4to. price 3*l.* 3*s.*
THE ARCHITECTURAL HISTORY OF
CHICHESTER CATHEDRAL,
with an Introductory Essay on the Fall of the Tower and Spire,
By the Rev. R. WILLIS, M.A., F.R.S. &c. &c.
Jacksonian Professor in the University of Cambridge.
OF
BOXGROVE PRIORY,
By the Rev. J. L. PETIT, M.A. F.S.A.
AND OF
SHOREHAM COLLEGIATE CHURCH;
Together with the Collective Architectural History of the foregoing Buildings, as indicated by their Mouldings, by EDMUND SHARPE, M.A. F.R.I.B.A.
London: BELL & DALDY, 186, Fleet-street.
Chichester: WILLIAM HAYLEY MASON, East street.

Now ready,
TIMBER ROOFS: a Series of the best Executed Examples for CHURCHES, STATIONS, MARKETS, BATHS, WHARFS, and other Buildings, 1*l.* 11*s.* 6*d.* Also a new work, Vol. 2 of IRON ROOFS, corresponding with G. D. DEMPSEY'S. 1 vol., 1*l.* 11*s.* 6*d.*
ATCHLEY & CO 106, Great Russell street, London, W C

THE DICTIONARY of ARCHITECTURE. The names of new Subscribers continue to be received. For every information, apply to ARTHUR CATES, Hon. Sec. 9, Conduit-street, Hanover square

HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

MANCHESTER STAINED-GLASS WORKS.
R. B. EDMUNDSON & SON,
Artists in Stained Glass, Ecclesiastical and domestic of every description, ancient and modern, illustrated on paper cards, by their new process in Plate Glass; Mural and Heraldic Decoration, Monumental Brasses, &c. Designs and estimates on application.—R. B. EDMUNDSON & SON, having had the appointment of the late Mr. Joseph Bell, of 25 years' practical experience in the manufacture of every description of glass for ecclesiastical purposes, have most of their glass made to order, and from their own receipts, and which will be found nearer Bell-metal glass than any others at present manufactured. Works—New Wakefield street, Oxford-street, near the Bridge.

STAINED GLASS and WALL PAINTING
NOTICE OF REMOVAL.
MESSRS. CLAYTON & BELL,
Late of No. 24 a, Cardington street, Euston-square,
Have removed to
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).
Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Cornhill, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

PAINTED GLASS WINDOWS AND MURAL DECORATION.
LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford-street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

PATENT and BRITISH PLATE GLASS
JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate
Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. BEETAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

BELSIZE PARK, HAMPSTEAD. — TO BUILDERS and OTHERS.—LAND TO BE LET, for Building, with roads and sewers all complete. For further particulars, apply on the estate, at Mr. TIDEY's Office, 20, Belsize-park.

STABLING. WANTED, Extensive STABLING, or a SITE convertible for that purpose, in a Western or South-Western district of Town. Full particulars to be sent, by letter only, to E. B. 22, Alfred-place, Bedford square, W.C.

TO BUILDERS and OTHERS.—SELHURST-PARK, Norwood, near the Junction Station.—Three freeholder will cooperate with respectable builders in ERECTING HOUSES, to let at 42*l.* to 82*l.* Excellent bricks of every class on the estate. Proximity to the Junction Station, enables materials to be readily supplied. All roads made. Several first-class houses erected, all of which have been let before finished; and others are in course of completion. Natural drainage from all parts of the estate. Air proverbially healthy, water good and abundant; trees and walks beautiful; fine hills, or 10 minutes from City. 24 minutes from West end; 4 minutes from Crystal Palace; 50 minutes from Brighton. Trains constant from six a.m. till half-past twelve at night.—Particulars at Selhurst-park Office; or to Messrs. FRANCIS FULLER & CO. Cornhill, E.C.

TO BE LET, with possession in April next, the WATER CORN MILL, known as Charlton Mill, Dover, driving four pairs of stones, and recently fitted with new working gear and many new improvements, and possessing good water power, together with stabling and extensive yard and flour stores. For particulars and to view, address Messrs. JACOBS & SEAR, Land and Estate Agents, Dover

BUILDING LAND TO BE LET, FURION, WILTS IMPORTANT INVESTMENT.—The now rapidly rising and still increasing celebrity of the Furion Mineral Waters, have rendered the property of the Furion Estate peculiarly valuable. The Proprietor, therefore, (the most extensive Building Ground and property extending from near the Old Church to the Railway Station, and including the Dwelling House and Gardens of the occupation of Mr. Stringer Cooper (formig a beautiful frontage to the west side of Furion Hill-road, have determined to offer them, on spacious and convenient Building Leases, for the erection of villas, on most advantageous terms to lessees. It is intended that the Furion Estate shall be the rendezvous and resort of excellent spring waters, and not being subject to restrictions, as well as natural purposes, how soever to enable, better than any private family in the kingdom to use the great Wonder Healing, the sum of the supply of the purest well known substances at the cheapest distance, at all seasons of the year. Plans and descriptions, &c. of the Estate may be had on application to Mr. LOVELL, Solicitor, Crediton, Devon; Mr. T. S. LANSDOWN, Architect, Malmesbury, Wilts; or Messrs. FOSTER & PAYNE, Solicitors, 23, Queen street, Cheapside, at each of whose offices plans and elevations may be inspected.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINE.
Adapted for hand, horse, or steam-power, will make one-third more in quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.
Licences to Manufacture granted for certain districts.
For price and particulars, apply to BUNNETT & CO. Engineers and Foundeis, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

FIRE BRICKS, LUMPS, and TILES, of every description,
JOHN NEWTON & CO.
HONDURAS WHARF, 74, BANKSIDE, SOUTHWARK, S.E.
Beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. &c.
Depôt for Ramsay's Newcastle Fire Bricks, Clay Retorts, Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c. at the lowest prices.
Shipping orders executed with despatch.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chemical, and Smelting purposes, and in any business or manufacture where an intense heat is required. For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch-street, E.C.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Grissells, Place, or Stock Baits, by barge alongside, in the Thames or canals, on reasonable terms, either for cash or approved bills.
Belvidere-road, Lambeth, January, 1862.

BRICKS.
BEST KILN-BURNT BRICKS, of superior common quality, can be supplied by the Million. Also,
FINE WHITE AND RED FACING BRICKS.
WHITE, RED, AND BLACK GUTTERS.
VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES.
WHITE AND GREY LIME AND GLAZED STONEWARE PIPES.
Vessels can load close to the Kiln's mouth, at the East Cowes Park Estate, on the river Medina, Isle of Wight.
RICHARD LANGLEY, Agent.

A NEW BRICK and LIME WHARF, and DRAWDOCK,
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

MESSRS. COWDERY & SALTER have to SELL from ONE to TWO MILLIONS of GOOD SOUND STOCK and GRISSLE BRICKS, loaded into barges on the Basingstoke Canal, or delivered alongside any wharf in the Thames, or loaded into trucks at Woking Station, on reasonable terms, for cash or approved bills.
Hermitage Brickfield, Woking, Surrey.

TO BRICKMAKERS.—TO BE SOLD, about 2,000 CHALDRONS of ASHES, deposited on a piece of land by the side of the way leading from the turnpike-road in Milton near Gravesend, Kent, down to the River Thames.—Full particulars may be obtained of Mr. JOHN COULD, Surveyor to the Commissioners of Improvements, Farrock-street, Gravesend. And proposals are to be sent previous to TUESDAY, the 11th MARCH next, to my Office, King-street, Gravesend.
FRAS. SOUTHGATE, Clerk to the Commissioners
Gravesend, February 14, 1862

TO BUILDERS, BRICKMAKERS, and BALLAST-BURNERS.—A large quantity of excellent COKE BREEZE FOR SALE, at the Western Gas Works, Kensall-green. Good facilities for loading by boats on the Grand Junction Canal, or by the Great Western Railway from a siding to the Works.—Apply to the Manager as above

PRIZE MEDAL, LONDON, 1851.
GOLD MEDAL, PARIS, 1844.
ARMANI and CO. Importers direct from the Mines of SEYSSEL-FRANGY (Savoy), SEYSSEL-VOLANT-PERRETTE (Savoy), MAESTU and MONTORIA (Spain), BASTENNES (Landes), &c. &c.
SEYSSEL ASPHALTE,
And by H.M.'s Royal Letters Patent, Manufacturers of
METALLIC LAVA.
For Price and Estimates apply at the
OFFICE, 6, GUILDHALL CHAMBERS, BASINGHALL-STREET.

CROGGON and COMPANY,
Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,
For Damp Walls and Lining from Houses.
2 DOWGATE-HILL, London; and 3, GORE PIAZZA, Liverpool.

TO DRAUGHTSMAN AND CIVIL ENGINEERS
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These pencils are prepared in various degrees of hardness and shade

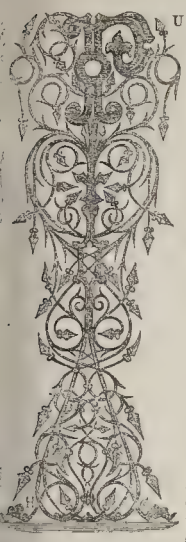
H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

The Builder.

VOL. XX.—No. 994.

Structural Improvements: Healthy Houses.



UTTING aside some arrangements previously made, the Royal Institute of Architects devoted Monday evening last to a further consideration of a subject which had been brought before them on a previous occasion,—the Essentials of a Healthy Dwelling, and the extension of its benefits to the labouring population;* a subject to which we attach so much importance, as our readers know, that we would give the discussion all the emphasis and prominence in our power. Professor Kerr was in the chair, and the ordinary business was transacted (presents and new candidates announced), by the Hon. Secretary, Mr. T. Hayter Lewis, who has devoted so much time and energy to the business of the Institute as to deserve some special acknowledgment.

Mr. Godwin, being called on by the chairman, to open the discussion, said it might be recollected that the paper read by Mr. Henry Roberts, was divided into two parts. The first portion brought together what were the essentials for a healthy dwelling, and the second portion contained a statement of the various efforts which had been made from time to time chiefly by associations, to extend the advantages of such houses to the labouring classes. If the first portion of the paper, which has since been printed, had been read in full on that occasion, the members of the Institute might, perhaps, have considered it unnecessary to carry the subject further. Mr. Roberts has devoted many years and much ability to the subject, and he has circulated his statements and convictions not only through all parts of his own country, but in France and elsewhere. His exertions have entitled him to the gratitude of every one interested in the subject, and that in my mind means every member of society, and the paper which he last read appears to give him an additional claim to our thanks. Having said this much, I am willing to open the evening's discussion, and I have no doubt that as I see many gentlemen present who have given their consideration to the matter, some practical advantages will ensue. I propose, in the first place, to make a few general observations on the subject, and then to direct your attention to certain arrangements and inventions which have been made, with a view to the improvement of dwellings. We cannot yet, I fear, give up generalities, although I admit that it is time we should be able to do so. I fancy, however, the public are not yet sufficiently awake to the importance of the matter to enable us to give up general observations in order to clear the way, and induce a strong current of public opinion to set us in the right direction.

Further evidence of the connexion between evil structural arrangements and disease ought not to be necessary, but unfortunately it is. When we find in one parish—St. Pancras, for example—that in one district (Cavendish) the average number of deaths per annum is 15 in 1,000, while in another (Christ Church), 23 die in 1,000; that in St. James's parish, in one division (St. James's), 12 die in 1,000, while in another (Berwick-street), 23 die each year in 1,000; and that certain houses furnish a regular supply of fever cases, which supply stops when structural improvements are made, doubts on the subject should surely vanish. It has occurred to me, as some here know, to examine into the condition of London, and some other of our cities and towns, and I can safely affirm that there are thousands of houses where health, decency, or virtue is scarcely possible. The devotion of some years to the subject, at the risk, perhaps, on more than one occasion, of life, must be my justification for thinking and speaking strongly on the matter. It is scarcely necessary to multiply proofs of the advantages that follow improved houses; but the decrease of mortality in model lodging-houses, published some time ago, should not be passed by. The effect of construction and overcrowding has, again, been remarkably shown in barracks and hospitals. At Scutari, where at one time there were 2,500 inmates, two out of five died, or 40 per cent. In hospital tents in the Crimea, without shelter, food, or medicine, not more than half that mortality occurred; and in huts well placed and arranged, the mortality of wounded was only 3 per cent. Gangrene and erysipelas haunt some hospitals, and are not to be found in others. The startling effect produced by the announcement of the death-rate in the army at home will be remembered. The cause was evident when the barracks were examined, and the mortality has been lessened immensely by compliance with sanitary requirements. We have the deposition of medical officers of health that, in streets which had been distinguished by sickness, the improvement of the sewers and the proper drainage of the houses have been followed by diminished sickness. The probable sites of epidemics can be pointed out: unhealthy districts are obvious. I shall perhaps be excused for alluding to evidence of this, which is somewhat egotistical. The first illustration given in my little book called "London Shadows," published at the commencement of 1854, represents part of a court in Berwick-street, Golden-square; the last shows houses in the neighbourhood of Ewer-street, Gravel-lane, Southwark; and warnings were expressed of what neglect would probably lead to. It was in Berwick-street and the neighbourhood that the cholera very soon afterwards carried off 700 persons in a few days; and in Ewer-street the last serious outbreak of the disease occurred!

A strong public opinion is fortunately growing up on the subject, and our recent great loss will aid this. One result will doubtless be the improvement of the houses, not only of the labouring population, but of all classes. An assertion that I ventured to make some years ago, "*As the home, so the people*," is beginning to fix itself in the popular mind. I find it, with humble satisfaction, the text of essays and the motto of associations. Widely admitted, it would be certain to produce good fruit. I would add to this,—

To drain and pave,
Means raise and save.

The connexion, perhaps, is not at once obvious, but it is, nevertheless, undeniable. Drainage alone, will not do everything, but it is an important first step. Recent returns from Salisbury, for example, show that the average deaths annually, in 1,000, before drainage, were nearly 28, and after drainage, not 21. In Ely, the deaths in 1,000 were, before drainage, 25⅔, and since the drainage, but 20⅔. The efforts that have been made have had their effect in ridding many evil localities of fever; and recently it has been noticed that the same fever has haunted houses of a higher grade,—a fever which physicians have shown is caused by the emanations of decomposing matter,—the foul air, for example, of drains and cesspools. Of the evils of cesspools it is impossible to speak too strongly. The condition of London in this respect, at one time, was frightful. If the surface could have been taken off we should have seen a bubbling expanse of putridity and filth horrible to behold. Dante's rain brought scarcely greater horrors,—

"Stank all the world whereon that tempest fell."

5,000 cesspools have been got rid of (says Dr. Letheby) in the city alone.

And now let us look to some of the structural defects to be found in our dwelling-houses. Prominently, we may enumerate bad foundation,—permitting dampness; thin and porous walls,—contributing to the same evil, and increasing the cost of firing; defective drains and traps; want of ventilation—supply of pure air and removal of bad; insufficient height of rooms; want of pure water; wasteful means of heating; smoky chimneys; want of light,—the legacy of the old window-tax (dark rooms give a larger amount of sickness than light ones); the defective paving of yards and areas; and the excessive cost of houses for the poorer classes.

I will refer to a few inventions and materials bearing on some of these heads, not necessarily the best of their kind, but those that are accessible, and which will serve to hang observations on. In respect of dampness, one of the latest inventions counteracting it in foundations is Taylor's damp-proof course, which is an elongation in vitrified earth of the ordinary air-brick, and which, while keeping down damp, lets in sufficient air to the joists of the lower floors to make them dry, and prevent them from rotting. Mr. George Jennings's burnt-earth air-bricks are similar to the iron air-brick, but larger and more ornamental, and should be used. The provision of a couple of common iron air-bricks for the ventilation of the whole basement of a house, as used by house-builders (the current often stopped by the joists), is altogether insufficient for the purpose. In many cases there should be a layer of concrete over the whole site of a building to keep down emanations; sometimes even of asphalte. Pipe drainage for the surface is often advisable. Hollow walls are drier and warmer than solid walls of the same cost. Some difficulty has been found in tying together the two sides of a hollow wall, and Mr. Jennings makes a bond brick for the purpose, which promises to be useful. The manufacturer considers, that taking a solid 14-inch wall at 11*l.* per rod, a hollow 14-inch wall with the patent bonding bricks may be built for something less than 10*l.* a rod. I have had some experience of hollow walls, and have reason to think them advantageous. There are various facing bricks which deserve notice. And as to the question of using absorbent or non-absorbent bricks for the walls of houses, they should at any rate be non-absorbent externally. Internally, for cottages, a non-absorbent (and heat-conducting) material has been objected to; for hospitals, however, it would seem necessary to use it. The Poole Architectural Pottery Company make bricks coloured and glazed externally, which deserve attention. Many specimens of improved bricks as well as other building materials may be seen in the South Kensington Museum; and many experiments have been tried there with new cements and modes of building, the statement of which would be valuable. The injurious effects of damp in cottages and other dwellings is not sufficiently appreciated. We must all know rooms where the paper peels off, where a book becomes mouldy, linen wet, and which are, nevertheless, constantly inhabited by reasoning and instructed beings, who expect to enjoy health. And how can there be other than such rooms? See the mode in which thousands of houses in the suburbs of the metropolis and elsewhere are commenced: without any excavation; the basement floor of thin gaping boards placed within 6 inches

* See pp. 56, 71, 107, *ante*.

of the damp ground; with slight walls of ill-burnt bricks and muddy mortar, sucking up the moisture and giving it out in the apartments; ill-made drains, untrapped, pouring forth bad air; and you scarcely need more causes, although others exist, for a low state of health. I need not say here, that in the case of thousands of houses built at present in the metropolis, no architect is ever employed: but I think it right to mention this in order that the public may know that the opprobrium to be incurred by such buildings should not be cast upon the architect. I am much disposed to think that the legislature should further interfere, and that some properly-constituted officer should certify that every new house was built in such a manner as to be fit to live in. I hope, at all events, that the Metropolitan Building Act will be amended. The only three provisions in the Building Act framed for the preservation of the public health—those relating to cellar-dwellings, rooms in the roof, and an area of 100 feet behind each house not wholly lighted from the street—are in practice inoperative. With regard to rooms in the roof, they are made with a door and a place for light; they are made sufficiently large to allow of a bedstead being put up; but if the district surveyor summon the builder for making them of less height than is required by the Act, the latter has simply to testify that they are not sleeping rooms at all, but places for luggage, and the result is that the district surveyor loses his time in addition to the cost of the summons. Then, with respect to cellar-dwellings, the Act only provides that the surveyor shall be allowed to inspect such places between nine o'clock in the morning and six o'clock in the evening, which is, of course, not the time to obtain evidence to determine that they have been used as sleeping-places on the previous night. The duty of inspection should, I think, be thrown upon the inspector of nuisances or the police, the district surveyor simply certifying as to the structural deficiency. In some parishes I understand that this arrangement has been made, and that it is operating extremely well.

The evil that results from the insufficient *trapping of drains* is immense, and widely spread. The common bell trap is useless: the loose grating is soon broken or lost. I had occasion officially to examine last week a street of fourteen decent-looking houses in a suburb, and I found that the bell-traps of nearly the whole number had disappeared. A stream of foul air was rising in each, but the people there told me that there was no smell; at all events, that they could not smell anything. Their own faces and sickly children testified to the existence of that and other evil arrangements. The want of recognition is striking. I remember the case of an old woman at the back of Bishopsgate-street, who lived in a house just opposite a gully-hole, and when I questioned her as to the smell, she replied: "No, sir, there isn't no smell; there has been a deal of sickness about, and I have lost my son, but I am *manured* to it, and don't mind it." There are several traps now before the public which should be adopted. That of Messrs. Tye & Andrews, for instance, for sinks, which is far superior to the trap in common use; the grate is fixed, and the trap is formed with a larger quantity of water. Mr. Lovegrove has invented one, which goes farther, by the application of back-flaps (or valves), to the outlets of all the various forms of hydraulic traps; so that variations of temperature which defeat traps sealed with water alone, have no effect on it. I do not mention these inventions with the desire of extolling any particular one and disparaging others; all I say is, that we want a perfect trap. Those which we now have in daily use are merely disguises, and permit a constant stream of poisonous exhalation to penetrate the house. The great thing which we have to do in directing attention to this subject, is to get the public to understand this evil; that there is something better than that which they now use, and that the sooner they get it the better. With improved traps, and impermeable drain pipes, we then call for the proper ventilation of drains outside the house. The use of the rain-water pipes for that purpose cannot always be recommended. Charcoal appears to offer the means cheaply and safely.

This brings us to the want of ventilation in our houses. All ought to insist on means being provided *to admit fresh air involuntarily*, and without draught, in every room, and *to take away foul air*. Nature arranges for vitiated air at once to sail away from us. We arrange to defeat nature, and as in all other such cases, suffer. There are various systems on the broad principle of letting in fresh air to the fire-brick back of the stove, and so bringing it warmed into the room, and of providing an opening into a tube to take away the vitiated air. But none is used to any extent. Mr. Boyd, of Conduit-street, has a ventilating arrangement, by which fresh air is brought in either in the front or back of the stove, and wherein air-flues are formed by means of iron plates between the smoke-flues, and openings from the ceiling take away the foul air. I have inquired of Mr. Boyd the cost of his invention for a chimney-stack of three flues, 42 feet high, and he tells me it is only 7*l.* 8s. 8d. We have then Mr. G. Jennings's arrangement of pipe flue with air-chambers around it, by which provision is also made for letting out the foul air, and letting the pure air come in. I have seen the invention in operation, and I found a stream of pure warm air coming in while the foul air was making its escape. There are many other similar arrangements, such, for instance, as the smoke and air-flues of Messrs. Henry Doulton & Co., of Lambeth; and I hope that architects will, as far as possible, assist in introducing them into our dwellings. The grates used in many houses are wasteful in the extreme. It is time some means of testing were established. The sanitary committee appointed in connexion with the approaching Great Exhibition had hoped to make an arrangement for the testing of grates and ranges submitted for exhibition, but have not been able to bring it to bear. The open fire-place is the focus of enjoyment, and we cannot get rid of it, but we may take care that it does its work well. While some ranges cook the soldiers' dinner with 2½ ounces of fuel, another burns up in the same process as many pounds. The supply of fresh air in our rooms, of which I have just spoken, would often prevent the annoyance of a smoky chimney. Mr. John Billing has invented a terminal which, in a large number of cases, answers its purpose well. The orifice for the escape of smoke is the truncation of a hollow cone (or pyramid), made nearer to the base or the apex as may be required to produce different sizes, and the cones are separated by a partition, which prevents the return of smoke. He has put them up on many model lodging-houses; and I mention it, as greatly to his credit, that in such cases he offers to give up his own remuneration, and will simply charge the prime cost. As to water, our present supply is unsatisfactory. The upper Thames water is fouled by sewage, and the whole question wants discussion. The influence of impure water in producing disease is unquestionable. The cost of obtaining water pure should not be considered. The Romans were wiser than we are. As to the surface wells in towns, they are mostly poisonous. Improvement is needed in the conveyance, too, of water to our houses. Lead pipes are dangerous. This is constantly said; but we go on using them. Take the last report of the Manchester and Salford Sanitary Association, published only a few days ago. This shows conclusively that water which has remained even a few hours in lead pipes should never be used for dietary purposes. "When water remains stagnant in the pipes it not only becomes highly charged with the dangerous poison, but a coating is formed on the inner surface of the pipes, which coating is subsequently detached by the water passing through, and which it impregnates with lead. The practice of lining lead pipes with tin affords little, and only temporary, protection, and is of no practical value. Bearing in mind that lead is a cumulative poison, and that water containing it may be used for a considerable time, and the foundation be laid for great suffering and physical injury before the symptoms become so marked as to justify a medical man in pronouncing the case to be one of lead poisoning, the discovery and adoption of pipes for domestic supply which could not be productive of this evil is of the greatest moment, especially to our densely-populated labour districts. The first step towards remedying the evil is a thorough conviction of its existence, and of the serious results which may follow from disregarding its importance." Let the community at large be convinced on these points, and it is more than probable an efficient remedy would be discovered, more especially if corporations would offer to parties engaged in the necessary pursuits some inducement to produce a pipe economical in cost, easy of application, and on which the water would not act prejudicially.

Cost in all these matters is a most important element. In none more so than in constructing houses for the labouring classes. Something could be done to cheapen this by using machinery, and producing doors, windows, floors, skirtings, roofs, and so on, to suit particular plans, as now practised for ships and locks. Of course one would not wish the uniformity this would produce carried farther; but for the poorer classes fit an healthful accommodation at low cost is a matte of life and death. The use of concrete for cottag building has not been sufficiently tried. As t the question of agglomerated houses, so to speal it is too large to be touched upon now. One obser vation, however, I must make, which is, that th sooner the notion is exploded that in Englan every one occupies a house of his own the bette Every house is built as if for one family, and then in a large proportion of cases, comes to be occu pied by several, who dwell consequently withou comfort or conveniences. The fact that house are to be occupied by more than one family mus be looked in the face, and proper provisio must be prepared, legislation being made t aid, and not to thwart this, as is now the case

It is often forgotten that although death ha occurred during the progress of some named dis ease, in numerous cases death would not hav resulted but for the impaired or low state o health of the patient. Evil sanitary arrangement lead to this low state of health, and so to th death. It is not too much to assert that a lo state of health is the chronic condition of thou sands. The laws of health should be taught t every child from the ragged-school upwards an followed; and if we had preventive physicians,— physicians who would keep us from getting ill, a well as cure us when we are ill,—we should be healthier, better, and happier people. The spread of knowledge on the subject is of the greatest im portance; to that we must look for the desired re sult. It is scarcely possible to estimate the amoun of misery, remorse, and crime produced by unhealthy houses. Apart, however, from the avoidance o extreme evils,—illness and death,—a home should be a place of repose, cheerfulness, and comfort where the worker, the bread-winner, may gain fresh strength and energy for the daily struggle. Dulness, gloom, apathy, ill-temper will not pro duce this. We all know what trifling matters will change a career; and that the misery of a lif may be born of a chance observation. The con nexion of these remarks with our subject will be seen at once. Amidst bad domestic influences the spirits flag, the temper changes. Breathing bad air suffering from the effect of damp, the world look dark, the heart is heavy; cheerful effort is out of the question; kindly companionship is withered and jangle and snarl take the place of mutual encouragement and healthful converse which develop the affections and powers. The occupants of such houses as we are contemplating do not *live*; they only pass their time; and a very bad time it not seldom is. Life, which should be a blessing, is often made a curse by an unhealthy house and its consequence—an ill-ordered home. Besides remedies of evils referred to, we want also more colour in our houses, more pictures or prints, flowers, and a garden,—the effect of these on the spirits, and so on the health, the thoughts, and the habits, is greater than some imagine; and the same argument will apply in calling for the well-ordering and proper adornment of towns. I would maintain the usefulness of beauty as well as the beauty of useefulness.

The Chairman said that they were all much indebted to Mr. Godwin for the truthful and practical tone of his observations. As he perceived that Mr. Edwin Chadwick was present, he hoped that gentleman would favour them with some observations.

Mr. Chadwick said there was one point to which Mr. Godwin had referred, with reference to which he would wish to offer a few observations. The department with which he had been connected had had a good deal of experience with respect to absorbent and non-absorbent surfaces within a dwelling. There were houses built with a cement which was non-absorbent, and there were also rooms and other places where the entire surface was, so to speak, non-absorbent. He had never heard of any evil arising in the way of cold from that description of surface; but the experience gained of absorbent surfaces in hospitals and other places, was such that no officer of health could think of recommending them. Cases had come within his own knowledge in which persons had been driven out of certain houses on account of fever. In some of those houses the walls had been carefully stopped and whitewashed. The persons who returned to those houses were not again attacked by disease; whereas those who returned to other houses which had not been subjected to that treatment were again the victims of disease. In his opinion, one of the most healthy houses which could be constructed would be one of glass, on the double-window principle. If there was no objection on the score of expense,

and a house could be built of slabs of glass, it would be one of the healthiest dwellings that could be conceived. In Scotland, it was found necessary to make the houses for the coast-guard men with double walls, or to line them with slate, to prevent absorption. The inside of the house should likewise be non-absorbent, although it need not be non-conducting. Some important experiments had been made with regard to double windows, in the course of which it had been proved that a space of 6 inches between the inner and outer window was sufficient for non-conducting power. This result was useful in considering the question of hollow brick walls properly constructed, for a space of 6 inches would be equivalent to the double window, and, therefore, all above that would be a waste of material, and, consequently, an addition to the cost of construction. He advocated the adoption of hollow brick walls, because a thin wall might then be made to do the service of a thick one. They all knew from experience that a hollow 9-inch wall was warmer than an ordinary 18-inch brick wall, while it was at the same time non-conducting. In conjunction with Mr. Rawlinson, he had made some experiment of the cost between 9-inch hollow walls and the ordinary wall built of stock bricks; the result of which was, that the 9-inch wall non-absorbent and non-conducting could be built at a less cost than the soft brick wall, which absorbed the moisture like a sponge. It was also known that houses with absorbent surfaces were more costly, on account of the time and fuel which was required to dry out the moisture. Experienced registrars also knew that small new houses, hastily run up, with indifferent materials and soft bricks, were sure to engender a crop of disease, especially among children, and that scarlatina was one of the most malignant diseases originating in such places. He was strongly of opinion, therefore, that both as regarded health and economy it was desirable to apply the principle of hollow walls to cottage construction. Another great advantage of the hollow brick was that it was baked very hard, while the ordinary brick was generally baked very badly. With respect to interior surfaces he did not think they should be glazed; but he thought they ought to be non-absorbent. Miss Nightingale was no bad authority on such subjects, and she not only took measures to make the floor of the barracks non-absorbent, but the walls also; and so impressed was the Government with the necessity of attending to these considerations that the principle had been carried out in recent hospital constructions, at considerable additional expense. Again, referring to cottage dwellings, he was of opinion that if the hollow bricks could be made on a large scale, cottages could be constructed more economically than with the ordinary materials. Not only might hollow bricks be introduced for the walls, but for the roofing also, where the cost was in the proportion of 4 to 7 in favour of hollow bricks against slates. With regard to fuel and ranges, the question was too large to go into at any length; but he might state that there was an enormous waste of fuel in the present stoves, and that a very great saving might be effected by adopting the close ranges as used in France and America. He believed that the saving of fuel in a French close range was equivalent to half, and in an American to one-third, as compared with our own. The question of ventilation was also a very large one, and as he felt that it would be impossible on the present occasion to enter into it, he would content himself by expressing his approval of the observations and suggestions they had heard, and hoping that the subject would in future receive greater consideration, not only from professional persons, but also from the public, who were after all mainly interested in the vital questions involved in the essentials of a healthy dwelling.

Mr. Charles Fowler observed, that one circumstance which had not been adverted to was the great diversity of situation, materials, and other matters affecting the erection of cottages for the labouring classes. In various parts of the United Kingdom such cottages must assume different forms and constructions, for as cheapness was often the greatest consideration, it became necessary to adopt the materials which were nearest at hand. In discussing the matter in London, bricks were naturally referred to as the chief material of construction; but it should be remembered that in many places bricks were not obtainable at all. In Devonshire, for instance, they used "cobb," which consisted of loam mixed up with straw. This was carried up in layers of considerable thickness, resting on a basement of stone to prevent damp. When properly erected, he ventured to say that there was no dwelling more comfortable, because, from the thickness of the wall and their non-condensing properties, they were warm in winter and cool in summer. As they were generally thatched, and as all the materials were non-conducting they formed in combination a most desirable dwelling. In Wales stone was exclusively used, and as stone was also to a great extent non-absorbing, the cottages were, for the most part, comfortable. He had a strong feeling on the point that non-conduction by means of substantial building was most desirable whenever it could be effected. Then with respect to situation he could refer to an instance in his own neighbourhood, where a poor woman was lying sick for years, and in order to approach her dwelling it was necessary to creep over a mass of fermenting matter, accumulating there for the benefit of the farmer. The poor woman was constantly ill, and her children were in an emaciated condition; and yet the cause was perfectly plain, obvious, and capable of removal. In that case the attention of the farmer had been called to the matter, but nothing had been done. There was also a case some years ago where the deaths at a certain farm-house in the country were so numerous that a coroner's inquest was held to investigate the cause. Evidence was taken as to the situation of the premises, and it was proved that their very offensive condition arose from the circumstance that the yard of the farm-house was at a higher level than the dwelling itself, and that there was a constant percolation of poisonous gases into the house. He mentioned these circumstances to show that it was not merely necessary to look to the construction of the house, but that they were bound to regard all the circumstances as well. There was only one other point to which he would refer, and that had reference to chimneys and the conduction of smoke. He thought they should not lose sight of the fact that the great object to be attained was, that the ascending balance of the air should be such as to send the smoke up the chimney. If this were not accomplished, the cooling influence would come from above, and, in that case, there would be a down draught and back smoke. The great thing was to keep the flue warm, for, so long as it was warm, the draught would be good, and the smoke would ascend. He was glad to find that the Institute had devoted so much attention to this subject, and large as it undoubtedly was, he hoped they would be able to put it in such a manner before the public that they would profit by it, and adopt those inventions which from time to time might result from the careful consideration of practical persons.

Mr. Rawlinson said the subject was one of great range, and that Mr. Godwin had opened it in a very effective manner. It was, indeed, high time that general attention should be paid to the sanitary condition, not only of the dwellings of the poor, but also to those of the wealthy classes. In the present age of modern civilization there was a disposition to take up the question, but he need scarcely remind those present that it was only within the last twenty years that the subject had been mooted at all. He did not wish to bring charges against the architectural profession which might get him into a position of difficulty, and, remembering the old law that the greater the truth the greater the libel, he would not like to get his head into Chancery by commenting too severely upon the profession in their own Institute. He was bound, however, to say that the subject had not been sufficiently studied by the architect or the engineer. He had been called upon to examine and report upon the state of Windsor Castle, in order to ascertain whether there was any ground for believing that the recent deplorable loss which the crown and the country had sustained was to be attributed to defective sanitary arrangement, and, if so, to point out the remedy. He found that, in the year 1824, the Parliament of the day voted 300,000*l.* to make Windsor Castle a fit residence for George IV., and that the celebrated architect, Sir Geoffery Wyattville, had been charged with the execution of the works. He also ascertained that, from that period until the conclusion of the reign of William IV., three quarters of a million had been expended on the castle. Notwithstanding this large outlay, in the year 1844 there were fifty-one cesspools beneath the basement of the castle, which was ramified throughout by foul drains, and there was not a single window in the whole building which would open down from the upper part. In the year 1844 Captain Vetch was called in, and plans were made and a system of sewerage was carried out, and he was happy to say that, as far as his (Mr. Rawlinson's) examination had gone (and he had been on every floor and in every room from the roof to the basement), his opinion was, that Windsor Castle was at this moment the soundest and the most complete house in this country, or, perhaps, in any other, in its sanitary arrangements; and he had no hesitation in saying that this was in a large measure due to the great man we had so recently lost, and who in sanitary matters, as in other things, was far before his time. He took the question up, and worked it for the benefit of the age in which he lived; and with regard to Windsor Castle, he attended to all the arrangements necessary for the health of her Majesty and the royal household, from the year 1844 down to the time of his death. He (Mr. Rawlinson) thought it would be gratifying to the public to learn that, humanly speaking, there was nothing in the state of Windsor Castle to bring about the lamentable death of the Prince Consort. The question of house drainage—than which none could be more important—had only recently been taken up. Hitherto, it had not been considered the province of the architect, or any portion of his duty, to study the sewerage and the drainage as he did the superstructure and the ornaments. In the country, he scarcely knew a single nobleman's house that was perfectly drained. He had found the drains mostly running in square sections, as large as retorts, in which poisonous gases were engendered to the manifest danger of human life. He could mention names if it were necessary. With regard to London, he believed they would be surprised to hear that in probably not more than five or ten per cent. of the great houses at the west-end of the town, were the drains and sewers in connexion one with the other. If the drains were made first, no proper connexion was made with the sewer; and if the sewer was made first, there was no proper connexion with the drain. In most cases it would be found that, until the basements had become flooded, no one ever thought of connecting the drain and the sewer. He might mention as an illustration, that it was not until he had lived three years in his own house, he discovered this fact. When the Board of Health took Gwyder House, they met in a room over three cesspools, and there was not a window in the house which opened from the top.

The Chairman inquired whether Mr. Rawlinson's observations with regard to noblemen's houses in the country, referred to those which had been recently built.

Mr. Rawlinson replied that he did not refer to houses built within the last ten or twelve years. There was one nobleman's house which he had inspected, namely, Bowood, the seat of the Marquis of Lansdowne, where the drains were 300 years old; and until eighteen months ago no solid had ever passed from beneath the basement of that house, while nine-tenths of the drains had never been connected with the sewers. If, therefore, the absorption had not been very great, the drains must have been choked up long ago. The arrangement of the sewerage of the new Houses of Parliament was also as bad as it could be. It was longitudinal down the centre of the building, tide-locked every twelve hours, and much larger than was required even for a building of such vast dimensions. Mr. Godwin had called attention to defective ventilation, and to fixed traps in connexion with water-closets and drains. It might, perhaps, be invidious for him to make the observation, but he had, out of curiosity, inspected the arrangements in that respect in the very building in which they were then assembled, and he confessed that there could be nothing worse, because there was no fixed means of ventilation. A window was all very well, if there was a certainty that it would be continually kept open; but everybody knew that such was not the case. He therefore recommended, in every instance, the insertion of a perforated brick, which could never be shut. If dependence were placed upon windows, they would be kept shut at the sacrifice of pure air, and if ventilation took place it would be into the corridor, and not into the outer air. In London the practice was to place closets as much as possible against external walls; but in Edinburgh and Glasgow they were put against inner walls, and nothing could be fouler or more abominable. With respect to traps for sinks, Mr. Godwin had called attention to them, and he quite agreed with that gentleman that they were a delusion and a snare. At present all sink and joint pipes were sealed in with the drains, and nothing could be more injurious, for where the temperature within the house was greater than outside, the effect was the constant exhalation of impure gases. When he had spoken to persons of the necessity for external ventila-

tion, he had heard them say, "Oh, but it will smell so." In reply he might say that gas was not made by letting it escape, and that it was far better that bad gas should go out than come in. Having described the manner in which charcoal should be used as a disinfecting agent, Mr. Rawlinson observed, that with regard to ventilation, as in other matters, habit was second nature. He could verify by experience the illustration mentioned by Mr. Godwin, for he found that persons living in these undrained houses had become blunted to the sense of smell, and had, in fact, become impervious to that sense. The question of cottage dwellings he regarded as one of national importance, and he hoped the Government would take it up. The Building Act, as already explained, was altogether a dead letter; and the philanthropic enactment introduced by Lord Shaftesbury was little better, as it could not be brought into play except in the case of lodging-houses for tramps admitted for one night. But it was not the very poor only who suffered from unhealthy dwellings; the well-to-do artisan earning from 30s. to 40s. a week was nearly as much the victim as the poorest, because he was compelled to live in abodes where health was impossible, and the domestic virtues utterly unknown. But the evil was not confined to the metropolis. In Plymouth, Falmouth, Portsmouth, Newcastle-upon-Tyne, Whitehaven, and other places, three-fourths of the population were living in tenements. Many of the houses which they inhabited were originally built for merchants who had removed to the suburbs. The consequence was that the houses were divided and subdivided; the fine staircases were rotten; the plaster was destroyed; the windows were nailed up, and one room was often converted into four. The person who might have bought the house lived in a sort of spider's web, and it was no uncommon thing to see him following the relieving-officer from room to room, and taking out of the hands of the wretched tenants the pittance allowed them by the parish. He regretted to say there did not appear to be any power to prevent this state of things, for the representatives of "vested interests" got themselves placed upon local boards solely for the purpose of taking care of their own property. Again, he might say that more lives were lost in the United Kingdom by pig-feeding and pig-killing than had fallen in all the battles that had ever been fought. It was idle to remonstrate with the cottager on this subject. He would have the pig in his room, in his cellar, ay, even under his bed. He himself could see no harm in it; but ask the doctor or the clergyman, and they would tell you that smallpox and fever were to be found co-existant with such nuisances. If any attempt were made to interfere with the pigs, the cottager would consider it the greatest possible hardship; but he would ask whether it would not be desirable to save such people, by enlightened legislation, from their own wilfulness and ignorance. He did hope they would all set their shoulders to the wheel and endeavour to remove this great social evil. He also hoped that the Institute would take up the sanitary question in all its bearings, including drainage, sewage, lighting, and economical structure. If this were done we would have a more healthy and a more loyal people, while thousands of useful lives would be annually saved.

Mr. T. H. Lewis said that Mr. Rawlinson had asserted, and he (Mr. Lewis) had no reason whatever to doubt the truth of the statement, that, in a large proportion of our best houses, the drains were not connected with the sewers. This was so remarkable a statement that it ought to be taken up by the Commissioners of Sewers, because no builder was allowed to make a connexion with the main drain. The connexion was in all cases supposed to be made by the Commissioners of Sewers, who charged certain fees for their interference.

Mr. Rawlinson said he had made the assertion in all honesty and good faith, and he had mentioned, as a case in point, his own house, which belonged to an architect. Many similar instances had also been reported to him. He did not know how the Metropolitan Board now arranged about drains, but he feared that a good deal of the evil might be traced to divided jurisdiction, as the responsibility now appeared to be shared by two parties.

Mr. Isaacson said that, although he could not go the length of admitting the total efficiency of sanitary measures to prevent disease, still that fact certified conclusively that attention to them would, to a large extent, obviate the sickness to which the population of large towns was subject. He had a portion of the drains of the metropolis under his care, and, when he stated that the district lies between Gray's-inn-lane on the west, and Victoria-street on the east, he thought it would be admitted that there could be no fairer field for an experiment in sanitary matters. He was happy to say that the medical officers of the Board had reported that a reduction in the number of deaths, equal to 2 in 1,000, had already resulted from improved drainage. It occured to him that the most serious evil with which they had to contend was overcrowding. There was, in fact, nothing which so conduced to sickness and immorality. He thought it also of great importance that, in designing new buildings, care should be taken that they should not abut upon others at the back: the exclusion of light and ventilation caused thereby was an active agent in the dissemination of disease. With reference to drainage and closets, he feared that, unless some precaution were taken that these appliances were used and not abused, it would be extremely difficult to keep them in order.

Dr. Milroy said, he had listened with great pleasure to the observation of Mr. Godwin, and that he wished to call attention to a strictly structural point, namely, as to the mode of providing for the admission of fresh air into rooms and apartments, and the escape of the vitiated air. The latter becoming heated rose to the top, so that the opening should always be at the top of the room. But then came the point as to where the fresh air should be admitted. This he considered was a subject as to which they ought assuredly to come to some decision, for there were conflicting opinions upon the point, not only among individuals but by Government commissions within the last few years. He might refer to the opinion given by the sanitary commission on the army in the East, which took great interest in the subject, and recommended that a model hut should be built embracing the very important subject, namely, the admission of the fresh air, and the escape of the foul air. The general principal was, that pure air should be inducted through an opening made a few inches above the floor. Recently, however, an opposite system had been recommended, and this difference of opinion made it desirable that there should be further inquiry. He, therefore, wished to know what part of a room was the right place at which to introduce the pure air to take the place of the vitiated. It was very necessary to have this change of air constantly going on through a chamber, especially during the night, when the doors and windows of a house were usually closed, and all the inmates were in bed. Between sun-down and sun-rise was the most important time to keep a chamber sweet, because at least two-thirds of the attacks of disease which took place occurred during these hours.

The Chairman said Mr. C. Fowler had been very successful in the matter of ventilation, and he would therefore ask him whether he could favour them with any facts on the subject. He would, however, hazard one observation; whether it was not the essence of all ventilation, that if two tubes conveyed air from the interior to the exterior it did not follow as a necessary consequence that the balance of air must be equally distributed. Perhaps Mr. Fowler would have the goodness to state how he ventilated the Fever Hospital in the Liverpool-road.

Mr. Fowler replied that the ventilation at the Fever Hospital was conducted under the supervision of Dr. Arnott, who went upon the principle that as currents were acted upon by various causes, it was advisable not to trust to them alone, but to make the *primum mobile* mechanical. The air was forced in, not through tubes, but through ducts large enough to creep through. It was, in fact, driven through a kind of culvert, and was injected at the lower part of the walls and forced out at the top. He (Mr. Fowler) gave the whole credit of this arrangement to Dr. Arnott, for, by a small mechanical power applied to a large duct a constant change of air was secured. The first thing done in building the Hospital was to cover the soil entirely with concrete. This was, he thought, worth the additional expense, because it sealed up all the foul emanations which all soils were liable to, and to which the site of the Hospital was particularly exposed, as it had been from time immemorial a feeding place for cattle. The soil was sealed up over its whole extent with 6 inches of concrete, which he believed to be an admirable precaution

The Hon. Arthur Kinnaird, M.P., having been called upon by the chairman, said he did not profess to be any authority on the subject, but he had endeavoured to apply his attention to it, and he was aware that his brother, Lord Kinnaird, had made various experiments in order to carry out those objects which the Institute had met to advocate. The longer he lived, and the more he saw of the vast metropolis which they inhabited, and of the buildings which were springing up on every side, the more he deplored that the progress of science was not more rapid, and that so little effort was made to remedy those defects of construction which experience had pointed out. He thought that meetings like that which he had the honour of addressing were well adapted to draw public attention to the subject, and he hoped that by its intervention, and also by the exertion of the press in throwing light on the subject, great benefits would result. It was only on Saturday last that he had been in conversation with a person who had invested a good deal of capital in building model lodging-houses in Bethnal-green, and that person had informed him that it was a very hard case that he and others similarly disposed could get no help from the Legislature, because the rating on the property increased so much, that, instead of an encouragement being offered to build model houses, the very contrary was the effect of the law; because the taxation rose to such an amount, as to be a positive prohibition to building. This was, he thought, a subject well worthy attention, for if a series of bad cottages were built, the rating upon them would be small; but the moment a better class of thing was constructed, they became subject to a tax which was sufficient to prevent their yielding a remunerative return. He could not suggest a remedy for this state of things, but he thought the law ought to be changed in that respect, so that every encouragement, instead of discouragement, should be offered to those who were anxious to invest their capital for the welfare of the working classes.

The chairman said he had received a communication from an engineer to the effect that it was a mistake to suppose that vitiated air always went to the top of a room, because from experiments made by a chemist who had carefully examined the air, it was found that as large a quantity of carbonic acid gas was in the air at the bottom of a room as at the top.

Dr. Milroy said he thought it stood to reason that vitiated air rose to the top. He wished to know what was the proper place at which to admit the fresh air.

Mr. Henry Roberts, referring to the observations of Mr. Kinnaird, said that if model lodging-houses were arranged on the open gallery system, they would not be charged with the house-tax, as each tenement was considered a separate dwelling, coming within the exemption from the tax. This was an important fact which was not sufficiently known. He could speak with some authority on the subject, as he had fought the battle, and had taken the question before the judges, whose decision had settled the point. Mr. Newsome, who had built six piles of those buildings in various parts of the metropolis, had informed him that if they had been subjected to the tax, he would not have had any return at all for his outlay.

Mr. W. White stated some of the results of his experience in cottage building upon economical principles, and observed that when hollow bricks were not obtainable, a very good wall might be made of common earth, dug up and rammed into a form or mould, without either water or lime. Any ordinary loamy earth would do; and he himself had built the walls of a house costing 800*l.* with such material, at a cost not exceeding what the carriage of stone would have been.

Mr. Edward Roberts gave some interesting details of Dr. Chowne's system, which he had found in practice to be highly effective for removing foul air from an apartment, and admitting fresh air at a level slightly above the head.

The Chairman, in closing the business of the evening, expressed his gratification at the practical tone of the discussion, which he hoped would not be without good results.

PROFESSOR SMIRKE'S LECTURES ON ARCHITECTURE, AT THE ROYAL ACADEMY.

LECTURE III.*

DESCENDING, now, 100 years, we come to the sketch-book of Inigo Jones; not the original book, it is true, but an admirable fac-simile of it, presented to Sir John by the late Duke of Devonshire, the owner of Inigo's own handiwork. It is not for me to dwell on this sketch-book, as it consists exclusively of studies of figures and drapery. The book bears date at Rome in 1614, when the great architect was about forty years old. I cannot refrain here

* See page 109, *ante*.

from adding that the motto which graces the first page of this sketch-book is "*Altro diletto et s'imparar' non trovo*" (I have no pleasure but in acquiring knowledge), a sentiment which does high honour to Inigo Jones, and one which should never be absent from the mind of an artist, be he young or old. When a man has reached the period at which he imagines that he has learnt his art and needs no more teaching, he may rest assured that he has fallen fully into the scar and yellow leaf.

In an evening devoted to the literary bequest of Sir John Soane, it seems natural that I should not altogether abstain from touching, for, at least, a few minutes, upon that eminent professor's own peculiarities of architectural design. Although within these walls we very wisely abstain from the remotest criticism on the works of contemporary artists, that salutary limitation has long ceased to exempt Sir John's works from the free comment of the critic. Upwards of a quarter of a century has passed away since his death.

I have, however, no inclination nor intention here to use the lash. I would but remark, generally, that a constant endeavour to seek out picturesque effects, especially in the design of interior architecture, seems to have led to much of that eccentricity of manner which most critics are inclined to condemn in his works; although it may be found to have resulted in some ingenious combinations; and, perhaps, occasionally, in some original conceptions.

We are apt to attach too great value to that quality, "the picturesque." The application of the word is somewhat vague. It is a word of no very remote origin; for there exists, I believe, no word of equivalent value in any classic tongue; and, certainly, there is no trace of any word calculated to convey the idea in the written records of Mediæval times,—a fact which is, perhaps, the more remarkable as the quality which, probably, more than any other, characterizes Mediæval art is this same picturesque. To the best of my belief, this word was the invention of the writers on art of the period of the Renaissance. Its primary meaning is clear, although its application is, as I have said, vague and indefinite.

Whatever is especially well adapted for representation in a picture is said to be "picturesque." In that sense its special applicability to natural scenery is obvious; but it is also very properly applicable to those objects of art which, either from their form or colour, or from the combination of forms or colours that they may present, are particularly capable of being agreeably represented in a picture. Thus, an old or ruined building is usually more picturesque than a perfect and new one; for there is a hard dryness in straight lines and sharp angles, and a crudeness, and almost harshness, in bright colouring, which cannot, by the exercise of any amount of ingenuity, be made so pleasing to the picture-loving eye as those more undefined lines and blended tints which almost necessarily characterize a ruin. It is finely said by Byron—

> "There is a power
> And magic in the ruined battlement,
> For which the palace of the present hour
> Must yield its pomp and wait till ages are its dower."

And a somewhat similar idea is expressed by another poet—

> "Time
> Has moulded into beauty many a tower,
> Which, when it frowned with all its battlements,
> Was only terrible."

There is also a fruitful source of the picturesque in those combinations or compositions of lines of which the result is an ensemble or group of forms pleasing, though we know not why they please. To dwell on the picturesqueness of mediæval art would be superfluous, and, indeed, trite; for picturesqueness is, as I have said, the special and appropriate quality of that style of art: the groups of towers and pinnacles, and gables and chimney-shafts, which characterize it, are the very embodiment of the picturesque.

I think it may be more useful to you to point out for your observation how that far simpler and less pretending forms are susceptible of this attractive quality when treated by the hands of an artist. It is impossible to stray over that land of art—Italy—without meeting at every turn with cabin farm-buildings, ordinary lodges—nay, sheds and gateways, of high æsthetic interest. Not that they have been purposely so designed to please, but the old Italian mind seems to have been so thoroughly imbued with artistic feeling, that they could not help imparting it to every common object they touched. Vague and difficult of precise definition as this word "picturesque" is in the painter's art, when applied to architecture it is certainly still more vague. We may readily enough say that monotony, uniformity, and severity of outline are opposed to the picturesque; and that freedom and absence from restraint and variety of outline are circumstances favourable to, and consonant with, the picturesque. Yet to say that these latter circumstances are essential to its existence, or that the former are unreservedly incompatible with it, would be going a great deal too far.

Can we, for example, venture to say that the Doric temple of Minerva at Athens is not picturesque? Yet symmetry and severity of outline are its special characteristics.

So in an ordinary modern London street we may find entire absence from restraint and a superabundant variety of outline; for every man builds as he likes; and so variety is carried even to excess; yet no one will quote Oxford-street or Fleet-street, on that account, as furnishing examples of picturesque architecture. In truth, I apprehend that this very favourite, but somewhat unintelligible, word must be classed with the adjectives, grand, beautiful, and such like; words which address themselves rather to the feelings than to the judgment. Hence it arises that, in architecture, picturesqueness is a very dangerous object of ambition; for, if it be sought for by those who cannot feel it, there would be imminent risk of their running into ridiculous conceits.

Their abortive attempts at the picturesque seem to have the same relation to really and truly picturesque compositions that nonsense-verses bear to real poetry. Each may present the requisite combination of long and short syllables, and the legitimate number of them; but the one is empty and unmeaning, whilst the other may, perchance, be fraught with sense and genius.

Even among men who may really have some true feeling for the picturesque, there are those to be found who have a sort of maudlin love of it; leading them to an extravagant and morbid craving for it; to such an extent, I believe, as sometimes to affect even the religious faith of those who abandon themselves to it. There are those who can scarcely say their prayers with warmth and sincerity, unless assisted by such helps to devotion as the architect or decorator may be able to afford; "the dim religious light," the "storied window richly dight," and the hierarchy of gilt and painted saints.

It may be uncharitable to doubt the reality of feeling of such devotions; and we are here all of us too well acquainted with, and too much alive to, the influence of the fine arts upon the mind and heart of men, to doubt their power of fostering a genuine religious sentiment: such an influence is, indeed, one of their most legitimate and salutary effects.

But every virtue has its sham: there is the courage which needs a dram to call it into existence: there is the charity which owes its birth to ostentation; and there is, as I have already intimated, the religious sentiment, which needs these external melodramatic appliances to stimulate it into active existence: its votaries need a picturesque architecture, and even a picturesque costume, for their sustenance; otherwise there is reason to fear that their pious zeal might wane and wax faint.

These, however, are but examples of a false and counterfeit feeling. Men's minds are curiously and variously affected. There are some more deeply affected by contemplating the lowly, unambitious village church, wholly wanting the attractions of sculpturesque art, than by gazing up at those vast petrifactions of religion which have awed so many generations of worshippers.

Still, I repeat it, there is no denying the wide prevalence of that influence which architecture exercises, be it evidence of human frailty or of the potency of art; and it seems a very legitimate exercise of the witchery of art to practise those cunning devices by which she can be made to elevate the mind or touch the imagination. It is in truth the special province of the fine arts to do so.

The kindred arts of poetry, of music, and of painting, have in all ages asserted their dominion over the mind of man; and have claimed to bring even his enlightened intellect within the sphere of their potent spells: surely, then, architecture neither abdicates its proper functions, nor forfeits its character for utility, when it aims at exercising over the mind the like mysterious influence.

But if it be true that such power belongs to our art, it behoves all who practise it to regard that power as a sacred trust, and not to risk its character by exercising its influences improperly.

After all, I believe that the most legitimate and the most wholesome exercise of the power of art is that which is inspired by truthfulness of character.

I do not mean that the brewhouse or the laundry, when unavoidably forming part of the landscape, may not most legitimately have their homely domestic uses veiled under some more pleasing forms than those afforded by the undisguised smoke-flue or the ventilator; but in buildings demanding architectural character I am confident in the opinion that by giving to each the expression that most befits it, we secure for it at least the one great merit of truthfulness of character. The tale that is most truthfully told is usually that which most affects us; and although it is not to be desired that the conventional forms and structural necessities, which an architect has always so largely to contend with, render it vain and futile to attempt to give a building all the expression of which the painter's or the sculptor's work is susceptible; yet our art would little merit the position which it is admitted by all to hold as a fine art were it unable to affect the imagination, and, to a certain extent, the passions. It is, I apprehend, more than a mere figure of speech to say that a building frowns on us or smiles on us, or that it appears to attract or repel us. There is in one building a majesty that subdues us, in another a levity that even amuses us. There are some buildings of so festive a character that in their very aspect they appear to sympathize with us in our joy; whilst others, on the contrary, are of an aspect congenial with an opposite tone of mind.

These are the qualities which constitute character in architecture; and, therefore, as I have said before, so do I repeat now, the character of his work should ever be one of the chief studies of an architect. But I perceive that Sir John's aspirations after the picturesque have led me into too long a digression.

There are other peculiarities in his works on which I need not especially dwell; for, whatever may have been his faults, they have not been imitated by others; and have not, therefore, influenced his successors either for good or evil. There were so many of these peculiarities or eccentricities in his manner of designing, that I am inclined to believe that he was ambitious to found a style of his own. Without, perhaps, venturing to go so far as to condemn altogether any such attempt; I would, at all events, say that to found an original style of design in architecture would be a task demanding a very high rank of genius; and it is an enterprise which I certainly counsel no man to undertake.

I believe it was some vague and weak ambition of this nature which led Mr. Dance to conceive and execute so unfortunate a design as the front of the Guildhall of London. There is a tradition that such was his aim. He sought to produce a kind of cross between Gothic and Classic art; and the result was certainly not such as to tempt imitation or to enhance his fame.

I am convinced that no novel manner of designing which has deserved to be dignified with the designation of a *style* was ever the production of any one artist. It has ever been from the force of circumstances that styles, in one art at least, have gradually taken their rise. I need scarcely point out to you how greatly collateral circumstances; and accidental and local peculiarities have, at all times, and in all countries, influenced the changes of style that have taken place in architecture. Of this, however, I took occasion in a former lecture to point out to you various notable instances; and many others might readily be adduced.

One of the ablest, as well as one of the most recent writers on the subject of the so-called Gothic architecture, M. Viollet le Duc, points to the use of small-sized stones as one of the special characteristics of that style; and nearly 200 years previously our own Sir Christopher Wren had made exactly the same observation. Both these writers point out how materially the style was modified and influenced by that practice. In the Middle Ages there were few good roads, and this rendered the cost of the transport of stone proportionately high; a cost still more seriously augmented by the inordinate tolls, private and public, then so often and so extensively, on some pretence or other, levied by the landowners, whether lay or ecclesiastical, through whose demesnes or territorial limits the stones had to be conveyed to their destination. These causes of expense operated to so great an extent as to render the materials used in a building usually much more expensive than the labour required in working and setting them. Moreover, the want of regular employment for men in those times, and the consequent low scale of wages, rendered labour a comparatively unim-

portant part of the cost of a building. From hence a state of things arose exactly the converse of that which exists at present, when the mason is often better paid than the clergyman; and when canals, railroads, and machinery have reduced the cost of getting and carrying heavy building materials to a small fraction only of that which prevailed in Mediæval times. The former state of things naturally led to, perhaps, nearly all the peculiarities of the prevalent style of building. There was a lavish expenditure of labour in deep undercuttings and perforations, and the intricacies of every kind which, above all things, distinguish Gothic work; and which are, in truth, essential to the full and complete development of it. At the same time, the cost and difficulties of the transit of freestone naturally caused the use of it in small blocks, as observed by Wren and Viollet le Duc,—a result which, of course, tended to encourage those very intricacies and delicacies which characterize Gothic carved work in general. Each boss and badge and crocket was usually a distinct stone: the capitals of the very largest pillars and piers were built up in courses of very moderate depth; each course of stone composing a distinct and independent band or tier of foliage or other ornamentation; whilst the shafts of columns, even in the largest structures, were, for the reasons I have adduced, usually of diameters measuring but a few inches.

In making these remarks I am very anxious not to be mistaken as making them with any view, in the slightest degree, to the disparagement of any special style. My aim is to show that, as the manner of building has always greatly depended on the particular circumstances of the time or the place; and as every phase of art has varied with the variation of circumstances; it seems as useless as, I think, it would be irrational to expect permanently to bring back architecture identically to any one past phase of the art, unless we can resuscitate and bring about again all the concomitant circumstances to whose influences that phase was due, and restore to it its special character;—a resuscitation which, I think, we may regard as of necessity impossible. At all past periods of our art every style has, in short, been the type of its own age, the result of that particular period which gave birth to it. The Byzantine style, for example, was the result of the grafting of an Oriental element on the Classic stock at a particular period of its existence. Had Byzantium succumbed to the West at an earlier stage of Classic art, the resultant style would probably have assumed a very different aspect.

Again, had not Peter the Hermit preached the Crusades at the particular period when a great æsthetic energy was developing itself in some parts of Europe, the aspect ultimately assumed by Mediæval architecture might, perhaps, have been very different from that which in fact prevailed.

It is the stage of civilization which a people may have reached, and the condition they may happen to be in, that determine the effect upon the arts of any great historical event.

To expect, therefore, to receive successfully in its integrity any style of art under circumstances wholly different from those which gave birth to that style would be to entertain an expectation inconsistent with the experience of all past time.

We may very easily repeat, to any extent, the examples of any period we may fancy; but such repetitions, although it is occasionally,—indeed, far too often,—the fate of an architect to be called upon to produce them, are mere travesties, artistic whims, so to speak, the relish for which on the part of the public taste is by no means indicative of a well-founded or sincere love of art; but, suggestive, rather, of the caprices of an unformed, puerile taste, which takes up or tosses away a style as a child would its toys, just as the fancy of the moment or the caprices of fashion may dictate.

I have thought it well to say so much, even at the risk of being reminded, perchance, that I am but repeating what I may already in another form, and on some former occasion, have ventured to say.

I am anxious to urge upon you, with all the emphasis I can command, that the modern tendency to repeat and perpetuate old forms, and thus to live, as it were, upon the wits of our predecessors; or, I might say, to feed upon the *réchauffées* of the past, is a mischievous tendency when carried to excess; destructive of progress, and leading inevitably to debasement. I would not, then, have you to look with undiscriminating reverence on the architectural productions of past times: let those productions be ever judged with reference to their age, and to the contingent circumstances of their existence.

In many respects the present age with justice may lay claim to the merit of having advanced as time has advanced. It has with truth been said that such has been the moral advancement of education and intelligence, that a poor child in a Sunday-school is in some respects better informed than the sages and philosophers of antiquity; and certainly much of what was called science by our forefathers has proved to be but foolishness. Nevertheless, we must admit that no such progress appears to have been made in æsthetical culture. Excellence in that branch of moral cultivation would seem to be independent of those circumstances on which excellence of most other kinds depends, and to follow some different law. On a former evening I adverted to the apparent anomaly that in the twelfth century, at a time when all Christendom was wrapped in the grossest state of moral and social tyranny, at that very period there existed in France a school of art which was then commencing to produce works which may, at the present day, be regarded as equal to those of the best days of antiquity.

Again, sculptors, as well as architects, are now, in the nineteenth century, endeavouring to rediscover the oldest principles of art; and to emulate, although *longo intervallo*, the works of artists who lived twenty-four centuries ago. We may seek illustration, too, in still another quarter. In Arabia a faith sprung up in the seventh century which deluged Europe with blood, and tended to inculcate a gross sensual system,—a faith which has raised the most formidable barriers against the moral improvement and civilization of mankind; yet it was to the followers of that very faith of Mahomet that we owe some of the most graceful works that architecture has yet produced, as well as one of the most beautiful styles of ornamentation that human taste or ingenuity has yet devised. In short, we get bewildered in a labyrinth of contrarieties when we seek to assign the sources from whence has arisen that perception of beauty which constitutes fine taste.

However charmed, therefore, we may be by those manifestations of genius which past times afford us, our reverence for them need not be indiscriminate. We should endeavour to search out what is beautiful and worthy of our admiration and study; uninfluenced, as far as our weak nature will permit, by local, national, or sectarian prejudices.

It is from the high vantage ground of modern civilization that we should pass in review before us the works of all preceding time, and of every creed and clime; not, however, by any means with a feeling of self-satisfaction or assumed superiority (for he must be, indeed, in a hopeless state who is not fully sensible of the inferiority of the present to the past in very many respects—so far, at least, as art is concerned); but rather let a due reverence for the works of past times be mingled with a sense of gratitude that so rich a storehouse of experience has been laid up by them for our use and benefit; and let us demonstrate our thankfulness by devoting all our energies, not to a dry, antiquarian, pedantic imitation, but to a painstaking endeavour to improve ourselves by searching out and studying those principles which may appear to have led artists of past times to so great excellence. Principles, remember, never change. To adopt, in conclusion, the language of a former eminent President of this Academy—language which, applied as it was to his own particular branch of art, seems, nevertheless, equally applicable to all art—"There may," he says, "be new combinations, new excellences, new paths, new powers, but there can be no new principles in art."

It is to the exact understanding of these, therefore, that our best energies should be directed.

EXCAVATIONS IN ROME.

Most differently have been estimated the merits of the Papal Government in regard to one task desired from it by civilization,—the research, preserving, or appropriating of Pagan antiquities. In reading Lord Broughton's "Italy,"—an excellent work indeed,—one is led to the most unfavourable conclusions, tending to the assignment of a place for Gregory the Great and other venerable pontiffs among the Vandal destroyers who shed gloom over the annals of declining empire. But, though much truth of fact is adduced in those pages for support of such views, there is another side of the picture, easily to be examined and appreciated by the studious in Rome, where various and very interesting evidences meet the eye in an opposite sense as concerns this same topic; and if what Rome's pontiffs have achieved fall short of the high standard created by the magnificence of opportunity and interests at such a centre, it must be acknowledged that, under Pius IX. at least, great things have been effected for classic if not so much as for sacred archæology.

At St. Anastasia, an ancient but modernised church at the foot of the Palatine, excavations were commenced soon after the discovery of subterranean chambers below its pavement had been obtained in the course of works for preparing the sepulture of Cardinal Mai, in 1854; but the enterprise was languidly pursued till within the last two years, new impulse has promoted its progress under the direction of the Minister of Commerce and Cardinal Reisach, present *commendator* to this church; and the remains of antiquity disinterred here now form one of the most curious series of yet unillustrated ruins, evidently of different periods, among all in Rome; especially important as comprising the only remnant yet discovered of a structure no less venerably antique than the walls of Romulus. Three large chambers, first entered at considerable depth below the church, are supposed to belong to the Circus Maximus, in that part of its buildings restored, after decay, by Antoninus Pius; and besides considerable remains of the Appian Way, those of another consular road, also included in this area, are supposed to have been comprised within the limits of the Circus by those additional buildings.

The *opus lateritium* in the brick masonry of these walls,—five altogether, of which two are larger than the rest,—is of the best style, correspondent to that in other edifices of Antoninus Pius and Adrian; and the dates of two consulates distinctly recorded in terra-cotta stamps, answer to A.D. 123 and 141. In these walls, of compact and perfectly-preserved brickwork, with about the least possible use of cement, we observe the number of constructive arches formed by immense tiles vertically placed, and the several doorways, also some windows, still unruined; through one aperture, in a partition wall, three lines of building, so close to each other as scarcely to admit of passage between, and apparently without connexion, leading to the inference of different origin and independent purposes. The vaulting of the inner rooms, hung at considerable height, though in some places nearly reached by the accumulated soil that fills much of their area, is of a pumice stone easily friable in the hand, set in thick layers of mortar, and said by one archæologist (whose authority is cited by the *custode*) to be without example in any other Roman structure. Below one hall is a conduit, or sewer, in part thrown open, and seen to be lined with brick of great regularity; and between two halls is communication by a passage in the thickness of the masonry measuring 10 palms, on each side of which project mensolæ of travertine, correspondent, as if for support of beams laid between, or other superimposed objects. At three levels, one considerably below the floor first reached, are seen the remains of the Romulean fortifications, in enormous quadrate blocks of *peperino* (the volcanic stone also called *Pietra Albana*), without cement and still perfectly firm, untouched by decay; the portal opening in the surface we first see, and with such a stupendous cross overhanging its horizontal brow, that one is amazed at the self supporting power thus manifest. At one side advancing before the peperino structure, is a curtain of travertine, in blocks almost as large, but far from being alike spared by time, a scaly surface, that may be peeled off by the hand, now entirely encrusting their outer side. Parts of these buildings, thus absorbing the ancient walls are referred to the imperial structures of the Palatine; and it is remarkable that the very last work by a high authority on Roman antiquities Canina's "Esposizione Topografica," distinctly establishes the coincidence of the Romulean wall with the site of St. Anastasia.*

In the garden behind the church lie strewn several fragments of marble, and some of stucco ornaments, with remnants of pavement, or incrustation in precious material, the finest porphyry, serpentine, verd' antico, and paonazzo, showing how rich the decoration of the interior whence they have recently been removed. We see also a few broken sculptures, among which two mutilated busts attract notice by a superior idea of character; and from this garden we look into a series of low-vaulted halls, on the side of the Circus Maximus, probably for the horses or chariots destined to appear in the games, and now appropriated to modern purposes more vulgar.

* "Topographic Illustration of Ancient Rome and Campagna in the Three Periods,—Ante-Roman, Kingly and Consular." (1855.)

Beyond the valley occupied by that circus (now an extent of vegetable gardens) stands, on a height, the picturesque old church and abbey of S. Balbina, long deserted, till, under the present pontificate, was opened here an industrial school and house of correction for juvenile offenders, under the charge of an excellent brotherhood, originally founded in Belgium with express dedication to charitable services on behalf of such. About three years ago were commenced here excavations, still actively carried on by the labours of the whole community (at present ninety-seven inmates), with results in the disinterment of ruins assumed to be a small theatre and baths, various sculptured remains, friezes, columns, limbs of statues, a few male busts (evidently portraits), which last are now in the Vatican Museum. Besides ornamental objects in bronze, imperial coins, terra-cotta lamps, &c., were found glass phials, a marble cross, sarcophagi, and heaps of bones, that may be referred to the primitive cemetery of the church, which is it-elf supposed to have once occupied (its foundation being as early as the sixth or seventh century) a different site from the present, and precisely within the area now entirely opened, at considerable depth below the more modern buildings, by these works that have uncovered the level originally built upon, where the slope of the hill is used for a court, inclosed on three sides by the church and abbey. The masonry of these ruins is *opus lateritium*, but irregular; its brickwork in some parts inferior, elsewhere in the best style; and one fragment of an outer wall is all that remains of stonework, consisting of large quadrate travertine blocks, the only evidence of any massive or imposing elevation amidst these long-buried structures. One series of vaulted chambers extend below the monastic buildings, but with the ingresses walled-up, evidently—from the brickwork here used—by ancient, not modern, alteration in plan or purpose.

Below the antique basilica of S. Clemente was discovered, about five years ago, the primitive church, mentioned by writers of the fourth century, over which the present stands, profusely adorned with archaic and very curious paintings, its aisles (yet but partially opened) divided by colonnades, with some shafts of most precious marble. Lately brought to light, and of highest interest among its fresco paintings, is a series in three compartments on a massive square pier;—St. Peter placing St. Clement on the episcopal throne, and investing him with the woollen *pallium*, symbolic of jurisdiction; the other Popes Linus and Cletus, in the same group, and all designated by name, though the heads of those figures have perished, sacrificed in the construcing of a roof, now the basement to the church that stands above; below, St. Clement celebrating mass at a small low altar, in a church with colonades illuminated by a profusion of pendant lamps, the pontiff with outspread arms, in act of pronouncing the words *Dominus vobiscum*, read in the open book laid beside the sacramental vessels, on the altar, and several persons—one a stately matron, designated by name as Theodora—standing at one side; while, on the other are the sacred ministers—a deacon, a thurifer with incense, two bishops with croziers, and a married pair, named in an inscription below as Beno and Maria his wife, in act of offering tapers: underneath is a less-finished group, quite distinct, of three persons, from their dress apparently slaves, engaged in erecting a large column, under the supervision of a fourth, whose attitude seems to command, with name inscribed Sisinium. this last subject, it is inferred, was probably the foundation of the church we stand in, raised over the house of the martyred Pope Clement. And some light is thrown on the scene by the inscriptions traced vertically amidst its figures: *duritiam cordis vestris (sic) sæva trahere meruisti*, with others in a barbaric dialect, that may be considered transitionary between pure Latin and vulgar Italian. In costume all these groups exhibit the Mediæval rather than Classic fashion, the males mostly with tunic and buskins, none with the toga, though Sisinius wears a mantle like the paludamentum, and Theodora a dress like the Roman matron's; the ecclesiastics, such vestments are still materially unchanged in Catholic usage, the pope with the Greek pallium and jewelled sandals: as to the altar, no objects except the sacred vessels and missal are seen on it. In colouring, these pictures are still fresh; in drawing, very unequal; and scarcely less interesting are those on other surfaces of wall, the Martyrdom of St. Catherine, who stands bound before the wheel, the Sacrifice of Abraham, a Madonna and Child, in a niche, the mother both veiled and crowned, the Saviour, a colossal figure wanting its head, with two richly-bound volumes in one hand. The whole interior seems to have been covered with chromatic decoration, figures, groups, and ornamental borders.

Not only Christian, but Pagan antiquities have rewarded the labours of excavating here. At the extremity of the nave extends a narrow passage, now unroofed, into which we descend by a ladder, its sides formed, on one hand, by *opus lateritium* of the best imperial period; on the other by volcanic tufo, without cement between the enormous hewn blocks, and about these a course of travertine, in blocks from 12 to 14 palms wide, projecting so as slightly to overlap the tufo wall below. Chambers, for the most part under water during winter months, may be descended into from the naves, near its other extremity, their masonry being similar—volcanic tufo in immense quadrate masses, uncemented, with inner partition walls of compact brickwork. At first assumed to be of the earlier kingly period, these structures have since been referred, by some conjectures, to antiquity anterior even to Rome's origin, independent of all pertaining to the Romulean city. Certain it is that on the declivity of the Carlian Hill, where St. Clement's stands, between the Colosseum and the Lateran, no line of antique fortifications, from any epoch in this city's vicissitudes, can be placed in accordance with any theory yet advanced, or discovery yet effected by antiquarian authorities. Might not these newly-disinterred remains be of avail towards supporting the hypothesis ventured by some historians, of a *cluster* of cities on the Seven Hills, each distinct, and from origin quite beyond the limits admissible for Rome's proper history? Cesare Cantu ("Storia Universale") has supported this idea with much plausible reasoning.

Excavations near the Via Labicana (Palestrina road), about three miles beyond the city resulted, in the spring of last year, in discovery of many remains left on this solitary spot by the superb villa of the Gordiani, father and son, elected to empire by the opponents of Maximinus, A.D. 237, but for a phantom tenure of power limited to thirty-six days, a residence whose porticoes of 200 marble columns, halls measuring 100 feet, and library of 62,000 volumes, formed by the younger Gordianus (himself, as well as his father, an author), are admiringly described by Capitolinus. The central ruin here is that of a lofty circular pile, with one massive pier in the midst for supporting a vault no longer preserved, near to the more imposing rotunda, one of the most grandly conspicuous objects on the Campagna, known in popular parlance as *Torre di Schiavi*, but identified as the Temple of Fortune, dependant probably on the more illustrious fane at Procueste, and believed to have had a tetrastyle portico extending so as to flank the highway now considerably below the level on which this circular ruin stands; and near this was soon uncovered a series of small chambers, one recognized as the hypocaust of a bath by its rows of furnaces, at regular intervals beneath layers of lime, its floor of black and white mosaic, with ornamental designs, having given way so as to exhibit the apparatus for heating below. At some distance were opened other chambers larger and more splendid, paved with mosaic in the finest coloured marbles, the designs in square compartments, filled with wreaths, meanders, and Gordian knots, besides at each angle a large female head of Bacchanalian character. Such were the results obtained by these researches when we visited the spot soon after their commencement; but returning the other day, after an interval of ten months, we were sorry to find all these profits thrown away, and the treasures reburied by the filling of spaces again, for the most part with soil, and the concealment or removal of all that had been brought to light. In other places, however, where these ruins extend far over the Campagna around, were chambers recently opened beneath the surface, with mosaic pavements and walls, exhibiting the two methods of ancient brickwork, the lateritial and reticulate, in some instances blended together; and on the other side of the highway, two Columbaria are still for the most part filled with soil, the others perfectly cleared out, and forming a quadrate chamber, lined by sepulchral niches, each with two earthenware cinerary urns embedded in masonry, but in three niches larger than the rest, opening in a kind of sedicula, with pilasters and pediment, are seen four similar deposits to each, as if to receive the more honoured ashes, upon the stucco lining of these niches being still traces of painting, flowers, wreaths, and birds—an ornamentation evidently continued over the entire surface. As to those Mosaics in the now re-interred buildings, they have no doubt been saved, though not yet located where visible; and another antique lately found here has been reported upon by Visconti at the Archæological Academy, a bust recognized by that gentleman as Didia Clara, daughter to the phantasm-emperor Didius Julianus, by the quality of its resemblance to the head of her father on coins. Another treasure of this class, lately brought from Ostia, was at the same time described by Visconti, its subject the Emperor Pupienus, who had a brief reign closed by violent death, together with his colleague Balbinus, in the third century; this bust being among the finest of its period. A statue of Æsculapius, 7 palms in height, in Greek marble, and assumed to be of Greek origin, with a serpent held coiling round one arm, was recently dug up near Tivoli, on the desolate site of a once splendid villa celebrated for the fêtes given by two cardinals, its successive owners, in the sixteenth and seventeenth centuries. Turning to modern productions in this art, I may mention the works about to be sent, or already dispatched, from Roman study, for the great Exhibition in London: "The Finding of Moses;" the princess, a court-lady, and a female slave discovering the child; by Mr. Spence: distinguished by dignity and well-expressed feeling, a happy treatment of rich accessories in costume, and varied beauty of countenances. "The Passage of the Red Sea," a relief, by Mr. Gatly, remarkable for strict fidelity to Egyptian models in costume and detail, original and interesting in its novelty; the portals of the Washington Capitol, by Mr. Rogers (bronze, cast at Munich, whence the work will be forwarded), its numerous reliefs and statuettes, illustrating the entire story of Columbus and the principal personages connected with him; the whole conceived with much imaginative power, and most gracefully executed. "Cleopatra before her Suicide," and "The Libyan Sibyl," by Mr. Story, two seated statues that companion well together; the latter decidedly finest, characterized by a certain wild sorrowfulness, foreboding thought, and stern *African* but beautiful type, true to the ideal as well as nationality; most original in its complete departure from the mere conventional treatment hitherto attempted by art-authorities in the range of Sibylline subjects. "Cupid overcoming Silenus; or, the Triumph of Eros over Anteros;" and "Diana Resting after the Chase," by Mr. Cardwell, decidedly his ablest works—the group full of dramatic life and meaning; the goddess a noble figure, of the true Greek and grand style in beauty, finely subdued by the intended expression of sadness, her tribute, in pensive mood, to the memory of Hippolytus. Mr. Gibson contributes two works already in England: "Pandora," one of his happiest—the moment when his heroine is on the point of opening the mystic box; and an ideal group of a "Young Mother and Child." His former pupil, Miss Hosmer, sends a dignified and finely-draped statue of "Zenobia in Chains," self-possessed and queenly amidst her sorrows. These works, as well as those by native artists, the Roman Government generously undertakes to forward to England, and transport back thence to its capital, at its own cost—a great deal to promise under existing financial circumstances. Its ministry reports, in a late number of the official paper, that during the year 1860 were exported from Rome, with requisite sanction, ancient pictures to the value of 10,703, and sculptures to that of 1,246, scudi; modern paintings of 121,838, and sculptures of 196,570, scudi in value.

To the above notice of excavations may soon be added report on those undertaken by the French, and of higher promise, on the Palatine, already progressed, through labours of some months, but not yet rendered accessible.

THE SANITARY CONDITION OF KESWICK.

WE regret to observe, not only that typhoid fever still prevails at Keswick, but that the local board of health has done positively nothing, even for the cleansing and deodorization of the town, far less for its sewerage or drainage. Accordingly, at a recent meeting of friends of the public health at Keswick, a very urgent address to the local board was resolved on, in which the memorialists say:—"There have now been at least 130 cases of this typhoid fever in Keswick and the vicinity, of which ten have resulted in death. [Since this letter was sent the cases have amounted to more than 150, and the deaths to 11.] Nothing is better established than that such fevers are due to dirt and bad drainage, and that wherever thorough drainage and good ventilation are established such fevers cease to exist. If we will not use the

LODGINGS AFLOAT.



A Home on the Regent's Canal.



A Berth to bring Death.

means established in the course of Providence for escaping the malady, how can we hope, how dare we pray, to escape from it? Gentlemen, we are distressed beyond measure to see the misery and death which our own want of foresight and energy are spreading around us; but we fear that unless we exert ourselves a worse fate may yet befal the town. . . . . We entreat you once more to take prompt and energetic measures to disinfect the town, and we again offer our services to assist in the process. We also respectfully but very earnestly urge you to press forward the plans for the main drainage, so that this, in all the chief thoroughfares at least, may be completed before summer." In consequence of this appeal, there has at length been an inspection of the lanes and alleys of the town, under the guidance of Mr. Christopherson, chairman, and Mr. Tolson, one of the members of the board, a number of the gentlemen engaged in the present attempt to improve the health of the town being present. A report of the inspection was drawn up; and at a public meeting since held it was decided that this report, with a further urgent appeal to adopt the proper measures for arresting the fever, should be sent to the board. The town urgently requires sewerage.

LODGINGS AFLOAT.

One part of the world has no idea how the other parts live. The census returns will tell how many men, women, and children were on board barges and other vessels on the canals of England and Scotland on the night of the 7th of April last, and part of the world will be surprised to learn that several thousand persons live for the chief part of each year on board the canal vessels. These are generally a hardy race, industrious, and in the main sober and careful. Strangers not residing in the neighbourhood of the canals, and who may be visiting the neighbourhood of London, are struck by the picturesque appearance of the boats, particularly those of the Grand Junction Company. They are usually painted in bright colours: vermillion, emerald green, and shades of blue are made to form diamond and other patterns, names, &c. There are Susans, Fannys, Janes, and other familiar female names; and some are called after eminent statesmen, or literary and other celebrities. It is clear that both men and women pride themselves on the care bestowed in keeping their craft smart. The children, who sometimes number five, six, and more, are generally clean and tidy. The sturdy woman, with one arm guiding the helm, may be often seen with the other hand dressing the little ones. The little cabin, of far too small proportions for a nursery, is in almost every case a pattern of brightness. In the day-time the open door and chimney allow ventilation; but at night the closing-up is not wholesome for so many tenants, and is the cause of serious attacks of sickness.

Besides these floating houses, the barge people have mostly a furnished house in some country place; but they are not much used, except in the extremely cold winter weather, or when some of the family are ill. Upon the whole, the lives of this class of our population is not without its pleasures, and contrasts with the miserable and unwholesome accommodation which is provided for those valuable men who form a large portion of the merchant service of the country. Of late years, great changes have been made in the sanitary arrangements of the Queen's ships. The washing of bed covering and clothing is strictly attended to; hammocks, &c., are aired at frequent intervals; and care is taken, sometimes under difficult circumstances, for ventilation. In many of the merchant ships, no care seems to be taken. During the heat of the last summer, we took an opportunity to examine some north-country colliers, and other vessels, in the port of London. Anything worse than the accommodation of the crews can scarcely be conceived. The berths, intended for sleeping-room for two men, were not much larger than coffins; the bedding was not over clean; jackets and overcoats hung about. In parts which were not used for sleeping there were stores of various kinds in lockers, and the limited space was still further occupied by chests and packages. We all know that space is valuable on shipboard, but this very circumstance shows the necessity of the greatest and most scrupulous care. Great improvements require to be made in the ventilation and arrangements of the sleeping-places in those vessels. Bad as they are Russian, Prussian, and even French ships, are worse. It is, therefore, not to be wondered at that we have every now and then accounts of the outbreak of yellow fever, cholera, and other pestilential disorders, on board ship. Improvement here are loudly called for.

MACCLESFIELD CEMETERY COMPETITION.

The burial board have awarded the first premium of 20 guineas to Mr. James Stevens, of Manchester, for the best plans and design for laying out the cemetery; and the second premium of 10 guineas to Messrs. Firth & Booth, of Macclesfield. The board were of opinion that the plans of Mr. Brindley, of London; Messrs. Underwood & Billings, of Clifton, near Bristol; and Mr Campbell, of London, possessed great merit, but that the estimates of the two former were high.

ST. JOHN'S (R.C.) CHURCH, BATH.

We give a view of the new church now in course of erection at Bath, from the designs of Mr. Chas. Hansom, of Clifton. It stands in a conspicuous position at the end of South Parade near to the Railway-station, and will be the first object of interest to the visitor on entering Bath by rail. The site was purchased from Earl Manvers; and, though set back some distance from the main road, can never be hid from view, as the intervening ground is to be devoted to an ornamental pleasure-garden. The first stone was laid in October, 1861; and it is hoped the building will be completed by the end of the present year. The internal dimensions are, 140 feet long by 60 feet wide, increased to 73 feet wide at the transepts. The spire, which rises from the centre of the west front, will be 200 feet high. The arcade separating the nave from the aisles has circular pillars of polished red Devonshire marble, surmounted by elaborately-carved capitals of Ancaster stone. There will be no plastering internally; the walls being faced on both sides with freestone. The chancel is the same height and width as the nave, and terminated by a semi-octagonal apse. On each side of the chancel are chapels, connected therewith by moulded arches. Around the lower portion of the chancel walls is an arcade of moulded arches, resting on marble shafts. Marble shafts are also employed in the window jambs above. The sacristies are placed at the south-east, and connected with the chancel by a corridor running round the apse, and entering behind the reredos of the high altar. The ground at the east end being considerably lower than the street, a second range of rooms is obtained under the sacristies, having a corridor communicating with the adjoining Presbytery.

The present chapel in Pierrepont-place, besides being an unsightly edifice, had become much too small for the increasing congregation, so that it was impossible to continue the services of the church much longer in the present building, and thus necessitated the erection of a church of much larger dimensions.

The first record of a Roman Catholic chapel in Bath, subsequent to the Reformation, dates back to the year 1730, when the Rev. William York (afterwards Bishop York) opened a place for Divine worship at Bell Tree House, St. James's Parade. This continued in use for fifty years, or till 1780, when Dr. Brewer erected a simple and unpretending edifice in the same street; which, however, was never used for Divine worship, having been destroyed when about to be opened, during the "No-Popery riots," commenced in London by Lord George Gordon. Dr. Brewer narrowly escaped with his life. He subsequently recovered upwards of 3,000*l.* from the county. With this sum, and the proceeds of the sale of the ruins, a property was bought in Corn-street, and another chapel erected in 1785. This building having, like the present one, become too small, was sold in 1809, and the old theatre purchased and converted into a chapel, in which building the services are now held; and, until 1853, it was the only place of worship for the Catholics in Bath; when, in order to accommodate those members of the congregation residing in the upper part of the town, another chapel was opened in River-street, Montpelier.



Mr. C. Hansom, Architect.

THE CONDITION AND ASPECT OF ALNWICK.

In our last article we had reached the centre of Narrow-gate.* This is part of the great North road over which the mail coaches used to run. In its northward direction we see a newly-built shop, show-room, and dwelling-house of Mr. T. Robertson, cabinetmaker, upholsterer, auctioneer, &c., remarkable for two square fronts to the shop, having large sheets of plate-glass, and lintels of solid stone, about 10 feet long, facing a large plain house, set back behind area railings, occupied by Dr. Easton; a few small shops and another good stone dwelling-house; and at the upper end, facing the approach to the castle, more small shops, with the house above them let out in rooms. It was in one of the upstair rooms in this narrow street that the terrible fever carried off the family of Mr. Howey Sharp, as before related. The exciting cause may be seen in the rear; the moisture from crowded middens and muddy yards soaking through the dwelling. In the other direction Narrow-gate is more strictly commercial, and is a double line of shops; those of Adam Robertson, house decorator; Ainsley, provision dealer; Trotter, watchmaker, mechanician, and photographer, of whom we procured the photograph from which our view of Alnwick Castle was engraved; Milne, baker; Finlay, spirit merchant, and others. Fenkel-street branches off from this in a forked direction, having for its apex an extremely ornate stone Gothic building, originally intended for a savings bank, but now occupied as Hunter's hair-cutting saloon. This is one of those expensive attempts at Gothic architecture which, about a quarter of a century since, did so much to bring Gothic architecture into dispute, originating a general conviction that what was Gothic must be expensive. Built at a cost of nearly 2,000*l.*, it has been recently sold for a third of that sum. Ascending Fenkel-street we pass the tar, iron, seed, flour, and general grocery warehouses and tobacco manufactory of E. Thew, merchant; the office of the local *Journal;* T. Buddle's large cabinet-maker's shop; the handsome bank premises of Messrs. Lambton, which was an elegant façade designed by Mr. Green, of Newcastle, architect, but a circular archway having been recently inserted in the north end of it, in place of a straight lintel, a lop-sided appearance has been given to it; the post-office, which is also the private residence of the postmaster, Mr. G. Tate, F.G.S.; the town-hall, erected about a century ago; the offices of Mr. W. Foster solicitor; of the coroner, Mr. W. Hardy; Miss Coxon's first-class inn; the smaller "Nag's Head," where yet 150 horses at a time can be baited on fair days; a few good shops; H. Vernon's, telling railway time to the passers by; H. Fairbairn's; Thompson & Wright's; and the bright and well-stocked shops of Messrs. Landells, and of Messrs. Donkin, drapers, and we are at the end of this street, and at the foot of a wide open road lined with houses leading up to the moor called Clayport. We must add that the premises on the west side of Fenkel-street, just traced, are traversed by passages leading to back premises, stablings, inns, breweries, a candle factory, close rooms to let, in which, as shown by the black dots on the cholera plan of the town, several of the deaths from cholera occurred. This rear district is now sewered and supplied with water; but is still lamentably behindhand in all secondary improvements; the paving, the scavenging, the removal of ash-pits and dung-middens, and piggeries, require looking after.

Clayport is a wide street, and very steep, beginning at the lower end, near the central market, with good shops, which are followed by those of smaller pretension, and then by poor houses, and after them, on the north side, by a row of clean healthy dwellings, with gardens in the front and in the rear of them. The ground on both sides of Clayport falls rapidly to the road, so that in the rear of the poorer part of the street the ground at the back of the houses is much higher than the floors. The houses are subdivided into tenements, and the yards are crowded with piggeries and middens. Cholera was fearfully fatal in this part of Clayport, Monk-house-square, and Union-court; and within the last two months fever has been very prevalent. The reason is obvious. With the exception of the drainage and water-supply, the ill conditions have not been removed; but recently have been more than usually rampant. The road, on both sides of which there are gutters (and down one of these flows a rapid stream of water from the moors), is the common play-ground for the children of the district; and scavenage appears to have been rarely applied to it. Branching from Clayport is a narrow winding street, leading to the Dispensary, and called after it Dispensary-street. It is narrow and ill-paved; and although there are only houses on one side of it, from their peculiarly unsanitary mode of construction below the level of the road, and with pigsties in the rear, fever may be counted upon as likely to be a frequent and fatal visitor. Here are also the premises of Messrs. Thompson & Davison, brewers, in whose yard there is an ancient canopied well, supposed to have been one of the original sources of supply to the old draw-well in the castle keep; Archbold's steam-mill, a model coach-house and stable-yard, an ornamental tombstone-mason's yard, besides the Dispensary.

We were surprised to find that at the latter roomy and commodious establishment cowsties and vast dung-heaps were permitted so close under the walls that the steam from them enters the back-kitchen windows. The site falls rapidly in the rear, and these sties are the back premises of a small row of houses called Pottergate-row. This row of houses is open in front, and, with the removal of the fever deposits of sties and middens in the rear, might be made healthy dwellings. Dispensary-street is also the approach to both the Borough and the National and Infant Schools. The former is gained by penetrating a long passage by the side of a granary, and after passing the refuse-pit of the master's dwelling and the water-closets and ash-pits and back-yards of the school. The building is found to be of a modest character, of the type recommended by the Committee of Council on education. There are, however, a few drawbacks to this very useful and important educational establishment: the water-closets have no light, the close-roofed ash-pit rests against one of the school-room walls, admitting dust into the school windows, and there is no barrier between the yards containing the conveniences for the girls and boys. The National Schools run almost parallel to those of the corporation, at a considerable distance: they are a long range of almshouse-looking buildings, containing spacious school-rooms and class-rooms for both sexes, with the teachers' residence dividing them; with sham dormers, a sham bell-turret, and with eaves' gutters cut through the solid sham gables,—an arrangement which has flooded and soaked the walls with damp. The school-rooms and class-rooms are large, lofty, and light. The establishment is presided over by the incumbent of the parish, and we learn that the Duchess of Northumberland is not an unfrequent visitor.

The town looks grey and still on another morning of our stay. The houses, which are built of stone, are many of them ancient, and nearly all are sad and sombre-looking. Near Prudhoe-court, in the main street, where there is a butcher's shop facing the road, with a slaughter-house down the court, there is an old-fashioned house, with the Percy insignia on its front, and a few thatched houses are seen here and there. Passing several excellent shops, the market-place is approached by a wide street, one side of which is very considerably above the level of the other, the difference in the level being smoothed down into a wide sloping hill-side, badly paved with irregularly-laid pebbles, on which slope the cattle-market is held. The centre of the market-place is occupied by the Assembly-rooms, 1825, which are built over an arcaded series of butcher's lock-up shops: they are so unsightly in form and design, so innocent of anything like architectural effect that they may be considered to be well entitled to the name by which they have been comically dubbed — the "one big stane." The open space, properly called the market-place, possesses the octagon flight of steps and part of the shaft of the old market-cross. It is bounded on the west side by the Town-hall, and a few shabby houses with yards; on the north and east by shops, and on the south by the "one big stane." The market-place has several outlets, one of which, Paike's-lane, has been partly and neatly paved. The market-place generally possesses fine capabilities for development into architectural propriety, should opportunity permit. The Market-hill, on the other side of the Assembly-rooms, is almost entirely occupied by inns, the yards and stables of which accommodate the horses of the market people; but there are also a few shops, close to one of which, Messrs. Allan's, drapers, there is another large and ornamental water-pant, with drinking-cups, backed by a lofty pedestal, surmounted by a statue of the patron saint of the town, St. Michael. All along the hill the houses and shops are intersected by passages, having yards and gardens, rising above the houses, with ash-pits, stables, slaughter-houses, and piggeries in the rear. Leaving the Market-hill, a wide street, called Bond-gate, leads to the eastern entrance to the town—Bond-gate tower, the last of the ancient gateways surviving the demolition of the town wall. In this street are the residences of Messrs. Spours & Carr, solicitors, and T. Fender, surgeon, the Alnwick and County Bank, and the old posting-house, the White Swan. The ancient tower bestriding the road, is full of interest: it is known to have been erected by the son of Hotspur. The floor over the gateway is now used as a billiard-room. Passing beneath it we cannot but regret that a little life is not given to the old gateway by opening out the blocked-up windows. The straggling street without the tower, called Bond-gate Without, leads to the railway terminus. We would demur to the condition of the approach to the station, which being the common traffic road for goods, cattle, wood, and passengers is dreadfully cut up. The footway has been newly paved with soft brick quarls, which are already crumbling and cracking. As Caithness flagging is laid down in divers patches of the town, to the great furtherance of cleanliness, this silly piece of economy is not justified even as an experiment: the best material for a spot in which there is a concentration of traffic would have been the cheapest.

Turning out of Bond-gate, at a right angle, close by the tower, is a steep street, called Hotspur-street, which leads to an open space called the Green Bat. The north side of this is mainly occupied by the high gardens which slope down to the houses on the market hill. In one of these gardens is a newly-erected public room. This is a parallelogram of blank masonry, with a line of sheets of rough plate-glass on either side of the roof, the only exception to utter baldness being a double entrance at one end, with a row of eight porthole windows over it, and a single entrance at the other, with three windows over that. It has been designed and carried out by a local tradesman, who, in addition to the occupations of auctioneer, cabinetmaker, upholsterer, and undertaker, dabbles in architecture, fearless of the curriculum of the Institute, under the patronage of an individual from whom his fellow-townsmen appear to have expected better things, and is an instance of the mistake of a public building being undertaken by private hands. In the centre of the Green Bat, which is the general name for a district of small and tasty houses, there is an open space, upon which towers up a colossal church with lofty nave, aisles, and chancel, seated to accommodate 1,000 persons on the ground floor,—a spacious building, erected at the expense of the late Duke of Northumberland, as the church of a new district, St. Paul's, and which has been arduously presided over by the Rev. C. Charlton since the foundation. The interior, by reason of its height and faulty construction of the roof, has proved difficult to be warmed, and several modes have been adopted without avail. At present the experiment of warming by gas is being tried, and the gas burns during the day in the chandeliers and standards with a pictorial and successful result. An addition to the chancel has been recently made by the erection of an oak reredos as a monument to a respected curate who was drowned. Over this the east window is filled with a stained-glass memorial to the late duke, executed from the cartoons of Mr. Dyce, at the glass-works at Munich, at a cost of 1,600*l.* A recumbent effigy upon a tomb of the late duke, robed as a knight of the garter, occupies the east end of the north chancel aisle. The approaches to the church are bad and incomplete; lamps are needed at the north entrance gates, and the paving generally round about is not in a suitable condition. The duke's school, an excellent establishment for boys, and St. Paul's Sunday School-room are near. There are also schools for the children of the members of dissenting congregations, whose chapels, too, are numerous, although they do not partake of any particular architectural character. There is also a mechanics' institution; and a savings bank, in St. Michael's-lane, running out of the district; but the neatness of this is defiled by the proximity of a long and low slaughterhouse.

Thus making the circuit of the town, tracing its main streets, and threading its byeways, we perceive that good sewerage and a water-supply have placed it upon a sanitary footing, as far as capabilities go, of the first class; but that the miscellaneous reforms that should follow upon these primary works are not properly attended to. The business of the town is of an agricultural and market kind, which involves the stabling of immense numbers of horses, and the conveyance to

* See p. 89, *ante*.

and from the town of waggons of loose hay, straw, and dung: hence a great bulk of scavenage is accumulated. The idea has not been grasped that scavenging should furnish a large source of revenue. A solitary cart conducted by two old men seems all the scavenging apparatus for collecting the contents of ash-boxes, put out from the houses, and for cleansing the streets. The plan of operations at the time of our visit comprised a sweeping of the streets at dusk, which sweepings were left in squashy collections for the wayfarer to tread into through the night by the road-side; and, as the following morning was frosty, one of the two old men mentioned above began the slow operation of picking the frozen accumulations with an axe; but, nothing seeming to come of this process, it was abandoned, and the two old men disappeared. Now it is well known that town scavenging is a valuable manure, and that it will fetch a corresponding price. If a proper plan were to be adopted, and all the scavenging duly disposed of, the scheme would be found to be remunerative. A town of this size might be divided into two parts, and the scavenage let to two contractors, the one portion to be carried out of the east end of the town, the other to the freemen's acres on the moor, for sale. It would then become the interest of the contractors to scrape up every vestige of scavenage, not only in the wide streets, but in the more neglected by-ways and courts; and thus the town would be kept clean. No less than 358 acres of moor-land have been recently reclaimed by the freemen,—a body of 287 men representing, with their families, about one-fifth of the population. These acres, though cleared of whins, fenced and drained (5,000*l.* having been borrowed of the Government for the purpose), require a large quantity of manure, which perfect scavenage would furnish. With regard to the immense middens, they should not be permitted to be filled with what may be properly termed poisonous materials. The receptacles for ashes and offal should be portable, and emptied frequently, and every time they are thus emptied lime should be sprinkled into them. Pigsties should by all means be removed from the proximity of dwellings. We may mention that it has never happened to us to see so many pigsties in the same space as we saw in Alnwick; for the few houses that are without a sty, many have three or four. We glean that this immense amount of pig-keeping is one of the results of the sewerage having been conveyed to the river. The privy-matter that once supplied manure is now no longer to be had, and as nearly every man who chooses has an allotment garden, or if he be a freeman an acre on the moor, he has taken to pig-keeping to procure a substitute for it. Hence will be seen the value of the town scavenage if it were properly collected; to say nothing of the sewerage when its application of it can be mastered.

Another important matter is the paving of byways and courts. As far as sanitary interests go, it is a great mistake to neglect the alleys; the smaller the street, the more hidden and crowded the locality, the more imperative is good paving. The slabs of Caithness flagging on the sunny side of the best streets in Alnwick provide excellent footways; but the shady sides of the streets, where the footways are necessarily damper, are still paved with the old porous sandstone, broken and greasy. All the lanes are pebble-paved in a wretched manner: the tortuitous narrow passages, such as Pickwick-lane, leading from Bond-gate to the Green Bat, not paved at all. Yet the board of health has been in existence nine years.

An experiment has been made of the applicability of the sewage of Alnwick to agricultural purposes at the cost of the Duke of Northumberland. Three years ago an arrangement was made with the board of health, for a purely nominal sum, and for a term which will expire in March next, to take up the sewage at a point where it is discharged into the Aln, with a view to ascertain whether it could be put to a profitable use. A tank was made in odoriferous propinquity to Mr. J. Bradley's farmhouse, in which to collect a portion of the sewage on its road to waste in the river, pipes laid to it, and a pumping-engine fixed, for the purpose of irrigating 268 acres of the farms that were within reach; the tenants undertaking to pay his grace a rental for his outlay in return for the use of the sewage. The result, however, cannot be deemed a success. The great bulk of the solid sewage—the most valuable portion—settles at the bottom of the tank four or five feet deep, and must be drawn into the river before the thinner liquid can be pumped through the pipes, which would otherwise be choked; and even in its liquid state the experiment and labour of applying and moving the hose—the sandy nature of the soil not permitting of irrigation by gravitation—have proved, it is asserted, more costly than the tenant farmers are willing to pay for. Therefore, in point of fact, during the nine years since the town of Alnwick has been sewered, the whole of the valuable sewage has been wasted, the river fouled, and the rate-payers have lost the source of a large revenue. Observations made in connection with this experiment disclose the fact that before six in the morning the contents of the sewerage pipes are little more than water. During the early portion of the day they become full of much solid matter, and as evening approaches they again become full of liquid; thus proving that if any effective method of pumping the liquid sewage with the rich matter in it could be found, the operations of the farmer would be confined to a few given hours in the middle of the day. The present system of throwing away sewage and buying guano is a national extravagance. The use of our sewage as manure would be a national economy. Every board of health should look to the sale of the sewage and scavenage of their towns as the means of carrying on local improvements without any extemporaneous aid from the levy of taxes on the inhabitants.

In the conduct of the matters that relate to the preservation of the public health it is the falsest economy to have inefficient or ill-paid officers. The performance of the necessary duties and superintendence requires a judicious intelligence, as well as a never-ceasing industry. The officers chosen for the management of this important public service should, in all cases, be sufficiently well paid to remove them from the necessity of procuring additional work to increase their emoluments; nor should their attention be taken from the performance of their duties without the provision of substitutes. When we hear that the Alnwick surveyor has been deputed by the Board of Health to survey for a railway, among the Wooler hills, that has since been quashed, and lent for very many weeks to superintend the laying on of water in seven distant villages for the Duke of Northumberland, at an estate at Acton for a private gentleman, and at another in Cumberland, although we are impressed with his ubiquity, we are sure that more has been required of him than any officer could perform while exercising proper precautions for the preservation of the public health in the town of which he has charge. Forty-two persons have been buried in the cemetery who have died from the fever now prevailing in Alnwick, and might have been living, had the sanitary condition of the town been perfect; while one magistrate has given as many as a hundred orders to the Infirmary doctor to attend cases which have had a less unfortunate termination.

This sad reflection conducts us on the road to the cemetery, which lies about a mile southwards of the town on a sandy soil. The roadway and footpaths are excellent along the route except at one spot, where from the scavenage being carted over the footway to the depôt it is much cut up. The cemetery is sunny, flowery, and pleasant; it is laid out with broad sea-gravel walks, bounded by fluttering young trees and ornamental flower-beds; rustic seats are placed here and there; and some of the monuments are artistic. The two chapels, the superintendent's lodge, and the entrance-gates, are built in the Early English style, from the designs of Mr. F. R. Wilson, Alnwick, by Messrs. Armstrong & Hudspeth; and cost the proportionately small sum of 1,000*l.* The burial-ground is set out in sections: in that appropriated by the working classes—showing where sanitary action is most needed—the fever has filled many rows of newly-made graves.

These graves are standing protests against the condition of things in Alnwick.

THE PROPOSED MEMORIALS OF THE PRINCE CONSORT.

The National Memorial.—On Tuesday last the general committee held a meeting in the Mansion House, presided over by the Lord Mayor, to receive a report from the working committee that the whole amount of the contributions down to Monday evening was 32,799*l.*, of which 15,975*l.* had been invested in India Stock, 2,990*l.* was lying at Messrs. Smith, Payne, & Smiths, the bankers, and 8,628*l.* was in the hands of various bankers to the credit of the fund. Referring to a resolution passed at the public meeting, to the effect that the design and mode of execution of the proposed memorial should be left to the approval of the Queen, the committee also stated that, considering the progress made in raising a fund, it seemed to them desirable that Her Majesty's wishes should now be ascertained; and they therefore recommended that they should be authorized to take such steps as to them might seem most proper with a view to learn these wishes. The report was adopted; and the Lord Mayor afterwards forwarded a letter to make the inquiry which was thought necessary. As to the site for the monument, concerning which some correspondents write, the most obvious is, of course, the centre of the area, in Hyde Park, occupied by the Exhibition Building of 1851. What may be determined on, however, we do not know.

Ipswich.—Here they are proposing to found a scholarship, at a cost of 1,500*l.*

Bury.—Here, as in many other towns, opinion appears to be divided between the national central memorial and a local one. A statue of the Prince in the New Corn Exchange, or at the least his bust sculptured on the entablature instead of the Queen's, has been suggested. At a meeting of the town council, this latter proposal was moved; and as an amendment it was moved that a suitable memorial be erected, the amount subscribed to be applied as the council and subscribers should think fit. The amendment was lost by a minority of five to six, several councillors declining to vote.

Cambridge.—At a public meeting here, resolutions having been passed in favour of a memorial, and that it should be of a local character, it was suggested that there were great claims on behalf of a local charity, known as the Royal Albert Asylum, a charity instituted under the immediate patronage of the late Prince Consort. Some discussion ensued, at the close of which it was all but unanimously agreed that the funds to be raised should be devoted to the objects of this charity, coupled with some ornamental record in front of the building. It transpired that the sum required would amount to over 2,000*l.* A committee was appointed to carry out the resolutions. In course of the discussion, objections to the proposed memorial were urged. Mr. Cockerell said he thought that the proceeding was of quite an unprecedented character. Nothing could be more praiseworthy than to endeavour to carry out a benevolent object, at the same time that we erect an ornamental structure as a monument; but he was not aware that any precedent could be found for the present proceeding. He alluded favourably to a suggestion thrown out by Mr. Fawcett, that a structure similar to the "Martyrs" at Oxford might be raised. In all probability the University would join in such a scheme. Dr. Humphrey thought that there should be more than a national memorial: the Prince Consort's benefits had not been concentrated in one particular locality, but had been felt throughout the land; and, therefore, he thought there should be memorials in every part of the country; and, consequently that there should be a local memorial at Cambridge. At the same time he did not think that the town of Cambridge should content itself with merely adding to one of its existing charities. He did not think the town would thereby be testifying its sense of the value of Prince Albert's character: he thought there should be something better. A good deal had been said about Prince Albert's desire to promote the useful: now he rather thought that Prince Albert's object was more to further the interests of the ornamental. He found, as a German soon would find, that the English character was a little bit too utilitarian; and that there existed in it a want of taste; and this want of taste had been somewhat removed by the Prince's exertions. What were the present ornaments of Cambridge? Cambridge, he thought, was at present ornamented almost entirely by the University. He did think it would be a good step for the town of Cambridge to add something of the ornamental to the place; and if it did so, he was sure it would enlist many subscriptions from individual members of the University, as he was sure that such an ornament to the town would appeal to the University more than anything else.

Oxford.—A subscription-list in aid of the central memorial has been opened at the instance of the Vice-Chancellor of the University and the Hebdomadal Council.

Canterbury.—A committee of the city council has been appointed to make preliminary arrangements for a public meeting on the subject of a fitting memorial of the Prince.

Portsmouth.—At a public meeting in this town, after much discussion as to a local memorial, it has been resolved to aid the central monument.

One gentleman proposed a statue or other monument in Westminster Abbey.

Swanage.—A letter has been circulated here in which Mr. G. Burt, of Westminster, says, "I would suggest that the inhabitants should erect an obelisk of native stone,—with a short but suitable inscription,—say 20 feet high, in the middle at the top of the road leading from the church to the High-street, and say a few yards north of the track of carriages in that street; and I think it might be carried out in something like the following manner;—That the merchants of Swanage should give stone, and that the masons should execute the work by one man working one or more stones; that the inhabitants generally should subscribe money to pay for its erection; and that the parish should take charge of the monument after its completion. I think this quite within the reach of the inhabitants; and I have little doubt but that they will all join with one heart and one mind in carrying out this or some other idea, to perpetuate the memory of this noble Prince."

Bath.—It has been resolved to call a public meeting in this city to determine upon the best means of devoting local subscriptions to the erection of a memorial of the Prince.

Wakefield.—The committee of the town council, who were appointed to devise the best means of contributing to a memorial of the Prince, have determined to suspend any further proceedings at present, until something more definite is known as to the character of the proposed testimonial in London.

Sheffield.—It has been resolved by the town council, after some discussion, "That the mayor be requested to take such steps as he may deem desirable to appropriately and loyally perpetuate the memory of his late Royal Highness the Prince Consort; who, by his genius and continued exertions, so greatly advanced the arts and sciences in connexion with manufactures; and, also, to fitly express the esteem and admiration his character and virtues were held in by the people of Sheffield."

Harrogate.—Like many other towns, Harrogate has determined to have its own monument to the memory of his late Royal Highness, rather than contribute to the national memorial in London. This determination was come to at an influential meeting held in the Town-hall. Dr. Simpson suggested that the monument might be upon Harlow Hill, and expressed the opinion that "the Queen, as Duchess of Lancaster, would no doubt most willingly give a site there for a monument to her late husband." A committee has been appointed to solicit subscriptions and carry out the object in view.

Peterborough.—At a public meeting held in the Town-hall, it has been resolved to aid the national memorial, and a committee has been appointed with that view.

ST. THOMAS'S HOSPITAL.

Two very important questions present themselves with reference to this hosptial,—the question of site, and that of architectural design and arrangements. The *Times*, in speaking as to site, appears to consider that those who, like ourselves, have urged the advantages of a suburban site for the recovery of patients, contemplate nothing less than the total removal of the hospital and all its appendages; whereas, so far as regards ourselves at least, we have ever kept in view the necessity and advantage of having an establishment connected with the hospital placed somewhere in the neighbourhood whence it is about to be removed. As for the immense advantages of a suburban site to the recovery of the patients,—which, surely, is a question above all else for consideration, — there cannot be a doubt; and, if the governors are unwilling to remove the principal establishment from London; with such means as they possess,—between 30,000*l.* and 40,000*l.* a year, and rapidly on the increase; besides a very large sum from the railway company for the express purpose of building the required new hospital; — surely they ought at least to have an extensive establishment also in the suburbs, within easy time distance from their town establishment, and whereto every possible case could be transferred at the earliest available moment. Very little inconvenience to the medical attendants, whether resident in the west end or in the east, could arise from a necessity for making a daily run of five or ten minutes by rail to a properly-situate suburban establishment; especially when the immense benefit to their patients is considered; and the surety that thus they would be saving hundreds of lives in course of time, instead of allowing their patients to be killed by the known fatality of town hospital air. To any one who has for once witnessed the dread corps of pallid corpses which may at any time be found in our London hospitals, this is a subject which cannot but force itself, with terrible earnestness, on the attention; although familiarity with it may blunt the feelings.

Meantime the medical attendants at the hospital, to the number of twenty, have memorialized the governors on the subject both of site and arrangements; and, although they do not clearly indicate any great anxiety on the score of healthier air for their patients; they make important suggestions, in which we heartily agree with them.

"We feel it to be of paramount importance," they remark, "that every thing possible should be done to insure a free and full discussion of the important issues which will be raised. And it seems to us that this object cannot be obtained unless the several issues are made public for some reasonable time before the day when the General Court of Governors will have to decide on them. With this view we would beg leave to express to the governors our unanimous and earnest hope that, when the grand committee reports to the governors on the several tenders which shall have been made of land for the site of the new hospital; the governors, before deciding on the choice of a site, will cause the report of the committee to be printed and published; and will then allow an interval of at least a month to elapse, during which the merits of the respective proposals may be open to public criticism: and, similarly, that, when the governors have it in view to determine on what plan the new hospital shall be built; they will, for at least a month before they purpose to decide this question, permit public exhibition to be made of all the plans which shall have been proposed for their acceptance."

They remark, it is true, that

"The intentions of the founders and benefactors of the charity would be almost irreparably defeated, and the priceless public boon of a great school of medical and surgical science would at the same time be sacrificed, if the new hospital were to be planted in any locality where physicians and surgeons of high metropolitan standing could not be expected to serve it with assiduous attention; or where masses of the labouring population would not have easy access to it for the relief of all their emergencies of sudden illness and injury."

But the question which here arises just is,—*would* a suburban locality, accessible from the old hospital site, or its neighbourhood, by a run of five or ten minute's time by railway, at all hours of the day, for the decided advantage of their patients, and to the certain saving of their lives in many instances, *prevent* physicians and surgeons, of high metropolitan standing, from serving the hospital, both in town and in suburb, with assiduous attention? and would not those masses of the labouring population, for whose behoof *both* would be established, have not only easy access to either, but unspeakable advantages besides, from the prospect of a more rapid recovery, and a more successful cure, as well as from the far less risk of losing life itself than they now suffer in St. Thomas's Hospital, from the want of a suburban establishment?

The means for both establishments are abundant; and a grand opportunity now offers for such a development of the benefits derivable from a well-conducted hospital as has never yet been experienced even in the history of St. Thomas's itself. Most cordially do we second the suggestion of the medical officers that the whole subject be kept open for a time to public criticism and discussion, and not strangled by any precipitate step on the part of the governors.

CHURCH-BUILDING NEWS.

Leicester.—St. Andrew's Church, Leicester, being now finished, was to be consecrated on the 20th inst. It is from designs by Mr. Scott, and has been carried out by Messrs. Osborne Brothers, of Leicester, contractors. The stonework was by Mr. Firn. Mr. Saville was clerk of the works. The plan is cruciform, with nave, transepts, and chancels, with circular ends. The edifice is built almost entirely with bricks, slightly relieved by Bath stone. The brickwork is in bands of red and white, in alternate courses, with blue introduced for effect. The main walls are strengthened with buttresses. There are two principal entrances, one at the west end, and the other through a porch, on the south side of the nave: an entrance also is provided for children in north transept. A bell-turret rises to the height of about 80 feet, surmounted by an iron cross, and is supported by the main chancel arch which divides the chancel from the nave. The roofs are covered with Swithland slates in diminishing courses. The whole of the interior is available space: there being no pillars of course there is no obstruction to the view. The chancel arch is the chief feature, springing from large stone corbels, and worked in figures of red and black bricks. The total accommodation, including children, is for about 960. The floors of aisles, chancels, &c., are laid with small red and black Staffordshire tiles, in various patterns. The windows are glazed with tinted cathedral glass in diamond quarries; the circles in the upper portion of the nave windows being in ornamental designs. The arrangements for lighting, as also the gas standards and corona in chancel, were made by Mr. Skidmore, of Coventry. The church is heated by Haden's patent apparatus. The entire cost of the building is about 5,000*l.*

Bedford.—A Baptist chapel is in course of erection in Cauldwell-street, in this town, to be called St. Mary's Baptist Chapel. It is Italian in style, and capable of seating 300 persons. The interior is of red bricks and stone. In the principal front is a five-light window; the centre compartment with circular heads of Bath stone, and relieving arches in Suffolk bricks, light red bricks, and Duston stone. The roof is partially open, stained and varnished. Mr. Usher is the architect, and Messrs. Reynolds & Son are the builders. The contract is 650*l.*

Upminster (Essex).—The parish church of St. Lawrence and St. Mary's chapel have, with the exception of the tower and spire, and a small portion of the arcade, been rebuilt, and considerably enlarged. The walls of the church are faced in Kentish rag, with Bath stone windows and dressings. The gallery at the west end has been removed, the tower having been entirely opened to the church. The whole of the seating is new, and affords accommodation for 450. The roofs are wrought and open, that to the chancel being circular. The ancient oak screen has been restored and refixed. The windows of the tower are new, the tower having been restored. The east window is in three lights, filled in with stained glass, representing Our Lord's charge to St. Peter; the tracery with Our Lord in majesty and Angels. The old coloured glass in St. Mary's Chapel has been re-arranged and refixed. The church is heated by hot-water on Perkins's principle. The works have been executed by Messrs. Burrell, Stanley, & Spinks, of Norwich, from the designs and under the superintendence of Mr. Bartleet, of London.

Abingdon.—The Independent Chapel is about to be given up to the contractors, in order to its being altered for the purposes of a Sunday school, and for the erection in front of it of a more suitable building. The chapel and alterations will cost about 2,000*l.*

Upper Stratton (Wilts).—A Baptist chapel has recently been built here, at the expense of Henry Tucker, esq. It is of some magnitude, more indeed than one would have thought requisite, but probably that previously built by the same gentleman at Bourton, Berks, fills so well as to warrant the extent. A village carpenter, named George, is said to be the architect.

Worcester.—A Bath stone reredos, the gift of Mrs. Allies, has just been erected in St. Peter's Church; and the stonework of a new east window, provided by subscription among the parishioners and personal friends of the late Mr. Allies as a tribute to his memory; is also completed, the whole being from the plans of Mr. W. J. Hopkins, architect to the Church Diocesan Society. Mr. Forsyth was the sculptor employed on the reredos, and Mr. Norman, the mason. The new window is in the Decorated style, with three lights and flowing tracery. It is now being filled by Messrs. Clayton & Bell, with the subject of the Ascension.

PROVINCIAL NEWS.

Gravesend.—Progress is being made in the erection of the new barracks. Nearly the whole of the principal blocks of buildings, the contract for which was taken by Mr. Naylar, of Rochester, are either finished or in hand. Of these there are, first, a building 173 feet long by 23 feet wide, and about 12 feet high, affording accommodation for eighteen officers. It is built in yellow brick, relieved with rusticated quoins in red brick, stone sills and landings. The quarters for the officers' servants are finished in the same style of yellow and red brick, and are in two blocks, some feet in the rear of the first-named building. Each block contains four square chambers, being to accommodate eight men. The size of each block is 30 feet by 23 feet, and about the same height as the other building. Further to the south is the site for the tankhouse about to be erected. Beyond these are the officer's stables. To the south-east is a range of buildings also in hand, comprising the washhouses, laundry, shop stores, and commissariat department. The guard-house and cells will be a building 70 feet by 40 feet. Another block is the staff-house, kitchen, and apartments

for the staff-sergeants. This building has the same external appearance as the huts built by Mr. Downs of yellow brick, and is 176 feet in length. There are also a cook-house, bath-house, and other conveniences.

Gloucester.—The new episcopal palace is approaching completion. The new building, according to the local *Chronicle*, occupies the site of the old one. The only portion spared has been part of the great hall in the centre of the building, in which William the Conqueror may have held his Christmas court, and Edward II. and probably other kings were entertained. In excavating the foundations for the new palace, it was discovered that a large pond or watercourse had existed nearly over the entire surface, so that the foundations had to be excavated to a great depth—in some cases upwards of twenty feet: a bed of concrete and rough stone masonry has been laid, and the external walls average three quarters of a yard in thickness: they are built of Painswick stone with a chopped face, and lined inside throughout with brickwork. The building is 180 feet long by 60 feet wide, and forms two wings, one eastward and the other westward of the Abbott's hall, communication being made through the great hall with the two wings. The east wing is intended for the bishop's residence, and the west wing for the episcopal business. The ground or principal floor contains in the east wing an open corridor, 9 feet wide; a dining-room, 28 feet by 20 feet; morning-room, 18 feet by 18 feet; a large drawing-room, 36 feet by 18 feet, exclusive of the large bow window; and a smaller drawing-room, 18 feet by 18 feet, which communicates with the large one by sliding doors, and when they are opened the two will form one of 55 feet by 18 feet, exclusive of the bow windows. On this floor also is the butler's pantry, opposite the end of the dining-room, but divided from it by the back staircase, which, being of Yorkshire stone, provides fire-proof communication from the basement to every floor, including the attics. On the north side of the corridor is the private chapel, which stands on the same spot as the old chapel. The Abbot's hall has a new open timber roof, forming a semi-circular ceiling. The west wing contains the library, 30 feet by 18 feet, and a waiting-room, adjoining the same, 18 feet by 12 feet. The first chamber-floor contains a suite of bed-rooms and dressing-rooms; and the attics contain bedrooms for the servants. The whole of the rooms are proportionately lofty, the basement being 12 feet, the ground-floor 15 feet, and chamber-floor 11 feet, from floor to floor, and well lighted. The general style of the buildings is Gothic of the fifteenth century, with a free adaptation of the improvements of the nineteenth century. The works are being carried out by the contractors, Messrs. William Jones & Sons, of Gloucester, under the direction of Mr. Ewan Christian, of London, the architect to the Ecclesiastical Commissioners, who have the control of the property. Mr. W. H. Espenett, of London, is the clerk of works.

Loughborough.—The new infirmary, so far as the elevation is concerned, is fast approaching completion, the roof being now put on. The contractors are Messrs. Osborne, Brothers, of Leicester; and the architect, Mr. Slater, of London. The building is being carried out at the cost of Mr. and Miss Herrick.

HOUSE OF COMMONS.

A FEW points of more or less interest to our readers in last week's proceedings in Parliament may be here briefly strung together.

Public Buildings.—Mr. B. Cochrane gave notice that on an early day he should move for a select committee to inquire into the state of public buildings erected by public grants, and to inquire whether in the erection of such buildings some uniformity of design might not be attained.

Accidents in Coal-mines.—In reply to a question by Mr. H. B. Sheridan, Sir George Grey, the Home Secretary, said that Mr. Blackwell's report would no doubt contain some valuable information and suggestions, and be carefully considered with a view to the adoption of such measures as would prevent the recurrence of so fearful a loss of life as that which had occurred at the New Hartley Pit.

Utilization of Sewage.—Mr. Brady moved for a select committee to inquire into the best means of utilizing the sewage of the cities and towns of the land. Mr. Cowper offered no objection to the motion, and it was agreed to.

Railway Accidents.—In reply to a question by Mr. Bentinck, Mr. M. Gibson, the President of the Board of Trade, said Government had no intention to interfere in the management of railways; and that, notwithstanding the serious accidents which had occurred during the past year; yet, in fact, the whole number of accidents in 1861 was less than in any year since 1851, except 1857 and 1858; while the mileage for railway traffic had increased some 50 per cent., and the number of passengers 100 per cent. In consequence of the Clayton-tunnel accident it was thought right to circulate amongst the railway companies an extract from Captain Tyler's report on that accident, containing suggestions for the more efficient working of telegraphic and other signals. Had the recommendations of the committee of 1858 been carried out by the legislature, they would have had no effect in preventing these two serious accidents.

Compensation for Accidents.—Leave was given to Mr. Ayrton to bring in a bill to amend the law relating to the recovery of damages by workmen and servants, and of compensation by the families of workmen and servants, for accidents.

Metropolis Local Management Acts Amendment.—Leave was given to Mr. Bristow to reintroduce his bill of last session on this subject. Mr. Locke observed that since the introduction of the bill last year the report had been published of a very important committee which had sat on the local taxation of the metropolis. Amongst other questions which that committee had considered was one connected with the Metropolitan Board of Works, and the mode of electing its members. It would be a moot point whether the Board represented the ratepayers at all, for it was elected, not by them, but by the vestries. Election at second hand had been found defective in every case in which it had been adopted. He hoped, therefore, that provisions for establishing a direct representation of the ratepayers would be introduced into the bill.

Metropolitan Toll-Gates.—Mr. White gave notice that on Friday in this week he should ask the Home Secretary if he had received any plan or provision from the Metropolitan Road Commissioners for the removal of the toll-gates in and around the metropolis; and if not, if the said commissioners had been called together for the special object of removing those obstructions.

The Approaches to the International Exhibition.—Mr. Cowper entered into some explanations with regard to the approaches to the International Exhibition, which he feared would be very inadequate and lead to public inconvenience. On the important subject of a communication between the northern districts and Brompton, he would shortly bring in a bill authorizing the appropriation of an accumulated surplus of the coal dues to the construction of a road across Kensington Gardens. [We may here add that the Metropolitan Board of Works has given its sanction to a report approving of the road, and undertaking the construction thereof, if the requisite funds be placed at its disposal.] In reply to a question by Lord Fermoy, Mr. Cowper said the plan that would be adopted would cross a portion of Kensington Gardens. The route that he understood his noble friend to refer to would require the Serpentine to be crossed. There were three ways in which it had been suggested that crossing could be effected. One was by means of a tunnel under the river, another was the erection of a new bridge, and a third was the widening of the existing bridge. Now, either of these three operations would involve so great a delay that he did not think the road could possibly be ready until the Exhibition had closed. It would besides involve an expense the funds to be appropriated to the purpose would not bear. Mr. Damer suggested whether it would not be expedient to save expense by opening the road through Kensington Gardens from Bayswater to the iron gates in Rotten-row, to carriages, as it was to equestrians during the period of the Exhibition of 1851? to which Mr. Cowper replied, that very often inconsiderate attempts at economy led to extravagance. The gravel walk was only made for pedestrians. It would not bear the wear and tear of carriages during four months, and it would cost as much to make a sufficient road for those four months as it would to make a permanent road.

The National Gallery.—Lord Elcho asked the First Commissioner of Works whether there was any truth in the report that plans for a new National Gallery, to be erected on the Burlington House site, had been prepared, and that a vote for its erection was to be proposed to Parliament in the present session; whether, in the event of such being the intention of the Government, the plans and elevations of the proposed building would be exhibited before any vote was proposed to Parliament; and whether any decision had been come to as to the purpose to which the present National Gallery was to be devoted. Mr. Cowper, in reply, said the building in Trafalgar-square was so full that shortly arrangements would have to be made for giving increased accommodation to the national pictures; but, at present, the Government had come to no decision.

Trade Marks.—In committee, Mr. Roebuck obtained leave to bring in a Bill to amend the law relating to trade marks.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday evening (the 14th inst.), at the House, in Conduit-street. The chair was taken by the President, Mr. Blomfield. The minutes of the last meeting were read and confirmed.

In reply to a question from Mr. Blashill, Mr. Lewes stated that the Association's library now in course of formation was to be a lending one, and that the library committee would be glad of donations of books or subscriptions.

Mr. Herring was to have read a paper "On the Non-desirability of Substituting Colour for Form;" but in the absence of that gentleman no further business was transacted, and an adjournment took place until the 28th inst.

KING'S SCHOOL, SHERBORNE.

THE extensive and important additions which have been for a long time in progress at this school have been at length completed, and the new buildings were opened on the 6th instant. The Institution is of old standing; and some account of its origin and history may be interesting. The school, as its name implies, was founded by King Edward VI., on the 13th May, 1550. The Duke of Somerset, the Lord Protector, was at that time the owner of the estates of Sherborne Castle; and through his influence, doubtless, the king was induced to select Sherborne for the seat of the first of those famous schools which have done so much for the cause of education in this country.

It appears that the scholars first assembled in what had been in former times the old School-House of the monks of Sherborne Abbey. They were, however, accommodated with a new school-house in 1560, forming the first part of the building, which has since grown to its present proportions. Another school-room was built in 1607, which afterwards, and, indeed, until recent alterations, was used as a library and other rooms, and is known as the "Bell Building." The present dining-hall was erected in 1670.

After this period no great additions were made until a few years ago, when the late Earl Digby presented to the school the remains of the ancient domestic buildings of the abbey, which comprised the refectory, the buttery, the abbot's lodging, and an old crypt, known as the "Digby Buildings."

At the recommendation of the late Mr. R. C. Carpenter, these buildings were converted into school-rooms, class-rooms, chapel, &c., for the accommodation of the increasing number of pupils.

Two of the old buildings here referred to (the refectory and another), had beautiful open timber roofs, of Third Pointed character, which were carefully restored, and still remain in the school-room and chapel.

The remains of the old Norman crypt were restored and formed into a cloister for the boys.

The abbot's lodging was so ruinous that it was necessary to a great extent to rebuild it; but all the old features of interest, as doorways, windows, and chimneys, were carefully preserved, as far as possible, untouched, in the new buildings.

Even, however, with these large additions, the accommodation was found insufficient; for the sleeping apartments in the Bell Buildings were very indifferent, and the old master's house very small. This latter adjoins the east end of the Abbey Church; and, in fact, is partly composed of the Lady Chapel and two smaller chapels; portions of the groined roofs of which may still be seen, in a good state of preservation, in the upper rooms of the house.

It was, therefore, decided by the governors to erect a new dormitory building, and a commodious house for the head master. These works have just been completed from the designs of Mr. Slater, architect.

The new dormitory building is about 150 feet long: on the ground-floor are a library, boys' day-room, linen and bath rooms, &c.: in the upper floors are a number of bed-rooms for the boys.

The old abbey buildings are of Third Pointed date, and the new ones have, from their proxi-

mity, been made, as far as possible, in accordance with them.

The old "Bell Building" has been re-arranged.

A covered way or cloister yet remains incomplete, which is to connect the studies which occupy the place of the abbot's lodging with the dormitory; and when this can be done the whole will form a quadrangle, on the east side of which will be the dormitories and master's house; on the west the chapel, school-room, and studies; and on the south the magnificent abbey church, producing a most picturesque appearance.

The new buildings are built like the surrounding old work, of Sherborne stone, with window-quoins and other features of Ham-hill stone; the roofs being covered with the stone slate of the district.

The designs have been carried out by Mr. Guppy, builder, of Sherborne; Mr. Joseph Butler being the clerk of the works.

THE FALL OF HOUSES, HACKNEY.

At the inquiry into the circumstances which caused the death of the three persons who were killed by the falling of the unfinished houses in Hackney, Mr. John Topham, Associate of Institution of Civil Engineers, said he had examined the ruins. He first examined the pier. The bricks were inferior. Some were stocks and some place bricks. The mortar had been composed of sand of inferior quality. The pier was 2 feet wide and 14 inches in depth. The weight to be carried, speaking from observation rather than measurement, would be thirty or forty tons. He did not think the pier could have carried so much. It would have been sufficient if it had been constructed of thoroughly good materials. The cause of the accident had arisen, he believed, from a settlement which had taken place for some time in the pier which supported the front wall. Necessarily the front wall came down gradually until it bulged out in the middle and fell.

By the Foreman of Jury: He accounted for the fact that the other houses, which had been built of the same materials, had not fallen by the different state of the weather at the time they were built. He of course could not say that there had been the same strain on the piers of the houses which were yet standing. Probably story posts had been put up in the other houses.

Mr. Tillett said he had had large experience in building. He produced a brick from the part of the pier which had not fallen. He believed it to be an average brick. He believed the accident had arisen from the weight of the men in all parts of the building, and from the vibration produced. The greenness of the work would, of course, cause it to be less likely to withstand the weight and the vibration. He did not think the accident had arisen from the way in which the pier had been constructed. He found that the end of the bressummer next the defective pier was within the building. If the pier had been weak and had given way, his experience was, that the bressummer would be slipped outwards. The best proof that the brickwork was good was to be seen in the fact that the party-wall, which was 40 feet high, was standing by itself unsupported. Some bricks were good, and others bad; but generally he would not say that they were other good or bad. The wall was standing by itself. He thought there was no necessity for cement to have been employed. He had stood on the building when the railway trains passed, but he did not find any vibration. He, of course, would not say that the vibration of the train had not contributed to the accident. He simply gave his opinion. He did not think that it was necessary to put up story-posts.

Stephen White, bricklayer, said he had spoken to Mr. Amos, jun., about the story-posts not being put up at No. 9. He told him that they ought to have been put up. He had spoken also to Mr. Amos and two other persons about it. He had told them some weeks before the accident. Found that the front wall had gone out by drawing a straight line to put in the mullions. The front wall was a 14-inch wall up to the second-floor. The front bricks are white perforated bricks—imitation Suffolk bricks. The inner casing were stocks, some old, mixed with place.

Mr. Stephen Green, of College-hill, architect, examined by the Coroner, deposed that he had no power to alter any materials used. He granted certificates as the work went on. As a professional man, had he seen any defect in the building, he should have thought it his duty to have spoken to Mr. Amos. He had objected to some of the bricks used in the party-wall. That was the wall that was pulled down. He had no doubt the accident arose from the frost having affected the quality of the mortar, and the plasterers going on the scaffolding too early, causing the scaffolding to shake and hurt the tierrage of the putlocks. The frost would cause the mortar to perish.

By Mr. Ellis.—The drawings were prepared in his office, but there were no specifications as to how the work was to be done: that was left to the builder. The building was to be erected according to the drawing: sometimes there was a specification, but he had never been a surveyor to a building speculation before: he meant surveyor to the mortgagees of buildings to be erected. He had no power over the works. All he had to do was, when an application was made for a draw of money, to see how far the building was erected, and give the builder a certificate.

By Mr. Atkinson.—He was of opinion that the using of the bats and bricks in the walls had nothing to do with the accident; that it arose from the frost having perished the mortar.

Mr George Legge, King William-street, City, district surveyor of Hackney, deposed—He first visited the buildings in course of erection in December: he had never made any representation as to the materials used. It was doubtful whether he had the power under the Act of Parliament to do so; but the present was not a case to call for it. The buildings were being erected in accordance with the Building Act. He had since examined the premises, and was of opinion that the accident was occasioned by the vibration: the action of the frost on the material, the greeness of the work, and the number of men employed on the works, and also the construction of the building, all combined to the falling of the front wall, and that broke away the pier, carrying with it the bressummer. He was of opinion that the pier did not give way, but from the causes he had mentioned the front wall had buckled out, and the falling brickwork carried away the bressummer and pier.

By Mr. Ellis.—He had visited the buildings frequently, and was of opinion that the pier was sufficiently strong, and that it was built is strict conformity with the Act. He had found the mortar and materials good, and he never saw anything to render a complaint necessary. He was still of opinion that the bressummer and pier had not given way. The joists must have been fastened to the bressummer, as he had observed that they had broken, and the ends were fastened, as the dog bolts were there now.

Mr. Arthur Ashpitel, of Poet's-corner, deposed—He was an architect and surveyor, and at the request of the coroner he had examined the premises and the materials. He found the bricks and mortar of the outside walls were very good indeed: the inside bricks and mortar were of inferior quality as the building went up. The timber was very good. He was of opinion that the accident was attributable to various causes. He was of opinion that the pier was defective, both because the man who built it said so, and from examination of the pier between Nos. 7 and 8. He thought that the front wall having gone out three quarters of an inch, the bad weather, and then the frost having affected the work, had contributed to the accident. The actual moving cause of the wall falling down was the weight of the material on the top of the roof and scaffold, the plaster and cement used for the cornice, and the number of men employed at the top making the weight too great, and causing the wall to bulge. The roof had spread out, and also in his opinion the incompleteness of the roof contributed to the accident. Had the roof been properly completed and tied according to the plan the accident would not have happened There had been no collar to tie the roof. It appeared to him that the slating of the roof was going on before it was completely tied in.

By Mr. Atkinson.—It was almost impossible to state what part, or how much, any of the causes he had mentioned contributed to the accident. The pier he referred to had gone. The brickwork of the outside walls was very good. No doubt the wet weather and frost acting upon the mortar would tend to the result that had happened, but he also attributed it to the weakness of the pier and the incompleteness of the roof.

By a Juror.—He had no doubt that the building gave way from the top, and that the front wall buckled out. No doubt had the pier been built with stock bricks and cement it would have been stronger and safer.

The jury, having been absent about an hour, returned into court, and delivered the following verdict:—

"We find that the deaths of Jacob Ketteridge, John Fuller, and Alfred William Rathbone were caused by mortal injuries received upon their bodies by the falling of the houses, Nos. 9 and 10, Amherst-road, East Hackney; and we do further say that the causes of such accident were occasioned by the materials used in such building being of an inferior quality, to the incompleteness of the roof, to undue haste in their construction, and to the want of a more efficient supervision."

PROCEEDINGS UNDER METROPOLITAN BUILDING ACT.

A WARNING.

Not giving Notice.—On the 14th inst., Mr. Robert Hooper, builder, appeared at Marylebone Police Court, before Mr. Mansfield, pursuant to a summons for penalties, for neglecting to give notice to Mr. H. Baker, district surveyor of St. Pancras, of his intention to build three houses, in Churchill-road, Kentish-town.

Mr. Baker stated that, on his first visit to the ground, the houses were about half-way up; that he met the defendant there, who acknowledged himself to be the builder; that he communicated with the defendant upon the omission, in the hope that, although late, it might be corrected; but that no steps had been taken to such effect.

The defendant was fined 3*l* and costs, and Mr. Mansfield directed the whole of the penalty to be awarded to the district surveyor, under sect. 104.

The same builder then answered to another summons taken out by Mr. Baker, who complained that the walls of the houses before referred to were deficient in thickness, not "properly bonded and solidly put together," and that the buildings were in other respects illegally constructed. Upon the promise of the builder to amend the works to the satisfaction of the surveyor, Mr. Mansfield directed the case to stand over for a month; and it was adjourned accordingly.

SIZE OF FLUES.

Sir,—The remedy for smoky chimneys suggested recently by a correspondent to the *Builder* is very good so far as it goes; but I think the principle involved might be carried much further with advantage. When we think how considerable a volume of gas is carried through an iron pipe of about 2 inches in diameter, or less; and what a body of flame burns at its final extremity; it would seem but rational to conclude that a pipe of the same diameter would surely suffice to carry away the smoke from a chimney-flue, — such smoke being, in fact, two-thirds or more the same gas we burn in our houses, but in combination with carbon and other matters. It would probably increase the draught, and certainly greatly impede the down-flow of smoke, by offering a diminished surface for the wind to act upon, if from the commencement of the flue from the fire to the roof a gradual telescopic decrease in its diameter, terminating in an iron pipe of some 4 or 5 feet or more in height, of 2 inches circumference, and "trumpet" shaped, the trumpet mouth fixed to the end of the flue. If the inside of the pipes were enamelled, it would perhaps prevent the soot gathering within them. To clean these smoke pipes, it would only be necessary to attach to a *ramoneur* a joint bearing upon it a brush of a very much smaller kind, and it becomes *un fait accompli.*

M. P. M.

LONDON ATMOSPHERE.

Sir,—Any practical method of perfectly purifying the air of London would effect a saving in washing alone sufficient to pay a large dividend on the amount of outlay.

Will you allow me to suggest for consideration that a dry sewer, similar to the main drainage, reversed, would carry off all the smoke to the highest ground—Hampstead and Highgate for the north, and Sydenham for the south of the Thames, where it might be entirely consumed, and the products both of the smoke and the gases generated in sewers rendered innocuous.

I can perceive no valid reason against every chimney of all descriptions, uniting in one "main," and any amount of velocity given to the current by steam power. We know the cost of the main drainage, and the same would exceed the outlay here required.

All the towns in England would be able to luxuriate in a pure climate; and our public buildings would not require re'acing before completion.

A Londoner.

*** The proposition has been made several times in our own pages.

THE ROAD FROM BROMPTON TO BAYSWATER.

Sir,—It is proposed to cut a trench some 12 feet deep, and at the bottom to form a road, which, although horribly uncomfortable to them, must nevertheless be paid for by passengers every time they use it.

Is it not a pity so golden an opportunity should be lost for forming what this capital does not in any part possess, namely, a public road forming a continuous vista, and combining the advantages of a beautiful drive with access from one large and important suburb to another? A fine straight line of roadway dividing Kensington Gardens and Hyde Park, amply wide, and flanked on either side by triple or quadruple lines of well-chosen trees would in such a position have a magnificent effect. It should, of course, be on the ground-level, and might, if sufficiently broad, at an interval of one half its length furnish a site for a monument to the memory of the good Prince whom we shall long lament. The monument might include a fountain; and, if skilfully managed, have a very good effect.

Sylva.

Miscellanea.

Literary and Artistic Copyright.—At the latest sitting of the French commission charged to draw up the bill on intellectual property, Count Walewski presided; and after some discussion the following resolution was passed by a majority of 18 to 4:—"The committee, considering that works of the mind, and works of art, constitute a real property, and that, consequently, it is right that this proprietorship should be indefinitely prolonged, proposes that a sub-committee should be appointed to draw up a bill for the regulation of literary and artistic property, taking as its basis the principle of perpetual right." A sub commission was then nominated according to the principle adopted.

The Accident in the Waterloo Road.—The verdict of the coroner's jury on the cause of the death of one of those killed was "Accidental death," accompanied with the following expression of their opinion: "That Edwin James Robins came by his death by the falling of the stones and iron gratings in front of the houses No. 198 and 199 Waterloo Bridge-road; and they consider the conduct of Mr. Jones in not causing the landings to be arched up as ordered by the Lambeth vestry in April, 1859, is most reprehensible." The coroner said he could enter on his precept the verdict only and not the expression of opinion. The jury hoped the press would take notice of it, as the effect of their deliberation would be entirely lost if the expression of their opinion were not recorded.

Testing the Strength of the International Exhibition Building.—In a report signed William Fairbairn, C.E., and William Baker, C.E., these gentlemen say,—We first caused a large body of men, about 400 in number, to be closely packed upon a space 25 feet by 25 feet, on one lay of flooring: we then moved them in step, and afterwards made them run over the different galleries, and down each staircase: at the same time we caused the deflections of the girders carrying these floors to be carefully noted at several places and had the satisfaction of finding that in each case the deflections were very nearly the same; thus exhibiting a remarkable uniformity in the construction. The cast-iron girders, with 25-feet bearings, deflected only one-eighth of an inch at the centre; and the timber-trussed beams of the same bearing placed between these girders deflected half an inch at the centre. In every instance the girders and trusses recovered their original position immediately on the removal of the load. The wedges of the centres of the eastern dome have been struck, and no deflection occurred.

PARAFFIN CANDLES.—Candles made from this material, which have hitherto been exhibited as curiosities at scientific reunions, are now a commercial fact.

BIRMINGHAM SCHOOL OF ART.—The annual inspection of the Birmingham School of Art took place on the 5th, 6th, and 7th instant, when various medals were awarded by the Government inspector. Eleven works, by various of the students, are to proceed to South Kensington, for the national competition in March, as will also the following art pupil-teachers' work: Thos. Bingley, model from life; Mary A. Preston, "Mulready," study; Alfred Brown, painting of game. Mr. David Raimbach is master.

THE "MYSTERIOUS" DISPLACEMENT OF COFFINS.—We hear from Mr. Wheeler, of Swindon, that the solution of the mystery given in the *Builder* by the vicar of Romsey as to the displacement of coffins in a vault below a church in Wiltshire is found to be correct. An examination was made on the 11th instant. There was sufficient evidence to convince those who were present at the opening of the vault that the displacements had been caused by the rising of the springs. Considerable satisfaction is felt by some who were concerned.

WELL-BORING AT BRIGHTON: THE WARREN FARM WELL.—At the local directors and guardians' meeting, last week, the surveyor reported the depth of the well to be 1,226 feet 3 inches, being an increase during the week of 15 feet 9 inches, at a cost of 5*l.* 3s. 4½d. per foot for labour; and he added, "I have had a trial-hole bored of between 8 and 9 feet in depth, with a 4-inch auger. It could not be got deeper on account of the stratum 'blowing' and choking the hole. The gault has now been penetrated upwards of 200 feet, at which depth, from the information I received at the Museum of Practical Geology, I contemplated reaching the lower green sand. The result of the boring this day gives a stratum almost void of sand, and a less proportion of shells." Mr. Lucas said that the sum of 7*l.* 11s. 11d. only represented the cost of labour; that the well was costing more than that per week: to the materials were added, such as the cost of the different stages, the oil, rope, cost of cab-hire, and so on, he doubted if the amount would not be increased to as much as 90*l.* or 100*l.* The Governor was instructed by the Board to bring up a detailed report, monthly, of the expenses incurred over and above the cost of labour.

THE ACCIDENT AT ST. ALBAN'S CHURCH, HEETWOOD.—One of the injured in this case has died, and at the inquest Patrick Shannon, son-in-law of the deceased, attended, and complained that the arch was not safe enough, at the time the centre was removed, to warrant the removal. Henry Colbeck, stonemason, Victoria grove, Hulme, said the accident had resulted from the too early removal of the centre, and from proper care not having been exercised in running the rims over the stonework. This negligence was attributable to the bricksetter Harrop (one of the injured men), to whom the deceased had acted as labourer. Harrop ran three rims of bricks over the stonework without keying any of them, and one side had been built three feet higher than the other. Every rim ought to have been keyed. Mr. Abel Sykes, of the firm of Hinchliffe and Ellis, contractors for the building of the church, stated that the centre was removed on the 16th of December, the arch having then been keyed nearly two months. He had previously examined it, and considered such a proceeding perfectly safe. Had proper care been exercised in running the rims round, the accident would not have occurred. Mr. Crowther, architect, stated that he had examined the building since the accident. Whilst standing in the west end of the nave, he noticed that there had been more brickwork on the right hand than on the left. It was evident that the arch had given way on the left hand, or north side. It was not possible for any arch to stand without a centre, unless the rims of the brick had been keyed rim by rim. The removal of the centre was a very risky thing; but had due care been taken by the bricksetter, no accident would have occurred. As there was no clerk of works at the church, he (witness) ought to have been consulted before centres were removed. He had put confidence in the contractors. They had built several churches under him before, in a very satisfactory manner. This was one reason why no clerk of the works had not been thought necessary. The jury returned a verdict of "Accidental death," at the same time expressing a hope that the managers of the works would be careful in future not to remove centres from unfinished arches.

A NEW TOWN.—The *Elgin Courier* says a new town, to be called Brucetown, is to be built to the south-west of the toll at Burghead. The plans have been completed, and several new houses will be commenced forthwith.

METROPOLITAN BOARD OF WORKS.—At the ordinary meeting, last week, considerable discussion took place on the projected road across Kensington-gardens; but ultimately the report of the committee on the Exhibition approaches was agreed to. It recommended "That Mr. Cowper be informed that the proposed road through the park would, in the opinion of this board, be a great public convenience during the Exhibition, and to the localities in its vicinity. This board, however, with every desire to meet the views of the first commissioner and the public as to this road, regret that they have no funds at their disposal to effect this great public improvement: they will, however, be quite prepared to make the same if Parliament will place at their disposal funds other than those derived from direct taxation for metropolitan improvements, &c."

THE GREAT HANDEL TRIENNIAL FESTIVAL.—The Crystal Palace directors and the Sacred Harmonic Society's committee have announced their intention to hold this festival at Sydenham on Monday, 23rd, Wednesday, 25th, and Friday, 27th June next. The great orchestra of the palace will be completely roofed in, and other alterations and additions made to the centre transept, with a view to the improvement of its acoustic qualities. The band and chorus, selected from metropolitan, provincial, and continental sources of the highest musical reputation, will consist of about 4,000 performers; and it is confidently affirmed that this festival will be by far the most complete musical display ever witnessed, and that it will be still more numerously attended than the festival of 1859, although this latter was attended by upwards of 40,000 more than the festival of 1857.

LIABILITY OF AN APPRENTICE TO SERVE AN EXECUTRIX: COOPER *v.* SIMMONS.—In the Court of Exchequer, Mr. Gray, on behalf of the appellant, moved in this case to quash the conviction, which took place under the 20th and 21st Victoria, that the appellant did unlawfully absent himself as an apprentice; and, having been sentenced to fourteen days' imprisonment, he entered into sureties to prosecute this appeal. It appeared that the appellant, being under age, was bound apprentice in 1859 to Thomas Simmons, a lockmaker in Wolverhampton, who was the husband of the respondent; the indenture setting forth that the appellant should serve his master and his executors and assigns. Thomas Simmons died, leaving the respondent his sole executrix, and the appellant afterwards continued in her service for a period of ten months, when he absented himself, having been advised by an attorney that his indenture was, in consequence of the death of his master, no longer binding on him. The Justices found that the respondent was capable of teaching the appellant's trade, and that he was bound to serve her. Their Lordships were of opinion that the conviction was good, and gave judgment for the respondent.

DAMAGE FROM BURSTING OF WATER-MAIN: STEGGLES *v.* NEW RIVER COMPANY.—In the Court of Queen's Bench, on 12th February, this case was decided at the sittings at Nisi Prius. It was an action to recover compensation for damage sustained by the bursting of a water-pipe belonging to the defendants, through their alleged negligence. The defendants denied their liability. The case was tried on a former occasion, when the jury were discharged in consequence of their not being able to agree to a verdict. Plaintiff was proprietor of the St. Luke's Head, Old-street. On Christmas night, 1860, during a severe frost, the plaintiff was called up, and found that water, from the bursting of the main, was rushing into his cellar. On getting down to the cellar he found between one and two feet of water there, and tubs, barrels, &c., floating about. The turncock was called. He got out the plug, and the flow of water into the plaintiff's cellar was stopped. The negligence complained of was, that the company did not use proper contrivances to prevent an extraordinary flow of water. The defendants, when applied to, denied their liability, and referred the plaintiff to the parish, on the ground that the accident had happened owing to the defect of the parish fire-plugs. It was urged, on the other hand, that the defendants were bound to take extraordinary care in severe weather, and adopt means to prevent accidents. The jury, after having retired for nearly two hours, returned into court with a verdict for the plaintiff—damages, 72*l.* 15s.

COLSTON HALL COMPETITION, BRISTOL.—Professor Donaldson was called in to assist the directors in their selection of the design to be carried into execution. He attended on the spot to examine the drawings, and inspect the site, and made his report at a meeting of the directors, recommending the adoption of the design sent by Messrs. Forsters & Wood.

NEW BLACKFRIARS BRIDGE.—We are glad to find that the course we were hopeful the Court of Common Council would pursue with regard to the projected new bridge has been adopted; inasmuch as Deputy Fry's amendment of the previous sitting—to the effect that the report of the committee should not be agreed to, but that the subject should be sent back to them for reconsideration, with powers to obtain professional assistance if they should think it advisable to do so, and to report again to the court—was eventually put as an original motion; and the chairman of the Bridge-house Estates Committee having withdrawn his previous motion, the resolution substituted was carried.

CROSBY HALL.—Last week I called upon a builder: he was from home, at Crosby Hall. I proceeded there; and when the door was opened, the place was strewed with chips and shavings, and workmen in all directions. I inquired, and was told by a gentleman, who had taken the place, that it was to be used as a store for pipes of wine; that he did not intend to alter the building in any material way, &c. &c.: but I observed there was a hole cut through the roof for a skylight, so that what will become of this once, and now the only remaining, abode of our "Merchant Princes" of the fifteenth century, time only will show. It is well known that in this very hall Richard III. dwelt some time previously to his sovereignty; and in the immediate neighbourhood were the mansions of Sir Andrew Judd, Sir Thomas Gresham, and others, who entertained the Royal Family and lodged foreign ambassadors; and now Crosby Hall is the only remnant left. It seems a pity that the citizens do not interfere, to save it from total destruction.—C. H. S.

THE FEMALE SCHOOL OF ART.—The students' drawings, executed in competition for medals offered by the "Science and Art Department," with which it is in connexion, were exhibited for a few days last week. 29 medals have been awarded; and twelve of the works so distinguished have been forwarded for national competition, for medallions. The following are the names of the successful students:—Mdlles. Clara Beams, Frances Blackburn, Sarah Blake, Helen Borrell, Isabella Brand, Rose Le Breton, Augusta Bros, Alice Bros, Eliza Bryant, Margaretta Clarke, Eliza Corss, Mary H. Dennis, Maria Devine, Sarah M'Gregor, Hannah P. Gypson, Katherine Hill, Emily Howard, Charlotte James, Mary E. Julyan, Anne Molyneux, Fanny Seddon, Annie Smith, Isabella Fox Smith, Theresa W. Smith, and Emily Snellgrove. The following students obtained honourable mention:—Mdlles. Jane Baker, Frances Blackburn, Sarah Blake, Alice Bros, Maria Devine, Theresa W. Smith, Phillipa Stevens, Anne Thomason, Helen Webb, Caroline Willson, and Evelyn Whitaker.

ST. MARTIN'S SCHOOL OF ART.—On the evening of the 12th, the exhibition of drawings to which prizes have been awarded took place at the St. Martin's School of Art, Castle-street, Long-acre. The following is a list of the successful students. The drawings of the students marked N.C. are selected to be sent in in competition with the whole of the schools for the National Medal:—Medals, Alfred Ladd, A. Tracey, Harry Maile, Henry Reich (N.C.), Edward Sonnes (N.C.), James Buchanan, James White, F. Wormleighton (N.C.), C. E. Meteyard, James Mahoney (N.C.), Ellen Brown, James F. Ducloy (N.C.), Haidée Godbold, James Buchanan, Georgina Alldred, William Murray, Lucy Webster, Fanny Hopton, James Buchanan, Haidée Godbold (N.C.), Ralph Mackay, Osmund Hunt (N.C.), Edmund Fitch, Lucy Webster, Wm. Nosworthy. Honourable mention,—G. Cook, James Jones, E. R. Goodall, Louisa Aumonier, John Eadon, H. G. Clarke, Alfred Sonnes, Frederick Parkinson, Emma H. Porter, James Buchanan, Henry Reich, Caroline Martin. Total awards—7 national competition, 25 medals, 12 honourable mention.

THE RAILWAY BRIDGE AT CHELSEA.—Sir: I observe one of your correspondents says,—"The railway bridge at Chelsea was completed in a little over twelve months, and trains were running over." I know that the above is not the fact, although I have before seen it in print; and as it was not contradicted, it has been treated by every one as a fact. In truth, however, it was two years from its commencement until its completion.

A LOVER OF TRUTH.

INSTITUTION OF FINE ARTS, PORTLAND GALLERY.—We understand there will be no exhibition made this year by the Institution of Fine Arts. The society, it is feared, will be dissolved.

BUILDERS' BENEVOLENT INSTITUTION.—The annual ball in aid of the funds of this institution took place on Thursday night last (20th), and passed off with more than the usual *éclat*. We may be able to tell the result next week.

ROYAL GALLERY OF ILLUSTRATION.—Mr. and Mrs. German Reed's excellent entertainment, from which many have derived so much healthy recreation, is about to be altered. A new first part, written by an able dramatist, will be produced in a few days. The public discover no sign of wearying of the performance as it is now given: the attendance is still large and enthusiastic.

ROYAL PRINCESS'S THEATRE.—Some very good scenery has been painted by Messrs. Gates & Cuthbert for the mystic drama now filling the house, "The Angel of Midnight," especially the "Gardens of the 'Black Bull,'" with the first appearance of the spirit; and the wood, where the "duel in the snow" is fought. The last is admirably set. Mr. Jordan, who plays a principal part, should study English pronunciation. In no other country would such murder of their language on the stage be permitted as we now put up with.

THE DRAINING OF RIO JANEIRO.—A prospectus has been issued of the Rio de Janeiro City Improvements Company, with a capital of 850,000*l.*, in shares of 25*l.* each. The Company have a concession from the Brazilian Government for draining the city of Rio de Janeiro on plans of Mr. Gotto, approved, on behalf of the Brazilian Government, by the late Sir W. Cubitt, Mr. Robert Stephenson, M.P., and Mr. Rendel, and which stipulates an annual payment to be made direct by the Imperial Government to the Company, of 6*l.* 5s. per house. An absolute contract for the work and its subsequent maintenance has been entered into by Messrs. Brassey & Co., on terms which, after providing for 7 per cent interest during construction, will leave a permanent net divisible profit to the shareholders of 8½ per cent.

SIGNS OF THE WEATHER.—Admiral Fitzroy, in his instructions to meteorological observers, is careful not to cut off any source of information, as he especially notes that the observations of nature are to be watched. Thus, when sea-birds fly out early and far to seaward, fair weather may be anticipated: on the contrary, when they hang about the land or fly inward, stormy weather is indicated. When animals, instead of spreading over their usual range, seek sheltered places, storms may be expected. Dew is an indication of fine weather; so is fog; but clearness of the atmosphere near the horizon is a sign of wet. A good hearing day is also an indication of coming wet.

SALES.—At the Mart, by Mr. Marsh, freehold ground-rent of 5*l.* 12s. per annum, secured upon Nos. 1 and 2, Martha-street, Picton-street, Camberwell—sold for 110*l.* Freehold ground-rent of 5*l.* 1s. 6d. per annum, secured upon No. 3, Martha-street—110*l.* Freehold ground-rent of 4*l.* 16s. per annum, secured upon No. 11, Glebe-place—100*l.* Freehold ground-rent of 60*l.* per annum, secured upon thirteen houses and a beer-shop, Nos. 17 to 29, Cork-street, Martha-street—1,400*l.* Freehold residence, No. 1, Brunswick-villas, Havil-street, Camberwell, let at 28*l.* per annum—350*l.* Freehold residence, No. 1, Brunswick-road, let at 30*l.* per annum; also two leasehold residences, Nos. 20 and 21, Somerset-place, Havil-street, let at 10*l.*—400*l.* Freehold residence, No. 2, Brunswick-road, let at 30*l.* per annum—370*l.* Leasehold residence, No. 29, Wilmington-square, Clerkenwell, let at 40*l.* per annum, term 87 years from 1828, ground-rent 10*l.* per annum—360*l.*

THE LATE MR. THOMAS LITTLE, ARCHITECT. A stained-glass window has been recently placed to the memory of the late Mr. Little, in the chapel of the Paddington Cemetery, Willesden-lane, which is one of his own works, and has been illustrated in our pages. The window has been executed by Mr. Wailes, of Newcastle. It is a four-light Gothic window. The subjects are the Nativity, the Crucifixion, the Resurrection, and the Ascension of Our Saviour. The types under under each from the Old Testament, are the Expulsion of Adam and Eve from Paradise, the Sacrifice of Isaac, Abraham releasing Isaac, and and the Translation of Enoch. The large cinque foil in the arch contains Our Lord seated in Glory, and the two spandrils contain angels bearing emblems. The inscription is,—"To the glory of God, and in memory of Thomas Little, architect, and Charlotte Maria, his only child, this window is dedicated by his widow, Eliza Little, 1861."

WATTS'S ALMSHOUSES, CHATHAM: FOORD *v.* WATTS'S TRUSTEES, *et e con.*—Certain disputes having arisen between the contractor, Mr. Foord, and the trustees of Watts's Charity, as to the erection of these almshouses, the trustees raised an action against the contractor for 1,200*l.* damages for the alleged manner in which the work had been completed; and the contractor, on the other hand, raised a counter-action for a balance due to him on the contract. These actions, according to the *Chatham News*, have both been decided in favour of Mr. Foord, with costs against the trustees, which, it is said, will amount to upwards of 1,000*l.*

SUBMARINE CABLE ACROSS THE MERSEY.—The Mersey Docks and Harbour Board have had a new submarine cable laid across the river Mersey. The conducting wires were insulated with indiarubber manufactured by Messrs. Silver & Co., of Silvertown, who furnished the wires to Messrs. Whaley, Burrows, & Fenton for the completion of the cable. The laying was superintended by Mr. J. S. Gisborne, electrician to the Board.

BRIDGE ACROSS THE TRENT AT THORNE, ON THE SOUTH YORKSHIRE EXTENSION.—The cylinders for the arches of this bridge are being brought: they are about 6 feet in diameter, with flanges for bolting them together. The first is now in course of sinking on the west side of the Trent. A considerable number of hands are employed in constructing the junction of the Trent and South Yorkshire Extension.

LIVERPOOL DOCK EXTENSION.—The Mersey Dock Board, on Thursday, agreed to the obtaining of a Parliamentary power to raise the sum of 1,000,000*l.*, to be expended in additional graving-docks at the south or north end of the town, on new and improved warehouses for the storage of grain, and for the dock traffic improvements. These extensions it is proposed to develop in the next five years, by which time, though the debts of the estate will be increased to 13,000,000*l.*, it is anticipated that the Board will not only be able to pay 4½ per cent. to the bondholders, but will have opened up a large means of additional sources of revenue.

CONDITION OF DWELLINGS AT BATH, AND SANITARY IMPROVEMENT.—At an influential public meeting (the mayor in the chair), held at the Guildhall, Bath, to adopt measures for promoting the sanitary improvement of the city, the following resolutions were unanimously carried:—"That as the health and comfort of a large portion of the community must depend on the condition of the dwellings of the working classes and the poor, increased efforts should be made to ascertain the present condition of such dwellings in the city with the view to effecting neccssary improvements. That the results already obtained, by the very limited inquiries of the dwellings' committee, are such as to show the great importance of such inquiries, and the desirableness of their being continued and extended; also that the Society for Improving the Condition of the Working Classes be requested to print the able report read by the Rev. Mr. Odgers. That as a large portion of the disease and premature mortality in the country results from ignorance of the laws of health, efforts should be made to communicate information on this subject, especially to the working classes and the poor. That this meeting also desires to record its satisfaction at hearing of the recent formation of a Ladies' Sanitary Association in this city; believing that the influence of such an association is essential to the effectual carrying out of the important work of sanitary improvement.

NEW TOWN HALL IN PRESTON.—At a meeting of the Preston Town Council, the plans of the new Town Hall, prepared by Mr. G. G. Scott, of London, architect, were submitted and considered on Monday last. After a lengthy discussion, the plans were approved, and it was decided to commence the work forthwith. The new Town Hall will be erected on the site of the present building, at the top of Fishergate. The estimated cost of the work is about 30,000*l.* In the building there will be a council chamber, an exchange, a concert-room, and numerous minor public conveniences. When the new Town Hall has been erected, a new covered market, contiguous to it, will be built. During the discussion on the Town Hall plans an amendment to the resolution approving of them was moved to the effect that the subject be postponed till the council had received the block-plan from Mr. Scott, showing the site and adjoining property and the space to be thrown open around the Hall; but the resolutions to proceed with the plans in hand were nearly unanimous. More open space seemed to have been desiderated by some of the councillors.

ARCHITECTURAL INSTITUTE OF SCOTLAND.—A meeting of the Architectural Institute of Scotland, held in the Institute's Rooms last week, Mr. J. D. Peddie presiding, a paper was read by Mr. George Burnett, advocate, on "The Secular Architecture of Venice." The paper was illustrated by a number of photographs.

FALMOUTH.—The Lords of the Treasury have decided on constructing at this place a new building of architectural proportions to include county-court, town-hall, and various other offices on condition of the council finding the site and paying 500*l.* towards the cost, which will amount to 3,000*l.* or more. The present town-hall will be sold on the new one being completed.

THE AMERICAN OIL REGION.—There is now discharging in the Victoria Docks a cargo of 5,000 barrels of petroleum from Pennsylvania. The cost at the oil wells is only 3d. per gallon, while the value in England is about £20 per ton, the difference between cost and value being largely absorbed by the expenses of packing and transit. The supply is practically unlimited.

SHEFFIELD NO LONGER A TOY SHOP OF EUROPE. At a meeting held in the Sheffield Council-hall last week, a member of one of the leading Sheffield firms endorsed Mr. Roebuck's prediction that "the exhibition of Continental manufactures would make Sheffield look exceedingly small in the Exhibition of 1862." The Germans and Rhenish Prussians are going to challenge us on our own ground, and beat us with their "toys and large masses of steel."

TRADE OUTRAGE BY BRICKMAKERS.—An attempt has been made to destroy the machinery and blow up the engine-house and shed at the brickworks of Messrs. Hadfield & Attkins, of Cheetwood, Manchester. On the extensive brickfield between Cheetham-hill-road and Cheetwood-lane machinery has recently been introduced by the brickmakers. Messrs. Hadfield & Attkins have commenced about a week previously to use a machine of their own invention. The introduction of the machines had been met with much opposition and many threats, and it has at times been found necessary to employ a strong force of police to watch the premises both day and night. In the present instance a loud explosion took place in the building where the engine and machinery was placed. The whole of the roof was blown off, the beams supporting the roof were shattered, and portions of the wall were started. A reward is offered for the apprehension of the offenders.

CHAPEL FOR THE NORTH WALES LUNATIC ASYLUM.—This chapel is just now completed. Rather more than a year ago architects were invited to send in designs. The one selected and carried out was by Messrs. Lloyd, Williams, & Underwood, of Denbigh. The style is Fourteenth century Gothic. It is octagonal in plan, with two projections from the east and west sides, the former for chancel, the latter for porch, vestry and the staircase, which leads to a small gallery for the different officers of the institution. Seats are provided for 200. The roof is supported by eight carved timber-ribs, springing from moulded corbels, in each of the angles, and meeting in the centre, from which hangs a pendant. Above, and crowning the composition, is an octagonal bell cot, with spiral roof and iron foliated cross. The whole of the timber is stained and varnished. The architect's estimate was 530*l.*, for which amount the building has been completed. Sir Watkin Williams Wynn, Bart., M.P., has presented a painted glass window for the chancel, at a cost of 56*l.* The artist employed was Mr. James Ballantine, of Edinburgh.

LANDLORD AND TENANT: LIABILITY UNDER A LEASE.—Christian *v.* Siviter.—In this matter at the Birmingham County Court, the plaintiff is a gentleman of property, at Edgbaston, and defendant a stamper, but was formerly in business as a publican. The action was brought to recover 5*l.*, for one quarter's rent of premises, and a further sum of 12*l.* for dilapidations to premises let on lease by the plaintiff to the defendant. The hearing occupied considerable time, and was distinguished by much contradictory testimony. For plaintiff it was stated that being underlet the house had been used as a beerhouse: cock-fighting and dog-fighting had been allowed, and the whole of the interior was in a filthy and dilapidated state, doors wrenched off their hinges, fifty panes of glass broken, and other damage done. For the defence it was contended that the plaintiff had virtually cancelled the agreement referred to, by accepting another tenant than the defendant. This was positively denied by Mr. Christian; and, after hearing the reply of Mr. Motteram, the judge gave plaintiff a verdict for the sum claimed, with costs.

TENDERS.

For new church at East Ham. Mr. A. W. Blomfield, architect. Quantities supplied by Mr. J. A. Bunker,—

Bird	£3,439 0 0
J. & W. Sanders	3,388 0 0
Mansfield & Son	3,272 0 0
Myers & Sons	3,239 0 0
Child, Son, & Martin	3,096 0 0
Carter	2,990 0 0
Browne & Robinson	2,959 0 0
Turner & Sons	2,939 0 0

For erecting a villa residence at West End, Finchley-road, for Mr. Greenwood. Mr. D. A. Cobbett, architect:—

Mansfield & Son	£5,035 0 0
Ashby & Horner	4,489 0 0
Newman & Mann	4,317 0 0
Dove, Brothers	4,275 0 0
Conder	4,087 0 0
Hill & Co.	4,062 0 0

For corn exchange and public rooms, Leighton Buzzard. Messrs. Bellamy & Hardy, Lincoln, architects. Quantities supplied by Mr. James Barrett, London —

Perry, jun.	£7,165 0 0
Hawman & Co.	6,730 0 0
Nutt	6,415 0 0
Cooper	6,320 0 0
Carter	6,065 0 0
Dawson	6,058 10 0
Condor	6,057 0 0
Sawyer	5,950 0 0
Holdstock	5,756 5 0
Mead	5,685 0 0
Nash & Co.	5,666 0 0
Rowe	5,577 0 0
Boddington	5,120 0 0
Osborn, Brothers (accepted)	4,988 0 0

TO CORRESPONDENTS.

Stone and Heat (a correspondent asks to be told what paving stone will stand a great heat without cracking, when placed in close contact with a fire, and where it can be procured).—W. M.—J. B.—R. L. (amounts have not been forwarded to us. Ask for them).—L. B.—A *Well*-wisher (it would be madness to sink a well in such a position).—Jobber (if case be correctly stated, our correspondent is amenable).—Flange (not our province).—An Architect's Pupil.—J. P—J. J. S.—Jack Plane.—J B.—Aspirant (join a school of art).—D. F. (we are not able to go into the question of mining rights).—A. B. (the drawings in question are not obtainable by the public) —I. (charges for such services are usually matters of previous engagement).—An Exhibitor of 1851.—T. M. D. D. (earlier mention be "Lewis" has been already referred to in our pages).—J. F.—J. B. (next week).—Mr. B.—J. B. Kendal.—P. T.—C. J. P.—C. L. are not aware that any are yet manufactured for sale).—A Subscriber.—T. K. G.—T. J. B.—*Fide et Virtute.*—C. M. D.—Mr. R. we be glad to receive further information).

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," 1, York-street, Covent-garden. All other communications should be addressed to the Editor," and* NOT *to the "Publisher."*

Post-Office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:
8, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

TO PARENTS AND GUARDIANS.

AN Architect in a provincial town has an OPENING for an Articled Out-door PUPIL. Premium 100 guineas.—Address, ALPHA, Office of "The Builder."

BRISTOL TURNPIKES. — AUST and WORMSHILL ROADS. The Trustees for this District require the SERVICES of a ROAD SURVEYOR, possessing a practical knowledge of road making. These roads are about 62 miles in length, of which 11 miles are in the Borough of Bristol. The surveyor will be required to reside near the roads, and to provide and keep a horse, and devote his whole time exclusively to the duties of his office. The salary will be £2 2s. per week, and the appointment will be during the pleasure of the Trustees. His duties will comprise the general management and supervision of the roads, and of all alterations and improvements, under such directions as the Trustees may give from time to time; and he will be expected to advise the Trustees on matters relating to the maintenance of the roads and the collection of tolls. He will be intrusted with the payment to the Treasurer of the tolls received at the gates, and also with the payment of the road rates, and will, therefore, be required to give security for the performance of his duties.—Applications, stating qualifications and forwarding testimonials, to be addressed, on or before the 5th MARCH next, to the undersigned.

CHAS. E. WARD, Clerk to the Trustees.

Bristol, 17th February, 1862.

PAINTERS, &c.—WANTED, a first-class GRAINER and WRITER. Good wages and constant employment. Small specimens on paper.—Address, prepaid, to A. T. HILL, House Decorator, &c. Ashton-under-Lyne, Man hester.

WANTED, immediately, a YOUTH who has been employed in a Builder's Office. Wages from 15s. to 18s. per week, according to ability.—Apply at 16, Victoria-terrace, Camden-road, St. John's wood

WANTED, a thoroughly practical Builder's Out-of-door FOREMAN. Must have filled a similar situation. It is necessary that he thoroughly understands brickwork and carpenters' work in public buildings.—Address, stating trade, with full particulars of age, employed, wages, &c. to Mr. WHITE, 149, Holborn Bars.

TO BUILDERS' FOREMEN.

WANTED, by a London Firm, an experienced OUT DOOR FOREMAN. Carpenter by trade preferred. Address, stating age, wages required, and where last employed, to L. P. Office of "The Builder."

WANTED an APPRENTICE, in extensive Marble Works (West-end), to learn the art of sculpture, mason, and polisher; in or out doors.—Apply, by letter, to F. K. Office of "The Builder."

TO BUILDERS FOREMEN.

WANTED, immediately, a competent Person, to take the MANAGEMENT in the ERECTION of a STONE HOUSE, near Hereford. He must have a good knowledge of all the branches of the building trade. A carpenter who has held a similar situation previously will be preferred. State salary and references.—Address, "ALPHA," Post-office, Manchester.

TO BRICKLAYERS, PLASTERERS, AND SLATERS.

WANTED, immediately, and for a permanency, an active Man, who is thoroughly acquainted with general repairs. Reference required.—Address, R. J. care of Mr. Williams, 63, Freed-street, Paddington, W.

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, a fully competent ASSISTANT and expeditious DRAUGHTSMAN.—Address, stating age, salary, and full particulars, 8, Royal-hill Lodge, Greenwich, S.E. Also, a respectable YOUTH, who can draw well, to trace and copy drawings and specifications, and make himself generally useful. Good handwriting indispensable. A very small salary only will be given.

TO ARCHITECTS, CONTRACTORS, BUILDERS, AND OTHERS.

WANTED, an active JUNIOR PARTNER in an Old-established BUSINESS, carried on for many years by a Builder and Contractor. Capital required, about 1 000*l.* to 2,000*l.*—Apply to Mr. ALFRED ALLOTT, Prior-court, Sheffield.

TO BUILDERS' CLERKS.

WANTED, a thorough BUILDERS' CLERK, likewise a JUNIOR ditto. Must be early risers, and able to give first-rate personal references.—Apply to J. & C. W. TODD, Builders, at their Office, Church-lane, Lee, Kent, in the evening, from SIX to EIGHT.

TO ARCHITECTS AND BUILDERS.

WANTED, a SITUATION in either of the above Offices. Is a thorough draughtsman, understands perspective and working drawings, can take out quantities, &c. Salary very moderate.—Address, WAY, Office of "The Builder."

TO BUILDERS AND OTHERS.

WANTED, a permanent ENGAGEMENT in a Builder's Office, or otherwise, by a respectable practical Young Man, Son of a Builder. Can prepare finished and working drawings, take out quantities, and square dimensions. Has had the management of workmen, and time and account-keeping, &c. Terms moderate, and good references given.—Address, A. F. C. Clapton-house South, Lower Clapton.

TO ARCHITECTS AND OTHERS.

WANTED, by the Advertiser, a RE-ENGAGEMENT. He is a good draughtsman, thoroughly understands quantities and accounts, and has sound practical knowledge, having been for several years with a builder doing an extensive business.—Address, E. W. Post-office, Leytonstone, N.E.

TO MASTER PLUMBERS AND BUILDERS.

WANTED, by a PLUMBER, a constant SITUATION. Understands sine-work, gas-fitting, &c.—Address, A. B. Mrs. Bell's, 9, Whittingham-place, Highgate hill.

TO BUILDERS AND OTHERS.

WANTED, by an experienced Shop Foreman and Staircase Hand, a SITUATION. Is well versed in Gothic work. Good reference can be given from present situation. Eight years' experience in town. No objection to the country. Address, J. M. care of Mr. Harshant, News Agent, 117, Upper Stamford-street, S.

TO PLUMBERS AND OTHERS.

WANTED, by a Young Man, aged 25, a permanent SITUATION as PLUMBER, PAINTER, and GLAZIER.—Address, A. Z. 23, Leather-lane, Holborn, E.C.

TO BUILDERS AND OTHERS.

WANTED, by a practical, steady, respectable Non-society Bricklayer, of twenty years' experience in Building and General Repairs, EMPLOYMENT at moderate wages. Good reference given.—Address, A. B. care of Mr Smith, News Agent, 5, Surrey-place, Newington Butts, S.

TO CONTRACTORS AND BUILDERS.

WANTED, by the Advertiser, 28 years of age, a SITUATION in either of the above as QUANTITY SURVEYOR, ESTIMATING and COST-PRICE CLERK. Can prepare working drawings, measure and set out work, and generally fulfil the duties of a contractor's office. The highest testimonials. Salary moderate.—Address, S. O. Office of "The Builder."

TO BUILDERS, &c.

WANTED to APPRENTICE (in-door), for four years, where he will learn the BUILDING, CARPENTERING, and JOINING, an active persevering YOUTH, who has a taste for the business. A moderate premium.—Particulars to D. C. care of Messrs. Whittal & Co Woollen Drapers, High Holborn.

TO CONTRACTORS AND OTHERS.

WANTED, by a JOINER, Preparing, or Repairing, or fixing Joiner's Work. Piece work preferred About four days a week only required.—Address, J. M., 42, Shaftesbury-street, Hoxton.

TO ENGINEERS, CONTRACTORS, &c.

WANTED, a RE-ENGAGEMENT as Assistant DRAUGHTSMAN, in the office of either of the above, by a Young Man who is a neat and expeditious hand. Salary small, if with chance of permanent employment. Testimonials first-class.—Address, T. G. Post-office, 26, Oxford-street, W.

TO PLUMBERS, &c.

WANTED, by the Advertiser, a SITUATION as PLUMBER or Three-Branch Hand.—Address, B. H 13, Paradise row, Bethnal-Green, N.E.

WANTED, an ENGAGEMENT, by a Young Man, aged 22, who is a neat draughtsman, good accountant, and can also assist in taking out quantities, measuring up work, estimating, &c. Has been five years with two architects and surveyors. Unexceptionable references, if required.—Address, Y. Z. Post-office, Great Malvern, Worcestershire.

TO LAND-AGENTS AND SURVEYORS.

WANTED, a RE-ENGAGEMENT, by a thoroughly-practical SURVEYOR and LEVELLER, and good DRAUGHTSMAN. Has had much experience in the working and management of large surveys, both town and country.—Address, A. B. C. Post-office, Peterborough.

TO BUILDERS' CLERKS.

WANTED, by a London Firm, a JUNIOR CLERK. Must be a good penman, quick at figures, and have filled a similar situation before.—Address (by prepaid letter only), with full particulars as to age, where last engaged, salary required, and references, to A. A. Post-office, Essex-street, Islington, N.

TO STONEMASONS AND BUILDERS.

WANTED, by a Man of ability and experience, aged 30 and married, a SITUATION as FOREMAN over Stonemasons. Good reference given and salary required. Address, J. W. [illegible] Rainford near Liverpool.

TO JOBBING CARPENTERS AND BUILDERS.

WANTED, by a steady Young Man, a SITUATION as JOBBING HAND, where trust is required. Is a good joiner. Town or country.—Address, J. S. 7, Lansdowne-terrace, Shakspeare-road, Stoke Newington, N.

WANTED, an ASSISTANT, for a short time only. Must be competent to prepare working drawings and plain specifications.—Address, stating terms, H. P. 24, Eversfield-place, St. Leonard's, Hastings.

TO BUILDERS.

WANTED, by a Practical Man, a GENERAL FOREMAN'S Place, or MEASURING CLERK. Can take out quantities and measure up work, and acquainted with the duties in a builder's office.—Address, A. D. Post-office, Walworth.

TO PLUMBERS, LEAD AND SASH GLAZIERS, PAINTERS, HOUSE AGENTS, AND RAILWAY COMPANIES.

WANTED, by a Young Man, aged 30, a SITUATION in a PLUMBER'S SHOP, to IMPROVE himself and make himself useful in the three branches; or in a Builder's Shop where he can make himself useful in helping carpenters. Can use the plane, and help to do jobbing work. Or on a Gentleman's Estate, in keeping houses in repair, in painting, glazing, paperhanging, gathering rents, or any piece of trust.—Address, H. C. 11, Hawkins street, Sydney street, Mile-end gate, E.

TO ARCHITECTS, &c.

WANTED, by the Advertiser, an ENGAGEMENT as CLERK of WORKS or ASSISTANT in an Office. Has had fifteen years' experience. References to last employer. —Address, R. E. Post office, Banbury, Oxon.

TO PLUMBERS, GLAZIERS, AND PAINTERS.

WANTED, a SITUATION as PLUMBER, or as FOREMAN of PLUMBERS, or to MANAGE a Business in the above branches. First-class testimonials if required.—Apply to J. SPEECHLY, Stone Bridge, near Thorney, Peterborough.

TO BUILDERS.

WANTED, by the Advertiser, a confidential SITUATION. Is practically acquainted with the trade in all its branches, is a good estimator and measurer, has had twelve years' experience, and is in every respect qualified to take the entire management of a business.—Address, with full particulars, to Mr. WM. PREDDY, 45, Bread-street, City.

WANTED, a SITUATION as CLERK of WORKS; or GENERAL FOREMAN on a Nobleman's or Gentleman's Estate preferred. Understands every description of work connected with an estate. Good references given as to abilities.—Address, S. S Office of "The Builder"

WANTED, by a Young Man, a SITUATION as CARPENTER and JOINER on an Estate, or to take charge of General Repairs.—Address, C. D. Post-office, Chertsey, Surrey.

TO BUILDERS AND CONTRACTORS.

WANTED, by a first class Bricklayer, a SITUATION, as FOREMAN. Competent in setting out work, is a fair draughtsman, has had the entire charge of 9 men, or would not object to take PIECEWORK, TUCK POINTING, GAUGE-WORK, or BRICKWORK.—Address, J. L. 10, Clearmont-place, Peel-street, Notting hill, London.

WANTED, by a Young Man, a Carpenter, a SITUATION on an ESTATE, or to look after houses and keep them in repair; or in a warehouse, to make himself generally useful.—Address, C. F. 23, George-street, Grosvenor square, W.

TO PLUMBERS AND BUILDERS.

WANTED, by a steady Young Man, aged 23, who thoroughly understands the three branches, a SITUATION as PLUMBER or THREE BRANCH HAND. Can do gasfitting, if required.—Address, H. S. 11, Gopsall-street, Bridport-place, New North road, Hoxton

TO CARPENTERS AND OTHERS.

WANTED, by a Young Man, constant EMPLOYMENT as CARPENTER, at the Bench. Has been used to Jobbing. Wages moderate.—Address, J. H. No. 1, Edward's-cottages, Pitt-street, Commercial-road, Peckham, S.E.

TO ARCHITECTS.

WANTED, by the Advertiser, an ENGAGEMENT in or near London. Is a neat and careful draughtsman and colourist, and capable of assisting in making surveys, levelling, measuring, &c. Salary moderate. Good testimonials.—Address, A. C. 26, Bryanston-street, Cumberland street, Marble Arch.

TO BUILDERS, ARCHITECTS, AND OTHERS.

WANTED, by a steady Man, a RE-ENGAGEMENT as GENERAL or SHOP FOREMAN.—No objection to take charge of a job. Can make working drawings, and is a thoroughly practical hand. Reference can be given.—Address, A. B. 29, Sherborn street, Blandford square, N.W.

WANTED to APPRENTICE, a YOUTH, aged 15, to a CARPENTER and BUILDER. In-door preferred.—Address, W. 3, Goldsworthy terrace, Lower road, Rotherhithe.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a respectable Young Man, aged 30, a RE-ENGAGEMENT as CLERK or TIME-KEEPER. He has been accustomed to taking men's time and booking materials, &c. Satisfactory references can be given.—Address, W. G. 21, Craven-terrace, Craven-hill, Bayswater, W.

TO CARPENTERS, BUILDERS, &c.

WANTED, by a steady, persevering Young Man, a SITUATION as FOREMAN. Good references. —Address, F. T. 3, Chapel-street, Edgware road, N.W.

TO BUILDERS, &c.

WANTED, a RE-ENGAGEMENT, by a SHOP FOREMAN of first class attainments. Has had considerable experience in the best London shops, and has references unexceptionable. Address, G. H. H., care of Mr. Vaughan, Wholesale Stationer, 64, Brownlow hill, Liverpool.

TO ARCHITECTS.

WANTED, by a thoroughly practical Man, a SITUATION as CLERK of WORKS. Has been engaged in large public and private works, and can be highly recommended by eminent architects.—Address, G. L. 15, University street, Tottenham-court road, W.C.

WANTED, a RE-ENGAGEMENT as GENERAL FOREMAN or SHOP FOREMAN by a thoroughly practical CARPENTER and JOINER, with several years' experience. Has carried out extensive works, can prepare finished and working drawings, take out quantities, &c.—Good references.—Address, C. B. Bywaters, News Agent, 4, East road, City-road.

TO BUILDERS.

WANTED, by a Young Man, aged 24, an ENGAGEMENT, in the Office of a London Builder, as DRAWING and [illegible] JOINER. [illegible] knowledge of the trade, is a neat draughtsman [illegible] quantities, &c. [illegible] Address, [illegible] Cottage, Isleworth, W.

TO BUILDERS, SURVEYORS, TIMBER MERCHANTS, &c.

WANTED, by the Advertiser, aged 30, a permanent APPOINTMENT. Has a thorough practical knowledge of the several departments of the building business, taking out quantities, estimating, preparing geometrical, block, and finished drawings, surveying, and levelling. Is also accustomed with the general timber merchant's business, having been some time in a merchant's office. References satisfactory.—Address, A. Z. Post-office, Spalding, Lincolnshire.

TO PLUMBERS.

WANTED, a SITUATION as PLUMBER in a good shop.—Address, M. M. No. 22, Sussex street, Winchester.

TO ARCHITECTS AND SURVEYORS.

WANTED, by a well-qualified ASSISTANT, an ENGAGEMENT. Was two years in last situation, with an architect of good practice. Is a first-class draughtsman and constructionist, well versed in the various styles, details, and routine of offices.—For reference address T. G. B. care of Messrs. Chevalier, Bowness, & Son, 12, Bell-yard, Temple bar, W.C.

TO SAW MILL PROPRIETORS, &c.

WANTED, by a Practical Man, of many years' experience, the MANAGEMENT of a SAW MILL. Is willing to make himself generally useful, and has no objection to take a country.—Address, J. W. 24, Palace New road, Lambeth, Surrey, S.

TO LAND-AGENTS AND SURVEYORS.

THE Advertiser, who has served his articles with a Land-agent and Surveyor, and can be well recommended, is desirous of an ENGAGEMENT in a good Office of general business. Salary not so much an object as opportunity of being well and fully employed.—Address, E. D. Post-office, Worksop.

TO ARCHITECTS, &c.—A well-qualified ASSISTANT is open to a temporary ENGAGEMENT in town. Terms moderate.—Address, E. S. 56, Chandos-street, Strand, W.C.

TO MASTER PAINTERS, &c.

THE Advertiser is in WANT of a SITUATION as FOREMAN or GRAINER and WRITER. Has a good knowledge of his business; quite competent to manage one. Address, F. L. G. 4, Celtic terrace, Devonshire street, Mile-end, London.

TO LANDOWNERS, PUBLIC COMPANIES, OR OTHERS

THE Advertiser, a Gentleman, aged 40, of experience, is desirous of an ENGAGEMENT as GENERAL MANAGER or OVERLOOKER of BUILDINGS, lay out estates, &c. Is a good draughtsman, and able to set out for workmen in every branch of building, and well qualified with the timber trade.—Address, A. P. Anglesey Cottage, Kilburn.

TO ARCHITECTS AND ENGINEERS.

THE Advertiser desires EMPLOYMENT as CLERK of WORKS, or as occasional Assistant in an Architect's Office, from 10 to 4.—Address, F. 44, Lambeth-hill-street, W.C.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, working up detailing, measuring, or looking up Builders' accounts, disputed or otherwise. Satisfactory references to Architects and Builders.—Address, A. Y. 2, Guildford-street, Portobello-place.

TO CARPENTERS AND BUILDERS.

EMPLOYMENT WANTED, by a steady Man, as SHOP FOREMAN. Can take the management of a small business, take out quantities, &c. Can get it shaped and handrailing.—Address, J. C. 33, Brad-street, Cornwall-road, London, S.

CASHIER and BOOK-KEEPER.—The Advertiser, thoroughly accustomed to act in the above capacities in a contractor's office on extensive works, desires an ENGAGEMENT. Can give unexceptionable references.—Address, O. K Post-office, Charles-street, Westminster, S.W.

AS TIMEKEEPER, or in any capacity not too menial. Good penman. Eleven years' character.—Address, A. B. C. 8, Parade, Lambeth-walk, Lambeth, S.

AN ASSISTANT is open to an ENGAGEMENT to PREPARE Fair Working and Detail Drawings, Perspective Views, &c. He has a good knowledge of styles and construction, and is a good colourist.—Address, D. P. R. care of Mr. Evans, Newsagent, Kingsroad, Chelsea, S.W.

TO ARCHITECTS, SURVEYORS, &c.

AN ASSISTANT, who is a good and useful draughtsman, wants an ENGAGEMENT. Is competent to get up finished, working, and detail drawings, good colourist, and acquainted with office duties generally; or would be glad to render temporary assistance in a private terms. Good references.—Address, A. K. Smith's Coffee-rooms, 1, Stuckley-terrace, Camden town, N.W.

TO GOVERNMENT CONTRACTORS, BUILDERS, AND OTHERS

A RESPECTABLE MAN is open to an ENGAGEMENT as CLERK of WORKS, or in any other capacity. Has had many years experience in large contracts, and is a good draughtsman. No objection to go abroad.—Address, A. 3, York-place, South Clifton-road, Old Kent-road.

TO BUILDERS, IRONMONGERS, AND OTHERS.

A STEADY YOUNG MAN, aged 25, a good Gas-Fitter, &c. wishes for a SITUATION, as IMPROVER, in the Workshop, for the term of three years. Has been nine years in the trade. Wages not so much an object as a good shop. Premium given if required.—Address, A. B. 65, Camden-street, Notting hill, W.

AN experienced Land Agent and Surveyor's Clerk is open to an ENGAGEMENT. Aged 30. Well up in surveying and mapping, timber measuring and valuing, in preparing architectural plans, specifications and estimates, and assessing dilapidations, &c. Now engaged with a country firm. Twelve years' reference. Salary moderate.—Address, R. E. S. Clunn's Hotel, Covent-garden, London.

TO BUILDERS, PLASTERERS, PAINTERS, &c.

A SURVEYOR of experience is willing to make arrangements with any connected with the building trades, to assist or to work practically, or otherwise, and prepare quantities for estimates for buildings, alterations, and repairs. At a state's charges. References given. Address, F. G. H. Office for "The Builder."

TO CIVIL ENGINEERS, SURVEYORS, AND OTHERS

A YOUNG MAN, who understands surveying, levelling, plan drawing, measuring, &c. desires an ENGAGEMENT. Is a good draughtsman, and competent in the office. Address, C. E. 3, Prospect-place, Kingsland road, N.E.

TO JOINERS.

A RESPECTABLE YOUNG MAN wishes for a permanent SITUATION in a first-class Joiner's shop in London or its neighbourhood. Place more an object than wages. Address, W. SAGE, care of Mr. Padgham, Builder, Pluckly, near Ashford, Kent.

AN efficient Builder's Clerk is open to an ENGAGEMENT. Is an expert accountant, and a rapid writer. Can assist in drawing. Seven years' reference from a leading London firm. Has a knowledge of the cement and lime trade. Age 36.—Address, S. T. 7, Grove-place, Lisson-grove, N.W.

TO ARCHITECTS AND SURVEYORS.

A GOOD and EXPEDITIOUS DRAUGHTSMAN requires a RE-ENGAGEMENT, either temporary or permanent. Age 27. Good references. Salary very moderate. Can play the violoncello.—Address, A. T. care of Mr. Broomhead, 36, Swinton-street, Gray's-inn-road, W.C.

AN ARCHITECT and SURVEYOR, having his time partly occupied, is desirous of UNDERTAKING any WORK connected with the profession, on reasonable terms.—Address, A. WANDER, 18, Abingdon-street, Westminster.

A YOUNG MARRIED MAN wishes to obtain a constant SITUATION in the country as PLUMBER. Has been used to jobbing work. Can turn his hand to any branch of the business.—Address, G. W. at Mr. Fisk's, 4, St. Jude street, Old Bethnal green.

TO ARCHITECTS

A YOUNG MAN desires a RE-ENGAGEMENT in an ARCHITECT'S OFFICE. He has been accustomed to working and detail drawings, and has a knowledge of surveying. First-class references given.—Address, C. N. Office of "The Builder."

TO BUILDERS, IRONMONGERS, &c.

AS PRACTICAL FOREMAN or MANAGER. The Advertiser, who has had the management of the grabbing, hollowing, and locksmith's department in one of the largest firms on the south coast for the last four years, is open to an ENGAGEMENT in a similar capacity. Good references.—Address, E. J. 33, Middle-street, Brighton.

TO ARCHITECTS.

A GENTLEMAN, whose term of three years with an Architect has just expired—is a good draughtsman and colourist; can assist in taking out quantities, &c. wishes to IMPROVE himself in a London Office. Salary a secondary consideration.—Address, J. P. care of Messrs. J. Eldred & Co. 21, Fore-street, London, E.C.

ASSISTANCE with DESIGNS, DRAWINGS, SURVEYS, &c. Apply to Mr. SAMUEL PEYTON, 45, Southampton-buildings, Holborn.

TO ARCHITECTS.

A GOOD DRAUGHTSMAN desires an ENGAGEMENT. Can make perspective, working, and detail drawings. Understands colouring, and the usual office duties. Salary moderate.—Address, C. C. A. Barker's, 19, Throgmorton-street, E.C.

TO ARCHITECTS

ASSISTANCE RENDERED to the PROFESSION, by a first-class DRAUGHTSMAN and DESIGNER, in the preparation of Designs, Working Drawings, and details and obtaining of Perspectives, &c. No objection to an engagement, or to take the management of an office.—Address, L. Z. 5, Calthorpe-place, Gray's-inn-road.

TO PLUMBERS, &c.

A YOUNG MAN, who has been five years in the above line, wishes to engage himself as an IMPROVER for one or two years.—Address, S. P. 5, Castle-street, Holborn, London.

TO CEMENT MANUFACTURERS.

A PERSON wishes for an ENGAGEMENT as MILLER, who has a thorough knowledge of the process of grinding all kinds of cement, having been employed in the largest mills in the above trade for upwards of twenty years. Good references can be given as regards capabilities.—Address, A. K. 2, Stepney-row, Hadbury.

A YOUNG MAN, who has been employed as clerk in the surveyor's office of a large London brewery for three and a half years, desires a similar SITUATION, or otherwise. Good references.—Address, W. S. B. 136, Fleet street, City, E.C.

A YOUNG MAN is in WANT of a SITUATION, who has been employed for the last six years as a Civil Engineer's and Architect's Assistant. Can make himself generally useful. Salary expected moderate. Address, O. P. Craven Lodge, St. James-road, Bedford, Leicestershire.

TO PARENTS AND GUARDIANS.

AN Architect and Surveyor, who has the management of a large estate in the suburbs of London and good general practice, will receive a Young Gentleman on ARTICLES for a term of not less than four years. A premium will be required.—Address, ARCHITECT, 1, Winchester-buildings, Great Winchester-street, E.C.

HAY'S PATENT WATERPROOF GLUE (as invented by Mr. HAY, Admiralty Chemist at the Royal Naval Dockyard, Portsmouth) is of universal application, is a substitute for marine glue, and one-third of the cost, namely, £21 per ton.

It is invaluable for caulking the seams of ships' decks, being three times as durable as red navy pitch. It has been tried for upwards of seven years in Her Majesty's ship, "Blonde," perfectly resisting during that time the action of the sea and weather.

It causes joints of wood, slates, tiles, and all metals to adhere most firmly; will stand an enormous pressure, and make them water-tight.

It is a substitute for plastic lead, and is considerably cheaper as applied to weather-boarding and fencing; and is a preservative for all iron and woodwork, and when applied to bricks or stones will prevent damp. It is also applicable to the fully insulated for applications as a coating to submarine and other telegraphic wires.

It is requested that on all orders the purpose for which it is required be stated.

London Agents.

Messrs. G. C. WARDEN & CO.

12, London-street, Fenchurch-street, E.C. Factory, Chandos-street Landport, Portsmouth.

GEORGE WEEKS Manager.

WILLIAM S. LAWRENCE, PENNANT STONE MERCHANT STAPLETON

OFFICE: 10, MERCHANT STREET, BRISTOL

All descriptions of Steps, Landings, Troughs, Block Tombs, Curt Ashlar, Paving, &c., always on Sale, at his celebrated Stone Quarries, Stapleton; and at Conham, on the banks of river Avon, near Bristol

PURE STATUARY MARBLE! and in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS, 363, EUSTON-ROAD, London, N.W. Prices moderate

M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. FINDER SIMPSON & SONS, 39, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

TO BUILDERS, CONTRACTORS, &c.

SLATES, TILES, IRON, TIMBER DEALS, &c.

WILLIAM DAWBARN & CO. LIVERPOOL,

Beg to acquaint their connection generally throughout the Kingdom, that they have their

NEW and IMPROVED PRICE LISTS, English Edition, 1862,

Ready for distribution, and which can be had on application.

TO SLATERS.—WANTED, about 100 SQUARES of SLATING (Countess or Ladies).—Send lowest price for cash to Mr. YEO'S Office, 16, Victoria-terrace, Finchley road, St. John's-wood.

BELLMAN & IVEY, SCAGLIOLA MARBLE MANUFACTURERS, 14, BUCKINGHAM-STREET, FITZROY SQUARE, LONDON, W.

Execute, in the most workmanlike manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including

THE ARCHITECTURAL SCREEN, exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute

PLASTERERS' WORK OF EVERY DESCRIPTION, IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.

Also Manufacturers of Superior and Improved Plaster of Paris.

FOREST of DEAN STONE.—Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE.

Are prepared to supply any quantity of this GAY and BROWN PENNANT SANDSTONE, unrivalled by any in the world for general purposes, and to suit for every purpose to which stone is applied.

That from their "Rock Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Dark-hill" Quarries, is decidedly superior to it.

Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

JOHN BAZLEY WHITE & BROTHERS MARBLE MERCHANTS, MILLBANK-STREET, WESTMINSTER.

Marble of all kinds, and of best quality, in Block and Slab. Marble Mortars, &c.

POLISHED GRANITE WORKS ABERDEEN TOMBS, COLUMNS, PILASTERS, &c executed of the finest material and workmanship. Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 4, 5, Euston-road, N.W.

POLISHED GRANITES. TOMBS COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by WILLIAM & JOHN FREEMAN, 27, MILLBANK STREET, LONDON, S.W.

VICTORIA MARBLE WORKS 36, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial road, Pimlico, London. JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive PREMISES with commodious SHOW-ROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

CAEN and AUBIGNY STONE FOUCARD, BROTHERS, late P. FOUCARD, STON MERCHANTS and SHIPPERS of BOTH STONES.

Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.

Depôt—GRANITE WHARF, East Greenwich.

Office—4, Three Crown-square, Borough.

BATH! BATH!! BATH!! ROBERT STRONG, STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies

BOX HILL GROUND STONE, OF THE BEST QUALITY.

Masons' Work prepared ready for fixing.

AGENT IN LONDON:

SAMUEL TRICKETT, ISLE OF DOGS, E. and JERUSALEM COFFEE HOUSE, E.C.

BLOCK STONE! BLOCK STONE The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.

SAMUEL TRICKETT has plenty of stones that are good buildings stones, and are pure as INDURATION, yet they are of fine in color and good tint. Parties would do well to see his Stock; also NOTE delivered direct from the Quarries to all parts of the Kingdom.

The BEST and CHEAPEST STONE-WHARF in LONDON.

Address, SAMUEL TRICKETT, Isle of Dogs, E.

A large quantity of Seven Headstone Slabs. A Quantity of Grindstones for Exportation.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slate and Stone Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address, No. 1, BOLD TERRACE, CHESTER.

THE NORTH-WESTERN STONE WHARF, Canal Bridge, Camden town, is the cheapest Stone Wharf in London. Large STOCK of all sorts of YORKSHIRE and other STONE, GRANITE CURBING, and PITCHING, is always on hand to select from. Self-faced paving 2/3, per 100 feet; 1½-inch tooled, ditto, 2/3, ditto; 1-inch Hare-hill Slate, 3/3, ditto; and all kinds of stone, at equally low prices.—W. ASPINALL, Proprietor.

N.B.—Country orders, to ensure punctual attendance, must be accompanied by a remittance.

RANSOME'S PATENTED SOLUTION for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.

Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster, or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

VALE of WARDOUR FREE STONE,
TISBURY, WILTSHIRE.
T. P. LILLY, Quarryman and Stone Merchant, begs to introduce to the notice of Architects, Contractors, Stone Merchants, and Builders, the FREE STONE raised from recently-opened QUARRIES at TISBURY and the neighbourhood.
Geologically this Stone is identical with the Portland Oolites, and its workable properties present a medium between that material and the Bath stone. Numerous buildings of considerable antiquity attest the durability and texture of the Stone of this district. Amongst these may be cited SALISBURY CATHEDRAL, TISBURY CHURCH, the POULTRY CROSS at SALISBURY, WILTON ABBEY, &c. erected from the Quarries immediately adjacent to these localities. The beds are of considerable thickness, and blocks of any ordinary size are readily obtained. Some of the beds are nearly white, and others of a cream colour; there is considerable variety in strata, the grain of some of the beds being remarkably fine, and are peculiarly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly suited to stand the action of water, or exposure to those tests which usually affect and disintegrate the common free stone.
Specimens of the Stone may be seen at Messrs. POOLE & SON'S, Marble and Stone Works, Great Smith-street, Westminster S.W.; and in the Museum of Practical Geology, Jermyn-street, Nos. 31 and 32, Case V.; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Quarries.
Orders for Worked Stone carefully executed at the Quarries. Samples forwarded, and any other information may be obtained of Mr. T. P. LILLY, Gillingham, Dorset.

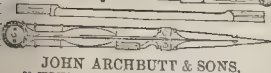
GRANITE.—The Cheesewring Granite
Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge, DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the material forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for general contracts, including quarry work or other labour, forwarded on application. Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK
BASIN—WEST END DEPOT for Yorkshire Paving, Portland Dorset Stone, Bangor Slates, Slate, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods. SCOLES & WOOD beg the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Head-pieces, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

TO SURVEYORS.—FOR SALE, a STANDARD LEVELLING INSTRUMENT, 9 in. TELESCOPE, TRIPOD STAND, CASE, &c. complete. Also a CHRONOMETER, divided on silver: a small CASE of DRAWING INSTRUMENTS, &c.—Address, E. V. J., Elizabeth-place, Bell's Pond road, N.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, PANTOGRAPHS, TAPES, CHAINS, T SQUARES, RULES, &c.

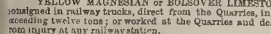


JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.
Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

T SQUARES.—W. F. STANLEY,
late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal," 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 24-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use. Lists of Prices on application.
8, GREAT TURNSTILE, HOLBORN,
LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND WEST, BART., OF ST. VENNOR, ISLE OF WIGHT—"Second testimonial.—Having the Gutta Percha Piping for Pump Service, I can state to persons who have lately examined it, and there is not the least difference since the first laying down, now several years, and is perfected as new."
From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY-ROAD, LONDON.

VENTILATION—PURE AIR.



EXTERNAL WALL.
Ingham's admission
Ventilator of Pure Air
the through an
Single pulley, from 6s. each; with leading pulley, from 6s. 6d. each.
Ventilators are arranged so that the requisite quantity of air is admitted for the due ventilation of an apartment with out the external wall, their action is not impeded when the house is closed in the evening, at which time a constant supply of fresh air is required. HAYWARD, BROTHERS, sole Manufacturers, 117 Union street, Borough, London; and of all respectable Iron-Mongers and Builders, &c.

BRYCESON'S ORGAN FACTORY,
BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796. Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs in use by the Nobility, as also to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.
H. PIGGOTT,
89, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

FOR CONTRACTORS' WAGGONS,
DOBBIN CARTS, BARROWS, and RAILWAY PLANT,
Engineers and Timber Merchants, Falcon Works, Loughborough.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

TO ARCHITECTS, BUILDERS, and DECORATORS.—Cast Work, Centre Flowers, Shop Front Trusses, Capitals, and every description of Ornament for internal and external decorations, executed in Plaster, Carton Pierre Composition, and every kind of Cement, at reduced prices, by W. & E. HERBERT (Sons of the late John Herbert, of Parker street, Drury lane), Modellers, 242 Euston road, St. Pancras.

COLOURS and VARNISHES at REDUCED PRICES. Genuine White Lead, 3½ per cwt.; Linseed Oil, 2s 10d. per gallon; Boiled Oil, 2s 2d.; Turpentine, 3s. 4d. per gallon. Pale Oak Varnish, 7s. 6d. per gallon, for cash at F. LANGTON'S Colour Warehouse, 148 and 149, Whitecross street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

KAMPTULICON, or ELASTIC FLOOR CLOTH.
TAYLOR, HARVEY, & CO.
MANUFACTURERS and PATENTEES, 19, Gutter-lane, Cheapside.
WORKS, DEPTFORD-GREEN.

THE GREAT NORTHERN PLASTER WORKS, Newark on Trent.—CALFERATA & CO. supply sent to D'BRUCIANI, 33, Russell-street, Covent Garden, W.C. or direct to the Works, will be promptly executed.

CAUTION.—LAMBERT'S HIGH-PRESSURE VALVE-COCKS.—Whereas, certain persons have been manufacturing and selling false valves of an inferior quality, and bearing Messrs. Lambert's name, I hereby give notice of the illegality of such piracy, and that legal proceedings will be taken against any person so manufacturing and selling the said valve-cocks, as in the case below.
DAVID WOOLF,
Solicitor to Messrs. Lambert, 17, King street, Cheapside.
"Birmingham, 26th January 1862.
GENTLEMEN,—Having manufactured a considerable Number in Ball Valves bearing your name, we hereby undertake, in consideration of your forbearing any further proceedings, to desist from so doing, and to pay all the expenses you may have incurred
We are, Gentlemen, your obedient Servants,
ROXBURGH, BROS.
Messrs. Lambert & Son, Lambeth."

CROGGON & COMPANY, GALVANIZED TINNED FLAT, CORRUGATED, and CURVED SHEETS
PERFORATED and PLAIN ZINC TINNED SHEETS
GALVANIZED MANUFACTURED GOODS OF EVERY DESCRIPTION
2, DOWGATE-HILL, LONDON; and 2, GOREE PIAZZAS, LIVERPOOL.

NURSERY STOCK TO BE SOLD, cheap. A large quantity of standard and trained Fruit Trees, of all sorts. Also Limes, Poplars, Limes, Privet, Aucuba, Arborvitæ, &c.—JOSEPH FRYER, Clarendon Nurseries, Camberwell New road, S.

CHURCH or CHAPEL FITTINGS TO BE SOLD, a Bargain. The complete Fittings, framed, moulded, painted, and grained, for about 300 persons, pulpit, &c.—Kennington row, Kennington Park.

TO ARCHITECTS.—Notice is hereby given that the Trustees appointed by Sir John Soane will meet at the MUSEUM, No. 13, Lincoln's-Inn-fields, on MONDAY, the 24th day of MARCH, at THREE o'clock in the afternoon precisely, to DECLARE the DIVIDENDS which shall have accrued during the preceding year, from the sum of £300 now standing in the Three per Cent. Bank Annuities, invested by the late Sir John Soane, and the Duties of Architects, and the Wills and Children of deceased Architects left in destitute or distressed circumstances. Forms of application may be had at the Museum, and must be filled up and delivered there on or before MONDAY, the 17th of March next, after which day no application can be received.

ONE HUNDRED PER CENT. DIVIDEND, FREE FROM RISK.—To Architects, Engineers, Contractors, Builders, Iron and Wood Shipbuilders, House Decorators, Painters, Sanitary Chemists, Oil and Colour Men, Joinery Ironmongers, Chemists, Grocers, &c. &c.—LONDON CO-OPERATIVE OIL and COLOUR SOCIETY, Registered January 21, 1862. Limited. Capital, £2,000, in £1 Shares, of each. On receipt of two postage stamps a copy of the Deed, with articles of Association and other particulars, will be forwarded.—Apply to Mr. THOMPSON, 8, Colet-place, Commercial road, E.

POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 12, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

POLYTECHNIC.—Next Monday Evening, at 8, Reading from "Othello," by Miss Kate Hickson. On Tuesday and Friday evenings, and Saturday at 3, Lecture by Professor J. H. Pepper, on the "Magnificent Field of Discovery opened out by the New Terrestrial and Stellar Chemistry," and Experiments of a quarter-past 7, beautiful series of phot graphs of "Scenes in America," by Mr. England, London Stereoscopic Company.—Modern Magic by Mr. Matthews.—Musical Entertainment by G. A. Cooper, Esq. every evening at 9.—Lectures on the Armstrong and Whitworth Guns, by Professor J. H. Pepper, Monday, Wednesday, and Friday, at 2.—Splendid series of Dissolving Views, by James D. Macolin, Esq.—All the other Entertainments.—Open 12 till 5, and 7 till 10.

PELICAN LIFE INSURANCE
OFFICE, ESTABLISHED IN 1797,
70, Lombard-street, E.C. and 57, Charing cross, S.W.
DIRECTORS.

Octavius E. Coope, Esq.	Henry Lancelot H. Hall, Esq.
Wm. Cotton, Esq. D.C.L. F.R.S	William James Lancaster, Esq.
John Davis, Esq.	John Lubbock, Esq. F.R.S.
Jas. A. Gordon, Esq. M.D. F.R.S	Benjamin Shaw, Esq.
Edward Hawkins, Jun. Esq.	Matthew Wyatt, Esq.
Kirkman D. Hodgson, Esq. M.P.	M. Wyvill, Jun. Esq. M.P.

ROBERT TUCKER, Secretary and Actuary.

Examples of the amount of Bonus awarded at the recent division of Profits to Policies of £1,000 each effected for the whole term of life at the undermentioned ages:—

Age when Assured.	Duration of Policy.	Bonus in Cash	Bonus in Reversion.
20	7 years	£29 7 0	£29 1 0
	14 years	56 2 0	73 10 0
	21 years	84 8 0	82 0 0
40	7 years	49 14 6	49 14 6
	14 years	64 2 0	84 10 0
	21 years	79 2 6	108 0 0
60	7 years	89 14 6	89 14 6
	14 years	117 2 6	117 10 0
	21 years	144 1 0	165 10 0

*** For Prospectuses, Forms of Proposal, &c apply at the Offices as above, or to any of the Company's Agents.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c. For Prospectuses, apply at the Establishment of Messrs HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c for giving satisfaction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings, Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the Use of Instruments, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents (gratuitous), and the mode of procedure to be adopted issued gratis by the General Patent Company (limited), 51, Fleet-street London.
ROBERT M. LATHAM, Secretary.

A CARD.
MESSRS. CORDEROY, Surveyors (late of 1, High-street, Marylebone), have REMOVED their OFFICES to 17, KING WILLIAM STREET, STRAND, LONDON, W.C.
Office in Portsmouth, 13, Ordnance-row, Portsea.

T. PETTITT & CO. LITHOGRAPHERS and GENERAL PRINTERS, Frith-street, Soho square, W. beg to inform Surveyors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary speed and accuracy, and most respectfully solicit a trial. A scale of charges and specimens submitted on application.
To Surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West end, must be evident from the great convenience it may afford where despatch is required.
Working Drawings and Estate Plans carefully drawn and printed.
Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their present Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH accuracy and despatch so essential to the profession.
Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.
Lithographers, &c. 5, Ave Maria-lane, E.C.

CIVIL ENGINEERING, ARCHITECTURE, and SURVEYING.—Mr. WINDLE, 13, Abingdon-street, Westminster, continues to execute DESIGNS, take out Quantities, and make Valuations for Dilapidations, and all works in the above professions, at moderate charges, and with accuracy and despatch.

TO YOUNG ARCHITECTS.—To DISPOSE OF, the PAPERS and GOODWILL of an old-established PRACTICE in one of the most prosperous towns in Yorkshire. For particulars, address A. Z. care of W. Blackett, esq. 7, Furnival's Inn, London, E.C.

TO BUILDERS and TIMBER MERCHANTS.—TO BE DISPOSED OF, an OLD-ESTABLISHED COUNTRY BUSINESS of a BUILDER and TIMBER MERCHANT, offering an excellent opportunity to any one possessed of a moderate capital, as the connexion is highly respectable. Premises commodious and rent moderate. Situate 60 miles from London, with railway communication. For further particulars, apply to Messrs. WATERER & SONS, Auctioneers and Estate Agents, Chertsey, Surrey.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest price

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

INTERNATIONAL EXHIBITION, 1862.

ESTIMATES AND DESIGNS FOR SHOW CASES, METAL STANDS, &c

With or without Revolving Machinery, by

BUNNETT & CO., ENGINEERS AND FOUNDERS,

DEPTFORD, KENT, S.E.; 17, QUEEN STREET, CHEAPSIDE; and 435, PARLIAMENTARY STREET, GLASGOW.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Pu at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisi Gearing complete, from 3s. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTE AND PANEL DECORATIONS, &c. &c.

DESIGNS FOR DECORATING PUBLIC AND PRIVATE BUILDINGS, OR ROOMS MADE IN ANY STYLE, AND ESTIMATES GIVEN. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. HAVING NOW GREATER FACILITIES FOR THE MANUFACTURE A REDUCED TARIFF OF PRICES IS BEING PREPARED. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

WHITE AND PARLBY'S

NEW ILLUSTRATED CATALOGUE OF PAPIER MACHE AND CARTON PIERRE ENRICHMENTS

PARTS I. TO V. NOW READY, EITHER OF WHICH WILL BE FORWARDED POST FREE, ON RECEIPT OF TWELVE STAMPS. SPECIMEN SHEET, WITH PARTICULARS, SENT ON APPLICATION, ENCLOSING POSTAGE STAM

WHITE AND PARLBY,

49 & 50, GREAT MARYLEBONE STREET, LONDON, W.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS, 80, LONDON WALL, E.C.

Where also may be obtained their CELEBRATED STAINS for EVERY DESCRIPTION of WOOD, Together with all kinds of Colours and Varnishes, Warranted of the purest quality and at the lowest prices.

Agents for Kershaw's Graining Machines.

KENT'S PAINTING BRUSH are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior q for the last eighty-four years, and may always be depended u the best that can be made.

IMPORTANT to BUILDERS PAINTERS. Genuine White Lead, 30s. per cwt. Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon. Turpentine, 5s. 6d. per gallon. Fine Pale Oak Varnish, 7s. 6d. per gallon. For cash, at EDWARD PRICE'S Colour and Varnish Warehc 30, Upper Eldery-street, and 45, Coleshill street, Pimlico, S. Every article for the Trade at the lowest price.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSI (C. A. Watkins's Patent), warranted secure, best bristle of superior manufacture, at moderate prices. Varnish Bl Stipplers and Graining Tools of the most improved constructio be had only of

HAMILTON & CO.

PAINTING BRUSH MAKERS,

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W And of their Agents,

SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end,

CROWDEN and GARR (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRU MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India rubber Knife- Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT, and CROWDEN & GARROD, are stamped on the B

STAINING DEAL TO IMITATE KINDS of WOOD. It requires NO SIZING, and wil exposure to the weather. Light Oak, 4s. per gallon; Middle O per gallon; Dark and all other woods, 5s. per gallon. Varnis W NAYLOR'S Stains may be had at the Factory, 4a, James Oxford-street; also Manufacturer of Improved Knotting and I tive Varnishes.

JOHN HERBERT & S MODELLERS, &c.

42, PARKER-STREET, DRURY-LAN Cornices, Centre Flowers, Shop-front Trusses, &c. FIRST-RATE WORK AT REASONABLE PRICES.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

0,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
0,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
3,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
4,000 Spruce ditto	from 2s. 9d. each		

APPLY TO

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅝-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¼-inch "	12s. 6d.	12s. 6d.	13s. 6d. "
1-inch "	14s. 6d.	15s. 0d.	15s. 6d. "
1¼-inch "	—	18s. 0d.	19s. 0d. "

ellow Deals, 3 by 9 ..... £19 10s. per 120.
ellow Batt-ns ..... £11 10s. "
ruce Deals ..... £16 10s. "

⅝-inch Matched Lining	13s. 0d. per square.
¾-inch "	16s. 0d. "
1-inch "	19s. 0d. "

J. TERRY & SON, 109, Borough Road, S.E.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their chinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every descrip- n of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, m whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

gs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD ULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest sible notice, to supply any quantity they may require.

EASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER. & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

E LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

AIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.

J. GURMAN,

Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.

Send stamped envelope for Prospectus and Sectional Drawings.

Windows may also be seen at the Kensington and Conduit-street, Museums, London.

B. J. HUDSON,

give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

AIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—

Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 8d.; 2¼ Yellow Battens, 11l. 10s.; 1 inch White Flooring, from 14s 9d; 1-inch Yellow, from 13s. 3d.; ¼ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of

PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.

ALFRED ROSLING & SONS beg to

inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

BUILDERS and CARPENTERS, and

OTHERS, have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities.

All sawn goods carriage free within three miles.

¾-inch Flooring (well prepared), 11s 6d	¾ inch do. 12s.	per square
Yellow Deals, sound and good	19l. 10s.	per 120, or 3½d.	per foot.
Spruce Deals	"	16l. 10s.	" 24d.
Yellow Battens, excellent quality	11l. 10s.	" 24d.	"
Pine Planks, dry, 12 ft. 3 in. by 11 in.	21l.	" 2d.	"
Seasoned Mahogany, Plank an 1 Board, 6d. per foot.		" 3s. 6d.	"

A very large Stock, ready sawn and seasoned.

ALFRED CARTER, Old Bethnal-green-road, N.E.

MINTON & CO.

HAVE REMOVED FROM ALBION-PLACE, BLACK FRIARS,

TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 458, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA COTTA WORKS, BLACK-

FRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1763, and the recipients of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishment, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 9-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 36s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7½s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Thirdly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor.

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

INDIA-RUBBER MILL BANDS,

WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON EC.

PARIAN CEMENT for INSIDE WORK.

With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

KEENE'S and PARIAN CEMENT for

internal uses.—These well-known hard Stuccoes dry quickly, and can be painted upon within a few days.

Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank street, Westminster.

PORTLAND CEMENT.

GREAVES & KIRSHAW,

14 SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment
CEMENTS, Roman, Portland, Keene's, Parian, and Lias
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, blue, and Red, for the different Periods Vitrified Stable Paving, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONEPAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

MARTIN'S PATENT FIREPROOF CEMENT

Is 35 per Cent. Cheaper than any other internal Cement in use.

Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.

186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Wharves in the Medway, of the best quality—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTINGS, FACINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF, also PLAIN EDGINGS
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS, and TILES.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN TILES, TILES, and CHIMNEY POTS
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in ARTIFICIAL STONE
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS
Which are forwarded by Railway with despatch
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT

PORTLAND CEMENT.—JOHN GOFFIN

& CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

STRINGFIELD and BLYTH,

Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PEARD-STREET, PADDINGTON.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT

combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, 31, Cannon-street, Westminster, who prepare one quality only of Portland Cement.
Agent in Liverpool—JOHN MCKENZIE, 49, Seel-street.
Do. do Manchester—THOMAS GARDEN.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT

STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,
Office, 5, George-yard, Lombard-street.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PORTLAND CEMENT WORKS

NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade
Portland Cement is manufactured at these Works with reference to its destination, whether for stuccoing, brickwork, for breakwaters, &c. work, or otherwise,
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY on ADVANTAGEOUS TERMS, either direct from the Manufactory or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants and Brokers' Orders promptly executed.

PURE HYDRAULIC LIME, Manufactured

from the best HALKIN MOUNTAIN LIMESTONE, and adapted for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVANS, Manager, Pant's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No application attended to without a banker's reference.

GREY STONE LIME

WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS.
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. MCCARTHY, CARMAN, and SAND and CEMENT MERCHANT,

Fleet street, City. Sand from above or below Bridge, to several yard or per barge. Ballast, screened or unscreened, by the [illegible] Stocks Lime, and Tile Bats. Dry rubbish delivered by barge, to any quantity alongside the Thames

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the and Lower Halstow Fields; and Messrs. J. Butcher & Son, of ham Quay, and Lower Bashbush.

The MANUFACTURER of BLUE VITRIFIED SEWERAGE BRICKS by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Ta Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, } SOLE CONSIGNEES
WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS

RIDGING—Blue, Red, and Buff Terro-metallic Paving Tiles, various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods Vitrified Stable Paving, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS

Northfleet, Kent.
Messrs. ROBINS & CO.
To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their Works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which it is applicable.—Orders received at Great Scotland Yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS

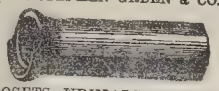
E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines, Brierley hill.
FIRE-BRICKS, Lumps, Squares, Tiles, Gas Retorts of all dimensions
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, **JOSEPH CLIFF & SON,** NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF

SALT-GLAZED SOCKETED DRAIN-PIPES,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

HARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

JAMES STIFF & SONS,

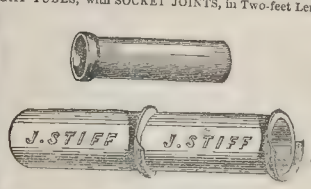
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



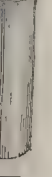
TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the Lowing Wharfs, viz.:—

Messrs GLADDISH'S, Pedlar's acre, Lambeth; Deckhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian road, Pentonville.
Mr. A. BIRCHER'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Pread-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—

HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.

High-Street, Lambeth, London.

BRICK-MAKING BY STEAM POWER.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,

producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS, London.
" BRASSEY & CO. London.
" BAKER & SON, Isle of Wight.
" ROBT. SHARPE & SONS, London.
S.-E. RAILWAY COMPANY, Folkestone.
Mr. GEORGE FURNESS, London.
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO. Burham.

CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works; at the Great Exhibition, South Kensington; or at their Show Rooms, Upper Montague-street, Montague-square; or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.

WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

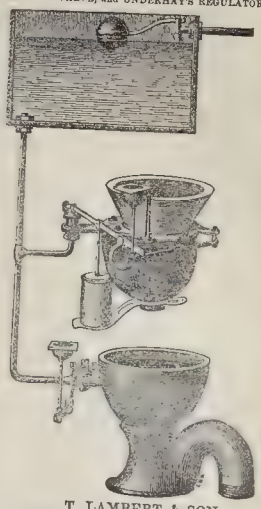
DRIVING BANDS, HOSE, VALVES, &c.

LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their ANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable ather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS. Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.

THE LEATHER CLOTH COMPANY, Limited,

56, CANNON STREET WEST, LONDON, E.C.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

The objections to the Cheap Closet pans have been, that they are not only ill-a and liable to breakage, but that, after a short period, the glaze crazes, and the Pans become DISCOLOURED and UNFIT for USE.

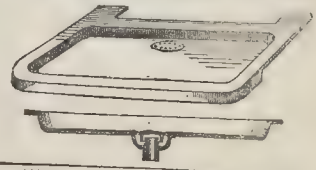
The above CLOSET PAN is free from all these objections; it is made of their Strong Yildin Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.

PATENT CAST-IRON KITCHEN SINKS,

with TRAPS complete; manufactured by the Patentees, NEWTON, CHAMBERS, & CO. Thorncliffe Iron Works, near Sheffield.



SIZES Long.	Wide	Deep	Plain.	Galvanized.	Enamelled
24 by	18 by	4	5s. 6d.	10s.	15s. each.
30 ,,	18 ,,	4	7s. 6d.	12s.	18s. ,,
36 ,,	18 ,,	4	8s. 6d.	14s.	20s. ,,
48 ,,	20 ,,	4½	10s 6d.	22s.	27s. ,,
48 ,,	20 ,,	7½	12s. 0d.	28s.	31s. ,,

* These Sinks are covered with a Preparation which will prevent the possibility of their getting rusty.

To be had in London only of

Mr. J. JONES, Iron Merchant, 6, Bankside London.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

TO IRONMONGERS.—A LUCRATIVE IRONMONGERY BUSINESS, of more than fifty years' standing, in the town and port of Wisbech, TO BE DISPOSED OF, with immediate possession, on account of the death of the occupier. The House and Shop are eligibly situated in the Market-place, and have extensive warehouses and other conveniences for conducting a wholesale trade. The stock to be taken at a valuation.—Apply to Mrs. BAXTER, Market-place, Wisbech; or to Messrs. C. & F. METCALFE, Solicitors, Wisbech.

SALES BY AUCTION.

AGAR-TOWN.—To MARBLE MASONS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD, are instructed to SELL by AUCTION, on the PREMISES, Sicilian Wharf, Agar Town, St. Pancras, on TUESDAY, FEBRUARY 25th, at TWELVE, a CARGO of MARBLE, consisting of Sicilian and Bastard Statuary, recently imported per "Alexandrine," also, an assortment of vein, Sicilian, statuary, and various coloured marbles, in blocks and slabs, seven three quarter length female figures in Sicilian marble, suitable for gardens, and two figures of "Grief" in statuary, adapted for monumental purposes.—May be viewed three days previous, and catalogues had on the Premises; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

N.B.—Approval bills at two, four, and six months, at 5 second class railway fare will be allowed to purchasers above 30*l.* coming from a greater distance than twenty-five miles.

BUILDING MATERIALS, White Horse-street, Commercial-road

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on TUESDAY, FEBRUARY 25th, at TWELVE, in lots, by order of the Board of Works for the Limehouse District, to clear the site for their new offices, all the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS-UP of six houses, Nos. 27 to 32, White Horse street, Commercial-road, near the Stepney station; comprising sound brickwork, tiles, timber, sashes, doors, and fittings, flooring-boards, lead gutters, stoves, and other useful effects. May be viewed the day previous, and catalogues had of CHARLES DUNCH, Esq. Surveyor to the Limehouse Board of Works, White Horse-street, Commercial road East; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament street, S.W.

Building Materials.—Wapping wall, adjoining the River, and convenient for Land and Water Carriage.

PULLEN, HORNE, & EVERSFIELD are directed TO SELL by AUCTION, on the PREMISES, on TUESDAY, FEBRUARY 25, at ONE for TWO, all the excellent BUILDING MATERIALS of TWO HOUSES, 72 and 73, Wapping wall, adjoining King James's stairs, and WAREHOUSES in the rear, comprising capital brickwork, lead, flat, gutters and pipes, tiles, timber, sash doors, shop fronts, folding gates, sound floor boards, crane and jib, and other effects. May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C., and 40, Parliament-street, S.W.

LONDON, CHATHAM, and DOVER RAILWAY.—Metropolitan Extension—Fifteenth Clearance Sale.—Building Materials of about Twenty-five Houses, Walworth road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on THURSDAY, FEBRUARY 27, at TWELVE, in lots, all the excellent BUILDING MATERIALS of about TWENTY-FIVE HOUSES and ranges of STABLING and WORKSHOPS, situate in Hanover-street, Hampton-street, Garden-place, Crown-court, and in front of the Walworth-road; comprising capital brickwork, tiled and slated roofs, excellent timber and flooring-boards, sashes, doors, chimney pieces, mahogany and plate glass sliding fronts, lead gutters, stoves, ranges, and a great variety of interior fittings-up of a modern and superior character. May be viewed the day previous. Catalogues had at Mr VIGERS's Offices, 3, Frederick-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C.; and 40, Parliament-street, Westminster, S.W.

BUILDING MATERIALS of the Drapers' Almshouses, Crutched Friars, built by Sir John Milbourne, Knight, A.D. 1535, and presenting many items of interest to the antiquarian

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on WEDNESDAY, MARCH 5th, at TWELVE, in lots, all the valuable BUILDING MATERIALS and fittings-up of the Drapers' Almshouses, in Cooper's-row, near Tower-hill, comprehending sixteen separate dwelling houses, and comprising an excellent brick, a large quantity of plain tiles, oak and fir timber in roofs and floors, lead casements, cast-iron doorways, stone casement dressings at 10 inch ctrs, arched stone chimney pieces, sashes, panelled doors, and all the usual accessories of the perfect, oak and other floor boards, lead gutters and pipes, large batten cistern, sixteen slate cisterns, pebble and other paving, stoves, and other useful materials. May be viewed two days previous, and catalogues had of J. HARRISON, Esq. Architect, 144, Moorgate street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, Westminster.

GOVERNMENT STORES, WESTMINSTER.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, at the STORE YARD, Great Smith-street, Westminster, on MONDAY, MARCH the 3rd, at TWELVE for ONE, a QUANTITY of OLD TIMBER, consisting of rafters, wainscot and grained decks; presses and other office fittings; Brussels carpets and rugs; oilcloth; Kamptulicon; cocoa matting; rope mats; bedding, all mops and brooms; gas meters; work benches; iron work, doors, framing, and other effects. May be viewed on Saturday and morning of sale, and catalogues had on the premises, also at the Office of Works, &c., 12, Whitehall place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore street, City.

LEYTON GRANGE.—The Materials of the Coach-house, Stables, and other Buildings.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, within ten minutes' walk of the Low Leyton Station on the Loughton Railway, on MONDAY, the 3rd of MARCH, 1862, at TWELVE for ONE o'clock, the excellent BUILDING MATERIALS of the coach-house, stables, harness-room, and other buildings, formerly belonging to the Grange mansion, and consisting of about 73,000 bricks, a quantity of pantiles, and Dutch clinkers; rare old timbers, roundels-house doors, &c.; the fittings consisting of stall partitions, mangers, and racks, the loft staircase, flooring-boards, beams, joists, rafters, &c.; also two waterbutts, cast-iron pump, and other fencing, and Dutterell's thatched trees. May be viewed on the Friday at 1 Saturday before the sale; Catalogues may be obtained of the Auctioneer, 14, Moorgate-street, London, E.C., at the Inn and Key, Leyton; and of the Foreman on the Premises.

TINLEY HALL, George lane, Wanstead. Excellent Fittings, Fixtures, and Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, within ten minutes' walk of the Snaresbrook Station, on the Loughton Railway, on MONDAY, MARCH 10th, 1862, at TWELVE for ONE o'clock, the excellent FIXTURES, FITTINGS, and part of the BUILDING MATERIALS of this beautiful mansion, comprising the handsome marble and carved wood chimney pieces, the marble and stone pavement in hall, the boat staircase, with ornamental iron balusters, substantial oak floors, French and other doors, low French sash shutters, a large quantity of panelling and partitioning, cupboards, shelves, two dressers, a pump with sucker, two kitchen ranges, large oven, fire grates, and two copper; two marquee portions with pillars as main entrance, and the covered way; also the fittings of the stables and coach house, and the chicken house, tool-house, piggery, &c. May be viewed on the Friday and Saturday before the sale, and catalogues may be obtained at the George Inn, Wanstead; the Eagle, Snaresbrook; of the Foreman, on the Premises; and of the Auctioneer, 14, Moorgate-street, London, E.C.

TO BUILDERS AND OTHERS.—ABSOLUTE SALE on MONDAY NEXT.

MR. WM. HOLLINGSWORTH will SELL by AUCTION, at the SALE ROOMS, 13, High Holborn, on MONDAY NEXT, the 24th inst., at HALF-PAST TWELVE o'clock PRECISELY, a BLACK and GENERAL IRONMONGER; including a large assortment of locks, bolts, latches, screws, nails, door and bell furniture, bayonets, register, hilp, stove, kitchen range, gutter pipe, copper, sash line, various sash cords, large two superior peg-jibs, and other effects. Catalogues at the Auction Offices, 13, High Holborn.

To BUILDERS and OTHERS.—Great Sale.

MR. EDWIN WHITES SALE, at 12, HOLBORN BARS, on TUESDAY next, comprises nearly two hundred pieces of French and English Paperhangings; about 100 statuary, rouge red, vein, marble, busts, and other Marble items of interest, some enamelled slate and patent stone Chimneypieces, and twelve Water-closets, with basins complete.—View and catalogues, MONDAY and Morning of Sale.

TO ENGINEERS, MACHINISTS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, MARCH 4, 1862, and following days, at ELEVEN o'clock each day, at the works of Bernard's Patent Machine Boot and Shoe Company, Limited, Banelagh road, Grosvenor road, Pimlico, in lots, the valuable collection of ENGINEERS TOOLS, used in the construction of the different patented machines, new within three years (principally by Whitworth, Smith, Beacock & Tannett, and Shepherd, Hill, and Spinks), including a 13-inch centre screw-cutting lathe, with 24 feet bed; a 10-inch centre screw-cutting lathe, with 15-feet gap-bed; 9-inch centre screw-cutting lathe, with 12-feet bed; seven 7-inch centre self-acting screw-cutting lathes, with 6-feet 6-inches movable gap beds; three 6-inch centre screw-cutting lathes, with 5-feet 6-inches beds; one 8-inch centre back-geared slide lathe, with 14-feet bed; amateur's lathe, one pair-lathe, four slide-lathes (various) two self-acting planing machines, to take in 2 feet 6 inches wide by 2 feet 6 inches high, and 2 feet wide by 2 feet high; three self-acting shaping machines, 9, 12, and 16 inch strokes, with traversing tables; self-acting slotting machine, to take in 3 feet diameter; one self-acting horizontal boring machine, two self-acting drilling machines, two wall-drilling machines, self-acting slotting and drilling machine, wheel-cutting machine, set of Whitworth's gauges, from ¼ inch to 2 inches; sets of stocks, taps, and dies, from ¼ inch to 1½ inch; steel tools, ratchets, planed surface plates, 12 horse power portable horizontal engine, one 7 inch cylinder horizontal high pressure steam-engine, by Bellhouse; one 2 horse power direct-acting steam engine, to return the steam between 15 feet 6 inches and five 6 inches long, 4 feet diameter; two cylindrical steam-chests, 9 feet long, 2 feet 6 inches diameter; 500 feet flanged steam-pipe, 1,000 feet turned bright shafting, 3,000 feet leather driving-bands, 250 rigger, fittings of smiths' shop, three forges, anvils, vices, and benches, three tons rod at 1 bar iron, one ton cast and steel steel, four grindstones, double portable crab, handle-jack, blocks and falls, joiners' benches, weighing machine, gas fittings, office furniture, and a large quantity of miscellaneous property. To be viewed on Friday, Saturday, and Monday previous to the sale. No catalogues, which may be had at the Auction, of the Premises, or previously, of Messrs ASHURST, SON, & MORRIS, Solicitors, 6, Old Jewry, E.C.; of F. MAYNARD, Esq. Public Accountant, 19, Broad-street, E.C. Manager; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO BUILDERS, QUARRY-MASTERS, STONE MERCHANTS, and OTHERS.—TO BE SOLD by PUBLIC AUCTION, by

MR. JAMES KARN, at the ANGEL HOTEL, Coleford, on THURSDAY, the 6th day of MARCH, 1862, at THREE o'clock punctually, in nine lots, now set out, the undermentioned places, a large quantity of valuable WORKED and UNWORKED FOREST STONE, consisting of blocks, landings, head-stones, bordering-rolls, faced and rock-pier steps, troughs, sinks, grindstones, plinths, paving rollers, a sabbing, and coil stones.

Lot 1, at Lower Birch hill Quarry
Lot 2, at Jaunes' Quarry.
Lot 3, at Upper Birch hill Quarry.
Lot 4, at Dark-hill Loading Place.
Lot 5, at Dark hill Quarry.
Lot 6, at Futtrell Loading Place.
Lot 7, at Marefield.
Lot 8, at Jail of Pool.
Lot 9, at Gosty Knoll.

All the lots may be viewed at any time, and if required, Mr. TYLER, the foreman, at Birch hill Quarries, will point them out to any person applying; and full particulars of all or any of the lots can be had on application to Mr RIDLEY HEENEY BROOKE, Coleford; or to the Auctioneer, or Messrs. CARTER & GOOLD, Newnham

Final Sale of the valuable stock of Messrs. Browne & Co. comprising a selection of beautifully-sculptured Chimney-pieces, in every variety of foreign marble, a splendid Mural Monument of classic design, noble Vases, choice Slabs, some Scagliola Pedestals, and various objects of taste and utility, being the contents of two galleries reserved for that sale

MESSRS. RUSHWORTH, JARVIS, & ABBOTT beg to announce that, having disposed of the unmanufactured stock, waggons and implements, they are directed by Messrs. Browne & Co. to SELL BY AUCTION, in the Galleries, in Grafton street East, near the London Institution, on WEDNESDAY, APRIL 9th, various costly CHIMNEY PIECES, being a selection of the extensive and valuable Stock of the above eminent firm, including four elaborately-wrought chimney-pieces, in the purest white marble, richly carved in high relief, executed by finely-sculptured groups of figures, in every variety of Italian, French, Spanish, and Belgian marbles, carefully selected from the best quarries. A grand and classic mural monument, in pure statuary, a slab of choice Oriental granite, 7 feet 8 inches by 3 feet 8 inches, cut from one of the pillars of Trajan's Forum; some smaller slabs in granite, brought from the ruins of Carthage; two pair of grand marble vases for terraces, Scagliola pedestals of large dimensions, suitable for groups, figures, or vases, &c.—May be viewed six days prior to the sale, and Catalogues had at Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville row, Regent street, W.; and 19, Change-alley, Cornhill, E.C.

TO BUILDERS, CARPENTERS, AND OTHERS

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, 143a, Euston-road, on MONDAY, FEBRUARY 24th, at TWELVE for ONE, a quantity of PLANKS, DEALS, and BATTENS, out stuff, flooring, quarterings, elm square deep wide boards, and some teak, feall-edged and match boards, skirting boards, pantile laths, doors, sashes, and useful materials.—Auction Offices, Carlington-street, Hampstead-road.

TO ENGINEERS, BUILDERS, CARPENTERS, AND OTHERS

MESSRS. LEREW & LEREW will SELL by AUCTION, at the BUILDER'S YARD, corner of Ledbury-road North, Westbourne-grove, Bayswater, on THURSDAY, 27th FEBRUARY, at TWELVE for ONE, LOCOMOTIVE STEAM ENGINE, mortar mill, crab, trolley-barrows, a quantity of excellent building materials, iron girders, columns, hydraulic and iron, blocks and falls, fire bricks, fire boards, casks, 40 full sales and cords, carpenters' benches and useful stuff, stone, slate, &c.—Auction Offices, Carlington street, Hampstead road.

TO ENGINEERS, CONTRACTORS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, the Builder's Yard, adjoining the Duke of Cornwall Tavern, Harrow road, corner of Ledbury road North, on THURSDAY, FEBRUARY 27th, a capital EIGHT-HORSE POWER LOCOMOTIVE STEAM ENGINE, mortar mill, crab, trolley, &c.—To be viewed, and Catalogues had on the Premises, and of the Auctioneers, 2, Cardington-street, Hampstead-road, N.W.

BACK ROAD, SAINT GEORGES EAST.

MR. TINDALL will SELL by AUCTION, on the PREMISES (near the Centenary Chapel), by order of the Executors of the late Joshua Wilson, on TUESDAY, 4th MARCH, 1862, and following days, at EIGHT EVEN o'clock, without reserve, the entire PLANT, STOCK-IN-TRADE, and UTENSILS of a BUILDER; comprising several thousand feet of dry yellow, white, and pine deals and plank, cut in various thicknesses; about 500 squares of dry prepared flooring and matched linings; sound oak sawning, branches and crankings, bolts and ironmongery, planed screws, ladders, steps, powerful sash and screw-jacks, sash-lifts, boards, pantiles and slates, bricks, tiles, sinks, quantity of stone, planed deal pipes, galvanized water guttering, four builders' carts, four-wheeled chaise, harness, chaff cutting machines, quantity of old building materials, large iron safe, and office fittings, furniture, and other effects. On view the day before Sale. Catalogues may be had on the premises, and of the Auctioneer, post-free, 1, Portland-place, Commercial-road, E.

VALUABLE BUILDING GROUND, North Woolwich.—TO BE LET, about Three and a Half Acres of FREEHOLD LAND; low ground rents. Houses of from 20*l.* to 50*l.* per annum each would find ready sale and return. Advances arranged.—Plan, particulars at the Offices of Mr. J. B. WATSON, Architect, 9, Nottingham place, Marylebone-road, W.

TO BUILDERS. — FREEHOLD LAND, about 73 acres, with House, &c. TO BE LET or SOLD, five miles west of the Marble Arch. Gravel soil. Quarter of a mile from a Station. Double frontage. The houses could be let or sold in parts, or the erection of other buildings.—Apply to Messrs. WALKER & JEBWOOD, 12, Furnival's Inn, Holborn.

BELVEDERE, near Erith, Kent, S.E.—T BUILDERS and GENTLEMEN desiring to RESIDE or ERECT RESIDENCES near London.—This beautiful Park is to be thrown open for building at the new year, 1862. Probably no district to the east of London has equal natural advantages. The beauty of the river and land scenery is well known. The soil is dry and healthy, the water pure and abundant. There are stations of the North Kent Railway at Erith and at Belvedere. The former, near the east end of the Park, the latter, within four minutes' walk of the west end of the Park, and the Picardy and Lessness Heath portions of the estate. By the end of 1862, it is expected that there will be complete railway communication by Charing Cross. Plentiful access to the Belvedere Station and Lessness Heath (close to the Belvedere Church and School) are already (within two years) rendered with building, six villas of different classes, from 25 to 70*l.* a-year, and shops of various descriptions; some plots however, may still be had there. Some sites in the park are to be let, and it is intended to grant leases of other similar plots of ninety-nine years, for erecting villas of a superior description. Plots will be laid out contiguous to four principal roads running through the park. These are the Park road, leading from the Belvedere station to Brook-street; the Avenue-road and the Tower-road, each leading from the public Erith-road at different points to the Town and the Valley-road, leading from the Erith Station, at the VARNHAM GARDENS ESTATE, at DENMARK HILL, &c. and some CARRIAGE at HOW. Ground rents moderate. The usual proportion of the purchase money may be advanced, and in some cases the fee will, it might be purchased.—For plans and parti culars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Threadneedle-street, E.C.

TO BUILDERS and OTHERS.—BARNE HERTS.—FOR SALE, eligible FREEHOLD BUILDING LAND, adjoining the Great Northern Railway Station, Barnet, having frontages to good roads, and possessing extensive views of the surrounding country. The Land may be purchased in large or small lots, and the purchase money may be paid by instalments, with interest at 5 per cent. If desired, Houses will be built on the land immediately they are erected. Where built on, and the neighbourhood, for plans and particulars apply to Mr. WHITTINGHAM, 14, Moorgate-street, London, E.C.

BROMPTON GROVE.—To BUILDER CAPITALISTS, and OTHERS.—The Freeholders of this Estate are prepared to grant LEASES for 99 years, at moderate ground rents to parties taking PLOTS OF GROUND for building thereon. The Estate is situate in the parish of Kensington, and is required to be laid out with sewers, roadway, vaults, and pavement are completed. For terms and particulars apply at the Office on the Estate, or to G. ADAM BUEN, Esq. 9, New Broad-street, E.C.

MARK LANE.—An important BUILDING SITE TO BE LET by TENDER, treatable on or before the 21st MARCH next.—Particulars and plans may be had at the Offices of Messrs. JONES, JOHNSON, & JONES, 20, Austinfriars, or of Mr. TANSON, 74, Laurence Pountney-hill.

TO BE LET, on a Building Lease or Lease for the term of eighty years, by PUBLIC TENDER, Nos. 6, and 8, St. Dunstan's-hill, Fenchurch-street, the property of the Parish of St. Dunstan in the East, with a frontage of 30 feet, and extending in depth of about 74 feet. The property will be let subject to the rights of the tenant of No. 6, who holds under an agreement for a lease on six months' notice from any quarter-day; and of the tenant of No. 8, who holds for the remainder of a term which will expire Michaelmas, 1865, but at the peppercorn rent for the final year. Further information may be obtained on the premises, at the Architect's Office, No. 17, St. Helen's-place, Bishopsgate-street; or at the Office of Mr. J. B. SHEARMAN, Surveyor, Clerk, No. 44, Mark-lane, where plans and particulars may be seen.

FREEHOLD LAND TO BE LET, on Building Lease, the land-tax redeemed, situate on the Sydenham-road, beyond the cemetery, containing a frontage of 200 feet, and 126 feet deep.—For particulars, inquire of Mr WILLIAM BRIDDALL, Architect, 24, Liverpool-street, City; or of Mr. ASHBY, 24, Bishopsgate street.

FREEHOLD LAND FOR SALE, near the Farnborough Hill Cross Station on the South Western Railway, and within a short distance of Farnborough Common to Aldershot Camp, which is within a short distance, comprising in yards of 17 Acres of Land, with convenient gate. Timber standing and growing thereon. Locked Fish-pond, the whole forming a very compact and desirable property, being within a ring-fence, and offering most advantageous sites for building purposes. If desired, part of the purchase-money may remain on mortgage. For terms, apply to Mr. W. RUDD, Auctioneer, &c. Farnham, Surrey.

BEECH-LANE, BARBICAN.—GROUND TO BE LET, on a Building Lease for 80 years. The Ground referred to has a frontage of 78 feet, and will be LET by TENDER, a Court of Assistants of the Drapers' Company, to be held in the Hall, on Thursday next, the 27th inst., at TWO o'clock, and the 28th MARCH, and persons treating for the same must attend the Court at One o'clock on that day, having previously sent in written Tenders.—Plans of the premises may be had by personal application at the Clerk's Office, Drapers' Hall; or of Mr. H. WILLIAMS, the Company's Surveyor, 52, Old Broad-street.

BUILDING LAND TO LET, close to the Richmond-road, Dalston, for a term of 99 years, suitable for the erection of 7 roomed houses, which are much required, and immediately. Bricks supplied at a low price, and Cash advance not required.—For further particulars, apply to Mr. CLARKSON, Surveyor, 8a, Great St. Helen's, City.

TYSSEN-AMHURST ESTATE.—LAND TO BE LET for BUILDING in different parts of CLAPTON, HACKNEY, and KINGSLAND.—For plans and particulars apply to Mr CHESHIRE HESTON, Architect and Surveyor, at the OFFICE, Church-street, Hackney, N.E. near the Railway Station.

LONDON: Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published the said CHARLES WYMAN, at the Office of "The Builder," No. 2, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, February 22, 1862.

The Builder

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

C. D. LAING, Sc.

VOL. XX.—No. 995. MARCH 1, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Overstone Hall, Northamptonshire. Mr. William Milford Teulon, Architect 151

Ground Plan of Overstone Hall 150

CONTENTS.

French Exploration in Greece, Asia Minor, and Syria: Ancyra .. 141

Professor Smirke's Lectures on Architecture at the Royal Academy.—Lecture IV. 143

The Roads to the Great Exhibition 145

The Roads round the Exhibition Building 146

The Preservation of Ice 146

Some Notes for Students of Scottish Architecture 147

Subjects of Thought for Artisans 147

Our Miners 148

London Milk.—Social Improvements 149

Builders' Benevolent Institution 149

Overstone Hall, Northamptonshire 149

The Question of Classic and Gothic Architecture Dispassionately Considered by a Retired Architect 153

The Memorials of the Prince Consort 155

Royal Institute of British Architects: the Royal Medal 155

The North London Gallery, Museum, and School of Art 155

Ventilation of Drains 155

Church-building News 156

Provincial News 156

Keswick and Typhoid Fever 157

International Philanthropic Congress. (Congres International de Bienfaisance) 157

"Stone and Heat" 157

The Architectural Exhibition 157

Miners' Havens of Refuge 158

Costless Ventilation 158

What is the Proper Height at which to admit Fresh Air into a Room? 158

Structural Improvements: Healthy Houses 158

Books received: Variorum 158

Miscellanea 158

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS.

Sir Robert Smirke, A. J. B. Beresford Hope, Esq. M.P.

PRESIDENT—Sydney Smirke, Esq. R.A.

TRUSTEES.

Philip Hardwick, Esq. R.A. Charles R. Cockerell, Esq. R.A.
Geo. Gilbert Scott, Esq. R.A.

TREASURER—William Tite, Esq. F.R.S. M.P.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 52, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

SCIENCE and ART DEPARTMENT of

The Committee of Council on Education, South Kensington.

The Examination of Science Schools and Classes by the Science and Art Department will take place on the following days, between the hours of SEVEN p.m. and TEN p.m. each evening.

Subject VII. Botany.	Subdivision I. Vegetable Physiology and Economic Botany.	30th April
	Subdivision II. Systematic Botany.	1st May
Subject II. Mechanical Physics.	Subdivision I. Theoretical Mechanics.	2nd May
	Subdivision II. Applied Mechanics.	3rd May
Subject IV. Chemistry, Inorganic and Organic.	Subdivision I. Inorganic Chemistry.	5th May
	Subdivision II. Organic Chemistry.	6th May
Subject III Experimental Physics.	Subdivision I. Acoustics, Light, and Heat.	7th May
	Subdivision II. Magnetism and Electricity.	8th May
Subject V. Geology and Mineralogy.	Subdivision I. Geology.	9th May
	Subdivision II. Mineralogy and Mining.	10th May
Subject VI. Natural History.	Subdivision I. Animal Physiology.	12th May
	Subdivision II. Zoology.	13th May
Subject I. Practical Plane and Descriptive Geometry Mechanical and Machine Drawing, and Building Construction.	Subdivision I. Practical, Plane, and Descriptive Geometry.	14th May
	Subdivision II. Mechanical and Machine Drawing.	15th May
	Subdivision III. Building Construction, or Practical Architecture.	17th May.

Applications for the examination of a school or class, by the Science and Art Department, must be made not later than the 31st of MARCH. The form to be filled in will be furnished, on application to the Secretary, Science and Art Department, South Kensington, London, W.

Candidates in London or the neighbourhood, who may not be near any place where a local Examination Committee has been formed, may be examined at the South Kensington Museum, by sending in their names, and stating the subjects in which they wish to be examined, before the 15th APRIL.

By Order of the Committee of Council on Education

THE ARCHITECTURAL MUSEUM,

South Kensington Museum, W.—SESSION, 1862—On TUESDAY, MARCH 11, at EIGHT, p.m. the PRIZES will be DISTRIBUTED by the President, in the Theatre of the South Kensington Museum.—GEORGE GILBERT SCOTT, Treasurer; JOSEPH CLARK, Hon. Secretary, 14, Stratford-place, W. where applications by letter for cards of admission may be sent.

ACADEMY of FINE ARTS. — ROYAL MANCHESTER INSTITUTION. — NOTICE to ARTISTS.—

The Council of the Royal Institution having again placed in the hands of the Council of the Academy all the details connected with the Collection and Hanging of the various Works of Art which may be sent for Exhibition, intending contributors are informed that the EXHIBITION of MODERN PICTURES (Oil and Water) SCULPTURE, and ARCHITECTURE, will OPEN as soon as practicable after the closing of the Royal Academy; and that all Works of Art must be sent so as to arrive not later than the 16th AUGUST, after which no picture can be received. Pictures, &c. from London, will be forwarded by Mr. Joseph Green, 14, Charles-street, Middlesex Hospital, if delivered to him before the 2nd August, by Artists who have received the Academy Circular; from other places, artists who have also received such circular are requested to send by the most convenient and least expensive conveyance. Works sent by other parties must be carriage paid. The Council of the Royal Manchester Institution offer the HEYWOOD GOLD MEDAL to the Artist who shall contribute the best Figure Painting; and a similar distinction to the Artist contributing the best Landscape.

SELIM ROTHWELL, Hon. Sec.

Academy of Fine Arts, Royal Institution, Manchester, February, 1862.

EXHIBITION OF WATER-COLOUR DRAWINGS.—ROYAL MANCHESTER INSTITUTION.—In

order to afford a more especial recognition of the claims of Water-Colour Art than is possible in the Winter Annual Exhibition in the Autumn, the Council have again determined to OPEN an EXHIBITION of WATER-COLOUR DRAWINGS in APRIL next, and the opportunity of exhibiting will not be confined to artists and private individuals, but will be extended to the trade generally. The Exhibition will continue open until the end of JUNE, and drawings will be received under regulations stated in the usual printed circular. Works should be forwarded so as to arrive not later than APRIL 10. The Council offer the HEYWOOD GOLD MEDAL to the artist who shall contribute the best work exhibited. Mr JOSEPH GREEN, of 14, Charles-street, Middlesex Hospital, will take charge of any works sent to him to forward. Parties willing to contribute are requested to communicate particulars to the Honorary Secretary as early as possible, as it is desirable to ascertain the extent of the proposed Exhibition, and what space will be required.

HENRY COOK, Honorary Secretary.

COMPETITIONS.

NEW CARLISLE BRIDGE.—The Com-

mittee appointed to carry out this Undertaking are now prepared to receive PLANS and SPECIFICATIONS for the ERECTION of a NEW BRIDGE, on the present site, the full breadth of Sackville-street. The Committee will pay 200l. for the best and most approved plan, 100l. for the second, and 50l. for the third. The Plans and Specifications to be the property of the Committee. Letters and communications seeking information to be addressed to the Committee, at the Imperial Hotel, Sackville-street

ROBERT G. COLLIS,
GEORGE DELANY,
E. H. KINAHAN,
SAMUEL MOSSOM,
} Hon. Secretaries.

ALFRED C. REYNOLDS, Assistant Secretary.

TO ARCHITECTS.—The Managers of the

Central London District School desire to have DESIGNS for a Detached INFIRMARY for the Girls' Schools at Cuckoo Farm, Hanwell. The building must be of a simple and inexpensive character, in harmony with the existing buildings, and comprise accommodation, as required by the Poor-Law Board, for 180 boys and 180 girls, each sex to be separately distributed in six rooms. There must also be a kitchen, surgery, waiting-room, and other necessary offices underneath. Particulars as to the site, and further information, can be obtained on application to the Superintendent, at the Schools. The plans must be drawn to a uniform scale of 8 feet to an inch. Each plan is to be accompanied by a specification of the works, and an estimate of their cost. No premium will be given, but the architect whose plan is chosen will be paid by commission for supervision, &c. of erection of the building, in the usual way. Each set of plans must be subscribed with a motto, and forwarded, with a sealed letter containing the motto and the author's name, to me, on or before WEDNESDAY, the 2nd APRIL next

SAMUEL HEATH, Jun. Clerk to the Managers.

10, Basinghall-street, E.C. 25th February, 1862.

CONTRACTS.

TO BUILDERS.—Caerleon Vicarage, three

miles from Newport, Monmouthshire.—The plans, specifications, and quantities of the proposed new VICARAGE HOUSE, may be seen at the King's Head Hotel, Newport; and TENDERS may be sent to our Office, at 6, Whitehall, London, on or before the 15th day of MARCH, 1862. The lowest or any Tender not necessarily accepted.

PRICHARD & SEDDON,
Diocesan Architects Llandaff, and 6, Whitehall, London.

6, Whitehall, February 18, 1862.

SAINT PANCRAS, MIDDLESEX.—TO

MASONS, PAVIORS, and OTHERS.—Notice is hereby given, that the Highways, Sewers, and Public Works Committee of the Vestry of the Parish of Saint Pancras will meet at the Office of the Department of Works on MONDAY, the 10th of MARCH next, at SIX o'clock p.m. to receive and consider TENDERS from persons willing to CONTRACT until Lady Day, 1863, for the EXECUTION of MASON'S and PAVIOR'S WORKS to the Footways and Roadways within the said Parish, pursuant to the terms of specification, to be seen daily at the Office of the Department of Works. Security will be required for the due performance of the Contract.—Further particulars, with the form of Tender may be obtained on the deposit of 1l. at the Office of Mr. WILLIAM BOOTH SCOTT, C.E. Chief Surveyor, as under. The Vestry do not pledge themselves to accept the lowest or any Tender. No Tender will be received unless made out in one of the printed forms. Tenders must be delivered by NOON on the said MONDAY, the 10th MARCH

CHARLES WORRELL,
Chief Clerk of the Department of Works.

10, Edward-street, Hampstead-road, February, 1862.

CONTRACTS.

WAR DEPARTMENT TRIENNIAL

CONTRACT.—WOOLWICH DISTRICT.—TENDERS are required for EXECUTING the WORK, &c. that may be required in the following Trades, for the period from the 1st April, 1862, to the 31st March, 1865, viz: Bricklayers, Masons, Paviors, Carpenters, Plasterers, Slaters, Plumbers, Smiths and Ironfounders, Painter, Glazier, and Paperhangers, and Gasfitters.

Parties desiring to Tender for this Contract must leave their names at this Office, on or before the 8th day of MARCH, 1862, and pay the sum of seven shillings and sixpence for the Schedules and Forms of Tender.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, 11th February, 1862.

NOTICE to BUILDERS.—WAR

DEPARTMENT CONTRACTS.—TENDERS for the usual TRIENNIAL CONTRACTS for WORKS and REPAIRS to War Department Buildings in the Islands of Guernsey and Alderney, will be received by the "Director of Contracts," War Office, Pall-mall, London, S.W. on or before the 20th MARCH, 1862.

Schedules of Prices and Forms of Tender (for which 6s. 3d. for each set will have to be deposited), and all other information may be had on application to the Surveyor, at the Office of the Inspector-General of Fortifications, War Office, Pall-mall, London, S.W.; and at the Royal Engineer Offices in Guernsey and Alderney.

Royal Engineer Office, Guernsey, February 21st, 1862.

WORKSOP LOCAL BOARD of HEALTH.

PAVING and FLAGGING.—CONTRACT No. 2.—To PAVIORS, CONTRACTORS, and OTHERS.—The Local Board of Health for the district of Worksop, in the county of Nottingham, hereby give notice, that they are prepared to receive TENDERS from persons willing to LAY DOWN certain PAVING, FLAGGING, CURBING, CHANNELLING, &c. The specification, plans, and sections may be examined, and forms of Tender and schedule of prices obtained, on payment of 2s. 6d. on application to Mr. W. H. STEAD, Surveyor to the said Board. Sealed Tenders to be delivered at the Office of the Local Board, Worksop, on or before MONDAY, the 10th day of MARCH next, endorsed "Tender for Paving Works," and must be addressed to the Chairman of the Local Board. The Local Board will not bind themselves to accept the lowest or any Tender, and persons tendering must do so at their own cost.—By order,

Worksop, February 20, 1862. ROBERT WHITE, Clerk.

WORKSOP LOCAL BOARD of HEALTH.

PAVING and FLAGGING.—CONTRACT No. 1.—To STONE MERCHANTS, CONTRACTORS, and OTHERS.—The Local Board of Health for the district of Worksop, in the county of Nottingham, hereby give notice that they are prepared to receive TENDERS from Persons willing to SUPPLY SETS, CURBING, CHANNELING, and FLAGGING, or any part thereof, for the ensuing twelve months. The specifications and all particulars may be seen on application to Mr. WILLIAM H. STEAD, Surveyor to the said Board, and Forms of Tender and Schedule of Prices may be had on payment of two shillings and sixpence. Sealed Tenders to be delivered at the Office of the Local Board, Worksop, on or before MONDAY, the 10th day of MARCH next, endorsed "Tender for the Supply of Stone," and must be addressed to the Chairman of the Local Board. The Local Board will not bind themselves to accept the lowest or any Tender, and persons tendering must do so at their own cost.—By order,

Worksop, February 20, 1862. ROBERT WHITE, Clerk.

THE VESTRY of the PARISH of

CHELSEA, in the County of Middlesex.—SCAVENGERING and WATERING.—The Vestry of this Parish will meet in the Board Room at the Vestry Hall, King's-road, on TUESDAY, the 11th of MARCH instant, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT, pursuant to the terms of a draft Contract now lying for inspection at the Vestry Hall aforesaid, and which may be seen on application to the Vestry Clerk, for WATERING the STREETS comprised in one or other or both of the districts in the Parish (exclusive of Kensal-town), from the 25th MARCH instant to the 1st day of OCTOBER next; and for the REMOVAL of the SLOP from one or other or both of the said districts, from the 25th of MARCH instant, to the 1st day of MARCH, 1863. The Tenders are to name one amount for both Scavengering and Watering for each district, and are to be upon printed forms, which may be obtained at this Office. Parties tendering must appear personally on the day the Tenders are opened; and the parties whose Tenders are accepted (if any) will have to pay the cost of and incidental to the preparation of the Contract. Sealed Tenders, signed by the proposed contractor, with the names and description of two sufficient sureties for the performance of the Contract, are to be left at the Office on or before TWELVE o'clock on TUESDAY, the 11th inst. The Vestry do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, March, 1862.

TO BUILDERS, &c.—NEW CHURCH,

ST. MARK'S, PRESTON.—Persons desirous of CONTRACTING for the ERECTION of the whole or any portion of a new CHURCH, to be built at Preston, can see the plans and specifications at the Upper School-room, Welsfield-road, Preston; and also at the Office of the Architect, Mr. E. G. PALEY, Lancaster, from TUESDAY the 25th FEBRUARY, to TUESDAY, 18th MARCH, inclusive. Tenders to be sent in, under cover, to the Rev. THOS CLARK, West Cliff terrace, Preston, endorsed "Tender for St. Mark's Church," on or before SATURDAY, MARCH 22. The Committee do not pledge themselves to accept the lowest or any Tender

Lancaster, 19th February, 1862

TWIZEL CASTLE.—TO BUILDERS.—

Persons desirous of CONTRACTING for the WORKS required in the RESTORATION and COMPLETION of TWIZEL CASTLE, in the county of Northumberland, are invited to apply to the Architect, Mr. A. B. HIGHAM, 1, Highgate place, Newcastle-upon-Tyne, who will forward another to see the drawings and furnish such particulars as may be deemed necessary.—Application, accompanied by respectable references, to be made on or before the 3rd day of March next. No pledge given that the lowest or any Tender will be accepted.

Newcastle-upon-Tyne, February 13, 1862.

For remainder of Contracts see next Page.

CONTRACTS.

VESTRY of ST. MARY, NEWINGTON, SURREY.—CONTRACT for PAVING, CURBING, BROKEN GRANITE (Guernsey, Bombay, and Peterhead), FLINT, KENTISH RAG, GRAVEL, and SMITH'S WORK.—The Paving Committee of the Vestry will meet at the Vestry-room of the Parish Church, on MONDAY, the 10th day of MARCH Next, at SEVEN o'clock in the Evening, to receive TENDERS from persons willing to Contract with the Vestry for the SUPPLY and DOING of such Paving and Curbing to the extent, as to paving, of about 60,000 feet super; and as to curbing, to the extent of about 14,000 feet lineal; and also for the supply of such broken granite (Guernsey, Bombay, and Port Philip), flint, Kentish rag, gravel, and smith's work, as the Vestry may require of the Contractor from the 25th March next until the 25th March, 1863 - For further particulars and form of Tender, apply to the undersigned. No other form of Tender will be accepted. All Tenders must be sent to the undersigned before SIX o'clock in the Evening on MONDAY the 10th MARCH next, and the several persons willing to Contract must attend the Committee at SEVEN o'clock on the same evening. A sample of the broken granite to be tendered for may be seen at the Office of the Clerks.

H. & F. CHESTER,
Joint Clerks to the Vestry, 1, Church-row, Newington-Butts.

TO SEWER CONTRACTORS and OTHERS.—The Oxford Paving Commissioners are prepared to receive TENDERS for CONSTRUCTING an OPEN SEWER along a portion of the Thrl Mill Stream in the city of Oxford. The drawings and specifications of the required works and the general conditions of the Contract may be seen between the hours of NINE a.m. and FOUR p.m. at the Commissioners' Office, Town Hall Oxford; or particulars obtained by letter addressed to Mr JOHN GALPIN, the Surveyor Tenders are to be made on printed forms, which may be obtained either of the Clerk or the Surveyor to the Commissioners and must be delivered, sealed, at my Office, No 43, St Giles's street Oxford, on or before TWELVE o'clock at noon on MONDAY, the 10th day of MARCH next, endorsed "Tender for Open Sewer." The Commissioners do not bind themselves to accept the lowest or any Tender

FREDERICK J. MORRELL, Clerk to the Commissioners

Feb. 5, 1862.

STAFFORDSHIRE POTTERIES STREET RAILWAY COMPANY, LIMITED.—EXTENSION of TIME.—Notice is hereby given, that the Directors of the Company are prepared to receive TENDERS for the CONSTRUCTION and EXTENSION of the LINE from HANLEY to LANGTON, in two sections.

Section and Contract No. 1, from Hanley to Stoke.
Section and Contract No 2, from Stoke to Langton.

Persons desirous of sending in Tenders for the construction of the said Works, can examine the drawings and specification, and obtain all information, upon application at the Engineer's Office, on and after the 17th inst. Form of Tenders to be obtained from the Secretary, to be delivered at the Company's Offices, on or before the 22d day of MARCH next. The Directors do not bind themselves to accept the lowest or any Tenders.—By order,

JOSEPH S. FORBES Secretary.

Offices, 6, Trinity street, Hanley, February 25 1862

TO BREWERS, BUILDERS, and OTHERS. The Commercial Dock Company give notice that they are prepared to receive TENDERS from parties who may be willing to take a BUILDING LEASE (for 61 years from the 25th March, 1862) of a Plot of Ground, and to Erect a Public House thereon, in place of the "Swallow Gallery," which will be taken down by the Company. The ground is situate near the Pancras Stairs, Rotherhithe, and nearly adjoining the new northern entrance of the Docks. Tenders, sealed, cover, and on the prescribed form, addressed to "The Secretary of the Commercial Dock Company," endorsed, "Tender for Lease," to be delivered at the Dock Office, 106, Fenchurch-street, on or before TWELVE o'clock, noon, on FRIDAY, 7th day of MARCH. - Particulars and form of Tender, apply to Messrs. WARLTERS & LOVEJOY, 55, Chancery-lane; or at the Dock Office, 106, Fenchurch-st. The Directors do not bind themselves to accept the lowest or any Tender. J. GRIFFIN, Secretary.

Commercial Dock Office, 17th February, 1862

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex SCAVENGING and WATERING KENSAL NEW TOWN.—The Vestry of this parish will meet in the BOARD ROOM at the Vestry Hall, King's-road, on TUESDAY, the 11th day of MARCH instant, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT pursuant to the terms of a draft contract, now lying for inspection at the VESTRY HALL aforesaid, and which may be seen on application to the VESTRY CLERK, for WATERING the STREETS comprised within the outlying district KENSAL NEW TOWN, from the 25th of MARCH instant to the 1st day of OCTOBER next, and for the REMOVAL of the SLOP from the said district from the 25th of MARCH instant to the 1st day of MARCH, 1863. The Tenders are to be separate for both Scavenging and Watering, and are to be upon printed forms, which may be obtained at this Office. Parties Tendering must appear personally on the day the Tenders are opened by the parish Surveyor. Sureties are accepted (if any) will have to pay the cost of and incidental to the preparation of the Contract. Sealed Tenders, signed by the proposed Contractor, with the names and description of two sufficient sureties for the performance of his Contract, are to be left at this Office on or before TWELVE o'clock on TUESDAY the 11th instant. The Vestry do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, March, 1862

DEODORIZATION of SEWAGE.—The Tottenham Local Board of Health are prepared to receive TENDERS for the PURCHASE and DEODORIZATION of the SEWAGE of TOTTENHAM, with the use of the buildings, plant, dwellings, and premises vacated by the representatives of the late Mr. William Higgs.—The premises may be inspected, and further particulars obtained, on application to the Clerk, at the Offices of the Board, High-cross, Tottenham, where Tenders must be forwarded on or before the 1st day of MARCH next. WM. HEATH, Clerk

BLACKPOOL PIER.—The Provisional Directors of the Blackpool Pier Company (Limited) are desirous of receiving TENDERS for the ERECTION of an IRON LANDING and PROMENADE PIER. Plans and specifications may be seen on MONDAY, the 3rd MARCH next, at the Office of Messrs. BIDDLE, the Engineers to the Company, 43, Parliament-street, London, S.W.; or at the Company's Office, Blackpool, and Offers of Quantities will be furnished on payment of Ten Shilling. Sealed Tenders must be sent in on or before MONDAY, the 10th MARCH next, addressed to the Chairman of the Blackpool Pier Company, Blackpool. The Provisional Directors do not pledge themselves to accept the lowest or any Tender.

E. BLANE, Provisional Secretary.

Blackpool, February 14, 1862.

CHRISTCHURCH, SURREY.—ST. SAVIOUR'S, SOUTHWARK.—CONTRACT for WATER-CARTS, &c.—The Board of Works for St. Saviour's District will meet at their Board Room, on WEDNESDAY, the 12th day of MARCH next, at SIX o'clock in the evening precisely, to receive TENDERS for the SUPPLY and DELIVERY of such number of good and efficient WATER-CARTS, with all necessary and proper water-pipes and other working gear, and horses, drivers, and men to work the water into the carts, as may be required for the watering of the roads, streets, &c. in the PARISH of CHRISTCHURCH, within the district and also for WATERING the ROADS, STREETS, &c. in the PARISH of ST. SAVIOUR, within the same district, from the 25th day of MARCH, to the 25th day of OCTOBER, 1862. Not less than four carts, &c. will be required only. For Christchurch, and not less than five carts, &c. for St. Saviour's. The carts, horses, and men are to be devoted wholly to the purpose of watering the above-named parishes, and are to be in good working order, to the satisfaction of the Board, or their surveyor, and the watering to be as directed by the Board from time to time by them or him. Tenders addressed to the Board, sealed up and endorsed "Tenders for Supply of Water Carts, &c." stating the aggregate amount for each parishes, and the amount for each parish separately, must be sent in before half-past FIVE o'clock of the day of meeting. The contractor will be required to enter into a contract, and be at the expense of the Board. The draft of the contract and all particulars can be seen and obtained, daily, at the Board room, between TEN and FOUR.—The person tendering must be in attendance at SIX o'clock of the above mentioned day.—The Board do not bind themselves to accept the lowest or any Tender.—By order of the Board,

HERBERT STURMY, Clerk.

Board Room, Emerson street, Bankside, February, 1862.

CONTRACTS.

CONTRACT for DAY and JOBBING WORKS.—The Vestry of the Parish of Saint John, Hampstead will, at their next meeting, to be held on FRIDAY, the 7th day of MARCH next, at HALF-PAST SEVEN o'clock in the evening precisely, be ready to receive TENDERS from persons willing to contract for one year from the 25th day of MARCH next, for the EXECUTION of DAY and JOBBING WORKS in the said parish, at or under or above a schedule of prices, which, together with the form of tender and contract may be seen at the Office of the Surveyor of the Vestry, No 10, New End, Hampstead, on any day before the meeting, between the hours of TEN and FOUR. The Vestry do not bind themselves to accept the lowest or any Tender. The contractor will be required to execute a written contract, and to enter into a joint and several bond with two sufficient sureties in the sum of 500l. for the due performance of the contract. Tenders, in the printed form, to be obtained at the Surveyor's Office, must be sent or delivered, endorsed "Tender for Day and Jobbing Works," to the Vestry Clerk, before the hour of SEVEN o'clock p.m. (after which hour no Tender will be received) on FRIDAY, the 7th of MARCH next, and parties tendering must attend personally, or by some authorized agent, at the Vestry.—By order THOMAS TOLLER, Vestry Clerk.

Vestry Offices, Workhouse, Hampstead, 20th February, 1862.

SAINT JOHN, HAMPSTEAD.—ROAD WATERING The Vestry of the Parish of Saint John, Hampstead, will, at the next meeting, to be held on FRIDAY, the 7th day of MARCH next, at HALF PAST SEVEN o'clock in the evening precisely, be ready to receive TENDERS from persons willing to contract for the supply of HORSES, WATER CARTS, and DRIVERS, for WATERING the several ROADS and PLACES comprised in the Adelaide road district, and in the Swiss Cottage district, and also following districts in this parish for one year, from the 25th day of MARCH next to the 25th day of SEPTEMBER next, and for three years from the 25th of MARCH to the 29th of SEPTEMBER, in each year, if the Vestry being at liberty to contract either for one or three years.—Printed forms of Tender may be had, and a specification may be seen, and further particulars obtained, at the Office of the Surveyor of the Vestry, No 10, New-end, Hampstead, any day before the meeting, between the hours of TEN and FOUR. The Vestry do not bind themselves to accept the lowest or any Tender. The contractor will be required to execute a written contract, and to enter into a bond, with two sufficient sureties, in such sum as shall be determined by the Vestry, for the due performance of the contract. None but the printed form of Tender must be used; nor will any Tender be received after SEVEN o'clock p.m. on FRIDAY, the 7th of MARCH next. Tenders to be addressed to the Vestry Clerk of Hampstead, endorsed "Road Watering." By order

THOMAS TOLLER, Vestry Clerk.

Vestry Office, Workhouse, Hampstead, February 20, 1862.

GREAT NORTHERN RAILWAY.—To CONTRACTORS, BUILDERS, ESTATE AGENTS, and OTHERS.—The Directors are prepared to receive TENDERS for the PURCHASE of the Old Fir and Oak TIMBER, and Wrought and Cast IRON, in the old timber roof and bridge lately carrying the railway over the river Witham, at or near to Bardney, in the county of Lincoln, and within about nine miles of the city of Lincoln. An approximate list of quantities, with conditions and form of Tender, may be obtained by applying at the Resident Engineer, at the Office at Boston. Tenders, sealed up, and marked "Tender for Purchase of old Bridge at Bardney," must be lodged at the Secretary's Office, King's-cross Station, before TWELVE o'clock noon, on MONDAY, the 10th day of MARCH, 1862. The Directors do not bind themselves to accept the highest or any Tender.

HENRY OAKLEY, Secretary.

Secretary's Office, King's cross Station, London, 18th February, 1862

DUDLEY MECHANICS' INSTITUTE.—TO BUILDERS, CONTRACTORS, &c.—The Building Committee of the above Institute are prepared to receive TENDERS from Persons willing to CONTRACT for the ERECTION of a NEW MECHANICS' INSTITUTE and PUBLIC HALL at Wolverhampton-street, Dudley, in the county of Worcester. The Plans, Sections, Specification, and Elevations, together with Specification of the Works and conditions of the Contract, may be inspected at the Office of Mr WILLIAM BOURNE, Architect, Tower-street, Dudley, from MONDAY, the 3rd, to SATURDAY, the 8th day of MARCH, 1862. Sealed Tenders, endorsed "Tenders for Mechanics' Inst tute at Dudley," are to be forwarded to me on or before THURSDAY, the 20th day of MARCH, 1862, after which the Committee do not bind themselves to accept the lowest or any Tender.

JOSEPH STOKES, Solicitor,
Wolverhampton-street, Dudley, Honorary Secretary.

February 19th, 1862

BOARD of WORKS for the HACKNEY DISTRICT.—Notice is hereby given, that the Board of Works for the Hackney District will meet at the Town Hall, Church-row, Hackney, on THURSDAY, the 13th day of MARCH next, at HALF-PAST SEVEN o'clock in the evening precisely, to receive TENDERS for the SUPPLY and EXECUTION of the undermentioned WORKS and MATERIALS —

CARTAGE, for the period of Three Years, from the 25th of March next, for the Parishes of Hackney and Stoke Newington, for the Cartage of Materials, Slop, Rubbish, and Road Grit, &c.

MATERIALS, &c. for the period of One Year, from the 25th day of March next, for the Parishes of Hackney and Stoke Newington.—

STONEWARE PIPES..For the Supply of Glazed Stoneware Sewer and Drain Pipes.

BALLAST .....For the Supply and Delivery of Ballast, Shingle and Hoggin.

MASON'S WORK.....For the Supply and Laying Down of York Paving and Granite Curbing; also for Repairs to the existing Footways.

GAS FITTINGS.....For the Supply and Fixing of Lanterns, Lamp-Heads, Stand-Pipes, and Service-Pipes, Rewiring, Altering, and Fixing Lamp-Posts.

IRON CASTINGS. ... For the Supply of Cast Iron Covering Plates, Flushing Boxes, and Gully Grates, &c. for Sewers Work.

WATERING..... Newington Ward; De Beauvoir Town Ward; Dalston Ward (part of); South Hackney Ward and (part of); Shacklewell (part of).

Forms of Tender and further particulars may be obtained at the Office of Mr. JAMES LOFTHOUSE, C.E. Surveyor to the Board, Town Hall, Hackney (on and after MONDAY, 3rd MARCH), between the hours of NINE and ELEVEN o'clock, a.m. The Tenders to be sealed and signed, and delivered or addressed and delivered at the Town Hall, Hackney, on or before the 12th of MARCH. Parties Tendering, or their representatives, must attend at the BOARD, on THURSDAY, the 13th day of MARCH, at ELEVEN o'clock precisely. Persons tendering will be required to enter into a Contract with the Board, at their own expense, in sufficient surety for the due performance of the Contract; and the Board do not bind themselves to accept the lowest or any Tender. RICHARD ELLIS, Clerk

27th February, 1862.

ST. GILES'S, CAMBERWELL.—To Contractors for Road and Street Watering. Notice is hereby given, that the General Purposes Committee will meet at the Vestry Hall, Wansey-st. on MONDAY, the 3rd MARCH next, at HALF PAST SIX o'clock precisely, to receive TENDERS for WATERING certain ROADS and STREETS of the said Parish, for the Season 1862.—For further particulars apply to Mr J. C. LANYON, Surveyor to the Vestry, at the Surveyor's Office, Wells-street, Camberwell, after TUESDAY, the 25th instant, between ELEVEN and THREE o'clock The Committee do not pledge themselves to accept the lowest or any Tender. The Contractor to submit the names of two responsible sureties at the time of tendering. The parties tendering to be in attendance on the opening of the Tenders. By order,

GEO. W. MARSDEN, Vestry Clerk.

Vestry Hall, Camberwell, Feb. 21, 1862.

TO IRONFOUNDERS and OTHERS. Required for the South Australian Gas Company, TENDERS for GASHOLDERS PURIFIERS, CONDENSERS, SCRUBBERS, HYDRAULIC MAINS, MOUTHPIECES, &c.—Plans and specifications can be inspected, and all particulars obtained on application to the Company's Inspecting Agent, at the Office of Messrs. FILBY & CO. 63, Fenchurch-street, London, between the hours of ELEVEN and TWO. All Tenders must be delivered on or before the 8th day of MARCH, addressed to Mr. J. C LANYON, Jun (Agent for the Company), at Messrs FILBYS, 63, Fenchurch street.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINE.
Adapted for hand, horse, or steam-power, will make one-third more in quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.
Licences to Manufacture granted for certain districts.
For price and particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames.

FIRE BRICKS, LUMPS, and TILES, of every description.
JOHN NEWTON & CO.
HONDURAS WHARF, 74, BANKSIDE, SOUTHWARK, S.E.
Beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. &c.
Depôt for Ramsay's Newcastle Fire Bricks, Clay Retorts, Sanitary Pipes, Chimney Pots, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chemical, and Smelting purposes, and in any business or manufacture where an intense heat is required.—For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch-street, E.C.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Grizells, Place, or Stock Butts, by barge alongside, in the Thames or canals, on reasonable terms, either for cash or approved bills.
Belvidere-road, Lambeth, January, 1862

BRICKS.
BEST KILN-BURNT BRICKS, of superior common quality, can be supplied by the Million. Also,
FINE WHITE AND RED FACING BRICKS.
WHITE, RED, AND BLACK CUTTERS.
VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES.
WHITE AND GREY LIME AND GLAZED STONEWARE PIPES.
Vessels can load close to the Kiln's mouth, at the East Cowes Park Estate, on the river Medina, Isle of Wight.
RICHARD LANGLEY, Agent.

A NEW BRICK and LIME WHARF, and DRAWDOCKS.
JOHN DOWNEY, Licensed Lighterman, of 31, Millbank-row, S.W., and Licensed Lighterman, and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

MESSRS. COWDERY & SALTER have to SELL from ONE to TWO MILLIONS of GOOD SOUND STOCK and GRIZELLE BRICKS, loaded into barges on the Basingstoke Canal, or delivered alongside any wharf in the Thames, or loaded into trucks at Woking Station, on reasonable terms, for cash or approved bills.
Hermitage Brickfield, Woking, Surrey.

POLYTECHNIC.—Entire change of Lectures and Entertainments. Every evening at 5 past 8. New Musical Entertainments by Mr. J. R. Carpenter, a pupil of the Misses Mascall, entitled "The World and his Wife."—Monday and Friday, at 3 and 5 past 7. New Lecture by Professor J. H. Pepper, on "The late Appalling Accidents in Coal Mines." On Tuesday, Wednesday, at 3 and 5 past 7, "Elementary Astronomy."—Tuesday, at 4 past 7, and Saturday, at 3, 5, and 7 past 9, New Lecture by Dr. Bachhoffner on "Electricity," by J. L. King, Esq. Dissolving Views and Photographs by Mr. England (London Stereoscopic Company), of "Scenes in America," on Tuesday, Thursday, and Saturday. All the other Entertainments as usual—Open 12 to 5, and 7 to 10. Admission to the whole, 1s.

DRAUGHT, DUST, and DAMP EXCLUDED; all jarring and rattling of doors or windows is obviated by the application of "BROWN'S PATENT." Cases for Paste, Jewellery, Zoological specimens, &c. &c. may be rendered airtight, and the several articles of value thus preserved from tarnish or decay. Testimonials forwarded on application. Models and Diagrams may be viewed at the Depôt, 55, Wellington-street, Strand, W.C.

VENTILATION and WARMING by a constant supply of pure air to every apartment of a building; yielding any desired temperature, without current dust, or vapour. Its cheapness and simplicity this system, as arranged by Mr JOSEPH NEWTON, is adapted to every mansion, public structure, or conservatory.—Agent, Mr. NAYLOR, 235, Oxford-street, W.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to his Improved and Economical DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvements applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRILLO STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application

TO BUILDERS AND OTHERS.
A SECOND-HAND MOULDING MACHINE TO BE SOLD a BARGAIN.
Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W

SURREY.—BUILDERS and CONTRACTORS supplied with all descriptions of Ironmongery, Brassfoundry, Wrought and Cast Nails, Zinc, Rain-pipes, Stoves, Sash-weights, &c. at the lowest prices, by EDWIN LUDD, High-street, Camberwell.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Foundery work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY and ENGINEERING WORKS, DERBY.

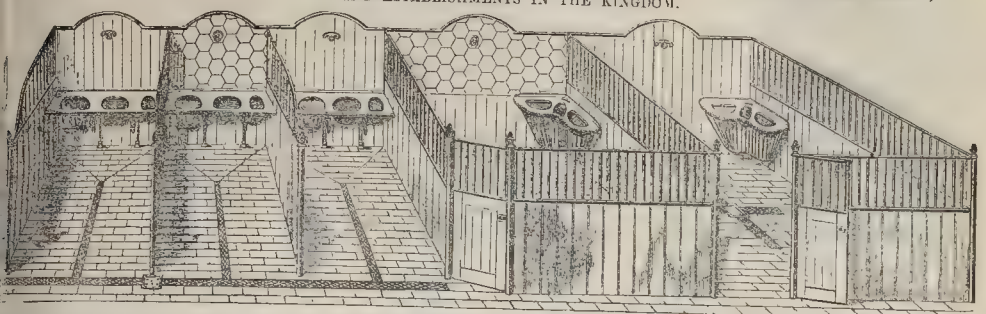
FOR SALE, a Bargain, nearly new, FOURTEEN (or less) MEDIÆVAL GASELIERS, of the most elegant construction, having 36 jets in each, adapted for Churches Halls, &c. Apply to Mr. SANDERS, Auctioneer, 473, Oxford-street, W.C.

COTTAM AND CO. 2, WINSLEY-STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable feed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined. KNIGHTLEY'S PATENT STABLE FLOOR.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

PROFESSOR VARNELL'S STABLE ARRANGEMENTS.

RECOMMENDED BY THE

ROYAL VETERINARY COLLEGE.

INSPECTION OF THE

FULL-SIZED STALLS AND LOOSE BOXES, ERECTED AT THE WORKS FOR SHOWING THESE INVENTIONS, IS INVITED.

Every Description of Stable Furniture.

ILLUSTRATED LISTS ON APPLICATION.



CAST AND WROUGHT IRON WORK OF EVERY DESCRIPTION,

PLAIN AND ORNAMENTAL.

GATES, CIRCULAR STAIRCASES, STAIRCASE, BALCONY, TOMB.

AND

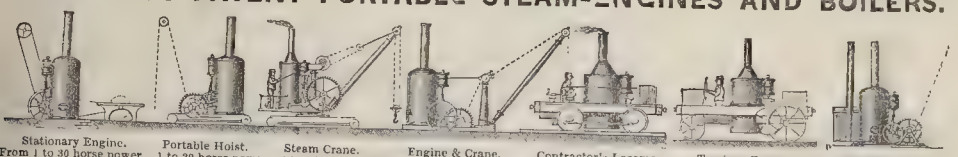
OTHER RAILING;

VERANDAHS, IRON SASHES, CASEMENTS, SKYLIGHTS, CORRUGATED IRON ROOFS

AND

HOUSES, COLUMNS, GIRDERS, FLITCHES, TANKS IN WROUGHT AND CAST IRON, &c. &c.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane. 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

CRANSTON-HILL ENGINE WORKS, GLASGOW.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON

RAILWAY BRIDGE BUILDER.

RAILWAY STATION ROOFING

Manufactured in WROUGHT and CAST IRON, and Erected.

TANKS in WROUGHT and CAST IRON.

Wrought Iron Doors, Boiler and General Smiths' Work.

EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS, SHEETS, BARS, L and T IRON.

Bond Hoop Iron from Stock.

CRANE CHAIN AND CABLE MAKER.

CONTRACTORS' PLANT, RAILS,

WROUGHT AND CAST WHEELS AND AXLES.

WAGGON IRONWORK, PEDESTALS, &c.

AND EARTH WAGGONS COMPLETE.

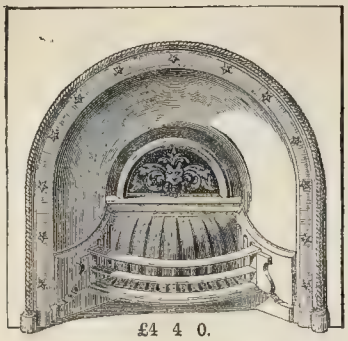


CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

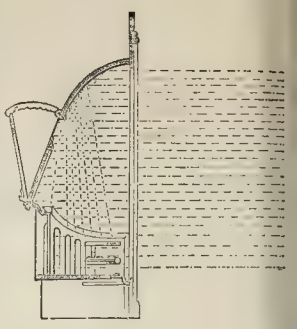
Orders requiring Despatch and Punctuality can be executed in a few days.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.



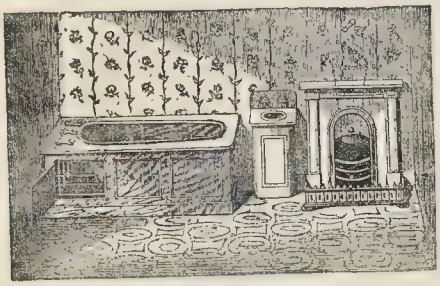
£4 4 0.

IT is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



STOCK AT No. 159, SHOREDITCH, LONDON.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

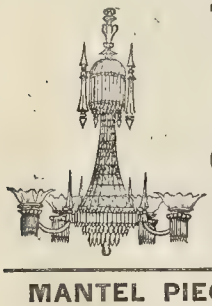
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET. LONDON.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.



THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,
MANUFACTURERS OF
MEDIÆVAL AND OTHER GAS-FITTINGS,
CRYSTAL, BRASS, & ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY.
WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

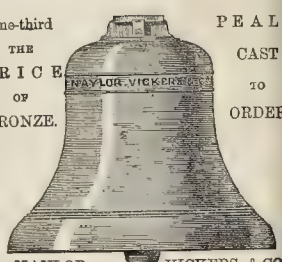
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER

NAYLOR, VICKERS, & CO.
SHEFFIELD.

RICKET'S & HAMMOND'S GLOBE LIGHT.



A SHADOWLESS GAS BURNER.
AGAR STREET, STRAND, LONDON, W.C.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, Principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 66, High Holborn.

WROUGHT-IRON TANKS, CISTERNS,

GIRDERS, PUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London, E.

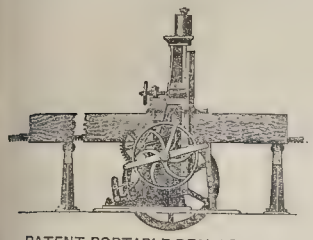
IMPROVED JOINERS' MACHINERY.

SAMUEL WORSSAM & CO.

SAW-MILL ENGINEERS, AND MANUFACTURERS OF ALL KINDS OF WOOD-WORKING MACHINES,

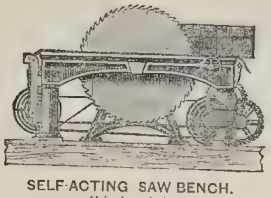
304, KING'S ROAD, CHELSEA, S.W

SAMUEL WORSSAM & CO. beg to invite the particular attention of Builders, Joiners, Contractors, and Others, to their new and improved JOINERS' MACHINES, many of which may be seen at work in the immediate neighbourhood of their Factory.



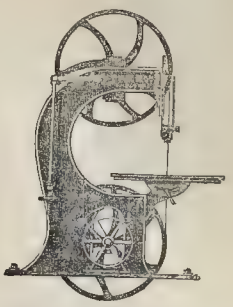
PATENT PORTABLE DEAL FRAME.
(½-inch scale.)

This machine is so constructed as to require no foundations for fixing; it can be driven either from an underground or overhead shaft, or from a portable engine, and is peculiarly useful for builders and contractors.



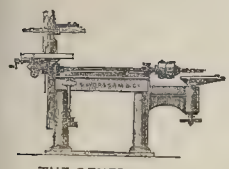
SELF-ACTING SAW BENCH.
(½-inch scale.)

This bench will take a saw up to 42 inches in diameter, and is adapted for splitting deals, breaking down small timber, and all the purposes of an ordinary saw-bench. It is fitted with a rope-feed motion for bringing the stuff up to the saw, at rates varying from 30 to 60 feet a minute.



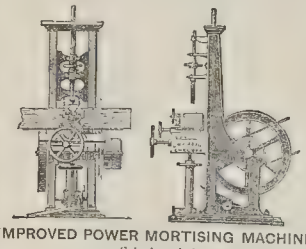
IMPROVED BAND SAW-MACHINE.
(½-inch scale.)

S. Worssam & Co. have recently made new patterns for band saw-machines of two sizes, and introduced all the latest improvements to obviate the breakage of saws, and can with the greatest confidence recommend their new machines as the best yet out.



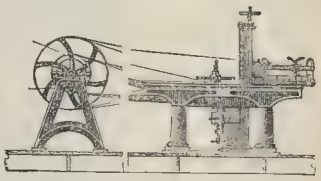
THE GENERAL JOINER.
(½-inch scale.)

This exceedingly useful and novel machine is adapted for sawing, cross-cutting, grooving, tongueing, rabbeting, tenoning, moulding, and boring; and will be found invaluable in any joiner's or builder's establishment. It is also specially useful for box-making, and is fitted with a slide-plate for squaring the edges of drawers, &c.



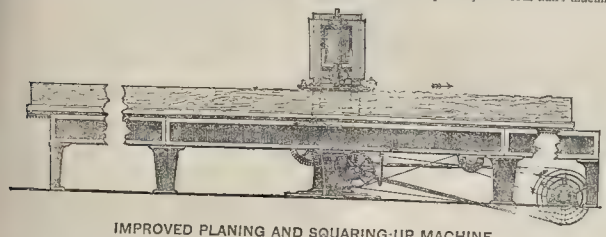
IMPROVED POWER MORTISING MACHINE.
(½-inch scale.)

Combines many improvements not to be found in any other mortising machines. A single machine, worked by a man, with a boy to assist in removing the stuff, will do as much work as ten joiners, or as four hand-machines.



IMPROVED TENONING MACHINE.
(½-inch scale.)

This machine is adapted for working either hard or soft wood, and is fitted with an arrangement for cutting double tenons. It is made in two sizes, the smaller being adapted for builders' and joiners' purposes, and the larger for railway-carriage builders, &c.



IMPROVED PLANING AND SQUARING-UP MACHINE.
(½-inch scale.)

This machine is adapted for planing and squaring up scantlings of either hard or soft wood, up to 18 inches wide and 9 inches thick. The cutter-disc is furnished with a set of Wilson's Patent Cylindrical Gouges, which will last as long as eight sets of the ordinary gouges without being sharpened.

For priced Illustrated Circulars, with all particulars, apply at the Works, 304, King's-road, Chelsea, S.W.



SMALL MOULDING MACHINE.
(½-inch scale.)

Will stick single mouldings of any pattern and of any width not exceeding 6 inches, at rates varying from 12 to 28 feet a minute. It will also make sash-bars, mould skirting, or cut out eaves, troughing, &c.

For further particulars and Illustrated Circulars apply at the Works, where, also, Illustrated Descriptive Catalogues of S. WORSSAM & CO.'S Patented and Improved Machines for Builders, Railway-carriage Builders, Cabinet-makers, &c. &c. may be had free, on application.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

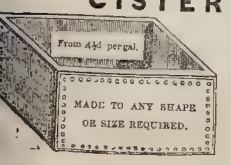
The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and to Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61a, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths inch diameter	1s. 6d. per foot.
Half-inch diameter	2s. 6d. "
Five-eighths-inch diameter	3s. 6d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" Gateshead-on-Tyne.
" 27, Dale-street, Manchester.
" 68, Anderston-quay, Glasgow.
" 17, South Castle street, Liverpool
" Exchange buildings, Dundee.
" 7, Frederick-street, Aberdeen.

MUSGRAVE'S PATENT STABLE

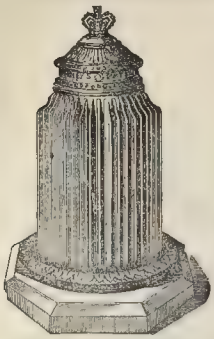
FITTINGS and HARMLESS LOOSE BOXES.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto manufactured.



At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended;" being the only prizes conferred on any competitor in this class.

Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Annu street, Belfast.



THE LONDON

WARMING AND VENTILATING COMPANY,

LIMITED,

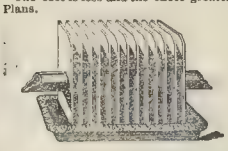
26, GREAT GEORGE-STREET, Westminster, S.W.

MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known Plans.



The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL the various offices of the "Department of Science and Art," and at the Architectural Societies' House 9, Conduit-street, Regent-stree

Particulars and testimonial forwarded on application.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

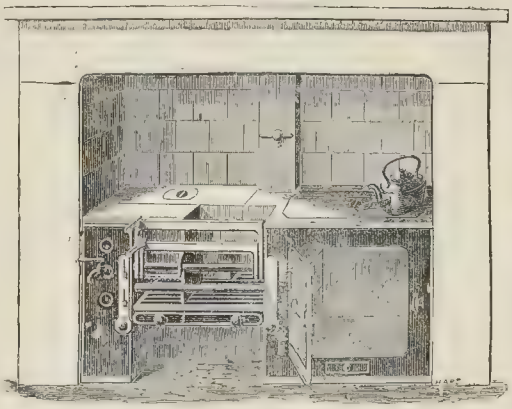
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Mutum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of WROUGHT IRON TUBE and FITTINGS,

FOR HIGH-PRESSURE-WATER; OR STEAM.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

PLANT AND JACKSON

MANUFACTURERS OF

MEDIÆVAL ART METAL WORK

159 · HIGH · HOLBORN · WC

BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gaseliers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.

DEPOT for BROWN'S PATENT CLOTH-PADDED WOOD STRIPS, which, when applied to windows, doors, show cases, &c. COMPLETELY EXCLUDE air-draughts dust, water, and the injurious effects of gas. Samples, with illustrations, and directions for use forwarded on receipt of three stamps for postage.

J. HARDMAN & Co.

MEDIÆVAL METAL WORKERS

In Silver, Brass, and Wrought Iron;

ENGRAVERS OF

Memorial Brasses,

Artists in Stained Glass,

ECCLESIASTICAL DECORATORS.

Chalices, Patens, and Flagons; Altar Rails and Standards; Alms Basons and Boxes; Coronæ, Chandeliers, and Branches;

Gas Fittings of every Kind; Lecterns and Book Desks; Hinges, Handles, Locks, &c.

Spire Crosses and Vanes.

AN ILLUSTRATED PRICE-LIST, AND ESTIMATES FOR SPECIAL DESIGNS, Furnished on application.

London Offices and Show Rooms,

13 KING WILLIAM ST STRAND LONDON WC

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W. Drawings and Estimates furnished.

HART & SON,

MEDIÆVAL METAL WORKERS,

53 to 58, WYCH STREET, and 20, COCKSPUR STREET, LONDON.



LOCKS, HINGES, BOLTS, HANDLES, &c.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

SHEET ZINC AND METAL PERFORATING WORKS.

FRANCIS RUMMENS,

PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.

HIGHLY APPROVED ROOFING ZINC,

BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.

ZINC SLATING NAILS.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.



DRAUGHTS & DUST ROUND DOORS & WINDOWS

EFFECTUALLY PREVENTED BY

GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS

(*Can be had any Length or Pattern*).



The neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work, OLD or NEW.

Self-acting Spring Slides for the bottom of doors.

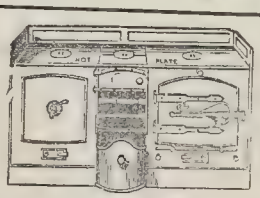
The most imperfect door can be made air-tight without re-hanging.

The Trade supplied on liberal terms.

JOHN GREENWOOD, PATENTEE,

10, Arthur-street West, London Bridge.

THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

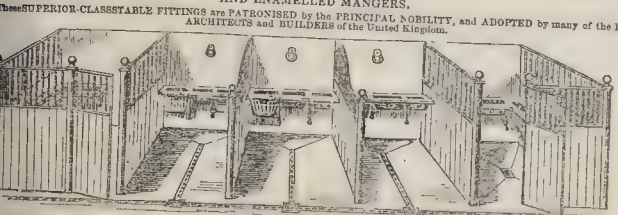
WHOLESALE AND MANUFACTURING IRONMONGERS.

38 and 65, York-street, Westminster.

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.

These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



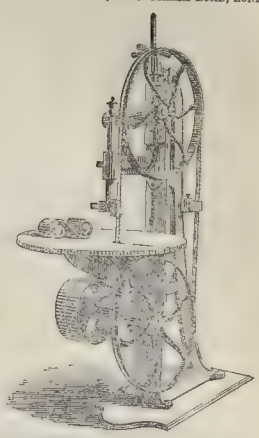
BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four postage stamps.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

POWIS, JAMES, & CO.

VICTORIA WORKS, BLACKFRIARS ROAD, LONDON.



NEW PATENT ENDLESS BAND-SAWING MACHINE (the only patent in the United Kingdom for an improvement in this class of machine). Makers of all kinds of Sawing and Wood Cutting Machinery, Steam Engines, &c.—Office, 36, Watling-street, London, E.C. where drawings and prices can be had on application.

THOMAS ROBINSON and SON,

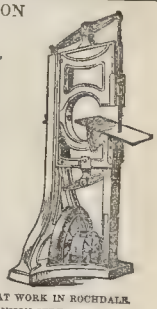
ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles. Price 20*l.*



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c. Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

MOREWOOD & CO.

(late Morewood & Rogers),

Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

PLAIN or CORRUGATED, and CURVED, of all Gauges Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the

OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

HEATING BY HOT WATER.

JOHN WEEKS & CO. KING'S ROAD,

Chelsea, HOT WATER APPARATUS MANUFACTURERS

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling Houses, Warehouses, &c. &c. where they have fixed their Hot water Apparatus.

Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

CHUBB'S LOCKS,

with all the recent Improvements,

STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.

Complete Lists of Sizes and Prices may be had on Application.

CHUBB and SON,

57, ST. PAUL'S CHURCH YARD, LONDON,

28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.



HENRY DOULTON AND CO.'S

PATENT COMBINED SMOKE AND AIR FLUES.

BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

Manufactured in terra cotta for smoke-flues equal to 12 in. 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

Small models will be forwarded to architects on application to

Henry Doulton & Co. High-street, Lambeth.

W. HARMER & SON

Beg to inform their Customers and the Trade generally, that having recently Removed into their new Premises, No. 3, HORSEFERRY ROAD (which communicates in the rear with their Warehouse and Workshops in New Peter street), they have thereby been enabled largely to increase their Stock of BUILDERS' and CABINET-MAKERS' IRONMONGERY, and which they are now selling at a considerably REDUCED LIST of PRICES, in consequence of the depression of trade in the manufacturing districts.

W. HARMER & SON,

IRONMONGERS, SMITHS, IRON AND ZINC MERCHANTS,

Nos. 3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.

ESTABLISHED 1817.

DEVAUX'S PURE THICK ROOFING ZINC,

FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS

And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. EDMESTON, Esq. F.R.I.BA. by whom a certificate is given.

ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.

Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.

MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.

N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS P. HAWKINS, 57, Dale-end, Birmingham.

BUILDINGS and SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS, according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for

J. W. GRAY & SON, 114, Fenchurch-street, E.C.

REDMUND'S PATENT HINGE

MANUFACTORY and WAREHOUSE,

Wellington Foundry, 68, Charles-street, City-road, E.C. near the Canal Bridge, E. GUILOF, Sole Proprietor.

A large Stock of the Patent Hinges kept ready for delivery, consisting of floor-springs, gate hinges, rising-hinges, rising spring-hinges, not rising spring hinges, double acting spring-hinges rising and not rising, door back springs, &c.—Price List and drawings on application as above.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public

N.B.—The usual discount to builders and the trade.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;

SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 68, Prince-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 24, Davies-street, Three Doors from Oxford-street,

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London W

NAILS and IRONMONGERY, from BIRMINGHAM direct

Builders, Contractors, and Others, supplied with Nails, Iron, and Iron Mongery of every description, at the LOWEST BIRMINGHAM PRICES,

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street, London, E.C.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on view over the Show Rooms, Patentees, and Manufacturers of the Sliding Gas Regulator. Complete Pattern book and Price Lists, 12 and 50, High Holborn.

LOSH, WILSON, & BELL, NEWCASTLE-ON TYNE,

Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and

STEWART'S PATENT CAST-IRON GAS and WATER PIPES.

Office, No. 7, Size-lane, London

VENTILATION.—M'KINNELL'S PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its avoidance of draughts, and its being ordinarily self-regulating—the pure air flowing imperceptibly inwards, while the noxious products of respiration and combustion are simultaneously carried off. It has been applied in many of the Royal Buildings at Windsor, the Government Offices in London, and extensively in churches, public halls, schools, offices, dwelling houses, factories, stables, and in ships, for which it has been adopted by her Majesty's Emigration Commissioners.—Patentee, JOHN M'KINNELL, 15, Langham-place, London, W. Description and testimonials on receipt of one stamp.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 55, High Holborn, London,

Manufacturers of Gas Chandeliers, Glass Lustres, &c &c.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in reference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road W.

SKAIFE & COMPANY, Manufacturers of PATENT GALVANIZED IRON.

Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tinned Sheets and Tiles for export.

IRON WORK GALVANIZED

Roofing orders promptly and carefully attended to.

Office—Commercial-road, Limehouse, London.

Works—Copenhagen Wharf, Limehouse.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICES.

14, Staithope-street, Clare-market London.

DEVAUX'S PURE THICK ROOFING ZINC laid upon Mr. Edmeston's principle to insure durability, by

D. HAYWARD,

LONDON ZINC WORKS, No. 97, Blackman-street, Borough.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength great durability, and perfect in oxidability; and being non-conductors are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one fourth the weight, and when laid down are 30 per cent cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to

Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

ROBERT MACLAREN & CO EGLINTON FOUNDRY, GLASGOW.

Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS.

THE BRYMBO COMPANY, North Wales.

beg to inform Contractors and others that they have made arrangements to SUPPLY the LONDON MARKET through their Agent, Mr. F. FORD, No. 9, Lawrence Fountney-hill, Cannon-street City, with

CASTINGS OF FIRST QUALITY,

FROM THEIR OWN SUPERIOR IRON, MADE FROM THE BEST HEMATITE AND ARGILLACEOUS ORES.

All orders promptly attended to, and at moderate prices.

TO BRICKMAKERS, IRONMONGERS, AND BUILDERS.

IMPROVED STEEL BRICK-MOULDS. FASSNIDGE, BROTHERS, MANUFACTURERS of the above ARTICLES, beg to acquaint their customers and the trade generally that they are now prepared to SUPPLY their superior make of BRICK-MOULDS for the ensuing season, and keeping a large stock on hand, of all sizes, are enabled to execute any orders intrusted to them with dispatch.—FASSNIDGE, BROTHERS, Brick-Mould Makers and Ironmongers, Uxbridge, Middlesex.

Established A.D. 1768.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

BENSON'S WATCHES and CLOCKS.

"Perfection of mechanism."—*Morning Post.*



Gold, 5 to 100 Guineas.

Silver, 2 to 50 Guineas.

BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, describes every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free and safe by post on receipt of remittance.

J. W. BENSON,

33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.

(Established 1749.)

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to

JOSEPH FAIRER,

Turret Clock-maker to H. M.'s War Department,

188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE NEW PARLIAMENT,

Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 ,,
Ladies' or Gentlemen's Gold English Lever Watches	18 ,,
Strong Silver Lever Watches	8 ,,
Gentlemen's Gold Compensation Balance Watches	40 ,,
Do. Silver do. do.	25 ,,
Marine Chronometers	35 ,,

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA-RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD (opposite Spencer-street), LONDON E.C.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

INTERNATIONAL EXHIBITION, 1862.

ESTIMATES AND DESIGNS FOR SHOW CASES, METAL STANDS, &c.

With or without Revolving Machinery, by

BUNNETT & CO., ENGINEERS AND FOUNDERS,

DEPTFORD, KENT, S.E.; 17, QUEEN STREET, CHEAPSIDE; and 435, PARLIAMENTARY STREET, GLASGOW.

MARBLE AND STONE WORKS,

WALTON STREET, BROMPTON, S.W.

J. G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c &c.

DESIGNS FOR DECORATING PUBLIC AND PRIVATE BUILDINGS, OR ROOMS MADE IN ANY STYLE, AND ESTIMATES GIVEN. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. HAVING NOW GREATER FACILITIES FOR THE MANUFACTURE, A REDUCED TARIFF OF PRICES IS BEING PREPARED. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

WHITE AND PARLBY'S

NEW ILLUSTRATED CATALOGUE OF PAPIER MACHE AND CARTON PIERRE ENRICHMENTS.

PARTS I. TO V. NOW READY, EITHER OF WHICH WILL BE FORWARDED POST FREE, ON RECEIPT OF TWELVE STAMPS. SPECIMEN SHEET, WITH PARTICULARS, SENT ON APPLICATION, ENCLOSING POSTAGE STAMP.

WHITE AND PARLBY,

49 & 50, GREAT MARYLEBONE STREET, LONDON, W.

JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL

GREAT EXHIBITION, LONDON, 1851.

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1792)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.

EXPOSITION UNIVERSELLE, PARIS, 1855.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

HUBBUCK'S PATENT WHITE ZINC PAINT.

By their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil, covers as much space as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

PATENT COATED LEAD PIPES and CISTERNS.—IMPORTANT to BOARDS of HEALTH, WATER-WORKS COMPANIES, BUILDERS, PLUMBERS, &c.—JOHN HOLT, Lead Merchant, Patent Pipe Manufacturer, &c. 58 and 60, Shudehill, Manchester, has the pleasure of informing his friends and the public that he has arranged with Mr. M'Dougal for the use of his PATENT COATING for LEAD and LEAD PIPES in this district, and that he has succeeded in applying it to the interior of lead pipes during the process of manufacture. This coating has been tested by the highest chemical authorities, and pronounced to be a perfect protection against the chemical action of the purest water.—Samples may be seen and all particulars had by applying as above.

Shudehill Lead Works.

ART-UNION OF LONDON,

1862.

444, WEST STRAND, W.C.

Instituted 1837. Incorporated 1846.

President.

THE RIGHT HON. THE LORD MONTEAGLE.

Vice-Presidents.

HIS GRACE THE DUKE OF NORTHUMBERLAND, | THE MOST HONOURABLE THE MARQUIS OF NORTHAMPTON,
THE RIGHT REV. THE LORD BISHOP OF ELY.

Council.

EDMUND E. ANTROBUS, ESQ. F.S.A.
HENRY BAKER, ESQ.
CHARLES BARRY, ESQ.
ROBERT BELL, ESQ.
THOMAS BELL, ESQ. F.R.S.
FRAS. BENNOCH, ESQ. F.S.A.
J. B. BUNNING, ESQ. F.S.A.
JOSHUA W. BUTTERWORTH, ESQ. F.S.A.
B. B. CABBELL, ESQ. F.R.S.
REV. E. COLERIDGE.
ROBERT DICKSON, M.D. F.L.S.
CHARLES JOHN DIMOND, ESQ.
GEORGE DODD, ESQ. F.S.A.
PROFESSOR DONALDSON.
WILLIAM EWART, ESQ. M.P.
GEORGE GODWIN, ESQ. F.R.S. F.S.A.
THOMAS GRISSELL, ESQ. F.S.A.
J. A. HALLETT, ESQ.
PHILIP HARDWICK, ESQ. R.A.
EDWARD HAWKINS, ESQ. F.S.A.
HENRY HAYWARD, ESQ.
WILLIAM HERBERT, ESQ.
CHARLES HILL, ESQ. F.S.A.
HENRY T. HOPE, ESQ.
ROBERT HUDSON, ESQ. F.R.S.
JOHN MARTIN, ESQ.
THEODORE MARTIN, ESQ.
R. MONCKTON MILNES, ESQ. M.P.
H. A. J. MUNRO, ESQ. F.S.A.
J. R. PLANCHÉ, ESQ. ROUGE CROIX.
LEWIS POCOCK, ESQ. F.S.A.
THE VERY REV. DEAN OF ST. PAUL'S.
J. R. SODEN, ESQ.
JAMES STEWART, ESQ.
R. ZOUCH S. TROUGHTON, ESQ.
SIR GARDNER WILKINSON, F.R.S.
R. WESTMACOTT, ESQ., R.A., F.R.S., F.G.S.
SAMUEL WILSON, ESQ. ALDERMAN.

LIST CLOSES 31st MARCH inst.

EVERY MEMBER WILL RECEIVE, FOR EACH GUINEA, AN IMPRESSION OF

A LARGE AND IMPORTANT LINE ENGRAVING BY C. W. SHARPE,

FROM THE ORIGINAL PICTURE BY

FRED. GOODALL, A.R.A.

"RAISING THE MAYPOLE;"

BESIDES A CHANCE OF ONE OF THE PRIZES AT THE ANNUAL DISTRIBUTION,

WHICH WILL INCLUDE

THE RIGHT TO SELECT FOR HIMSELF A VALUABLE WORK OF ART FROM ONE OF THE PUBLIC EXHIBITIONS;

TAZZAS in commemoration of H.R.H. THE LATE PRINCE CONSORT, as a Patron of Art, Science, and Literature, from Designs by John Leighton, F.S.A.;

BRONZE STATUETTES OF "CARACTACUS," from the Original, by J. H. FOLEY, R.A.;

BAS-RELIEFS, in Fictile Ivory, of Subjects from Milton, by E. W. Wyon and R. Jefferson;

BOOKS of ETCHINGS, by E. Radclyffe, from Drawings by the late David Cox;

MEDALS IN SILVER commemorative of the late Sir C. Barry, R.A. &c.

All produced expressly and solely for the Society.

***** The Impressions of "RAISING the MAYPOLE" are now ready for delivery.**

March 1st, 1862.

GEORGE GODWIN,
LEWIS POCOCK, } *Honorary Secretaries.*

The Builder.

VOL. XX.—No. 995.

*French Exploration in Greece, Asia Minor, and Syria: Ancyra.**



HAVING left the neighbourhood of Parnassus, we now join company with Mr. Perrot to cross the waters of the Ægean; and, landing in Asia Minor, let us travel inland to Angora, in the region of Galatia, the site of the ancient city of Ancyra. The French researches here, undertaken by order of the Emperor, were described in reports addressed to the minister of state, of various dates from August to October last. Copious extracts from them have appeared in various numbers of the *Moniteur*, some of them within the present year. One of the principal objects of the journey had relation to the inscription called for two centuries, says the account, by "the name of *Monument of Ancyra*,"—one of the most interesting of the Roman inscriptions which are known; and another was the acquisition of information respecting the branch of the Gaulic or Celtic race which for some period occupied and gave its name to that part of the country. The researches have been successful, not only in the results here named as aimed at, and which alone are of importance towards architectural history,—but in the acquirement of drawings, photographs, and information, of remains of architecture and sculpture of several distinct periods and races of people. Mr. Perrot was accompanied by Mr. Guillaume, whose services as draughtsman and architect-explorer seem to have been of most valuable character.

The inscription above referred to, is engraven upon the walls of the Augusteum, or temple of Rome and Augustus, in two languages, Latin and Greek. It had been long known, having been copied at least in part, by Pococke and others. About twenty years ago, however, Mr. Hamilton, the importance of whose services towards the knowledge of Asia Minor are recognized by Mr. Perrot, was first to give a transcript of any considerable portion of the Greek. But, owing to the dilapidated state of the Latin portion, which had been copied so far as that was possible, and the circumstance that the Greek was concealed behind the structure of some modern houses, there were many *lacunæ* in the former to be filled up; whilst the interest of the document made a great *desideratum* to have a version complete. The inscription, as we have said, *bilingual*,—so that it might be understood by Gallo-Greeks as well as Romans,—and the Latin version placed left and right of the principal doorway, so that it might be seen, by every one who entered the *pronaos* of the temple, was the political testament of the Emperor Augustus, that is to say, not the document concerning an inheritor of his possessions, but the *résumé* of his life written by himself, including the catalogue of the victories and services by which he had gained the supreme power, of the magistracies which he had filled, and of the honours accorded to him by the senate and the people, and an enumeration of the edifices which he had repaired or built,—the *tableau*, says Mr. Perrot, "of his Rome of marble, which he had substituted for the old Rome of brick." It is impossible not to attach, with the author of the report, some moment to the perfection of a document, to a certain extent supplying the want of histories of a celebrated reign, and those facts which hitherto have been sought out with pain in such inadequate sources as the allusions of poets, with the addition of a few medals. The English traveller, indeed, appears to have done enough to furnish us with an illustration for some of the points in a recent article, of our comparison between the principles of action by the Governments on the part of this country and France. Mr. Hamilton showed the way to what might be got; acquired very much, doubtless, at his own charges and expense; and left others, backed by the resources which ever seem to be applicable by the French, to achieve what he could not. It is worthy of remark in a parenthesis, that whilst we ourselves are claiming for England the merit of having shown the way to some French discoveries, the writers in the French journals seem quite satisfied that our nation has more aptitude in utilizing French suggestions than in inventing for itself. Be it either way: the discoveries of each member of the fraternity of nations should be regarded as common, and material for the common progression of all; and to be covetous of the mere fame, is certain to degenerate into the refusal to benefit by the origination on either hand. Such an effect has largely accrued; and the evil of the same tendency may be perceived at this moment. We mean the observation as addressed, and equally applicable, to either nation as to the other. Mr. Hamilton gained access to the houses already alluded to, and was even able to get taken down, a wall that covered a portion of the inscription. Thus, says the French report, he copied some words, if not entire lines of the tenth, eleventh, fourteenth, fifteenth, sixteenth, seventeeth, and eighteenth columns, and the whole of the nineteenth half-column; into which nineteen, the Greek version, which is on the exterior of the eastern wall of the *cella*, is divided, answering to the Latin inscription which is in six columns, three to the right and three to the left of the doorway in the *pronaos*.

The Greek inscription has "a development of about 23 *mètres* of length" and 1 *mètre* 35 *centimètres* of height; the letters being 23 *millimètres* in height. The end of the eighteenth column and the whole of the nineteenth (half column) are the only portions actually free of concealment. Still, though the service rendered by Mr. Hamilton was great as acknowledged, the first part of the Latin inscription it was which was in the worst state of preservation; and therefore it was the first part of the Greek, which he had not copied, that was most required. Mr. Perrot and Mr. Guillaume have now been able to make out and transcribe, as well as copy to scale, nearly the whole; so that the spaces in which, from the state of the wall, the words cannot possibly be deciphered, may be filled up on conjecture with reasonable approach to the truth.

Fortified by a firman, and the aid of the Pacha, the French explorers were able to penetrate into the Turkish houses surrounding the temple, more completely than, as it seems, Mr. Hamilton could. They even found the first column of the inscription uncovered; the rest however disappeared behind the work in unburnt brick, of the modern house. Thanks to the intervention of the physician of the expedition, whose services happened to be required, the liberty was bought, at a not too-exorbitant rate, of pulling down the wall, with the obligation of building it up again. Behind this wall were found seven or eight columns of the inscription, which Mr. Perrot succeeded in transcribing by a week's labour. In the adjoining building, which served as a deposit for straw, the tenth, eleventh, twelfth, and thirteenth columns were copied entire. Mr. Hamilton had seen some words of the tenth and eleventh columns, without being able, probably from the different state of the place, to read the entire lines. The ninth column, hidden behind a thick party-wall, Mr. Perrot decided not to try for, seeing that it corresponded with a well-preserved portion of the Latin. The fourteenth, of which Mr. Hamilton read the half of all the lines, was abandoned under similar circumstances.

The Greek inscription is to be regarded as a translation of the Latin, for the people, who then spoke the Greek tongue.

The first eight columns of the Greek, going to the twentieth line of the third column of the Latin, being what required the most time and care, every remnant of a letter was copied. This labour in which Mr. Perrot was assisted by Mr. Guillaume, seems to have been troublesome; the letters having to be made out by candlelight; and the ancient wall having been hacked by the Turks to form key for the mud which served them for plastering, or to get support for their rafters. Thus, after all, the first column has many *lacunæ*, and the second not one line quite perfect. The third and fourth columns are sufficiently entire to disclose points in the biography of Augustus, of which the Latin version afforded no trace; whilst the fifth, to the thirteenth columns are perfect, nearly as when executed. The Latin inscription is more mutilated than it would be supposed to be from the transcripts as published; and, actually, though the ninth column of the Greek has been seen neither by Mr. Hamilton, nor Mr. Perrot, and though of the sixth column only half has been seen, the transcript of this valuable document is tolerably complete, and now drawn to scale with the *lacunæ*, and holes and fractures in the wall, properly indicated. Mr. Hamilton gets the credit for five and a half columns.

The account of the architectural remains of the temple is presented in the words of Mr. Guillaume, who was able to ascertain the original plan and reproduce the details of the ornamentation, not however without giving rise to a report that the strangers had forwarded to France, eight camel-loads of gold from the Ak-Médressé, or "White School," as the building is called by the Turks.

From this account it appears that the remains standing erect, are the longitudinal walls terminated by *antæ*, and the transverse wall in which is the main or front doorway already mentioned, of the *cella*. At the opposite extremity of the plan, are found the walls and backing of the vault of the choir of a church added by the Byzantine Greeks. The double transformation of the temple, first into a church, and afterwards by the Turks into a school, did not give much hope of success from exploration; however, the results have been sufficient to modify considerably previous ideas of the original edifice. A trench was first opened with the aim of discovering foundations of the transverse wall, terminating the *cella*, which wall had been destroyed by the Byzantines. The toothing, or *arrachement*, to the longitudinal walls, however, seems to have been all that was left. Other arches beside the longitudinal walls, gave the depth of foundations as nearly 3 *mètres*, and the difference between the level of the *pronaos* and the *cella* as 1 *mètre* 10 *centimètres*, and also gave the rich and delicate decoration of the lower

* See page 105, *ante*.

portion of the "posterior *pronaos*." The anterior portion of the structure, or *pronaos* in fact, was no doubt similarly decorated; but the ground being occupied by a cemetery, researches could not be made at the place where they would have been needed. The Byzantines lowered the floor of the *cella* to the level of that of the *pronaos*: thus the original pavement has disappeared. A transverse trench between the posterior *antæ* revealed the blocks which probably sustained the two "columns *in antis*." From these points Mr. Guillaume sought for indications of columns of a posterior portico; but the discovery of a crypt banished hopes. As regards the main entrance portico, a trench similar to that just spoken of, between the *antæ*, and extended as far as the tombs permitted, gave the foundations of columns; but whether those of a *prostyle*, that is, columns in addition to those *in antis*, the account does not clearly explain. The next question to ascertain was whether there had been a "portico around the temple;" or rather, it might have been said, whether the temple was *peripteral*. The choir and crypt of the church, as explained, had replaced what might have existed in one direction; and the existence of a mosque and cemetery on the lateral face, or west, interdicted excavation there. On the eastern lateral face there were three Turkish houses (probably those already mentioned) partly supported by the wall of the temple; and the excavations which it was possible to make there and elsewhere, have not as yet given the expected results. Nevertheless the report speaks of the beauty of the proportions, and delicacy of the details, as well as the wonderful workmanship of the structure, which it is considered approaches nearest of what may be seen in the East, to the perfection of the Athenian monuments.

In the course of these researches, interesting inscriptions were found in addition to the one first spoken of. On the *anta* on the right, is one not earlier than the second century of our era, giving a list of subscribers to a reparation of the edifice. The roof, it seems, was then re-covered or renewed. At the head of the list is the name of Seleucus, priest of Augustus: so that the worship was not extinct with the Julian family. This is also shown by a curious inscription, discovered in a Turkish tomb, referring to a statue to be raised to the emperor. At the same locality, called Aslan Hané, or Court of Lions, Mr. Delbet has taken the photograph of a sculptured lion which is said to resemble the lions of the Arsenal of Venice. Mr. Guillaume's researches were still in progress in September last.

The next object of the expedition was to seek in the neighbourhood of Ancyra such traces as there might be of the people of Galatia, as well independent as subject to Rome, and gather by pencil and photograph the remains of the palaces and Assyro-Median sculpture indicated by Texier, Hamilton and Barth, if not to bring one of the curious bas-reliefs to France.

The last report before us, however, first recounts the researches to discover monuments called Celtic, which might be supposed to exist in a country that was inhabited by a branch of the Celtic race, and where a Celtic tongue existed till the fourth century of our era. But nothing was found resembling the *dolmens*, *menhirs*, and *cromlechs*. The inhabitants spoke to Mr. Perrot of *dikilitach*, nearly the same in meaning as the term in Bretagne given to the *menhirs*, stones standing erect. But the stones proved to be funeral *stèles* of the date of the end of the empire. After examining the country far and wide, he is inclined to think such monuments as he sought, never existed.

But the region of Galatia, he shows, has conserved monuments of a period far anterior to that of the Gaulish conquest, and even to that of the Grecian influence, upon the races of the interior of Asia Minor. Without speaking of the important monuments of Boghaz-Keui, in Eastern Galatia, not examined at the date of the report, Mr. Perrot had discovered in the environs of Ancyra, on that side of the Halys, works previously unknown, and like these last named, belonging to a distant period and primitive style of art. Near the village of Kalaba, at one hour's distance from Angora, in a Turkish fountain, is a block of a species of black granite with a lion, *courant*, in very low relief. The character recalls that of the Assyrian lions in bronze in the Louvre, and also the representations of some of those in the primitive *necropoles* of Phrygia. The length, without the tail, is 1 *mètre* 27 *centimètres*. Of this lion a photograph was obtained. In the Haïmaneh, the province which extends to the south and south-west of Angora, at nine hours' distance, near the village of Hoïadja, is an ancient fortress, known to the inhabitants under the name Ghiaour-kalesi, or fortress of the infidels. It commanded a gorge, by which passes one of the most frequented routes of the Haïmaneh. A double *enceinte* of masonry called cyclopean, of large blocks, without cement, in irregular courses, defended the small *plateau*: one of the enclosures edged the crest; the other at about 40 *mètres* lower down, formed the advanced work on the side which commanded the gorge and route. It is the first work of the kind which Mr. Perrot has found in Asia Minor. The blocks are smaller than those at Tiryns and Mycenæ in Argolis. One of them measured 1 *mètre* 98 *centimètres* on one side, and 1 *mètre* 20 *centimètres* on the other. But what, more than the masonry, makes the interest of the remains, and stamps the seal of great antiquity and originality, is sculpture. This consists of two figures about 3 *mètres* in height, of warriors, carved in the rock at the left of the entrance. Each figure bears a tiara-formed casque, extends the right hand towards the west, and holds the left hand, which seems to contain something, to the breast. The dress is composed of a short tunic with large sleeves, tightened above the hips by a girdle from which hangs a short and broad sword, and descending below the knee. At the bottom of this garment runs a band representing probably a coloured bordering. The legs appear to be bare. The shoes turn up at the toe, as in the sculptured relief of Boghaz-keui; which the figures at Ghiaour-kalesi much resemble, if the drawings of the former are correct. The Assyrian figures in the Museum of the Louvre, also seem to belong to the same school, looking at the physiognomy and the fashion of the beard. As to the actual date of the two figures, there is only conjecture. But it would seem that in the long wars between the kings of Lydia and Media, the Medes crossed the Halys to meet their enemies; and the sculpture and the fortification may be the work of some invader from Nineveh or Babylon, or rather perhaps Ecbatana or Susa. The curious bas-reliefs of Pterium (Boghaz-keui) are on the opposite or right bank of the river, considered up to this time as the boundary for the examples of Assyro-Median art. At some days' distance further west from the Halys, are found in the Phrygian necropolis the remains of an art also primitive, but different from the last. Whilst, in the art of the Assyro-Medes, the representation of the human figure and of scenes of actual life plays the chief part; that which prevails in the Phrygian tombs is ornamentation, or the representation of animals, real, or fanciful, which have always a purely decorative or symbolic character. The human figure, in these Phrygian tombs, has not been found. Consequently, Greek art, if it be regarded as having derived something from abroad, and which art from its origin especially concerned itself with the reproduction of the human form, would have had more relationship with the tradition and examples of what we call Assyrian art, than with the models offered by the art of the nations nearest to it geographically, the Phrygians and the Lydians. This is one of the most interesting points arising out of the researches. It is not a new point to English students; but facts as above, noted by M. Perrot, are valuable.

Monuments of a period long precedent to the Celtic invasion, then, are not wanting in the region which later took the name Galatia. There are traces of the Greek art, properly called: thus at Pessinonte are remains of temples of the Macedonian period, and numerous remains of the Greco-Roman. Without speaking of the Augusteum, Ancyra is full of tombs, fragments of architecture, and sculpture of the time of the emperors. Of these remains, one which has the greatest value is the colossal lion already spoken of, which was found in the precincts of the mosque Aslanhané. Nearly all the villages of the Haïmaneh still conserve funeral *stèle*, seeming to belong to periods later than Constantine. There are also found in Galatia remains of some large Byzantine churches, and mosques due to the sultans of Iconium, already like the churches, or nearly in ruins. How then, asks Mr. Perrot, is it that the soil which bears so many remains of each of the other nations, has not preserved some relics of the Celtic period? The first answer to make, he says, is that it is far from being proved that the *dolmens*, *menhirs*, and circles of stones, met with in so many parts of western Europe, are of Celtic origin. Some of those who have occupied themselves the most with such questions lately, incline to attribute those western relics to a race which preceeded the ancestors of the French; and such opinion tends to be accepted. Besides, be it admitted that the remains in Brittany are those of the Celts, it is easy to see that the same warriors who invaded Asia Minor and established themselves in the region since called Galatia, may not have left any monument. According to Livy, at the time of their passage of the Hellespont, B.C. 278, they were about twenty thousand. They had travelled with various fortune, over Thrace, Macedonia, and Greece. During the first fifty years of their sojourn in Asia Minor, they were in all parts of it, under the service of different rulers; and it was not till near the year 220 B.C. that they settled in those districts afterwards called Galatia, which had formed part chiefly of Phrygia and Cappadocia. During the period of their existence as freebooters, one day fighting in Bithynia and another in Ionia or Lycia, it is therefore not likely they would consecrate to their gods such altars as those in Gaul; on which their fathers, as supposed, offered bloody sacrifices. Towards the end of the third century and the next, even when they were settled, they were far from the mother country, and the greater number of course born in Asia, and probably of native mothers. This idea is supported by the fact of the designation of them by the Romans, as Gallo-Greeks. Even without taking into account the unions alluded to, it would seem that ignorant and uncouth soldiers cast into the middle of a country like Asia Minor, populous, rich and ornamented with so many marvels of art, would soon be subject to the influence, and imitate the native customs and manners. All accounts show them, from the time of the war against Manlius, as already Grecianized, and as having adopted the Asiatic luxury and habits, and only differing from the populations near them, by their warlike spirit and contempt of death. Manlius, according to Livy attributed to them persistence in human sacrifices; but it is conjectured by Mr. Perrot that Manlius, or Livy, was guided rather by what he knew of the people of Transalpine Gaul, and that the settlers in Galatia would soon adopt the worship which they found established in so many venerated spots. Before the Roman conquest, Greek names are very common amongst these Gauls. The last king, Amyntas, bore a name which is Macedonian. In inscriptions contemporary with Augustus, Gaulish names occur; but in the reign of Tiberius, the names are as much Roman as Greek. Subsequent to the end of the first century before Christ, there was a Gaulish prince, a high priest; and somewhat later, all the towns of Galatia were inaugurating at Ancyra, in the erection of the temple, the worship of the god Augustus and the goddess Rome. It therefore seems to Mr. Perrot, as already stated, that the Galatian *tetrarchs*, or princes, rich with the spoils of Asia Minor, and surrounding themselves with luxuries, and sparing nothing in order to raise in their capital what he characterizes as "the most sumptuous, the most elegant, and perhaps the most perfect of all the monuments of Asia-Minor" were not the description of persons to elevate *dolmens* and *menhirs*. It is possible that something of the political organization mentioned by Strabo, existed for a short period; and there was something of tradition from the mother-country in the choice of a place for the grand council of the nation, under the shade of oaks, as well as in the generosity of character of which Polybius, Livy, and Strabo give many curious examples. But all the reasons lead to the conclusion that, supposing remains called Celtic belonged really to the Celts, such monuments never existed in Galatia. That is the opinion at least after the examination of the greater portion, all but the east, of Galatia. To this region, about Yusgat, and Amasia and Samsoun, Mr. Perrot was about to proceed at the end of October last. The drawings, and photographs, if not specimens, which will be brought to Paris, or which in part may have arrived there, cannot but be of great interest to many classes of students.

The points, treated above, regarding the influence of a conquered race upon the race politically dominant, are such as recur in many widely-separated chapters in the history of art. They are well to be borne in mind, in the review of such history in our own country. It has not always, indeed, happened that the "true-born Englishman" of the time has given, in architecture, towards the result, art-material greater in amount than the amount of that which he derived. But we are not quite certain what may have been the case between the period of the Norman invasion and the time of William of Sens. At least we recollect, some years ago, when reviewing Mr. Poole's octavo volume on the history of our architecture, being much struck with the evidence of how little there was left for the Normans to

introduce, that had not, following the documents, been carried into effect by the Saxons; and, that invention by these was not confined to that of the chief features of cathedrals, need not be pointed out to any one at all familiar with the ornamentation of which there are so many examples preserved. We are always impressed with the fact that architectural history such as the subject demands, has yet to be written; and that it would be for the gain of future æsthetics and practice, could the work be done: but that history, whether the work of one hand or several, must be illuminated at every chapter and epoch, by the knowledge not only of the period under treatment, but of other periods, be they any esteemed excellent, or those of the art of barbarous or savage races, or those of long decline and debasement, or those of our own time. On such accounts, every contribution which the French may make to us out of their researches,—the names of the buildings of the date of Augustus, the plan and ornamentation of a single temple, or a point in the history of a colony of Gauls,—should be valued by each one here in England who is interested in any subject of architecture,—need we say, who views the art as the embodiment of the history of mind and action in the world.

PROFESSOR SMIRKE'S LECTURES ON ARCHITECTURE, AT THE ROYAL ACADEMY.

LECTURE IV.*

WE have hitherto, this season, been engaged in discussing various, and, truth to say, somewhat miscellaneous subjects connected with architecture, suggested by a reference to some of the literary treasures contained in two public libraries. I have but dipped, very cursorily and superficially, into these collections. Much profit might, no doubt, be derived from the prosecution of a deeper, closer, and more systematic examination of them; but I do not consider myself justified in pursuing the inquiry farther, at least for the present. So brief is my appointed course, that it is now quite time I should quit the mere literature of our subject, and proceed at once to the consideration of the principles that should regulate the practice of the art.

We must remember that architecture is strictly a practical art; far more so than either of the sister arts of painting and sculpture.

Reading and thinking are, no doubt, processes well adapted to clear up and make straight the path before us: they enable us to see our way, and understand the course we should take; but it behoves us also to accustom our minds to the carrying out of the principles so acquired. We may learn much of a country by studying geographical treatises; but it is as a wayfarer on its actual roads that we best become acquainted with it.

Let us, then, enter upon a detailed and practical consideration of the art of architectural design. Such a consideration seems naturally to divide itself into two very distinct general heads; namely, design as it affects exterior architecture, and design as it affects interior architecture; each being very different from the other in its aim and object. It would, however, be a serious error to suppose that the exterior and interior of a building should not be designed strictly in relation to each other. I hold it to be a serious defect in design so to shape the exterior of a building as not to convey, to the mind of one viewing it at least, some general idea of the form, and, when possible, even of the general arrangement, of its interior. Still, the treatment and the nature of the effects and impressions to be produced must necessarily be so different, that I think it will be very convenient and proper to regard these two subjects distinctly and separately.

Let us, then, devote this evening to the consideration of the principles of design as they affect the exterior form of a building; and next week we will deal with the interior.

I need not insist on the paramount importance to an architect of a careful study of external architecture. There are few considerations that lead our mind so forcibly to a sense of the importance of a right cultivation of our art as the consideration of the permanence and durability of her works. Fifteen generations of men have passed away since the erection of those buildings which date from the decadence of Mediæval art; and there are buildings still surviving the wreck of time since the erection of which, a hundred generations have passed away. How grave a responsibility, then, it is which the architect takes upon himself! If his work be one of ordinary solidity, he must count upon a succession of critics, and be prepared to submit his handiwork to a varying standard of taste,—varying to an extent that can scarcely fall to the lot of either of the sister arts. The sculptor's labour is bestowed on objects of comparatively little magnitude; and their defects as well as their beauties have to be searched out in order to be appreciated, or even observed. The painter's field of labour is, perhaps, still more limited and still less conspicuous; and it is painful to contemplate the perishable nature of the productions of his genius. All the love and reverence with which a picture may be regarded can but prolong its existence through a few centuries; and all the care with which it may be cherished may be thwarted and set at naught by an imperceptible worm, a careless spark, or even a neglected window-blind!

Again, if the hand of a master have failed the painter in the execution of his task; or should he, by one of those caprices from which even the highest genius is not always exempt, have produced a work with which, on after reflection or on further study, he feels himself dissatisfied; he can turn his picture to the wall, or even paint it out. Not so the votaries of architecture. To them alone is it given to occupy the highways and public places, and perpetuate their glory or their disgrace in monuments which are at once conspicuous and durable. Is there any consideration better calculated than this to make us earnest, diffident, and studious? Is there any consideration more powerful to warn us from an indulgence in foolish excesses, or puerile *capriccios*? or to induce us to proceed with a measured and a cautious step? to see that every line is founded on sound reason and just calculations? This is a duty which we owe alike to ourselves, to our patrons, and to our art. Let no seeking after present, but very evanescent, praise render us unmindful that our work, however crudely considered or hastily conceived, stands, and will stand, exposed to the unsparing judgment of successive generations.

It is obvious, then, that the composition of external architecture is of the utmost importance to the character of the architect; and demands, therefore, his first and most earnest attention.

Now, in the mechanical construction of a building, what consideration may be regarded as the most important of all? Undoubtedly its foundations. Let your superstructure be ever so just in its proportions, or beautiful in its decorations; if its foundations be faulty the architect can gather no laurels; the structure may drag on its unseemly existence for years; but it can win for him no applause. Nor is this regard to the foundations a mere consideration of mechanical construction: it is also a question of æsthetics.

If your basement be plainly adequate to the superstructure; if it be of fitting character and of competent proportions; you will have gone far to secure a successful result for your whole design.

I believe that in the kindred arts all masters agree in regarding the pose of a figure, or of a statue, a subject of essential importance; and I believe it to be a fundamental rule that the feet should be readily traceable; that there should be no doubt in the mind of a spectator as to how, or upon what, the human body is supported; and, of course, the eye demands that the footing shall be adequate to its task.

So, also, is it in our art. The eye must be satisfied that a building has a firm, visible, and competent basis.

Sir J. Reynolds compares the background of a picture to the base of a building: the comparison is certainly felicitous, and conveys an important lesson both to the painter and to the architect. Each should be quiet and solid; not forcibly obtruding itself upon the notice of the observer; in the one case by any inordinate brightness and glitter; nor in the other case by any needless multiplication of parts or obtrusive enrichment. Like the setting of a gem, the background of a picture may greatly enhance the effect of the subject, or seriously detract from it, according to the degree of judgment exercised in its treatment. So may great value be given to the superstructure of a building by the judicious treatment of its base. But, besides these æsthetic considerations, there appears to be a peculiar practical propriety in giving to a building a base obviously competent to receive and support it. It is not enough to surmise, or presume, that a building has an adequate foundation: it is not enough even to know, as a practical man, that a building has an adequate foundation: the eye needs to be satisfied as well as the mind: the fact should be patent and palpable; otherwise a sort of uneasiness is produced on the mind of the observer, which it is the duty of true art to avoid; for it is one of the most legitimate ends of all art to yield pleasure, not pain, to the intelligent observer.

I need scarcely remind you of the elaborate attention paid to this especial subject by the accomplished architects of ancient Greece. Confined as the Greek temple ordinarily was within its *τεμενος*, or sacred inclosure; and, therefore, having its façade fully seen only from a point of view somewhat near; no very lofty substructure was necessary in order to give it dignity; but that the Greeks were fully sensible of the value of an adequate base, and of the importance of giving a due elevation and spread to the visible footing of a building, is manifest in all their works that remain to us.

The graduated plinths are a peculiar characteristic of most—I believe, of all—of their temples, and seem to give great propriety and significance to the term "Nascentia templa," used by Martial. The spreading steps of a temple seem truly to link the structure with the earth it rests upon; and thus the building may well be, figuratively, said to grow out of it.

Instances are not wanting of casual irregularities of site having been made subservient to the production of very noble substructures.

It is true our knowledge of Greek exterior architecture is mainly derived from sacred edifices; but so attached were they, apparently, to the type presented by the temples, that they were satisfied to build their basilicas externally in conformity with it. The basilica at Pæstum, for example, has its substructure perfectly similar to the temples adjacent to it. The tombs in Lycia, with which of late years we have become familiar, are remarkable for the character of stability and permanence given to them by their bases.

Generally, we may with truth say that the remnants of Greek art which survive for our instruction are amply sufficient to prove that the refined eye of Greek artists failed not to recognize the æsthetic importance of a competent substructure.

In Roman buildings the general use of a podium is an evident recognition of the same feeling. Vitruvius treats the podium as an important, if not essential, feature in the composition of an order; and he gives us the proportions that were held in his day to be proper for this member.

The interruption of the podium of a colonnade, and the forming a break in it under each column, naturally led to the suggestion of the pedestal, which eventually became an integral part of every order. This pedestal may be regarded as a strictly Roman feature; nor am I aware of a single purely Greek example; the nearest approach to it being at the singular temple at Segesta, where the breaking of the upper plinth, or step on which the columns stood, forms under each column a cubical block of masonry resembling a plinth; but even this, there is reason to believe, is rather due to the unfinished state of the building than to design.

When once adopted in the architecture of Rome the pedestal became well-nigh universal, and continued as long as Classic architecture retained any of its ancient purity. In the grand style of Roman art, that art which it has been too much the fashion, both of the ultra Greek on the one hand, and of the ultra Goth on the other, to contemn; but which was an art, in its best days, most impressively marked by the greatness of manner which well became the masters of the civilized world;—in that art nothing is more striking than the skill shown in the advantageous placing of their buildings. The eye of the artist is everywhere apparent, when we examine the topography of ancient Rome; whilst the Villa of Mœcenas, the Temple at Tivoli, and many other familiar examples might be adduced as evidences of the judgment and taste which guided the Romans in determining the sites of their more important buildings.

The practice of Mediæval art fully concurred with that of the ancients in attaching importance to the mode of placing their buildings, and in the due appreciation of the advantage of a bold and massive substructure. It would, indeed, be difficult to find an example, during the best period of Mediæval art, where the basement has not been plainly made the object of especial study and design; although it is certainly obvious, from the great diversity of their practice, that our ancestors had no very fixed rule for their guidance in proportioning their podium to the superstructure. They evidently felt, however, very strongly, the good effect produced by marking forcibly the base lines; indeed, those lines are, perhaps, the only very strongly marked horizontal lines in a building of the best age: the stringcourses were held of little account, and the cornices were often very

* See page 129, *ante*.

moderately pronounced and constantly interrupted in various ways, but the base lines very rarely. Deeply shadowed and promicently marked, they never fail to arrest attention.

When we carry down our survey to that period in the history of our art which immediately succeeded the prevalence of mediæval forms, we shall still find a full recognition of the importance of the base in every architectural composition. In the Venetian buildings of the quatro-cento period notable instances might be adduced; and there is no better evidence of the refined taste of the very early master, Alberti, than the noble basements which he gave to his works. The new front he gave to the Church of St. Francesco, at Rimini, appears to me to exhibit a very fine feeling in this respect. In the works of Bramante, of Raffaelle, of Giulio Romano, and of Palladio, you will find the dignified pose of their buildings well worthy of most careful study—a study which it is very certain those distinguished artists never failed to bestow on the subject themselves.

Descending in our view from the period of the Early Renaissance down to the less refined, though, perhaps, still more picturesque, manner that succeeded, we still find the best artists never neglecting that important part of their compositions, the base. Indeed, they amplified the idea; and we find terraces worked up with extreme ingenuity, so as to combine with and enhance the effect of their architecture; spreading out, as it were, the base of a building so as to connect it with the ground it stands on; rendering it sometimes scarcely obvious where the domain of the architect ends and where that of the gardener begins.

But I hope that enough now has been said to satisfy you of the attention that is due to the preliminary subject of basements; and I feel confident you will concur with me in what I said at the outset; that, in order to afford unmixed pleasure to the critical eye in viewing a building, the mind must feel satisfied of its stability; and that there are no means so proper for that purpose as providing a good and sufficient visible foundation.

The subject now leads us naturally upwards to the superstructure; and, without entering at present into any question of style, I think that our first business is to consider architectural character in its broadest sense. When we propose to ourselves to design a building, the very first question that should present itself ought to be, what character will it be most fitting to impart to our work? For we may be well assured of this,—that, however exactly our building may be in accordance with the ordinances of architecture; whatever may be its merits as a composition; however unexceptionable may be its details; if the general character of the building be not in harmony with its purpose, a fundamental defect exists, for which no amount of art will compensate. Whereas, if the character of the building be in accordance with its purpose and destination, a favourable impression is produced which reconciles us to many blemishes of detail.

I would cite, for example, the principal front of the Imperial Palace at Vienna,—a building which has all the worst vices of the most corrupt German school; yet possesses in its well-supported character the great redeeming merit of appearing really like what it is,—a great imperial residence.

I would cite, also, the garden front of Versailles,—a subject familiar, probably, to most of you: as an architectural composition it is, I think, sadly deficient in character, with little claim to the attribute of grandeur beyond its enormous length, and but feebly suggesting the idea of a great monarch's residence.

To seek for an illustration nearer home, I might point to Whitehall Chapel, a building, the architecture of which seems remarkably expressive of the festive purposes for which it was originally designed; and this illustration is the more instructive when we have regard to the manifest unfitness of the building in all its features, internal and external, to its present purpose. There never was a more grievous misapplication of a fine piece of architectural composition.

I feel the extreme difficulty of defining this quality of character with that precision at which one who assumes the office of a teacher ought ever to aim: but it appears to me to be a consideration involving so much more of feeling and judgment than of abstract reason, or of what logicians term dialectics, that I fear it would be a hopeless attempt to lay down definite rules for insuring propriety of architectural character. We have neither numbers, nor figures, nor words, by which the relative merits or the essential attributes of art can be gauged or compared with mathematical exactness. We want, and shall never find, a golden mete-wand which shall serve to reduce genius to a matter of calculation, or to supply an unfailing criterion of good taste.

We may, however, safely say, generally, of a building, that its character is well conceived, if the intelligent observer be at once impressed by the congruity of its aspect with its destination. I do not mean that a hospital should look lugubrious; or that statues of maniacs should decorate the portals of a lunatic asylum, as was the case at old Bedlam: that would be a gross misapplication of the principle; yet, in such structures as these, there is a plain propriety which forbids the architect to admit an air of levity into his work, or to indulge in fanciful decoration.

To give to a court of justice the riant air of a place of public amusement; or to give to a private gentleman's residence the aspect of an ecclesiastical structure, or of a crenellated fortress in the days of catapults and cross-bows, would be to commit a solecism which no abstract ingenuity of design, nor antiquarian correctness, could possibly justify.

Quite irrespective of style, much of the character of a building depends on its general treatment. I apprehend that a painter who takes in hand some great historical picture would adopt a mode of treatment widely different from that which would guide him in painting some humble piece of *genre* painting, or of still life. So also the architect should certainly adopt his mode of treating his subject to the nature of the building. To design a small village church like a miniature cathedral would be a vulgar error, and the formal, dignified simplicity of a Greek temple would be grossly misplaced in the suburban villa.

To enforce so plain a truth seems almost to demand of me an apology, and yet experience proves that this congruity of style is not seldom lost sight of.

At Potsdam, for instance, we see the elegant and stately shaft of a Mahommedan minaret, decked with all the graces of oriental architecture, degraded to the vulgar uses of a steam-engine chimney, built for the supply of water to the royal kitchen-garden.

So we may find, nearer home, that these freaks of genius are not wholly wanting. An admirably-designed Egyptian temple, with its richly-sculptured decorations illustrating the triumphs of Sesostris, forms the façade of a cotton-mill.

In all cases, I should say, let the purpose of a building determine its external character; and, although the forms of architectural composition may not be so eloquent as always to express very distinctly the nature of those purposes for which a building was erected; yet, let the architect have a care lest he invite ridicule by those flagrant inconsistencies which result from an indiscriminating adoption of an architectural style; in total forgetfulness, or disregard, of the future destination of his work.

Besides the influence that the uses and destination of a building should exercise on the mind of a designer, in determining its architectural character; there is yet another consideration which should never be overlooked by him in making his design.

It is with truth that Pope teaches us to—

"Consult the genius of the place in all."

This *genius loci*—the local circumstances of the spot—should not fail to have its due weight in the selection of style and character. For example, amidst picturesque and varied natural scenery, a flat, formal, rectangular façade appears inharmonious and misplaced. On the other hand, in the streets of a city, some uniformity of outline seems preferable to that endless miscellany of houses of varied heights, shapes, and sizes, which make some of our large streets so pre-eminently ugly. It is no uncommon error to design a street façade wholly regardless of this consideration. We too often see, in the midst of the irregularity of ordinary street architecture, an elevation with its centre and wings; a pediment here and a projection there; the whole presenting a complex composition all crowded into a small compass; producing painful confusion instead of that repose which, amid such discrepancies of form and fashion, the distracted eye so much desires to dwell upon; and this is often done to the serious disparagement of the building itself, by detracting from its individual importance.

A simple, unbroken front might have claimed our attention at least, if not our admiration; whereas, with its front broken up into wings and centres, the building loses its unity and individuality; and each fragment of its composition adds but to the general disorder of the scene. We shall find this distinction steadily kept in view by the best masters.

I need but to remind you of the noble specimens of civic architecture with which Florence, Vicenza, Verona, and other great cities in the north of Italy abound; where you will never find a fantastic variety of outline aimed at; but rather that broad simplicity of treatment which is so well calculated to impart individual dignity to each structure.

When we turn to the works of the very same masters amidst the beautiful hills of the Brienza, or on the banks of the Po and the Brenta, we see them there relaxing that severity of manner, giving to their plans a playful variety, and to their outlines a picturesque freedom.

Now, with regard to exterior design, the most prominent and important principle of design is form. It is form that is mainly instrumental in giving expression to works of architecture. Colour, ornament, the elaboration of the smaller features of a building, such as doors, windows, and the like,—all these are, no doubt, useful contributories to the great object of giving character and expression to a building; but they are not alone and of themselves sufficient. It is the dome, the spire, the portico, the arcade: these, and such as these, are the forms on which a building mainly depends for its effect.

When these main features affecting the outline of the building are right and true in their proportion and collocation, the design is sure to be successful in securing our respect at least, and fixing our attention; but if these fail,—if these great and leading features be disproportioned or out of keeping with the plan and purpose of the buildings, or otherwise mismanaged; then all the enrichments of art are exhausted on it in vain, and the most laborious and ingenious details are but labour lost.

In this respect, as in many others, architecture and sculpture are kindred arts. The most beautiful details, the most exquisite finish, the highest polish, would fail to invest a statue with the true character of high art, if it be wanting in fine form; whilst the rudest sketch, the simplest outline, from the hand of a Michelangelo or a Flaxman, is stamped with immortality.

I would by no means inculcate negligence of detail, or of finish; nor would I have you in the least degree regardless of the charms of ornamentation. Sir Joshua Reynolds says, with his wonted truth, "As life would be imperfect without its highest ornaments, the arts; so these arts themselves would be imperfect without their ornaments." I do not, I say, seek to depreciate the value of ornamental details. They may most legitimately excite our admiration, by their individual beauty or by their happy adaptation to their place; or by their rich abundance; or by the judicious parsimony with which they are introduced; and they may act with the utmost effect in giving scale to our work. On this latter ground, indeed, rests the main justification of that crowding together of minute details which characterizes the later schools of Mediæval architecture.

But ornament, like a highly-tempered weapon, needs much caution in the handling. Not only must it be of a kind suited to the character and purpose of the building; but in quantity also it must be carefully apportioned.

These considerations should induce you to attach much importance and value to the proper study of ornamental details; but do not forget that such details should take a secondary place in your professional estimation. It is, I repeat it, the leading and prominent features of your design which are of paramount importance. The experience of every one must be able to afford illustration of this truth, viz., that the most impressive effects of architecture are irrespective of mere ornamental details. After having imperfectly seen a building for the first time at night, or in the shades of evening; and having been deeply impressed with a sense of its grandeur; how often are we surprised (perhaps, indeed, disappointed) on the morrow by finding it of insignificant dimensions, or of mean construction! I have even found in the morning that I have been looking over-night with much interest, perhaps with admiration, at what has turned out to be a temporary scaffolding of poles and tarpaulins. It was its fine outlines, its broad *chiaroscuro*, its deep shadows, which had produced this profound impression. Such is the magic of form, and of an effective management of lights and shadows in our art.

I have but little doubt that the striking effect of a Gothic cathedral is mainly due, not to its intricate enrichments, not to that exquisite elaboration of its detail upon which indiscriminating admirers of Middle-Age art are too apt to lavish their exclusive praise (and to which students, allow me to say, are too apt to bestow their exclusive attention); but to the breadth of its main

features; to the variety of its masses; and to the grand and surprising effects produced by its lights and shadows.

I am the more led to dwell on this point, because ornament exercises an extremely seductive power over the mind of younger students. Florid beauty in architecture may be well compared to on over-ornate style in oratory. We are dazzled by the splendour of phrases, by the flow of brilliant words: the flowers are strewed before us in such charming abundance that we are led away by our admiration of them, and forget to exercise a calm and rational judgment on the main merits of the production, as a work either of logic or of rhetoric; and we are in no mind to inquire into the fitness or propriety of the decorative adjuncts.

So it is that the younger practitioner in our art (and, perhaps, in the sister arts), is easily reduced, through an erroneous estimate of the value of this secondary object, or by a latent desire to display his dexterity in superficial embellishment, to impair the breadth and solidity of his essential design.

I trust that I have said enough to establish in your minds my position that the vital principle of architectural design is form.

I think that there are three principal and very distinct sources of beauty in architectural composition:—

1st. There is a beauty in the aptitude of a form; that sense of satisfaction which the mind experiences when perceiving the nice adaptation of any object to its purpose.

2nd. There is the beauty of symmetry; that pleasing impression produced, I know not why, by regularity of arrangement, and by exact correspondence of the several parts. Perhaps this sense of the beauty of symmetry may be founded on the almost universal prevalence of unsymmetrical arrangement in the works of nature, whether in animate or inanimate creation.

3rd. There is the beauty of the picturesque;—a pleasing impression (differing very widely from the last, and sometimes almost opposed to it, and equally difficult to account for), which is made on the mind by irregular but not confused or discordant combinations of form.

I do not pretend that under these three heads all kinds of formative beauty can be classed; but they may be quite sufficient to engage our attention on the present occasion.

It is not only good taste, but common sense, that teaches us that a form should be fitted to its purpose; and, as I have said, the fulfilment of this first great condition is in itself an element of beauty.

But I am afraid that the mere dry, unimpassioned beauty resulting from the quality of fitness, however it may satisfy the engineer, will hardly suffice to meet the aspirations of the architect.

As sensible men, we cannot admit the beauty of any object that is irrational, or idle, or inapplicable to its purpose; yet, as artists, or intelligent observers of art, we desire this, and something more. I think that this kind of beauty, and the distinction which I am endeavouring to draw, may be illustrated by a very simple comparison between two familiar forms, that of the early Classic, and that of the early Mediæval art. Both are so far beautiful, inasmuch as both are perfectly adapted to their purpose; both convey in the simplest and most effective manner the vertical pressure of the super-imposed weight down on to the circular shaft, whose office it is to bear that pressure.

Both are alike honest and simple; but an absence of refinement, not to say a rudeness, characterizes the Norman capital; while the more ancient type, although honest and simple enough, gives evidence of a more refined feeling, a more skilful working out of an idea, a quality which distinguishes the Greek artists from all others. The parabolic curve of the echinus shows a nicety of execution which the mathematician only can fully appreciate, or even comprehend; but the higher merit of which all can feel.

It is said by Cicero, "Venustas et pulchritudo corporis secerni non potest à valetudine." We, in like manner, might say that it is difficult to distinguish clearly between the beauty of an architectural form and its strength or ability to fulfil its task. This quality of suitability of form will ever be held in popular esteem; for it can be understood and perceived by all; whilst it is the privilege of the few only to estimate æsthetic beauty at its true value. In this country especially, where the general mind loves to hover in the lower atmosphere of practical science, and soars reluctantly into the higher regions of æsthesis, this utilitarian quality has peculiar attractions. There are thousands of otherwise highly-educated minds which distinguish no superiority in a Greek vase over an ordinary garden-pot. Both, they will say, are alike adapted to their purpose: both fulfil their destinies with equal efficiency; therefore, both are alike worthy of our approval. I have known a critic of this school condemn to utter ridicule a colonnade of finely-proportioned stone columns as being a clumsy contrivance, inasmuch as they are, perhaps, 4 or 5 feet in diameter; whereas plain iron posts, a few inches only in diameter, would have answered every purpose.

To answer such criticism is but labour lost; and the sorrowing artist has but to sigh and pass on.

> "Misericordia e justizia gli sdegna,
> Non ragionam 'di lor, ma guarda e passa."

I now proceed to the second source of beauty, Symmetry.

Our great master, Vitruvius, thus instructs us: "Symmetry," he says, "results from proportion. Proportion is the commensuration of the various constituent facts with the whole, in the existence of which symmetry is found to consist; for no building," he says, "can possess the attribute of composition in which symmetry and proportion are disregarded."

It may be difficult in few words to express all that is intended to be comprised in that word symmetry; but there can be no doubt that the great balance and correspondence of component parts, and the regularity of their general arrangement, which constitute the essence of symmetry, is a never-failing source of pleasure to the critical eye; and here we perceive (what I have already adverted to) an instance of the analogy which our works bear to those of nature; who, in her greatest work,—man, the human frame,—has set before us an eminent example of perfect symmetry.

This quality has ever been eminently architectural. We recognize the attribute of symmetry in the avenue of Sphinxes at Memphis; in the façade of a Greek temple; in the long-drawn aisles of a Gothic cathedral; in the stately colonnades which surround the cortile of St Peter's. We find it in its highest condition in the works of the best Italian masters; pre-eminently, perhaps, in the works of Palladio. A want of symmetry in parts, where its want is patent, is a fundamental defect which no art can hide, and for which no beauty of individual parts can compensate.

The want of due proportion between the dome of St. Peter's and the body of the building has been often remarked by critics, and not without ground, as an instance of this defect; and I might cite an example of a like defect, although under very different circumstances, at Munich. There the enormous statue of Bavaria crushes into Lilliputian insignificance the otherwise pleasing colonnade which accompanies it. In this case, had it been the artist's purpose by this interchange to enhance the size of his statue (whose bulk may be comprehended from the fact that twenty persons can find sitting-room in the head) he might have been welcome to sacrifice a whole hecatomb of life-size statues around the feet of his colossal image; but it was treason to architecture thus to reduce a fine Doric portico to the proportions of a plaything; and to sacrifice the dignity of our art in order to magnify the vastness of his figure.

I proceed now to the third source of architectural beauty; viz., that resulting from the picturesque.

If there is difficulty in defining symmetry in few words; a succinct definition, or, rather, description, of the word picturesque is far more difficult. As I have said last week, there is no quality which it is more dangerous to affect than this; for the spell is at once broken, and the author loses the reward of his art, as soon as it is perceived that there has been a laboured effort made to produce it,—like the Spartan rogue, who only gained a lawful exemption from punishment for his theft by the dexterity with which he contrived to commit it.

The ecclesiastical and castellated piles of the Middle Ages are perhaps the most striking as well as the most familiar illustrations of this high quality of art,—if art it may be called, where concealment of art is the best proof of its influence. But I last week sufficiently discussed this subject of the picturesque.

But there is a principle which I should notice here as being applicable to all large architectural compositions, and to none more so than to those of picturesque character. I refer to a certain subordination of the various parts of a composition to one predominant feature or group.

In every large composition, whether it be a building; or, as I believe, a picture; a kind of unity should be preserved by concentrating effect,—by giving, not indeed an unduly absorbing interest to any one portion of the design, but a decided and clearly-marked preponderance to one portion; for I think it is a remark of very general application, that where interest is scattered it is sure to be weakened.

Our own St. Paul's is an instance especially in point, and affords a remarkable example of happy adjustment of its various parts; giving to the dome just importance enough to secure its preponderance without overwhelming the subordinate parts of the design.

The superiority of the effect of those cathedrals, such as Salisbury, Lincoln, Lichfield, and others, which have main central spires, over those where that main feature is wanting, such as Westminster, Winchester, and Peterborough, is also an obvious illustration.

It was, no doubt, to some æsthetic consideration of this nature that we owe the noble gate towers of our colleges, and some of our old baronial residences, such as Burleigh, Knowle, and the like. These central features, rendered forcible by their superior height and enrichment, connect, as it were, the various parts of the composition; giving it that unity which, as I have said, adds so much value to a design. I might name Greenwich Hospital as a building which must be regarded as very deficient in this respect; and I can hardly doubt that this building, as we now see it, is but part of a larger and more connected design, which its distinguished author was unfortunately unable to realise.

You will have observed that in the somewhat desultory remarks I have addressed to you this evening, the subject of styles has been but slightly touched upon.

This has arisen from no want of due appreciation of the importance of that subject. There is no doubt whatever that a thorough, discriminating knowledge of the several recognized styles that have prevailed in the more highly civilized countries of different ages; forms an essential part of the education of an architect. But I believe I shall be best fulfilling my duties here by drawing your special attention to those broad principles of design that seem alike applicable to all styles; to a right understanding of which principles, the acquirement of a knowledge of details must, as it seems to me, be always subordinate.

It would, doubtless, be taking a very narrow view of the study of the art, to confine our admiration or to limit our attention to any one style; whether it be that which flourished under Pericles or that which reached its culminating point under Saint Louis or our Edwards; or that which left in the great municipalities of North Italy enduring monuments of originality and genius.

The time may come when architecture, unencumbered by prejudice or pedantry, may cease to feed on the past, and take a loftier and nobler flight.

Two revivals have marked the history of modern art. There was a great revival in the fifteenth century. Nothing could exceed the enthusiasm of the artistic world when Lorenzo assembled around him the scholars and artists who effected that great change; but with all their ardour there was no want of discriminating judgment. They dug up, and measured and studied, with minutest care, the works of the Classic ages; but they wrought themselves in an unfettered spirit.

The style of antiquity was by them so modified to suit the wants and habits of modern civilization, that their works became as much marked by originality as by beauty. It may be, indeed, questioned whether the world has yet seen men altogether equal to some of the quatrocentists.

Let us have a care that the second revival—that of the nineteenth century—is not marked by a narrow, sectarian spirit, and by the ignoble results inevitably attendant on a blind, servile, superstitious adherence to precedent,—a feeling from which the great movement of the fifteenth century was so entirely free.

No doubt, the arts have advanced much since painters habitually drew the heads of men and women with their elongated eyes placed somewhere about their temples, and represented their horses stepping out with both legs together on the same side. But it is undeniable that in our art we have yet much to unlearn, many prejudices to dismiss, much rust to rub off before architecture can take its true place.

It may be long before a Giotto or a Bacon arises in our art, but we may look forward hopefully to the result of a combination of many minds acting in an earnest spirit and guided by right principles.

THE ROADS TO THE GREAT EXHIBITION.

The Thoroughfares Improvement Committee, in a second report to the Vestry of Kensington, say, with respect to the Brompton-road improvement, a plan was submitted, purporting to come from the Committee of Council on Education, showing an improvement to this thoroughfare by taking down certain houses and buildings, which would have cost at least 50,000*l.*; and that, on writing to the Council to ascertain their intentions as to raising funds for this object, no answer could be obtained.

The Committee then addressed a letter to the Royal Commissioners for the International Exhibition, 1862 (3rd December, 1861), but obtained no reply of any kind.

The parish surveyor, Mr. James Broadbridge, afterwards prepared a comparatively inexpensive plan for improving the width of the road, by taking off a part of the land in Queen's-buildings not built upon, and 20 or 25 feet in width, of the apparent waste land in front of Brompton-row; also the open space in the front of Michael's-place, now only inclosed by railings; but found the amount of compensation required was far beyond the limited fund at the disposal of the Vestry. The Committee remark that the road is a turnpike road, and entirely under the control of the Metropolitan Roads Commissioners, the Vestry only having the care of the footpaths on either side; and that these Commissioners have powers under their Act to widen and improve the roads under their jurisdiction.

The Committee consider "the parish of Kensington has shown itself quite disposed to assist, in a practicable and reasonable way, in the improvement of the Brompton-road; but has also felt itself quite uncalled upon to carry it out single-handed; especially as the parish of Kensington is by no means the only or the most largely interested body in the matter."

A deputation of the same Committee waited upon the Metropolitan Roads Commissioners on the 31st of January; and, by way of trial, ventured to suggest that probably the Vestry would be willing to contribute an annual sum of 3,000*l.* in consideration of the Commissioners removing the turnpike-gates and side bars throughout the parish of Kensington.

The committee considers that Palace Gardens, which is a private road leading from the Uxbridge-road to the Great Western-road, should be open during the time the International Exhibition shall continue; and have communicated with the Office of Works on the subject.

Since the date of this report (19th February), the Commissioners for the Exhibition have received a letter from the Commissioners of the Metropolis Roads, intimating that,

"With the view of facilitating the access to the Exhibition Building, the Commissioners are willing to widen the Fulham-road from Knightsbridge-green to the Bell and Horns, to the extent of 15 feet, if the parochial authorities will put them in possession of the land free of cost."

A short Act of Parliament would probably be necessary to effect this; and if all parties concerned, including the Horticultural Society, the Government in respect of good access to the South Kensington Museum, and the Exhibition Commissioners, will join with the parish authorities, the road may yet be widened in time, and a national scandal prevented.

As to means of communication from the West-London Junction Railway, Kensington, we have reason to believe that all the arrangements are made for a tramway up to the Exhibition. At any rate, agreements have been made for some time with Captain Gunter and the other landowners for the site of the road.

On the 21st ult., Mr. Cowper moved in committee of supply for leave to bring in a Bill to provide, from a reserved fund arising from the London coal duties, for the construction of a road, at a cost of 30,000*l.*, both on the ground of local public requirement and for the improvement of the approaches to the International Exhibition. Mr. Cowper described a sunk road in the Broad Walk of Kensington Gardens; and urged its importance and the difficulties in the way of its being carried out in any other manner. Some discussion arose on the question, during which a strong opposition began to manifest itself; but for the time all decision was suspended by the fact that on a division it was found there were only seventeen members in favour of the resolution and twelve against it; making in all only twenty-nine members; which number was not sufficient to form a sitting; and the House was ultimately adjourned.

The subject, however, was again brought on, and in a full house, on Tuesday, the 26th; but after some discussion, in which Sir J. Shelley, Lord Palmerston, Lord J. Manners, and other members took part, Mr. Cowper rose and said he perceived that the feeling of the house was so strong against his permanent road that he should only be wasting time to insist on the scheme any longer. He ventured to observe that it was within his province to propose a measure relating to the royal property; and that it would have been beyond the jurisdiction of the Metropolitan Board of Works to do so. He might add, however, that he had received a vote of thanks from that Board for the plan he had proposed; and he thought, therefore, that he had a right to expect the cordial support of the metropolitan members. Finding that his anticipations were not realized, he would move that the chairman leave the chair; and he would then consider the other branch of the subject; namely, the arrangements to be made for the temporary passage of vehicles across the parks.

The chairman then left the chair.

It was a most unwise proposition, and is very rightly abandoned. With all our anxiety for a road, such a desecration of Kensington Gardens as was threatened would find no apologist in us.

THE ROADS ROUND THE EXHIBITION BUILDING.

Sir,—Whilst public attention is being drawn to the thoroughfares leading to the Exhibition of 1862, I would be allowed a space in your journal for a few remarks upon those more immediately round the Exhibition. As surveyor of the parish in which they are situate, except the north end of the Exhibition-road, I have to pass continually over them, and have observed the various attempts which have been made to repair them. It appears one half the roads are under the control of the "Exhibition Commissioners of 1851," and the other half is claimed by the owners of the mansions fronting thereon. I have seen, from time to time, portions lavishly coated with one description of material, whilst other portions have not been repaired at all, or done with that of a different kind; and from this cause, and the want of labour, so as to properly form the roads to throw off the surface water, there has been a great waste of money without obtaining the desired object. Now, whilst with attention these roads might last for a time with ordinary traffic, they certainly cannot withstand the wear and tear of the public conveyances to the forthcoming Exhibition. From having had many years' experience in road-making, I view with some anxiety the delay now taking place in putting these roads in substantial repair; and unless they are at once attended to, and properly shaped, and allowed to consolidate with ordinary traffic over them, before the contemplated extraordinary traffic commences, the waste of money will be enormous, unless there can be a united action between the Commissioners of the Exhibition and the owners of the mansions to have these roads repaired all over their surface; and, at the same time, I am of opinion that it would be cheaper for the Commissioners to take upon themselves the repair of the whole than to attempt to keep up their half with the threatened barriers on the other. The worst season of the year for the repair of roads is now approaching; and when between 20 and 30 per cent. of their value will be destroyed before consolidation.

I would urge the Royal Commissioners, or whomsoever it may concern, to grapple with the question at once, as every day's delay will add seriously to the expenses.

Kensington. James Broadbridge.

*** Without knowing any of the special circumstances, if there be any; it would seem but reasonable that the Commissioners should keep the whole width of the road in repair, during the Exhibition.

THE PRESERVATION OF ICE.

Ice-houses, whether dug out of level ground or out of the side of an eminence, require protection from heat, transmitted or conducted through the atmosphere or through the soil. To protect them from the heat of the sun they should always be dug in places well sheltered by trees. To protect them from heated winds, the opening into them should be towards the north. In all cases their entrances should be closed hermetically and at all times, if possible, when the temperature is above freezing point. To prevent the transmission of heat through the earth, their sides, top, and bottom, should be lined with masonry and cement, thick and close enough to prevent the entrance of water. An ice-house should never be dug in wet soil, or near a spring. The masonry around it should be from 3 feet to 4 feet thick, and shaped like an inverted cone. At the bottom should be a grate communicating with a drain for carrying off any water from the ice. A pit, 15 feet in diameter by 22 feet deep, lined with masonry 4 feet thick, and covered over with wood thatched with straw, or with wood and earth, or any other good non-conducting material, and with a door at the north side of the top, is the common form of ice-house. The ice is removed by means of a bucket, which is lowered and raised by a pulley. A smaller size of ice-house, cheaper and simpler, is also very common, especially in America. It is an excavation in the side of a hill, about 6½ feet in diameter and in depth. At the bottom is a trench for carrying off any water produced from the melting of the ice: the bottom and sides are formed of laths or planks of wood, attached to girders and uprights. Straw is placed over the bottom and up the sides, and pressed close, forming a layer of non-conducting material 3·10ths of an inch thick. Over the top of the pit is a ceiling of wood, which supports the earth heaped up to a height of over 3 feet. At the north side of this pit is the entrance, a squarehead lined with planks, and forming an inclosure, which is filled with straw. A few steps (four or five) conduct down to the door of the ice-house, which is closely covered with bundles of straw, and is itself formed of wood, with straw attached to its inner side. An ice-house of this size contains over 3 tons 17 cwt. of ice. It should be entered only once a day—in the morning or evening. The straw which covers the entrance should not be removed for a longer time, or more, than is absolutely necessary.

The two arrangements which we have described have been in common use for many years on the Continent and in America; but in this country such ice-houses are comparatively very rare. The objections against them are numerous. Our soil, in most places, is so wet, that it is difficult and expensive to make ice-houses perfectly impervious to water. So injurious is moisture, that ice stored in a new ice-house will rapidly melt away if the masonry has not had time to dry, or if it is not perfectly water-tight. Besides, our climate in summer is mild, and we have little need for ice: our climate in winter is not excessively cold, and it is difficult to obtain clear, pure hard ice, fit for preservation. We have great facilities for importing it from Norway, the Baltic, and other northern countries. It may be transported easily and cheaply, even in summer, from one part of the kingdom to another; and the extra expense incurred by purchasing it from ice-merchants in small quantities, as required, is compensated by the superior quality of the article which they supply. Ice cannot be preserved economically unless in large quantities; and few gentlemen in Great Britain require so much of it in summer as to justify them in building and filling large ice-houses merely for their own use. Many who have attempted to render themselves independent of the ice-merchant have lately ceased to fill their ice-houses, and have used them merely as refrigerators for preserving, fresh and cool, their butter, milk, meat, and vegetables.

The following arrangement for obtaining ice-water in summer, and for cooling purposes generally, has been tried successfully, and deserves attention at this season of the year. In the bottom of a dairy, or vault, or wine-cellar, a large hole is dug; and, if the soil be damp, the hole is surrounded with an impenetrable enclosure of brick. Inside the brick or earth, is placed a layer of ashes or cut straw, 4 inches or more in thickness. Within and upon the latter is sunk a large barrel or tun, bound with iron, about 6 feet in depth and 3 feet in diameter. The larger the hole and cask are the better. Over the cask is placed a lid lined upon the under side with thick woollen cloth, and with a receptacle on the upper side for a layer of cinders or cut straw, which should be pressed tightly together. The lid fits the cask so closely as to render the latter perfectly air-tight. The cask has a double bottom; the upper one pierced with holes, and with a space between them. From this space a pipe conveys away the cold water from the melting ice into a drain-well or other receptacle. To fill the cask, the lid is removed, a stake is placed in the centre, and around this stake the ice is packed as closely as possible. Only dry pure ice should be used; and all interstices should be filled up with snow or crushed ice. After the cask is filled, the stake is removed, and the lid replaced. As fresh air cannot enter, the ice melts so slowly that ice-water may be obtained by this means at a trifling cost during the whole ensuing summer. The arrangement is simple, easily carried into practice, and useful.

SOME NOTES FOR STUDENTS OF SCOTTISH ARCHITECTURE.

The subdued golden richness of the choice robes of Egypt, the bright-coloured silks of China, the lustrous-toned hues adapted in Spanish costumes, may be considered as expressions of national peculiarities. National feeling must, however, be allowed to be more manifested in the architecture of respective countries. The progress of nations, too, may be traced by their architecture. Let us look into our own as an example. Can we not see the iron heel of a warlike race in our massive Norman architecture? Can we not see a more settled state of the country in the lighter, more ornamental, Early English style? Then, as we approach the Scottish border, does not the ancient architecture represent the ancient feuds, forays, and reprisals, in its solid masonry, small window openings, look-out towers, and precautions for defence? Distinct again from this is the character of Scottish architecture—albeit but a silvery stream divides the two countries,—where, in its wrought stones, there is an individuality as apart from English decorated work as from French flamboyant; or as from the Classic elements that Italian Gothic absorbed.

Pleasant and easily computed are the sums total of Scottish village-inn bills, after the levies made upon a traveller's purse in more beaten tracks,—a consideration to the travelling student not to be glossed over. Among the Lammermuir hills, a pedestrian may find modest inns, where he may have tea, supper, a night's lodging, and breakfast, for elevenpence: the fare will not be sumptuous, nor the bed a couch of down; but the food will be wholesome, the air pure, the scenery grand, and the architecture worth sketching and studying. This scale of charges does not, of course, apply to the hotels in more frequented localities, where both charges and accommodations improve in a corresponding ratio.

The student from the south, travelling northwards, would do well to stay at Hexham; where, in the crypt of the abbey church, he may see the remains of the sixth Saxon church that was built of stone. The remains of the abbey church itself are a text-book of Early English details; and, despite the unskilful renovations, there is yet much to admire and study.

From Hexham, if the student be a pedestrian, he may cross central Northumberland; trudging over heathery moors, climbing fern-crested rocks, wading shallow trout-streams, an' he like, by the way, to Brinkburne Priory Church,—a purely transitional building, marking an earlier era than the abbey church just mentioned. Thence he may pass, by Flodden Field and Ford and Etal castles,—taking care to see by the way Ford Church,—to Norham. Here there are two architectural remains of distinct characters. The ruined keep of the castle, on a high rocky bank overlooking the Tweed, is a most picturesque object; and the fine old Norman church should be examined with great care. The interior of this building offers a pleasing contrast to the fate of most Norman structures; for there is no whitewash to be seen; the ceilings have been removed that obscured the open timbers of the roof; and the pews have been replaced with handsome black oak benches. There is a market-cross, too, in the village, that deserves a glance. From Norham the railway offers facilities for speeding on, through what may be called the lower route, to Edinburgh, *viâ* Kelso, Dryburgh, Jedburgh, Melrose, and Abbotsford.

Or, another route might include the opportunity to see Durham's famous cathedral, and Newcastle's Norman keep and St. Nicholas's church. Tynemouth, though seven miles off the main North-Eastern line, should not be passed unvisited. The remains of the Priory Church, standing out in bold relief against the sky, on steep crags overlooking the sea, are of great beauty. A short distance from the Priory is a curious upright stone, ornamented with interlaced work, on which is inscribed, "O horrid deede! what! kill a monk or a pigg's head?" and which, tradition relates, was placed there to mark the spot upon which a lord of Delaval slew a monk for stealing the boar's head prepared for his lordship's table. Within a walk of this monument is the Norman chapel of the Delavals, a quaint little structure in good preservation, with old banners, armour, and templars' tombs, also well cared for within. The immense ruin of the modern hall erected by Vanbrugh is close by. Some years since a fire consumed the chief portion of the newly-built mansion, and the remainder has been allowed to fritter away: wallflowers are growing among the ornamental stonework of the fireplaces; and sheep are grazing about the hearthstones where erst fashion's gayest follies were carried to their height. The coast still further northwards becomes richer in objects of architectural renown — Warkworth Castle and Hermitage; the grim castle of Dunstanborough, cresting the yawning crags up the crevices of which the sea foams and whirls as with baffled rage; Bamborough Castle, Lindisfarne Priory Church, on Holy Island; Farne Chapel and St. Cuthbert's Chapel, on Farne Island, where many of the numerous miracles of the saint are reported, in monkish chronicles, to have been performed, are all shrines that will enthrall the art-lover.

Berwick, although historically interesting, can be scarcely considered architecturally so; for the remains of the brave castle were pulled down to make a site for the ugly railway station; and the churches are comparatively modern. The remains of Coldingham Priory, nine miles from Berwick, on the north of the Tweed, are, however, of exceeding worth. It was at Coldbury Head, now called St. Abbs's Head, that St. Ebb was drifted ashore in her "lone bark;" and it was at Coldingham that she lived some time as superintendent of the nunnery. The edifice she and her sisterhood inhabited was accidentally burned after her death; but the foundations of it are still to be seen on the verge of a precipice overhanging the ocean. A second building was erected on the site of the present one, which was also destroyed by fire, A.D. 870. In 1856, the foundations of this building were discovered in the course of renovations then in progress. They consisted of the chancel walls, with circular apse, and the piers of the chancel arch; and were situate within the present choir. As the floor of the priory church was 3½ feet above them, they had to be covered up again. The priory, of which the choir is so beautiful a fragment, was dedicated to three saints, Cuthbert, Mary, and Ebb, by King Edgar, A.D. 1098. A portion of the consecrated site has been seated, and is now in use for public worship; and some few repairs have been made to the remains, where needful. The heritors have been rewarded for an outlay in excavations on the site of the domestic buildings by the discovery of the refectory, the kitchen with kneading-trough and oven, as well as an ashpit, containing ashes and small pieces of wood charcoal.

The Carlisle route would admit of an examination of the wild scenery over which the great Roman wall passes; but, where time is limited, and Scottish architecture the object of study, it would be as well to travel with as few stoppages as may be to Edinburgh.

Once arrived at the famed and fair city, it will be no difficult task to cull much that is worth gathering, in the way of notes and sketches, concerning the laying-out of the new town, the bold exteriors of many of the new churches, and the quaint details of the buildings of the old town. It is scarcely necessary to particularize the familiar beauties of the latter; the crown-stepped gables, the circular turrets with conical roofs, the dormers, the carved overhanging "timber lands," the lintels decorated with monograms and devices; but we would draw attention to those doorways that are inscribed with honest truths and pious legends; because this custom, with its Classic precedent and Mosaic authority, is too good to be suffered to fall altogether into disuse. In wandering about the wynds of Canongate a regret will be forced upon the mind that their picturesque appearance should be so intimately associated with unsanitary conditions; for seldom will this unpleasant combination be obtruded more painfully upon the observation. But of these we have spoken: we must trust that these matters will be mended, and that the good taste of the age, already awake to the importance of preserving the interesting mementos of bygone times, will become aware of the necessity of providing them with sanitary requirements.

Students examining Scottish architecture are liable to be misled in the matter of dates, particularly if the stonework should be somewhat decayed, owing to the frequent use of the semi-circular arch down to the close of the sixteenth century. It will require, however, but little experience to detect this late work from Norman. Round and pointed arches were used interchangeably, in doorways, windows, tracery, clerestories, monumental recesses, and otherwise, till the decline of Mediæval ecclesiology. Another distinctive feature in Scottish stonework is the use of the single vault instead of the transverse groined vaulting, both in baronial halls and churches. The Scottish crown towers, as at St. Giles's, Edinburgh; King's College, Aberdeen; and the Tolbooth, Glasgow, are even more striking. The pear-shaped lights in the tracery, which were long supposed to reflect the influence of French taste, induced by the intercourse of the French and Scottish courts, are but the results of the mixture of the pointed and round arches in the tracery. Pointed window-heads, subdivided by round-headed lights, which are filled with tracery, assuming the pear form, are very general: they may be seen in Dunkeld Cathedral, St. Michael's, Linlithgow, Melrose, and many other places. Shields are largely used as a means of ornamentation; sometimes wrought upon the bosses of roofs, and sometimes introduced upon the capitals of pillars: they are to be observed in Lincluden Abbey, in Linlithgow Church, in the choir of St. Giles's, Edinburgh, and also in the nave of the Rothesay Chapel.

After Holyrood Chapel and the collegiate church of St. Giles have been studied, the reputation of Rosslyn Chapel will probably induce our student to wend his way to that monument of the skill and piety of William St. Clair, Earl of Caithness. An interior view of this unique structure was given in a former volume of the *Builder;* and we need scarcely dwell upon the varied details; but it would be well to note that some of them are to be found in other Scottish edifices: for instance, the arrangement of a pillar terminating a vista—that of the centre aisle of its retro-choir—may be seen also in the cathedral of St. Mungo, Glasgow; and doorways of similar details will be found in St. Michael's, Linlithgow. The sculptures representing the seven acts of mercy, the seven deadly sins, and the dance of death, though demanding some time for a careful examination, should not preclude the devotion of a few minutes to a study of the masons' marks.

So many of the ancient Scottish castles are in ruins that when we find one still inhabited, the windows furnished with white sun-blinds, and the chimney-pots discharging wreaths of smoke, it appears quite an anomaly. It is curious, seeing the preservation of ancient mansions in Edinburgh, that the castles should have suffered so much decay. The principal parts of Borthwick and Crichton Castles are not much more than three hundred years old, and yet they are rent and riven, trees and plants are growing in the state apartments, and the rain and sunshine fall alike unheeded in my ladies' bower. Taking Kenilworth Castle as the type of an English castle of the same period, a marked difference will be perceptible in the national styles.

The flexibility of the Gothic style is well proved in the granite-yielding district of Aberdeen; where, in the Cathedral of St. Michar, Old Aberdeen, the details are simple, majestic, and unornate. The west front is filled in with a series of long, narrow, round-headed lights, with no ornament beyond a cusped trefoil in the head; and the towers are treated with a severity equally adapted to the material of which they are composed.

The pele towers of Scotland, as well as those south of the Cheviots, are well worthy of all the trouble that can be taken in collecting sketches and information of them. This is a field that is almost unexplored; and a comparison of the Scottish peles with those of Northumberland could not fail to throw new lights upon the differences of the feudal architecture of the sister nations. In many instances these residences of the minor nobles are amalgamated in more modern edifices, and are almost lost sight of. Hutton Hall, on the south bank of the Whitadder, Berwickshire, is a charming illustration of the Scottish type of pele tower, as Cockle Park tower is of that of the Northumbrian. The Scottish manses have a character of their own that is also intensely national. In a word, the architecture of the land of Wallace and Bruce is as distinctive as Scottish history, poetry, and music, and a study of it as inspiriting as a trumpet-call.

SUBJECTS OF THOUGHT FOR ARTISANS.

Under this title Professor T. C. Archer, of the Industrial Museum, Edinburgh, recently delivered a lecture by request to a meeting of operatives in Brighton-street Chapel in that city.

Mr. Archer said the lecture was undertaken with the impression that there was much interesting matter connected with the various trades necessary to civilized life which, if known to the artisan, would elevate his calling in his own eyes; and, by inciting him to think more, would give him greater pleasure in his occupation, and afford him some of the pleasures of intellectual enjoyment. We select a few passages from the lecture.*

* It is more fully reported in the *Edinburgh News.*

The worker in glass may speculate much upon both the history and the nature of the material he employs. Common as its name is, the origin of that name is, nevertheless, disputed: some suspect we derived it from the Latin word *glacies*, ice; and if we allowed ourselves to be caught by the similarity of the two substances, we might easily be led to consider that derivation satisfactory; but we are met by another party of etymologists who insist that it is derived from the Saxon word *glis-nian*, to shine;—and, when all things are duly considered, we find the weight of evidence is in favour of the latter. But this curious material must have been known by many names long before its Saxon designation was applied; for its existence as a useful and ornamental manufacture can be traced back ages beyond the time when our historical knowledge of the Saxons commences.

There is good reason to believe that that mighty people the Assyrians, the remains of whose great city, Nineveh, have lately been found buried under a heap of rubbish, were acquainted not only with the art of making glass, but of cutting, upon small cylinders of this substance, the curious characters of their language, so as to make them records of their thoughts and deeds. The ancient Egyptians were well acquainted with its manufacture; and, notwithstanding its fragile character, our national and other museums contain abundant specimens, some of which are transparent, or nearly transparent, and others are opaque glass. Thus in the British Museum we have an image of the god Osiris Tattou,—small vases for *sthem*, a name by which they knew antimony, which they used for colouring their eyebrows and eyelashes, as is done in modern Egypt in the present day; and a great number of beads, portions of bracelets, ear-rings, and a variety of personal and other ornaments. But, with the decadence of the Egyptian monarchy, glass-making, with other arts, seemed for a time to be lost; until it reappeared as a staple manufacture of Tyre, Sidon, and Alexandria, from which marts the Romans procured the costly vases and lachrymatories, or little bottles, which, with cinerary urns of the same material, were placed in the tombs. The urns were supposed to contain the ashes of the dead; and the lachrymatories were supposed to hold the tears of those who mourned for the departed. One of the greatest triumphs of the arts of glass-making probably belonged to this period. I refer to the celebrated Portland or Barberini vase, which was found in the tomb of the Emperor Alexander Severus and his mother, Julia Mammæ. This truly beautiful work of art is formed of a dark blue glass, with raised figures upon it of exceeding beauty. Mr. Wedgwood, who produced the admirable copy in porcelain, was of opinion that these figures were produced by laying on a coating of white glass where the figures are placed, and afterwards cutting them out with lapidaries' tools, as in seal or cameo engraving; and few can doubt this who have examined the original in the British Museum. The chief proof of this is that the handles were evidently attached after the white layer was applied, as portions of it are found under the lower ends of the handles, which portions appear to have been left unintentionally, and are a slight disfigurement.

Subsequently the Romans themselves made glass, and employed it for various uses, chiefly, however, for cinerary urns and other sepulchral purposes. They are found generally in tombs, and are of very inferior manufacture, both as regards the material and the design. In the later periods of the Roman empire some improvement was made, but not much. Some of the specimens found in the catacombs, in the tombs of the early Christians, are highly decorated, but in a low style of art. The manufacture of glass languished, even in the inferior Roman style, until the rise of the Venetian Republic, when it became an important branch of Venetian art-manufacture. The thirteenth century was the era of Venetian glass; and so highly prized was the effect of this manufacture on the commercial prosperity of the Venetian Republic, that the glass-makers, who were all located in the little village of Murano, four or five miles from Venice, were all made free citizens of Venice itself, and their daughters were privileged to marry with the nobles of the republic. * * * *

To the masons very much might be said respecting the geological history of the stones they employ; but to do this at all satisfactorily would require not merely a fraction of a lecture, but many lectures. Still, however, I would suggest to those who work in stone, the wondrous consideration that the hard and solid masses which receive form from their chisels are portions of what were once the soft muddy or sandy beds of seas or lakes, which have been pressed hard by the giant hand of Time and the mighty forces of Nature. Masonry as an art was very early known: its monuments are found in every land where civilized man has dwelt; and a review of the past is not calculated to please us over-much with the present;—but perhaps no country in the world ever practised masonry so extensively and generally as Great Britain. The ancients expended their marvellous powers on their temples, palaces, and monuments; but with us it ministers chiefly to the wants and luxuries of the people; consequently art becomes secondary to utility; and whilst the latter commands the market for labour, we cannot hope to see the former in its highest perfection. We may regret this, and may hope to lessen the evil by gradually elevating the general taste; but we must not forget that the loss is more than compensated by the fact that our poorest classes are well housed when we compare their dwellings with the rude hovels and mud cabins which formed the residences of the workmen whose hands moulded those beautiful columns, architraves, and pediments which, on the plains of Baalbec, or the Acropolis at Athens, still mark by their beautiful proportions and graceful outlines the zenith of the age of high art in architecture.

The joiners next claim my attention; and to them I shall say a few words upon the nature of the material they use. Whence does it come in such vast abundance, ready prepared for the hands of man? Look at that little acorn, only a small meal for the tiny squirrel, or at the scale-like seed of the pine or fir, the leavings of a gosbeak's supper: suppose it buried in the earth, and again rising thence in a new form,—a small plant endowed with life and the power to draw materials for future growth from the air and soil: gradually by these means it raises its graceful stem, crowned with leafy branches; and year by year its bulk increases, until it is fit for the woodman's axe and the tools of the ingenious workman. But we will look a little deeper into its history from the commencement: in the centre of that seed was hidden a small germ, which consisted of a few minute cells, or little bladders, so extremely small that only by the aid of a powerful microscope can they be detected, if viewed singly: nevertheless, each of these wondrously-minute organisms contains within itself all the materials for the most subtle chemical operations required to change the elements of the surrounding air and the soil into materials for forming similar cells, with a rapidity most astonishing. These cells are truly laboratories in which the master chemist is at work. As they continue to grow, the same power modifies their forms; and, by joining them end to end, fibres are formed lengthwise, whilst others are starting from the centre of the bundle so formed, and dart their lines outward to the external crust of flattened cells which form the bark. This interlacing of fibres lengthwise and crosswise constitutes the strength of timber; and the difference between the result of the acorn and the pine seed to the joiner consists chiefly in the greater or less amount of the interlacing and the time taken in producing it; for the more rapid the growth, the less hard and compact is the cellular structure of the wood. Again, this interlacing of fibres is not regular: those from the centre of the stem often start in bundles of greater or less size, and sometimes divide more or less into branch bundles. It is to this circumstance we owe the beautiful markings in what are called hard woods, about which I could say a great deal if time would allow. We have all a feeling of pride in antiquity; and in this respect the joiners can boast that their trade is the one which is the first mentioned of all the handicrafts now known; and Noah and his sons were the first joiners mentioned by name, although it is clearly implied by that very mention that others were practising the same art.

The smith's work chiefly belongs to the engineering department; but there is a branch of the smith's art which was formerly much practised, and is now, I am glad to say, being revived:—I mean the art of hammering iron and other metals into artistic forms, for various purposes of ornament and utility. That most admirable Exhibition of Decorative Art which has for some time past been open in your National Gallery, and which I hope most of you have visited, contained numerous specimens of exquisite works in metal, chiefly in armour, the use of which in former times was in all probability the chief cause of the excellence to which our ancestors carried the art; turning out works from the smithy which even now are regarded as models of taste. Modern ornamental ironworks are usually cast for the sake of cheapness; but, however beautiful the design, and however clean and sharp the casting, such work cannot compare with the handicraft of a good artist in malleable iron. Even the Berlin ironfounders, the first in the world, cannot rival the beautiful smith work of the old Antwerp blacksmith, Quentin Matsys. One of the most beautiful efforts of artistic smith's work, in our time, is in the new Museum at Oxford, where the capitals of the pillars and the ornamental work of the girders of the roof is of elaborately wrought malleable iron. Here there is a fair field opening for cultivating taste, and I hope the United Smiths of Edinburgh will not be slow to avail themselves of it, and secure some of its profitable results.

The slaters work with a material of most singular character. It is believed on the best grounds to have been originally clay, which, by the changes effected by time and other causes in the crust of the earth, has been converted into a hard rock, in which gigantic but imperfect crystals have been formed, of the shape termed by mineralogists rhomboidal. Like all other crystals, even the hard diamond itself, these vast crystals of schistose rock will split in the direction of the faces of their crystallization; and as these faces in the rhomb-shaped crystal are flat and parallel to each other, this quality becomes of immense value to us. Slates are now in general use throughout the kingdom, and have almost displaced the tiles and pantiles which formerly covered the roofs of our forefathers. A very large proportion of the slates come from a few Welsh quarries, one or two of which are of vast extent. Those which belong to Colonel Pennant, and which are situate a few miles from Bangor, in the hills of Dolawen and Llandegai, are so enormous that they give employment and living to 12,000 people, and supply slates to all parts of the world. Few sights are more strange and interesting than one of these vast quarries, forming an immense amphitheatre, with enormous steps or terraces running all round. These steps are formed each of a bed of the slate-rock, and they are marked with oblique or slanting lines, indicating the position of the great rhomb-shaped crystals. The quarry at Llandegai absolutely cuts away half of the mountain or hill, which is somewhat larger than Arthur's Seat. The rock is blasted at regular periods during the day; and it is a curious sight to see all the workmen on the various terraces, on the upper ones looking as small almost as mice, running into their holes or huts at the sound of a horn. When the horn sounds first, each man prepares to fire his fusee: at the second, each applies the match, and runs into his place of safety: for about a minute or two every sound is hushed, the busy click of hammers and jumping-irons has ceased, and the spectator stands in breathless expectation. Suddenly he is startled by a terrific roar, as if from hundreds of heavy cannon fired all at once or nearly so: the whole quarry reminds him of some giant castle, battlement above battlement, roaring with artillery and enveloped in smoke. This is instantly followed by the terrific sound of about a thousand tons of slate-rock; which, displaced by the explosion, come rattling down. As the smoke rolls away and the spectator begins to recover from his stupified amazement, he perceives the men emerging from their holes and recommencing operations. Blocks of slate are put on to small railway trucks, and are run on the lines of rails, which are laid all over the quarry, to the dressing-sheds, where men with tools rapidly and expertly split the blocks and shape the slates into various sizes, to which they give singular names. One size receives the name of "Queens:" they are 36 inches by 24; another "Duchesses:" these are 24 inches by 12; another "Countesses," which are 20 inches by 10; and the smallest "Ladies," measuring 15 inches by 8. Very much larger are made to order; and fine large and thick slabs are extensively employed for cisterns and a great variety of useful and ornamental purposes.

OUR MINERS.

BESIDES the public sympathy which, in a pecuniary way, has been so liberally displayed on behalf of the relatives of the lost miners, there is another and most important duty which remains to be performed; and this is to take advantage of the lesson which we have had, and enforce measures which will give greater safety to a large class, on whom every one's comfort, and also the prosperity of this country, much depend. Government and Parliament will soon, we trust, provide that a most searching inquiry shall be made into the general condition of the miners throughout the country.

In any inquiry which is to be made, the working miners should have a fair opportunity of expressing their opinions. In nearly every colliery there will be found some "Pit George Stephenson," rough and somewhat uncouth in speech, but of rare honesty, and possessed of shrewd intelligence and much practical knowledge. The evidence of such men should be collected by disinterested persons, who are well informed on mining matters, and are acquainted with the peculiarities of the pitmen of the different districts. We have seen eminent lawyers, although the meaning was sensible enough, puzzled to understand the evidence of some of the men of Northumberland and Durham.

Then we must have a most careful examination of all pits by competent authorities: none should be omitted. As things are managed just now, it appears from remarks made by Mr. Dunn, one of the Government inspectors of mines, at a meeting at Newcastle-on-Tyne, that it is not customary for him to make an examination of any pit unless some complaint is made respecting it; and it moreover appeared that Mr. Dunn's superintendence extended to many collieries, not only in Northumberland, but also in other counties. There should be more inspectors, who are quite independent of the coal owners; and even when no complaint has been made, the mines should be regularly inspected at short intervals.

The viewers of the collieries are generally well able to do their duty; but there are often expenses which, although necessary for the safety of the workers, they are not in a position to enforce upon their employers; and even the colliers themselves fear to risk incurring the odium of being troublesome characters. It is, therefore, upon the inspectors appointed by the Government, when necessary regulations have been made by legal enactments, that the lives and state of health of miners will chiefly depend. The value of the suggestions of the inspectors, even at present, was to some extent shown at New Hartley.

From the low main in which the men were at work a slope-drift rises in an angular direction to a perpendicular shaft which communicates with the middle or "yard seam: it was in the upper part of this that Mr. Dunn recommended that a wire ladder should be fitted; and it was by this means that the 200 men and boys made their way in safety to near the furnace shaft in the yard seam." This ladder was about 20 fathoms, or 60 feet in length. From here they could make their way no further upward; for, not only was the principal shaft blocked by the wreck of the brattice and other parts of the shaft, but so was the furnace shaft. The consequence was that at the end of about two days from the time of the accident every one in the pit died. If, however, there had been a shaft similar to that between the lower and middle seams, all could have ascended with safety; and in the course of a short time have been welcomed safe and sound by their friends at bank. We are assured on competent authority that such a work could have been carried out for under 200*l.*—a trifling sum in comparison even with the amount of damage to property which has taken place.

Mr. Carr's loss alone, as we have ere now said, will amount, most likely, to over 10,000*l.* before the pit can be again put into working order. This is, however, but little in comparison with the lives which have been sacrificed.

As a natural rule, the sympathies and attention of the public will soon be directed into other channels. It is, therefore, of much consequence that some permanent organization should be *at once* made, which will be the means of effectually working in connection with this subject. The large body of pitmen in Northumberland, Durham, Gloucestershire, &c., might do much; and their voice, after the events at New Hartley, would be more attentively heard than formerly; for the terrible story of this pit has shown that the nature of those men has not been generally understood. We have often felt sanguine, and as often been disappointed; but surely now no powerful but interested interference will be allowed to prevent the carrying out of means for preventing the national disgrace of finding that the duration of the lives of our miners is limited to an average of twenty-seven years. Such appalling accidents as this which has recently taken place attract the general attention; but hundreds perish in consequence of explosions, as has been so sadly exemplified even since the Hartley accident occurred; and by the falling of roofs; by careless propping or too close working; want of attention to machinery; and, more than all, by the imperfect ventilation of the mines. We trust, also, that the sanitary condition of the pit villages will not be overlooked; for, although the interiors of the houses are kept with marvellous cleanliness, the surrounding arrangements, which have been before referred to by us, are abominable. The Earl of Durham, who is so kindly disposed to all, and other large owners of the royalty and working of mines, might do much good if they would but personally investigate this matter.

LONDON MILK.—SOCIAL IMPROVEMENTS.

A RECENT report on the sanitary state of the City confirms the opinions we have often expressed respecting the unwholesome practice of keeping cows in pent-up neighbourhoods. It is evident a large amount of disease prevails among these animals: some of them are suffering from lung diseases, others from mouth disease, others from foot disease, and a few from disease of the bladder. All these diseases give to the milk properties which cannot fail to be injurious to those who use it; indeed, in some cases, the so-called murrain, which is a contagious eruptive fever, has prevailed in the cow-houses of London, and has shown itself by an eruption in the mouth, teats, and feet of the animals. Under these circumstances, the milk is positively poisonous, and is capable of causing eruptive fever in those who drink the milk. Dr. Letheby mentions this on the authority of Dr. Jacob and Professor Hertwig, of Berlin, both of whom had ascertained from experiments and observation that it was so. He had also been informed by Mr. Gamgee, the principal of the Veterinary College at Edinburgh, that some milk would produce disease, and even cause the death of calves and pigs which drink it.

This evidence shows, as we have said, that the continuance of cowsheds in the metropolitan districts is a bad and cruel practice so far as the cows are concerned, and most injurious to the health of those who consume the milk which is produced under such circumstances. The lives of young children often depend upon the pure and wholesome supply of this necessary article. This is, however, not the extent of the evil; for the keeping of cows in the midst of thick populations is most injurious to all who live in the neighbourhood. Only those who have had experience can form an idea of the extent over which the pestiferous vapours from those places extend.

Difficulty is found in persuading people to move for their own good. The horse-slaughterers along the margin of the Fleet Ditch were most obstinate; but those who were in a measure forced to remove are now glad of the change; and the class of persons who were wont to rear monster dust-heaps close to crowds of human dwellings have not become ruined in consequence of having been obliged to convey each week by the canals and in other ways the refuse which they collect.

Hundreds of manufacturers of various kinds declared that it was impossible to prevent the dense volumes of smoke from passing from chimneys, and blackening the atmosphere. This has, however, in some measure, been effected (although much more requires to be done in this way): it is not found that the beneficial changes which have been made have prevented improvements in the making of pottery; or entailed unbearable expense upon brewers, and others whose business obliges them to be large consumers of coal: in fact, while the public are less inconvenienced by the smoke, there has been a large saving in the cost of fuel. The London undertakers who so fiercely opposed the prevention of intramural interments almost unanimously express themselves glad of the alteration which has been made. We could mention many other instances which would show the advantage of persons accommodating themselves according to altered circumstances, and in accordance with the advance of knowledge in sanitary science. We trust, therefore, that such experience will not be neglected by the metropolitan cow-keepers; many of whom have a large amount of capital at stake, and who would find a removal to country quarters a decided benefit to their customers, themselves, and the animals.

Now, by means of the railways, wholesome milk can be brought at a small cost from the fertile and pleasant meadows of Essex, Hertfordshire, Surrey, and other surrounding counties; and it is to the interest of consumers of milk to encourage this system, particularly in cases where children are in a great measure dependent upon milk as a source of nutrition.

Even with the greatest care, a cow-shed close to dwellings is a dangerous nuisance, and cannot be much longer tolerated. Meanwhile, we trust that, as the summer approaches, those places will be most carefully inspected. Pigs are still kept in very improper situations, and in defiance of the law, to a greater extent than would be generally thought. This should be put a stop to; and the sale of milk from diseased cows as carefully prevented as is that of diseased butcher's meat and vegetables.

Not long since, we were surprised to find a crowded cow-shed within the walls of the venerable Tower of London, which cannot improve the health of the garrison. This was not, however, in such a bad condition as many others, in which the poor animals are kept from year's end to year's end, even worse off than the miserable horses which work at the bottom of the coal-pits; for the latter have an opportunity of a little exercise.

BUILDERS' BENEVOLENT INSTITUTION.

WE alluded briefly last week to the annual ball in aid of the funds of this Institution, which took place on the 20th ult. at Willis's Rooms, St. James's. We must add a few words to emphasize its success. The Right Hon. the Lord Mayor and the Lady Mayoress were present, with a large party of personal friends; and the whole of the company appeared thoroughly to enjoy themselves. When it is understood that such pleasant meetings produce annually about 120*l.* for the Institution, or sufficient to support five pensioners or their widows for the year, we do not wonder at the increasing numbers and popularity of the gathering. We hope that from year to year additional support will be given, and that the ball will ultimately be one of the largest, as it is now one of the most agreeable. Mr. Joseph Bird performed his usual duty as honorary secretary, and has good reason to congratulate himself on the success of a feature mainly due to his persistence.

OVERSTONE HALL,

NORTHAMPTONSHIRE.

THE new mansion now being erected for Lord Overstone, of which we give a view and plan, is situate in a park of 800 acres, pleasantly undulating, and well timbered, about five miles from Northampton, a little to the east of the road to Kettering. The new house stands on the site of a previous structure. The ground to be laid out round the house will form a large level platform, on the west side of which terraces may be constructed, overlooking the gentle slope of the park down to the edge of the extensive and picturesque lake, and rising again beyond it. The style adopted is claimed to be that, in a simple form, of the age of Francis I.; but the treatment, as a whole, has been suggested, to a great extent, by the exigencies of the case; a great part of the former house having been intended to remain at the time the original design was made. The external walls are constructed of wrought ashlar; the stone being obtained from Messrs. Simpsons' quarries at Little Casterton, near Stamford; all window and door dressings, sills, cornices, copings, carvings, and other parts exposed to the weather, being of Ketton stone from Mr. Nutt's quarries. The walls throughout are built double, and quite independent of each other; the internal one being of brick, tied to the outer by means of galvanized iron clamps.

The original works designed were, the altering of the principal entrance from the west to the north side, adding the vestibule shown on plan; the addition of new billiard-room, dining-room, and corridors; the new suite of private rooms at the south-west; and some alterations and additions to the offices; corresponding works on the first floor; and the addition of an attic floor over the whole of the old and new part of the main house; together with the erection of the large tower; for which works a contract was entered into by Messrs. Broadbent & Son, of Leicester.

Alterations and extension of the original design were subsequently determined upon, resulting in the house being entirely rebuilt; and this will explain some points in the plan which might not be looked for in an original design for a new house; but which at the same time have suggested and led to many convenient arrangements. The whole of the house will be warmed by Messrs. Price's apparatus, under the direction of Mr. Lea. Mr. Wm. Milford Teulon, of London, is the architect.

The site of the new stables has been selected by Mr. Wm. Broderick Thomas, from whose directions the grounds round the mansion will be laid out; including new roads through the park to approach the entrance-court of the hall.



OVERSTONE HALL, NORTHAMPTONSHIRE.—*Ground Plan.*



OVERSTONE HALL, NORTHAMPTONSHIRE.—Mr. Wm. Milford Teulon, Architect.

THE QUESTION OF CLASSIC AND GOTHIC ARCHITECTURE,

Dispassionately Considered by a Retired Architect.

THE title of this essay disclaims all party-pleading; the word "Classic" having precedence only by virtue of the old rule, "*seniores priores*." Not the cause of Greek or Roman *versus* Gothic, but that of Architecture, as equally concerned in the just appreciation and fit appliance of the beautiful and suitable in either of these styles, is the motive to this conciliatory effort; for the writer has less than no delight in what was termed by Lord Palmerston "the signal defeat of the Goths,"* and he can rejoice that so justly celebrated an architect as Mr. Scott has been favoured with an opportunity for showing, that (like the late Barry) he can make what is termed Palladian art speak English to John Bull's thorough understanding.†

Though earnestly opposed to Gothic design, as applied to the new Government Offices at Westminster, the writer holds it in such reverence that he would subscribe to the utmost of his means towards a new Gothic cathedral for the diocese of London, so that St. Paul's might be retained as a national mausoleum in honour of "the great men of a grateful country." It may indeed be doubted whether the veritable house of God should be made a gallery of statues and tablets monumental of hero-worship; or, at least, whether any but the effigies of distinguished divines should occupy a place in the sacred temple. At the same time, of consecrated sanctity should be the building which receives the ashes or commemorates the names of our eminent philanthropists, senators, philosophers, poets, and warriors; while such a structure would, as well as the more sacred cathedral, have its choir, and its use as a place of common worship. The cathedral need not, of necessity, be the grandest edifice in the city.‡ The principal church of a suffragan diocese may be inferior in scale and architectural majesty to a national mausoleum; and the distinctive style of the latter would reasonably indicate its dedication to memories of secular fame.

The writer, in an article issued by the Architectural Publication Society, has worked out his reasons for the exclusive employment of Gothic design in the church; but under the circumstances just stated, he would still preserve the august Roman structure known as St. Paul's Cathedral, in opposition to the desire he once heard expressed by a clergyman for the destruction of Wren's matchless monument and England's proudest architectural boast!§

Not, then, glorying with Lord Palmerston in "the signal defeat of the Goths," he far more regrets the necessity for their discomfiture, owing to their persistent determination to force into universal appliance that sublime style of design which is admitted by *all* to be most especially, if not exclusively, ecclesiastical. It is so, because only in the church can its especial characteristics be manifested as the truthful results of constructive necessity; because that necessity is best met by the high pointed arch, and demands the buttress and pinnacle to resist the lateral pressure of its stone-vaulted ceiling, or roof without tie-beam; because the pointed window simply resulted from the pointed vaulting; while the close stone-work and tracery of that window occasion a subdued diffusion of light, which, suitable to no other occasion, pre-eminently suits the solemnity of a sacred temple; because Gothic design has especially to do with great altitude without floors, and great length without partitions; because it suggests ideas of upward and onward infinity, as well the sentiment of everlasting durability in its being supremely the work of the stone-mason, as distinct from others so much more largely the works of the carpenter and joiner; because, finally, it is capable of an awe-inspiring beauty, a mystic and unconfusing complexity, and a sublime majesty, impressing even the most vulgar minds, and therefore referable to more than such refined associations as may or may not exist.

The battle, therefore, is not between the Classic and Gothic styles; but between certain critics, who so reverently estimate the latter, that they would preserve it to the most sacred purposes,—and others, who would enforce it in slavish subjection even to the commonest purposes of civil, commercial, and domestic use. It is simply a conflict between such as are both Gothic *and* Classic (as varying requirements shall dictate), and those who are Gothic *only*, under the influence of the reactional zeal attending the late revival of a style that had suffered neglect for centuries. It may be remarked, too, that this extraordinary regard for Gothic art is more especially with those who, a few years back, had no care at all for architecture, or no cultured knowledge of any style* whatever.

In every respect, constructional, serviceable, and expressional, Gothic is the *architecture* for the hand-built House of God; and, therefore, it reasonably affords, as an offshoot, the *style*, or manner in modification, for the Church College, the Bishop's Palace, and all edifices appropriated to the purposes, or occupied by persons in the especial service of the Church. It is, of course, more or less adaptable also to secular service. There is nothing to prevent any modern "old English gentleman," of the cavalier and conservative school, from denoting his personal or family sympathies with the days of the "martyred" or the merry monarch; or with those of pointed gables, mullioned windows, uncomfortable high-backed chairs, and clumsy carved oak furniture. But, apart from all such retrospective associations, there is absolute propriety in a harmonizing similarity between the church and the parsonage, and with the other varied architectural members of the church family;—a sufficiently large one, to insure the preservation of a general undying feeling for Gothic design in all its phases.† Why, then, should we not be left to read, with conventional understanding, the Gothic character, as at once implying the particular or relational purpose of the structure on which it is written? And why should it not be invested so strictly with the significance suggested by its solemn or grave beauty, as to render its adaptation, when not *truly* significant, an impertinence? The indiscriminating Goth surely resembles the man who would alike apply the divine phraseology of Milton to "Paradise Lost" and to a manifesto from the Foreign Office. It is most desirable, therefore, the public mind should be disabused of the idea that the ghosts of Palladio and William of Wykeham are heading the opponent parties numerically represented in the division of 188 and 95 in the House of Commons, on the 9th June, 1861. More likely is it, that they are walking arm in arm, with mutual sorrow, through the shades; lamenting a contest between these who simply wish to see the right thing in the right place, and those who will have it, there is only one thing for every place.

Some are of opinion that the Gothic of certain brief periods in the art-progress of Europe should be stereotyped for everlasting imitation, in denial of further progression: others entertain an idea that Gothic architecture is especially English, and assert the imperative propriety of adhering exclusively to it as our national style. The propriety of an architecture suitable to the English climate, and to English purposes, is undeniable; but this will, after all, only lead to an Anglo-modification of what is common to our European neighbours, some of whom justly ridicule our peculiar Gothic assumption, while all are exemplifying the regard due to Classic design as the most fitted for common appliance in the improvement and decoration of their cities. The architecture that is strictly national can be no other than the common *Box-model*, which, apart from all decoration, will prevail throughout the nation. The ordinary mason, bricklayer, and carpenter, having produced this, the architect may improve it much without in the least altering its general character, and will then convert it into a work of art by truthfully-expressive decoration. To this end he may exercise his own fancy, or he may avail himself of such ornamentation as his knowledge of precedent example may afford. Our forefathers considered only their wants, and the most ready means of meeting them. They adopted the modes of decoration that were at hand; for they were unlearned in those ancient and varied modes of beauty which are now known to all by the works of Stuart and Revett, Taylor and Cressy, Palladio, Chambers, and others. They had only our old churches and castles before them, with the examples of a few architects, who, during the reign of the Tudors, acquired a feeling for Classic horizontality; and they at length studded the country with a vast number of civil and domestic structures, in which the picturesque of the Gothic was retained without its sublimity, and in which was intermingled the Italian without its grace. Such is the mongrel fashion known as "Elizabethan," prescribed to the competing architects for the New Houses of Parliament; though Barry disobeyed his orders, and only gave the nearest approximation to Elizabethan that was compatible with the Gothic character. It may be admitted that the style he adopted, viz., the Tudor, before the Italian mixture rendered it immediately transitional to the Renaissance, was the best modification of Gothic design to civil and domestic purposes; but this is no argument for pronouncing it our national style. The truth is, that the English is the best school for the study of pure Gothic architecture in *all* its varieties; because our country remained, during its Gothic progress, less influenced than others by the old Roman, Constantinal, Lombardic, Byzantine, and other mongrels of southern Europe. As a passing *manner*, the Gothic that prevailed in England at *any* time, whether in church, baronial castle, or country mansion, may have been the best in Christendom; but, as aforesaid, the materials for general architectural advance were then very limited with us; and, since then, the constantly accumulating acquisition of such materials has kept us, together with our continental neighbours, in such a perpetual state of change, that nothing suitable to the name of a distinctly *national* architecture has had time to form and consolidate itself. England especially, since the Tudor period, has been such an appreciator of what is worthy, in every age and locality, that she has, with modification more or less judicious, adopted at once what served her temporary purpose or gratified her passing feelings. Before the Tudor period, she had confined herself to the progressive development of the pure Gothic in her old cathedrals; and we may well go back to them, and to them only, for instruction, when we would build a new one. We have an English Gothic, rendering us quite independent of foreign aid; but that is a very different thing from the arrogant assumption that Gothic art is peculiarly English.*

What, then, should English architecture be, but a liberal art, taking the most direct method of meeting an especial purpose, to whatever country or age that method is indebted? The purpose of a church is *so* especial that we require everything which fitness, expression, and association can bring to bear on the question; and, as the most direct means of answering *all* these, the whole country, without one dissentient, has declared at length for the Gothic, and nothing but the Gothic, as applied to church purposes. But the representatives of the country have declared, by a majority of two to one, that it is not applicable to *other* purposes; and we are left to examine the reasons by which the exclusive Gothicist would advocate the desired catholicity of his favourite style. He has often no better motive than his admiration for a certain picturesqueness which may exist in union with every imaginable prac-

---

* See the *Times*, July 9, 1861.

† I say, "what is termed Palladian," because the word has a mere conventional signification for much more and better than Palladio ever exhibited. There is, after all, a meagreness in Palladio's designs which leaves them far short of those by other architects of his country and period, and of their emulators in modern times. Common acceptance, however, has especially connected his name with that extended modification of Greco-Roman design which has nowhere been more successfully developed than in England.

‡ Though St. Peter's is the most magnificent church in the world, it is not the church metropolitan of Rome; that honour attaching to the basilica of St. John Lateran, which also takes inferior architectural rank to those of St. Mary the Greater, and St. Paul on the Ostian way.

§ A fact! "Nothing would please me more," said he, "than to put the torch to the train that should crumble it in ruins." This anecdote is told in no belief of his finding a seconder, but merely to show the extremes to which art-bigotry may lead a naturally inoffensive and very silly man.

* By the way, this affection for "styles" is but fashion-mongering. It is the *thing* we want, not the *style* of the thing. The young ladies, who form so large a portion of the Gothic forces, and who are so learned in the forms and dates of Mr. Parker's excellent "Glossary," are yet un-Gothic enough to disfigure their lovely forms in crinolines and pork-pie hats; and it is to be feared their architectural love has in it as little respect for fitness as their passion for the now prevailing costume, which gives the "style" of *naught* to "a thing of beauty."

† Not less than the term "Palladian" does the word "Gothic" require an apology. Strictly speaking, the latter applies only to the rude imitations of Roman architecture by the Goths, the most improved version of which is the Norman, which has also been well termed the "Romanesque." We accept, however, by common consent, the term "Gothic," as generally signifying the ecclesiastical architecture of the Middle Ages; and, doubtless, a Saracenic influence had something to do, connected with constructive advantage, in the production of the pointed arch. The reference of the latter to the accidental suggestion of intersected semicircular arches is simply a pretty fancy, akin to that of the origin of the Corinthian capital.

* Is the peculiar style of a French or Belgian town-hall English because Gothic? If so, then did the French and Flemish vainly show us our own long before we were ourselves aware of it; for we have never had anything of the kind, until imitatively exhibited of late in buildings of entirely different purpose. Mr. Scott's improvement on his teachers is great; but his rejected Gothic design for the proposed Foreign Offices is no more English than a Fleming born, taking up his abode in London, is a native Englishman. If a Belgian Hotel de Ville be the best model for an English Government Office, or for an Oxford Museum, adopt it, by all means; or, if Gothic be pre-eminently eligible as the European style, so be it: but let us hear no more of Gothic as especially English, however we may regret that any but English Gothic is ever employed in our country.

tical defect, and which is far more dependent on the poetizing hand of time than he is aware of; a fact the more observable in the loss of pictorial charm where *restoration* has been busy with our old churches. But, setting the effects of time aside, the lover of the Gothic picturesque is far too thoughtless of the conditions of place and former purpose; unmindful that certain localities, where nature maintains her pictorial freedom (aided, but not controlled, by the art of the landscape gardener), reciprocate the feeling of informality; while the purposes of our ancestors, simpler in themselves than our own, did not require those additional means which have increased with our extended notions of comfort, refinement, and more systematic arrangement. Often is the charm of "a mansion of the olden time" attributable to its very defects of clumsy complexity, accident, and periodical addition, redeemed by the individual beauty of its component parts. Here, a handsome porch; there, a richly-traceried window; above, a cluster of highly ornate chimney shafts; projections, recesses, and gabled masses, shouldering into one another with selfish independence; and all this mingled with features in themselves mean and distorted. Such is the general description of many a picturesque edifice, the interior of which exhibits "a mighty maze without a plan," rendered habitable by modern fittings and furniture without consistency; or, if consistent, without comfort.

We are not asserting that a modern Gothic mansion *may* not exhibit the picturesque in union with good arrangement, but that the common Gothic mania has its leading motive in the picturesque merely; and that, in all but exceptional cases, a thoroughly well-arranged box-model will be far more immediately suggestive of Palladian than of Gothic treatment.

The revival of our Gothic church architecture, however, is attributable to no such trivial feeling; nor let there be any hesitation in awarding to the High Church party the honours of a restoration alike worthy in every respect. During several centuries Gothic design was the prevailing characteristic of the Christian temple in Great Britain and Ireland, France and Germany. In Italy even, it struggled against the remaining influences of classic Rome, and was elsewhere gorgeously manifested; but there are few remains of ordinary civil or domestic structures in England coeval with the ecclesiastical edifices of the period alluded to; and, therefore, we may regard the architecture of our cathedrals, abbeys, and churches as peculiarly associated with the "sublime and beautiful" of our religion. The revival movement of the High Church party involved a sentiment that equally affected, and was affected by, Gothic art; and such has been the result of the zeal of our clergy in establishing "diocesan architectural societies," to the production of an accomplished class of Gothic architects, that our new churches, generally, may be truly said to surpass the old ones, so far as relates to their scale and pretensions. Our modern artists have often gone far beyond *imitation* and the servile observance of precedent; and, in their additions to certain of our ancient churches, they have done more than mere justice to the theme placed before them. I am cognizant of no old example of the simple broach spire at all comparable to that of Christ Church recently erected at Clifton; of which, however, the body of the building is scarcely worthy.

But, quitting the church and its dependencies, the writer (not defiantly, but still with modest confidence) calls upon the exclusive Goth to shew wherein his favoured style is so constructively adapted to civil and domestic structures as the plastic architecture which has of late, by Barry and others, been so successfully cultivated from the germinal beginnings of Palladio. We are not considering the severe Greek of Pericles, nor the less severe Roman of Augustus; but the richly pictorial or light and elegant Italian architecture that has been introduced *contemporaneously with the Ecclesiastical Gothic revival*. The last words are emphasized, because it is a fact worthy of observation that, at one and the same time, the same architect has been employed with equal success in several varieties of Gothic and Italian art; nor would his success have been so marked in either, had he not been inspired with that spirit of the beautiful which is equally to be developed in both, when their relative application is just. With this example of catholicity in one artist, there is no occasion to pit one sectarian against another; and instead of wishing to impose on the hitherto-exclusive Goth an unwilling duty, like that enforced by Lord Palmerston on Mr. Scott, the endeavour should be, by calmly reasoning on the point at issue, to render that duty a willing one.

Deferentially, then, and with the most unaffected admiration for Mr. Scott's genius, taste, and knowledge, the writer would call upon him to show wherein Gothic design is, in *any* sense, so suitable to our civil and domestic structures as the (so-called) Palladian? And first, for historical association. Was the period, during which our old Tudor palaces were erected, the pattern age of our civil and social condition? and was not all, that is worthy of memory in the period, accompanied by a constantly progressing change in its architecture? At the time of the Reformation Gothic art had advanced to its downfall. It had risen from the cumbrous grandeur of Durham to the lofty and elegant majesty of York; it had burst like a rocket in the gorgeous display of the pendentives in the Westminster chapel; and from the *debris* of its explosion were collected the materials of which were constructed those mansions that are the pride of our modern "Old English Gentleman," who now curiously attaches to "a thing of shreds and patches" a sentiment peculiarly *national!* The Gothic was, during the period of its ecclesiastical application, the prevailing style of Western Europe, and may, indeed, well deserve the appellation of Christian Church Architecture; but, apart from the Church and the exceptional examples of certain great regal or baronial halls, as at Westminster, Crossby, Eltham, &c., England did not apply the style ecclesiastical to civil structures, as it was applied in certain parts of the Continent. Subsequent to the great ecclesiastical period, a mongrel style prevailed very generally, and England had her variety of it in Elizabethan and Jacobian edifices; but this was simply a transitional movement; and it certainly seems a strange determination which would stereotype the art of such a period and call it "national." Our *religion* remains the same, in the principles of its vitality, as it was when the grand Gothic cathedrals of Christendom were being erected; and, with such modifications as Protestant worship requires, the churches of England may well resemble those which arose in the zeal and piety of our Roman Catholic ancestors; but our politics are now wholly dissevered from church government, our civil necessities and social habits are greatly altered, and there are certainly no adequate historical associations to make us Gothicise our government offices or private homes in defiance of our enlarged knowledge in matters of taste, and our vastly increased means for convenience and comfort. At one time, for want of knowing more and better, we could but adapt our old church details to our secular structures; then we flattened, and squared, and horizontalized them; next we mingled with them the columns and entablatures of classic Rome; then came Inigo Jones to affix a Corinthian portico to Old St. Paul's; and, finally, his banquetting-room at Whitehall so Palladianized the country that, ere long, a new cathedral arose in the very noblest style of classic Rome. Who can reasonably regret the death-blow given to *mongrel* art by the erection of St. Paul's and Greenwich Hospital, or its consummated defeat in the construction of Blenheim, Castle Howard, and Stowe? Who does *not* regret the destruction of Wanstead House, or even of Carlton Palace (the latter of which might have been improved, so as to be far more ornamental to the locality than what stands in its place)? Who, in spite of a most just preference for Gothic as the style ecclesiastical, laments the existence of the churches of Wren and his followers? Certainly, the political, moral, and social associations connected with these monuments of our progress in art, should not be less dear to Englishmen than those of the days which witnessed the burning of martyrs at the stake, or the activity of the headsman during the reigns of the Tudors and Stuarts.

But, to come without further preface to the more important, that is, to the practical consideration of the subject, the writer ventures to submit whether the following be not a reasonable process towards the production of a good and true piece of architecture?

The *purpose* of the building is pre-eminent in the conditions to be observed. Secondly come the circumstances of *climate*, as involving the "skiey influences." Thirdly, the *materials* more readily at hand, or most needed in construction. Fourthly, the *locality*; whether in town or country? whether demanding connexion with other buildings, as in a street; or whether permitting entire insulation? whether wholly independent, or requiring a certain harmonization with already existing structures?

All these conditions, however, from the second onward, will be held merely in prospective thought, while the first is seriously retained in immediate care.

The designer, therefore, will form a carcass, or *box-model*, of external walls and internal divisions, having apertures for doors and windows; openings, flues, and shafts for fireplaces; lantern-lights for rooms not providable with mural windows, and protective sheds or porch inclosures before outer doors; the whole arranged in the best possible manner, with regard to that multiformity in uniformity which nature observes in all her distinct shapes. As "order is Heaven's first law," so will it be the first care of the architect who, without any reference whatever to a fore-chosen character of superficial ornamentation, will first endeavour to make his ground-plan pleasing as a regular geometrical figure; and, secondly, to give to his box-model an equally pleasing cubical form. To this end, he will aim at central and balancing compartments, or at all events to a balance of parts in his simple cube; not by any means forcing what cannot be achieved without internal disadvantage, but ever, as aforesaid, *aiming* at symmetrical order. Where the extent of his building warrants, the projections, recesses, higher and lower divisions of the bulk will be so distributed as to gratify the eye at a distance where no detail is appreciable. The front and back elevations will be, if possible, uniform in themselves, as the front and back of an animal, leaf, or flower; but, of course, the profiles *may* be otherwise, as in the natural examples adduced; though, in ordinary buildings of simple cubical form, the more strict the symmetry of every front the better; the deviation being mainly warranted by circumstances which at once explain themselves, as in the longitudinal elevation of a church.

The *purpose* of the building, however, will be the object not lost sight of for a moment; and the stress laid upon geometrical regularity of plan and symmetry of disposition in elevation has its force in a belief that the most perfect arrangement, in a *utilitarian* sense, will produce a result of symmetrical beauty.

The considerations due to *climate* come next. Our liability to the assaults of the weather, and to the day-darkness which (especially in towns) produces depressing gloom; the effect of frost on lodged wet in surface destruction; and the frequent obscuration of the sun, whereby delicate surface decoration has no effect to the distant beholder; the necessity for every means to preserve comfort and cheerfulness within, and endurance, with bold and telling ornamentation, without; all this will demand that we seek a sufficiency of light and air in connexion with the least possible advantage to wet and wind; and that we seek external expression by features that will be effective under unfavourable circumstances, and therefore of prominent and substantial character. The form of roof will be such as to prevent the necessity of chimney-shafts higher than required for good draught; and especial care will be taken to bring them into corresponding positions; if possible making them to ride, as it were, on the ridges; and never letting them rise from the eaves; avoiding, therefore, the location of fireplaces in the outer walls, unless the flues can be carried thence through the internal ones, so as to emerge in seemly positions above the roofing. The number, size, and form of the windows will be such as to leave the solidity and breadth of the elevations unimpaired; while each will display the maximum of glass obtainable within the outline of its framework. This will obviously induce the employment of simple openings, square, oblong, or with arched heads, as good construction may allow or demand; or, if a bay of several lights be advisable, each division will be preserved as open as possible, and included within as solid and compact a general form as may be. In all cases there will be a care not to have more impediments to light, or traps to catch and hold the rain and the snow, than need be. The immense advantage of free space within a small window-opening is sufficiently shown when the common twelve-paned sash is supplanted by one of two plate-glass panes; and still more does it appear when only the same amount of glass employed in a transomed and mullioned window is applied to the lesser opening of an unencumbered one.

Lastly comes the required application of a shelter for persons or carriages waiting at the entrance-portal; and it will not be denied for a moment that the shed of posts and beams, or pillars and entablature, being sufficiently protective, will be much less interceptive of light, than a porch of heavy arched work.

Thirdly, *material*. This question does not affect the exterior, as all countries have their stone and

brick, and they are alike applicable to any style for character of building; but ordinary structures are not like churches, which, with the sole exception of their roofs and doors, may be wholly of stone; and it has been justly said, "Gothic architecture is especially the architecture of *stone*." In the church only can this be carried out. In all other buildings, and particularly in such as require floors above floors, with windows that are readily to open, and with abundant necessity for the joiner, *wood* is the important item, internally; while the principle of construction, generally, becomes that of *horizontality* and rectangular adjustment; the employment of the arch being exceptional. Thus the carpentry dictates the character of the masonry. Square-headed windows associate best with the running cornices under flat ceilings; tie-beams and low raking rafters suggest the Greek pediment; lintels and joists declare for architraves and friezes; posts are the hints for Greek columns; and, as a Gothic nave "emulates in stone the arcades of an alley'd walk," so is the carpenter's wooden shed artistically improved into the stone portico. The superior parentage of the vaulted Gothic arcade is at once admitted: we only assert the filial worth of the Greek portico.

Fourthly, *locality*. Restrictions operate in towns which do not so in the country. A building in a street can generally present little else than a flat front, deriving its character from mere facial decoration, such as the "dressings" of its doors and windows, its cornices, string courses, and superficial adornment. Projections are only to be had by the sacrifice of valuable ground in forming recesses. The little that can be in the way of effect should be of the boldest. If the proposed structure be insulated, it will still be considered with reference to other buildings of the same purpose which are *not* insulated; and if it occupy an intervening position between two such differing clusters of architecture as a gorgeous Tudor fabric and an assemblage of pure Italian edifices, it may be well to form the bulk of the box-model, with a view to the employment of the Renaissance style, as combining the pictorial richness of the one with the more formal elegance of the others.

Still, however, bearing all other considerations in view, the purpose of the building will be predominant from first to last; and the box-model having been completed to the very best of the architect's ability, it then becomes his province to convert a substance of generally pleasing form into "a thing of beauty" by the legitimate ornamentation of his solids and voids, his piers and arches, or his posts and beams,—meaning by "legitimate" the style of decoration more immediately suggested as expressive of construction, and of the purpose for which the edifice is being designed.*

GEORGE WIGHTWICK.

THE MEMORIALS OF THE PRINCE CONSORT.

The National Memorial.—On Friday, the 21st, at a meeting of the general committee, a letter was read from General Grey, acknowledging the information and inquiry conveyed to the Queen, and saying her Majesty had come to the conclusion—

"That nothing would be more appropriate, provided it be on a scale of sufficient grandeur, than an obelisk, to be erected in Hyde Park, on the site of the Great Exhibition of 1851, or on some spot immediately contiguous to it; for her Majesty would any proposal that can be made be more gratifying to the Queen personally; for she can never forget that the Prince himself had highly approved of the idea of a memorial of this character being raised, on the same spot, in remembrance of that Exhibition. There would also be this advantage in a monument of this nature—that several of the first artists of the day might take part in its execution; for there would be room round the base of the obelisk for various fine groups of statuary, each of which might be intrusted to a different artist."

Amongst other business, a resolution was passed that a sub-committee should be hereafter appointed to co-operate with the committee to be named by the Queen in carrying out more fully her Majesty's wishes in the choice of a design and its execution.

A supplementary letter in touching words conveyed the Queen's reasons for believing that, following the movement of her people, the Queen should be allowed to consider how she may best take part with them in doing honour to her beloved Prince, so that the proposed monument may be recorded to future ages as REARED BY THE QUEEN AND PEOPLE OF A GRATEFUL COUNTRY TO THE MEMORY OF ITS BENEFACTOR."

The words we have emphasized should be adopted as the inscription of the proposed memorial.

* To be continued.

On Wednesday last the General Committee again met; and Her Majesty nominated as her committee Lord Derby, Lord Clarendon, Sir Charles Eastlake, and the Lord Mayor.

It was intimated that it was not desirable there should be a second committee, and the meeting rescinded the resolution to elect a co-operating sub-committee, passed at the previous meeting.

A resolution was then passed giving entire control over the funds to the committee above named.

Favourable answers have now been received from the mayors of the under-mentioned towns, who will support the Central Committee, or "National Memorial:"—Hull, Swansea, Rochester, Tewksbury, Salisbury, High Wycombe, Chichester, Ashburton, Faversham, Plymouth, Sheffield, Evesham, Exeter, Wells, Morpeth, Wigan, Wakefield, Frome, Peterborough, Taunton, Belfast, Chester, Richmond, Jedburgh, Walsall, Windsor, Lincoln, Wenlock, Newcastle-under-Lyne, Boston, Winchelsea, Dundee, Waterford, Rye, Plymouth, Sunderland, Norwich, Liverpool, Gloucester, Tynemouth, Bedford, Thetford, Great Grimsby, Portsmouth, Colchester, Liskeard, Tavistock, Devizes, Preston, Marlborough, Nottingham, Lynn, Andover, Huntingdon, and Beaumaris.

We may here also name those towns which, proposing to have each a local memorial, have addressed letters to that effect to the Lord Mayor of London. These are Derby, Lancaster, Oxford, Newark, Dover, Knaresborough, Salford, and Coventry. The Scottish National Memorial will be supported by various towns in Scotland; and of these Stirling, Berwick, Glasgow, and Edinburgh, have intimated this result to the Lord Mayor.

The Court of Common Council of London have resolved to place a bust of his Royal Highness either in the Council Chamber or in the Guildhall. The bust of her Majesty on one side of the Court will most probably be faced on the other side by the new bust, which will replace one of the pictures.

Cambridge.—A meeting of university men to promote the erection of a memorial to their late Chancellor, the Prince, has been held here; and it has been resolved to erect a statue, life-size, in some conspicuous place; subscriptions to be limited to those who have been or are members of the university.

Gravesend.—The inhabitants have resolved on a local memorial in the shape of an endowment fund for behoof of St. Thomas's Alms-houses.

Southampton.—It has been finally resolved here to forward the local contributions to the national fund.

Swanage.—Mr. Burt's project for the erection of a local memorial here has been favourably received at a public meeting; and a subscription-list has been opened, and a model of the proposed memorial prepared for public inspection.

Worcester.—At a public meeting convened by the Mayor, it has been resolved to subscribe to a local memorial; and a committee has been formed to obtain the concurrence of the county, and invite suggestions as to the best form for such a memorial.

Bath.—At an influential public meeting in this city it has been resolved to enlarge and otherwise improve the Bath United Hospital, as a memorial of the Prince.

Exeter.—Mr. R. S. Gard, M.P., has intimated to the Memorial Committee his readiness to present a most eligible and valuable site, on which to erect the proposed museum and school of art. The situation is considered to be one of the best in the city for the purpose. Mr. Gard recently purchased it at a cost of nearly 2,000*l*. The gift is entirely free and unconditional.

Yeovil.—The mayor, and various of the principal inhabitants, of this town have resolved to place a west window of stained glass in the parish church of St. John, as a memorial of the Prince. The cost is estimated at 300*l*.

Cardiff.—Aid to the central fund has been resolved on here, at a public meeting held to consider the subject.

Leeds.—At a public meeting, presided over by the Mayor, it has been resolved to erect a statue of the Prince in the Town Hall. The Mayor stated that the committee would not make any report to the subscribers before procuring the statue.

Halifax.—At a meeting held in the Town Hall, the Mayor in the chair, it was decided to erect a bronze statue of the prince, to be placed in some commanding situation in the town.

Ipswich.—A Scholarship for Queen Elizabeth's Grammar School is proposed here as a memorial.

Leith.—The inhabitants have resolved to aid the metropolitan Scottish memorial.

A Poetical Tribute.—The *Court Journal* states that the Poet Laureate has on hand an Ode to be produced at the opening of the Great Exhibition this year, and in which he will commemorate most of the public virtues of the late Prince Consort, in terms quite in harmony with his poem lately published as a preface in the new edition of the "Idylls of the King," and embodying several of those lines.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE ROYAL MEDAL.

A SPECIAL general meeting of the members was held on Monday evening last, to take into consideration the recommendation of the council with respect to the award of the royal medal, the medals, and other prizes of the Institute for the year 1861; and their recommendation with reference to the medals for the year 1862. Professor Donaldson presided.

It was resolved, subject to the approval of her Majesty, that the royal gold medal should be presented to Professor Willis.

Various prizes offered by the Institute were awarded; but as, by some misunderstanding, the envelopes containing the names of the successful candidates were not opened, we withhold more particular mention till that has been done.

THE NORTH LONDON GALLERY, MUSEUM, AND SCHOOL OF ART.

A PUBLIC MEETING was held in the Memorial Hall, Church-street, Islington, on Wednesday night last, to further a movement for the establishment of a museum, gallery, and enlarged schools for the north of London. Earl Granville presided.

Mr. Josiah Houle, the honorary secretary, having read a number of letters from eminent individuals who were prevented from attending,

The Chairman made an admirable address.

Resolutions declaring the importance of a knowledge of drawing and the arts of design, and the desirability of erecting a building, rent free, for the desired purposes, were moved and seconded by Professor Westmacott, Mr. Burchett, Mr. Hanbury, M.P., Mr. Godwin, the Rev. Mr. Mackenzie, Mr. Woodward, and others. The meeting was a full one, and a warm feeling in favour of the proposition was manifested.

VENTILATION OF DRAINS.

WITH reference to "healthy dwellings," Mr. T. Morris sends the copy of a communication made to the Board of Health, in 1860, in which he says:—

"In recently carrying into effect the design for a dwelling-house, convenience and economy induced me to have the soil-pipe extended upwards from the uppermost water-closet to the gutter, so as to receive the water from the roof, and act as a substitute for the ordinary stack-pipes.

I found here that a most valuable and simple means had been accidentally acquired for affording the most perfect ventilation to all the drains of the house; there being an unchecked escape for light aqueous vapour and foul air into the open atmosphere above the house.

In cases where the rain-water could not be conveniently conveyed to the soil-pipe, a smaller tube for ventilation carried above the roof, or otherwise, into the external atmosphere, might be sufficient; or the object would be effected by terminating the soil-pipe in a flue similar to those for smoke, and rising to the same height."

CHURCH-BUILDING NEWS.

Coppull.—The parish church of Coppull, says the *Liverpool Courier*, after being closed for about three months for the purpose of being repaired and enlarged, was re-opened for divine service on the 9th of January. The alterations and improvements are extensive. Externally, the most noticeable addition is a tower, which has been erected at the west end, the lower part forming a porch. The tower is of brick, with stone string-courses and battlements, and the style adopted here and throughout is slightly Romanesque, the extreme plainness and unecclesiastical character of the original building precluding any attempt at Gothic architecture. At the east end the church has been improved by the erection of a new chancel and vestry. In the interior, an unsightly gallery, which disfigured the west end, has disappeared, as have also all the high square pews which blocked up the body of the church. Instead of the latter there are now two rows of low open benches, of pitch pine, stained and varnished, with a broad passage between them. The font, reading-desk, and pulpit, which are all of Caen stone, and sculptured, are placed at the entrance to the chancel. In the chancel seats have been

provided for the choir, and a space has been left for an organ, which will be erected shortly. The floor is here laid with encaustic tiles, which have also been employed for inscribing within the communion rails the Lord's Prayer, the Creed, and the Ten Commandments. An east window, by Mr. Wailes, of Newcastle, completes the chancel.

Hulme. — Some wall decorations have been completed at St. Mary's Church. The parts to which this ornamentation has been applied are the large wall under the west window and the spandrils over the arches in the nave and chancel. The work has been executed in oil paintings by Messrs. Clayton & Bell, of London; the cost being met in the case of the nave by some of the principal members of the congregation, and the chancel being decorated at the sole charge of one lady. The work in the chancel is of a more elaborate character than the rest. The figures and other ornaments on the chancel walls are in rich colours and gold.

Hull.—The Wesleyan chapel in Beverley-road was opened on the 16th of January. Since the erection, in 1786, of George-yard Chapel, at a cost of between 4,000*l.* and 5,000*l.*, there have been opened six other Wesleyan chapels, the total cost of which amounts to about 31,500*l.*, and they are capable of accommodating about 8,000 people. The new chapel has a frontage to the Beverley-road of 112 feet, and stands back 45 feet from the road. The style is Decorated. All the external walls are faced with Wallingfen white stock-bricks, and the ornamental masonry and other dressings are generally of Brodsworth stone. The Beverley-road elevation is divided by buttresses into three spaces, having an arched entrance doorway in each, with columns of red Mansfield stone, and floriated capitals. There is on each side of the central doorway a two-light window, the hood-mouldings of which are united with those of the doorway, and rise triangularly from carved terminations, forming three small gables with finials. Above the central doorway is a five-light mullioned window, with tracery-head, running up into the roof gable; and above each of the side doorways is a two-light window. The gable is surmounted by an octagonal turret, with two stages of arches and a small spire. In the front of the chapel is a wing on each side for the gallery staircases; and the flanks of the building are divided by graduated buttresses into compartments, with two tiers of traceried windows. The roof is covered with Westmoreland slates, having an ornamental tile crest to the ridge, and louvred ventilating gablets along each side. All the windows are glazed with Hartley's patent quarry glass. The arrangement of the sittings in the body of the chapel is simple, comprising three blocks of pews facing the pulpit. The plan of the chapel is a parallelogram, the internal dimensions of which are 90 feet in length by 54 in width. The side walls are 32 feet in height from the floor of the chapel, which is 2 feet above the level of the finished ground on the outside. The roof of the main building is in one span, the framed principals of which have curved wall braces springing from moulded and carved corbels. The ceiling is below the plane of the roof, and rises from the side walls at an angle of about 30 degrees, being in the centre 45 feet from the floor of the chapel. It is divided by moulded ribs into panels, the plastering of which is coloured blue. At the rear of the chapel are a band-room, vestries, and class-rooms, the entrances to which also communicate with the chapel. Above part of those behind the pulpit an organ recess is formed, with bold equilateral arch in front, rising from clustered shafts supported on projecting carved corbels, to receive an organ now in process of manufacture by Messrs. Forster & Andrews, of Hull. The interior woodwork is executed chiefly in red fir, stained and varnished. The sitting-accommodation is for 1,150 persons, 550 of them on the floor of the chapel, and 600 in the galleries. The amount of the contracts, including lighting, heating, and fencing, was about 5,600*l.*, and the cost of the site about 1,200*l.* The works have been executed by the several contractors;—the excavators', bricklayers', and plasterers' work, by Mr. R. Bailey; the masons' work by Messrs. Simpson & Malone; the carpenters' and joiners' work by Mr. J. Jackson; the plumbers' and glaziers' work by Mr. P. T. Harrison; the slating by Messrs. Dawber & Son; the ironwork by Messrs. Pearson, Dannatt, Kruger, & Co.; the painting, staining, and varnishing, by Mr. W. Wardale; the gaspipes by Messrs. Stones, Settle, & Wilkinson, all of Hull; the gasfittings by Mr. T. Brawn, of Birmingham; and the heating apparatus by Messrs. Stuart & Smith, of Sheffield. The whole of the works have been designed by Mr. W. Botterill, of Hull, architect; and have been carried out under his superintendence; Mr. C. Pulman having acted as clerk of the works.

Leith.—On the 11th January, Mr. Gladstone, the Chancellor of the Exchequer, laid the foundation-stone of the Episcopal Church of St. James, about to be erected here, at the birthplace of the late Sir John Gladstone, of Fasque, his father. The site has cost 2,000*l.*; and the edifice, exclusive of the spire, the erection of which is deferred, is expected to cost from 5,000*l.* to 6,000*l.* The architect is Mr. G. G. Scott.

Glasgow.—St. Mark's new Church was opened for public worship last Sunday. It occupies the site of the old church in Anderston, a densely populated part of the city, and has attached to it a burying-ground, which is in a very unsatisfactory state. The side of the church is turned towards the street. It is in the Early English style of architecture, and has a spire 160 feet high. The principal ornament of the interior is the stained-glass window, executed by Mr. Ballantyne, for the late Mr. Holdsworth, for the cathedral, which has been presented to the church by that gentleman's representatives. The church accommodates 900 persons, and will cost somewhat less than 3,000*l.* The architect was Mr. James Salmon, of Glasgow, and the builder, Mr. Robert McCord.

Greenock.—On Monday the buildings erected for the Finnieston Mission Committee, at Cartsdyke, were formally opened. They consist of a church, school, and teacher's residence. The church is seated for 700. The principal architectural feature is the porch, and the front gable is surmounted by a belfry, about 80 feet high. The school, which is arranged in accordance with the Government regulations, will accommodate 200 children, and is provided with suitable playground and offices. The buildings are contiguous, and are grouped together. They have been erected from the designs of Mr. Honeyman, of Glasgow, and will cost 3,000*l.* The builder was Mr. Thomas Thomson, jun., and the carver, Mr. Wood, of Greenock.

Govan.—The Free Church here has been re-opened, after having undergone extensive alterations and additions, under the direction of Mr. Honeyman, of Glasgow. A new front has been erected, flanked by short transepts, and surmounted by a timber belfry. Additional accommodation has thus been provided for 350 persons. The contractors for the mason and carpenters' works were Mr. Struthers, of Glasgow, and Mr. Hendry, of Govan. The carving was executed by Mr. McGaw, of Glasgow.

Rathgar.—The *Belfast Newsletter* states that the Presbyterian new church at Rathgar has been opened. The new church stands between the old and new Rathgar roads, facing the Roundtown-road. The style of architecture adopted is the Decorated Gothic of the fourteenth century. The building is about 90 feet in length and 60 feet in breadth, with an octagonal steeple reaching about 100 feet above the ground. The windows are decorated with stained glass. There are sittings for more than 500. The architect was Mr. Andrew Heiton. The cost of erection was upwards of 5,000*l.*

STAINED GLASS.

Clifton-on-Teme Church.—The three lights of the east window in the aisle on the south side of this church have just been filled with painted glass, at the expense of Mrs. Coucher, late of Woodmanton, in memory of her husband and two of her sons. In the centre is the Baptism of our Lord by St. John, and at the bottom a shield bearing the Coucher arms. On the left hand is the Temptation of our Lord, in which Satan is represented as discomfited, and leaving the Redeemer, to whom angels are ministering. The corresponding light on the right-hand side is occupied by Christ in the Temple. The subjects are surrounded by ornamental borders, the spaces above and below being filled with devices. The quatrefoils in the head of the window contain the arms of Wysham, Poynings, and Warren, in old glass. Mr. Preedy was the artist.

Peterborough Cathedral.—The window spoken of under the head of "Lincoln Cathedral," on the 8th of February, was put up by Messrs. Clayton & Bell in Peterborough Cathedral, to the memory of the late Dr. Butler, dean of that cathedral. The same artists have also just now fixed a two-light window, in the north transept, to the memory of a member of the family of G. P. Gates, Esq., of Peterborough, at whose expense the window was executed.

Gloucester Cathedral.—A large three-light window has recently been put up in the nave of this cathedral by Messrs. Clayton & Bell.

St. Alban's, Rochdale.—One of the windows of St. Alban's Church has been replaced by a memorial stained glass window, supplied by Mr. Wailes, of Newcastle, on the order of Mr. H. Chadwick. The window being a memorial of a female child, the parable of the Wise and Foolish Virgins was chosen as the subject. The window is composed of three openings in the lower portion, with three trefoils in the tracery. The first group in the lower portion represents the ten virgins awakened out of sleep; the person announcing the arrival of the bridegroom being seen in the distance. The foolish virgins, with extinguished lamps, are on one side; the wise ones, with dimly burning lamps and oil cruises, on the other. In the centre group the wise are trimming their lamps, while the foolish are vainly supplicating for a supply of oil. In the third opening the bridegroom, represented as our Lord, is entering, followed by the five wise virgins bearing their lamps burning. The three figures in the tracery bear scrolls, on which is an inscription.

Knaresborough Church.—A short time ago, by the liberality of Lord Rosslyn, the parish church of Knaresborough has had the fine old window in the chancel restored. It was in a very dilapidated state, with 4 feet of slate inserted in the bottom part of each light instead of glass. The style was Early Decorated, of five lights, with flowing tracery. The work was intrusted to Mr. Wilson, a local builder. It has now been filled with stained glass by Messrs. Edmundson & Son, of Manchester. The upper part of each light contains a single figure, and the centre our Lord in sovereignty and the four Evangelists, two on each side, under rich canopy work. In the compartments below are the following subjects, viz.;—the Birth, Baptism, Christ's Sermon on the Mount, Last Supper, and Resurrection. In the tracery, the emblems of the Evangelists, *Agnus Dei*, Cup and Vine, sacred monogram, &c., with foliated ornament. The window in the Roundal Chapel was executed by the same artists.

Old Church, Ayr.—There has been placed in this church a stained glass window by Messrs. Ballantine & Son, of Edinburgh, the contribution mainly of the incorporated trades of Ayr. The window is divided into two upright lights, in the dexter of which is a figure of David singing his celebrated psalm, "The Heavens declare the glory of God." In the sinister light is a figure of Solomon dedicating his temple, while exclaiming, "The heavens, yea the heaven of heavens, cannot contain Thee, much less this house which I have builded." Both texts are inscribed on panels introduced at the sides of the subjects, and in base the armorial bearings of the eight incorporated trades are introduced. In the top tracery the text is introduced,—"Glory to God in the highest, on earth peace, good will toward men."

PROVINCIAL NEWS.

Hastings.—A report has just been issued by the Board of Admiralty, under the General Pier and Harbour Act, of 1861, in reference to the proposal to construct a pier and harbour at Hastings. Their lordships say:—"The works which are proposed to be constructed opposite to the present fish-market and beaching ground, are to consist of a pier composed of iron screw piles, with stone hearting up to high water mark; commencing from the site of the old Fort, on the west, and extending about 1,650 feet in a southerly direction; then taking a curve to the eastward, and running in an easterly direction for 1,230 feet; and a similar pier or breakwater, commencing about 1,200 feet eastward of the other, from the "Rock a Nore," and being carried to the extent of 1,650 feet in a line nearly parallel to the western pier: these works will inclose a harbour area at time of high water of 57 acres, and secure a depth of about 10 feet at time of low water spring tides, and from 20 to 30 feet in width."

Leighton Buzzard.—At a meeting of the gentlemen interested in the erection of a new Corn Exchange here, the tenders were opened. The lowest tender exceeding the means of the directors, the architect was instructed to make such alterations in his plans and specifications as to enable a building to be built without exceeding their means.

Ross.—The Corn Exchange here has been inaugurated. The capital of the company is 2,500*l.*, divided into 1,000 shares of 2*l.* 10s. each. The Corn Exchange is situate in the High-street, opposite St. Mary's-street. Besides the Corn Exchange Hall, which will be used for lectures, concerts, public meetings, &c., there are also reading-

rooms, and a public library, &c. The directors received several plans, for a building such as they required, from different architects; and, after an inspection, preferred the design of Mr. T. Nicholson, of Hereford, as being the most suitable. The whole frontage, says the *Hereford Times*, in describing the building, is about 65 feet, of which 50 feet are given to the order, and the remaining 15 feet to a recessed driving way with room over. The principal façade is executed in Boxhill stone; Italian in design; with a Doric order surmounted by an Ionic. The Exchange-keeper's rooms are arranged in the mezzanine story. A clock turret, which it is proposed some day to erect, would greatly add to the appearance of the building. Messrs. Pearson & Son, of Ross, have executed the work.

Birmingham.—In reference to the new public buildings in Moor-street, *Aris's Gazette* says:—"The council, through the watch committee, after anxious consideration as to whether it would be more prudent to enlarge and improve the existing buildings, or to construct on another site an entirely new range of buildings for the offices of justice in Birmingham, at a vast outlay of money, decided upon the former alternative. If the authorities, by this course, shall obtain thorough efficiency in the metamorphosis of the Public Office, we know that they have saved, or rather applied to a far better purpose, by enlargement, corporate buildings of the present value of 20,000*l.* The outlay at which this is being effected is about 8,500*l.*, viz., 4,000*l.* for the purchase of adjacent land in Moor-street—which must always be increasing in value—leaving less than 5,000*l.* to provide the necessary alterations and extensions. The new buildings are now nearly ready for roofing. They comprise, in addition to the present court and offices, a large and well-ventilated sessions court, 50 feet by 60 feet; two commodious waiting-halls, a spacious grand-jury room, with convenient approaches free from all contact with the pressure of the crowd of rough idlers who usually assemble on such occasions. There are also magistrates' and recorder's retiring-rooms, a robing-room with lavatories, &c., for the members of the bar; and last, not least, the additional accommodation in the prison department of twenty-one cells, two airing yards, turnkey's lodge, and other necessary offices. There will also be provided a couple of convenient offices for the borough sanitary inspectors. The plan of Mr. Martin, as originally submitted to the corporation, was divided into two portions; namely, the erection of the new buildings already referred to, and the further alteration and enlargement of the existing court, by throwing into it two small anterooms, which are now used as passages, and by raising the roof and lighting it from the top. The committee, however, only adopted that portion of the work involved in the new building."——The Lozells Chapel day-schools have been opened. The principal room of the school is 60 feet by 25 feet, and connected with it is an infants' room, about 20 feet square. The school-room is surrounded by a play-ground, which is fitted up with gymnastic appliances, and flower borders and shrubs. Mr. F. D. Johnson, of Bennett's-hill, was the architect; and Mr. W. Bennett the builder.

Sheffield.—The Victoria Hotel, at the Victoria Station, is now far advanced towards completion. It comprises the usual suites of apartments requisite for a first-class hotel. The large dining-room is 54 feet long and 28 feet wide, and adjoining to it is a smoking-room, 18 feet by 16 feet: these two rooms are in the south wing. The coffee-room occupies the angle of the building, to the south and east: it has five large windows, and is 40 feet by 28 feet in its widest part. At the corresponding angle, next to the station, is the commercial-room, 40 feet by 18 feet. A corridor, 9 feet wide, runs through the building, and a spacious entrance-hall occupies the centre of the east or station approach front. The bar is in the centre of the building: adjoining is the parlour for the proprietor, and behind is a service passage communicating with the entire offices. The cellarage is extensive. The great staircase is on the west side of the corridor. Both are of stone from Elland-edge. There are upwards of fifty bed-rooms on the three upper floors, arranged in suites. A hoist is provided from the basement to the attic story, adjoining the great staircase. A *porte cochère* is placed at the entrance from the railway side, and a curved covered passage connects the visitors to and from the railway platform. The building is, so far as regards the exterior, completed. It is a simple design—a study from the works of Inigo Jones.

Bradford.—An influential meeting has been held at Bradford, to consider the propriety of taking steps to erect a new Exchange and Post-office, in Market-street. The movement has been a successful one. A joint-stock company (with limited liability) possessing a capital of 25,000*l.*, divided into 1,250 shares of 20*l.* each, has been formed for raising the necessary funds; and 1,143 shares, according to the local *Observer*, have been already subscribed for.

Wetherby.—The local guardians have resolved to erect a new workhouse for the Wetherby Union, on plans by Messrs. Pritchett & Sons, as altered, subject to the approval of the Poor-Law Board. The main building is to be erected three stories high, and the infirmary one story.

Wigan.—The town-council have appointed a committee to select suitable sites for the erection of new lockups in connexion with the buildings requisite and convenient for the transaction of public business in the borough, and to select a convenient site capable of affording better market accommodation than there at present exists.

St. Andrews.—This city and suburbs have been surveyed by Mr. Paterson, of Edinburgh, engineer, and assistants, with a view to drawing up a plan for thorough drainage, which plan is to be submitted first to the Town Council, and subsequently to a public meeting of the inhabitants; and if by them approved, carried into practical operation forthwith. Amongst other improvements those on the College Church are being proceeded with, the mason-work of the whole of the windows, with one exception, being finished, while the interior alterations are in an advanced state. It is believed that the Board of Works has received favourably the application for the erection of a breakwater to the east of Cardinal Beaton's Castle, to prevent further encroachment by the sea; and it is in contemplation to extend the cathedral burying-ground by adding to it a park at the south-east side of it.

KESWICK AND TYPHOID FEVER.

The statement we gave last week shows a sad state of things in a place dependent on an income derived from visitors seeking health and pleasure. The local clergy, magistrates, and medical men, in vain, so far, have called upon the Local Board to initiate sanitary improvements. An inspection has, since this appeal, been made by the chairman and certain members of the Board; we trust with good results. Cleansing and disinfecting are, however, at best only temporary remedies. The town requires sewerage. The cost of public sewers, we have been informed, need not exceed some 1,500*l.* The money can be borrowed, and a local rate of 6d. in the pound will, at this cost, we are also informed, cover all charges of principal and interest, and extinguish the debt, in thirty years. The work, if commenced now, might be completed in the main streets before Midsummer, or before the usual time of tourist visitors arrival. The Local Board of Keswick will discover, if they continue to refuse to listen to the appeals of local magistrates, clergy, and medical men, that visitors will not risk the dangers of typhoid fever. The beauties of Derwent Water and Borrowdale will not compensate for the smells and risks incident to an unsewered town. We venture to predict that for every case of typhoid fever there the steps of many tourists will be turned aside from Keswick.

INTERNATIONAL PHILANTHROPIC CONGRESS. (CONGRES INTERNATIONAL DE BIENFAISANCE.)

We have already mentioned that the international Philanthropic Congress has for its object the rational and progressive improvement of the physical, intellectual, and moral condition of the working classes and of the poor. It collects accurate information concerning their present state, and the successful or unsuccessful means employed for bettering it: it elicits the opinions of men who have devoted themselves practically to the welfare of their fellow-creatures; and thus gathers together the results of the experience of all nations, for the common benefit of all. It disavows all political or sectarian spirit; adopting philanthropy as a neutral ground where all parties and persuasions may work harmoniously. This body has arranged to hold its next session in London, in conjunction with the sixth annual meeting of the National Association. A general committee has been appointed.

The use of Burlington House has been granted for the London meeting of the National Association and the Congress.

On payment of 1*l.* 1s., members will receive a ticket admitting them to all the meetings of the Association and Congress, and to all the advantages open to members of the Association during the London session.

The session will be inaugurated on the 4th of June. Six days will probably be devoted to business. Arrangements will be made for visits to the Great Exhibition and other objects of special interest in or near the metropolis.

It is proposed to direct the special attention of the members of the Congress to those articles in the various departments of the Exhibition which may be most deserving of notice in a sanitary and benevolent point of view. It will be the province of the Congress to consider the expediency of recommending that the articles and inventions thus noted be collected together at the close of the Great Exhibition, for constituting a special Exhibition of Domestic and Sanitary Economy.

The programme of the Congress, which has lately appeared in French, proceeds to explain the nature of the communications to be addressed to the Congress; giving at considerable length a classified enumeration of the subjects recommended to the attention of persons interested in promoting the improvement of the moral, intellectual, and physical condition of the people. It may be obtained, on application, at the office, 12, Old Bond-street.

"STONE AND HEAT."

In answer to a correspondent in our last number, Mr. C. H. Smith kindly writes:—No real stone will bear heat so well as bricks, tiles, and terra-cottas generally. The stone usually employed in the south of England for floors of glass-houses, hearths, and fittings to ovens and fire-places, is a soft calcareous sandstone, geologically termed the upper and lower green sand, commonly known as fire-stone or hearth-stone. It is rarely found in beds more than 10 inches thick, forming some of the lower strata in almost all chalk districts. The London market is supplied from quarries in the neighbourhood of Merstham, Reigate, and Godstone, in the county of Surrey; sand may be obtained from many of the London tone-merchants.

THE ARCHITECTURAL EXHIBITION.

The report of the committee for 1861 announces that the committee felt it to be their duty, and one which would meet with the approval of every supporter of the Exhibition, to make a donation of 10*l.* 10s. out of the funds of the society towards the proposed memorial to his late Royal Highness the Prince Consort.

The next exhibition will open at a conversazione, on Tuesday, the 25th of March, and on the following day, to the public.

The committee trust that on this occasion all those who have any suitable works to exemplify will exhibit, and that the Architectural Exhibition of 1862 will far exceed all that have preceded. They are glad to announce that the Exhibition will contain an entire collection of the original sketches and drawings of the late A. Welby Pugin, and which possess the highest interest for all lovers of architecture.

The following is the balance-sheet:—

RECEIPTS.	£.	s.	d.
Balance in hands of honorary treasurer	65	1	3
At the doors, including receipts connected with the Department of Materials	338	4	3
By season tickets	89	17	6
Annual subscriptions and donations	123	8	0
Dividend on ten shares in the Architectural Union Company, Limited	5	0	0
	£571	11	0

Invested in shares of the Architectural Union Company, in favour of the Architectural Exhibition:—
By donors £100 0 0

PAYMENTS.			
Rent	200	0	0
Advertisements	79	6	6
Messrs. King & Co.	60	1	9
Mr. Green	21	2	10
Mr. Tupp	20	0	0
Doorkeeper's salary	13	13	0
Curator's salary, one year to Christmas, 1861 ..	40	0	0
Curator's petty cash	28	0	0
Honorary Secretary's petty cash	10	3	6
Gas	3	0	0
Allowed Mr. Waterhouse for damage to his model sustained in transit to Manchester ..	10	0	0
Donation towards the Memorial Fund—His late Royal Highness the Prince Consort ..	10	10	0
	£495	17	7
Balance in hands of honorary treasurer	75	13	5
	£571	11	0

WESTHAM DRAINAGE.

THE Westham Board of Health inspected the main drainage works of the district on the 18th ult., and on their return passed unanimously the following gratifying resolution:—

"That in the undivided opinion of the board the works have been well and judiciously carried out. That the expectations founded by the board upon the plans and proposals of their eminent engineer are fully established, and that the board feel the highest pleasure in according to him their unqualified approval of his ready, open, and unconstrained bearing towards themselves; and also their complete confidence in his skill and judgment as an engineer. That the board are unable to discover anything in the works that can detract from the favourable inferences to be drawn from the report. And they, therefore, fully concur in and adopt such report with their hearty vote of thanks for the honour he has done them, no less than himself, in being the instrument of effecting so complete and effective a system of drainage in a district where its accomplishment presented so many and great difficulties That the board desire to express a hope that the termination of his executive duties will not dissolve that friendly relationship with Mr. Rawlinson which they are anxious should be continued."

A vote of thanks was also given to the engineer's staff.

MINERS' HAVENS OF REFUGE.

COLLIERY PROPRIETORS are doubtless now contemplating the desirability of universally having two shafts to each pit, and also a communication or staple between different seams of coal, the wanting of which caused the fatality during the late accident. Besides the foregoing there is another safety valve that might save the lives of miners if the brattice should be destroyed by fire or otherwise; and, as it has not yet to my knowledge been noticed before, permit me to describe my idea.

Bisection of a shaft by a brattice generally produces sufficient ventilation in the whole of a colliery to enable miners to do their work in any part; but as soon as a brattice is disarranged the upward current of gas and downward passage of air ceases, and what may have disturbed the brattice has probably interfered with the arrangement made for miners leaving the pit. Inexpressible relief would be given to the minds of all engaged in underground workings if they knew that in such fearful emergencies they could all resort for safety and wait for relief at some particular and selected spot in each seam, set aside for that purpose, and which could be easily ventilated perfectly distinct and *independent* of the mode adopted for the remainder of the colliery,—the same as is done daily in ventilating particular rooms in buildings. The cost of these "havens of refuge" to miners would be inconsiderable; as, by imbedding under the brick or wooden casings of shafts a diaphragm or concentrical pipe laid from the outer air to the selected spot in each seam, it would be accomplished (a mere extension of the brattice principle. At each place appointed for the miners to congregate it may be desirable to have the power to close the pipes where the miners in other seams have not been working.

GEORGE WALCOTT, C.E.

COSTLESS VENTILATION.

A CONSTANT supply of fresh air is so important to our well-being, and in the prevention and cure of disease, that the subject needs no comment: an attendance, however, at any public meeting is only necessary to convince one how much this axiom is ignored; or, if admitted, how unsuccessfully met.

For some time I adopted the plan of opening the window-sash at my patients' houses at the top, and stretching out on a frame a corresponding depth of tartatan, to intercept blacks and prevent draught; but, although a modification of, but not an improvement on, this method has the support of a popular lecturer at an institution for the diffusion of art and science, the principle is wrong and the result unsatisfactory, as the draught is directed downwards on the sitter, and not upwards towards the ceiling: the screen, too, is anything but ornamental, and becomes clogged with blacks, so as to require removal and repair.

The method I now use is simple, economical, quite free from draft, and does not get out of order. Raise the lower sash of the window, and place in front of the opening at the bottom rail a piece of wood of any approved depth: this leaves a corresponding space between the meeting rails in the middle of the window, through which the current of air is directed upwards towards the ceiling: heavy blacks cannot ascend with the air, which is driven so high as to be warmed before it descends. The principle may be modified in various ways, making the bottom frame of wire blinds supersede the strip of wood: in a word, open the lower sash of the window two or three inches, and block it up anyhow, and the air enters the space in the middle and is carried to the ceiling.

It will be seen that this simple plan is adapted for the cottages of the poor and the mansions of the rich: in the latter, however, the draperies *must be arranged so as not to interfere with the current of air towards the ceiling*: it may be used in any weather, day and night, summer and winter: indeed, in the house of a medical friend, to insure constant action, the window of his reception-room has been nailed open.

PETER HINCKES BIRD, F.R.C.S.

"WHAT IS THE PROPER HEIGHT AT WHICH TO ADMIT FRESH AIR INTO A ROOM?"

I SEE that during the discussion at the Royal Institute of British Architects at their last meeting this question was asked, but not answered. Some time ago this was practically pointed out to me by a physician, to my own satisfaction, at least; namely, at the level of the top of the heads of the animals intended to occupy the apartment, *e.g.* if for human beings, 6 feet from the ground, with an upward direction given to the current of air. I would suggest that the Royal Institute of British Architects try the experiment by passing pipes through their walls behind and into the several busts of the architects of the Renaissance which decorate their rooms, and let the air escape from the crowns of their several empty heads. If the air be admitted below this level it causes unpleasant draughts; and if above, its entrance is checked by the rising heated air. Of course if the air be warmed it can be admitted at a lower level, as is admirably effected by various fireb rick stoves communicating with the outer air.

JOHN P. SEDDON.

STRUCTURAL IMPROVEMENTS: HEALTHY HOUSES.

SIR,—In your last impression, under this head, when referring to my patent air-chamber smoke-flues, you say, "I have seen this invention in operation, and I found a stream of pure warm air coming in while the foul air was making its escape." This notice, made *in the cause of sanitary progress*, has been sufficient to bring many architects and others interested to my works.

As an earnest worker in this cause, will you permit me to call your remembrance to a fact, that you have not mentioned? viz, that during your stay, to prove how perfectly the fresh air was diffused throughout the room, I requested one of my assistants, in your presence, to pour a few drops of verbena perfume on the grating *outside*: this done, you will recollect the scent was in a few minutes perceptible in every part of the room.

Again, you will also remember I called your attention to the size of the smoke flue, as being only 5 inches in diameter, and that it has not been swept for three years.

Our forefathers, when building their chimneys, gave as much consideration to drying their bacon as to the exit of the smoke: more recently they were constructed according to the Building Act, 14 inches by 9 inches, that being considered of sufficient size to admit the climbing boy. Although boys are now prohibited from ascending chimneys, still I am informed by an architect from Liverpool that in that town all chimneys must be constructed 14 inches by 9 inches; why, I am at a loss to imagine, when the chimney to which I refer as being only 5 inches in diameter, and to which I called your attention, is capable of carrying off all the smoke I can possibly generate by wet straw or otherwise.

I may here observe that none of the Patent Air Chamber Smoke Flues at the Royal Military Academy, Woolwich, are more than 7 inches diameter. As these have answered so satisfactorily, I have made and fixed several 3-inch flues. The rapidity with which the smoke passes through them, and the force at the point of exit, render downdraught impossible.

As I have spent thousands in perfecting various improvements, I hope you will permit me to record my experience of small flues, by finding space in your columns for the foregoing remarks.

GEORGE JENNINGS.

Books Received.

VARIORUM.

THE new number of the journal of the "Bath and West of England Society for the encouragement of Agriculture, Arts, Manufactures, and Commerce," contains various useful reports and papers. The report on "The Arts Department of the Exhibition at Truro," by Dr. Scott, of Exeter, is interesting. According to this report, the arts department of the Truro exhibition last year was highly satisfactory, and constitutes the third year of such unquestionable success. A lesson to other exhibition managers might be learnt from the experience of this society in lowering the charges for admission. The charges at last exhibition were reduced one-half; nevertheless, while there was only the small difference of 6*l.* odd between the receipts of the two last years, the receipts in one department (including the art works) exceeded those of Dorchester by about 10*l.* Amongst the art works were some oak carvings which excited attention. Of these the report says;—

"Some beautiful carvings in oak were exhibited by Mr Halliday, of Bath. The principal piece was a representation of the well-known picture by Stothard of the 'Canterbury Pilgrimage.' The figures had great ease and boldness, and much of the sentiment of the painter was well retained. The details of the inn behind are exceedingly accurate, and carefully wrought. Arm-chairs, and boxes having pictorial representations of historical or other subjects carved upon them, walking-sticks, &c. &c., were also exhibited by Mr. Halliday; and, when his history is known, his talent and perseverance must be considered remarkable. A short time ago, as a deputation of the Society were going to Wells, their attention was attracted by some curiously-carved walking-sticks at a turnpike-gate, near that city. On inquiry it was found that the keeper of the gate was the carver; and Mr. Halliday, at the suggestion of Mr. Drewe, became an exhibitor at Truro. Thus the Society will, in this instance, as it has already done in others, be the means of bringing this hitherto almost neglected man of talent into well-deserved public notice."

——"What is good Iron; and how is it to be got. London: Murray. 1862." In this pamphlet, on a subject of great and increasing importance, the shortcomings of the manufacturer, the public, and the Government, are shown up, and various suggestions for the improvement of the quality of our iron made.——"A Milton Memorial: Sketch of the Life of John Milton. By Antiquitatis Historicæ Studiosus. London: Woodley, Cripplegate. 1862." This little pamphlet has been compiled with reference to the proposed restoration of the church of St. Giles, Cripplegate, where Milton was buried. Indeed, it was in Cripplegate that he finished his "Paradise Lost" and wrote his "Paradise Regained," and it was there he died. It has often been a matter of surprise that no sustained effort has been made to restore and beautify a church endeared to all Englishmen as the burial-place of our greatest poet, himself addicted

> "To walk the studious cloisters pale,
> And love the high embowèd roof
> With antic pillars, massy proof,
> And storied windows richly dight,
> Casting a dim, religious light."

And we hope that the present movement will meet with the success it merits.——"The Corps of Royal Engineers: Could it not be reorganized so as to produce an efficient body of Military Engineers. By an Officer. London: Stanford, Charing-cross. 1862."——"The Royal Engineers being Remarks on their Duties, with Suggestions. London: Freeman, Fleet-street. 1862."——The object of these two tractates is one we have frequently treated of,—the shortcomiugs and requirements of the corps of Royal Engineers. The author of the former, though an officer, is not sparing in his strictures; neither is the latter, who proposes suggestions "for greatly increasing their numbers, and thus rendering the efficiency of the British army complete;—with a saving of over 180,000*l.* per annum." Into the merits of the subject we need not at present re-enter.——No. 2 of "London Society" (49, Fleet-street) is rich in illustrations, containing drawings by Florence Claxton, H. Sanderson, J. D. Watson, James Godwin, and others; and is altogether a good shilling's worth. The letter-press, nevertheless, is not yet up to the mark of its title.

Miscellanea.

NEW COURTS OF JUSTICE.—Mr. Cowper has given notice of a bill to enable the Commissioners of her Majesty's Works to acquire a site for the erection of courts of justice and of offices belonging to the same; and of a bill to supply means towards defraying the expenses of providing such courts and offices.

"CROSBY HALL."—Sir,—Your correspondent C. H. S. has, I think, been seeking rather unnecessarily to raise an alarm about the "total destruction" of this ancient hall. I took part in the conversation to which he alludes when he says the present proprietor informed him that "he did not intend to alter" the building in any "material way." This assurance I beg to confirm. The interior of the Hall, as restored a few years ago, will remain intact. The use to which it is to be applied does not necessitate any alteration, and is not at all calculated to hide its beauties. The "hole cut through the roof" which C. H. S. "saw" is in reality an opening which was formed in the ceiling at the time of its restoration. No skylight exists, but it is the intention to have light in the roof over this opening for the purpose of lighting up the ceiling, the beauties of which have hitherto only been seen by artificial light.—SAMUEL PARR.

Houses for the Working Classes at Edinburgh. Arrangements, according to the *Edinburgh News*, are being made by which 10,000*l.* will be expended in the erection of workmen's houses in those grounds at the south end of Canongate designated the "Dumbie Dykes." The scheme, it is said, is undertaken by Mr. Falshaw and others.

Junction of Drains and Sewers. — Mr. Rawlinson informs us that in the recent discussion at the Institute he intended to say,—"Some five, or probably betwixt this and ten per cent. of the new houses built in the west end of the metropolis (not ninety or ninety-five per cent.) had imperfect connexions with the sewers; because the drains and sewers were constructed at separate times, and no individual was responsible for making proper connexions." He continues,—"In my remarks on the former imperfect drainage at Bowood, I omitted to say that at present the sewerage and drainage of Bowood are as complete as such works can be made. Lord Lansdowne has had sewerage, drainage, ventilation, water-supply, and fire-prevention apparatus made as perfect as possible. Upwards of 2,000*l.* have been expended to remedy the drainage and water-supply. Bowood is now in a good sanitary condition."

Report of City Works.—The report of Mr. William Haywood, the engineer and surveyor to the City Sewers Commission, on the works executed by the commission during the year 1861, has been printed. From this report it appears that the approximate number of premises known to have been drained at the end of the year 1860 was 13,040; and the approximate number of premises about the drainage of which nothing is known, and which have hitherto been set down as undrained, is about 2,816. The total number of houses believed to be drained is about 13,184. The street surface watering contracts were let at 1,327*l.*, being 64*l.* more than the previous letting. For the supply of urinals, the amount paid for water was 313*l.* 10s. 7d.; for flushing sewers, 5*l.* 6s.; and for washing courts, 104*l.* 12s.

Society for the Encouragement of the Fine Arts.—The first *conversazione* of the season was held on Wednesday evening last, in the Gallery of the Winter Exhibition, Pall-mall, when the prize medals, awarded last session, were presented, viz.:—For Historical Painting: Mr. Marcus Stone, "Claudio and Hero," in the Royal Academy. Landscape: Mr. McCullum, "Spring—Burnham Wood," Royal Academy. Genre: Mr. Calderon, "*La Demande en Mariage*," Royal Academy. Water-colours (two prizes): Mr. S. Read, "Interior of St. Augustin's, at Antwerp;" Old Water-colour Society: Mr. E. H. Warren, "Rest in the Pool and shady Wood;" New Water-colour Society. Sculpture: Mr. G. Halse, "The Tarpeian Rock," sculpture in bronze; Royal Academy. And in Architecture: Mr. A. W. Blomfield, design for a Mission House," now erecting in Bedford-bury, Westminster, in the Architectural Exhibition. The musical arrangements were under the direction of M. Jules Benedict and Mr. Alfred Gilbert. Mr. John Stewart, at a recent meeting of this institution, delivered an interesting lecture on "The Palaces and Pictures of Italy." The lecturer entered fully into the styles of interior decoration in these palaces, and his descriptions of the present state of art in Italy were listened to with attention.

The Triennial Handel Festival at the Crystal Palace.—A programme of arrangements has been issued, in which some interesting particulars are given as to the arched roof which is to be thrown over the great orchestra, and of which an engraved view is given, together with sections, drawn to the same scale, of various roofs of music-halls, cathedrals, and other places for great musical performances. In this comparative view, the vast extent of the clear roof over the Handel orchestra is very apparent. This orchestra, says the programme, is 216 feet wide, or double the diameter of the dome of St. Paul's, or nearly equal to that of the great dome of the 1862 Exhibition building and Exeter Hall combined; while it is nearly as deep front to back as Exeter Hall is long. Of the construction itself it is said;—"The sides of the orchestra are about 90 feet high, or nearly the same as the Birmingham Town Hall,—one of the very best buildings for music in this country. Wooden cross-tie girders being carried across in the form of an arch, rising about 40 feet in a clear span of 216 feet, the underside will be filled in with tie-bracings, lined with well-seasoned match-boarding, bound closely together by ingenious appliances, until the whole surface becomes as hard and as resonant as a drum-head."

First City of London Engineers.—On Tuesday, the 17th ult., Lieut.-col. H. G. Man delivered the first of a course of lectures on military engineering to the members of the First City of London Engineer Corps.

The Site of the Holy Sepulchre.—At the Royal Institution, on Friday evening, the 21st ult., Mr. J. Fergusson delivered a lecture, "On the Site of the Holy Sepulchre at Jerusalem," his object being to prove that the Church of the Holy Sepulchre is not erected on the real site, and that the Mosque of Omar is built over the spot where our Saviour was buried. Our readers know the course of reasoning by which Mr. Fergusson arrives at this conclusion. We would express a hope that some person possessing competent architectural knowledge is with his Royal Highness the Prince of Wales; so that the opportunity which may offer of obtaining information on this point, from personal examination on the spot, may be taken the utmost advantage of.

Liverpool Architectural Society. — The tenth meeting of the session was held on Wednesday, the 19th ult., at the Royal Institution, in Colquitt-street. Mr. James Hay presided. There were exhibited some old line engravings of English cathedrals; a drawing of the Campbell memorial window in St. Nicholas's Church, erected to the memory of Major Campbell, of the Royal Welsh Fusiliers; and Mr. J. H. Mullen, of Kirkdale, showed some architraves and mouldings produced by his steam machinery. Mr. Edwin Stirling introduced the subject of the necessity and importance of forming an Architectural Museum in connexion with this Society. In the discussion which ensued a resolution was adopted, leaving to the Council of the Society to determine upon a definite plan for the projected museum, and to bring it before the members on a future occasion.

The New Colliery Explosion at Merthyr. Misfortunes proverbially never come single. Our readers will have heard of this new accident, by the explosion of fire-damp in the Lower Gethin Colliery, Merthyr. The number of deaths by it is now stated at forty-eight, although there is reason to fear that that large amount may yet become larger. Two men brought up alive still survive. It seems that the explosion took place while the men were at dinner, and it is thought by those best informed that they must have left one of the doors open; thus breaking up the ventilation; and that the explosive gas, having accumulated in their stalls, must have been fired upon the return of one of them with his candle. Other statements charge the overman who was killed with neglect, and assert that he threatened to fine some of the men for complaining. There are statements also that the foul air had been built up in some old workings, so that it escapes on any fall. It should be borne in mind, however, that such statements are generally made after the occurrence of every explosion.

Sanitary Progress at Edinburgh. — The town council are engaged with sanitary matters at their meetings. One of the subjects of discussion at last meeting was a report on the sanitary condition of the city. The report comprised various provisions which the Lord Provost's committee thought it desirable that the magistrates and council should have power to enforce; such as the compulsory introduction of water-closets into new houses rented at 6*l.* and upwards, also water, sink, and soil-pipe; and in dwellings at a still lower rental, all of these for each flat or story, all such soil pipes being properly connected with a drain or sewer; that as to existing houses, also, similar regulations should be enforced, &c. Assessments, police regulations, &c., were also comprised among the provisions referred to. Various clauses of the report were gone into *seriatim*, and ultimately it was remitted to the committee to discuss various amendments proposed, and to bring up a report. The water of Leith drainage was then brought under notice, with reference to the question of assessment, and to communications with the town council of Leith. The matter was re-committed to the Lord Provost's committee to confer with the Leith authorities. Notice of a motion was given by Mr. Ford, at same meeting, "That Mr. Cousin, the city superintendent, be instructed to prepare a report, with relative sketches, showing the alterations he proposes to make with a view to the sanitary improvement of the closes of the Old Town, as indicated by his recent published statements on the subject, with an estimate of the probable expense, or an approximation thereto; said report, sketches, and estimates to be produced within one month from this day, or as soon thereafter as possible."

Improvement in the King's-road, Chelsea. —An immense improvement has been effected by setting back and lowering the wall which inclosed the Duke of York's School,—the "Asylum," as it used to be called,—and forming a footpath. The parish of Chelsea deserve praise for the work.

Works at Chatham.—In addition to the extension of the dockyard by the formation of additional docks, basins, &c., the Admiralty have decided on still further improving the dockyard, so as to afford increased facilities for the construction of the iron and other vessels now building at this establishment. This will involve an additional outlay of nearly 50,000*l.*, which sum will be applied for during the present year.

Blackpool Pier.—The provisional directors of the Blackpool Pier Company have selected from the fifteen designs submitted, that of Messrs. J. B. and E. Birch, London, deeming it most suitable to the Lancashire coast. The length of the pier will be 1,350 feet, with a rectangular end, containing 6,000 square feet. The main body will be in spans of 60 feet. The main girders are to be supported upon clusters of cast-iron piles screwed into the clay, and of an average thickness of 1¼ in. by 12 in. diameter. The design submitted by Messrs. J. B. Sharp and Brother, of Blackpool, was classed amongst the four best selected from the fifteen.

The Hartley Colliery Fund.—When the Bishop of Durham first investigated the affairs of the widows and orphans left by the accident at the Hartley colliery, he estimated the sum necessary for their permanent relief at 17,000*l.*, which he subsequently found reason to increase to 20,000*l.* Nearly 50,000*l.*, it appears, have been raised, and subscriptions are still coming in. It is proposed to constitute the residue of the subscriptions into a fund for the relief of sufferers by accidents in collieries and mines, in Durham and Northumberland. Another suggestion is, that the fund should be generally applied to coal and other mines, and that all colliers and miners should contribute towards it 1d. per week. A royal commission has been appointed to inquire into the condition of all mines in Great Britain, to which the provisions of the 23rd and 24th Vic., cap. 151, do not apply; and we sincerely hope greater safety to the miners will result from the inquiry.

Change-ringing at St. Martin's Church Some improvements, it seems, have been made in the change-ringing at the parish church of St. Martin's-in-the-Fields since the death of the last steeple-keeper and the appointment of Mr. G. Morris, of St. James's, Clerkenwell, to the vacant post. The peal of twelve bells has been put in good ringing order, and all the bells made to strike true by a foreman from Messrs. Warner & Sons, and to the satisfaction of the parochial ringers and the Cumberland Society, who regard the ringing as now more easy and more merry, as well as more musically true. The hammer of the church clock, too, has been altered so as to strike downwards instead of upwards, thus giving greater force and clearness to the tone. The ringing-room itself has also been improved: boxes have been placed to the bells, and the place lit with gas, as well as the staircase and bell-chamber.

Brighton School of Art.—The annual meeting for the distribution of the medals, prizes, and certificates to the members of the Brighton and Sussex School of Art took place at the Pavilion. There was a large meeting, and the proceedings were attractive, owing to the presence of the Borough Members and the position which they respectively took up on the general question of ancient and modern art. The chair was taken by the mayor. A statement of an official character was read. The late examination, it said, had differed but little from that of last year. Then fifteen medals had been given: on this occasion fourteen were awarded. Last year seven of the successful drawings were sent up to London to the national competition: on this occasion six would be sent. There were not so many high-grade certificates, but there were more of the lower grade than were given last year. Altogether, the result must be looked upon as satisfactory. If they kept up an annual income of 60*l.* from the town and county the institution could be kept going. After the distribution Mr. William Coningham, M.P., addressed the meeting. He extolled the old masters and depreciated the modern; but said he was of opinion that the future was hopeful for the progress of the arts. Mr. J. White, M.P., said he did not share those transcendental notions of ancient art for which his honourable colleague was conspicuous; and he spoke too disparagingly, he thought, of modern art.

GREAT EXHIBITION.—The Commissioners have determined that the locks for this building are to be supplied by Messrs. Chubb & Son.

PROGRESS AT ATHENS.—A French company has recently undertaken to light Athens with gas; and another company has received the concession of a line of railway from Athens to the Piræus, from which great things are anticipated.

THE SANITARY CONDITION OF ALNWICK.—It has at last been resolved by the Alnwick Local Board of Health, that the different sub-committees should make a thorough inspection of their several districts, and be prepared to report to the next meeting of the Board the sanitary state of their respective localities.

THE "LEWIS."—With reference to inquiries about the Lewis, I beg to say that the earliest mention made of it that I know of and an engraving or two fully illustrating its application will be found in a folio work on Machine del Capitano Agostino Ramelli in Italiana et Francese, page 281, date 1588, which is rather a scarce work.—DUPPA DUPPA.

THE SEWERAGE OF SHREWSBURY.—At a recent meeting of the town council, three plans for the sewerage of the town, namely, Mr. Grove's (one of the council), Mr. J. Smith's, and Messrs. Craven & Smith's, were handed in. The cost of Mr. Grove's is estimated at 18,000*l.*; that of Messrs. Smith & Craven at 17,000*l.* The cost of Mr. J. Smith's was not stated in his letter to the council. Any discussion of the plans was deprecated by the town clerk; as it would, in his opinion, be better to leave the whole matter in the position in which it then stood, and let it go fairly before Mr. Bazalgette.

ABANDONMENT OF THE BRIGHTON ABATTOIR BILL.—The Town Council have decided, by a majority of 23 to 16 votes, to withdraw the Bill before Parliament for the Public Abattoir. The *Brighton Herald*, in announcing this result, says: "We can only form one judgment upon this vote; and that is, that the interests of the town have been sacrificed to those of a class; and that too, a class for which every possible precaution had been taken to protect it from injury. Not one of those numerous members of the Council who, on this occasion, gave votes diametrically opposed to the votes recorded against their names a few weeks ago, could assign a sufficient and satisfactory reason for their change of views and purpose."

ROYAL ASSOCIATION FOR THE PROMOTION OF THE FINE ARTS IN SCOTLAND.—The fund which has been subscribed for the Edinburgh Association during the year which has closed, amounts to the sum of 5,185*l.* Of this sum upwards of 2,000*l.* have been expended in the purchase of fifty-five works of art, consisting of five pictures commissioned from Messrs. George Harvey, Horatio Macculloch, James Archer, Erskine Nichol, and Alexander H. Burr, in illustration of five songs by Robert Burns; and forty-seven paintings, seven water-colour drawings, and one marble bust, selected from the recent exhibition of the Royal Scottish Academy. A large sum has also been expended in the preparation of the plates which are periodically distributed amongst the members.

NEW WING TO NOTTINGHAM JAIL.—The wing to the House of Correction is now finished: the old treadwheel has been removed; and criminals, according to the local *Guardian*, are now doing something towards earning their maintenance, instead of being compelled to dissipate all their energies in mounting the endless staircase. The new wing is a long corridor, with three tiers of cells, of the whole of which a full view is obtained by any one standing against the door leading from an octagonal outbuilding to the ground-floor. The two upper tiers are approached by a light cast-iron spiral staircase, communicating with cast-iron galleries, carried the entire length of the corridor on each side. On the ground-floor there are thirty-five cells, on the second range, thirty-six, and on the third range thirty-six more, making 107; besides an underground range of cells, with cooking-house, pantry, &c. Each prisoner has the means of communicating with the turnkey or attendant by pulling a spring which sets in motion the appliances for striking a gong, fixed in the middle of the corridor. The dinners of the prisoners are placed upon a truck in the cooking-house: the truck is carried by means of a hoist to the tiers of cells above: at each range of cells it travels along the corridor on a tramway; and, as each cell is reached, a spring in the door is touched, which throws back a small trap-door. On this the prisoner's dinner is placed; and, on its removal by the occupant of the cell, the trap flies back to its closed position.

FIRE IN NEW KENT-ROAD.—A fire has ocurred in the premises belonging to Messrs. Buckley and Co., saw-mill and planing-mill proprietors and timber merchants. The premises cover nearly a quarter of a mile of ground. Fortunately good supplies of water were obtained, but the fire was not got under until the boiler-houses with two boilers, the engine-houses, and an enormous amount of machinery had been destroyed, and the workshops, stores, and stock in the yard seriously damaged. The origin of the disaster is at present unknown.

MONUMENTAL.—After some discussion the Fortescue Memorial Committee have at last determined what shall be done with the fund raised; amounting, we believe, to 1,500*l.*, for a memorial to the late lord-lieutenant. The fund is to be equally divided; 750*l.* are to be appropriated to the building of an additional wing to the North Devon Infirmary at Barnstaple, and the other 750*l.* are to be appropriated to a statue. Mr. E. B. Stephens, a native of Exeter, and a sculptor, will, it is supposed, be intrusted with the commission for the statue, which is to be erected on Northernhay.

INSURANCE OF THE GREAT EXHIBITION.—As the insurance of the International Exhibition has excited considerable interest, we are requested to state that the insurance was effected in the Norwich Union Fire Office, by the authority of the Commissioners, his Grace the Duke of Buckingham and Chandos, Sir Charles Wentworth Dilke, and Mr. Fairbairn, by the contractors, Messrs. Lucas & Kelk, who negotiated the treaty for it with Sir Samuel Bignold, the secretary of the company. The sum insured is 450,000*l.*, subject to conditions of average, and the rate per cent.. 10s. 6d., requiring with 3 per cent duty, a payment of 3,037*l.* 10s.

SANITARY REFORM.—Sir: You would be conferring a great benefit if you could by your influence get Sir George Grey to insert a clause in his Highway Bill, that the surveyor that may be appointed under that Act should also be an inspector of nuisances. An officer of that kind is as much wanted in *the villages* as in towns. I could wish the address in your leader last week well read and *acted upon*. Do, pray sir, continue to agitate. The shameful over-crowding in London and large towns is a disgrace to the nation. It has been my lot to have passed up and down the country, and I have witnessed the deplorable state of the working classes. Some short time since I looked into the Wellington Barracks. What was there? Why the *foul* linen of other barracks, brought there to be washed; so that there is plenty of work for the sanitary reformer. I trust, sir, your labours will not be in vain. Be not weary in well-doing. I could say much on the bad system of drainage in the country: one case just comes to my mind. Being employed to look over some farm-buildings and cottages for the purpose of making a report as to repairs, &c., one of the poor labourers called me aside (out of hearing of the steward's clerk). "Do, sir, if you can, get me some place in the garden for my wife and children to go to." In the same house, in the only bed-room where all the family slept, there I saw a tubfull of meat,—the winter's stock. J. L.

THE MACHINE FOR TUNNELLING THE ALPS. This very ingenious piece of mechanism has just been completed by the firm of Hawks, Crawshay, & Co., and in a short time it will be tested at the Claxton Quarry, on the Sunderland-road, where it now is. This machine was originally intended to be employed in undermining Sebastopol. Should its trial prove satisfactory, it will be speedily forwarded to Mont Cenis. The engine for propelling the cutting machine resembles a locomotive engine, and is mounted on very low wheels. It has no funnel on the top, probably on account of the limited height of the tunnel, but the steam will be emitted at one end. The cutting machine, to which the engine will be attached, resembles a large wheel, and a double row of knives or teeth of the finest steel are arranged on what may be termed the spokes of this immense wheel. The knives of the machine are placed against the rock intended to be cut, and the wheel revolves and is pressed forward at the same time against the rock, cutting a large circular hole. A series of iron rakes are also attached to the machine, for removing the fragments of the rock cut out by the knives. New machines for cutting the great tunnel through the Alps were successfully tried at Modane some time ago; and the machine manufactured by Hawks, Crawshay, & Co., it is believed, will be employed in the same great undertaking. The length of the tunnel already cut is 1680 mètres, of which 738 are on the French side, and 950 on the Italian side.

TENDERS.

Accepted Tenders for the erection of Two Dwelling houses and Shop, at Saltburn-by-the-Sea, Yorkshire, f Mr. Robert Moore. Mr. William Peachey, architect:—

Bricklayer, Mason, and Plasterer's Work.

Marren	£562 12 8

Slating.

Wharton	£42 0

Plumber and Glazier's Work.

Woods	£132 0 0

Painter.

Tomkins	£36 5 0

Carpenter and Joiner.

Kitchen	£460 19 0

Smith and Ironfounder.

Wray & Co.	£70 17 2

Bell-hanger.

Harrison	18 16 3

Accepted Tenders for the erection of Passenger Statio at Saltburn-by-the-Sea, Yorkshire, for the Stockton ar Darlington Railway Company. Mr. William Peache architect:—

Bricklayer, Mason, and Plasterer's Work.

Pearson	£1,796 4 11

Carpenter and Joiner.

Chapman	£770 0 0

Smith and Ironfounder.

Close, Ayre, & Nicholson	£726 2 0

Slating.

Ord & Sanderson	£276 10 0

Plumber, Gasfitter, and Glazier.

Russell & Sons	£442 5 5

Painter.

Gatenby	£96 6 1

For the erection of offices in connexion with the Ne Engine Works, at Darlington, for the Stockton a Darlington Railway Company. Mr. William Peach architect:—

Appleby & Carter	£2,839 15 0
Bell	2,570 0 0
Bulmer	2,403 14 0
Cockburn & Bridges	2,329 11 7
Robson	2,228 17 0
Hurworth (accepted)	2,153 17 1
Windale & Son	2,127 0 0
Hodgson	2,125 4 6
Abdale & Kemp	2,109 12 0
Elwin	2,103 0 0

There were other tenders for separate trades.

For a Public-House, at Hard's Town, Chatham, Mr. Joseph Ashley. Mr. J. H. Andrews, Rochest architect. Quantities supplied:—

Piper	£671 0 0
Jennings	667 10 0
Clothier	655 0 0
Welkins & Son	640 0 0
Sampson	627 0 0
Pankhurst (accepted)	563 10 0

For the erection of Three Woollen Warehouses, Leeds, for the King-street Warehouse Company. Qu tities taken out by Mr. J. Wright Hull. Mr. Cuthb Brodrick, architect.—

Neil	£8,700 0 0
Longley	8,546 0 0
Thornton	8,200 0 0
Nichols	7,740 0 0
Thorp	7,485 18 0
Addy	7,450 0 0
Boothman (accepted)	7,135 0 0
And thirty-nine separate tenders, the lowest of each amounting in the aggregate to	7,170 18 0

For the repair and restoration of the Parish Church Nevern, Pembrokeshire. Mr. Withers, architect —

Jenkins, Thomas, & Davies	£1,585 0 0
Stone & James	1,182 11 0
Davies	1,123 16 0

For New Market, Chester. Messrs. W. & J. H architects, Liverpool. Quantities by Mr. Sherlock:—

Meakins	£8,714 1 5
Thomas	8,464 0 0
Barker	8,049 19 1
Lovatt	7,843 10 0
Hitchin	7,690 0 0
Mahon	7,615 0 0
Neill	7,320 0 0
Lockwood & Farrimond	7,274 0 0
Hughes	7,145 0 0
Stap	6,995 0 0
Roberts (accepted)	6,440 0 0

For rebuilding Nos. 57 and 58, Rathbone-place, Messrs. Parkins & Gotto. Mr. S. C. Capes, archit Quantities supplied by Mr. B. A. C. Herring:—

Carter	£2,885 0 0
Sanders	2,558 0 0
Browne & Robinson	2,450 0 0
Batterbury	2,379 0 0

For Witham Lodge:—

Cushing	£2,270 0 0
Winfield	2,264 16 5
Todd	2,094 0 0
Brown	2,010 0 0
Sawyer	1,894 0 0
Gardner	1,975 0 0
Palmer	1,963 0 0
Wood	1,885 0 0
Stephenson	1,825 0 0
Glasscock (accepted)	1,800 0 0

For alterations to Premises, Suffolk-grove, Southw for Mr. C. E. Gray:—

Mills	£342 10 0
Buttomley	298 0 0
Hart	260 0 0
Baynley	225 0 0
Crossweller	190 0 0

For new Printing-office, Church-passage, Chancery-lane, for Mr. Frederick Chifferiel. Mr. Alfred Smith, architect:—

Foster	£1,095	0	0
Colls	1,037	0	0
Fowler	987	0	0
Woodward	964	0	0
Sands	958	18	11
Conder	946	0	0
Cannon	945	0	0
James & Ashton	933	0	0
Brass	930	0	0
Abbot & Hopwood	902	0	0
Macey	883	0	0
Sewell & Son (accepted)	867	0	0

For the erection of Fazeley Schools, for the Right Hon. Sir Robert Peel, bart. Mr. John H. Chamberlain, architect:—

Briggs	£1,148	0	0
Webb	1,029	0	0
Cresswell	1,000	0	0
Barnsley	978	0	0
Hardwick	970	0	0
Clarson	943	0	0

For Works for Mr. Samwells, City-road. Mr. H. J. Hammon, architect. Quantities supplied:—

Goodman	£1,548	0	0
Bishop	1,538	0	0
Macey	1,456	0	0
Anley	1,447	0	0
Batterbury	1,439	0	0
Green	1,397	0	0
Walesby	980	0	0

For building a Wesleyan Methodist chapel, Plumstead, Kent. Quantities supplied. Giles & Brookhouse, architects:—

Miles	£4,224	0	0
M'Clellan	4,142	0	0
Tongue	4,052	0	0
Sawyer	3,920	0	0
Perry	3,856	0	0
Rowe	3,855	0	0
Sharpington & Cole	3,839	0	0
Leadbeatter	3,272	0	0

TO CORRESPONDENTS.

Fire-Clay and Enamel.—Can any of your correspondents inform the writer if enamel has ever been applied to fire-clay goods to prevent their cracking, and what the best enamel consists of?

The Black Board.—"Bow Pencil" asks for the receipt for blacking slack boards, such as are used in Scholastic Institutions.

Dr. P.—H. E. J.—A Constant Reader (charge according to time occupied).—T. H. (the mode of forming such cc lings is described in one of our volumes, but we cannot refer. A full description will be found in Hosking's book, "The Regulation of Buildings in Towns").—Col. S.—J. K.—J. F. P.—W. B.—J. H.—G. W.—A. S.—S. H.—F. J. P.—C. E.—A. J.—H. C.—H. P.—G. W.—F. C. (we cannot advise as to private requirement. Consult a proper tradesman).—J. C.—Exhibition of 1851.—C. J. & R. C.—Chip of honest Block.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

NOTICE.—*All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and NOT to the "Publisher."*

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

ADVERTISEMENTS.

This day is published,

I.

A New Edition, being the FIFTH, enlarged and more fully illustrated, price 7s. 6d. cloth,

INTRODUCTORY TEXT-BOOK of GEOLOGY.

By DAVID PAGE, F.G.S.

II.

A New Edition, being the THIRD, enlarged and more fully illustrated, price 6s.

ADVANCED TEXT-BOOK of GEOLOGY, Descriptive and Industrial.

By DAVID PAGE, F.G.S.

WILLIAM BLACKWOOD & SONS, Edinburgh and London.

PRACTICAL MECHANICS' JOURNAL for MARCH, 1862, Part 168, price 1s.; illustrated with a Plate engraving of siemens's Regenerative Gas Furnace, and double the usual size, and Thirty Woodcuts; Original Articles on Science & Practice:—Galbraith's Tube Clock; Arsenic Poisoning; Paper Making—Recent Patents: Napier, Stereotyping; Johnson, Abated Waters; Dunn, Spinning; Muir, Weaving; Gibson, Rice Mills; Robinson, Buttons; Patent Law Reports: Annealing Glass; Copyright; Gas Reviews; Correspondence: Civil Engineers, President's Address; Scientific Societies, Monthly Notes, Marine Memoranda, Lists of Patents; Notices, &c. Part 1-8 completes the Sixth Volume, New Series—bound in cloth, 14s.; Annual Subscription, 12s.

London: LONGMANS, 14, Ludgate hill. Editor's Offices (Offices for Patents), 47, Lincoln's Inn Fields, W.C.

MEMOIRS OF SIR M. I. BRUNEL, C.E.

Just published, in One Volume, 8vo with a Portrait engraved on Steel and 16 Illustrations engraved on Wood, price 14s.; cloth,

LIFE of SIR MARC ISAMBARD BRUNEL, Civil Engineer, V.P. F.R.S. Corresponding Member of the Institute of France, &c.

By RICHARD BEAMISH, F.R.S.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

Now ready,

TIMBER ROOFS: a Series of the best Executed Examples for CHURCHES, STATIONS, MARKETS, BATHS, WHARFS, and other Buildings, 1l. 11s. 6d. Also a new work, Vol. 2 of IRON ROOFS, corresponding with G. D. DEMPSEY'S, vol., 1l. 11s. 6d.

ATCHLEY & CO. 106, Great Russell-street, London, W.C.

THE DICTIONARY of ARCHITECTURE. The names of new Subscribers continue to be received. For any information, apply to ARTHUR CATES, Hon. Sec. 9, Conduit-street, Hanover-square.

ACTON'S COOKERY-BOOK, THOROUGHLY REVISED.

Newly revised and much enlarged edition, with additional Plates and Woodcuts, in fcap. 8vo. price 7s. 6d.,

MODERN COOKERY for PRIVATE FAMILIES, reduced to a system of Easy Practice in a series of carefully-tested Recipes, in which the principles of Baron Liebig and other eminent writers have been as much as possible applied and explained. By ELIZA ACTON.

In Acton's *Cookery-Book* both the quantity of every article necessary for the preparation of each Recipe, and the time required for its preparation, are minutely stated. The contents are as follows:—

1. SOUPS.
2. FISH.
3. DISHES OF SHELL-FISH.
4. GRAVIES.
5. SAUCES.
6. COLD SAUCES, SALADS, &c.
7. STORE SAUCES.
8. FORCEMEATS.
9. BOILING, ROASTING, &c.
10. BEEF.
11. VEAL.
12. MUTTON AND LAMB.
13. PORK.
14. POULTRY.
15. GAME.
16. CURRIES, POTTED MEATS, &c.
17. VEGETABLES.
18. PASTRY.
19. SOUFFLÉS OMELETS, &c.
20. BOILED PUDDINGS.
21. BAKED PUDDINGS.
22. EGGS AND MILK.
23. SWEET DISHES: ENTREMETS.
24. PRESERVES.
25. PICKLES.
26. CAKES.
27. CONFECTIONERY.
28. DESSERT DISHES.
29. SYRUPS, LIQUEURS, &c.
30. COFFEE, CHOCOLATE, &c.
31. BREAD.
32. FOREIGN & JEWISH COOKERY.

Preceded by copious Introductory Chapters on Trussing and Carving.

"A much enlarged edition of this useful collection of recipes has lately been published. The preface seems particularly worth attention; it declaims the waste so common in kitchens, yet shows good cookery to be desirable for persons of limited income as well as for the wealthy."—*Gardener's Chronicle*

"The whole of Miss Acton's recipes, with a few trifling exceptions, which are scrupulously specified, are confided to such as may be perfectly depended on from having been proved beneath our own roof, and under our own personal inspection." We add, moreover, that the recipes are all reasonable, and never in any instance extravagant. They do not boil a sacrifice ten pounds of excellent meat, that we may get a couple of quarts of gravy from it; nor do they deal with butter and eggs as if they cost nothing. Miss Acton's book is a good book in every way; there is a right-mindedness in every page of it, as well as thorough knowledge and experience of the subjects she handles."—*Morning Chronicle*

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

The Fourth and cheaper Edition, in 8vo. price 42s. cloth,

GWILT'S ENCYCLOPÆDIA of ARCHITECTURE, Historical, Theoretical, and Practical. Comprising:—

I. *History of Architecture*
1 Origin of Architecture
2 Architecture of various Countries
3. Architecture of Britain.
II. *Theory of Architecture.*
4. Construction.
5. Materials used in Building.
6. Use of Materials.
7. Medium of Expression.
III. *Practice of Architecture.*
8. Principal Parts of a Building.
9. Coordination of Parts.
10. Public Buildings.

"It should be possessed and used by every architectural student."—*Builder.*

With a Supplement on Gothic or Pointed Architecture, its Periods, Styles, &c., a Glossary of Terms used in Architecture, including an Alphabetical List of the principal Architects of all Times and Countries and their Works, and a Catalogue of the most useful Works on Architecture; and a copious Index. Complete in One Volume of 1,142 pages, illustrated with 1,062 Engravings on Wood by R. Branston, from Drawings by J. S. Gwilt.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

KELLY'S PRACTICAL BUILDERS' PRICE-BOOK; or, Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an Abstract of the New Building Act for regulating the Construction of Buildings. Revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and examplified by Steel Engravings and numerous Woodcuts. Royal 8vo. price 8s. neatly bound.

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL; and may be had of all Booksellers.

Of whom may be had, New Editions in Quarto, of the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET-MAKING, Revised by TREDGOLD: being a new and complete System of Lines, for the Use of Workmen, carefully revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by Steel Engravings and numerous Woodcuts. Royal 8vo. price 8s. neatly bound.

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL; and may be had of all Booksellers.

Of whom may be had, New Editions in Quarto, of the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET-MAKING, Revised by TREDGOLD: being a new and complete System of Lines, for the Use of Workmen, carefully revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by Steel Engravings and numerous Woodcuts. Ten Parts at 3s. or in boards, 30s.; containing upwards of 120 Steel Plates, and numerous Wooden Diagrams.

2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING (revised by TREDGOLD, both plain and ornamental; containing a new and complete System of Lines for Stone Cutting, for the Use of Workmen, the Formation of Mortars, Cements, Compositions, which add to a variety of new designs for Mural Tablets, Tombs, Gravestones for Cemeteries, &c. &c.; and a description of the various materials employed. Ten Parts at 3s. or in boards, 30s.; containing upwards of Ninety Steel Plates and Numerous Woodcuts.

3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the FIVE ORDERS of ARCHITECTURE; containing plain and simple Rules for Drawing and Executing them in the purest style; including an Historical Description of Gothic Architecture. Illustrated by upwards of One Hundred Steel Engravings, executed by Artists of first-rate talent, including numerous Diagrams, &c. Twelve parts at 2s.; or in boards, 26s.

4. DESIGNS for COTTAGE and VILLA ARCHITECTURE; containing Plans, Elevations, Sections, Perspective Views, and Details, for the Erection of Cottages and Villas. By S. H. BROOKS, Architect. Beautifully engraved on steel, with Direction for Building, and the estimated Cost of each Edifice. Twelve parts at 2s.; or in boards, 30s.

5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views and Details of Churches, Chapels, Schools, Almshouses, Gas Works, Markets, and other buildings for public purposes. By S. H. BROOKS, Architect. Beautifully engraved on steel. Ten Parts at 3s. or 32s. boards.

6. THE HOUSE DECORATOR and PAINTER'S GUIDE: containing a series of Designs for Decorating Apartments with taste, and suited to the various styles of Architecture. By H. W. and A. ARROWSMITH, House Decorators to her Majesty. Ten Parts, at 1s.; or in boards, 12s.

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION: containing a complete Treatise on the Art of House Painting, Graining, and Marbling: including the Origin of Colour, the Laws of Harmonious Colouring, the Manufacture of Pigments, &c. Various. &c. By W. M. HIGGINS, Esq. Accompanied by actual Specimens of Hand Brush Graining and Marbling. Ten Parts, at 1s.; or in boards, 12s.

THE ENGINEERS' and MECHANICS' ENCYCLOPEDIA, a new and enlarged edition, comprehending Practical Illustrations of the Machinery and Processes employed in every description of Manufacture of the British Empire. Illustrated by upwards of 2,000 Wood Engravings. By LUKE HERBERT, Civil Engineer, &c. The rapid progress of Mechanical Science has developed many of the important facts since the first publication, in 1836, of the Encyclopedias. The inventions and discoveries recently made have engaged the sedulous attention of the Editor; for, as the value of each was tested by experiment, a description was accordingly prepared. By the selection of new articles, and care in the revision of old ones, this edition has now become systematically enriched: so that it may be received as fully and faithfully expressing "the existing state of Engineering and Mechanism, adapted to the wants of Practical Men." In two large 8vo volumes, cloth lettered, price 30s.

STABLE ARCHITECTURE. 2l. 2s. Medium Folio.

By THOMAS EDWARD KNIGHTLEY, F.R.I.B.A. Architect, 25, Cannon-street, London.

The volume is handsomely printed in the best type, and the plates, twenty-eight in number, are executed chiefly in tinted lithography.

"The stable plans of Mr. Knightley are admirable, and afford the most perfect ventilation without a cold current of air."—HON. ADMIRAL ROUS.

Price 4s. bound in cloth. (Established 1816.)

LAXTON'S BUILDER'S PRICE-BOOK for ARCHITECTS, BUILDERS, ENGINEERS, and CONTRACTORS 41st Edition.

Containing upwards of 30,000 Prices and Memoranda in all the various trades comprised in the operations of the architect, engineer, builder, contractor, and surveyor; also tables for purchasing leases, estates, and annuities. Areas and circumferences of circles; scantlings of timber; weights of iron, timber, &c.; instructions for estimating and contracting, with a copy of bill of quantities adapted to general building work, having each trade detailed. Calculations and sketches of cast and wrought iron girders, &c.; with tables of deflection. All carefully corrected to the present time.

ce. 13, Warwick court, Gray's Inn, Holborn; and all Booksellers.

Now ready, 8vo 2s. 6d.

NOTES on the SITE of the HOLY SEPULCHRE at JERUSALEM.

By JAMES FERGUSSON, Esq., Author of an "Essay on the Ancient Topography of Jerusalem."

By the same Author,

THE ILLUSTRATED HANDBOOK of ARCHITECTURE; being a concise and popular Account of the different Styles of Architecture prevailing in all Ages and Countries. 5th Thousand. With 850 Illustrations. 8vo 26s.

III.

HISTORY of the MODERN STYLES of ARCHITECTURE; being the Completion of the above Work. With Illustrations. 8vo (In the Press.)

JOHN MURRAY, Albemarle street.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

TO PARENTS AND GUARDIANS.

AN Architect in a provincial town has an OPENING for an Articled Out-door PUPIL. Premium 100 guineas.—Address, ALPHA, Office of "The Builder."

TO ARCHITECTURAL STUDENTS.

A MEMBER of the INSTITUTE, practising in Yorkshire, has an OPENING for a young gentleman as an IMPROVER. No premium would be charged, and a small salary won'd be given after the first six months, to one who has had some experience and is a fair draughtsman. He would have an opportunity of acquiring a good theoretical and practical knowledge of ecclesiastical and other styles of architecture.—Address, with real name and references, Mr. TARN, Queen street, Huddersfield.

A JUNIOR ASSISTANT required in an ARCHITECT'S office. Must write a good hand, be able to trace, copy, and help in drawing, and make himself generally useful.—Apply by letter only, stating age, salary, &c. to V. Office of "The Builder."

TO COACHMAKERS AND OTHERS.

A VACANCY having occurred in an extensive establishment at the West End for a SALESMAN and BOOKKEEPER, of good address, and acquainted with the business in its various branches, any party answering this description may address, C.D. care of Charles Barker & Sons, 8, Birchin-lane, E.C. stating age, qualifications, and where last employed.

ARTICLED PUPIL WANTED, in an old-established Architect's and Surveyor's Office, where he would be able to obtain a thorough knowledge of his profession. Premium, 100 Guineas for three years; if articled for five years, one half thereof would be returned during the last two years.—Address, by letter, A. K. care of Potter, 16, Great Marlborough-street, Regent-street, W.

BRISTOL TURNPIKES.—AUSTIN HORFIELD ROADS.—The Trustees for this District require the SERVICES of a ROAD SURVEYOR, possessing a practical knowledge of road making. These roads are about 92 miles in length, of which 11 miles are in the Borough of Bristol. The surveyor will be required to reside near the roads, and to provide and keep a horse, and to devote his whole time exclusively to the duties of his office. The salary will be 2l. per week, and the appointment will be during the pleasure of the Trustees. His duties will comprise the general care, management and supervision of the roads and of all alterations and improvements, under such directions as the Trustees may give from time to time; and he will be expected to advise the Trustees on all matters relating to the maintenance of the roads and the collection of tolls. He will be instructed with the payment of the money received at the gates, and also with the payment of the road accounts, and will therefore be required to give security for the performance of his duties. Applications, stating qualifications, and enclosing testimonials, to be addressed, on or before the 5th MARCH next, to the undersigned

CHAS. E. WARD, Clerk to the Trustees.

Bristol, 17th February, 1862.

TO PARENTS AND GUARDIANS.

H. T. WILLIAMS, Builder, &c. North Keppel Mews, Russell-square, has a VACANCY for an OUT-DOOR APPRENTICE.—First apply by letter only.

JUNIOR CLERK WANTED, in a Surveyor's Office. Must write a fair hand, be a tolerable draughtsman, and have a good character; salary, 15s. per week.—Apply by letter, to X. Y. Z. 33, Holford square, W.C.

LAND and ESTATE AGENT'S CLERK WANTED, in Liverpool. Must be active and energetic, and conversant with the details of the business. State age, qualifications, where previously employed, and salary expected.—Address, DELTA, Courier Office, Liverpool.

MARBLE CARVER WANTED; Work principally flowers and drapery. Constant situation winter and summer if he suits. State wages, age, and references.—Address, THOS. TYLEY, Sculptor, Marble Mills, Bristol.

TO ARCHITECTS' ASSISTANTS.

REQUIRED, immediately, one or two thoroughly competent ASSISTANTS.—Address, with age, salary and full particulars, Mr. HARDING, care of Mr. Carr, Church street, Deptford, S.E.

TO ARCHITECTS, CONTRACTORS, BUILDERS, AND OTHERS.

WANTED, an active JUNIOR PARTNER in an Old-established BUSINESS, carried on for many years by a Builder and Contractor. Capital required, about 1,000l. to 2,000l.—Apply to Mr. ALFRED ALLOTT, Prior court, Sheffield.

WANTED immediately, for a constancy, a confidential experienced BOOKKEEPER in the General Decorating Trade. One accustomed to an architect's office preferred. None need apply but those who can give unimpeachable reference and security.—Apply, stating age and terms, to Mr. BARCLAY, care of Messrs. Ellis & Hodgson, Printing Office, Temple-street, Birmingham.

WANTED an APPRENTICE, in extensive Marble Works (West-end), to learn the art of sculpture, masons, and polisher; in or out doors.—Apply, by letter, to F. E. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

WANTED, by a well-qualified ASSISTANT, an ENGAGEMENT. Was two years in last situation, with an architect of good practice. Is a first-class draughtsman and constructionist, well versed in the various styles, details, and routine of offices.—For reference address T. G. B. care of Messrs. Chevalier, Bowness, & Son, 19, Bell-yard, Temple bar, W.C.

WANTED, by an Architect, in the West of England, the SERVICES of an ASSISTANT, used to Church work. A moderate salary only can be given. References to previous employers required. — Address, before February 6th, XON. Post-office, Exeter.

WANTED, a respectable YOUTH as IN-DOOR APPRENTICE to a SCALE, WEIGHT, and WEIGHING-MACHINE MANUFACTURER. Premium moderate.—Apply to G. H. GANDY, High-street, New Brentford, W.

NOTICE TO SURVEYORS.

WANTED, a Person who thoroughly understands his business, and who will have to SUPERINTEND the BUILDING of HOUSES, &c. and be a Draughtsman. The salary will be 100l. per annum, with house to live in.—Apply to H. J. Post-office, Sunderland.

WANTED, a JUNIOR CLERK, in a Builder's Office. Must have been in a Builder's or Surveyor's Office before.—Address age, and where last employed, and salary required, to W. W. Messrs. Dawson's & Son's, 74, Cannon-street, E.C.

WANTED, in the North, an ENGINEER and SURVEYOR'S ASSISTANT, who can survey and level with accuracy, and is a good draughtsman. May be required to act as Clerk of Works upon Water-Works.—Address, with testimonials, and stating salary required, to C. E. Office of "The Builder."

WANTED.—An Architect, residing in Dublin, requires a competent GENERAL ASSISTANT and rapid draughtsman.—Address, stating terms if permanent, age, and references, to L. N. care of R. Smith, esq. 137, Stephen's-green West, Dublin.

TO FOREMEN OF BRICKMAKERS.

WANTED, a Person to take charge of a Brickfield, where the best white goods are made.—Applications, with testimonials of ability and character from late employer, to be forwarded to WILLIAM WATSON, Surveyor, Henlow, Biggleswade, Beds

WANTED, a FOREMAN of PAINTERS. An experienced and respectable Man, to TAKE CHARGE of a JOB in the country.—Apply by letter, stating age, salary, &c. to E. F. Office of "The Builder."

TO BUILDERS.

WANTED, in the Country, by a thoroughly good Joiner and Draughtsman, a SITUATION as SHOP or OUT-DOOR FOREMAN. Good references given.—Address, C. J. care of Mr. Cleaver, 13, Commercial-road, Lambeth.

TO BUILDERS, &c.

WANTED, a RE-ENGAGEMENT, by a SHOP FOREMAN of first-class attainments. Has had considerable experience in the best London shops, and his references are unexceptionable.—Address, GOUH, to care of Mr. Vaughan, Wholesale Stationer, 64, Brownlow hill, Liverpool.

TO CABINET-MAKERS,

WANTED, as a constant hand, a good CABINET-MAKER, who thoroughly understands fixing. None need apply who are not good workmen, or cannot have a character for sobriety.—Address, J. W. and S., Post-office, Chertsey, Surrey.

TO UPHOLSTERERS.

WANTED, as a Constant Hand, an UPHOLSTERER and good mattress hand, one who understands paper hanging would be preferred. None need apply who are not good workmen and steady.—Address, J. W. and S., Post-office Chertsey, Surrey.

TO SAW MILL PROPRIETORS, &c.

WANTED, by a Practical Man, of many years' experience, the MANAGEMENT of a SAW-MILL. Is willing to make himself generally useful, and has no objection to town or country.—Address, J. W. 5a, Palace New-road, Lambeth, Surrey, S.

TO BUILDERS, ARCHITECTS, AND OTHERS.

WANTED, by a steady Man, a RE-ENGAGEMENT as GENERAL or SHOP FOREMAN.—No objection to take charge of a job. Can make working drawings, and is a thoroughly practical hand. Reference can be given.—Address, W. ROGERS, 29, Sherborn-street, Blandford-square, N.W.

TO ARCHITECTS AND BUILDERS.

WANTED, a RE-ENGAGEMENT, by a thorough practical CLERK of WORKS, who has carried out various large Jobs, and is well recommended. Salary moderate.—Address, ALPHA, 14, Carlisle-street, Soho, W.

TO BUILDERS AND ARCHITECTS.

WANTED, a RE-ENGAGEMENT as GENERAL FOREMAN or CLERK of WORKS by a thoroughly practical man, well versed in construction. Has carried out works under eminent architects. Can prepare bills and working drawings, measure works, &c. Good references and testimonials.—Address, Z. Y. Mrs Borman's, 10, St. John's road, Hoxton.

TO BUILDERS, HOUSE AGENTS, AND OTHERS.

WANTED, by a Steady Man, a CONSTANT SITUATION as BRICKLAYER or GENERAL JOBBING HAND. Town or country. Can have ten years' character from last employer.—Address, BRICKLAYER, 23, Edward-square, Caledonian road, Islington, London

TO ARCHITECTS, &c.

WANTED, a RE-ENGAGEMENT, temporary or otherwise, to make finished, working, or detail drawings, surveys, &c. either in town or country. Terms moderate.—Address, W. H 38, Great Western terrace, Westbourne-park-road, W.

TO PLUMBERS AND BUILDERS.

WANTED, a CONSTANT SITUATION, as first-class PLUMBER and GAS-FITTER. Good sinc-worker. Can fill up his time painting and glazing. Town or country. Good reference given.—Address, P. S. 34, Clarendon-street, Camberwell New road

TO ARCHITECTS AND SURVEYORS.

WANTED, by an ASSISTANT of seven years' experience, accustomed to prepare finished, working, and detail drawings, taking out quantities, &c. a RE ENGAGEMENT, at a moderate salary.—Address, H. I. N. Post-office, Worcester.

TO ARCHITECTS.

WANTED by the Advertiser a SITUATION in an ARCHITECT'S OFFICE. He is a good draughtsman, and well acquainted with the profession.—Address, PIP, 2, Burton-street, Burton Crescent, W.C.

TO BUILDERS AND CONTRACTORS.

WANTED, by a first-class Bricklayer, a SITUATION, as FOREMAN. Competent in setting out work, is a fair draughtsman, has had the entire charge of 200 men, or would not object to take PIECEWORK, TUCK POINTING, GAUGE WORK, or BRICKWORK.—Address, J. L. 16, Clearmont-place, Peel-street, Notting hill, London.

TO MECHANICAL ENGINEERS

WANTED, an ENGAGEMENT, by a Young Man, as a MECHANICAL DRAUGHTSMAN. Elevations of machinery well got up. Sections and details on a larger scale neatly executed.—Apply for particulars, to J. B. 31, Caulduell street, Bedford, Beds.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.

WANTED, an ENGAGEMENT, by an experienced and quick Quantity Taker and Measurer, the SOLE CHARGE of the estimating and measuring-up department, posting, and to assist in the general management of the business. Is a good practical draughtsman, understands perspective, and has taken off the quantities, estimated for, and carried out many first class works. Has served his articles. Or as ARCHITECT and SURVEYOR to an ESTATE, or CLERK of WORKS. First-class testimonials from London firms, and satisfactory reasons for leaving his present employers, who are referred to. Age, 31 years. Is an Abstainer.—Address, A. B. care of Mr. Stone, grocer, Twyford, Berks.

TO ARCHITECTS.

WANTED, a SITUATION, in an Architect's Office, by a Young Man, aged 22. a Joiner. Can write a good hand, and would make himself useful at a low salary.—Apply by letter to R. C. care of Mrs. White, 26, York-street, Westminster, London.

TO BUILDERS AND SURVEYORS.

WANTED, by a Practical Man, a SITUATION as an Out-door FOREMAN or CLERK of WORKS. First rate references to builders or architects. No objection to a country job.—Address, J. W. Office of "The Builder."

TO CARPENTERS, JOINERS, BUILDERS, &c.

WANTED, by a steady, active Young Man, a SITUATION as FOREMAN, or otherwise, in a Jobbing Shop Good references if required.—Address to R. Mr. Faulkner's, 6, Chapel-street, Edgware-road, London. No objection to the country.

TO PLUMBERS, &c.

WANTED, by a Young Man, a SITUATION as PLUMBER Wages not so much an object as constant employment.—Address, R. H. care of Mr. Easley, 294, Longacre, W.C.

TO TIMBER MERCHANTS, &c.

WANTED, a SITUATION as CLERK, TRAVELLER, or otherwise, by a Young Man of twelve years' practical experience, who thoroughly understands the trade in all its branches. Salary moderate for a permanency. Unexceptional references.—Address, X. L. Post-office, Wolverhampton.

TO BUILDERS AND CONTRACTORS.

WANTED, a SITUATION, as FOREMAN WHEELWRIGHT, or WHEELWRIGHT, by one who has had twelve years' experience in all the requirements of one of the principal contractors' firms in London, such as earth-waggons, trolly's and trucks fell implements, &c. of every description, and can have an undeniable reference from the same.—Address, W. C. 16, Kentish-town street, Caledonian road, N.

TO BUILDERS AND OTHERS.

WANTED, by a respectable Person, competent to measure works, prepare estimates, keep books, &c. THREE DAYS A WEEK. Terms, 6s. per day. References given.—Apply, by letter, prepaid, to A. B. Mr. Miller, stationer, 6, Westminster-road, Lambeth, S.

TO BUILDERS.

WANTED, a RE-ENGAGEMENT, as OUT-DOOR FOREMAN, by a thorough practical Man. A carpenter and joiner by trade. Aged 30. Can give good references.—Address, E. H. 51, Carlton road, Edgware-road.

TO CARPENTERS, BUILDERS, AND OTHERS.

WANTED, a SITUATION, by an experienced CARPENTER and JOINER. Wages not so much an object as a constant situation.—Address, G. C. No. 6, Union-terrace, Bagnigge-wells-road, W.C.

WANTED, by a Youth, aged 18, a SITUATION in a BUILDER'S OFFICE. Can copy and trace drawings, and assist in taking off quantities; is quick at figures, and has a knowledge of the business generally.—Address, with particulars, W. J. R. Post office, West Ham, E.

WANTED, by a Young Gentleman, a SITUATION in either an Architect's or Builder's Office. Address, K. A. T. Office of "The Builder."

TO ARCHITECTS AND ENGINEERS.

WANTED, a SITUATION as CLERK of WORKS, either under an Architect or Engineer. Has very considerable experience in every class of secular and ecclesiastical buildings, as well as in sewage and water-works. Would have no objection in taking a Foreman's situation to any large undertaking. Satisfactory references.—Address, F. B Office of "The Builder."

WANTED, a RE-ENGAGEMENT as FOREMAN, BRICKLAYER, or INSPECTOR.—Accustomed to all sorts of brick work. Good references.—Address, L. M. 27, Thomas-street, Grosvenor-square, London, W

TO ARCHITECTS, BUILDERS, AND LAND-AGENTS.

WANTED, by a practical Man, a RE-ENGAGEMENT as CLERK of WORKS, GENERAL FOREMAN, or to superintend building works on a gentleman's estate. Understands builder's work in all its details Can prepare working drawings and measure-up work.—Address, W. W. 103, High-street, Camden town.

TO BUILDERS AND PLUMBERS.

WANTED, by a Young Man, aged 29, EMPLOYMENT as PLUMBER, PAINTER, and GLAZIER.—Address, T. T. Mr E. Britcher's, 5, Hatfield-place, Westminster-road, S

TO BUILDERS, PLUMBERS, AND DECORATORS.

WANTED, by a Young Man, a SITUATION as a thorough good PLUMBER, PAINTER, LEAD GLAZIER. Is a very good Grainer and Writer. Good reference can be given. Address, ALFRED WILLIAMS, 6, Park side, Knights bridge

TO BUILDERS AND OTHERS

WANTED, by a thoroughly Practical Man, a Carpenter and Joiner, a RE ENGAGEMENT as GENERAL or WORKING FOREMAN Is well up in drawing, measuring, and estimating.—Address, Y. Z. care of Mr. Costliff, Baker, 4, Moreton street, Pimlico, S.W.

TO ARCHITECTS.

WANTED, a RE-ENGAGEMENT as CLERK of WORKS, by an efficient Man. Is a good draughtsman, can take out quantities, and measure up works. Highest references and testimonials from architects and builders.—Address, J P Office of "The Builder."

WANTED, by a Young Man, an ENGAGEMENT as ASSISTANT CIVIL ENGINEER or SURVEYOR. Understands surveying, levelling, preparing plans, &c for railway and other works, measuring land, timber, buildings, &c Is a good draughtsman, and competent in the office.—Address, C. E. 2, prospect place, Kingsland-road, N.E.

TO STONEMASONS AND BUILDERS.

WANTED, by a Man of ability and experience, aged 42, a SITUATION as FOREMAN of STONEMASONS Good reference given, and moderate salary.—Address, W. D 50, Charlton-street, Somers town.

TO BUILDERS AND OTHERS.

WANTED, by a BRICKLAYER, a RE-ENGAGEMENT as FOREMAN. No objection to work, or to take piecework. Good references.—Address, A. B. No. 9, Rochester-terrace, Rochester-row, Westminster.

TO ENGINEERS, ARCHITECTS, CONTRACTORS, &c.

WANTED, a RE-ENGAGEMENT as Assistant DRAUGHTSMAN, in the office of either of the above, by a Young Man who is a neat and expeditious hand. Salary small, if with chance of permanent engagement. Testimonials first-class.—Address, T. G. Post-office, 26, Oxford-street, W.

WANTED, by a Young Man, aged 26, a SITUATION in a Builder's or Contractor's Office, or as Clerk of Works on an Estate. Is thoroughly acquainted with the routine of a builder's and contractor's office, has a good practical knowledge of the building trade; can make plain, finished, and detail drawings; measure up and set out works, take levels, and make surveys of building ground, and is strictly steady and honest Is at present engaged as clerk of works and draughtsman on an estate, the t rm of engagement about expiring Unexceptionable references and testimonials.—Address, A. B Post-office, Pembroke Dock.

TO IRONMONGERS.

WANTED, by the Advertiser, aged 24, a SITUATION as ASSISTANT in the BLACK or FURNISHING Trade. London preferred.—Address, T. B. New-street, Basingstoke.

TO ARCHITECTS, &c.

WANTED a SITUATION by the Advertiser, aged 22, who is a neat draughtsman, good Accountant, and can assist in taking out quantities, measuring up work, estimating, &c. Has been five years with two Architects and Surveyors. Unexceptionable references if required.—Address, Y. Z, Post-office, Great Malvern, Worcestershire.

TO BUILDERS AND OTHERS.

WANTED, a permanent SITUATION, by a thorough good Plumber, Glazier, Painter, and Gas fitter. Address, H. R. 43, Lower Sloane-street, Chelsea.

TO ARCHITECTS.

WANTED, a RE-ENGAGEMENT, by a thoroughly Practical Man, a SITUATION as CLERK of WORKS Has been engaged in large public and private works, and can be highly recommended by eminent architects.—Address, G. L. 15, University-street, Tottenham-court-road, W C.

TO ENGINEERS, BUILDERS, AND OTHERS.

WANTED, by a Practical Man, a SITUATION, in a mill or factory of any description, to take charge and repairs of machinery, gearing, and also patterns of any description. First-class testimonials.—Address, F. D. 4, Derby Villas, Battersea Park, Surrey.

TO LIME, CEMENT, BRICK MERCHANTS, &c.

WANTED, by the Advertiser, who thoroughly understands the business, a SITUATION as TRAVELLER, BOOKKEEPER, or WHARF CLERK.—Address to A. B. 24, Canterbury-place, near the Manor House, Walworth, S.

TO TIMBER MERCHANTS AND OTHERS.

WANTED, a SITUATION, in or out of a TIMBER YARD, with good character. Aged 40. Well acquainted with all kind of measurement of timber.—Apply to E. SAXBY, Battle-hill, Sussex.

TO LAND-AGENTS AND SURVEYORS.

THE Advertiser, who has served his articles with a Land-agent and Surveyor, and can be well recommended is desirous of an ENGAGEMENT in a good office of general business Salary not so much an object as opportunity of being well and fully employed.—Address, E. D. Post-office, Worksop

TO NOBLEMEN AND ESTATE AGENTS.

THE Advertiser, a thorough practical CARPENTER and JOINER, wishes for a SITUATION on a Nobleman's Estate, either as House Carpenter, or to superintend any new building. Has had charge of several jobs for a contracting builder, by whom he can be highly recommended. — Address, JOINER, 11, Hindon-street, Warwick-street, Pimlico, S.W.

TO ARCHITECTS, &c.

THE Advertiser is open to an ENGAGEMENT as CLERK of WORKS, as Assistant in an Office. Fifteen years' experience, with first class testimonials. -Address, P. P. 14, High street, Eton, Bucks.

TO MASTER PLUMBERS AND BUILDERS.

THE Advertiser is in WANT of a SITUATION as PLUMBER. No objection to fill up his time in painting or glazing, if required. Good character.—Address, A. B. B. No. 3, Woodbine Cottages, John-street, Upper Holloway, N.

TO ARCHITECTS AND SURVEYORS,

THE Advertiser, a quick and excellent DRAUGHTSMAN, who has had great experience in construction, preparing detail, working, and other drawings, and can assist in checking and abstracting quantities, is open to an ENGAGEMENT.—Address, G. G. 39 Michael's-place, Brompton, S.W.

TO ARCHITECTS.

THE Advertiser desires EMPLOYMENT as CLERK of WORKS, or as ASSISTANT, occasional, temporary, or permanent, in an Architect's and Land Surveyor's Office. He has had charge of large building works, can design and draw carefully, and make land surveys.—Address, P. 43, Lamb's Conduit-street, W.C.

THE Advertiser, with many years' experience under eminent contractors, on English and Foreign railway works, seeks EMPLOYMENT, as CASHIER, STORE or BOOKKEEPER, or otherwise. Is an excellent accountant, and has a good knowledge of French. Satisfactory testimonials and references Address, No. 5, Crosier-street North, Lambeth, S

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who has had the management of an office, is desirous of a RE-ENGAGEMENT in town. Is fully competent to prepare finished and detail drawings, perspectives, specifications, men ire up works, make surveys of dilapidations, take plans of property, &c. Terms moderate.—Address, R. S. T. Agar's Library, Park street, Camden-town.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, writing specifications, measuring, and making up Builders' accounts, disputes or otherwise. Satisfactory references to Architects and Builders -Address, X. Y. Z. 20, Charlotte-street, Portland-place.

OCCASIONAL ASSISTANCE by a DRAUGHTSMAN and SURVEYOR in every department of office business. Finished perspectives, fair and working drawings, specifications, quantities, &c.—Address, A. B. 79, Denbigh street, Pimlico.

HANDRAILS and STAIRS.—WANTED, EMPLOYMENT in the above Line. References, if required.—Address, S. E. T. 13, Claremont-terrace, Kentish-town, N.W.

BUILDER'S CLERK, or CLERK of WORKS—A thoroughly practical Man, aged 32, who has filled both positions, is desirous of a RE-ENGAGEMENT. Unexceptionable testimonials.—Address, E. G. C. 63, Bishopsgate-street Without, E.C.

AN ASSISTANT is open to an ENGAGEMENT to PREPARE Fair Working and Detail Drawings, Perspective Views, &c. He has a good knowledge of styles and construction, and is a good colourist.—Address, D. F. R. care of Mr. Evans, News-agent, King's-road, Chelsea, S.W.

TO JOINERS.

A RESPECTABLE YOUNG MAN wishes for a permanent SITUATION in a first-class Joiner's Shop in London or its neighbourhood. Place more an object than wages. Address, W. SAGE, care of Mr. Padgham, Builder, Pluckly, near Ashford, Kent.

TO PARENTS AND GUARDIANS.

AN Architect and Surveyor, who has the management of a large estate in the suburbs of London and good general practice, will receive a Young Gentleman as ARTICLES for a term of not less than four years. A premium will be required.—Address, ARCHITECT, 1, Winchester-buildings, Great Winchester-street, E.C.

TO ARCHITECTS, &c.

A WELL-QUALIFIED ASSISTANT is open to a temporary ENGAGEMENT in town. Terms moderate. Address, E. S., 45, Charlotte-street, Strand, W.C.

TO ARCHITECTS

A YOUNG MAN, aged 22, who has been six years in the offices of two architects of good standing, wishes to meet with a RE-ENGAGEMENT. Is a good draughtsman, and well up in detail and construction.—Address, A. B. 12, Anwell-street, Claremont square

TO ARCHITECTS AND BUILDERS.

AN Experienced Practical Man, of many years' experience on first-class works, is desirous of a RE-ENGAGEMENT as CLERK of WORKS or GENERAL FOREMAN; or as Superintendent on an Estate. Can take out quantities and measure up works.—Address, H. Y. Post-office, St. Alban's, Herts.

TO ARCHITECTS.

AN experienced CLERK of WORKS is open for a RE-ENGAGEMENT. Aged 42. References to London architects.—Address, J. C. Clerk of Works, Kersey Church, Ipswich, Suffolk; or 4, Caroline-villas, Ealing, W.

A FIRST-RATE WOOD CARVER is open to an ENGAGEMENT. Good references. No objection to the country.—Address, H. C 31, Newman-street, Oxford-street.

TO AUCTIONEERS, SURVEYORS, AND LAND AGENTS.

A YOUNG MAN is seeking a RE-ENGAGEMENT with an Auctioneer, &c. Age 22. Most satisfactory reference may be had.—Address, Y. Z. Z. Post-office, Lymington, Hants.

A YOUNG MAN capable of preparing finished and detail drawings, from sketches and instructions given, and can assist in taking out quantities, &c., seeks an ENGAGEMENT in the OFFICE of a LONDON ARCHITECT. Has been 3 years with a building firm.—Address, C. E. T. 40, Victoria-street, Stratford

TO ARCHITECTS, &c.

ASSISTANCE rendered to the PROFESSION by a first-class DRAUGHTSMAN and DESIGNER, in the preparation of designs, working drawings, details, and outlining of perspectives, &c. No objection to an ENGAGEMENT, or to take the MANAGEMENT of an OFFICE in town.—Address, L. Z. 5, Caithorpe-place, Gray's-inn-road.

TO BUILDERS AND DECORATORS.

A YOUNG MAN wishes an ENGAGEMENT as GRAINER and PAINTER.—Address, G. S. HARLING, 25, George-street, Portman-square, W.

TO CARPENTERS AND BUILDERS.

A YOUNG MAN is in want of a SITUATION as IMPROVER at the Bench. Age 21. In or near London.—Address, J. D. 7, Wellington-street, Camden-town.

TO ARCHITECTS.

AN efficient ASSISTANT is open to an ENGAGEMENT. Accustomed to prepare working, detail, and perspective drawings, Gothic or Classic, for any description of work; survey, level, and manage an office.—Address, TOUJOURS PRET, 32, Longhaun-street, Camden-town.

TO BUILDERS, CONTRACTORS, AND OTHERS.

A PRIME-COST CLERK, or LEDGER CLERK and CASHIER—WANTED, by a respectable Young Man, a RE-ENGAGEMENT as above, or to Take Charge of a Set of Books. Age 28. Salary moderate. Two references. Town or country.—Address, A. B. C. 48, Milton-street, Dorset-square, N.W.

A FIRST-CLASS WORKMAN is in want of constant EMPLOYMENT, at not less than 6s. per day. Has been in the Building Trade as Plumber, Zinc-worker, and Gasfitter finding tools. Is a steady, faithful and honest in his last employment. Age 34, and sing.—Address, JOHN M'CULLOCH, No. 1, Manor-lane, Fetherhithe, London.

TO BUILDERS, BRICKLAYERS, &c.

A YOUNG MAN wants a SITUATION as IMPROVER to the BRICKLAYING, or will Article Himself for one or two years. Has no objection to the country.—Address, H. F. 1, Upper Semerton-street, Caledonian-road, Islington.

TO ARCHITECTS, &c.

AN ARCHITECT and ARTIST of long standing, wishes to undertake the CONSTRUCTION of Designs, Drawings, and Perspectives, for the Exhibition, Academies, or Competitions. Gentlemen in the country can be arranged with. Terms moderate.—Address, MEDIUM, care of Mr. W. H. Miller, Stationer, Uxbridge road, Lambeth, S.

TO BUILDERS.

A SURVEYOR of considerable practical experience in taking off quantities, measuring, estimating, adjusting builders' accounts, &c. would be glad to UNDERTAKE BUSINESS for BUILDERS upon reasonable terms. Can occasionally produce work to builders.—Address, S. V. R. Office of "The Builder."

TO ARCHITECTS.

QUANTITY SURVEYOR and MEASURER, with a practical knowledge of building, would be glad to treat with ARCHITECTS for their Quantities, and Measuring during Specifications, &c. upon reasonable terms. References given to Architects. Quantities guaranteed.—Address, ALPHA, care of Mr. Fisher, Stationer, Vassall-road, Brixton-road, S.

WILLIAM S. LAWRENCE
PENNANT STONE MERCHANT
STAPLETON.
OFFICE: 10, MERCHANT STREET, BRISTOL.
Every description of Steps, Landings, Troughs, Block Tombs, Curbing, Paving, &c., always on Sale, at his celebrated Stone Quarries, Stapleton; and at Conham, on the banks of river Avon, near Bristol.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Mr PINDER SIMPSON & SONS, 20, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite) is raised in blocks of any size, and is about four feet thick in the bed. It will stand the severest exposure, and for the building of churches. When used as ashlar work it is not easy to place it bed-wise. It works freely with a hand-saw, and is got at a cheaper rate than any stone in the kingdom.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29 30, and 31, Warwick-street, W.
EDWARDS, BROTHERS, & BURKE, PROPRIETORS.
The largest and most superior Stock of Chimney pieces in Europe on view at the above-named Establishment.
Manufactories: CARRARA, Brussels, Peterhead, and 17, Newman street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

THE PANTECHNICON, QUEEN'S ROAD, BRIGHTON.
FOREIGN MARBLE GALLERIES, contain upwards of Two Hundred MARBLE CHIMNEY-PIECES, consisting of Carved Statuary, Veiis, Sicilian, Blanc Pic, Blanc Clair, Rouge Royal, St. Ann's, Black, Jasper, Verd des Alps, and other coloured Marbles, in every variety of design and size, set up for view. Sculptured Marble Monuments, Headstones, &c. erected. An inspection is respectfully solicited by the Proprietors and Importers, GEO. HEAD & SONS.
N.B. Packing-cases lent free of charge.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY (Limited),
Incorporated, with limited liability, under the Joint-Stock Companies' Acts, 1856, 1857.
Capital, 50,000l. in 5,000 Shares of 10l. each.
Deposit, 1l. per Share upon application. 1l. at Call, 1l. 10s. Future Calls to be payable at intervals of Three Months.
DIRECTORS.
James Edmeston, esq., F.R.I.B.A. 5, Crown-court, Old Broad-street.
Joseph Norris Helling, esq., 31, Hilldrop crescent, Camden-road.
Edward Loder, esq. Great George-street, Westminster.
Charles Robert Thompson, esq. Laurence Pountney-lane.
Frederic Warren, esq. A.R.I.B.A. 12, Brunswick-square.
MANAGER.
At the Works, Mr. Francis Ford.
In London, Mr. Wm. Thomas Bennett.
BANKERS.
London—Bank of London. Bristol—Messrs. Stuckey & Co.
AUDITORS.
T. J. Briggs, esq. 35, Cornhill.
Freder. Maynard, esq. Public Accountant.
SOLICITORS.
Messrs. N. Lindo & Son, 47A, Moorgate street, London.
BROKERS.
London—Charles Henry Martin, esq. 19, Throgmorton-street.
Bristol—A. F. Morcom, esq.
Registered Offices—2, Winchester buildings, Great Winchester-street, E.C.

ABRIDGED PROSPECTUS.

This Company has been formed for the purposes of working and fully developing the valuable deposits of Blue Lias Limestone, Gypsum, Clay, and other substances, underlying freehold and leasehold properties possessed by the Company, and for the manufacture and sale of Lime, Cements, and Manure.

The Company possesses ten lime-kilns, which are capable of producing 800 tons of lime weekly, or upwards of 40,000 tons per annum.

Upon each ton there is a clear profit of 4s. which upon the above quantity will be equal to 16 per cent. per annum on the capital of 50,000l. By increasing the number of kilns, these returns can be greatly augmented; so that the above per centage may be considered as the minimum revenue of the Company from one branch of its operations.

The local and other markets for the lime and cements are almost unlimited. The manufacture of cement will yield a profit even beyond that obtained from lime. A beneficial arrangement has been entered into with Captain Henry Scott, R.E. for the manufacture of his patent cement, which commands a ready sale, and for that purpose ten ovens are already in the course of erection.

The freehold estates comprise an area of 83 acres, and the plant and machinery consist of a large mill, two powerful wrought-iron waterwheels and steam-engine, with grinding and crushing stones, which, with all the necessary buildings, are adapted for carrying on an extensive manufacturing and trading business, from which immediate profits will be earned.

A siding on the line of the Great Western Railway opens a communication from the works to all parts of the kingdom.

The Company has contracted for the purchase of the freehold properties, works, and machinery, and the whole manufacturing apparatus, upon very favourable terms, a large portion of the purchase-money being represented by paid-up shares.

The Directors express a confident conviction that, when the business operations of the Company have been fully developed, the shareholders may confidently reckon upon a permanent dividend of 20 per cent.

Prospectuses, with forms of applicat on for shares, can be obtained of the Secretary, at the Offices of the Company, or of the solicitors or brokers.

Each application must be accompanied by a payment to the bankers of the deposit of 1l. per share upon the number of shares applied for. If no allotment be made, the deposit will be returned in full.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connection generally throughout the Kingdom, that they have their
NEW and IMPROVED PRICE LISTS, English Edition, 1862,
Ready for distribution, and which can be had on application.

FOREST of DEAN STONE.—Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.
That from their "Gouty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Dark hill" Quarries, is decidedly superior to it.
Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

JOHN BAZLEY WHITE & BROTHERS,
MARBLE MERCHANTS,
MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—4, Three Crown-square, Borough.

BATH! BATH!! BATH!!!
ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons' Work prepared ready for fixing.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

BLOCK STONE! BLOCK STONE!
The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall, Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.
SAMUEL TRICKETT has plenty of stones that are good building stones, and square no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also NOTE, delivered direct from the Quarries to all parts of the Kingdom.
The BEST and CHEAPEST STONE WHARF in LONDON.
Address, SAMUEL TRICKETT, Isle of Dogs, E.
A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Hearth-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales: also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,
No. 1, BOLD TERRACE, CHESTER.

THE NORTH-WESTERN STONE Wharf, Canal Bridge, Camden-town, is the cheapest Stone Wharf in London. Large STOCK of all sorts of YORKSHIRE and other STONE, ORANGE CURBING, and PITCHING, is always on Land to select from. Self-faced paving at 27s. per 100 feet; 14-inch landing, 31s. ditto; 12-inch Hare hill Slate, 34s. ditto, and all kinds of stone, at equally low prices.—W. ASPINALL, Proprietor.
N.B.—Country orders, to ensure punctual attendance, must be accompanied by a remittance.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slabs in Parks-paving, Harehill, &c. &c.
Grindstones, Steps, Slabs, Copings, Landings, Paving, and all descriptions of Yorkshire Stock. Cargoes shipped direct from the Quarries.
Prices and specimens forwarded on application.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

VALE of WARDOUR FREE STONE, TISBURY, WILTSHIRE.
T. P. LILLY, Quarryman and Stone Merchant, begs to introduce to the notice of Architects, Contractors, Stone Merchants, and Builders, the FREE STONE raised from recently-opened QUARRIES at TISBURY and the neighbourhood.
Geologically this Stone is identical with the Portland Oolites, and its workable properties present a medium between that material and the Bath stone. Numerous buildings of considerable antiquity attest the durability and texture of the Stone of this district. Amongst these may be cited SALISBURY CATHEDRAL, TISBURY CHURCH, the POULTRY CROSS at SALISBURY, WILTON ABBEY, &c. erected from Chilmark and other Quarries immediately adjacent to those under notice. The Stone is for all reasonable thicknesses, and blocks of any ordinary size are readily obtained. Some of the beds are nearly white, and others of a cream colour; there is considerable variety in strata, the grain of some of the latter being remarkably fine, and are peculiarly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly fitted to stand the action of weather, or exposure to those tests which usually affect and disintegrate the common free stone.
Specimens of the Stone may be seen at Messrs. POOLE & SON'S, Marble and Stone Works, Great Smith street, Westminster, S.W.; and in the Museum of Practical Geology, Jermyn-street, Nos. 31 and 32, Case V.; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Tisbury Quarries.
Orders for Worked Stone carefully executed at the Quarries. Samples forwarded, and any other information may be obtained of Mr. T. P. LILLY, Gillingham, Dorset.

ROBERT WHITE, SLATE MERCHANT, SHEFFIELD.
ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor Mold Junction and Garston.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the material forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY

POLISHED GRANITE WORKS, ABERDEEN—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 444, Euston road, N.W.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 97, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Ludding, and Fire Goods. SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the wharf prices. Headstones, Lodges, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

RANSOME'S IMPERISHABLE ARTIFICIAL SILICEOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes. For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Canton-row, Westminster; or at Patent Stone Works, Ipswich.

MONEY.—IMMEDIATE CASH
ADVANCES MADE ON
FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY.
FURNITURE, HOUSEHOLD and OFFICE.
WINE and SPIRIT WARRANTS.
SHARES, DEBENTURES, &c.
BANKRUPTS' and INSOLVENTS' CASES CONDUCTED.
Balance-sheets Prepared, and Meetings of Creditors Convened.
Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT
17, Moorgate-street, Bank, London.

BRYCESON'S ORGAN FACTORY,
BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Sonata-more, and other Organs usually in Stock. Also as to the Tuning, &c of Organs in all parts of the country. Church Organs of any size built, enlarged, or removed, as well as repaired and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

HAYS PATENT WATERPROOF GLUE
(as invented by Mr. HAY, Admiralty Chemist at the Royal Naval Dockyard, Portsmouth) is of universal application, is a substitute for marine glue, and one third of the cost, namely, 22l per ton.
It is invaluable for caulking the seams of ships' decks, being three times as durable as ordinary pitch. It has been tried for upwards of seven years in Her Majesty's ship "Blonde," perfectly resisting during that time the action of the sun and weather.
It causes joints of wood, slates, tiles, and all metals to adhere most firmly; will stand an enormous pressure, and makes them water-tight.
It is a substitute for black paint, and is considerably cheaper as applied to weather-boarding and fencing; and is a preservative for all iron and woodwork, and when applied to bricks or stones will prevent damp. This composition is especially adapted for insulation as a coating to submarine and other telegraphic wires.
It is requested that on all orders the purpose for which it is required be stated.
London Agents.
MESSRS. G. C. WARDEN & CO.
12, London-street, Fenchurch-street, E.C. Factory, Chandos-street Landport, Portsmouth
GEORGE WEEKS Manager.

FODELL & CO. 8, BATH-STREET, CITY-
ROAD, and 12, Grafton-mews, Fitzroy-square, continue to execute LEAD GLAZING FOR CHURCHES, Chapels, &c. in quarry or geometrical patterns, at the LOWEST PRICES. Estimates and patterns forwarded, on application, to any part of the country. Church Leads, 30s. per cwt.; Free Leads, 37s. per cwt. for cash. All orders for lead to be sent to 12, Grafton-mews, Fitzroy-square.

VENTILATION—PURE AIR.
Sheringham's Ventilator for the admission of Pure Air through an

EXTERNAL WALL
With single pulley, from 6s each; with leading pulley, from 8s. 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for ventilation of any apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &

PAINTING IN WATER COLOURS,
by AARON PENLEY, with a full course of CHROMO LITHOGRAPHIC STUDIES, invaluable for students, teachers, amateurs, or the drawing-room table. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest
Manuals a-at Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

TO BUILDERS, BRICKMAKERS, and
BALLAST-BURNERS.—A large quantity of excellent COKE BREEZE FOR SALE, at the Western Gas Works, Kensall green. Good facilities for transit by boats on the Grand Junction Canal, or by the Great Western Railway from a siding to the Works.—Apply to the Manager as above.

TO HYDRAULIC ENGINEERS and
OTHERS.—The Patentees of an APPARATUS of general utility for the Prevention of House service Pipes, &c. being stopped or injured by the frost, are desirous of meeting with parties who would UNDERTAKE the MANUFACTURE of the SAME. References required and given, and a plan soon to be made by letter to Mr. G. F. JONES, Architect, 84, Bootham, York.

IMPORTANT QUESTION.—IS
PHILANTHROPY REQUIRED in BUILDING SEPARATE DWELLINGS for the INDUSTRIOUS CLASSES? Satisfactorily answered by JAMES MORTIMER, Architect and Surveyor, 47, Gracechurch-street, E.C. in Improved Plans, Sections, Elevations, and Essay. Published at 1l. 1s. Philanthropy, with capital, 3 per cent.; capital, without philanthropy, 32 per cent. Specimens for the masses, approved by all classes, as well as the Metropolitan Board of Works and local Boards of Health.—Post Office orders payable at Chief Office, St. Martin's-le-Grand

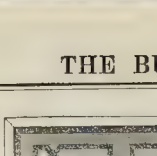
PUG MILLS.—WANTED, to PURCHASE,
TWO or THREE good Second hand 1-HORSE PUG MILLS, for use in a Brick field.—Address, Mr. JOHNSON, Brick Merchant, Fulham, S.W.

TO BE DISPOSED OF, a QUANTITY of
BRICK-MAKING TOOLS, sufficient for one Stock; and also a MILL for washing chalk or brick earth. Inquire at 13, Amersham-vale, New Cross-road, Deptford, Kent.

TO MASTER BUILDERS.
PLASTERING WANTED, by an experienced Man, by the yard or job. Town or country.—Address, A. B. 142, Lillington-street, Pimlico.

TO RAILWAY COMPANIES, CONTRACTORS, and OTHERS.—Wanted to PURCHASE, TWENTY SECOND-HAND LONG BALLAST-TRUCKS, in good condition. Price, delivered in London, to be addressed to the Northern Outfall Works, Plaistow, Essex.

CARTS, LADDERS, BARROWS, &c.—
GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.


SOLID PARQUET FLOORS.
ARROWSMITH'S PATENTED,
From 1s. per foot, in various woods, inch thick, grooved, tongued, and keyed together, not veneered
For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.
SHOW ROOMS,
80, New Bond-street, W.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N

TO ARCHITECTS, BUILDERS, and
DECORATORS. Cast Work, Centre Flowers, Shop Fronts, Trusses, Capitals, and every description of Ornament for internal and external decorations, except Fir Plaster, Carton Pierre Cornices, and every kind of Cement, Artificial Stone, &c., by W. & E. HERBERT (Sons of the late John Herbert, of Parker-street, Drury-lane), Modellers, 242 Euston-road, N.W. Patterns.

KAMPTULICON, or ELASTIC FLOOR-
CLOTH, as made by GOUGH & BOYCE, the Original Patentees, and, in fact exclusively by them at the Houses of Parliament, and numerous other Public Offices. It is especially adapted for churches, museums, public rooms, shops, and passages, being durable, warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. 12, Bush-lane, Cannon-street, London.—Forwarded to all parts of the country.

KAMPTULICON,
or, ELASTIC FLOOR CLOTH.
TAYLER, HARRY, & CO.
MANUFACTURERS and PATENTEES, 19, Gutter-lane, Cheapside.
WORKS, DEPTFORD-GREEN.

ACCIDENTS ARE UNAVOIDABLE.
Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100l. to 2,000l. assuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
1, 2,317 Claims have been paid by the Company as COMPENSATION for 56 Fatal Cases, and 5,041 Cases of Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, bearing the 2d. and 3d. at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

PRACTICAL INSTRUCTION in ARCHITECTURAL, MECHANICAL, PERSPECTIVE, and ORNAMENTAL DRAWING, by Mr. W. DAY, at the London Mechanics' Institution, Southampton-buildings, Holborn, Monday and Friday evenings, from Eight to Ten. Members, 3s. 6d.; the public, 6s. per quarter—now commencing.

SURVEYING, LEVELLING, and CIVIL
ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, &c. for giving Instruction in every Branch of the Profession. Terms for the Courses of Three Months, Two Guineas. No Extras. 24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING
DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees
should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

A CARD
MESSRS. CORDEROY, Surveyors (late of High-street, Marylebone), have REMOVED their OFFICES to 17, KING WILLIAM STREET, STRAND, LONDON, W.C.
Office in Portsmouth—13, Ordnance-row, Portsea.

T. PETTITT & CO. LITHOGRAPHERS
and GENERAL PRINTERS, Frith-street, Soho-square, W. beg to inform Surveyors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary speed and accuracy, and most respectfully solicit a trial. A card of charges and specimens submitted on application.
To surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West end, must be evident from the great convenience it may afford where despatch is required.
Working Drawings and Estate Plans carefully drawn and printed.
Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—
ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building forms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.
Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO
Lithographers, &c. 5, Ave Maria-lane, E.C.

CIVIL ENGINEERING, ARCHITEC-
TURE, and SURVEYING.—Mr. WINDER, 18, Abingdon-street, Westminster, continues to execute DESIGNS, take out Quantities, and make Valuations for Dilapidations, and all works in the above professions, at moderate charges, and with accuracy and despatch.

TO YOUNG ARCHITECTS.—To
DISPOSE OF, the PAPERS and GOODWILL of an old-established PRACTICE in one of the most prosperous towns in Yorkshire. For particulars, address A. Z. care of W. Blackett, esq. 7, Furnival's Inn, London, E.C.

TO BUILDERS and TIMBER MER-
CHANTS.—TO BE DISPOSED OF, an OLD-ESTABLISHED COUNTRY BUSINESS of a BUILDER and TIMBER MERCHANT, offering an excellent opportunity to any one possessed of a moderate capital, as the connection is highly respectable. Premises commodious and rent moderate. Situate 60 miles from London, with railway communication. For further particulars, apply to Messrs. WATERER & SONS, Auctioneers and Estate Agents, Chertsey, Surrey.

TO BE LET, with possession in April next,
the WATER CORN MILL, known as Charlton Mill, Dover, driving ten pairs of stones, and recently fitted with new working gear, combining new improvements, and possessing good water power, together with the dwelling and extensive corn and flour stores.—For particulars and to view, address Messrs. JACOBS & SEAR, Land and Estate Agents, Dover.

RICKMANSWORTH (one mile and a half
from).—Unfurnished, with immediate possession, a small VILLA RESIDENCE, standing on about two acres, inclosed by a capital wall, amply stocked with the best sorts of young fruit trees, a good coach-house and stable, both newly built, cow shed, piggeries, &c. on a detached plot of ground, with a gardener's cottage.—Inquire of CHARLES F. HUMBERT, Esq. Watford. If by letter, post paid.

WOODFORD.—PLOTS of BUILDING
GROUND to LET, on the Grove Estate, within five minutes' walk of the George Lane station, close to the church, and twenty minutes by rail from Fenchurch-street; has high and dry water supplied by East London Water Company.—Apply to the Caretaker, WASHINGTON SINGLE, Esq. the Grove, Woodford. Money advanced, if required.

FARNCOMBE, near Godalming, Surrey.—
Builders desirous of CONTRACTING for the INFANT SCHOOL and BOYS' SCHOOL proposed to be built at Farncombe, may see the plans and specification on application to Mr. ROSE, at the Farncombe National Schools. Tenders are to be sent to me on or before the 24th of MARCH next. The committee do not bind themselves to accept the lowest or any Tender. C. H. HOWELLS, Architect.
6, Crescent, New Bridge street, London, February 27th, 1862.

BRICKFIELD TO BE LET, with immediate possession, at Chislehurst, Kent. The plant to be taken at a fair valuation. No premium required. A quantity of brick earth ready for moulding.—For particulars inquire of GEORGE BOOTH, 32, Bridge House-place, Newington-causeway, S.E.

FREEHOLD GROUND RENTS.—CITY
of LONDON.—The Commissioners of Sewers of the City of London, will meet in the Guildhall of the said City, on TUESDAY, the 8th of APRIL next, at TWELVE o'clock precisely, to receive TENDERS for certain FREEHOLD GROUND RENTS, to be granted on lease, having about eighty years to run, at or about 110l. and 130l. Chancery-lane, 78 and 80, Aldgate High-street, 1, Minories, 4 and 9, Maidenhead-court, Aldersgate-street, particulars and plans of which may be had at this Office, together with conditions of sale. Tenders must be sealed, endorsed outside "Tender for Ground Rents," and addressed to the undersigned, and must be delivered before TWELVE o'clock, on the said 8th of APRIL next.—The Commissioners do not bind themselves to accept any Tender, unless the same be deemed eligible. Parties tendering must attend personally, or by an authorised agent, on the day of treaty, and then be prepared (if their Tender be accepted) to pay a required deposit of 10 per cent and to execute an agreement for the completion of the purchase agreeably to the conditions of sale.
Sewers' Office, Guildhall, February 20 1862. C. H. SHAW, Principal Clerk.

FREEHOLD BUILDING LAND, Queen's-
road, Brentwood, Essex, TO BE SOLD, or LET on building leases. Address, Mr. J. MOULL, Brentwood, Essex.

BUILDING GROUND, City of London.—
TO BE LET, on a building lease, for eighty years, a PIECE of GROUND, on the North side of Queenhithe Dock, in the City of London. Plans of the ground may be seen, and further terms obtained, upon application at the Architect's Office, Guildhall.
FERDINAND BRAND, Comptroller.

BRICKFIELDS, at ASH, near Aldershott
CAMP.—TO BE LET, now in the occupation of Messrs. Myers till the 25th March next, the Contract of the Crimea expired. The premises are most conveniently situated for road and canal traffic, with a private railway through the works in direct communication with the South-Western and South Eastern lines; a rapidly-increasing neighbourhood, and every facility for carrying on a large trade. To view, apply to Mr. W. BATEMAN, Ash, near Aldershott.

A VALUABLE Reversionary ESTATE,
consisting of BUILDINGS covering an extent of two acres of land, producing a present annual income of 129l. per annum. The reversions will fall in in about twelve years, when the income will be from 1,500l. to 1,600l. per annum. For particulars apply to Mr. GRIT EN, 8, Parliament-street, S.W.

TO BUILDERS, CONTRACTORS, and
OTHERS—TO BE LET, or the LEASE TO BE SOLD, extensive MANUFACTURING PREMISES, known as "Trudgeon Works," Bow, Machine Shop 61 feet by 54 feet, two ranges of Workshops 74 feet by 25 feet, Steam-engine, Boiler, Forge, Sheds, Stabling, Counting-house, Yard, &c. admirably convenient suitable for a large factory.—For further particulars, and cards to view, apply to FOLLER & BELLAMY, 10, Cornhill, E.C.

TO BUILDERS and OTHERS.—TO BE
DISPOSED OF by PRIVATE CONTRACT, extensive and commodious PREMISES, excellently situated in the city of Bristol, and for many years occupied by the late proprietor in his business as a Builder and Carpenter, and now offered for sale in consequence of his recent decease. The premises comprise timber yard, workshops, and offices, with steam engine, machinery for sawing, moulding, and cutting, and every other requisite for an extensive business. Also dwelling-house and shop adjoining, let to respectable tenants. The present is an excellent opportunity for a person or firm desirous of commencing to an established connection.—For particulars apply to DAVIS & FRY, Conveyancers, Shannon-court, Bristol.

BUILDING LAND, about six acres, for
the erection of chemical or other works, eligibly situate, about five miles from London Bridge, TO BE LET, upon unusually advantageous terms. Money advanced, if required.—Apply to Mr. E. DRESSER ROGERS, Auctioneer and Land Agent, 7, Wellington-street, London Bridge, S.E.

CELLARS WANTED, near Leadenhall-
street, or Fenchurch-street, or Great Tower street. Must cover upwards of 11,000 square feet. No objection to wait six or twelve months for premises now building.—Address, G. A. HAIG & CO. 59, Mark-lane, E.C.

TO BE LET, on LEASE, RIVER-SIDE
WHARF and BUILDINGS, in the City of London, near Southwark Bridge, either on a building or repairing lease. For particulars inquire of Mr. J. ANSON, Laurence Pountney-hill, London.

TO ENGINEERS, COACHSMITHS,
IRON BEDSTEAD-MAKERS, &c.—TO BE LET or SOLD, commanding and extensive BUSINESS PREMISES, in a leading thoroughfare, near the Great North-ern and North-Western Termini, comprising Double fronted shop, with extensive Workshops in rear, having back entrance. Double Forge, Benches, Tools, &c. Plant now in full work, which may be taken at valuation.—Apply to Mr. H. P. HAY, Estate Agent and Surveyor, No. 33, Essex-street, Strand, W.C.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

00,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
00,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
08,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
04,000 Spruce ditto	from 2s. 9d. each		

APPLY TO

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch "	12s. 6d.	12s. 6d.	13s. 6d. "
1-inch "	14s. 6d.	15s. 0d.	16s. 6d. "
1¼-inch "	—	18s. 0d.	19s. 0d. "

ellow Deals, 3 by 9	£19 10s. per 120.
ellow Battens	£11 10s. "
pruce Deals	£16 10s. "

¾-inch Matched Lining	13s. 6d. per square.
¾-inch "	16s. 6d. "
1-inch "	19s. 0d. "

J. TERRY & SON, 109, Borough Road, S.E.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their achinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every descripon of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, om whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 "	13s.	13s. 6d.	14s. 6d. "
1 by 7 "	15s.	15s. 6d.	16s. 6d. "
1¼ by 7 "	17s.	18s. 0d.	19s. 6d. "

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

EHE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

TAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

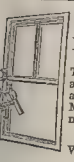
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

10, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,



J. GURMAN,

Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.



Send stamped envelope for Prospectus and Sectional Drawings.

Windows may also be seen at the Kensington and Conduit-street, Museums, London.

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuildmg of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.



Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.

B. J. HUDSON,

to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

ETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS and CARPENTERS, and OTHERS, have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities.

All sawn goods carriage free within three miles.

¾-inch Flooring (well prepared), 11s. 6d. ¾-inch do. 13s. per square

Yellow Deals, sound and good	.... 19l. 10s.	per 120,	or 3½d.	per foot.
Spruce Deals	" 16l. 10s.	"	2½d.	"
Yellow Battens, excellent quality	11l. 10s.	"	2d.	"
Pine Planks, dry, 12 ft. 3 in. by 11 ft. 2½		"	3s. 6d.	"

Seasoned Mahogany, Plank and Board, 6d. per foot.

A very large Stock, ready sawn and seasoned.

ALFRED CARTER, Old Bethnal-green-road, N.E.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark bridge Wharf, Bankside, S.E.

JOHN HERBERT & SON,

MODELLERS, &c.

42, PARKER-STREET, DRURY-LANE.

Cornices, Centre Flowers, Shop-front Trusses, &c.

FIRST-RATE WORK AT REASONABLE PRICES.

SEASONED WAINSCOT OAK,

30,000 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 9d; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2¾ Yellow Battens, 11l. 10s.; 3-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Carriage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

TO BUILDERS and OTHERS.—An old-established BUSINESS in the country, upwards of sixty years' standing, TO BE DISPOSED OF, with immediate possession.—For particulars apply to Mr R. KEMP, Purleigh, Essex.

TO HOUSE-DECORATORS, PLUMBERS, GLAZIERS, &c.—TO BE DISPOSED OF, a long established BUSINESS and GOOD-WILL, together with two FREEHOLD DWELLING HOUSES, excellent Workshop, Stable, Coach-house, Garden, &c. The Stock to be taken at a valuation. The above is situate in a county town, in the centre of England, the present Proprietor being about to retire from business.—For particulars, apply to Mr H B WILLDER, Auctioneer, Stafford.

TO IRONFOUNDERS and ENGINEERS. TO BE DISPOSED OF, in the County of Kent, an IRON-FOUNDRY, in full trade, with an old established connexion, and replete with every convenience for carrying on a good trade. Capital required, about 800l. For particulars, apply to Mr. DOUGLAS, Valuer, 2, 3, Blackfriars road, London, S.

TO PLUMBERS and HOUSE DECORATORS.—An established BUSINESS TO BE DISPOSED OF, with first-class connection and neighbourhood. The present trade about 1,200 per annum. A first-rate Stock, with Front and Back Shop and convenient House, which is for sc affolding and Ladders, and a large piece of ground suitable for a Builder's Yard. Also an excellent opening for a builder's business. The above may be had for about 400l.—Apply, by letter, to M. W. WEBBER, 43, Portland street, Brighton.

FERQUILIE FIRE CLAY WORKS,

PAISLEY.



PATENT GLAZED SEWER PIPES, according to Jenling's Patent, and the GLAZED SEWER PIPES with SOCKET JOINTS. Also all articles made of Fire Clay. The Sewer-Pipes are in sizes from 2 inches up to 24 inches bore, and are of the most superior quality. Prices very moderate. The subscriber, from the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be

ROBERT BROWN.

THE GREAT NORTHERN PLASTER WORKS, Newark on Trent.—CAFFERATA & CO supply the best and cheapest PLASTER of PARIS that can be made.—Orders sent to D BRUCCIANI, 30, Russell street, Covent Garden, W.C. or direct to the Works, will be promptly executed.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours,

GRAND SURREY CANAL BRIDGE, OLD KENT ROAD,

Office, 5, George-yard, Lombard-street.

PARIAN CEMENT for INSIDE WORK. With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

KEENE'S and PARIAN CEMENT for internal uses.—These well-known hard Stuccoes dry quickly and can be painted upon within a few days.

Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank street, Westminster.

PORTLAND CEMENT.

GREAVES & KIRSHAW,

14 SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terra-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, of Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

MARTIN'S PATENT FIREPROOF CEMENT

Is 35 per Cent. Cheaper than any other internal Cement in use.

Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.

186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY-STONE CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BRICKS and BLACK GLAZED HEADERS
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; and DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS.
TERRA-CUTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

STRINGFIELD and BLYTH,

Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S & B Bangor Wharf, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TAPHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not, vegetate in damp climates, on account of COMPARATIVE EXPERIMENTS of the strength of this and other Cements (read at the Institute of Civil engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank street, Westminster, who prepare one, and the only one of Portland Cement.
Agent in Liverpool—JOHN M'KENZIE, 49, Seel street.
Do. do. Manchester—THOMAS GARDEN

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and TOTTENHILL WHARFS,
CALEDONIAN-ROAD, LONDON.

ROMAN CEMENT made at the above works may be had fresh from the kilns daily,—a great advantage to dealers and sewer contractors, especially in winter time.
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the Roman cements so much of which is now brought into the market and sold as Portland.
PLASTER OF PARIS, both coarse and fine, of very superior quality and colour.
LIME.—Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the barge or yard, and may be had fresh ground daily, by steam power, for conveyance.
BRICKS from our fields in Kent, by the barge alongside, in the river or canals, or by cart from the above wharf, of good quality and moderate price.
A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain, Pan, and Paving Tiles, Hair, Laths, Chimney-pots, &c. always kept in stock.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PURE HYDRAULIC LIME, Manufactured

from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to, without a banker's reference.

GREY STONE LIME.

WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. McCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City.

Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,

By Messrs. Allen & Co., Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, } SOLE CONSIGNEES.
WELLINGTON WHARF, Belvidere road, Lambeth; and Kent-road Bridge.
The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.

Blue, Red, and Buff Terra-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS,

Northfleet, Kent.
Messrs. ROBINS & CO.

To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines

FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.



n only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

ary Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.

Illustrated Lists with full Particulars and Prices may be obtained of

ILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

A GOOD DRAWING-DOCK AND LANDING WHARF.

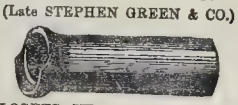
*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

DRIVING BANDS, HOSE, VALVES, &c.

THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their ULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable lin leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, od, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof rt, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.

All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.

THE LEATHER CLOTH COMPANY, Limited,

56, CANNON STREET WEST, LONDON, E.C.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS, THOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

ONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. tains Nature's Disinfectant (OXYGEN), possesses the exact pro- es, and acts precisely in the same manner, as the great disinfectant ded by Nature for purifying the air we breathe, and called by ists OZONE; combining, therefore, the most powerful purifying ties with a perfectly innocuous and wholesome nature, and without colour of its own, it forms the safest and most efficient fectant and deodorizer for sick rooms, slaughter-houses, sinks, drains, sewers, cesspools, graveyards, &c., and is permanently d for numerous domestic purposes, for which all other deodor- Agents, on account of their poisonous character, or usage, cable are wholly improper and inapplicable, such as purifying in- water, sweetening musty casks, removing and preventing taint in game, fish, &c. as well as by use in the bath for promoting and taining personal purity.—Obtainable of all first-class Chemists, ttles at 1s. 3d. or 2s. each; or 5s. 6d. for ONE GALLON ES THREE HUNDRED GALLONS ADAPTED FOR USE.

Wholesale of the Patentee, Battersea, Surrey, S.W.

ARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of used by Builders upon the lowest terms. Marquees and tem- Awnings on sale or hire. Orders per post receive the most attention.

H. PIGGOTT,

shopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honorable Board of Ordnance.

HORTICULTURAL GLASS WAREHOUSE.

THOMAS MILLINGTON,

87, BISHOPSGATE-STREET WITHOUT, E.C.

Lists forwarded on application.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 20, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above

EQUAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.



HEATON, BUTLER, & BAYNE'S Illustrated Treatise on the History and Use of STAINED GLASS FOR WINDOWS, Will be forwarded on receipt of 30 postage-stamps. Memorial and Decorative Windows designed and executed.



HEATON, BUTLER, & BAYNE.

Works:—Cardington-street, Hampstead-road, London.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

STAINED GLASS and WALL PAINTING.

NOTICE OF REMOVAL.

MESSRS. CLAYTON & BELL,

Late of No. 24 a, Cardington-street, Euston-square,

Have removed to

311, REGENT STREET, W.

(Adjoining the Polytechnic Institution).

Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

MANCHESTER STAINED-GLASS WORKS.

R. B. EDMUNDSON & SON,

Artists in Stained Glass, Ecclesiastical and domestic of every description, ancient and modern, Illuminated Commandments, &c. by their new process on Plate Glass; Mural and Heraldic Decoration, Monumental Brasses, &c. Designs and estimates on application.—R. B. EDMUNDSON & SON, having had upwards of thirty years' practical experience in the manufacture of every description of glass for ecclesiastical purposes, have most of their glass made to order, and from their own receipts, and which will be found nearer to the old glass than any others at present manufactured. Works—New Wakefield street, Oxford-street, near the Bridge.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

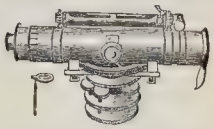
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. METTAM & CO.

30 and 31, PRINCES STREET, SOHO, LONDON, W.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH,

Near Astley's Theatre,

Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 6s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

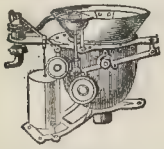
THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

THOMAS LAMBERT & SON,

No. 1. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



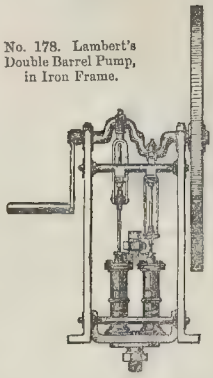
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.

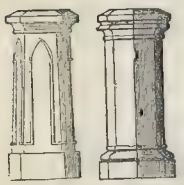


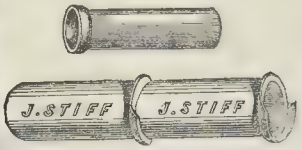
FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,
SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





TRAP, 2s.



PAN, 4s. 6d.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.
May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Fedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danvers Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF
PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,
LONDON, SEYSSEL ASPHALTE, PARIS,
AND BY H.M.'S ROYAL LETTERS PATENT,
MANUFACTURERS OF
1851. METALLIC LAVA. 1844.
FOR PRICE AND PARTICULARS APPLY AT THE
OFFICE, 6, GUILDHALL-CHAMBERS,
BASINGHALL-STREET.
MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon.
Turpentine, 5s. 6d per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Ebury-street, and 45, Colesbill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa Nut Matting, Mats, &c.—See catalogue.

A SUBSTITUTE for PAINT, and at HALF the COST. STEPHENS'S DYES or STAINS for WOOD.—Mr STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chatteris, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
H. STEPHENS, Chemist, 18, St Martin's-le-Grand, E.C. late of 54, Stamford street, S.

COLOURS and VARNISHES at REDUCED PRICES.—Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 1½d. per gallon; Boiled Oil, 3s. 3d.; Turpentine, 5s. 6d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGDON'S Colour Warehouse, 113 and 114, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c., at the lowest prices.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000
" 9-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 36s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 531, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Pitaries," Tunstall, Staffordshire as the first of the kind in the world.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design, and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA COTTA WORKS, BLACKFRIARS ROAD, LONDON, S
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishment, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

J. TYLOR & SONS,

MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.

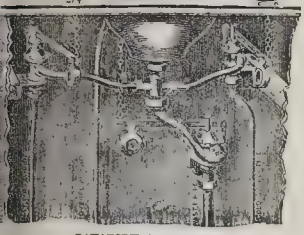
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

To be seen in action at the Manufactory, WARWICK LANE,

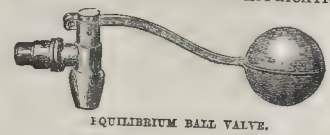
And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, London.

ILLUSTRATED CATALOGUES ON APPLICATION.

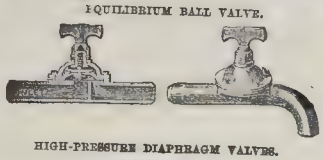




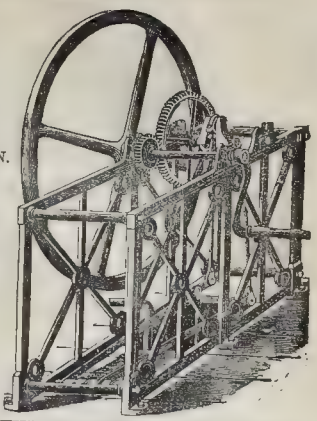
LAVATORY APPARATUS.



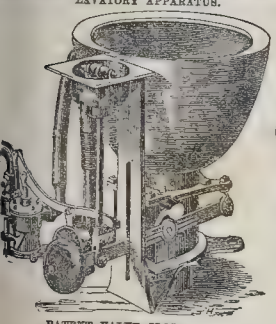
EQUILIBRIUM BALL VALVE.



HIGH-PRESSURE DIAPHRAGM VALVES.



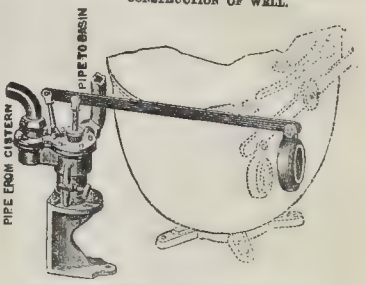
WELL-PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—

HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.

High-Street, Lambeth, London.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF

SALT-GLAZED SOCKETED DRAIN-PIPES,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

BF, No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

8s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.





UNDERHAY'S PATENT

REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C BOTTEN & SON,

F. G. UNDERHAY

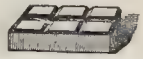
now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves, Gas Meters, &c. on the same premises.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

THE ARCHITECTURAL POTTERY

COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance halls, corridors, conservaries, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes, string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.: also, the Architectural Pottery Company's patent orange-tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No. 36, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham.—Address, The Architectural pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

ASPHALTE—GERVASE FOOTTIT,

TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1834.—TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by steam power, laid down in the best manner, or supplied in any quantity. Information for using forwarded with material. Post office orders or references in London promptly attended to. Estimates given for every kind of the above work.

FOR CONTRACTORS' WAGGONS,

DOBBIN CARTS, BARROWS, and RAILWAY PLANT,

Apply to HUGHES & MARCH,

Engineers and Timber Merchants, Falcon Works, Loughborough.

JOHN DOULTON, BROTHERS, & CO.

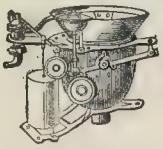
LIVERPOOL POTTERY,
ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL,

MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

THOMAS LAMBERT & SON,

No. 1. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



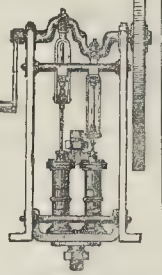
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,
SHORT STREET, NEW CUT, LAMBETH, S.

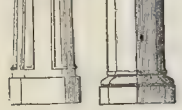
T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





TRAP, 2a.

PAN, 4a. 6d.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVER'S, Dowgate Wharf, Canal road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF

PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,

LONDON, **SEYSSEL ASPHALTE,** PARIS,

AND BY H.M.'S ROYAL LETTERS PATENT,

MANUFACTURERS OF

1851. **METALLIC LAVA.** 1844.

FOR PRICE AND PARTICULARS APPLY AT THE
OFFICE, 6, GUILDHALL-CHAMBERS,
BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW Patent Graining Tool Manufactury, 33, High-street, Marylebone London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.

Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon.
Turpentine, 5s. 6d. per gallon.
Pine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD HUCKS'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Cole-hill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE can still be supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See catalogue

A SUBSTITUTE for PAINT, and at HALF the COST. STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Cuttlebumpkin, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S

COLOURS and VARNISHES at REDUCED PRICES.—Genuine White Lead, 3½ per cwt. Linseed Oil, 3s. 1d. per gallon; Boiled Oil, 3s. 3d.; Turpentine, 5s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGDON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000
" 6-inch Pavings, at 37s. 6d. per 1,000.
" Kiln Bricks, at 35s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7½. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

PEAKE'S TERRO-METALLIC TILES.
PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf Macclesfield-street North, City-road Basin, N. Rndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET
ENCAUSTIC AND OTHER PAVEMENTS.
FARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED
MANUFACTORY, STOKE UPON-TRENT.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, recess, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishment, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

J. TYLOR & SONS,

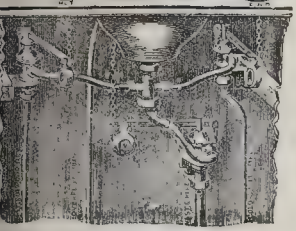
MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.

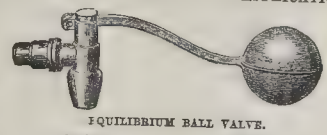
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

To be seen in action at the Manufactory,
WARWICK LANE,
And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, London.
ILLUSTRATED CATALOGUES ON APPLICATION.

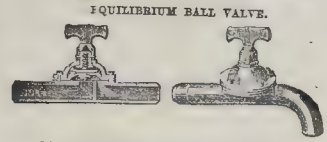




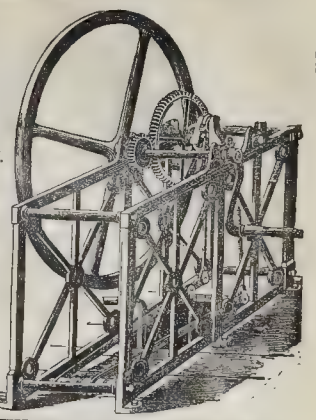
LAVATORY APPARATUS.



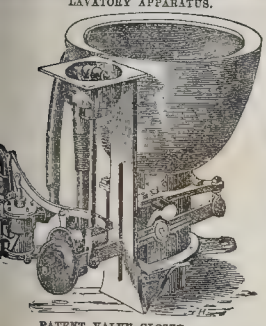
EQUILIBRIUM BALL VALVE.



HIGH-PRESSURE DIAPHRAGM VALVES.



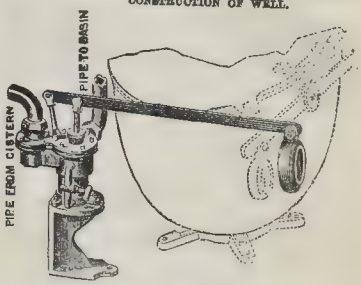
WELL-PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.
High-Street, Lambeth, London.

ENCOURAGE COUNTRY MANUFACTURE.

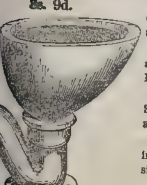
WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

DOULTON & WATTS,
LAMBETH POTTERY, LONDON.

2s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.





UNDERHAY'S PATENT

REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOYTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves, Gas Meters, &c. on the same premises.
CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

THE ARCHITECTURAL POTTERY

COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes, string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.: also, the Architectural Pottery Company's patent orange-tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No 26, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham.—Address, The Architectural pottery Company, 26, Parliament-street, S.W.; or Poole, Dorset.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED 1838



For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 13, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

ASPHALTE—GERVASE FOOTTIT,

TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1834.—TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by steam power, laid down in the best manner, or supplied in any quantity. Information for using forwarded with material. Post-office orders or reference in London promptly attended to. Estimates given for every kind of the above work.

FOR CONTRACTORS' WAGGONS,

DOBBIN CARTS, BARROWS, and RAILWAY PLANT,
Apply to HUGHES & MARCH,
Engineers and Timber Merchants, Falcon Works, Loughborough.

SALES BY AUCTION.

GOVERNMENT STORES, WESTMINSTER.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings to SELL by AUCTION, at the STORE YARD, Great Smith-street, Westminster, on MONDAY, MARCH the 3rd, at TWELVE for ONE, a quantity of OLD STORES, comprising: mahogany waincot and grained desks; presses and other office fittings; Brussels carpets and rugs; oilcloth; Kamptulicon; cocoa matting; rope mats; bedding; old mops and brooms; gas-metres; work benches; iron work, doors, framing, and other effects. May be viewed on Saturday and morning of sale, and catalogues had on the premises, also at the Office of Works, &c., 12, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—Building Materials of a capital Stack of Hop Warehouses, built within a few years.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works TO SELL by AUCTION, on the PREMISES, on MONDAY next, MARCH 3, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS-UP of a capital Stack of Hop Warehouses, situate in Worcester street, Castle-street, Borough, comprising about 400,000 nearly new bricks, excellent slating, prime timber in roofs and floors, 250 squares of stone-flooring boards, useful sashes, loop-lights and other doors, crane and jib, lead gutters and pipes, and a large mass of useful materials and fittings-up. May be viewed on SATURDAY previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C.; and 40, Parliament-street, S.W.

TO HOP-FACTORS, PACKERS, ENGINEERS, &c.

PULLEN, HORNE, & EVERSFIELD are instructed to include in the SALE by AUCTION of the Materials of the spacious Hop Warehouses, Worcester-street, Borough, on MONDAY next, MARCH 3, a powerful HYDRAULIC PACKING-PRESS, with 5-feet ram, metal pump, iron cistern, strong iron tie rods, &c. in excellent condition.—May be viewed, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

ST. JAMES'S-STREET.—Excellent Building Materials of the Thatched-House Tavern and Houses adjoining.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, MARCH 4, at TWELVE, in lots, all the excellent BUILDING MATERIALS and FITTINGS-UP of the THATCHED HOUSE TAVERN, St. James's-street, the house adjoining, being No. 88, and a large house and premises in the rear, in Russell-court, Cleveland-row, comprising capital brick-work, tiled and slated roofs, prime timber and flooring boards, sashes, doors, handsome chimney-pieces, plate-glass shop-front, stone staircases, York paving, eight tons of lead, and a great variety of valuable materials and fittings-up.—May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, S.W. and 80, Fore-street, City, E.C.

BUILDING MATERIALS of the DRAPERS' ALMS-HOUSES, Crutched-friars, built by Sir John Mesbourne, Knight, A.D. 1535, and presenting many items of interest to the Antiquarian.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on WEDNESDAY, MARCH 5, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS UP of the Drapers' Almshouses, in Coopers'-row, near Tower-hill; comprehending sixteen separate dwelling-houses, and comprising good sound brick-work, a large quantity of plain tiles, oak and fir timber in roofs and floors, lead gutters, casements, cast lattice doorways, stone external dressings to mullions, arched stone chimney-pieces, antique panelled doors, and other interesting examples of the Tudor style, also other floor-boards, lead gutters and pipes, large lantern casern, sixteen slate caterns, pebble and other paving, stones, and other useful materials and fixtures.—May be viewed the day previous, and catalogues had of J. HARRISON, Esq. Architect, 34a, Moorgate-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, Westminster.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—Capital BUILDING MATERIALS of a Large Detached Mansion, Great Guildford-street, Southwark Bridge-road, and Seven Houses in New-street, adjoining.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on WEDNESDAY, MARCH 12, at TWELVE, the whole of the capital BUILDING MATERIALS, expensive Fixtures and Fittings of a large Detached Mansion in Great Guildford-street, Southwark Bridge-road, comprising Messrs. Potts's Vinegar Works; and Seven Modern Houses in New-street; comprising 600 capital bricks, plain and pan tiles and slates, prime timber and flooring boards, modern doors, rather-wide fittings, carved statuary chimney-pieces, stone paving, several tons of lead in flats, gutters, cisterns, and pipes; stoves, ranges, coppers, bookcases, and a large assortment of useful fixtures and fittings.—May be viewed the day previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C.; and 40, Parliament-street, S.W.

FACTORY BRICKFIELD, ROMFORD, ESSEX.

J. G. HALL is instructed by the proprietor to SELL by AUCTION, on THURSDAY next, MARCH 6, at ONE for TWO punctually, about 400,000 capital HARD STOCK and PLACE BRICKS, stacked in lots, from 2,000 to 10,000, to suit purchasers. A railway siding and good roads abut on the ground, and the lots can be delivered into trucks at 1s. per thousand, or into carts, at 6d. per thousand.—May be viewed. Catalogues had on the Ground; at the Inns at Romford; and of the Auctioneer, Derby-place, Old Ford-road.

GENUINE BUILDER'S STOCK.—Removed for convenience of Sale.

J. G. HALL is instructed by the proprietor to SELL by AUCTION, on TUESDAY next, MARCH 4th, at TWO o'clock punctually, on ground in Wright's-road, Old Ford, near the John Bull Tavern, a quantity of surplus materials and Stock, comprising: joists, plates, timber, quartering, rafters, floor boards, doors, sashes and frames, scaffold boards, poles, cords, pulleys, iron chains, blocks and fall, iron screws; also water pipe, gutter, guttering of all sizes; stoves, ranges; capital stone paving, marble chimney-pieces; tiles; useful horse, cart, harness, and numerous other effects. May be viewed, catalogues had at the place of sale; at the John Bull Tavern; and of the Auctioneer, Derby-place, Old Ford-road.

TO BUILDERS, PLUMBERS, CARPENTERS, AND OTHERS.

MR. ALFRED COX will, on SATURDAY, MARCH 8th, SELL, at Portland Mews, Portland-street, Soho, a quantity of SECOND-HAND HOUSE FIXTURES, consisting of stoves, ranges, coils, partitions, cisterns, sheet lead, lead pipes, gas fittings, and miscellaneous items; also an assortment of SECOND-HAND FURNITURE and a HORSE and GIG.—Auctioneer's Offices, 64, New Bond street, W.

By order of the New River Company.—Valuable Steam engine and other Plant, and the Building Materials of Engine and Boiler Houses, Dwelling-house, Workshops, Sheds, &c. to complete the clearance of the Site of the Hampstead-road Reservoir, which has been let for building.

MR. JOHN WALLEN has received instructions from the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, 11th of MARCH, at TWELVE, in lots, a 50-horse power condensing engine, by Boulton & Watt, of compact, portable, and economical construction, with 6-feet stroke; a marine boiler, a quantity of copper and iron pipe, valves and gauge, shafting and pulleys, three 7-feet spur wheels, lying cranks, rods, &c., a set of three 10-inch force pumps, with three throw cranks, a 12-inch single force pump and gear, twenty seven fathoms of capital iron crane chain, wrought-iron flaps, iron blocks and fall, an assortment of plant and tools, also the whole of the materials of superior stock-built brick-work, slating, joisting, lead and iron gutter and pipes, sash in pavement lights, panelled doors, partitions, quarries, and other useful building requisites, on the premises; and on the following day (WEDNESDAY) the 12th, at TWELVE, the valuable Steam Engine, Boiler, Cast-iron Pipes, Cocks, &c., on the Premises; and of Mr. JOHN WALLEN, 13, Old Bread-street, E.C. who will forward the same on application.

TO ENGINEERS, MACHINISTS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, MARCH 4, 1862, and following days, at ELEVEN o'clock each day, at the works of Bert and Patent Machine Boat and Shoe Company, Limited, Rosslagh-road, Gravesend-road, Findon, the lots, the valuable collection of ENGINEER'S TOOLS, used in the construction of the different patented machines, new within three years (principally by Whitworth, Smith, Muscroft, Sharpe, & Shepherd, Hill, and others), including a 12-inch centre screw-cutting lathe, with 24-feet bed a 10-inch centre screw-cutting lathe, with 15-feet gap bed; 9-inch centre screw-cutting lathe, with 12-feet bed; seven 7-inch centre screw-cutting lathes, with 6-feet 6-inches movable gap beds; three 6-inch centre screw-cutting lathes, with 5-feet 6 inches beds; one 5-inch centre back-geared slide lathe, with 14 feet bed; Armstrong's lathe, one pin-lathe, four slide-lathes (various), two self-acting planing machines, to take in 2 feet 6 inches wide by 2 feet 6 inches high, and 2 feet wide by 2 feet high; three self-acting shaping machines, 9, 12, and 15 inch strokes, with traversing tables; self-acting slotting machine, to take in 3 feet diameter; one self-acting horizontal boring machine, two self acting drilling machines, two wall drilling machines, self-acting slotting and drilling machine, wheel-cutting machine, set of Whitworth's gauges, from ¼ inch to 2 inches; sets of stocks, taps, and dies, from ¼ inch to 1½ inch; steel bolts, rollers, planed surface plates, 12 horse power horizontal high pressure steam engine one 10 inch cylinder 1 round table, pressure steam-engine, lancashire boiler, one 4-horse power direct-acting steam-engine, two return-flue steam boilers, 13 feet 6 inches and 14 feet 6 inches long, 4 feet diameter; two cylindrical steam-chests, 9 feet long, 2 feet 6 inches diameter; 500 feet of tinned steam pipe, 1,000 feet turned bright shafting, 3,000 feet leather driving-bands, 250 riggers, fittings of smiths' shop, three forges, anvils, vices, and benches, three tons of rod and bar iron, one ton cast and sheer steel, four grindstones, double-purchase crab, bottle jack, blocks and falls, six joiners' benches, weighing machine, gas-fittings, office furniture, and a large quantity of miscellaneous property. To be viewed on Friday, Saturday, and Monday previous to the Sale, by catalogues only, which may then be had at 6d. each, on the Premises, or of Messrs. ASHURST, MORRIS, CRISP, & SON, & MORRIS, Solicitors, 6, Old Jewry, E.C.; of F. MAYNARD, Esq. Public Accountant, 19, Broad-street, E.C. Manager; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

CHARING-CROSS RAILWAY.—THIRTEENTH CLEARANCE SALE.—BUILDING MATERIALS.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors, to SELL by AUCTION, on the PREMISES, on TUESDAY, the 11th MARCH, 1862, at ONE o'clock punctually, all the very valuable and excellent BUILDING MATERIALS of the large well-built HOUSES, in Wellington-street, Borough, with frontage also to Green Dragon-court, and three houses, shops, and business premises in the Borough High-street, opposite St. Saviour's Church-yard; comprising good sound stock brickwork, capital slating, prime timber and flooring boards, glazed shop-fronts, sashes and frames, useful doors, lead gutters and pipes, part-iron and slate roofing, other chimney-pieces, stoves, ranges, and a large mass of useful materials, fixtures, and fittings up.—May be viewed the day previous to Sale; and catalogues had of Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers, 3, Newmans-court, Cornhill, and West Molesey, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices, in the London Bridge Terminus.

HEMEL HEMPSTEAD, HERTS.—LIVERSTOCK GREEN BRICK-FIELDS.—To Builders, Speculators and others. Sound well-burnt BUILDING BRICKS will be SOLD by AUCTION, by

MR. GEORGE A. SMITH, on the PREMISES, on FRIDAY, 7th MARCH, 1862, at ONE o'clock, by order of the Proprietors, Messrs. Norris & Son. The Brick fields are about two miles from the Hemel and Railway Station, upon excellent roads. The quality of the Bricks is universally acknowledged to be first-rate; they are well burnt, full sized, and well made, a portion of them being the celebrated "Franklin Stocks," of superior colour and great durability; and the whole are intended for Sale, the object being to effect a clearance previous to commencing the new season. Three quarters of a million are now ready for delivery, upon easy terms.—May be viewed by applying to Mr. FRANKLIN, on the Premises, of whom Catalogues may be had; also at the usual Inns and places: and at the Offices of Mr. G. ALEXANDER SMITH, Estate Agent, Hemel Hempstead, Herts.

SALE.—By order of the Secretary of State for War.

MR. GEORGE SPILMAN will SELL by PUBLIC AUCTION, on the ROYAL ARSENAL, Woolwich, on TUESDAY, 18th MARCH, 1862, at ELEVEN o'clock in the forenoon precisely, the following STORES: Three Hand Cranes (from 2 to 6 ton powers), Lead Ashes, Fouinder's Ashes, Pig Iron, Mixed Metal, Zinc, Steel, Iron, Tools, Paper, Resin, Canvas, Leather, Serge, Horse-shoes, Clothing, Harness, Three Stacks of Hay, Waggons, Wheels, Timber, Refuse Wood, &c. &c. To be viewed from TEN to ONE o'clock, and from TWO to FIVE o'clock on the three working days previous to, and months of the sale, and catalogues obtained at the Public Office, Pall Mall; at the TOWER; and ROYAL ARSENAL, Woolwich.

Stock and Plant of a Brass and Cock Founder, Pump Maker, and Gas Engineer, Furniture, and Effects

MR. GAIRDNER is instructed by Mr. Monington, who is retiring from the business, To SELL by AUCTION, on the PREMISES, 5, Frederick place, Hampstead road, on WEDNESDAY, MARCH 5, and TWELVE, several LATHES, boring machine and tools, patterns, castings, and finished work, comprising lift and other pumps, beer engines, gas chandeliers and fittings, lead and power pipe, water closets, several pairs of taps, cocks and mains, useful ironmongery, a few lots of furniture, and various effects.—May be viewed the SATURDAY prior to the sale. Catalogues on the premises; and at Mr. GAIRDNER'S Office, 152, Tottenham court-road.

TO BUILDERS, GROUND-LANDLORDS, SPECULATORS, AND OTHERS.

MR. H. HUMPHREYS (in conjunction with Mr. STANLEY ROBINSON) will SELL by AUCTION, on WEDNESDAY, MARCH 5, at TWELVE for ONE o'clock precisely, at the GROUNDS, known as Davis's Brickfields, near the Cemetery, Nunhead, Peckham, 200,000 BRICKS, comprising stock, place, grit, &c. in lots. Particulars may be obtained of Mr. HUMPHREYS, 10, London-street, Greenwich; or of STANLEY ROBINSON, Auctioneer, Founders'-court, Lothbury, E.C.

LEYTON GRANGE.—The Materials of the Coach-house, Stables, &c. an Out er Buildings.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, within ten minutes' walk of the Low Leyton Station on the Loughton Railway, on MONDAY, the 3rd of MARCH, 1862, at TWELVE for ONE o'clock, the excellent BUILDING MATERIALS of the coach-house, stables, harness-room, and other buildings, formerly belonging to the Grange mansion, and consisting about 50 000 bricks, a quantity of pantiles, and Dutch clinkers; several windows, coach-house doors, &c.; the fittings, comprising stalls, mangers, and racks, the fir staircase, flooring-boards, beams, joists, rafters, &c.; also two waterbutts, some iron wheeling plates, and iron fencing, and thirteen cheval stalls.—May be viewed on Friday and Saturday prior to the sale.—Catalogues may be obtained of the Auctioneer, 14, Moorgate-street, London, E.C.; at the Lion and Key, Leyton; and of the Foreman, on the Premises

TINLEY HALL, George lane, Wanstead.—Excellent Fittings, Fixtures, and Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, within ten minutes' walk of the Snaresbrook station, on the Loughton Railway, on MONDAY, MARCH 10th, 1862, at TWELVE for ONE o'clock, the excellent FIXTURES, FITTINGS, and part of the BUILDING MATERIALS of this substantial mansion, comprising the handsome marble and carved wood chimney-pieces, the marble and stone paving in the hall, the lofty staircase, with ornamented iron balusters, substantial doors and frames, French and other wood sash frames and shutters, a large quantity of panelling and partitioning, cupboards, shelves, kitchen-range, large oven, force-pump, and two coppers; the large portico with pillars, and the covered way at main entrance; also 1,000 feet of first-class York paving, 2,000 feet of Yorkshire landing, hall and house flagging, &c.—May be viewed on the Friday and Saturday prior to the sale, and catalogues obtained at the George Inn, Wanstead, the lodge, shrubbery, or of the Foreman, on the premises; and of the Auctioneer, 14, Moorgate-street, London, E.C.

TO BUILDERS, QUARRY-MASTERS, STONE MERCHANTS, & OTHERS.—TO BE SOLD by PUBLIC AUCTION, by

MR. JAMES KARN, at the ANGEL HOTEL, Coleford, on THURSDAY, the 6th day of MARCH 1862, at THREE o'clock p.m. precisely, in three lots, now set out by the undermentioned parties, a large quantity of valuable WORKABLE and UNWORKED FOREST STONE, consisting of blocks, landing-head stones, undering-stills, tooled and scappledstays, troughs, sandstone grindstones, jumbs, paving-setters, sabbing, and cold stones.

Lot 1, at Lower Birch hill Quarry.
Lot 2, at Jones' Quarry.
Lot 3, at Upper Birch hill Quarry.
Lot 4, at Dark hill Loading Place.
Lot 5, at Dark hill Quarry.
Lot 6, at Futtrell Loading Place.
Lot 7, at Mareefield.
Lot 8, at Jail-field.
Lot 9, at Gouty Knoll

All the lots may be viewed at any time, and if required, Mr. TYLER the foreman, at Birch-hill Quarries, will point them out to any person applying; and full particulars of all or any of the lots can be had on application to Mr RIDLEY HENDERSON, Coleford; or to the Auctioneer; or Messrs. CARTER & GOOLD, Newnham.

VALUABLE BUILDING GROUND

North Woolwich.—TO BE LET, about Three and a Half Acres of FREEHOLD LAND; low ground-rents. Houses of from 20l. to 30l. per annum are required. Near station and church. Advances arranged.—Full particulars at the Offices of Mr. J. B. WATSON, Architect, 9, Nottingham-place, Marylebone-road, W.

TO BUILDERS. — FREEHOLD LAND about 7¼ acres, with House, &c. TO BE LET or SOLD, five miles west of the Marble Arch. Gravel soil. Quarter of a mile from a Railway Station. The Houses could be let or completed during progress of other buildings. Ap ly to Messrs. WALKER & JERWOOD, 12, Furnival's Inn, Holborn.

FREEHOLD BUILDING GROUND, close to the intended Railway Station on the High road, Peckham, three miles only from the City, adapted for a Public-house and Shop, or for private residences. Plots may be had if arranged for.—Apply to the freeholder, THOMAS SINGLE, Esq. Bath House, Queen's road, Peckham, between 9 and 12 A.M.

BUILDING LAND TO LET, on long lease, in most eases direct from the freeholder, at HIGHBURY, CANONBURY, NORWOOD (close to the Lower Norwood Station), CROYDON (very near West Croydon Station), at the VAUXHALL GARDENS ESTATE, at DENMARK HILL, and adjoining CARLSBAD, at BOW. Ground-rents moderate. The usual proportion of the cost of the houses erected would be advanced, and in some cases the freehold might be purchased. For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

TO BUILDERS and OTHERS.—BARNET, HERTS. — FOR SALE, eligible FREEHOLD BUILDING LAND, close to the Barnet station on the Great Northern Railway, having frontages to good roads, and possessing extensive views of the surrounding country. The land will be disposed in large or small portions, and the purchase money may be paid by instalments, with interest at 5 per cent. Houses built in this rapidly-improving locality have realized the highest rents, and will be in a neighbourhood lighted with gas. For plans and particulars apply to Mr. WHITTINGHAM, 14, Moorgate-street, London, E.C.

BROMPTON GROVE.—To BUILDERS, CAPITALISTS, and OTHERS.—The Freeholders of this Estate are prepared to grant LEASES for 99 years, at moderate ground rents, to parties intending to build on a portion of it. The Property is in an immediate situation, near to Hyde park and to South Kensington The sewers, roadway, vaults and pavements are completed.—For terms and particulars apply at the Office on the Estate, or to G. ADAM BURN, Esq. 9, New Broad-street, E.C.

MARK LANE.—An important BUILDING SITE to BE LET by TENDER, receivable on or before the 21st MARCH next. Plans may be obtained at the Offices of Messrs. UPTONS, JOHNSON, & UPTON, 20, Austinfriars; or of Mr. PANSON, 7a, Laurence Pountney-hill.

TO BE LET, on a Building Lease or Leases, for the term of eighty years, by PUBLIC TENDER, Nos. 4, 5, 6, and 8, St. Dunstan's-hill, Lower Thames-street, the property of the Parish of St. Dunstan in the East, with a frontage of 80 feet, and an area of 2,000 feet. The Parish will let subject to the rights of the tenant of No 8, who holds under an agreement to leave six months' notice from any quarter-day; And of the tenant of No 5, who holds for the term of a term which will expire at Michaelmas, 1865, but at the peppercorn for the first year. Further information may be obtained on inquiry at the Architect's Office in Bishopsgate-street, or at the Parish Offices, No. 4, St. Dunstan's-hill. Mr. J. F. SHEARMAN, Vestry Clerk, No. 44, Mark-lane, where plans and particulars may be seen.

BUILDING-GROUND. — CITY of London.—The Commissioners of Sewers of the City of London hereby give notice, that they will meet in the Guildhall of the said City, on TUESDAY, the 25th of MARCH next, at TWELVE o'clock precisely, to receive proposals for LETTING, on BUILDING LEASE, for eighty years, certain PLOTS of FREEHOLD GROUND, situate in Newgate-street and Wood-street. Further particulars, with conditions and printed forms of proposal, may be had on application at the Office, where plans of the ground may also be seen The Commissioners do not bind themselves to accept any proposal unless deemed advantageous. Persons making proposals for the said plots of land must attend personally, or by duly authorized agent on the above-named meeting, and the proposals of those offers are accepted will be required to execute an agreement, under bond at the time

Sewers Office, Guildhall, January 10, 1862. JOSEPH DAW, Principal Clerk.

BELSIZE PARK, HAMPSTEAD. — To BUILDERS and OTHERS.—LAND TO BE LET, for Building, with roads and sewers all complete. For further particulars, apply on the estate, at Mr. TIDEY'S Office, 20, Belsize-park.

TO BUILDERS AND OTHERS. — SELHURST-PARK, Norwood, near the Junction Station.—The freeholder will co-operate with respectable builders in ERECTING HOUSES, to let at 45l. to 65l. Excellent bricks of every class on the estate. Proximity to the Junction Station, enables materials to be readily supplied. All roads made. Several first-class houses erected, all of which have been let to fore finished, and others are in course of completion. Omnibuses pass from the gates of the estate. Air proverbially healthy, water good and abundant, drives and walks beautiful; nine miles, or 25 minutes from City; 24 minutes from West-end; 4 minutes from Crystal Palace; 50 minutes from Brighton. Trains constant from six a.m. till half past twelve at night. Particulars at Selhurst-park Office; or to Messrs. FRANCIS FULLER & CO. Cornhill, E.C.

TO BUILDERS and OTHERS.—Notice is hereby given, that the Trustees of the Rev. Dr. Sparrow's Charity Estate at Hackney, have several PLOTS of LAND TO LET, to build on, eligible for villas and other respectable private dwellings. The land will be let direct from the freeholder, and free of land-tax and tithe commutation rent-charge. The whole estate offers an excellent opportunity to persons desirous of building houses to reside in themselves For further particulars apply to Mr GILDLOW, Surveyor, No. 2, Old Church-yard, Bromley, or of Mr. C. H. PULLEY, of Upper Homerton, and 28, Great Winchester-street, Old Broad-street, City, Solicitor.

LONDON:—Printed by CHARLES WYMAN, PRINTER, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN at the office of the BUILDER, No. 2, York-street, Covent-garden, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—SATURDAY, MARCH 1, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 996. MARCH 8, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Vestry Hall of the Hamlet of Mile End. Mr. James Knight, Architect 169

The New Font in Lichfield Cathedral 168

CONTENTS.

French Exploration.—Phœnician Art 161

Newcastle Officials Repentant 162

London Bridge Railways Terminus Hotel 163

Royal Institute of British Architects: the Medals, &c.: Hotels .. 164

Ornamental Burnt Wood-Work 165

Proposed Site for the National Albert Memorial 163

The Soane Museum 165

An Outline of the Plan and Construction of the Westminster Palace Hotel 165

Award of Prizes by the Architectural Museum 167

Railway Tunnelling Superseded: Locks! 167

Sanitary Matters 167

New Font in Lichfield Cathedral 168

Foreign and English Workmen, and the Exhibition of 1862 168

The Vestry Hall, Bancroft-road, Mile end-road 169

The Architectural Association 169

The Site Question of St. Thomas's Hospital 170

Proposed Memorials of the Prince Consort 170

Workmen's Dwellings for Edinburgh 170

Threatened Nuisance in Piccadilly 171

British Archæological Association 171

A School of Art for Marylebone and the West of London 171

Schools of Art 171

St. Mary's, Martham, Great Yarmouth 171

Provincial News 172

Church-building News 172

School-building News 172

Where is the Ghost? 173

Thames Embankment 173

Proposed Improvement in Trafalgar-square 173

The Provision of Healthy Homes 173

Reckless Destruction of Valuable Property: A Man's House is his Castle no longer 174

Books received: "Patterson's Essays on History and Art (Blackwood); Variorum" 174

Miscellanea 174

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS.

Sir Robert Smirke, R.A. J. P. Scott Hope, esq.

PRESIDENT.—Sydney Smirke, R.A.

TRUSTEES.

Charles Robert Cockerell, esq. R.A. Philip Hardwick, esq. R.A.
George Gilbert Scott, esq. R.A.

TREASURER.—William Tite, esq. M.P. F.R.S.

The ANNUAL GENERAL MEETING of the SOCIETY will be held in the Rooms of the Royal Institute of British Architects, 9, Conduit-street, Regent-street, on WEDNESDAY, the 12th instant. The Chair will be taken at THREE o'clock precisely. Information relative to the Society may be had of the Hon. Secretary, or of Mr. GOULD, the Collector, 109, Pentonville-road.

JOHN TURNER, Hon. Secretary,
5th March, 1862. 15a, Wilton-street, Grosvenor-place.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS. G. R. BURNELL, Esq. C. E. & Architect, will deliver a LECTURE in the HALL, at LYON'S INN, Newcastle-street, Strand, on WEDNESDAY evening, MARCH 12th, 1862. Subject: "A Comparison of some of the Details of Building adopted in England and in other countries." Lecture to commence at HALF-PAST EIGHT o'clock. Ticket's to be had free, of any of the Members, or at the Hall door

R. WEBSTER, Librarian.

SCIENCE and ART DEPARTMENT of the COMMITTEE of COUNCIL on EDUCATION, South Kensington.—PUBLIC EXAMINATIONS in ELEMENTARY DRAWING, conducted by the Science and Art Department, will be held at the latter end of MARCH, at the District Schools of Art, at

Queen-square, Bloomsbury (Female School).
Finsbury—William-street, Wilmington-square.
Lambeth—Princes road
Hampstead—Dispensary Building, New-end.
Robert the Deptford road.
St. George's-in-the-East, Cannon-street-road
St. Martin's—Castle-street, Long-acre.
St. Thomas Charterhouse—Goswell-street.
South Kensington—Cromwell road.
Spitalfields—Fashion street.
Westminster—Vincent square.

These Examinations are open to all persons without distinction.

Persons who wish to be examined must send to the Secretary, Science and Art Department, South Kensington, on or before the 12th instant, their names and addresses, and the name of the district school to which they desire to come up for examination; and state the subjects in which they are prepared to be examined. One notice will then be given of the precise time of examination.

Schoolmasters or Mistresses, or Masters of Schools of Art, wishing to have several of their scholars examined, are required to furnish the number who will attend for each subject of examination, and the grade of examination.

No person will be admitted for examination who has not previously made application.

Schoolmasters, Mistresses, and Pupil-Teachers must attend either at St. Martin's or South Kensington.

Drawing paper and examples will be provided by the examiners the candidates must bring drawing-boards, pencils, and instruments.

By order of the Committee of Council on Education.

March 1, 1862.

ROYAL HORTICULTURAL SOCIETY'S HYACINTH and CAMELLIA SHOW, WEDNESDAY, the 12th of MARCH, at South Kensington. Open at ONE o'clock. Band commences at 2:30. Tickets, 2s 6d each, can be had at the Gardens, and of the principal Librarians, Music-sellers, &c.

THE ARCHITECTURAL MUSEUM,

South Kensington Museum, W.—SESSION, 1862.—On TUESDAY, MARCH 11, at EIGHT, p.m. the PRIZES will be DISTRIBUTED by the President in the Theatre of the South Kensington Museum.

GEORGE GILBERT SCOTT, Treasurer; JOSEPH CLARK, Hon. Secretary, 13, Stratford place, W. where applications by letter for cards of admission may be sent.

EXHIBITION of WATER-COLOUR DRAWINGS—ROYAL MANCHESTER INSTITUTION.—In order to afford a more especial recognition of the claims of Water-Colour Art than is possible at the Gener l Annual Exhibition in the Autumn, the Council have again determined to OPEN an EXHIBITION of WATER-COLOUR DRAWINGS in APRIL next, and the opportunity of exhibiting will not be confined to artists and private individuals, but will be extended to the trade generally. The Exhibition will continue open until the end of JUNE, and drawings will be received under regulations stated in the usual printed circular Works should be forwarded so as to arrive not later than APRIL 10. The Council offer the HEYWOOD GOLD MEDAL to the artist who shall contribute the best work exhibited. Mr JOSEPH GREEN, of 14, Charles-street, Middlesex Hospital, will take charge of any works sent to him to forward. Parties willing to contribute are requested to communicate particulars to the Honorary Secretary as early as possible, as it is desirable to ascertain the extent of the proposed Exhibition, and what space will be required

HENRY COOK, Honorary Secretary.

COMPETITIONS.

TO ARCHITECTS.—The Managers of the Central London District School desire to have DESIGNS for a Detached INFIRMARY for their Boys' and Girls' Schools at Cuckoo Farm, Hanwell. The building must be of a simple and inexpensive character, in harmony with the existing buildings, and comprise accommodation, as required by the Poor Law Board, for 180 boys and 180 girls, each sex to be separately distributed in six rooms. There must also be a kitchen, surgery, waiting-room, and other necessary offices under one roof. Particulars as to the site, and further information, can be obtained on application to the Superintendent, at the Schools. The plans must be drawn to a uniform scale of 8 feet to an inch. Each plan is to be accompanied by a specification of the works, and an estimate of their cost. No premium will be given, but the architect whose plan is chosen will be paid by commission, for supervision, &c. of erection of the building, in the usual way. Each set of plans must be subscribed with a motto, and forwarded, with a sealed letter containing the motto and the author's name, to me, on or before WEDNESDAY, the 2nd APRIL next.

SAMUEL HEATH, Jun. Clerk to the Managers.

10, Basinghall-street, E.C. 25th February, 1862.

CONTRACTS.

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex.—SCAVENGERING and WATERING.—The Vestry of this Parish will meet in the Board Room at the Vestry Hall, King's-road, on TUESDAY, the 11th of MARCH instant, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT, pursuant to the terms of a draft Contract now lying for inspection at the Vestry Hall aforesaid, and which may be seen on application to the Vestry Clerk, for WATERING the STREETS, comprised in one or other or both of the districts in the Parish (exclusive of Kensal town), from the 25th MARCH instant to the 1st day of OCTOBER next; and for the REMOVAL of the SLOP from one or other or both of the said districts, from the 25th of MARCH instant, to the 1st day of MARCH, 1864. The Tenders are to name one amount for both Scavengering and Watering for each district, and are to be upon printed forms, which may be obtained at this Office. Parties tendering must appear personally on the day the Tenders are opened; and the parties whose Tenders are accepted (if any) will have to pay the cost of and incidental to the preparation of the Contract. Sealed Tenders, signed by the proposed contractor, with the names and description of two sufficient sureties for the performance of his Contract, are to be left at this Office on or before TWELVE o'clock on TUESDAY, the 11th inst The Vestry do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, March, 1862.

STAFFORDSHIRE POTTERIES STREET RAILWAY COMPANY, LIMITED EXTENSION of TIME.—Notice is hereby given, that the Directors of the Company are prepared to receive TENDERS for the CONSTRUCTION and EXTENSION of the LINE from HANLEY to LANGTON, in two sections.

Section and Contract No. 1, from Hanley to Stoke.
Section and Contract No. 2, from Stoke to Langton.

Persons desirous of tendering in Tenders for the construction of the said Works, can examine the drawings and plans and obtain such information, upon application at the Engineer's Office, on and after the 17th inst. Form of Tenders to be obtained from the Secretary, and to be delivered at the Company's Office on or before the 22nd day of MARCH next. The Directors do not bind themselves to accept the lowest or any Tenders.—By order,

JOSEPH S. FORBES, Secretary.

Offices, 6, Trinity-street, Hanley, February 25, 1862

PADDINGTON.—To PAVIORS.—Notice is hereby given, that TENDERS will be received by the Vestry of Paddington, for RELAYING and REPAIRING the FOOT and CARRIAGEWAYS within the parish, the Contract to be for Twelve Months. The Tenders to be sent sealed, and directed "To the Vestry," and left at the Vestry-Hall, Harrow-road, on or before MONDAY, the 17th day of MARCH next (after which no Tender will be received), endorsed "Tender for Paving," and all persons sending Tenders are to attend at the Vestry Hall aforesaid on the following morning (Tuesday) at TEN o'clock precisely. Forms of Tender may be obtained at the Vestry Clerk's Office, between the hours of Ten and Four. The expenses of the Contract to be paid by the Contractor. A deposit of 20l. to be previously lodged with the Vestry Clerk, as evidence that the Tender is made bonâ fide, the same to be returned immediately in the case of parties whose Tender would not be accepted; but, in the case of accepted parties, to be retained until the execution of the Contract. The Vestry do not bind themselves to accept the lowest or any Tender.—By order,

6th March, 1862. FREDK. AVELING, Vestry Clerk.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—Persons who may be desirous of entering into CONTRACTS with the War Department for the performance of such of the undermentioned descriptions of WORK as may be required at Whitehaven and Maryport, in the construction of gun platforms, parapet walls, magazine and artillery store, inclosure-fence, &c. (in the Batteries for drill and practice about to be formed there); in the partial levelling and draining of the sites for the Batteries; and in the formation of roads, are requested to apply for schedules of prices and printed forms of Tender, on or after WEDNESDAY, the 12th of MARCH next, until WEDNESDAY, the 19th of that month (Sunday excepted), between the hours of TEN o'clock a.m. and FOUR o'clock p.m. at this Office, where plans and specifications of the works may at the same time be seen.

Each contractor will be required to Tender for all of the trades:—Masons', paviors', bricklayers', and plasterers' work; carpenters' work, slaters' work, smiths' and ironfounders' work, plumbers' work, painters' and glaziers' work.

Each Tender is to be properly filled up and signed; and is to be transmitted, under cover, to the Director of Contracts, War Office, Pall-mall, London, S.W. so as to be received there on or before TUESDAY, the 25th of MARCH next; and to be marked on the outside, "Tender for Works at , in the Northern Royal Engineer District."

R. S. BEATSON, Colonel,
Commanding Royal Engineer, Northern District.
Royal Engineer Office, Newcastle-on-Tyne, February, 1862.

WAR DEPARTMENT CONTRACTS.—Such persons as are desirous of undertaking the several WORKS and REPAIRS to the FORTIFICATIONS, BARRACKS, and other buildings, required by the War Department at the places undermentioned, upon a contract for three years, from the 1st of APRIL next, may be furnished, by payment of 7s. 6d. with the printed schedules of prices and the conditions of the contract, with every necessary information respecting the same, on personal application at this Office, between the hours of ELEVEN and THREE each day (Sundays excepted), from the 3rd until the 18th MARCH, 1862, after which date no further issues will be made.

Stations for which separate Tenders will be received:—

PORTSMOUTH.—Including Portsea Island and Southsea Castle, with 5 per cent. allowed for Lumps and Eastney Batteries, Fort Cumberland, Hilsea, and Tipner, and 10 per cent. for works on Portsdown Hill.

GOSPORT.—Including Forton, Priddy's Hard, Haslar, Forts Monckton and Blockhouse, with 5 per cent. allowed for Forts Brockhurst, Grange, Elson, Gomer, and Grange, Stokes Bay Lines, Brownsdown, and Gilkicker Batteries; and 10 per cent. for Forts Wallington and Fareham.

ISLE OF WIGHT.—Albany Barracks and East Cowes, with 10 per cent. allowed for each of the other stations on the island.

SOUTHAMPTON.—(Pensioners' Establishment) with 5 per cent. allowed for Marchwood, and 10 per cent. each for Hurst and Calshot Castles.

WINCHESTER, CHICHESTER, CHRISTCHURCH, TROWBRIDGE, LITTLEHAMPTON.

One contractor only will be accepted for the whole of the trades for each of the above-named stations, but the rates of per-centage at which the parties Tender may be different for each trade, at their option, but such rates must be shown in the proper place on each of the schedules.

The Tenders will be required to be delivered before TWELVE o'clock at noon on the 22nd day of MARCH, 1862, at the War Office, Pall-mall, London, addressed to "The Director of Contracts," and endorsed, "Tender for Artificers' Work, Portsmouth District," in the left hand corner of the envelope.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

R. W. DURNFORD, Colonel,
Commanding Royal Engineer, Portsmouth District.
Royal Engineer Office, Portsmouth, 25th February, 1862.

NOTICE to BUILDERS.—WAR DEPARTMENT CONTRACTS.—TENDERS for the usual TRIENNIAL CONTRACTS for WORKS and REPAIRS to War Department Buildings in the Islands of Guernsey and Alderney, will be received by the "Director of Contracts," War Office, Pall-mall, London, S.W. on or before the 25th MARCH, 1862.

Schedules of Prices and Forms of Tender (for which 6s. 6d. for each set will have to be deposited), and all other information can be had on application to the Surveyor, at the Office of the Inspector-General of Fortifications, War Office, Pall-mall, London, S.W.; and at the Royal Engineer Office in Guernsey and Alderney.

Royal Engineer Office, Guernsey, February 21st, 1862.

GREAT NORTHERN RAILWAY.—To CONTRACTORS, BUILDERS, ESTATE AGENTS, and OTHERS.—The Directors are prepared to receive TENDERS for the PURCHASE of the Old Fir and Oak TIMBER, and Wrought and Cast IRON, in the old timber viaduct and bridge lately carrying the railway over the river Witham, at or near to Barnetby, in the county of Lincoln, and within about nine miles of the city of Lincoln. An approximate bill of quantities, with conditions and form of Tender, may be obtained by applying to the Resident Engineer, at his Office at Boston. Tenders, sealed up, and marked "Tender for Purchase of Old Bridge at Bardney," must be lodged at the Secretary's Office, King's-cross Station, before TWELVE o'clock at noon, on MONDAY, the 10th day of MARCH, 1862. The Directors do not bind themselves to accept the highest or any Tender.

HENRY OAKLEY, Secretary.

Secretary's Office, King's-cross Station, London,
18th February, 1862

BUILDERS desirous of CONTRACTING for the ERECTION of a VILLA and OFFICES, at Dorchester, may inspect the drawings and specification at the King's Arms Inn, Dorchester, Dorset, and at the Office of the Architect from MONDAY, the 10th, to SATURDAY, the 15th MARCH, both inclusive. Quantities, with forms of Tender, price 21s. (returnable on making Tender) may be had from Mr. EALES, Architect, 9, Welbeck-street West, London, to whom Tenders are to be sent, on or before TEN o'clock on SATURDAY, the 22nd of MARCH; but the lowest or any Tender will not necessarily be accepted.

[For remainder of Contracts see next Page.

CONTRACTS.

TO SEWER CONTRACTORS and OTHERS.—The Commissioners are prepared to receive TENDERS FOR CONSTRUCTING an OPEN SEWER from a Field, in the Parish of Saint Mary Magdalen, Oxford, to the River Isis, in the Parish of Saint Thomas, Oxford, as per Plan and Specification to be seen at the Surveyor's Office, Town Hall, Oxford; or particulars of the Work may be had of Mr. JOHN GALPIN, the Surveyor of the Commissioners, on application at his Office, 1, Paradise-square, Oxford. Tenders to be delivered sealed, at my Office, 1, St. Aldate's, Oxford, on or before TWELVE o'clock at noon on MONDAY, the 10th day of MARCH next, endorsed "Tender for Open Sewer." The Commissioners do not bind themselves to accept the lowest or any Tender.

FREDERICK J. MORRELL, Clerk to the Commissioners.

Feb 7, 1862

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex.—SCAVENGING and WATERING KENSAL NEW TOWN.—The Vestry of this parish will meet at the BOARD ROOM, at the Vestry Hall, Kings-road, on TUESDAY, the 11th day of MARCH next, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to enter into a CONTRACT pursuant to the terms of a draft contract, now lying for inspection at the VESTRY HALL aforesaid, and which may be seen on application to the VESTRY CLERK, for WATERING the STREETS comprised within the outlying district KENSAL NEW TOWN, from the 25th of MARCH instant to the 1st day of OCTOBER next, and for the REMOVAL of the SLOP from the said district from the 25th of MARCH instant to the 29th of SEPTEMBER, 1863. The Tenders are to name one amount for both Scavenging and Watering, and are to be sent printed forms, which may be obtained at this Office. Parties Tendering must appear personally on the day the Tenders are opened, and the parties whose Tenders are accepted (if any) will have to put in sufficient and responsible sureties for the performance of the Contract. Sealed bills, signed by the proposed Contractor, with the names and description of two sufficient Sureties for the performance of his Contract, are to be left at this Office on or before TWELVE o'clock on TUESDAY the 11th day of MARCH, 1862. But the Board do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, March, 1862.

CONTRACTORS for MAKING NEW ROADS and PIPE DRAINAGE.—Notice is hereby given, that the Burial Board for the Parish of St. Giles-in-the-Camberwell, will meet at the Vestry Hall, Camberwell, on MONDAY, the 17th MARCH, at FOUR o'clock precisely, to receive TENDERS for MAKING NEW ROADS and PIPE DRAINAGE, in the Pecan Cemetery, situate in Forest Hill-road, in the said Parish. Drawings and specifications may be seen at the Cemetery. For further particulars apply at the Vestry Hall, Camberwell, Peckham-road; or at Mr. BERRIMAN'S, Surveyor, Wells-street, Stamford-street, Charing-cross. By order of the BOARD of THREE o'clock. The Burial Board do not pledge themselves to accept the lowest or any Tender. The Contractor to submit the names of two responsible sureties at the time of tendering. The parties tendering to be in attendance at the opening of the Tenders, by order of the Board.

GEO. WM. MARSDEN, Clerk of the Board.

ST. MARYLEBONE, MARCH 1, 1862.—CONTRACT for GLAZED STONEWARE SEWAGE-PIPES.—Notice is hereby given, that the Vestrymen of the Parish of St. Marylebone, in the County of Middlesex, will meet in the Vestry Hall, Cavendish-square, on SATURDAY, the 15th day of MARCH, 1862, to receive TENDERS from persons willing to CONTRACT with the said Vestry of Saint Marylebone, for one year, from March 25, 1862, for the SUPPLY of STONEWARE SEWAGE-PIPES, BENDS, JUNCTIONS, &c. The Tenders to be made for separate lists of the prices, and to be sent in, sealed, on or before ELEVEN o'clock in the forenoon. A 6-inch, a 9-inch, and a 12-inch pipe, to be delivered, free of all charges, at the St. Marylebone Court-house, on or before THURSDAY, the 17th day of MARCH, 1862, will be required to be used and to remain the property of the Vestry. And particularity in the form of construction of the said pipes, and also whether such peculiarity appertains to all the pipes, or to only a proportion of the same, and to what extent. Further particulars may be known, and forms of Tender procured, from the Vestry's Surveyor, Mr. ROBERT SCALE, at his daily attendance at the Court-house, from TWELVE till ONE o'clock. The Vestry do not bind themselves to accept the lowest or any Tender. Parties tendering, or some person on their behalf, to be in attendance at the time of opening the Tenders.—By order,

W. E. GREENWELL, Vestry Clerk.

ST. MARYLEBONE, MARCH 1st, 1862.—CONTRACTS for GRAVEL, HOGGIN, LIME, CEMENT, SAND, and THAMES BALLAST.—Notice is hereby given, that the Vestrymen of the Parish of Saint Marylebone, in the county of Middlesex, will meet in the Board Room of the Court House of the said Parish, on SATURDAY, the 15th day of MARCH, 1862, at Eleven o'clock in the forenoon, to receive TENDERS from persons willing to contract for supplying such materials as may be required for the service of the Parish during the year. The materials to be delivered at the Parish Stone-yard, or on the streets, as may be required. Further particulars may be had, and forms of Tender obtained, at the Surveyor's Office, at the Court-house of the said Parish, on and after MARCH, 1862. Tenders will be required after that time. Samples of the materials will be required with the Tenders. The Vestry do not pledge themselves to accept the lowest or any of the Tenders. The Contractor to provide two sureties of 2,000*l.* each, and to pay three guineas as the expense of the contract. The Vestry consider it desirable that the parties tendering, or some person on their behalf, should be in attendance at the time of opening the Tenders.—By order,

W. E. GREENWELL, Vestry Clerk.

ST. MARYLEBONE, MARCH 1st, 1862.—CONTRACTS for GRAVEL, HOGGIN, LIME, CEMENT, SAND, and THAMES BALLAST.—Notice is hereby given, that the Vestrymen of the Parish of Saint Marylebone, in the county of Middlesex, will meet in the Board Room of the Court House of the said Parish, on SATURDAY, the 15th day of MARCH, 1862, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to contract for supplying such materials as may be required for the service of the Parish during the year. The materials to be delivered at the Parish Stone-yard, or on the streets, as may be required. Further particulars may be had, and forms of Tender obtained, at the Surveyor's Office, at the Court-house of the said Parish, on and after MARCH, 1862. Tenders will be required after that time. Samples of the materials will be required with the Tenders. The Vestry do not pledge themselves to accept the lowest or any of the Tenders. The Contractor to provide two sureties of 2,000*l.* each, and to pay three guineas as the expense of the contract. The Vestry consider it desirable that the parties tendering, or some person on their behalf, should be in attendance at the time of opening the Tenders.—By order,

W. E. GREENWELL, Vestry Clerk.

FARNCOMBE, near Godalming, Surrey.—Builders desirous of CONTRACTING for the INFANT SCHOOL HOUSE proposed to be built at Farncombe, may inspect the plans and specification on application to Mr. ROSE, at the Farncombe Estate Office. Tenders are to be sent from any part of England on or before the 25th of MARCH next. The architect do not bind himself to accept the lowest or any Tender.

C. H. HOWELL, Architect.

6, Queen's New Bridge-street, Blackfriars, February 27th, 1862.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ALTERATIONS and WORKS required to be done to the Dwelling House and Offices on the Sherwoods Estate, West Green, in the Parish of Hartley Wintney, Hants, can have the plans and specifications at the Office of Messrs. HASLAM & BUCKLAND, Surveyors, &c. 23, Friar-street, Reading; or at the Bull Inn, West Green, aforesaid, on and after FRIDAY, MARCH 7th, 1862. Tenders to be sent to Mr. Haslam, at the Office aforesaid, on or before SATURDAY the 22nd inst., at which time they will be opened. The Lowest or any Tender will not necessarily be accepted.

24, Friar-street, Reading, and 30, Cannon-street West, London, March 6, 1862.

GREENWICH UNION.—CONTRACT for BUILDINGS.—The Guardians of the Greenwich Union are desirous of receiving sealed TENDERS from persons willing to enter into a contract for the ERECTION of APARTMENTS for twelve aged and infirm poor, at the Union Workhouse, Woolwich-road, Greenwich, and specifications may be seen, and forms of contract were (upon application to the Clerk at the Union Workhouse aforesaid) any day between 10 o'clock and 4 o'clock. The plans are to be taken out by the Architect or the Guardians, and the expense charged to the contractor. No person whose Tender is accepted must enter into a bond, with two sufficient sureties, in the sum of 50*l.* for the due performance of the contract. One half of the amount of the contract will be paid when the building are covered in to the satisfaction of the Architect. All Tenders must be addressed to the Guardians of the Greenwich Union, marked "Tender for Buildings," and delivered at the Office before TWO p.m. on THURSDAY, 20th MARCH, when and they the same will be opened at a meeting of the Guardians The Guardians do not bind themselves to accept the lowest or any Tender. The parties tendering, or their authorized agents, must attend the Workhouse on the day above named, at SIX o'clock p.m.—By order,

SAMUEL SAW, Clerk to the Guardians

Greenwich, 8 E. 27th February, 1862.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a DWELLING HOUSE, STABLES, &c. at Lower Inkpen, in the parish of Hamstead Marshall, can see the plans, and specifications, at the Office of Messrs HASLAM & BUCKLAND, Surveyors, 23, Friar-street, Reading, Berks; or at the Farm-house, under the care of Mr. WHITE, the Bailiff, on and after TUESDAY, MARCH 18th. Tenders to be received at No. 23, Friar-street, on or before THURSDAY, MARCH 27th. The lowest or any Tender will not necessarily be accepted.

24, Friar-street, Reading, and 181, Cannon-street, London, E.C. March 6th, 1862.

TO BUILDERS AND CONTRACTORS.—Separate TENDERS are required for the ERECTION of TWO CHAPELS and ENTRANCE LODGE and GATES for Painswick Cemetery, Gloucestershire, and for LAYING OUT the GROUNDS and FENCING. The Plans and Specification may be seen on application to the Rev. A. J. BIDDELL, Vicar of the Parish, every day between TWELVE and FOUR. Sealed Tenders to be addressed to the Rev. A. J. BIDDELL, and sent in before ELEVEN o'clock on WEDNESDAY, the 19th of MARCH, 1862. Any party Tendering must send with it the due performance, with the name of Solicitor for part of the Contract and the Painswick Burial Board do not bind themselves to accept the lowest Tender or any Tender. Any further information may be obtained at the Hereford Office of the Architects,

ELMSLIE, PRANEY, & HADDON, Architects.

33, Widemarsh-street, Hereford, Great Malvern, and London.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION or a Pair of Model COTTAGES, in the grounds of the Kensington Museum, in connection with the Industrial Exhibition, are invited to see the plans, elevations, and detail particulars of the Model Cottage Improvement Society, 37, Arundel-street, Strand; or from the Honorary Architects, Messrs. WILLIAM G. HABERSHON & PITE, 38, Bloomsbury-square. Tenders are to be directed to me at the above address, on MONDAY, 17th instant, by TWELVE o'clock, and the cottages must be finished by the 1st of MAY next. The Committee do not themselves to accept the lowest or any Tender. Each Tender is to embrace the additional cost, in a separate amount, of removing or regrecting the cottages, afterwards of Exhibition, within three miles of the site.

J. J. STAINTON, Hon. Secretary.

TO BUILDERS.—Builders desirous of TENDERING for the ERECTION of new BANK PREMISES, at Aylesbury, Bucks, for the Directors of the London and County Bank, are requested to send in their names to me, on or before the 13th instant—the plans and specification can be seen at my Office, 26, Bedford-street, Strand, London, after the 12th inst. and at the Bank at Aylesbury. Quantities will be supplied. Tenders to be delivered to me at Chesterford, on or before the 25th inst. but the Directors do not pledge themselves to accept the lowest or any Tender.

FREDERICK CHANCELLER, 26, Bedford-street, London, and Chesterford, Essex.

March 1, 1862.

PARISH OF ST. MARY ABBOTTS, KENSINGTON, in the County of Middlesex.—PAVING CONTRACT.—The Works, Highways, and Sewers Committee of the Vestry of the Parish aforesaid, will meet at the Vestry Hall, Kensington, on FRIDAY, the 14th day of MARCH next instant, at SEVEN o'clock in the evening, to receive TENDERS for and to CONTRACT for NEW YORKSHIRE PAVING GRANITE, KERB, CHANNELS, and DRESSED GRANITE, and other KERBINGS, &c. all of the BEST LAVA YORKSHIRE PAVING GRANITE, for one year from Lady-day, 1862. The form of Tender may be obtained, together with full particulars on application to the Vestry's Surveyor, Mr. JAMES BROADBRIDGE, at his Office, No. 1, Bell-terrace, Kensington, aforesaid. Tenders to be sealed, and endorsed "Tender for Masons' and Paviors' Work," and to be delivered to my Office by or before TWELVE o'clock in the forenoon of FRIDAY, the 14th day of March next, as no Tender will be received after that time. The Committee do not pledge themselves to accept the lowest or any Tender. The Contractor will be required to enter into contract, and to pay the expense thereof.—By order,

HENRY ROBERTS GREEN, Clerk to the Vestry

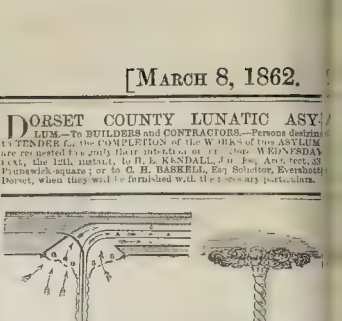
Vestry Hall, Kensington, 26th March, 1862

HAMMERSMITH.—OFFERS for BUILDING SIX-ROOMED HOUSES may be sent to Mr. FLEMING, Solicitor, 22, Cannon-street, E.C. where plans and specifications may be seen.—BUILDING LAND TO BE LET.

TO BUILDERS.—Persons desirous of CONTRACTING for the PARTIAL REBUILDING, REPAIR, and RESEATING of BONSALL CHURCH, near Matlock, are informed that they may see the plans and specifications at the Office of Mr. CLAY, 85, Nether Green House, Bonsall, on and after MARCH 8th. Tenders to be sent to the Office of the Architect, EWAN CHRISTIAN, 8a, Waterhall-place, London, S.W. on or before MARCH 21st next: the Churchwardens do not bind themselves to accept the Lowest Tender.

TO BUILDERS.—The Guardians of the Poor of the parish of Lambeth are prepared to receive TENDERS for ERECTING new ASSORTING ROOM over the laundry, &c. at the workhouse of that parish, in Prince's road. The plans and specification, with the conditions as to the proposed Tenders, may be seen at the Office of the Architect, Mr. ROBERT PARRIS, No. 5, Westminster-chambers, London, on and after THURSDAY, the 13th inst. to whom the Tenders are to be delivered not later than MONDAY, the 17th inst. The Guardians do not bind themselves to accept the lowest or any Tender.

DORSET COUNTY LUNATIC ASYLUM.—To BUILDERS and CONTRACTORS.—Persons desiring to TENDER for the COMPLETION of the WORKS of the ASYLUM are requested to apply their intention on or before WEDNESDAY next, the 12th instant, to H. E. KENDALL, Jun. Esq. Architect, 23 Finsbury-square; or to C. H. BASKELL, Esq. Solicitor, Evershott, Dorset, when they will be furnished with the necessary particulars.



RICKETT'S & HAMMOND'S VENTILATING GLOBE LIGHT, combining an agreeable method of lighting, with economy, shape, and elegance of construction. The advantages obtained are these:—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

IRON BRIDGE WORKS.

WROUGHT IRON GIRDERS OF ALL KINDS.

ROOFING, TANKS, BOILERS, SMITHS' WORK, &c.

LEWIS & STOCKWELL,

BARKING ROAD, LONDON, E.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS, SHOP FRONT BRUSSELS, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decoration, executed in Fielder's Cattell Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS, 242, EUSTON ROAD, ST. PANCRAS.

ROGERS' PATENT OUTLET for RAIN-WATER BUTTS and CISTERNS, with the pipes inside the cistern, excluding all the frost, and rendering it quite free from the effects of frost, &c. Price, complete, 2-inch, 10*s.*; 1-inch, 12*s.*—Drawings and full particulars, on application to the patentee,

G. ROGERS, HIGH STREET, STAINES.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

TO IRONMONGERS AND THE TRADE GENERALLY.

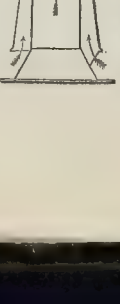
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on view, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price lists, 12s. Nos. 55 and 56, High Holborn.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street, London, E.C.



SMOKY CHIMNEYS ABOLISHED.

W. S. WOOD'S PATENT TRISECTIONAL VENTILATING and SMOKE CURING CHIMNEY TOP, possesses the following advantages:—

1 It is constructed upon well-established scientific principles, it reflects the air, imparts to it a strong upward current, which draws the smoke with great velocity, and renders downward draught and admission of smoke from other flues quite impossible.

2 It has no moveable parts, is particularly durable, and requires no repairs work in fixing.

3 Each top has a hood, which can be used or not; it is therefore a complete ventilator, and in this way may effectually remedy one of the most obstinate cases of smoky chimneys.

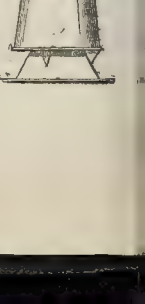
4 It can be effectually swept by the chimney sweeper's machine.

5 It is equally effective in both winds, and will operate as a smoke-curer, by itself entirely with the wind, or jointly by fire, gaslight, and with the modern species of ventilating apparatus, which disfigure most of our houses and public buildings.

Prices:—Ordinary size, zinc, 1*l.* 1*s.*; galvanized iron, 1*l.* 15*s.*; size 2 feet 10 inches high; 1 ft. 9 in. wide; base, 1 foot square, 2*l.* 2*s.*

To be had only of the Inventor and Patentee, Camden Cottages, Chislehurst, Kent. Forwarded to any London Railway Terminus for its extra, and packed for transmission to any part of the world upon receipt of money-order. Prospectus and testimonials forwarded upon receipt of two stamps.

The Inventor has received the Crystal Palace and the South Kensington Museum.



TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

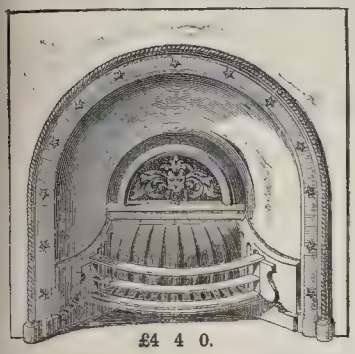


CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

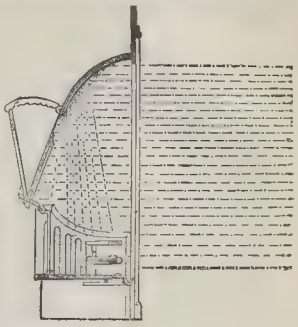
Orders requiring Despatch and Punctuality can be executed in a few days.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.



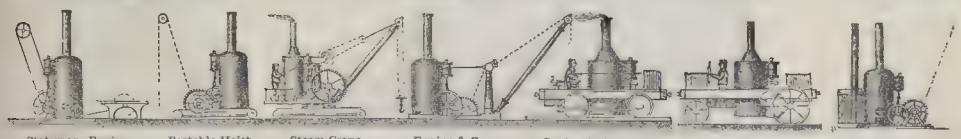
£4 4 0.

It is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door, or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



STOCK AT No. 159, SHOREDITCH, LONDON.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.



Stationary Engine.	Portable Hoist.	Steam Crane.	Engine & Crane.	Contractor's Locomo.	Traction Engine.	Ships' Engine.
From 1 to 30 horse power.	1 to 30 horse power.	30 cwt. to 10 tons.	2 to 25 horse power.	6 to 27 horse power.	6 to 27 horse power.	Winding and Cooking.

Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

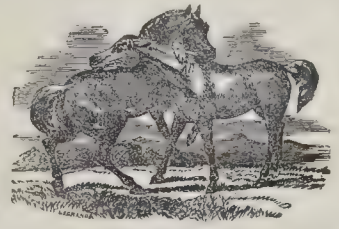
CRANSTON-HILL ENGINE WORKS, GLASGOW.

ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

PROFESSOR VARNELL'S STABLE ARRANGEMENTS.

RECOMMENDED BY THE
ROYAL
VETERINARY COLLEGE.
INSPECTION OF THE
FULL-SIZED STALLS AND LOOSE BOXES,
ERECTED AT THE WORKS FOR SHOWING
THESE INVENTIONS, IS INVITED.
Every Description of Stable Furniture.
ILLUSTRATED LISTS ON APPLICATION.



CAST AND WROUGHT IRON WORK OF EVERY DESCRIPTION,
PLAIN AND ORNAMENTAL.
GATES, CIRCULAR STAIRCASES, STAIRCASE, BALCONY, TOMB.
AND
OTHER RAILING;
VERANDAHS, IRON SASHES, CASEMENTS, SKYLIGHTS, CORRUGATED IRON ROOFS
AND
HOUSES, COLUMNS, GIRDERS, FLITCHES, TANKS IN WROUGHT AND CAST IRON, &c. &c.

THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

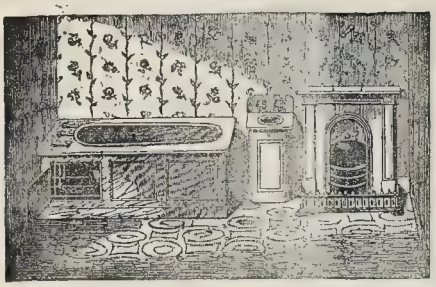
MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,
OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions, testimonials, &c. apply to the Patentees,
MOREWOOD & CO.,
BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 100, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

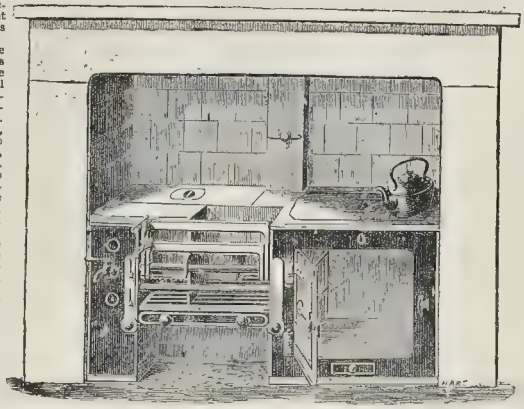
BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.



This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air VentilatingStove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,

Are prepared to supply, without delay,

MALLEABLE IRON CASTINGS TO PATTERN,

OF THE BEST QUALITY AND AT MODERATE PRICES.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

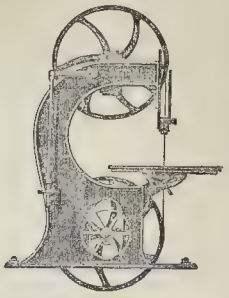
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

OF VARIOUS SIZES, FOR STRONG ROOMS,

AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

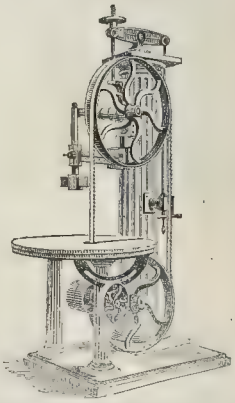
S. WORSSAM & CO.'S PATENT
IMPROVED BAND SAW MACHINE.



(1 inch scale.)

S. Worssam & Co. have recently made new patterns for band saw machines of two sizes, and have fitted to it the latest improvements to obviate the breakage of saws, all of which the great public experience, recommend their new machines as the best yet out.—For price and Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

POWIS, JAMES, & CO.
VICTORIA WORKS, BLACKFRIARS ROAD, LONDON.



Patentees of the ENDLESS BAND-SAWING MACHINE, shown above, being the ONLY PATENT in the United Kingdom for an IMPROVEMENT in this class of Machine. Also Patentees of the COMBINED MACHINE, for MORTISING, TENON CUTTING, and BORING, and makers of all kinds of SAWING and WOOD-CUTTING MACHINERY, and STEAM-ENGINES.

Drawings and Prices upon application at the Office, No. 26, WATLING STREET, CITY, E.C.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

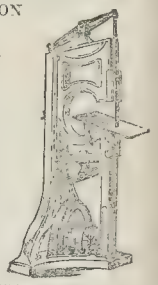
AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

HART & SON,

MEDIÆVAL METAL WORKERS,

53 to 58, WYCH STREET, and 20, COCKSPUR STREET, LONDON.

DR ARNOTT'S

VENTILATOR FOR ROOMS OF ORDINARY CONSTRUCTION.

CHIMNEY VALVE

LOCKS, HINGES, BOLTS, HANDLES, &c.

SHEET ZINC AND METAL PERFORATING WORKS.

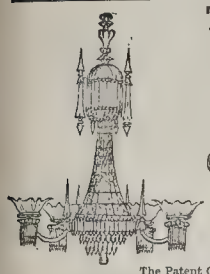
FRANCIS RUMMENS,

PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.

HIGHLY APPROVED ROOFING ZINC,

BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.

ZINC SLATING NAILS.



THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF

MEDIÆVAL AND OTHER GAS-FITTINGS,

CRYSTAL, BRASS, & ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY.

WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

The Patent Gas Regulator and Purifier reduced to 8s. 6d. per dozen.







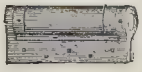
PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

GO-HIC, DROP, AND OTHER DOOR HANDLES.



PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

MANUFACTURERS, BIRMINGHAM.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.

Iron roofs erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Berkley-street, Birmingham, and Limehouse, London.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.



NUT



PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, &c. &c. &c. &c. &c.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and particulars sent upon application.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

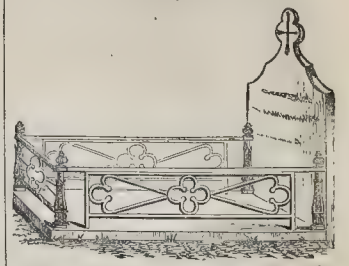
FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

IRON RAILINGS for ENCLOSING

TOMBS and GRAVES,

COMMUNION RAILINGS, SCREENS, GATES, &c.



Illustrated Price Catalogue of Iron Fence Designs, in various styles Sheet, on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY STREET, OXFORD STREET, LONDON, W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.



This Stove is the nearest approach to Warming by Hot Water, and an excellent Aid in Ventilation.

It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty four hours, at a cost of Threepence, and deserving of special attention, because of its safety, handiness, durability, and extreme economy.

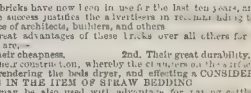
Full particulars will be sent on application to the Inventors and Makers,

MUSGRAVE, BROTHERS,

Ann street Iron Works, Bristol.

STABLE PAVING BRICKS.

DAVISON'S IMPROVED



F. & G. ROSHER, Sole Agents.

These bricks have now been in use for the last ten years, and their complete success justifies the advertisers in recommending them to the notice of architects, builders, and others

The great advantages of these bricks over all others for similar purposes are,—

1st. Their cheapness.

2nd. Their great durability.

3rd. Their construction, whereby the drainage and liquids of the stalls drains, rendering the beds dryer, and effecting a CONSIDERABLE SAVING IN THE ITEM OF STRAW BEDDING

They may be also used with advantage for paving cattle-sheds, coach houses, yards, &c. Channel Bricks to correspond are also supplied.

Prices and all particulars may be obtained on application to Messrs. F. & G. ROSHER, Ward's Wharf, Upper Ground-street, Blackfriars-road, S.; and at Kingsland Basin, Kingsland-road, N. who have always stocks on hand; or to CHARLES DAVISON & CO. FIRE BRICK and TILE MANUFACTURERS, QUEEN'S FERRY, near FLINT, NORTH WALES.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

RAIN-PIPES, &c.—F. A. TIDDEMAN

& CO. St. Anne's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large Stock of Rain Pipes, Heads, Shoes, Elbows, &c. Half round and Ogee Gutters, Socket Pipes for Soil or Ogee, Plain Pipes, Hot Water Pipes and Connections, Sash Weights, and other Castings; Iron work for Buildings of every description, fixed complete, to be had in Stock or in Paris. Plans issued to all competition. Contracts taken to any extent. Goods landed. A powerful Crane.



SMOKY CHIMNEYS. — The

Patent Cowls or the PATENT ALBERT CHIMNEY CAP, now on Buckingham Palace; in use also at St James's Palace, Windsor Castle, Government buildings, mansions, halls, club-houses, and buildings in general. Prospectuses on receipt of two postage stamps.

JAMES BARTON,

Iron Works, 370, Oxford-street, W.

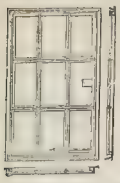
N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

CAUTION to ARCHITECTS and

BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS;

SMITH'S PATENT WEATHER TIGHT WATER BAR, and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that the GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 60 Fox-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

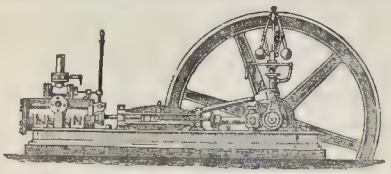


BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,
AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF
HORIZONTAL AND VERTICAL
STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB WINCHES, &c.
SEVERAL ALWAYS READY FOR DELIVERY.
Price List forwarded on application.

CLAYTON, SHUTTLEWORTH, & CO.
ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,
STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.
Descriptive, Illustrated, and Priced Catalogues free per post.

COTTAM'S
PATENT INVENTIONS FOR STABLE REQUISITES,
Awarded a prize at the Paris Exhibition,
Patronized by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the Kingdom.
In use at her Majesty's Stables, Aldershott and Balmoral.



COTTAM & COMPANY, Winsley-street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Water-trough, and Wrought Iron Rack, rivetted to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S Patent Noiseless Ladder Guide and Cribbar Bolt attached, which is taken to pieces in front of the manger, and works with ease and freedom if grease. Use guide-bar.

COTTAM'S NEW PATENT SEED BOX, an important addition to the above fittings, being simple in construction, light, and durable, perfectly cleanliness, and is economical in its results.

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, is a most essential addition to their fittings; it is never in the way; can be placed and replaced in an instant, while its elegance, simplicity, and utility in keeping the contents of the trough clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED

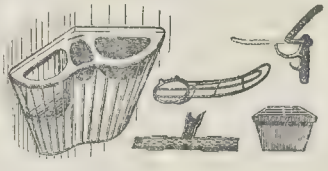
can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT IRON VENTILATING BRACKET preserves the shape and allows a free admission of air to the under parts of the saddle.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated metal cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE BOX FITTINGS and every article for the harness-room and stable, kept in stock, plain, galvanized, and enamelled. Iron gates, fencing, hurdles, &c.



KNIGHTLEY'S PATENT STABLE FLOOR.

Illustrated Catalogues and Estimates gratis, upon application to

COTTAM & CO. 2, WINSLEY STREET, Oxford Street, London, W.

WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.
N.B.—WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

BELL'S PATENT CAST-IRON SINKS, PLAIN or GALVANIZED.

These admirable and economical Sinks are perfectly sealed from the escape of effluvia, and cannot get out of order.

WROUGHT-IRON and STEEL GIRDERS; WROUGHT-IRON SASHES; STABLE FITTINGS, with Patent SPRING-TOP GRATINGS; WROUGHT-IRON STALL, and LOOSE BOX POSTS, with REGISTERED HINGES. Cottam Girders, Ram Pipes, and MOULDED HEADS in Stock, in great variety; Gutters, Coal Plates, &c. at

HOOD & SON'S CASTINGS WAREHOUSE,
68, UPPER THAMES STREET.

FIRE-PROOF CONSTRUCTION.—
FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its applicat on has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as regards the necessity for cast-iron girders and brick arches, and as lessening the great desideratum of fire proof construction, even for ordinary dwelling houses and domestic buildings, within the reach of everyone.

Further information may be obtained of the Proprietor of the Patent,
Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES & BLAXTON,

having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.

Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tinned Sheets and Tiles for export.

IRON WORK GALVANIZED

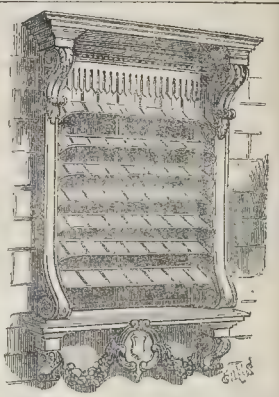
Roofing work properly and carefully attended to.

Offices, Corrugated Iron House, London.
Works—Openshaw, Nr. Manchester.

A PRIZE MEDAL for SUPERIOR LOCKS

was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, which invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street Clare-market London.



SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.

These Blinds give a highly decorative finish to a plain front, whether fitted in the ornamental frame as within an aperture, the latter case the blind appearing, when not in use, projecting beyond the reveal. Where there are two windows side by side, they will require a frame which is not projecting more than about 4 inches, and has no side wings coming down, or any other disfurnement. Prices moderate. A Liberal discount to Builders and the Trade.

R. LOWTHER & CO. 31, Regent-street,
(One door below the Piccadilly Circus).
VENETIAN AND ALL OTHER BLINDS WHOLESALE.

IRON ROOFING of CORRUGATED IRON

Wrought Iron principal Roofs covered with Slates, Iron Bridges Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Factories, Offices, or Drawing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED

TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & Co. 55, High Holborn.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d. per foot.
Half-inch diameter	1s. 6d. "
Five-eighths-inch diameter	2s. 0d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" Gateshead-on-Tyne.
" 27, Dale-street, Manchester.
" 68, Anderston-quy, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock
Also, Galvanized Water and Gas Tubing, Shingle and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Building, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

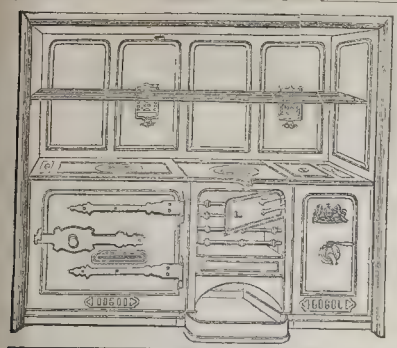
HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD,
Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fitted their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises,
King's road, Chelsea.

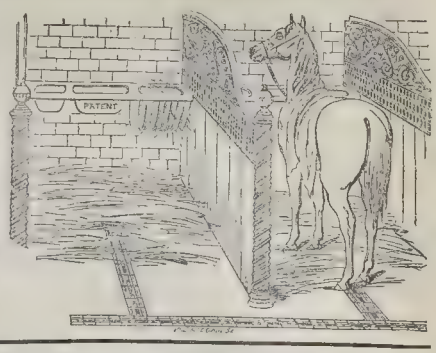
DAY and GAS-LIGHT REFLECTOR
MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.
These Reflectors, for furnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 25, Davies-street, Three Doors from Oxford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London W.

FOR SALE, a Bargain, nearly new, FOUR-TEEN (or less) MEDIÆVAL GASELIERS, of the most elegant construction, having 36 jets each, adapted for Churches, Halls, &c. Apply to Mr. SANDERS, Auctioneer, 4/3, Oxford-street, W.C.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



LOSH, WILSON, & BELL,
NEWCASTLE ON TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-Iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Bridge-lane, London

VENTILATION.—M'KINNELL'S PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its avoidance of draughts, and its being entirely self-regulating.—The price of flowing (upon application) is as low as consistent with good workmanship and durability. It has been applied in many of the Royal Buildings at Windsor, the Government Offices in London, and extensively in churches, public halls, schools, offices, dwelling-houses, factories, stables, and all places for which it has been adopted by her Majesty's Emigration Commissioners.—Patentee, JOHN M'KINNELL, 15, Langham place, London, W. Description and testimonial on receipt of one stamp

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, and saving the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c &c.

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ironmongers, Ironmongers' Merchants, Factors, and Wholesale Houses, in Town and Country

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned Plain Iron Bedsteads for Servants, every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SONS ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 1,000 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court road W.

DEVAUX'S PURE THICK ROOFING ZINC laid upon Mr. Edmeston's principle to insure durability, by
D. HAYWARD,
LONDON ZINC WORKS, No. 97, Blackman-street, Borough.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved by test to a pressure of 220 lbs. to the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 40 per cent. cheaper than iron pipes. They are made in seven fit lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction. Further particulars as to Joints, &c and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr ALEXANDER YOUNG, 14a, Cannon street, London, E.C.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

TO BUILDERS AND OTHERS
A SECOND-HAND MOULDING MACHINE TO BE SOLD A BARGAIN.
Apply to S. WORSHAM & CO. Engineers, 304, King's-road, Chelsea, S.W.


GALVANIZED IRON and ZINC WORKS,
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
TRADE MARK. SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

CROGGON & COMPANY,
GALVANIZED TINNED, FLAT, CORRUGATED, AND CURVED SHEETS,
PERFORATED AND PLAIN ZINC,
TINNED SHEETS,
GALVANIZED MANUFACTURED GOODS of every description.
2, DOWGATE HILL, LONDON.

TO BRICKMAKERS, IRONMONGERS, AND BUILDERS.
IMPROVED STEEL BRICK-MOULDS.
PASSINGHAM, BROTHERS, MANUFACTURERS of the above ARTICLES, beg to acquaint their customers and the trade generally, that they are now in full work, and keeping a large stock of BRICK MOULDS of the first-class season, and keeping a large stock of Moulds of all sizes, are enabled to execute any orders intrusted to them with dispatch.—PASSINGHAM, BROTHERS, Brick-Mould Makers and Ironmongers, Uxbridge, Middlesex.
Established A.D. 1708.

SURREY.—BUILDERS and CONTRACTORS supplied with all descriptions of Ironmongery, Brassfoundry, Wrought and Cast Nails, Zinc, Rain-pipes, Stoves, Sash-weights, &c. at the lowest prices, by EDWIN LUDD, High-street, Camberwell.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS, PLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho square, W. and George-yard, Cowin-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be had WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms
Lists of prices and estimates forwarded on application at the Warehouse, 315, Oxford street, W.

PAINTED GLASS WINDOWS AND MURAL DECORATION.
LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford-street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

PATENT and BRITISH PLATE GLASS.
JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho square, London.

STAINED GLASS and WALL PAINTING.
NOTICE OF REMOVAL.
MESSRS. CLAYTON & BELL,
Late of No. 24a, Cardington-street, Euston-square,
Have removed to
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).
Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

MANCHESTER STAINED-GLASS WORKS.
R. B. EDMUNDSON & SON,
Artists in Stained Glass, Ecclesiastical and domestic of every description, ancient and modern, illuminated Commandments, &c. by their new process on Plate Glass: Mural and Heraldic Decoration. Monumental Brasses, &c. Designs and estimates on application.—R. B. EDMUNDSON & SON, having had upwards of thirty years' practical experience in the manufacture of every description of glass for ecclesiastical purposes, have on hand a few of their glass made to order, and from their own receipts, and which will be found nearer to the old glass than any others at present manufactured. Works—New Wakefield street, Oxford street, near the Bridge.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Enamel, Fluted, Rough Plate Photographic, and every description of Glass.
Estimates and Price lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

TO ARCHITECTS, ENGINEERS, and OTHERS.—OFFICE FURNITURE TO BE SOLD, consisting of desks, drawing-boards, an hydrostatic writing table, chest of drawers for drawings (antiquarian size), chairs, T-squares, &c.; also some engineers' tools and drawings. The Chambers (three rooms) TO BE LET.—Inquire at No. 19, Buckingham-street, Adelphi.

CUBA MINERAL TURPENTINE. No. 1
TO VARNISH MAKERS, INDIA-RUBBER MANUFACTURERS, &c.—The ASPHALTUM COMPANY, Limited, Manufacture a SPIRIT which is an excellent Solvent for various Gums employed in Varnish making, India Rubber, &c. Uniformity guaranteed.—Apply at the offices of the Co., say, 34, Great Winchester street, London, E.C.

CUBA MINERAL TURPENTINE. No. 2.
TO PAINTERS, OIL and COLOUR MEN, BUILDERS, CONTRACTORS, &c.—The ASPHALTUM COMPANY, Limited, Manufacture a SPIRIT for Painting purposes, which is a complete Substitute for Turpentine Spirit, and can be mixed with Oil or Colours only with Oil, turpentine, &c and will be found perfectly safe.—Apply at the Offices of the Company, 34, Great Winchester street, London, E.C.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated
PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
. Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Initial Outfit, 4s. per gallon; Mahogany, 5s. per gallon; Dark and all other Woods, 6s. per gallon. Varnishes for W. NAYLOR'S Staining Apparatus—Is at the Factory, 44, James-street Oxford street; also Manufacturer of Improved Marbling and Decorative Varnishes.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. Price 10s. 6d. each, sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon.
Turpentine, 5s. 5d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Cotehill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

COLOURS and VARNISHES at REDUCED PRICES.—Genuine White Lead, 30s. per cwt.; Linseed Oil, 2s. 10d. per gallon; Boiled Oil, 3s. 2d.; Turpentine, 5s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish, Badger, Stippler, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span She is of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil, covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

The Fourth and cheaper Edition, in 8vo. price 42s cloth,

GWILT'S ENCYCLOPÆDIA of ARCHITECTURE, Historical, Theoretical, and Practical. Comprising:—

I *History of Architecture.*
1. Origin of Architecture
2. Architecture of various Countries
3. Architecture of Britain.

II. *Theory of Architecture.*
4. Construction.
5. Materials used in Building.
6. Use of Materials.
7. Medium of Expression.

III. *Practice of Architecture.*
8. Principal Parts of a Building.
9. Combination of Parts.
0. Public Buildings.

With a Supplement on Gothic or Pointed Architecture, its Periods, Styles, &c.; a Glossary of Terms used by Architects, including an Alphabetical List of the principal Architects of all Times and Countries and their Works, and a Catalogue of the most useful Works on Architecture; and a copious Index. Complete in One Volume of 1,142 pages, illustrated with 1,662 Engravings on Wood by R. Branston, from Drawings by J. S. Gwilt.

"It should be possessed and used by every architectural student."—*Builder*

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

PAINTING IN WATER COLOURS, by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, invaluable for student, teacher, amateur, or the drawing-room table Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

Price 4s. bound in cloth. (Established 1818.)

LAXTON'S BUILDER'S PRICE-BOOK for ARCHITECTS, BUILDERS, ENGINEERS, and CONTRACTORS. 41st Edition!

Containing upwards of 30,000 Prices and Memoranda in all the various trades comprised in the operations of the architect, engineer, builder, contractor, and surveyor; also tables for purchasing leases, estates, and annuities. Areas and circumferences of circles; scantlings of timber; weights of iron, timber, &c.; instructions for estimating and contracting, with a copy of bill of quantities adapted for general building work, having each trade detailed. Calculations and sketches of cast and wrought iron girders, &c.; with tables of deflections. Alphabetically arranged to the present time

Office, 23, Warwick-court, Gray's Inn, Holborn; and all Booksellers.

THE INTERNATIONAL EXHIBITION

THE ART JOURNAL for March, price 2s. 6d contains full Reports of the Proceedings connected with the Great International Exhibition up to the latest date, in addition to numerous Papers, some of which are extensively illustrated, on the Arts and Art-manufactures of the country.

The Engravings in this Part are from Mulready's Picture of "The Brother and Sister," from Turner's "Parting of Hero and Leander," and Rubens' Pictures of "The Elevation of the Cross," and "The Descent from the Cross"

*** The Illustrated Catalogue will commence in the April Number.

J. S. VIRTUE, 26, Ivy-lane.

NEW BIOGRAPHICAL DICTIONARY OF LIVING CHARACTERS

In crown 8vo. price 10s. 6d half-bound, 800 pp.

MEN OF THE TIME (including Women).

A New Edition, thoroughly Revised, and for the most part re-written, with the addition of Thirteen Hundred New Articles. By EDWARD WALFORD, M.A. late Scholar of Balliol College, Oxford

We cordially recommend this "Red Book" of celebrities as a most desirable library companion. In it will be found a brief but satisfactory sketch of every leading man or woman in any problem or denomination.

London: ROUTLEDGE, WARNE, & ROUTLEDGE, Farringdon-street.

Just published, illustrated, price 1*l.* 1*s.* post free. Sold by all Booksellers and Stationers.

HEALTHY HOUSES for the WORKING CLASSES: Improved Plans for laying out Streets and building houses, forming two or more separate dwellings, with a garden attached; Forms of Leases that can extract a profit to the builder, and not covering more ground than is now given to each house adapted for all large towns and suburbs; as approved by the Metropolitan Board of Works, Local Boards of Health, District Surveyors, and Cottage Improvement Societies, and high commended by several eminent Architects, Surveyors, the Builders' Aid, Noblemen and Gentlemen interested in the promotion of Health Homes, with Gardens, for the Industrious Classes.

By JAMES MORTIMER,
Architect, Land and Building surveyor, 47, Gresham-street, City, E.C.

THE TIMBER MERCHANTS POCKET COMPANION may be had on application, to CHARLES GANE.

Messrs. HARRISON & CO. Timber and Deal Merchants, Wisbech.

NEW WORK BY GUSTAVE AIMARD.

On March 15th, never before printed, price 2*s.*

THE RED TRACK: a Tale of Social Life in Mexico

By GUSTAVE AIMARD, author of "White Scalper," "Prairie Flirs," &c.

*** This new tale surpasses in interest any work hitherto published, and it has the great merit of giving a clear view of Mexican Life.

London: WARD & LOCK, 158, Fleet street.

SIR S. BENTHAM'S LIFE AND SERVICES.

Just published, in post 8vo. price 10s. 6d., cloth,

THE LIFE OF BRIGADIER-GENERAL SIR SAMUEL BENTHAM, K.L.G., formerly Inspector-General of Navy Works, Lately a Commissioner of His Majesty's Navy, with the distinguished rank of Naval Architect and Engineer of the Navy. By his Widow, S. M. BENTHAM

London: LONGMAN, GREEN, LONGMAN, & ROBERTS

BRICKFIELD TO BE LET, with immediate possession, at Chislehurst, Kent. No premium required. The Plant to be taken at a fair valuation. A quantity of Brick Earth prepared ready to mould.—Apply to GEORGE BOOTH, 32, Bridge-house-place, Newington-causeway, S.E.

FREEHOLD GROUND RENTS.—CITY of LONDON.—The Commissioners of Sewers of the City of London will meet in the Guildhall, of the said City, on TUESDAY, the 8th of APRIL next, at TWELVE o'clock precisely, to receive TENDERS for certain FREEHOLD GROUND RENTS, on premises let on lease, having about eighty years to run, and situate 119 and 120, Cheapside, 79 and 80, Aldgate High street, 1, 30 Houses, 4 and 9, Maidenhead-court, Aldermanbury-street, particulars and plans of which may be had at this Office, together with conditions of sale. Tenders must be sealed, endorsed outside "Tender for Ground Rent," and addressed to the undersigned, and must be delivered in before TWELVE o'clock, on the said 8th APRIL next. The Commissioners do not bind themselves to accept any Tender, unless the same be deemed eligible Parties tendering must attend personally, or by an authorized agent, on the day of treaty, as if he then prepared, if their Tender be accepted, to pay the required deposit of 10 per cent and to execute an agreement for the completion of the purchase agreeably to the conditions of sale.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, February 20, 1862.

TO BE LET, on LEASE, RIVER-SIDE WHARF and BUILDINGS, in the City of London, near Southwark Bridge, either on a building term or on a repairing lease.—For particulars inquire of Mr. PANSON, Laurence Pountney-hill, London.

WANTED, MANUFACTURING PREMISES, suitable for a Builder. West-central district preferred. No objection to take to a small stock if at present occupied in the same line of business. Apply by letter to the Secretary of the London Building Company, Limited, 99 and 100, St. Martin's-lane, W.C.

ST. GILES WITHOUT, CRIPPLEGATE, and ST. LUKE, MIDDLESEX.—Nos. 3 and 4, Whitecross-Street, Cripplegate, TO BE LET, by TENDER, on lease for twenty-one years from Midsummer next, by the Joint-Estate Committee of the above parishes. Plans may be examined at the Office of Mr. A. J. BAYLIS, Solicitor, 22, Redcross-street, City.

FREEHOLD BUILDING LAND, Queen's-road, Brentwood, Essex, TO BE SOLD, or LET on building leases.—Address, Mr. J. MOULL, Brentwood, Essex.

BUILDING GROUND, in a Square at Bayswater, TO BE LET, for a superior class of private houses, twelve to eighteen rooms each. Ground-rent low, and liberal encouragement to respectable builders.—Messrs. FOWELL, Agents for Building-land, Carcanets, &c. 1, Queen's-road, Bayswater-road, W

TYSSEN-AMHURST ESTATE.—LAND TO BE LET for BUILDING, in different parts of CLAPTON, HACKNEY, and KINGSLAND For plans and particulars apply to Mr CHESTER CHESTON, Architect and Surveyor, at the Offices, Church-street, Hackney, N.E. near the Railway Station

ALDEBURGH and SAXMUNDHAM, SUFFOLK.—TO LAND SOCIETIES, BUILDERS, and OTHERS. TO BE SOLD or LET, on building leases, in plots, by order of the trustees of Thomas Mayhew, esq. deceased, a most desirable FREEHOLD and LAND TAX REDEEMED ESTATE, known as the "Crespigny Estate," situate on the Terrace at Aldeburgh. The property comprises several acres of land suitable for marine residences, is a short distance from the Railway-station, and in the occupation of Mr. Abbott, who is of formation, and, from its commanding elevation on the cliff, an unintercepted view of the sea and river Alde to Orford. An admirable yard of the finest brick earth, gravelly soil, and springs of the purest water upon this property, paid opportunity for building at this fashionable watering place seldom equalled. Plans and particulars will be ready in a few days. Also will be SOLD by AUCTION, in the Summer, unless an eligible offer be previously made to purchase by private contract, that very delightful and in all respects most complete Residential PROPERTY called "Fairfield House," Saxmundham, Suffolk, late the residence of Thomas Mayhew, esq., with 20 acres of very superior arable and pasture land attached, and within ten minutes' walk of the railway-station. Applications to be made to Mr. RICHARD LEE MAYHEW, Saxmundham, Suffolk; or Mr. GEORGE ELKINGTON, Architect and Surveyor, 19, Cannon-street, West London.

MANUFACTURING PREMISES, with valuable Wharf Frontage on the Thames, at Millwall, TO BE LET, or the Ground Rent TO BE SOLD. The well-arranged Manufacturing Premises known as the ALPHA WORKS, Cubitt's Town, Millwall; occupying a site of about 10,000 square feet—Apply to Messrs. FULLER & HORSEY, Billiter-street, E.C.

TO BUILDERS.—HOUNSLOW, MIDDLESEX.—TO BE LET, on a BUILDING LEASE for 80 Years, on very advantageous terms, a PLOT of GROUND, with SEVEN COTTAGES and THREE SHOPS partly erected thereon For particulars, apply to Mr. J. H. ROWLEY, Architect, 17, St. Helen's-place, Bishopsgate-street, E.C.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE OF WIGHT.—"Sir,—In reply to your letter received this morning, respecting the Gutta Percha Tubing for pump service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

THE LONDON SUFFERANCE WHARF COMPANY, LIMITED

(Registered pursuant to the Joint Stock Companies' Acts, 1856 and 1857.

Capital, 300,000*l* in 30,000 Shares of 10*l.* each.

Deposit, 2*l.* per Share. If to be paid on application, and 1*l.* on allotment; the remainder of the Capital to be called as the works progress, and with the demand for increased accommodation. Interest at the rate of 4 per cent. per annum will be allowed from the time of the registration of the Company until they commence business.

DIRECTORS

William Macnaughtan, Esq. Director of the City Bank.
Alex. Morrison, Esq. Pengelly House, Cheshunt, Herts
John J. Lidgett, Esq. 9, Billiter-street
Thomas White, Esq. (Messrs White & Price), 87, Mark-lane.
John Vanner, Esq. Director of the City Bank.
Andrew Johnston, jun. Esq. Dowgate Dock, Upper Thames street.
James O'Gara, Esq. 10, Fenchurch street.
With power to add to their number.

BANKERS.—The City Bank, Pinch-lane, Threadneedle-street.

SOLICITORS.

Messrs. Barnett, Ellis, & Co. 18, Finch-lane.
Messrs. Tudor & Son, 29, Threadneedle street.

SURVEYOR.

Messrs. Dawes & Sons, 9, Angel court, Throgmorton-street.

AUDITORS.

(To be appointed by the Shareholders.)

SECRETARY, PRO TEM Mr George Wheeler.

The Company has been formed for the purpose of erecting a "SUFFERANCE WHARF and BONDED WAREHOUSES" on an extensive scale in a convenient locality on the North Bank of the Thames, where, by a series of detached buildings, and the classification of goods, greater security for their safe storage will be afforded than that which exists.

A Provisional Contract has been entered into on behalf of the Company for the purchase, on advantageous terms, of about 26 acres of Freehold Land, having a river frontage of 1,000 feet, where vessels may be moored alongside and discharge their cargoes.

As some evidence of the increasing requirements of Warehouse accommodation, the following table of Imports and Exports of the Port of London during the past six years, may be referred to.

	Tons
1855	4,575,225
1856	4,701,853
1857	4,977,251
1858	5,183,959
1859	5,969,343
1860	5,276,043

It is an important fact that, while most of the Imports of the Port of London are required for consumption North of the Thames, the great proportion of Sufferance Wharf accommodation is on the South side of the river.

The enormous destruction of property by fire during the past few years, shows the necessity for such a classification of goods as to separate inflammable materials from other descriptions of produce, and such an isolation of warehouses as to prevent the possibility of any extensive conflagration.

These best acquainted with the origin of fires (amongst whom may be mentioned F. Hodges, Esq., of Lambeth), agree that "the true cause of the large Warehouse Fires which have lately taken place in the metropolis is chiefly attributable to storing goods indiscriminately"

The increased rates which Insurance Companies have found themselves compelled to adopt for this class of risk, furnish abundant proof of the necessity for such arrangements as are proposed to be effected by the Company.

It is impossible within the limits of a Prospectus to point out all the benefits to be derived from the Sufferance Wharf, as are now to be established by this Company. Amongst these, however, in addition to the Warehouses being detached and the Goods in them classified, may be named

First—The site can be reached in less than half an hour from the City, viz. by Blackwall Railway, 20 minutes; Greenwich Ferry, which will run from every Train to the Floating Pier alongside the Company's Wharf, 5 minutes; equal to 25 minutes. The facility of access is one of the principal features of the undertaking.

Second.—It is in direct communication with the London and North-Western, the Great Northern, the Midland, the Eastern Counties, and the Blackwall Railways.

Third.—A great reduction in the rates for landing, Housing, Lighterage, and Delivery of Goods and Warehouse rental.

Fourth.—A most important reduction in the rates of Insurance. The difference in this item alone, on many articles, will be nearly sufficient to defray their wharfage charges.

Fifth. Increased facilities for economical transit to and from the manufacturing districts, and large provincial towns, especially where Bonded Warehouses have been established under the Inland Bonding Act

Sixth Unusual dispatch by means of hydraulic machinery, with its most recent improvements for unloading and loading goods, and to vessels of speedy transport, as well as telegraphic communication with the City.

Seventh Avoidance by vessels of the dangers, delays, and expenses consequent upon the navigation of the Pool.

Merchants and Importers will thus obtain all the advantages now offered by the Docks and first-class Sufferance Wharfs in the Port of London, with the additional security, diminution of charges, and other advantages presented by this undertaking.

The services of a gentleman of many years' experience in London Wharf business will be secured, to manage the general arrangements and liabilities.

As to Profits—The Directors are unwilling to make any statement which may have the appearance of exaggeration; but, upon a moderate calculation, they confidently look forward to such a large return as will render it a most profitable investment of capital.

The price paid by the Vendor of the Freehold Land is 1,500*l.* per acre, and an arrangement has been made with him (subject to the approval of the Court of Chancery) by which he accepts that price, with a remuneration to him for his services in connection with the promotion of the Company dependent on its success, viz. 500 shares (which have been allotted to him) on the payment of a dividend of 7½ per cent. has been declared, and 250 when a dividend of 10*l.* per cent. has been declared, with the addition of a commission equal to 5 per cent. annually on the amount of dividend, beyond such 10 per cent. during the Vendor's life. Such shares will be entitled to receive the same dividend only as that paid on the amounts called up on the ordinary Capital. The Vendor will take and pay for 2,000 additional Shares.

The immediate contemplated outlay for Land, River, Boundary Walls, Hydraulic Engine and Machinery, and Tramways, &c is estimated at £70,000
For Warehouses, Granaries, Offices, &c. at 80,000

£150,000

It is estimated that 160,000*l.* will be sufficient to enable the Company to commence and carry on an extensive and profitable business, and therefore it is not proposed to call up any more Capital till the business has increased to such an extent as to render further warehouse accommodation necessary.

In conclusion, it may be added, that, having regard to the great space at the disposal of the Company, and to the facilities which the position and locality afford for the construction of warehouses, the Company will be able to commence business at a very early period.

Prospectuses and forms of application for shares may be obtained of Messrs BARNET, ELLIS, & CO. 18, Finch-lane, E.C.; and Messrs. TUDOR & SONS, 29, Threadneedle-street, Brokers of the Company; of the Solicitors, Messrs DAWES & SON, 9, Angel-court, Throgmorton-street; or at the temporary Offices of the Company, 65, Fenchurch-street.

A deposit of 1*l.* per share must be paid to the Company's Bankers, previous to the application being sent in.

In the event of no allotment being made, the deposit will be returned to the subscribers without any deduction whatever.

The Builder.

VOL. XX.—No. 996.

French Exploration in Syria.—Phœnician Art.



F the yet remaining *desiderata* in the knowledge of ancient art, probably there are none so important as those relating to the architecture and ornamentation that may have been in vogue with certain two races out of the several that dwelt on the coast and in the interior of Syria. A people whose maritime exploration long preceded that of the Portuguese round the Cape of Good Hope, and extended in an opposite direction to our island; whose reputation in art appears in Homer, and remained through succeeding ages, must have had greater influence upon the art-produce of other races, than has been traceable only by the light of hitherto-discovered examples. Should Phœnicia have only borrowed from Egypt, the works in the former country are not less essential, as part and sequence of the history, to be made known for elucidation of the rest. Greece itself, if the received accounts be correct, owed its letters and arts to a Phœnician, Cadmus; Carthage, to which recent French researches have extended, was a Phœnician colony; and so also was Cadiz. It was Hiram, king of Tyre, who found the workmen and artificers for David's palace and Solomon's temple, of which the same Phœnician has been regarded as the architect. Of the art, native or imported, of Judæa, according to Mr. Fergusson in his book on Nineveh and Persepolis, not a sculptured stone or a potsherd remains. We are not sure that absolutely so much as this should now be said, at least of that architecture which was of the time of the Maccabæan princes: our readers will form their opinion on the question from what they may learn further on. But, after all, the truth is that the persons best acquainted with Eastern antiquities, have not known what should be set down as the character of either Jewish or Phœnician art. Thus the French exploration of the sites of those very ancient cities Tyre and Sidon, and at Jebeil, and Tartûs or Tortosa, to which we have but slightly referred in former numbers of the *Builder*, is of the highest importance to the architect-student. We have indeed again to regret that the new information before us is just now confined to reports, without illustrations, as published in the *Moniteur*: these however relate to the more celebrated sites; and a *résumé* of them, with such information as we can add, will serve to prepare those interested, for the publication of more complete particulars, which may be expected from the French Government, and for appreciation of the antiquities brought over, which may be exposed in the Louvre very shortly. A report referring to Jebeil, the Gebal of Scripture, and Byblus of the Greeks, appeared in the early part of last year; though we have not seen it: and particulars of the researches at Tortosa have been published within the last few days.

On the four sites, the operations were in active progress by the hands of the military and naval services, during the period of the French occupation; and at the date of one of the later reports, great exertions were being made to obtain further results, before the departure of the troops, on the sites named, if not also on others. The researches have been under the direction of Mr. Ernest Renan, of the French Institute, a distinguished scholar, whose name has been made familiar to English readers through an article in the *Times* bearing the title "Pre-Adamite Literature." The whole of the sites are on the coast; Jebeil and Tartûs being to the north of Beyrout, on the road to Antioch,—Tartûs about twenty-eight hours distance; and Saïda (Sidon) and Sûr (Tyrus) being south. All were Phœnician cities, though Tortosa is beyond the boundary of the territory as it was described by Ptolemy.

Tartûs, the Tortosa of the Middle Ages and of Tasso, and the Antaradus of the Greeks, besides its Phœnician remains, has those of a fine cathedral, and of halls and a chapel in the castle, all Gothic. There are other examples in Syria of the same character of art, besides what may be in the Church of the Holy Sepulchre at Jerusalem, which deserve to be studied, as the churches at Lydda and Samaria. The capitals of the columns at Tartûs, judging from such views of the ruined cathedral as we have seen, greatly resemble the almost perfect Corinthian of the Church of St. Germain-des-Prés (the elaborate decoration of which building is just now terminated), in Paris. The castle, however, in the main, is Phœnician, and is described by the Rev. J. L. Porter as "one of the most interesting structures along the whole coast of Syria." On the land side it was defended by a double wall with towers, and also by two moats excavated in the rock. The outer wall is still in one place more than 60 feet in height. The masonry is of "heavy bevelled stones, showing," says Mr. Porter, "their Phœnician origin." The *architecture en bossage*, or rustication, was, we knew, not an Italian, or even a Roman invention. At the conclusion of the report to the Emperor on Sûr, Mr. Renan mentioned his intention of returning to the question of this "*architecture*," which he had already entered upon in connexion with the remains at Jebeil; and of which he conceives the *key* ought to be sought at Tartûs and Jerusalem. Opposite Tartus is the island of Jeziret Ruâd, anciently Aradus; to which the last report published, in great part relates.

Jebeil or Gebal, said to have been the birthplace of Adonis, was inhabited by the Giblites, who were employed by Hiram, in preparing materials for Solomon's Temple. The ruins are of great extent, and include immense numbers of small granite columns strewn about in the village and surrounding fields, used in the corridor of a modern khan, and imbedded in the sand of the harbour; but the most remarkable ruin is the citadel, "the substructions of which," again, says the English authority already quoted, are "composed of massive bevelled masonry, proving its Phœnician origin." One of the stones measured 16 feet in length, 5 feet 9 inches in depth, and 4 feet in breadth; whilst another was found to be 18 feet long.* Since the period of the chief researches by the French, at Jebeil, a curious bas-relief has been discovered by *le Capitaine* de Lubriat, which is spoken of as Egyptian.

Sidon is named with Gaza, Sodom, and Gomorrah, in the book of Genesis, and as the "Great Zidon" by Joshua. Tyre, which Isaiah calls its "daughter," was one of its first colonies. The parent city, according to Josephus, was founded by Sidon, the eldest son of Canaan, and great-grandson of Noah. It appears from the sixth book of the "Iliad," that the Trojans carried away from the Phœnician city, as articles of great value, certain robes, the work of the Sidonian women; and many passages in ancient authors show that the skill in arts, and the attainments in science and literature of the Sidonians, were "commensurate with the extent of their commerce. Their architects," adds Mr. Porter, "were the best in Syria (1 Kings v.); and Strabo celebrates the acquirements of the Sidonians in astronomy, geometry, navigation, and philosophy." At the date when Mr. Porter was writing, the ancient architectural remains about the town itself, were few and insignificant,—some marble and granite columns, fragments of Mosaic pavement, and here and there a piece of a sculptured frieze, completing the list. The tombs in the neighbouring hill-side and parts of the plain were, however, more interesting,—as for their many sarcophagi. In January 1855, a sarcophagus, now in the Louvre, was disinterred at a spot about a mile south-east of the city. It bears, says the same account, a perfect inscription, in twenty-two lines, the longest known, recording the fact that it once contained the remains of a king of Sidon. We find from examination of the sarcophagus itself, that there are two inscriptions. The whole of the details of this sarcophagus, excepting in the absence of hieroglyphics, are strikingly Egyptian; and it resembles the stone mummy-cases which are in an adjoining portion of the museum; excepting that the latter taper in width from the shoulders to the feet. The Phœnician sarcophagus on plan, is only rounded at the head and shoulders. The lower portion, otherwise, is a simple block of dark-coloured stone or marble,—or with only a plain panel or sinking externally in the upright part,—with a cavity to receive the body, and a slight rebate for the lid. One end of the rounded lid is turned up, so to speak, the whole width, to represent the feet unseparated; and has a small projecting bit of the rough stone left on for use in lifting; whilst the other end of the lid is carved as a head, the face only in slight relief. The beard is tied in the Egyptian form, by crossed bands; and the hair of the head, and threads of a large collar depending from the shoulders, and to which are attached the forms of jewels, are marked by incised lines. On each shoulder-blade, as though attachment for the collar, is an incised representation of a hawk-head. One of the inscriptions is on the base of the sarcophagus; and the other is across the body of the lid. A large number of gold coins, chiefly of the reigns of Alexander and Philip of Macedon, had been discovered a short time previously to the discovery of this sarcophagus. The castle, connected with the town by a bridge of nine arches, and other remains of late date, would no doubt offer numerous points of interest.

Saïda, according to Mr. Renan, presents itself to the explorer in conditions altogether peculiar. A single point attracts the attention, and so captivates it, that one can hardly help devoting to this point the time intended for other researches. Like Sour, or Sûr (Tyre), Saïda has preserved above the soil, scarcely any trace of its Phœnician past. The existing town recalls the Crusades at every step; whilst the gardens and neighbouring hills afford evidence of the existence of a town brilliant at the Roman and Byzantine epochs. As for the older Sidon, excepting some gigantic blocks forming the extremity of the ancient port, vestiges are sought in vain. But the subterranean Sidon discovered some years back, to the east of the town, the report says, is one of the most precious *necropoles* left to us by ancient times. It was here, in the cavern of *Mughâret Abloun*, or Cave of Apollo, that was discovered the sarcophagus of Eschmunazar, which we have just mentioned.

It has not been found that any other sarcophagi bore inscriptions. The remains, however, have been roughly handled by different seekers of treasure. Lady Hester Stanhope seems to have been amongst the number of visitors with this object. In the earth displaced by some of those explorers, fragments were found, out of which Mr. Renan and his assistant were able to recompose some essential portions of one of the sarcophagi, "*à tête sculptée*," of which, he says, the Museum of the Louvre possesses some examples. We have not ourselves found in the museum, any other Phœnician example than the one we have described. But the sarcophagus in question, he says, presents peculiarities which are unique. Other sarcophagi

* Murray's Handbook: Syria and Palestine; edit. 1858.

(or rather, we suppose, the lids) of the same style consist of a base or pedestal surmounted by a head attached to the pedestal in a manner (already explained by us) which is altogether conventional; whilst this last-discovered sarcophagus aspires to an imitation, much more complete, of the human body. Arms detach themselves from the two sides of the pedestal; one of the hands holds a little vase; and a piece of drapery is marked out, with elegance, upon the shoulder. The execution of the arms and hands, and all the probabilities, however, are against the work being of the Greek or Roman epoch. Too much care is manifest to allow of considering the work as an inferior one of a late epoch; and though the Phœnician art preserved almost to the Christian period, its favourite *motifs*, it adopted at the late epoch, completely, the details and execution of the Greek.

Researches conducted round about the cavern above named, not leading to further results, the French explorers proceeded to examine the ground at a short distance to the east; and there, in effect, the Phœnician sepulchres seemed to have preserved the greatest amount of interest. The rock is pierced with so continuous a series of excavations; the partitions are so thin; that one is surprised that during so many centuries, the superincumbent mass should not have fallen in. The sepulchres are of most diverse character: they can, however, be ranged under three classes. First, there are completely rectangular excavations, reached from the surface of the ground by a shaft, or opening, of three or four *mètres* in length by one or two *mètres* in breadth; at the bottom of which shaft, in the narrower faces and the same breadth, are two rectangular openings of access into opposite chambers, also quite rectangular, in which chambers were placed the sarcophagi. These sepulchres are devoid of ornament. Notches in the two sides of the shaft allow of a descent by the aid of feet and hands. Shafts similar to the last mentioned, but much smaller, were found, without the notches; but as they were partly filled with water, the explorers, at the date of the report, had not been able to say to what those shafts might lead. In a single case, many chambers were found united, and forming a true catacomb. Secondly; there are sepulchres, with the top in the form of a vault (*caveaux en voûte*), having lateral niches for the sarcophagi, and in the top, round air-holes, bored with an auger, similar to some which had much occupied attention at Jebeil. Lastly, there are sepulchres painted and decorated in Roman taste, with Greek inscriptions. Often, however, the sepulchres are entangled together; new ones having encroached upon the old: and it is evident that long after the rock had been riddled with cavities, the later Sidonians or their successors continued to deposit bodies. Thus, late Greek inscriptions are to be found in sepulchres the most ancient. Such invasions of the tomb were very common in ancient times; and one of the most frequent injunctions in funereal inscriptions, those of Asia Minor for example, is not to lay another body in the tomb. Eschmunazar, as seen by the inscription, had fears of the same kind. The spectacle on entering all these sepulchres, is now that of entire devastation. The sarcophagi have been ruthlessly broken into, or many of them destroyed, in the search for the objects that they contained, or for the sake of the materials.

There is no doubt that the excavations of the first-mentioned class, are the most ancient. "It is there," says Mr. Renan, "that the idea of ancient sepulture appears in all its grandeur. No ostentation; no care about the passer-by; only preoccupation with honouring the dead as if he lived still. The lines always horizontal, and the absence of all Grecian or Roman influence; the extreme simplicity of the plan; the great depth of these excavations, which would lead to the supposition that the bed of soil with which the rock is now covered, did not exist when they were hewn; the small amount of care for little details, and of all that relates to convenience; in short, above all, the exact way in which these sepulchres answer to the Biblical images, are so many attributes which establish in a decisive manner the priority of the excavations mentioned." The shafts by which the body was let down, and of which the open mouth seemed always to be demanding new prey, is, continues Mr. Renan, that mouth of the *scheol* (*os putei*) which gave rise to the image so frequent with the Hebrews to signify death:—"The mouth of the well has devoured him." The rectangular excavations, he adds, are decidedly the Phœnician sepulchres anterior to Alexander, or certainly, at least, to the Roman conquest and the entire change of manners which that event brought with it.

The second class of excavations Mr. Renan, in one place, calls "*caveaux cintrés*." We hardly see whether they were arched more than in form: but existence of the form itself, at any period, is perhaps deserving of reception as testimony in the question of the existence of the arch of wedge-shaped stones. There are some excellent illustrations of a catacomb at Alexandria, by Mr. Scoles, in one of the early numbers of the Architectural Publication Society's collection, which should be compared with any that may be published of the remains at Saida, though we conceive the Phœnician sepulchres, even of the second class, must be much earlier than the Alexandrian example, in date. There seem to be many points of resemblance between these sepulchres and those of Etruria.

The sarcophagi found in the three kinds of sepulchres, did not differ less than the excavations themselves. The sepulchres of the second class contained sarcophagi in *terra-cotta*,—or, as we understand, others, which we suppose were of a different material, with rounded lids and ornamented with festoons,—or, these sepulchres had simply large square holes dug in the floor of the cave, or lateral niches. The painted sepulchres contained only one kind of sarcophagus "*en forme de cuve*," the ordinary form, ornamented with rich sculpture, all of the same kind; these same sarcophagi having rounded lids. Heads of the lion or panther sustaining massive festoons, somewhat overloaded, and masks and festoons at the ends, formed the decoration. Although these latter sarcophagi at least, might not be strictly Phœnician, Mr. Renan considering them as markedly provincial in taste, proposed to bring away some examples.

The rectangular sepulchres, presumed of the earliest date, contained, what was not found in the others, a kind of sarcophagus absolutely distinct, —the kind, in marble, with head sculptured, which may be said to be the special produce of the necropolis of Sidon. But such has been the avidity with which the fine blocks have been, at some time, *exploited* by spoliators, whose proceedings are shown by fragments that are strewn on all sides, that few examples were found in anywise perfect; these, hidden in corners, or returns of the excavations, had escaped attention. The result comprises, six new sarcophagi, and the fragments of a seventh, without speaking of that previously in the Louvre. Mr. Renan considers them of different dates, and the earliest as separated by centuries from the most recent, whilst that they may be so ranged in chronological order as to cast a decisive light on the history of Phœnician art. That which seems to him oldest, is a terminal (*gaîne*) with the forms short and flattened, a true mummy of marble, following the report, which one might say had come from Egypt carved complete. The most modern displays the head of a man almost in the round, where the Greek influence is incontestible. Between these extremes, the examples acquired, offer a complete series of transitions. The best of the heads, which the French explorers have called Hercules of Tyre, avoids, continues Mr. Renan, the general fault in such sculpture, the want of life and expression. There are some additional acquisitions, amongst them a sarcophagus, without lid, which, he says, is quite peculiar, from the attempt therein to produce details of the form of a mummy.

On the question of date of the two extremes of these remains, Mr. Renan says it is not possible that works of such "originality" could be Roman, or of the time of the Seleucidæ, the period of servile imitation of the Greek: besides the *sepulchres* containing the sarcophagi are more ancient. Let us shut out, says the report, on the other hand, the idea of very high antiquity even for the most archaic of the remains. Syria does not possess marbles of the kind used: the use of imported materials is here the sign of an age relatively modern. The style of the works conducts to the same conclusion: the influence of Egypt is evident. The form has not reason in itself: it explains itself only by the fanciful idea of giving to the lid of a tomb the appearance of a mummy. The sarcophagi are the steps of a sepulchral type of which the "*point de départ*" is the Egyptian mummy, and the point of arrival is the Greek statue in the round reclining on the tomb. All those just now obtained are posterior to the sarcophagus of Eschmunazar (already described), where the imitation of the mummy is the most exact; but are anterior to the triumph of Greek art in the East, which was probably the signal for their desuetude. That which Mr. Renan regards as most modern, bears traces of painting. In this, the head has so much projection, and is so much detached, that there would be only one more step to the recumbent statue. In another, nearly contemporary, the profile offers something of the Greek ideal (the face in the example in the Louvre being flattened, or quite Egyptian): but in both these examples, the junction of the head with the lower portion of the terminal form, is maladroit; and the curves of the bolster or cushion (*chevet*) are in bad taste. So that these examples exhibit the decadence when, leaving primitive type, the artists aspired to *vraisemblance*; put themselves in contradiction with the law of the style or *genre*; and fell into *gaucherie*.

The sarcophagi, then, are taken to belong to a middle period, that is the long one extending from the end of the Assyrian domination to the Seleucidæ. This was a period in one sense more brilliant for Phœnicia, than its period of independence. Masters of all the *marine* of Persia, the Phœnicians at that time arrived at a surprising degree of riches. It was also the epoch when the imitation of Egypt was most in vogue. The explorers have discovered by the side of one of the sarcophagi, remnants of linen which had served in the embalmment or enveloping of the corpse; so that, they are satisfied, the Egyptian customs prevailed throughout. The question of any analogy between the sculptures and those of Nineveh and Persepolis, is left for future consideration.

No one of the sarcophagi discovered as mentioned, bore any inscription; though space on the "terminal" was free of ornament, so that it might have been designedly left for the purpose. But, says Mr. Renan, to comprehend the singular fact, it is necessary to take exact account of the notion of the tomb amongst the Phœnicians: the "sarcophagi" were marble *coffins*, not tombs: no one saw them: interred in profound caves, they served to honour the defunct; but inscriptions would have been nearly useless. And, if the sarcophagus of Eschmunazar is an exception, the reason is that it was in the open air, and could be seen, not having been found in a cavern. We do not ourselves see how this reasoning gets over the difficulty, recollecting that Egyptian sarcophagi are profusely covered with hieroglyphics, even in the interior.

The sarcophagi "*à têtes sculptées*" are not the only ones found in the rectangular sepulchres. There are others similar to one another, vast bath-formed receptacles (*cuves*) in fine white marble, with splayed lids. They are beautiful, and excellent in workmanship, but devoid of ornament. Besides a specimen of these, and the several others first mentioned, Mr. Renan has, we believe, brought over a considerable number of ornaments and small articles found in the tombs, some coins with Phœnician inscriptions, and a leaden sarcophagus of fine workmanship. The ground where all these remains were found, having as our readers know, been purchased by the French Government, it is hoped that arrangements will be made for preserving the sepulchres for the inspection of travellers.

At the conclusion of the description of the researches at Saida, several spots adjacent to the necropolis, are alluded to as deserving to be examined, as well as a vast space called Beyader, where exploration has been at some period commenced, and certain worked masses of stone which certainly contain sepulchres.

NEWCASTLE OFFICIALS REPENTANT.

We confess to have read with some amazement a report delivered on Monday, the 24th ult., to the chairman of the Town Improvement Committee, Newcastle, by the inspector of nuisances; remembering that it was but a few months ago that this functionary denied the truth of our statements as to the unsanitary condition of that ancient borough. In this report the inspector states that:—

"The number of streets at present, and to a large extent, without sewerage, amounts to 250, comprehending an immense area. . . . . *The general preparatory arrangements, such as main sewers and pavement*, as essential for the successful application of the Acts of Parliament as the houses themselves, *do not exist*."

A little further on, our recanting inspector asks for 50,000*l.* to effect sewerage, paving, and flagging of the long list of streets, which, he says, "*compose in area one-half of the town*."

In the month of May last year, after we had called attention to the scandalous condition of this prospering town, the same inspector, conjointly with the town surveyor, published a reply to our strictures. In the course of this reply, which was a running denial of the truth of the information we had laid before the public, they

over and over again held up the state of the town as equal, in its sanitary arrangements, to any other. By way of refutation of our statement, that there was no regular system of sewerage, these officers then wrote as follows, concerning what they called our insulting, unmerited, and unscrupulous language:—

"In flat contradiction to the first statement, we respectfully maintain that there *is* a regular system of sewerage, both *comprehensive and efficient*, and as well adapted to the position and circumstances of the town as the drainage of any town in the kingdom."

After collating this barefaced statement with the public avowal made to the chairman of the Town Improvement Committee on the 24th ult., that 50,000*l.* were required to effect sewerage, paving, and flagging of one-half of the town, the Newcastle people will doubtless hesitate before determining which of their officers they will entrust with the expenditure of the 50,000*l.* in question.

We refer again to the inspector's report of the 24th ult. Speaking of the new streets whose deplorable deficiency of footways and sewerage we pointed out, he says:—

"A great number of them, although occupied by respectable persons in good circumstances, are, as yet, to too great an extent, destitute of the external arrangements necessary to constitute them comfortable habitations. The *absence of proper main sewers* compels the builders or proprietors either to join their branch drains into *imperfect sewers of their own making*, without sufficient inclination; or they omit laying them down at all, and sell their houses as fast as they can. The results are what might have been anticipated: the wretched drains are speedily choked up; and cannot, for the reasons just stated, be remedied by ordinary means. Other unpleasant effects of another kind I experienced where the streets remain without pavement. Builders too often leave large quantities of rubbish and clay upon the surface, both before and behind the houses, which the heavy cartage connected with the building ploughs into a quagmire, upon which every shower of rain that falls, especially during winter, either stands in unsightly and dangerous pools, or saturates the ground, *so that the passage through the streets is difficult or impossible*. Moreover, this state of things furnishes many of the inhabitants with a pretext for depositing the ordinary refuse of their houses, under the plea of mending the roads. Cartmen and others also frequently, in a surreptitious manner, under the cloud of night, use the streets thus situated as places of deposit for rubbish of all kinds, without the possibility of detecting the offenders."

Contrast this picture of cartmen emptying "rubbish of all kinds" in new streets "occupied by respectable persons in good circumstances," and the absence of main sewers, with what the same gentleman, backed by the town surveyor, said upon the same subject nine months ago:—

"Of the flaggings, pavements, and macadam roads, really belonging to the town and under the superintendence of the corporation surveyors, it would be unbecoming in us to express any opinion; but we take leave to say that they speak for themselves; and we trust they will bear advantageous comparison with similar works in any city or town of the British empire."

Both these accounts cannot be true. Which is the "impudent mis-statement," as these officers declared *our* notice of these and the like deficiencies to be?

In May "the Close, instead of being an unhealthy quarter, has always been, and still continues to be, rather remarkable for the good health and longevity of its inhabitants; and Sandgate has a main sewer throughout its whole extent, with branch drains and channel grates at their heads, situate at the foot of the numerous entries for the reception of the liquid refuse. The street and all the entries are swept by the scavengers twice every day." In February, "in the particular districts just referred to (Forth Banks, *Close*, Side, Pandon, *Sandgate*, and places adjacent), the houses being old for the most part, and closely huddled together, very little more can be done at present in improving their sanitary condition, short of *demolishing one-half of them*; and, by thus making avenues, promote the ventilation of those left standing." These are curious discrepancies. If the Close be so salubrious a quarter, and Sandgate be in such a well-ordered condition, it would be, to say the least, a costly caprice to demolish one-half of the houses. And if they are *huddled together* and overcrowded, and pestilential, as we described them to be, why did Mr. Thomas Bryson and Mr. Thomas Dawson feel "called upon" to denounce "the mawkish sentimentalisms," that induced us to ask for the decencies of civilization for their helpless inhabitants?*

Much that we said of the condition of Newcastle in April last applies to its present condition, as may be inferred from the difference in the tone of the nuisance inspector; and much that we recommended for its amelioration might be repeated. Above all, we must recur to our advice to the ratepayers to place the sewerage of the town in the hands of a competent engineer. It would be a wilful misapplication of 50,000*l.* to have it dribbled away in petty, irresolute, patchy attempts at adaptations. It would be to call in a quack to a wealthy invalid, to suffer any but a competent engineer to prescribe for Newcastle.

The possibility of a preservation of the public health is now fairly recognized; and it is generally admitted that the officers in charge of the management of sanitary arrangements should be energetic, honest, straightforward persons, awake to a sense of their responsibility, and possessed of a stanch determination to execute their trust faithfully.

The last quarterly return of the registrar-general carries out the wisdom of our warning. Mentioning the sub-district of All Saints, Newcastle, particularly, the registrar-general says,—"Scarlatina has been exceedingly fatal amongst children throughout the whole of this district." The imperviousness of the authorities to every impression and expression is marvellous. The sharp-pointed and well-aimed shafts of the *Northern Daily Express*, and the *Newcastle Daily Chronicle*, take no effect: the remarks of the registrar-general glance aside: denunciations from the orator's platform fall unheeded. What can be the secret of this repulsion? The appointment of a Public Health Committee gave promise of action; but if the reception of a report, from a quarter which so lately framed one in exact contradiction to what it now sets forth, is to be the extent of their investigations into the condition of the town, very little will be gained by it. At all events, the ratepayers have now an admission from the department which so lately declared Newcastle to be as well cared for as any town in the kingdom, that one-half of it is without sewerage, paving, or flagging. Something will, doubtless, now be done. We say again, let the work be done well, and one large general scheme of improvement be prepared by a competent hand.

LONDON BRIDGE RAILWAYS TERMINUS HOTEL.

IN accordance with a request from your active secretary, I have the pleasure to submit a few particulars with reference to the London Bridge Railways Terminus Hotel, now being erected under my direction.

I should not have ventured to offer any description of this building, except as a supplement to the paper of Mr. Moseley, as I am not aware of any novelty of arrangement or construction worthy of the attention of the Institute.

It appears that London, which has hitherto been badly supplied with hotel accommodation, is at last making a move in the right direction, and constructing buildings more consistent with the requirements of the numerous travellers who are constantly arriving at and departing from its great metropolitan termini.

It has been said, with reference to the hotel in question, that the extension of the railway to Charing-cross, and the city, would leave London Bridge without customers; but I do not think that the shareholders need apprehend any depreciation of their property from this cause. The extensions will bring from the South-Western Railway, and elsewhere, as many as it takes away; and the Brighton Company, at the present moment, are giving notices for the extension of their London Bridge Station. It appears to me that London Bridge must always continue one of the great railway termini of the world.

The building stands at the south-west corner of the Brighton Station, with frontages to Joiner street and St. Thomas's-street. The level of the streets is about 25 feet below the railway level; and in designing the building it was necessary to keep the principal floor on the level of the platform, or thereabouts.*

The principal entrance on the lower level is from St. Thomas's-street; and with the exception of the entrance hall, principal staircase, and manager's offices, the whole of the ground floor is appropriated to the domestic offices of the hotel; the basement being devoted almost entirely to cellarage.

The following is a summary of the accommodation provided:—

Basement.—Wine, beer, coal, and ice cellars, and a large room for servant's dining-room, furnace for baths and warming appartus.

Ground Story.—Entrance-hall and staircase, secondary staircase from Joiner-street, and club entrance, hereafter referred to; manager's offices, and bar: the remainder is appropriated to the offices, consisting of kitchen, sculleries, larders, still-room, pantries, servants' hall, &c.

The two portions which are bisected by the entrance-hall being connected together by a passage-way under principal staircase.

The north-west angle is appropriated to the tap, being immediately at the foot of the steps leading from the Railway to Joiner-street, and will no doubt have plenty of customers from the porters employed on the railway.

One-Pair Story.—The principal part of this floor is proposed to be devoted to the use of a Southwark club (which is much wanted by the professional and commercial classes in the Borough), and will yield a large rental to the Hotel Company. The club coffee-room will be supplied from the hotel kitchen, and be another considerable source of profit. The rooms for the club consist of coffee-room, dining-room, morning-room, smoking-room, and billiard-room, with private-rooms, &c. &c. The remainder of this floor is devoted to the living rooms of the tap and to the linen department of the hotel.

Two-Pair Story.—Being the Railway level, comprises the principal coffee room (70 by 29), ladies' coffee-room (30 by 30), and library and reading-room (30 by 25), with the usual serving-rooms and pantries, and sundry private-rooms. The principal staircase from the lower level terminates on this floor, and a staircase in both wings is continued upwards. An entresol floor is obtained in the wings making up the height of the large room. The remainder of the stories are divided in the usual way with bath-rooms, waiting-rooms, &c. The total number of rooms of all sorts, exclusive of cellarage, is 202.

The frontage to St. Thomas's-street is 130 feet, and that to Joiner-street is 97 feet, and the total height from pavement of street to ridge of roof is 112 feet, and to summit of terminals over ventilating shafts, 150 feet.

The Company are possessed of additional land in St. Thomas's-street, on which it is proposed to erect a large public room, with additional bed-rooms over.

I shall not attempt to describe the style of the building. It forms a considerable feature in the architecture of Southwark; and, being freely treated, I leave it to the ingenuity of the Institute to find a name. The building is constructed with white bricks and Portland-stone, and the roof is covered with green slates.

I fear that this dry description of a building will not sufficiently interest the members of the Institute; and, as no great difficulties have arisen in the construction, no great interest will be attached to the description thereof.

On excavating for the foundation, we found, at about 12 feet from the surface, a layer of soft running sand, about 4 feet thick, very full of water. The whole of this was taken out, and a solid bed of hard gravel reached. The water was kept within bounds by hand-pumps, and the trenches filled with concrete made with blue lias, which was carried up above the ordinary level of the water, which was somewhat affected by the tides.

Nothing of any interest was found in the excavations, except a few pieces of broken pottery sent herewith.

The footings of main wall are 6 feet thick, reduced to 3 feet in thickness, and a layer of asphalte, half an inch thick, laid over the whole surface, and on the vertical faces of the basement walls. The walls are—

4 Bricks thick up to ground line.
3½ Bricks thick up to two-pair level.
3 Bricks thick up to four-pair level.
2½ Bricks up to cornice.

It has not been attempted to make the building fire-proof. The staircases are of stone throughout, and the corridors and passages are constructed with tile arches and wrought-iron girders, paved with 3-inch Portland.

The basement is entirely covered with tile arches and wrought-iron springers, and the ceiling of kitchen is also formed with tile arches. The arches are all in three thicknesses, set in Roman cement.

The only point requiring special consideration in construction was in relation to the girders over the large rooms, which were of considerable span, and had, of necessity, to carry the division walls and chimney-breasts of six stories, with the floors, tile-arching, and paving of corridors. It appeared, therefore, to be very desirable to introduce girders at every floor, to reduce the weight on each girder as much as possible, and so that, in the event of any accident arising from fire or other causes, every floor should be independent and self-supporting.

The wrought-iron girders are placed immediately under each of the 9-inch division walls, the flanges of which are afterwards built up and plastered over. A parallel girder of smaller dimensions acts as a trimming girder. A 4-inch landing from top of main girder to trimming girder, perforated exactly for the flues, carries the projection of the chimney-breasts; and the hearths are afterwards formed on top of landings, with tiles. The whole of the girders were introduced and fitted together before the subdivision walls, chimney-breasts, &c., were built.

This was found a convenient arrangement for handling and placing the long girders in position.

The girders had a bearing at one end on main wall, and at the other on cast-iron stanchions, which were also built into the thickness of the 9-inch division walls. As these girders passed through the ventilating chambers, apertures were left in the webb at the proper points.

The greatest estimated weight on one of these girders was fifty-three tons in the centre; and it will, therefore, be clear that a considerable sectional area was necessary, the bearing being 28 feet. The heaviest girder weighed four tons.

The ventilation is provided for as follows:—

The kitchen department, smoking-room, and rooms on one pair, are connected with the shaft shown on plan, the centre of which is occupied by a galvanized iron tube, conveying the smoke from all the furnaces and fires in kitchen department.

The remainder of the building is ventilated by means of chambers formed between the floors and ceilings of corridor. These are connected with vertical shafts in each wing.

A powerful hot-water coil is introduced in these shafts, heated from the furnace which supplies the baths and hot-water service; so that it will be continually in operation, winter and summer.

These shafts are continued up, and form the termination of the pyramidal roofs of pavilions.

The ventilating chambers are formed between the tile arches and the paving of corridors.

A warming apparatus in the basement will suffice to keep the staircases at a moderate temperature.

---

* Commenting, in a long leader, on the same document, since our observations were written, the *North-ern Daily Express* says, "It professes to be a report on the sanitary state of our ancient borough, and, if we have been previously sceptical as to the allegations made against it by the editor of the *Builder*, our incredulity must now give place to certainty. It is a very different production from the indignant pamphlet recently hurled by Messrs. Bryson and Dawson at the head of that unfortunate scribe. It contains revelations, or rather confessions, which ought to make us ashamed and to blush for our town. To make even a summary of them would detain us too long. It is evident from it that we are fast getting into a worse plight than the log-cities in the far west. We have miles of unpaved streets stretching out in all directions. We have not even corduroy roads to travel on. We can rival Balaklava in its worst days; and unless Providence favours us with street railways, we will be constrained to communicate with our friends through the post. It will take at least 50,000*l.* to put our new streets into even a passable state; and, what is worse than all, the corporation is in a dead-lock; and the drivers are lustily calling to Jupiter; but they decline to put their shoulders to the stranded and miry wheels. We forbear to copy the statistics furnished by Mr. Dawson, as we do not wish to see the startling figures in the pages of the *Builder*; and we think it will be only decent, if not quite prudent, to draw a veil over that gentleman's statements.

* Plans and view will be found in Vol. xix. p. 428.

An ample supply of external air is admitted to every fireplace.

Cistern room to the extent of 25,000 gallons is provided, distributed over the building; and, as the high-service will not reach the upper stories, a steam-pump is provided in scullery, in connexion with the general steam apparatus, which pumps the water from the low-service main.

The excavations were commenced in December, 1860, but the old buildings on the site were not cleared away until January, 1861. The works have been progressing steadily; and, notwithstanding the interference from the strike, the building has made rapid progress; thanks to the well-known energy and intelligence of the contractors, Messrs. Lucas; whose zeal and ability need no further remark from me.

The total quantity of bricks used in the construction is three millions; the quantity of wrought iron, 200 tons; the quantity of cast iron, 80 tons; and 15,000 cube feet of timber.

The whole of the bricks and mortar have been raised by a hoist constructed in the well-hole of the eastern staircase, and barrowed on each floor to the position required. This hoist was worked by a horse, who had the run of a back street, and the length of which just admitted of the materials reaching the roof.

The stone was raised by a small steam-engine, and the whole of the ironwork was lifted inside the building, and placed in position, without the slightest accident.

I have great pleasure in bearing testimony to the skill and intelligence and ready attention of Messrs. Lucas's principal foreman, Mr. Steel, and to the energy and obliging and hearty assistance of the foremen of the several branches of work.

The whole has been carried on without a clerk of the works, under the immediate superintendence of my active and intelligent assistant, Mr. Harris.

The work is being executed at a schedule of prices. The total cost will be 50,000*l.*, equal to about 1*s.* a cube foot, including stoves, bath and bell-work, gas, warming and ventilating arrangement, and everything complete, except furniture. Mr. J. Billing's patent throat valves and terra cotta terminals have been fixed to the chimneys for the prevention of smoke.

The kitchen fittings, bath, bell, and gas work, warming apparatus, &c., are being ably executed by Messrs. Jeakes & Co.; and the carving has been effectively executed by Mr. Tolmie.

The building was commenced in January, 1861, and will be completed and ready for opening concurrently with the Great International Exhibition, in May, 1862, being a period of sixteen months.

I trust it will not be considered I have occupied their time unnecessarily with this uninteresting description. I only hope it may be useful as a means of comparing the details and arrangement of this, with other kindred buildings. HENRY CURREY.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE MEDALS, &C.: HOTELS.

THE ordinary general meeting of members was held on Monday evening last, at the House in Conduit-street, Mr. Digby Wyatt, V.P., in the chair. The minutes of the last meeting having been read, and several donations announced—amongst which was the latest portion of the "Architectural Dictionary,"—

Professor Kerr, referring to the latter work, said that he could conscientiously recommend it to the attention of the profession. He had himself lately had occasion to refer to it; and he assured the meeting that he found the scientific matter the best that could be obtained.

The Chairman also referred to the importance of the work, and the progress it had now satisfactorily made; and he directed especial attention to the *list of terms and articles* to be included in the next part; and, on behalf of the society, requested the communication of observations on articles comprised therein. Before proceeding with the business of the evening, he said, there were two subjects which it was his duty to bring under the notice of the meeting. The first was that a communication had been received from the Italian minister, in consequence of which it had been arranged that the series of tracings of the Cathedral at Florence should be deposited at the Institute, so that any member of the Institute, or any architect, who might wish to compete for the design for the new façade of the church, could consult them there rather than at the embassy. He need scarcely say that the council of the Institute felt grateful to the Italian minister for his kind co-operation in this matter. The second subject to which he referred was one of more than ordinary interest. A letter had been received by the president from a member of the committee who had been chosen by her Majesty to consider the best means of erecting a suitable obelisk to the memory of the late Prince Consort. The object which was sought was that the Institute should communicate with them with regard to the description of stone most desirable, as to quality and colour, for an obelisk 100 feet in height; and also as to the probable cost of carrying it, by land or sea, to the metropolis. As it occurred to the council that some of their members might have particular information to impart on the subject, he was requested to state that the council would be happy to have it placed at their disposal; so that it might be laid before the committee, with whose labours he was sure they would all heartily sympathize.

Mr. T. H. Lewis (hon. sec.) said he had requested permission of the gentlemen who had competed for the medals and prizes of the Institute, and for the designs of the Soane Medallion, to allow the letters accompanying the drawings to be opened, and had obtained the permission of all, with the exception of one gentleman, who had signed his drawing "Humber."

The chairman then opened the envelopes, and announced that the various prizes were found to have been adjudged as follows:—

1. The Silver Medal of the Institute, with five guineas, to Mr. Frederick R. Wilson, associate, of Alnwick, for his drawings and description of Brenckburn Priory, Northumberland.

2. Neither of the designs for the Soane Medallion having been considered of sufficient merit to entitle it to the prize offered, the prize in books of the value of five guineas for the best design submitted was found to have been awarded to Mr. Charles H. M. Mileham, of 18, John-street, Bedford-row.

3. The ex-president Mr. Cockerell's prize of ten guineas to Mr. A. W. Davis, of 15, Park-side, Knightsbridge, for his design for a market-house.

The Institute book prize to the second in merit, Mr. R. Phéné Spiers, associate, of 89, Upper Ebury-street, Pimlico, for the design for a villa.

The design for a chapel, by Mr. William Hallem, student R.I.B.A., of Kirton Lindsey, Lincolnshire; and that for a villa, by "Humber," were commended.

4. The prize of ten guineas offered by Mr. Tite, M.P., F.R.S., president, to Mr. Henry S. Legg, associate, of 6, South-square, Gray's-Inn, for his designs for a railway station and a townhall.

5. The student's prize in books to Mr. R. H. Carpenter, student R.I.B.A., for his design for a dispensary for a manufacturing town.

The design for the same subject, by Mr. Samuel Fry and that by Mr. J. T. Perry, students, were commended.

The prize in books for the best series of monthly sketches to Mr. Samuel Fry, student.

The series by Mr. George Baxter, jun., were commended.

Mr. Andrew Moseley then read a paper, entitled, "Some particulars respecting the Plans and Construction of the Westminster Palace Hotel."

Mr. James Bell (hon. secretary) subsequently read, on behalf of Mr. Henry Currey, a paper containing "Some Account of the London Bridge Railway Terminus Hotel." Both there papers we give elsewhere.

At the request of the chairman,

Mr. James Carrick described the principle of the hydraulic hoist designed for the Westminster Palace Hotel. The motive part of the hoist was, he remarked, an application of a patent of Sir William Armstrong, viz.; the placing of a hydraulic ram between sheave blocks. The car, being attached to one end of a chain reeved over these blocks, travelled through a space equal to a stroke of the ram multiplied by the number of pulleys over which the chain was passed. Supply and exit water-tanks for working the ram were provided and placed, the one at the top of the building, and the other at a lower level, in which the discharged water was utilized for the kitchen service. The available head of water was 75 feet (which might hereafter be easily increased). The supply pipe was 5 inches in diameter, and the diameter of the ram was 26 inches. The tanks were of the cubical capacity of 4,000 gallons, and were filled three times per day from the water company's main, providing a supply of 120 ascents per day. The "lift" was designed to carry two persons and their luggage, and the attendant; and was started and stopped at the respective floors by the attendant pulling a small chain, which opened and shut the valve of the apparatus. One hundred gallons of water were required for each ascent of the car. No water was required during the descent; the ram being so arranged as to ascend by the counterbalance of the weight of the car. A safety apparatus was provided, which consisted of two teethed or ratch-faced eccentrics, placed on the end of the shaft, or crossbar, by which the car is suspended. The eccentrics were kept out of action by two powerful volute springs; but in the event of the main chain breaking they became immediately free, and their force was directed against the eccentrics, which bit the guide bars, and so suspended the car.

Mr. Thorne, the inventor of the system of bells carried out in the Westminster Palace Hotel, also gave a description of his invention, which he said had proved completely successful. He stated that he had fixed seven miles of pipes, and 400 bells, throughout the building. He was about to introduce the principle in a house building for Lord Overstone.

Mr. F. H. Fowler observed, that many of the arrangements carried out at the Westminster Palace Hotel answered the purpose extremely well, and were quite in accordance with those in the large hotels on the Continent, and in America. The great object to attain was that every floor should be perfect in itself, so that the servants should not have to go up and down stairs to fetch whatever might be wanted. In order to accomplish this, it was necessary to have perfect accommodation on every floor. The servants' waiting-room should be near the central staircase, and the chambermaids' should also be located adjoining the place where their services were required. There should also be a lift for coals, to supply the stoves in the sitting and bed rooms, on each story, a large supply of hot and cold water, and all necessary requisites for cleaning, so that there should be as little as possible interference with the principal staircase. Another essential point was, that the lifts in connexion with the coffee and dining room, and so forth, should work freely at those places. These facilities were always provided in the large hotels in America; and the Messrs. Moseley and Mr. Currey had not forgotten to introduce them in their hotel.

Mr. Moseley said that at the Westminster building there was a waiting-room for servants, and a "lift" on every floor.

Mr. Boulnois inquired whether it had occurred to Mr. Moseley to place the kitchen in the roof of the hotel.

Mr. Moseley replied that the matter had not escaped attention, but that there were grave objections to it. There would have been in the first instance waste of accommodation; for at present every square foot of the building was occupied; whereas, if the kitchen had been in the roof (now filled with sleeping-chambers), the basement could not have been turned to account in the same profitable manner. It was also thought that the traffic up and down stairs would have been very great, as everything must have been conveyed up and down by "hoists." The great recommendation in favour of a kitchen in the roof was, that by such an arrangement there could be no culinary smells through the house; but this desideratum was completely secured in the kitchen as at present arranged, by means of the ventilating shafts, which he had explained. Over the kitchen fireplace there was a large iron grating that led into the shaft; and by that means smoke, steam, and all other impurities were carried away, and discharged at the roof of the building.

In reply to a question from the chairman, Mr. Moseley said he did not think there was any unusual expenditure of fuel in the kitchen stoves. The heat generated in the ventilating shafts and which caused a powerful upward current was what might be termed superfluous heat.

The chairman said that, as a general rule, where there was an enormous heat going up a flue, the inference was that the stone story was ill-constructed.

Mr. Moseley remarked, in reference to the flues generally, that, after some difficulty, the directors were induced to give their consent to have the flues to the ordinary rooms contracted to a diameter of 9 inches. The throats were then carefully narrowed, and Mr. Billing's patent invention introduced. By this means, he thought he was justified in saying that, with the exception of, perhaps, one or two rooms where a cure might be easily effected, there was not a single instance among the hundreds of rooms in the Westminster Palace Hotel of either a smoky flue or a down draught.

Mr. Hayward remarked that, in his opinion, the coldness of the plaster floors was a great objection. This description of floor had been tried at the Marine Barracks at Woolwich; but, after trial, they had to be taken up one by one, on account of their extreme coldness; as it was found that the per centage of illness among the inmates had largely increased since their introduction. The medical men on this account had condemned them. Such floors were now common in Nottinghamshire; and he could say from personal experience that they were very inconvenient.

The chairman said he was in a position to say a word or two on this subject from his own personal experience of the Westminster Palace Hotel. His own office was in that building; and he had taken the precaution to cover the whole floor with a thick felt: over this the carpet was spread; and he had never heard even the most sensitive old Indian complain of cold or inconvenience.

Mr. H. Smith observed that a hard floor like one made of cement was a better conductor of heat than wood; and that, in a large building where a great many fires were constantly kept up, the harder the floor the more likely it was to retain the heat.

Mr. Hayward said he had lived on plaster floors in Nottinghamshire, and could bear testimony to their want of comfort. There was no uniform heat about them; and the fact that they had been done away with at the Marine Barracks at Woolwich was certainly a proof that they had been condemned by the faculty. An individual might object to them from mere fancy (as in his own case), and think them uncomfortable; but at Woolwich the whole subject had been minutely investigated; and they were condemned because of their coldness, their aptitude to retain moisture, and the difficulty of keeping them clean.

Mr. Boulnois observed that he had tried the cement floors, but on the whole inclined to the opinion that they were not suitable to hotels. One of the chief objections to them was that they retained oil and dirt, which could not be cleaned off as from a wooden floor. The one to which he referred had been laid down ten or twelve years, but it had been repeatedly repaired.

Mr. F. H. Fowler said that he had introduced metallic lava instead of cement, and that he found it a very excellent thing. The metallic lava did not crack like the cement floor: it was not affected, either, by the atmosphere; and did not retain moisture. He had adopted it in all the hotels which he had built, with the most satisfactory results.

Professor Kerr, in proposing a vote of thanks to Mr. Moseley, and also to Mr. Currey, said he was sure that all present would agree with him that papers similar to those which they had heard read that evening were of great practical use. They were full of details essential for the architect and student to be acquainted with; and he considered that the Institute was indebted to their authors for the care they had taken in preparing them. Their obligation to Mr. Moseley would, however, be increased, if that gentleman would have the goodness to tell them something more with regard to the arrangement of the basement; the exact position of the great kitchen; how it was reached; where the larders, store-houses, and so forth were placed; and the general arrangement of the domestic offices, and especially the communication between the kitchen, the offices, and the dining-room. It was, he thought, also of great importance, in a large hotel like that at Westminster, or at the Bridge termini, that there should be facilities of communication between the central part of the ground-floor and the bedrooms.

Mr. Moseley then proceeded, with the assistance of diagrams, to explain the manner in which the basement of the hotel was set out. The large kitchen was under the coffee-room, in what might be termed the eastern wing of the building; and the hot plates were ranged under the windows. The front area to Victoria-street was covered over with glass; and in the vaults were the larders, ice-houses, fish stores, vegetable places, and other receptacles for provisions in daily course of consumption. A plate-room adjoined the kitchen; and behind the latter was a waiters' room and a double hoist to bring dishes to and from the coffee-room. The still-room, pastry-room, and maid-servants' hall and sleeping-rooms were also in the basement. The servants' staircase was geometrical; the steps being let into a cylinder, or pier rather, of brickwork; and was the only staircase in the building which ran from the bottom to the top of the house in one continuous flight. The wine-cellars were in the centre of the basement, running from east to west, and were placed there because no natural light could by any means be admitted to the region. There were also a waiters' hall on the basement, and a room for the servants of visitors sojourning in the hotel.

Continuing his description of the interior of the building, Mr. Moseley added that there was a housemaid's room on every floor, with a lift to bring up coals. There were, in addition, in various parts of the building, five or six "hoists" besides that used for bringing up visitors and their luggage. Mr. Moseley then pointed to a drawing in the room of a hotel which it was in contemplation to erect in Liverpool. It would be the largest hotel in the world, as it would contain 800 rooms, with shops beneath. The project was, however, for the present, *in nubibus*.

Mr. Jennings seconded the vote of thanks; and said, with regard to the proper materials for floors, the question was one which called for the special consideration of the architect. He believed that at Holloway Prison the cement floor had been objected to. The metallic lava floor, mentioned by Mr. Fowler, was, he apprehended, nothing more than a variety of the cement floor. He questioned whether experience would not, after all, ultimately declare in favour of wood.

Professor Kerr observed that he thought it an extraordinary statement for Mr. Currey to make, that no means had been attempted to make the hotel at London Bridge fire-proof. He doubted whether Westminster Palace Hotel itself was fire-proof. The great means to secure that end were to make a fabric not so much of incombustible materials, but that it should be so constructed that a fire breaking out in one place should not be drawn through a space so as to set fire to another part of the building.

The motion having been put from the chair, and carried,

Mr. T. H. Lewis announced that the next lecture, on the 17th inst., would be by the chairman of that evening, on "Pictorial and Mosaic Decorations for Walls."

Mr. George Aitchison, of Muscovy-court, Trinity-square, was, on ballot, elected a fellow of the Institute.

At a previous meeting, Mr. Edward Swansborough, of 6, Great James-street, Bedford-row; and Mr. Thomas Henry Watson, of 9, Nottingham-place, W., were, on ballot, elected associates of the Institute.

ORNAMENTAL BURNT WOOD-WORK.

A PATENT mode of producing ornamental wood-work by burning, first practised in Manchester, is now being carried on in London,—Wenlock-road, City-road,—and may be usefully introduced in many cases. The poker-burnt pictures of some time ago have shown what an agreeable colour and what an enduring result can be obtained by charring the surface of wood. In the practical works which have grown out of that, designs in relief are engraved on the face of hollow iron cylinders; and these, being heated by a gas-pipe within, acted on by a second pipe conveying atmospheric air, are made to transfer these designs to the planed board which is passed in between them as they revolve. When the wood has gone through the charring operation, it is handed to a workman, who scrapes it down over the surface so as to bring out the lights, and produce the best effects. This being accomplished, the face is varnished or polished, and the result is an ornamental panel or moulding of considerable beauty (*if the design be good*), and of remarkable permanence. White woods, as sycamore or lime, are employed for the work. It is easy also, by this process, to give to the less expensive varieties of wood the characteristic of the more costly kinds. Rosewood and walnut are very well imitated; and upon these again any pattern can be impressed. The cost of woods imitated in this way is put at two-thirds the cost of good hand "graining." There is a wide field wherein this ornamental burnt wood process may be usefully employed. To ensure success, however, the company must endeavour to obtain good designs, in a higher style of art than the majority of those they are now working with.

PROPOSED SITE FOR THE NATIONAL ALBERT MEMORIAL.

THE doubt existing as to the exact spot the memorial should occupy allows me an opportunity of suggesting a site which, in many respects, possesses peculiar advantages.

If the memorial were placed in the position I am now about to indicate,—

1. It would be seen in its entirety, from several points of view, including two high roads, both important thoroughfares.

2. It would stand in the centre of an extensive and slightly elevated amphitheatre, surrounded, at an advantageous distance by old and well-grown trees, with avenues converging to it.

3. It would take nothing from the available space for public recreation; but would, on the contrary, add to it considerably.

4. It would greatly increase the healthfulness of the locality, and thus be an advantage to the public.

If, on the other hand, the memorial were placed on the site of the 1851 Exhibition:—

1. It would seem as if intended only, or mainly, to commemorate the Prince in connexion with that event; whereas the desire of the subscribers is to glorify a whole life spent in promoting works of utility and beauty, by which the people have been benefited and refined.

2. It could only be seen from a very limited space; from *one* important thoroughfare; and, from the north, across a broad sheet of water, which precludes any direct approach from that side.

3. From the east and west, it would be seen in combination with other objects, and its beauty and grandeur would thus be impaired.

The site to which I wish to call attention is free from all these objections.

In the western part of Kensington Gardens there is a large circular pond, nearly surrounded by fine and numerous trees, forming one of the grandest amphitheatres not only in England, but probably in the world.

This water, being higher than about three-fourths of the surrounding land, is but little seen, and adds scarcely at all to any picturesque effect; and its elevation causes it to soak into the lower land, rendering that damp and unwholesome. This pond I propose should be drained, filled up, and made the site for the memorial. It is so large, that, after appropriating ample space for the obelisk and its accessories, an extensive additional area would be gained for public recreation. Few people who are not acquainted with the spot can conceive any adequate idea of the noble grandeur of this amphitheatre; and, if the memorial were placed in the centre, the whole would form a striking combination, equal to the object to be attained,—a grand monument in a grand situation.

The trees in the circumference would in no wise dwarf the monument, for they are at too considerable a distance to interfere with it, or to be injured in effect by it, however lofty or extensive it may be. Five avenues diverge from this spot, and two others could be easily opened, one to the Kensington, and one to the Bayswater road, so that the monument could be well seen from every direction. The elevation of the ground would render the memorial an object of importance from all points; and in no position could it be seen to disadvantage.

Should there, however, be any strong objection to the removal of the water, or a portion of it; the centre of the broad path slightly to the west of the pond would still secure the ample area, the extensive amphitheatre, and the converging avenues of trees, besides possessing already prepared broad promenades, both from Bayswater and Kensington. Finally, either of these sites is in close proximity to the home of her Majesty's childhood, and may be seen from the spot on which the 1851 Exhibition stood.

ONE OF THE MANSION HOUSE COMMITTEE.

THE SOANE MUSEUM.

AT a meeting of the trustees held on the 21st ult., they decided unanimously on appointing Mr. Bonomi curator, *pro tem.*, and he has already entered on his duties. The appointment, we are glad to hear, is understood to be permanent. The academy, it seems adhered to their election, and would not make a new one, but they had long since suggested the course which has now been followed by the trustees, and Mr. Bonomi himself had done so. Discussion ensuing Mr. Tidd Pratt and Mr. Jones sent in their resignation as trustees. Mr. Tite, M.P., and Mr. Pollock were elected in their places, and Mr. Bonomi was then, as we have said, unanimously accepted. We shall hope now to find the museum and library made of more avail.

AN OUTLINE OF THE PLAN AND CONSTRUCTION OF THE WESTMINSTER PALACE HOTEL.*

IT having been intimated that a brief account of the Westminster Palace Hotel might possibly afford some matter of interest to the members of this Institute, my brother, Mr. William Moseley, with pleasure has drawn up the following particulars.

The demand for improved hotel accommodation in the metropolis having been met by a disposition on the part of the public to vest capital in such undertakings, several structures of this kind have arisen, and the movement bids fair to make such buildings, with regard to extent and importance, second to none of those in the other capitals of the old or new world.

The Westminster Palace Hotel Company secured in 1857 the plot of ground forming the angle between the east end of Victoria-street and Tothill-street, containing an available building

* Read by Mr. Moseley, as mentioned elsewhere.

surface of 3,500 square yards, for a term of 88 years, and at an annual rental of £923, or 5s. 4d. per square yard, or about £3 per foot frontage in Victoria-street.

An Act of Parliament was deemed requisite to afford the Westminster Improvement Commissioners such powers as would enable them to grant a valid title, but the delay occasioned in obtaining that Act prevented the commencement of the excavation for the building until June, 1858.

The architects had, however, progressed with the plans; and, by obtaining a separate tender for the excavation, that work was proceeding while the drawings were being completed; and the acceptance of the tender for the work ultimately took place in the following October.

The original contents of the surface of the site was as before stated—3,500 square yards; this was increased during the progress of the structure, and additional land has since been obtained. The total area covered, which extends on the basement, is 3,336 square yards, and on the ground floor 2,795 square yards.

The excavation for the foundation exposed the maiden surface of the soil, reached at a depth of 12 feet below the level of the present road, consisting of an even bed of peat earth about 3 feet in thickness, overlaying a thin stratum of clay, which latter rested upon a stratum of fine sand full of water.

As might be expected, the original surface (the bog earth) was not without some traces of natural productions or of the early occupants of the locality. Roots of great willow-trees, the bed of a rivulet, with planked margin, a hard causeway in a direction parallel with Tothill-street, leading to the western gateway of the Close of Westminster Abbey; a pilgrim's hat of goat's hair; pieces of leather garments, with some few other relics of the pilgrims passing to the Holy Shrine from the Tabert Hostelry in Tothill-street, indicated the ancient uses of this part of Thorney Island. But the most interesting circumstance connected with the site is the fact that the house of John Caxton stood near the west end of the present Tothill-street front of the building, and where it is intended at some future time to place a statue to his memory.

Thus the enduring memorials of bygone time are made to give way before the progress of modern improvements, which by many will be thought by no means an amiable feature in the pursuits of modern architects.

Over the whole surface of the sand, when the peat had been removed, a slab of concrete, 4 feet in thickness, was thrown; and the building was thus permanently secured from all risk of subsidence from any defects in the nature of the subsoil.

The rise of the tidal waters up the Victoria-street sewer became a matter of grave consideration. Equally so did the desirableness of giving the least amount of elevation to the ground-floor above the line of the adjoining streets employ the attention of the architects. They ultimately fixed the ground-floor level at seven feet above the paving at the entrance as the height which would secure the dryness of the basement floor and afford a sufficient elevation for the great kitchen (16 feet high); and this level gave an opportunity for obtaining mezzanine rooms over the other parts of the basement where the smaller divisions occurred, and which was taken "advantage of" for securing the necessary auxiliary rooms and offices immediately adjoining and above those in which the greater culinary operations were to be carried on.

The necessary height of 17 feet 6 inches given to the other large apartments, such as the coffee-room, great banqueting-room, and eastern room, being an unnecessary elevation for the smaller rooms on the western side of the entrance, it was determined at once to "dare criticism," and to design the ground-floor façade of the edifice with different ranges of string courses and window openings on either side the principal entrance; and they have had no reason to complain of the criticism which has arisen, for it has proved that the "general eye" is more forgiving for wants of uniformity in parts, when necessity and fitness concur in demanding such a deviation from the established rule, than they could have given it credit for. By the arrangement above named they were enabled to obtain three floors of rooms on the west side of the centre, when they had but two floors on the eastern side; the middle floor, on a level with Victoria-street (also reached by descending a few steps from the centre hall), and the upper floor raised 6 feet above the level of the hall, and reached by ascending three steps from the half space of the principal staircase, from which extends a central corridor to the west end of the building.

The whole of the western half of the building is let to the India Board at a rental of 6,000*l.* per annum, and the arrangement of this portion in the way it was planned, although accidental, has been such as to enable the Hotel Company to acquire the most valuable connexion and rental, and which leaves a complete hotel in the other part of the structure. Four rooms in depth, from front to rear, are obtained by planning three small internal courts (30 feet in length and 20 feet in width), and thus the accommodation of this wing of the building is swelled to upwards of 160 sitting and bed rooms.

The space of 4 feet 6 inches, which has been left between the top of the concrete and the level of the basement-paving (for raising it out of the way of the tidal-water), is made available for affording the means of cleaning out the drains, smoke flues from all the cooking stoves, water and gas pipes; and to make the system of drainage more available, iron moveable covers are put on all the drain pipes (which it should be stated are of cast-iron), and a gangway is left through all the sleeper walls: thus, by the removal of the Yorkshire stone "ways" (provided in the floor) a man may pass all over the foundation without any further interruption of the surface.

This space is also used as a reservoir for cool air, for the supply of the kitchen, to which it is admitted by large gratings under the cooks' tables.

As may be supposed, the surface under the floor exhibits a perfect network of pipes, flues, and drains.

Independently of water-closets and bath-rooms, larders, &c., there are 286 rooms to let in the hotel, 70 water-closets and 14 bath-rooms: the larders, and store-rooms of various kinds occupy the vaults under Victoria-street, and are rendered immediately available by the area between them and the kitchen and offices being covered with glass.

The original contract for the building was 68,966*l.*, but the cubical contents were extended by the increased surface subsequently obtained. The fitting up a portion for the India Board, the fittings of all kinds, and other circumstances, over which the architects had no control, produced eventually an increased expenditure, making the total cost about 97,000*l.*

Of the general features of the façade it is unnecessary to speak;* whatever defects it may have, are now for ever determined; and whether the opinion be favourable or unfavourable will very much result from the previous predilections and particular tastes of the critics. The architects, however, claim for themselves the credit of having shown some desire to construct such a building as, while it was suited to the peculiarities of the site, would possess at least some indication of "high art," untrammelled by conventionalities; and they may, perhaps, refer to the mansard roofing as proof, at least, of the latter statement.

It has not been without some anxiety that they have waited the "growing up" of the business of the hotel, to be informed, from actual experience, if the outlay which has arisen from its strictly artistic and ornamental features, beyond what was actually necessary for providing the simple required amount of accommodation, would or would not be sanctioned by the actual "money return" arising from the particular action of this part of the construction: the result has relieved them from any such anxiety; and they believe that the amount of such work has had its special revenue producing effect.

The convenient arrangement of the parts of the hotel received careful study, and the more obvious necessities of adapting the larger and smaller divisions of the building to their respective purposes,—planning the greater part of the bed and sitting rooms communicating directly with one another with double doors, and at the same time having separate entrances from the passages; arranging for the rooms to be let apart for committees, arbitrations, and other business purposes, with external approach; providing sufficient waiters' rooms on the several floors; baths and waterclosets; and withal, taking care that these were sufficient, but not "in excess" of size, or that there was not any unnecessary room lost in the passages, and that all the stories which it was possible to obtain, but at the same time that sufficient height was given to each, and that thus the greatest revenue would be produced. They had then to plan the great coffee-room, banqueting-hall, ladies' coffee-room, &c., convenient in situation and ready of access, and having at the same time taken care that the kitchens (and all their auxiliary apartments) were conveniently placed, so as to be easily overlooked by the manager. The plans exhibited to the meeting will show what these arrangements are,—a matter not easily understood in the building itself, since it has been partially re-arranged for the India Board.

Having had their attention turned to matters of ventilation in regard to public buildings during a long course of years; in their first consideration of the design for the present structure, a general system of artificial ventilation received anxious consideration; but, looking at the matter in all its bearings with reference to the daily changing circumstances of an hotel, they determined to limit all artificial means of removing heated or vitiated air to the coffee-room, great banqueting-room, some of the water-closets, and the kitchen; and this they have been enabled to achieve by generating a great up-draught in the usual way with the furnace heat; and thus to make it self-acting; avoiding the "danger" of subsequent neglect or disarrangement too common in all such ventilating undertakings when solely for ventilating purposes.

This has been done as follows:—An "awkward" spandril piece, formed by the irregularity in the shape of the "site," is cut off from the plan and formed into a great smoke and ventilating shaft: it has a horizontal area of 48 feet; and, although a passage intervenes between this and the great kitchen range, all the smoke and heat are carried over the passage into a funnel 1 foot 3 inches in diameter; reaching from the basement to the top of the brick shaft above the roof of the hotel; and running up the centre of the before-named brick shaft are carried two other funnels, into which are collected the heat and smoke from all the charcoal and coke stoves, ovens, hot-plates, steam and hot-water boilers; and by this means so much heat is radiated from the iron surface of the funnels in the space round them in the brick shaft as to create a continual strong "up-draught," and into which, at various places, horizontal flues communicating with the various rooms and places before-named have their termination; and so the continual "sucking up" of the heated and vitiated air is going on night and day, and "cool" air is admitted to the kitchen from the spaces before-named under the floor, and to the other apartments, by means of Moore's ventilators, or the opening of the doors or windows.

We may add, as a practical remark, with regard to this matter, that we believe that the peculiarities of an hotel make any other mode of artificial ventilation unsuitable: other architects may carry our present ideas out more fully and better, but we recommend them to avoid any peculiar general system of ventilation, although applicable to other public buildings.

The floors throughout the building (with the exception of two or three rooms in the basement mezzanine) are entirely of fireproof materials.

The construction of the floors, it will be seen by reference to the section, is as follows:—Wrought-iron rolled joists, 7 inches in depth, with flanges on each side for carrying the laths to support the concrete, with bearings varying up to 17 feet 6 inches in length, carried either by plate-box girders or by cross walls, were placed 2 feet apart; and fir laths, 1¼-inch square, were dropped on the flanges: upon these was laid 5 inches of concrete, composed of one part of ground blue lias lime, and five parts roughly-screened Thames gravel; and fir fillets four by four having been first fixed round the margins of each room for securing the carpets, a flooring was made by floating, firstly, a thickness of three-quarters of an inch of Portland cement and sand in equal parts; and, secondly, when the same was quite dry, finishing with three-quarters of an inch of pure Portland cement, and to the walls was added a skirting of Keene's cement.

Besides the fireproof character which this mode of construction gives the building, a freedom from the harbouring of insects was also anticipated, as well as the absence of noise; and we believe that in all these respects it has been found to act admirably.

The inconvenient transmission of sound from floor to floor (the great evil found to exist when brick arches, or concrete alone, however thick, are used) determined them to provide an entirely (and in every sense of the word) independent ceiling throughout every floor of the building; and although this (being formed in the usual way, by binders and ceiling joists, lathed and plastered) was in itself an inflammable construction; yet, with the cement floor and skirting over it, and cased, as a ceiling is, by lime and hair plasterings, out of the reach of any accidental common cause of fire,

* A view, &c., will be found in an earlier volume.

it is not thought by the architects to take much from the fireproof quality of the structure.

The great fireproof quality (next to the floor) arises from what would be quarter partitions in other buildings. Throughout this building (with very small exception) the partitions are composed of Beart's perforated bricks set in Roman cement; and such was the strength of the iron joists and plate girders on each floor, that they commenced carrying up these walls in the upper floors first, and so to the one-pair, even over the large voids of the great dining-room and coffee rooms, as by this means was avoided any evil from the deflection of the wrought-iron work when loaded.

These half-brick walls, when rendered with lime and hair on each side, are better non-conductors of sound from room to room than the architects had expected; and are in all respects a most successful mode of treating thin internal partition walls.

The other great fireproof principle is that of carrying up all the main cross walls through the roofs, and treating them in every respect as party walls, except with regard to necessary doorways and dressings; and these being away from any other inflammable materials (the floors and skirtings being of cement), no great danger of the spread of fire can arise.

The strength of the floors has had a very unexpected and severe test, in consequence of the occupation by the Indian Board; for they found upon a previous calculation that they required to place no less a weight than 227 tons of books in the upper floor; and which, when distributed, gave no less than twelve tons upon the floor of each room, with joists having upwards of 16 feet bearing: this the architects were able to assent to; for, upon calculation, they found them capable of carrying for a continuance sixteen tons.

It was part of their original design that an ascending carriage should be supplied the hotel, for reaching the upper floors; that it should be capable of carrying up persons day and night, at any moment; that this should be done with the greatest dispatch, free from danger; and that, as much as possible, noises in the working should be avoided; also that it should not occupy much room, or by means of furnaces or flues occasion any unnecessary heat in the building. Taking all these circumstances into account, they determined upon one of Sir William Armstrong's hydraulic machines as the contrivance most suitable for the purpose.

The Chelsea Waterworks giving a water supply of sufficient elevation for working the ram, they obtained an estimate from Messrs. Carricks, who had executed the various smaller lifts for the hotel; but having under the general contract only provided the shaft, the reservoir to contain 6,000 gallons of water on the top of the building, and another above the basement floor, so that the water after use would not run to waste, but be re-used in the culinary part of the establishment: this method of transit was determined upon; but the contract for completing the hoist still remains in abeyance.

The perfect safety of an apparatus of this kind became necessarily a matter of earnest consideration to the architects; as, besides the constant superintendence of the conductor, who was to ride up and down with the passengers, and by pulling the rope (acting on the valve) would stop the car at the floor intended to be reached; a further arrangement to avoid personal risk from the breaking of the chain was necessary; and Mr. Carrick (if permitted) will explain the arrangement of his safety check, to prevent any danger arising therefrom.

The means of communicating readily, and, to a certain extent, noiselessly, with the various waiters, was considered of great importance; and, thanks to the inventive faculties of this inventive period, the architects found various modes of doing this; but, in the pneumatic system of bellhanging, one at once adaptable to their purpose, as, by an arrangement of that apparatus to tablets containing the number of the rooms, they have been able to produce in the building a nearly noiseless, durable, and most effective system of communication. This is carried on by means of a piston, which, exhausting the air in a small tube, releases a catch holding up a tablet on which the number of the room is placed, and at the same time (at the station of the tablets near the various waiters' stations) striking a small bell.

After a consideration of the electric bell apparatus, and the old wire crank and tablet system, they have reason, now the actual experience of its operation has been tested, to congratulate themselves on the success of the apparatus; and they have requested Mr. Thorn, the patentee, to attend the meeting to illustrate what they have briefly said on the subject.

An extended application of speaking tubes has been made; which, besides being attached to the lifts, are carried from the manager's, housekeeper's, clerk's, cellarman's, clerk of the kitchen, hall porter, coffee-room, &c. &c., and to all the various parts of the structure to and from which messages are likely to become necessary; and the ease, quiet, and dispatch which these afford "in the working" of the hotel cannot be over-estimated.

AWARD OF PRIZES BY THE ARCHITECTURAL MUSEUM.

THE prizes for 1862 have been awarded as follows:—

CARVED STONE PANELS.

Prize 1, 10*l.* 10s., to Samuel Ruddock, 22, Bloomfield-terrace, Pimlico.

Prize 2, 5*l.* 5s., to E. W. Thornhill, 7, Pleasant-villas, Lower King-street, Dublin.

Extra prize, 1*l.* 1s., to John Gould, 1, Union-terrace, High-street, Camden Town.

CARVED STONE CAPITALS.

Prize 1, 5*l.* 5s., to James Allen, 109, Lillington-street, Pimlico.

Prize 2, 3*l.* 3s., to John Daly, 26, Wilton-street, Westminster.

WOOD CARVING.

Prize 1, 10*l.* 10s., to Henry Reynolds, 22A, Storey-street, Caledonian-road.

Prize 2, 5*l.* 5s., to Cornelius J. Herley, 2, Camden-place, South-street, Taunton.

Extra prize, 1*l.* 1s. and a book, to H. J. Wicks, 76, Coleshill-street, Eaton-square.

Extra prize, a book, to John Seymour, Tower-lane, Taunton.

Extra prize, a book, to Alfred Angus, 12, Belvoir-terrace, Vauxhall Bridge-road.

Extra prizes of books have also been awarded to Mr. Charles Grassby, of Elm House, Ealing, for a meritorious specimen of stone carving; and to Mr. E. Dujardin, of 7, Richmond-terrace, Walworth, for a well-carved wood panel; both works being excluded from their respective competitions on account of the prescribed conditions not being complied with.

The designs for tile pavements selected as possessing the most merit are, one for a Gothic pavement, by Mr. Edmund Sedding, of Penzance; and one for a Classic pavement, by Miss Mary K. Beecham, of Cirencester.

The three prizes for coloured decoration, awarded to Mr. J. P. Wood, Mr. A. O. P. Harrison, and Mr. C. J. Lea, have already been referred to.

The several adjudications were conducted by means of the marks on the sealed envelopes inclosing the competitor's names.

The prizes will be presented in the theatre of the South Kensington Museum, on Tuesday next, by the president of the Architectural Museum, Mr. Beresford Hope. Our advertising columns show where cards of admission may be obtained by simply applying.

RAILWAY TUNNELLING SUPERSEDED: LOCKS.

A CORRESPONDENT (P. M'Farlaine) writes:—"Could we suppose a person, previously well versed in mechanical principles, to be informed for the first time of the two modes of locomotion (canal and rail) at present so much in vogue; and be told that in one it was found necessary to maintain an almost uniform level; whereas, by the other, steep inequalities of the ground could be overcome; there can be no doubt but he would at once conclude that the canal was that which required the level to be maintained; and yet, judging from the present practice, how far mistaken would he be!

"Further, theoretically speaking, whatever the inequalities of the intervening ground between two termini, no more power is necessary, *cæteris paribus*, to impel a carriage from the one to the other, *if that power were economically saved and expended*, than though the course formed a perfectly straight line.

"Naturally, therefore, railways admit of easier means of overcoming superficial inequalities than canals; and accordingly, since practice is otherwise, efforts should be directed to discover the best means of placing railways in their proper position in this respect, and of economizing power and time in overcoming such inequalities."

He then gives details of a plan by which to raise trains by weights, or returning trains, from one level to another. But this, if the idea were adopted, would require further consideration.

SANITARY MATTERS.

Keswick.—The report on the state of this town, as examined by the "Committee of the Friends of Health," accompanied by two members of the local Board of Health, and to which we have already alluded, gives various particulars, such as the following, of the state of the town:—

"In reference to the two cesspools (Pack Horse and Queen's Head) mentioned at the beginning of this report, we have to observe that these two cesspools, with their accompanying foul drains, have been the propagators of at least twenty typhoid fevers, most of them of a very severe and protracted kind, three of which resulted in *death*. Within a distance of 35 or 40 yards, lying between these cesspools, the infection seems to have been as powerful as in the lowest, worst drained, and filthiest parts of the town; yet the site is elevated, and ought to be as healthy as possible. Nor until the main drainage is established will it be possible to banish these cesspools and cleanse the sewers which have produced all this misery, waste, and death. * * * *

In concluding this catalogue of filthy lanes and feverbreeding sewers—which is only a repetition of the report given by order of the magistrates in 1848, under the Nuisance Removal and Disease Prevention Act, and again in 1853, in the report of the Superintending Inspector of the Board of Health, a repetition, only with some additional evils added;—in reviewing the whole, after nine years' existence of the local board of health, it is our unanimous opinion that nothing but a thorough system of main drainage can enable the owners of the property to empty their cesspools and drain their sewers, and so to place the sanitary state of the town in a permanently satisfactory condition."

The committee have obtained the following legal opinion as to who may vote for boards of health. It was given in reply to the question, "Can the occupiers under 10*l.* rental vote in an election of members of the board?" The reply was—

"No; for they are not rated, and are not ratepayers, and are therefore not qualified within Sec. 20 of 11 & 12 Vic. c. 63. THOMAS JONES.
3, Essex-court, Temple, Feb. 18, 1862."

In fact, wherever the Local Government Act is applied and the landlords pay the rates of their small property, the powers of the "Small Tenements Act" apply. This is much to the advantage of the small tenant, who thus pays no rates except in the shape of rent, and can therefore make a clear bargain for his house-rent, unencumbered with any consideration as to rates; and it is much to the advantage of the cause of health, inasmuch as it prevents all "dirty landlords" from coercing their tenants. The legal opinion just quoted, therefore, may be very useful to many towns in which the Small Tenements Act is not applied, and in which the tenants of landlords opposed to sanitary measures have hitherto been brought up to vote against the advocates of health and cleanliness. In Keswick the rate is made on the landlord when the rent does not exceed 10*l.*; and it is to be hoped that the three members of the local board who go out this month will be replaced by sanitary reformers, who are already in the field.

Brighton.—The local *Herald* says, it seems as if it were the desire of some of the members of the town council to reverse the decision formerly arrived at in reference to the drainage for the town. A resolution, however, has been passed by the committee to the effect, that the surveyor do prepare and supply the plans and information required in a letter from T. Taylor, esq., of the Local Government Act Office.

Portsmouth.—The commissioners for the town are to have a special meeting to consider a scheme for the drainage of the town.

St. Helier's (Jersey).—The Constable of St. Helier has induced the Parochial Assembly to appoint committees, who will easily be able, if they choose to do so, remarks the local *Times*, thoroughly to inspect and report upon the sanitary condition of every portion of the parish, and bring it as far as human precaution can, into a perfect state of health. Nevertheless, the Constable tried to demonstrate that there was really no necessity for the course of action which he himself proposed; typhus notwithstanding. The error of his opinions a correspondent of the paper named points out *seriatim*, and draws special attention to certain districts, as to which he says, "Of 141 cases attended by the medical officers of the Jersey Dispensary, 73, or more than one-half, took place in three neighbourhoods, viz.—Gallows-hill, or the Cholera-ground, Cannon-street, and Dumaresq-street. To speak of the first only—in Kenyam-place, consisting of four cottages containing sixteen rooms, were crowded thirteen families. There is no drainage or water-closets; all the excreta are emptied out in front of the doors or on the common adjacent, and the inhabitants have to fetch their water from George-street. Three of the great conditions necessary to health are thus unfulfilled—good air, good water, perfect drainage."



THE NEW FONT IN LICHFIELD CATHEDRAL.

NEW FONT IN LICHFIELD CATHEDRAL.

THE new font in Lichfield Cathedral, the gift of the Hon. Mrs. Howard, was designed by Mr. Slater, and executed by Mr. Forsyth. We have engraved a view of it. The body, capitals, and base, are of Caen stone: the top moulding is of alabaster. The columns of the body are in emperor's red and Derbyshire russet; those below being of Brocatella and Galway green marbles.

The subjects in the panels, which Mr. Forsyth has executed with care, are,—"The Entry into the Ark," "Passage of the Red Sea," "Baptism of our Lord," and the "Resurrection." The figures at the angles are—the Virgin, St. Peter, St. Helen, and St. Chad. The font stands upon a pyramid of steps of white Mansfield stone, and is placed under the second bay at the north-west end of the nave of the cathedral. It still wants a cover, either of oak, alabaster, or metal.

Amongst other excellent works in the cathedral we may mention the incised pavement in the choir, west of the altar rail, executed by Messrs. Clayton & Bell. The medallions comprise four historical subjects and sixteen busts of historical personages connected with the cathedral. The frame-work, so to speak, of the incised medallions —tiles used mosaic-wise—is by Minton. The stone used in the pavement is that of Hopton Wood.

FOREIGN AND ENGLISH WORKMEN, AND THE EXHIBITION OF 1862.

THE coming Exhibition, besides the advantage of its useful and varied teaching, offers a chance of still further good by the opportunity which it will afford for the meeting together of classes of workmen for the exchange of civilities and for a comparison of ideas. The good that will arise from this, if plans are well arranged and carried out in a right spirit, will be great. We trust, therefore, that earnest attention will be given to the matter, and plans devised which will enable the workmen of this and other lands to come frequently together. Our own countrymen and the artisans who will flock from other cities are willing; but we want some organization which will properly bring about what is so very desirable. It is curious to reflect on the changes which have taken place as regards the feeling now existing between our own and foreign workmen, and the ideas that were common in the days gone by. In the old times there seems to have been a Continental brotherhood existing amongst the artificers connected with ecclesiastical and other important buildings. Scholars also, and learned professors of science, met with a kindly reception in the cities and colleges abroad; but, as regards the chief number of those who composed the guilds of London and the English borough corporations, the jealousy which existed on our part was extreme. Even in Queen Elizabeth's reign, the regulations in connexion with foreign handicraftsmen were most stringent and unreasonable; and it would often have been dangerous to the life of a strange workman then to have sought employment within the City. It is not so now; and in various establishments the mingling of the people of other countries with those of our own leads to mutual respect.

In Paris, the French committee of operatives have issued an address to the workmen of that city, in connexion with our coming Exhibition. The Parisian artisans are reminded that this will be the third time within the last ten years that they have taken a part in a competition, to which nations bring the wonders of their industry, and which at the same time must excite the emulation and genius of the producers, and increase the reciprocal esteem and friendship of the peoples. Convinced of the immense advantages which result from these opportunities, the Prince Napoleon, president of the Imperial French Commission, submits a plan to facilitate the journey to London of operatives, who would make a selection among themselves in each trade exhibiting. A plan of this kind has been adopted. The benefit of the study by practical men engaged in the various branches of industry, at a time when new treaties of commerce are in the course of being carried out, is properly appreciated, and all professions will hold it a point of honour to be represented at the London Universal Exhibition—"some, in order to rise from their state of depression or inferiority; others, to maintain their pre-eminence, and to sustain the industrial and artistic reputation of the French name. In a short time, a man who does not possess a solid professional knowledge will be a mere human mechanism added to the machine. We must, therefore, conquer that special instruction which extends aptitudes and stimulates inventive genius. Man must more and more develop his intellect, in order to be master of the tool, and not its slave."

The committee of operatives is charged by the Imperial Commission to proceed to the choice of delegates; to proclaim the elect; and urge the subscriptions. It is mentioned that, in order to obtain the marked objects of their efforts, it is well to put aside personal motives; and it behoves the dignity of workmen generally to participate in the expense entailed by the journey of their delegates; and it is asked, that, in order to increase their number, all those upon whom distress has not too severely pressed should make a subscription, from workshop to workshop, to be added to the 40,000 francs already placed at the disposal of the committee of the operatives by the Imperial Commission of the City of Paris.

These arrangements are praiseworthy and suggestive; and it might be considered by the operatives of the metropolis, if some similar plan in connexion with foreign industrial exhibitions could not be usefully adopted. Already Austria has arranged to send her skilled artisans to the International Exhibition of Industry; and from other countries bodies of the most intelligent workmen will come to us: it is, therefore, most desirable that an associated commission of English workmen and others should be formed to receive all deputations of foreign mechanics, &c., and attend to their convenience and comfort during their stay in this country.

There is no doubt that during the approaching summer the groups of workmen who will visit us from foreign parts will be far larger than in 1851: it is, therefore, most desirable that a scene similar to that which occurred on the occasion of the arrival of the French musicians should not again happen. There will be plenty of comfortable accommodation suitable to all pockets; but



VESTRY HALL OF THE HAMLET OF MILE END.——MR. JAMES KNIGHT, ARCHITECT.

there should be an effective system of guiding the strangers to the places desired, which should be attended to by parties named by the Commissioners of the Exhibition.

THE VESTRY HALL, BANCROFT-ROAD, MILE-END-ROAD.

A VESTRY HALL has been recently erected for the hamlet of Mile-end, at a cost, including furniture, of 3,700*l*. The entrance-front is shown by the accompanying engraving. We give some particulars of the accommodation afforded.

The entrance-hall is 36 feet long, and 11 feet wide: on either side of this are the offices. On the right are the surveyor's public and private offices, the medical officer's offices, and the inspector of nuisances' offices. On the left are the clerk's public office, the clerk's private office, the committee-room, and the churchwarden's room. All the offices are large, well lighted, and lofty,—12 feet 6 inches.

On this floor are a lavatory and other offices.

The staircase, of Portland stone, leads to the vestry hall. The first flight terminates on a landing, from which spring two other flights, of similar dimensions and materials,—the one on the right leading to the visitors' entrance to the hall; that on the left being for the use of vestrymen, who have a separate entrance to the hall.

The hall is 54 feet long, 36 feet wide, and 22 feet high, and has an elliptical ceiling and cornice, decorated with medallions representing the arms or seals of the various public bodies of the hamlet. On this floor are rooms for the housekeeper, lavatory, offices, &c.

In the basement is a large muniments' room, storage for coals, &c.

The vestry hall is lighted by two sun-lights in the ceiling, each containing seventy-two jets.

The hall is well furnished with oak seats, covered with haircloth; and there is a large oak table, 27 feet long and 6 feet wide, provided; so framed that, for public meetings, when a platform is required, this table can be used for the purpose.

The building covers a space of 3,074 superficial feet; being 58 feet long and 53 feet wide.

The whole of the works have been carried out under the superintendence of Mr. James Knight, architect.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday evening, the 28th ult., at the House in Conduit-street; Mr. Blashill in the chair.

A letter was read from Mr. Herring (who was to have read a paper on the last evening of meeting), expressing his regret that he was compelled by indisposition to absent himself.

Mr. R. O. Harris read a paper on Surface Decoration, and the means employed to effect it.

At the conclusion, Mr. Harris called attention to several specimens of inlaid work in imitation of Florentine mosaic work, executed by Mr. Georgi; and the latter gentleman subsequently explained the process.

In a short discussion which ensued, the cost of the process was reviewed, in order to ascertain how far the invention could be brought into general use for internal decorations, furniture, &c.

Mr. Paraire, in moving a vote of thanks to Mr. Harris for his interesting paper, expressed a hope that, as no time remained for discussing it that evening, the committee would make an arrangement to devote an entire evening to it on a future occasion.

The vote was agreed to *nem. con.*

THE SITE QUESTION OF ST. THOMAS'S HOSPITAL.

OUR views on this very important subject are fortified and their reasonableness confirmed by the facts brought out in a pamphlet just issued, under the title of "A Few Remarks on the Selection of a Site for the Re-erection of St. Thomas's Hospital;" and we propose here merely to glance through it, picking up a few of its sentences as we go, and embodying them in an abstract of the pamphlet itself, together with an occasional comment.

St. Thomas's was originally a priory or monastic institution, which in 1553 was converted into an hospital and endowed for the cure of the sick poor. It was situate *in the country*, with only a few houses and inns near it, though only separated from the metropolis by the bridge. It was comparatively inaccessible at that time, conveyance by carriage being both rare and costly; nevertheless, the king and his advisers had sagacity, or sanitary knowledge sufficient to induce them to prefer such a site to others which, at that time, could have readily been got in London. It was, doubtless, to a certain extent, from similar reasons, that Guy's was planted down alongside of it in 1725; although at that time the rural advantages of the locality were not so great as formerly. In its present state, Guy's, of the removal of which no question occurs, is sufficient to meet all the requirements of the neighbourhood, even were St. Thomas's removed; and might itself, therefore, form the town establishment for a conjoined hospital; Guy's, of course, reaping the reciprocal advantage of having a rural establishment in St. Thomas's, if removed out of town, where its patients would rapidly convalesce and be enabled to return to their families and their usual industrial avocations.

Nearly one fourth part of the patients of St. Thomas's Hospital at present come from a district including Woolwich, Greenwich, Blackheath, Lewisham, New Cross, and Rotherhithe; and out of 500 accidents annually admitted into the hospital, 100 are from the City; and of the remaining 400 the district already named, with the county of Kent, beyond Woolwich, contributes no less than 130; and if we include the places that would be nearer and more easy of access to Lewisham than London Bridge, it would be at least the half of the 400. If St. Thomas's were removed to Lewisham, Guy's would no longer receive accidents from Woolwich, Lewisham, &c.; whilst St. Thomas's would to a certain extent be deprived of its City supply; so that there would be no fear of each hospital being without its proportion of accidents or of general patients, and more conveniently arranged both for the patients and their friends.

The mortality at Lewisham is only 17 per 1,000; whilst in Southwark it averages 33 per 1,000.

Much force has been ascribed to the supposed reluctance of professional men of eminence and ability to attend the hospital if placed anywhere else than just were it happens at present to stand. Now the following facts completely controvert such an idea. Of the five surgeons of the hospital three of them already live on the line of the Lewisham rail! One in Blackheath Park; a second at Chislehurst; and a third at Lee. A fourth is often seen at Blackheath, and may possibly be found at Whitehall or somewhere in Tyburnia; whilst the fifth lives at Southgate, ten miles from the hospital!! The resident medical officer of course lives in the hospital, wherever it is situate. Of the physicians it may be stated that they are never called to cases of emergency. One even of these, however, and who is said to have a larger practice than any one of his colleagues, if not than any two put together, has recently taken a house at Lee, near Lewisham. A second resides at Sussex Gardens, Hyde Park, more than five miles (or by omnibus an hour's drive) from the hospital. The others are scattered from east to west to suit their own convenience, and not that of St. Thomas's Hospital; the removal of which to a rural district so accessible by rail both to the west end and the east, we may add, would be much more likely to induce the medical officers to reside *near* the hospital than at Southwark, from which, on the contrary, most of them seem to have an anxiety to be as far off as possible,—and no wonder.

As for the lecturers, till very recently, the most popular one of them on Physiology and Anatomy lived at Highgate, and lectured at nine a.m. five days a week in winter at the hospital; and the present demonstrator, who is at his post every day at nine a.m., lives at Hackney; and the chemical lecturer at Bayswater,—at least one hour's ride by omnibus from the Borough. In short, a healthful rural site for the hospital, such as Lewisham, is just the thing for the officers as well as for the patients.

Then comes the question of space. The *Lancet* states the minimum area requisite for a first-class hospital as ten acres. It is believed that at least fifteen would be essential to the perfect construction of St. Thomas's Hospital with all its dependencies and *airing grounds*—so essential to rapid recovery; but say ten acres. Now Pott's Vinegar Yard has only 4¾ acres, and the Queen's Bench site only 2¾ acres. As for Bethlehem Hospital, its site is impracticable, and would only double the difficulty, because a site for its erection would have to be provided for, while St. Thomas's would have to wait, which it *cannot* do, for three or four years at least. The offered sites at Walworth, the Surrey Gardens, or Kennington, have neither the sanitary conditions requisite nor are they sufficiently healthful by comparison with many sites as easily accessible. Even their low level is much against them, as they are at least 14 or 15 feet below the present low level of St. Thomas's, and always enveloped in smoke or fog, and still within the exhaustive atmosphere of the metropolis.

The run to Lewisham by rail is one of only twelve minute's time distance; and when the Charing Cross line is opened, as it will be shortly, will be additionally convenient both for patients and for west-end medical officers. The South-Eastern Company are willing to lay sidings for the hospital at Lewisham, and patients carriages would be built. Lastly, the price asked for the Surrey Gardens is in all about 70,000*l.*, whilst that for the site offered at Lewisham of 17 acres, is only 18,500*l.* And, let us add, that should a still better site than that at Lewisham, as regards healthful locality, be offered, we shall not hesitate to urge its claims in preference, as we have no interests but those of the patients to consult or consider.

PROPOSED MEMORIALS OF THE PRINCE CONSORT.

The National Memorial.—The Queen's Committee have held one meeting, and confined their attention to the consideration of the best mode of obtaining a single stone of granite for the intended obelisk. They were informed that amongst the most noted granite quarries in the kingdom are those of Aberdeen and Peterhead; Cheesewring, in Cornwall; Heytor, in Devonshire; and that of the Duke of Argyll in the Island of Mull; those of Peterhead and Mull yielding red granite, and the rest gray. The opinion of the Committee appeared to be in favour of red granite rather than gray, as more grateful to the eye, the indestructibility of the material being equal. The prime object, however, being to obtain the grandest single block of stone which the country is capable of producing, having regard to the fund which may be ultimately placed at the disposal of the Committee by the liberality of the nation; the preference for red granite would probably be waived if it were shown that any of the gray quarries could yield a larger monolith than the red ones. Information was given at this meeting of one block, 100 feet long and about 12 feet square at the base, which was obtainable. The total amount now subscribed is something over 38,000*l.*

Considerable misconception appears to prevail as to the size of existing ancient obelisks, and it may be useful if we give a few dimensions.

The highest in Rome, and, we believe, in the world, is that of San Giovanni in Laterano. This is 102 feet in height, exclusive of the pedestal, on which, rightly or wrongly we will not now discuss, it is mounted. It is 9 feet 4 inches square at the base, diminishing to 6 feet 4 inches where the pyramidion commences. It weighs 437 tons. The total height with pedestal is 147 feet. The second in order of height is that now in front of St. Peter's. The height of the shaft is 81 feet; the width at the base 8 feet 4 inches. The third in height is the Flaminian: its present length is 75 feet, and its width at the base 7½ feet. That of Monte Citorio is 69 feet in height; and that in the Piazza Navona is 52½ feet long. The obelisk from Luxor, now in Paris, may be called 78 feet long, and is 8 feet 2 inches square at the base.

As to the provinces, preliminary steps having been now taken towards the realization of the various objects in view, there is less at present to record in the way of procedure; the chief work being the collection of subscriptions.

Hastings.—It is supposed that the memorial here will consist of a clock-tower, in the vacant space at the junction of Robertson-street, Havelock-road, and York-buildings. The committee are canvassing successfully for subscriptions.

Worcester.—The question of a local memorial, or aid to the central one, is still unsettled here. Lord Lyttelton urges aid to the central memorial, and declares local ones a mistake. The local *Chronicle* thinks his lordship's opinion rather an odd one, but is convinced a local memorial will not be supported by the county. A sanitarium or hospital had been proposed as a memorial of the Prince. According to the local *Herald*, a city meeting had approved of a sanitarium, and were of opinion that a joint county and city memorial was preferable to a contribution to the central fund. Nevertheless, the meeting appointed a committee to report on this very question. The *Herald* says, on the general subject:—"Let us suggest that, in speaking of a national monument, there is no necessity for applying that distinction solely to the metropolitan memorial, or for excluding from it the local efforts. All of them, wherever to be placed, are entitled to be included in the term national. It is because the early removal of the Prince is a national loss that they are to exist; and they testify of that in express terms. As to a mere art memorial in such cases, the Prince's opinion was so decidedly in favour of the useful, *teste* the Wellington College, that if that is to be any guide the latter will prevail. If, however, the efforts of Worcestershire were equal to both modes, then in regard to an ornamental memorial we should prefer to see carried out a suggestion which has been offered of placing a statue of Albertus Bonus in front of the Shirehall."

Evesham.—At a public meeting here, it has been resolved "that a subscription to the national memorial, or any other local county memorial, would be better made by personal contributions than by a public subscription in the borough; and this opinion was expressed with feelings of the deepest respect to the memory of the late Prince Consort, and in view of the local works requiring aid, of a character in harmony with the objects which engaged the attention and enjoyed the support of the illustrious Prince."

Wolverhampton.—At a meeting convened by the mayor, for the purpose of devising means to enable the townspeople to subscribe to some memorial to the late Prince Consort, either local or national; it has been resolved, after some discussion, to call a town's meeting, so that everyone might have a voice in the matter. Meanwhile the meeting formed itself into a committee, with a view to ascertain the cost of two or three different sorts of memorials; and, as far as possible, the amount of money, whether large or small, that the town would be likely to raise; and to report thereon to the town's meeting.

Scarborough.—At a public meeting held here, a resolution has been passed, promising support to the subscription now being raised in London; but at the close of the meeting,—indeed after the mayor had virtually vacated the chair,—a strong feeling was expressed in favour of a local monument; a statue, to be placed on St. Nicholas Cliff, being suggested. Nearly 200*l.* was at once subscribed towards this object. The supporters of the local memorial appear to be in earnest, and intend either to canvass the town or personally to solicit the subscriptions of the inhabitants. It is understood that both subscriptions are open to all; but the local fund is looked upon with more favour than the general, hitherto. It is a pity, however, that the decision should have been a divided one, as little good to either object may result in a place such as Scarborough.

WORKMEN'S DWELLINGS FOR EDINBURGH.

A PUBLIC meeting has been held in Edinburgh to consider the state of the dwelling-houses for the working classes of that city, and how best to improve them. Sir John M'Neill occupied the chair, and addressed the meeting; after which the Rev. Dr. Candlish moved the first resolution:—

"That the state of many of the dwellings of the working classes of Edinburgh is a disgrace to a Christian city; injurious to health and morality; and calculated to originate and diffuse disease, and to counteract the various means adopted for the physical and moral elevation of the population."

In speaking to the resolution, the rev. gentleman said he could not but express his feeling that the way in which the recent calamity at Edinburgh had been dealt with was by no means satisfactory. It was not, in his opinion, such as was fitted to make the public mind at ease as regards all having been done that was possible to be done, to ascertain the cause, and to proportion the de-

grees of blame, if there was blame; and it was not fitted, he thought, to give the public any greater feeling of security than they had before as to this sort of calamities being duly guarded against.

The Rev. Mr. Robertson seconded the resolution, which was unanimously agreed to.

Dr. Alexander Wood then moved:—

"That while certain powers for the removal of dangerous tenements, and for the improvement of unwholesome ones, at present exist, these have been proved to be inadequate in themselves, and not to have been duly enforced. It is therefore, incumbent on the citizens to demand the creation of powers adequate to the emergency; but, above all, to secure efficient inspection and control."

This resolution was seconded by Sheriff Clegharn in the absence of Mr. Mure, M.P., and also unanimously agreed to.

The Rev. Dr. Guthrie then moved:—

"That one great cause of the present state of these dwellings is the overcrowding of the inhabitants; that this is in a great measure due to the limited house accommodation for the working classes in Edinburgh; that it is, therefore, of importance to encourage, in every way, the erection of suitable dwellings by joint-stock companies, co-operative societies, and otherwise."

This resolution was also agreed to, as well as one appointing a committee to promote the objects in view.

THREATENED NUISANCE IN PICCADILLY.

CONSIDERING the efforts we have made for the establishment of "halting places," we shall not be considered likely to throw unnecessary obstacles in the way of their establishment; but we decidedly object to the placing of one in the street, at the end of the south side of Piccadilly, and opposite Devonshire House. The offensive stupidity of such an arrangement is obvious to every one, especially when it is considered that by placing it a little further along, where there is no Park entrance; and under the pavement; with screened steps, descending to the level of the Park, which is several feet below that of the pavement; all reasonable objection would be obviated, and an eyesore removed from public view. Why, with a locality so suitable, the street should have been chosen, and at a spot close to the public entrance to the Park, it is difficult to imagine. We trust it is not too late to prevent the proposed unnecessary nuisance.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

ON February 26, Mr. N. Gould, V.P., in the chair, Mr. Brent, F.S.A., transmitted various Roman antiquities discovered at Canterbury, in May last, upon digging for gravel at Bigherry-hill, 7 feet from the surface. They consisted of some curious triangular bricks, very imperfectly burnt, which formed a circle; the apices being apparently united at one time by a cord to keep them close together; three holes being bored through each brick to admit it. Mr. Blashill presented the drawing of a font, at Compiègne, made last summer. It is of black marble, now disused and dilapidated. In point of execution it corresponds with that at Winchester and others belonging to the same class.

Amongst various other matters submitted, Mr. T. Wright, F.S.A. gave an account of a Roman altar, at Tretire, in Herefordshire. It had at an early period been fashioned into a holy-water stoup. The inscription on its surface reads,—

DEO TRIV . .
BECCICVS DON
AVIT ARAM

The mutilation of the name of the deity is unfortunate, but Mr. Wright conjectured it to be *Trivius*, the god of the cross roads. Among the ancients many deities presided over the roads; and it is very natural that, in such a district as this, close upon the Forest of Dean, the great Roman iron-mining district, which was covered with roads, great and small, the roads should be placed under their protection. Altars have been found dedicated to the Bovii, Quadrivii, and Devii. Mr. Wright esteemed it as the only instance in this country of a Roman altar having been adopted for any purpose connected with Christian worship. Mr. Roach Smith has mentioned one originally dedicated to Jupiter, being formed into a baptismal font, at Halinghen, in the Pas de Calais (France).

The Bishop of Ely, through the Rev. Mr. Hartshorne, exhibited a beautiful reliquary, enamelled, and set with jewels, of date of 1404.

The Rev. Mr. Hartshorne read a paper, giving an account of the Expense Roll of Joanna de Valencia, Countess of Pembroke, mother of Adomar de Valence.

A SCHOOL OF ART FOR MARYLEBONE AND THE WEST OF LONDON.

A MOVEMENT is on foot for the establishment of a School of Art for Marylebone and the surrounding districts. A committee of manufacturers and others interested in the matter has been formed, to act in concert with Government in the establishment of such a school; and at a meeting of the committee, held on Wednesday, energetic measures were determined on to this end. Mr. P. Graham, Mr. Jackson, sen., and Mr. Hubert, are acting as a sub-committee.

In this important quarter of London, the trades and manufactures depending more or less upon artistic skill must be greatly benefited by the proposed school; while the general public will also be able to participate in its advantages. The fact that already more than a hundred persons express their wish to enter upon the studies of the school is significant regarding its future success, and proves that the institution is a public want.

SCHOOLS OF ART.

The Ipswich School.—The school of art established here continues to prosper, according to the *Suffolk Chronicle*. The students number upwards of 100; and their drawings, now being exhibited, prove that advantage is taken by them of the opening afforded by the school. The Government Inspector, Mr. Eyre Crowe, has just held the annual examination; when, in addition to the great majority of the students, a large number of persons not connected with the school, including some 300 children from the National Schools, were examined in freehand drawing: the students were also examined in freehand mechanical, geometrical, perspective, and model drawing. Mr. Crowe likewise examined the drawings of the students, and the result has been that he has awarded fourteen medals to the students; or four more than were awarded last year.

The Cambridge School.—A meeting of the friends and supporters of this school was held on the 21st ult., in the Old Assembly Room of the Town Hall, when the prizes to the pupils were announced. The entertainment consisted of addresses interspersed with music. A numerous company collected. The chair was taken by the Mayor, Mr. C. F. Foster, and the meeting was addressed, among others, by Mr. Wylde, the Government Inspector, who, in the course of his speech, said it was for the artisan class that these schools were chiefly established; and, in all the towns which he visited, he found that the artisans were always very willing to take advantage of everything that had been offered. He then proceeded to read the award of medals to the students. Mr. Wylde then called attention to the fact that, out of the twelve students he had named, ten were belonging to the ladies' class. [In the school just noticed,—the Ipswich,—we may here remark, ladies seem also to excel.] Mr. Wylde added that he should have expected that the proportion would have been the other way; but he trusted the male class would be stimulated to further exertion.

The Birmingham School.—The annual meeting of the donors, subscribers, and friends of the Birmingham Society of Arts was held at the society's rooms, New-street, on Wednesday evening, when the prizes and medals to successful students of the School of Art were distributed. Sir Francis Scott presided, and the mayor was present. The report of the committee stated that the number of students of all classes who had attended the school during the year was 903; being an increase of twenty-nine over the number attending the preceding year. The amount of fees received had been 600*l.* 11s., showing a decrease of 4*l.* 19s. 6d. This apparent anomaly was accounted for by the fact that a greater number of students than usual had attended only one of the two sessions into which the school year is divided; by the greater number who had obtained nominations from subscribers; and by a slight decrease in the numbers attending the day classes, the fees of which are highest. The increase in numbers was, in fact, in the lowest paying classes, for whose benefit the school is peculiarly designed.

The Birkenhead School.—A meeting of the committee, master, and students of this school has been held at the school, to distribute the medals and prizes awarded by the Science and Art Department. Mr. George Harrison presided; and before presenting the medals and prizes spoke of the advantages to be derived by pursuing the several branches of instruction offered in the school, for, he said, in copying forms, the eye was educated as well as the hand, and the reasoning faculties must be brought into play. There was scarcely a trade or occupation in which a knowledge of drawing was not of service either in making a workman of greater value to his employer or rendering the task of direction more easy by its aid. This institution was opened in June last; and since that time a greater amount of success has been attained than could reasonably be expected in so short a period; there having been awarded sixty-four prizes at the late examination, fourteen of which are medals; six drawings being selected for a still further competition in London for national medals as Queen's prizes. The remarkable aptitude of young girls for excelling in such exercises was here also shown.

ST. MARY'S, MARTHAM, GREAT YARMOUTH.

THE parish church of St. Mary, Martham, with the exception of tower, porch, and aisle walls, of Pirpendicular work, has been taken down and rebuilt; an extended chancel, with sacristy, replacing its low-pitched dilapidated predecessor. The whole of the roofs are new; those to nave and chancel being of the hammer-beam type, with carved figures and spandrils pierced in varied patterns. 6,000 cubic feet of English oak and wainscot have been used; and thirty tons of milled lead on oak boarding cover the whole; the rain water being conveyed to drains; pews removed, and area of seating boarded on oak joists. The aisle floors are laid with Peake's tiles on concrete; due care being taken to preserve in them memorials of the departed. Open benches, with carved poppy standards, 3½ inches thick, take the place of pewing. Such portions of old seating as could be worked up have been refixed and cleaned. The well-known door has been carefully restored and protected by iron gates to porch;—all windows are new mullioned and traceried where necessary, and every window is re-glazed. The lichen is left on rebuilt external stone dressings, interior work being cleaned. A new and lofty arch of two orders opens into chancel above level of rood-screen cornice. From north and south jambs project angels half life-size, holding the chalice and paten: above there is very elaborate stalk foliage and disengaged marble shafts, with carved caps support the soffit order, which is boldly cusped in trefoils, with square intrados. Both orders are moulded, hollows and spandrils being charged with foliage very much relieved. An inscription in stone follows the curve of label on the extrados. The chancel (which, together with arch, is a Decorated design) of three bays is pierced at east end with a five-light window, there being three two-lights on south side, and two on north. The tracery of each is brought below the cord-line, and in east window consists of a large circle containing four spherical squares filled with flowing tracery, resting on two spherical squares of similar pattern, above side lights, the centre light running up to support cill of the great circle. The side window-heads consist of spherical squares containing glowing tracery of similar character to that at east end, which may be designated as Eclectic Second Pointed in style. The wall face inside is recessed into blank moulded and hooded arcading above level of cill string, and divided by pilasters. Facing each pilaster are disengaged Portland shafts resting on corbels at string level, and supporting curved stone brackets under hammers of principals, which are curved upwards, and carved into life-size figures of angels, with wings extended, represented in various acts of praise.

The roof consists of principal and intermediate framed trusses, with semi-octagonal counter ceiling of wainscot panel and moulded ribs, rising from a stone cornice with wooden pierced and moulded parapet. The principals have diagonal braces, and are strengthened with 4-in. blades, trefoliated and soffit cusped framed into and pinned to vertical post of hammers. There are brackets also from hammer post giving a longitudinal support to purlins. All framing is put together with old oak pins which are shown to project. The noticeable exterior features are pebble and free-stone construction; height of gable; projection and size of buttresses; rake of water tables and canopies to same; substantial effect given by recessing glass line and large girt of jambs; amount of window tracery; pitch of roofs; ornamented flint and stone dado, and relieving arches. The fittings consist of a new stone pulpit, placed at S.E. angle of nave: the new oak reading-desk (facing south) occupies the opposite angle. A metal Rood screen is surmounted by a cross in centre, with three stems for candles on each side. Stalls of wainscot are fixed in first bay, having subsella divided by elbows, from

which rise columns supporting bookboard of seat above. The panels have a vesica patera charged with foliage in high relief. Sedilia arcaded of three occupy the south wall of sacrarium, their wall plane being diapered and otherwise enriched with carved capitals, label stops, and patera. In the wall opposite is a monument, consisting of an ogee double-feathered cusped and crocketted arch, resting on engaged columns, and opening into a groin-vaulted recess covering the Arcosolium. The Reredos is formed of cusped and moulded arcading on detached shafts, with carved caps and cornice. The arches over altar rest on angel corbels. The wall plane is of ashlar, richly diapered. The font, which is ancient, has been supplied with a new York dais and steps. The altar is high and long, and stands on a dais of marble. The carved foliage is designed from flowers culled near the Holy Sepulchre, tomb of the virgin, Mount of Olives, &c., treated in a semi-conventional manner.

The fragments of old stained glass, which at one time filled clerestory and aisle, have been worked into two aisle window-heads. The great east window has been charged with stained glass, designed to represent the most important incidents in the life of the Saviour; the Crucifixion and Ascension occupying the centre light.

The tower is being restored by the parish. The lower stage is thrown open to nave, showing new ringing-floor;—the roof and bell framing having to be removed, and tenor re-cast. It is proposed to raise the pitch of pyramidal roof and conical cap to staircase. The cost of works (8,000*l.*), has been defrayed by Mrs. Dawson, of Rolleby Hall.

The contractors employed were Messrs. Johnson, of Great Yarmouth, for nave, tower, and aisle; Mr. Stanley, of Great Yarmouth, contracting for all stonework: Mr. D. Rust, of Martham, executed the chancel roofs and seating; Mr. Woolverton plumber's work; Mr. Pratt, flint and plasterer's work; and Messrs. Hardman the stained glass and metal work. The stone carving has been performed by Mr. Thomas Earp, Mr. Grasby, and assistants; Mr. Mackie undertaking all oak carving. The work has been six years in progress, and has been carried out from the designs and under the direction of Mr. Boyce.

PROVINCIAL NEWS.

Halsted.—The tenders for the new railway-station sent into the board, being greatly in excess of the estimated cost, according to the *Chelmsford Chronicle*, have been rejected by the directors. New plans will be prepared. The lowest tender was 2,700*l.*

Norwich.—The scaffolding has now been removed from the front of the new Corn-hall, exposing the carving on the entablature over the central entrance. It was executed by Mr. Barrett. Rather an odd thing in such a position is the motto—"*Honi soit qui mal y pense*"—especially as there are no emblems of royalty about it. "The signification of such words immediately over the entrance to a corn-exchange," remarks the *Norfolk Chronicle*, "has provoked a good deal of speculation, as little conclusive as the controversy as to the meaning of the celebrated monosyllable engraven on the temple of Apollo, at Delphi. 'Evil be to him who evil thinks' may have been meant as a piece of playful irony; but we are inclined to think that the ingenious artist had no hidden motive whatever; and that, in all probability, balancing himself between '*Honi soit qui mal y pense*' and '*Dieu et mon droit*,' he chose the former as a little longer, and therefore more suitable to the inevitable scroll which always figures in such designs." What either the one motto or the other had to do with such a position, it is not easy to see. There are a wheat-sheaf and ears of corn in the centre. On each side is the figure of a goddess, holding in her hand a sheaf of corn with—not a corn-flower or poppy, but—a *rose* in the centre. The two figures are exact duplicates of each other. The building is now finished, with the exception of the oak flooring and the gas-fittings: the latter are in course of erection. The hall is full of stands. The architects are Messrs. Goodwin & Butcher.

Stourbridge.—The Grammar School premises have been rebuilt, and now form a feature in the architecture of the High-street, to which they have a frontage of 101 feet. The style adopted for the buildings is the Perpendicular, from a design by Mr. T. Smith, of Stourbridge, architect. The main entrance is under a tower 60 feet high, which is approached from the street by a broad flight of stone steps. The residences are approached from the street by a terrace, which has an ornamental pierced wall and iron gates. The end of the school towards the street is a semi-octagonal, and is buttressed at the angles. The three centre faces have windows with tracery in the heads. The roof is high in pitch, and covered with black and red tiles in bands. The school is a parallelogram of 52 feet by 22 feet 6 inches. It is 30 feet in height. A lecture-hall, 39 feet by 17 feet, is entered by an archway and lobby. The tower is surmounted by a cupola, forming a chamber for a clock and three bells. Owing to the want of funds much of the carving has been left in block, except the arms of the royal founder. The cost of the work as carried out, including purchase of additional frontage, is about 3,050*l.* The builder is Mr. Nelson, of Dudley.

Dumfries.—The new filters, at Lochfoot, for the local waterworks, and which are in the course of construction by Mr. Moffat, contractor, from plans supplied by Mr. Bateman, C.E., are approaching completion. The four filter-beds formerly in use have been replaced by two large ones, each 93 feet long by 45 feet. They are constructed for the most part of fine Welsh bricks, which contain a good deal of iron in their composition, and withstand frost,—a point in which the bricks used in the old filters were defective. The filtering medium will in the first place consist of a bed of concrete, covered with coarse gravel, of the size of chestnuts or horse-beans, to a depth of 6 inches; this again with fine gravel the size of peas, to an equal depth; and this will be followed by a layer of fine sand on the top, 2 feet in depth. From 1,200 to 1,400 tons of sand and fine gravel will be used in the new filters.

Melrose.—A corn-exchange will soon be erected here, which will be suitable for lectures, concerts, sales, &c., for which there has hitherto been no proper accommodation. A site in the Market-place is thought most suitable. The total cost is estimated at 2,000*l.*, and shares of 5*l.* each to considerably above that sum have already been taken.

CHURCH-BUILDING NEWS.

Kilburn.—The Bishop of London has consecrated the new church of St. Mary, Kilburn, the foundation-stone of which was laid two or three years since by General Upton, M.P. The church, which is from the design of Mr. Francis, is intended for the accommodation of a district taken out of the Kilburn end of Hampstead parish. The edifice is of considerable size. It consists of a nave, 91 feet by 26 feet 6 inches; north and south aisles, 60 feet by 15 feet; north and south transepts, 86 feet across, and 21 feet wide; chancel, 32 feet deep; and side chancel aisles, opening with arches, both into the transepts and chancel. The columns of the nave are alternately circular and octagonal, and are enriched with foliated caps. The clerestory windows consist of large trefoils, with intermediate tracery, and triangular hood moulds outside. There are large four-light windows at the extremities of the transepts, and a five-light window at the end of the chancel. The altar is approached by six steps; and stalls for the officiating clergy and choir are ranged in the chancel, facing north and south, with an oak eagle for a lectern, placed westward of the chancel arch. The roofs have a series of arched principals, with diagonal braces over; the whole being boarded and felted. The church will hold about 1,000 persons on the ground floor, and there are no galleries. The total cost has been about 9,000*l.* The style adopted is the Flowing Middle Pointed. It is intended, when funds will permit, to erect a tower and spire at the south-west angle of the building. The builders were Messrs. Keyes & Head.

Farnham.—A new chapel of ease, in connexion with the mother church of St. Andrew, Farnham, has been opened at the Bourne, about two miles distant from the church. The chapel has been erected at a cost of about 470*l.* It is constructed to accommodate about 180 persons. Mr. J. Coulson was the architect, and Mr. F. Birch the builder. The site was presented by the Rev. E. J. Ward, rector of East Clandon; and Mrs. J. M. Paine furnished the stone and other materials necessary for its construction. The illuminated commandments, creed, &c., were executed, and presented, by Miss R. Thackrah.

Brighton.—The nave of the new Roman Catholic chapel of St. Mary Magdalen, in Upper North-street, has been opened. The chancel was finished in July last. The edifice is in the Modern Florid Gothic style. It is calculated to hold 800 persons; and is to consist of a chancel, nave, and two aisles; the chancel being flanked with, on the one side, a Lady chapel; and, on the other, a chapel dedicated to St. Joseph. The length of the building is 100 feet; width, 64 feet; height of tower and spire, 144 feet; height of nave, 45 feet,—of aisles, 22 feet,—of chancel, 29 feet,—of side chapels, 20 feet; width of chancel, irrespective of piers, 17 feet. The principal entrance is from the north, opening out of Upper North-street. The church is from a design by Mr. G. Blount, of London, architect. Messrs. Cheesman & Freeman, of Brighton, are the builders; and Mr. Gildea acted as clerk of the works.

Worfield.—The church of Worfield, near Bridgnorth, is undergoing a thorough restoration, under the direction of Messrs. Francis, of London, architects. The fabric is a fine specimen of the architecture of the fourteenth century, and the tower and spire have scarcely their equal in the county of Salop. The chancel, which is 52 feet deep, had been modernized with a new low-pitched roof, Classic round-headed windows, and a Roman altar-screen. The works in this part of the church, which have been carried out at the sole expense of the patron, Mr. Davenport, consist of an entirely new roof, the insertion of seven new side windows, the rebuilding of the east wall, with new large five-light window, new oak highly enriched stalls, the laying of the floor with Maw's encaustic tiles, and the filling of the whole of the eight windows with stained glass of the richest character, by Mr. Gibbs, of Bedford-square, illustrative of the miracles and the life of Our Lord. The chancel was re-opened at the beginning of last month. The remainder of the church is now being similarly restored. Three end galleries have been removed: new roofs and new oak seating, retaining the original forms, are in progress; and the Classic south porch has been taken down to make way for one more in harmony with the structure. The total cost of the works will be about 3,300*l.* The builder employed is Mr. Yates, of Shiffnal.

Hindlip.—It is proposed to restore the church here, plans and drawings for the purpose having, it is said, been made by Mr. Hopkins, of Worcester, architect. The east end is much dilapidated, and the roofs are in bad condition. A vestry is also wanted, and much other work requires to be done.

SCHOOL-BUILDING NEWS.

Northampton.—St. Giles's Parochial Schools,—Mr. E. Law, of Northampton, architect,—are built of light-coloured stone, with bands of dark-coloured stone, and Bath-stone dressings to windows and doors; red bricks, quoins, and chimneys; black-brick plinth; and red-brick discharging arches over doors and windows.

Stourbridge.—The new Grammar School has been formally opened. The school and residences, which have facings of white brick with Bath-stone dressing, have a frontage to High-street of 101 feet. The style of architecture is Perpendicular, with points of the Tudor period. A tower, 60 feet high, rises over the school entrance, and is surmounted by a cupola, forming a chamber for a clock and three bells. The school forms a parallelogram of 52 feet by 22 feet 6 inches, and 30 feet high; and is approached from the street-level by a flight of steps through the tower, porch, and a lobby. The room is lighted by three windows at the street end, and at the opposite end by a four-light traceried window. The lecture-hall measures 39 feet by 17 feet. The play-ground, a gravelled space, is fitted with a gymnasium, 45 feet by 25 feet. The cost of the work as carried out, including purchase of additional frontage, has been about 3,050*l.* The architect was Mr. Thomas Smith, of Stourbridge; and the builder, Mr. Nelson, of Dudley.

Reeth (Yorkshire).—The new buildings for the Endowed Free Schools here have been opened. Although the prize for the best design was awarded to Mr. Botterill, of Leeds, the design which was afterwards adopted by the trustees was prepared by Mr. Peachey, of Darlington. The site is on the brow of the hill above the village. The design of the building is Gothic; and it is erected of the stone found in the neighbourhood. The boys' school-room, which occupies the west side of the building, is in the form of the letter L, and is 41 feet by 42 feet one way, and 18 feet by 18 feet 6 inches the other. It is capable of containing 200 boys. The girls' school-room is 18 feet by 42 feet, and will contain 150 pupils; and the infants' school-room, which will contain the same number, is 20 feet by 42 feet; so that, altogether, there is accommodation for 500 pupils. There are also two class-rooms, 13 feet by 17 feet; lavatories for each school, with a supply of water

brought in pipes from the hill 108 feet higher up; and provision has been made for ventilation. The roof, benches, forms, &c., are stained in oak, tinted with blue. There is a house for the principal master attached. The contractors for the whole of the work were Messrs. Bullock & Sons, of Richmond; and Mr. George Craythorne, of Darlington, acted as clerk of the works. The cost of the building, we believe, was upwards of 2,000*l*.

GAS.

THE Crystal Palace District Gas Company will hold their ordinary half-yearly meeting on March 13th, when a dividend of 6 per cent. per annum on the preference, and 7 per cent. (exclusive of bonus of 1 per cent.) on the ordinary shares will be declared, both free of income-tax. The directors report the prosperous working of the company's operations during the past half-year. ——At the half-yearly meeting of the Willenhall Gas Company, the usual dividends of 10, 7½, and 5 per cent. were declared, according to the class of shares.—— The Wolverhampton Gas Company have declared a dividend of 5 per cent. for the half-year. Their report states that the full effect of the reduction in the price of gas from 4s. 2d. to 3s. 9d. per 1,000 cubic feet, had been experienced during the past half-year; and that the directors had the satisfaction to report the accuracy of the calculations made previous to their announcing so large a reduction. The results, they add, clearly justified the course they adopted; and proved that, with rigid economy in every department of the establishment, they were enabled to sell gas on liberal terms, with due regard to the interests of the proprietors. And so, *we* may add, has it always been where of late years, in consequence of the *Builder's* exertions, liberal reductions, to more and more practicable prices, have been made by the companies; and now every one must be struck with the capital profits gas companies in general have of late years been reaping under their reduced tariffs of prices, although these prices are neither so low in all cases, nor the consequent profits so high, as they might be and yet will be.——The Cardiff Gaslight and Coke Company have just held their fiftieth half-yearly meeting, and have declared a dividend of 10 per cent. on their old shares, and 8 per cent. on their new.——The South Shields Gas Company also find that their profits are satisfactory, having declared, for the half-year, and free from income-tax, a dividend of 4½ per cent.

WHERE IS THE GHOST?

UNDER this title the *Alnwick Mercury*, first printing portions of our recent comments on the condition of that town, has a sensible and cogent leading article to enforce our observations, part of which we gladly quote:—

"Somewhere we have read of a haunted house which, for a time, puzzled the most inveterate disbelievers in popular superstitions. Whoever was bold enough to become its tenant soon found, to his cost, that the reputation it had acquired was no fable; for disease entered the household forthwith and carried off one after another of its fated members. In the end, its reputation became so confirmed, that it was always 'to let,' and nobody volunteered to become its tenant. At last it occurred to somebody to dig up the cellar; perhaps the bones which had been once possessed by the now troubled spirit might be found; and on receiving Christian burial, the ghost might be laid. This wise suggestion was adopted; but instead of human bones they came upon a pit. The mystery was now solved. The exhalations of the unsuspected cesspool accounted sufficiently for the perpetual presence of death. That ghost was effectually laid, and went to his rest for ever.

Such as was the haunted house, previous to the unearthing of the ghost, is the town we live in, at this moment. The angel of death, in the form of scarlet fever, has been knocking at almost every door; nor yet has he ceased his ravages. The rate of mortality has been doubled during the last three or four months; and now the *Builder* proclaims to the wide world the startling fact, —'as near as may be computed, ten per cent. of the population are, or have been, visited with some form or other of this disease.' Those who have at all watched the progress of the disease will have no difficulty in accepting the statement. And what is thus barely represented in hard figures is but the visible proportion of the evil. Who can tell how many aching hearts are at this moment brooding over the vacant corners of their firesides,—Rachels weeping for their children, and refusing to be comforted because they are not?

Now since most of us are not able to pack up our goods and to 'flit,' like the more fortunate tenants of the haunted house, it is time to be inquiring after the ghost. These are hard, stubborn, and disagreeable facts. If any one question them, the sooner they make good their point the better. The public will only be too glad to listen, and most open to conviction. Sooth to say, we would rather it were otherwise; but, because we cannot upset these unwelcome assertions, we are compelled as yet to admit them; and, as a necessary conclusion, to ask 'Where is the Ghost?' Here, then, the *Builder* comes forward to answer the question. And we may remark, in passing, that what the *Lancet* did so ably and with so much benefit to the community in regard to our food, the *Builder* has been doing for some time past with regard to the air we breathe. One town after another has been under the critical eye of its sanitary commissioners; and, if to the great annoyance of local dignities, not the less to the benefit of the inhabitants. Alnwick has now shared the fate of many other places. The *Builder* has gone over the whole ground deliberately, and with open eyes; and, whether we dissent from its assertions in whole or in part, we are bound carefully to sift every statement made, especially since our interest is so deeply involved.

Now the *Builder* has no difficulty in unearthing the ghost. It notes the prevalence of fever, and without hesitation ascribes it to a bad sanitary condition. * * *

The responsibility of this state of things rests on the shoulders of those who have the means to remove it, especially in the employers of labour.

The work can be done by none others. Let them see to it, that the manufactories of disease be swept away, and proper dwellings be erected in their stead. Let them refuse the burden; others will suffer indeed, but so will they. Science happily has not yet discovered a parapet sufficiently cunning to separate the rich and the poor, so that the former shall not share the calamities of the latter. Selfishness here, as elsewhere, will meet, sooner or later, its reward."

THE STAGE.

Princess's Theatre.—"Othello" has been reproduced with the scenery and costumes prepared for it last season; Mr. Fechter now assuming the part of *Iago*, and Mr. Ryder that of *Othello*. In all that Mr. Fechter has done there has been much to interest and please; the result of high intelligence; and we have before now expressed unqualified approbation of some of his personations. We must confess, however, to a preference for him in melodrama rather than in Shaksperian parts; and, moreover, should have liked his *Iago* better if we had not seen him play *Othello*. His strongly-marked characteristics and pronunciation prevent forgetfulness, and confuse the spectator. He is, moreover, too tender, too genial, for *Iago*. Notwithstanding these objections, there is much to admire and to praise in the performance.

Adelphi Theatre.—With few preliminary advertisements, Mr. Boucicault's new drama, "The Life of an Actress," brought a very full house on the first night; and proved successful, though a risk was run. The success, however, will not be that of the "Colleen Bawn." The most interesting portion of the drama is the latter part of the third act, "Behind the Scenes" (very closely resembling part of "The First Night"); and the least agreeable is the fourth act, where we have the young actress decoyed to a lone house, drugged, and in the power of a cold-blooded "man about town." For the last scene, the Fête Champêtre, a bright and pleasant view has been painted, of the garden front of the author-actor's own new home in Brompton. Mr Boucicault cleverly plays the chief part, *Grimaldi*, and Mrs. Boucicault enacts the heroine, *Violet*, with grace and feeling.

THAMES EMBANKMENT.

ON February the 27th, the Commissioners re-assembled at the offices of the Commission in Victoria-street, Westminster; Captain Douglas Galton, R.E., in the chair; and took into consideration five plans for embanking the Surrey side of the Thames.

The first plan submitted was by Mr. W. A. Brooks, C.E. He proposed four quays for the line of embankment;—the first from Fore-street, Lambeth, to Westminster Bridge; the second between Westminster Bridge and Bankside, Southwark; the third off St. Saviour's Dock, Bermondsey; and the fourth from the Thames Tunnel to King and Queen stairs, Rotherhithe. The estimated cost of the embankment from Lambeth Palace to Bankside would be 162,492*l*.

Mr. Austin proposed a 30-feet embankment wall, with conduits into which the sewers would discharge, combined with docks between the embankment walls.

Mr. T. E. Weller's plan consisted of a solid embankment from Westminster Bridge to Blackfriars, following the present line of the river's frontage.

Mr. J. Lightfoot's embankment would run from Vauxhall to Lambeth, with a roadway in front of all the premises to Rotherhithe, with docks between the roadway and the premises to London Bridge; also a new bridge opposite the Horse Guards, and a new street to unite York-street and College-street.

Mr. Giles suggested an embankment from Vauxhall to Lambeth Bridge, a roadway 60 feet wide to Bankside, and a new road from Nine Elms to Lambeth.

The Commissioners then adjourned.

PROPOSED IMPROVEMENT IN TRAFALGAR SQUARE.

I SEE from the journals that the fountains of Trafalgar-square are, by order of the First Commissioner of Works, to be replaced by others of superior design.

I must own that the fountains were, to me, the least objectionable of all the arrangements there. However, as they are, it appears, to be replaced by others of a "highly ornamental description," we must hope the change will be for the better; but since the alterations are being made I think it right to draw the attention of the public to another change which it might be well to make at the same time.

Every one must have observed how, when the wind is high, the flagging around the reservoirs is first sprinkled and at length drenched with water; so that it looks exceedingly untidy, not to say dirty (for there is often a mixture of water and dust which forms a disagreeable mud).

In order to do away with this *eye-sore*, which is really unpleasant to look upon, I would propose that all the flags around the reservoirs and at the back of the Nelson column be removed; and in their place grass, intersected with gravel walks, be substitued. Grass, if well kept, has always a pretty effect as a set off to sheets of water, large or small; and the showers from the fountains, instead of doing harm, would make the grass look greener and pleasanter to the eye. Broad borders between the gravel and the grass, say 14 to 18 inches wide, might be made of carefully-trimmed ivy, which would have a beautiful effect:—anything growing and cheerful, indeed, rather than those sombre slaty-looking reservoirs,

"With their dark ledge of barren stone."

WM. H. V. SANKEY.

THE PROVISION OF HEALTHY HOUSES.

SIR,—We are very much indebted for the able paper printed by you, in your useful publication, after being read before the Royal Institute of Architects; also to the same society for giving the result of some of their labours on the same subject.

His late Royal Highness the Prince Consort gave utterance to the expression which Mr. Roberts used as his motto, "The labouring population can participate in the blessings of the Almighty only in proportion to the help we are prepared to render to them;" and we do not dissent therefrom; but we are satisfied, from the whole tenour of his valuable life, that he always intended for himself, as well as for the upper classes, in following his example, to be just before they were generous.

In our humble opinions we quite agree "that useful architecture and true philanthropy mean, when applied to this subject, to distribute as much good to as many recipients at as little cost as possible," in order that expense may not deter you from carrying out your plans extensively, or prevent others from following your example; and when this rule is departed from, such attempts are not only valueless to the working classes at large, but absolutely injurious.

We will now show the kind of help we have up to the present received at the hands of the Legislature, and from those who framed the laws to which the builders of the houses had to conform, now so densely populated by the working classes, and which have left little or no ground, in or near town, for a better class of buildings.

On referring to an essay lately published, with improved plans for laying out suburban streets, and building houses forming separate dwellings, the author says,—"On our recent application to the Metropolitan Board of Works, for their approval of the plans submitted, with a separate front door to each floor, we were treated with the greatest consideration, but referred to the 'Building Act,' which does not allow two separate entrances (without having fireproof floors and a separate party-wall, from the foundation to 15 inches above the roofs, to divide the staircase from the bottom floor); if even a four-roomed house is so divided that it can be let in two separate tenements by the builder. While the same Act, and the feelings engendered by it, permit, if not encourage, the letting out of a ten-roomed house to separate families, at the least; while no distinction for lodging of the sexes can be observed; often proving the very hotbeds of disease, immorality, and crime; quite neglecting your adage,—

'As the homes, so the people.'"

This grievance, which has ruined more than half the builders and the health and morality of

many of their tenants, no one will gainsay, as separation of dwellings is as essential to profit, health, and comfort, as ventilation. We could show the help derived from the profession assisted by philanthropy and capital, and, we may add, the best intentions of the classes who are to enable us to participate in the blessings of the Almighty, by a comparison of Miss Burdett Coutts's model dwellings, Bethnal-green, and others paying the same rate of interest, which it is impossible for the building trade to follow, with those dwellings which can be built according to the improved plans and statements before referred to, which we believe to be correct.

When plans are adopted that will pay a fair return, the building trade and the working population may hope to receive the help of capitalists, *without philanthropy*. They would find but few better securities for their money. We appreciate the kindness of the upper classes, who have hitherto failed to render that help by which we could participate in the blessings of the Almighty, but which they still have a good opportunity to exercise, by trying to abolish the one hundred toll-gates and side-bars still standing within six miles of Charing-cross, and so let our masters' carts take materials to build our houses the other side of Camberwell, Cambridge Heath, New Cross, and other toll-gates, to Mortimer's improved plans, and allow the twopenny omnibuses to carry us to and from our labour, without exacting 4s. 6d. per day tolls from each omnibus—which totally deprives us, combined with the high railway fares, of living out of the back slums, courts, and alleys; although many of us are now paying 5s. 6d. per week for two rooms in these disgusting localities.

Believing your columns are always open *to the oppressed*, we trust to your kindness in correcting this, and printing it in your next publication.

CHAS. JOHNSON, Journeyman Carpenter.
ROBERT CHAPMAN, Journeyman Mason.

RECKLESS DESTRUCTION OF VALUABLE PROPERTY.

"A MAN'S HOUSE IS HIS CASTLE" NO LONGER.

THE arbitrary powers given to railway companies is exemplified in the parish of St. Mary, Newington, Surrey, where a compact property of twenty-two shops and houses in the best part of the high road is bisected by the London, Chatham, and Dover Railway, the tenants ejected, the owner ignored, and the whole estate deteriorated in value, and without any payment whatever; the leases changed, and the whole road damaged by works level with the top of the houses, and an oblique bridge across the road affecting five houses beyond the abutments; ten houses removed, and six at the north end darkened at the back by the close proximity of their works; more than one acre of ground rendered valueless, except to the company, as all means of access are cut off by them, and which would have been built upon but for them, and numerous applications for that land have been declined for two years past by the owner, to his loss: the tenants have been treated as impostors by the *auctioneer* and *broker valuers*, and the owner of the property,—an architect and surveyor, who to save expense to this company's *valuers* tendered his own valuation, having been extensively engaged in similar work for many years past—is derided by these salesmen, who have not met him as requested, to examine the property they dare offer to value unseen.

The days of the feudal Borderers are surely returned upon us, and our constitution is a myth: the deeds of yore on Shooter's Hill and Hounslow Heath are by comparison honest.

They profess to give *ample* compensation for compulsory sale, yet they cannot pay for their ruin of property and wholesale deterioration of the most valuable part of a parish; but they sell their spoils to feed their labourers. What is the need of this railway, when the South-Eastern provides all that is necessary, without the serpentine twists and twinings, which will effect no saving in time, though a little shorter, unless its object is to reduce fares by trying to obtain property at half its value, to injure the owner, and squander the funds of its shareholders in needless law expenses?

A SUFFERER.

Books Received.

Essays on History and Art. By R. H. PATTERSON. Blackwood & Sons: Edinburgh & London. 1862.

By those familiar with magazine literature, these essays will be recognized as subjects of more or less interest and pleasure; although they are by no means equal in point of excellence. Some of them have been recast and pruned, extended, or otherwise improved; so that even old acquaintances with them will derive new interest from their perusal. India is a subject in which the author appears to be well versed; and he has recast and conjoined several articles on this subject into two new essays, one on our "Indian Empire," and the other on "India, its Castes and Creeds." "National Life in China" is a kindred subject, treated of at considerable length, and which has also been recast from several articles. So has the essay on "Real and Ideal Beauty."

The first essay in the present series is that on "Colour in Nature and Art,"—a lengthened and interesting one it is,—in which the views of Mr. Chevreul, Mr. D. R. Hay, and others, of which the readers of the *Builder* will have a recollection, are *inter alia* treated of.

The next essay is that on "Real and Ideal Beauty," in which the author rightly rejects the mere association theory. Beauty, he regards as but another word for Perfection; alike in Truth, in Virtue, and in Art. This essay fittingly ushers in another on "Sculpture;" which, as he remarks, "has but one power—the power of simple Form, with which to dazzle and charm the human soul; and therefore it is pure Beauty of Form that it should seek after,—beauty of the highest kind, and beauty alone . . . . a happy embodiment of the Ideal."

The "Battle of the Styles" constitutes rather a meagre and unsatisfactory essay; but it was not to be expected that so many and such unconnected subjects as are dealt with in this volume by one author should all be treated with equal knowledge and capability. The author's views may, to a certain extent, be gathered from the following quotation as to those of Mr. Ruskin:—

"Here is his process of symbolism. Greek architecture is a dead architecture. Well,—a soul that loves deadness is a dead soul,—a dead soul is a bad soul,—a bad soul is a heartless infidel soul,—and an infidel soul is a godless soul. Greek architecture, therefore, must be a godless architecture! I do not say that Mr. Ruskin was conscious of every step he thus took in the ladder of analogy. As his analytic powers are not of the highest order, it is much more probable that he was not; and contented himself with jumping at once to the top by the help of a lively fancy, instead of seeking to make his way up steadily by the assistance of judgment. Once up, however, he experiences not the slightest doubt as to the soundness of the process which placed him there; and, turning round with supreme contempt upon Greek architecture, he pours down upon it a most dreadful volley of adjectives. No words are too strong to express his indignant censure. It is godless,—heartless,—infidel,—bad,—very bad,—DEAD!—dead, in fact, as a door-nail!

This might be all very pretty and interesting in a "Sentimental Journey;" but in words like Mr. Ruskin's which are meant (and in many respects deserve) to be standards in art-literature, such fantastic analogies and erroneous symbolisms are most mischievous. Indeed, so flimsey and unfounded are the symbolic fancies which Mr. Ruskin attaches to Greek architecture, that by a similar process of analogy we would engage to prove *anything*. Let us see, for example, how his favourite Gothic style would stand such a fanta-tic cannonading. Taking Mr. Ruskin's own definition of this style, we find that it is exuberantly fond of freedom and variety, and impatient of rule and order: are not these the marks of a licentious, disorderly, and very-bad-indeed spirit? It is very fond of ornaments,—that is a meretricious spirit. It rejoices in the grotesque,—that is decidedly a most mocking, scoffing, and profane spirit. Any one will allow this who ever saw, on our old Trinity College Church, the rude carvings representing a pack of foxes administering extreme unction to a dying goose. Suchlike profane jests in stone are frequent on Mediæval churches. It is, moreover, a most gross spirit, as the sundry indecent figures and postures on these old buildings abundantly testify. And, lastly, it is a most pagan spirit;—for what are all those grinning monsters, and dragons, and griffins, but forms taken from the old pagan mythology of the northern nations? And possibly you may catch sight, also, of fiends with three-pronged forks operating with great glee upon their victims, and suchlike purgatorial sketches, in the spirit of those gross, unspiritual, filthy, *pagan*, tortures with which, among better things, Dante has besprinkled his most unchristian Hell. Truly, a most diabolical spirit! Yet this is the style for which Mr. Ruskin would have us knock down our New-Town buildings like a pack of cards, and rear them again *more Gothico*. We fear the morals of our good citizens would never be able to withstand the contamination of living, working, sleeping, and walking amidst architecture which (*à la Ruskin*) we have symbolically shown to be of a character so decidedly licentious—meretricious—mocking—scoffing—*profane*—PAGAN—DIABOLICAL!!!

Now, this is nonsense:—we allow it; nay, we proclaim it aloud;—but nevertheless it is nonsense quite as good against Gothic as any that Mr. Ruskin has hurled, amidst the thunderings and lightnings of his oratory, against Grecian architecture."

The merits of Mr. Ruskin, however, are quite fully enough acknowledged and extolled in the section of this essay which treats of painting and poetry.

Genius and Liberty, Youth and Summer, Nineveh and Babylon, Christopher North, Utopias, the Ethnology of Europe, and An Ideal Art-Congress, besides those essays already alluded to, make up a volume which cannot fail to interest many readers.

VARIORUM.

The first volume of "The Works of Thomas Hood, edited, with Notes, by his Son," has been published by Messrs. Moxon & Co. Mr. Hood, jun., is throwing the materials collected into the order in which they were written, as far as it can be established; and we have here the works of 1821 (when Hood gave up the graver and took to the pen), and thence to 1828, which include "The Plea of the Midsummer Fairies." The volume is well got up, and the editor is evidently discharging his duty with a loving hand.——"The Book of Days; a Miscellany of Popular Antiquities in connexion with the Calendar. W. & R. Chambers; London and Edinburgh." The second part of this serial has been issued. It includes anecdote, biography and history, curiosities of literature, and oddities of human life and character; and is illustrated by numerous engravings. The idea is a good one, though not quite original; and it appears to be well carried out, so as to form a very readable and interesting work.——"Chambers's Journal. Part xcviii. 1862." Messrs. Chambers have need to look to their laurels; else the first of the cheap periodicals is not likely to hold its ground with later competitors. The matter, though much of it is interesting and entertaining, has a dryness about it as a whole which, though it may be more suitable to the graver spirit of the Scotsman, is not so palatable to English readers as it might be.——"Vacher's Parliamentary Companion; containing Lists of the House of Peers and House of Commons, with the Members' Town Residences," &c. February, 1862. This very useful directory is published monthly during the session; and, being in its thirty-first year, needs little recommendation.

Miscellanea.

ARCHITECTURAL DRAWINGS IN THE INTERNATIONAL EXHIBITION.—Her Majesty's Commissioners have just now given notice as to Class 37, that drawings and models will be received at the Exhibition Building from the 20th to the 30th of March, as originally intended.

DEGREES CONFERRED ON ENGINEERS.—At the "Spring Commencement" held in the University of Dublin on the 4th instant, the degrees of Master of Arts and Master of Engineering were conferred on Mr. J. G. Marshall, the surveyor of the district of West Ham. At the same time the degree of Master of Arts was bestowed on Mr. Hardinge, and that of Master of Engineering on Mr. Smart, civil engineers, recently returned from works in India. All these gentlemen received their education in that ancient seat of learning.

WINDSOR SEWERAGE.—In a letter addressed to Mr. Roe by Mr. Perkins, the late surveyor to the Windsor Board of Health, stating how it was that he could get nothing set right, he says,—"May I be permitted to ask you a question? Has anybody told you that, wherever the drainage of Windsor has been constructed by means of 'tunnelling,' the tunnels have not been filled in, but that a series of hollow chambers have been left, forming receptacles for the collection of foul air of the very worst description? and, as this state of things extends to a great portion of the upper part of the town nearest the Castle, do you think it is desirable that it should remain so?" We have not heard of Mr. Roe's reply.

AN INTERNATIONAL CLUB.—The prospectus of an International Club Company (Limited) has been issued. The proposed capital is 25,000*l.*, in 5,000 shares of 5*l.* each; 10*s.* to be paid on application, and 10*s.* on allotment. Lord Henry Gordon is chairman; and Mr. Richard A. Gould, secretary, at their temporary offices, No. 9, Gracechurch-street, E.C. The Club is intended to be a permanent London Club. The prospectus states that "the Club will be at the west-end of London, and within a reasonable distance of the Exhibition building. In the refreshment department every precaution will be taken to insure proper attention and economy. It will be a special object to introduce the *table d'hôte* system, so much adopted on the Continent and in America; and the arrangements of the *cuisine* will be superior to ordinary hotels or restaurants, as hitherto conducted in this country. Sleeping-apartments will not be provided; but a registry will be kept of respectable hotels and lodging-houses; so that the members, by consulting it, may suit themselves without trouble. The club-house will contain large club-rooms for members and friends, rooms for reading and writing, and for private business, supplied with British and foreign directories and works of reference; also an office for changing money, a telegraph office, together with all the usual conveniences of a club; and a staff of respectable interpreters and commissionaires will be organized, to be employed as required." It is estimated that the profits will be equal to the payment of good dividends. The entrance-fee for the first 500 members, not being shareholders, is three guineas; after which, the amount of an increased entrance-fee will be determined by the committee. The subscription for members is three guineas for the year 1862.

THE CAVALRY CAMP, COLCHESTER. — Messrs. Lucas, Brothers, the contractors for the new cavalry camp at Colchester, have received an extension of time for the completion of the works to twenty-one months. They have taken possession of the ground, and are carting upon it an enormous quantity of materials and scaffolding, so as to set a large staff of men to work.

BICENTENARY NONCONFORMIST MEMORIAL.—The Congregational Union of England and Wales propose to commemorate the Bicentenary of 1662, by the erection of a hall, in some central part of London, which may receive the Congregational Library, and be convenient for conducting public business. A large sum of money has already been subscribed.

DRINKING-FOUNTAIN MOVEMENT.—At Cardiff, a new fountain, cast in bronze, surmounted with a bust of the Queen, and a cherub on each side, has been placed in the wall on the south side of Whitmore-lane.——At Woodstock, the drinking-fountain lately erected by the Duke of Marlborough, has been officially handed over to the corporation by his grace, for the use of the public.

INSTITUTION OF ENGINEERS OF SCOTLAND.—The proceedings at the fifth meeting of the session of this Institution, held on 5th February, have been printed. They contain a paper by Professor W. J. M. Rankine, on Experiments made by Messrs. Isherwood, Stimers, & Long, chief engineers in the United States navy, on the liquefaction of steam in the cylinder of an engine working expansively; with the discussion which followed the reading of the paper;—as also a paper by Mr. J. F. Spencer, on the Mechanical and Economical advantages and disadvantages of surface condensation. Engravings of planing machine gearing are appended to the report of proceedings.

HOUSES FOR THE WORKING CLASSES.—"Jack Plane" protests against the legislation which compels a builder, if he wishes to build a house in separate dwellings, to put fire-proof floors, and extra party-walls, so that 200*l.* will not go so far as 120*l.* in perpetuating the moral nuisance of large houses for several families. Philanthropy will say to the tenant of the pest-house, I have set a good example; I have built model lodging-houses; and I am satisfied with 3 or 3½ per cent., forgetting it has closed the springs of benevolence to the living, to be let out in a perfect hurricane when the tender vein is touched by an appeal from the dead; at the same time showing capitalists what they may expect if they attempt to follow their example. England's example has been followed by most other nations; therefore perpetuating the unintentioned injuries inflicted; and it has acted as the next greatest curse to legislation that assists builders to build palaces for her princes and upper classes, but to neglect the dwellings of the working classes, until a cry is now raised that will make itself heard from one end of the civilized world to the other.

WATER SUPPLY AT RUGBY.—The town of Rugby is in a very unfortunate position. For some years there has been a very inefficient supply of that most necessary of all necessary things—water. Various schemes for obtaining a supply were suggested; and, about four years ago, it was determined to bore for water. That has now been done; but the desired object, we regret to say, has not been obtained. Under the superintendence of Mr. Hawkesley, of London, water has been bored for, and has been found; but now that it is obtained it is of no use. The water, according to the *Northampton Herald*, is so much impregnated with common salt, Glauber's salt, Epsom salt, and other constituents, that it is altogether unfitted for domestic use. There is not sufficient salt in it to fit it as a brine spring, such as are found in the west of England, and from which common salt could be manufactured; but there is too much salinity in it to render it available for ordinary purposes. Dr. Odling, of Guy's Hospital, has analyzed the water, and states that it would doubtless prove an efficient saline purgative; and that the small quantities of bromine, iodine, and lithium which it contains would enhance its therapeutic reputation. Rugby may derive some advantage from its disappointment by becoming as famous for its sanitary as for its scholastic privileges. This ancient town has long contributed to the "improvement of the mind;" and it is earnestly to be hoped that it will now equally tend to the improvement of the body. The water supply question is a serious one; and it must be excessively annoying to the inhabitants to find that, after the lapse of several years, and the expenditure of nearly 4,000*l.* in money, the town is no nearer having a good supply than it was before.

GLASGOW ARCHITECTURAL SOCIETY.—On Wednesday night, the 26th ult., the Scottish Exhibition Rooms were well filled by an audience who had met to listen to Sheriff Bell delivering a lecture on the great Italian artist, Michelangelo. Mr. Alex. Thomson, President of the Architectural Association, occupied the chair. Mr. Bell delivered an eloquent address.

MANCHESTER ARCHITECTURAL ASSOCIATION.—On ordinary meeting of this association was held on the evening of Wednesday, 19th ult. Mr. Alfred Darbyshire read a paper on "Irish Antiquities," being the result of a recent tour through that country. In speaking of the present state of the Irish metropolis, the writer called attention to the violations of æsthetic principles displayed in many of the public buildings and monuments; but at the same time referred to the number and extent of the public squares and to the breadth of the streets as points worthy of emulation in other cities. After describing the various antiquities of Killarney and county Wicklow, Mr. Darbyshire concluded by giving a detailed account of the round tower and seven churches of Glendalough.

SCAFFOLDING ACCIDENT AT LIVERPOOL.—Two bricklayers were at work on a scaffolding inside of the walls of the new Wesleyan Chapel and schools in course of erection at the corner of Prince's-park and Belvidere-road, Liverpool, when a portion of the scaffolding on which one of them was working gave way, and he was precipitated to the ground, receiving such injuries as to cause his death while being removed to the Southern Hospital. At the inquest, it appeared from the evidence of the other bricklayer that he and the deceased had taken the contract for the labour part of the bricklayer's department; and that the scaffolding in question was erected under the direction of the deceased, and was put up in the usual way. The scaffolding was not overloaded, there not being as much weight on as there had been on many other occasions. Witness found the cause of the accident to be the breaking of one of the putlocks. They were 4½ inches by 3 inches on the square, and about 5½ feet long. The jury returned a verdict of accidental death.

DEVONPORT, STONEHOUSE, AND CORNWALL HOSPITAL.—The Hospital Committee, on opening the tenders sent in for the erection of the new hospital, found them to be as follows:—

Simonds, London	£9,913
Willcock, Saltash	9,487
Lethbridge, Plymouth	9,437
Symons & Hoskin, Morice Town	9,220
Clark, Plymouth	8,990
Hubbard, Brothers, Stonehouse	8,700
Elliott, Plymouth	8,691
Adams & Son, Plymouth	8,689
Matcham, Plymouth	8,548
W. Harvey, Plymouth	8,000
Perkins & Co., Devonport	7,980
Call & Pethick, Plymouth	7,594
Finch, Plymouth	7,565
Jenkins & Co.	6,900

The committee accepted the tender of Messrs. Jenkins & Co. The work will be proceeded with forthwith, and the contractors are bound to complete the building by May, 1863. The hospital will be erected on a site granted by the Government on the eastern side of Newpassage-hill. Mr. A. Norman, of Devonport, is the architect.

ALBION-PLACE, BLACKFRIARS, AND THE LONDON, DOVER, AND CHATHAM LINE.—On Monday, at a special meeting of the common council, Mr. Vallance, chairman of the Bridge-house Estates committee, presented a report from them, calling the attention of the court to a Bill now being promoted in Parliament by the London, Chatham, and Dover Railway Company, which contemplates the removal of the flight of stairs leading to the Thames on the east side of the south end of Blackfriars Bridge, and the appropriation of the space in front of Albion-place abutting upon the Bridge. The report stated that the committee had had an interview with a deputation from the railway company on the subject, and particularly with respect to the road and footway in front of Albion-place, which the company are seeking power to appropriate for the purpose of a railway station. The railway company declining to give up this, Mr. Vallance urged that it was the obvious duty of the corporation to resist the proposed interference with a part of their property which it was so desirable to preserve intact, having regard to its value as an approach to the new bridge at Blackfriars now in contemplation. It was announced, as to the railway bridge, that the company had just addressed a letter to the remembrancer, stating that they were prepared to construct a bridge of three arches. The court passed a resolution agreeing with the report of the committee.

THE PAVEMENT IN THE WATERLOO ROAD.—There has been a further fall of the pavement here, as we said would be the case if it were left unattended to.

LABOURERS' DWELLING COMPANY.—The annual meeting of the Liverpool Labourers' Dwelling Company has been held. The report recommended a dividend of 3½ per cent. The Chairman, in moving the acceptance of the report, said the houses were in perfect condition, but in the next year they would require painting. The report was adopted, and the dividend declared.

AMERICAN LIBERALITY.—We learn from the *Court Journal* that Mr. Peabody, the well-known American banker in England, being about to quit the country with a large fortune realized here, has decided on erecting a number of houses for the working class; who, through the innumerable improvements in the metropolis, have been rendered almost homeless. For this purpose he gives a hundred thousand pounds, and also undertakes to pay the first year's interest of the money—five thousand pounds. Sir Emerson Tennent is appointed one of three trustees.

A CROWN OF LIGHT.—The French empress, it is said, is having a coronet manufactured for her, "to be composed of glass globules, illuminated by an electric light, ruled by a conductor encircling the head;" but where the electricity is to be generated does not appear: perhaps in the crinoline. We have sometimes thought, in our dreaming moments, that a time might come when hidden apparatus might be attached in small compass to the person in such a way as to constitute both a defensive and an offensive instrument, contributing shocks like the electric eel, and thus astonishing the evil disposed by something like preternatural blows. If there be any truth in the luminous coronet of the empress, she appears to be taking the first step towards causing our dream to "come true."

THE DECORATION OF ST. PAUL'S CATHEDRAL.—Dean Milman appeals to the public for funds to enable the dean and chapter to go on with this good work. The dean expresses his regret at the slow progress made, from want of funds, in the decoration of the cathedral of London, and reminds the public that the dean and chapter of St. Paul's have no means of their own for such a purpose, and can only subscribe towards it individually, as other private gentlemen do. "It is surely to be lamented," he remarks, "that the noblest modern edifice in the metropolis, the great work of our greatest architect, the cathedral of the largest, wealthiest—in some respects most munificent—city in the world, should not awaken more general interest, or call forth the generous support of all who would worship God, and assist others in worshipping God, in the beauty of holiness." And he adds: "I trust that the public will see, that if the fitting decoration of the interior of St. Paul's is to be accomplished, it must depend, not only upon the continued zeal of those who have already given us their kind assistance, but also upon more general contributions from others, who have not, as yet, been induced to take an interest in this great national work." The original design for the proposed embellishments, we may observe, may be seen at the cathedral surveyor's office, Chapter-house, No. 68, St. Paul's-churchyard, between the hours of ten and five.

BETHNAL-GREEN.—In a recent account of the progress of the metropolitan main drainage scheme we remarked, when speaking of Bethnal-green, that in the course of forming the cutting for laying down the main middle level intersecting sewer, it became necessary to cut through one of the district tributary sewers; and that this was in a very bad state, and showed the imperfect manner in which drainage had been attended to in some parishes. The "local organ" of Bethnal-green treats its readers to nearly two columns of foolishness, to prove from this our love of depreciation, ignorance, and untruthfulness. Beginning with a few generalities concerning the failings of fishmongers, soldiers, and blockheads; and following these up with a long lamentation upon the unenviable reputation of Bethnal-green; the writer declares that what we took to be a sewer was nothing less than the foundation of a public-house! and that there has never been a sewer in the Bethnal-green-road. The sewer in question *crossed* the Bethnal-green-road (the capability of a sewer to do otherwise than run parallel with that thoroughfare appears not to have occurred to the writer), and it was, as nearly as may be measured, 4 feet in diameter, formed of bricks and mortar of an inferior sort; and "nearly choked with slimy black muddy matter," as we at first described. We allude to the article in question simply to condemn the bad spirit apparent in it.

YORKSHIRE ARCHITECTURAL SOCIETY.—Lately, Mr. J. C. Swallow delivered a lecture on "Early Christian Ornamental Art." The lecturer traced the introduction and development of the various symbolic representations in ornamentation in different continental countries, citing *en passant* the best examples which were extant at the present day; and he then went on to refer to the introduction of the Byzantine, the Saracenic, and the Latin symbols, which conjointly represent the Sicilo-Norman, into England and France.

THE GUARDS' MEMORIAL, WATERLOO-PLACE.—Within the last few days, scaffolding has again been put up by the sides of the Guards' Memorial in Waterloo-place. This is for the purpose of preparing its completion, according to Mr. Bell's original design, with bronze shields on either side, —one at the back (to receive the inscription),— which will be united with foliage to the guns. The granite will also receive some modifications. Standard triple bronze lamps will be erected on either side.

IMPROVED HOISTING MACHINERY.—At Minesota Mine, Lake Superior, it has recently been decided to substitute wire-rope for the old system of hoisting by chains, and the result has been an enormous economy—three times the quantity of mineral is drawn each time with the same amount of power; the wire-rope costs scarcely more than half that of chain, which is also much less durable; space in the shaft is economized by the use of iron cars and railway in the shaft, which improvement could not have been adopted had the use of heavy chain been continued. The cars are provided with wheels, and the load is dumped at the mouth of the pit without manual labour. The rope used is 3¼ in. circumference, and is wound on a drum 7 ft. in diameter.

THE "SPUR INN," SOUTHWARK.—At a recent meeting of the London and Middlesex and Surrey Archæological Societies, Mr. G. R. Corner, F.S.A., read a paper "On the Spur Inn, Southwark." The "Spur" is one of the inns mentioned by Stow, in his "Survey of London," as existing in his day in the High-street, Southwark, between the Marshalsea and London Bridge, "as a fair inn for the receipt of travellers." From the reign of Queen Elizabeth, when it was owned by John Younge, of Pembroke Hall, Cambridge, Master of Arts, and by his will, dated the 2nd November, 1596, bequeathed to his wife Ann, afterwards wife of Nicholas Michelborne, gent., Mr. Corner had been enabled, from examination of the ancient title-deeds in possession of T. B. Simpson, esq., the present purchaser of the property, to trace its successive history, with many interesting facts, to the present time.

MONUMENTAL MEMORIALS.—In a lecture delivered last week by the Rev. C. Boutell, at the Sheffield Literary and Philosophical Society, "On Monumental Memorials in England," the lecturer said, in speaking of the series of relics known as "Queen Eleanor's Crosses," which mark the various resting-places of her funeral on its passage through the country, that they had stood the test of critical examination for sixteen centuries, and had always been admired. He thought that it might be possible to draw from these beautiful memorials to the best and most honoured of Queens-Consort, some suggestion for the memorial to the best and most honoured of Princes-Consort, whom the nation was now lamenting. He deprecated the erection of a mere obelisk as a memorial. In another lecture in Sheffield the same gentleman was strong in his denunciation of the ugliness of the new Exhibition Building, South Kensington.

PIERS.—The Admiralty have given their assent to the construction of a pier at Deal, on iron piles, 920 feet out at sea, with a general width of 20 feet, and, at the head, of 40 feet; height of platform above high-water mark, 13 feet; and an average depth at the head of the pier at low-water spring tides of 10 feet. —The provisional directors of the Blackpool Pier Company have selected, from the fifteen designs submitted, that of Messrs. J. B. & E. Birch, London. The length of the pier will be 1,350 feet, with a rectangular end, containing 6,000 square feet. The main body will be in spans of 60 feet. The main girders are to be supported upon clusters of cast-iron piles, screwed into the clay, and of an average thickness of 1½ inch by 12 inches diameter.—— The tender for the erection of the toll-house at Worthing Pier, the approaches, and the two shelter sheds, by Mr. E. Snewin, at 176*l.* 16s. 6d., has been accepted, Mr. J. Ward's tender being 180*l.* These were the only tenders sent in by the six builders to whom the opportunity was afforded by the directors. The erections are principally of wood.

ARTISTIC COPYRIGHT. — The Solicitor-General has obtained leave in the Commons to introduce a Bill on this subject, and it has been read a first time.

THE COW-SHED NUISANCE. — Observing an article on cow-sheds in the *Builder*, allow me to call your attention to the fact of an extensive cow-shed, &c., including over 200 cows, concealed, I may say, in the rear of Argyle-street, Euston-road, extending the whole length. The stench from this obliges me to keep pans of chloride of lime to counteract the noxious effluvia arising from the cow and horse dung, besides causing much illness in my family.—J. SMITH.

ILLUSTRATIONS OF NORTH-SCOTTISH ANTIQUITIES.—At the last meeting of the Spalding Club (the *Critic* says), it was suggested to prepare a volume of illustrations of old ecclesiastical and secular architecture in the northern Scottish counties, combined with engravings of historical portraits. A subscription has been commenced for the purpose among the members, and already about 200*l.* have been raised.

THE PROPOSED DRINKING FOUNTAIN FOR CHATHAM.—The committee for erecting a public drinking fountain on the piece of land in Military-road, presented by the Government for that purpose, propose the adoption of the fountain as a memorial on the part of the inhabitants of Chatham to the late Prince Consort. They have also resolved to apply to Mr. Street, the architect engaged, to alter the design so far as might be necessary to adapt the fountain for the purpose, and to provide space for a suitable inscription.

THE COPYRIGHT OF DESIGNS. —According to the 13th & 14th Victoria, c. 104, the Board of Trade has power, upon receiving satisfactory reasons, to extend from three to six years the duration of copyright of designs with respect to articles in Class I, which relates mainly to metals. The Birmingham and Sheffield Chambers of Commerce, according to *Aris's Gazette*, have been engaged in collecting information from a large number of manufacturers interested in obtaining such extension, in order that a joint deputation may shortly wait upon the President of the Board of Trade, with a view to obtain the privileges which are allowed by the Act.

MONUMENT TO WILSON THE ORNITHOLOGIST. At Paisley, the native place of Alexander Wilson, the ornithologist and poet, a statue is about to be erected to his memory. The design chosen is that of Mr. John Mossman, of Glasgow. The figure of Wilson stands beside the trunk of a tree, his rifle beside him, and his sketch-book on the ground. He has just shot a bird; and, holding the specimen in his hand, he regards it with observant and contemplative look. The statue is to be of bronze, 7 feet 6 inches in height, standing on a massive pedestal of Aberdeen granite, 9 feet 6 inches high—the united height of pedestal and statue being thus 17 feet. The subscriptions on hand amount to nearly 500*l.*, and about 100*l.* more will be required to complete the work satisfactorily.

DISCOVERIES IN GORLESTON CHURCH, SUFFOLK.—The centre chancel window of this church is about to be restored, from a design by Mr. A. W. Morant, at the sole expense of Mr. Edward Bell. A beautiful and curious mural painting has just been discovered on the south chancel wall, beneath a crocketted arch. It probably represents "Our Father of Pity," and formed part of the adornment of the eastern sepulchre. The whitewash with which it was thickly covered has been partially removed by Mr. C. J. W. Winter. Above the arch, two shields have been discovered, one displaying the Trinity banner, and the other the emblems of the Passion. It is to be hoped that sufficient spirit will be awakened among the inhabitants of Gorleston to effect a restoration of their fine old parish church, which is in a deplorable state.

THE PANTEGRAPH.—The "new" system of telegraph is said to have been submitted to the Emperor Napoleon, to which its "inventor," M. Caselli, has given the name of "pantegraph." This telegraph, already mentioned by us, has been worked at Florence and Leghorn. It transmits autograph messages and drawings with all the perfections and defects of the originals. An inhabitant of Leghorn wrote four lines from Dante, and they appeared in the same handwriting at Florence. A portrait of the same poet was painted at Leghorn, and it was reproduced at Florence line for line and shade for shade. A bill of exchange was drawn in the same manner, and its authenticity admitted. The invention appears to be a modification of that of Mr. Bakewell; at all events, the autographic telegraph is not a new idea.

DESIGN FOR A VOLUNTEER SHED AT NEWCASTLE.—Mr. Prosser's design, says the *Gateshead Observer*, has been accepted for a new volunteer shed in Newcastle-upon-Tyne. The dimensions are to be 200 feet by 100 feet; and the building is to be "lighted by eight windows at each end, and a variety of loopholes at the back." Eleven designs were sent in.

PRESERVATION OF WOOD AND IRON. — Mr. Thomas Cobley, of Meerholz, proposes to preserve wood, and render it inflammable, by impregnating it with a solution of salts of barytes, strontia, potash, lime, magnesia, or their salts, or the salts of any base capable of forming salts with hydrofluosilicic or silicic acid. After the impregnation, which may be effected by any known means, the wood is further acted upon by treatment with similar acids.——An invention has recently been patented by Mr. John Cullen, of the North London Railway, Bow, for preserving wood from decay. The inventor proposes to use a composition consisting of coal-tar, lime, and charcoal. The charcoal is reduced to a fine powder, and such is the case also in regard to the quick lime. These materials are to be well mixed together, and subjected to heat. In order to preserve wood, the composition is heated, and the wood is immersed therein. The impregnation of the wood with the composition may be materially aided by means of exhaustion and pressure. Wood thus prepared is said to resist the ravages of the white ant. When coating iron to preserve it from rust, the composition is heated for a time to a somewhat higher temperature than is found necessary for wood.

TENDERS.

For Lunatic Asylum at Stone, Kent, for the Corporation of the City of London. Mr. Bunning, architect:—

	Portland.	Ancaster.
Webster	£45,500 0 0	£43,400 0 0
Holland & Hannen	44,600 0 0	43,000 0 0
Ryder	44,200 0 0	42,800 0 0
Higgs	43,445 0 0	42,000 0 0
Sewell & Son	43,196 0 0	40,100 0 0
Trollope	42,800 0 0	41,920 0 0
Brown & Robinson	42,670 0 0	40,820 0 0
Conder	42,500 0 0	40,400 0 0
Lucas, Brothers	42,300 0 0	41,550 0 0
Hill & Co.	41,900 0 0	39,938 0 0
Myers	41,317 0 0	40,130 0 0
Axford & Co.	40,140 0 0	39,650 0 0
Ashby & Horner	39,970 0 0	39,500 0 0
Perry	39,575 0 0	37,575 0 0
Wilson	39,425 0 0	38,925 0 0
Piper & Wheeler	38,464 0 0	37,784 0 0

For building five houses at Stockwell, for Mr. Alex. Jones. Mr. John Thomas, architect. Quantities supplied.

Piper	£5,478 0 0
Notley	5,446 0 0
King	5,299 0 0
Ryder	5,130 0 0
Wells	4,999 0 0
Wills	4,987 9 0
Colls	4,977 0 0
Wallbutton	4,970 0 0
Stone	4,878 0 0
Thompson	4,848 0 0
Stevenson	4,728 0 0
McLachlan	4,500 0 0

For a small Farm-House at Chantry, on the Stagshaw Estate, belonging to Mr. R. Hawthorn. Mr. J.E. Watson, architect, Newcastle-upon-Tyne. Quantities not supplied.

Dodd & Herdman	£252 0 0
Thompson	246 0 0
Snowball	245 11 0
Green	244 16 0
Forster & Hogarth	242 0 0
Surtees & Fairless	234 6 0

For the erection of No. 4 Warehouses, Commercial-street, Whitechapel, for Mr. M. Levy. Mr. H. H. Collins, architect. Quantities supplied.

I'Anson	£6,940 0 0
Laurence & Son	6,880 0 0
Ashby & Son	6,690 0 0
Newman & Mann	6,668 0 0
Ashby & Horner	6,575 0 0
Piper & Wheeler	6,476 0 0
Myers & Sons	6,436 0 0
Macey	6,339 0 0
King	6,326 0 0

For Bamwell National Schools. Mr. Hans F. Price, architect:—

Shorney	£325 0 0
Brock	320 0 0
Laney	280 0 0
Palmer	255 0 0
Trickey	253 15 0
Howlett (accepted)	237 7 0

Rebuilding Nos. 13 & 14, East-road, City-road. Mr. Peartree, architect:—

Ferry	£532 0 0
Carter	497 0 0
Starkie	479 0 0
Staff	475 0 0
Edwards	475 0 0
Raby	467 0 0
Moore	460 0 0
Pugh & Wallis (accepted)	456 0 0

TO CORRESPONDENTS.

Minute Gun.—R. L.—E. R.—P. L.—A. T. C. E.—J. G.—C.—Mr. G. J. P. (unable to comply).—* * (a Note has been sent).—T. M.—W. G —A. J. R.—A. P. F. (an advertisement).—T. S. H.—M. A. B.—G. J.—D. R.—J. C.—T. S.—T. P.—T. B.—*Sanitas* (the removal of the common bell trap necessarily permits the escape of bad air, and should not be allowed. The throwing down of hot water is not desirable).—W. G.—W. H.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARTICLED PUPIL WANTED, in an old-established Architect and Surveyor's Office, where he would be able to obtain a thorough knowledge of his profession. Premium, 100 Guineas for three years; if articled for five years, one half thereof would be returned during the last two years.—Address, by letter, A. K care of Porter, 18, Great Marlborough-street, Regent-street, W.

BRICKMAKER.—WANTED, a steady, industrious Man, to TAKE the MANAGEMENT of a BRICKFIELD in Hertfordshire. One who thoroughly understands his business as manager.
Address to C. RICHARDSON, Brunswick Wharf, Vauxhall.

CLERK and SURVEYOR.—WANTED, for a Public Cemetery, a CLERK, with a knowledge of Surveying, who's character and acquirements are unexceptionable His age should not be less than 25, nor exceeding 30.—Applications, containing testimonials, and stating salary required, to be made to Mr W HEATH, 12, St. Helen's-place, E.C. on or before the 25th of MARCH

FOREMAN WANTED.—Required, a Good FOREMAN, experienced in the erection of iron bridges, to go abroad.—Apply by letter, inclosing testimonials and references, to W. Post-office, King-street, Westminster, S W.

GOOD JOINERS WANTED. None but those accustomed to mahogany work need apply Glass-case makers preferred. —Apply to Mr SAGE, 11, Hatton Gard-n, E.C.

SCAGLIOLA MARBLE POLISHERS.—WANTED, several good WORKMEN, in the above branch. Apply at Messrs. BELLMAN & IVEY, Office, 14, Buckingham-street, Fitzroy square, W.

TO ARCHITECTS, CONTRACTORS, BUILDERS, AND OTHERS.
WANTED, an active JUNIOR PARTNER in an Old-established BUSINESS, carried on for many years by a Builder and C ntractor Capital required, about 1 000l. to 2,000l. —Apply to Mr ALFRED ALLOTT, Prior-court, Sheffield.

WANTED, in the North, an ENGINEER and SURVEYOR'S ASSISTANT, who can survey and level with accuracy, and is a good draughtsman. May be required to act as Clerk of Works upon Water-Works.—Address, with testimonials, and stating salary required, to C. E. Office of "The Builder."

TO GRAINERS AND WRITERS.
WANTED, a good GRAINER for the C untry.—Apply to Messrs. KILBY & JOHNSON, House Decorators, Sydenham, S.E.

TO GOTHIC WOOD CARVERS.
WANTED, immediately, a good GOTHIC WOOD-CARVER. One used to figures and stone preferred. Apply to R. BOULTON, 15, Edgar-street, or Cathedral Works, Worcester.—None but good hands need apply.

TO BUILDERS' CLERKS.
WANTED by a London Firm an efficient CLERK, must be a good and rapid penman, quick at figures, and have a thorough knowledge of the routine of a Builder and Contractor's Office.—Address, with full particulars as to age, salary required, and references (by letter only) to J. W., 8, Oxford-terrace, St Peter's, Islington, N

WANTED, in an Office in the City, a competent ARCHITECTURAL CLERK, to superintend Buildings in course of erection, and take the management of an Office. —Address, stating age and terms, A. B. Z. Estate Exchange, Change-alley, E.C.

WANTED, a YOUTH, for a JOBBING BUILDER'S OFFICE. One that has been in the business preferred. Address, in own handwriting, stating age and salary required, to W A. M. 55, Chiswell-street, Finsbury.

WANTED, at Newport, Monmouthshire, an energetic MAN, to take CHARGE of a PLANING, MOULDING, and SAWING MILL, and to make himself generally useful.—Address, A. B. Merlin Office, Newport, Monmouthshire.

WANTED, Abroad, in a Ship-building Yard, a NAVAL CONSTRUCTOR, thoroughly conversant with iron ship-building, and with a sufficient knowledge of engineering.—Applicants are requested to apply to P. care of Mr. W. Foster, 114, Fenchurch-street.

TO PAINTERS.
WANTED, a first-class Man, as GRAINER, WRITER, and PAPERHANGER, of sober habits May have constant employment, by applying to A. JEFFRIES, Thoroughfare, Woodbridge, Suffolk.

WANTED, in a Builder's Office, about forty miles from London, an experienced CLERK, thoroughly competent to keep accounts, and estimate and measure up works Stage age, reference, and salary required —Address, L. B. W Post-office, Reading.

TO ARCHITECTS' ASSISTANTS.
WANTED for a PERMANENCY in an Architect's Office, a clever, neat, and expeditious DRAUGHTSMAN, of taste, well acquainted with Gothic, a young gentleman of persevering habits will meet with encouragement. Salary to commence at 100 guineas per annum Apply, with specimen drawings, and sketches, to be left at Mr. C. Colemans, 21, Lawrence-lane City, stating age and how long in the profession.

TO ARCHITECTURAL DRAUGHTSMEN.
WANTED a thoroughly efficient ASSISTANT.—Apply, stating capabilities and terms, to R. HOLMES, 4, Waterloo-street, Birmingham.

TO RAILWAY CIVIL ENGINEERS.
WANTED, by a Young Man, a SITUATION as DRAUGHTSMAN or GENERAL ASSISTANT. Has had four years' experience in a railway, and was previously engaged on ordnance survey. Is 20 years of age.—Address, J. SPENCE, Ulster Railway, Belfast.

TO PLUMBERS, BUILDERS, AND OTHERS.
WANTED, by a First-class PLUMBER, a Constant SITUATION. Town or country. Good reference if required.—Address, A. B. C. No. 31, Portland-street, Soho.

WANTED, a RE-ENGAGEMENT as BUILDER'S FOREMAN, or CLERK of WORKS. Has a knowledge of building in all its branches; a joiner by trade.—Address, J. B. 33, Arlington-street. Mornington-crescent, Camden-town.

TO CABINET MANUFACTURERS.
WANTED, EMPLOYMENT, by the Advertiser, aged 27, with a general knowledge of the business. No objection to the country.—Address, stating full particulars, by letter only, to K. D. 32, James-street, Manchester square, W.

TO PLUMBERS, &c.
WANTED, by the Advertiser, a SITUATION as PLUMBER or THREE-BRANCH HAND.—Address, C. B. No. 5, Camden-row South, Camden Town, N.W.

TO PLUMBERS AND OTHERS.
WANTED, by a Young Man, aged 25, a permanent SITUATION as PLUMBER, PAINTER, and GLAZIER.—Address, A. Z 53, Leather-lane, Holborn, E.C.

TO BUILDERS.
WANTED, by a Young Man, a SITUATION as CARPENTER and JOINER. Has been seven years at the trade; is learning drawing. Wages a secondary consideration. Address, THOS. C. Jun. Hope Cottage, Whitmore-buildings, St. John's-road, Hoxton.

WANTED, a SITUATION as good PLUMBER. Has no objection to fill up his time in painting. No objection to travelling. Good references, &c.—Address, W. P. 36 Crown-street, Soho, London.

TO WAREHOUSE ARCHITECTS, SURVEYORS, &c.
WANTED, by the Advertiser, an ENGAGEMENT, either temporary or otherwise, in the City or West-End. Is a sound practical draughtsman, rapid penman, &c; has a knowledge of quantities, measuring up work, and making up of estimates. Satisfactory references. Salary 1½ guinea per week.—Address, A. B. (prepaid) care of Mr. Moody, No. 9, Conduit street, Regent-street, W.

WANTED, a SITUATION as CLERK to a BUILDER. Neat draughtsman, good book-keeper, and has a thorough practical knowledge of the business.—Address, Y. Z. 24, Offord-road, Barnsbury, N.

TO TIMBER MERCHANTS AND OTHERS.
WANTED, a SITUATION, in or out of a TIMBER YARD, with good character. Aged 40. Well acquainted with all kind of measurement of timber.—Apply to E SAXBY, Battle-hill, Sussex.

TO ARCHITECTS OR BUILDERS.
WANTED, in May, a CLERKSHIP in an Architect's or Builder's Office. The advertiser has had some experience as Clerk, Surveyor, and Clerk of Works. Is a good draughtsman, and possesses excellent testimonials. West of England preferred.—Address, T. W. Post-office, Wrecclesham, Farnham, Surrey.

TO BUILDERS AND GENERAL CONTRACTORS.
WANTED, a SITUATION, as GENERAL FOREMAN, or to Manage a Business. Is a good measurer and estimator, has fifteen years' experience, and a thorough practical knowledge of the trade in all its branches.—Address, with full particulars, to C. C. S. Office of "The Builder."

WANTED, by a good Architectural Draughtsman, a RE-ENGAGEMENT in an Architect's or Surveyor's Office Salary moderate. For references and further particulars, address ALPHA, at Messrs. Hill and Sons, Bankers, 17, West Smithfield, City, E.C.

TO SURVEYORS, BUILDERS, AND OTHERS.
WANTED, by a Carpenter and Joiner, a SITUATION to TAKE the WORK of ONE or more HOUSES, or Take Charge of a Job for a Gentleman who intends building in town or country. Good references and testimonials given.—Address, A. W. 37, New Gloucester-street, New North-road.

TO BUILDERS.
WANTED, a RE-ENGAGEMENT, by a thoroughly efficient Shop Foreman. Is fully acquainted with the most modern and improved systems of management and execution, having had considerable experience in the best metropolitan firms.—Address, T. J. S. 14, Palace New-road, Lambeth, S.

TO BUILDERS AND CONTRACTORS.
WANTED, by a thoroughly Practical Man, a Joiner by trade, a RE-ENGAGEMENT as SHOP or GENERAL FOREMAN, or to Take Charge of Works, either in town or country. Good references.—Address, W. B. 2, Upham Cottages, Queen's road, Peckham.

TO BUILDERS, CONTRACTORS, AND OTHERS.
WANTED, by a highly respectable Young Man, aged 28, a RE-ENGAGEMENT as CLERK. Is accustomed to the usual routine duties, and qualified to take charge of a set of books. Good references. Town or country.—Address, G. B. W. 48, Milton-street, Dorset-square, N.W.

TO CONTRACTORS, ARCHITECTS, BUILDERS, ENGINEERS, MINING AND SMELTING COMPANIES.
WANTED, by a Native of Denmark, EMPLOYMENT as SUPERINTENDENT of WORKS of ERECTION and CONSTRUCTION Has had many years' experience in the erection of houses, bathing and smelting plant, and railway-bridges. Is a good draughtsman. Speaks English, Danish, German, and Spanish.—Address, J. H. GREWE, at No. 6, Sparrow-corner, Minories, E.

TO IRONMONGERS, SMITHS, OR FOUNDERS.
WANTED, by a respectable Youth, aged 18, who has been employed three years in a London establishment, a SITUATION as CLERK, TIMEKEEPER, or SHOPMAN. Address, G. B. Vulcan Iron Foundry and Forge, Smart's-buildings, High Holborn, W.C.

WANTED, a SITUATION as PLUMBER. Painting and Glazing if required.—Address, W. B. 47, Princess street, Portman-market Edgware-road.

TO ARCHITECTS, &c.
WANTED, a SITUATION, by the Advertiser, aged 22, who is a neat draughtsman, good accountant, and can assist in taking out quantities, measuring up work, estimating, &c. Has been five years with two architects and surveyors. Unexceptionable references if required.—Address, Y. Z. Post-office, Great Malvern, Worcestershire.

TO ARCHITECTS AND BUILDERS.
WANTED, by a thoroughly Practical Man, a RE-ENGAGEMENT as CLERK of WORKS or GENERAL FOREMAN, or Superintendent to an Estate.—Address, H. Y. Post-office, St. Alban's, Herts

TO ARCHITECTS, BUILDERS, &c.
WANTED by an efficient CLERK of WORKS a RE-ENGAGENENT; is a neat Draughtsman, quick at measuring and valuing work; or would take charge of a Builder's Business, having conducted a large business for years; salary moderate.—Address, A. J. ECKERT, 22, Greek-street, Soho, W.

WANTED, by a respectable Young Man, age 23, EMPLOYMENT as a handy man in plumbing, painting and glazing, well able to make himself general useful in anything required, and principally at jobbing work of any sort. Wages no object Address, J. H. 33, Paddington-street, Portman-square, Marylebone, W.

TO ARCHITECTS, BUILDERS, AND SURVEYORS.
WANTED, by the Advertiser, aged 23, an ENGAGEMENT for three or four days per week, or a few hours daily. A good draughtsman, understands quantity taking, and well versed in builders' accounts. Highest references and testimonials as to ability, &c. Salary moderate.—Address, A. B. C. 9, Camden-street, Camden-grove, Peckham.

TO SAW-MILL PROPRIETORS, &c.
WANTED, by an experienced Man, the MANAGEMENT of a SAW-MILL, or to work a Wood Planing Machine, and make himself generally useful. No objection to town or country.—Address, J. W. 5 a, Palace New-road, Lambeth, Surrey, S.

TO MASTER PLUMBERS AND BUILDERS.
WANTED, a SITUATION as PLUMBER and GAS-FITTER. No objection to fill up his time with Glazing, Painting, or Paperhanging Aged 25. Has a good kit of tools. Six years' reference to last employer.—Address, OXIDE, Post-office, Buckingham.

TO BUILDERS, PAINTERS, &c.
WANTED, EMPLOYMENT at PAINTING, GLAZING, GRAINING, &c. by a steady Young Man, who is a good Jobbing Plumber. Would make himself useful. Eight years in last employ.—Address, A. B. 24, Eaton place, Well street, Hackney, Middlesex.

TO BUILDERS.
WANTED, a SITUATION in a Builder's Office, by a Young Man, age 22. Has been in the office and at the bench. Could make himself useful, as he can take dimensions, or set out work. Salary no object, practice being all that is required. Country not objected to.—Address, A. B, 3, Ann's terrace, Cobourg-road, Old Kent-road, S.E.

WANTED, by the Advertiser, who is capable of making out working drawings and specifications, and conversant with the general business of an architect's and surveyor's office, a SITUATION where he may have an opportunity of improvement, at a moderate salary.—Address, R. J. 73, Coleman-street, City.

WANTED by a steady perservering Young Man, a RE-ENGAGEMENT as FOREMAN of PLASTERERS', or to take work by the piece; first-class references given as to abilities.—Address, J. T. 1, Forest-hill-terrace, Forest-hill, Kent, S.E.

WANTED, a SITUATION as CLERK of the WORKS, or to Superintend the Workmen on a Gentleman's Property. Can measure land and builders' work, understands the valuation of timber, underwood, and land as occupied.—Address, A. E. Post-office, Whips Cross, Walthamstow, Essex.

TO BUILDERS.
WANTED, by a practical SHOP FOREMAN, who has had a great deal of experience in Gothic and church work under some of the most eminent architects, a RE-ENGAGEMENT, either in town or the provinces.—Address, MEDIÆVAL, Post-office, Shrewsbury.

TO PAINTERS, BUILDERS, &c.
WANTED, by a steady Man, with a good character, a constant SITUATION as PAINTER'S LABOURER, or SHOP HAND, to look up materials, &c. Well understands the business; or General Jobbing Man.—M. A. 19, Union-place, Marylebone-road, N.W.

TO BUILDERS, CONTRACTORS, AND OTHERS.
WANTED, by a Bricklayer, a RE-ENGAGEMENT as FOREMAN. Is competent in setting out work. Has no objection to take rod-work, or tuck-pointing, or any description of repairs. Good references.—Address to A. B. 26, Clayton-street, Caledonian-road, Islington.

TO ARCHITECTS
THE SUCCESSFUL COMPETITOR for the PRESIDENT'S (Mr COCKERELL) PRIZE, R.I.B.A. desires an ENGAGEMENT as ASSISTANT to an Architect and Surveyor.—Address, A. W DAVIS, 15, Park side, Knightsbridge, S.W.

THE Advertiser, who has had six years and a half experience in a Provincial Office, is desirous of an ENGAGEMENT in town. He has been accustomed to prepare working and detailed drawings, and can be well recommended. Salary, nominal.—Address, V. P. Office of "The Builder."

TO ARCHITECTS, &c.
THE Advertiser is open to an ENGAGEMENT, as CLERK of WORKS, or ASSISTANT in an Office. Is a thorough practical draughtsman and measurer; could take the management out of an office if required. Can give reference to Government and private Offices for the last fifteen years.—Address, P. P. 14, High street, Eton, Bucks.

TO ARCHITECTS.
THE Advertiser seeks an ENGAGEMENT, in town or country. Is a neat and careful draughtsman, and fair colourist. Is capable of assisting in making surveys, levelling, measuring, &c. Salary, 25s. per week. First class testimonials.—Address, M. M 28, Bryanston-street, Cumberland-street, Marble Arch, London.

THE Advertiser, aged 20, wishes for a SITUATION as JUNIOR CLERK, in an architect's office. Is a fair draughtsman and colourist, a good penman, has had some experience in quantities, and understands the usual routine of an office. Salary moderate. Country not objected to.—Address, A. B. 3, James's-terrace, Kersey-street, Poplar, E.

TO BUILDERS, &c.
THE Advertiser offers Temporary ASSISTANCE in taking out quantities, estimating, measuring up works, preparing drawings and accounts, &c. Terms moderate. Address, 'Estimater,' Office of the "Builder."

THE Advertiser, a good MEASURER, ESTIMATOR, and BUILDER'S ACCOUNTANT, well versed in taking out quantities, &c. is desirous of EVENING EMPLOYMENT. Terms moderate.—Address, W. J. Office of "The Builder."

SURVEYOR and DRAUGHTSMAN.—The Advertiser is open to an ENGAGEMENT in the above capacity. Has a thorough knowledge of Land Drainage and Irrigation. First-class references.—Address, F. E. A. Post-office, Charles-street, Westminster, S.W.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who has had the Management of an Office, is desirous of a RE-ENGAGEMENT in town. He is fully competent to prepare finished and detail drawings, specifications, quantities, &c.—Address, A. B. 79, Denbigh street, Pimlico.

OCCASIONAL ASSISTANCE by a DRAUGHTSMAN and SURVEYOR in every department of office business. Finished perspectives, fair and working drawings, specifications, quantities, &c.—Address, A. B. 79, Denbigh street, Pimlico.

EMPLOYMENT WANTED, as BUILDER'S CLERK, CLERK of WORKS, to manage an Estate, or other confidential situation, by an active middle-aged Man. Has a thorough practical knowledge of building in all its branches, can take out quantities, and measure up work. Unexceptionable references. Salary moderate. Country preferred.—Address, J. C. 35, Clarendon square, St. Pancras, N.W.

CASHIER and BOOK-KEEPER.—The Advertiser, thoroughly accustomed to act in the above capacity in a Contractor's Office on extensive works, desires a RE-ENGAGEMENT. Can give the highest references. Address, O. K. Post-office, Charles-street, Westminster, S. W.

AN ASSISTANT is open to an ENGAGEMENT to PREPARE Fair Working and Detail Drawings, Perspective Views, &c. He has a good knowledge of styles and construction, and is a good colourist.—Address, D. F. R. care of Mr. Evans News-agent, King's-road, Chelsea, S.W.

TO BUILDERS

A SURVEYOR of considerable practical experience in taking off quantities, measuring, estimating, valuing dilapidations, &c. would engage at UNDERPAID SALARY to BUILDERS upon reasonable terms. Can occasionally introduce work to builders.—Address, S. V. R. Office of "The Builder."

TO CONTRACTORS, &c.

A GOOD BUILDER'S CLERK, aged 25, wants a SITUATION. Is well acquainted with the building trade, and estimating prices, and is a neat draughtsman, &c.—Address, ALPHA, 5, Manson Dieu Place, Dover.

A YOUNG MAN wishes an ENGAGEMENT as IMPROVER to the Wrighting and Grinding.—Address, D. C. at Craig's, Baker, Hornsey-road, Holloway, N.

TO JOINERS.

A RESPECTABLE YOUNG MAN wishes for a permanent SITUATION in a first-class Joiner's Shop in London or its neighbourhood. Place more an object than wages. Address, W. SAGE, care of Mr. Padgham, Builder, Pluckley, near Ashford, Kent.

TO ARCHITECTS.

A YOUNG MAN, aged 22, who has been six years in the offices of two architects of good standing, wishes to meet with a RE-ENGAGEMENT where a good draughtsman and well up in detail and construction.—Address, A. B. 12, Anwell-street, Claremont square.

AN experienced ASSISTANT, just returned from a long country engagement, requires a SITUATION. Is a good draughtsman, designer, and constructionist, well versed in the various styles, understands surveying and levelling; prepares finished full-sized drawings, and perspective addresses, T. G. B. Chevalier, Bowness, & Son's, 12, Bell-yard, Temple Bar.

AN experienced Land Agent and Surveyor is desirous of an ENGAGEMENT. Aged 30. Well up in surveying, valuing, laying out estates, making out leases, taking particulars, specifications and estimates, and preparing dilapidations, &c. Now engaged with a country firm. Twelve years' reference. Salary moderate.—Address, R. E. S. Munn's Hotel, Covent garden, London

TO BUILDERS, &c.

AN experienced CLERK is open to an ENGAGEMENT. Is a good draughtsman, and thoroughly acquainted with quantities, measuring, and estimating.—Address, H. B. Office of "The Builder."

TO ARCHITECTS

A QUANTITY SURVEYOR and MEASURER, with a practical knowledge of building, would be glad to TREAT with ARCHITECTS for their Quantities, and Measuring. Within 3 miles of town. Moderate terms. References given to Architects. Quantities guaranteed.—Address, ALPHA, care of Mrs. Fish, 1, Station-row, Wisball road, Brixton road, S.

TO BUILDERS AND CONTRACTORS.

AN efficient CLERK desires a RE-ENGAGEMENT. Is a correct and rapid cast writer, good draughtsman, &c.; Can take sole charge of the counting-house, and superintend works. &c.—Address, A. B. C. Post-office, Parliament-street, Westminster.

TO LAND-SURVEYORS AND CIVIL ENGINEERS.

AN ASSISTANT, having good testimonials, who has been engaged on large surveys, wishes an appointment as civil engineer's surveyor and leveller, a good draughtsman, a ready calculator, and used to all field and office instruments. Wishes an ENGAGEMENT, either at home or abroad.—Address, SURVEYOR, 29, Acton-street, Gray's Inn Lane, London.

TO ARCHITECTS.

A FULLY Competent ASSISTANT, of sixteen years' experience, is in want of an ENGAGEMENT. Has a perfect knowledge of Gothic, Classic, perspective, working drawings, and details.—Address, B. A. C. Office of "The Builder."

TO ARCHITECTS, &c.

AN ASSISTANT qualifying to prepare finished and working drawings, perspectives, &c. is open to a TEMPORARY ENGAGEMENT.—Address, E. S. 45, Chandos-street, Strand, W.C.

TO ARCHITECTS

A GOOD DRAUGHTSMAN desires an ENGAGEMENT. Has been six years in the profession. Understands perspective, colouring, &c. Terms moderate.—Address, K. G. B. Deacon's, Londenhall street.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT.

In its attention to the superior workmanship and elegance design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8	Guineas.
Gentlemen's do. do.	10	"
Ladies' or Gentlemen's Gold English Lever Watches	18	"
Strong Silver Lever Watches	5	"
Gentlemen's Gold Compensation Balance Watches	40	"
Do. Silver do. do.	25	"
Marine Chronometers	35	"

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; complete for the village church or school.—Apply to

JOSEPH FAIRER,
Turret Clock-maker to H. M.'s War Department,
158, St. George-street East, London.

BENSON'S WATCHES and CLOCKS.

"Perfection of mechanism."—*Morning Post.*



Gold, 5 to 100 Guineas.
Silver, 2 to 50 Guineas.

BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, descriptive of every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free and safe by post on receipt of a remittance.

J. W. BENSON,
33 and 34, LUDGATE HILL, and
46 and 47, CORNHILL, LONDON, E.C.
(Established 1749.)

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY (Limited), Incorporated, with limited liability, under the Joint-Stock Companies' Acts, 1856, 1857

Capital, 30,000*l.* in 6,000 Shares of 10*l.* each.
Deposit 1*l.* per share upon application. First Call, 1*l.* 10*s.*

DIRECTORS.

James Edmeston, esq. F.R.I.B.A. 8, Crown-court, Old Broad-street.
Joseph Norris Helling, esq. 31, Hilldrop crescent, Camden-road.
Edward Loder, esq. Great George-street, Westminster.
Charles Robert Thompson, esq. Laurence Pountney-lane.
Frederic Warren, esq. A.R.I.B.A. 12, Brunswick-square.

BANKERS.

London—Bank of London. Bristol—Messrs. Stuckey & Co.

SOLICITORS.

Messrs. N. Lindo & Son, 47A, Moorgate street, London.

OFFICES.

London—Charles Henry Mott, esq. 16, Tilney-street, Park-lane.
Bristol—A. F. Morgan, esq.
Registered offices, 2, Winchester buildings, Great Winchester-street, E.C.

The Directors hereby give notice that the List of Applications for Shares in the Company will be CLOSED on TUESDAY, the 11th of MARCH instant.

Prospectuses and Forms of Application for Shares may be had of the Brokers, the Solicitors, and of the Secretary, at the Offices of the Company.

TO ARCHITECTS, BUILDERS, STONE MERCHANTS, QUARRY MASTERS, and OTHERS.—TO BE LET by TENDER, a QUARRY of excellent BUILDING STONE, admirably adapted to superior building purposes. It may be obtained in any size, and from three to seven inches in Bedding. Can be worked with perfect facility, and becomes exposure to the air, hard and durable. Specimens may be seen at the South Kensington Museum (Section A, No 29), and its effect in the residence of the Proprietor, in Devonshire. The quarry within a mile of water carriage. References as to the value and stability of the stone can be made to Mr. R. ELLIOTT, Architect, Princes-street, Plymouth; and for further particulars to JOHN LUSCOMBE, Esq. Combe Royal, Kingsbridge, South Devon.

March 4, 1862.

THE PANTECHNICON, QUEEN'S ROAD, BRIGHTON,

FOREIGN MARBLE GALLERIES, contain upwards of Two Hundred MARBLE CHIMNEY-PIECES, some richly Carved Statuary, Veins, Sicilian, Blue Pie, Blanc Clair, Jonge Rose, St Anna, Black, Jasper, Verd des Alpes, and other coloured Marbles, in every variety of design and size, set up for view. Sculptured Marble Monuments, Headstones, &c. erected. An inspection is respectfully solicited by the Proprietors and Importers, GEO. HEAD & SONS

N.B. Packing cases lent free of charge.

SIXTY MARBLE CHIMNEY-PIECES TO BE SOLD, in consequence of Monsieur Beernaert, of the Belgian and Westminster Marble Works, Millbank street, Westminster, having discontinued his Show rooms in London. The above Chimney-pieces consist of Carved Statuary, Bold Rouge Royal, Black Fossil, &c. They are now being sold at great sacrifice—in fact, no reasonable offers will be refused.—Apply to Mr. PILTON, Westminster Marble Works, Earl-street, Horseferry-road, S.W.

PURE STATUARY MARBLE! and in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS, 363, EUSTON-ROAD, London, N.W. Prices moderate.

M. W. J. has also an Immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to the Establishment will find their Designs carried out with great care and exactness. Established 1825.

BELLMAN & IVEY, SCAGLIOLA MARBLE MANUFACTURERS, 14, BUCKINGHAM-STREET, FITZROY-SQUARE, LONDON, W.

Execute, in the most workman-like manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including

THE ARCHITECTURAL SCREEN,

exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute

PLASTERERS' WORK OF EVERY DESCRIPTION, IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.

Also Manufacturers of Superior and Improved Plaster of Paris.

WILLIAM S. LAWRENCE PENNANT STONE MERCHANT STAPLETON.

OFFICE: 10, MERCHANT STREET, BRISTOL.

All descriptions of Steps, Landings, Troughs, Block Tombs, Curt Ashlar, Paving, &c., always on Sale, at his celebrated Stone Quarries, Stapleton; and at Conham, on the banks of river Avon, near Bristol.

BATH! BATH!! BATH!!! ROBERT STRONG, STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies

BOX HILL GROUND STONE, OF THE BEST QUALITY.

Masons' Work prepared ready for fixing.
AGENT IN LONDON:

SAMUEL TRICKETT, ISLE OF DOGS, E. and JERUSALEM COFFEE-HOUSE, E.C.

JOHN BAZLEY WHITE & BROTHERS, MARBLE MERCHANTS, MILLBANK-STREET, WESTMINSTER.

Marble of all kinds, and of best quality, in Block and Slab, Marble Mortars, &c.

LITTLE CASTERTON FREESTONE Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER SIMPSON & SONS, 59, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is almost four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works and for the building and restoring of churches. When used in similar work it is no necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

TO BUILDERS, CONTRACTORS, &c.

SLATES, TILES, IRON, TIMBER, DEALS, &c. WILLIAM DAWBARN & CO. LIVERPOOL,

Beg to acquaint their connection generally throughout the Kingdom, that they have their

NEW and IMPROVED PRICE LISTS, English Edition, 1862,

Ready for distribution, and which can be had on application.

FOREST of DEAN STONE.—Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,

Are prepared to supply this stone to GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.

That from their "Gosty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Dark-hill" Quarries, is decidedly superior to it.

Prices fixed on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Chatham road, Pimlico, London. JOHN WREN

Begs to inform Architects, Sculptors, Builders, & he has OPENED the above extensive Premises, and constantly on SHOW SOME well selected PURCHASES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B. Estimates given. Quantity and Prices carefully executed with promptness and personal attention

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.

Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.

Depôt—GRANITE WHARF, East Greenwich
Office—4, Three Crown-square, Borough.

BLOCK STONE! BLOCK STONE! The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall, Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.

SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are unlike in colour and good tint. Parties would do well to see his Stock; also NOTE, delivered direct from the Quarries to all parts of the kingdom.

The BEST and CHEAPEST STONE-WHARF in LONDON.

Address, SAMUEL TRICKETT, Isle of Dogs, E.

A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

MAGNUS'S ENAMELLED SLATE has obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article

Price and Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,

No. 1, BOLD TERRACE, CHESTER.

THE NORTH-WESTERN STONE WHARF, Canal Bridge, Camden-town, is the cheapest Stone Wharf in London. Large Stocks of all sorts of YORKSHIRE and other STONE, GRANITE CURBING, and PITCHING, is always on hand to select from. Self-faced paving at 27*s.* per 100 feet; 14-inch tooled, ditto, 33*s.* ditto; 12-inch Hare-hill Slate, 33*s.* ditto; and all kinds of stone, at as low prices. W. ASPINALL, Proprietor.

N.B.—Country orders, to ensure punctual attendance, must be accompanied by a remittance.

VALE of WARDOUR FREE STONE, TISBURY, WILTSHIRE.

T. P. LILLY, Quarryman and Stone Merchant, begs to introduce to the notice of Architects, Contractors, Stone Merchants, and Builders, the FREE STONE raised from recently-opened QUARRIES at TISBURY and the neighbourhood.

Geologically this Stone is identical with the Portland Oolites, and its workable properties present a medium between that material and the Bath stone. Numerous buildings of considerable antiquity attest the durability and texture of the Stone of this district. Amongst these may be cited SALISBURY CATHEDRAL, TISBURY CHURCH, the POULTRY CROSS at SALISBURY, WILTON ABBEY, &c. erected from Chilmark and other Quarries immediately adjacent to those under notice. The Stone are of considerable thickness, and blocks of any ordinary size are readily obtained. Some of the beds are nearly white, and others of a cream colour. There is considerable variety in strata, the grain of some of the beds being remarkably fine, and are peculiarly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly fitted to stand the action of water, or exposure to those tests which usually affect and disintegrate the common free stone.

Specimens of the Stone may be seen at Messrs. POOLE & SON'S, Marble and Stone Works, Great Smith-street, Westminster, S.W.; and in the Museum of Practical Geology, Jermyn-street, Nos. 31 and 32, Case V.; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Tisbury Quarries.

Orders for Worked Stone carefully executed at the Quarries. Samples forwarded, and any other information may be obtained of

Mr. T. P. LILLY, Gillingham, Dorset.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship. Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by

WILLIAM & JOHN FREEMAN, 97, MILLBANK STREET, LONDON, S.W.

RED MANSFIELD STONE. WHITE MANSFIELD STONE YELLOW MAGNESIAN or BOLSOVER LIMESTONE.

Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.

Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the material forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Ranger Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents that is set, and the mode of procedure to be adopted, issued gratis by the General Patent Company (limited), 71, Fleet-street London. ROBERT M. LATHAM, Secretary.

A CARD.
MESSRS. CORDEROY, Surveyors (late of High-street, Marylebone), have REMOVED their OFFICES to 17, KING WILLIAM STREET, STRAND, LONDON, W.C.
Office in Portsmouth—13, Ordnance-row, Portsea.

T. PETTITT & CO. LITHOGRAPHERS and GENERAL PRINTERS, Frith-street, Soho-square, W. beg to inform Surveyors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary speed and accuracy, and most respectfully solicit a trial. A scale of charges and specimens submitted on application.
To Surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West-end, must be evident from the great convenience it may afford where despatch is required.
Working Drawings and Estate Plans carefully drawn and printed.
Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession
Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.
Lithographers, &c. 5, Ave Maria-lane, E.C.

POLYTECHNIC. Entire change of Lectures and Entertainments. Every evening at a quarter past 8, New Musical Entertainment by Mr. J. E. Carpenter, assisted by the Misses Mascall, entitled "The World and his Wife."—Monday at 3, and Tuesday and Saturday at 2 and 4 past 7, New Lecture by Professor J. H. Pepper, on "The late Appalling Accidents in Coal-Mines."—Wednesday at 2, "Elementary Astronomy."—Exquisite Photography, by Mr England (London Stereoscopic Company) of "Scenes in America," Tuesday, Thursday, and Saturday. Lecture next Monday Evening at 7 past 7, by the Rev. W. M. Robertson, entitled "Illustrations of Scripture from the Manners and Customs of Indian Life." Open 12 to 5, and 7 to 10.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1763, and the recipient of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this unperishable and invaluable Material in Architectural and Architectural Embellishment suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment having stood the test of time.
An Illustrated Price List may be forwarded upon the receipt of eight postage-stamps.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 30, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 681, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Teleries," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 9-inch Paving Flags, at 57s. 6d. per 1,000.
" Kiln Bricks, at 38s. per 1,000.
" Floor Bricks, 30s. per 1,000.
Ridge Tiles, at 77s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINE.
Adapted for hand, horse, or steam-power, will make one-third more in quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.
Licences to Manufacture granted for certain districts.
For price and particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chemical, and Smelting purposes, and in any business of manufacture where an intense heat is required. For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch-street, E.C.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Grasells, Place, or Stock Bats, by barge alongside, in the Thames or canals, on reasonable terms, either for cash or approved bills.
Belvidere-road, Lambeth, January, 1862.

BRICKS
BEST KILN-BURNT BRICKS, of superior common quality, can be supplied by the Million. Also,
FINE WHITE AND RED FACING BRICKS.
WHITE, RED, AND BLACK GUTTERS
VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES.
WHITE AND GREY LIME AND GLAZED STONEWARE PIPES.
Vessels can load close to the Kiln's mouth, at the East Cowes Park Estate, on the river Medina, Isle of Wight.
RICHARD LANGLEY, Agent.

BRICKS WANTED.—200,000 good rough STOCKS, delivered alongside the North-Western Stone-wharf, Camden Town. Lowest price for cash.—Address, A. B. as above.

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM-HUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

BRICK, DRAIN-PIPE, and TILE-MAKING MACHINES; Pugging and Clay-crushing Roller Mills, Brick and Tile Presses, Pipe Socketting Machines, Draining Tools, and all accessories in connection, may be procured at J. WHITEHEAD'S, Albert Works, Preston, Lancashire. Illustrated catalogues sent free on application.
N.B. Manufacturer of the Patent Machine-made Hare and Rabbit-Proof Netting.

MESSRS. COWDERY & SALTER have to SELL from ONE to TWO MILLIONS of GOOD SOUND STOCK and GRISSLE BRICKS, loaded into barges on the Basingstoke Canal, or delivered alongside any wharf in the Thames, or loaded into trucks at Woking Station, on reasonable terms, for cash or approved bills.
Hermitage Brickfield, Woking, Surrey.

TO BUILDERS, BRICKMAKERS, and BALLAST-BURNERS.—A large quantity of excellent COKE BREEZE FOR SALE, at the Victoria Works, Kensall-green. Good facilities for transit by boats on the Grand Junction Canal, or by the Great Western Railway from a siding to the Works.—Apply to the Manager as above.

TO PLUMBERS, DECORATORS, GAS-FITTERS, &c.—TO LET, a good genuine BUSINESS, situate in Kent, about 12 miles from town. Large premises, now rented. Price for goodwill, all the shop and trade fixtures, steps, ladders, &c. 50l. The small stock at a valuation.—Address, A. B. 14, Gibson-street, Waterloo-road.

TO IRONFOUNDERS and ENGINEERS. TO BE DISPOSED OF, in the County of Kent, an IRON-FOUNDRY, in full trade, with an old-established connexion, and replete with every appliance for carrying on a good trade. Capital required, about 800l.—For particulars, apply to Mr. DOUGLAS, Valuer, 253, Blackfriars-road, London, S.

TO YOUNG ARCHITECTS.—To DISPOSE OF, the PAPERS and GOODWILL of an old-established PRACTICE in one of the most prosperous towns in Yorkshire. For particulars, address A. Z. care of W. Blackett, esq. 7, Furnival's Inn, London, E.C.

TO BUILDERS and TIMBER MERCHANTS.—TO BE DISPOSED OF, an OLD-ESTABLISHED COUNTRY BUSINESS of a BUILDER and TIMBER MERCHANT, offering an excellent opportunity to any one possessed of a moderate capital, as the connexion is highly respectable. Premises commodious and rent moderate. Situate 20 miles from London, with railway communication. For further particulars, apply to Messrs. WATERER & SONS, Auctioneers and Estate Agents, Chertsey, Surrey.

FODELL & CO. 8, BATH-STREET, CITY-ROAD, and 12, Grafton-mews, Fitzroy-square, continue to execute LEAD GLAZING FOR CHURCHES, in geometrical quarry or geometrical patterns, at the LOWEST PRICES. Estimates and patterns forwarded, on application, to any part of the country. Church Leads, 30s. per cwt.; Fret Leads, 37s. per cwt. for cash. All orders for lead to be sent to 12, Grafton-mews, Fitzroy-square.

TARPAULINS, MARQUES, &c. for SALE or HIRE,
SCAFFOLD and HEMP-ROPE FALLS.
H. PIGGOTT,
69 Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

CROGGON & CO'S
NOISELESS ELASTIC
KAMPTULICON,
Or INDIA-RUBBER FLOOR-CLOTH.
Impervious to wet, indestructible by damp, soft to the tread, and warm to the feet, well adapted for aisles of churches, public offices, rooms, shops, &c. as well for its comfort as extreme durability. Also used very largely for billiard mats.—Patterns may be seen at 2, Dowgate hill, London, E.C.

HAY'S PATENT WATERPROOF GLUE (as invented by Mr. HAY, Admiralty Chemist at the Royal Naval Dockyard, Portsmouth) is of universal application, is a substitute for marine glue, and one-third of the cost, namely, 22l. per ton
It is invaluable for calking the seams of ships' decks, being three times as durable as ordinary pitch. It has been tried for upwards of seven years in Her Majesty's ship "Blonde," perfectly resisting during that time the action of the sun and weather.
It causes joints of wood, slates, tiles, and all metals to adhere most firmly; will stand an enormous pressure, and make them water-tight.
It is a substitute for black paint, and is considerably cheaper as applied to weather-boarding and fencing; and is a preservative for all iron and woodwork, and when applied to bricks or stones will prevent damp. This composition is especially adapted for application as a coating to submarine and other telegraphic wires.
It is requested that on all orders the purpose for which it is required be stated.
London Agents.
Messrs. G. C. WARDEN & CO.
12, London street, Fenchurch-street, E.C. Factory, Chandos-street Lanlport, Portsmouth.
GEORGE WEEKS Manager.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

VENTILATION—PURE AIR.
Sheringham's Ventilator for the admission of Pure Air through an

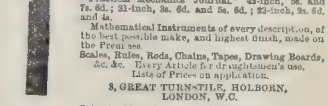
EXTERNAL WALL.
With single pulley, from 6s. each; with reading pulley, from 8s. 6d.
These Ventilators are arranged to admit the requisite quantity of air only to be admitted for the ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—SHAWARD, BROTHERS, Sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders &c.

FOR CONTRACTORS' WAGGONS, DOBBIN CARTS, BARROWS, and RAILWAY PLANT, apply to HUGHES & MARR Jun. Engineers and Timber Merchants, Falcon Works, Loughborough.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scandrone, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or repaired, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TO SURVEYORS.
TO BE DISPOSED OF, LEVELLING INSTRUMENT and THEODOLITE, in perfect order.—Address, R. V. 4, Elizabeth place, Ball's pond road, N.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.

JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre,
Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest price

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

INTERNATIONAL EXHIBITION, 1862.

ESTIMATES AND DESIGNS FOR SHOW CASES, METAL STANDS, &c

With or without Revolving Machinery, by

BUNNETT & CO., ENGINEERS AND FOUNDERS,

DEPTFORD, KENT, S.E.; 17, QUEEN STREET, CHEAPSIDE; and 435, PARLIAMENTARY STREET, GLASGOW.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Pub at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisit Gearing complete, from 3s per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 94, GRAY'S-INN-LANE, HOLBORN, LONDON.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS FOR DECORATING PUBLIC AND PRIVATE BUILDINGS, OR ROOMS MADE IN ANY STYLE, AND ESTIMATES GIVEN. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. HAVING NOW GREATER FACILITIES FOR THE MANUFACTURE, A REDUCED TARIFF OF PRICES IS BEING PREPARED. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

WHITE AND PARLBY'S

NEW ILLUSTRATED CATALOGUE OF PAPIER MACHE AND CARTON PIERRE ENRICHMENTS.

PARTS I. TO V. NOW READY, EITHER OF WHICH WILL BE FORWARDED POST FREE, ON RECEIPT OF TWELVE STAMPS. SPECIMEN SHEET, WITH PARTICULARS, SENT ON APPLICATION, ENCLOSING POSTAGE STAMP

WHITE AND PARLBY,

49 & 50, GREAT MARYLEBONE STREET, LONDON, W.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTUREE OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

BRICK-MAKING BY STEAM POWER.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,

(Each producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS, London.
" BRASSEY & CO. London.
" BAKER & SON, Isle of Wight.
" ROBT. SHARPE & SONS, London.
S.-E. RAILWAY COMPANY, Folkestone.
Mr. GEORGE FURNESS, London.
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO. Burham.

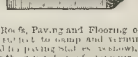
FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works; at the Great Exhibition, South Kensington; or at their Show Rooms, Upper Montague-street, Montague-square; or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.

ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

POLONCEAU and LIMMEI
ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description especially adapted for places subject to damp and vermin. This Asphalte is now extensively used in paving Stables as shown, absolute the absorption of paints by rendering the ground impervious. For Estimates and Plans, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

PRIZE MEDAL, LONDON, 1851.
GOLD MEDAL, PARIS, 1844.

ARMANI and CO. Importers direct from the Mines of SEYSSEL-FRANCY (Savoy), SEYSSEL-VOLANT FERRETTE, Savoy), MAZZUO and MONTORIA (Spain), BASTENNE (Landes), &c. &c.

SEYSSEL ASPHALTE,

And by H.M.'s Royal Letters Patent, Manufacturers of

METALLIC LAVA.

For Prices and Estimates apply at the OFFICE, 6, GUILDHALL CHAMBERS, BASINGHALL-STREET

CROGGON and COMPANY
Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INDORORUS FELT,
For Damp Walls and Lining Iron Houses.
2 DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool

KAMPTULICON, or ELASTIC FLOOR CLOTH, as made by GOUGH & BOYCE, the Orig Patentees, and better purely by the use of the Hessians of Jute and Hemp as other Floor Cloths. It is especially adapt churches, mansions, public rooms, shops, and passages, being clea warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. Bush-lane, Cannon-street, London. Forwarded to all parts of t country.

KAMPTULICON
or ELASTIC FLOOR CLOTH.
TAYLER, HARRY, & CO.
MANUFACTURERS and PATENTEES, 19, Dorset Lane, Clerkenwe WORKS, DEPTFORD-GREEN.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

MARTIN'S PATENT FIREPROOF CEMENT

Is 35 per Cent. Cheaper than any other internal Cement in use.

Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.

186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

N.B. — Goods made to Pattern on the Shortest Notice and most Reasonable Terms.
Shipping Orders executed with Dispatch.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

Depôt for Thornbridge, Newcastle, and Welsh Fire Bricks, Lumps, Tiles, and Fire-Clay; Improved Stable Paving Bricks and Dutch Clinkers; Yorkshire Pan, Plain, Ridge, and Paving Tiles. Paving Bricks, Red Rubbers, Oven Bricks, and P. Oven Tiles. Cowley and Kent Stock Bricks and Plasterer's Hair; Glazed Stoneware Pipes, Bends, Pans, and Traps, &c.; Red Drain-Pipes, Red Chimney Pots, &c.; and other Building Materials.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:—

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.

Wherein can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY POTS.
TERRA CUTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

STRINGFIELD and BLYTH,
Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.,
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TAYLHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the usual qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not require to be kept any length of time before use. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements, tried at the Institute of Civil Engineers, to be obtained of the Patentee, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare the quantity required for public works.
Agents in Liverpool—JOHN MACKENZIE, 12, Sir John-street.
Do. in Manchester—THOMAS CRAMPTON.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blowers for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO. are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parys Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND-STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT duck and ledge RED BUILDINGS

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING — Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere road, Lambeth; and Kent-road Bridge.

BUILDERS and CARPENTERS, and OTHERS, Have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities.

All sawn goods carriage free within three miles.

½-inch Flooring (well prepared), 11s. 6d. ¾ inch do. 14s. per square
Yellow Deals, sound and good .... 10l. 10s. per 120, or 2½d. per foot.
Spruce Deals " 10l. 10s. " 2½d. "
Yellow Battens, excellent quality 11l. 10s. " 3d. "
Pine Planks, dry, 12 ft. 3 in. by 11 ft. 2½. " 3s. 6d. "
Seasoned Mahogany, Plank and Board, 6½ per foot.

A very large Stock, ready sawn and seasoned.
ALFRED CARTER, Old Bethnal-green-road, N.E.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

JOHN HERBERT & SON, MODELLERS, &c.
42, PARKER-STREET, DRURY-LANE.
Cornices, Centre Flowers, Shop-front Trusses, &c.
FIRST-RATE WORK AT REASONABLE PRICES.

SEASONED WAINSCOT OAK, 30,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 3d.; Spruce, from 2s. 6d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; ½-inch White Flooring, from 14s. 6d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s 6d. Carriage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

THE GREAT NORTHERN PLASTER WORKS, Newark-on-Trent.—CAFFERATA & CO. supply the best and cheapest PLASTER of PARIS that can be made. Orders sent to D. BRUCCIANI, 20, Russell-street, Covent Garden, W.C. or direct to the Works will be promptly executed.

GEORGE ALLEN (late W. & T. N. ALLEN), OLADDISH,
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,
Office, 5, George-yard, Lombard-street.

PARIAN CEMENT for INSIDE WORK. With this material houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

KEENE'S and PARIAN CEMENT for internal use.—These well-known hard Stuccoes dry quickly and can be painted upon within a few days.
Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank street, Westminster.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14 SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PORTLAND CEMENT WORKS, Northfleet, Kent.
Messrs. ROBINS & CO.
To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines, Brierley-hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and GAS Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

APPLY TO
SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
½-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch "	12s. 6d.	12s. 6d.	13s. 6d. "
1-inch "	14s. 6d.	15s. 0d.	15s. 6d. "
1¼-inch "	—	18s. 0d.	19s. 0d. "

Yellow Deals, 3 by 9 ..... £10 10s. per 120.
Yellow Battens ..... £11 10s. "
Spruce Deals ..... £15 10s. "
Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. "
¾-Inch White Matched Lining .... 13s. per square
J. TERRY & SON, 109, Borough Road, S.E.

MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company from whose books orders can be given.
PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by
J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

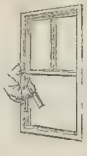
TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot-houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on receipt of stamp.
Estimates furnished on application.



B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



J. GURMAN,
Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows.
They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.
Send stamped envelope for Prospectus and Sectional Drawings.
Windows may also be seen at the Kensington and Conduit-street, Museums, London.



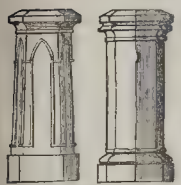
JAMES STIFF & SONS,

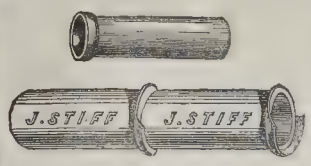
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.

TRAP, 2s.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Deckhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. J. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Dalvet's Wharf, Chelsea.
Mr. LAVERS, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

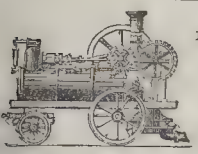
HENRY DOULTON & CO.
High-Street, Lambeth, London.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, **TO LET ON HIRE**, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

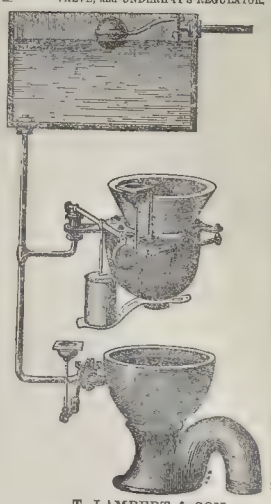
PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

DRIVING BANDS, HOSE, VALVES, &c.

THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their VULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable than leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, cold, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Cart, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.
All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.

THE LEATHER CLOTH COMPANY, Limited,
56, CANNON STREET WEST, LONDON, E.C.

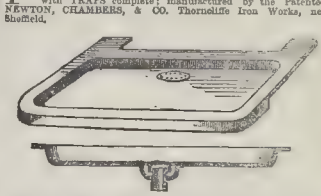
PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

PATENT CAST-IRON KITCHEN SINKS,

with TRAPS complete; manufactured by the Patentees, NEWTON, CHAMBERS, & CO. Thorncliffe Iron Works, near Sheffield.



SIZES. Long	Wide.	Deep	Plain.	Galvanized.	Enamelled.
24 by	18 by	4	5s. 6d.	10s.	15s. each.
30 ,,	18 ,,	4	7s. 6d.	12s.	14s. ,,
36 ,,	18 ,,	4	9s. 6d.	14s.	22s. ,,
42 ,,	30 ,,	4½	10s. 6d.	18s.	27s. ,,
48 ,,	30 ,,	4½	12s. 0d.	21s.	31s. ,,

* These Sinks are covered with a Preparation which will prevent the possibility of their getting rusty.
To be had in London only of
Mr. J. JONES, Iron Merchant, 6, Bankside London.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



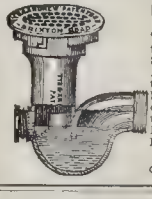
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

The objections to the Cheap Closet pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes, and the Pans become DISCOLOURED and UNFIT for USE.

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

INDIA-RUBBER MILL BANDS,

WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON E.C.

SALES BY AUCTION.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—Capital BUILDING MATERIALS of a Large Detached Mansion, Great Guildford-street, Southwark Bridge-road; and Eight Houses in New street, adjoining.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on WEDNESDAY, MARCH 12, at TWELVE, the whole of the capital BUILDING MATERIALS; expensive Fixtures and Fittings of a large Detached Mansion in Great Guildford-street, Southwark Bridge-road, adjoining Messrs. Potts's Vinegar Works; and Eight Modern Houses in New-street: comprising 500 superial bricks, plain and pantiles and slates, prime timber and flooring-boards, modern doors, sashes and interior fittings, carved statuary chimney-pieces, stone paving, mahogany and plate glass with sprung and sashes, doors with silver-plate glass, fittings of bathroom, stone cornice, coping, and sills; several tons of lead in flats, gutters, cisterns, and pipes; stoves, ranges, coppers, bookcases, &c.—May be viewed the day previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C.; and 40, Parliament-street, S.W.

By order of the New River Company.—Valuable Steam engine and other Plant, and the Building Materials of Engine and Boiler-Houses, Dwelling-house, Workshops, Sheds, &c. to complete the clearance of the Site of the Hampstead road Reservoir, which has been let for building.

MR. JOHN WALLEN has received instructions from the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, 11th of MARCH, at TWELVE for ONE o'clock precisely, the 50-horse power condensing engine, by Boulton & Watt, of compact, portable, and economical construction, with 18-feet fly-wheel; a marine boiler, a quantity of copper and brass piping, valves and gear, shafting and pinions, three 7-feet spur wheels, pump cranks, rods, &c; a set of three 10-inch force pumps, with three throw cranks, a 12 inch single force pump and about twenty seven fathoms of capital iron crane chain, wire lines and rope, iron blocks and fall, and sundry plant and tools; also about twenty rods of superior stock and picked stock brickwork, slating, plumbers', lead and iron gutters and pipes, stone in pavement, coping, sills, plinth, &c. good fir joists, quarters, rafters, and fir sashes, doors, fixtures, and fittings—to be viewed two days previously and on the morning of sale. Catalogues at the Hay Market Office, Clerkenwell; on the Premises; and of Mr. JOHN WALLEN, 68, Old Broad-street, E.C. who will forward the same on application.

SALE.—By order of the Secretary of State for War

MR. GEORGE SPILLMAN will SELL by PUBLIC AUCTION, at the ROYAL ARSENAL, Woolwich, on TUESDAY, 18th MARCH, 1862, at ELEVEN o'clock in the forenoon precisely, the following STORES: Three Hand Cranes (from five to ten tons purchase), Lead Ashes, Founder's Ashes, Piles, Mixed Metal, Zinc, Steel, Iron, Tools, Paper, Resin, Canvas, Leather, Serge, Horse-shoes, Clothing, Harness, Three Stacks of Hay, Waggons, Wheels, Three Boats, Refuse Wood, &c. &c.—May be viewed from TEN to ONE o'clock, and from TWO to FIVE o'clock on the three working days previous to, and morning of the sale, and catalogues obtained at the WAR OFFICE, Pall Mall; at the TOWER; and ROYAL ARSENAL, Woolwich.

TINLEY HALL, George-lane, Wanstead.—Excellent Fittings, Fixtures, and Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, within ten minutes' walk of the Snaresbrook station, on the Loughton Railway, on MONDAY, MARCH 24th, 1862, at TWELVE for ONE o'clock, the excellent FIXTURES, FITTINGS, and part of the BUILDING MATERIALS of this substantial mansion, comprising the handsome marble and carved wood chimney pieces, the marble and stone pavement in hall, the main staircase, with ornamental iron balusters, substantial doors and frames, French and other window frames and shutters, a large quantity of panelling and sunk panelling, cupboards, shelves, kitchen range, large oven, force-pump, and two coppers; the large portico with pillars, and the covered way at the entrance; also the fittings of the stables and coach-house, the clock-house, tool house, piggery, &c. May be viewed on the Friday and Saturday before the sale, and catalogues may be obtained at the George Inn, Wanstead; the Eagle, Snaresbrook; of the Foreman, on the Premises; and of the Auctioneer, 14, Mourgate street, London, E.C.

CHARING-CROSS RAILWAY—THIRTEENTH CLEARANCE SALE—BUILDING MATERIALS.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors, to SELL by AUCTION, on the PREMISES, on THURSDAY, the 13th MARCH, 1862, at ONE o'clock punctually, all the very valuable and excellent BUILDING MATERIALS of five large well-built HOUSES, in Willis's-road, Hampton-street, frontage also to Green Dragon-court, and three houses, shops, and business premises in the Borough market, and facing St. Saviour's Churchyard; comprising good sound stock brickwork, capital slating, prime timber and flooring boards, glazed shop-fronts, sashes and frames, useful doors, lead gutters and pipes, marble mantels and other chimney-pieces, stoves, ranges, and a large mass of useful sashes, fixtures, and fittings up.—May be viewed the day previous to Sale; and catalogues had of Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers, 5, Newmans-court, Cornhill, and West Molesey, Surrey; and of Mr EDWARD RYDE, Surveyor to the Company, at his offices, in the London Bridge Terminus.

600,000 OF BRICKS.—TO CONTRACTORS, BUILDERS, AND OTHERS. NAVY-ROW BRICKFIELD, GILLINGHAM, KENT.

MR. J. THOMAS has received instructions to SELL by AUCTION, on WEDNESDAY, MARCH 19, 1862, at ONE for TWO o'clock, on the PREMISES, Navy-row Brickfield, Gillingham, 800,000 BRICKS; consisting of fronts, stocks, pickings, &c. the property of Mr. J. Ballard. The field is conveniently situated for buyers, being half a mile from the new Brompton Railway Station, and close to the river, where the use of a crane or as wharf may be obtained within a few rods of the premises. Further information may be had on the Premises, and of the Auctioneer, at his Office, 187, Ingliside, Rochester.

NEW WANDSWORTH and BOW.—Freehold Building Land, and Ground Rents.

MR. R. W. GIBLETT will SELL by AUCTION, on WEDNESDAY next, MARCH 12th, at GARRAWAY'S, TWO PLOTS of BUILDING LAND, in the Parish of New Wandsworth, frontage 27 feet, and depth, 137 feet each. Also, ONE PLOT in the Bow Bridlington-road, Bow; frontage, 36 feet; depth, 2 feet.—Particulars can be obtained at Garraway's; of Messrs. JONES & STARLING, Solicitors, 11, Gray's-inn-square, W.C.; and at the Auctioneer's Offices, 36, Southampton-buildings, Chancery-lane.

CAMDEN TOWN.—On MONDAY, MARCH 10th, at TWELVE for ONE o'clock.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, 1,100 PLANKS, DEALS, and BATTENS, Sundry lots of flooring, 11 and 9 feet; quartering, 3,000 feet extra rail, 3,000 feet white pine boards, square feather edge and match boards, slating battens, pantile battens, doors, iron pales, &c.—Auction Offices, Cardington-street, Hampstead-road, N.W.

PRELIMINARY NOTICE.—TO CAPITALISTS AND BUILDERS.

MESSRS. R. KENYON & CO. will offer for SALE by AUCTION, at GARRAWAYS, Change Alley, Cornhill, in APRIL next (unless previously sold by private contract), a most valuable FREEHOLD BUILDING ESTATE, consisting of about 42 acres, adjoining the Hunter Station, and opposite to the Commercial Travellers' Schools. It has a capital frontage to the main road, of about 1,500 feet, is within half an hour's ride of Bustonsquare, and has excellent brick-earth.—A plan of the estate can be had, and further particulars obtained, on application to Mr CHARLES LAWS, Architect, 1, Walbrook buildings, City; Messrs. PATERSON & LOWNDES, Solicitors, 3, Winchester buildings; or to Messrs. R. KENYON & CO. Auctioneers, 11, Adelaide-place, City.

BLACK IRONMONGERY AND JOBBING SMITH'S BUSINESS FOR SALE.

MESSRS. FULLER & HORSEY are instructed TO SELL, on very advantageous terms, by PRIVATE CONTRACT, the STOCK, TOOLS, LEASEHOLD INTEREST, and GOODWILL of a BUSINESS established at the West end of London, having a good connexion among builders, and a considerable jobbing trade. The returns are 3,000l. to 4,000l. per annum. About 1,200l. are required.—Apply to 11, Billiter-street, E.C.

68, SNOW HILL, City (foot of Cock lane).—To BUILDERS, IRONMONGERS, DEALERS, and others.

MR. W. BOOTH will SELL by AUCTION, as above, without reserve, on WEDNESDAY, MARCH 19th, at TWELVE for ONE o'clock precisely, MESSRS. MONGERY and BUILDER'S STOCK, roofing felt, white lead, stoves and fenders, iron pails, cut nails and screws, glue, glass paper, and several wood fittings, &c.—Full particulars next week (catalogues by post for a stamp).

TO IRONMONGERS, BUILDERS, OWNERS OF HOUSE PROPERTY, AND OTHERS.

MR. BETTS, Auctioneer and Valuer to the Ironmongery, Building, and Metal Trades, has received instructions to SELL by AUCTION, at the ROOMS, 5, Spital-square, Bishopsgate-street, on WEDNESDAY, MARCH 12, 1862 at TWELVE for ONE o'clock precisely, a large and varied STOCK of Builders' and General IRONMONGERY, of the usual description.—May be viewed the day previous, and catalogues obtained of the Auctioneer, Church-street, Hackney, N.E.

WIMBLEDON.—Valuable Freehold Land, close to the Station

MR. H. C. MARTIN is instructed to SELL by AUCTION, at the MANSELL ARMS HOTEL, Wimbledon, on THURSDAY, MARCH 27th next, most eligible FREEHOLD LAND, in Plots of from 25 to 100 feet frontage, all ripe for immediate occupation. The land is efficiently drained by main sewer, is well supplied with water and gas, and is one of the best building localities in the county of Surrey. Plans, with particulars and conditions of sale, may be had at the Mansell Arms Hotel; of JAMES WRIGHT, Esq. 8, New Inn, Strand; and of the Auctioneer, 18, Adam-street, Adelphi.

DOVER, KENT.—TO MILLERS, CAPITALISTS, AND OTHERS. Sale with possession of a very valuable and important Water Corn-mill, Floor and Corn stores, stabling, and appurtenances.

MESSRS. JACOBS & SEAR have been honoured with instructions from the proprietor to SELL by public AUCTION, at the AUCTION MART, in London, opposite the Bank of England, on FRIDAY, MARCH 28th, 1862, at THREE o'clock precisely, in ONE LOT, all that newly-erected and substantially built WATER CORN-MILL, known as Charlton Flour mill, Dover, in the county of Kent, together with the ground and appurtenances belonging thereto, and the whole of the new working gear as fitted, including all the recent improvements adopted in mill machinery, and fitted by the proprietor regardless of expense. Driving 10 pairs of stones, with all necessary fittings and gear work for reducing the labour and cost of manufacture; also a superior and very extensive three story CORN AND FLOUR STORES contiguous to the mill, and three well-stabling and waggon lodges main mounting, built in a very substantial manner, having each walls and mansard roofs of fire resisting great weight, trussed and braced, with excellent flooring and well-timbered joists. The above very desirable property, in the borough of Dover, and within a quarter of a mile of the town station of the London, Chatham, and Dover Railway, may be considered one of the first mills in East Kent, possessing capacious water power and excellent convertibility, fitted also in a first-class style with the best machinery. The driving wheel is breast-shot, 21 feet in diameter; and the stones unequalled in quality, and can, without an additional alteration or outlay, be worked by steam. Standing in the midst of a rapidly-increasing town, and at a portion where the best part of Dover is about to be built, this property, both to the capitalist and also to the manufacturers, offers no second-rate investment. The tenant's fixtures, fittings, and trade implements to be taken by the purchaser, at a valuation, in the usual way. The present tenant holds under a lease which expires on the 6th of April next, so that immediate possession may be had. Particulars and conditions of sale may be obtained five days prior to the Auction Mart, London; of Messrs DOWSETT & BROWN, 14, Bishopsgate-street within; at the offices of the Auctioneers, Dover, where only cards to view can be obtained; at the Auction offices, Margate and Canterbury; and of GEO. FIELDING, Esq., Solicitor, Dover.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 19th day of MARCH, 1862, at ONE precisely. Lunch on at Half-past Twelve o'clock.

For account of Importers.

2,000	Spruce Deals, Battens, Scantling, Boards, and Ends
3,000	Spruce Deals
5,000	St. Petersburg Redwood Deals
1,000	St. Petersburg Whitewood ditto
4,000	Onega and Archangel Red Deals, Battens, and Boards
5,000	Wyborg Redwood Deals
1,000	Swedish Deals and Battens
2,000	Lods Quebec Waney Red Timber
600	Loads Quebec Yellow Pine
50	Loads Quebec Red Pine
100	Loads Quebec Red Timber
10	Lots St. John Board Pine Timber
30	Bags Quebec Walnut
100	Lots Miramichi Board Pine Timber
20	Waney Oak Logs
500	Loads Swedish Timber
50	Fathoms Boards, St. Petersburg, and Quebec Lathwood
2,000	Flooring Boards
30,000	Pairs

Norway Spars.

With other Goods.

Catalogues will be issued on the Week of Sale.

Canons' Marsh, Bristol, March 5th, 1862

F. K. BARNES & SONS, Brokers.

HASTINGS, Sussex.—FREEHOLD BUILDING GROUND.

MESSRS. BREEAS & SONS have received instructions to SELL by AUCTION, on MONDAY, the 24th day of MARCH, 1862, at SIX o'clock in the evening, at the CASTLE HOTEL, Hastings, in one lot, all those FOUR MEADOWS called "The Great Brook," and "The Bastfield," containing together about six acres, situate in the parish of St. Andrews, in Hastings, and now in the occupation of Mr. E. M. Hopper, as early pasture. This valuable estate is situate in the centre of the borough, near a dense and increasing population, stands on a very large frontage towards St. Andrew's terrace, and is exceedingly well adapted for villa or family residences, or any business requiring a large area, or for the erection of shops, which are much required in this part of the town. For particulars and conditions of sale, apply to Mr JOHN PHILLIPS, Solicitor, Hastings; and to Messrs. BREEAS & SONS, Auctioneers and Estate Agents, 68, George-street, Hanover-square.

COLNE, HIGH Sts. Published Horses for almost universal Sale, by order of the Mortgagee; also some Freehold Building Land.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, MARCH 18th, at TWELVE, in one lot, the HORSES, Waggonette, Carts, &c. of Mr. Lee, Builder, situate in Lower Park-road, within the five minutes' walk of Colne High Station. Rental Value 220l. per annum. Lease of years, direct from Freeholder. Ground-rent 8l. each. Also, three small, also an acre and a half of Freehold Building Land, abutting on the main road to Palmer's-green, lying high and dry, commanding extensive views. Post Offices of Messrs. STEVENS & BOTTS, Solicitors, Witham and Coggeshall, Essex; and of the Auctioneers, 80, Cheapside.

Final Sale of the valuable Stock of Messrs. Browne & Co. comprising a selection of beautifully-sculptured Chimney-pieces, in every variety of foreign Marble; a splendid Mural Monument of Classic design in blue Vases, Bold e Slabs, Bas Reliefs, Pedestals, and various objects of taste and utility, being the contents of two Galleries reserved for the last Sale.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT beg to announce that, having disposed of the manufactured stock, waggons, and implements, they are directed by Messrs. Browne & Co. to SELL BY AUCTION, in the Galleries, in Grafton-street East, near the London University, on WEDNESDAY, APRIL 9th, various costly CHIMNEY-PIECES, being a selected portion of the extensive and valuable Stock of the above eminent firm, including four elaborately-wrought pieces, in the richest Italian statuary marble, richly carved in high relief, supported by finely sculptured console figures of boys, by a first-rate artist; a magnificent chimney-piece of large dimensions in pure freestone, suitable for a public building or mansion of the first class, and many others, beautiful in design and of superior finish, in every variety of Italian, French, Spanish, and Belgian marbles, carefully selected from the best quarries. A grand and classical mural monument, in pure statuary; a slab of richly Oriental granite, 7 feet 8 inches by 3 feet 8 inches, cut from one of the pillars of Trajan's Forum; some smaller slabs in granite, brought from the ruins of Carthage; two pair of grand marble vases for terraces, Scagliola pedestals of large dimensions, suitable for groups, figures, or vases, &c.—May be viewed six days (short) the week and Catalogues had of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville row, Regent-street, W.; and 19, Change-alley, Cornhill, E.C.

BICKFIELDS, Silchester-road, Notting-hill.—Brickfield Plant, Brick Carts, Four useful Cart-horses, Harness, Stable Utensils, and other effects.

MESSRS. ABBOTT & WRIGGLESWORTH are instructed by Mr. Paul Feilhouse to offer for SALE by AUCTION, on the PREMISES, Silchester-road, Notting-hill, on WEDNESDAY, MARCH 19, 1862, at ELEVEN o'clock precisely, all the valuable BRICKFIELD PLANT, for two Stocks, comprising chalk mill, two pug mills, pumps, iron wheeling plate, wheeling-planks, off-bearing, crowding, and navvy barrows; thacking boards, three 500-brick carts, four useful cart-horses, fast-trotting pony, horse harness, stable utensils, and other effects.—Catalogues may be had at the Notting Barn Tavern; the Talbot Arms, Clarendon-road North; the Cricket Club, Paddington; on the Premises; and of Messrs. ABBOTT & WRIGGLESWORTH, 26, Bedford-row, London and Eynesbury, St. Neots, Huntingdonshire.

FREEHOLD BUILDING GROUND, close to the intended Railway Station on the High-road, Peckham three miles only from the City, adapted for a Public house and Shops or for private residences. Money can be had if arranged for.—Apply to the freeholder, THOMAS SINGLE, Esq. Bath House, Queen's-road, Peckham, between 9 and 12 A.M.

BUILDING LAND TO LET, on long lease in most eligible plots, from the freeholder, at HIGHBURY, CANONBURY, NORWOOD (close to the Crystal Palace), and CROYDON (very near West Croydon Station), at the VAUXHALL GARDENS Estate, DENMARK HILL, &c. and some CARCASSES at BOW. Ground-rents moderate. The usual proportion of the cost of the houses erected would be advanced, and in some cases the freehold, might be purchased.—For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

MARK LANE.—An important BUILDING SITE TO BE LET by TENDER, receivable on or before the 21st MARCH next.—Particulars and plans may be obtained at the Offices of Messrs. LEPTON, JOHNSON, & LEPTON, 20, Austinfriars; or of Mr. TANSON, 74, Laurence Pountney-hill.

BUILDING-GROUND.—CITY of London.—The Commissioners of Sewers of the City of London hereby give notice, that they will meet in the Guildhall of the said City, on THURSDAY, the 20th of MARCH next, at TWELVE o'clock precisely, to receive proposals for LETTING, on BUILDING LEASE, for eighty years, certain PLOTS of FREEHOLD GROUND, situate in Newgate-street and Watling-street.—Further particulars, with conditions and printed forms of proposal, may be had on application at the Office, which plans of the ground may also be seen. The Commissioners do not bind themselves to accept any proposal unless deemed advantageous. Persons making proposals for the said plots of land must attend personally, or by duly authorized agent, on the above-mentioned day, at the Guildhall aforesaid, when offers are accepted will be required to execute an agreement, under bond at the time. JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, January 1st, 1862.

BUILDING GROUND, City of London.—TO BE LET, on a building lease, for eighty years, a PIECE of GROUND, on the north side of Broadmead Block, in the City of London. Plans of the ground may be seen, and further terms obtained, upon application at the Architect's Office, Gresham.

FERDINAND BRAND, Comptroller.

BELSIZE PARK, HAMPSTEAD.—To BUILDERS and OTHERS.—LAND TO BE LET, for Building, with roads and sewers already made for further particulars, apply on the estate, at Mr. TIDEY's Office, 20, Belsize-park.

TO BUILDERS and OTHERS.—SELHURST-PARK, Norwood, near the Junction Station.—The freehold estate will comprise, with respect to builders in ERECTING HOUSES, to let at 45l. to 65l. Excellent bricks of every class on the estate. Proximity to the Junction Station, enables materials to be readily conveyed. All roads formed. Several first-class houses erected, all of which have been let before finished; and others are in course of completion. Natural drainage from all parts of the estate. Air proved by the dry, sandy soil. Beautiful drives and walks. Healthful, nine miles, or 15 minutes from City: 24 minutes from West end; 4 minutes from Crystal Palace; 50 minutes from Brighton. Train accommodation. In half-past twelve o'clock. Plans, particulars at Selhurst-park Office; or to Messrs. FRANCIS FULLER & CO. Cornhill, E.C.

HOUSE and PREMISES WANTED, in a thickly populated neighbourhood in London or the Suburbs, where a small plant can be erected, suitable to brew on a small scale, and to retail. Money is required if required to respectable parties.—For plans and particulars apply to Mr. T. MUNCEY, surveyor, No. 8, La Belle-road, Notting-hill, W.

VALUABLE BUILDING LAND TO BE LET, at St. John's-hill, Battersea-rise. Soil gravel, and beautifully situated. Money is raised if required to respectable parties.—For plans and particulars apply to Mr. T. MUNCEY, surveyor, No. 8, La Belle-road, Notting-hill, W.

BELVEDERE, near Erith, Kent, S.E.—To BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES next Easter.—That beautiful Park is to be the next open for building at the new year, 1862. Probably no district to the east of London has equal natural advantages. The beauty of the river and land is unsurpassed. The soil is dry and healthy, the water pure and abundant. There are stations of the North Kent Railway at Erith and at Belvedere. The former, near to the east end of the Park; the latter, within four minutes' walk of the west end of the Park, and the Picadilly and Lessnes Heath portions of the estate. At the end of 1862, it is expected that there will be complete railway communication to Charing Cross. Rapidly, close to the Belvedere Station and Lessness Heath (close to the Belvedere Church, and 12 minutes' walk within two years) nearly ready, will buildings, viz. villas of 40l. and upwards, shops, from 22l. to 70l. a-year, and shops of various descriptions; some plots, however, already let. Those parts of the estate in the Park are just let, and it is intended to grant leases for these parts of the estate for forty-nine years, for erecting villas of a superior description. Plots will be laid out, and approaches made, through Erith and through the park. These are the Park-road, leading from the Belvedere station to Brook-street; the Avenue-road and the Tower road, each leading from the public road from Erith to the Rectory and Church, and the Valley-road, leading from the Erith Lodge to the archway in the park. The ground rents are very moderate.—Applications for terms and for other particulars may be made to Messrs. WM. G. HABERSHON & PITE, Architects, 38, Bloomsbury-square, W.C. or to BRACKLAND, Lessnes Heath, will show the ground to persons applying. No buildings will also be let or leases after April, 1862, for an hotel or public school, or other public institution.—For particulars apply to Messrs. NORTON & HOOGART, Old Broad-street, E.C.

TO SAW-MILL OWNERS, BUILDERS, SAIL-CLOTH MAKERS, TIMBER MERCHANTS, and OTHERS.—Having great space at a low rent.—TO LET, near the London and St. Katherine Docks, extensive PREMISES, comprising several warehouses, with residence, stabling, and yard; the whole covering an area of upwards of 10,000 feet.—Apply to Messrs. DEBENHAM & TEWSON, 80, Cheapside.

PARISHES of ST. GILES, CRIPPLEGATE, and ST. LUKE, Middlesex.—TO BE LET by TENDER, on Building Leases, for a term of eighty years, a PLOT of LAND, on the north side of the Mile-end-road, which may be obtained at the Offices of Mr. A. J. BAYLIS, Solicitor, 22, Redcross street, City; or 1, Church-court, Old Jewry.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles in the-fields; and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent-garden both in the County of Middlesex.—Saturday, March 8, 1862.

The Builder

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 997. MARCH 15, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Church of St. James the Less, Garden-street, Westminster. Mr. G. E. Street, Architect 187
Suggestive Decoration 188

CONTENTS.

Excavations on the Palatine: Rome 177
Opening Meeting at the Architectural Museum 178
Paris and Italy 179
The Question of Classic and Gothic Architecture, dispassionately considered by a retired Architect 180
Surface Decoration 183
The Cost of Soot, Cesspools, and Foolishness 184
Clock and Watch Making: The British Horological Institute 184
Cement versus Wooden Floors 184
Proposed Completion of the Birmingham and Midland Institute 184
The Art of Decorative Design 185
Church of St. James the Less, Garden-street, Westminster 186
Typhus and Typhoid Fevers and Diphtheria: Danger of Stagnant Pools in Rural Districts 189
Suggested Site for the Prince Consort's Memorial 189
Proposed Art-rent Memorials 189
Competition 190
Machine-made Bricks 190
Telegraphic Progress 190
Provincial News 190
School-building News 190
Church-building News 190
Stained Glass 190
The Exhibition Road across Hyde Park 191
The Royal Engineers 191
Books received: Rankine on Civil Engineering (Griffin, Bohn, & Co.) 191
Miscellanea 192

ROYAL ACADEMY of ARTS.—NOTICE TO ARTISTS.—All Works of Painting, Sculpture, Architecture, or Engraving, intended for the ensuing EXHIBITION at the ROYAL ACADEMY, must be sent in on MONDAY, the 7th, or TUESDAY, the 8th of APRIL next, after which time no work can possibly be received, nor can any works be received which have already been publicly exhibited.

It is proposed to open the Exhibition Rooms on certain evenings of the week during the latter part of the season.

FRAMES.—All Pictures must be in gilt frames. Oil Paintings under glass, and drawings with wide margins are indispensible. Excessive breadth in frames as well as projecting mouldings may prevent Pictures obtaining the situation they otherwise merit. The other regulations necessary to be observed may be obtained at the Royal Academy.

Every possible care will be taken of works sent for exhibition, but the Royal Academy will not hold itself accountable in any case of injury or loss, nor can it undertake to pay the carriage of any package.

The prices of works to be disposed of may be communicated to the Secretary.

Artists sending works for exhibition are earnestly requested to abstain from giving any fees whatever to the servants or other persons employed by the Royal Academy to receive such works.

JOHN PRESCOTT KNIGHT, R.A., Secretary.

ART-UNION of LONDON.—Subscription, One Guinea.—Prizeholders select from the public exhibitions. Every subscriber has a chance of a valuable prize; and, in addition, receives an impression of a large and important line engraving by C. W. Sharpe, from the original picture by Fred. Goodall, A.R.A entitled, "RAISING THE MAYPOLE," now ready for delivery. Subscription closes 31st inst.

444, West Strand. GEORGE GODWIN, } Honorary
March. LEWIS POCOCK, } Secretaries.

THE CATTLE FAIR, by AUGUST BONHEUR.—Mr. ROBERT CROFTS has the pleasure to announce that the great PICTURE is now ON VIEW at the Gallery, 28, Old Bond-street. Open from TEN till FIVE. Admission, 1s.

CONTRACTS.

TO COAL MERCHANTS and GAS and COKE COMPANIES.—The Commissioners for Public Baths and Washhouses of St. George, Hanover-square, are ready to receive TENDERS for the SUPPLY of INLAND COALS, Welsh or Merthyr Vein Coals, Newcastle Wallsend Large Coals, and Inland or Newcastle Wallsend Small Coal, of the best quality, at per ton; and COKE, at per chaldron; for twelve months, from the 31st of MARCH instant, to be delivered, free of expense, at their respective establishments in Davies-street, Berkeley-square, and Lower Belgrave-place, Pimlico, at such times and in such quantities as may be ordered. The Tenders to specify the price for inland and other large and small coals per ton, and per chaldron for coke, separately, to be sealed and endorsed, "Tenders for Coals," and "Tenders for Coke," and sent in to me at the Board Room, Mount-street, Grosvenor-square, at or before TEN o'clock, on THURSDAY, the 27th MARCH instant. The Commissioners do not bind themselves to accept the lowest or any Tender. By order,

W. H. BANISTER, Clerk to the Commissioners.

10th March, 1862.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a DWELLING HOUSE and OFFICES, at Little Aston, in the parish of Sutton Coldfield, as per the plans, specification, and quantities, at the Office of Messrs. HASLAM & BUCKLAND, Surveyors, 23, Friar-street, Reading, Berks; or at the Farm house, under the care of Mr. WILLIS, the Bailiff at Little Aston, on and after TUESDAY, MARCH 18th. Tenders to be delivered at No. 23, Friar-street, on or before THURSDAY, MARCH 27th. The lowest or any Tender will not necessarily be accepted.

23, Friar-street, Reading, 13th March, 1862.

Cannon-street, London E.C. March 6th, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—Persons who may be desirous of entering into CONTRACTS with the War Department for the performance of such of the undermentioned descriptions of WORK as may be required at Whitehaven and Maryport, in the construction of gun-platforms, parapet walls, magazine and artillery store, inclosure-fence, &c. (in the Batteries for drill and practice about to be formed there); in the partial levelling and draining of the sites for the Batteries; and in the formation of roads, are requested to apply for schedules of prices and printed forms of Tender, on or after WEDNESDAY, the 12th of MARCH next, until WEDNESDAY, the 19th of that month (Sunday excepted), between the hours of TEN o'clock a.m. and FOUR o'clock p.m. at this Office, where plans and specifications of the works may at the same time be seen.

Each contractor will be required to Tender for all of the trades—Masons', pavions', bricklayers', and plasterers' work; carpenters' work, slaters' work, smiths' and ironfounders' work, plumbers' work, painters' and glaziers' work.

Each Tender is to be properly filled up and signed; and is to be transmitted, under cover, to the Director of Contracts, War Office, Pall-mall, London, S.W. so as to be received there on or before TUESDAY, the 25th of MARCH next; and to be marked on the outside, "Tender for Works at , in the Northern Royal Engineer District."

R. S. BEATSON, Colonel,
Commanding Royal Engineer, Northern District.
Royal Engineer Office, Newcastle-on-Tyne, February, 1862.

WAR DEPARTMENT CONTRACTS.—Such persons as are desirous of undertaking the several WORKS and REPAIRS to the FORTIFICATIONS, BARRACKS, and other buildings, required by the War Department at the places undermentioned, upon a contract for three years, from the 1st of APRIL next, may be furnished, by payment of 7s. 6d. with the printed schedules of prices and the conditions of the contract, with every necessary information respecting the same, on personal application at this Office, between the hours of TEN and THREE each day (Sundays excepted), from the 3rd until the 18th MARCH, 1862, after which date no further issues will be made.

Stations for which separate Tenders will be received:—

PORTSMOUTH—including Portsea Island and Southsea Castle, with 5 per cent. allowed for Lamps and Eastney Batteries, Fort Cumberland, Hilsea, and Tipner, and 15 per cent. for works on Portsdown Hill.

GOSPORT.—including Forton, Priddy's Hard, Haslar, Forts Monckton and Blockhouse, with 5 per cent. allowed for Forts Rockhurst, Rowner, Elson, Gomer, and Grange, Stokes Bay Lines, Brownlow, and Gilkicker Batteries, and 10 per cent. for Forts Wallington and Fareham.

ISLE OF WIGHT.—At any Barracks and East Cowes, with 10 per cent. allowed for each of the other stations on the island.

SOUTHAMPTON.—(Peninsular Barracks) with 5 per cent. allowed for Marchwood, and 10 per cent. each for Hurst and Calshot Castles.

WINCHESTER, CHICHESTER, CHRISTCHURCH, TROWBRIDGE, LITTLEHAMPTON.

One contractor only will be accepted for the whole of the trades for each of the above-named stations, but the rates of percentage at which the parties Tender may be different for each trade, at their option, but such rates must be shown in the proper place on each of the schedules.

The Tenders will be prepared to be delivered before TWELVE o'clock at noon on the 23rd day of MARCH, 1862, at the War Office, Pall-mall, London, addressed to "The Director of Contracts," and endorsed, "Tender for Artificers' Work, Portsmouth District," in the left hand corner of the envelope.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

R. W. DURNFORD, Colonel,
Commanding Royal Engineer, Portsmouth District.
Royal Engineer Office, Portsmouth, 25th February, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the SUPPLY, at the Vern Fortifications, Portland, of TOOLS, TIMBER, IRON, STEEL, RAILS, CASTINGS, and other PLANT, which may, from time to time, be required for the use of the contractors now employed on the Portland Defences, from 1st APRIL, 1862, to 31st MARCH, 1863, inclusive.

Parties desiring to Tender for the above Work must leave their names at this Office, on or before the 21st day of MARCH, 1862, and pay the sum of 10s. 6d. for the printed schedule of prices.

The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders, and does not pledge himself to accept the lowest Tender.

C. H. NUGENT, Captain and Major Commanding, R.E.
Royal Engineer Office, Nothe, Weymouth, March, 6, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for EXECUTING the WORKS, &c. that may be required in the following Trades, for the period from 1st of APRIL, 1862, to 31st MARCH, 1863, viz.—Masons', Pavions', Bricklayers', Carpenters', Slaters', Plumbers', Smiths' and Ironfounders', Painters', Glaziers' and Paperhangers', and Gasfitters', at the undermentioned Stations, viz.—Ashton, Bury, Burnley, Chester, Fleetwood, Isle of Man, Liverpool, Manchester, and Preston.

Parties desiring to Tender for these contracts must leave their names at this Office, on or before the 19th instant, and pay the sum of seven shillings and sixpence for the Schedules and Forms of Tender.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, 225, Stretford-road, Manchester.
14th March, 1862.

PORTLAND DISTRICT.—WAR DEPARTMENT TRIENNIAL CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required for EXECUTING such WORK at Dorchester, Weymouth, and Portland, as the following Trades, may be ordered between the 1st of APRIL, 1862, and 31st of MARCH, 1865, viz. Bricklayers', Masons', Paviors', Carpenters', Plasterers', Slaters', Plumbers', Smiths', Painters', Glaziers', and Paperhangers', and Gasfitters.

Parties desiring to Tender for the above must leave their names at this Office, on or before the 24th MARCH, 1862, and pay the sum of 7s. 6d. for the schedules and forms of Tender.

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

C. H. NUGENT, Captain and Major Commanding R.E.
Royal Engineer Office, Nothe, Weymouth, 11th March, 1862.

CONTRACTS.

NOTICE to BUILDERS.—WAR DEPARTMENT CONTRACTS.—TENDERS for the usual TRIENNIAL CONTRACTS for WORKS and REPAIRS to War Department Buildings in the Islands of Guernsey and Alderney, will be received by the "Director of Contracts," War Office, Pall-mall, London, S.W. on or before the 20th MARCH, 1862.

Schedules of Prices and Forms of Tender (for which 6s. 3d. for each set will have to be deposited), and all other information may be had on application to the Surveyor, at the Office of the Inspector-General of Fortifications, War Office, Pall-mall, London, S.W.; and at the Royal Engineer Offices in Guernsey and Alderney.

Royal Engineer Office, Guernsey, February 21st, 1862.

TO IRONFOUNDERS and BOILER-MAKERS.—TENDERS are required, on or before the 7th day of APRIL next, for the ERECTION of a PLATE GIRDER BRIDGE, for Bromiarth, Merfod, Montgomeryshire, of 100 feet clear waterway, and 18 feet overall. Plans and specifications can be seen at the Office of the County Surveyor, Merfod, Montgomeryshire. Bromiarth is about 10 miles from the Llanymynech Station, on the Oswestry and Newtown Railway.

TO BUILDERS.—WANTED, TENDERS for MAKING GOOD DILAPIDATIONS of a large MANUFACTORY. Specification can be seen at N. DEFRIES'S Gas Meter Manufactory, Diana-place, Euston-road, N.W.

GREENWICH UNION.—CONTRACT for BUILDINGS.—The Guardians of the Greenwich Union are desirous of receiving sealed TENDERS from persons wishing to enter into a contract for the ERECTION of APARTMENTS for twelve aged married couples, at the Union Workhouse, Greenwich, S.E. Plans and specifications may be seen, and Tenders obtained, at the Union Office, at the Union Workhouse, Greenwich, between TEN and FOUR. The quantities will be taken out by the Architect to the Guardians, and the expense charged to the contractor. The person whose Tender is accepted must enter into a bond, with two sureties, in the sum of £600 for the due performance of the contract. One half of the amount of the contract will be paid when the buildings are covered in to the satisfaction of the Architect. All Tenders must be sealed up, addressed to the Guardians of the Greenwich Union, marked "Tender for Buildings," and delivered at the Office before TWO p.m. on THURSDAY, 27th MARCH next, at which day and hour they will be opened in the presence of the contractors. The Guardians do not bind themselves to accept the lowest or any Tender. The parties tendering, or their authorised agents, must attend at the Workhouse at the day above named at SIX o'clock p.m. By order,

SAMUEL SAW, Clerk to the Guardians.

Greenwich, S.E. 27th February, 1862.

TO BUILDERS.—Builders desirous of TENDERING for the ERECTION of new BANK PREMISES, at Aylesbury, Bucks, for the Directors of the London and County Bank, are requested to send in their names to the Secretary at the Head Office, 21, Old Broad-street, London, previous to the 22nd inst. after that date, at the Leaden and County Bank, Aylesbury. Quantities will be supplied. Tenders to be delivered at one at their Head Office, 21, Old Broad-street, London, previous to the 22nd inst. and

CONTRACTS.

BUILDERS willing to TENDER for BUILDING and completely FINISHING EIGHT SMALL HOUSES, at Twickenham, can inspect the drawings and specification on and after MONDAY next at the Architect's Office, where Tenders are to be delivered by 4 o'clock on MONDAY, MARCH 24, TWELVE o'clock precisely. A Deposit of £5 will be required on any Tender. HENRY MCCALLA, C.E. Architect.

25, Westbourne-place, Eaton-square.

TO BUILDERS. TENDERS required for the ALTERATION and RECONSTRUCTION of TWO HOUSES, known as stoke House, Avery's-lane, Greenwich. The specification can be seen on the Premises, and at the Architect's Office, to which the Tenders are to be delivered in the Card Box. Quantities where the Tenders are to be delivered in the Card Box. Quantities will be duly sent in application to CHARLES SEWELL, Architect, 8, Chancery-lane, Fetter-lane, Fleet-street, London, W.C. Tenders not to be delivered until the 24th inst. The lowest or any Tender not necessarily accepted.

March 14, 1862.

TO BUILDERS.—Persons disposed to TENDER for the ERECTION of a DWELLING HOUSE, with office premises, &c., at Copthall, Cuckfield may inspect the plans, specification, &c., on application to Mr. W. HOLLOWAY, Surveyor, Haywards Heath. Tenders must be sent in on or before the 4th day of MARCH next, by 12 o'clock at noon, addressed to the Vestry Clerk, Cuckfield, and endorsed "Tender for Building Dwelling House," and delivered at the Vestry Room, Cuckfield, on or before the 5th day of MARCH, 1862. The Vestry do not bind themselves to accept the lowest or any Tender. Parties tendering for each separate branch of the Works are to send in their Tenders in separate forms, which may be obtained at the Office. Parties tendering must appear personally on the day the Tenders are opened, and the parties whose Tenders are accepted may be required to enter into and execute such Contracts as may be considered necessary with sufficient Sureties for the performance of the same. Sealed Tenders, signed by the proposed Contractor, with their names and descriptions of two sufficient Sureties for the performance of his Contract, are to be left at this Office on or before TWELVE o'clock on TUESDAY the 25th instant. The Vestry do not bind themselves to accept any Tender.

By order, CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's road, March, 1862.

ACCIDENTS ARE UNAVOIDABLE.
Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from £1 to £1,000 insuring against
ACCIDENTS OF ALL KINDS.
An Annual Payment of 3d. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured when laid up by injury.
Apply for Forms of Proposal, any information as to the PROVINCIAL AGENTS, the BOOKING OFFICES of the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
162,817 Claims have been paid by this Company, COMPENSATION for 58 Fatal Cases, and 1,561 Cases of Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

NORWICH UNION FIRE INSURANCE SOCIETY
Notice.—LADY-DAY RENEWALS.
Insurances by fire expiring during the fifteen days of grace are made good to the assured.
The business of the Company exceeds £8,000,000
The sum paid to Government for the year 1860 was £1,337 9s. 9d. and the Duty paid to Government during 1861 was £1,337 9s. 9d.
A bonus of three-fifths of the profits periodically made to parties insuring, which at each time from time to time received same discounting in the sum paid for a new policy.
The rates of premium are no more higher than those charged by the other principal offices, assuring not only against fire, but
For prospectuses, apply at the Society's Offices, Surrey-street, Norwich, and 6, Crescent, New Bridge-street, Blackfriars, E.C.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINE.
Adapted for hand, horse, or steam-power, will make one-third more in quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.
Licences to Manufacture granted for certain districts.
For price and particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines can be seen at work at Southborough (about one mile from the station), Kingston-on-Thames.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chemical, and Smelting purposes, and in all by him used manufacture made as per pattern required.—For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch-street, E.C.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Grissells, Place, or Kiln Bats, to be delivered alongside in the Thames or canals, on reasonable terms for cash or approved bills.
Belvedere road, Lambeth, January, 1862.

BRICKS.
BEST KILN-BURNT BRICKS, of superior common quality, can be supplied by the Million. Also,
FINE WHITE AND RED FACING BRICKS
WHITE, RED, AND BLACK CUTTERS;
VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES.
WHITE AND RED LIME AND GLAZED STONEWARE PIPES.
Wrought Iron Tube Boiler, 30 ft. long, at the East Cowes Park Estate, on the Isle of Wight.
RICHARD LANGLEY, Agent.

A NEW BRICK and LIME WHARF, and DEPÔT.
JOHN DOWNEY, Lime Burner, of 11, Millbank row, S.W. and Licensed Lighterman, has opened a New Wharf, Depôt, and Steam Wharf, Wapping, E. has taken the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN PIPES AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM CUTTERS, FLOORINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

THE NEW CRYSTAL STAR AND SUN LIGHT.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
J. DEFRIES & SONS,
MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.
Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.
The Patent Gas Regulator and Purifier reduced to 8s. 6d. per dozen.

BRICK, DRAIN-PIPE, and TILE-MAKING MACHINES; Pugging and Clay-crushing Roller Mills; Brick and Tile Presses, Pipe Socketting Machines, Draining Tools, and all accessories in connection, may be procured at J. WHITEHEAD'S, Albert Works, Preston, Lancashire. Illustrated catalogues and estimates furnished on application.
N.B. Manufacturer of the Patent Machine made Hare and Rabbit-Proof Netting.

TO BUILDERS, BRICKMAKERS, and BALLAST BURNERS.—A large quantity of excellent COKE BREEZE for SALE, at the Western Gas-Works, Kensington-green. Good facilities for transit by Rail on the Great Western Railway from a siding to the Works.—Apply to the Manager as above.

TO LET, CITY. PACKING-CASE and CARPENTERING BUSINESS, Old-established. — Apply, TAYLOR & CO. 81, Old street-road, Shoreditch.

COLOUR, BLUE LEAD, and GLASS WAREHOUSE, to which the Painting and Glazing might be most advantageously added. Price 3500. for the Lease, Fixtures, and Goodwill, stock at valuation, not heavy. Good reasons given for disposal of this genuine offer. Apply to Mr. JAMES REVELL, Oilman's Valuer, 207, Oxford-street, W.

TO CAPITALISTS. — EXTENSION of BUSINESS.—10,000l. is required for the purpose of EXTENDING an old established and highly profitable MANUFACTURING BUSINESS, in London, which is destined in future to be conducted on the principle of limited liability. The parties subscribing the additional capital, to be allotted to a proportionate share of the business. The present profits of the business are very considerable, and may, with further capital, be largely increased. Principals, or their solicitors, may obtain further information upon application to Mr. HENRY JACKSON, Solicitor, 15, St. Helen's-place, London.

TO BUILDERS and TIMBER-MERCHANTS.—TO BE DISPOSED OF, with immediate possession, an Old-established BUSINESS, with good shop and yard accommodation, situate fourteen miles from London, in the midst of a well-populated and improving locality. No premium required. Rent moderate. Stock at a valuation. —For further particulars apply to Messrs. WHITE & SONS, Estate Agents and Auctioneers, Dorking.

CARPENTER'S BUSINESS FOR SALE, in consequence of the recent death of the Proprietor, established 25 years. Coach house and stable, and Workshops, are situate near the Hampstead Hill Station and premises, Hop Rent, 28l. to let.—Apply to the Agents, Messrs LEROW & LEROW, 2, Carding ton-street, Hampstead road.

TO YOUNG ARCHITECTS. — To DISPOSE OF, the PAPERS and GOODWILL of an old-established PRACTICE in one of the most prosperous towns in Yorkshire. For particulars, address A. Z. care of W. Blackett, esq. 7, Furnival's Inn, London, E.C.

TO IRONMONGERS' ASSISTANTS and OTHERS. A very desirable opportunity is now offered to a respectable Man, who could at present find from 500l. to 600l. for a share in a business. Money bad debts are of course, but no possible security — Apply to F. W. FLECK, Esq. 6, Kittisford-place, Hackney road; or Messrs. JAMESON, London Bridge Estate Office, 36, King William-street, City, E.C.

TO BUILDERS and OTHERS.—TO BE SOLD, Ten Wooden DORIC COLUMNS, with plain shafts and moulded caps and bases, 10 feet 6 inches high, at 12 4 inches diameter. Also two other similar ditto, two 11 ditto, two pilasters, and other effects. For further particulars apply to the Manager, Mr. PAYNE, at the Queen's Concert Rooms, Hanover square.

BOX MARBLE CHIMNEY-PIECES, with 2 feet 6 inch opening, for 12 12s.; bold Truss Chimney-pieces, for 21 2s.; superior Moulded Truss Chimney-pieces, 13 inch jambs, 11-inch shelf, 14 thick, 3 feet opening for 21. 15s. A large assortment on view. R. SPRAGGS, 40, Hollingsworth-street, St. James's road, Holloway.

THOMAS ROBSON & NEPHEW, MARBLE MERCHANTS, WHITEHALL WHARF, CANNON-ROW, WESTMINSTER.
MARBLE OF BEST QUALITY IN BLOCK AND SLAB.

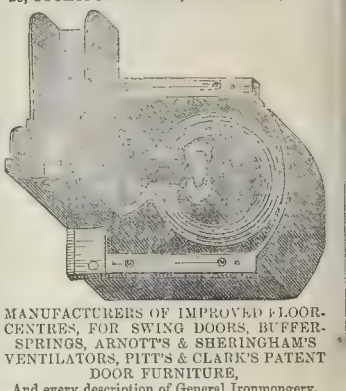
HEATING BY  HOT WATER.
JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Boilers of every description, and of the most extensive dimensions, constructed fully to work with Hot Water. JOHN WEEKS & CO. can refer to numerable patentees of Churches, Dwelling Houses, Warehouses, &c. where they have fixed their Hot Water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE.
No. 23, Davies-street, Three Doors from Oxford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell hangers, and the Trade in general, at wholesale prices, in connection with the Old Establishment, No 18, Bruton-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW
Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

CROGGON & COMPANY, GALVANIZED TINNED, FLAT, CORRUGATED, AND CURVED SHEETS, PERFORATED AND PLAIN ZINC, TINNED SHEETS.
GALVANIZED MANUFACTURED GOODS of every description.
2, DOWGATE HILL, LONDON.

SURREY.—BUILDERS and CONTRACTORS supplied with all descriptions of Ironmongery, Brassfoundery, Wrought and Cut Nails, Zinc, Rain pipes, Stoves, Grate weights, &c. at the lowest prices, by EDWIN LADD, High-street, Camberwell.

HART & SON,
53 to 58, WYCH STREET, STRAND, W.C., and 20, COCKSPUR-STREET, PALL-MALL, S.W.

MANUFACTURERS OF IMPROVED FLOOR-CENTRES, FOR SWING DOORS, BUFFER-SPRINGS, ARNOTT'S & SHERINGHAM'S VENTILATORS, PITT'S & CLARK'S PATENT DOOR FURNITURE,
And every description of General Ironmongery.

JOHNSTON, BROTHERS, MEDIÆVAL METAL WORKERS AND GASFITTERS.

Manufactory, 190, High Holborn, London:
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr Ledwiby, Dr Dundas Thomson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size or form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Gutters, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c. KENT IRON WORKS, BRIDGE STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

HIGH PRESSURE STEAM BEAM ENGINE, of 25-horse power, by Frazi, to be SOLD by PRIVATE CONTRACT: cylinder 18½ inches diameter, 3 feet 2 inches stroke; beam 8 feet long; also two wrought-iron Cornish steam-boilers, each 21 feet long and 6 feet diameter, the tubes 3 feet and 3 feet 6 inches diameter. For further particulars, and cards to view, apply to Messrs FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO CONTRACTORS and BUILDERS.—FOR SALE, a First-rate 10-horse power Double-cylinder ENGINE, with reversing gear, fire-box of the best Low Moor iron, and in as good condition as when new. Well adapted for pumping or sawing.—For price, &c. apply to J. E. OXBURM, Borham, near Ensworth, Hants


TRADE MARK.
GALVANIZED IRON and ZINC WORKS.
Galvanized or Black sheet iron, corrugated and plain, always in stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

TO BUILDERS AND OTHERS
A SECOND-HAND MOULDING MACHINE TO BE SOLD a BARGAIN.
Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER. THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

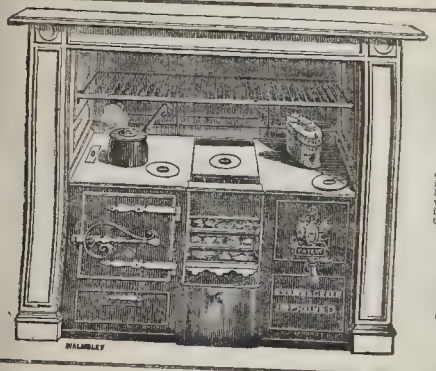
VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES
TOMB RAILING.

VERANDAHS.
IRON SASHES,
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10*s.*

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Economises the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges.

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen above are employed.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke-curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat,—viz. that reflected from the upper or concave surface,—to be projected parallel with the floor, instead of directly to the chimney, as done by the flat surface of the ordinary Stationary Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a similar direction, thus thoroughly warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which is intended to be kept shut when the fire is burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black at the top, and obviates any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18*s.* 6*d.*

BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.

F. THOMAS, AGENT.

ILLUSTRATED PROSPECTUSES POST FREE.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF **WROUGHT-IRON GIRDERS**
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 84, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

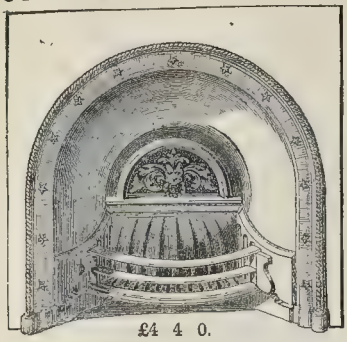
VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, Principal Roofs covered with Slates, Iron, Brass, Girders, or Rafters. Iron Fittings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. strong enough for Ceilings, and complete in town or country, or packed for exportation.

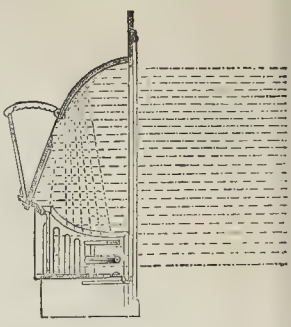
For Designs and Estimates apply to
RANDAL SEAP, Contractor,
No 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. SEAP are not Fixtures on Leasehold Property.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.

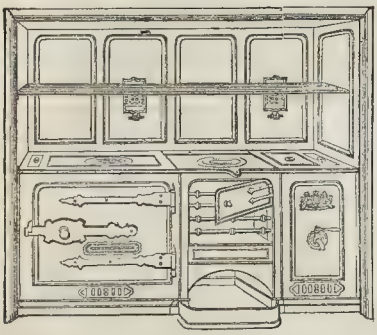


£4 4 0.

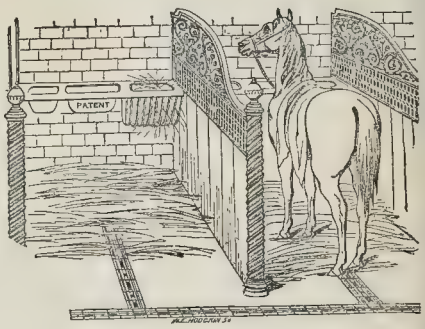
It is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



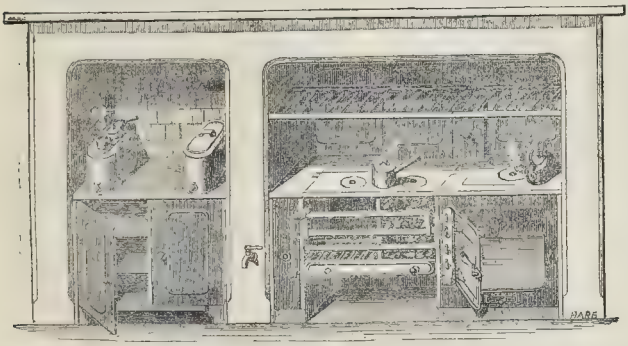
STOCK AT No. 159, SHOREDITCH, LONDON.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



CUNDY'S
PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

Nos. 6 and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

IRON BRIDGE WORKS.
WROUGHT-IRON GIRDERS OF ALL KINDS.
ROOFING, TANKS, BOILERS, SMITHS' WORK, &c.
LEWIS & STOCKWELL,
BARKING ROAD, LONDON, E

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61A, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,
MOREWOOD & CO.,
BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,
12, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE
PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

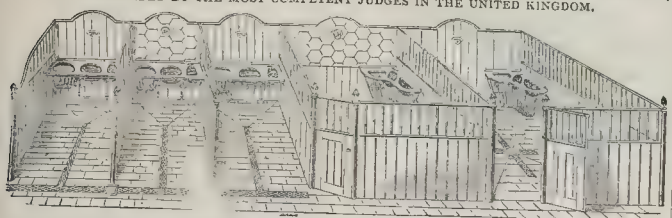
SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

COTTAM & CO. WINSLEY STREET, LONDON, W.

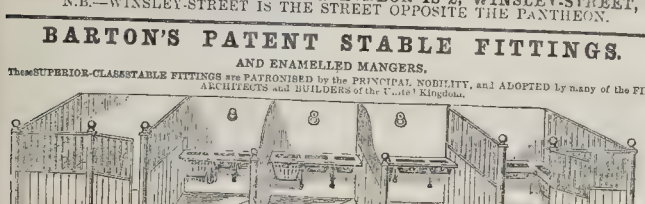
PATENTEES AND ORIGINAL INVENTORS OF
THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,
COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



The advantages of these Fittings over others are,—Improvement in shape increased capacity, no projections, free ventilation, preventing foulness in the rack, facility in fixing, safety from accident, durability in construction and cleanliness in use.
STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.
COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.
KNIGHTLEY'S PATENT STABLE FLOOR.
ILLUSTRATED CATALOGUES FREE, on application to
COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.
COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.
N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.
These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.
The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four postage stamps.
JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

HAWKINS'S REGISTERED CHAIN.—

This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.
J. W. GRAY & SON, 114, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

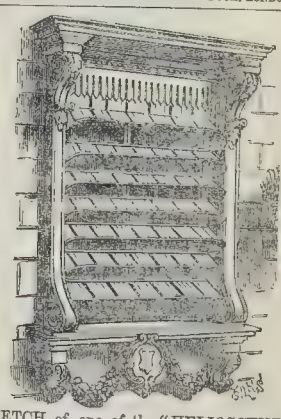
Three-eighths-inch diameter	1s. 6d. per foot.
Half-inch diameter	1s. 6d. „
Five-eighths-inch diameter	2s. 0d. „

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
„ Gateshead-on-Tyne.
„ 37, Dale-street, Manchester.
„ 66, Anderson-quay, Glasgow.
„ 17, South Castle-street, Liverpool
„ Exchange-buildings, Dundee.
„ 7, Frederick-street, Aberdeen.

MOREWOOD & CO.

(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.



SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.

These Blinds give a highly decorative finish to a plain front, whether fitted up in ornamental frames or without any. In the latter case top boxes only are required, which need not project beyond the reveal. Where there is no reveal, as in old houses, they would require a frame which need not project more than about 4 inches, and has no sash working down, or any other disfigurement. Prices moderate. A liberal discount to Builders and the Trade.
R. LOWTHER & CO. 31, Regent-street,
(One door below the Piccadilly Circus).
VENETIAN AND ALL OTHER BLINDS WHOLESALE.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED

TUBE for GAS; Galvanized ditto, for Water; Hydropressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 85, High Holborn.

CAUTION to ARCHITECTS and

BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER TIGHT WATER BAR, and
SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 60, Princes street, Leicester-square, London, and SUCH ONLY are WARRANTED

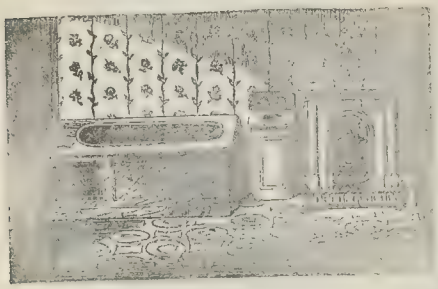
A PRIZE MEDAL for SUPERIOR LOCKS

was awarded to J. H. BOODBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Founding, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, Chain, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOODBYER (late STURCH & BOODBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street Clare-market London.

CHUBB'S LOCKS,

with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on Application
CHUBB and SON,
57, ST. PAUL'S CHURCH YARD, LONDON,
28, Lord-street, Liverpool; 16, Market street, Manchester; and Horsley fields, Wolverhampton.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their BATH APPARATUS, represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogue [illegible] had of the Manufacturers.

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

SHEET ZINC AND METAL PERFORATING WORKS.

FRANCIS RUMMENS,
PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.
HIGHLY APPROVED ROOFING ZINC,
BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.
ZINC SLATING NAILS.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,
5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

FURNESS'
PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.
Prices and every information respecting these celebrated and well-known machines can be had on application to
WILLIAM FURNESS,
73, LIME STREET (late of Lawton Street), LIVERPOOL.
The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.
GLOVER, BROTHERS,
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.
Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.

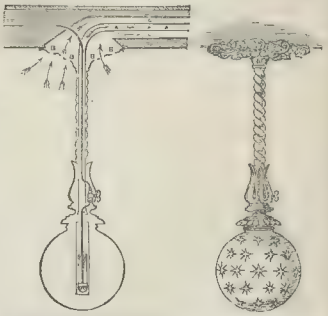
CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



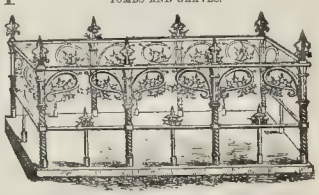
PEALS CAST TO ORDER.
NAYLOR, VICKERS, & CO.
SHEFFIELD.

RICKET'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
[illegible] simple, and efficient ventilation.



The ventilation for these—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

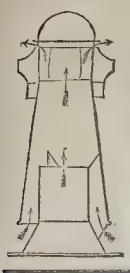
IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, containing designs, in various styles (fixed on all) [illegible] to
COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET,
LONDON, W.

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tinned Sheets and Tiles for export.
IRON WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

SMOKY CHIMNEYS ABOLISHED.



W. S. WOOD'S PATENT TRISECTIONAL VENTILATING and SMOKE-CURING CHIMNEY-TOP, possesses the following advantages:—

1. It is constructed upon well-established scientific principles; it collects the air, imparts to it a strong upward current, which expels the smoke with great velocity, and renders downward draught and admission of smoke from other flues quite impossible.

2. It has no moveable parts, is particularly durable, and requires no brickwork in fixing.

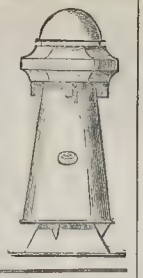
3. Each top has a hood, which can be used or not; it is therefore a complete ventilator, and is in every way calculated to overcome the most obstinate cases of smoky chimneys.

4. It can be effectually swept by the chimney-sweeping machine.

5. Its simplicity of construction, its well-defined shape, and merits as a "smoke-cure," may agree entirely with the whole family of unsightly tall boys, and with the useless apparatus of wiring apparatus, which disfigure most of our houses and public buildings.

Prices:—Ordinary size, zinc, 17 10s.; galvanized iron, 17 15s.; size 2 feet 10 inches high, 21s.; by 9 inches wide. Kitchen size, 27 2s.

To be had only of the Inventor and Patentee, Camden Cottages, Chislehurst, Kent. Forwarded to any part of the world upon receipt of money order. Principal at Chislehurst, accessible by rail in two hours from London Bridge. Also at the Crystal Palace and the South Kensington Museum.



DEVAUX'S PURE THICK ROOFING ZINC,

FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS

And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. SLIMSON, Esq. F.R.I.B.A., to whom a certificate is given, and which they are now selling at a considerably REDUCED LIST of PRICES, in consequence of the depression of trade in the manufacturing districts.

ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.

Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.

MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.

N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.

W. HARMER & SON

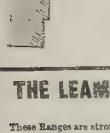
Beg to inform their Customers and the Trade generally, that having recently Removed into their new Premises, No. 3, HORSEFERRY ROAD (which communicates in the rear with their Warehouse and Workshops in New Peter street), they have thereby been enabled largely to increase their STOCK of BUILDERS' and CABINET MAKERS' IRONMONGERY, and which they are now selling at a considerably REDUCED LIST of PRICES, in consequence of the depression of trade in the manufacturing districts.

W. HARMER & SON,

IRONMONGERS, SMITHS, IRON AND ZINC MERCHANTS,

Nos. 3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.

ESTABLISHED 1817.



DRAUGHTS & DUST ROUND DOORS & WINDOWS

EFFECTUALLY PREVENTED BY

GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS

(Can be had any Length or Pattern).

The neatest, most simple, and effectual method of making air tight joints to joiners' or cabinet work, OLD or NEW.

Self acting Spring Slides for the bottom of doors.

The most imperfect door can be made air tight without re-hanging.

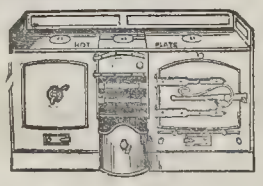
Trade supplied on liberal terms.

JOHN GREENWOOD, PATENTEE,

10, Arthur street West, London Bridge.



THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

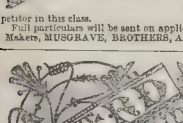
BURT AND POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS,

83 and 85, York-street, Westminster.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIG SERIES. These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.



At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "Highly commended," being the only prizes conferred on any competitor in this class.

Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.



BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gaselliers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.

DEPOT for BROWN'S PATENT CLOTH-PADDED WOOD STRIPS, which, when applied to windows, doors, show cases, &c. COMPLETELY EXCLUDE air-draughts dust, water, and the injurious effects of gas. Samples, with illustrations, and directions for use forwarded on receipt of three stamps for postage.

LOSH, WILSON, & BELL,

NEWCASTLE-ON-TYNE,

Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and

STEWART'S PATENT CAST-IRON GAS and WATER PIPES.

Office, No. 7, Size-lane, London.

VENTILATION.—M'KINNELL'S

PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its avoidance of draughts, and its being ordinarily self-regulating the pure air flowing imperceptibly inwards, while the noxious products of respiration and combustion are simultaneously extracted out. It has been applied in Buckingham Palace, Windsor, the Government Offices in London, and extensively in courts, public halls, schools, offices, dwelling-houses, factories, stables, &c., in which it has been adopted by her Majesty's Engineer and Surveyor. Patentee, JOHN M'KINNELL, 15 Lombard-street, London, W. Description and testimonials on receipt of one stamp.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 65, High Holborn, London,

Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

HANDSOME BRASS and IRON BEDSTEADS.

HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly japanned; Plain Iron Bedsteads for Servants, every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Wood, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED

CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

IRON CASTINGS, WROUGHT and

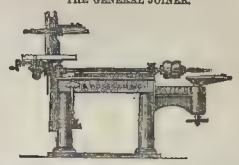
CAST-IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.

PHŒNIX FOUNDRY and ENGINEERING WORKS, DERBY.

S. WORSSAM & CO.'S PATENT

THE GENERAL JOINER.

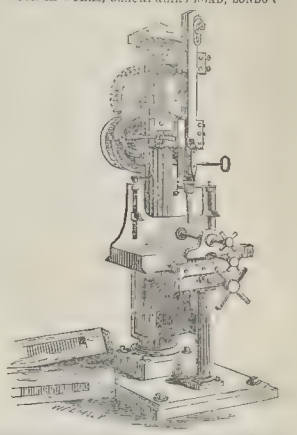


(½-inch scale)

This exceedingly useful and novel machine is adapted for sawing, cross-cutting, grooving, tonguing, rebating, tenoning, moulding, and boring; and will be found invaluable in any joiner's or builder's establishment. It is also specially useful for box making, and is fitted with a slide-plate for squaring the edges of drawers, &c. For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

POWIS, JAMES, & CO.

VICTORIA WORKS, BLACKFRIARS ROAD, LONDON



IMPROVED STEAM POWER MORTISING MACHINE, for Railway Waggon Building, and other heavy work. Makers of all kinds of Sawing and Wood-cutting Machinery, Steam engines, &c.

Office, 26, Watling street, London, E.C. where Drawings and Prices can be had on application.

ROGERS' PATENT OUTLET for RAIN-WATER BUTTS and CISTERNS,

which, being placed inside the tank or cistern, cannot get out of order, and is quite free from the effects of frost, &c. Price, complete, 4 in. 1s. 6d.; 5 inch, 12s.—Drawings and full particulars on application to the patentee,

G. ROGERS, HIGH-STREET, STAINES.

WROUGHT-IRON TANKS, CISTERNS,

GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers

of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and Manufacturers of the Mercurial Gas Regulator. Complete Pattern Book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

NAILS and IRONMONGERY,

from BIRMINGHAM direct

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, from all the LOWEST BIRMINGHAM PRICES.

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Boyle & Bianchi),

Nail Manufacturer and General Factor, BIRMINGHAM,

and 16, Gresham street, London, E.C.

DEVAUX'S PURE THICK ROOFING

ZINC laid upon Mr. Edmeston's principle to insure durability, by

D. HAYWARD,

LONDON ZINC WORKS, No. 87, Blackman-street, Borough.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect non-oxidability, and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. to the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 40 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to

Mr. ALEXANDER YOUNG, 14A, Cannon street, London, E.C.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

MARBLE AND STONE WORKS,

WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.
ESTIMATES WILL MEET WITH PROMPT ATTENTION.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil, covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862,
By Her Majesty's Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square. Its substances are lightness, warmth, durability, and economy It is impervious to rain, snow, and frost, and a non conductor of heat and sound The Felt can be cut to any length, by 23 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, will free to any part of the town or country. DRY HAIR FELT, for the string Boilers, &c. it also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with M.NEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER (upwards of Three Millions of Feet); also the GREAT EXHIBITION BUILDING of 1862, of near One Million Feet. A Liberal Discount allowed to the Trade.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.
Testimonials from Architects, Bankers, &c. of their security and durability forwarded.
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.
Agent for the Crystal Glass Pillars and Sash Bars.

PAINTING IN WATER COLOURS, by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, Invaluable for student, teacher, amateur, or the drawing-room table. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectus of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

STABLE ARCHITECTURE. 2*l.* 2s.
Medium Folio.
By THOMAS EDWARD KNIGHTLEY, F.R.I.B.A. Architect,
25, Cannon-street, London.
The volume is handsomely printed in the best type, and it contains twenty-eight plates, are executed chiefly in tinted lithography.
"The stable plans of Mr Knightley are admirable, and secure the most perfect ventilation without a cold current of air."—Horse and Rider.

Dedicated, by permission, to the Right Hon. Lord Palmerston
DESIGNS for MONUMENTS, TOMBS, GRAVESTONES, &c. price 16s. complete in one volume.
By JOSEPH B. ROBINSON, Sculptor, Derby.
The Designs in this volume are suitable for either cemetery or churchyard. The book forwarded free to any part of the kingdom for 16s. post-office order.

Price 4*l.* 4s. bound in cloth (Established 1834)
LAXTON'S BUILDER'S PRICE-BOOK for ARCHITECTS, BUILDERS, ENGINEERS, and CONTRACTORS just published.
A thick volume of 500 pages and More than 100 Tables, bringing down the Prices of Materials and Labour to the present time, and containing the latest and most important information required by Architect, Engineer, Builder, contractor, and surveyor; also tables for purchasing leases, sites, and annuities. Arcas and circumferences of circles, squares, logs of timber; weights of iron, timber, &c; instructions for estimating and contracting, with a copy of bill of quantities adapted to every building, with drawings, each individually described. Cast and wrought iron girders, &c; with tables of the same. All carefully revised to the present time.
Office, 13, Warwick-court, Gray's Inn, Holborn; and all Booksellers.

TO ENGINEERS, MILLWRIGHTS, &c.
Just published, with new Illustrations, 12th Edition, corrected and improved, to which is added a new Table of Fractional Numbers, 12mo. 8s. cloth.
THE MILLWRIGHT and ENGINEER'S POCKET COMPANION: containing Decimal Arithmetic, Tables of Squares and Cube Roots, Practical Geometry and Mensuration, Pumps, Pumping, and Steam-Engines; with Tables of Circumference, Squares, Cubes, &c.
By WILLIAM TEMPLETON. Revised by S. MAYNARD.
"A more useful addition to the engineer's library cannot be conceived."—*Mechanic's Magazine.*
"The present edition having undergone the careful revision of so competent an editor as Mr Maynard, is worthy of especial recommendation."—*Glasgow Constitutional.*
"Will be found of great use to those for whom it is designed."—*Builder.*
Also, by the same Author,
TEMPLETON'S ENGINEER'S COMMONPLACE BOOK: consisting of Practical Rules and Tables adapted to Factory and Steam Engines, &c. Fifth Edition, with several new Illustrations. 12mo. 5s. cloth.
TEMPLETON'S LOCOMOTIVE ENGINE DRIVER'S MANUAL EXPLAINED. Illustrated by new Designs. Second Edition 12mo. 4s. cloth
London: SIMPKIN, MARSHALL, & CO. Stationer's-hall-court.

Ready published, price 5s. the First Part of the FAC-SIMILES of A. WELBY PUGIN'S original ENGLISH and FOREIGN SKETCHES, containing the chief objects of interest in France, Belgium, South Germany, Italy, and England, being the finest set of original Sketches ever brought together.
STEPHEN AYLING & CO 402, New Oxford street, London.

NEW WORK BY GUSTAVE AIMARD.
This day, never before printed, price 2s.
THE RED TRACK: a Tale of Life in Mexico
* * The new tale surpasses in interest any work hitherto published, as it has the great merit of giving a clear view of Mexican life.
London: WARD & LOCK 158 Fleet-street.

COMPLETION OF THE POST OCTAVO EDITION OF LORD MACAULAY'S HISTORY OF ENGLAND
On the 31st instant will be published, with a Brief Memoir by the Very Rev. the Dean of St. Paul's, and a Portrait engraved from Richmond's Picture, price 9s. cloth,
THE HISTORY of ENGLAND from the ACCESSION of JAMES the SECOND.
By the Right Hon. LORD MACAULAY.
Volume the Eighth, completing the Edition in post 8vo. in 8 vols. 48s. cloth; or 84s. well bound in calf, lettered.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1798.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

POLYTECHNIC. Entire change of Lectures and Entertainments. Every evening at a quarter past 8, New Musical Entertainment by Mr. J. E. Carpenter, assisted by the Misses Mansell, entitled "The World and his Wife." Monday Evening, at a quarter past 7, New Lecture by Professor J. H. Pepper, on "The late Appalling Accidents in Coal-Mines."—Wednesday at 2, "Elementary Astronomy."—Beautiful Series of Dissolving Views, illustrating the "Iron Walls of Old England."—Exquisite Photographs, by Mr. England (London Stereoscopic Company) of "Scenes in America," Tuesday, Thursday, and Saturday Open 12 to 5, and 7 to 10.

MONEY.—IMMEDIATE CASH
ADVANCES MADE ON
FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY.
FURNITURE, HOUSEHOLD and OFFICE.
WINE and SPIRIT WARRANTS.
SHARES, DEBENTURES, &c.
BANKRUPTS' and INSOLVENTS' CASES CONDUCTED.
Balance-sheets Prepared, and Meetings of Creditors Convened.
Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT
17, Moorgate-street, Bank, London.

TARPAULINS, MARQUES, &c.
for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
89, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD and HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

CROGGON & CO.'S
NOISELESS ELASTIC
KAMPTULICON,
OR INDIA-RUBBER FLOOR-CLOTH.
Impervious to wet, indestructible by cant, soft to the tread, and warm to the feet; well adapted for aisles of churches, public offices, rooms, shops, &c. as well for the comfort in extreme durability. Also used very largely for billiard mats.—Patterns may be seen at 2, Dowgate hill, London, E.C.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, as made by GOUGH & BOYCE, the Original Patentees, and Inventors thereof by them at the House of Parliament, and numerous other Public offices. It is especially adapted for churches, mansions, public rooms, shops, and manses, being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. 12, Bush-lane, Cannon street, London.—Forwarded to all parts of the country.

KAMPTULICON,
or, ELASTIC FLOOR CLOTH.
TAYLER, HARRY, & CO.
MANUFACTURERS and PATENTEES, 19, Gutter-lane, Cheapside.
WORKS, DEPTFORD-GREEN.

HAY'S PATENT WATERPROOF GLUE
(as invented by Mr. HAY, Admiralty Chemist at the Royal Naval Dockyard, Portsmouth) is of universal application, is a substitute for marine glue, and one-third of the cost, todays, 22*l.* per ton.
It is invaluable for caulking the seams of ships' decks, being three times as durable as ordinary pitch. It has been tried for upwards of seven years in Her Majesty's ship "Blonde," perfectly resisting during that time the action of the sun and weather.
It causes joints of wood, slates, tiles, and all metals to adhere most firmly; will stand an enormous pressure, and make them water-tight.
It is a substitute for black paint, and is considerably cheaper as applied to weather-boarding and fencing, and is a preservative for all iron and woodwork, and when applied to bricks or stones will prevent damp. It is especially adapted for application as a coating to submarine and other telegraphic wires.
It is requested that on all orders the purpose for which it is required be stated.
London Agents,
Messrs. G. C. WARDEN & CO.
12, London-street Fenchurch-street, E.C. Factory, Chandos-street Landport Portsmouth.
GEORGE WEEKS, Manager.

The Builder.

VOL. XX.—No. 997.

Excavations on the Palatine: Rome.



O scene of Roman ruins equals the Palatine in blending the wildness of nature with the beauty of decay—the picturesqueness of landscape with the solemnity of monumental remains. Long avenues of trees extend their perspective between vaulted chambers more or less fallen: huge masses of crumbling masonry rise out of garden plantations: files of cypresses shoot up from high terrace-walks: the myrtle and the ilex hang over shattered walls that seem on the point of sinking to the ground: here and there may be seen the fleshy foliage of the cactus, or the broad tapering leaves of the aloe, spreading from some chink of ruin where soil has accumulated: even the vulgar appropriation to vegetable gardens, along considerable areas of this height, has not destroyed the solemn sadness or affecting beauty of the "Imperial Mount" in its present desolation. Deplorable, however, is it that the views of its ruins, from every point in the city, are marred by the frightful prominence of the villa near its highest level, for whose gingerbread architecture and salmon-coloured fronts an English proprietor is, unfortunately, responsible; and still greater matter of complaint is it, that, since its acquisition, about four years ago, by French nuns, this demesne, become that of a convent, has been no more accessible; though comprising sites that every traveller must desire to visit,—the principal centre, as assumed, of the palaces built for Augustus, part of whose walls are actually built up in this "Villa Mills."

If Rome's primitive annals may be still relied upon, the Palatine continued the residence of her kings from the time of Servius Tullius till their expulsion and the change of government: we may go back, indeed, to the more poetic and fabulous memories of Evander and the Arcadians, on this height, for about eight centuries before Romulus; or even assume that the "Roma quadrata," supposed to have occupied its western angle, was a Pelasgic city, the original phase, within its narrow limits, of what became the capital of Romulus after fortifying walls had extended its boundaries to include the entire Mount, a circumference of not more than 6,500 Roman feet. The straw-built cabin of the founder is said to have stood here, reverentially preserved, for centuries; and before the Imperial period rose here the temples of Jupiter Stator, of Cybeles, Juno Sospita, and Vesta, the *Curia Veteris* and the *Sacrarium Saliarium*, where were kept the sacred *ancilia* and the *lituus* of Romulus: here also were built residences of high aristocracy, of Crassus (where marble columns were first seen erected in Rome), of Cicero, Hortensius, Clodius, Milo (his slayer), Catiline, the fathers of Augustus, Tiberius, and Nero. The narrow, unpretending mansion of Caius Octavius was rebuilt, after his son had risen to the summit of power, in the year four of our era; and now, with far more splendour, fit sojourn for an emperor, with pillared halls, baths, a library, and an *atrium* surrounded by marble columns: yet, though of costly detail, not very imposing in dimensions, if we admit the report of Nibley (from minute investigation of its ruins), giving 250 feet for the width of the front, 225 for the lateral buildings on the acclivity, 280 for the higher extending along the summit of the mount at its north-western side. On the ground conceded to him Augustus presently raised the Temple of Apollo and Palatine Library, that superb fane, in the centre of a quadrangular portico with pillars of Nermidian (*giallo antico*) marble; having been dedicated in presence of a poet, who has fortunately left us a graphic description of its edifice and contents (Propertius, *l.* 11, El. 23). With all its adjacent buildings this temple was destroyed by fire A.D. 363; but the Sibylline books, kept in gilt coffers below Apollo's statue (a work of Scopas), were with difficulty saved, as Ammianus tells us. The library seems to have been also preserved, to exist much longer; but there is no probability that the Pagan fane was ever restored; seeing how soon followed (A.D. 394) the edict of Theodosius for closing all the temples of the fallen worship throughout his empire. Near the same site arose, soon after Augustus's death, the temples dedicated to himself, and afterwards to Livia; probably, indeed, to all the deified Cæsars in succession, as the same honours were decreed to their memories. Caligula raised here a temple to himself whilst yet living, and had his golden image in that sanctuary of self-worship daily attired according to the model of his morning's toilet! Till his time no great extent of buildings had commanded admiration on this height; and he it was who first prolonged the imperial residence to the north-eastern side (overlooking the Forum), where some of its most conspicuous ruins still remain; and one wing was then brought forward below this angle of the mount, so as to be connected with the *Curia Julia* (the senate-house restored by Augustus), in the project of rendering that venerable edifice a mere vestibule to the tyrant's palace! Hence, too, was carried the bridge from the Palatine to the Capitol above the Forum, in Caligula's frantic vanity designed to secure immediate intercourse with his kindred deity, Jupiter Feretrius, at the great fane on that summit. Some have inferred that the temple of Castor and Pollux was that destined to become a mere portico to the residence of Caligula; but Canina convincingly shows that the beautiful Corinthian columns below this side of the Palatine are, in fact, the remains of the Curia, rebuilt first by Sylla, afterwards by Julius Cæsar, but in the last instance completed by Augustus. These are the three columns to which no fewer than *twenty* names and origins have been assigned by the Roman archæologists! Beyond them, against the declivity of the mount, stands an imposing pile of the most solid brick masonry with projecting buttresses, now in part hidden behind unsightly granaries. This was considered, by Emil Braun (late president of the German Archæological Institute), the structure of Caligula, from which advanced his bridge over the Forum; by Canina the minor hall of the senate-house. Tiberius only enlarged the house of his father, extending it as far as the temple built by Augustus; and in this wing of the palace, at the north-west angle (above S. Anastasia), subsequently resided two emperors, whose characters stand in noble contrast to that infamous tyrant and his successor—Antoninus Pius and Marcus Aurelius. When Nero began to reign, the palace covered little more than one-half the entire area of its mount: he extended it over all the remainder, built above the structures of Caligula at the north-eastern angle, so as to render useless (as inferred by the contradictory plans of the two buildings) those additions by his predecessor; and after the great fire, whose origin is imputed to himself, had destroyed much of Nero's edifice, he caused its restoration with that yet unequalled splendour and extent implied in the popular title "Golden House," for this vast residence that absorbed three of the Seven Hills—the Esquiline and Cœlian, besides the Palatine,—the whole intervening valley (now site of the Colosseum), with the classic gardens of Mæcenas (now the Villa Negroni), altogether occupying a surface about 3½ miles in circumference. Vespasian had the wisdom to reduce the imperial home once more to its proper limits, on the Palatine height; and the Thermæ of Titus, on the Esquiline, have, by absorbing, preserved to this day the only portion of the Golden House saved from destruction, at least beyond the limits of the former mount; though a few formless buildings, in the best ancient brickwork, that rise at one extremity of Maxentius's Basilica (called that of Constantine, because dedicated to him) are also considered by some authorities an extant fragment of the Neronian structures. Nibley concludes that the entire material of the Temple of Peace and of the Colosseum, also for the restoring of the Temple of Claudius on the Cœlian, was provided from the remains of that stupendous palace struck down by Vespasian. The threshold of the Golden House, or that portion entirely apart from the Palatine, is said to be now marked by the church of St. Maria Nuova, behind whose monastic buildings, opposite the Colosseum, was found, within late years, the enormous brick basement of Nero's Colossus, removed thither, from the palace façade, by Vespasian, in its *new* character as the statue of Apollo, supposed to have stood there undisturbed till the sack of Rome by Genseric. By Titus was also added a vestibule, or atrium, on the side of the Palatine above the Via Sacra, between his own triumphal arch and the Colosseum, presenting here a front with columns, and niches for statues or fountains, whose details Nibley was able, some thirty-five years ago, to trace with apparent accuracy (see his "Roma Antica," 1838). To that last emperor's buildings Domitian added much of the decorative character, with profusion of costly marbles, described by Martial and Statius; also the magnificent pillared hall of Adonis, rising in the midst of a garden planted with oriental and exotic shrubs and flowers, like a scene of paradisaical enchantment. Under Commodus occurred the conflagration which destroyed Vespasian's Temple of Peace, the thrice-sacred fane of Vesta, and a great part of the imperial residence: the latter, however, was then repaired by Septimius Severus, who, celebrated for his zeal in restorations, not only rebuilt but much enlarged the Palatine edifices; raised a vast extent of vaulted halls in two stories along the south-western side, above the Circus Maximus; and at the south the splendid pile called Septizonium (probably from its seven stories), with three zones of porticoes and colonnades, granite, giallo antico, and the deep-dyed breccia known as Africano, or other precious marbles forming their shafts; it is supposed in the desire, on the part of this foreign emperor, that his countrymen (the Africans) should receive their first impression of imperial pomp in Rome from this superb adjunct, on the side nearest to the southern gate, by which they would enter the city. Above the Forum were added to the structures of Titus the Baths of Heliogabalus and the Temple to the Syrian sun-god, whose high-priest that boy-emperor considered himself; and where it was his passion to centre, for subordinating to his favourite worship, all the sacred objects and usages of Rome—the Palladium, the fire of Vesta, the image of the *Bona Dea*, &c.; but which temple seems to have totally disappeared after the murder of the Syrian

emperor, whose insane orgies took place either here upon the now ruin-clothed height between Titus's Arch and the Colosseum, or where now stand the Basilica and Monastery of S. Croce, founded by Helena, to enshrine the relics of the cross. The worthier cousin of Heliogabalus, Alexander Severus, only increased the splendours of the Palatine by paving its courts with inlaid porphyry and serpentine, in the beautiful style afterwards adopted for the earliest Christian basilicas, and still called after him, *Opus Alexandrinum*.

The first imperial master had declared the edifice raised for himself by the public money, on this mount, national property. Nero averred, on the day he took possession of his Golden House, that he at last felt himself lodged *like a man!* but the benevolent Nerva, returning to the idea of Augustus, had inscribed, over his palace portals, *Ædes Publicæ*. The story of restorations and embellishments to this imperial residence closes with the reign of the virtuous young Alexander; and from the fourth century of our era commences that of its decay, in mournful contrasts, but full of impressive lessons and striking oppositions between Pagan and Christian destinies.

The first dark cloud that came over the already deserted Palatine (deserted, at least, by its sovereign masters, from the departure of Constantine and the establishment of the Exarchate, at Ravenna), was at the sack of Rome by Alaric, A.D. 409, lasting three days; but it seems that on the taking of the city by Genseric, 455, the ferocious pillage that ensued, unintermitted, for fourteen days and nights, inflicted much greater injuries on this as well as the other palaces and sanctuaries of the Seven Hills. All moveables, all adornments and furniture, were then carried away from the imperial halls; and among other treasures (Procopius tells us) the sacred vessels from the Temple of Jerusalem; which, first displayed at Vespasian's triumph, had been deposited by that emperor in his Temple of Peace; thence removed to be saved, when that fane took fire.

In 465 the palace was still inhabited by Rome's prefects; one of whom, Severus, died here that year; poisoned, as we are told, by Cassiodorus. In the year 476 Odoacer made brief sojourn within these walls; and again, in 500, Theodoric made the Palatine a royal residence by a longer stay; during which he ordered many restorations, both here and in other Roman edifices, described as magnificent in the pompous language of the secretary, Cassiodorus. Throughout his history of the Gothic war, Procopius never mentions the Palatine (except to record the fact above mentioned), leading us to infer its abandonment in the sixth century. For the last time did an emperor take up his abode here in 629,—Heraclius, then visiting Rome after his conquests in Persia; and here was solemnized his coronation, by the senate, not (strange to say, when we contrast that ceremony with what imperial coronations afterwards became in Rome) by the hands of any pope, or with any recorded intervention of pontific authority.* In the eighth century, it is inferred, the Palatine was left completely deserted, subject to the natural processes of decay. The last mention of its buildings, as still a "palace," occurs under date 708, in Anastasius's "Life of Pope Constantine." In 995 part of the external porticoes, probably on the southern side, was given by Duke Stephen (son of the consul Hildebrand) to the Camaldolese monastery of S. Gregorio, that still faces the mount from this quarter, beyond the Arch of Constantine: thirty-eight chambers on different stories (called *cryptas* in the act of donation) included in this gift to the monks; and allusion made in its terms to the fact that the Septizonium of Severus was already possessed by those monks, converted into a fortress for their protection. About the same period arose, amid the once luxurious gardens of Adonis, a church and abbey called S. Maria in Palladio (afterwards corrupted into Pallara). In 1084 a nephew of Gregory VII., named Rusticus, sustained a regular siege in that Septizonium against the assailant forces of the Emperor Henry IV. Early in the twelfth century the Frangipani family erected one of their strongest castles at the foot of the Mount, near the Arch of Titus, reducing that beautiful ruin to a kind of donjon-keep; and this *Turris Cartularia*, as it is called in Mediæval annals, because at one time it was used for archives (hence also styled *Bibliotheca Publica*), was not finally swept away, to leave unimpeded view of the triumphal arch, till 1829. To the Frangipani the monks of St. Gregory ceded their Septizonium, for due compensation, in 1145. In 1198 the cardinals took refuge within its walls, amidst the turbulences ensuing on the death of Pope Celestine III.; and again, after the death of Honorius III. (1227), that college assembled here to hold the conclave, for electing to the vacant throne Gregory X., the new pope; hence proceeding to take possession of sacerdotal sovereignty by the cross and keys from the same walls where Cæsars had dominated over the ancient world. Not many years afterwards the Septizonium became the prison of the senator Brancaleone, overpowered by a popular rising against his authority; but being soon liberated and reinstated, that same senator ordered, in 1258, the demolition of all the principal fortified towers where the Roman barons had made their petty sway formidable; and about 140 being thus destroyed or truncated, it is inferred that many classic buildings, the Septizonium among the rest, suffered, together with those feudal strongholds piled above their misused architecture. That splendid structure finally and totally disappeared under Sixtus V., condemned by that pope to yield all its costly material for adorning the interior of the new St. Peter's. Its last notice by any ancient writer is found in the "Familiar Epistles" of Petrarch, who merely tells us that it was, when he visited Rome, known popularly by the title, "Seat of the Sun." The "Mirabilia Romæ," that strange mixture of romance and ignorance, compiled by a foreign visitor in the thirteenth century, undertaking to describe the city's antiquities with most curious interpretation as to their origin and purposes, calls the imperial ruins "*Palatium maius*," without supplying any description of what the Palatine then was; but Poggio ("De Variet. Fortunæ") tells us that it had become in the fifteenth century a mere pile of formless decay, wrecks out of which none could determine the appropriation of the several parts. We must break off for the present.

* In "Augustali solio Cæsariani Palatii a Senatoribus positus et diademate redimitus, Monocrator constitutus est."—Chronicle of Monte Cassino, in Muratori's "Rerum Ital. Script."

OPENING MEETING AT THE ARCHITECTURAL MUSEUM.

The opening meeting of the session of 1862 was held on Tuesday evening, on which occasion the prizes awarded to art-workmen were distributed. The chair was occupied by Mr. Beresford Hope, President.

The Chairman said they were assembled that evening, as often theretofore, for the purpose of carrying out the main principle and intention of the Museum—distributing the annual prizes to those who had entered into competition for them. Although that was the main object of the institution, it was not the only one, as he hoped to prove in the course of his observations. But before he went into a detail of their administration during the past year, there was one topic that he was sure rose spontaneously to the mind of every one who loved or cared for the fine arts in this realm,—and rose with more immediate significance in that Museum: it was the feeling of deep regret at the sudden and irreparable loss which fell upon this land in last December. They all knew how devoted the late Prince Consort was to everything that could conduce to the happiness and the glory of that country which he made his own, and which made him its own. He was great, because he never assumed greatness: he was popular, because he never thought of popularity; and no one knew how much they cared for him until the time came when he was lost. As a patron of art, even more than in any other aspect, he came before the public with credit and renown. They now knew that it was not merely as a patron of art he was endeared to the people, and that the influence which could best be employed and most legitimately carried out by not being ostentatious, was ever exercised for the advancement of every other branch of the public welfare. But in the matter of art he came most conspicuously before the public; and as one who promoted all good art objects, so did he a few years ago most kindly and generously accept the office of patron of that Architectural Museum. In his demise, therefore, they were deprived of their official head—of their chief officer,—as well as being sharers in the great national grief. It was, then, impossible to enter on the business of the evening without first paying that tribute of regret which all Englishmen and all Englishwomen must pay at the tomb of the Prince Consort and at the throne of the Queen. Officially they had done so already: their address of condolence had been presented. But they knew that no single address of condolence could be expected to penetrate the august presence, or to have any personal effect. It was the swelling of that high spring-tide of grief, from every side and from every class, from every association incorporate or voluntary, from every denomination and from every grade of life: it was that great tide flowing up silently, solemnly, unbrokenly, that testified to the world at large that the loyalty of the land is, even in the darkest hour of her Christian sorrow, a holy consolation to our widowed Queen. Having discharged that duty, he would proceed to other matters of a less touching character. All who had taken an interest in the concerns of the museum knew that for the last two years they had been in a transitionary state, and were aware that the world for which it directly existed shaped itself into three classes: first, the accumulation of as perfect an architectural museum as possible, especially of Mediæval art, but not disregarding art in general; secondly, the delivery of a series of lectures on architectural objects in that hall; and thirdly, the teaching of art workmen by means of annual prizes. These three distinct and different, but at the same time harmonious, objects were what the museum existed for. With regard to the first—the collection of a museum of architecture—they were the first in the field. When others doubted and shrank, and did not understand how, they came forward, and began the work. They made a collection of course at the commencement—not very systematic, for they were beholden to the good offices of friends; and in their young days it was not judicious to look gift horses in the mouth. But as time went on they became more fastidious, and their friends got more careful in what they gave; until, ultimately, they would have refused, and no one would have thought of offering, any specimen that did not stand in a high order of merit. Well, the museum had limits, but the ambition of man has no limits; and, accordingly, a question of space came in; and then arose questions — nobody need be and nobody was ignorant of it—there was no need to be ashamed of it at either side—of disputed jurisdiction. Their possession, as custodians of a collection of which they were themselves the proprietors, inside that cabinetted institution, may now and then have raised difficulties. Matters came to that state when a negociation and arrangement became necessary. This negociation which is still on paper—this arrangement which is not yet consummated—was, in brief words, that so much of the collection as remained there should be handed over to the authorities of the South Kensington Museum; but that the ownership by the Architectural Museum should be noted and respected. In being so handed over, it was understood that they should form a part of a future national collection of architecture; and it was provided—perhaps not with the accurate definition which a lawyer would have imparted into the document, but still in terms quite sufficient to be perfectly stringent on gentlemen acting together, as was the case in this instance, on an honourable basis—that the opinion of this Museum should not be rejected: he did not say it was to be invited, but that it should not be rejected, and that it should have its weight with the authorities of the South Kensington Museum in the purchase of fresh specimens for that collection. In return for that—the illustration of lectures—this Museum is to have the use of the whole collection upstairs, whether of that portion noted in the catalogue as their own, or of that portion which is the property of the Government Department. In agreeing to these terms, of course something of personal feel-

ing was sacrificed. He would not have them to suppose—as little would he have the authorities to believe—that it would not have been more pleasant and agreeable to them to have had, as heretofore, the collection and management of the National Museum of Architecture. But there were certain reasons which it was not for them to criticise—certain etiquettes and regulations incident to the existence of a large and complicated department, which, as they were informed, made it impossible for them to be an *imperium in imperio*—a separate institution inside those walls; while, on the other hand, they had no physical means of going elsewhere and setting up their museum, even if that was desirable, which was a question he would not then go into. It was a negociation on the one side, and a compromise on the other, in the broad sense of the term. They entered into it cheerfully, and they trusted and hoped and believed that the manner in which they entered into it would cause the matter to be carried out in the manner they should desire. At the same time they did not pretend to say that they had not given up that independent position which they held while the tenants of a cock-loft in Cannon-row. But if there be a great museum of architecture hereafter in England; and if it became one of the famous institutions of the country; if it go on to form a school of architecture and artists, and art workmen; then all who watched the rise and progress of this museum would be obliged, if they spoke the truth, to say that the Architectural Museum, late of Cannon-row, held the same position to that great Government Museum that the collection of that great physician, Sir Hans Sloane, did to the British Museum. Very few of his collections are there now: the worms and the moths have had to do with them; but still his name remained as the person without whom there would probably have been no British Museum; and it was not arrogating too much to say that, were it not for some of the gentlemen whom he saw present, who first undertook to carry out the idea of a collection of architectural casts, there would very probably be no Architectural Museum in existence. So much for the negociations, which are still under consideration. Nothing has been done with them, finally; and they stand over for the present. The government is re-building these buildings, and everything is in a mess; but he hoped that all would come out well, and that there would be room found for their collection of Indian Sculpture which the new governor of Bombay, Sir Bartle Frere, had given them, and which was still in packing cases. The second branch of operations is lectures. He might, parenthetically, observe that, if the government undertook to provide an architectural collection, and if it followed their advice, as he trusted, and believed, and hoped it would, in the purchase of specimens, the Architectural Museum would have more money at their disposal to apply to the advancement of their other branches; as of course they would not pay 20*l.*, 30*l.*, 50*l.*, for a specimen, merely for the pride, honour, and glory of saying it belonged to them, when they could get the revenues of the British Empire to pay for it. Now, as to the lectures, it had been controverted whether they had any direct bearing upon their other object; whether they helped on the accumulation and collection of casts; whether the art workmen were the people who came to them; or whether they had not a select audience at the Lectures of persons in that class of life, who, being in circumstances to select the amusement of the evening as they liked, selected the amusement of going there. That might be the case. He did not deny it. He would even admit that it was the case; but what then? When there was a society like this, which used various measures of utility in the carrying out of its objects, was it necessary that there should be absolute identity between them all, or that each should hang on the other? Might not a railway company serve one place in the north and another in the south, if they possessed capital to enable them to do so? The collection of specimens was one thing: lecturing was another and distinct thing; and, while they appealed to their special friends the art-workmen to come and listen, and profit by the lectures, they were not prepared exclusively for that class. It is a fact that architecture is a science, or a collection of sciences, which arrests many very high intellects, and has many most interesting fields of observation. It is a study that is pursued usefully and profitably up to a certain point by hundreds and thousands of intelligent people, who make no pretence to deep science, but who listen to the lectures with pleasure and advantage. There was no course of popular architectural lectures in London. The lectures delivered in that museum could only treat architecture as one branch. Those delivered at the Royal Academy were specially addressed to students. It was found that out of the hundreds and thousands of people around them, an audience could always be found who would be pleased and profited by the lecture in that museum. Since that time that most excellent institution, the Architectural Gallery, in Conduit-street, had started its course of lectures. What is the result? Our lectures fill and so do theirs. There is ample room for both; and there does not exist the least rivalry or enmity between them. The following is the list of lectures by men of eminence for this session:—

Tuesday, March 25.—"On the Difference between Minster and Parish Churches." By E. A. Freeman, esq., M.A

Tuesday, April 8.—"On Encaustic Tiles and Tile Pavements." By the Rev. Lord Alwyne Compton.

Tuesday, April 22.—"On the History of the Temple Area at Jerusalem, with its Buildings and Sub-structures." By Dr. Ermete Pierotti, architect to the Pasha of Jerusalem.

Tuesday, May 6.—"On the various Systems of Coloured Decoration of the Middle Ages." By W. Burges, esq.

Tuesday, May 20.—"On Ecclesiastical Architecture in Georgia and Armenia." By the Rev. George Williams, B.D.

Tuesday, June 3.—"On the Formation of a National Museum of Architecture as viewed especially in its connexion with the Mediæval Styles." By G. G. Scott, esq., R.A., F.S.A.

Tuesday, June 17.—"On Labourers' Cottages and their bearing upon Architecture." By the Rev. Thomas James, M.A.

His object in reading the list was to show those who might be present and not so familiar with the working of the museum, how wide was its scope of action. Looking at the names he had read, it must be apparent that, unless there was some extraordinary and unprecedented and not-to-be-contemplated break-down, the very fact of such a bill of fare, and the names of the cooks that prepared its different dishes, showed that the museum did not exist in vain. He now came to the third branch,—one in which the Architectural Museum had come forward in its own peculiar line of business,—that is, the study of the minute details of architecture. Standing up as he did for magnitude,—as an advocate for large cathedrals instead of small churches, and for bold sky-lines in London,—while he had taken the side of bigness (and it was very appropriately used in that particular neighbourhood) as against detail—pure unadulterated bigness, and nothing but bigness;—there was something else which need not be left unattended to; and that something was grace, proportion, and beauty of detail. The same Providence that made the Alps made the humming-bird—each a type of beauty, but beauty of a different sort. It would be great folly to depreciate either. The committee of the Architectural Museum determined, therefore, to follow out that most necessary branch of art-study—the study of detail—the study of the beauty of form—to be carried out in even the smallest matter in which man's handiwork is apparent. Here he should point out a very important fact. They did not exist to make architects or artists. They did not pretend, or expect, or want to do so. Artists were made at the Royal Academy and elsewhere. What the Architectural Museum wanted was, to make art-workmen. He would go further, and say, to make workmen work in an artistic and beauty-loving spirit. This year, particularly, they were bound to unfurl that standard, and to proclaim, loud, long, and deep, that that was their object, when there was in their immediate neighbourhood the building to which he had referred. Well—the building should not prejudice them against its contents. They were perfectly distinct and different matters. In the contents they would have an opportunity of studying a collection of specimens of the manufactures and art of the entire world. After the first vague idea of multiplicity was got over; if there was one thing which more than another would startle the philosophic observer (to a great extent it was so in 1851—it would be ten times more so in 1862), it was the utter impossibility of distinguishing were art ends and where manufacture begins;—or perhaps he should say, where manufacture ends and where art begins. The extraordinary mixture of the two together in every part of the building would be found to be most astounding. Every handiwork of man, every carriage, and steam-engine, every patent mangling or wringing machine that was produced by the wits of man, was not, so far as its appropriate form was concerned, a work of art. On the other hand, the most ideal productions,—the Madonnas of antiquity, the Apollos, the Venuses, the great cathedrals of the Middle Ages, being produced by men out of stones, were, in that sense, manufactures. The distinction between art and manufactures it was next to impossible to define. In some productions, the steam-engine, for example, the manufacture appears so strongly and strikingly above the art, that no one would call them anything else; while those world-famous pictures and statues were so clearly works in which the ideal dominates over the material, that nobody in the world would call them anything but works of art; but between the two lay a vast debateable ground,—a large collection of unconfirmed border states, which might, in various aspects, belong to either manufacture or art. That was the ground on which the Architectural Museum desired to expatiate, and wished to make their own. He owned that, standing up on behalf of the dignity of art manufacture, he had a certain right, not personal, but hereditary, to speak of it. He could not help remembering that it was his father who, fifty years ago, proclaimed that all objects, even the commonest in life, might as well be designed after the rules of beauty and proportion; and he was happy to see that the good seed sown so long ago by Thomas Hope had produced an abundant harvest. But still the work had not been done as it was proposed here to do it. Previous efforts, one by one, after a few years, came to nothing. They were either started with the design of some great man, who came down like a tornado and carried all before him, or else they went to the foundation of schools of design, which were to produce working drawings which the workmen were implicitly to follow. In short, nothing was done but to improve designs, or to create designers from a superior power. The Architectural Museum did not want to dictate designs or to create a school of designers. They wanted to improve the quality of the man who was to carry out the designs; to teach the workmen to train their hands, to cultivate their minds, to interest them in what they were doing, so that it might be carried out with love, and truth, and feeling. The system of creating designs was very good and very right and necessary. If it did not go on the work of that institution would be impossible; but the peculiar function of the Architectural Museum was not that of a school of design. It was a college to which the art-working man might go and learn the craft and secret, which would enable him to understand, design, and work it out with the spirit of the designer. It was said, however, that it was not only a museum of architecture, but of art. Now what he asked was, distinction between architecture and art? It was one of those things which it was impossible to grapple with. Take metal work. Was it not essentially architecture, except as to fire-irons and knives and forks? Take wood work. There was the graceful screen in church or hall; but what design was in it? What knowledge of material was to be found there which was not at their service in moveable furniture,—tables, chairs, and sofas? He said this in defence of the manner in which the Architectural Museum had gone on, taking up art manufacture and encouraging it in various ways, without very much asking or very much caring who said they were acting as an art—and not as an architectural museum. They defied their impugners to draw the line which they were utterly incapable of drawing themselves. He might mention that there would be two courts at least in the Exhibition in two different classes, each of which would in itself be an exemplification of the particular principle on which they first started; and in one of which he was glad to say space would be reserved for this museum, and in which the most meritorious of the art prizes of that evening would be displayed.

The president then proceeded to distribute the annual prizes to the art workmen to whom they had been awarded; making special and highly complimentary reference to the work of each, and stating that the competition had been extremely close and the works of great individual merit; adding that Mr. S. C. Hall had undertaken to include the prize works of the evening in his "Illustrated Catalogue" of the Exhibition. The prize list we have already given.

Mr. S. C. Hall said, that he had had the happiness to attend the meetings of this society from its first formation; and had witnessed with great pleasure the prosperity of the institution and the progress of the art-workmen. He would see with exceeding regret any absorption of that society into the great Babel in the midst of which they were assembled. From the day it took place he would date the downfall of the society, and the arrest of its efforts to do good to the art-workman, to benefit the artist, and to promote the intelligence of the art-manufacturer. His direct interets

in the society was only in one of its three divisions. He had little to say to architecture, but he had much to say to the art-workman. Having had long experience of them, he believed that the reason we cannot compete with the art-producer of the Continent was that the intellect of the art-workmen was not more cultivated. He would, therefore, deplore any event which could lessen that great means of usefulness which, up to this day, the society had promoted so largely. As he knew that making their names known to the world, year after year, was a great portion of the reward which the successful competitors naturally and reasonably looked for, he intended to give the prizes of that evening a place in the Art Catalogue he was preparing. He had stipulated that, with respect to every work to be mentioned therein, the name of the designer and of the art-workman who had carried out the design should be also published. He should deeply regret any act that would absorb the society into that large one from which emanated that cumbrance of the earth which was erected in their immediate neighbourhood. The foreigners who would visit it would carry away with them a very mean idea of the artists of England—ignorant of the fact that not one of them was consulted about it. He was present at the birth of the society; but he feared, if the amalgamation took place, he would be present also at its death.

The Rev. William Scott observed, that a great deal had been very eloquently said as to what the Society had done. He would for a moment allude to a more uncongenial topic, and say a word as to what they had not done. Of their success they had sufficient evidence before them that evening, in the works of the successful competitors; but he had to express his surprise and extreme regret that in the matter of iron-work—of manufactured iron—there had been no competitor worthy of a prize. That was a very sad state of facts in a country in which of all others the reverse might naturally be looked for. No one who remembered what metal and iron work was, but should regret the state it had arrived at, if they were to judge by the specimens sent in. But such was happily not the case, as he could state, that in a place he was well acquainted with, a common blacksmith had executed works of surprising delicacy and skill, fully equal to any of those of the Mediæval times. Unfortunately no such specimen had been forwarded for competition. He (Mr. W. Scott) would not follow Mr. Hall through his criticism of the neighbouring building; but he ventured to say that the existence of the building was most important, as showing the necessity that there was to cultivate the mind of the art-workman. Hundreds of thousands of pounds had been spent on the building, yet no human being could point out one single inch of it, either in the original idea or in the construction, which appealed to the mind or called out the energy of the art-workman. Further than that he would not go. The building might have its merits or its demerits: into that subject he would not then enter, but this he would say, that there was throughout its entire extent no occasion afforded for sculptor, for painter, for worker in iron, metal or wood, for designer, or for executor, to show one particle of that diviner portion of the human being,—intelligence, skill, or mind. He did not deny it was a wonderful work,—that it was a large work,—that the engineering reflected credit—infinite credit—of a particular sort—on those who designed it. But he maintained that, with such a building in their immediate neighbourhood, the greater was the necessity for an institution like theirs to educate men's minds, and to call out and cultivate their intelligence.

Mr. G. G. Scott, R.A., in moving a vote of thanks to the president (which was carried), took occasion to say a few words as to the position of the society. The chairman had spoken of their position, and Mr. Hall had warned them of their danger. He (Mr. Scott), while he appreciated the warning, did not see why the danger should be realized. The Department of Science and Art had their special duty,—the promotion of art in connexion with manufacture. A more important task could not devolve upon any institution or department. The object of this Architectural Museum was to promote art in connexion with architecture, which was so closely allied to the other that if a union between the two was fraught with danger to either, there should be some great and palpable defect in the carrying out of the respective objects; and he, for one, could not see how such could exist. He believed the Department of Science and Art were labouring very earnestly, and undertaking a great deal, to carry out this object. This institution also was very earnest in carrying out theirs; and it would be very discreditable to one or both if a union were fraught with danger to either. He had more faith in the earnestness of both than to anticipate or to fear any such result. He hoped and expected, on the contrary, that, instead of having anything to fear, they would have much in the future to congratulate themselves upon.

PARIS AND ITALY.

THE works for the foundations of the new Paris Opera-house are progressing rapidly. The excavation is completed, and piles are being driven on which the stonework is to rest. The whole extent of this important building is to rest on concrete, and the preparations made for the construction of the Opera-house are in harmony with the largeness of the undertaking. The works are divided into three stages—the lower, the middle, and the upper. In the first are those employed in receiving the concrete and putting it into the work; also the carpenters' workshops, and the pile-driving machine, worked by steam. The sheds for the machinery, &c., of this lower portion are supported on timbers, to be out of the reach of infiltrations. All around this portion of the works a stage has been erected, forming a broad causeway, on which the cranes, capstans, &c., which require a solid basis are ranged. This is the middle stage. Lastly, on the upper stage are placed supplies of broken stone, lime, cement, and the machinery for mixing the concrete. Adjacent are the offices of the architects, contractors, superintendents, conductors, and watchmen.

The concrete, which must be laid to the amount of thousands of cubic mètres, is mixed on the upper stage: when thoroughly fit, it is discharged into waggons, conveying it on a railway to a stage, where it is thrown down a shoot, and spread by barrow work. Close by the Opera, at the left of the Rue Mogador, other works are going on, which, though less considerable, are still interesting.

Four large buildings are being raised opposite the western façade of the Hotel de la Paix, and the preparations for the work are on a well-organized scale. All the materials are delivered into the foundations by means of a tramway with numerous turntables; so that the heaviest blocks, &c., can be moved with ease to any portion of the work.

The southern doorway of Notre Dame, Paris, called *Porte Sainte-Anne*, or *Porte du Zodiaque*, has been completely restored; as also the pedestal for the statue of the Virgin Crushing the Dragon. As soon as this statue is erected, those of the saints will be placed between the small columns, so as to complete the ornamentation of this entrance. This doorway was constructed in the commencement of the fourteenth century, and the expenditure was defrayed by a portion of the property confiscated from the Templars.

A sort of Parcel Delivery Company has been established in Paris, and in a few days will be in extensive operation throughout the capital. It will include all sorts of luggage and parcels. The Prefect of the Seine, by a warrant of the 10th ult., has conceded to the director, Mr. Bornier, the necessary "stands" or "ranks" for the organization of a regular service, to be commenced with fifty carriages of the "*Factage Parisien*."

A modification has just been introduced into the system of French railways, which, though at first sight it may seem of little importance, is one of great interest to the railway world. It has been proposed to substitute cast-iron sleepers for the wooden ones now adopted almost universally. For some time past this substitution has been regarded as impracticable on account of the rupture occasioned by shocks, &c., but Mr. Camus has applied a sort of felt cushion which effectually prevents all risk of fracture. In order to set aside all doubts on the matter of the use of cast-iron sleepers, it will be sufficient to state that experiments and constant working trials on the Paris and Lyons railway have proved that, after eight months' continued traffic, the system was perfectly successful. The Charleroi *Journal* mentions that above 50,000 sleepers were employed for the repairs of the Bâle railway, 60,000 for the second line of Mulhouse, and that the Midi of France used up 60,000 in the same year for keeping up the line. All these timbers are of the first quality, and subjected to very severe inspection; so that it might be feared the forests at some future period would fail to supply the quantity of wood requisite. The economy resulting from the employment of iron would be, it is said, from 50 to 60 per cent.

There are at present in the Arsenal of Civita Vecchia eighty cases, containing a portion of the casts from Trajan's column, executed by the orders of the Emperor of the French, and which are soon to arrive in France. Some casts were taken in the sixteenth century, but they are very much deteriorated. Those that are intact, or in a pretty good state of preservation, are in the *École des Beaux Arts*, and of course invisible to the public. Moreover, these casts were taken in a very unsatisfactory manner, if we can judge by the copy, at Rome, which has never been carried about, and is in the same state as when first made. The Pontifical Government has decided upon using the moulds made by the French, of the bas-reliefs of the arch of Constantine, which were a portion of one of Trajan's arches, in order to complete the modern Roman collection in the Academy of St. Luke.

A correspondent writes to the Vienna press, that the repairs will shortly be commenced of the dilapidated and damaged portions of the pavement and mosaic work in the Church of St. Mark, Venice. Every one knows that the restoration of these mosaic works could not hitherto have taken place, for the simple reason that the composition of the golden mastic, or paste, with which they were executed, was a secret that the inventor, deceased at the end of the fifteenth century, had taken with him to the tomb. An Italian chemist, however, of distinguished reputation, has discovered the secret of this composition, and has made with it some experiments, attended with the most satisfactory results.

Fresh excavations are being carried on in Pompeii, near the theatre. Early last month a discovery was made of fresco paintings, in a wonderful state of preservation; representing, among other subjects, life-sized figures of genii playing on flutes; also were brought to light ancient inscriptions, traced with the style (Ital. *graffiti*), and a painting representing two large serpents (*genii locorum*), near which the following inscription occurs in fine characters:—"*Otiosis hic locus non est discede Morator.*" It seems that these remains formed portion of a public edifice, the uses of which are unknown to us.

In Herculaneum the Government has ordered the excavations to be carried on actively. Towards the latter end of December last two lions were found in that town, half a mètre long, and carved in marble. The style was Grecian, of a high order of art. Other interesting objects have been recovered, such as fragments of burned wooden furniture, chairs, boxes, coffers constructed of bamboo or cane, grindstones, &c. Signor Joseph Fiorelli, inspector of the excavations, is in treaty with the land-holders, with a view to purchasing the necessary ground, in order to carry forward the works on a large scale.

At Capua the excavations are to be shortly retaken in hand, with a view to bring the amphitheatre to light.

THE QUESTION OF CLASSIC AND GOTHIC ARCHITECTURE,*

Dispassionately Considered by a Retired Architect.

AND now comes the question, whether for any building in Great Britain, saving only the church and its dependencies, the most obviously serviceable style of architecture at hand is not the Græco-Roman in some one of its later modifications? Which of these are to be selected, will depend on the fourth of our pre-stated conditions. The lighter Italian may suit for the country villa, the severer Roman for the town. Even the purest Greek *may* find its full opportunity, and, as before intimated, the Renaissance its allowance; but be all this as it may, has not the process of getting at the true thing been fairly stated? and would not the Palladian character of ornamentation, with the improvements that have been and are *yet to be cultivated*, more readily and honestly express the truth, in respect to the general purpose and distinctive character of all civil and social structures?

We say "yet to be cultivated," for the study of Classic architecture has not by any means received that concentrated attention and systematic investigation that has been bestowed on the Gothic revival. Far be it from the writer's purpose to justify the common-place habit of making any sort of building owe its architectural effect to the ostentatious display of a huge Greek portico—the end elevation of a heathen temple stuck against the middle of a building which otherwise

* See page 153, *ante*.

would resemble a barrack range. It may be even allowed that the most elegant and majestic Greek exterior in Europe—that of St. George's Hall, at Liverpool—is not accordant with its beautiful Roman interior; and it requires a due consideration of the compulsory circumstances that interfered with Wren's original intention to defend the pseudo-architecture over the aisles of St. Paul's and other parts of that beautiful model. It may be, that a more perfect example of artistic perfection, in the legitimate use of Italian ornamentation, is not to be found than the Travellers' Club House, in Pall-mall. But all this simply proves a yet imperfect appreciation of the fulness that exists in the vast museum of Classic design for the supply of all that is most appropriate, expressive, and beautiful, for all ordinary service. The "Institute of British Architects," the "Architectural Society," and the "Architectural Publication Society," are all too laudably catholic in their views to admit the exclusive cultivation of any particular branch of design; and, for the same reason that an especial *Gothic* Architectural Society has been necessary to the revival of the true spirit of ecclesiastical art; so it may be, that a distinct Association of *Classical* students is required to collect and assort the abundant material of Græco-Italian art; to direct its just application, and to bring about a result not less satisfactory than that which is now illustrated in very many of our new Gothic churches. Classical architecture still remains chiefly in the hands of the profession, however the late division in the House of Commons may indicate a growing public sympathy; while the Gothic feeling has, by the care of its reverend fosterers, penetrated into the very hearts of a refined and intelligent multitude. It has reached the ladies' boudoir: it has extended from church-building to book-binding, and needle-work, and printing, and illumination of title-pages and initial letters: tradesmen send out cards in perplexing Old English characters: Bradbury & Evans announce their *Once a Week* in Mediæval type; and even our pre-eminent *Punch*, who formerly so ridiculed the Mediæval mania, is now the advocate of the Gothic fashions! However cogent may be the reasonings of a no-party man towards bringing all parties into a state of harmonious catholicity, it would almost seem desirable to institute, in *concert* with the "Diocesan Architectural Society," a "National Palladian Society," to bring into fashion a more extended regard for architectural philosophy.

But to come to the point. Wherein, save for the church, &c., as aforesaid, has the Gothic mode *any* advantage over the Græco-Roman? Where the pointed window is admissible, so is the Roman semicircular; where the square Tudor window is applicable, there may be employed the Greek; where the larger compound window with transomes and mullions is used, there may be applied the Venetian, or other Italian columniated ones; where unneeded buttresses are affixed, there may the attached column or pilaster, with at least equal propriety, be employed; where the inclosed Gothic porch is required, a corresponding appendage, differing only in its being Roman, is ready for the Italian façade. The balustrade matches the pierced Gothic parapet; the Gothic corbel has its rival in the Roman console or bracket; no Gothic cornice can compete with the Corinthian of Jupitor Stator, whose capitals also are unapproached in Gothic art; and, whatever may be said for the transcendent beauty of the stone tracery in the windows of our churches, it would be absurd to compare the moulded jambs and heads of the Tudor domestic windows with the bold and effective decoration of which a Roman window is capable. There are no surface Gothic enrichments to which there is not at least a match in the friezes, bas-reliefs, string-courses, and rusticated coins and basements of the Italian palazzo. While the Gothic arcaded porch has its respondent in the Roman one, there is nothing in Gothic design to rival the Greek portico; and, if the tower and spire be exclusively accordant with the genius of Gothic art, so is the strictly hemispherical dome equally an exclusive feature of Rome. Wren's beautiful examples show what the Italian architect may do with the steeple; and the cathedral of Florence, with the Pisan baptistery, exemplifies the possibility of Gothicising the dome with impressive effect; but it must be on a *multangular* plan; while only on the *perfectly circular* plan can we employ the continuously unbroken entablatured peristyle, which gives such fascinating charm to the Tivoli temple, and the domes of St. Paul and St. Genivieve at London and Paris.

To say the least of it, therefore, as it regards a parallel of external features, the contest between the Classic and Gothic styles, so far, results in a drawn battle—*i.e.*, as claimants to universal adoption; and due honour being thus candidly done to both, it only remains to assign to each the particular appliance to which each is more particularly suited. There is, however, no necessity for justifying the impression so unanimously felt as to the fitness of the Gothic for the church; and it only remains to show wherein the Classic varieties of detail are more suited than those of the Gothic to decorate all ordinary non-ecclesiastical structures.

We shall not consider what may be done with any one great room, occupying the entire length and height of a building, either vaulted like the nave of a cathedral, or covered with an ornamental roof without a ceiling, like Westminster Hall; because no one will deny that the style of an edifice should be such as will equally suit every part of it. Neither will it be necessary to show the especial suitability of Italian or Greek architecture to the auditorium of a theatre, a concert or ball room, a gallery of art, or any room of popular assemblage, where light, either of the sun or gas chandelier, lightsome cheerfulness, and the best means for seeing and hearing, demand particular attention. It will be enough to regard our Box-model as comprehending an inclosure of many rooms, of varying sizes, on several floors of differing heights, having necessarily flat and plastered ceilings, with window-openings of the simplest shape, and size no more than adequate to their purpose. It is capped by a roof not intended for anything but a covering, because rooms within a roof are cold in winter, hot in summer; and they greatly increase the woodwork, which, in reference to decay, if not danger by fire, is not desirable. The pitch of the roof is, for reasons before stated, kept at its minimum lowness, whereby, also, a less amount of surface, at a less exposed elevation, is presented to the beat of the weather. The choice must lie between a pitch characterized by its height, with good reasons for the same, as in a Gothic building; and the pitch characterized by its depression, with equally good reasons, as in a Greek one. The practical reasons for both are so equally divided, there is no just cause for quarrel in this case.*

The next question before us, refers to what is equally common to Classic and Gothic design, in the choice of a parapet and cornice, or merely a cornice at the eaves of the roof. In either case the Roman cornice is by far the more ornamental; and denied the imposing effect of the high gable with its large pointed and richly traceried window, we adopt the Classic cornice, as affording, if need be, an opportunity for the Greek pediments in termination of our low-pitched roof. As the height of the walls may admit or require horizontal lines, we may then merely apply a frieze, plain or enriched, or complete the entablature with an architrave; the whole comprising a crowning range of decoration which a Gothic building, under the same conditions, could not legitimately exhibit.

We next come to the windows of the top story, the rooms of which, being of less height between floor and ceiling than those below, will derive sufficient light from the Roman attic, or perfectly square opening. We take them as they are in the box-model, simply framing them with a sill and moulded architrave, because as single lights they are too wide for Gothic proportion, and not wide enough to admit of mullions; while the drip-stone and moulded jambs of the Tudor mode would be poor in comparison with the enrichment of the Greek framing; the mullion also would diminish light, present additional challenge to weather, render complex the means of admitting air, and increase the cost—the more so still, if the whole is to be so enlarged as to preserve the amount of glass which the simpler method would at once admit.†

The same reasonings, of course, extend with additional force to the oblong windows of the stories below, wherein transomes as well as mullions encroach on the primitive space of opening; and if arched heads with tracery are introduced, the circumscribing outline must be greatly extended to preserve the original amount of light. Rather let us transfer the cost of work from within the opening to the bold and effective ornamentation of its stone framing; adding frieze and cornice with consoles to the second downward range, and engaged columns with pedimented entablatures and balustered balconies to the third. In the next floor range may be applied the semicircular arched head, not only for variety's sake, but the more important one of good construction; and the decoration now becomes equally varied from that of the windows above, in the archivolt, or the suitable use of the chisel in marking the arch voissoirs and ornamenting the keystones; so bringing us down to the basement story, where the general use of rusticated work gives further variety and a satisfactory appearance of stability to substructure.

So far, we have seen what successive varieties of distinct, yet harmonizing and legitimate fenestration, we may display in a Roman façade of five stories; still remembering that a sixth story may be had in an attic range above the cornice, irrespective of the balustraded parapet, with its pedestals, vases, or statues, which offer a parallel line of decoration to the pierced Gothic parapet with its pinnacles. It is admitted that a Gothic elevation may be also varied in its successive horizontal ranges, with pleasing and even imposing effect; but will any architect say that it can be *so* varied, and with *such* imposing effect, by the mere application of the ordinary means which are ready to the hand of an uninventive student merely acquainted with the common precedents of Classic design, and which leave the incipient forms of the box-model precisely as he first finds them?

This reiteration of the "box-model" may move the reader's smile and the fanciful Gothicist's impatience; but we must stick to it—binding our opponent, if we have one, to the conditions under which we are ourselves submissive. We are not now speaking of what we may do with the play of our own invention, but of what the two styles under consideration will instantly do *for* us, without the exercise of our creative genius.

The window question alone would, we think, conclude in favour of the Italian style. The projecting Gothic oriel on its corbel is doubtless a beautiful feature; but the use of such can but be rarely occasional; and as to the bay window, it is alike facile to Greek and Goth, its character being decided by that of the building generally.

We next come to the doorways. Supposing no porch or portico to be required, the Gothic may be rendered exceedingly ornate, *on a near inspection*, by its enriched moulded head and jambs, its deep recess, &c.; but it can have nothing which, at a distance, will be so telling as the stone framework of the Roman portal, with its engaged columns and their entablature, pedimented or not; while the Gothic drip-stone and carved spandrils will be, as remote objects, poor compared with a boldly-projecting cornice and carved trusses. These, in their simplest form, will give an emphasis to the Classic doorway, which cannot be afforded by equally simple Gothic means.

The Gothic porch, with its high arch and crowning gable, its buttresses and pinnacles, may indeed be rendered most imposing; but our box-model is suggestive of no such thing. The roof of *our* simply utilitarian porch, if not a flat, has the same low pitch as that of the main structure; and the required appendage can be no other in character than the full development of the pseudo-architecture we have been describing as the decoration of the Roman doorway. But it may be desired that a shelter for carriages be brought out in front of the door. If arches be employed, their lateral pressure and their solid spandril-work will demand

* The Gothic roof, in its grand development as a *visible* internal feature, is without a tie-beam, and is therefore, even as a mere matter of constructive necessity, of lofty pitch, to relieve lateral pressure. The Italian roof, unseen from within, has its tie-beam, and may, therefore, be extremely depressed. That tie-beam supports the plastered ceiling, with which, strictly speaking, Gothic architecture has nothing to do. Where Gothic roofs are high-pitched, without any *practical* necessity for it, we must assign as the cause, the outward sign of an inwardly exalted grace.

† Here we might rest on that truly and peculiarly *English* invention,—the lifting pulley-hung sash, which may indeed be almost termed the very germ of domestic English architecture. There is no other such compact contrivance for keeping out the weather or letting in the air; and, saving in such sitting-rooms as require windows to reach to the floor and serve as doors, it should be always employed. Every architect will acknowledge the difficulty of adapting the Gothic form to its reception, and the *false appearances* which must be involved in making the seeming solid nothing but a casing of joinery; while every housekeeper is aware of the evils that attach to the hinged casement, whether it opens outwardly against the wind and rain, or inwardly against the window-blind and curtains. Still, the hinged folding casement is as suitable to the Italian window as the single casement to the Gothic one; while the lifting sash is *not* admissible on any critical grounds to the latter. The true Gothic architects never contemplated either wooden mullions and transomes, or wooden casements. Stone and iron were the materials solely employed. The difficulty of procuring glass of large size was the very occasion of the stonework and tracery of their windows. Had there been no *necessity* to "mother" the invention of stone tracery, it is likely the most fascinating feature of Gothic design would have remained unthought of. The plain lancet opening, single or clustered with others, would probably have continued; and the windows of the Temple Church, with that of "Five Virgins window" at York, might have still existed as the leading models of Gothic fenestration.

a body of masonry more interceptive of light than if the shelter be formed of simple pillars and their entablature. The germ of the thing required is a shed of posts and beams, covered with a lead flat, or roof of low pitch. The same reason that avoids the Roman arcade discards the Gothic one. We take at once the obviously-suggested Greek portico as the most immediate means of realizing gracefully in stone the convenience required.

And now, recurring to the façade generally, we may have reason for more mural enrichment than it yet exhibits. The employment of rusticated quoins, or of rusticated work in extension, on the surface of the lower stories, is an allowance not afforded in Gothic design; and, beyond this, the appliance of pseudo-architecture is surely not less permissible in Classic than in Gothic structures. Unnecessary buttresses have no better authority in the latter than engaged columns or pilasters in the former. Take Inigo Jones's Whitehall building. Choose between what it is, and what it would have been had the vertical lines of column above column been those of buttresses. Carry on the Gothicising process. Convert the crowning balustrade into a pierced Gothic parapet: despoil the basement of its rusticated work, the windows of their architraves and entablatures, the sub-frieze of its festoons, &c., and see whether an equal amount of legitimate Gothic ornamentation (leaving the general outlines and window-openings as they are) would improve it; or, rather, whether its present amount of beauty would be preserved. Take the interior, with its noble ceiling, its galleries and pilastral decorations, as Jones left it, and say whether, as a room of its purpose and proportions, it could have been equalled by a coincident amount of Gothic expenditure. We may, indeed, take this particular fragment of a building (for it is no more) to illustrate what we have been arguing, though it develops but a few of the facilities afforded by Palladian art for giving grace and dignity to an ordinary structure. Even in the entire design, as it appears on paper, we by no means see *all* the appropriate beauty which Italian architecture affords for common use. References in greatly additional evidence might be made to the buildings of Wren and his school, and to certain of the club-houses in Pall-mall and its vicinity.

And now, leaving the exterior of the building, we have to consider which of the two styles, Græco-Roman or Gothic, is most readily applicable, and which can be most carried out to the development of its distinguishing characteristics, *throughout* the building's interior. Positively, the only rooms in our box-model admitting of genuine Gothic treatment may, and most likely will be, the *cellars* and the *garrets!* In the former we may realize the Gothic crypt, and in the latter we may have, "in base epitome," the visible and ornamental roof of the Gothic hall; but, otherwise, among all the rooms of the various floors, there may be none whose proportional length, altitude, or fenestration, or whose utilitarian provisions, are in the slightest degree suggestive of Gothic treatment. All may be square, or moderately oblong in plan, saving only the passages; and all, without exception, may be rectangular in section; and we put the question, whether flat ceilings and plastered walls, with nothing but a plain running cornice, skirting board, with simple panelled square doors and shutters, having *plane*-run architraves and mouldings, are compatible with Gothic *characteristic?* The ceiling of an Italian or Greek building may with propriety be nothing more than a *slab*; but what is a Gothic ceiling without its corbelled or bracketed girders, its intersecting beams and bosses? And what is a flat ceiling *with* them but an Italian one Gothicised? The mere use of Gothic mouldings does not render a work Gothic. Lastly, is not the Italian architect as much at liberty as the Goth to make his girders and beams subservient to beauty in the sunken panelled work of his ceiling, with all its richly ornamented soffits and rosettes, its coves, consoles, &c.? May he not panel his walls with oak, and more than rival all that the Gothic joiner can effect, for the very reason that carpentry, in its most legitimate use, has been the leading element to the choice of the Italian style? The utmost amount of internal decoration that an ordinary *Gothicised* building can exhibit may be fully equalled by what the *veritable Italian style* will afford; while the latter admits, without any loss of characteristic, a simplicity that leaves the other with no character at all; to say nothing of the less cost at which the equivalent of Gothic ornamental work can be supplied by the Italian joiner. The day of Batty Langley's "Carpenter's Gothic" is happily passed away for ever; and we are, therefore, only speaking of the choice between what the *true* Gothic enforces, and what the free Classic allows.

The writer had prepared the compartment of a façade decorated in the Italian, and another in the Gothic style, taking the box-model as the groundwork in both styles; but he might not have been received as impartial; and the reader is therefore only addressed by the model in its simplest state. That this might be the best possible form for a town-building, under the restrictions which, in ninety-nine cases out of a hundred, will prevail, will surely be admitted. No deviation therefrom can enhance its mere utilitarian properties, and, therefore, none is allowed. Take it then as it is; decorate it at the same cost, in the Palladian and Gothic styles, and see whether the former is not in all respects immediately and thoroughly accordant, while the latter can only struggle to effect a partial result, in which "the attempt and not the deed" is "confounding."

The characteristic features of Palladian architecture may be more fully developed in a single façade than those of Gothic design,—at least in an elevation of limited extent; *i.e.*, the *return* fronts, or ends, of a Gothic structure can be less readily spared; and, therefore, the Palladian style is generally more fit for street architecture where only one front can be shown. And again, if the building be at the corner where another street diverges rectangularly, allowing two fronts to be shown, the necessity of windows in the second front corresponding continuously with those of the first, will be more compatible with Palladian management. Lastly, if the building, though entirely insulated, be necessarily cubical in form, with windows uninterruptedly ranging on all sides, the sacrifice of Gothic characteristic must be great, while there need be in the Palladian model no sacrifice at all. The box-model being remembered, how obviously is the Palladian treatment at once suggested! Here is no opportunity for the gable-ends, their chimney-backs, and aspiring shafts. The lofty proportions require horizontal correcting lines, not the aid of vertical ones. If buttresses be admissible, so are pilasters; but the district surveyor may be called upon to disallow of buttress projections, not only in regard to their intrusion on the pavement, but also in the denial of nuisance-corners. We are speaking only of what *may* be, and therefore of the style that will suit such probability. To recess a street building for the sake of giving space for its projections is, indeed, to purchase a minor at a major cost, but by no means improving to the street generally, since the recessed building will be more or less out of sight until the spectator comes in front of it. Better, then, adopt a style suitable to *flush* continuity; and which, however ornate, will fall in with that *plane* character of elevation that suits the locality.

Instead of an illustrating woodcut, it will be enough to refer to the plain brick street-fronts of every town in her Majesty's British dominions, as the almost unvarying box-model that simply calls for artistic decoration. In a utilitarian sense they are declared to be unimprovable. Take them, therefore, in the first instance as they are; and, as they are higher or lower, wider or narrower, with more or less space between their windows—or as they are more or less important in respect to their purpose or the rank of their occupants,—give them the balustrades, cornices, string-courses, pilasters, architraves, balconies, porches, &c., which the folio of Sir William Chambers's "Civil Architecture" affords. Let these be modified, or improved upon, as fancy and genius may operate; but still it is confidently assumed the Classic character will be maintained as the best as well as readiest for the purpose.

The full development of Gothic beauty requires either a simple form of great proportional length, or a compound form, still of lengths abutting against or intersecting each other. High pointed windows or bays may appear with admirable effect; chimney-backs and towering shafts may rise; and the high pointed gable may present itself. Towers may be placed over the intersections, and indeed elsewhere *ad libitum;* and the buttress may have full play in each case. But, if the box-model be demanded, what can the Gothic architect do with it? At the same time, be it observed, that all these forms are quite susceptible of Classic treatment, when you put pediment for gable, and pilaster for buttress.

Let it be further remembered that the high pointed window is the result of *stone vaulted intersection;* and that the lofty gable either harmonizes with the window-head, or is rendered more legitimately necessary by the internally exhibited Gothic roof, into the hollow of which the great window pierces, and which roof, therefore, being without a tie-beam, demands a high-pitch, if only in consideration of its lateral pressure. Let no candid critic blind himself to the fact that the eminently distinguishing features of Gothic design owe their existence to constructive causes that have no existence whatever in many a modern Gothic building, if indeed we can refer to any ancient one except the church, or great hall, or barn. To the church, indeed, we must come at last, as the *only* building in which the beauty, the pictorial variety, and the sublimity of Gothic design can be worthily displayed. Other structures may be *Gothicised*, more or less, to the infinite gratification of the lover of the *picturesque;* and, in many particular instances, with not less propriety than effect. In addition to the reasonable appliance of Gothic architecture to the mansions and houses of the clergy, to church colleges and schools, and even down to the sexton's hut, we may admit it as having a fitness for many rural localities, and as yielding a charming modification for cottage and lodge design. Let the "Old English gentleman" do what he will with it in his own park; but, in the squares and streets, crescents, circuses, and terraces of our towns and cities, let us, with the exceptions above stated, apply all the accommodating details which accompany the porticoes of Greece and the domes of Classic Italy.

In brief recapitulation. The question has not been Classic *versus* Gothic, but the equal advocacy of Gothic *and* Classic in their proper places. Instead of desiring a "defeat of the Goths," the writer would desire them to be satisfied with the triumph they have achieved in reviving an architecture so sublime that it should be hallowed as especially that of God's own temple, leaving the Classic varieties to all buildings of secular purpose; and rather aiming to improve the taste of the Classic modifier than to subdue it.

It has been argued that the principle of good architectural design should be that of a simple utilitarian beginning, to be followed up by an attempt to perfect the mere box-model of the required building, without regard to any style whatever; and, this being done, it has been the writer's effort to show, that the Gothic mode of ornamentation will not fall more readily on the church than the Græco-Roman on the civic hall.

The fallacy of regarding Gothic architecture as peculiarly English has also been argued; the conclusion of the reasoning generally being, that Gothic and Classic, with certain national modifications, are alike of European catholicity.

It has been assumed, on stated grounds, that the present feeling of many among the Gothicists (of women especially) has its cause in a mere love of the picturesque and quaint, and in certain unwarranted historical associations; and often without the slightest appreciation of the true characteristics and capable sublimities of Gothic design.

It is admitted, moreover, that, with little exception, the Classicals have not equalled the Goths in the true and full cultivation of their favourite style; and that, therefore, we have yet to see what might be effected by a corporation of Palladianists, united, determinate, and studious, as those of the diocesan Gothic school.

The Gothic partisan has been called upon to show wherein his style is so obviously suggested as the Palladian by the box-model of the civil structure: there being, in fact, more *pseudo*-architecture when such a building is Gothicised than when Italianised. It has been asked wherein, save only in the church, can the leading characteristics of Gothic art be carried out? It has been shown that no such vast opportunity is required for the full development of Palladian detail; that Classic ornamentation may be more readily applied to a rude model of Gothic form, than Gothic decoration to the body of an Italian model; that, in short, there are very frequently simple forms which defy Gothic treatment; while there is no form, excepting that of the church, to which Classic management may not apply. If there be some instances in which the contest ends in a drawn battle, there are infinitely more (especially in town structures) where Italian adaptation is free and immediate, while the Gothicist must often act with compulsion even to torture.

The influence of climate has also been deemed important in the advocacy of Italian architecture, as affording maximum light with minimum opening, and effective provisions against the heat and lodgment of weather; and the merits of the English lifting sash-window have been allowed their consideration in favour of the style which alone admits it.

The extremely different conditions of a building of several floors, from one open from floor to

vaulted ceiling or roof, as in the Abbey and Great Hall of Westminster, have been adduced; and a distinction has been made between structures of length, loftiness, and curved lines, and those of cubical bulk and rectangular construction. The advantages of the portico *vice* porch have likewise been alluded to, as well as those of the style which best comports with flat plastered ceilings, and with the abundant use of rectilinear carpentry and joinery.

Such is a general summary of the more practical reasonings which, as I codceive, lead to the final selection of the Palladian for every building of civil, commercial, or social purpose, however exceptive cases of *sentiment* or occasion may sometimes operate; and of course leaving every Englishman, on his own private *ground*, to consult his individual will. GEORGE WIGHTWICK.

SURFACE DECORATION.*

THE numerous objects that influence the distribution of colour in the different apartments of a building are not always under the control of the architect, particularly the moveable fittings and furniture, which are generally disposed by the lady superintendent and her upholsterer, and do not always improve the effects that have caused the architect much study and anxiety to produce; but, on the contrary, frequently destroy all concord with the worst possible taste. Furniture and furnishing should be as much under the control of the architect as the other decorations of the apartment or building; and, when an architect of taste is employed, I am sure the result cannot fail to produce more harmony than is generally met with in our interiors. The decoration of a wall, floor, or other subordinate part of a building, if designed on good principles, should bear the same relation to the leading objects of the room that a background does to a painting; yet not rendering it so tame and suppressed as not to attract any attention; but help to enrich the general effect, without depriving the principal objects of their legitimate attention. By a due adaptation of colour and form many difficulties in design may be considerably lessened; and faults in arrangement have not unfrequently been converted, by judicious treatment of surface decoration, into positive beauties. Light, above all things, should be well considered. It rarely happens that an apartment is too light; but if such ever should happen to be the case, a remedy is readily found in the application of colour. This will proscribe at once the use of dark colours, because they absorb the light: red and violet surface *en masse* are not at all favourable to the complexion: light blue is less favourable than green. The colour of paperhangings recommended by Chevreul as producing good and appropriate results are those which present designs of a light tone, either normal or coloured grey; upon a white ground, or the reverse; and in which the pattern is at least equal in extent of surface to the ground; for a small pattern has a very poor effect in large rooms. Patterns of two or more tones of the same colour, or those that produce little contrast, are preferable to attractive and glaring designs, which destroy the repose a wall should exhibit. Hangings are made to have very chaste and excellent effects with appropriate borders. We should first consider which harmony we wish to produce—the harmony of analogy or the harmony of contrast. The harmony of contrast is very suitable to surfaces of a uniform pure tint: for instance, a pale yellow ground with a monochrome ornament may be well relieved by purple and white in small quantities, with a little blue; for white surfaces with pale grey ornament, or *vice versâ*, are contrasted well with gold: orange or yellow may also be in tones with a very pure effect. The most forcible example of the harmony of analogy I can introduce would be yellow surfaces, with a border of orange, gold, or brass ornaments. The wainscoting or skirting plays an important part in apartments, where it is made high to resist the blows of chairs, &c., and should be of a dark rather than of a light character, and harmonizing with the carpet, which produces the best effects in dark colours. Ceilings, as a general rule, should be white, or of the palest tones of colour; and the cornice divided from it by a darker tone, particularly avoiding white parts, which would be confounded with the ceiling. The ceiling should be always separated from the walls by a darker or contrasting tint, and may be further picked out with darker tones, or relieved with gold. The doors, windows, and other finishings of an apartment are invariably painted or stained, as the case may be, of one colour. I think these may be varied with advantage: for instance, the door performs a different office from the skirting, and should be distinguished from it by a difference of colour; while the other parts may be separated by variety in the tones. The general colour of doors may be grey, tinged with the colour of the walls: the door-frame or architrave should be darker than the door. In the foregoing I have considered the uses of colour as applied to the surface, and completely concealing the materials. With some, particularly of late, the feeling is for an inconsiderate demolition of what are erroneously called shams. My space will not allow me to offer you but a limited defence for applied surface decoration: doubtless three or four coats in oil and a few yards of paper will cover a multitude of sins that would be unbearable exposed to view. I cannot bring myself to think (much as I have tried, and with due regard for the exposure of the true material) that the appearance of a stained deal door, in some positions, is preferable to a painted one, any more than I could admit that a grained deal door in imitation of oak is superior to a solid oak one. When the funds will only admit of deal as a finishing, which is mostly the case, the colour may be otherwise consistently applied without imitating any superior material, by plain tinting alone, which appears to me far more pleasing to the eye than many of the dirty stains and treacley surfaces invariably left by the stainer and varnisher. Moreover, it is not so easily renovated and cleansed; for, when it is darkened by time, or dirtied and unsightly by wear, I do not see how it can be made to take its place again with the other decorations of an apartment. With regard to walls, I think stucco as applied to the interior of secular buildings can never be abolished; neither does it appear to me a sham unless a superior material is represented on it: there is nothing that offers such a ready means of giving a flat surface to receive the charming effects of colour. The question resolves itself into this: if we discontinue its use, what can we replace it with that shall be as economical and answer the purpose so well?

The advocates for "truthful building" have condemned, unmercifully, I think, the use of stuccos and cements. There, doubtless, are many excellent arguments against their use; and for exterior purposes few will feel inclined to add to the mass of shattered incongruities that deface our principal thoroughfares. But with interiors it will be found more difficult to practise the precepts urged. One or two noble exceptions of late, however, have done much to show the practicability of the reasoning. Neither of these, though, it occurs to me, have grappled with the real difficulty. What substitute can we produce for the plastered interiors of our dwelling-houses and other assembly-rooms, which are certainly as much of a sham as the plastered walls of a church? How can we give the neatness, economy, and harmony with the surrounding walls, offered by a common plaster partition? A truthful wood panelling would certainly be a very discordant substitute; unless it were continued all round the walls; which would be exceedingly expensive; and it is very doubtful if the result would be as satisfactory. Again, there are many buildings where a positively showy and grand appearance is as essential to their success as the funds for their existence; and, lastly, its use is sanctioned in a degree by the best works of the best masters of all ages, and by them converted into a medium whereon the noblest conceptions have been pictured and rendered for ages imperishable. Let us not abandon, then, what others have turned to such good results, but rather endeavour to appropriate with consistency what universal custom sanctions, and at which good taste will find nothing offensive.

The ingenious imitation of valuable materials is sometimes so complete, that it is almost impossible to escape being deceived. I have been assured that the best judges have been mistaken in detecting the scagliola imitations of the dark green marble pillars from the real marble in the old church of S. Miniato, at Florence. I mention this as an instance to what perfection this art has arrived: of course much depends on the skill of the artist. It will be hardly necessary to observe that the greatest discretion is required in applying imitations of any kind; it is so easy to make free use of them: their cost being comparatively little is a great inducement to frequent and indiscriminate application, that may lead to unfavourable results, and bring into disrepute that which, used consistently, may be worked in with great advantage.

To Italy we must turn again for the origin of nearly all our plastic embellishments;—the fresco and gesso painting, the imitations of marble or scagliola, graffit to work, and many other simple and elegant decorations, that must be valued for the mind they exhibit only; for the material is frequently next to valueless. Fresco and other plastic painting is scarcely within the province of the modern architect's education; but the great interest now so apparent for its revival, and the prominent effect it must have in a building, induce me to say a few words on the manipulation, which I feel will not be without interest. A painting or other ornamental work, executed in water colours upon a freshly-plastered wall while the plaster is wet, is said to be in fresco, and known as *buon fresco*, or good fresco, in distinction to another process, known as *fresco secco*, or dry fresco. For *buon fresco*, a plaster formed of old and carefully-slaked lime and sand is roughly applied to the wall or other surface as a first coat: upon this another of a finer quality is laid: this prepares the surface for the *intonaco*, or fresco ground, which is of the purest old lime and sand. The application of this last coat is as follows:—The surface prepared for the *intonaco* is wetted with water until it will absorb no more: a thin layer of the *intonaco* is then applied to as much of the wall as is required for the day's work; and, when sufficiently dry, the outline is traced from the full sized cartoon, and the painting proceeded with in watery washes. The surface must always be moist, or the proper combination with the plaster will not be effected: the colours are mixed with distilled water, and are chiefly the earthy pigments, as vegetable and mineral colours are affected by the lime. Mr. Wilson, in his report to the Commissioners of the Fine Arts, gives the following mode of working the *fresco secco*, as practised at Munich:—"The plastering of the wall having been complete as for *buon fresco*, the whole is allowed to dry thoroughly. Before painting, the surface of the *intonaco* must be rubbed with pumice stone; and, on the evening of the day before the painting is to be commenced, it must be thoroughly washed with water mixed with a little lime: it must be wetted again the next morning; and it is then ready for tracing the outline and painting: the surface must be constantly moistened by means of a syringe. *Fresco secco* is a good method for decorative painting, for which it is now much employed."

The application of scagliola work is a comparatively modern introduction in England. I believe the Pantheon in Oxford-street is one of the first buildings in which it was used. Lanzi mentions it as invented by Guido Fusi, of Carpi, in the sixteenth century. The Florentines have carried this art to the greatest perfection, and had a public school in the Royal Academy of Florence for teaching how to inlay and paint it, which is in reality *gesso* painting, or plaster painted with colours in water: it absorbs the colour to a sufficient depth to allow of the surface being polished without destroying its brilliancy; and some of the effects are charmingly brilliant and enduring. This beautiful embellishment is not confined to the imitations of marbles only: the readiness with which it is adapted to any form, and the enduring polish it takes, render it susceptible of making useful and elegant appliances. To none is more commendation due than to the inlaid scagliola work, of which there are numerous valuable specimens in imitation of landscapes, figures, flowers, in the Florentine galleries and churches, and of which here is a very beautiful work intended for the International Exhibition, by Mr. Georgi, who has devoted considerable time and attention to all kinds of plastic imitation which are peculiarly Florentine; and I hope he will meet with the success his talents and perseverance entitle him to: the artistic skill in mixing the plaster to the different natural tints, and the knowledge and power of drawing required to produce a successful result, without any application of paint, can be readily conceived. The base of this material is the purest sulphate of lime, prepared with great care. Keene's cement is largely used for this purpose, and mixed with the different colouring materials of the hue required: the art of mixing these so as to imitate the marble required is kept by the artists as secret as possible: the polishing is effected by friction with grit stones to a level surface; then, with felt dipped in tripoli and oil; and lastly with oil alone; a lustre is obtained as durable as the most highly polished marble. Not only may the costliest and rarest stones be successfully imitated, but any combination of colours may be produced; for instance, purple with emerald green, siena veined with purple, or any other splendid caprice that fancy may dictate.

* From a paper read at meeting of the Architectural Association, by Mr. R. O. Harris, as mentioned in our last.

There is another kind of wall or surface decoration practised in Rome, Florence, &c., since the sixteenth century, and known as *graffitto* work. It is very simple and effective: two layers of plaster or cement about the eighth of an inch thick, of different colours, are applied to the surface to be decorated; the lower one serving as a ground, which we will suppose to be black; while the upper one is white, and softer than the under one; which enables the artist with his graver to remove that portion of the upper surface his fancy may suggest, leaving the black ground exposed. Very beautiful scroll work in outline has been introduced in the panels of pilasters, spandrels of archways, and other details: it may be said to be to an extent imperishable, and equally applicable for exteriors as for interiors. Here are some specimens from which you may judge of the effect:—some are in black and white: others show the application of two colours. It is not at all expensive: it may be executed for about 1s. a foot. Somewhat allied to this class of decoration is the very interesting process of engraving on white marble: its effect is particularly chaste and beautiful: its success, though, entirely depends upon the skill of the artist, as great care and experience are required to bring out the more delicate etchings and lines. The manipulation is this: the surface of the marble is covered with a composition not acted upon by the strong acids: the lines are then traced with a fine graver on this ground, leaving the surface bare: an acid is then floated over the surface which corrodes the marble exposed by the graver: the lines are then filled in with a black composition: the whole is cleaned off; and the delicate etchings of the graver exhibit on the marble a beautiful outline with all the fineness of a pen drawing. Here is a specimen. The compactness of a marble texture for producing fine lines is of course superior to such as Caen or Bath stone. To show the applicability of this mode of decoration to common stone, I may instance the interior of the Church of St. James the Less, at Vauxhall. Here the principle is much the same, the only difference being,—the incisions at the church are made with a chisel instead of the acid; and, being in freestone, are necessarily much coarser. I have been informed that the white marble pavement of the room lately built in the Museum of Natural History, at Florence, to the memory of Galileo, is engraved after this manner, and represents a full-length figure of him, and all his different inventions and discoveries, with very satisfactory results.

There is one more kind of plastic imitation of marbles extensively applied in Venice to floors, and known as Venetian pavement: it has also been used very much by the ancient Romans, and known by them as *opus incertum*. It allows of being treated with much fancy and ingenuity; and when good cement is used it is very durable. It is made of small pieces of marble (or imitation thereof), of different kinds and colours, as fancy may suggest; mixed like concrete with the cement, forming the imitation required: this is floated over a well-prepared concrete surface; and when dry it is ground and polished; forming a very beautiful and inexpensive flooring, of which here are some specimens. By giving variety to the colours endless design may be introduced, which may be carried further by applying any kind of geometric pattern: it is one of the cheapest kinds of paving known.

THE COST OF SOOT, CESSPOOLS, AND FOOLISHNESS.

IN connexion with the British and Indian army estimates, an honourable member called attention, lately, in the House of Commons, to a charge of 5,891*l.* for sweeping chimneys. If it cost such a large sum for the clearing of the chimneys of the offices, barracks, &c., connected with our army, how great must be that of sweeping all the chimneys in the British empire? If this sum may be taken as affording something like a scale for the amount expended for chimney-sweeping by the British population who use chimneys, the annual charge would amount to nearly a million sterling. This sum, large as it is, is probably not over the mark, if we remember, in the metropolis alone, how many houses there are of which every room is inhabited. And how much are we to add as the cost of fuel which is wasted in the formation of all this soot? Various improvements have been made of late in the construction of fire-places in both manufactories and dwellings: notwithstanding, great would be the public benefactor who would provide us with a sure means of economically consuming the chimney-smoke.

In the course of the discussion, Major Parker complained of the charge for sweeping the barrack chimneys, and suggested that the soot should amply repay the cost of sweeping. Sir G. C. Lewis said he was not, however, aware that housekeepers who had their chimneys swept found this a profitable matter. He did not think the charge an extravagant one. There was another item which, if he had been engaged in criticising the estimates, he thought that he should have taken objection to in preference to that of chimney-sweeping. It was 12,600*l.* for emptying cesspools. This is a startling account, after all that we have heard of the improved condition of the dwellings of our soldiers. The reports show an important general improvement in health in consequence of better sanitary arrangements; but here we have evidence of something more being required. If it should be found, on inquiry, that a considerable part of the twelve thousand pounds and upwards has been expended in clearing cesspools connected with the barracks in towns, where proper drainage is possible, no time should be lost in getting rid of these alembics of evil. If the amount so spent were capitalized and properly employed, much good might be done with it.

CLOCK AND WATCH MAKING.

THE BRITISH HOROLOGICAL INSTITUTE.

IT is with great pleasure that we notice from time to time the progress of this institution, which promises to be an important means of enabling us to preserve a valuable branch of industry. For three centuries and upwards this country has been distinguished for the skill of its makers of clocks and watches. For a long time English watches were at a premium in every part of the civilized world. In the reigns of Henry VIII., Queen Elizabeth, Charles I., and Charles II., and up to a comparatively recent date, time-pieces made in this country were chased and in other ways ornamented with a considerable amount of artistic skill. The designs were, also, in many instances, good, and characteristic of the artistic taste of those periods. In the reign of George III. the style of the watches was no less in correspondence with the prevailing taste: they were plain, ugly, and unwieldy; but at the same time they were, in comparison with foreign watches, remarkable for the excellence of their workmanship. As regards the dials of house-clocks, up to the beginning of the present century, they were decorated with engraved brass plates, many of which were of good design and beautiful execution. Thomas and Robert Bewick, John Scott, and other engravers of note devoted time to this kind of work.

At a period when, as regards art manufactures, we were standing still, throughout France and several other countries on the Continent, artistic skill was being highly cultivated, and made a part of general education. As regards this, at a recent meeting in Islington, for the purpose of furthering the establishment of a School of Art and Museum for that district, Mr. Burchett said:—"Go into a French workshop, and there the evidences of the universality of art education were to be found all around. If, for instance, they went into the tapestry department of the great French manufactory of the Gobelins, they would find sketches of all kinds made by the workmen, which would reflect no discredit upon the studio of any artist. It was clear that the men had art at their fingers' ends." The same may be said of several other branches of French industry. To the science of manufactures more attention has also generally been paid by the body of the workmen, than is the case in England.

In Switzerland, by a subdivision of labour, by a taste for elegant design, and partly, it must be confessed, through the comparative cheapness of living in that district, a watch, elegant in appearance, much cheaper, but not so serviceable as an English watch, has been produced, which, in addition to those of French makers, has caused a great depression in the trade of Clerkenwell, Coventry, and elsewhere. We have long ago, and frequently, directed attention to this matter, and endeavoured to show, that unless the clock and watch makers improved in taste, and availed themselves of the means which the advanced state of science suggests, their business would surely depart from them, and go into the hands of others.

It is satisfactory to know that the quality of the chronometers manufactured in England is unrivalled. It is in this country that the chronometer has been brought to its present state of perfection; and in order to preserve this distinction, and in order still further to complete these instruments, a party of earnest and skillful horologers banded together not only for their mutual improvement, but also for the advancement of those who were engaged in the various branches of this business. Through these meetings the Horological Institute became established. Year by year it has advanced, although the increase in the number of members is not so great as might be expected. This circumstance is to be regretted, and is a striking instance of that prejudice or perverseness which, in all branches of manufacture, leads to decay. The foundation of the institute has been, however, firmly laid; and no doubt the rising generation of watchmakers will more extensively avail themselves of its advantages than do the present.

At the annual dinner, at which the Lord Mayor presided, his lordship, in the course of an address of much good feeling and ability, remarked, that in the construction of a watch there was need for perfect exactness;—"the very embodiment of truth which is required necessitates the exercise of thought in the mind of the maker, whilst he carries on his mechanical operations. The very name of the maker is suggestive of intelligence—*'horo-logist'*—a maker of machines to mark the hours. It is not merely that watchmakers are men who make wheels and put them together, but they produce the most wonderful and delicate instruments in the world to be exact in their business proceedings. It was an important question, he thought, whether it can be advantageously carried on in England, or whether it is to be given up to foreigners. 1st. The English character requires that watches should be good ones: is it possible to make a very good watch at as small a cost as a watch is made in places where, perhaps, cheapness is considered a more important quality? I am afraid that our national necessity to make a good article will prevent us competing with those makers who regard only price and not quality. I do not know how that difficulty is to be got over. As an Englishman, I should rather say let us maintain our character for a good article; because I believe that in watchmaking, as in everything else, truth is strong and will prevail, and nothing is of so much importance as truthfulness in a watch. The fact of your being able always to depend upon your watch gives value to it far beyond the saving of a few shillings in the cost." While agreeing with the truth of the above in the main, there is no doubt that the price of an article is important; and that, in promoting excellence, we should avail ourselves of the means which are at hand to cheapen several of the preparatory operations in clock and watch making, and also endeavour to introduce a more pure and artistic style in the ornamentation. English watchmakers must move on, or they will be run down.

CEMENT *versus* WOODEN FLOORS.

AT the meeting of the Royal Institute of British Architects, reported in your number of the 8th instant, amongst other matters discussed, is the question of Cement *v.* Wood, as regards floors: the following anecdote will, perhaps, tend to throw the balance of opinion in favour of the latter. At a cotton-mill, where about 3,000 people are employed, one of the young females was about to be discharged on account of continued ill-health. Her reply was, "If you will place me where I could work on a wooden floor instead of on brick, I shall be all right." The master yielded to her request: she recovered her health so decidedly, and he was so struck with the result, that he is having every brick taken up and replaced by wood.

PETER HINCKES BIRD, F.R.C.S.

PROPOSED COMPLETION OF THE BIRMINGHAM AND MIDLAND INSTITUTE.

OUR readers, doubtless, remember the competition for the Birmingham and Midland Institute in 1855. It was a select competition, and the chosen architect was to have no premium, but was to be intrusted with the execution of the work. Mr. E. M. Barry's design was chosen; and half of the building has been erected under his superintendence. Financial difficulties have until now prevented the completion of the work; but the town council at last resolved to finish the building according to the original design. The architect consequently furnished them with designs, full working drawings, and specification. The quantities were taken out, and tenders received. The council have now, however, resolved to throw the whole matter open to competition, and actually invite architects to furnish designs for the completion of the building, according to Mr. Barry's elevation, notwithstand-

ing the promise in the original competition, that the selected architect should have the execution of the whole work. The sole reason avowed by the council is, that they hope to get the building erected for less money by some other architect, the tender having exceeded their expectations. We can hardly suppose that any professional man of repute will respond to an invitation which contemplates a manifest injustice.

THE ART OF DECORATIVE DESIGN.

An inquiry into the character of the ornamental arts is always attended with difficulty, as it resolves itself into an investigation of the beautiful, and beauty only exists relatively. We may say that beauty is that quality of an object which gratifies or delights the soul of the beholder; but here, at the onset, we are met by an obstacle, as that which gratifies one mind is unwelcome to another, and the form which to one individual is pleasing is to others without comeliness. This diversity of opinion respecting the one thing is not peculiar to decoration, for it has its counterpart in all the æsthetic arts. In music, sounds which to the ear of the savage are grateful, are discordant to the more refined musician; and in respect to taste, that which is palatable to one is nauseous to another. The satisfying, then, may be rude, or it may be chaste: if an object, it may be clumsy in form, or refined in shape, and in colour, gaudy or subdued; and if sound, it may be sweet and tender, or harsh and crude; hence, if beauty is that quality of an object which delights the soul, it is of variable character, and the same form which is beautiful when viewed by one individual, is not beautiful when viewed by another; for in the one case the mind is gratified, and in the other offended.

The taste, like the hand, is susceptible of cultivation. The child who cannot hold the pen, ultimately writes; and with the taste, that which is nauseous to the infant is frequently palatable to the adult; and that which the uncultivated cannot appreciate, the connoisseur greatly relishes. It is so in respect to sounds, and it is so in respect to forms; for shapes and sounds which are unwelcome we learn to admire.

Beauty, then, in the case of the individual, is constantly undergoing a progressive change. It is like the plant which alters its form as it unfolds itself, or the child which is ever undergoing mutation as it develops into man: it changes in the history of every individual who is the subject of cultivation, and passes through many phases in the experience of each; for that which appeared to be beautiful last year does not appear so this year, and that which we cannot now appreciate we may value ere long; yet the constant advancement towards the perfect ideal will not here apply, for our conception of the perfect not only daily alters, but differs in the case of two individuals: hence, it cannot be conceived of, and we cannot be said to be approaching this one goal; nor can it be said of any individual that he now knows what beauty is.

Beauty has also been defined as that which arises from the absence of any want; but here we have a difficulty similar to that which we have already encountered; for where one individual feels no want another sees a deficiency, and that which to one is perfect appears fit only for a part to another; and we know of no definition of beauty which is not associated with like difficulties; indeed, it cannot be otherwise, for the most careful and prolonged consideration only leads us to join Schleiden in thanking God—not because He has made the world and the things that dwell on it beautiful, but because He has placed in man a soul capable of creating to itself beauty, when perceiving the objects with which it is surrounded.

Recognizing the truth that there is no such thing as the perfection of beauty, and taking cognizance of the fact that two individuals may differ in respect to the æsthetic qualities of a form or composition, we yet find that a class of men have existed in nearly all ages who have diligently cultivated that faculty of the mind from which beauty springs in the direction which meditation and reason have dictated; and in the works of these men general principles prevail, and the recognition of common laws is manifested.

These inquiries into the nature of beauty will be of value in respect to our following considerations, for they enable us to see more clearly the extent to which we may go, the nature of the investigation before us, and the conclusions which we may hope to reach. We cannot discover the laws which govern the production of the beautiful abstractedly, nor the road even, which conducts to a knowledge of perfection in form, nor can we refer our opinions to an infallible test for confirmation or refutation; all that we can do is, procure the judgment of those who have devoted long years to such researches, and examine into the practice of ages in which art flourished being nursed in the arms of tenderness.

We inquire, then, into what is necessary in decoration in order to satisfy the cultivated mind; and first it may be remarked, that the ornamental composition, of whatever character it be, must embody the mind of its producer. The most exalted gratification of man rests in the power which his spirit possesses of communing with other spirits: to this faculty of interchanging thought man is indebted for half his knowledge as well as his greatest pleasures; and in the absence of this power the man would be comparatively uneducated, uninformed, unenlightened. This source of exalted pleasure can be embodied in ornament; for the man, while yet dead, may speak through his works. It is the mind which exalts man above all other creatures, and constitutes him a superior being,—it is this which enables him to subdue creatures of greater magnitude and strength than himself. Yes, the mind *is* the man; hence, if mind be absent from his works, the ennobling part is wanting, and they sink in consequence to mere mechanical productions.

Not only must mind be embodied in the ornamental composition, in order that it be satisfying, but the sentiments of the age in which it is created must also be acknowledged. In order that a work of any description gain sympathy, it must in some way personally concern those whose interest it is to awaken, for we can feel but little interest in that which in no way concerns us; and if decorative art is ever to be cherished by the people at large, it must draw forth their affections by embodying their knowledge. It is impossible that ornament do otherwise than engage the attention of the people, if it be a setting forth of the knowledge of the day of its birth; for if any are unjustly represented, they will not delay in expressing their feelings concerning the injury done them. What Englishman likes to see his countrymen represented on the French stage as antiquated individuals robed in blue coats adorned with lustrous brass buttons? The feeling of dissatisfaction at this misrepresentation has even made *Mr. Punch*, if not his dog, protest against such injustice in his recently issued *Almanack*. If every ornament be a representation of some circumstance, or of our knowledge, we may be sure of popular interest; for if one party or theory be unjustly dealt by, its advocates would not be slow to say so, and if the one side were flattered others would find fault. Till ornament does express the sentiments of the age in which it is created, we can never hope that it will receive that constant attention and warm sympathy which it must have in order that it take up and maintain its just position.

In every age in which decorative art has flourished, it has embodied and expressed the sentiments or faith of the people. The Renaissance ornament was an expression of the Renaissance period; and the Mediæval forms, of the faith of the Middle Ages. What could more fitly set forth the Christian faith than the pelican pecking itself till its blood issues forth in order to nourish its young? the passion-flower, the cross, trefoil, quatrefoil, and many other forms, had each a class signification; so that the decorative forms were as mirrors reflecting the faith of the beholder, and they are yet as mirrors which reflect the same image of faith to us, though at a broad angle, as we are far removed by time from the period at which the faith of the Middle Ages prevailed. The Greek ornament, while without symbolic forms, speaks of the refinement which was so diligently sought and successfully attained by the people of the Classic age; and every form in Egyptian decoration had an acknowledged significance, which caused it to speak as clearly-written characters. Ornamental art, where it has flourished, has ever spoken the sentiments, knowledge, or faith of the people who have created it, and must again do so before it will draw to itself that sympathy which is necessary to its due advancement.

This brings us to inquire whether it is possible to express our knowledge in decorative forms. We argue that it is. Yet an expression of religious sentiments in a national system of decoration cannot take place; for, unless there is unanimity of sentiment, there can be no expression of faith. What must find utterance in a national system of ornamentation, is our secular knowledge,—our knowledge of nature, as revealed to us through the sciences, and of refinement; and it is the possibility of expressing this knowledge which we shall endeavour briefly to establish. Some will object that secular knowledge should never be embodied in the decoration of an ecclesiastical edifice, and that we do not admit the embodiment of religious sentiments. No one will more strongly object to a manifest embodiment of secular knowledge in the decoration of a building intended for the purposes of worship, than the writer of this article; yet we cannot approve of the appropriating Mediæval symbols, for the Middle-age faith has passed. We would have "the house of prayer" adorned with little besides the worshippers, as nothing should seduce us from worship while in the temple of the Most High; still we feel strongly that the Creator is worthy of being worshipped in the most exalted edifice which human hands can rear; yet, as He commands that He be worshipped in "spirit and in truth," we would rather, for our own part, not expose ourselves to the possibility of being seduced from true worship by ornaments such as the soul delights in.

While attempting to illustrate the possibility of embodying knowledge in ornamental forms, the author of this article must ask every indulgence, as he is not professionally engaged as an ornamentist, though at special request he has furnished many designs to the manufacturers to be wrought for the forthcoming Exhibition—perhaps as many as any individual; yet, as he has to meet the requirements of an active scientific life, it cannot be expected that he present thoughts clothed in the best garb of decorative forms. He must content himself with giving forth a few ideas for others to clothe in the richness of their knowledge.

Ornament, we have seen, has long possessed the power of expressing feelings and ideas through the aid of forms having acknowledged significance; but, pleasing as this mode of expression by the agency of symbols is, yet the power of utterance thus afforded is limited. Orange-blossoms may set forth innocence, and call up reminiscences of Hymen's altar; holly and mistletoe will express Christmas and evoke thoughts of merriment and joy; the violet will typify humility, leaf-buds spring; a profusion of flowers, summer; ripe fruits, autumn; and leafless branches, winter. Yet the number of such symbols is few; consequently, they afford no great means of expressing thought.

In order that a symbolic art be powerful in utterance, it is necessary that the people have cognizance of the purport of the forms used, and of the circumstances to which they have reference; for, in the absence of this knowledge, the decoration, through not being understood, ceases to be impressive.

Relative to the desirability of embodying knowledge in ornamental forms, all will be agreed, as we have seen, that such is necessary; yet we cannot hope that symbolism will again prevail, for to it there is the drawback that the significance of the form must be known, in order to an understanding of the ornament: hence the causing decorative forms to express thoughts, feelings, and ideas, without the aid of recognized symbols, becomes of interest.

The most simple agency by which the thought of ascension can be called to mind, is by the arrow with its apex uplifted, and of descension by an arrow inverted (winged arrows will be most expressive); but the ideas evoked by such a use of this simple form are necessarily indefinite. In order that a sense of ascension and descension be more perfectly evoked, a more complicated mode of expression must be adopted, which shall be an embodiment of occurrences or effects associated by the mind with these acts. An umbrella, if moved through the air with considerable velocity in such a manner that the handle follows, will have its web pressed closely against the stick; a bird, when in rapid flight, has its feathers pressed against the body; a parachute during ascent is closed: but should the umbrella be pulled downwards through the air, it will be forced open; a bird when descending has its wings uplifted, and the parachute is open; hence these bodies, when in these particular conditions, will tend to induce the mind to originate to itself the thought of ascension and descension. As an illustration of what is necessary, in order to the awaking the thought of ascension and descension, we give the annexed illustrations, which are of a simple character.

Our next figure is that of a "Hobgoblin," which is said to be a creature with eyes as large as tea-saucers, resident in Padfoot-lane. It will be found that we associate with our conception of evening the existence of creatures with luminous



SUGGESTIVE DECORATION.

or terrific eyes; and insects generally impress by their eyes and wings; for although perfectly familiar with the organs of vision in these creatures, we are frequently altogether ignorant of the character of the mouth; and hobgoblins are associated with evening, hence it is necessary to link them with our conception of this portion of the day, and to make them terrific through the magnitude of the eyes.

In order to the delineation of "subjects" in decorative forms, or, rather, the production of ornamental compositions such as induce the mind to create to itself given thoughts, and call up the desired associations, it is necessary that an accurate knowledge of what has to be accomplished be obtained. If evening has to be induced, the colour of the evening sky must be discovered, which is difficult when a flat-tint is used; and the changes which colours undergo as twilight advances must be carefully observed:—blue becomes lighter, even considerably so; red darkens, and during the period of the later dusk is dark maroon. Yellow is, of all colours, the most stationary under these circumstances. Not only must these things be noted in respect to colour, but the integral parts which go to make up our conception of evening must be ascertained and made use of. Mushrooms, owls, stars, the moon, and large-eyed monsters, all combine to produce the sense of evening; hence their presence, or the presence of conventional forms which suggest them, is desirable, if the intention be that of impressing the mind with the thought of departing day.

We instance these few examples, in order to show the possibility of setting forth thoughts and occurrences in conventional forms. We might select many others from our sketch-books, but space will not permit us so to do. In all cases our illustrations suffer much from the want of colour, yet we hope that they will manifest the possibility of ideas being expressed by conventional forms without the aid of symbols.

C. Dresser, Ph. D.

CHURCH OF ST. JAMES THE LESS, GARDEN-STREET, WESTMINSTER.

This church, situate, in the poor district of St. Mary, Tothill-fields, and built at the cost of the daughters of the late Bishop (Monk) of Gloucester, has justly obtained for its architect, Mr. Street, a considerable amount of praise. In our last volume we gave a view of the exterior, the plan, and some particulars.* We now add a view of the interior, looking east.

The materials used are mainly red and black bricks, stone, and marble. The apse has windows of three lights, with a rose-window in the head, filled with stained glass, representing types and anti-types of Christ. Between these descend the groining ribs, to rest upon banded shafts of polished marble. The reredos below the line of lights is of white stone, inlaid (with a black composition) with figures of holy women, commencing on the left with Mary the mother of James, then Mary Magdalen, St. Elizabeth and the Virgin Mary; then, on the other side of the reredos proper, come the wife of Manoah, Hannah, Ruth and Sarah. Bands of red and yellow tiles are inserted between these figures, which are represented in niches, dividing them into twos. Immediately over the altar is a cross of vari-coloured Irish marbles, set with studs of Derbyshire spar. Within the apse come the transept aisles; in that on the left is the organ. Two drop arches, on broad shafts of polished granite, with carved caps, and resting on tall plinths (the height of the choir seats), divide these transept aisles from the choir. Each transept aisle is, in itself, divided by a shaft of Bath stone in its centre, whence spring arches to the side piers of the choir. The two shafts which are on each side of the nave are of polished red granite, with bands of Bath stone midway of their heights; the caps are carved, illustrative of the Parables and Miracles.

The fresco over the chancel arch, painted by Mr. G. F. Watts, represents a sitting figure of Our Lord in the centre, with groups of angels on each side, and the four Evangelists below. The pulpit is of stone and marble, and is very richly sculptured. Beneath are sitting figures of the four Evangelists and of the four doctors of the Western Church—St. Augustine, St. Gregory, St. Ambrose, and St. Jerome. The chancel is groined in brick, with stone ribs. The screens and gates round the chancel are of wrought iron and ornamental brasswork. The pavement of the body of the church is formed of Maw's tiles, and that of the chancel has marble inserted. The steps leading to the chancel and altar are of black Isle of Man limestone. The painting of the arched roof of the nave is by Messrs. Clayton & Bell. The subject is the tree or generation of Jesse. The same artists also executed the stained glass.

Messrs. Myers, as we have before said, were the contractors. The pulpit was carved by Mr. Farmer; the capitals, and the rest of the carving, were by Mr. W. Pearce. The organ was built by Mr. Nicholson, of Worcester. The iron screens and gates were by Mr. Leaver, of Maidenhead. The warming apparatus was by Mr. Haden, of Trowbridge. The moulded bricks were made by Mr. Brown, of Surbiton; the altar-plate by Messrs. Hunt & Roskill; and the seats by Wyatt, of Oxford.

The total cost, including fittings and decoration of every kind (all of which were executed from the architect's designs), has been something under 9,000*l.*

* See vol. xix. p. 410.



CHURCH OF ST. JAMES THE LESS, GARDEN STREET, WESTMINSTER.—Mr. G. E. Street, Architect.

TYPHUS AND TYPHOID FEVERS AND DIPHTHERIA.

DANGER OF STAGNANT POOLS IN RURAL DISTRICTS.

MANY of the ponds situate near farm-houses, and in the centre of villages, often a source of sickness and death, might be done away with, and no inconvenience ensue. In situations where there is no regular supply of water laid on, it may be said they are needed for the watering of cattle, and for other purposes; but, even in these places, in a majority of cases, troughs, communicating with the water sources which supply the ponds, would answer all the purposes required. Besides the damage to health, which is caused by these accumulations of stagnant water, they are but too likely to be hurtful to the horses and cows themselves, who drink it. In many of the pleasant villages which skirt the metropolis, the horse-ponds remain, some of them in a shocking condition: these might be with great advantage filled; horse-troughs properly placed and supplied; and the site of the ponds planted and converted into village-greens. Although the pool at Highgate is not so dirty as others, it may be taken as an example of an old fashion, of unsanitary nature, being allowed to exist after the need for it has ceased.

During the months of January and February of the present year, diphtheria and typhus fever have been more than usually fatal; and, in most of the cases which have been carefully examined, the occurrence of these deadly phases of disease is clearly to be traced to sanitary neglect, even in districts otherwise naturally healthful. A remarkable instance is reported by the registrar-general. In one week four deaths from malignant diphtheria occurred in the sub-district of Lewisham, of which three were in one family, an innkeeper's, at a place called Southend. The local registrar adds, that five deaths have occurred in the same family within a fortnight; and the mother who had suffered such a severe loss informed the registrar that, about two months ago, a part of a large pond, near the house, had been emptied; and that, when the same pond was cleansed about two years ago, typhus raged to a frightful extent in Southend; a hamlet containing 300 persons; and as many as forty in that small population had been affected by it. The condition of this pond should be looked after; for perhaps it may be found that sewage, or other dangerous matter, passes into it.

A proper consideration of collections of stagnant water is worth the most careful notice of the parish and other officers whose duty it is to watch over the public health, not only in the suburbs of the metropolis but throughout the rural districts. Often ponds are formed in disused gravel and clay pits, and are left open from sheer carelessness; although, by a little contrivance, the rubbish necessarily taken from one part might be as well shot into such spots as elsewhere.

Next to sanitary precautions, the hospitals for the treatment of fever may be considered a chief means of rendering less fatal the attacks, and preventing the spread, of the pestilence. Amongst the most valuable of these is the London Fever Hospital, which has for some time past been crowded with patients; and it is with regret that we learn that part of the medical staff and some of the nurses have been stricken. An institution such as this ought to be most liberally supported; but it seems that, owing to the narrow supply of funds, it has been necessary to tax the energies of the limited number who devote themselves to the duties of this hospital beyond their power; and to this may chiefly be attributed the illness of the medical attendants and the nurses. We trust that exertions will be made which will prevent this unsatisfactory state of things from being continued.

Some remarks were made by Dr. Lankester on the causation of typhoid fever, at a recent meeting of the Association of Metropolitan Medical Officers of Health, to which we may briefly refer.

When typhoid fever, he remarked, once established itself in the community, the highest in the land could not be shielded from its deadly influence. If neglected amongst the poor, it failed not to attack the rich. He then gave a sketch of the history of continued fever, and the gradual recognition of the fact that typhoid was a distinct fever, originating in different causes from those of other continued fevers. Although this fact was now very generally recognized amongst persons capable of understanding the philosophical principles of causation; yet there was a difference of opinion, amongst those who had studied the subject most attentively, as to the *nature* of the cause. Dr. Murchison had very properly called attention to the almost constant relation between typhoid fever and foul sewers and drains, and hence had called it pythogenic fever. It had hence been inferred that animal and vegetable refuse, more especially night-soil, had the power of generating an organic poison, which, entering the blood, produced typhoid fever. On the other hand, Dr. William Budd, of Bristol, after a very attentive study of several outbreaks of typhoid fever, had come to the conclusion that the discharges from the bowels, and the discharges from the bowels alone, were the exciting causes of typhoid fever. Taking it for granted that the origin of smallpox was specifically the same under all circumstances, he maintained the same to be true of typhoid fever.

Dr. Lankester appears to adopt the idea referred to, but of which Dr. Budd was by no means the originator. It does appear to be inconceivable, however, why typhoid fever, if it once *originated*, should now be always *communicated* by discharges from the bowels of patients previously affected with typhoid fever, and never *originate anew*, as it once must have done. That bowel discharges of human beings are capable of producing such fever, we could readily admit; and, indeed, this is just equivalent to saying that cesspools, and bad drainage, &c., are its cause; but we do not understand *this* merely to be Dr. Budd and Dr. Lankester's theory. On either view, however, the removal of cesspools and the improvement of drainage are essential to prevention of such fevers.

In examining the theory of the spontaneous origin of typhoid fever, Dr. Lankester drew attention to the fact that many fevers were of malarious origin; and that animal and vegetable substances in a state of decomposition had the power of engendering disease. He pointed out the connexion between putrid states of the air and pyæmia, erysipelas, and puerperal fever. He thought there was not sufficient evidence to show that any of these causes could *produce* a disease which could afterwards be maintained by a poison generated in the body alone. This was the point involved in the question of the causation of typhoid fever. He then invited attention to the question of the predisposition of the individual to take the poison of typhoid fever. He thought the evidence very conclusive that exposure to emanations from decaying night-soil, and the contents of drains and cesspools, *did* produce a state of the system *favourable to* the development of typhoid fever, *when* its poison got access to such persons.

In conclusion, he stated that, whatever might be the view theoretically adopted by medical officers of health, in their action they should employ preventive agencies which would cover the issues of both theories. The excretions from the bowels of typhoid fever patients should be immediately subjected to such disinfecting agents as chlorinated lime and permanganate of soda or potash; and all animal refuse, especially night-tations, or reduced to a condition, by charcoal, mould, or other agents, in which those changes cannot go on which give rise to disease.

In regard to typhus fever, there is one remark we would wish to impress upon our readers before concluding this article. It is well known that overcrowding is a leading cause of the occurrence of typhus and other fevers. Now, it is chiefly amongst the poor that overcrowding, in all its horrors, usually occurs; but the influence of overcrowding, in the production of typhus, just means that too many human beings, breathing in too small a space, or in too close an apartment, fail to breathe a sufficiency of fresh air to sustain a healthful vitality in their blood. The re-breathing of already breathed air—whether from one's own lungs or those of his fellows—is not only disgusting in idea, but positively evil in its effects; while the mere want of pure air is only negatively, however powerfully, so. It requires little consideration to perceive, then, that it is not in the haunts of poverty alone that the way for typhus fever is prepared. Wherever human beings reside, and above all, wherever they sleep, in close apartments, however "snug and comfortable,"—or rather, especially where there is such snugness,—there *virtually* exist overcrowding and all its malign influences; even though the apartment be only occupied by one or two persons. Wherever human beings congregate in crowded assemblies, however splendid; or in crowded ball-rooms and theatres, however gay and delightful for the time being; if these places of assembly be not thoroughly well ventilated; there, every one breathes the offensive vapours thrown off the lungs of others as well as his own; and there the nidus of typhus is being prepared and its seeds sown;—in predisposition, at least, to be seized by it on the first opportunity. Draughts are to be avoided certainly; but so is foul air; and foul air may pervade the finest and otherwise the most cleanly of dwellings, and produce all the dangers and evils of the most squalid overcrowding in the closest and vilest of slums throughout a city. This is a question, therefore, which quite as deeply affects the west end, as the east of the metropolis; and perhaps the only counteractive advantage on the one hand is the abundance of the good things of life which sustain the system, while poverty and starvation constitute additional predisposing causes of typhus on the other. The richest provender, however, will never compensate in this case for want of perpetual fresh air; and especially during sleep; for by day doors *will* open and rushes of air *will* come in, even though excluded with the greatest and most foolish care. Food of too rich a character brings with it other evils which sadly diminish its advantages; but of these it is not our purpose at present to treat.

SUGGESTED SITE FOR THE PRINCE CONSORT'S MEMORIAL.

THE suggestion made in our last, by "One of the Mansion House Committee" (we may as well say at once Mr. Charles Hill, F.S.A.), to place the proposed memorial on the site of the Round Pond, Kensington Gardens, the centre of a noble amphitheatre, led up to by numerous splendid avenues, is finding favour with those who have power. A writer, signing himself "Archimedes," has appropriated the idea, and imposed it as his own on our usually wide-awake and all-informed contemporary the *Times*; who has given it the honours of large type and prominence.

PROPOSED ALBERT MEMORIALS.

The National Memorial.—The sum now subscribed amounts to about 40,000*l.* Subscriptions have come in but slowly since the appointment of the Queen's Committee. A much larger sum than what has been yet collected will be required to obtain and erect a monolithic obelisk of such a size and with such sculptured accompaniments as could alone excuse the adoption of that form. Several propositions have reached us as to the shape the national memorial should take; but this having been settled by the letter from her Majesty, it is unnecessary to discuss it. One writer suggests a pyramid of granite, like that of Caius Cestus at Rome. "Appropriate sculpture and statuary could be placed at the angles: the adjacent ground might be laid out in broad walks, with avenues of trees or shrubs, adorned with seats of a fitting form, and protected by a bronze railing. The blocks of granite for construction should be of the largest dimensions compatible with transport; the colour grey in preference to red; or a judicious mixture of both might be allowable. The largest of obelisks would not present so imposing a mass as a pyramid; nor would the expense and labour of one be greater than the other."

Plymouth.—At a public meeting held here, it has been resolved to erect a new Museum in connexion with the local Athenæum, and dedicate it to the memory of the Prince. A committee has accordingly been appointed, and other arrangements made with that view.

Bath.—The committee of the Bath United Hospital have subscribed upwards of 600*l.* towards the fund for the erection of an additional wing to the hospital, as a permanent memorial to Prince Albert, and more than 1,000*l.* has been collected towards the object.

Bridgwater.—The inhabitants of this town have resolved on erecting a town-hall and lecture-rooms, as a local memorial of the Prince, with a suitable inscription in front of the building. The cost will be about 2,000*l.*

Yeovil.—Upwards of 275*l.* of the 300*l.* called for to carry out the local memorial here have already been obtained.

Maidstone.—At a public meeting in Maidstone it has been resolved, in the midst of some difference of opinion as to a local memorial, to aid the central monument; and subscription lists have been opened to carry out this object.

Jedburgh.—An active canvass is going on here, as elsewhere in Scotland, in aid of the Scottish National Memorial.

Dublin.—The Lord Mayor of Dublin wrote a letter to Major-General Grey, with a view to obtain her Majesty's sanction to a suggestion which has met with much approval among the

citizens, that a statue of the Prince Consort should be erected in the Irish capital. In reply, General Grey, on the part of her Majesty, expresses the gratification which the proposal has given her Majesty, who assures them of her heartfelt concurrence in it, and of her best wishes for its successful accomplishment.

Belfast.—A local memorial has been resolved upon here, and a committee has been nominated to receive subscriptions and make all the necessary arrangements. It is contemplated, according to the local *Newsletter*, that the memorial in Belfast shall take the form of a tower or pillar of lofty proportions; and Dr. Cook suggests that it should be erected on the most prominent position in the neighbourhood of the town—the Cave Hill.

COMPETITION.

THE committee for the erection of the proposed new Congregational Chapel and Schools, at Plymouth, have selected the design marked "Utile Dulci," submitted by Messrs. Paull & Ayliffe, of Burnley, under whose superintendence the works are to be carried out forthwith. The second premium has been awarded to Mr. Tarring, of London. Thirty-six designs were sent in.

MACHINE-MADE BRICKS.

THE brick-making machines of Messrs. Henry Clayton & Co., to which we have before now pointed attention, are getting into very general use.

We have received the following report of the testing of some hand-made and machine-made bricks, by hydraulic pressure, recently conducted at the request of the Metropolitan Board of Works—with Messrs. Burton & Co.'s press.

All the bricks were bedded upon a thickness of felt and laid upon an iron "faced plate."

	Pressure to Crack.	Pressure to Crush.
	Tons.	Tons.
Good London "Grey Stocks"	12 00	14·00
The best "Paviours" that could be had	14 00	23 00
Red bricks, not fully burned	13·75	21·05
Red bricks, ordinary quality	13 00	26·25
Three white bricks, made by Clayton & Co.'s patent machinery, at Messrs. Brassey & Co.'s Works	17 05	41·05
Second test—Four white bricks of the same quality, made by Messrs. Clayton & Co.'s patent machinery	16 25	41·00

NOTE.—It is observable that with the machine-made bricks, after the first cracking, a greater weight was required to crush them than with hand-moulded bricks.

TELEGRAPHIC PROGRESS.

MR. CYRUS FIELD is now in England, according to the *Star*; bearing a dispatch from Mr. Seward to Mr. Adams on the important subject of an Atlantic telegraph. Mr. Lincoln's Government is prepared, it is said, to ask Congress to guarantee 2 per cent. upon a capital of 6,000,000*l.* or 7,000,000*l.* for twenty or twenty-five years, if England will do the same. A correspondent of the *Morning Post* describes a new system of telegraphy; suitable, as he urges, for an Atlantic telegraph; inasmuch as it provides relays of power, under water, from space to space, by means of a slow but continuous decomposition of moisture; so that the cable becomes statically charged, and is always so charged, and at any time capable of deflecting the needle in an instant. He calls it a "drinking cable." Retardation, which has hitherto been the chief obstacle in the way of long lines would thus be obviated. Meantime, it has been stated by Messrs. Glass, Elliott, & Co., the telegraphic contractors, that, with two trifling exceptions, which can be immediately repaired, every cable made and laid by them, amounting to 3,577 miles in all, containing 5,918 miles of insulated wire, is at the present moment in perfect working order. The question of a telegraph across the Atlantic seems to be now therefore ripe for solution; and we hope the means for its realization will be forthcoming without delay.——Direct telegraphic communication now exists between London and Constantinople; between which places signals have been sent, and counter-signals given, in a single minute, and messages interchanged with great facility and certainty.——The British Telegraph Company have commenced erecting poles at Swansea, under their Act of Parliament, in order to connect that town with the rest of their system throughout the United Kingdom. This system now comprises upwards of 400 stations, and forms a distinct link between this country and the whole of the north and south of Europe.

PROVINCIAL NEWS.

Windsor.—The plans for the new almshouses (an amalgamation of the various charities of that character) have been furnished by Messrs. Edgington & Tait, of Windsor; and certain building firms of the town and district have been invited to estimate for their erection. The old almshouses in Sheet-street, according to the local *Express*, will be purchased by the War Office; but those in Park-street, Sun-passage, and Peascod-street, will be submitted to public competition.

Colchester.—The committee for forming the new market, having advertised for tenders for draining the ground, constructing oak pens for sheep and pigs, and stands for fat oxen; paving the pens with hard bricks, and the roadways with Kentish rag, and gravelling the remainder of the surface; according to plans and specifications prepared by Mr. James Cooke, civil engineer; received ten tenders, the lowest of which (1,140*l.*), by Mr. Hum, of this town, builder, has been accepted. The tenders were as follows:—

1.	Sawyer (London)	£1,953	0 0
2.	Parker (Colchester)	1,800	0 0
3.	Rayner & Runnacles (Halstead)	1,521	10 0
4.	Start (Colchester)	1,513	0 0
5.	Hawkins (Monks Eleigh)	1,444	0 0
6.	Lee & Baker (Colchester)	1,406	10 0
7.	Dobson (Colchester)	1,357	15 0
8.	Orrin (Colchester)	1,348	10 0
9.	Strickson (Hinxton, Cambs)	1,150	0 0
10.	Hum (Colchester)	1,140	0 0

The surveyor's estimate was a little over 1,200*l.* The work will be commenced almost immediately. The levelling of the ground is now nearly completed.

Bellingham.—A new Town Hall has been inaugurated at Bellingham, amid the rejoicings of the inhabitants of that district of North Tyne.

SCHOOL-BUILDING NEWS.

East Donyland (near Colchester).—The foundation-stone of a new parochial school has been laid in this village. The school was designed, and will be built, by Mr. Grimes, of Colchester. It will consist of a school-room 40 feet by 18 feet, and a class-room 10 feet by 13 feet, with a gallery: they will be paved with wood blocks; and the roof will be open, with cross ties. The exterior design is Gothic; the principal material being red brick, with stone weatherings; and the mullions of the windows will be of white squint bricks (in lieu of stone) grooved to receive rough plate-glass in large squares. The cost of the building is estimated at about 450*l.*

Yeovil.—The foundation-stone of infant and Sunday new schools has been laid at Yeovil. The site chosen for the building is in South-street, distant about 200 yards from the Trinity Church. The edifice was designed by Mr. C. Benson, and will be built in the Early English style—corresponding with the architecture of Trinity Church. It will consist of a school-room, 76 feet by 30 feet, which will be capable of accommodating 300 infant week-day scholars; a class-room 18 feet by 13 feet; a cloak-room, lobby, &c. Under the school-room there is to be a play-ground built, for the children in wet weather, and there will be a large yard behind. A dwelling-house for the mistress of the school is likewise to be built; and altogether the erection will cost 1,400*l.* Mr. Chant is the builder.

CHURCH-BUILDING NEWS.

Dun's Tew (near Banbury).—The parish church of Dun's Tew has been opened for Divine service. The expenses of the repairs and renovations, which are not far short of 2,000*l.*, have been borne by Sir H. W. Dashwood. The farmers, however, conveyed the stones and other materials. The church is in the early English style of architecture, and nearly the whole of the body and chancel have been rebuilt. The arcade has been restored, retaining the old pillars, and a portion of the old screen separating the chancel from the chantry has also been retained. The roof and seats are new, the latter open and in keeping with the remainder of the edifice. The singing gallery, formerly over the west entrance, has been pulled down, and a space of about 5 feet additional has been obtained in width at the north side of the church. The pulpit, altar rails, and cloth and other fittings, are new, including the cover of the font. An old piscina at the east end, formerly embedded in the wall, has been brought out. Two of the windows are entirely new, and others have been restored, Messrs. Peyton and Bell supplying the stained glass part of them. At the entrance of the chancel are on either side busts of her Majesty and the Bishop. The heating apparatus was manufactured by Haden, of Trowbridge. The church will now accommodate 328 persons, including the school children. Mr. Scott, of London, was the architect employed.

Winchester.—Workmen have been employed, under the direction of Mr. John Colson, the architect to the dean and chapter, in excavating the ground at the west end of the cathedral, with a view of ascertaining how far the ground may be lowered without interfering with the remains of the ancient building. During the excavations the workmen have discovered foundations of enormous thickness, indicating that either the Saxons or Normans have extended another bay westward, or that there were once two large towers at the end of this building. It is said to be the intention of the dean and chapter to form a carriage way from Market-street to the western entrance of the cathedral, and to protect the three porches with an ornamental iron railing on two steps, running the whole width of the west front: the passage at the south-west angle is also to be widened, and the modern walls removed so as to expose the massive ruins in the adjoining garden.

Collingbourne Kingston (Wilts).—On the 18th ult. the parish church here was reopened, after having been closed for seven months in order to undergo a much-needed renovation. A sum (including the value of old material, estimated at 200*l.*) considerably exceeding 1,500*l.* has been expended on the restoration. Mr. John Colson was the architect employed. The Norman arcade, of the eleventh century, by the removal of the high and irregular pews by which it was surrounded, has been brought out, and the thick stone pillars have been restored. The chancel arch has assumed its former proportions, and light Purbeck marble shafts, supporting foliated capitals, introduced by the vicar at the suggestion of Mr. Colson, have been added. An unsightly gallery, obtruding on the arches of the arcade, has been removed; and the belfry floor has been converted into a baptistry, the Marquis of Ailesbury having given 100*l.* for this purpose. A ringing-loft has been constructed above the western window and tower arch, to which there is access by a door cut through the tower wall, from the outside. There is a new font and a carved screen, worked from the drawings of Mr. Colson, and both bearing appropriate Scriptural inscriptions. The chancel, which is in the hands of appropriators, unfortunately has not participated in the restoration.

Blockley (Worcestershire).—The stone-moulded arches in the parish church have been freed from colour and whitewash.

Cheltenham.—The church lately erected in the new suburb of St. Mark's, Cheltenham, has been consecrated. It is designed to accommodate 517 persons, 267 free. It is in the pointed style of the fourteenth century, and consists of a chancel, nave, and tower; though the latter, owing to a want of funds, has not yet been erected. The chancel is 33 feet by 20 feet; the nave 74 feet by 44 feet, and 48 feet in height. The roofs are open, and the timbers stained. The seats are open, uniform, and lightly varnished. The architect was Mr. J. Middleton, who has given his services gratuitously.

Chester.—The raising of the tower of St. Mary's Church is now finished, as far as the masonry work is concerned. Mr. James Harrison was the architect, and Mr. Hitchen the contractor. The total expenditure on the improvements and restorations will exceed 1,600*l.*

STAINED GLASS.

Welsh Newton and Dixton Churches, near Monmouth.—A stained-glass window has just been placed in the east end of the parish church of Welsh Newton. It was presented by Mrs. Catherine Marriott of the Callow Hill, and consists of two lights, with a large circle in the head. In the lower lights is represented the baptism of our Lord by water together with that other "baptism" that He had "to be baptized with,"—the agony in the garden &c. In the circle is a representation of the passage of the Israelites through the Red Sea, as the type of baptism. The window was executed by Messrs. Powell, of Whitefriars, Fleet-street, from cartoons by Mr. Richard Holmes, from the design of Messrs. Prichard & Seddon, the diocesan architects for Llandaff.——A stained-glass window, of two lights and quatrefoil above, was also lately placed in the parish church of Dixton, near Monmouth, at the cost of Mr. J. E. Powles, of Monmouth, from the designs and cartoons of the same architects, executed by Messrs. Lavers & Barraud. The subjects represented were the miracles of healing the son of the widow of Nain, and th

daughter of Jairus; and in the quatrefoil a jewelled cross, surrounded by the passion-flower, on a grisaille ground.

Lilleshall Church (*Newport, Wales*).—A window of stained glass, designed and executed by Mr. O'Connor, of London, has just been placed in the parish church of Lilleshall, near Newport, by the vicar and other inhabitants, in memory of the late Duke of Sutherland. The window itself is an Early Decorated one, with two lights, belonging to the north aisle of the church, built about A.D. 1320, and restored in 1856, under the direction of Mr. Norton, the architect. There are six subjects, represented in six medallions,—three in each light. They are intended as illustrations of six out of the seven Beatitudes recorded in the Gospel according to St. Matthew, v. 3-8, and have reference to our Lord's life on earth, or to His teaching by parables. Thus the parable of the Pharisee and Publican illustrates the Poor in Spirit; the parable of the Good Samaritan—the Blessedness of the Merciful; our Lord washing His disciples' feet—the Blessedness of the Meek; the child placed by our Lord in the midst of His disciples—the Blessedness of the Pure in Heart. The two upper medallions represent—the one Martha and Mary at the tomb of Lazarus, illustrating the passage, "Blessed are they that mourn;" and the other, our Lord talking to the woman of Samaria of the living water, which He was come to give to those who hunger and thirst after righteousness. Another memorial to the late Duke of Sutherland, in St. George's (a district partly taken out of the parish of Lilleshall), is also hastening towards completion,—the memorial church designed by Mr. Street, architect.

THE EXHIBITION ROAD ACROSS HYDE PARK.

MR. COWPER, last week, submitted in committee an estimate, amounting to 2,000*l.*, for a temporary road in Hyde Park. The proposed line of road would enter Hyde Park at Bayswater, through the Victoria Gate, and make use of the existing carriage-road until it approached the bridge over the Serpentine. Then carriages would be enabled to proceed over that portion of the bridge which was at present exclusively confined to the use of riders, and along the south side until they reached Rotten-row. There they would take less than one-half the road, passing to the west down Queen's-gate. There they would leave the park, and proceed to the Exhibition building down Prince Albert's-road. The road would be 35 feet wide, excepting at the bridge, where 30 feet might be sufficient. They would take 30 feet for the carriages, and 17 feet would be left for the foot-passengers. The whole distance was more than half a mile,—about 1,100 yards, with a width of 35 feet; and the cost, at 3s. 3d. per square yard, would make the sum of 2,000*l.* It was proposed that the road should be open to all carriages employed to convey passengers to the Exhibition. They proposed that hack cabs and omnibuses should have free use of this road. It would not be open to carts or waggons, but it would be open to any human beings proceeding in vehicles to the Exhibition. The riders on Rotten-row would not suffer much inconvenience from the proposed road. After some discussion, the vote was agreed to by a majority of 78 to 28.

THE ROYAL ENGINEERS.

SIR,—A subject which for a very long period has been agitating many minds is the present constitution of the Royal Engineer Department; and, although you observed, in noticing some pamphlets lately published, "into the merits of the subject we need not at present re-enter," I trust you will afford me space for the following view of the matter, which has been almost lost sight of in "the incompetency of the military officers," and "the injustice to the civil officers" of that department.

The country pays for each engineer officer up to the time of leaving Chatham, when merging from youth to manhood, not less than from 400*l.* to 450*l.*

Admitting, as was stated by "Not a Sapper," in the *Army and Navy Gazette* of 22nd ultimo, that officers of engineers are "the élite of the educated youth of England;" assuming also that they have genius and abilities above other men; three years is the shortest period in which one can acquaint himself, in even a superficial manner, with the professions of architect, surveyor, and civil engineer; as, up to this time, he has had but "less than a month for a course in practical architecture," including surveying and civil engineering. During these three years he will have received in pay and allowances not less than 600*l.*; which, added to the 400*l.* or 450*l.* before alluded to, gives us 1,000*l.* as the cost of one; and, taking the present number of officers at 382, we find that they have cost the country, at a low computation, 382,000*l.* Let us now see what is given in return.

If barracks are required fit to be seen and occupied, designs are procured from Mr. Morgan (for Chelsea), Mr. Salvin (for Dover), and Messrs. Wyatt (for Nottingham).

If the foundations for a fort have to be built in the water or at Spithead, Mr. Hawkshaw, C.E., is engaged.

If a church is to be built at Aldershott, Mr. Hardwick is selected to design and carry out the same.

If a system of water-supply or drainage for a camp be required, Messrs. Simpson and Bazalgette are intrusted therewith.

If an innovation on the old and absolute theory of fortifications be suggested, who makes the suggestion? or if any criticisms on our land fortifications remain unanswered, whose are they: Mr. Fergusson, the architect, can tell us.

And at last, for fear of asking too many such questions, when a monumental arch is to be erected in memory of officers and men of the corps of Royal Engineers who fell in the Crimea, who furnishes the design and carries it into execution? Mr. Digby Wyatt.

With such instances of what the corps' officers can or cannot do, I come to the conclusion that we pay them, and get little or nothing in return; and I ask myself if it be not possible for the Secretary of State for War to obtain real architects and real engineers without paying for their education? whether admission into the Royal Engineers (if the officers are to be continued in civil appointments as at present) should not be by public competition open to the whole country, with the candidates educated at their own or their friends' expense? If so, then I call on every professional man in the country to make a stir, and contribute his share of exertions towards rooting out what is now a scandal and abomination in the land, and concerning which the worst has not yet been said.

MINUTE GUN.

Books Received.

A Manual of Civil Engineering. By WILLIAM JOHN MACQUORN RANKINE, C.E., LL.D. &c. Regius Professor of Civil Engineering and Mechanics in the University of Glasgow. London: Griffin, Bohn, & Co. 1862.

As if answering some who have asked where are the confines of civil engineering, Professor Rankine says,—"With the exception of harbours, most great engineering works are long lines of communication, such as railways, roads, and canals;" nevertheless, in his manual he includes the science of hydrostatics, of hydraulics; observations upon the direction, velocity, and height of waves; inquiries upon the influence of soil and climate upon the growth of trees; notes upon the structural character and chemical constituents of stone; processes of preserving stone; notes on diving-apparatus, on masonry, artificial stones, cementing materials, brickwork, and earthwork; on carpentry; on metallic structures; modes of reducing drawings by photography, by pantographs, by eidographs; modes of engraving and lithographing; modes of supplying towns with water, of laying down sewerage; of perfecting drainage, fencing, paving; processes of reclaiming land; methods of constructing coast defences, deep-water basins, scouring-basins and docks, piers, quays, lighthouses, breakwaters, reservoirs, wells, pumping-works, canal-aqueducts, canal-locks, canalized rivers; notes on astronomical refraction; methods of forming underground and submerged structures—shafts or pits, drifts, mines, or headings, tunnels in dry fissured rock, tunnels in soft materials, tunnels in mud, tunnel fronts; foundations on iron platforms, on short piles, on bearing screw and sheet piles; methods of excavating under water, of dredging and blasting;—notes upon lead, zinc, tin, alloys of tin, copper, bronze, brass, gold, auriferous steel; on the strength, resilience, rigidity, elasticity, compressibility of various materials. On all these subjects the best authorities have been consulted with due acknowledgments, and, where permitting of it, mention is made of the most recent inventions and discoveries.

The best, or the worst, of such a compact compression of the science of engineering as this is, seems to be that it tends to the easy acquisition of a great deal of showy information which might pass current for better-grounded study. Thus the perusal or consultation of this Manual of Engineering would answer all the purposes of "cramming," previous to an examination: that is to say, a great deal might be learned from it with very little effort. This comprehensiveness, a gain in some respects, is a drawback in others; for a student who has mastered the Alpha of Engineering Geodesy, and is wading towards Omega, through calculations of strain, stress, and strength, would weary of the printed companionship of early acquired facts,—cut and dried, and packed away in the smallest possible space though they be. How far round the cycle of study herein condensed would a man care to carry tht information, that "when a tracing has been made on thin paper, other copies can be made on thick paper, by rubbing the lower side of the tracing with black lead, or putting a sheet of black-leaded paper below it, laying it on the thick paper, and passing a smooth-pointed instrument all along the outlines of the tracing?" Thus, by endeavouring to include everything, much is included that will be absolutely burdensome after a student has made a fair start: on the other hand there is no doubt but that the professor has called in both French and German, as well as English fields, a large amount of information, and garnered up useful hints, to facilitate operations that will be serviceable to many. As an instance of this, among minor matters, those who have experienced the inconvenience of finding their paper curl up when out surveying or sketching, will be glad to learn a simple mode of obviating the difficulty:—"To protect the paper against the effects of the alternate moisture and dryness of the air, Captain Siborn recommends that its lower side should have spread over it the beat-up white of an egg before it is laid on the board."

The first part of the Manual very properly relates to surveying and setting out of works, comprehended in the term engineering geodesy, or field-work. Under this head we find six chapters detailing methods in surveying with chain and arrows, the use of offset and cross staffs and platometers, surveying by angular measurements with the use of the theodolite and the sextant; of levelling by the barometer, thermometer, spirit and water levels; of setting out. So long a list of authorities is appended to this section of the work that we should quite lose sight of the professor if it were not for a claim he advances to the authorship of the method of setting out circular curves by angles at the circumference. By this method circular curves can be set out as quickly and accurately as straight lines. "It depends on the well-known principle that the angle subtended by any arc of a circle at any point in the circumference of the same circle, is one-half of the angle subtended by the same arc at the centre of the circle." Our author adds in a note that methods of setting out curves by the theodolite had previously been employed by Captain Vetch and Mr. Gravatt, but they have never to his knowledge been published. His own method of setting out curves was published for the first time in a paper read to the Institution of Civil Engineers in 1843.

The second part of the work is divided into six chapters and subdivided into twenty-seven sections, and treats of materials and structures—their stability and strength. It contains a summary of the principles of the balance of single forces and couples—the resultant and balance of forces acting in one straight line, resultant of two and balance of three inclined forces, resolution of a force, &c.—examples of weights and centres of gravity, a classification of strain, stress, strength, working load and fracture, examples of the action of a transverse load on a beam—shearing stress and bending moment, determination of the resilience of beams, resistance of beams to cross breaking and crushing by cross breaking, &c. &c., all condensed as by some hydraulic process, and arranged in the regular order due to subjects so nearly allied to machinery.

Dwelling upon the durability of stone, experience is cited as the only sure test of this; and a recommendation is given to examine other buildings formed with the same stone before using it, more especially those of an old date. This is all very well; but suppose the works requiring the stone are in a new country—California or British Columbia for instance—where there are no buildings of some centuries standing: what is to be done then? The strength of stone can be tested by experiment, but the question of its durability is a problem that hitherto time only has been able to solve. Part of the secret of durability consists in rejecting bad stone at the quarry mouth. Contractors sometimes regard too highly the cost of quarrying indifferent stone to get at the better; and, to prevent what they consider waste, cart both away together and use them indiscriminately. Masons prefer a stone that will work well to a stone that will last well. The oolite, of which some of the Oxford colleges are built, is crumbling away; while that of which Christ Church Cathedral, in the same city, is built is in good preservation. The stone of which the Houses of Parliament are built is decaying in patches; while that of the Geological Museum, in Jermyn-street, taken from the same quarry, is at present tolerably sound.

Civil engineering, even as presented in a manual, is not without a picturesque aspect. Who can read of felling timber, cedar for instance, without a thought of the Druse villages of the Lebanon; or of the white and yellow pines, the black and red larches, without conjuring a fragrance upon the page as of a mighty Canadian forest? The mention of the patriarchal age at which oak should be felled suggests a green and golden glade strewed with leaves and acorns. "Oak comes to maturity at the age of a hundred years;" so five

generations of merry children may grope in its flickering shadow for fairies' cups; and five generations of blooming maidens keep tryst beneath its gnarled branches, before it is ready for the axe; for "it should not be felled before the sixtieth year of its age, nor later than the two-hundredth."

Iron enters largely into most engineering operations. It is, therefore, a matter of moment that its qualities should be well understood. We have recently all heard, in the inquiry upon the cause of the fearful calamity at the New Hartley colliery pit mouth, that a hollow space was found in the beam near the fracture. These air bubbles are of frequent formation, and can only be detected by ringing with a hammer: they should be carefully sought, as castings containing these are always unsafe. But it is ascertained that iron is liable to a change in its qualities: under some circumstances it will lose its fibrous structure and toughness, and become crystalline and brittle. This is still open ground for inquiry and experiment, for there is much diversity of opinion on the subject. It is believed that a sudden shock will have this effect: some persons go further, and think the vibration of ordinary wear has the same results; others again discredit the fact of any such change. The mention of this will bring to mind—referring again to the Hartley accident—that the beam there had received a sudden shock about a month previously, which shock may have wrought some such change. The Professor has made some inquiries on this score. Some time ago he made a collection of several journals of railway-carriage axles which, after two or three years of wear and tear, had broken spontaneously, by the gradual creeping inwards of an invisible crack at the shoulder. He found the fracture in each case to be fibrous, or almost wholly so, while other axles from the same works, when broken by the hammer "showed some a fibrous and others a crystalline fracture." Professor Rankine's own opinion is that iron should be as little as possible exposed to sharp blows and rattling vibrations. How far the wreck after wreck of the noble Hull iron steamships may be attributed to this liability upon the part of iron to become brittle is a question that might be gone into. A jar against a rock; the continuous vibration kept up in a storm by the force of the waves; or a collision with an iceberg, might be thus attended with deferred and hidden danger, if not with immediate fatal results.

There is another point we should like to have seen judiciously handled in that part of the work relating to metallic structures. It is, faulty construction which has been attended with fatal results; side by side with suggestions of what was required in each case to have prevented accident. Take the numerous casualties that have befallen the public from the faulty construction of suspension-bridges, both on the Continent and at home. A collection of facts—engineering facts,—such as the strength furnished and the force which demolished the fabric,—would constitute a table that would, perhaps, save risk to innumerable lives in times to come. Call to mind the terrible accident at Yarmouth; when the suspension-bridge, crammed with sight-seers watching a clown sail down the river in a tub drawn by geese, gave way, and the crowd was precipitated into the river. Or the case of the bridge of the Basse Maine, at Angers; when, just as several hundreds of soldiers were crossing it in close column, the suspending rods first gave way on one side and then on the other, and the whole floor of the bridge fell; carrying with it the troops; a greater portion of whom were either pierced through with the bayonets, or wounded with the guns of of their comrades, or drowned: how impressive to the student would be the calculation that could show the causes of these calamities. Or the case of the fracture of Balloch Bridge, near Loch Lomond, caused by the pattering of a flock of sheep over it. Or, again in France, when the suspension bridge over the Lot broke down as it was being repaired, and several men were severely injured and others were drowned. The faulty construction of French suspension bridges is admitted; and the failures of our own railway bridges are of sufficiently frequent recurrence to afford data.

The third portion of the work relates to combined structures,—lines of land carriage—such as roads, tramways; railways; works for the collection, conveyance, and distribution of water; works of inland navigation; and tidal and coast works. In the chapter on roads, after describing the various kinds of macadam under the head of broken-stone roads, our author says, "When mud forms on the centre of a road, it is to be removed by scraping; but, if the road be well made, of good materials, little of that work is required." The consequences of traffic do not appear to be here taken into consideration. In the metropolis, where these roads are formed of the best materials in the best manner, there is yet plenty of scraping required. In London, as at Newcastle, the authorities are beginning to discover from experience that syenite and granite road-paving are at once cleaner, more durable, and, in the end, cheaper than macadam. Rubble or boulder pavement, consisting of stones of irregular shapes set in a bed of sand or gravel, causes "great resistance to vehicles, is liable to irregular sinking, and requires frequent repair." To this we would add that observations of the effect of this pavement in towns show that whereas liquid slush of every kind is absorbed in the interstices in wintry seasons, it lies in countless sweltering pools in summer. The section relating to systems of drainage is too brief.

Equally sparse in their treatment are the chapters devoted to those very important branches of civil engineering—the system of water supply and works of inland navigation. Ten pages are considered ample for discussing the various details relating to the former,—irrigation, water supply of towns, storage works, springs, compensation waters, river works and pumping establishments, wells, purity of water, settling and filtration, distributing basins, town reservoirs, and distributing pipes; and twelve pages, sufficient for the latter, are devoted to the study of the form, dimensions, and construction of canals, canal aqueducts, bridges, and tunnels, moveable bridges, canal-locks, and water supply of canals.

Page 753 brings us to the sections on waves and tides, coast defences, tidal channels and harbours, including, in reference to the latter section of the work, brief mentions—all in one page—of quays, piers, deep-water basins, and docks: this is followed by an appendix of tables of strength of materials, of British and French measures, of heaviness and specific gravity, and of squares and fifth powers of numbers. Page 777 gives us the Index.

It is in the departments last named that engineering has made the greatest strides. The new docks, both in England and France, would be wonders in any age: the rail has revolutionized commerce and transit: the waterworks of Glasgow rival those of the ancient world: the new tubular bridges have no precedent; but, in mining operations, engineering has made no corresponding progress. The cost of mining causes the price of the material excavated to be (according to the difficulties encountered) from five to twenty times that of the same quantity in the open air. To reduce this excessive cost, and, at the same time, to insure safety for the workmen, are problems at which the present generation and those to come may labour with profit.

The Manual is illustrated with views of the more important modern engineering works, such as the bridge over the Niagara Falls, the Britannia Bridge, the Crumlin Viaduct, Portage Bridge, over the Genesee river, and the Victoria Bridge, over the St. Lawrence; and it has a profusion of diagrams. The paper of our copy seems to mark the transition period between duty and no duty, as it is of two kinds, probably old stock and new—yellow and white.

Engineering is indebted especially to machinery for its rapid development,—a debt Professor Rankine only acknowledges by two impresses of a portrait of Watt on the outer covers of the Manual; for, coming to the last of his well-stored pages, we find he has made no mention, by description or diagram, of that magician of motive power—the steam-engine.

Miscellanea.

HULL TOWN HALL COMPETITION.—We are informed that the town council of Hull have awarded an extra premium of 25*l.* to the design by Messrs. Green & De Ville, for their new town hall, in consequence of Mr. Tite's favourable report upon it. The design was placed third.

THE MERSEY DOCKS AND HARBOUR BILL.—It has been determined by the Mersey Docks and Harbour Board to withdraw for the present the bill which they had deposited before Parliament, for the purpose of obtaining powers to raise and expend 1,000,000*l.* for the extension of graving-dock and other accommodation at the north and south extremities of the port. This resolution has been adopted in deference to the representations of the steamship owners.

CARLISLE NEW BRIDGE COMPETITION.—Several correspondents complain that they can obtain no information in reply to letters sent in compliance with an advertisement.

GAS IN CORSICA.—The Corsican and Mediterranean Gas Company has recently published their prospectus. They propose to supply Bastia and Ajaccio, the two chief towns of the island, with gas, and have obtained exclusive privileges from the municipalities for fifty years. At Bastia, which contains 20,000 inhabitants, the price stipulated to be paid for the street lamps is at the rate of 2·25 dollars per 1,000 cubic feet consumed. The price of gas to be consumed in the public offices and municipal buildings is at the rate of 2·75 dollars, and that for the general public at 3 38 dollars per 1,000 cubic feet. At Ajaccio, which is the capital of Corsica, and has about 16,000 inhabitants, the terms of concession are of the same character as at Bastia, while the prices are a trifle higher, and will remain so till the consumption equals that of Bastia.

NEW MACHINERY FOR DRESSING SLATES.—This invention, by Charles Edward Amos, of the Grove, Southwark, and John Francis, of Penrhynn, North Wales, consists, as described and illustrated by cuts in the *Engineer*, of a rectangular frame, which may be mounted on wheels. This frame is provided with a fixed knife, and also suitable bearings for a lever or "sword arm," which carries a moveable knife. The "sword arm" or lever is suspended by a spring or springs, so that when in a normal position the moveable cutting edge is raised above the lower knife edge, and the two edges resemble a pair of open "shears," and act in the same manner. A treadle-frame is attached by means of a link to a lever, which is upon the same spindle as the "sword arm," and the knife edges are brought together by the pressure of the foot of the workman; or, if desired, the machine may be worked by mechanical power, by applying power to the treadle-lever, or the treadle-lever may be dispensed with and the power may be applied direct to the "sword arm." The spindle of the "sword arm" is made adjustable to compensate for wear in the cutting edge and other working parts; and a gauge-plate with suitable marks or points corresponding to the different recognized sizes of roofing slates is placed on the framework; so that the rough slates may be laid in their proper places and adjusted with facility. If desired, a double set of shears or cutting edges may be employed, so that two sides of the slate may be cut, trimmed, or dressed at the same time; but this will not be found a convenient arrangement in practice.

SANITARY CONDITION OF NEW YORK.—The last yearly report of Mr. Delavan, the city inspector, has been laid before the common council of New York. The *American Gas-Light Journal* of 1st February contains a summary of it, to which we are indebted for the following quotations and particulars. The report says,—"Among the causes which have induced the increased mortality of the present over that of former years, may be cited the density of our population, the crowded condition of our buildings, and the want of proper arrangements to secure ventilation. In the upper part of the city, where the population is rapidly increasing, the fatal effects arising from the miasma of sunken and unfilled lots, from the pools of stagnant water with which many of them are filled, are to be seen in the records of our annual mortality." As to tenement houses, it is said: "An estimate has been made which places us in possession of the information that the mortality of those occupying these abodes, including infants and children, is as one to twenty. There seems to be no doubt of the correctness of this estimate; or, if there be any error, it is that the proportion of deaths is larger than herein described..... Such are the imperfections for the admission of light and ventilation, that in some places the sun is almost entirely excluded, and the air finds admission only from the doorway or the narrow passages leading to the rooms." In reference to sewerage and drainage, the proportion of deaths in the upper part of the city, east of Sixth avenue, has been greater, population considered, than in many other sections of the city. The cause of this disproportionate fatality, the report states, is directly traceable to the low and marshy grounds, and the want of an efficient system of sewerage and drainage to relieve the pools of their stagnant water. Another cause of unhealthiness proceeds from the unceasing work of tearing up sewers recently constructed, for repairs or rebuilding. And in addition to this, the custom is practised in too many instances of paving streets and avenues before they have been sewered.

RESIGNATION OF THE BATH CITY ARCHITECT. Mr. George P. Manners has resigned his office of City Architect at Bath on account of ill health. He had held it for thirty-nine years. The council unanimously expressed their regret for the loss of Mr. Manners's valuable services.

PREVENTION OF LARGE FIRES IN WAREHOUSES.—A new company is being established, called the London Sufferance Wharf Company, the principal design of which is to secure the preservation and safety of all goods deposited, by classification and separated arrangement. It is proposed to erect, on approved principles, a series of detached warehouses, on a site consisting of 26 acres of land, on the north bank of the Thames, near Blackwall, having a frontage to the river of 1,000 feet, and within half an hour's ride of the City, of which plans have been prepared by Messrs. Wadmore & Baker, architects.

CHARGES FOR STREET-WATERING. — At the Clerkenwell police-court a case has just been heard from which it appears that the New River Company agreed with the vestry of Clerkenwell to supply them with water, for the purpose of cleansing and watering the streets. They could not agree upon the price, the New River Company charging 239*l.* 17*s.*, whilst the vestry contended that they were only liable to pay 6*d.* for every 1,000 gallons of water. Mr. D'Eyncourt said: The only question in this case is whether the 41st section of the 15th and 16th Vict., cap. 160 (the New River Company's Act, 1852) regulates the charge to be made for supplying water for watering the streets, and excludes the operation of the 37th section of 10 and 11 Vict., cap. 17 (the Waterworks Clauses Act, 1847). I am of opinion that the matter in dispute is not within the 41st section of the company's Act, but comes under the 37th section of the Waterworks Clauses Act. That the case of watering the streets is not expressly excepted by the 41st section is obvious; neither, in my opinion, are the terms of that section so clear as to show any intention to exclude the operation of the 37th section of the Waterworks Clauses Act, which would otherwise govern the matter. Mr. Poland still asked the magistrate to fix the amount that was to be paid, but declined to produce any evidence. Mr. D'Eyncourt said evidence ought to be produced, and dismissed the summons for want of it.

HANLEY SCHOOL OF ART.—The annual meeting of this School has just been held, and the prizes distributed. The Mayor of Hanley was in the chair, supported by Mr. Copeland, M.P., and a large number of influential gentlemen interested in the welfare of the School. The body of the town hall and the gallery were also crowded. The report which was read stated that "the high state of proficiency at which the School has arrived is best seen in the fact that twelve works of the students were sent up to the national competition, and that the School has for the fourth time secured the highest number of awards which can be obtained; viz., five national medallions, as well as two honourable mentions." The report further stated that the committee had concluded the purchase of the school premises. The purchase had entailed a heavy money responsibility, and the treasurer was consequently considerably in advance (about 70*l.*). In seconding one of the usual resolutions, Mr. F. Bishop showed, from statistics laid before Parliament last year, that Hanley School stood pre-eminent. There were 70 schools, more than half of which, in 1860, did not obtain one medallion: 14 obtained one each: 10 obtained two each; 5 three each: 1 obtained four: 1 obtained five: none obtained six; and 2 obtained seven each; namely, Hanley and Sheffield. The population of Sheffield was then put down at nearly 200,000, and there were nearly 1,300 pupils; so that it was not surprising that it equalled Hanley. Birmingham, with 234,000 inhabitants and 2,000 pupils, obtained only one national prize: Bristol, with 173,000 inhabitants and 2,700 pupils, did not get one national prize; Dublin, with 250,000 inhabitants, two prizes: Glasgow, 400,000, obtained three; Leeds, with 172,000, none; Liverpool, with 350,000 inhabitants, one prize; Manchester, with 375,000, three national prizes; Hanley, 35,000 inhabitants, seven national prizes, being equal in that year with Sheffield. In the four years commencing 1857 and ending with the last year, Hanley beat Sheffield by one medallion, the former obtaining 25 and the latter 24. The chairman afterwards announced that Alderman Copeland had offered four prizes to the students; a first prize of 2*l.* for the best model of a handled cup and saucer; 1*l.* for a second ditto; 2*l.* for the best model of a jug; and 1*l.* for a second ditto.

WORCESTER HORTICULTURAL SOCIETY. — The design of Mr. Cranston, architect, has been selected by the directors of the Worcester Horticultural Society, for the erection of a pavilion in the Arboretum of that city. The execution of the work is to be tendered for.

MANCHESTER ARCHITECTURAL ASSOCIATION.—A meeting was held on Wednesday evening at the rooms, George-street, the vice-president in the chair, at which Mr. R. W. Aitken read a paper on "Geology," (with more particular reference to building-stone); which was followed by an animated discussion "On Atmospheric Influence in the Disintegration of Stone."

THE PROPOSED WELLINGTON MONUMENT, AT WELLINGTON.—A deputation, consisting of Mr. J. Hayward, and Mr. Gibbs, the architect of the monument, has asked the local trustees for their assent to erect this monument in the street opposite the Town Hall, Wellington. Another deputation opposes the application, on the ground of its being an obstruction. A committee was appointed to view the site, with a block the size of the base of the proposed monument, placed on it, to see its effect, and whether it was likely to be objectionable, and to report thereon.

THE COMMITTEE ON METROPOLITAN FIRES.—The House of Commons Committee on Fires in the metropolis have had meetings. Officers from the different dock companies have given evidence of the arrangements made in the docks for the suppression of fires. The arrangements they describe as quite sufficient for the purpose. The Metropolitan Fire Brigade they consider efficient as far as it goes, but inadequate for its work. Mr. Vulliamy, the architect to the Metropolitan Board of Works, and some other witnesses from that office, have given it as their opinion that the means of suppressing fires in the metropolis ought to be in charge of that Board; and that if the members were asked they would willingly undertake the duty.

ST. STEPHEN'S, WALBROOK.—Wren's "model church," St. Stepen's, Walbrook, has just had some appropriate additions made to it, in the shape of stained-glass windows, to the memory of Dr. Croly. Their execution was intrusted to Messrs. Gibbs & Co. There are four large windows, two at either end of the church, and thirteen smaller ones. The subjects of the large windows at the west end of the church are the Nativity and Baptism of Christ; at the east end, the Crucifixion and Ascension. The small windows at the north side are illustrative of the Parables of our Lord;—the Sower, Good Samaritan, Prodigal Son, Dives and Lazarus, Pharisee and Publican, the Ten Virgins, and the Good Shepherd. On the south side, the miracles represented are—Turning Water into Wine; Raising Jairus's Daughter; Restoring the Blind to Sight; Feeding the Five Thousand; the Pool of Bethesda; and Christ Walking on the Sea. The surrounding buildings interfere with the light of two or three of the windows.

MORGAN'S HOSPITAL, DUNDEE.—At a meeting of the trustees of this hospital, a report was read from a deputation sent to Edinburgh to visit the hospital there, and to consult with Messrs. Peddie & Kinnear, architects, as to their plan for the hospital. The Dean of Guild was one of the three gentlemen forming the deputation. Their report approved of the plan referred to, and stated that several of the Edinburgh hospitals appeared to be overburdened with elaborate and expensive architectural ornaments; and that the plan proposed seemed better adapted for the purposes intended than some of the expensive Edinburgh buildings. The under story had been dispensed with; which, from what the deputation saw in the Edinburgh hospitals, would be a great improvement upon the original sketches laid before the Court of Session. In consequence of this alteration there would be more extent of roofing; but that expense would be met by the saving in excavations, under building, and retaining walls. The cost of the proposed building was estimated at 11,800*l.*, being an advance on the original estimate of 1,500*l.*, of which 1,000*l.* is on account of the improvements of the plan, and the remaining 500*l.* is on account of the advanced rates of wages and materials, with gateway, enclosing walls, &c. The whole estimated expenses amounted to 12,810*l.* The design is in the Scottish baronial style. Mr. Peddie, who was present at the meeting, said, that since he had made his calculations as to the cost of the erection, certain alterations had taken place. He found now that the cost of the whole building would be about 13,250*l.*, while the original plan cost only 11,500*l.* The report of the sub-committee was approved of, and remitted back to the property committee to get working plans and specifications, and to report.

LECTURES IN THE CRYSTAL PALACE.—The introductory lecture of the series on art, at the Crystal Palace, was delivered by Dr. Kinkel, on Thursday afternoon, 6th inst., before an attentive audience. Architecture and painting in their origin and characteristics were the main subjects treated of, and the advantages of possessing some knowledge of them were enforced. The subsequent lectures of the course will take place, we understand, in the various courts of the Crystal Palace. This arrangement we have long urged.

NATIONAL SCHOOLS, MARKET-STREET, MAYFAIR.—An extensive school-house has been erected in Market-street. Mr. Heskett was the architect; Mr. Hayward, the builder. The school has cost about 6,000*l.* It is a substantial brick building, comprising three principal school-rooms, for boys, girls, and infants, with convenient class-rooms adjoining. The schools, which are in connexion with the National Society, and subject to the visit of her Majesty's inspector, will be amply sufficient for 500 children. Convenient residences for the master and mistresses are attached. The committee of council have co-operated with the promoters in the erection of these schools, and gave 1,400*l.*

"JUST TOUCH THE CONDUCTOR."—A correspondent (W. G.), complaining of the great difficulty of communicating with the conductor or driver of an omnibus, especially late at night, when the lamp is nearly out and the "bus" is full, and many of the riders are fast asleep, says:—"Several methods have been tried, some by means of air-tubes; but all seem to have been abandoned as soon as tried. Now, as the Exhibition is near at hand, would it not be a great convenience to the public, and very little expense to the proprietors, to make a direct communication by means of the ordinary bell-wire and pull, with the hammer striking on a bell similar to the clock; one handle being placed at the end, another about midway?"

THE COMING EXHIBITION.—Among the first of the British exhibitors who have taken possession of their allotted space is the Coalbrookdale Iron Company, who, during the last fortnight, have been laying foundations beneath the floor in the eastern transept of the Great Exhibition building, for the large collection they contribute. This will partake of the nature of a trophy of metal-work, and will comprise castings varying from the heaviest to the most delicate. Among them will be several statues and groups; also a large set of entrance-gates of an elaborate character; differing however wholly in design from the well-known gates in the Exhibition of 1851, which were afterwards presented by the same company to the Crown, and placed in Kensington Gardens. In this case the ornamentation is a union of Italian and Byzantine; the Prince of Wales' feathers forming part of the details, and the pillars being of pierced open-work, with a solid core surmounted by figures of Victory. The part of Shropshire where these foundries exist will also contribute, in an adjacent part of the building, a variety of ornamental and trade examples of pottery and terra-cotta.

NEW BATHS AND WASHHOUSES AT BIRMINGHAM.—The Corporation Baths, in Northwood-street, have just been completed and opened. The buildings, the estimate for which was about 7,600*l.*, have been erected under the superintendence of Mr. W. Martin, by Mr. J. Wilson. The engineer's work has been carried out under the superintendence of Mr. B. Purnell, by Mr. Haywood, of Derby; and Mr. W. Middleton sank and bored the well, and supplied the steam-engine and pumps. The whole of the buildings are erected of red bricks, with stone dressings, and in the Gothic style. The establishment is arranged in three divisions. The women's department comprises waiting-room, plunge-bath, six first and six second-class private baths, &c. The men's first-class department comprises twelve private baths, a large swimming-bath, 62 feet by 31 feet, surrounded on three sides by forty-seven private dressing-rooms, and the usual appendages. The men's second-class department comprises thirteen private baths, large swimming-bath, 68 feet by 32 feet, surrounded by twenty-four private dressing-rooms on two sides, and seventy-two open dressing-stalls on the other two sides, with necessary conveniences. There is a house for the resident engineer, with a gateway entrance on the side leading to the boiler and engine-house, washhouse, tank building, engineer's smithy, and workshops. The well will produce about 15,000 gallons per hour. The water is pumped into a large iron tank over the washhouse, capable of holding 16,000 gallons of water.

SURVEYORSHIP OF BASFORD.—Mr. J. B. Heard has been appointed to the office of surveyor and inspector of nuisances to the Basford Board of Health. There were nine candidates ballotted for, and the votes declared were as follows:—For Mr. Heard, 10; Mr. Saunderson, 6; Mr. Alderson, 1. The value of the appointment is said to be 150*l.* per annum.

THE TIMBER RESOURCES OF CANADA.—Canada exports annually about 30,000,000 cubic feet of timber in a rough state, and about 400,000,000 feet, board measure, of sawed lumber. The revenue derived by the province during the year 1860 for timber cut in the public forests, according to the *Canadian News*, amounted to about 500,000 dollars, or 125,000*l.* currency.

ST. THOMAS'S HOSPITAL.—A correspondent, J. A. J., suggests that on the east side of the south end of Waterloo Bridge, "exactly facing Somerset House, is a vacant space capable of enlargement at small cost, with frontage to the river and to the Waterloo-road, where the hospital might be erected corresponding to the noble and commanding elevation on the opposite bank, and would be one of the greatest ornaments of the metropolis." If the object we had in view were simply to erect an ornament to the metropolis, we might urge this too. But as we want a place of cure, we do not. It is asserted that the authorities are about to decide in favour of Potts's Vinegar-yard! Such a determination would prove that the said "authorities" rather require to be sent into hospital than to conduct one. Is there no outer power that can make itself heard on the subject?

EARLY USE OF ELECTRIC TELEGRAPH.—In a paper read at the last meeting of the Manchester Literary and Philosophical Society, Mr. Dyer pointed out the following extract from Arthur Young's "Travels in France" (2nd edition), London, 1794, which proved that electricity had been employed at that early date for the purpose of transmitting intelligence:—"In the evening to Mons. Lomond, a very ingenious and inventive mechanic, who has made an improvement in the jenny for spinning cotton. Common machines are said to make too hard a thread for certain fabrics, but this forms it loose and spongy. In electricity he has made a remarkable discovery. You write two or three words on a paper: he takes it with him into a room, and turns a machine inclosed in a cylindrical case, at the top of which is an electrometer, a small fine pith ball: a wire connects with a similar cylinder and electrometer in a distant apartment; and his wife, by remarking the corresponding motions of the ball, writes down the words they indicate, from which it appears that he has formed an alphabet of motions. As the length of the wire makes no difference in the effect, a correspondence might be carried on at any distance; within and without a besieged town for instance; or for a purpose much more worthy, and a thousand times more harmless, between two lovers prohibited or prevented from any better connexion. Whatever the use may be, the invention is beautiful."

BLUE LIAS LIME AND CEMENT.—The Keynsham Blue Lias Lime and Cement Company, (limited), have been incorporated under the Joint-Stock Companies Acts, 1856, 1857; with a capital of 50,000*l.*, in 5,000 shares of 10*l.* each. Deposit 1*l.* per share. The registered offices are at 2, Winchester-buildings, Great Winchester-street, E.C. The prospectus states that "this company has been formed for the purpose of working and fully developing the valuable deposits of blue lias lime-stone, gypsum, clay and other substances, underlying freehold and leasehold properties (at Keynsham), possessed by the company, and for the manufacture and sale of lime, cements, and manure. The properties (it continues) contain an almost inexhaustible quantity of the finest quality of blue lias lime-stone; the average thickness of the measures being 45 feet. From one acre alone, 72,600 tons of lime can be produced. There is also a bed of lithographers' stone, six feet in thickness, which covers an area of about eight acres. . . . . The company possess ten lime-kilns, which are built of solid materials and in a substantial manner, and are capable of producing 800 tons of lime weekly; or upwards of 40,000 tons per annum. The demand has been steadily increasing in the locality of the works, for building and agricultural purposes; and in other parts of the kingdom, for public works. . . . . A beneficial arrangement has been entered into with Captain Henry Scott, R.E., for the manufacture of his Patent Cement, which commands a ready sale; and for that purpose ten ovens are already in the course of erection. The area of the company's freehold properties extends over 53 acres."

THE "INSTITUTE" PRIZES.—The design for the president's prize, marked "Humber," which was "commended," is by Mr. Robert Clamp, of Hull. Through change of residence, letter as to opening envelope did not reach him.

THE NEW RAILWAY TO CHIPPENHAM.—The works of the Calne and Chippenham railway are progressing. At the Chippenham end, a viaduct, on wood piles, has been thrown across the river Avon, and pile-driving has been commenced in the meadow, called Eastmead, adjoining. Active operations are also being carried on near Calne, a number of additional workmen having been recently employed at that end of the works.

DARLINGTON.—St. Cuthbert's Church is in a ruinous condition, it appears; and the *York Herald* states that, owing to a serious increase in the apparent instability of certain portions of the foundations, it has been deemed prudent to close it for divine service. Certain of the pillars, together with the west front, are dangerously out of the perpendicular; whilst cracks and flaws abound throughout. A considerable sum has been raised towards the restoration; though the committee have not decided on the course to be pursued, or to what extent their funds will justify them in going to save the edifice from ruin.

METROPOLITAN WATER-SUPPLY; SOUTH ESSEX WATERWORKS.—We have before spoken of the abundant supply of pure water from the chalk at Grays. A bill has now passed through Parliament for supplying many of the towns of South Essex, and ultimately the metropolis, with this water; and the works are about to be commenced. There is a continual flow of 5,000,000 gallons a day from the fissures in the chalk-pits. Brentwood, Romford, Barking, and some other places in that district, are to be first supplied. Mr. Prestwich, the well-known geologist, has examined the ground, and is of opinion that the spring has its source from two large receiving grounds geologically connected, so that either contributes to the supply independently of the other. The fissures are practically artesian wells, and the chalk of the pits extends from Purfleet to Little Thurrock, and occupies a superficial area of about 5 square miles.

DWELLINGS FOR THE WORKING CLASSES AT MALVERN.—The movement for the establishment of a benefit building society at Malvern is progressing satisfactorily. The first meeting, which was very largely attended, was adjourned, and reassembled, for the purpose of forming a provisional committee and adopting other necessary matters of detail. The Lyttelton school-room was rapidly crowded with attendants, comprising a large number of working men; and the meeting had shortly afterwards to adjourn to the new concert-room. The chair was taken by Sir Henry Lambert. Various speakers addressed the meeting; and the following resolution was unanimously passed:—"That a provisional committee be appointed, consisting of gentlemen and working men, for the purpose of resolving whether an independent society should be established for Malvern, or whether a branch should be formed in connexion with some successfully-working society, and to draw up a constitution and rules." The committee, fifteen in number, was afterwards named, and other arrangements made, for carrying out the object in view, namely, the provision of convenient, comfortable, healthy, and cheap dwellings for the working classes of Malvern.

VITAL STATISTICS.—In the year 1861 the births in Great Britain were 802,598, and the deaths 497,624; so that the natural increase was 304,974. This is the largest number of births that ever occurred in any year in Great Britain, but not the largest number of deaths. Upon an average 2,200 children were born every day,—91 an hour; and 1,363 persons died daily, or almost one every minute. There is in Scotland a rather higher birth-rate and a lower death-rate than in England; and yet a much lower rate of increase in the population; showing that a much larger proportion of the people emigrate either beyond seas or to other parts of the United Kingdom. The returns show, as usual, how much the inhabitant of the town has to contend against agencies hurtful to life, from which his country neighbour is comparatively free: the difference is especially striking in Scotland; where, in the town districts, 24 persons in every 1,000 died in the year, and only 16 in the country districts—two in the country to three in the town. In Glasgow and Dundee very nearly half the deaths were of children under five; and the children in those towns were literally decimated in the year; for, as nearly as can be ascertained without the detailed census returns, out of all the children under five years of age about one in every ten died.

ST. MARY WOOLNOTH, LOMBARD-STREET.—It is rumoured that this fine church, the work of Nicholas Hawksmore, is threatened with demolition, a very large sum having been offered by the Post-office for the site. We will not believe that such an atrocious proceeding can be seriously contemplated by those who alone have power to perpetrate it under the Bishop of London's new Act.

LIVERPOOL.—The foundation stone of a new free church, to be dedicated to St. James the Less, has been laid on a site given by the Earl of Derby, and situate in Gore-street North, St. Martin's district. This church, when completed, will consist of chancel and nave, 90 feet long by 30 feet wide, organ chamber 20 feet by 20 feet, and south aisle 70 feet by 20 feet, with wooden bellcot over the arch which divides the two latter. As the ground falls towards the west end, a class-room 28 feet by 20 feet is obtained under that part of the aisle. It is only proposed to erect the south aisle at present as a mission chapel: the organ chamber will therefore in the meanwhile serve as a chancel. The aisle is divided into five bays by buttresses and two-light windows on the south side, or that next Cranmer-street; and the chancel into two bays, the north aisle being left blank for future enlargement in that direction. The height of the interior to the ridge is about 40 feet, and to the top of the wall 21 feet. The building is to be erected of brickwork, with stone dressings, and all the timber work to be of Baltic fir, stained and varnished. The Decorated is the style adopted. The present portion of the building is to cost 1,500*l.*, and is to be completed on the 1st day of September next. Mr. Tomkinson is the builder, and Messrs. W. & J. Hay are the architects.

LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.—The eleventh meeting of the present session was held on Wednesday evening, the 5th, at the Royal Institution. Mr. G. Goodall presided. A book on heraldry, printed in 1672, was exhibited by Mr. R. Isaacs. The paper for the evening was by Mr. E. A. Heffer, and was entitled "Hints on Design in Architecture." A vote of thanks was accorded to the author.

TENDERS.

For a new house at Streatham. Mr. R. W. Drew, M.A. architect. Quantities supplied by Mr. J. A. Bunker:—

Gammon	£2,340 0 0
Downs	2,322 0 0
Bartlett	2,085 0 0
Turner & Sons	1,889 0 0
Deacon	1,840 0 0
Trollope & Sons (accepted)	1,834 0 0

For the alterations at No. 75, Cornhill, for the Metropolitan and Provincial Bank. Mr. F. H. Fowler, architect. Quantities by Mr. Harris:—

Axford & Co.	£1,797 0 0
Rider	1,780 0 0
George & Son (accepted)	1,630 0 0

For partially rebuilding a warehouse, No. 23, Alderman bury, for Mr. F. Broughton. Mr. F. G. Widdows, architect. Quantities supplied:—

Green & Son	£2,309 0 0
Child, Son, & Martin	2,039 0 0
Axford	1,998 0 0
Ashby & Sons	1,979 0 0
Brass	1,940 0 0
Ennor	1,931 0 0
Browne & Robinson	1,866 0 0
Ashby & Horner	1,864 0 0

For the erection of coach-house and stables, Buckhurs Hill, Essex. Mr. J. H. Rowley, architect:—

Dyer	£275 0 0
Rivett	223 0 0
Outhwaite (accepted)	219 0 0

For house on Weybridge Common, for Mr. Cobbet Messrs. Mayhew & Knight, architects. Quantities no supplied:—

Welchman & Gale	£2,548 0 0
Bywaters	2,290 0 0
Thompson	1,884 0 0
Avess & Sons	1,798 0 0
Farley	1,729 0 0
Adamson & Sons (accepted)	1,725 0 0
Pearl	1,685 0 0

For Birkbeck Schools, Kingsland. Mr. Knightle architect:—

Patman & Fotheringham	£4,036 0 0
Watterbury	3,960 0 0
Lark	3,867 0 0
Pritchard	3,745 0 0
Hart	3,480 0 0
Foster	3,444 0 0
Newman & Mann	3,436 0 0
Wood	3,347 0 0

For a villa at West End, Finchley Road, for Mr. Marnan. Mr. D. A. Cobbett, architect:—

Ashby & Horner	£3,620 0 0
Mansfield & Sons	3,591 0 0
Conder	3,620 0 0
Dove, Brothers	3,496 0 0
Hill, Keddal, & Robinson	3,414 0 0
Newman & Mann	3,390 0 0

For a Saloon and Corridor, Paternoster-row, for "The Religious Tract Society." Mr. W. P. Griffith, architect:—

Mansfield	£769	0	0
Brass	730	0	0
Lawrence (accepted)	694	0	0

For building a bank at Oundle, for the Stamford, Spalding, and Boston Banking Company. Mr. W. Eve, architect. Quantities not supplied:—

Thompson & Ruddle	£1,985	0	0
Cosford	1,580	0	0
Boddington	1,538	0	0
Sneath (accepted)	1,390	0	0
Storer & Wright	1,328	14	0

For building an oil factory, at Southall, Middlesex, for Mr. John Cassell. Mr. John Whichcord, architect. Quantities supplied by Mr. Wimble:—

Smith, jun.	£795	0	0
Baguley	790	0	0
Dove, Brothers	695	0	0
Macey	634	0	0
For Iron Roofs.			
Cottam & Co.	390	0	0
Morewood & Co.	269	15	0

For the supply of materials and the execution of day, jobbing, and measured works in respect of main sewers and incidental works, for Metropolitan Board of Works:

A Division (Western).

Abbott & Hopwood	3 years, at schedule prices		
R. Mann	,,	9 per cent. under ditto	
W. Crockett	,,	3 ditto	ditto

	One year.	Two years.	Three years.	
Hill, Keddal, & Robinson	5	6½	8	ditto ditto
E. Thirst (accepted)	10	11	12½	ditto ditto

B Division (Eastern).

Abbott & Hopwood	..	..	..	at schedule prices
Moxon	6	7	8	per cent. under ditto
Hill, Keddal, & Robinson	10	11	12	,, ,,
Dethic (accepted)	8	8	10	12½ ,, ,,

E Division (Southern).

Moxon	4	5	6	,, ,,
Hill, Keddal, & Robinson (accepted)	8½	10½	12½	,, ,,

For the erection of a villa residence, at Uxbridge, for Mr. E. Hedgcock. Mr. Robert W. Edis, architect:—

Simpson	£1,800	0	0
Spurgeon	1,712	10	0
Shoppee & Son	1,710	0	0
Morten	1,638	0	0
Hardiman & Sandon	1,557	0	0
Fassnidge & Son	1,515	0	0

For alterations and repairs at No. 177, Ratcliffe-highway. Mr. F. G. Widdows, architect:—

Wheen	£154	0	0
Smith	147	0	0
Williams	117	0	0
Ennor	114	0	0

For the erection of two detached villa residences, at Hornsey. Mr. J. W. Reed, architect:—

Langtree	£2,914	0	0
Auley	2,900	0	0
Hill & Son	2,690	0	0
Hawkes	2,650	0	0
Smith	2,650	0	0
Green	2,462	0	0
Duncan	2,456	0	0
Sale	2,455	0	0
Evans	2,430	0	0
Carter	2,264	0	0
Sleap (accepted)	1,950	0	0

For the erection of workshop and stores for Messrs. H. J. & E. Lewis, 40 and 41, Marsham-street, Westminster. Mr. Jacques, architect:—

Jackson & Shaw	£305	0	0
King & Son	240	0	0
Bowley, Brothers	215	0	0
Wardle & Baker	200	0	0
Pemberton & Price	198	10	0
Mellwraith (accepted)	185	0	0

For rebuilding the Angel Inn, Buntingford. Messrs. Nash & Son, architects. Quantities not supplied:—

Lawrance	£540	0	0
Ginn	505	15	0
Saggers	500	0	0
Savell	497	10	0
Gibbons	430	0	0
Grimson (accepted)	374	0	0

For a dwelling-house for Mr. Jas. Chapman, at Lottsford, near Standon, Hertfordshire. Messrs. Henry W. Sass & Chas. Chapman, architects. Quantities supplied:—

Hart	£1,360	0	0
Sawyer	1,340	0	0
Holden	1,319	0	0
Hobbs & Son	1,295	0	0
Scott	1,292	0	0
Cook	1,263	8	0
Gunn & Killby	1,260	0	0
Hitch	1,255	0	0
Smith	1,245	0	0
Dickinson	1,245	0	0
Stevenson	1,192	0	0
Glascock	1,125	0	0
Whittaker	1,125	0	0
Gibbons	1,100	0	0

For dwelling-house and coffee-rooms, in Cauldwell-street, Bedford. Mr. Usher, architect:—

Reynolds & Son	£484	0	0
Young	452	12	2
Cunvin	422	0	0
Houghton	405	15	0
Francis & Son	378	15	0
Preston	371	0	0
Joy	339	9	6

TO CORRESPONDENTS.

Col. F.—Rev. J. A. J.—J. W. D. K.—D. B. (the desideratum is to give an *upward current* to the air admitted at the meeting-rail).—F. B. W.—R. S. S.—R. J. (If of wood, it would be illegal).—J. McC. (when sent we will reply).—T. J.—Dr. M. (there is no good snow-stop on sale that we know of).—W. & B.—N. R. (should signify his willingness to pay for an inscription on the stone covering Da Foe's remains to the authorities of Bunhill Field's Burial-ground).—Dr. W. P.—E. A. T. (next week).—N. R.—J. W. R.—J. W. D. (not very clear).—F. L. (in type).—R. P.—G. W.—* * (has Note arrived?)

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH STREET, E.C.

ARTICLED PUPIL WANTED, in an old-established Architect and Surveyor's Office, where he would be able to obtain a thorough knowledge of his profession. Premium, 100 Guineas for three years; if articled for five years, one half thereof would be returned during the last two years.—Address, by letter, A. E. care of Porter, 16, Great Marlborough-street, Regent-street, W.

AN ARCHITECT (who is also Surveyor to a Local Board, with extensive drainage works in course of construction) has a VACANCY for an OUT-DOOR PUPIL, who would have every opportunity of acquiring a thorough knowledge of the profession. Premium moderate, and terms either three or five years. Apply to A. B. 29, Granby-street, Leicester.

A FIRST-RATE VENEER SAWYER
WANTED, apply
21, NEW NORTH STREET,
Finsbury, E.C.

FOREMAN of MARBLE WORKS
WANTED—A good practical MASON required to TAKE CHARGE of a MARBLE SHOP. Must thoroughly understand his business, and be able to give most satisfactory references as to ability and integrity. Apply, G. & C. care of Saunders Brothers, Londonwall.

SCAGLIOLA MARBLE POLISHERS.—WANTED, several good WORKMEN, in the above branch. Apply at Messrs. BELLMAN & IVEY, Office, 14, Buckingham-street, Fitzroy-square, W.

WANTED in an Architect's Office, in the West of England, a thoroughly qualified ASSISTANT. Salary 100 guineas per annum, to be increased to 150l. after the second year.—Address, "Dunstan," office of the "Builder."

TO ARCHITECTURAL DRAUGHTSMEN
WANTED, in Town, a thoroughly efficient ASSISTANT. One accustomed to design in church architecture essential. Address, stating capabilities, terms, &c. to A. A. A. Office of "The Builder."

TO BUILDERS' FOREMEN.
WANTED, an experienced BUILDER'S FOREMAN, to take the superintendence of a job in town, a carpenter by trade preferred.—Address, stating age, where last employed, &c. to A Z Office of "The Builder."

WANTED, in an old-established Shop, in the country, a GRAINER and WRITER. A man used to measuring work, and supplies of materials, would be preferred. References must be unexceptionable. State wages required.—Address, W. W. & Co., 25, Queen-street, Pimlico.

WANTED, a YOUTH, as APPRENTICE (Out-door), to a DECORATOR. One with a taste for drawing preferred. Moderate premium required.—Address, W. B. 27, Duke-street, Grosvenor-square.

WANTED, a Man having been connected with the Building Trade, to call upon and take orders from Builders, &c. Would expect about £3 per week. He must be intelligent, and able to write well. He will have to use a light horse and cart, and occasionally deliver goods. State age, if married, and how and where last employed.—Apply, by letter, to F. K. Office of "The Builder."

TO PARENTS AND GUARDIANS.
WANTED, in the Office of an Architect and Surveyor, at the West-end, a YOUTH, as ARTICLED PUPIL. A moderate premium required. Address, A S care of Mr HENRY MOODY, 9, Conduit-street, W.

WANTED, in a Builder's Office, a CLERK who can measure up work, take out quantities, and keep the books. Salary, 30s. per week.—Address, with references, by letter only, to E. S. 2, Dorrington-place, Harleyford-road, Vauxhall.

TO TINMEN, LOCKSMITHS, GAS-FITTERS, &c.
WANTED, a GOOD WORKMAN, who thoroughly understands general Jobbing received in a Furnishing Ironmongery business. A good character required, also as to ability, &c.—Apply to Mr J. MANN, General and Furnishing Ironmonger, 7, East Ascent, St. Leonard's-on-Sea.

TO ASPHALTE LAYERS.
WANTED, a Competent Man, to Lay Asphalte. A constant berth if he suits.—Apply to J. WOOD, Architectural Office, East Hill, Colchester.

WANTED, by an Architect in good practice, a YOUTH as a PUPIL. A well-educated person would be liberally treated.—Address, ARCHITECT, Post-office, Kendal.

TO ARCHITECTS' AND SURVEYORS' ASSISTANTS.
WANTED, for North Wales, an ASSISTANT for general country practice, including church work, land surveying, &c. He must be competent to take levels. If desired and found agreeable, in three or four years' time or earlier, he might be admitted a partner. A full description of qualification, salary expected, &c. is to be addressed to A. B. 1, High-street, Welshpool, Montgomeryshire.
P.S.—The Advertiser being much engaged from home, unexceptional character will be required.

TO SAW-MILL HANDS.
WANTED, TWO YOUNG MEN, to ASSIST in a SAW-MILL, principally to work circular saws (not full-price hands). It is not necessary that they should be able to sharpen their own saws; but they must be able to give good references where they have been working at this description of work.—Apply to J. & C. W. TODD, Builders and Contractors, at the Office, Church-lane, Lee, Kent, near Lewisham.

TO TIMBER MERCHANTS AND OTHERS.
WANTED, a SITUATION, in or out of a TIMBER YARD, with good character. Aged 40. Well acquainted with all kind of measurement of timber.—Apply to E. SAXBY, Battle-hill, Sussex.

TO ARCHITECTS AND BUILDERS.
WANTED, by the Advertiser, an ENGAGEMENT. He is a good perspective and general draught-man, thoroughly understands quantity taking, estimating, &c. and possesses sound practical knowledge, having been for several years with a builder doing an extensive business.—Address, E. W. Post office, Leytonstone, N.E.

TO BUILDERS, &c.
WANTED, by a thoroughly practical Foreman of Plasterers, a RE ENGAGEMENT. Town or country.—Address, J. T. B 10, Diamond row, Camberwell, S.

TO BUILDERS AND OTHERS.
WANTED, by a thoroughly practical Man, a few inches from London, a RE-ENGAGEMENT as WORKING SHOP FOREMAN or JOINER'S CHARGEMAN. Several years' experience. Good reference from eminent architects if required.—Address, A. Y. care of Mr. Reed, 3, Jessamine-row, New Park-road, Brixton.

WANTED, by a steady practical Man, a SITUATION as OUT DOOR WORKING FOREMAN or CARPENTER'S, or otherwise. No objection to the country. Good references given.—Address, S. T. care of Mr. Frost, 4, Upper Lisson-street, Lisson-grove, N.W.

WANTED, by a respectable YOUTH from the country, a SITUATION as IMPROVER to the STONEMASONRY.—Address, C. A. No. 14, Norwich court, Fetter-lane, Holborn.

TO BUILDERS AND OTHERS.
WANTED, by a Bricklayer, a SITUATION as WORKING FOREMAN, or to work for a Jobbing Builder. Can do either bricklaying, plastering, or slating. No objection to take out country, or go abroad. Good references.—Address, B. B. Mr. Osborne, Butcher, No. 4, Union-street, Borough, London.

TO BUILDERS.
WANTED, a RE-ENGAGEMENT, by a thoroughly efficient London SHOP FOREMAN.—Address, GOTH, 21, Sydney-square, Mile-end, E. N.B. Unexceptionable references given.

TO BUILDERS, &c.
WANTED, a SITUATION, by a Young Man, where he can make himself generally useful. Is conversant with the usual office duties, can get out plans, measure up work, &c. Has had 7 years' good character.—Address, A. B. No. 5, Montserrat-terrace, Hermes-hill-bridge, Lambeth, S.

WANTED, by a Thorough Practical Man, an ENGAGEMENT as out-door FOREMAN to a Builder, or to Manage Works on a gentleman's estate; can have 7 years testimonials from last employers.—Address, A. B. C. 65, Shoreditch, London, N.E.

TO MEDIÆVAL METAL WORKERS, GAS ENGINEERS, &c.
WANTED, an ENGAGEMENT as FOREMAN, by a Practical Man thoroughly conversant with his business. Reference unexceptionable.—Address, C. H. 2 and 3, Backhill, Hatton-garden, E.C.

TO PARENTS AND GUARDIANS.
WANTED by a Mechanical Engineer, a respectable Youth as APPRENTICE. He would have an opportunity of learning Drawing, Pattern-making, Fitting, &c. Premium required.—Address, B C. Post-office of "The Builder."

WANTED, EMPLOYMENT, by a PLUMBER, aged 24. Good writer, competent to measure, &c. Reference to last employer.—Address, A. B. 2, Howick-place, Vauxhall-bridge-road, S.W.

TO ARCHITECTS.
WANTED, by a Gentleman of 12 years' experience in the profession, a SITUATION as ASSISTANT or to take charge of an office. Would be glad to go abroad.—Address, ZETA, 23, Jewry-street, Aldgate, E.C.

TO CARPENTERS, &c.
WANTED, by a respectable Young Man, a RE ENGAGEMENT as IMPROVER to the above trade, for one or two years. Age 21.—Address, G. F. 25, Park-road, Highbury, Islington.

AS CLERK OR TIMEKEEPER.
WANTED by a respectable Young Married Man, aged 30, a RE-ENGAGEMENT as above, or in any other capacity of trust and responsibility. He has been accustomed to taking men's time, and booking materials, &c. on some very extensive buildings. Satisfactory references can be given.—Address, A. B. Mr. Rowe's, Cheesemonger, Lower Tottenham, N.

TO ARCHITECTS.
WANTED, by the Advertiser, an ENGAGEMENT, in town or country. Is a neat and careful draughtsman, and fair colourist, and is capable of assisting in making survey and working out. Salary 25s. First testimonials.—Address, M. M. 56, Brunswick-street, Cumberland-street, Marble Arch, W.

TO BUILDERS AND OTHERS.
WANTED, a SITUATION, by a first-class PLUMBER.—Address, J. H. 1, St. Leonard's-street, Tachbrook-street, Pimlico, S.W.

TO MASTER POLISHERS AND OTHERS.
WANTED, by the Advertiser, aged 24, EMPLOYMENT at the FRENCH-POLISHING. Thoroughly understands the white chamfering, staining, and its branches. Four years' reference given if required. Either in town or country.—Address, T. B. 27, Foley street, Fitzroy square, London.

TO MASTER PLUMBERS AND BUILDERS.
WANTED, a SITUATION as PLUMBER. Understands gasfitting and zinc work. No objection to fill up his time with painting, &c.—Address, A. B. Mr. Burrawhere's, Junction place, Upper Holloway.

TO BUILDERS.
WANTED, to ARTICLE, for Two or Three Years, as IMPROVER at the BENCH, in a large firm, in or near London. Age 22. Five years at the trade. A premium of 20l. will be given.—Address, stating wages, to TURNER & SON, Plumbers, Walworth road.

TO BUILDERS, CONTRACTORS, AND OTHERS.
WANTED by the Advertiser a SITUATION as FOREMAN over Bricklayers. Is a neat Draughtsman; thoroughly understands Setting out and Measuring up work. No objection to country.—Address, L. W. L. office of the "Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, aged 22, a RE-ENGAGEMENT in either of the above offices. Understands Book-keeping, and has a good knowledge of drawing. Satisfactory references as to character and capabilities from last employers, with whom he has been engaged for the last five years.—Address W. S. care of Mr Benjamin Smith, Uxbridge-street, Notting-hill.

TO ARCHITECTS, BUILDERS, AND OTHERS.

WANTED, by the Advertiser, aged 23, an ENGAGEMENT for a few hours daily, or three days a week. He is a first-class draughtsman, capable of taking off quantities, and well experienced in builders' accounts, and can furnish the highest references and testimonials. Salary at the rate of 5s or 6s. per diem. Address, A. B. C. 9, Camden-street, Camden Grove, Peckham, S.

TO BUILDERS, PAINTERS, AND DECORATORS.

WANTED, by a Man of great experience, a SITUATION as FOREMAN of PAINTERS, &c. Has a good practical knowledge of graining as English, and has had the management of some of the best jobs in the kingdom, of which good references can be given.—Address, A. W. 38, Crescent-street, Euston-square.

TO ARCHITECTS, &c.

WANTED, a SITUATION, by the Advertiser, aged 22, who is a neat draughtsman, good accountant, and can assist in taking out quantities, measuring up work, estimating, &c. Has been five years with two architects and surveyors. First-class references.—Address, Y. Z Post-office, Great Malvern, Worcestershire.

TO BUILDERS AND MANUFACTURING JOINERS.

WANTED, by the Advertiser, a SITUATION as GENERAL FOREMAN and CHALKEY, or working foreman in a small builder's firm. Town or country. Thoroughly understands piecework prices. Wages moderate.—Address, A. D. 204, Featherstone-street, City-road.

TO BUILDERS, PAINTERS, AND DECORATORS.

WANTED, a SITUATION, by a first-class FOREMAN of PAINTERS and DECORATORS The advertiser would either Take Charge of Jobs, or act as General Foreman. First-class reference can be given from a very large firm, his late employers.—Address, S. K. 12, Lisard street, Caledonian-road, N.

WANTED, by a Young Man, a SITUATION, as IMPROVER, in the WRITING and GRAINING BUSINESS Wishes to engage with a good firm for one year or more, at a moderate salary.—Apply, by letter, post-paid, to F. Q. Post-office, Clifton-street, Finsbury, E.C.

TO BUILDERS AND CONTRACTORS.

WANTED, a RE-ENGAGEMENT as CLERK or BOOK-KEEPER, by a highly respectable Young Man, aged 28. Good references. Town or country.—Address, G. B. W. 48, Milton-street, Dorset-square, N.W.

WANTED, by a thoroughly experienced PLUMBER, a Constant SITUATION. Understands deep-well pump work, baths, water closets and sheet lead work in all its branches. Town or country. First-class references.—Address, R. A. B. Mr. Duby's, No. 4, Hedden-court, Regent-street, London.

TO BUILDERS AND CONTRACTORS.

WANTED, a SITUATION, as JUNIOR CLERK in the Office, or out on Works, by a Young Man, aged 20, who is practically acquainted with the trade in all its branches Moderate Salary. Good references.—Address, A. A 28, Camden-street, Islington N.

WANTED, a SITUATION, as CASHIER and BOOKKEEPER, by the Advertiser, who is thoroughly accustomed to the duties, and has been similarly engaged on large works. Can copy drawings. First class references.—Address, J. M. 15, Manchester-buildings, Westminster, S.W.

TO ENGINEERS, ARCHITECTS, AND CONTRACTORS.

WANTED, by a Young Man, a SITUATION, in either of the above Offices. Has been four years and ten months in Civil Architect's Office, can take out and measure up quantities, keep accounts, and is a good draughtsman. Town preferred. Salary to begin with. Unexceptionable references and testimonials.—Address, stating particulars, to B. A. Mr. Newcomb's, News Agent, Boston, Lincolnshire.

TO ARCHITECTS AND CONTRACTORS.

WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK of WORKS or GENERAL FOREMAN. Gothic preferred. First-class references. — Address, MARCH, Office of "The Builder."

TO ARCHITECTS.

WANTED, by a Young Man, aged 18, a RE-ENGAGEMENT as JUNIOR ASSISTANT. Can finish working drawings, has a good knowledge of perspective, and well up in tracing, copying, and colouring, and the routine of the office. Salary, 15s. per week.—Address, S. S. S. Mr. Blanchett, High-street, Salisbury.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser desires an ENGAGEMENT as CLERK of WORKS, or as ASSISTANT, temporary or otherwise, in an office. He has been engaged on public buildings, possesses a sound knowledge of construction, can make out working drawings, and survey land.—Address, P. 43, Lamb's Conduit street W.C.

SURVEYOR AND DRAUGHTSMAN.

THE Advertiser is open to an ENGAGEMENT in the above capacity. Has a thorough knowledge of land-drainage and irrigation. First class references.—Address, J. E. A. 15, Manchester-buildings, Parliament-street, S.W.

TO BUILDERS AND OTHERS.

THE Advertiser is desirous of an ENGAGEMENT in a town near London. To have the sole management of a business, or the bricklayer's, slater's, and plasterer's department, or the management of general repairs. He begs to call the attention of widows left with business, as he will undertake, if required, to keep accounts. Can estimate for many building trades. The most satisfactory references can be given as to competency.—Address, F, New-street, Gravesend; or Mr. J. JEFFRIES, Builder, East India-road, Poplar, London.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a quick and excellent Draughtsman, who has had great experience in construction, preparing detail, working, and other drawings, and is used in checking and abstracting quantities, is open to an ENGAGEMENT Terms moderate.—Address, O. G. 30, Michael's place, Brompton, S.W.

TO ARCHITECTS, &c.

THE Advertiser wishes for a SITUATION as a JUNIOR CLERK. Is a good draughtsman and colourist, and understands the practice of an office having been four years in the profession. Salary very moderate—Address, H. R. 60, Brompton-square, S.W.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who is perfectly competent to prepare finished and detail drawings, perspectives, specifications, take out quantities, make surveys of dilapidations, take plans of property, &c. is open to an ENGAGEMENT, temporary or otherwise, in town. Has had the management of an office. Terms moderate.—Address, H. C. Post-office, High-street, Camden-town.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

THE Advertiser, a Young Man, wishes to RE-ENGAGE himself with an Architect. He is competent to get out working and detail drawings, and to perform the usual office duties. Excellent testimonials.—Address, W. Office of "The Builder."

RAILWAY SURVEYING, Levelling, Plan and Section Drawing, Setting Out and Ranging Curves, Estimating Earthwork, and General Field Engineering.—The Advertiser, who has had several years' experience in the Office and in the Field, is open to an ENGAGEMENT, either in England or abroad.—Address, SURVEYOR, 29, Acton street, Gray's-inn-road, London, W.C.

PLASTERING, LABOUR ONLY, TOWN or COUNTRY.—An experienced Workman, with good references, requires either PIECEWORK or FOREMANSHIP.—Address, B. Office of "The Builder."

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, writing up sections, measuring, and making up Builder's accounts, despatch or otherwise. Satisfactory references to Architects and Builders.—Address, X Y Z 20, Charlotte street, Portland place.

IMPORTANT to BRICK MANUFACTURERS.—An AGENT of long standing and extensive first-class connexion in London and its vicinity, amongst large and safe buyers of Bricks, is open to an ENGAGEMENT with a one first class Manufacturer for sale of the same References given and required.—Apply by letter, prepaid, to R. G. Messrs. Dawson & Sons, 74, Cannon-street, City, E.C.

TO BUILDERS.

A SURVEYOR of considerable practical experience in taking off quantities, measuring, estimating, adjusting builders' accounts, making drawings, &c. Would be glad to undertake business for builders upon reasonable terms. A very small charge only is made for preparing bills of quantities if unsuccessful. Can occasionally introduce work to builders.—Address, S. V. R. Office of "The Builder."

TO ARCHITECTS.

A YOUNG MAN, aged 22, who has been six years in the offices of two architects of good standing, wishes to meet with a RE-ENGAGEMENT In a good draughtsman, and well up in detail and construction. Address, A. B. 12, Anwell-street, Claremont square.

A FIRST-RATE PAPERHANGER wishes for a constant SITUATION. Will fill up his time by painting. Address, A. A. A. 10, Clayton-street, Kennington-green.

TO CONTRACTORS, &c.

A GOOD BUILDER'S CLERK, aged 25, wants a SITUATION. Is well acquainted with the building trade, can take out, abstract prices, and is a neat draughtsman, &c.—Address, ALPHA, 5, Manor Dock Place, Dover.

TO ARCHITECTS AND SURVEYORS.

AN experienced ASSISTANT, just returned from a long country engagement, requires a SITUATION. Is a good draughtsman, designer, and constructionist, well versed in the various styles, understands surveying and levelling; prepares finished full-sized drawings, and perspective.—Address, T. G. B. Chevalier, Bowness, & Son's, 19, Bell-yard, Temple Bar.

AN experienced Land Agent and Surveyor's Clerk is open to an ENGAGEMENT. Aged 30. Well up in surveying and mapping, timber measuring and valuing, in preparing architectural plans, specifications, estimates, and assessing dilapidations, &c. Now engaged with a country firm. Twelve years' reference. Salary moderate.—Address, R. E. S. Munn's Hotel, Covent-garden, London.

A YOUNG MAN wishes to ENGAGE himself as IMPROVER in the Building and Carpentering Line Has been in the trade four years.—Address, T. S. 7, Cleveland Dairy, Charles street West, Hyde Park.

TO ARCHITECTS.

A QUANTITY SURVEYOR and MEASURER, with a practical knowledge of building, would be glad to TREAT with ARCHITECTS for their Quantities, and Measuring, Writing specifications, &c. upon reasonable terms. References given to Architects. Quantities guaranteed Address, ALPHA, care of Mrs. Fisher, Stationer, Vassall-road, Brixton-road, S.

TO CARPENTERS AND BUILDERS.

A RESPECTABLE YOUNG MAN, 18 years of age, is desirous of obtaining a knowledge of the Carpentering Business, and is willing to APPRENTICE himself for three years. A small premium will be given, provided some remuneration is made for his services during the above period.—Address, W. H No. 1, Leigham Lane, Streatham, Surrey.

TO SAW MILL PROPRIETORS.

A SITUATION WANTED by a SAWYER of 16 years' experience, to work at bench or superintend engines or machinery, will have no objection to planing or moulding machinery Can draw plans, or construct.—Address, U. S. T. Jenkins, Civil Merchant, Station-wharf, Burton-on-Trent.

AN experienced DESIGNER and SURVEYOR would be happy to TREAT with a GENTLEMAN, in extensive practice or to render occasional services of a responsible character. The highest testimonials will be produced.—Address, A. B 79, Denbigh street, Pimlico.

AS CONFIDENTIAL CLERK to a BUILDER, or other place of trust, by a respectable, trustworthy Young Man, aged 31. Has filled a similar position for five years in the same firm. Practical knowledge of the trade, a neat draught-man, good accountant, &c. First-class references.—Address, W. S. M High street, Buckingham.

TO BUILDERS, &c.

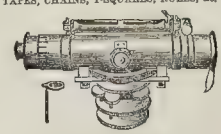
AN EFFICIENT CLERK is open to an ENGAGEMENT. Is a good draughtsman, and thoroughly acquainted with taking out quantities, measuring, and estimating, and the usual office routine.—Address, CHAMFER, 37, Ashe-street, Hoxton, N.

TO ARCHITECTS.

A THOROUGHLY EFFICIENT CLERK of WORKS is desirous of a RE-ENGAGEMENT.—Address, H. Y. Post-office, St. Alban's, Herts.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED. Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 3s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully inform the Public that their Illustrated Price List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

INDIA-RUBBER MILL BANDS WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON E.C.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike from fifteen to twenty guineas; adapted for the village church or school.—Apply to
JOSEPH FAIRER,
Turret Clock-maker to H. M.'s War Department,
188, St. George-street East, London.

BENSON'S WATCHES and CLOCKS.
"Perfection of mechanism."—*Morning Post.*



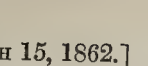
Gold, 5 to 100 Guineas.
Silver, 2 to 50 Guineas.
BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, descriptive of every construction of watch enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free and safe by post on receipt of remittance.
J. W. BENSON,
33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.
(Established 1749.)

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	25 "
Marine Chronometers	30 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

POLONCEAU and LIMMER ASPHALTE.



ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with Instructions to lay it down.

PATENTED WINDOW-SASHES.—The many fearful accidents so frequently occurring to those engaged in cleaning and repairing windows may be avoided by the introduction of IMPROVED SASHES recently patented by Mr. F. BING, Builder, Ramsgate, Kent, where full-size Sashes, fitted with his patent, may be seen and every particular obtained. A model may be seen at the South Kensington Museum, and which has attracted considerable attention of scientific gentlemen. Testimonials will be forwarded on receipt of stamp and address. A model may also be seen at the Office of the Clerk of Works, late India House, Leadenhall-street, E.C. The expense does not far exceed the price of sashes hung in the usual way.

NEW SASHES, DOORS, &c.—To MATERIAL BUYERS, OWNERS of HOUSE PROPERTY, &c. A quantity of the above, being misfits, TO BE SOLD cheap.—Apply at 121, Bunhill-row, Finsbury-square.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up. Sold by all Ironmongers, and the Inventor, GEORGE JENNINGS, Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

TO CAPITALISTS.—A Gentleman having discovered an inexhaustible seam of silica, upwards of 30 feet thick, interspersed with white clay, wishes to LET the same on a long lease. The silica is nearly the same as that now so generally imported from Fontainebleau for the manufacture for glass. The refuse and rough sand lying over the seam makes an admirable fire brick of the most durable nature ever yet submitted to the public. The premises are situated midway between a shipping-place and the South Wales Railway. Also an unlimited seam or seams of coal, within a short distance, both of which, from particular local circumstances, may be had on the most liberal terms, either together or separate. To any one wishing to speculate, this may be considered a most favourable opportunity.—For further particulars, apply by letter, post paid, to J. M. C. Esq. care of Mr. Gardener, Stationer, 52, Winchcombe-street, Cheltenham; or JOSEPH GILMOUR HALL, Esq. Bigsby House, near Narberth, Pembrokeshire.



SOLID PARQUET FLOORS, AROWSMITH'S PATENTED, From 1s per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Fittings, Borders to Carpets, Bay Windows, Chancels of Churches, &c. SHOW ROOMS, 80, New Bond-street, W.

HONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Own Disinfectant (OXYGEN), possesses the exact properties, as it acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and without colour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter houses, sinks, close drains, sewers, cesspools, graveyards, &c.; and is permanently useful for numerous domestic purposes, for which all other deodorizers or agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying unwholesome water, sweetening musty casks, removing and preventing fungus, mould, gums, fish, &c. as well as by use in the bath for promoting and maintaining personal purity.—Obtainable of all first-class Chemists, Confectioners, &c. 2s. or its each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE. Wholesale of the Patentee, Battersea, Surrey, S.W

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

SUBSTITUTE for PAINT, and at HALF THE COST.—STEPHENS'S DYES or STAINS for WOOD. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—"The effect produced by the Staining Fluid and Varnish has given entire satisfaction, that the parishioners have requested me to stain five times the quantity now paid for, in order to finish the work." STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

GENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W. Established 1777. KENT'S BRUSHES have been celebrated for their superior quality for eighty-four years, and may always be depended upon as that can be made.

TO BUILDERS, DECORATORS, &c. FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of HAMILTON & CO. PAINTING BRUSH MAKERS, No. 10, GREEK STREET, SOHO-SQUARE, LONDON, W. And of their Agents, SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

T. KENT'S PAINTING-BRUSH MANUFACTORY Is continued by his Successors, CROWDEN & GARROD, Falcon-square, London, E.C. Where the TRADE is supplied with the same superior quality that made the name celebrated. N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes. Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for grinding every description of wood in all their purity of tone and colour, the same as used by himself. Full particulars forwarded on application to his Sole Agents, GIBBINS, BROTHERS, VARNISH and FINE COLOUR MAKERS and IMPORTERS, 30, LONDON WALL, E.C. Where also may be obtained their CELEBRATED STAINS for EVERY DESCRIPTION of WOOD, Together with all kinds of Colours and Varnishes, Warranted of the purest quality and at the lowest prices. Agents for Kershaw's Graining Machines.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt. Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon. Turpentine, 6s. 6d per gallon. Fine Pale Oak Varnish, 7s. 6d. per gallon. For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W. Every article for the Trade at the lowest price.

COLOURS and VARNISHES at REDUCED PRICES.—Genuine White Lead, 30s. per cwt.; Linseed Oil, 2s. 10d. per gallon; Boiled Oil, 2s. 4d. per gallon; Turps, 5s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon. Hamilton's and LANGTON'S Colour Warehouse, 149 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices

GENUINE WHITE LEAD, branded and warranted from the Manufactories, 30s. per cwt; Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon; Turps, 5s. 4d. per gallon; Fine Pale Oak Varnish, 6d per gallon. Hamilton's and Kent's Grainers', Painters', and Plasterers' Brushes, to be had at D. J. PORTER'S White Lead and Colour Warehouse, Nos. 1 and 2, Pratt-street, Camden Town, N.W.

TO BUILDERS, HOUSE-PAINTERS, and DECORATORS.—PATENT EXTRACT of LETHEICUM For Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. in a few minutes, and for Cleaning and Restoring Old Paint. Success guaranteed. Price 5s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London.—Messrs. NAENLARE & Co. 11, St. Andrew's hill, Doctor's-commons, London, E.C.

HORTICULTURAL GLASS WAREHOUSE. THOMAS MILLINGTON, 87, BISHOPSGATE-STREET WITHOUT, E.C. Lists forwarded on application.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.



HEATON, BUTLER, & BAYNE'S Illustrated Treatise on the History and Use of STAINED GLASS FOR WINDOWS, Will be forwarded on receipt of 30 postage-stamps. Memorial and Decorative Windows designed and executed. HEATON, BUTLER, & BAYNE. Works:—Cardington-street, Hampstead-road, London.

MANCHESTER STAINED-GLASS WORKS. R. B. EDMUNDSON & SON, Artists in Stained Glass, Ecclesiastical and domestic of every description, ancient and modern, Illuminated Ornaments, &c. by their new process on Plate Glass; Mural and Heraldic Decoration. Monumental Brasses, &c. Designs and estimates on application to R. B. EDMUNDSON & SON, having had upwards of thirty years' practical experience in the manufacture of every description of glass for ecclesiastical purposes, have most of their glass made to order, and from their own receipts, and which will be found nearer to the old glass than any others at present manufactured. Works—New Wakefield street, Oxford-street, near the Brugge.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE. British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Grained, Painted, Rough Plate Photographic, and every description of Glass. Estimates and Price-lists forwarded free on receipt of business card addressed to R. METTAM & CO. 30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C. ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms. Lists of prices and estimates forwarded, on application at the Warehouse, 316, Oxford-street, W.

STAINED GLASS and WALL PAINTING. NOTICE OF REMOVAL. MESSRS. CLAYTON & BELL, Late of No. 24a, Cardington-street, Euston-square, Have removed to 311, REGENT STREET, W. (Adjoining the Polytechnic Institution). Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

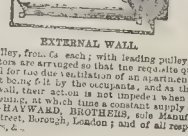
THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, &c. &c. combining perfect transmission of light, durability, are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Bark Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

THE LONDON SUFFERANCE WHARF COMPANY, LIMITED. (Registered pursuant to the Joint Stock Companies' Acts, 1856 and 1857.) Capital, 300,000l. in 30,000 Shares of 10l. each. Deposit, 2l. per Share, —1l. to be paid on application, and 1l. on allotment; the remainder of the Capital to be called as the works progress, and with the demand for increased accommodation. Interest at the rate of 4 per cent. per annum will be allowed from the time of the registration of the Company until they commence business. Directors. William Macnaughtan, Esq. Director of the City Bank. Alex. Mearns, Esq. Pengelly House, Cheshunt, Herts. John J. Leggett, Esq. 3 Billiter-street. Thomas White, Esq. (Messrs. White & Price), 57, Mark-lane. John Vanner, Esq. Director of the City Bank. Andrew Johnston, Esq. Dowgate Dock, Upper Thames street. James Odams, Esq. Jun. Fenchurch-street. With power to add to their number. BANKERS.—The City Bank, Lunch-lane, Threadneedle street. Bankers. Messrs. Barnett, Lilly, & Co. 18, Finch lane. Messrs. Tudor & Sons, 25, Threadneedle-street. Messrs. Dawes & Sons, 9, Angel court, Throgmorton-street. Auditors. (To be appointed by the Shareholders) SECRETARY, PRO TEM. Mr. George Wheeler. ABRIDGED PROSPECTUS. The Company has been formed for the purpose of erecting a "SUFFERANCE WHARF and BONDED WAREHOUSES" on an extensive scale in a convenient locality on the North Bank of the Thames, where, by a series of detached buildings, and the classification of goods, great security for their safe storage will be afforded than that which exists. It is impossible within the limits of a Prospectus to point out all the benefits to be derived from the Sufferance Wharf and Warehouses now established by this Company. Amongst these, however, in addition to the Warehouses being detached and the Goods in them classified, are the following:— First.—The site can be reached in less than half an hour from the City, viz., by Blackwall Railway, 20 minutes; Steam Ferry, which passes Wharf, 3 minutes, equal to 23 minutes. The facility of access is one of the principal features of the undertaking. Second.—Has a direct communication with the London and North-Western, the Great Northern, the Midland, the Eastern Counties, and the Blackwall Railways. Third. A great reduction in the rates for landing, Housing, Lighterage, and Delivery of Goods and Warehouse rental. Fourth.—A most important reduction in the rates of Insurance. The difference in this item alone, on many articles, will be nearly sufficient to defray their wharfage charges. Fifth. Increased facilities for economical transit to and from the manufacturing districts, and large provincial towns, especially where Bonded Warehouses have been established under the Inland Trading Act. Sixth.—Unusual dispatch by means of hydraulic machinery, with the most recent improvements for unloading and loading goods, and train-way for speedy transport, as well as telegraphic communication with the City. Seventh.—And (not by reason of the dangers, delays, and expenses consequent upon the navigation of the Pool). Merchants and Importers will be enabled, with all the advantages now offered by the Docks and first class Sufferance Wharfs in the Port of London, with the additional security, diminution of charges, and other advantages presented by the Undertaking, the services of a gentleman of many years' experience in London Wharf business will be secured, to manage the general arrangements and details. As to Profits.—The Directors are unwilling to make any statement which may have the appearance of exaggeration; but, upon a moderate calculation, the undersigned look forward to such a large return as will render it in the highest degree remunerative. Prospectuses and forms of application for shares may be obtained of Messrs. BARNEY, ELLIS, & Co. 18, Finch lane, E.C.; and Messrs. TUDOR & SONS, 25, Threadneedle-street, Brokers of the Company; of the Solicitors, Messrs. DAWES & SON, 9, Angel-court, Throgmorton-street; or at the temporary offices of the Company, 65, Fenchurch-street. A deposit of 1l. per share must be paid to the Company's Bankers, previous to the application for allotment. In the event of no allotment being made, the deposit will be returned to the subscribers without any deduction whatever.

THE LONDON SUFFERANCE WHARF COMPANY (Limited).—APPLICATIONS for SHARES in the above Company will be received by the undersigned on FRIDAY, the 21st inst. (inclusive), for London, and up to MONDAY, the 24th inst. for the country.

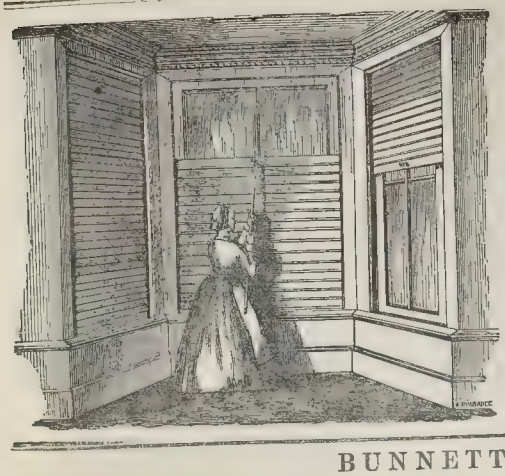
VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d. These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union street, Borough, London; and of all respectable Ironmongers, Builders, &c.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.
THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.
Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.
BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

BUNNETT AND CO.
The Original Inventors and Patentees of every recent Improvement,
MANUFACTURE THEIR WELL-KNOWN
SUPERIOR REVOLVING IRON SHUTTERS
OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.
Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

INTERNATIONAL EXHIBITION, 1862.
ESTIMATES AND DESIGNS FOR SHOW CASES, METAL STANDS, &c.
With or without Revolving Machinery, by
BUNNETT & CO., ENGINEERS AND FOUNDERS,
DEPTFORD, KENT, S.E.; 17, QUEEN STREET, CHEAPSIDE; and 435, PARLIAMENTARY STREET, GLASGOW.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Pub
at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisit
Gearing complete, from 3s. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 94, GRAY'S-INN-LANE, HOLBORN, LONDON.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,
ESTABLISHED 1826,
Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTE
AND PANEL DECORATIONS, &c. &c.
DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

WHITE AND PARLBY'S
NEW ILLUSTRATED CATALOGUE OF PAPIER MACHE AND CARTON PIERRE ENRICHMENTS
PARTS I. TO V. NOW READY, EITHER OF WHICH WILL BE FORWARDED POST FREE, ON RECEIPT OF TWELVE STAMPS. SPECIMEN SHEET, WITH PARTICULARS, SENT ON APPLICATION, ENCLOSING POSTAGE STAM
WHITE AND PARLBY,
49 & 50, GREAT MARYLEBONE STREET, LONDON, W.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDA
49, RATHBONE PLACE, W.
GEORGE JACKSON AND SONS
(Established in 1760)
GREAT EXHIBITION, LONDON, 1851.
EXPOSITION UNIVERSELL PARIS, 1855.
Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also Pilasters and Panel Decorations, Elizabethan and Gothic Dados, Door Cups, Mouldings of all sizes, and their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Console and Pilaster Caps, all executed in the highest style of art.
The large and long-themed experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for Private Houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.
Upholsterers are invited to inspect the large variety of Glass Frames, Fabes, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.
DESIGNS MADE FOR ANY WORKS.
PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.
LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.
AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅝ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards ..... } from 11s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
8,000 Yellow Deals..... from 3s. 3d. each
14,000 Spruce ditto ..... from 2s. 9d. each

5,000 Yellow Battens ..... from 11l. 10s. per 120
50,000 feet Spanish and Honduras Veneer..... } from 1d. per foot
Maple ditto ..... from 1d. per foot

APPLY TO
SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅝-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch „	12s. 6d.	12s. 6d.	12s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1¼-inch „	—	18s. 0d.	19s. 0d. „

Yellow Deals, 3 by 9 .....£10 10s. per 120.
Yellow Battens .....£11 10s. „
Spruce Deals.....£16 10s. „

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. „
⅝-Inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

MOULDING WORKS.

SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

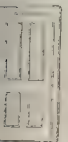
CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by
J. MILLS,
10, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET.
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.



Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles

An Illustrated List of Prices forwarded on receipt of stamp.

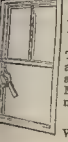
Estimates furnished on application.

B. J. HUDSON,

gs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



J. GURMAN,

Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.



Send stamped envelope for Prospectus and Sectional Drawings.

Windows may also be seen at the Kensington and Conduit-street, Museums, London.

BUILDERS and CARPENTERS, and OTHERS, have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities

A 1 sawn goods carriage free within three miles.

½-inch Flooring (well prepared), 11s. 6d. ⅝-inch do. 13s. per square
Yellow Deals, sound and good ... 10l. 10s. per 120, or 3½d. per foot.
Spruce Deals „ 16l. 10s. „ 2½d. „
Yellow Battens, excellent quality 11l. 10s. „ 2½d. „
Pine Planks, dry, 12 ft. 3 in. by 11 in. 24l. „ 3s. 6d. „
Seasoned Mahogany, Plank and Board, 6d. per foot.

A very large Stock, ready sawn and seasoned.
ALFRED CARTER, Old Bethnal-green-road, N.E.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and also to all parts of any craft in the river at best.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic wharf, Pimlico, London, S.W.

ALFRED ROSLING & SONS beg to call the attention of Builders and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mahogany. A Price List of Dry Deals sent on application.
South Market-ridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2l.; Spruce from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 21 Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 11s. 6d.; 1-inch Yellow, from 12s. 3d.; 1 inch White, from 12s. 6d. Cottage fronts to any part of town.
T. FORMAN,
1, Walnut-tree walk, and Wheatsheaf-lane, Lambeth.

PATENT ASPHALTE CALDRON, floor, impervious to wet, and vermin will not touch it. Full particulars sent free, by
WOODS & COCKSEDGE,
IRONFOUNDERS, SNOWHILL.

FERGUSLIE FIRE CLAY WORKS,
PAISLEY.



PATENT GLAZED SEWER PIPES, according to Jennings's Patent, and the GLAZED SEWER PIPES with SOCKET JOINTS. Also all kinds of Fire Clay Goods. The Sewer Pipes are made from 2 to 18 inches in diameter, and are of the most superior quality. Prices very moderate. The subscriber, from the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be.
ROBERT BROWN.

GEORGE ALLEN (late W. & T. N.
GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT
CLARK & BENGOUGH,
Manufacturers and Sole Proprietors of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,
Office, 5 Gracechurch-yard, Lombard-street.

PARIAN CEMENT for INSIDE WORK. With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

KEENE'S and PARIAN CEMENT for Internal uses.—These well-known hard Stuccoes dry quickly and can be painted upon within a few days.
Made and sold by JOHN BAZLEY WHITE & BROTHERS,
Millbank street, Westminster.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14 SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON,
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PORTLAND CEMENT WORKS,
Northfleet, Kent.
Messrs. ROBINS & CO.
To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. Orders received at Great Scotland-yard, Whitehall; and at the Works.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines, Brierley-hill.
FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT STOCKS. BRICKS AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS, &c.; RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

MARTIN'S PATENT FIREPROOF CEMENT

Is 35 per Cent. Cheaper than any other internal Cement in use.

Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.

186, DRURY LANE. LONDON, AND DERWENT MILLS, DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Wherein can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Dito and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS.
Dito, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Slopes, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.—JOHN GOFFIN

& CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

STRINGFIELD and BLYTH,

Sole Consignees of

NELSON'S BLUE LIAS LIME.

Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Lotts, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PEARD STREET, PADDINGTON.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT

combines the valuable qualities of the natural cements with the addition of the advantage that it greatly excels them in cementitious properties; that it is not affected by frost; and does not stagnate in water as it does. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (recently made by the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who require one liability only of Portland Cement.
Agent in Liverpool—JOHN M'KENZIE, 12, Seel-street.
Do. do. Manchester—THOMAS OARDEN.

PORTLAND CEMENT WORK

NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

LONDON WHARF, BELVIDERE ROAD, LAMBETH

PORTLAND, ROMAN, and PLASTER

CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, on ADVANTAGEOUS TERMS, either direct from the Manufactory or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PURE HYDRAULIC LIME, Manufactured

from the best HALKIN MOUNTAIN LIMESTONE, and supplied for the construction of the Liverpool and Birkenhead Docks.

The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

Prices and particulars furnished on application to Mr. EVANS, Manager, Parr's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference.

GREY STONE LIME

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS:

12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND

and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars-street, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered by the Barge, in any quantity alongside the Thames.

WHITE and RED SUFFOLK FACING BRICKS

BRICKS and other KILN GOODS,

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Rugeleston, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Rainham Fields; and Messrs. J. Butcher & Son, of Cobham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES

The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS

RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.

J. & W. EASTWOOD,

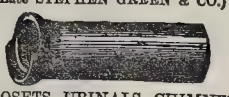
Belvidere-road, Lambeth; and Kent-road Bridge.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

THOMAS LAMBERT & SON,

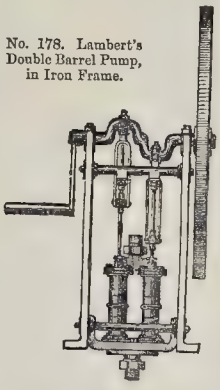
No. 5. Self-Regulating Pan Closet.



No. 36a. Bath Valves.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



High Pressure Stop Valve.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL,

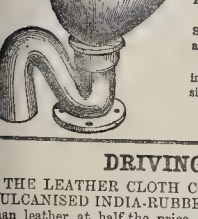
MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.

DRIVING BANDS, HOSE, VALVES, &c.

THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their VULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable than leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, cold, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Cart, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.

All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.

THE LEATHER CLOTH COMPANY, Limited,

56, CANNON STREET WEST, LONDON, E.C.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and

1st. It is a non-conductor.—2nd. It is portable, being pronounced efficient, and particularly applicable for warm climates.
timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to
square of 100 feet, the cost of carriage is small. 6th. Under slate, metal, or tiles, it is a most effective non-conductor

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c., preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening sound.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29, 30, and 31, Warwick-street, W.

EDWARDES, BROTHERS, & BURKE, PROPRIETORS.

The largest and most superior Stock of Chimney-pieces in Europe on view at the above-named Establishment.

Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.

Estimates for every description of Marble Stone and Granite Work.

THE PANTECHNICON, QUEEN'S ROAD, BRIGHTON.

FOREIGN MARBLE GALLERIES, contain upwards of Two Hundred MARBLE CHIMNEY-PIECES, consisting of Carved Statuary, Vein, Sicilian, Blanc Pie, Blanc Clair, Rouge Royal, St. Anny, Black Jasper, Verd des Alps, and other coloured Marbles, in every variety of design and size, set up for view. Sculptured Marble Monuments, Headstones, &c erected. An Inspection is respectfully solicited by the Proprietors and Importers, GEO. HEAD & SONS.

N.B Packing-cases lent free of charge.

WILLIAM S. LAWRENCE

PENNANT STONE MERCHANT

STAPLETON.

OFFICE: 10, MERCHANT STREET, BRISTOL.

All descriptions of Steps, Landings, Troughs, Block Tombs, Curb Ashlar, Paving, &c., always on Sale, at his celebrated Stone Quarries, Stapleton, and at Conham, on the banks of river Avon, near Bristol.

BATH! BATH!! BATH!!!

ROBERT STRONG,

STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies

BOX HILL GROUND STONE, OF THE BEST QUALITY.

Masons' Work prepared ready for fixing.

AGENT IN LONDON:

SAMUEL TRICKETT, ISLE OF DOGS, E. and JERUSALEM COFFEE-HOUSE, E.C.

JOHN BAZLEY WHITE & BROTHERS,

MARBLE MERCHANTS,

MILLBANK-STREET, WESTMINSTER.

Marble of all kinds, and of best quality, in Block and Slab.

Marble Mortars, &c.

LITTLE CASTERTON FREESTONE.

Apply for prices, &c. to

OCTAVIUS N. SIMPSON, STAMFORD;

and see Specimens at the Office of

Messrs. PINDER SIMPSON & SONS, 2, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is used in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water works and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

TO BUILDERS, CONTRACTORS, &c.

SLATES, TILES, IRON, TIMBER, DEALS, &c.

WILLIAM DAWBARN & CO. LIVERPOOL,

Beg to acquaint their connection generally throughout the Kingdom, that they have their

NEW and IMPROVED PRICE LISTS, English Edition, 1862,

Ready for distribution, and which can be had on application.

FOREST of DEAN STONE.—Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,

Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.

That from their "Gosty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Cork-hill" Quarries, is decidedly superior to it.

Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

VICTORIA MARBLE WORKS,

38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

JOHN WREN

Begs to inform Architects, Sculptors, Painters, &c., he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

CAEN and AUBIGNY STONE.

FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.

Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.

Depôt—GRANITE WHARF, East Greenwich.

Office—4, Three Crown-square, Borough.

BLOCK STONE! BLOCK STONE!

The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall, Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.

SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also NOTE, delivered direct from the Quarries to all parts of the Kingdom.

The BEST and CHEAPEST STONE-WHARF in LONDON.

Address, SAMUEL TRICKETT, Isle of Dogs, E.

A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Many imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. A New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons. Prices forwarded and estimates given on application.—Address,

No. 1, BOLD TERRACE, CHESTER.

THE NORTH-WESTERN STONE WHARF, Canal Bridge, Camden-town, is the cheapest Stone Wharf in London. Large STOCK of all sorts of YORKSHIRE and other STONE, GRANITE CURBING, and PITCHING, as always at hand to select from. Self-faced paving at 27s. per 100 feet; 14-inch tooled, ditto, 24s. ditto; 12-inch Hare Hill Slate, 24s. ditto; and all kinds of stone, at equally low prices.—W. ASPINALL, Proprietor.

N.B.—Country orders, to ensure punctual attendance, must be accompanied by a remittance.

POLISHED GRANITE WORKS, ABERDEEN—TOMBS, COLUMNS, PILASTERS, &c., as per list of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—THOMAS & A. TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS (polished), and ARTISTIC DESIGNS suitable to the material forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or rail way. Direct communication with the principal ports for EXPORTATION. Wharf rights and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 97, Mill Bank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Merchants, Builders, and others, to their Stock as above, which is supplied and charged at the lowest prices. Headstones, Ledgers, steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

VALE of WARDOUR FREE STONE, TISBURY, WILTSHIRE.
T. P. LILLY, Quarryman and Stone Merchant, begs to introduce to the notice of Architects, Contractors, Stone Merchants, and Builders, the FREE STONE raised from recently-opened QUARRIES at TISBURY and the neighbourhood.
Geologically this stone is intimately connected with the Portland Oolites, and its workable properties present a medium between that material and the Bath stone. Numerous buildings of undoubted antiquity attest the durability of the Stone of this district. Among the most remarkable of these may be noted SALISBURY CATHEDRAL, TISBURY CHURCH, the POULTRY CROSS, SALISBURY, WILTON ABBEY, &c. raised from Contracts of Further Quarries immediately adjacent to those under notice. These are of considerable extent, and afford any quantity of stone ready for working. Some of the beds are nearly white, and others of a cream colour. There is consequently a variety in strata, the grain of some of the beds being remarkably fine, and are peculiarly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly fitted to stand the action of water, or exposure to those tests which usually try Land and aggregate the cohesion free stone.
Specimens of the Stone may be seen at Messrs. POOLE & SON'S, Marble and Stone Works, Great Smith-street, Westminster, S.W.; and at the Museum of Practical Geology, Jermyn-street, Nos 311 and 312, Case V.; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Quarry Quarries.
Orders for Worked Stone carefully executed at the Quarries. Stamps forwarded, and any other information may be obtained of
Mr. T. P. LILLY, Gillingham, Dorset.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE
YELLOW MAGNESIAN or DOLSOVER LIMESTONE
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

HY. GEORGE & COMPANY,
CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slabs in Parkspring, Hardell, &c. &c.
Grindstones, Steps, Sills, Copings, Landings, Paving, and all descriptions of Yorkshire Rock, Carboniferous and Coal Measures, from the Quarries.
Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE SILICEOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes.
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster or Patent Stone Works, Ipswich.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, fireplace, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL, at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA COTTA, have the honour to inform the Nobility, Gentry, Architects, and others, that they can be SUPPLIED from the above Works with every article in this imperishable and invaluable Material in Sculptural and Architectural Embellishment, suitable to the Palace, Mansion, or Cottage, which will be found to be unequalled in price, quality, and durability; and the Works of this Establishment have stood the test of time.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

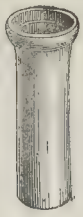
MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET,
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

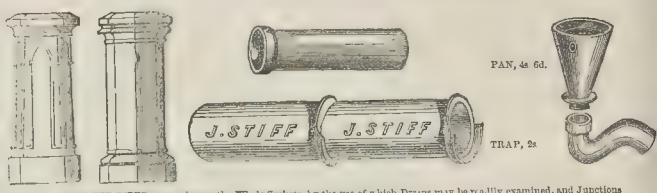
PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Thdly, that the trade term "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 381, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 9-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 38s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

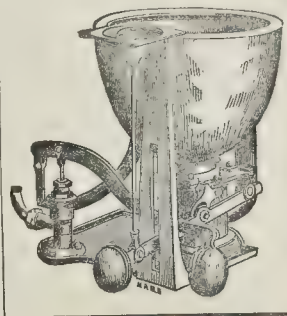
FOR CONTRACTORS' WAGGONS, DOBBIN CARTS, BARROWS, and RAILWAY PLANT,
Apply to HUGHES & MARCH,
Engineers and Timber Merchants, Falcon Works, Loughborough.

ENCOURAGE COUNTRY MANUFACTURE.
WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS
MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.
M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.


HENRY DOULTON & CO.'S
GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.
Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.
PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.
The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.
HENRY DOULTON & CO.
High-Street, Lambeth, London.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.


HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.
May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Fedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & COSENS, Dyke Wharf, City Road.
Messrs. COLES, SHADBOLT, and CO. c. St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Denver's Wharf, Chelsea.
Mr. LAVERS, Bowgate Wharf, Caledonian Road, Heaton.
Mr. HENRY TURNER'S, 2, Small Wharf, Pratt street, Paddington.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

HAYWARD TYLER & CO.
ENGINEERS AND BRASSFOUNDERS,
84 AND 85, UPPER WHITECROSS STREET, LONDON, E.C.

HOWARD'S PATENT
REGULATING VALVE,
MANUFACTURED BY H. T. & CO.
Has been fixed in every situation, and proved to be
THE ONLY EFFICIENT VALVE
FOR
SUPPLYING CLOSETS WITH WATER WITHOUT
THE COMPLICATED ARRANGEMENT OF
CRANKS AND WIRES.
The "Great Eastern" has been fitted with these Closets, and hundreds are now in operation in many large establishments in the metropolis.
H. T. & Co. solicit an inspection at the Manufactory, where they may be seen in operation.

ARMANI AND CO.
IMPORTERS DIRECT FROM THE MINES OF
PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,
LONDON, SEYSSEL ASPHALTE, PARIS,
AND BY H.M.'S ROYAL LETTERS PATENT,
MANUFACTURERS OF
1851. METALLIC LAVA. 1844.
FOR PRICE AND PARTICULARS APPLY AT THE
OFFICE, 6, GUILDHALL-CHAMBERS,
BASINGHALL-STREET.
MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION

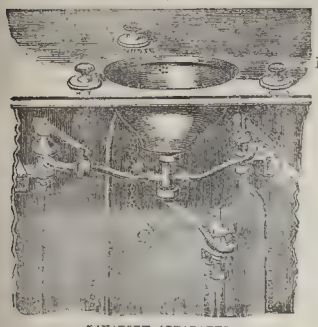
J. TYLOR & SONS,

MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

To be seen in action at the Manufactory,
WARWICK LANE,
And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, London.
ILLUSTRATED CATALOGUES ON APPLICATION.

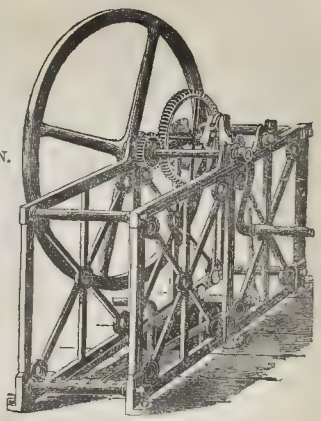


LAVATORY APPARATUS.



EQUILIBRIUM BALL VALVE.

HIGH-PRESSURE DIAPHRAGM VALVES.



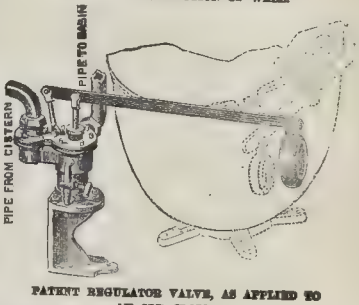
WELL-PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.

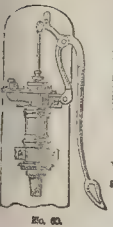


No. 83.

WARNERS' PATENT CAST IRON PUMP,
FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead, gutta percha or cast iron flanged pipe, as required.	1 1 0
2½ „ long	2 3		1 10 0
3 „ ditto	2 6		2 4 0
3½ „ ditto	2 6		2 9 0
4 „ ditto	2 6		3 10 0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			2 0 0
2½ in. long ditto ditto			2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.



No. 82.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c., is recommended for the simplicity of its construction, and the ease with which it works.

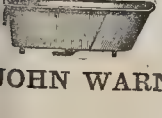
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£6 0 0	Larger sizes when required.
3 „	7 5 0	
3½ „	8 0 0	

Fitted to the best Plank, 5 ft. 8 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4 15 0
3 „	5 12 0



WARNERS' BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384. No. 383.

WARNERS' HIGH PRESSURE COCKS are made with gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re-leathered with facility.

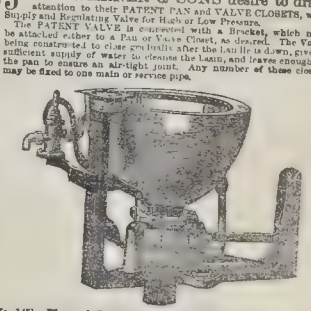
All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

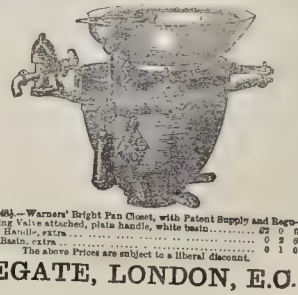
J. WARNER & SONS'
PRICED
ILLUSTRATED CATALOGUE
WILL BE FORWARDED POST-FREE ON APPLICATION.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is drawn, gives a sufficient supply of water to cleanse the Basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 1434.—Warners' Spring Valve Closet on Iron Frame, with vulcanised India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 0
Sunk handle extra 0 5 0
Blue basin, extra 0 1 0



No. 1463.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £7 0 0
Sunk Handle, extra 0 5 0
Blue Basin, extra 0 2 6
The above Prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

LONDON, CHATHAM, and DOVER RAILWAY.—METROPOLITAN EXTENSION.—Sixteenth Clearance Sale.—Building Materials of about Forty Houses, Walworth-road and New Kent road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, MARCH 21, and following day, at TWELVE, in lots, all the excellent BUILDING MATERIALS at TWELVE upwards of FORTY HOUSES, ranges of stabling and workof upwards of FORTY HOUSES, ranges of stabling and workshops, situate in front of the Walworth-road, Baker-street, Whitshops, situate in front of the Walworth-road, Baker-street, Whitford-street, Nile place, and Brighton-place, in front of the New Kent-Hart-court, Nile place, and Brighton-place, in front of the New Kent-road; comprising capital stock bricks, tiled and slated roofs, excellent timber and flooring boards, sashes, doors, chimney pieces, mahogany and pewts glass shop fronts, coach-house, gates and stable fittings, lead gutters and pipes, stoves, ranges, and an immense variety of materials and fittings-up of a modern and superior character.—May be viewed the day previous; and catalogues had at Mr. VIGERS'S Offices, 3, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

WESTMINSTER.—BUILDING MATERIALS OF FOUR HOUSES.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 24th, at TEN for ELEVEN, the MATERIALS and FITTINGS-UP of FOUR HOUSES, being Nos. 3, 4, 5, and 6, Market-street, Millbank-street (near the Horseferry); comprising 100,000 sound Stock bricks, timber roofs and floors, pan and plain tiles, stone paving, lead gutters, sashes, doors, partitions, chimney-pieces, stoves, coppers, and other fixtures and fittings-up.—May be viewed one day previous,and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster; and 80, Fore-street, City.

A Stock of French and English PAPERHANGINGS, about 10,000 pieces, of recent designs and superior quality.

MESSRS. DEBENHAM, STORR, & SONS will sell, in their large room, on the ground floor, 25, King street, Covent garden, on THURSDAY, the 20th instant, at ELEVEN, a STOCK of French and English PAPERHANGINGS, of rich designs in damasks, satins, flocks, gold, chintzes, landscapes, marbles, borders, and fillings, suitable for the decoration of drawing-rooms, dining-rooms, libraries, bed-chambers, staircases, offices, and other apartments; in all upwards of 10,000 pieces.

VALUABLE FREEHOLD GROUND on the borders of the City of London, and within a few paces of Aldersgate-street.

MESSRS. DEBENHAM & TEWSON will SELL at the MART, on TUESDAY, APRIL 8, at TWELVE, in one Lot, a Valuable PLOT of FREEHOLD GROUND, comprising nearly 12,000 square feet, adjoining the Charterhouse Schools, Goswell-street, and having frontages of 228 feet to Bell-alley and French-alley. The property is in a densely-populated neighbourhood, and offers an eligible site for small houses, manufacturing premises, baths and washhouses, and various other premises.—Particulars and Plans of JOHN MILLS, Esq. 34, Brunswick-place, City-road; and of the Auctioneers, 80, Cheapside.

FINAL SALE, the Premises being let to a Mason.—To BUILDERS and OTHERS.

MESSRS. LEREW & LEREW will SELL, on the PREMISES, 143a, Euston-road, on WEDNESDAY, MARCH 19th, at TWELVE, the remaining STOCK of 800 YELLOW and WHITE PINE PLANKS, DEALS, and BATTENS, sawn ditto, 93 squares of flooring, 2,000 feet wide pine board, 1,000 feet elm boards, 7,000 feet quartering, 2,000 feet arris railing, lime-tree, feather-edge and match boards, doors, &c.—Auction Offices, 2, Cardington-street, Hampstead-road.

HASTINGS, Sussex.—FREEHOLD BUILDING GROUND.

MESSRS. BREEAS & SONS have received instructions to SELL by AUCTION, on MONDAY, the 24th day of MARCH, 1862, at SIX o'clock in the evening, at the CASTLE HOTEL, Hastings, in one lot, all those TWO MEADOWS called "The Great Brook," and "The Bottomfield," containing together about six acres, situate in the parish of St. Andrews, in Hastings, and now in the occupation of Mr. E. M. Hooper, as yearly tenant. The whole estate is situate in the centre of the borough, near a dense and increasing population, contains a very large frontage towards St. Andrew's terrace, is singularly well situated for building purposes, or any business requiring a large area, or for the erection of houses, which are much required in this part of the town.—For particulars and conditions of sale, apply to Mr. JOHN PHILLIPS, Solicitor, Hastings; and to Messrs. BREEAS & SONS, Auctioneers and Estate Agents, 68, George-street, Hastings.

BRICKFIELDS, Silchester-road, Notting-hill.—Brickfield Plant Brick Carts, Four useful Cart-horses, Harness, Stable Utensils, and other effects.

MESSRS. ABBOTT & WRIGGLESWORTH are instructed by Mr. Paul Felthouse to offer for SALE by AUCTION, on the PREMISES, Silchester-road, Notting-hill, on WEDNESDAY, MARCH 19, 1862, at ELEVEN o'clock precisely, all the valuable BRICKFIELD PLANT, for two Skeletons, comprising chalk mill, two pug mills, pumps, iron wheeling-plates, wheeling-planks, offbearing, crowding, and navvy barrows; thacking boards, three 500-brick carts, four useful cart-horses, fast-trotting pony, horse harness, stable utensils, and other effects.—Catalogues may be had at the Notting Barn Tavern; the Talbot Arms, Clarendon-road North; the Royal Oak, Paddington; on the Premises; and of Messrs. ABBOTT & WRIGGLESWORTH, 26, Bedford-row, London; and Kynesbury, St. Neots, Huntingdonshire.

AYLESBURY, BUCKS.—The whole of the valuable BUILDING MATERIALS of the Buckinghamshire General Infirmary, consisting of a large quantity of good sound Bricks, Tattenhoe Stone Ashlering, Slates; about Eight Tons of old Lead, in flats, gutters, pipes, &c.; Roof Timber, Floor Boards, Joists, modern Sash Windows, useful sized panelled and other Doors, Staircases, Lead Cisterns, Heating Apparatus, Copper Bath, Garthtings, Water-closet fittings, Ironwork, and many other effects. TO BE SOLD by AUCTION, by Mr. ROBERT GIBBS, on the PREMISES, Buckingham-road, Aylesbury, on WEDNESDAY, the 26th day of MARCH, 1862, at ONE o'clock, by order of the Governors, in consequence of the completion of the new building. The lots will be on view two days before the Sale. The catalogues, with conditions, may be had in due time, of Mr. FRENCH, the Clerk of the Works of the new Infirmary, and of the Auctioneer, Aylesbury.

WIMBLEDON.—Valuable Freehold Building Land, close to the Station.

MR. H. O. MARTIN is instructed to SELL by AUCTION, at the MANSELL ARMS HOTEL, Wimbledon, on THURSDAY, MARCH 27th next, most eligible FREEHOLD BUILDING LAND, in Plots of from 25 to 100 feet frontage, affording capital sites for Villa Residences. The land is efficiently drained by main sewer, is well supplied with water and gas, and is one of the best building sites in the vicinity of London. Plans will lie there and conditions of sale, may be had at the Mansell Arms Hotel, of JAMES WRIGHT, Esq. 8, New Inn, Strand; and of the Auctioneer, 15, Adam-street, Adelphi.

66, SNOW HILL, CITY (first of Cockspur-st.)—To Builders, Ironmongers, Farmers, Dealers, and Others.

MR. W. BOOTH will SELL by AUCTION, as above (without reserve), on WEDNESDAY, MARCH 19th, 1862, at TWELVE for ONE o'clock precisely, CUT NAILS, WOOD SCREWS, LOCKS, BOLTS, HINGES, Sash-Lines, Pulleys and Fastenings, Stoves, Fenders, 150 Galvanized Bucket Pails, 7,000 feet Roofing Felt, Glass, Paint, and an assortment of sealing Ironmongery, sashes, doors, fittings, and miscellaneous effects.—On view the day prior; and catalogues on the Premises; and by post for a stamp.

TO BUILDERS AND CONTRACTORS.

MESSRS. BRANSON & GWYTHER, who are about to retire, are desirous of entering into an arrangement with some competent person, with a view to effect a PARTNERSHIP with one of their Sons, to continue the business, which has been for the last twenty-five years a source of high profit by them. Any gentleman desirable to suit the means of any eligible person will find a ready Capital. Further particulars can be obtained by applying to Messrs Branson and Gwyther, at their Offices, in Bishopsgate, Without, Monday next, 24th inst. Until the above written arrangements are made, the business will be carried on as usual.

NOTICE TO BUILDERS, DECORATORS, AND OTHERS.

MR. EDWIN WHITE'S SALE, at 12, HOLBORN BARS, opposite Furnival's Inn, on TUESDAY next at ONE, will comprise 8,000 pieces of really good Paperhangings, 90 Marble, Slate, and Stone Chimneypieces, worthy attention, and a few Closets, with Brass complete.—View and catalogues, MONDAY and morning of sale.

EGHAM, SURREY.—POTNALL WARREN ESTATE.—Extensive Sale of standing Oak and Fir Timber.

MESSRS. BUCKLAND & SON are instructed by the Proprietor to SELL by AUCTION, on THURSDAY, MARCH 20, 1862, at TWELVE, for ONE o'clock, at the RED LION INN, Shrubs Hill, 1,868 fine OAKS, with the tops, lops, and bark; 630 large SCOTCH FIRS; and 63 ASH and ELM TREES; all standing on the above estate; also, a number of BIRCH TREES and POLES, cut down. The Potnall Estate is about half a mile from the Sunninghill Station, and one mile from the Virginia Water Station, on the Staines and Wokingham Extension of the South-Western Railway, and is approached by capital roads.—The timber may be viewed any day previous to the Sale; and catalogues had at the Red Lion, Shrubs Hill; Catherine-wheel, Egham; and of Messrs. BUCKLAND & SON, Auctioneers, Surveyors, and Land Agents, Windsor.

ISLE OF DOGS.—Valuable Freehold Land, adapted for Building Purposes, and comprising about Eleven Acres.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on FRIDAY, APRIL 4th, at TWELVE, in two lots, very valuable FREEHOLD LAND, situate in the East Ferry-road, near the Lord Nelson Tavern, in the Isle of Dogs, and about two miles from the Poplar Station, on the Blackwall Railway, having considerable frontages to the road, and let for building purposes, and containing together upwards of eleven acres. May be viewed, and particulars had of Messrs. WESTERN & SONS, Solicitors, 7, Great Jamesstreet, Bedford-row; at the MART; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

SEVEN MILLIONS of BRICKS will be SOLD by AUCTION, in consequence of giving up the land, by

MR. WM. MAYALL, of Faversham, on THURSDAY, the 3rd APRIL next, at TEN o'clock, on the Ground, Boyford Brickfield, Sittingbourne, Kent, and half an acre adjoining, Seven Stacks, Five, Grinding, Pan Sticks, Red, and White.—Catalogues free on application to the Auctioneer; or to Mr. GEORGE SMEED, Sittingbourne.

BLACK IRONMONGERY AND JOBBING SMITH'S BUSINESS FOR SALE.

MESSRS. FULLER & HORSEY are instructed TO SELL, on very advantageous terms, by PRIVATE CONTRACT, the STOCK, TOOLS, LEASEHOLD INTEREST, and GOODWILL of a BUSINESS established at the West end of London, having a good connexion among builders, and a considerable jobbing trade. The returns are 3,000l. to 4,000l. per annum. About 1,200l. required.—Apply to 13, Billiter-street, E.C.

TO ARCHITECTS, BUILDERS, STONE MERCHANTS, QUARRY MASTERS, and OTHERS.—TO BE LET by TENDER, a QUARRY of excellent BUILDING STONE, admirably adapted to superior building purposes. It may be obtained in large sizes, and from three to seven inches in thickness. Can be worked with much facility, and becomes, on exposure to the air, hard and durable. Small specimens may be seen in the South Kensington Museum (Section A, No. 320), and its effect in the residence of the Proprietor, in Devonshire. The quarry is within a mile of water carriage. Reference as to the nature and utility of the stone can be made to Mr. R. ELLIOTT, Architect, Prince-street, Plymouth; and for further particulars to JOHN LUSCOMBE, Esq. Combe Royal, Kingsbridge, South Devon.
March 4, 1862.

LIME and STONE QUARRY TO LET, WARWICKSHIRE.—TO BE LET, on the Grand Junction Canal, a QUARRY of LIME and STONE, producing an unlimited supply of the finest Lime and Limestone. Any person who can command about 2,000l. will find this a safe and lucrative investment.—Principals only to obtain full particulars of Messrs. PETER BROAD & PRITCHARD, 28, Poultry.

WANTED either to RENT or PURCHASE, within five minutes' walk of London or Southwark Bridge (Surrey side), a PLOT of GROUND, with good access, suitable for the erection of Manufacturing Premises. The area should not be less than 8 000 feet.—Address, Mr. ANSELL, 13, Gray's-inn-terrace, W.C.

FREEHOLD BUILDING LAND, Queen's-road, Brentwood, Essex. TO BE SOLD or LET on Building Leases.—Address, Mr J. MOULL, Brentwood, Essex.

LAND at HACKNEY, sufficient for the erection of eleven houses, to be LET on BUILDING LEASES. Term, 75 years, held from the Governors of St. Thomas's Hospital. —Apply to Mr. S. TUCKER, 23a, High Holborn, W.C.; or to Mr. HENRY J. PHILLIPS, 34, Moorgate street, E.C.

BUILDING GROUND, City of London.—TO BE LET, on a building lease, for eighty years, a PIECE of GROUND, on the north side of Queenhithe Dock, in the City of London. Plans of the ground may be seen and further terms obtained, upon application at the Solicitor's Office, Guildhall.
FERDINAND BRAND, Comptroller.

BUILDING LAND TO LET, on long lease, in most cases direct from the freeholder, at HIGHBERRY, CANONBURY, ISLINGTON, within half a mile of Norwood Station, at CROYDON (very near West Croydon Station), at the VAUXHALL GARDENS ESTATE, at DENMARK-HILL, &c. and some CARCASSES, at EDMONTON, Middlesex. The usual proportion of the cost of the houses erected would be advanced, and in some cases the freehold, might be purchased.—For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

MARK LANE.—An important BUILDING SITE TO BE LET by TENDER, receivable on or before the 21st MARCH next.—Particulars and plans may be obtained at the Offices of Messrs. UPTONS, JOHNSON, & UPTON, 20, Austinfriars; or of Mr. TANSON, 7a, Laurence Pountney-hill.

BUILDING-GROUND.—CITY of London.—The Commissioners of Sewers of the City of London hereby give notice, that they will meet in the Guildhall of the said City, on TUESDAY, the 25th of MARCH next, at TWELVE o'clock precisely, to receive proposals for LETTING, on BUILDING LEASE, for eighty years, certain PIECES of FREEHOLD GROUND, situate in Newgate street and Watling-street. Further particulars, with conditions and printed forms of proposal, may be had on application at the Office, where plans of the ground may also be seen. The Commissioners do not bind themselves to accept any proposal unless deemed advantageous. Persons making proposals for the said plots of land must attend personally, or by duly authorized agent, at the above-mentioned day; and the parties whose offers are accepted will be required to execute an agreement, under bond at the time.
Sewers Office, Guildhall, January 10, 1862. JOSEPH DAW, Principal Clerk.

TO BUILDERS and OTHERS.—SELHURST-PARK, Norwood, near the Junction Station. The freeholder will co-operate with respectable builders in ERECTING HOUSES, to let at 40l. to 60l. Excellent bricks of every class on the estate. Proximity to the Junction Station, enables materials to be readily supplied. All roads made. Several first-class houses erected, all of which have been let before finished; and others are in course of completion. Natural drainage from all parts of the estate. Air proverbially healthy, water good and abundant, drives and walks beautiful; nine miles, or 15 minutes from City; 24 minutes from Westend; 4 minutes from Crystal Palace; 20 minutes from Brighton. Trains every half hour from London Bridge Station.—Particulars at Selhurst-park Office; or to Messrs. FRANCIS FULLER & CO. Cornhill, E.C.

BELSIZE PARK, HAMPSTEAD.—TO BUILDERS and OTHERS.—LAND TO BE LET, for Building with roads and sewers all complete. For further particulars, apply on the estate, at Mr. TIDEY'S Office, 20, Belsize-park.

BUILDING LAND, CLAPHAM.—TO BE LET, a PLOT of LAND, 430 feet by 110 feet, within five minutes' walk of Clapham Common, suitable for the erection of forty-two Houses.—For further particulars apply to Messrs. WIGG, SON, & OLIVER, Architects and Surveyors, No. 7, Bedford-row, W.C.

BUILDING GROUND TO BE LET on LEASE, in LITTLE TURNSTILE, HOLBORN. A desirable Freehold Plot for the Erection of Two Houses.—Apply to C. J. GRAHAM, Esq. 3, Plowden-buildings, Temple, E.C.

WATERSIDE PREMISES.—To Public COMPANIES, WHARFINGERS, and OTHERS.—TO BE LET by TENDER, the property at Millwall, lately known as Messrs. Ferguson's Mast House, and having a frontage next the Thames of 485 feet; and occupying an area of about 3¾ acres, suitable for a dock or warehouses.—Apply at Ironmonger's Hall, Fenchurch street.

TO BUILDERS.—UNUSUAL ADVANTAGES are offered to BUILDERS TAKING LAND on the Cotton Estate, Wandsworth, liberal advances being made by the proprietor. Bricks and sand may be obtained on the estate at moderate charges, and credit is given to respectable parties. The owner has built and endowed a church on the estate, and also made the principal roads and sewers, on which no charge is made. The property is freehold, land-tax redeemed and tithe free. Plots of Land are to be let, at moderate ground-rents, for a term of 99 years.—For full particulars apply to Messrs. BEADEL & SONS, 25, Gresham-street, E.C.

FREEHOLD GROUND RENTS.—CITY of LONDON.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 8th of APRIL next, at TWELVE o'clock precisely, to receive TENDERS for certain FREEHOLD GROUND RENTS, on premises let on lease, having about eighty years to run, and situate 119 and and 120, Chancery lane, 70 and 80, Aldgate High-street, 1, Minories, 4 and 9, Maidenhead-court, Aldersgate-street, particulars and plans of which may be had at this Office, together with conditions of sale. Tenders must be sealed, endorsed outside "Tender for Ground Rent," and addressed to the undersigned, and must be delivered in before TWELVE o'clock, on the said 8th of APRIL next. The Commissioners do not bind themselves to accept any tender, unless the same be deemed eligible. Parties tendering must attend personally, or by an authorized agent, on the day of treaty, and he then prepared (if their Tender be accepted), to pay the required deposit of 10 per cent. and to execute an agreement for the completion of the purchase agreeably to the conditions of sale.
JOSEPH DAW, Principal Clerk.
Sewers' Office, Guildhall, February 20, 1862.

MANUFACTURING PREMISES, with valuable Wharf Frontage on the Thames, at Millwall, TO BE LET, or the Ground Lease TO BE SOLD. The newly-erected Manufacturing Premises known as the ALPHA WORKS, Cubitt's Town, Millwall; occupying a site of about 10,000 square feet.—Apply to Messrs. FULLER & HORSEY, Billiter-street, E.C.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every Branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Architects, Surveyors, &c. for DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter. Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents their cost, and the mode of procedure to be adopted issued gratis by the General Patent Company (limited), 71, Fleet-street London. ROBERT M. LATHAM, Secretary.

A CARD.

MESSRS. CORDEROY, Surveyors (late of High-street, Marylebone), have REMOVED their OFFICES to 17, KING WILLIAM-STREET, STRAND, LONDON, W.C.
Office in Portsmouth—13, Ordnance-row, Portsea.

T. PETTITT & CO. LITHOGRAPHERS and GENERAL PRINTERS, Frith-street, Soho-square, W. beg to inform Surveyors that they are prepared to Lithograph BILLS of QUANTITIES, with the necessary specimen accounts, and most respectfully solicit a trial. A scale of charges and specimens submitted on application.
To Surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West-end, must be evident from the great convenience it may afford where despatch is required.
Working Drawings and Estate Plans carefully drawn and printed.
Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building Plans, &c., and are now fully prepared to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.
Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.
Lithographers, &c. 5, Ave Maria-lane, E.C.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMONDJARVIS, Bart. VENTNOR, ISLE of WIGHT.—Sir,—In reply to your letter received this morning respecting the Gutta Percha Tubing for Pump Service, I am stated with much satisfaction, it answers perfectly. Many builders to whom pumps have lately examined, and there is not the least appearance of the tubing breaking down, as was previously, and I am informed that it is to be adopted generally in the houses that are being erected.
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-Offices of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by George Hooper Wyman, at the Office of "The Builder," No. 4, Catherine-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, March 15, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 998. MARCH 22, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Majolica Fountain for the Great Exhibition Building. Designed by Mr. John Thomas, and executed by Messrs. Minton 207
Drinking-Fountain, Kennington Park. Mr. C. H. Driver, Architect 205

CONTENTS.

Diggings on the Palatine; Rome 197
On Pictorial Mosaic as an Architectural Embellishment 199
The Green Park a Monument 201
The Proposed Closing of Public Wash-houses 201
Looking through a Medium 202
The Architectural Association 202
What is good Iron? And How is it Got? 203
The Albert Memorials 203
The Introduction of Fresh Air into Rooms 203
Monumental 204
The Pentacle 204
Architects' Benevolent Society 204
British Archæological Association 204
Royal Institute of British Architects 204
Drinking-Fountain, Kennington Park 206
Majolica Fountain for the International Exhibition 206
The Bridge across the River Tamar, at Saltash: Institution of Civil Engineers 209
Provincial News 209
Church-building News 210
Stained Glass 210
The Prince Consort Memorial and the Bath United Hospital 210
A Suggestion as to Provincial Memorials 210
The Obelisk 211
The Roads in Stockwell 211
Classic and Gothic 211
Decisions under the Metropolitan Building Act 211
Books received; Penley on English School of Painting (Day); Strang on Statistics of Glasgow; Gairdner on Public Health (Edmonstone & Douglas); Burn's Lessons of my Farm (Lockwood & Co.) 211, 212
Miscellanea 212

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—The Members and Friends of the above Institution are requested to notice that, in consequence of the pulling down of Lyon's Inn Hall, the present place of meeting, FUTURE MEETINGS of the Institutions will be held at the SUSSEX HOTEL, Bouverie-street, Fleet-street, on the First and Third Wednesday Evenings in every month

March 19th, 1862. JOHN LUCAS, Secretary.

ARCHITECTURAL ASSOCIATION, 9, Conduit-street.—At the meeting on FRIDAY, the 28th inst. Mr. F. A. SKIDMORE, of Coventry, will read a paper "On Metal Work," to commence at EIGHT o'clock precisely

Persons not members of the Association will be admitted on giving their names to the doorkeeper on the night of meeting.

ARTHUR SMITH, } Hon. Secretaries.
CHAS. J. ADAMS, }

INTERNATIONAL BAZAAR, 1862, EXHIBITION ROAD, South Kensington.

A Building of large dimensions, consisting of a Central Hall and two aisles with capacious galleries, is in rapid course of erection on the space of ground in Exhibition-road, nearly opposite the grand entrance under the eastern dome of the International Exhibition and the entrance to the Royal Horticultural Gardens.

The proprietor of the land is erecting this building for the purpose of affording exhibition in the Exhibition, as well as others, an opportunity of selling articles of manufacture principally of a portable character, sales not being permitted in the Exhibition.

Plans of the space to be let, with the tariff, can be seen at the offices at the building.

Rough counters will be provided for exhibitors.

The utmost exertion will be made to make the International Bazaar in every other public respect.

The Bazaar will be opened and closed contemporaneously with the Exhibition of 1862.

Intending applicants for space are invited to inspect the progress of the building. As for further information apply to the Superintendent at the Building.

INTERNATIONAL BAZAAR, 1862, Exhibition-road, South Kensington.—To Refreshment Contractors.—APPLICATIONS for SUPPLYING REFRESHMENTS at the International Bazaar, from MAY until OCTOBER, will be received by the Superintendent, at the Offices, at the Building, who will give every information.

INTERNATIONAL BAZAAR, 1862, Exhibition-road, South Kensington. — To Photographers.—APPLICATIONS for the exclusive PRIVILEGE of TAKING PHOTOGRAPHS in the Building, from MAY until OCTOBER, will be received by the Superintendent, at the Building, who will give every information.

ARUNDEL SOCIETY for PROMOTING the KNOWLEDGE of ART.—The engravings and publications of this Society are on view daily, for the Free Inspection of persons desirous of Early Italian Art. The Society has lately added to the Publications of the Season by Mr. Cavalcaselle, on the Church of the Eremitani, at Padua; and the masterpiece of Perugino, at Città della Pieve.

A detailed Prospectus to the Society, 1862.

A small Publication, for 1861 (seven Chromolithographs, from frescoes in the Brancacci Chapel at Florence).

For Photographs, and full list of Works on Sale, apply to Mr. MAYNARD, Assistant Secretary, 24, Old Bond street, London.

JOHN NORTON, Hon. Sec.

THE ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, and the PUGIN COLLECTION, will BE OPEN to the Public on WEDNESDAY next. The half-crown season tickets will admit, as usual, to the Exhibition, the Lectures, and also to the Pugin Collection; but single admissions will be 1s. extra to the Pugin Collection.

JAMES FERGUSSON.
JAMES EDMESTON

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM.—SESSION, 1862. On TUESDAY next, at EIGHT p.m. precisely, a LECTURE will be delivered, in the Theatre, on "The Difference between Minster and Parish Churches," by E. A. FREEMAN, Esq. M.A.

A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Secretary.
(13, Stratford-place, W. of whom cards may be had by letter.)

BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the ENGINEER ESTABLISHMENT of the DEPARTMENT of PUBLIC WORKS in INDIA will, in the year 1862, be OPEN to PUBLIC COMPETITION

A Competitive Examination will accordingly be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates may be admitted to the examination, and also respecting the nature of the appointment to be competed for, may be obtained at this Office, on application, either personally or by letter.

DE GREY and RIPON.

India Office, 13th July, 1861.

N.B. All communications to be addressed to the "Under Secretary of State for India."

OUT-DOOR PHOTOGRAPHY.—The out-door department of the London School of Photography is entirely devoted to photographing Architectural and other Drawings, Works in Progress, Finished Buildings, Estates for Sale, and every other kind of out-door work.—Terms, specimens, &c. at 163, Newgate-street, E.C.

CONTRACTS.

POYNINGS.—The Commissioner of Woods and Forests in charge of Her Majesty's Land Revenues in England hereby gives notice that TENDERS will be received for the ERECTION of TWO PAIRS of LABOURERS' COTTAGES, ADDITIONS to FARM BUILDINGS and other WORKS, at Poynings, near Hurstpierpoint, in the county of Sussex.

The plans and specifications may be inspected on application to Mr. JAMES HOLLINGDALE, Woodrove, at Poynings, on and after the 20th inst.

Tenders to be addressed to the Hon. CHARLES GORE, Office of Woods (Whitehall place, Downing-street, S.W.), endorsed, "Tenders for Works at Poynings," to be sent in on or before TWELVE o'clock on MONDAY, the 31st inst.

The Commissioner does not bind himself to accept the lowest or any Tender.

COAST-GUARD CONTRACT.—Notice to BUILDERS and CONTRACTORS.

Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION, at Clovelly, near Bideford, in the county of Devon, may inspect the drawings and specifications at the Custom-house, Bideford, or at the Office, between the hours of TEN and FOUR, from MONDAY, the 24th inst. to SATURDAY, the 5th of APRIL now next ensuing (Sunday excepted).

Tenders to be sent to this Office not later than TWELVE o'clock at Noon on the 7th of APRIL, under seal, and directed to the Commissioners Controller General for Coast Guard, and endorsed "Tender for Clovelly Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 17th day of MARCH, 1862.

By order of the Admiralty Coast-Guard Office, 12, Spring Gardens, London, S.W.

EXTENSION OF TIME.

TO BUILDERS.—Builders desirous of TENDERING for the ERECTION of new BANK PREMISES, at Aylesbury, Bucks, for the Directors of the London and County Bank, can see the plans and specifications at the London and County Bank, Aylesbury, and at the Office, Pinner's Hall, Old Broad-street, after the 27th inst. Quantities will be supplied.—Tenders to be delivered on the 3rd of APRIL. The Directors do not pledge them selves to accept the lowest or any Tender

FREDERICK CHANCELLOR, Architect,
10, Pinner's Hall, Old Broad street, London,
and Chelmsford, Essex.

TO BUILDERS and OTHERS. — The Board of Guardians of Whitechapel Union will meet in the Board Room of the Workhouse, Charles-street, Mile-end New Town, on FRIDAY, the 28th day of MARCH next, at SIX o'clock in the afternoon precisely to receive TENDERS and CONTRACT for the ALTERATION and ERECTION of certain CHIMNEYS to STEAM BOILERS at the Workhouse of the Union, and other Works in connexion therewith. The Plans and Specifications of the Work and Works may be inspected at the Office of Mr. G. H. SIMMONDS, surveyor, Great Alie-street, Whitechapel. Tenders sealed up, and endorsed "Tender for Chimneys," must be delivered at the Workhouse at or previous to the hour of meeting.—The Guardians do not bind themselves to accept the lowest or any Tender.—By order,

G. ADAMS PARR, Clerk
Clerk's Office, Workhouse, Charles street, Mile-end New Town, N.E.

EXTENSION OF TIME.

TO BUILDERS.—TENDERS required for the ALTERATION and RE-CONSTRUCTION, by [illegible] of a House, Archway-road, Highgate, and placing a spacious [illegible] thereon. Plans, &c. may be seen on the Premises, and at the Architect's office, [illegible] Tenders are to be sent in on or before the [illegible] day of MARCH next, addressed to CHARLES SHALL, Esq. [illegible] Commissioners, 21, Kingsland-street, Arcadia, London, N.E. [illegible] does not bind himself to accept the lowest or any Tender.

CONTRACTS.

TO BUILDERS.—SION NEW BAPTIST CHAPEL, BURNLEY.—TENDERS for the whole or parts of the WORKS for the above Building will be received up to TWELVE o'clock at noon on SATURDAY, the 29th instant. Drawings and specification may be seen at the School Rooms in Chapel street, on and after TUESDAY next, the 18th instant. Quantities not supplied. The Committee do not undertake to accept the lowest or either Tender.

PAULL & AYLIFFE, Architects, Burnley.

Dated 13th March, 1862.

CONTRACT for ROAD MATERIALS.—The Vestry of the Parish of St. John, Hampstead, in the county of Middlesex, hereby give notice that they will be ready, at the Vestry to be held at the Board Room at Hampstead Workhouse, on FRIDAY, the 4th day of APRIL next, at Half-past SEVEN o'clock in the evening precisely, to receive TENDERS for the SUPPLY of the following ROAD MATERIALS, to be delivered at such places within the said parish, in such quantities, and at such times, within the period of twelve calendar months from the 25th day of MARCH inst. as may from time be directed, viz.: broken Guernsey granite, broken Markfield granite, broken Kentish ragstone, broken pit-flints, screened gravel, screened hoggin, screened shingle, screened brick rubbish and pickings, Dorking lime, and sharp Thames ballast and sand. All the materials to be of the best quality. Tenders, specifying the price per cubic yard for all or any of the above mentioned materials, distinguishing the price for delivery at the wharf, and the price for delivery at any part of Hampstead parish west of the Finchley and Avenue roads, and at any part of the parish east of the last mentioned roads, including the town of Hampstead, are to be sent under cover, endorsed "Tender for Road Materials," to me, on or before FRIDAY, the 4th of APRIL next, not later than SEVEN o'clock p.m. of that day, after which hour no Tender will be received. The Vestry do not pledge themselves to accept the lowest or any Tender. The contractor will be required to execute a written Contract, and to enter into a bond with two sufficient sureties, in the sum of £[illegible] for the due performance of the Contract. The form of Contract may be seen at the Surveyor's Office, 10, New-end, Hampstead, where further particulars may be obtained.—By order,

THOMAS TOLLER, Vestry Clerk.

Vestry Offices, Hampstead Workhouse, 18th March, 1862.

CONTRACT for PAVING and CURBING. The Vestry of the Parish of Saint John, Hampstead, in the county of Middlesex, hereby give notice that they will be ready at the Vestry to be held at the Board Room at Hampstead Workhouse, on FRIDAY, the 4th day of APRIL next, at HALF PAST SEVEN o'clock in the evening precisely, to receive TENDERS for the SUPPLY of the undermentioned PAVING and CURBING, agreeably to the specification and Schedule which may be seen daily, between the hours of TEN and FOUR, at the Surveyor's Office, 10, New-end, Hampstead, to be delivered at such places within the said parish, in such quantities, and at such times, as may from time to time be required within the period of twelve calendar months from the 25th day of March instant—viz.: Yorkshire Paving, Aberneen and Herstonite; Mount Sorrel, Markfield, and Hartshill Paving, all to be of the best quality. Tenders in a printed form, to be obtained at the Surveyor's Office, stating the price at per 100 lineal or superficial feet, or per ton, as specified in the said Schedule, of all or any of the above-mentioned materials, are to be delivered or sent on or before FRIDAY, the 4th day of APRIL next, not later than SEVEN o'clock, p.m. of that day, after which hour no Tender will be received. The Vestry do not pledge themselves to accept the lowest or any Tender. The Contractor will be required to execute a written contract, and to enter into a bond, with two approved sureties in the sum of £800, for the due performance of the contract

THOMAS TOLLER, Vestry Clerk.

Vestry Offices, Hampstead Workhouse, 18th March, 1862

SEWERAGE WORKS at HAMPSTEAD. The Vestry of the Parish of Saint John, Hampstead, in the county of Middlesex, hereby give notice, that they will be ready, at the Vestry, to be held at the Board Room at Hampstead Workhouse, on FRIDAY, the 4th day of APRIL next, at HALF PAST SEVEN o'clock in the evening precisely, to receive sealed TENDERS from persons willing to CONTRACT for the LAYING DOWN, CONSTRUCTING, and completely FINISHING certain intended BRICK and PIPE SEWERS, [illegible] feet in length or thereabouts, with [illegible] works connected therewith, in Church-row, Hoopal, and other places in and near the town of Hampstead; and for the maintenance of such works in complete repair for twelve calendar months. Plans, sections, and a specification of the works, together with the form of Tender, may be inspected, and copies of Tender and Specification may be had on payment of 2s. per copy; and other particulars obtained at the Surveyor's Office, New-end, Hampstead, between the hours of TEN a.m. and FOUR p.m. Sealed Tenders, on the printed forms, addressed to the Vestry Clerk, [illegible] delivered at the Vestry Offices on or before FRIDAY, the 4th day of APRIL next, not later than SEVEN o'clock p.m. of that day, after which hour no Tender will be received. The attendance at the Vestry of the party tendering, or of some competent person on [illegible] will be required. The Vestry do not bind themselves to accept the lowest or any Tender, and the party whose Tender may be accepted will be required to produce two approved sureties, to be bound with the contractor in a joint and several bond in the sum of £[illegible] for the due performance of the contract.

THOMAS TOLLER Vestry Clerk.

Vestry Offices, Hampstead Workhouse, March 18, 1862.

BREEZE TENDERS. The Phœnix Gas-Light and Coke Company are ready to receive TENDERS for [illegible] of all the small COKE [illegible] at their stations, until Lady Day in next year. The quantity is about 3,500 chaldrons each for La Basse and Vauxhall, and 2,000 chaldrons from Greenwich; but parties are at liberty to Tend[illegible] for any quantity not less than 500 chaldrons, to be cleared away [illegible] at the rate fixed by the Company. The contractor making a tender [illegible] hereby bind himself not to leave more than fifty chaldrons [illegible] at any station [illegible] Tenders [illegible] Company, [illegible] Vauxhall, S.W. [illegible] March [illegible]

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS and EXCAVATORS.

The Directors of the Brentwood Gas-light and Coke Company are desirous of receiving TENDERS for certain WORK required in the extension of their works, consisting of a brick gas-holder tank, retaining-wall, and other buildings, according to plans and specifications prepared by Mr. J. CHURCH, Civil Engineer, Chelmsford. The said plans and particulars can be seen on application to the Secretary, to whom sealed Tenders are to be sent on or before the 8th day of APRIL next. The Directors do not bind themselves to accept the lowest Tender.—By order,

A. FIELDER, Secretary.

March 18, 1862.

TO GAS-HOLDER MAKERS.—The Directors of the Brentwood Gas-light and Coke Company are desirous of receiving TENDERS for the ERECTION of a new GAS-HOLDER, 60 feet diameter, by 18 feet deep, with cast-iron column, girders, &c. at their Works, situate at Brentwood, according to plans and specifications prepared by Mr. J. Church, Civil Engineer, Chelmsford. The said plans and particulars can be seen on application to the Secretary, to whom sealed Tenders are to be sent on or before the 8th day of APRIL next. The Directors do not bind themselves to accept the lowest Tender.—By order,

A. FIELDER, Secretary.

March 18, 1862

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a SMALL HOUSE at Bow, Middlesex, can inspect the drawings and specification, on or after WEDNESDAY, the 26th instant, at the Offices of Mr. GIBLETT, Surveyor, 39, Southampton-buildings, Chancery-lane.—Tenders to be delivered not later than the last instant, and the Surveyor does not bind himself to accept the lowest or any Tender.

TO TAR DISTILLERS and OTHERS.—The Directors of the Chartered Gas Company are desirous of receiving TENDERS for the PURCHASE of TAR, to be taken from their three several stations (keeping them clear), viz.—Horseferry-road, Westminster; Brick-lane, Old-street; and Curtain-road, Shoreditch, during a period of twelve months. Quantity about One Million Gallons, at per gallon.—Payments to be made monthly in cash.—Proposals to be sent in by or before TWELVE o'clock (noon), on TUESDAY, the 25th instant, addressed to the Secretary, Horseferry-road, Westminster, and indorsed "Tender for Tar."

March 18, 1862.

TO BUILDERS.—TENDERS are invited for the ERECTION of NEW PREMISES for the Adelphi Banking Company, in Scott, John-street, Liverpool. Quantities may be had, and the plans, specifications, &c. seen, at the Offices of the undersigned, on and after THURSDAY, the 13th instant. Tenders to be sent to the Architect, not later than TWELVE o'clock on the 28th instant, marked "Tender for Adelphi Bank." The Directors do not bind themselves to accept the lowest or any other Tender.

C. O. ELLISON, Architect.

20, Clayton-square, Liverpool.

TO BUILDERS. — Persons desirous of CONTRACTING for the WORKS to be done in the ERECTION of a BRAWING-ROOM, at Swerage, Dorset, may see the plans and specifications, and obtain further particulars, at the Office of the Architect, Mr G R. CRICKMAY, 77, St. Thomas-street, Weymouth, on and after the 24th instant. Tenders to be sent in on or before TWELVE o'clock at noon, on MONDAY, 31st instant.—No pledge is given that the lowest or any Tender will be accepted.

TO BUILDERS.—Persons disposed to TENDER for the ERECTION of a BAPTIST CHAPEL, and the Conversion of the present Chapel into Schools, at Chipping Norton, may see the plans and specification thereof, in application at the Offices of Messrs GIBBS, THOMPSON, & COLBOURNE, Stratford-upon-Avon, between the hours of NINE and SIX, on and from TUESDAY, the 25th instant, to the 8th proximo, where the quantities, &c. may be had on payment of 2s. Tenders to be sent to Mr. G. B. SMITH, Chipping Norton, on WEDNESDAY, the 9th of APRIL, proximo. The lowest Tender will not necessarily be accepted.

Stratford-upon-Avon, March 18th, 1862.

LIME TENDERS.—The Phœnix Gas-light and Coke Company are ready to receive TENDERS for the SUPPLY of WHITE PLARE BURNT LIME, for their stations at Rainhill, Warrington, and Crewe, until Lady Day in next year. The quantities will be about 1,500 yards. The Lime is to be fresh burnt from the kiln, unbroken, of the best quality, and to be delivered at the Stations in quantities as ordered, in lots of 50 or 80 yards divided between two stations. Payment to be in cash, quarterly; or parties Tendering can offer for payment in cash only, or in Bresse only. The Tenders to state the lowest price per yard by barge. The Tenders to be marked with words "Lime Tender" on the cover, and to be delivered at the Company's Offices before TWELVE o'clock on WEDNESDAY, 26th MARCH, 1862.

TO BUILDERS, BRICKLAYERS, and OTHERS. — LIVERPOOL CEMETERY, ANFIELD PARK, WALTON.—The Burial Board for the Parish of Liverpool are prepared to receive TENDERS for the CONSTRUCTION of BRICK GRAVES, VAULTS, TERRACE STEPS, &c. in the above Cemetery. The plans and specification can be seen, and other particulars obtained, at the Offices of the Board, 12, Clayton-square, on and after THURSDAY, the 24th instant. Sealed Tenders, addressed to the Chairman of the Board, endorsed "Tenders for Brick Graves, &c." are to be sent in on or before the 3rd day of APRIL next. The Board do not bind themselves to accept the lowest or any of the Tenders.

By order,
LUCY & LITTLER, Architects, } to the Board.
GEORGE TURVEY, Clerk,

12, Clayton-square, March 19, 1862.

TO IRONFOUNDERS and BOILER-MAKERS.—TENDERS are required, on or before the 7th day of APRIL next, for the ERECTION of a PLATE GIRDER BRIDGE, for Bronllarth, Merfod, Montgomeryshire, of 100 feet clear waterway, and 18 feet over all. Plans and specifications can be seen at the Office of the County Surveyor, Kerry, Montgomeryshire. Bronllarth is about 10 miles from the Llanymynech Station, on the Oswestry and Newtown Railway.

THE VESTRY of the PARISH of CHELSEA, in the County of Middlesex.—SCAVENGING and WATERING.—The Vestry of this parish will meet at the BOARD ROOM at the Vestry Hall, King's-road, on TUESDAY, the 25th day of MARCH instant, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT pursuant to the terms of a draft contract, now lying for inspection at the VESTRY HALL aforesaid, and which may be seen on application to the VESTRY CLERK, for WATERING the STREETS, roads, lanes, courts or other or both of the districts in the parish (exclusive of Kensal Town), from the said 25th of MARCH instant to the 1st day of OCTOBER next, and for the REMOVAL of the SLOP from one or other or both of the said district from the said 25th of MARCH instant to the 1st day of MARCH, 1863. The Tenders are to name one amount for both scavenging and watering each district, and are to be prepared in forms, which may be obtained at the Office. Parties Tendering to attend personally on the day the Tenders are opened, and the parties whose Tenders are accepted (if any) will have to pay the cost of and incidental to the preparation of the Contract. Sealed Tenders, signed by the proposed Contractor, with the names and description of two sufficient householders resident in Chelsea, are to be left at the Office on or before TWELVE o'clock on TUESDAY the 25th instant. The Vestry do not bind themselves to accept any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, March, 1862.

RYDE FLOATING-BATH COMPANY (LIMITED).—EXTENSION of TIME for TENDERING.—The Tenders for a Floating-Bath (as previously advertised) are to be delivered by NOON on MONDAY, the 7th day of APRIL next. The plans and specification may be seen at the Office of the Engineer, Mr F. NEWMAN, 10, George-street, Ryde after WEDNESDAY, the 26th instant. Neither the lowest nor any Tender will necessarily be accepted.

Ryde, March 19, 1862.

SAFE and PROFITABLE INVESTMENT

For SALE, 250l. of the CAPITAL STOCK of an established SLATE COMPANY, in shares fully paid up, with prospective advantages rarely offered.—Address, free, A. B. 26, Unton-street, Southwark.

PURE STATUARY MARBLE!

and in slabs of large dimensions, can be obtained at

M. W. JOHNSON'S MARBLE WORKS,

363, EUSTON-ROAD, London, N.W.

Prices moderate.

M. W. J. has also an immense stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821

BOX MARBLE CHIMNEY-PIECES, with 2 feet 6 inch opening, for 11. 1s.; bold Truss Chimney-pieces, for 2l. 2s.; superior Moulded Truss Chimney-pieces, 11 inch jambs, 11-inch shelf, 14 inches wide, 3 feet opening, for 3l. 15s. A large assortment on view. R. SPRAGG, 4, Hollingsworth street, St. James's-road Holloway.

SIXTY MARBLE CHIMNEY-PIECES

TO BE SOLD, in consequence of Monsieur Beernaert, of the Belgian and Westminster Marble Works, Millbank-street, Westminster, having discontinued his Show rooms in London. The above Chimney-pieces consist of Carrel Statuary, Bibl Rouge Royal, Black Trussed, &c. &c. The above will be sold at a great sacrifice—in fact, no reasonable offers will be refused.—Apply to Mr. PILTON, Westminster Marble Works, Parliament street, Hinchley-road, S.W.

THE PANTECHNICON, QUEEN'S ROAD, BRIGHTON.

FOREIGN MARBLE GALLERIES,

containing upwards of Two Hundred MARBLE CHIMNEY-PIECES, consisting of Carved Statuary, Vein, Sicilian, Blanc Fin, Blanc Clair, Rouge Royal, St. Ann's, Black, Jasper, Verd des Alpe, and other coloured Marbles, in every variety of design and size, set up for view. Sculptured Marble Monuments, Headstones, &c. erected. An inspection is respectfully solicited by the Proprietors and Importers, GEO. HEAD & SONS.

N.B. Packing cases lent free of charge.

VICTORIA STONE WHARF,

PIMLICO, near the VICTORIA STATION.—GEORGE DIKE begs to invite the attention of Builders, Masons, &c. to his large Stock of Portland Blocks, Landings, Headstones, Yorkshire Paving Slabs, Steps, Sinks, Coping, &c. and all other descriptions of Stone and Wood Stock, which he is now supplying at exceedingly low terms. All kinds of goods landed and carted.—N.B. The nearest landing wharf to the International Exhibition

STONE CHIMNEY-PIECES.

A. TELLING & CO. beg to inform Builders and the public generally that they are prepared to supply STONE BOX CHIMNEY-PIECES, with 8-inch Piers and Moulded Caps and Bases, fitted to any opening for 6s. 6d.—10, Conduit-place, London-street, Paddington, W.

WILLIAM S. LAWRENCE,

PENNANT STONE MERCHANT

AND PLASTERER,

OFFICE: 10, MERCHANT STREET, BRISTOL.

All descriptions of Steps, Landings, Troughs, Block Tombs, Curt Ashlar, Paving, &c. always on Sale, also Bedded Stone Quarries Stapleton; and at Conham, on the banks of river Avon, near Bristol.

BATH! BATH!! BATH!!!

ROBERT STRONG,

STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies

BOX HILL GROUND STONE, OF THE BEST QUALITY.

Masons' Yards and Buildings ready for fixing.

AGENT IN LONDON:

SAMUEL TRICKETT, ISLE OF DOGS, E.

and JERUSALEM COFFEE-HOUSE, E.C.

JOHN BAZLEY WHITE & BROTHERS,

MARBLE MERCHANTS,

MILLBANK-STREET, WESTMINSTER.

Marble of all kinds, and of best quality, in Block and Slab.

Marble Mortars, &c

LITTLE CASTERTON FREESTONE.

Apply for prices, &c. to

OCTAVIUS N. SIMPSON, STAMFORD;

and see Specimens at the Office of

Messrs. PINDER and PEARSON, Bayswater-hill, Neville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is of a pure free cut stock in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

TO BUILDERS, CONTRACTORS, &c.

SLATES, TILES, IRON, TIMBER, DEALS, &c.

WILLIAM DAWBARN & CO. LIVERPOOL,

Beg to acquaint their connection generally throughout the Kingdom, that they have their

NEW and IMPROVED PRICE LISTS, English Edition, 1862,

Ready for distribution, and which can be had on application.

FOREST of DEAN STONE.—

Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,

Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.

That from their "Gosty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Dark-hill" Quarries, is decidedly superior to it.

Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

VICTORIA MARBLE WORKS,

38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention

CAEN and AUBIGNY STONE.

FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.

Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.

Depôt—GRANITE WHARF, East Greenwich.

Office—4, Three Crown-square, Borough.

THE NORTH-WESTERN STONE WHARF, Canal Bridge, Camden-town, is the cheapest stone Wharf in London. Large STOCK of all sorts of YORKSHIRE and other STONE, GRANITE CURBING, and PITCHING, is always on hand to select from. Self-faced paving at 27s. per 100 feet; 14-inch landing, 4s. 6d.; 12-inch, 4s.; 9-inch, 3s. 6d.; 8-inch, 3s.; and all kinds of stone, at equally low prices.—W. ASPINALL, Proprietor.

N.B.—Country orders, to which immediate attendance cannot be accompanied by a remittance.

THOMAS ROBSON & NEPHEW,

MARBLE MERCHANTS,

WHITEHALL WHARF, CANNON-ROW, WESTMINSTER.

MARBLE OF BEST QUALITY IN BLOCK AND SLAB.

MAGNUS'S ENAMELLED SLATE

obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,

No. 1, BOLD TERRACE, CHESTER.

BELLMAN & IVEY,

SCAGLIOLA MARBLE MANUFACTURERS,

14, BUCKINGHAM-STREET, FITZROY SQUARE,

LONDON, W.

Execute, in the most workman-like manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including

THE ARCHITECTURAL SCREEN,

exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. Terms very moderate.

PLASTERERS' WORK OF EVERY DESCRIPTION,

IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.

Also Manufacturers of Superior and Improved Plaster of Paris.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by

WILLIAM & JOHN FREEMAN,

27, MILLBANK STREET, LONDON, S.W.

POLISHED GRANITE WORKS,

ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston road, N.W.

BLOCK STONE! BLOCK STONE!

The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall, Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.

SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also NOTE, delivered direct from the Quarries to all parts of the Kingdom.

The BEST and CHEAPEST WHARF in LONDON.

Address, SAMUEL TRICKETT, Isle of Dogs, E.

A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.

SHOW ROOMS, 5, CANNON-STREET, E.C.

LONDON DEPÔT, NEWCASTLE, 8, TAYLOR.

Manager—JAMES J. TRATHAN, Liskeard.

This Granite is selected for the New Westminster Bridge.

DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.

EDGE RUNNERS OF SUPERIOR QUALITY.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK CANAL.—WEST END DEPOT for YORKSHIRE PAVING, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.

Country orders promptly attended to.

VALE of WARDOUR FREE STONE,

TISBURY, WILTSHIRE.

T. P. LILLY, Quarryman and Stone Merchant, begs to introduce to the notice of Architects, Contractors, Stone Merchants, and Builders, the FREE STONE raised from recently-opened QUARRIES at TISBURY and the neighbourhood.

Geologically this Stone is identical with the Portland Oolites, and its workable properties present a medium between that material and the Bath stone. Numerous buildings of conspicuable antiquity attest the durability and texture of the Stone of this district. Amongst these may be cited SALISBURY CATHEDRAL, TISBURY CHURCH, the POULTRY CROSS at SALISBURY, WILTON ABBEY, &c. erected from Chilmark and other Quarries immediately adjacent to those under notice. The beds are of considerable thickness, and blocks of any ordinary size are readily obtained. Some of the beds are nearly white, and others of a cream colour; there is consequently variety in strata, the grain of some of the beds being remarkably fine, and are peculiarly adapted for ornamental, and especially carved work, whilst other beds produce a stone much more indurated, which would be perfectly fitted to stand the action of water, or exposure to those tests which usually affect and disintegrate the common free stone.

Specimens of the Stone may be seen at Messrs. POOLE & SON'S, Marble and Stone Works, Great Smith-street, Westminster, S.W.; and in the Museum of Practical Geology, Jermyn-street, Nos. 311 and 312, Case V.; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Tisbury Quarries.

Orders for Worked Stone carefully executed at the Quarries. Samples forwarded, and any other information may be obtained of Mr. T. P. LILLY, Gillingham, Dorset.

RED MANSFIELD STONE.

WHITE MANSFIELD STONE.

YELLOW MAGNESIAN or BOLSOVER LIMESTONE.

Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.

Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is entirely arrested, efflorescence stopped, and all liability to dampness removed without injuring the colour of the stone, &c.

Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

INDIA-RUBBER MILL BANDS,

WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA-RUBBER WORKS, GOSWELL MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

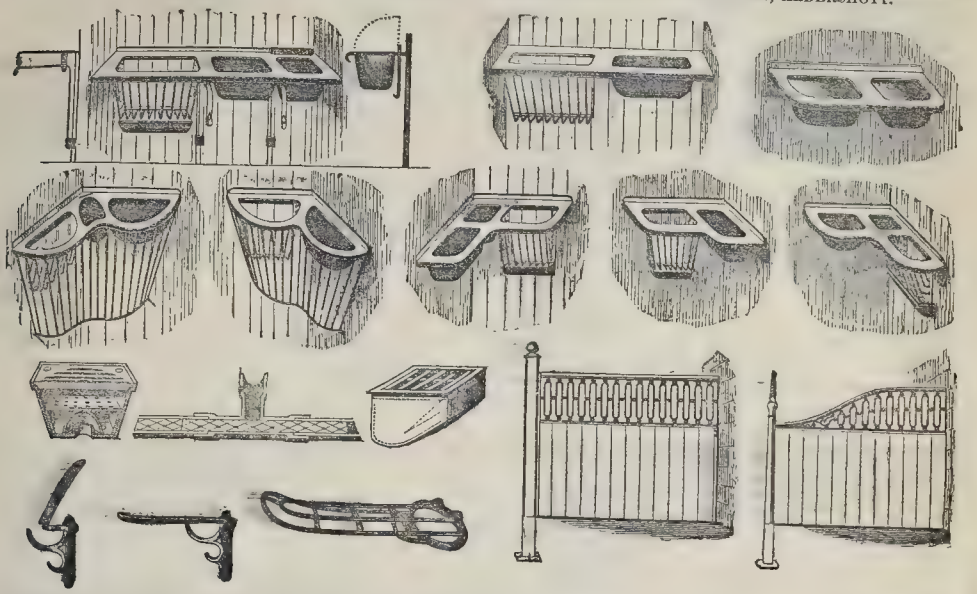
COTTAM & COMPY. 2, WINSLEY STREET, OXFORD STREET, LONDON W.

COTTAM'S PATENTED AND REGISTERED

STABLE AND HARNESS-ROOM FITTINGS.

ORIGINAL INVENTORS OF THE UNDER-FEEDING PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, AS ONE FIXTURE.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM arranged for inspection in full-sized Stalls, Loose Boxes, &c. a portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

Knightley's Patent Stable Floor.

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—Winsley Street is the Street opposite the Pantheon.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON

RAILWAY BRIDGE BUILDER.

RAILWAY STATION ROOFING

Manufactured in WROUGHT and CAST IRON, and Erected.

TANKS in WROUGHT and CAST IRON.

Wrought Iron Doors, Boiler and General Smiths' Work.

EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,

SHEETS, BARS, L and T IRON.

Bond Hoop Iron from Stock.

CRANE CHAIN AND CABLE MAKER.

CONTRACTORS' PLANT, RAILS,

WROUGHT AND CAST WHEELS AND AXLES.

WAGGON IRONWORK, PEDESTALS, &c.

AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

PROFESSOR VARNELL'S STABLE ARRANGEMENTS.

RECOMMENDED BY THE

ROYAL VETERINARY COLLEGE.

INSPECTION OF THE

FULL-SIZED STALLS AND LOOSE BOXES,

ERECTED AT THE WORKS FOR SHOWING THESE INVENTIONS, IS INVITED.

Every Description of Stable Furniture.

ILLUSTRATED LISTS ON APPLICATION.



CAST AND WROUGHT IRON WORK OF EVERY DESCRIPTION,

PLAIN AND ORNAMENTAL.

GATES, CIRCULAR STAIRCASES, STAIRCASE, BALCONY, TOMB.

AND

OTHER RAILING;

VERANDAHS, IRON SASHES, CASEMENTS, SKYLIGHTS, CORRUGATED IRON ROOFS

AND

HOUSES, COLUMNS, GIRDERS, FLITCHES, TANKS IN WROUGHT AND CAST IRON, &c. &c.

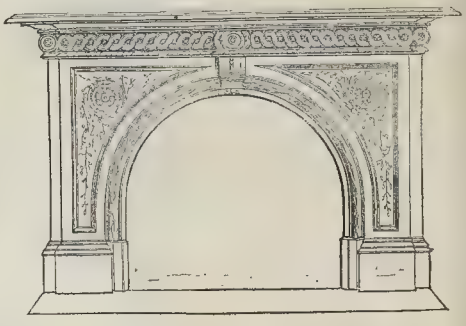
THE RICHEST ASSORTMENT OF CHIMNEY-PIECES

IS AT

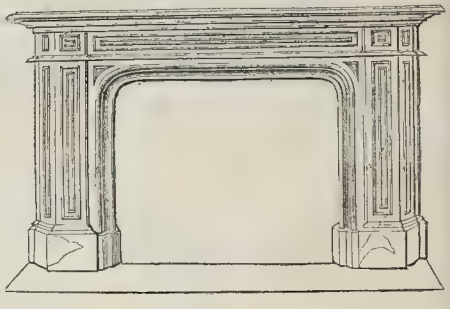
WILLIAM S. BURTON'S.

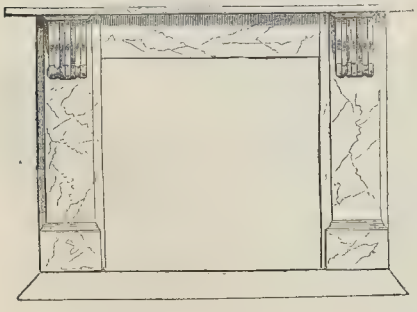
It embraces the following Foreign and English Marbles:—Italian Statuary, Brocatelle d'Italie, Brocatelle d'Espagne, Brocatelle Brune, Griotte d'Italie, Jaune Fleuri, Vert Antique, St. Remis, Black and Gold, Black, Rouge Royale, Vein, &c. &c.; and it includes the undermentioned styles: Renaissance, Louis XIV., Louis XV., Pompadour, Louis XVI., Moderne, à Balustres, &c. &c. Most of the designs are new; while several, from their rich and exquisite sculpture, are veritable works of art. A complete assortment of Enamelled Slate Chimney-pieces is also on show, including many elegant designs. The Prices range from 1*l.* 8s. to 100*l.*

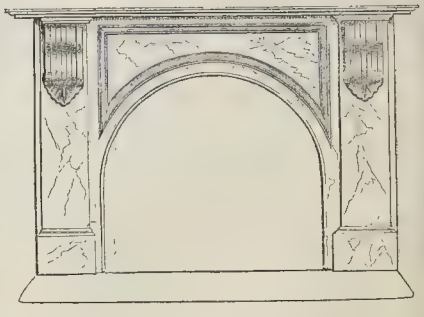












WILLIAM S. BURTON'S

GENERAL FURNISHING IRONMONGERY CATALOGUE

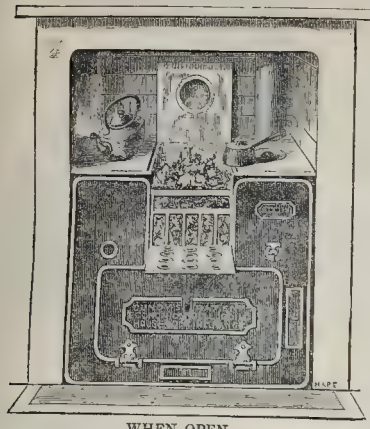
MAY BE HAD GRATIS, AND FREE BY POST.

It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro Plate, Nickel Silver and Britannia Metal Goods, Dish Covers, Hot-Water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays, Urns, and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed-room Cabinet Furniture, &c with Lists of Prices and Plans of the TWENTY LARGE SHOW-ROOMS at

39, OXFORD-STREET, W; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE; and 1, NEWMAN-MEWS, LONDON.

ESTABLISHED 1820.

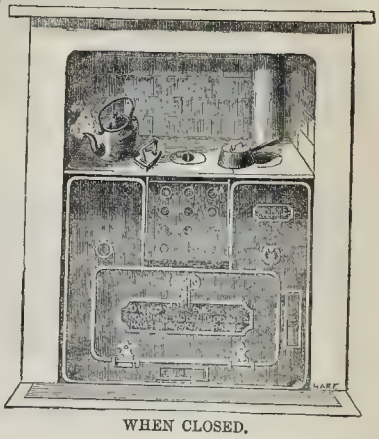
CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of

THE MANUFACTURER,



WHEN CLOSED.

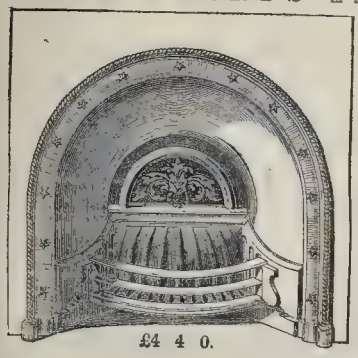
WILLIAM ADDIS, Nos. 6 and 15, LEICESTER-ST. LEICESTER-SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

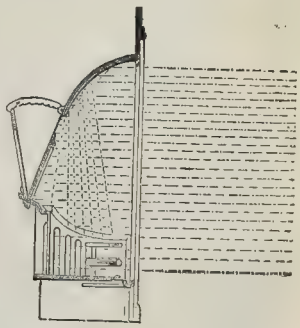
A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.

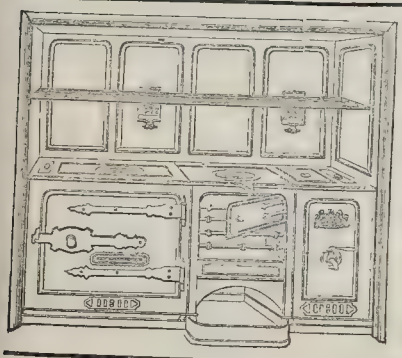


£4 4 0.

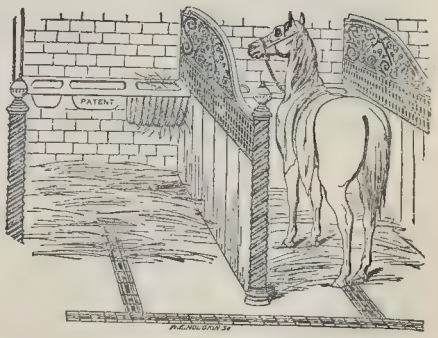
It is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO THE CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz.—that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate, while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



STOCK AT No. 159, SHOREDITCH, LONDON.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decoration executed in Plaster, Cotton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

IRON BRIDGE WORKS
WROUGHT IRON GIRDERS OF ALL KINDS,
ROOFING, TANKS, BOILERS, SMITHS' WORK, &c.
LEWIS & STOCKWELL,
BARKING ROAD, LONDON, E.

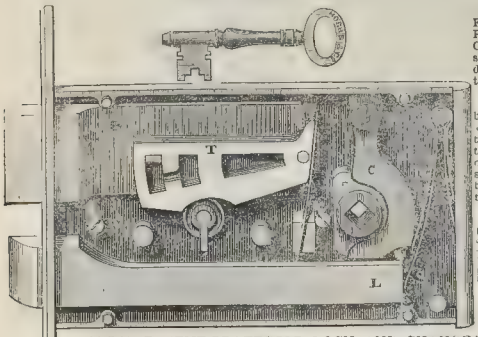
TO ARCHITECTS, BUILDERS, AND CABINET-MAKERS.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, S, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES, AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of WROUGHT IRON TUBE and FITTINGS,

FOR HIGH-PRESSURE-WATER; OR STEAM.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

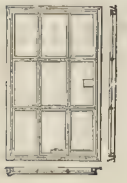
MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,

Are prepared to supply, without delay,

MALLEABLE IRON CASTINGS TO PATTERN,

OF THE BEST QUALITY AND AT MODERATE PRICES.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

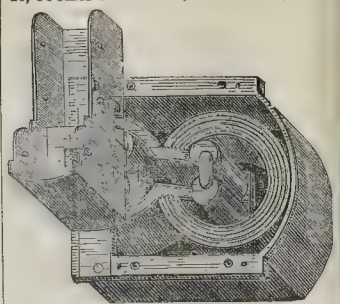
DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.

38 & 65, YORK-STREET, WESTMINSTER.

HART & SON,

53 to 58, WYCH STREET, STRAND, W.C., and 20, COCKSPUR-STREET, PALL-MALL, S.W.



MANUFACTURERS OF IMPROVED FLOOR-CENTRES, FOR SWING DOORS, BUFFER-SPRINGS, ARNOTT'S & SHERINGHAM'S VENTILATORS, PITT'S & CLARK'S PATENT DOOR FURNITURE,

And every description of General Ironmongery.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS



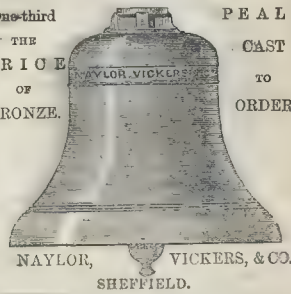
Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W.

Drawings and Estimates furnished.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.

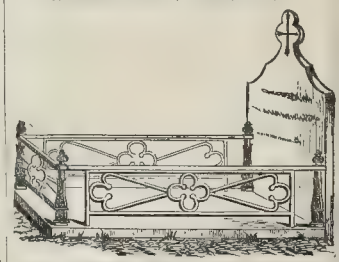


PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES, COMMUNION RAILINGS, SCREENS, GATES, &c.



Illustrated Price Catalogue of Railings Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY STREET, OXFORD STREET, LONDON, W.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Railings, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

SHEET ZINC AND METAL PERFORATING WORKS.

FRANCIS RUMMENS,

PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.

HIGHLY APPROVED ROOFING ZINC,
BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.
ZINC SLATING NAILS.

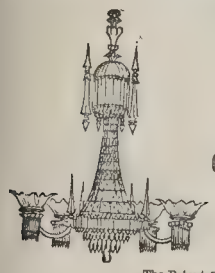
CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,
STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.
Descriptive, Illustrated, and Priced Catalogues free per post.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.
Iron roofs erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Berkley-street, Birmingham, and Limehouse, London.
LONDON OFFICE—61A, MOORGATE STREET, E.C.



THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,
MANUFACTURERS OF
MEDIÆVAL AND OTHER GAS-FITTINGS,
CRYSTAL, BRASS, & ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY.
WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.
The Patent Gas Regulator and Purifier reduced to 8s. 6d. per dozen.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)
WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.

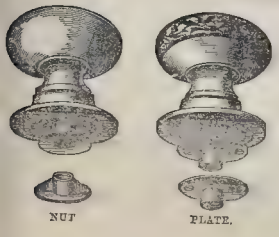
We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass founders, &c. ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

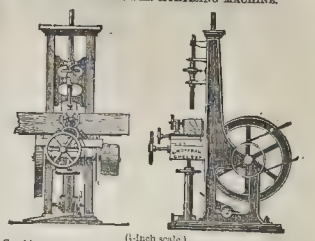
*** Illustrations and particulars sent upon application.



NUT PLATE.

S. WORSSAM & CO.'S PATENT

IMPROVED POWER MORTISING MACHINE.

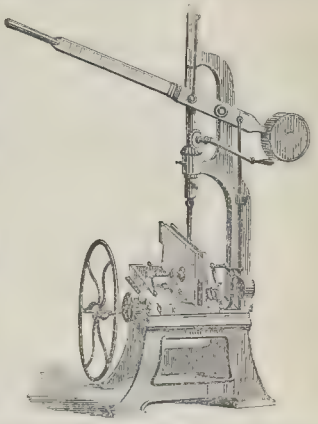


(¼-Inch scale.)

Combines many improvements not to be found in any other mortising machine. A single machine worked by a man, with a boy to assist in removing the stuff, will do as much work as ten joiners, or as four hand machines.—Priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's road, Chelsea, S.W.

POWIS, JAMES, & CO.

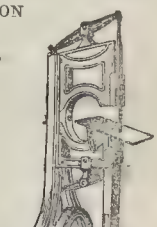
VICTORIA WORKS, BLACKFRIARS ROAD, LONDON.



Patent Combined Machine for Mortising, Tenon-cutting and Boring. (The only patent in the United Kingdom for one machine to do the three kinds of work.) Makers of all kinds of Sawing and Wood-Cutting Machinery, Steam Engines, &c. &c.—Office, 26, Watling-street, London, E.C., where Drawings and Prices can be had on application.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,
Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

A PRIZE MEDAL for SUPERIOR LOCKS

was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Sliding Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired, at 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 30 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE
14, Stanhope-street, Clare-market, London.

ART-UNION OF LONDON,

1862.

444, WEST STRAND, W.C.

Instituted 1837. Incorporated 1846.

President.

THE RIGHT HON. THE LORD MONTEAGLE.

Vice-Presidents.

HIS GRACE THE DUKE OF NORTHUMBERLAND, | THE MOST HONOURABLE THE MARQUIS OF NORTHAMPTON,
THE RIGHT REV. THE LORD BISHOP OF ELY.

Council.

EDMUND E. ANTROBUS, ESQ. F.S.A.
HENRY BAKER, ESQ.
CHARLES BARRY, ESQ.
ROBERT BELL, ESQ.
THOMAS BELL, ESQ. F.R.S.
FRAS. BENNOCH, ESQ. F.S.A.
J. B. BUNNING, ESQ. F.S.A.
JOSHUA W. BUTTERWORTH, ESQ. F.S.A.
B. B. CABBELL, ESQ. F.R.S.
REV. E. COLERIDGE.
ROBERT DICKSON, M.D. F.L.S.
CHARLES JOHN DIMOND, ESQ.
GEORGE DODD, ESQ. F.S.A.
PROFESSOR DONALDSON.
WILLIAM EWART, ESQ. M.P.
GEORGE GODWIN, ESQ. F.R.S. F.S.A.
THOMAS GRISSELL, ESQ. F.S.A.
J. A. HALLETT, ESQ.
PHILIP HARDWICK, ESQ. R.A.
EDWARD HAWKINS, ESQ. F.S.A.
HENRY HAYWARD, ESQ.
WILLIAM HERBERT, ESQ.
CHARLES HILL, ESQ. F.S.A.
HENRY T. HOPE, ESQ.
ROBERT HUDSON, ESQ. F.R.S.
JOHN MARTIN, ESQ.
THEODORE MARTIN, ESQ.
R. MONCKTON MILNES, ESQ. M.P.
H. A. J. MUNRO, ESQ. F.S.A.
J. R. PLANCHÉ, ESQ. ROUGE CROIX.
LEWIS POCOCK, ESQ. F.S.A.
THE VERY REV. DEAN OF ST. PAUL'S.
J. R. SODEN, ESQ.
JAMES STEWART, ESQ.
R. ZOUCH S. TROUGHTON, ESQ.
SIR GARDNER WILKINSON, F.R.S.
R. WESTMACOTT, ESQ., R.A., F.R.S., F.G.S.
SAMUEL WILSON, ESQ. ALDERMAN.

LIST CLOSES 31st MARCH inst.

EVERY MEMBER WILL RECEIVE, FOR EACH GUINEA, AN IMPRESSION OF

A LARGE AND IMPORTANT LINE ENGRAVING BY C. W. SHARPE,

FROM THE ORIGINAL PICTURE BY

FRED. GOODALL, A.R.A.

"RAISING THE MAYPOLE;"

BESIDES A CHANCE OF ONE OF THE PRIZES AT THE ANNUAL DISTRIBUTION,

WHICH WILL INCLUDE

THE RIGHT TO SELECT FOR HIMSELF A VALUABLE WORK OF ART FROM ONE OF THE PUBLIC EXHIBITIONS;

TAZZAS in commemoration of H.R.H. THE LATE PRINCE CONSORT, as a Patron of Art, Science, and Literature, from Designs by John Leighton, F.S.A.;

BRONZE STATUETTES OF "CARACTACUS," from the Original, by J. H. FOLEY, R.A.;

BAS-RELIEFS, in Fictile Ivory, of Subjects from Milton, by E. W. Wyon and R. Jefferson;

BOOKS of ETCHINGS, by E. Radclyffe, from Drawings by the late David Cox;

MEDALS IN SILVER commemorative of the late Sir C. Barry, R.A. &c.

All produced expressly and solely for the Society.

*** **The Impressions of "RAISING the MAYPOLE" are now ready for delivery.**

March 1st, 1862.

GEORGE GODWIN, LEWIS POCOCK, } *Honorary Secretaries.*

The Builder.

VOL. XX.—No. 998.

*Diggings on the Palatine; Rome.**

BEFORE inquiring as to the results of late excavations, it may be well to consider what the Palatine has been, and what are the discoveries obtained on its classic height within modern times. The first to describe its conditions in the sixteenth century was the archæologist Fulvio (*Antiquitates Urbis*), who, referring to about the date 1527, describes it as covered with ruin, and the only one of Rome's Seven Hills quite uninhabited. Though, in a notice of the year 1534, we read of a few cottages among the vineyards and pasture lands then occupying its surface, I find that the church, once S. Sebastiano in Pallaro, had now become known by a second name also, as S. Andrea. Not long after this period, was built here a Casino, with planted gardens, by the family of the Dukes Mattei; the architect Raffaellino dal Colle, who adorned a small portico, or loggia, with frescoes of some beauty, mythologic subjects, from designs of Raffaelle's. Left long to suffer from neglect, these were at last restored by Camuccini, 1824, as commissioned by Mr. Mills, eventually owner of this Casino, for whom it was purchased by Sir William Gell, 1818; first as the joint property of both gentlemen, to be enlarged into that "Villa Mills," now a convent so frightfully conspicuous in its staring absurdity. About 1552 Onofrio Panvinio drew up a map of all these ruins, supplied in his work on the "Circensian Games." By Pope Paul III. were formed the ornamental gardens called after him "Farnese," extending over the eastern slopes of the Mount, designed by Antonio Sangallo; and, after that architect's death, completed by Michelangelo, with curious summer-houses and loggie, once rich in artistic objects, but long left to the desolation and decay in which we now see them. About 1624 the remains of Vespasian's vestibule were converted into a factory for saltpetre; and, thirty-one years later, was raised, by charitable contributions, the convent of S. Bonaventura, for mendicant Franciscans, on the terrace-ground (above the arch of Constantine), the site of Heliogabalus's baths; the great central halls of which these buildings immediately stand upon;—strange and impressive opposition between the memory of that great and luxuriously-effeminate emperor and the austerely self-denying order of voluntary paupers! In laying the foundations for this church and convent were found, as we learn from the "Memoirs of Sante Bartoli," numerous fragments of pavement in oriental alabaster, mutilated statues and busts: strong chambers were opened, evidently serving for reservoirs of water, reduced into other limits as the refectory of the friars. Soon afterwards several columns of giallo antico, disinterred in the Mattei gardens, led to a much more precious ensuing discovery,—that of a subterranean chamber entirely lined with tapestry of woven gold, which, however, faded away like a phantom, reduced to dust by the newly-admitted air; next to that of another underground chamber, incrusted with plates of silver, bearing traces of an ornamentation in gold, all which (still more deplorably) the workmen were allowed to carry away for sale as so much useless old metal! By the beginning of the seventeenth century all the Mount, where not yet so appropriated already, was covered with vegetable gardens and plantations. In 1731, the Farnese estate became the property of Elizabeth, Queen of Spain, owing to the extinction of the direct male line representing her family; and towards the end of that century were removed, either to the Farnese Palace in Rome or to Naples, all the antique fragments hitherto left, in rich profusion, among these ruins. Two complete columns of giallo antico had been purchased, out of the lot, by the Parma government, for 3,000 sequins. At that Roman palace are still seen many of these relics, architectonic and others; but the Bourbonic Museum, at Naples, possesses the greatest art-treasure yet discovered on the imperial mount;—the large and unrivalled sardonyx tazza, exquisitely chiselled with a sphinx and a group of seven figures on one side, an ægis on the other. One discovery, in the sixteenth century, was that of the portal belonging to Vespasian's vestibule, with jambs of Greek marble 30 feet high; and about the same period were disinterred a colossal basalt bust of Jupiter; a statue of Hercules, very similar to that called "the Farnese," which the Grand Duke of Tuscany purchased for the Pitti Palace; and about twenty torsi of Amazons, larger than life, supposed to have adorned the Palæstra, in niches along its porticoes. Among remains still accessible in the Farnese gardens are two subterranean chambers, opened in 1726, of brickwork, and now descended to by modern stairs, through a rupture in the walls, no original entrance being known. Popularly called the "Baths of Livia" (see Madame de Stael's reflections, under this misapprehension, in *Corinne*) these are supposed by Nibby to pertain to some house still more ancient than the Cæsarian buildings, absorbed (as were several residences) within those vast edifices, to become mere substructures or cellars: others infer that they belong to the palace of Augustus, reduced to vaults, and thus made inaccessible, for the erection of his temple to Apollo. Certain it is, that the channels along their walls, suggesting the idea of baths, could have been nothing else than gutters for guarding against or draining off damp: but however once used, these subterraneans are most interesting for the sake of the beautiful paintings still seen, though dimly (by taper light), and much faded, on their high-hung ceilings, in graceful designs of mythologic and arabesque character; the figures partly gilt on a sky-blue ground, and partly of that colour, with the ground golden.*

A long valley, now inclosed and cultivated as a vegetable garden—the *Orti Ronciani*—is considered the site of the Palæstra (or Hippodrome); its area, 550 feet in length by 170 feet in breadth, having been surrounded by porticoes, with Corinthian columns, restored by Septimius Severus, after the great fire, under Commodus; and some capitals of these colonnades were brought to light in 1824. In 1817, had been discovered a marble-incrusted staircase, leading from this area to the apartments overlooking it at one extremity. Its western limit is formed by a carved extent of lofty walls, pierced by arched windows; and to our left, looking in that direction, opens a spacious exedra, like those in the halls of Caracalla's Thermæ; still a considerable elevation, connected with a concentric corridor immediately behind its semicircle, on whose vault is still the stucco ornamentation in coffers, once gilt or plated with metal. Excavations, ordered by Mr. Mills, in 1827, led to the exhuming of several fragments in giallo antico and other marbles, that showed the action of fire on their surface, near his villa.

Before closing our review of past labours for antiquarian research on this height, we must notice those of the Abbé Rancouriel, begun in 1775, when the Mattei Villa was occupied by him. They resulted in the uncovering of the noblest ruins yet beheld here, and ascribed to the system of buildings added by Domitian, contiguous to the original Augustan Palace. Three halls have remained accessible; but the rest, with all their rich profusion of details, have been either consigned to second interment; or, in the entire material, carried off for sale! The principal hall appeared to be one of the most splendid—150 feet by 120 feet, with marble pavement, fourteen fluted columns, mostly paonazzetto; and eight niches, containing colossal statues of basalt, each flanked by two giallo antico pillars, the whole surface of walls incrusted with marbles. Two adjacent halls contained tribunes (or apses), advancing towards the Circus Maximus; one, from its richer style, supposed an imperial *pulvinar*, for enjoying the spectacles there exhibited. It is but tantalizing to read the reports of these barely-recovered and again lost remains of pomp, now that, since the excluding of the public from the demesne sacred to nuns, even the ruined piles yet erect can be but descried at a distance. (See the "Beschreibung Roms," by Platner and Urlichs.)

Nibby's researches on the site of Augustus's residence (1825-6) are fully described by him in his "Roma Antica." They enabled him to trace, to his own satisfaction at least, the vestibule, with six pillars and pilasters; the atrium, an open area, 105 feet by 95 feet, surrounded by a portico of fifty Ionic columns; baths, communicating by a quadrate chamber with this peristyle; a circular and an elliptical hall, and other octagonal chambers; one of which, from its four carved recesses, like those of the Roman banquet-rooms, he identified as the triclinium. He speaks of the precious incrustations, Phrygian paonazzetto, giallo and rosso antico, pavements of white and coloured marbles, there profusely strewing the ground recently upturned for his investigations; but all at last thrown away, actually carted off within his sight, to be sold to the stone-cutters on the Forum! Two entire capitals of giallo antico were among the treasures thus wasted, as he deplores; and even within the period ensuing before his work was published, he tells us the aspect and interest of these antiquities had in great part passed away, much having been again buried under soil; so profound the indifference of authorities!

It is difficult now to identify any one of the discoveries reported by Nibby; but, at the north-western angle of the Mount, in a territory purchased long since by the Russian, and recently by the French, Emperor, are still standing a series of small quadrate chambers, roofless, but so perfect that on their stuccoed walls may be admired the beautiful, though faded, remains of arabesque painting, with graceful little figures of genii, birds, and garlands; and near, now set within a modern wall, thrown up to exhibit them better, many portions of white marble cornices and friezes, with dog-tooth and egg moulding; one erect granite column, with its marble Corinthian capital; and, on a fragment of frieze, two dolphins, resting upon an anchor, in allusion (as Nibby infers) to the victory of Actium, for the adornment of one of Augustus's chambers.

On the partitions of these chambers are several roughly-scratched names, in Greek and Latin letters, considered to have been written in idle moments by soldiers quartered here, probably in the third century; and among such familiar records was discovered, about four years ago, a curious monument of Pagan hostilities against Christianity, a rude *caricature* of the crucifixion, the figure on the cross with an ass's head! another figure standing below, in attitude of prayer, and the words beneath, in defective Greek, "Anexa-

* See p. 177, *ante*.

* Dr. Braun laments the "continually advancing destruction" that threatens to obliterate all that remains. Near to the spot where we descend into the miscalled "Baths" are considerable substructures, supposed those of the Palatine Apollo's temple, and of another dedicated to Jupiter, the cella of which former is believed to have stood immediately over these subterraneans, supported by a massive wall that attaches but does not apparently pertain to them.

menos worships his God." On one hand are inoffensive efforts, in schoolboy style, at the sketching of figures, armed men and horses, in outline; and one dilettante has scratched on the stucco, with tolerable correctness, an ass drawing water from a well by a process one sees to this day practised in Italy; under this being legibly written his sage counsel to the animal:—"*Labora aselle quomodo ego laboravi et prodierit tibi.*"

The crucifixion is now in the museum of the Roman College, one of the Jesuit fathers attached to which, Garucci, has published a learned report, ascribing this strange calumny to the epoch of Septimius Severus. Near the same angle of the hill are the remains of the external stairs made by Caligula; and several other chambers, against the declivity, may still be traced, some apparently octagonal, among the confused ruins on this side; supposed the site of Tiberius's additions to his paternal mansion. But the most extensive and strikingly picturesque remains are those of the vast constructions of Septimius Severus, on the south-western side, overlooking the Circus Maximus, and now within the gardens of the English College, reached by a steep staircase, and through the yard of a humble farm-house. Two piles of lofty vaulted chambers, double-storied, form here a kind of screen, advancing in front of the Mount, and rising to a height correspondent with its summit, an enormous wing of edifices still imposing in decay. Standing on the spacious terrace at their highest roof (the lower, between the two stories, having given way, except where each chamber is divided by an arch from the next) we appreciate the scale of these majestic buildings; and, below, must admire the fine combinations of ruins and woods, the long perspective between files of vaulted halls, shadowed by luxuriant foliage, where the play of light and shade, on a sunny day, produces effects the most beautiful that the artist could desire. The myrtle and ilex grow luxuriant here; and the ruin-terrace, partly encumbered by their dark green folisge, commands one of the noblest views of a deserted but classic region within the city's walls,—of mountains and Campagna to the south and west. At the centre of these advancing structures is a third file of vaults, forming a front projecting more immediately above the Circus Maximus (now an untenanted valley of gardens); and above this pile rises a conspicuous ruin, containing a lofty elliptical hall, evidently once divided into two stories; its front, towards the Circus, describing a wide curve, with two lateral-arched niches, supposed the elevation of the imperial loggia (*pulvinar*) for contemplating the games and spectacles in that arena below. Canina calls this the *Meniano Palatino*.*

At the foot of the Mount on this side are eight long vaulted chambers, now the workshops of artisans, and probably pertaining to the Circus. At the foot of the southern declivity are six other chambers, similar in plan, but of different masonry; their arched entrances closed by ancient Roman brickwork, till recently opened; making it evident that their interiors had been rendered inaccessible, to serve as mere substructures to buildings above. Their masonry, less fine and regular, and with more cement than that of the imperial palace, as well as their site, led Nibby to consider these the remains of the *Curiæ Veteres*, mentioned by Tacitus as at this southern base of the hill. Near them rise the arcades, with six piers of the Neronian aqueduct, which supplied water from the Claudian, still conspicuous in ruin on the opposite Cœlian Hill, and the Palæstra on the Palatine. In these, as in all the imperial constructions on the latter mount, to the south and west, the masonry is lateritial brickwork, still compact, and in many places scarcely the least injured by time. The confusion and want of correspondence in plan, frequently show how anterior have been sacrificed to later buildings,—halls and corridors deprived of their original connexion. Remains of coffered ceilings, and of pavements, in a coarse black and white mosaic, are found in the buildings; evidently belonging to a considerable range, behind the exedra of the Palæstra.

In 1847 were discovered some massive walls in quadrate blocks of stone, supporting the declivity on that side within the gardens of the Russian emperor; believed a remnant of the primeval fortification, called, from the form of the city, perhaps anterior to Romulus, Roma Quadrata; but, in that year of political excitements, little attention being given to antiquarian pursuits, these interesting relics were left to be in part dispersed. Near the arch of Titus is seen the pavement of the Clivus Victoriæ,* that ascended the hill from the Via Sacra; and, following the modern road in this direction, we pass, to the left, a long range of vaults referred to the time of Adrian; traversed, just at the brow of the ascent, by remains of lofty vaults, about 8 feet thick, identified as the vestibule of Vespasian, which, running in two parallel lines, may be supposed to comprise in part the atrium also, whose area Nibby has precisely traced, together with its outer front. Here is the entrance to the court, where a solitary little church, and mansion for an officiating priest, are all that is left of the Mediæval Benedictine Abbey of St. Sebastian; some terra-cotta ornamentation (perhaps of the fifteenth century), and a few old inscriptions, one dated 977, the only details noticeable, except a pretty terrace-garden, and two stately aloes, guarding the entrance of this quiet sanctuary, said to mark the site of the soldier-martyr's sufferings in the grove, or portico, dedicated to Adonis. Passing beyond, we enter the Barberini vineyard, extending over the southern declivity, and have a near view of its ruin-boundaries, consisting of vaults, that served for cisterns to supply the baths of Heliogabalus; but must regret that the once picturesque convent of S. Bonaventura to our right, has been deformed by ugly additions in recent years. Soon after Napoleon III. had purchased for 10,000*l.* the entire Farnese estate on this hill, he began (in October last) the excavations, superintended by Signor Rosa, a much-esteemed archæologist; and recently made visible, through orders from that gentleman, every Thursday. These works, without having yet laid open the ground to any great depth below the surface, have brought to light much that is precious; still more that is suggestive; the chief area of discoveries being level with, and near to the outer limits of, that villa now inhabited by nuns of the Visitandine order. Most interesting are the objects near or upon the site of the Palatine Apollo's temple and Augustan library, of which the only remains hitherto seen above-ground were two lofty piles of formless ruin in brickwork. Near these we now find, uncovered, two spacious parallelogram courts, inclosed by ruins that seem to have been porticoes, with outer walls and niches, each terminating, at the western end, in a hemicycle (or exedra), one retaining still its beautiful pavement of porphyry and serpentine, laid in diamonds and circles, bordered by other coloured stones. At two angles of the parallelogram thus in part paved, are massive columns of grey-speckled granite, but only two imperfect shafts preserved: around are portions of an incrustation in different tinted marbles; and in a recess on one side a heap of architectonic fragments (in white and other marbles, one the remnant of a moulding in finest rosso antico), showing a richly-elaborate style, and in several examples the characteristics of the Corinthian cornice. May not this area, we naturally ask, be the sacred forecourt, the inclosed precincts, amid which rose that superb temple to the Delian god? Beyond, and nearer the western ridge of the Mount, under the insurmountable convent-walls, is another level surface without cincture or ruins, paved in coloured marbles of the finest description, mostly giallo antico and paonnazzelto (purple-veined Phrygian), scarcely in any way injured by their long interment. Further to the east, and above the church of S. Teodoro (popularly called "the Temple of Romulus," but proved to be on the site of the Vesta fane), these excavations have added new interest to the imposing remains of Caligula's buildings, already conspicuous from the Forum—a long extent of vaulted chambers, some low and narrow, others lofty and evidently for nobler uses, but so confounded with the constructions of Nero, that it is difficult to distinguish their several purposes. Here we see the reticulated brickwork, never found in the buildings of Septimius, and far less common than that preferred, at this as later periods,—the *opus lateritium*; and among these earlier structures several vaults, hitherto choked up by soil, are now cleared, others opened at their inner limits, so as to lead into corridors and suites of subterranean rooms, yet but partially disencumbered and dimly seen by taper-light; plan or general design scarcely traceable, under present circumstances. At one opening we look down into a labyrinth of passages, with walls furrowed by deep channels, perhaps for draining. Among heaps of *débris* lie fragments of beautiful marbles, Greek or Egyptian. In one of the smaller chambers stands an armed statue resembling Adrian, but ill-proportioned and inferior: other more valuable sculptures are now deposited in a large summer-house, consisting of architectural fragments, limbs of statues (some finely executed), a very well-draped female statuette, the torso only, and two Hermeses, each double-headed, an old and a youthful countenance looking different ways, on the same basement. About 60 men continue daily at work here. The visitor is troubled by no custodian or guide, but left entirely to explore and conjecture for himself. We observe many places where soil has been again piled up after recent upturning; and may be led to conclude that these investigations, valuable as are their results hitherto, will lead to yet more magnificent rewards for the energies bestowed on them.

Others, begun within the last few weeks on the land purchased originally by the Russian Emperor, have yet led to nothing noticeable. But here, at the north-western angle of the mount, we may look with interest on what remains of the fortifications uncovered in 1847, an extent; some 100 feet, of buttress-walls propping the declivity here of granular tufo that requires such support, in unequal but regularly hewn peperino blocks. The volcanic peperino (called also *petîra Albana*, because from the Alban Hills) was used in the earliest Roman constructions, as we still see in their remains; the walls of Aerinus, and those lately discovered under S. Anastasia, supposed of Romulus. This also forms the boundary-wall, a stupendous structure, to the Forum of Augustus, behind his temple and Mars Ultor; the Mamertine prisons and the Cloaca Maxima, the Tabularium, and the arcades of three aqueducts. The *opus reticulatum*, seen in some parts of the Palatine ruins, far less common than the lateritial brick masonry here predominant, was used during the first two centuries of the Emperor, but not later than Caracalla; whose worn surface shows at once an antiquity leaving far distant all other Palatine ruins; indeed fairly to be admitted as, next to the Egyptian obelisks, *the* most ancient remains of Rome. A work to form an epoch in the study of this city's past, lately produced by Ampire,* justifies the conclusion that Roma Quadrata must have been a Pelasgic settlement, perhaps succeeding to one of the Siculi primævally settled on this height, but ages anterior to Romulus, who did not name, but took his name *from*, the town he may have enlarged so as to comprise, instead of about one-third the area, the entire region called, from its aboriginal occupation, Palatine,—not more, indeed, than about 1½ English mile in circuit. Conjectural maps of its primitive state, under Sicilian and Pelasgic colonies, show the precise coincidence of that "Quadrata Roma," in its northern outworks, with the line of walls from west to east but recently discovered near S. Anastasia. Here, too, in a hollow near the same angle, stands one of the most curious objects brought to light in late years,—an altar for oblations of wine, incense, &c., in travertine, chiselled with scroll ornaments, and scales at the summit, in the Early Consular style, bearing on its frontis-piece the epigraph,—

"Sei Deo sei Diveæ Suc.
C. Sextius, C. F. Calvinus, Tr.
De senati sententia restituit."

This Calvinus was son of a consul, in office 124 years before our era; and Canina supposed the dedication to refer to the mysterious *Olius Locu-*

---

* *Mœnianus*, in the sense of a balcony, deriving from the name of the person who first introduced this luxurious arrangement to enjoy the games of the Circus without quitting his mansion. The extensive ruins, so conspicuous from every point of view, upon this south-western height, were, it is believed, the last residence of imperial state on the Palatine, the last inhabited when Heraclius was at Rome in the seventh century.

* Some authorities place this *clivus* on the northern side, near S. Anastasia, its name deriving from the Temple of Victory, to which it led; and here, close to the arch, has been placed the Porta Magonia of the Romulean city; though, at all events, the principal entrance to the imperial palace corresponded in site. To our left we here see the massive ruins of the Frangipane castle, *Turris Chartularis*, and their pavement of quadrate peperino blocks, above which we perceive the quantities of white marble fragments, mixed with common stones, in the rubble-work of the thick walls, now scattered around.

* "Les Pélasges, sous leur nom historique et sous celui d'Arcadiens que la tradition poétique leur a donné, sont donc venus à Rome; ils ont fondé ou du moins nommé Rome. Deux collines ont été habitées par eux: le Palatin, où était leur citadelle de Romus, et le Quirinal, qui a dû recevoir des Pélasges son nom Grec et antique d'Agôn (Mons. Agonus). Nous savons maintenant qu'Arcadiens était le nom poétique des Pélasges. Au pied du Palatin la présence des Pélasges nous a été indiquée du côté du nord-est, qui est celui du Forum, par le temple de Vesta,† du côté de l'ouest, dans la région du Vélabre Pour Pélasgique, par l'autre de Pan, dieu Pélasgique; plus loin, par les temples de Cérès et d'Hercules."—*L'Histoire Romaine à Rome*, l. 7.

† This ingenious and earnest writer undertakes to prove that Vesta's Temple did not, as Roman archæologists assume, occupy the site of the circular church, S. Teodoro, supposed to have risen from its ruins on the same plan, but at the end of the Forum, below the Palatine's north-eastern angle, near the three columns of the Curia Julia, the atrium (or cloister), of the Vestal sisterhood a little more to the west, where now stands the modern church, S. Maria Liberatrice, and where legends place the abyss into which St. Sylvester drove back the death-breathing dragon, charmed into submission by virtue of the cross!

tius (genius of the voice) mentioned by Cicero (*De Divinatione*), whose awful accents announced at midnight, from the sacred grove of Vesta, the taking and destruction of Rome by the Gauls.

ON PICTORIAL MOSAIC AS AN ARCHITECTURAL EMBELLISHMENT.*

IT is now fifteen years since I had the honour of bringing under the notice of this Institute a branch of the art upon another department of which I purpose making a few observations this evening. I was induced, for some time prior to that date, to pay attention to the subject of *geometrical* mosaic for two reasons—the one general, the other special. The general, because I looked upon any possible addition to the technical pharmacopœia (if I may so express it) of the architect as conducive to the introduction of the most legitimate novelty in his art: and the special, because I recognized, in the contemporary efforts making by enterprising manufacturers, and in a rapidly-growing demand on the part of the cultivated public, every probability that an important branch of industry was incubating by the one, and likely to be hailed with welcome by the other.

A parallel conjuncture of demand and supply one cannot fail to perceive to be approximating at the present date in relation to *pictorial* mosaic; and, in the hope that my humble exertions may contribute in some degree to the development amongst us of that branch of the art, as to a certain extent they may have done in past years with respect to geometrical mosaic, I venture to address to the meeting this evening a few remarks, mainly limited to the practical interest of the subject.

It would, however, be an act of dereliction to the real grandeur of my theme if I failed to notice what important subjects of inquiry for the art-student, any such limitation necessarily precludes our taking cognisance of this evening.

Thus, firstly, there is the invaluable illustration which the series of still existing pictorial mosaics, dating from the earliest to the most recent Christian epochs, might be made to afford of the changeful spirit in which, at various periods, fervid faith has, as it were, assimilated to itself now one, and now another, cycle of religious personifications of a more or less simple or complicated Christian mythology; sometimes veiling its aspirations in symbolism, and at others setting forth dramatically the leading events upon which its hopes and fears were based.

Next, perhaps, to this, which may be designated the liturgical interest of the art, is that which is, more strictly speaking, iconographical, including the much-vexed question of the degree in which many of those generally rude but nearly imperishable pictures,—which survive while almost every cotemporary graphic record has perished,—reflect the usual aspect, the costume, and true physical characteristics of the clergy and laity, the rulers and the ruled, in the early ages of Christianity.

Von Rümohr, in the "Italienische Forschüngen," thus ably hints at the suggestive value of such primitive records:—"There is, indeed, much in the representations of the early Christian mosaics which carries us back into extreme antiquity, perhaps into the very first century of the reign of Christianity. In these our Saviour, the Apostles, and Prophets, invariably appear in complete classical costume, in long tunics, with the pallums superposed, and with naked feet, protected only by the sandals commonly worn in imperial times. When recent saints are introduced the habits of antiquity are exchanged for rich and more barbaric dresses; and the feet are usually completely covered." The value of these ancient types we find acknowledged by subsequent artists, as celebrated and modern as Raphael himself; for, as the same writer justly remarks, in the cartoons and in some of the most remarkable of the Vatican frescoes, we cannot fail to recognize an approach to the primitive forms of early Christianity, in the guise of a return to Classical models, subordinated to the conventions handed down from the Church of the Early Fathers by tradition, from artist to artist, and from priest to priest.

Thus, thirdly, is there a purely archæological interest attaching to pictorial mosaics, connecting those decorations with the individuals by whom, or for whom, they were executed, with the specific periods at which they were wrought, and with the structural peculiarities of the monuments they adorn. On this branch of the subject, Ciampini, Gurietti, and Spreti, have left but little virgin soil for the nineteenth century literary labourers to dig into.

Thus, fourthly, and lastly, is there also an interest which affects us as architects more nearly (probably), than either the liturgical, iconographic, or archæological. I allude to the illustration afforded to the general history of graphic art by the numerous relics of pictorial mosaic, which supply, for nearly every century, from the Christian era downwards, an unbroken series of documentary evidence of those fluctuations of progress in design which, bridging over a Mediæval chasm, connect ancient Classical art with its revival under the great masters of the fifteenth century in Italy and their disciples to the present day. Having in two addresses delivered before this Institute, one in 1847, and the other in 1855, dwelt at some length, although incidentally, on the position of pictorial mosaic in art history, I may trust to your indulgence for treating, in general terms only, this really most interesting aspect of our evening's theme.

Having thus noted what I desire to eliminate, let me briefly define the point of view from which I would fain engage you to look with me at the whole matter this evening. That point of view is simply the one from which we may best realize what architects have to learn and to do, in order to effect a practical revival of the art in the present day. In describing in one of the addresses already alluded to, some of the mechanical operations of the ancient mosaic worker, I repeated in the year 1855 what I had first advanced in 1847, viz.—that I saw no reason whatever why we should not carry out in the various processes of mosaic, "exactly what the Greeks and Latins practised of old." If I was justified in that remark then, I am more than justified now, for as I shall hope to presently convince you, many practical difficulties formerly existing have been removed, and convictions as to the eligibility of the revival entertained by a few then, are now heartily sympathized with by many, able not to dream and desire only, but to work and to do. So strongly, indeed, is the current now setting in, that I feel convinced it will be ere long incumbent on every architect practising in the higher walks of the profession, to make himself acquainted with the best mode of dealing with what, when once adopted, will, I do not doubt, become the most popular means of adding the graces of colour to the refinements of form and proportion. Mural painting must in our climate ever have to contend with elements, certain to shorten its ephemeral beauty. If attempted in real fresco, damp, fog, and frost speedily fasten upon its very vitals, tending to set the lime against the oxides and other pigments, which in time are eaten away, as even in Italy we frequently see them, into nothingness. Fresco secco is still less permanent. Tempera, or distemper, I need not waste a word upon. Oil or encaustic painting involves the use of vehicles darkening, turning yellow, shrinking irregularly, and ultimately often detaching themselves from the ground to which they are applied. What, then, is left to us, if we would have our decorations live after we have ceased to live, but those processes over the most delicate and the boldest pictures produced by which, experience has proved that a thousand years may pass "and steal no grace away."

I purpose now, in the first place, putting before you in a summary form the nature of such experience derived from the past; and in the second glancing at the various scopes, and difficulties, of the art, in its production and application. The main historical phases of pictorial mosaic were the following seven:—

1st. Classical.
2nd. Latin.
3rd. Byzantine.
4th. Greco-Italian.
5th. Italian monumental.
6th. Italian portable.
7th. Mosaic in *pietre dure*.

The first, or *Classical*, is no doubt well known to all present in its general aspect; but as the foundation of all the other styles, it demands a somewhat closer view; the more especially, I think, because this closer view may enable the architect to realize some distinctive features in ancient decoration; revealed to us through no branch of art more distinctly than through mosaic. These features I essayed to deduce from ancient illuminated manuscripts, in a paper read in this room in June, 1860; but they may be better recognized in the various remains of Classical mosaic. In the Roman decoration of Imperial times, two distinct schools may be traced; the one most ancient—founded on Egyptian, Dorian, and Etruscan models—chiefly affecting monochrome combinations of black and red or buff, or delicately-coloured subjects and ornaments on uniformly flat grounds; and the other rejoicing in the glowing tints and golden and spangled grounds of the East, popularized after the spoils of Ionian, Corinthian, Phœnician, and Syrian magnificence had given that taste for gorgeous costume which led to the substitution of the Babylonian embroidery and figured tissues in costume, and wall-hangings, for the simpler stuffs, indulged in during the republican ages. Whether the art of fabricating gold ground mosaic was of Oriental discovery, or whether, as is more likely, it was derived from the north of Africa,—the nursery of the glass and enamel trade,—are as yet unsettled points; but that it was freely adopted in imperial times is proved by the various specimens still existing at Pompeii and Naples. It is certainly curious to remark how devoted the ancients were to tesselation as a system, whether in their finest or coarsest examples. Large surfaces of uniform colour are invariably made up of small cubes, little varying in size in any portion of the work. No special labour is bestowed on fine joints, and no effort is made to disguise their effect by using coloured cement stoppings. The jointing was evidently accepted as an artistic convention, and with good taste and judgment it was kept regular, so as to prevent distracting the eye from the pictured forms. Its lines were invariably made to subserve by contrast the effect of the flowing contours wrought upon it; and no effort was made by the use of large slabs, combined with tesseræ, to save the labour or expense consequent on reducing the whole to one uniform guage of size or rectangularity. This reduction of all to a common modulus is one of the sources of that appearance of flatness and repose which peculiarly marks all well-designed pictorial mosaic. Such regularity is infinitely more important than fineness of work. The best specimens of the value of this adherence to guage over large plain surfaces with which I am acquainted, are those noble black and white pavements, and wall and vault linings, which abounded in the baths of Caracalla, at Rome. To those of my hearers familiar with such mosaics as those of the "Battle of Issus," at Pompeii; of Pliny's "Doves," in the Museum of the Capitol, at Rome; of the fine pavement found amidst the ruins of Hadrian's Villa, at Tivoli, now in the Hall of the Masks, in the Vatican; of the splendid arabesques and head of Minerva, brought from the site of Cicero's Villa, at Tusculum, and now in the Hall of the Greek Cross; it is needless to state that, in all that constitutes perfection in graphic imitation, the fine *opus vermiculatum* of the ancients left nothing to be desired. Not only was form represented by light and shade, and local colour expressed by positive colour, but the utmost refinement of graduation in shadow-tints and reflected lights was accurately copied from nature. Even in that curious mosaic removed from the Temple of Fortune to the Barberini Palace, at the ancient Prænestе, now Palestrina, in which the learned have recognized the identical primitive specimen referred to by Pliny, in the words, "*Lithostrata cæptavere sub Sylla ætat quod in Fortunæ delubro Prænestе fecit*," a great variety of colouring and much minute execution in the animals, figures, and landscape are to be observed. For the production of such vivid and varied tints, natural self-coloured materials, such as marbles, stones, &c., could not suffice; and the skill of the glass-worker was therefore pressed into the service, to enrich the mosaic-worker's palate. For him, not only were vitreous pastes prepared, glowing with every colour of the rainbow, but chemical processes for staining and tinting natural materials were brought into use; and finally the vitreous pastes were overlaid with gold, covered in its turn by a thin film of pure white glass, which effectually secured the metal surface from contact with noxious gases or damp vapours. Not content with applying his incrustation to plane surfaces, the mosaic-worker learnt also to adapt it to the varied forms of *basso relievo*. In this country, among the Pembroke marbles at Wilton, we possess one of the few specimens known of this curious mosaic; which was at once sculpture and painting. Nor is it in such exceptional productions only that we are rich, since in the more ordinary kinds of pictorial mosaic, in which figure subjects are combined with flowing and conventional ornament, the soil of this country has teemed with valuable reliques of the Roman occupation of our island. Of these from my own portfolios, and through the kindness of many friends (Mr. George Maw being the one to whom I am most indebted), I am enabled to present to your notice this evening a very fair assemblage of representations. Among them let me direct your special attention to the following:—

The magnificent head of Ceres, from Corinium

* Read by Mr. M. Digby Wyatt, V.P., at the Royal Institute of British Architects, as elsewhere mentioned.

(Cirencester); the subject of Orpheus, from Winterton, near Lincoln; the Bacchus at Thruxton, Hants; the scenes of the Circus, from Horkstow-on-Humber, Lincolnshire; the head full-size, showing the tesselation, from Bignor, Sussex; the fine Bacchus, from Stonesfield, near Warwick; the grand pavement, from Littlecoat, Wilts; and the Bacchus found on the site of the East-India House, Leadenhall-street, now in the Indian Museum. The most remarkable specimens of Roman work brought to this country from other lands are, a few small pieces in the Temple collection, and the noble fragments of an extensive pavement found at Carthage, by Mr. Davis, and now in the British Museum. In addition to the Italian examples, most of which have been engraved, many specimens exist in other countries. Among the best of these, I would note the great pavement at Constantine, in Algeria; those found near Lyons (published by M. Artaud); and the Spanish varieties at Italica and Rielves. I have dwelt on Classical mosaic at greater length than I purpose doing upon any other species, because the careful student will find, I think, that evidence exists that every kind of technical process or artistic convention, applied at any subsequent period to the art, was known to and practised by, the ancients.

The second variety of pictorial mosaic may be designated as *Latin;* since it long retained the marked peculiarities of style which distinguish Latin from Byzantine art. Thus, not in the choice of subjects only, but in the retention of the ruddy flesh-tints, the deep brown shadows, and the stumpy figures and simple costumes of the decline of Roman painting, do such mosaics as those of the fifth century at Santa Sabina, Santa Maria Maggiore, and San Paolo Fuori delle Mura, at Rome, differ from later specimens executed in the same city; if not by Greeks alone, at least by a preponderance of Greeks over the direct descendants of the original classical mosaicists. M. Barbet de Jouy, of the Louvre, who has profoundly studied the subject, remarks that "the mosaics executed from the time of Constantine to the Pontificate of Nicholas I. (A.D. 858) do not possess the Byzantine character." This, though partially correct, is far too sweeping an assertion: it suffices, however, to show that the separation in classification of Latin from Byzantine style in mosaics is essential to preserve a correct idea of real, not fanciful, distinctions. The earliest Christian Latin mosaic known is that which lines the vaulting of the little baptistery of Santa Costanza, adjoining the Basilica of St. Agnese; and dates from the age of Constantine. It would be extremely difficult to say which was the latest.

The more closely the matter is studied, the more evident it becomes that a distinct Latin influence in the history of art is to be traced, running beside, mingling with, but never altogether losing its identity in, the great tide of progress which swept from a thousand springs and sources over the whole continent of Mediæval Europe. Thus, amongst existing remains of the Middle Ages, we may point to three in particular in which many of the Latin peculiarities of mosaic working have been faithfully preserved to a comparatively late date; one in the north of Italy, and the other two in that district over which we may frequently recognize traces of the influence exercised by the long-flourishing Latin schools of Aix la Chapelle and Cologne. In the pavement of the cathedral at Novara,—a work executed at intervals, probably between the beginning of the twelfth and the middle of the thirteenth centuries,—we meet with a very fair reproduction of a black and white classical pavement. In various medallions are birds and allegorical figures, of one of which I produce a *fac simile* traced by Mr. George Maw from the original. From this may be readily observed the coincidence which occurs between the tesselation of the Novara pavement and that of the ancient pavements of Pompeii, such as I have sought to reproduce in the Crystal Palace at Sydenham. It is probable that a somewhat similar mosaic pavement, with figures representing Rhetoric, Logic, Prudence, &c., and a zodiac, was formerly in the church of St. Irene, at Lyons,—a city in the neighbourhood of which many fine classical mosaics existed, which might have well served as models for this mediæval specimen of tesselation.

In the year 1831 extensive excavations, fully described in the work of M. Wallet, were commenced to uncover the crypt and choir of one of the ancient churches of St. Bertin, at St. Omer. These laid bare one of the most interesting monuments of art ever exhumed in France. A reference to the engravings taken from M. Wallet's learned work will show at once the nature of the pavement, which represented, by a regular classical tesselation of black, red, yellow, and bluish-gray, executed in terra-cotta, stone, granite, and marble, the zodiac surrounding a square, divided diagonally by conventional ornament, and containing three medallions and a monumental slab in the several triangles so spaced out. Of these the most interesting is the monumental slab, which is covered by a figure of William son of Robert, Count of Flanders. Time does not permit of my dwelling in detail upon the workmanship of the medallions, which show a curious transition from the mosaic to the purely-incised slab pavements; but I may be permitted to congratulate France and its archæologists upon the fact that the date of 1108 wrought round the supine figure of Prince William leaves no doubt as to the retention at that period of workmen perfectly capable of imitating in mosaic the important fragments of classical mosaic, which served, so far as processes of manufacture, and ornament, are concerned, as models for the execution of this precious work. The third rare specimen of mediæval Latin mosaic is the monumental slab of Frumualdus, Bishop of Arras, found in the cathedral of St. Waast, at Arras, in 1835, and now preserved in the museum of that city. Frumualdus, who died in 1183, is represented standing and in full episcopal costume. The details are worked out, as you may observe by an inspection of the elaborate coloured plate given in Gailhabaud's "Architecture et les Arts qui en dependent," in tesseræ, among which are many obviously gilt. One peculiarly classical feature, the retention of which would go far to prove a Latin rather than a Byzantine tradition for this work, is to be noticed in the strong, black outlining of the figure. I am not aware of the existence of any later Latin tesselation than is shown in these three examples.

We come now to our third species—*Byzantine mosaic*—which includes all that was done in Greece and Asia Minor; and much that was done in Italy, from the transfer of the seat of empire in the year 329, until the Italians began to learn from the Greeks to practise the art for themselves. History tells us that Constantine took artificers to Constantinople with him skilled in all the arts of Rome; and hence we naturally find that the earliest Byzantine monuments can scarcely be distinguished from the classical; but the new soil and the old soil soon caused the same parent stock to bear very different fruits. Byzantium rose as Rome sank. No doubt a freer intercourse with the nations of the east, and more especially with Persia, soon led the Greeks to engraft enhanced brilliancy on their fading recollections of classical art; and gorgeousness in costume, in textile fabrics, in illuminated manuscripts, and in pictorial mosaic, soon usurped the foremost place, once assigned to severer sources of beautiful effect. To the pages of Hope, Lord Lindsay, Gally Knight, Von Quast, Salzenberg, and Ciampini, I must refer my hearers for detailed information upon the productions of the Byzantine mosaic workers, contenting myself with noting that it is in their earliest labours at Santa Sofia at Constantinople, and in the churches of San Nazareo e Celso (the tomb of Galla Placidia), San Vitale, and the two churches of Sant Apollinare di fuori, and di-dentro, at Ravenna, that the finest models for our imitation are to be met with. Byzantine pictorial mosaic is exclusively upon gold ground; and there is ample evidence that from the date of the commencement of the iconoclastic troubles in 742, when multitudes of Greek artists and monks were driven out by persecution to seek a precarious living in foreign countries, the staple of such work was invariably executed, and the necessary materials probably manufactured by these itinerant mosaicists. What are to be peculiarly admired in the Byzantine interiors are the breadth of decorative effect invariably aimed at; the good proportioning of the scale of the pictures and ornaments to the distance from which they require to be viewed; the judicious use of bands, margins, and string courses, to keep their compositions distinct, and make them subservient to an architectural disposition; and the judgment with which they invariably accentuate or emphasize leading architectural features. For instance, nothing can be happier than the mode in which they almost always treated the soffits and faces of arches, and the arrêtes or salient angles of vaults. Many of these may be seen in the sketches now submitted, the whole of which were executed by me from the original models. No arrangements of decorative form can be happier than such as exist in some of the cupolas of St. Mark's, at Venice, of which I offer to your notice, after the conclusion of my paper, some careful sections taken from Kreutz's elaborate work.

Next to Constantinople and Ravenna, Rome certainly offers the noblest specimens of Greek work; done, probably, to a great extent, through the "Scuola Greca" established by Pope Adrian I., A.D. 782, and attached to the church of Santa Maria, in Cosmedino. As if to reward the patronage of the pontiff, the great mosaic of Santa Pudenziana, done in his days, is by far the best in which the Greeks appear to have played the leading part. The mosaics executed at Rome for the next three centuries, although numerous, and on a grand scale, exhibit—with the exception, perhaps, of those of Santa Prassede, a marked falling off. In those of the apse of San Clemente, carried out early in the thirteenth century, a decided revival is manifested, but destined to burn brightly for a short time only; being as it were almost the last burning up of the already waning flame, which had for so many centuries shed a brilliant light from the capital of the Eastern Empire, far and wide over the continent of Europe.

We now come to the fourth, or *Greco-Italian* series, which are important on two accounts—firstly, because they illustrate a gradual emancipation from tradition in the limitation of subjects and action; and secondly, because they constitute the transition, which ended in the transfer of the art, from one nationality peculiarly fitted to maintain technical efficiency, to another not less qualified to graft pictorial excellence on mechanical precision and perfection. The first mosaics executed in Sicily—those of the Church of the Admiral and of the Capella Palatina—bear Greek inscriptions, and were wrought by Greeks;—in the first, exclusively; and in the second, probably under the guidance, as to design, of Saracenic artists.

For the later and far more extensive works at Monreale and Cefalu, the mixed races, protected under the Norman dominion, each contributed their quota of skill. The Duca di Serradifalco, and Cicognara, agree in recognizing the influence exerted on Pisa by the advance made in Sicily; and through Pisa, Sienna and Florence were ultimately unquestionably stimulated to rapid advance in art. The cathedral at Monreale, a beautiful drawing of the interior of which, by the late Herr Zanth, was bequeathed by him to this Institute, offers I believe—next to Santa Sofia at Constantinople, and St. Mark's at Venice—the noblest and grandest instance of a church decorated throughout with mosaic. Having worked hard in it for many a day from dawn to sunset, I can bear a humble testimony to its invariable beauty under every changing condition of light and shade. Whether bathed in sunshine and all alive with glowing colour, or almost dark, at closing day, retaining to the last some lingering gleam upon its gilded wall-faces; its aspect is one, not of gaudiness nor gloom, but of serene and dignified magnificence. As in Sicily, so in Venice, the art was at first kept entirely in the hands of Greeks; who not only worked at St. Mark's, but at Torcello and Murano as well. In the latter island they no doubt laid the foundation of the glass trade, previously a Constantinopolitan monopoly, so far as the more difficult branches of the manufacture were concerned. From the Murano glass-houses, from the Scuola Greca at Rome, and from a manufactory established at Palermo, as well as by direct importation from Greece, the materials were supplied with which the Greco-Italian mosaics were executed. The profits made by the itinerant Greeks in Italy, coupled with an increased demand for works of decoration, consequent on the wealth accumulated by the northern republics, through trade gains, soon caused an attempt to be made by the Italians to break up the Byzantine monopoly.

The success of this attempt led to the development of the fifth species of pictorial mosaic, which I have designated *Italian monumental*. It was in Florence, early in the thirteenth century, that the transfer of the monopoly was consummated. Andrea Tafi, a Florentine, having insinuated himself into the confidence of certain Greeks working on St. Mark's at Venice, prevailed at last, as Vasari says, "*con preghi con danari, e con promesse,*" on a certain Apollonius to go to Florence and work with him upon the mosaics which still line the vault of the Baptistry in that city. A rival of Andrea's was the even more celebrated Mino da Turrita, who, having gained an earlier, although probably less accurate knowledge of the Greek processes, preceded Andrea in working on the Baptistry. Subsequently Gaddo Gaddi was employed as an assistant on these works; and by these artists, and by

their pupils, and pupils' pupils, almost all the pictorial mosaics subsequently executed in Italy were carried out. Among such may be specially noticed, as combining fine execution and decorative colour with really good art, the splendid apse lining of San Giovanni Laterano, and Santa Maria Maggiore at Rome; executed by Mino da Turrita and Gaddo Gaddi, by the latter of whom Giotto's celebrated "Navicella," at St. Peter's, was also wrought.

So highly did the Italians esteem the products of Andrea's combined talent and cunning, that after his death they honoured him with the following epitaph:—

"Qui giace Andrea, ch' opre leggiadre e belle
Fece in tutta Toscana, ed ora e ito
A far vago lo regno delle stelle."

Pietro Cavallini and the Cosmati, subsequently, obtained reputation by their mosaic, principally at Rome; the latter working in the Gothic manner altogether. I have every reason to believe that the Greeks continued to labour at Venice long after their services were dispensed with in other cities of Italy; although, after 1400, I think the work at St. Mark's to have been altogether Italian. With the uprising of the great school of fresco painting, the employment of mosaic, a far more costly decoration, was to a great extent dispensed with; although at Pisa, Orvieto, Sienna, and Rome, both styles of mural embellishment are constantly to be seen together. Their union is not, however, to be admired, owing to their unequal durability—the permanence of the colour of the one frequently making needlessly conspicuous the fading or staining of the other. The best early Renaissance monumental mosaics with which I am acquainted are those from the designs of Raffaele in the Capella Chigiana, in Santa Maria del Popolo (illustrated in colour by Mr. Gruner), and the vault of a subterranean chapel in Santa Croce in Gierusalemme, at Rome; the design of which is attributed to Baldassare Peruzzi. The best late Renaissance mosaics on a grand scale are unquestionably the magnificent decorations of the vast cupola and pendentives of St. Peter's—models which one would fain see rivalled, not slavishly imitated, in our great metropolitan cathedral. For the production of the Papal mosaics, a *fabrica*, or government establishment, was founded, which has not failed, up to the present time, in providing materials and labourers equal to the repair of old, and the initiation of new work; equal in all respects to, and surpassing in some, the peculiarities of each style we have hitherto noticed.*

THE GREEN PARK A MONUMENT.

The following remarks were written before Her Majesty had decided upon the nature of the memorial to be erected to the memory of the Prince Consort, so illustrious during his life, and whose elegy is a nation's regret for his premature death. But as an obelisk, grand in its proportions, and decorative in its symbolical enrichments, would be peculiarly in harmony with the design here erected of, it has been thought not undesirable to make known the "idea." Whether, however, as connected with this devotional act, or separate from it, the following observations may serve as a hint on the present or some future occasion for the decoration of this not very ornamental ground.

While the subject for erecting a memorial, or memorials, to commemorate the many excellences of the late Prince Consort, are being discussed, that good and generous spirit in which England stands always most pre-eminent, and which, in this particular instance, unites the sympathies and support of all classes and creeds, it will not be thought surprising that, animated by so very interesting, nay illustrious, a subject, we throw out a fresh idea as to *one* fitting testimony to so many excellent memories—alas! that we should speak in the past sense—united in one person.

We have two parks—save the mark—so called; but they might, without much injustice to them, be termed a couple of ugly meadows. We had three of these sort of fields, but that of St. James's has been laid out in a creditable manner. It is with the smaller one, namely, the Green Park, that we at present propose to deal; and it is with respect to it that we would suggest it as the spot in which really grand and appropriate memorial, worthy of the late Prince Consort and of the British nation, might be erected. It is unreservedly admitted, that no legitimate or reigning monarch of this country ever felt greater interest in promoting its welfare. He was evidently proud of it, for he made it his own, and his desire to make it foremost in Europe in point of art and science, as it had hitherto been in commerce, is so well known that it has scarcely need to be mentioned: we have, therefore, thought that a memento—marked—grand—and extensive—should record, not only the man, but the epoch in which he lived, and which he was mainly instrumental in adorning and creating. We confess we are not satisfied with the idea of one isolated statue, obelisk, column, or monument of any kind; it is not, in our estimation, at all equal to the occasion. The memorial should be one that commemorates not only the individual, but the period; and it should be such a one as would do ample justice to both. To effect this we must depart from the beaten track which has hitherto been trod, at least in England, of a more simple monument. It is true we embody this period most justly in the person of the late estimable Prince; for by his encouragement, patronage, and love of art in all its branches, not only England, but Europe, is indebted to him for those exhibitions which bring into one focus the produce and industry of the civilized world; and those consequences ensue which improve the arts, sciences, and manufactures, not alone of our own, but all other countries, tending, as they do, not only to administer to the comfort and adornment of each, but uniting them together much more effectually than any other cause could, in the bonds of peace, amity, and usefulness. As we have before observed, then, the case being an uncommon one, so should its record be: the subject may fairly be said as not only affecting England, but all the civilized world, for that world is partaking of, and benefiting by, the grand "idea," the source of which was, most unquestionably, our late illustrious Prince Consort; and if each county taking a part in those civilizing and humanizing exhibitions, contributed, as it is most probable they would gladly do, towards an undertaking so justly due to departed worth, they would only be fulfilling a fitting and graceful duty. It is universally admitted that *space* and *size* are great steps towards grandeur. The ancients seem to have borne this in mind much more than the moderns have done. In fact, in many instances, they depended solely on size for effect. The apparently indestructible Pyramids are a remarkable instance of this, but many of their public productions, whether Classical or otherwise, were colossal in their proportions.

Having said this much, and, perhaps, having created a difficulty, we feel ourselves bound to offer a suggestion for its removal; and first of the space which might be required to carry out the "idea." This will occupy but little of the reader's time. We would for this purpose take *one* of those *ugly meadows* we have spoken of, and we will choose the ugliest and smallest, but the most appropriate one, for our purpose, namely, the Green Park; and we think the site a remarkably fine one. It is open on the north to Piccadilly, the greatest thoroughfare of London; on the south, to St. James's Park and Buckingham Palace: in fact, either north, south, east, or west, the boundaries are unobjectionable. Now, the whole of this space, this unadorned ground, we would devote to the grand and sacred object in view.

It may be remembered that this land has a gradual slope or inclination from Piccadilly down to St. James's Park. We would divide this slope into so many terraces, with flights of steps descending to each successive level. Here we have at starting and almost ready at hand one grand feature, for it is an admitted fact that nothing has a more stately, impressive, or palatial effect than this mode of laying out ground. It is these flights of steps leading to their terraced temples that impart so much beauty to Indian architecture, and are known there under the appellation of Ghauts. This effect has been well understood since the time of the hanging gardens of Babylon down to those of the Isola Bella. We would devote each of these terraces to the statues or busts—perhaps alternately one of each—to commemorate the peculiar talent of illustrious men. This galaxy of worthies should be confined to England; and there is no want of material for the purpose. By way of hint let us just enumerate the stock upon which we would draw to carry out our purpose:—Sovereigns, male or female; legislators and statesmen; poets; military commanders; navigators and naval commanders; dramatic writers and performers; authors, naturalists, artists, sculptors, mathematicians, and astronomers; antiquarians; judges and lawyers; philosophers; scholars and critics; fathers and theologians; prelates and reformers; public benefactors, historians, orators, rhetoricians, and physicians. Now here is a list which might be added to or abstracted from.

At the terminus of the principal vista or avenue of these terraces might be placed the statue or monument of the great object of the whole design, namely, that which is more particularly intended as a commemoration of the late Prince Consort. In what manner this important matter should be carried out must be for future consideration, but a mere simple statue, mounted upon one of those plain blocks of granite, does not seem at all commensurate with the occasion. We have too many of these specimens already in the metropolis, and which, as far as the pedestals are concerned, require no effort of genius beyond that which a common mason can supply. If it be a statue and pedestal, the latter should be symbolical and applicable to the purpose. It might be objected that the expense would be so great as to prevent the carrying out of this scheme. It is presumed that this would not be found to be the case. In the first place it is not necessary that the whole should be completed at one and the same time. The whole of the ground should be laid out, of course, and the terraces completed, most certainly; and the statue commemorative of the departed Prince should also be erected, and pedestals should mark the place for future statues, or busts, as may be. It would, doubtless, be a pleasing duty, each year, to add one or more objects towards the completion of the whole; but much might be effected at the present time. The votive offerings (we give this term in preference to subscriptions, when the subject of them is so illustrious) towards such an object will no doubt be large; and Parliament might be asked, and would no doubt give, with a good grace, towards carrying out so desirable a purpose—and one that might almost be considered a duty of the most pleasing kind. Probably, too, many persons might like to give an annual dotation towards its completion. In conclusion, it may be observed, that devoting this ground to such a purpose need not in the least interfere with its usefulness as a thoroughfare; for it might be so arranged as to be equally available for public purposes, as it now is.

* To be continued.

THE PROPOSED CLOSING OF PUBLIC WASH-HOUSES.

It is with very great regret we learn that, in consequence of the large amount of loss, amounting to far more than 100*l.* per annum, the Society for Improving the Dwellings of the Industrious Classes, have determined to close their wash-house in Portpool-lane, which has been open for some years, and to the surrounding poor is a most valuable institution. Our readers know the condition of thousands of homes in this locality, where water is scarce, and the proper washing of a family's bed and other clothes is almost an impossibility. When in a single room, the only place provided for husband, wife, and children, the muddle of washing has to be introduced to add to the other inconveniences, in most months of the year the articles have to be dried before the fire, upon lines hung through the room, or in other ways, to the detriment of the health of many, particularly the young; and it is not surprising that working men, the heads and members of such families, should fly out of the way to some adjoining public-house.

When the wash-house establishments were first introduced, the promoters intended them for the use of the poorest class: it was soon found, however, that in consequence of the miserable condition of bed coverings, and the circumstance that hundreds of men, women, and children had barely a single suit of clothing, the owners were ashamed to show these articles; and, in fact, it was almost impossible to bring them to the public wash-houses. The extent of the benefit conferred upon a class a little above these, however, can only be appreciated by those persons who have carefully examined into their condition. For instance, there are a vast number of labouring men in the metropolis who are obliged to live in one and sometimes two inconvenient apartments: it is in these places that the muddle to which we have referred occurs once, twice, and even oftener in a week. In the case of a week's washing and drying it occupies a long day at home. At the wash-houses, by means of the steam apparatus, the plentiful supply of boiling water, the best air-closets, and other drying apparatus, the same amount of work can be performed in an hour, or an hour and a half; and by this means the confusion in the houses is avoided. In many cases persons who have very limited incomes—the women, perhaps, being employed throughout the day—who could not afford to pay for having washing done by

laundresses in the old-fashioned way, have found it a very great convenience to employ some poor but decent person, who, at a very moderate cost, is glad to undertake to do it at the wash-house. By this means many have been enabled to earn a livelihood; and, at the same time, have conferred a great advantage upon others. In many other ways the benefits conferred upon a very deserving class by means of these institutions have been very great; and so far as we can learn, the failure which is so much to be lamented, has not been caused by the want of a sufficient number of persons who would avail themselves of this and other similar places; but the price per hour charged to washers is small, and the cost of machinery, the working of the engines, the constant repairs which have in this place been needed, the cost of the management, &c., have been considerable; and, in addition to all these items, a very large rate, amounting probably to about one-third of the annual deficiency, is levied by the parochial authorities. When we consider the effect which such an establishment as this has on the health of large numbers of the poorer portion of the community, it seems that it would be wise policy to make the rates press as lightly as possible upon buildings intended for such purposes as this.*

Although the permanent utility, both of the wash-houses and of the model dwellings which have been erected, will depend on their producing a fair percentage upon the amount of money invested; so much are we assured of the great value of the public wash-houses, that we hope some remedy for the loss complained of will be found, when the subject comes to be carefully discussed; and we trust that it will be fully brought before the next meeting of the Social Science Association, and that temporary means may be found to prevent the closing and demolition of the Portpool-lane wash-house, until this has been done. This would easily be managed if a few of those who have power, and take an interest in promoting the social advancement of those less fortunate than themselves, were to pay a visit of inspection and see the working of this establishment, and at the same time glance at some of the conditions which are to be met with in this locality.

In a proper inquiry into this most important subject we should know as exactly as possible, not only the cost, &c., of the Portpool-lane building, but also that of other similar establishments in the metropolis and in the country.

1. We should know the cost of the adaptation or erection of the building; the amount paid for ground or other rent; parochial rates, taxes, &c.; cost of the machinery, washing apparatus, drying stoves, arrangements for ironing, &c., all in detail.

2. The cost of fuel, water, and a detailed account of charges for repairs and alterations per annum, and expense of management, in detail. We should know the amount paid to the clerk, superintendent, and various assistants.

3. The extent of the accommodation, and the number of hours in the day during which each washing-place is occupied, on the average, throughout the year; the amount per hour paid by the washers, &c., and an account of the whole clear receipts. The increase or decrease from the commencement to the end of last year of the number of hours during which washers were engaged.

4. We should know if the wash-house be separate from or connected with public baths.

Having these figures, it would be of considerable importance to compare the difference of the amount of the profit or loss of those wash-houses which are connected with, or attached to, baths, and of those which are not so connected; the varieties of the charges of the above-named items in proportion to the number of washers, and the gross receipts: by this means we should be able to ascertain if any saving could be made in the management. It would also be a matter worthy of inquiry if the advance of a very small sum, say a farthing per hour, and a halfpenny for three hours, and so in proportion, for each washer, would be likely to reduce the number of those who resort to such places. If it should be thought likely that this would not be the case, it would be worth while to try the experiment with a view to cover any deficiency.

Independently, however, of profit or loss considerations in connexion with baths and wash-houses, which have been erected in poor and populous neighbourhoods, it is to be considered whether it might not in the end prove a gain to assist those establishments to a certain extent.

In connexion with the public wash-houses and several other institutions which have been opened for the benefit of particular classes, there has always been a large amount of prejudice to contend against. Increased intelligence will gradually dispel this; and it would be a pity if the rising generation should be prevented from enjoying advantages which they would learn to appreciate.

* Since the Society referred to was established, the reduction of the fever-rate in this district has been most extraordinary, from the example set by the Society in Tyndall's-buildings, and which has been followed elsewhere. No fewer than 211 fever patients out of 877 received into the London Fever Hospital were brought from the courts and alleys of this locality: last year there was scarcely a case of low fever.

LOOKING THROUGH A MEDIUM.

WE are forced a little way out of our path by a strong feeling of duty to society.

Notwithstanding the tone of banter in which an account in the *Times* of a sitting with a certain American "medium" now practising on the Londoners is given, it is calculated, we fear, to increase greatly the number of dupes, and to aid in spreading a vulgar but no less mischievous imposture. The extent to which "spiritualism," as it is called, is believed in, and the amount of mischief it is still doing amongst us, cannot be imagined by those who have not inquired minutely into the subject. That such a professor of the art as the medium in question should be able to impose on bearded men and instructed women is a sad reflection on our boasted progress. It is not enough to say that the performance is an obvious piece of imposition. It amounts to impiety; and by such practices unprincipled men obtain the means of sowing the seeds of distrust, of alienating affections, and otherwise disturbing the minds of those who may be unfortunate enough to be imposed on by them.

Of the existence or non-existence of a certain class of phenomena not at present explainable,—of the power of mind over mind,—we do not pretend to speak. We are dealing simply with the so-called mediums of the day, and specially with the one who has been recently brought into notice,—an overdressed gentleman, who, spite of his pseudo-philosophy, talks of the "sperits," and addresses his reply to your request for an appointment,—"Mr. Smith, esq." We were present at a sitting with him a few nights ago. The persons who formed the party, knowing his little round of tricks,—it is very limited,—came provided with names and questions written on paper, and inclosed or carefully twisted up. This, he said, was not his way. He preferred (of course) that the names should be written in his presence, on pieces of paper of the same size, and rolled up all alike, that there might be no supposition afterwards that he had recollected to whom the differently-shaped envelopes belonged. "Now here, for example," he said, "is an envelope containing a name that can almost be seen." The visitors, however, said they would run the chance of this; and, after taking the envelopes up one by one at a particular angle,—the light, unluckily for him, was over his head,—he agreed to see what could be done; and then ensued a series of guesses on his part by means of the alphabet and raps, and the writing of the desired name on a piece of paper, with four or five others that were wrong; and requests to the spirit to "tell the gentleman" (*sic*) "what was the first letter of its name," and so forth; resulting in what he himself admitted to be a failure from beginning to end. To one of the visitors, who was asking the name of a little child, three years old, and had written it with others on a paper for the medium, after three guesses for the first name, two for the second name, and five uselessly for the surname, he said at last, "I see a spirit behind you" (the impious jester); "a man: he looks like a literary man." He was of course told that this did not answer the inquiry, and coolly went on to something else. The *Christian* name on his arm (which, scrawled in red, is seen once during a sitting and no more), was this time *John*. It needed no great cleverness to suppose that the opportunity could be made during the evening to bring this in, and the opportunity was made. He showed some skill in rolling up pieces of paper to look alike, and yet be distinguishable; but the whole affair was an unsuccessful piece of conjuring: the table remained motionless, and the hand which he sometimes exhibits was not visible.

All these statements, however, are generalities, and would be got rid of by his own assertion that he could not control the spirits; that sometimes they would come, sometimes wouldn't; that antagonism had been at work; and that the evening was a failure. "If you had done it my way," he said, with great coolness, "you would have had one spirit answering after another, and all would have gone well." No doubt about it: let the conjuror place the cards, and the trick comes right.

But now let us put the matter a little more closely, in order to make the imposition evident and check a pernicious scheme;—so closely that no explanation can touch the inevitable inference. One of the visitors—we will call him B.—brought with him four names and questions; three being names of friends deceased, each so doubled and enclosed that it could not be read, and one an imagined name placed in a thin envelope, so that it *could* be read if held up. It was this envelope the medium had referred to when objecting to the mode that had been adopted. The first act of his performance, nevertheless, on agreeing to go on, was, after saying "a spirit is in the room," to get three raps on touching this envelope (none of the others obtaining any response), and to ask "Whose is this?" B. claiming it, took the alphabet, and the right Christian name was spelt out by means of raps. The surname was given wrongly by the raps, but on B. writing the name with several others on a piece of paper, and handing it to the medium at his request, the right was hit upon. B. then asked if the spirit could answer the question that was in the envelope? and three raps said "Yes." Being told to write it on a piece of paper and place it on the table, B. wrote, not the question in the envelope, but, "Why did you leave your father?" folded it once, so that it might be easily read by an acute eye, and received back, as a reply, written on the same piece of paper by the spirit, through the hand of the medium,—"Because I was discontented I left;" the aforesaid medium complacently asserting that he knew not what he was writing, nor what the question was. Indeed, the cool sustained impudence with which the whole barefaced cheat was carried on in the face of seven grave men, who had but one opinion on the subject when the sitting was over, was the only surprising thing about the performance.

Comment on this last experience is surely unnecessary, and reply impossible. Not only was a spirit found to answer to a name altogether fictitious, but to give a reason for an act that never took place! Ordinarily the medium will not reply to questions that cannot be answered with yes or no; but in this case the trap was open and the medium fell in.

It is no light thing of which we are speaking. This so called spiritualism has driven mad and killed. This very medium has thrown doubt on the honesty of a poor servant girl. Another of the same sort has, to our own knowledge, brought distrust and estrangement into a once loving family. The minds of men and women holding responsible positions in the world are disturbed and perverted by it. Even those who believe in the spiritual origin of the messages and replies admit that they are constantly false. Juggle or no juggle, it is bad from begining to end; and when, as in the case we have given, the performance is seen to be a transparent imposture, calling for the scorn and condemnation of every right-thinking man, silence becomes a sin.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday evening (the 14th inst.), at the House, in Conduit-street; the president, Mr. Blomfield, in the chair.

Mr. Blashill called attention to the advantages offered to students by the modelling class, and urged upon the junior members of the Association the desirability of availing themselves of it.

The Chairman agreed in the recommendation of Mr. Blashill; and observed that, although he had himself been irregular in his attendance of late, owing to circumstances over which he had no control; it was his intention, as far as possible, to repair the omission for the future; as he was persuaded that the modelling class afforded peculiar advantages to all the members of the Association.

Mr. R. O. Harris suggested that it might be desirable to alter the night on which the class met; as, in consequence of the ordinary business beginning at eight o'clock, the time for study was to a great extent limited.

As nothing definite could be done on the subject without communicating with Mr. Ross, the instructor of the class; the subject dropped, on the understanding that it would be revived on a future evening.

Mr. Bunker then delivered a practical lecture on "Joinery," which he illustrated with models and specimens of doors, window-sashes, skirting boards &c.

Mr. John Brown, of Norwich, attended, and explained his invention for remedying the inconvenience arising from imperfect fitting of windows and doors, and for preventing them from rattling; and at the same time excluding wet, dust, and draught. Mr. Brown produced models of his invention; which, he said, might also be seen at the British Museum, and the Museum of Patents, and Museum of Construction, South Kensington.

Some discussion ensued; and ultimately a vote of thanks was passed to Mr. Bunker.

WHAT IS GOOD IRON? AND HOW IS IT GOT?

IN noticing recently a pamphlet with this title, we remarked that it contained an exposure of the shortcomings of the manufacturer, the public, and the Government, and various suggestions for the improvement of the quality of our iron. We return to it for the purpose of giving a quotation or two from it. "The great maxim, that the best article can be made only from the best materials —that is to say, the best pig-iron from the best minerals, and the best wrought iron from the best pig-iron—might, indeed, seem too simple and too important to be forgotten, and too obvious to need much argument for its re-establishment. But practically it has fallen into disuse, and powerful interests are arrayed against it. Whole districts have for years been actively engaged in the struggle to make inferior iron supply the place of good, and motives of interest and self-love combine to induce the belief that it really will serve as well. We are not referring to recent ingenious inventions for removing impurities from inferior kinds of iron, by special processes and at an increase of expense, but simply to the substitution of iron that will indifferently answer the purpose for iron that will answer it effectually. . . . . One object only—price—is clearly discerned by the manufacturer. As to the qualities of iron and its uses, he is puzzled by the most conflicting opinions and the most contradictory statements. Truth flies from him, even if he is quite sincere in seeking it. But the saving of so much per ton in the pig-iron, which is his raw material, is a palpable fact, about which there can be no mistake. The very skill which has been attained in making the most of the inferior kinds of iron by mixing and manipulation contributes to mislead him. He trusts to it for more than it can effect, and not unfrequently spends more in the vain effort to turn bad iron into good than it would have cost him to purchase the right material at first." On the subject of Government inspectors, the author says,—"It would be better to substitute for the continuous inspection of a resident agent the occasional visits of a person higher in station and authority, whose business it should be to come at irregular intervals, and without notice, to inspect the work and the materials, and to transmit specimens of both to be subjected to the appropriate tests, both, chemical and mechanical, and also to look over contracts and invoices, and satisfy himself that the materials are in accordance with the spirit of the contract."

THE ALBERT MEMORIALS.

The National Monument.—On the 14th instant, the Earl of Derby, the Earl of Clarendon, the Lord Mayor, and Sir Charles Eastlake, held another conference in the council-chamber of the Fine Arts Commission at the Palace of Westminster. Mr. Marshall, the chairman of the Ross of Mull Granite Company, gave additional information respecting the block of red granite, about 106 feet in length and some 12 feet square on an average, which had been discovered in an unleased quarry belonging to the Duke of Argyll. Upon the whole, the information he gave went to impress the committee that this block of granite affords greater promise of grandeur and aptitude for the purpose of a monolithic obelisk than at first they had been led to imagine. It is understood that the Duke of Argyll has intimated to the committeee his desire to present them with the stone. On the assumption of such a gift, the Granite Company have given in two estimates,—one of 25,000*l.*, as the probable cost of quarrying the stone, shaping and polishing it on the spot, and removing it to the water's edge; the other, of 15,000*l.*, for these operations, less the polishing, which in that case would be done in London. Mr. Marshall calculated that the interval required for the operations covered by the first estimate would extend to the summer of 1863. The fund now being raised at the Mansion House amounted, on the 12th instant, to 41,500*l.*

Northfleet.—A plan is proposed here to inclose the waste ground on the hill, to plant it with a few trees, and place a drinking-fountain adjacent to the high road, as a memorial of the Prince.

Stroud.—Mr. John Thomas, the well-known sculptor, has offered to erect in Stroud, as a memorial to the late Prince, either a colossal bust with drinking-fountains, or a full-length statue, on a pedestal; to be executed in Sicilian marble; on condition that the town will find some suitable place for its erection, and contribute a portion of the funds necessary to complete it.

Worcester.—The committee have decided, after some discussion, that aid shall be given to the national memorial, as the Mayor had reported that a county memorial had not been sufficiently supported. An attempt appears to be still meditated, however, to establish an Infant Orphan Asylum for the city and county, as a local memorial of the Prince.

Salford.—The sub-committee have resolved,—"That the proposed statue be a portrait statue, of white Sicilian marble, as a companion to that of the Queen; and that it be erected in the open air in Peel Park." The statue will be intrusted to Mr. Mathew Noble. The Bishop of Manchester, Alderman Weston, the Mayor of Manchester, and Mr. E. R. Langworthy, have been appointed an executive committee, to report to the sub-committee, from time to time, the progress of the work.

Perth.—A meeting of influential citizens has been held in the Town Hall to consider the part this city should take in some memorial of the late Prince Consort. Provost Ross occupied the chair, and there was a numerous attendance. The proceedings were altogether of a preliminary character; but the general feeling of the gentlemen present appeared to be that there should be a local memorial to the late Prince, if sufficient funds for that purpose were obtained; and if not, that the subscriptions of the citizens be sent to the Committee of the National Memorial, either at Edinburgh or London.

THE INTRODUCTION OF FRESH AIR INTO ROOMS.

I HAVE read with interest the papers in your journal on "The Essentials of a Healthy House." Great as is the advance in knowledge in many particulars, I observe that there is still, in respect of ventilation, a prevailing fallacy, on the removal of which progress essentially depends.

Careful observation, experiments, and reflection, carried on for some years, have satisfied me that rooms should be ventilated by bringing in fresh air at the upper part of the room, and by removing the vitiated air at the fireplace. The common notion is, that the vitiated air, being the warmest, necessarily ascends to the upper part of the room. It would perhaps do so if gravity were the only force in action; but that is not the case. There is considerable analogy between the action of forces in a room with a fire in it and those which prevail out of doors. Let any one observe the smoke from chimneys, the steam from locomotives, the emanations from burning weeds, the breath from animals in cold weather, or even the flames from a furnace chimney in the mining districts, and he will see that, generally, the movement is nearer to a horizontal direction than to a vertical one. In all these cases the issuing products have a temperature much higher than the air they are discharged into, which high temperature tends to make them ascend; but they are also subject to the wind, which moves horizontally with force much greater than the ascending one. It is easy to see that this is important in many of the changes that are going on in nature; and if the ascending law alone prevailed, the warm exhalations from the ground, and from matters distributed over it, would be inhaled at each inspiration. When a fire is lighted it draws a quantity of air to it and to the chimney, primarily from the lower part of the room. I regard the fire as doing in a room,—of course, by gravity, but as a force independent of the room,—what the wind does out of doors. The power of the fire-draught is very great,—sufficient, with even a small fire, to draw off as much air as many persons may contaminate, and to overcome its tendency to ascend.

It is now generally agreed by all who have thought upon the subject that it is necessary, in order to have a comfortable and healthy room, that it should be supplied constantly with fresh air, and in considerable quantity. To prevent a chimney from smoking, no inconsiderable quantity of air must get into the room; and, when no provision is made for it, it rushes in at any crack or revice, particularly at doors and windows; causing most unpleasant draughts and unequal temperature, increasing in proportion to the largeness of the fire.

The first question, then, to be considered is,—*At what level in the room should the fresh air be delivered?* In answering this I shall assume the fresh air to be cold; although I purpose hereafter to show that it might be easily warmed. No one would seek it at the doors and windows. If it is brought in near the floor, it must necessarily enter in such close proximity to the occupants that it is impossible to distribute it and get it warmed before it reaches the feet, which are, therefore, chilled; whereas they ought to be kept warmer than any other part of the body. The relative heaviness of the fresh air prevents its ascending; and the fire-draught at once takes most of it to the chimney, up which it passes without benefitting the lungs of the occupants of the room. Now, if the fresh air enters at the upper part of the room, it comes in at the part most remote from the occupants, and has therefore more opportunity to distribute and to get partially warmed by contact with the ceiling and walls, before it reaches the occupants; and when it does so, its contact with the head is neither so prejudicial nor so uncomfortable as to the feet or back. It is very noticeable how very little discomfort is felt in driving in a Hansom cab in the face of a sharp and cold wind. There is an equal distribution of air on all the exposed parts of the body. So, when air is supplied to, and distributed over, the upper part of a room, there is no sensation of draught, even if its movement be rapid. An important advantage of supplying air from above is, that the exhalations of the body are kept down, and the lungs are supplied with uncontaminated air, while the feet are kept warm.

The second question is,—*At what spot in the upper part of the room should the fresh air be delivered?* Perhaps the best spot is immediately above the mantel-shelf, because the warmth at this spot produces an upward current; but it is not the most convenient. The nearest to this, presenting no structural difficulties, are the two sides of the chimney-stack. Hence I consider that in the building of a house an integral part of every chimney-stack should be air-flues, which would probably be most conveniently formed on each side of the smoke-flues. These air-flues should have openings to every room, near to the ceiling.

The third question is,—*How is the fresh air to be distributed?* This, I think, is the greatest difficulty in the subject. It is essential to regard the feelings of the delicate, the sensitive, and even the imaginative. It is also desirable that the fresh air should reach every corner of the room; and the more widely it is distributed the less will its movement be felt. The fear which some persons have of the consequences of air moving over them, when they observe the velocity with which it enters at a small opening, is ludicrous, when distribution is effected, and the matter is looked at with the help of figures. An opening of half a square foot, delivering air at the rate of 300 feet a minute, will supply sufficient for fifteen persons. Let us assume a room of 14 feet square, and that the fresh air is distributed equally over the upper part of it before it descends. Inasmuch as the area of the room is 400 times greater than that of the air opening, so must the rate of movement downwards be proportionately less. As I have assumed the velocity in the one case to be 600 feet a minute, it must follow that in the other it will be 1½ foot a minute. A person moving slowly from one side of a room to the other can hardly pass through the air at a less speed than 90 feet a minute. Two air-flues to each room are to be preferred to one, as distribution will be better effected. The openings through which the air enters the room should be covered with an ample shield of perforated zinc, shaped so as to assist the distribution. Where the appearance is of importance, a hollow cornice should be formed across the chimney-breast. This cornice should unite the two air openings, and may be made of perforated zinc, or with several horizontal slits, which might be made invisible. The cornice should project well into the room, and the return ends of it should be also of perforated zinc, thereby insuring lateral distribution. With this arrangement, it will be found that the fresh air will distribute horizontally over the upper part of the room, thence gradually descend, and then move horizontally to the fire-place. I have repeatedly tried the experiment of charging with smoke a room arranged in the manner described, and have invariably found, that it cleared gradually from the upper part to the floor. In the room in which I am now writing, it was found most con-

venient to introduce the fresh air through an opening in the floor, at the side of the room near the fire-place. Over the opening I placed a moveable shaft, 5½ feet high, open at both ends. This discharged the entering air directly towards the ceiling. It has been in use during the last two winters; and, although the air has frequently come in below the freezing temperature, I have found no inconvenience either from draught or coldness. When this supply has been stopped, the draughts have been much more sensible, and the room has been otherwise less comfortable. I think that a good and elegant plan for distributing the fresh air would be to make openings from the air-flues to the room at a point which is about two-thirds the height of the room; covering these openings with ornamental brackets having an air-way through them. But the particular arrangement for distribution should be regulated by the shape and character of the room, and belongs properly to the architect. The point to be attained is complete distribution over the upper part of the room.

The fourth question is,—*Whence is the fresh air to be drawn?* This brings before one the vice of the prevailing neglect of systematic ventilation. Wherever the locality of a dwelling is objectionable, the badness of the air increases the nearer you are to the ground. At a low level you have not only the ordinary exhalations, but the emanations from drains, ditches, and other contaminating sources, which are drawn in freely at the lower part of the house by the fire-draughts. Systematic ventilation overcomes this evil. As a general rule, the purity of the air is in proportion to the height above the ground. In towns this is not strictly the case, as the level of the tops of the houses is contaminated with smoke. Again, the air is renewed more frequently at high levels than at low. I have urged the construction of air-flues as an integral part of every chimney-stack. Now, these should be supplied by an air-shaft at the lowest part of the house, which should draw its supply from the side of the house, and at that level at which in each particular case the purest air may be got. In the case of detached houses in the country it may be advantageous to draw from the level of the roof by an internal or external shaft; care being taken that the chimneys are carried up to a great height. In first-class houses it would be easy to arrange for the warming of the air introduced by the shaft before it is distributed to the air flues. In cottages, the air-flue would be partially warmed, if it were built next to the smoke-flue of the living room.

The fifth question is,—*What quantity of fresh air is needed?* The Commissioners for the Improvement of Barracks lay down the rule that every room shall be supplied continuously with fresh air, at the rate of 20 cubic feet per person per minute. They estimate that an open fire draws off from 100 to 1,000 cubic feet per minute. The chimney on which this estimate was made was about 60 feet high. The fuel consumed is not stated. I have found that with a consumption of not exceeding 2 lb. per hour, the chimney being 24 feet high, 300 cubic feet per minute were drawn off. This required the admission of air through an opening of 72 square inches, sectional area. When this opening was reduced to 20 inches, the chimney-draught diminished to 150 cubic feet. Taking the liberal allowance of the Commissioners, 300 cubic feet per minute is enough for fifteen persons: I therefore assume that, for all ordinary rooms, it will be sufficient if we provide an air-flue of 36 square inches sectional area. If we provide two flues, as before described, to each room, the section of each will be only 6 inches by 6 inches, or 4 inches by 9 inches; and the main shaft to supply eight rooms would require to be only 2 square feet.

It is evident that a small fire will draw off quite as much air as the occupants of a room require: all, therefore, that is needed is to make such arrangements as will supply and properly distribute a corresponding quantity of good fresh air.

There need be no additional cost in building by the adoption of air-flues. The quantity of air that is needed to make a room healthy is such that it is impossible to depend only on the large size of rooms. Continuous supply and withdrawal must be obtained; and with these a small room is more healthy and comfortable than a large one without them. A lofty room is advantageous as admitting of more complete distribution of fresh air, and in cases of interrupted supply of air; otherwise a height exceeding say 7 feet is unnecessary. Hence, with systematic ventilation, we might reduce the cost of houses by diminishing the capacity of the rooms.

FRANCIS LLOYD.

MONUMENTAL.

A "PEDESTAL" of polished granite, with a drinking-fountain on each side, has recently been erected in Birkenhead Park by public subscription, in memory of the late Mr. J. S. Jackson, who, with his brother, Mr. W. Jackson, M.P., Mr. John Laird, M.P., and others, was intimately associated with the early history of Birkenhead. The pedestal is 22 feet 3 inches high. The site is close to the entrance of the park.——A cotemporary gives the somewhat curious intimation that the memorial of the Duke of Wellington at Wellington "is to be a column surmounted by an obelisk of the late duke." The cost of the monument is to be 200*l.*, and it is to be formed of Portland stone.——Immediately beneath the stained glass window in Glasgow cathedral, presented by the Middleton family, in the north aisle of the cathedral, a monument has been erected in memory of the late Major Middleton by his brother officers of the 7th (Princess Royal's) Dragoon Guards. The monument—a Gothic sarcophagus, in character with the building—is of statuary marble, upon a background of grey, and is upwards of 8 feet long, and between 5 and 6 feet in height. Supporting the sarcophagus are two soldiers in an attitude of grief, and above are military flags and emblems, the whole surmounted by a medallion portrait of the deceased.——A monument has just been erected in Derry cathedral to the memory of Captain John M'Neill Boyd, of the *Ajax*, who was swept off the pier of Kingstown and drowned, while attempting to rescue the crews of some shipwrecked vessels during a hurricane on the 9th February, 1861. The body of the monument is of white marble. Captain Boyd stands with his right foot on a block of stone, and points with outstretched hand towards a ship whose bows and rigging appear rushing towards the rocks. The upper part of the monument has a large figure of Hope personified, leaning with one hand on an anchor, and the other raised towards a star. Cherubs, with outspread wings, support the monument, and on a white marble tablet beneath is the inscription. The sculpture was executed by Mr. Thomas Farrell, of Dublin. The cost was 230*l.*

THE PENTACLE.

WILL you oblige me by an answer to the following question, which I am unable to solve for myself?

The figure represented in the subjoined sketch is, I believe, very frequently, and especially in old writings, called a "pentacle." But this figure has obviously six points, and the number 6 predominates throughout, whereas the principal signification in the word pentacle is 5. How is this anomaly to be accounted for?



ECCLÆSIOLOGIST.

*** The term would seem to be misapplied to such a figure. It is more appropriately used for the 5-pointed star formed by a continuous line which is found on buildings of all ages. It has been used to symbolize the Trinity and eternity.



ARCHITECTS' BENEVOLENT SOCIETY.

THE annual general meeting of this Society was held in the Rooms of the Royal Institute of British Architects, Conduit-street, on the 12th instant. Mr. S. Smirke, R.A., presided.

The report of the council showed that the gross receipts for the year amounted to 454*l.* 3s. 8d. Fourteen cases had been considered. The amount distributed up to the end of the financial year was 121*l.* 6s. Since then a further sum of 65*l.* had been given away. Messrs. C. C. Hakewill, T. Hayter Lewis, C. C. Nelson, R. Tress, and R. Parris were elected, to supply vacancies in the council. The ordinary votes of thanks to officers concluded the business.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

ON the 12th of March (Sir Stafford H. Northcote, Bart., President, in the chair). Mr. Syer Cuming exhibited two examples of the Parisian forgeries in lead, professed to have been recovered from the Seine; which a few years since excited much attention among archæologists. The figures are grotesque, and worked out of solid metal. One is equipped in a long vest, and has a pectoral cross, with the figures 153 in Arabic numerals. The other represents a jester, with a human-headed bauble.

Mr. Forman possesses also three specimens of the same deceptive character, said to have been found in the Rue Rivoli; a shrine inclosing an image—an ecclesiastic with a crozier; and another figure holding a saw, probably meant to be emblematical of St. Simon, or St. James the Less.

Mr. Cuming read a paper on the *Signacula* found in London. Numerous interesting exhibitions were made.

Mr. Halliwell communicated a paper on some unpublished works of William Basse, the author of the earliest elegy on Shakspeare.

Mr. Thomas Wright exhibited a photograph of one of the entrances into the Roman lead-mines at Shelve, in Salop, viewed by the association at their Shrewsbury Congress, in 1860.

The evening concluded by the reading of a paper by Mr. Edward Levien on some unpublished letters relating to the captivity of Charles I. at Carisbrooke, Isle of Wight, and the attempt to effect his escape.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE ordinary meeting of members was held on Monday evening last, at the House, in Conduit-street.

The chair was taken by the president, Mr. Tite, M.P.

Mr. T. Hayter Lewis (honorary secretary) said that the council had received a letter from Mr. Sydney Smirke, with reference to the Royal Academy, which was of so much importance that he would read it. In the letter, which was dated the 10th inst., Mr. Smirke wrote as follows:—

"I think it is right that the attention of the council of the Institute should be called to the fact that some important changes have taken place in the laws of the Royal Academy relating to the admission of students in architecture, which changes came into operation at the commencement of the present year. I send herewith a copy of the laws as they have been amended. The council will perceive with satisfaction, I am sure, that greatly increased encouragement is held out to architectural students, by the institution of biennial scholarships, and of an annual travelling studentship as heretofore, besides the gold medal. But the chief object of my present communication is to suggest that the council of the Institution should consider and determine the nature of the certificate which, as you will perceive, is now substituted for the preliminary probationary drawing, which has hitherto been required to be expressly made by all who desired to be admitted as students in the Royal Academy. Any drawing the applicant may have by him, adequately showing his proficiency, will now suffice. The council should, I submit, decide at once on the form of their certificate, and on the nature of the ordeal to which the council may deem it expedient to subject those who may desire to be certified by the Institute as fit persons to become students in the Royal Academy. Any regulation in this respect that the Institute may think proper to lay down, I will feel much gratification in communicating to the council of the Academy."

The President said he was quite sure they must all feel gratified at receiving the communication in question from the Royal Academy. In the present day it was somewhat difficult to imagine what a student of the Academy was many years ago, when Professor Donaldson and himself attended the Royal Academy. At that time they were obliged to produce testimonials from masters and tutors, and they had to submit a drawing executed in a private room at the Academy. The student of architecture was subsequently admitted to the library; but he had no such facilities as those now proposed to be afforded. He was sure they would all be glad to find that greater attention was now paid to architecture by the Royal Academy, as it was an evidence that the council were not indifferent to the claims of that department of art.

Professor Donaldson inquired what was the annual value of the scholarship.

Mr. Godwin—25*l.* per annum.

Professor Donaldson said he observed that the travelling studentship of 100*l.* a year would be open to all students of architecture. The studentship was formerly given only once in nine years, and then only to the holder of the gold medal. To the travelling studentship scholarships were now also added, worth 25*l.* a year. It was also important to find that architectural students would be admitted to the Academy on obtaining certificates, not only from the Royal Institute of British Architects, but from the University of London, University College, and other similar institutions, to the effect that the holder had acquired a reasonable degree of proficiency in the art.

Mr. Gilbert Scott, R.A., said that the Royal Academy also offered facilities for architectural students acquiring a knowledge of figure drawing. The latter had not now to go through the ordeal formerly insisted upon.

Mr. Lewis said the council had received a letter from Lieutenant-General Grey, announcing that her Majesty had given her approval to the Royal

gold medal of the Institute being awarded to the Rev. R. Willis. A letter had also been received from the latter gentleman, returning thanks for the honour done him.

Mr. Godwin inquired whether the attention of the council had been directed to the Copyright Bill introduced by the Government, and now awaiting the committee in the House of Commons. By the bill of last session it was proposed that protection should be given to the architect's designs so long as his ideas were on paper; but that when it was executed, it was to become public property. In the present bill, however, all reference to the works of the architect was omitted, and the general opinion that prevailed in respect to it was forcibly illustrated a short time ago, when the Lord Chief Baron, a most liberal and accomplished gentleman, in summing up a case where an action was brought and sustained by a photographer to protect his works, in pointing out what could be protected under the existing law of copyright said that if he were to pay 100*l.*, for example, to an architect for a design, and that he carried it out, any one would be at liberty to copy it; but that any person who reproduced a photograph of it would render himself liable to an action for damages. Nothing surely could be more absurd than this distinction between an architect's original design and the negative of a photographer.

The President said that the subject had not escaped the attention of the council, as it had been brought under their notice that evening by the honorary secretary.

Mr. M. D. Wyatt, V.P., then read a paper on "Pictorial Mosaic as an Architectural Embellishment." This will be found elsewhere.

At the conclusion,

The President observed, he was sure they all felt themselves under great obligations to Mr. Wyatt for the manner in which he had dealt with a subject which he thoroughly understood, and had entered into *con amore*. It was also a subject of great importance with reference to our great metropolitan cathedral, which we all wished to see grow up in renewed beauty and grandeur. He was glad to hear that the difficulties of manipulation were overcome, and he had no doubt that the same mechanical skill which had always characterized whatever English workmen undertook, would enable them to produce results fully equal to the best specimens of ancient skill. He thought the meeting would be glad to hear from Mr. Penrose, who had devoted so much time and attention to the embellishment of St. Paul's Cathedral, what he had to say upon the subject of mosaic decorations as applied to that sacred edifice.

Mr. Penrose said that, before speaking of St. Paul's Cathedral, he wished to allude for a moment to certain information which he had received when in Italy, and to which Mr. Wyatt had referred. With regard to the extraordinary high prices of mosaic work at Rome, he had no doubt that the information given to him was authentic, because he had the figures verified as well as he could, and he had no doubt that the Roman workmen would be very happy to execute works at the prices mentioned by Mr. Wyatt. He believed that the prices at which work could be executed at Palermo and Morano were very nearly the same. The gold work for the square foot would cost 17*s.*, and the ordinary colours would cost 7*s.* per foot. They were used in equal quantities, this would give an average of 12*s.* per foot for the material only. The cutting and fixing followed afterwards, as a matter of estimate. His estimate for the work, to be seen from a distance, where the jointing was not required to be fine, was 25*s.* per foot, including all plasterwork. For this sum, he considered that work might be done to be viewed from a distance of 40 or 50 feet, and with fine jointing at particular portions only, such as the face, hands, &c. On this principle, he imagined that he could cover the whole dome of St. Paul's Cathedral, in the manner intended by Sir Christopher Wren, with 15,000 feet of mosaic. This might be done for something under 20,000*l.* He could then cover the spandrels of the dome, which were each 270 feet, with a rather higher-priced mosaic, because those portions would be nearer to the eye. These might be done for 500*l.* each, which would increase the cost by 1,000*l.* If a sum of 50,000*l.* could be obtained (and he did not abandon the hope of getting it), Sir Christopher Wren's original idea of carrying out mosaic colour over the whole building might at length be realized. While considering this subject, he was bound to say that he felt a great bias in favour of the vitreous material, rather than the earthy. In his opinion, the former imparted a greater depth of colour, especially in a place like St. Paul's, where there was but little light. He had never thought of employing any but English workmen, and he had no doubt, from what he knew of them, that they could achieve results quite as satisfactory as those obtained by Italian artisans. He was, however, of opinion that, until English manufacturers had thoroughly mastered the difficulties of the subject, it would be desirable to procure the materials from the best manufacturers on the Continent. About three years ago, the St. Paul's Committee had 5,000*l.* or 6,000*l.* in hand, with which he thought an experiment might have been made with mosaic embellishments, and he was encouraged to get a small quantity; but he subsequently found that the Committee had more important demands upon them. He was, therefore, compelled to abandon the idea for the present; but he did not resign his hope of ultimate success, or of his ability at some future day to explain what had been done, rather than what he expected to be able to do.

The President inquired of Mr. Fergusson whether he could say anything with reference to mosaics in India.

Mr. Fergusson said that in India the pattern was of Hindoo design, cut in stone, and afterwards redrawn and inlaid in jasper, agate, and bloodstones, which had a very pleasing effect. The native workmen of India did not attempt to copy nature, but they availed themselves of just sufficient suggestions from nature to give life and variety to their works. If the Italians had suggested this mode of decoration, the Hindoos had certainly very much improved upon their models. There appeared, however, to be very little known about Indian mosaics,—how they were done, or who did them. At Salonica there were several grand churches and basilicas of a date anterior to that of Constantine. Of these the most ancient was covered with mosaics which appeared to be almost Pompeian in design. The date of this church was, he thought, about the third or fourth century, but there were others, of various degrees of antiquity, as late as the twelfth century. The mosaic work to which he referred was very beautiful, the colours were fresh, and the whole was perfect.

Professor Donaldson proposed a vote of thanks to Mr. Wyatt for his very instructive and interesting lecture. He had traced the whole history of the art, and his dissertation was of the utmost value in an artistic and antiquarian sense. Although he had left little to be said by others, there were, however, one or two points in connexion with the subject which he (Professor Donaldson) would like to refer to. He was inclined to the opinion that mosaic work was to be found in some of the Assyrian remains brought to this country by Mr. Layard, and deposited in the British Museum. This would appear to favour the impression that tessera was of a very high antiquity, and was known before the Greek period. The mosaic of ancient times appeared to have been in use in almost every habitation, public building, and monumental edifice. At Cairo it was impossible to enter any of the mosques or public buildings without finding mosaic pavements of geometrical patterns, combining all sorts of colours, and consisting of many valuable stones. He was of opinion that the decorations of the floors of Venice were copies of those which had been carried to such perfection among the ancients. Mr. Wyatt had referred in his paper to the tessera at the church of Novara. He (Professor Donaldson) had been there two years ago, and he confessed he was at a loss to determine from what quarter the pavements came. They were of a most interesting character, and he hoped that, when any of their architectural friends visited the north of Italy, they would examine the church which stood close to the market-place, and was well worthy of a visit. With regard to the Cirencester pavements, "rubbings" of which were exhibited in the room, it appeared to him that the head of Ceres was of the ancient Greek type. The drawing and expression were good, while the minuteness of the coloured particles, especially in the corn-flowers and headdress, exhibited a great variety of delicate and graceful tones. The illustrations in the room, though extremely good, could not, however, convey an adequate idea of the originals, which had a polish and vigour about them which no drawing could convey. These remarks especially applied to the fine heads which occupied the angles of the pavement, and which struck him as being very beautiful indeed. In connexion with this subject he might also mention the beautiful mosaics which had been brought from Carthage to this country. They were now deposited in the basement of the British Museum, and, being cleaned and polished, reflected some of the splendour of their original beauty. There was one point in the paper read by Mr. Wyatt in which, however, he could not agree, and that was, in the impression which that gentleman wished to convey, namely, that the art of Rome sprung into existence, as it were, full grown. He did not think any art could do that. The Romans, no doubt, borrowed much of their inspiration from the Greeks, but then they must have studied their art for many centuries before they could have arrived at its culminating point of beauty and perfection. Before concluding he wished to call attention to the beautiful collection of mosaics preserved in the Museum of Lyons. They were all of undoubted Roman origin, and were, no doubt, produced at a period when Lyons formed the centre of an important Roman province.

Mr. Godwin observed, that he wished to add one word by way of caution. Mr. Wyatt had spoken of the abandonment of the vitrified and the adoption of the clayey material for mosaic work.

Mr. Wyatt said that he had stated in his paper that in the best period of the art, the materials were mixed, and that he was in favour of the combination.

Mr. Godwin said, that the point to which he wished to direct attention was that of durability. It was, he thought, impossible to behold the pavement at Cirencester in a wonderful state of preservation, with the colours as perfect as the first day, and the designs, although not exactly perfect, yet still recalling to mind precisely what they were intended to be, without contrasting it with some of the pavements laid down (in some cases by himself) within the last four or five years. The latter presented a most abominable aspect, the colours were faded, and the material itself was wearing away. He mentioned this to show that we had still a good deal to learn on the subject, for he held that it was useless to spend money on modern mosaics, which could literally be walked out of view in a few years. Look, for instance, at the pavement in the church at Wilton, where the colours had faded away as if sixteen hundred years had passed, although those of Cirencester and Woodchester, which were perhaps of that age, were as fresh as when originally laid. With these facts before them, he did not think it would be advisable to give up the vitrified process. He was very happy to second the vote of thanks to Mr. Wyatt, who had gone thoroughly into the subject: had gratified them exceedingly, and was entitled to their warmest thanks.

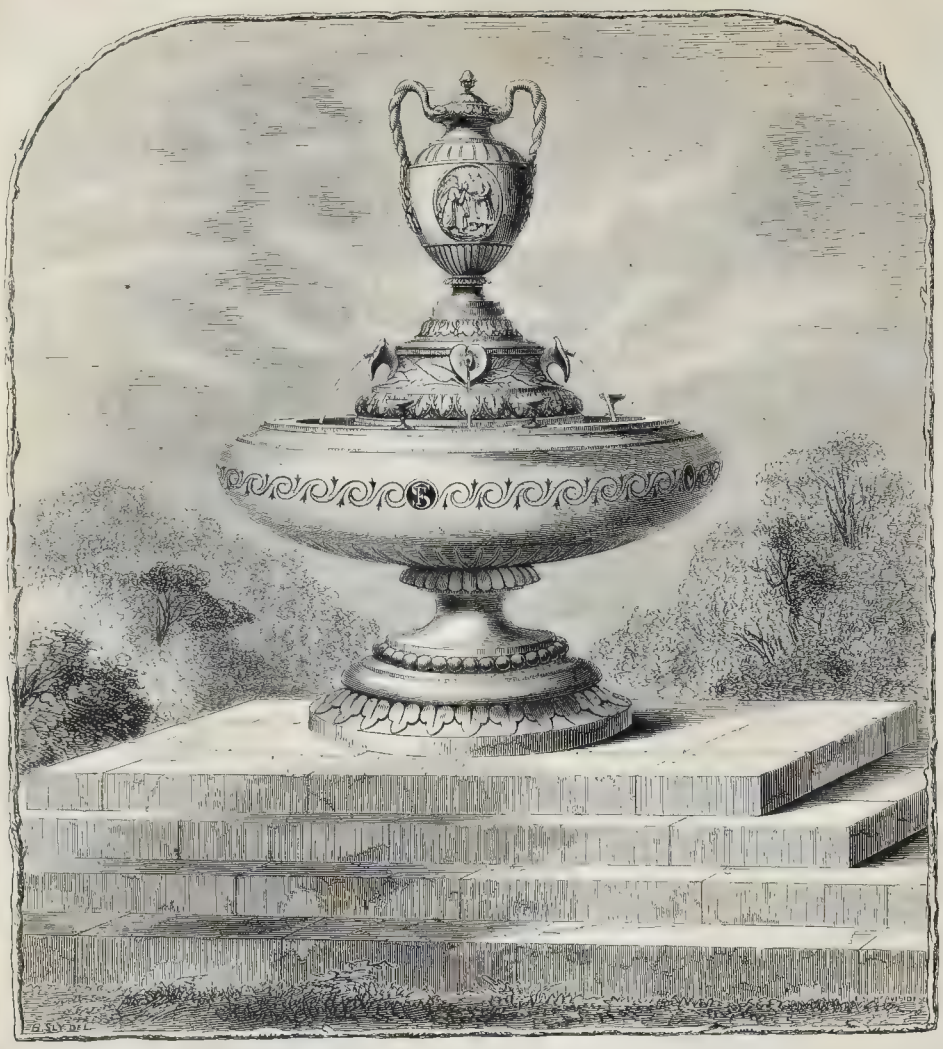
The President, before putting the motion, said that he also had a caution to give which was dictated by experience. When building the Royal Exchange, he was extremely anxious to introduce a mosaic pavement. With that view a very beautiful design was prepared by an artist, which was carried out with great skill by Mr. Singer. It was made in slabs, and the whole jointed, so as to form a tessellated piece of work. Unfortunately, however, the plaster in which it was set rapidly decomposed, and the pavement became as soft as if it had been set in putty. The consequence was, that the whole thing had to be taken up, and the present pavement relaid in its stead. He mentioned this to show how important it was that the mosaic, whether applied to walls or pavements, should be so fixed that it would remain permanent. His own experience led him to the conclusion that, perhaps, more was due to the material in which the mosaic was set, than to the tessera itself. The paper which Mr. Wyatt had read that evening would, he had no doubt, be the means of attracting the attention of architects to the subject, and he quite agreed with the mover and seconder of the resolution, that their thanks were eminently due to its author.

In reply to a question from Professor Donaldson,

Mr. Gilbert Scott said that the mosaic in front of where the high altar used to stand in Westminster Abbey was, he believed, of ancient Roman work.

Mr. Lewis observed that when he was at Venice his attention was drawn to the reparation of some mosaic work, and that he could not fail to be struck by the inferior quality of the gold background used as compared with that of the ancient work. The deep rich colour of the latter contrasted very favourably with the modern gold.

Mr. Wyatt said that this was to be accounted for solely by the superior quality of gold used in ancient times. The same observations applied to ancient illuminated books, the gold upon which preserved its beauty unimpaired for many centuries. Only the other day he had been informed



DRINKING FOUNTAIN, KENNINGTON PARK.—MR. C. H. DRIVER, ARCHITECT.

by a person skilled in the art of illumination, that there was only one place in London where he could depend upon getting gold of the purity he required.

The vote was then carried *nem. con.*

The following gentlemen were on ballot elected fellows of the Institute:—Mr. Thomas Chatfield Clarke, associate, of 137, Leadenhall-street; and Mr. Charles Fowler, jun., associate, of 12, Furnival's Inn.

DRINKING-FOUNTAIN, KENNINGTON PARK.

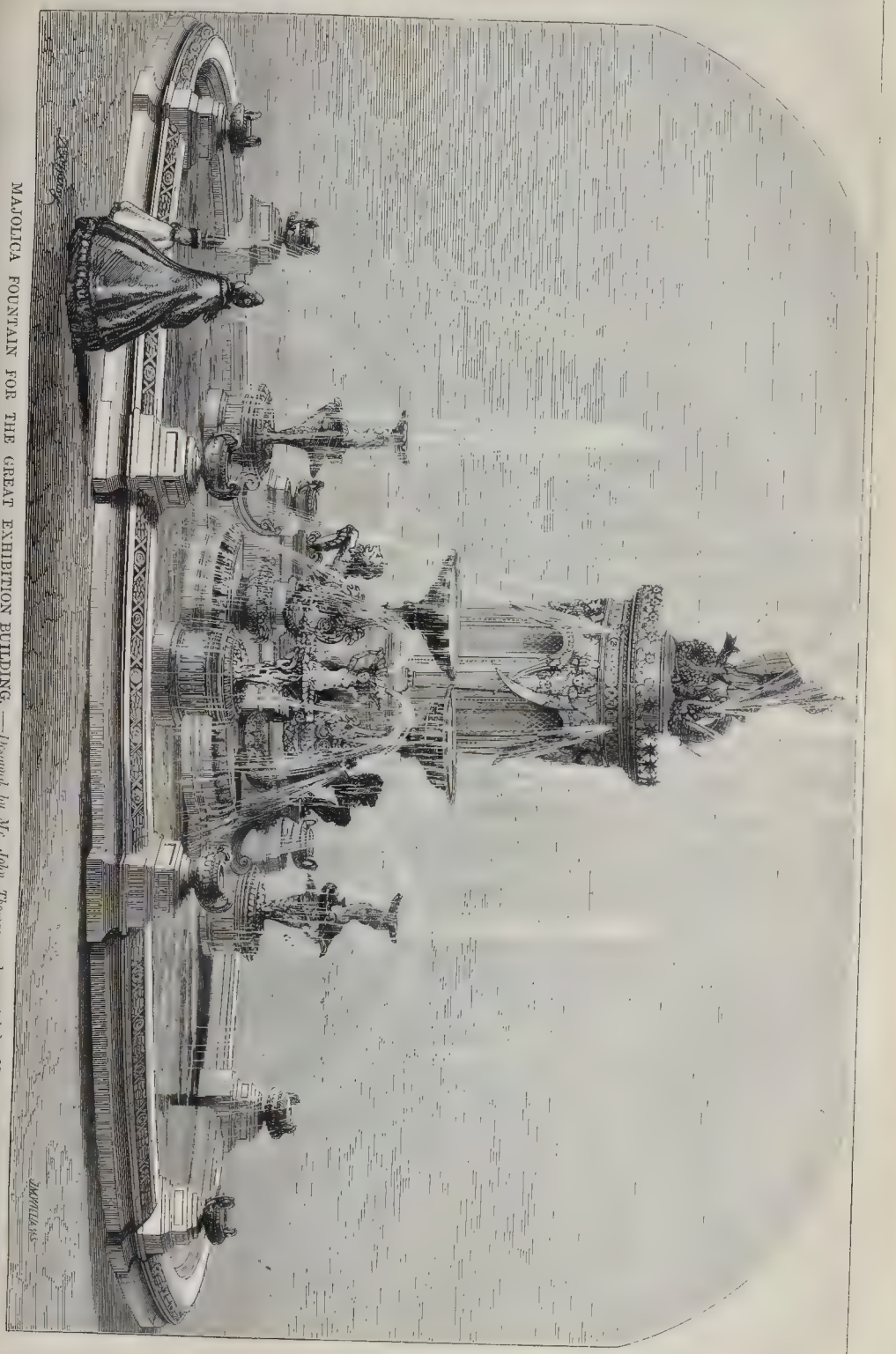
THE drinking-fountain we here represent is now being erected in Kennington Park, from the designs of Mr. Charles H. Driver, architect. It is the gift of Mr. Felix Slade, of Lambeth. The steps are of fine grey granite, and the bowl is Aberdeen red granite, highly polished, with medallions let in of coloured marbles, with the monogram, arms, &c., of the donor, and the date of erection.

The upper part of the fountain is of bronze, ornamented with leaves and flowers of the lotus lily. The water flows from four of the flowers, into basins cut in the granite bowl; and the whole is surmounted by a bronze vase, upon which are represented in low relief "Jacob and Rebecca," and "Hagar and Ishmael." The bronze work is by Messrs. Elkington, and the mason's work by Mr. Thomas Earp.

MAJOLICA FOUNTAIN FOR THE INTERNATIONAL EXHIBITION.

THE western transept of the International Exhibition will be enriched with this fountain, which was designed by Mr. John Thomas, and executed in majolica ware by Messrs. Minton.

The central portion is circular in form; having four niches, enriched with diaper pattern in blue and gold. Between these niches are caryatides, emblematical of Victory, bearing between their outstretched arms a wreath of laurel. Each figure is crowned with a coronet of laurel, coloured after nature. The faces and arms are also of natural tints. The wings, which meet in the lower extremities, are white, slightly relieved with grey. The frieze above carries the motto "St. George for Merrie England and Victory." Above these figures is a cornice, capped with ornaments, the red and white rose, twenty in number. Surmounting the centre stands the figure of St. George, about 7 feet in height, destroying the Dragon. Against the lower part of the pedestal stands a vase, opposite each niche, supported on a tripod formed of winged griffins. Between these, but rather lower, is a lion seated, holding a shield with the cross of St. George emblazoned upon it. These lions are placed at the angles of the main base, which is square on plan, with a truss projecting from the angle. At the end of each of these trusses stands one of the bird fountains, with nymphs and shell-basins, which adorn the Royal Dairy at Windsor. Between the trusses are basins, semicircular in form; the upper one being devoted to plants, and the lower to the receiving of water flowing from above. On the inclosure of the large basin which surrounds the whole are eight tazzæ, upon pedestals. The outer edge of this basin is decorated with the laurel, of its natural colour, banded, and the rose in full bloom, upon a chocolate ground. The entire height of the fountain is about 30 feet. The diameter of the outer basin is 40 feet. 7,000 gallons of water per hour will be required to supply it.



MAJOLICA FOUNTAIN FOR THE GREAT EXHIBITION BUILDING.—*Designed by Mr. John Thomas, and executed by Messrs. Minton.*

THE BRIDGE ACROSS THE RIVER TAMAR, AT SALTASH.

INSTITUTION OF CIVIL ENGINEERS.

At the meeting on the 4th of March, Mr. Hawkshaw, president, in the chair; the first paper read was "Description of the Loch Ken Viaduct, Portpatrick Railway," by Mr. E. L. J. Blyth.

The second paper read was "Description of the Centre Pier of the Bridge across the River Tamar, at Saltash, on the Cornwall Railway, and of the means employed for its construction," by Mr. R. P. Brereton.

This communication embraced, in a narrative form, a detailed account of the preliminaries connected with the Albert Bridge, which crossed the river Tamar where it was only 1,100 feet wide, with precipitous banks and a depth of water to the surface of the mud of 70 feet. A dyke of green stone trap intersected the clay slate formation at this point, and cropped out to the surface above the water on the western bank of the river. It was ascertained, by borings made in the bed of the river, that rock extended from the eastern side to beyond the middle of the stream, covered with mud or silt to a depth of from 3 feet to 16 feet. Subsequently, a thorough examination of the bed of the river where a centre pier would probably be built, by means of 175 borings made within a cylinder at 35 different places, over an area of 50 feet square, enabled an exact model of the surface of the rock to be prepared, showing the irregularities and fissures that might be expected. Eventually it was decided, from the information thus obtained, to erect one pier only in the deep water, instead of three, as would have been necessary for the spans required by the Admiralty; and when it was determined to proceed with the construction of the bridge, in 1852, it was decided that there should be two spans of 455 feet, two of 93 feet, two of 83 feet 6 inches, two of 78 feet, two of 72 feet 6 inches, and nine of 69 feet 6 inches; the total length, including the adjoining land openings, being 2,200 feet.

The centre, or deep-water pier, intended to carry the weight of one half of each of the two main spans, consisted of a column, or circular pillar, of solid masonry, 35 feet diameter and 96 feet high, carried up from the rock foundation to above high-water mark. Upon this were placed four octagonal columns of cast iron, 10 feet diameter, carried up to the level of the roadway, which was 100 feet above high-water mark. Upon the tops of the columns, cast-iron standards were fixed, to receive the ends of the tubes and chains which constituted the trusses of the bridge. The weight at the bottom of the masonry foundation was about 9½ tons per square foot, increased when the bridge was loaded by passing trains to about 10 tons per square foot.

In the construction of the masonry pier, a wrought-iron cylinder, of boiler-plates, 37 feet diameter and 90 feet in length, and open at the top and the bottom, was sunk through the mud of the bed of the river to the rock. The water was then pumped out, and the mud excavated; the masonry being built up inside, and the cylinder above the ground afterwards removed. It was expected that, by forming a bank round the cylinder, after being sunk to the rock, sufficient watertightness would be insured for getting in the masonry. To provide, however, for the contingency of excessive leakage, the cylinder was so constructed as to admit of the application of air-pressure. As the surface of the rock, although very irregular and ragged, had a general dip to the south-west, the bottom of the cylinder was formed with a corresponding bevel, one side being 6 feet longer than the other. A dome, or lower deck was constructed inside, at the level of the mud, and an internal cylinder, 10 feet in diameter, open at the top and the bottom, connected the lower with the upper deck of the cylinder. The 6-feet cylinder, previously used for the borings, was fixed eccentrically inside the other; and an air-jacket, or gallery, making an inner skin round the bottom edge below the dome, was formed, about 4 feet in width, divided into eleven compartments, and connected with the bottom of the 6-feet cylinder by an air-passage below the dome.

Details were then given of the construction of the larger cylinder, and of the mode of launching and floating it to its position. When accurately adjusted over the intended site, water was gradually let in, until the cylinder penetrated through the mud about 13 feet, and rested on some irregularities upon the rock, which caused it to heel over towards the east about 7 feet 6 inches. By letting water in upon the dome or lower deck, and loading the higher side with iron ballast, the cylinder forced its way through the obstructions at the bottom edge, and took a nearly vertical position. The air and water pumps were then set to work, and the greater part of the mud and oyster shells, which filled the compartments of the air-jacket at the bottom, was cleared out, and the irregular surface of the rock excavated; the bottom of the cylinder being now 82 feet below high-water. Subsequently, a leak having broken out through a fissure in the rock on the north-east or higher edge, considerable difficulty was experienced in maintaining sufficient pressure with the air-pumps to keep the water down and the bottom dry. The leak was at length reduced, by driving close sheet piling into the fissure. When at its full depth, the cylinder was 87 feet 6 inches below high-water at the lowest place, and then a hemp gasket was worked under the edge of the cylinder, all round the outside, to assist its water-tightness. A ring of granite ashlar, 4 feet in width and about 7 feet in height, was then built in the air-jacket; and a bank of clay and sand was deposited round the outside of the cylinder to compress the mud. When the water was pumped out of the body of the cylinder below the dome, and the excavation of the mud was being proceeded with, a leak broke out, and the water overpowered the pumps. Additional engines and pumps were provided, and efforts were made to diminish the leakage, with varying success; but as it required four pumps to keep the water down to 54 feet, recourse to air-pressure in the body of the cylinder below the dome became imminent, and preparations for its application were made. To provide against the buoyancy, or upward pressure against the dome and cover, the 37-feet cylinder was loaded with 750 tons of ballast, in addition to its own weight of 290 tons. The pumps were then got into good order; and, by continued pumping, succeeded in keeping the water down. The mud was excavated, the cylinder below the dome securely shored across, and the rock levelled, when the masonry, in thin courses of granite ashlar in cement, in the body of the cylinder, was commenced. As soon as the masonry reached the level of the air-jacket ring, it was thoroughly bonded; the plates of the air-jacket being cut out as it proceeded. Upon the top of the bonding course, two courses of hard brickwork in cement were laid; making a perfectly water-tight floor over the whole diameter of the column. Meanwhile, the masonry of the air-jacket, where the leak occurred, was taken down, and the leak was diminished by additional sheet-piling. The leak was discovered to have broken out at the same fissure as before, and had torn away the rock underneath the masonry of the air-jacket and bottom edge of the cylinder, but the masonry itself was undisturbed.

PROVINCIAL NEWS.

Yarmouth. — The new building for assembly and reading rooms is in progress. It is in the style of an Italian villa; having a centre with an open colonnade in front, and two wings. The situation is immediately opposite the entrance gates of the Wellington Pier; and the ground in front, extending from the building to the Esplanade-road, will be laid out as a garden. The principal building is 50 feet long, and proportionately wide. It has five large windows in front, commanding extensive views of the sea and marine drive. The north wing is devoted to a private reading-room and a toilet-room, exclusively for ladies; behind which is the superintendent's apartment. At the opposite end is the gentlemen's reading-room, with windows looking south and east. Behind is the billiard-room, lighted from the roof. Immediately behind the assembly-room, from which it is separated by a passage, are the refreshment-room and other apartments; and above is an orchestra looking into the assembly-room. The principal entrance is on the north side, in Albert-place. Mr. H. H. Collins, of London, is the architect; and the contractors are bound, under penalties, to complete the works by the 1st of June.

Gloucester.—The local charity trustees, according to the *Chronicle*, have erected a block of buildings at Wotton, in which the almsmen and almswomen of the three hospitals of St. Kyneburgh, St. Margaret, and St. Mary Magdalen, will in future live, so to speak, under one roof. The site chosen is between St. Margaret's Hospital and Hillfield Parade. The style of the edifice is Gothic, of the fourteenth century, and its outline is broken and picturesque. This has been produced in part by placing many of the rooms on the ground-floor; and thus also the comfort and safety of the more aged inmates have been increased. The building consists of two quadrangles, one on each side of the house of the master, which contains a suite of rooms, one of them being the committee-room, surmounted by a tower. The upper quadrangle will be occupied by the almswomen of the Kimbrose, ten in number, and the lower by the almsmen and almswomen of the united hospitals of St. Mary Magdalen and St. Margaret, eight of the former and twelve of the latter. The doors of the Kimbrose and most of the other apartments open upon a covered way or piazza within the quadrangles, where the inmates will be able to walk or sit in hot or wet weather; and at night the quadrangles will be lighted with gas. The towers are turned to account; the water cisterns being placed in them. The building is surrounded by garden ground. The architect of the edifice was Mr. F. S. Waller. The cost will be about 4,000*l.* The builder was Mr. Oliver Estcourt, of Gloucester.

Swansea.—The foundation-stone of a new home for seamen frequenting the port of Swansea has been laid.

Broseley.—It has been resolved by the local authorities that, by repairing the old reservoir, which could be done for the sum of 45*l.* upon the specification of Messrs. Net, Ironbridge, an average supply of water to the extent of 236 gallons per annum for each family could be obtained;—and also that, for the better supplying of the town with water for general purposes, a shaft of 23 yards deep be sunk at the lower end of the Delph, and a double pump be inserted, and surrounded with an ornamental railing to inclose the memorial to be erected to the memory of the late Mr. Pritchard.

Hull.—The foundation-stone of model lodging-houses for the working classes has been laid here by the Earl of Shaftesbury. A sum of money (about 5,000*l.*) was provided for the purpose by Miss Turner, a resident. The site selected for the erection of these model dwellings is at the bottom of Osborne-street, near to the new church of St. Luke's. The building is to accommodate thirty-two separate families, who will each have a distinct dwelling to themselves. Some of the "flats" are to be constructed for small and others for large families. There will also be a scullery in each of them, as well as other conveniences. The buildings are to be two stories high, except the centre portion, which will be three stories. They will be built of white brick, with bands and cornices of red brick, and will be fire-proof. The cost of the buildings when erected will be 4,000*l.*, exclusive of the land. Mr. H. M. Eyton, of London, is the architect; and Messrs. Simpson & Malone, of Hull, are the builders.

Scarborough.—Amongst improvements spoken of there is to be, it seems, a new promenade pier into the sea from the North Cliff, the site of which has been already granted by the Government; a tunnel to connect the two banks, granted by the corporation; the "Great Globe" of Mr. Wyld, M.P., in a crystal building to be erected to receive it; a large saloon for reading, study, maps, charts, &c.; and a refectory and baths of all sorts

Penrith.—A curious discovery has just been made, in consequence of an unaccountable diminution of the flow of water to supply the town. It has been found that some malicious scoundrel had fixed into the supply main a wooden pole about five feet long and three inches thick, by means of a wedge; and that this must have been done nine years since, when the main was first laid down. The supply has ever since been on the decrease, by an accumulation of detritus at the obstruction; till at length it was absolutely requisite to find out the cause; and this, after much trouble and cost, has just been done. There is now an abundant flow of water into the town.

Gateshead.—The members of the Gateshead Temperance Union have resolved to accept the tender of Mr. Harrison, builder, Gateshead, for the erection of a new temperance hall, near the south end of the High Level Bridge, for the sum of 318*l.*; the building to be commenced as soon as two-thirds of the above sum can be obtained. More than half of the money, according to our authority, the *Gateshead Observer*, has been already subscribed.

Wick.—Mr. Matheson, architect, having reported that the court-house of Wick is inadequate for the legal and judicial business of the county, Sir George Grey has approved of the same, and given his opinion that suitable accommodation should be provided. At a meeting of the county of Caithness last week, it was agreed that Mr. Rhind, the Government architect, should be asked to prepare plans for an alteration on the old or an entirely new building.

CHURCH-BUILDING NEWS.

Sevenoaks.—In consequence of several of the tradesmen having been invited to send tenders for repairs to the church, the following were sent in:—Mr. Faulks, 240*l.*; Mr. How, 235*l.*; Messrs. Grover, 200*l.*; Mr. Pereira, 217*l.*; and Mr. Nuttor, 210*l.* for the builder's and slater's work; and Mr. Baker, 33*l.* 5s., and Mr. Hancock, 32*l.* for the plumbing. The tenders by Messrs. Grover & Mr. Baker have been accepted. It is said to have been mainly owing to the exertions of Mr. Hancock and his foreman, that the progress of the fire was arrested so soon.

Tring (Herts).—The parish church here is about to undergo a thorough restoration, and is now in the hands of the contractor, who has commenced operations. Some remains of early architecture have been discovered and brought to light. The nave and chancel will have entire new roofs of oak, of the original forms. The church will be reseated with open benches of oak. The architect is Mr. Slater, and the contractor is Mr. G. Cooper, of Aylesbury.

Nottingham.—The repairing of the spire of Trinity Church is being completed by the contractor, Mr. Holmes. The repairs have been executed under the inspection of Mr. Tarbotton, the borough surveyor, and Mr. Heazel, of the firm of Jackson & Heazel.

Rusholme.—A Roman Catholic chapel, dedicated to St. Edward the Confessor, the last of the Saxon kings, has been opened at Rusholme. The site is in Thurloe-street. The building was designed by Mr. Pugin, of London; and Mr. Eaton, of Ashton, was the contractor. The style is decorated, of the Edwardian period; and the dimensions are 90 feet long by 47 feet wide. The nave and side aisles are divided by an arcade of Aberdeen granite columns, with Sicilian marble bases. Transverse arches are thrown from the buttresses inside the edifice to the piers of the nave; and on these arches the roofs of the aisles are raised. The building possesses accommodation for about 600 people; and its erection has cost about 3,000*l.* There are two stained glass windows over the altar, which is of Caen stone, with marble shafts.

Epworth.—Various restorations have been carried out at the church of All Saints, Belton, near Epworth. All the easternmost windows have been filled with stained glass by Mr. Wailes, of Newcastle. The windows have been supplied by individual liberality; the centre one being a memorial to the late Mr. John Collinson; and the one in the north wall was erected at the expense of Miss Collinson. Mr. Wailes has also been a contributor. The chancel belongs to the corporation of Lincoln, who have recently contributed 52*l.* in renovating it; but the plaster in some places, according to the *Doncaster Gazette*, from which we quote, is already falling from the walls. In removing the whitewash of nave and aisles, the stonework was found to be covered with various colours—red, blue, and black. On the west wall a painting was discovered: the subject of the Judgment was represented on this wall, or over the chancel arch. More remains to be done to the nave and aisles. A new roof and new furniture are much needed. An underground stove, for warming the church, has been recently erected.

Byker (Newcastle).—A new church, dedicated to St. Michael, has been consecrated at Byker, by the Bishop of Durham. The edifice is built of stone quarried on the spot; and the style is Decorated. The outside face of the walls is executed in random coursed work, with tooled stone dressings. The building consists of a nave 67 feet in length and 25 feet wide, with a south aisle of similar length, and 13 feet wide. The nave is divided from the aisle by cylindrical piers, with moulded capitals, from which spring double splayed arches, forming five bays, in the length of the church. The entrance is by a porch under the tower, which projects beyond the face of the south aisle, and occupies the second bay from the west end. The tower, when finished, will be terminated by a spire; the whole being 79 feet in height. Plain buttresses divide the south and north elevations into five bays, corresponding to those in the nave. The nave is 38 feet high, and the aisle 26 feet. The chancel is raised three steps above the church floor, and is 26 feet long by 18 feet wide. The roofs of nave and aisle are divided into five bays in the length by principals, with moulded carved ribs, springing from moulded stone corbels, with intermediate plain principals, and plastered between the small spars: that of the chancel is hexagonal in form, entirely of timber, and divided into four bays by moulded ribs, forming pointed arches, springing from moulded stone corbels. The walls of the church are lined with wood to the height of the backs of the seats, which are all furnished with stall ends of a plain ecclesiastical character. There are 480 sittings, all free. The cost, with spire, is about 2,500*l.*; and the whole has been carried out from the designs, and under the direction, of Mr. W. L. Moffatt, architect, now of Edinburgh.

Inverness.—It has been resolved to open a new cemetery here.

Cork.—The Lord Primate has intimated to the Archdeacon of Cork his intention to contribute 100*l.* towards the building of a new cathedral, provided that the nobility and gentry of the county and city show an interest in the object.

STAINED GLASS.

Summer Town Church (Oxford). — In addition to the four stained-glass chancel windows recently introduced; executed in the style of certain illuminated manuscripts of the thirteenth century; in which scriptural subjects are delineated in small circular medallions (of which there is an example in the show case at the entrance of the Bodleian library), as well as to the giotto figure of St. John, represented in the west window, with ornamental details taken from the Psalter of St. Louis, in the Musée des Souveranis, at the Louvre; two additional windows of great beauty have been inserted in the nave. One of these, a memorial window to a deceased infant, represents the baby asleep in the arms of its guardian angel, with the inscription on a scroll,—"Their angels do always behold the face of my Father which is in Heaven:" "Asleep in Jesus." The corresponding window contains the figure of St. Cecilia playing on the hand organ, and inscribed, "So long as I have any being I will sing praises to my God:" "Praise ye the Lord." These two windows are the designs of the donor. The canopy work over the figures is unfortunately of a somewhat later period than is warranted by the style of the church. Two other windows, the gift of two of the parishioners, have also been placed in the body of the church. These windows were made by Messrs. Ward & Hughes, of London.

St. Lawrence's, Upminster.—The east window has been filled in with stained glass, executed by Messrs. Lavers & Barraud, and representing Christ's charge to St. Peter. The lower panels contain angel and scroll, and medallions of the passion-flower and lily, with rich foliated background. The tracery represents our Lord in majesty, and angels bearing scrolls.

Walsall Church.—It will be remembered that some of the congregation and personal friends of the late Rev. Horace Chavasse, vicar of Rushall, determined to place a stained-glass window in the parish church, as a testimonial to his memory. The window has just been completed, and placed in the north transept, by Messrs. Ward & Hughes, of London. It consists of three distinct lights, in the Perpendicular style, containing illustrations of the following subjects:—"Christ's charge to Peter," "The miraculous draught of fishes," and "The Good Samaritan." These Scriptural subjects, being symbolical of pastoral duties, were regarded as appropriate to commemorate the character of an eminent minister of the Gospel.

Warrington Church.—Another stained glass window, to the memory of the late Mrs. Lyon, has been put up in the north side of Atherton chapel, Warrington Church, by her husband, Mr. Thomas Henry Lyon, of Appleton Hall. The principal feature of the window is the Ascension of our Lord, which subject occupies the three centre openings. The Saviour is represented as being accompanied by angels on each side, with the Apostles and Virgin beneath. The space below is filled by three small subjects, illustrative of so many events in His life and resurrection. The first of these is Christ blessing little children: the next, in the centre, is the woman touching the hem of His garment; and the third represents the three Marys with the angel at the tomb after the resurrection. Each of the side openings has two subjects, with canopies, &c., forming a border to the principal subject. The upper one on the right hand represents the Good Samaritan; and beneath, Christ healing the blind; that on the left, the raising of the brazen serpent, and the healing of the sick man at the pool of Bethesda. The tracing is filled with glass, appropriate in colour and design; the three larger trefoils representing angels with musical instruments: the two quatrefoils contain angels bearing scrolls with the inscription, "Blessed are the dead which die in the Lord." Other two pieces have the monograms "I. H. S." and "A. O.;" the smaller and less important pieces being filled with foliated ornaments, &c. Mr. Gibbs, of London, was the artist.

Beaminster Church. — The new west window tracery, inserted in this church at the cost of Mr. P. Cox, in August last, and which inaugurated the work of restoration now going on there, has since, according to the *Dorset Chronicle*, been filled with stained glass by Mr. Wailes. The subject relates to the successive prophecies concerning the Advent of Christ, and their fulfilment in the Nativity.

Farnsfield Church. — A memorial window, designed and executed by Mr. Wailes, has been placed in the chancel of this church. The window consists of two lights and tracery. The subject of the left-hand light is the Crucifixion of our Lord, with the Marys standing by the Cross. Below this is represented one of the Old Testament types of the Crucifixion; viz., the offering of Isaac on the altar, with the angel in the act of staying Abraham's hand. The right-hand light exhibits the Resurrection of our Saviour from the tomb; and in the compartment below this is the Old Testament type of the Resurrection; viz., the deliverance of Jonah from the fish. These subjects are canopied and otherwise surrounded with ornamental detail. The smaller openings in the tracery are filled with coloured foliage; and in the larger one is represented the brazen serpent reared on the pole in the wilderness.

Sheffield Parish Church.—The mayor, Mr. John Brown, has caused a memorial window to be placed in the chancel of the parish church in honour of his parents. The subject is "The History of Joseph;" five events being represented, namely,—Joseph sold to the Ishmaelites; Joseph in the prison; Joseph before Pharaoh; Joseph riding in the chariot; Joseph made known to his brethren. In one compartment are angels supporting a scroll, inscribed with the fifth commandment. The tracery also has angels bearing scrolls with inscriptions. Messrs. Baillie, of London, executed the painting. The cost of the window was about 160*l.*

Byker New Church (Newcastle-upon-Tyne).—A window, by Mr. Wailes, has just been placed in the chancel of this church. It consists of two principal lights, in one of which is the figure of St. Peter, and in the other that of St. Paul. In the tracery above are the monograms "R. G." and "A. G.," and an angel bearing a scroll.

THE PRINCE CONSORT MEMORIAL AND THE BATH UNITED HOSPITAL.

WITH reference to the resolution come to render the Bath United Hospital, by enlargement and improvement, a memorial of the late Prince Consort, Dr. Goodridge has printed a letter, showing its defects, and urging the desirableness of erecting a new structure. Experience has gradually developed the proper principles upon which the construction of hospitals should be regulated.

"These principles," he says, "have been clearly brought out by the inquiries of the Royal Commission appointed to inquire into the sanitary state of the army (a commission by whose labours the mortality in this branch of the service has been reduced nearly one-half). The commissioners have fully adopted them; they have been expounded in the columns of the *Builder*,* and brought within the reach of all in the "Notes on Hospitals," by Miss Nightingale. *Inter alia* are the following, succinctly stated:—All hospital establishments should be removed out of town, or from populous suburbs, as soon as possible. A dry climate should be selected. Ground saturated with organic matter, especially old graveyards, should be avoided. The hospital should be constructed on the "pavilion" plan, "the great and only sound principle of hospital construction;" that is, the separating or sub-division of the hospital into a number of distinct pavilions or blocks, each consisting of only two flats, and one ward to a flat,—two superimposed wards, in fact. Each ward should have a double line of windows on opposite sides, and the axis of the wards should run nearly from north to south. Convalescents should be provided for in pavilions separate from the ordinary sick. Now, if, keeping in mind these principles, which in this country first received a substantial embodiment in the hospital at Backburn, and have since been followed in the construction of other hospitals, both civil and military, we come to examine the case of the Bath United Hospital, what do we find? A difference almost amounting to contrast."

It is to be hoped Dr. Goodridge will succeed in his endeavour to bring about the erection of a new building.

A SUGGESTION AS TO PROVINCIAL MEMORIALS.

WHILST our cities and large towns—as Manchester, Liverpool, Glasgow, and Birmingham—are erecting costly memorial statues of the late Prince Consort; we, who are resident in the smaller towns of the kingdom, though fully equal to our richer neighbours in feelings of sympathy are prevented by restricted means from paying a similar tribute of gratitude and respect to the memory of a prince whose life, whilst amongst us

* The endeavours of the *Builder* preceded the report of the Royal Commission.—ED.

was throughout blameless and beneficent; and to whom, as the sire of our future king, we shall hereafter attribute everything of good which the career of his illustrious son may show.

It has occurred to me, however, that a design and model of first-rate merit, being once obtained from one of our great portrait-sculptors—Foley, Calder Marshall, or others—reproductions of this in "enduring bronze," might be offered to the public at a very moderate cost. It is true that a sameness or identity would pervade the whole; but the statues would of necessity be situate many miles apart; and it is possible that, the demand being large, the choice of two or three designs might be secured. Moreover, a gentleman whose opinion and influence stand deservedly high in the departments of science and art, and to whom I have already mentioned my project, writes thus:—"It would unquestionably be far better for the progress of art that one good model should be multiplied, rather than a comparatively small number of different and possibly indifferent statues."

With regard to cost. For the purpose of the bronze-founder a model in clay is all that is required; and this could be obtained from any one of the sculptors above-named, at a cost not exceeding three, or, at the most, four hundred pounds. From this any number of moulds may be taken, and casts in bronze obtained; which, making allowance for occasional accidents in the casting, ought to be offered to the public at a price not exceeding 250*l.* each statue. The cost of erection upon a stone pedestal, with suitable inscription, is of course not included in the above estimate.

At Warrington we possess no public statue; nor is there one within a distance of twenty miles. But, if my estimate be correct, and the opportunity were afforded us, 250*l.* would be raised with readiness. We have an admirable site, and a School of Art established here, which I believe I am correct in saying has, upon the average, gained more Government prizes than any other School of Art in the kingdom. There is also a general desire amongst our townsmen to add to the decoration of the town, and at the same time to manifest their thoroughly English loyalty by putting up a fitting memorial of the late Prince Consort. It is only by some such means as that which I propose that we can at all hope for the accomplishment of these wishes. Many other towns must be similarly circumstanced; and I therefore venture to hope that you will so far countenance my scheme as to afford this letter insertion in the columns of the *Builder*.

ANGLICANUS.

*** A suggestion to the same effect was made in our pages some time ago; the electrotype process being pointed to in order still further to lessen the cost.

THE OBELISK.

THE obelisks in Egypt are covered with hieroglyphics. Cleopatra's Needles, at Alexandria, 100 feet in height, and upwards of 7 feet square at the base, are richly adorned with picture-writing or drawing on the four sides, cut an inch deep in the granite stone.

I think that the character, works, and designs of the late Prince may be well represented on the contemplated monumental stone.

Some ancient obelisks were of great use as dials. I fancy the most beautiful kinds of granite, red, gray, and black, would form an excellent ground-circle (the obelisk being the majestic gnomon).—See "Manners and Customs of the Jews and other Nations mentioned in the Bible," p. 95. Religious Tract Society. There is a picture of an ancient obelisk, showing its use as a dial. It was much used by the ancient astronomers; and gnomons of great height, with meridian lines attached to them, are still common in France and Italy. An inscription in Egypt, expressing this moral sentence, "All you who come into the world and go out of it, know this, that the gods hate impudence," was represented by an infant, an old man, a hawk, a fish, and a river-horse. On the contemplated monolith might be portrayed an infant, an old man, a crown, a (1) white camellia, (2) moss, (3) violets; signifying, "All you who come into the world and go out of it, know that Prince Albert was of (1) unpretending excellence, was celebrated for (2) parental love, and was (3) early dead."—(See "Language of Flowers," Mrs. Hemans's poetry, "Bring Flowers.")

The violet would set forth that he was not ostentatious; but was like that flower, hiding itself beneath its own leaves, and well known from the obscurity which it courts, by the fragrance which it emits. Emblems of the arts of drawing and music, of classics, mathematics, mental philosophy, political economy, history, and statistical science, would show that Prince Albert cultivated arts and sciences. Having devoted himself to the encouragement and improvement of agriculture, manufactures, and commerce, emblems of these three will be understood. This obelisk will be a monument of civilization, and a leader of civilization. Egyptian obelisks were often suggestive of a cruel tyrant, portrayed by a sword; of armies, represented by hands with weapons. The Exhibition of 1851 would figure on the monolith. Not a monarch, not a conqueror, not a discoverer; but a "Promoter of the Arts of Peace," is understood by the obelisk.

ROBERT ASKWITH TAYLOR, M.A.

THE ROADS IN STOCKWELL.

YOUR able article in the *Builder* of the 15th instant, "On the danger of stagnant Pools of Water in Suburban and Rural Districts," merits the attention of every one interested in sanitary improvements; and I sincerely hope it may lead to the removal of a nuisance in my locality, which is fast becoming intolerable: I allude to the dangerous and disgraceful condition of the Rumsey-road, Stockwell.

This is the only public thoroughfare between the Stockwell Park road and Stockwell-green; and yet for the last seven months it has been a perfect slough, and, at times, impassable: the mud is in places upwards of a foot in depth; and as it is composed of sewage, rotten vegetables, and more offensive matters still; on a warm day the stench is most offensive. I have repeatedly called the attention of the local authorities to the state of the road; and, some time ago, a petition, numerously signed by the householders in this neighbourhood, was forwarded to the vestry; but as yet they have made no sign.

I was coolly informed by one member of the vestry that "the road in question does not belong to the parish, and that nothing can be done" to remedy the evil complained of!

Supposing the first statement be correct, I have still hopes that a line from your powerful pen will stimulate the authorities to devise some means of effecting the repairs and proper drainage of the road in question.

A RATE-PAYER.

CLASSIC AND GOTHIC.

SIR,—Mr. Wightwick's able treatment of the "Question of Classic and Gothic" has given me no small satisfaction; and, appearing simultaneously with the article in *Blackwood*, on the "Battle of the Styles," I trust that it will make some impression, and that both together will help to disabuse the public as to the claims so arrogantly put forth on behalf of Gothic, as being the only style that ought now to be tolerated. No doubt it is easy enough to declaim, as some have done, against our "Vernacular," it being certainly not a little prosaic, and it may very truly be said to be tasteless, inasmuch as it makes no pretension to taste, consequently may be allowed to have at least the negative merit of not offending by bad taste. In addition to which, it can lay claim to the positive merit of consulting internal comfort and convenience, however negligent it may be as regards external appearances.

In their constitution and leading constructive forms, Classic and "*Vernacular*" are identical; the main difference between them being that, while the former is decorated, and aims at æsthetic design, the other foregoes all attempt at display, and thereby spares us that tawdry architectural brummagem which is the characteristic of Regent-street. It is not at all difficult to be eloquent, or else facetious on the monotonous dreariness of Harley-street and its like; for most assure by they do not attempt to emulate the architecture of the shady side of Pall-mall, nor have they so much as a *suspicion* of the picturesque: for, if you are hunting after the picturesque, you must—perhaps accompanied by a policeman as your guide and protector—visit the back slums and those places whose wretchedness and horrors have been so ably shown up in the *Builder*.

That our Vernacular street architecture is not at all calculated to excite the admiration of strangers may be, or rather must be, admitted; yet, all uninteresting as it is, even strangers must be, if not exactly delighted, struck by the air of comfort, respectability, and widely-extended well-to-doishness that characterizes the mile-long reaches of our prosaic private streets. In no other country are the middle classes so well lodged as in England. Externally our dwellings are not a little homely, yet they have the no small material recommendation of making provision for the enjoyment of *home* within doors, *home*, that sacred word which, when properly applied, comprises nearly all that gives a charm to existence in this present world. But a truce to sentiment.

If nothing more can be said in favour of our general street architecture,- if architecture, without profanation of the word, it may be termed,—at any rate the exteriors of the houses are not mere showy "pinafores" and "coversluts," intended to conceal, or give a smiling aspect to, discomfort within.

To speak to the point, those who agree with Wightwick ought to come forward and support him strenuously. Of course, those who have no sympathy with him, no responsive feeling with his views, will not be foremost to testify to the good sense of his views. Whether those who do agree with him will take any pains to publicly signify their approbation of his teaching is what remains to be shown before it can be seen.

L.

DECISIONS UNDER METROPOLITAN BUILDING ACT.

FEES. *Greenwich Police Court.* Mr. Badger, district surveyor, summoned Bowley Brothers, under Sec. 51, of Metropolitan Building Act, 18 & 19 Vic., cap. 122, for recovery of two fees of 4*l.* 11*s.* 3*d.* each, claimed by complainant in respect of alterations and works done by defendants, at the Longton Hotel, Sydenham, in April and May, 1861, under the superintendence of Mr. J. W. Dennison, architect. Mr. Venn, solicitor, of New Inn, Strand, appeared for defendants, who denied their liability to pay the second fee in complainant's account, which was claimed "for alterations to roof of building, by permission of Board of Works."

Complainant stated that on the 4th of April he found defendants engaged on the works (which had been commenced without any notice to him), and that at this date the roof above some stabling had been covered with an external covering of asphalte, to which he objected as being combustible. That the architect applied to the Metropolitan Board of Works, who eventually gave their consent to the roof being temporarily left in that state. That defendants on the 17th of April gave him a notice applying to the chief portions of the entire work which was in progress, and offered to pay his fee; but complainant claimed *an additional fee* for the alteration to roof discovered on April the 4th, upon the ground that it was a separate matter and was under his supervision as district surveyor.

Mr. Venn, for defendants, contended that as asphalte was used in the former covering of the roof, the covering placed by defendants was not in itself an "alteration" within the meaning of Sec. 9 of the statute, but was a "necessary repair not affecting the construction," and for this a notice would not be required; and that even if held to be an alteration, it merely formed part of one set of works in progress, at the same time, without any suspension; and that therefore only one fee was payable;—further, that if defendants had acted illegally by placing the covering on the roof before giving notice, the district surveyor should have taken steps to enforce the penalty imposed by the statute, but not recover the double fees.

Evidence being given by defendants that the covering to the roof was a part of the entire work entered upon, and which had been continuously performed without any suspension;—the magistrate, Mr. Maude, upon this ground decided that only one fee was payable; but declined to express any opinion as to whether the covering to the roof was or was not in itself "an alteration," within the meaning of the statute.

Books Received.

The English School of Painting in Water-Colours: its Theory and Practice. By AARON PENLEY, Member of the New Society of Painters in Water-Colours, &c. London: Day & Son, Lithographers to the Queen.

THE title of Mr. Penley's handsome book does not convey its purpose. It suggests an inquiry into the present condition and practices of the English School of Painting in Water-Colours, more theoretical than practical. In reality, however, it is a treatise on the art of painting in water-colours,—on the treatment of colour in its primitive and compound state. Every pigment suitable for landscape painting is discussed: its uses are stated; as well as the various combinations in which it can be employed; and care is taken to explain not only what its capabilities are but what they are not. Four sets of mixed tints are given, with explanations, and will be found very useful by students of the art. The great feature of the book is that, by aid of chromo-lithography, a set of examples are furnished, showing the successive manipulative processes, and equal to the artist's own drawings. A copy of the book, cut up, would supply examples for a school. It is to be regretted that so large a size was adopted for it, as the cost will keep it out of the hands of many who would otherwise have benefitted by it. An objection must also be taken in a book with the title this has, to the omission of *figures*. So far as it goes, however, it will be found a very valuable educational work, and as such we cordially recommend it.

Report on the Vital, Social, and Economic Statistics of Glasgow for 1861. By JOHN STRANG, L.L.D.

IN this report to the Lord Provost, magistrates, and town council of Glasgow, Dr. Strang, their city chamberlain, gives an interesting statistical account of the state of Glasgow, vitally, socially and economically.

From this report it appears that, in the central and Milton districts of the city, the births, to their respective populations, are, in the first instance, as 1 in 21·4, and in the second as 1 in 21·8; whereas, in Blythswood, there are only 1 in 34·7. In the central and High Church districts, the deaths occurring there are, in the former, 1 to 29·7, and in the latter, 1 in 27; whereas, in Blythswood and Anderston, they are respectively only 1 in 64·9, and 1 in 46. Thus it appears that a great diversity exists in the vitality and mortality of one quarter of the city when compared with those of another. In respect of deaths occurring under one year of age, the like diversity appears. Thus, for example, in the district of Clyde, which includes the lower part of the town on the north side of the river, and which is inhabited by a considerable portion of the substratum of the population; we find the proportion of deaths under one month to be 1 in 13 births; whereas, in Blythswood, which is generally inhabited by the better classes, the deaths under one month are only 1 in 25 births; the total deaths under one year to the total births, in Clyde and Blythswood respectively, being, in the former, nearly 1 in 4, and in the latter

1 in 8; or, in other words, twice as many children died under one year of age in Clyde district as in that of Blythswood; a circumstance which is mainly attributable to the social diversities of the two quarters of the city. The infantile mortality which annually occurs here, says the report, "still exhibits such an element of destruction as, with all our improvements and advancing civilization, cannot fail to create sorrow in every philanthropic bosom." Out of the population living at the period of the census (1861) under one year of age, no fewer than 1 in 5·25, or 19·27 per cent., died in 1861; while from one year and under five, of 1 in 14·49, or 6·89 per cent. died, or a total out of the whole population under five, of 1 in 10·09, or 9·91 per cent. Such, then, has been the real infant death-rate in Glasgow for 1861. Commenting on these and other kindred statistics, Dr. Strang says,—"It is to the efforts of the social reformer that we must mainly look for any great diminution in the rate of infantile mortality in Glasgow, for it is perfectly certain that it is chiefly from the improvement of the social condition of the great mass of the population in this city that we can really hope for an increased average term of existence being obtained for the infancy of Glasgow. In one word, while no doubt better drainage and other sanitary operations may tend to do something towards the diminution of infant mortality, particularly in the reduction of those influences which produce diarrhœa; we believe that the only great panacea against the 'Murder of the Innocents' will be found in the interior improvements of the dwellings of the poor; in the greater carefulness of mothers towards their tender offspring, and more attention being paid by them to their domestic duties; from the abandonment of factory work by married females, and from more improved and more temperate habits among the working-classes; and particularly from taking advantage of the aid offered through the district surgeons appointed and paid by the several poor-law boards, and the gratuitous and able advice afforded to all at the Dispensary of the Royal Infirmary." Here the reporter passes too lightly over those principal causes, such as defective drainage, cesspools, &c., and the consequent unwholesome atmosphere thence arising, to which much of the infant mortality is to be attributed, in connexion also with close, unventilated, and unclesnly dwellings.

The *North British Mail*, in reviewing Dr. Strang's Report, and its tell-tale statistics, says:—

"Let any man who knows what fresh air is, penetrate into the horrid dens that abound in this part of the city, and look at the women and children who spend most of their unhappy lives in them, and he will soon see how impossible a healthy life is under such conditions,—filth, fetor, raggedness, misery in all its shapes. The description of our wynds and vennels given in the *Builder*, which were republished in the *Daily Mail*, were in no respect exaggerated. In this particular we are perfectly safe from southern malice; as it is not in the power of language, however intensified by prejudice, to make the description worse than the reality. It is almost impossible to credit the fact that, in the very centre of our city, within a few yards of some of the leading thoroughfares, places should exist which cannot be entered without disgust, and whose denizens cannot be looked at without shame and horror.

Dr. Strang does not describe, like the writer in the *Builder*. He does not enter these horrid kennels, or expose to public view the pollutions to be seen on every hand. That is not his business; but out of the Registrar's returns he picks those ghastly figures which speak of misery and death; and he reduces to averages death-returns which cover a misery and agony—a moral and physical pollution—frightful to think of."

And thus on every hand our statements get confirmed.

Public Health in relation to Air and Water. By W. T. Gairdner, M.D. Edinburgh: Edmonstone & Douglas. 1862.

THE author of this volume is a lecturer on the practice of medicine in Edinburgh; and the lectures which form the larger portion of the volume were delivered during last summer, to an audience partly composed of students of medicine, and partly of persons otherwise interested in the subject of public health. The whole work forms an intelligent recast of sanitary matter, most of it well-known to all old readers of the *Builder*; and including a report of progress in England, from Defoe and the plague of London, down through Golden-square and the cholera, to the equally well-known sanitary questions which have been agitated in our columns, and elsewhere, in regard to Newcastle, Liverpool, Preston, Hull, Bedford, Windsor, and many other places; all, in their sanitary aspects, familiar enough to our readers; but comparatively new, it seems, to this author, as well as to Scotland generally; for behoof of which, more particularly, he proposes, after reviewing the whole subject, to form a sanitary organization, in order to lay the foundations of the movement there.

The author, however, does not seem to have been able to penetrate to, or give much account of, the main springs of the sanitary movement in England; although versant enough with much of the more obvious machinery moved by these main springs, just as he himself has recently been moved, as one of its more circumferential or far-off wheels. But there are not a few names well known to England in reference to sanitary progress scattered throughout the work; and amongst these we may mention Miss Nightingale, in order that we may here, before concluding our notice of Dr. Gairdner's very useful work, just slightly notify our coincidence with *her* views on a certain point, and against the author; who considers the idea, defended by Miss Nightingale, that certain morbid poisons *originate* and grow up out of mere dirt and overcrowding, to be a "preposterous doctrine." Now it does seem to us to be much more like a preposterous doctrine that dirt and overcrowding do *not* originate certain morbid poisons, with which they are so concurrent. If such poisons did not, and do not, so originate; how or when did they originate? and how is it that they ARE *now* so concurrent with dirt and overcrowding? If they *could* once originate; how is it that they cannot now "originate," but are always "communicated?" Or did they never *originate?* Go back as far as we like, even to the creation, or the fall of man; still the question recurs, how did they originate? Were the seeds implanted by the Creator? The upholders of the non-originating, or the merely communicative, hypothesis appear to us to have an immense deal more of preposterous absurdity to digest than their opponents.

The Lessons of my Farm; being an Introduction to Farm Practice. By ROBERT SCOTT BURN. London: Lockwood & Co. 1862.

WHEN the architect or the engineer turns his leisure attention to farming, and offers instructions on farm practice, one cannot help perusing what he says with some little suspicion; but Mr. Burn at once, and frankly, admits that they who follow *his* advice will very likely be losers,—at least, in a pecuniary sense. His book, in the first place, is one specially addressed to "amateur agriculturists," and we all know what most of these are in the regions of "double entry." And although Mr. Burn professes to give sagacious advice, from amateur experience gained on his own little "play-farm," upon the grave subjects of "culture of crops, feeding of cattle, management of the dairy, poultry and eggs, and the keeping of farm-work records," he does not promise much more than a loss of "ten or twenty pounds a year," or so, to his amateur co-hobby-rider, from his "wee bit land;" and thinks that he must be rather unreasonable who would "grumble" at such an issue; considering "the health derivable, and the pleasures, too, from the fields of a pet farm," which are undoubtedly "worth a good deal." We have little fear, therefore, that the well-known and able author of this (amateurly speaking) really useful work, and of other "agricultural" works, too, such as the "Book of Farm Buildings" (a little more in his business way), and of the "Book of Farm Implements and Machines," &c., gives other than good advice, which is sure to result in the general issue which he himself anticipates,—whether to the extent of twenty, forty, eighty, or more pounds sterling may depend upon the enthusiasm of the amateur and the extent of the *field* on which he operates.

Miscellanea.

THE ROADS TO THE INTERNATIONAL EXHIBITION.—We are glad to be able to state that operations have been commenced in the Brompton-road, in order to widen it by throwing the waste ground at the side into the carriage-way. An influential committee has been formed, and subscriptions are being sought, to carry out the work. A considerable sum will be required to do it properly. The general committee met this (Friday) morning, and appointed an executive committee to superintend the work.

RAILWAY ACROSS THE CHANNEL.—"Neptune," of Whitehaven, desires to see an embankment for railways carried across the Channel, one mile wide. We do not; being quite content that England should remain a "tight little island." If we did desire it we certainly should not take shares in the scheme.

ACCIDENTS.—The premises at 294, High Holborn, near Great Turnstile, have fallen in, after giving sufficient warning to enable about twenty persons connected with a tailor's establishment, occupying the premises, to make their escape. The front wall remains.——A house in Leith has also fallen. A heavy weight of snow on the roof is said to have brought it down, but the building was old and shaky.——Six men were buried and dreadfully bruised under a fall of earth, while removing a high embankment on the Watchet branch of the Bristol and Exeter railway, near Bishop's Lydeard.——A stone of a ton weight, last week, by the giving way of a chain, fell upon a poor man while engaged in landing it at Clarence's-wharf, Rotherhithe, and killed him on the spot. The jury, in returning a verdict of accidental death, gave it as their opinion that "the chain ought to have been passed under as well as round the stone."

SEWER GASES AND MORTALITY RETURNS AT SALFORD.—At a special meeting of the local council, Mr. Pochin, before the proceedings of the Sanitary Committee were adopted, said he wished to direct the attention of that committee to the subject of the ventilation of the street sewers. He referred to the excessive mortality of such streets as Cook-street and Cleminson-street, last year. He believed that the inquiries of gentlemen versed in sanitary matters went to show that much of this excessive mortality was owing to the escape of gases from the street sewers. The streets referred to stood high, and the gases naturally tended to the highest points. The evil might be remedied by a systematic ventilation of the sewers. One practicable plan was to run a pipe from the sewers into the chimneys of works and factories. He would like to hear that this matter was engaging attention. It was shocking to think of a mortality of 70 or 80 in the 1,000 when the rate ought to be only 17 or 18 per 1,000. He would be ready, for one, to give the owners of these chimneys a good round sum to induce them to carry out this sewer ventilation.

FIRE EXTINGUISHING BEAMS AND GIRDERS, PIPES, &c.—The several patents taken out of late for water-bearing apparatus for the extinction of fires cannot all hold good. "Beattie's mode of extinguishing fires in buildings and ships," and "Hood's Beams and Girders," are thus described in the *Engineer Journal*. In the arrangement, by Joseph Beattie, of Lawn-place, South Lambeth, he places in the brickwork or other material of which the main building is composed one or more main pipe or pipes, of suitable metal and of sufficient strength and bore, from the basement or ground floor to the roof or other parts of such building; and has branch pipes, of suitable metal, bore, and strength, from such main pipe or pipes into each floor; and, if required, into each room; and carries such branch pipes round the ceiling or other part or parts of such rooms and other parts of the building; and has perforations in such branch pipes, and mouths or roses made ornamentally or otherwise; and has suitable joints and cocks or other apparatus; so that, when a fire has taken place in any one or more of such room or rooms, the water can be forced by steam or other power from below through the main pipe and branch or branches into such room or rooms as required for the extinction of the fire therein. The invention, by William Hood, of Reading, has for its object improvements in beams and girders, and in applying the same in buildings. For these purposes hollow iron beams or girders are constructed in such manner that they may be rendered suitable for conveying water into and distributing it in the buildings where such beams or girders are used. Girders so constructed and employed will also, by reason of their having water supplied to them, be prevented getting red hot, in case of fire, which would render them weak and unequal to sustain the weights thereon. The hollow beams or girders are made of iron, and suitable angle iron, as common heretofore; and they are also closed at their ends or other parts, as well as at their sides, and are suitably formed to admit of their being connected to supply pipes leading to water-mains or other sources of supply: they are also made with suitable perforations for distributing the water supplied to them into the rooms or parts of buildings where such beams or girders are situate, by which means such beams and girders will not only be the means of conveying water to extinguish a fire in the locality where they are situate, but will at the same time be prevented from becoming highly heated, by reason of the passage of water through them, and will thus be caused to retain the requisite strength for upholding the weights thereon.

THE LITERARY FUND DINNER.—The anniversary dinner of this admirable institution, fixed to take place on the 21st of May next, will be held in the Great Exhibition Building, South Kensington. Lord Granville will preside.

INSTITUTION OF CIVIL ENGINEERS. — On March 11, Mr. Hawkshaw, president, in the chair, the paper read was "Description of the Delta of the Danube, and of the Works recently executed at the Sulina Mouth," by Mr. C. A. Hartley. On the 18th the discussion upon Mr. Hartley's paper was resumed.

THE ACCIDENTS COMPENSATION BILL. — A deputation of the builders of the metropolis, on the subject of the Accidents Compensation Bill, had an interview with Secretary Sir George Grey, on Tuesday, at the Home Office. The deputation consisted of Sir M. Peto, Mr. Lucas, Mr. Hannen, Mr. Janson, Mr. Dunnage (W. Cubitt & Co.), Mr. G. Smith, and Mr. T. Piper, hon. secretary. The Bill has since been withdrawn.

THE NEW ROYAL MAUSOLEUM, WINDSOR.—Her Majesty the Queen laid on Saturday the first stone of a mausoleum in Frogmore Gardens, in which are to be deposited the remains of her dearly loved husband the Prince Consort, and ultimately her own. Her Majesty, in performing this act of reverential and devoted affection, was surrounded by all her children now in England, and was attended by the ladies and gentlemen of her household in waiting, and those who had in any way specially attended upon the Prince. Upon the stone is the following inscription:—"The foundation-stone of this building, erected by Queen Victoria in pious remembrance of her great and good husband, was laid by her the 15th day of March, A.D. 1862. 'Blessed are they that sleep in the Lord.'" The reclining statue of the Prince will be executed by Baron Marochetti.

THE LATE PROFESSOR BARLOW, F.R.S.—This distinguished man, who died on the 1st of March, was born at Norwich in 1776, and educated in that city. His mathematical acquirements and his energetic character displayed themselves at an early age. In 1806 he was appointed one of the mathematical professors at the Royal Military Academy at Woolwich, which office he held until 1847. He was the author, as many of our readers well know, of numerous works, among which are his well-known treatises on the "Theory of Number," the "Strength of Materials," and the "Essay on Magnetism." His discovery of the means of correcting the local attraction on the compasses of ships brought him into great notice. In mechanical subjects he was associated with Mr. Telford in experiments for the Menai Bridge. He was called in in reference to the removal of old London Bridge. His simple and upright character, and his kind and cheerful disposition, endeared him to a large circle of friends.

THE SANITARY CONDITION OF EDINBURGH.—A report has been submitted to the Medico-Chirurgical Society of Edinburgh, by its council, in pursuance of a plan for the recording of epidemic disease. The report refers to the month of January, 1862. The report, which is quoted in the *Scotsman*, states that "the form of continued fever which appears to have replaced typhus in Edinburgh for some time past, and which certainly seems to have been to some extent gaining ground in Scotland of late years, although probably brought into a more prominent position than it would otherwise have occupied by the disappearance of typhus, is in all essential respects identical with the typhoid fever of Louis and Jenner, the abdominal-typhus of various German authorities, and the enteric fever of several English and American writers. It is characterized by a marked tendency to diarrhœa and other derangements of the intestinal canal," &c. "Most of the cases popularly known as 'gastric fever,'" continues the report, "probably belong to this type; also some forms of so-called 'infantile remittent;' and perhaps a proportion of the cases reported as diarrhœa,' or dysentery,' to the Registrar-General." The only place reported as yielding a large number of cases of typhoid fever for some months past is Penicuik, in which there is said to be little doubt that the disease is owing to imperfect drainage. "In one locality at Edinburgh (Hay's-court, Fountainbridge), in which nine cases of this fever had occurred, with four deaths, among a population of only forty or fifty persons, an application was made to the authorities by Dr. Grainger Stuart, on the ground of the imperfect drainage and bad ventilation of the houses; and it is satisfactory to be able to record that a plan for improved drainage is to be carried out immediately." Sixty-three cases of scarlet fever had occurred in Donaldson's Hospital, with three deaths.

THE FEMALE SCHOOL OF ART. — The Lord Mayor has kindly granted the use of the Long Parlour in the Mansion House for a public meeting, in aid of the Female School of Art, to be held on the last Wednesday in April. The committee are anxiously seeking to complete the sum of money required to obtain a permanent home for the school.

BRAY'S TRACTION-ENGINES. — From a report of the directors of "Bray's Traction-Engine Company (limited)," it appears that some new arrangements have been made, and a new start taken by this company, who have had a much-improved engine built, and propose to follow it up as a model by others, for which they propose to raise additional capital. They have obtained the services of Mr. D. K. Clark, C.E., as their consulting engineer, who is arranging for the introduction of the new engine with all possible further improvements. Government have ordered one of the new engines for permanent service in Woolwich dockyard, and the engine already built is to be engaged in carrying heavy castings, &c., into the International Exhibition building, where it will be afterwards exhibited.

THE SHILLING TELEGRAPH.—A petition to the House of Lords is now in course of signature, praying that house to pass the bill of the United Kingdom Electric Telegraph Company, now pending. We heartily desire the company may succeed, as it proposes to convey messages at a uniform rate from one end of the kingdom to the other; and the partial operation of the plan between the metropolis and some of the larger cities of the north has had the effect of compelling the company which monopolises nearly the whole kingdom to reduce its rates. But its rivals are trying to damage it by promoting a series of prosecutions against the company for having erected telegraph poles along the turnpike roads. Mr. Baron Martin has decided at the Norfolk assizes that the erection of telegraph posts along the turnpike road is a nuisance at common law; and, unless the decision be reversed by a superior court, the United Company will be compelled to remove the wires already at work. The law has been used to oppress this company, not to protect the public; but we do not doubt that the public will insist on justice being done.

KENNARD'S EXCAVATING APPARATUS. — The first part of this invention, by Mr. Howard J. Kennard, of Great George-street, Westminster, has for its object the excavation of sand or gravel situate under water in places where excavations of any description are desired to be made for foundations or other structures; and consists of an apparatus which is placed on the surface of such sand or gravel, and into which the same is drawn by means of suction. When full of sand or gravel this apparatus is raised out of the water, and is emptied in any convenient place. The manner of operating is as follows: the apparatus is lowered on to the bed of the river or other locality under water where it is desired to excavate. In the first instance it becomes filled with water, and a tube penetrates into the sand or gravel to the extent of its projection below the bottom of a box. A collapsed flexible cylinder is then distended by a disc being drawn up by means of a chain and valves, being closed from the pressure of the water from without: a vacuum or partial vacuum would be found were it not that sand or gravel mixed with water is at the same time forced by the pressure of the surrounding water to enter through the bottom opening of the tube, and pass up into the box. Here the sand or gravel subsides by gravity, and the cylinder collapsing by the disc being allowed to descend by gravity, the water that penetrated into the box along with the sand or gravel escapes or is forced out through the valves. The disc is then again pulled up by the chain, more sand and water penetrate through the pipe into the box, the sand subsiding in the box whilst the water is forced out by the sinking of the disc, as before described; and this is continued until sand or gravel has accumulated in the box to about the level of the top of the tube. The apparatus is then drawn up above the level of the water, the door is removed, and the sand or gravel is emptied out of the box into any convenient place. The second part of the invention has the same object as the first part, but the apparatus that is to be lowered down upon the sand or gravel below the water consists of a strong circular or other shaped bag, into which the sand or gravel is driven by the water when in an agitated state, and in which bag the sand or gravel subsides by gravity. Diagrams showing the form and action of both of these apparatuses are given, with further details, in the *Engineer* Journal.

RIO DRAINAGE.—We understand that arrangements have been entered into with Messrs. Doulton, of the Lambeth Pottery, for the supply of the whole of the pipes, closet-pans, &c., required for the improvement and drainage of Rio.

DINNER TO WORKMEN. — On Saturday, the 15th instant, about 130 men, from the mansion of Baron Rothschild, at Hyde Park Corner, sat down to a dinner at St. James's Hall, to commemorate the completion of the first stack of chimneys. Mr. Bowden, the clerk of the works, presided, and Mr. Gardiner, the clerk of the accounts, filled the vice-chair. Various toasts were proposed and replied to, including "Baron Rothschild and Family;" the architects, "Messrs. Marsh, Nelson, & Innes;" "Messrs. George Myers & Sons," the builders; and others.

THE SOCIAL SCIENCE ASSOCIATION.—The corporation of London have granted the use of the Guildhall for the day meetings during the Congress to be held in June; and appear disposed to aid the purposes of the Association heartily. The evening meetings will be held chiefly at Burlington House, Piccadilly, where the meetings of the *Congrès de Bienfaisance* will be held in the mornings. Several *soirées* will be given, and probably a large dinner in the Guildhall. The Earl of Derby has been offered the position of president.

WORKING MEN'S COLLEGE, GREAT ORMOND-STREET.—We are asked to state (and do so with pleasure) that the Saturday evening lectures to be delivered during the present term are as follows, beginning March 22nd:—"Civilization," by the Principal (Rev. F. D. Maurice); "The Mexican War," by Mr. J. M. Ludlow; "Sir John Falstaff," by Mr. Wm. Malleson; "The Gold Coast," by Mr. Thos. Hughes (author of "Tom Brown's School Days"); "A Greek Play," by Mr. J. W. Hales; "Wordsworth," by Mr. J. R. Seeley; "Thos. Carlyle," by Mr. Vernon Lushington, B.C.L.; "New South Wales," by Mr. Commissioner Parkes. These lectures are free to members of the College, preparatory classes, and adult schools.

THE SANITARY MOVEMENT IN IRELAND.—We learn from the *Dublin Builder* that a Sanitary Reform Committee is in active existence in Dublin; and it is gratifying to find the building trades of Dublin, along with the paper just named, moving in the right direction; inasmuch as the Regular Operative Brick and Stone Layer's Society have just been holding a meeting in their hall, at which the gentlemen of the sanitary committee, Mr. Lyons, the editor of the *Dublin Builder*, and other gentlemen, addressed the meeting on sanitary reform. Resolutions promotive of sanitary reform were passed, and a complete system of registration of births, deaths, and marriages, especially desiderated; there being no such thing as yet in Ireland.

MOSAIC WALL PICTURES FOR EXHIBITION BUILDING.—Subscriptions are being sought to defray the cost of executing two large mosaic pictures, 23 feet high by 13 feet wide, as experiments for decorating the panels of the outside walls of the permanent picture galleries for International Exhibitions in Cromwell-road, South Kensington. The mosaics will be made of pottery in geometric forms by the pressure of dry powder. Various experiments in laying the mosaics have been made by Messrs. Minton (Stoke-upon-Trent) with mosaics of their own manufacture, and by Messrs. W. B. Simpson & Sons, of West Strand, with mosaics manufactured by Messrs. Maw. The experiments are said to be very promising. The designs will illustrate industry, science, and art. Some cartoons have been already prepared by Mr. Cope, R.A.; Mr. J. C. Hook, R.A.; Mr. Godfrey Sykes, and Mr. Townroe: two of these will be executed in mosaics as soon as the funds are provided. Every precaution must be used as to the cementing material, or the frost will soon destroy the picture. The Marquess of Salisbury, K.G.; Mr. Layard, M.P.; and Mr. Cole, C.B., act as a committee of management for carrying out the experiments. About 440*l.* have been collected.

CARLISLE NEW BRIDGE COMPETITION.—Sir: There is litle difficulty in accounting for your correspondent not having received particulars of the proposed new Carlisle Bridge competition, as I found, on visiting the town for the purpose of getting information and viewing the site, that there was neither Imperial Hotel nor Sackville-street in Carlisle; and, moreover, there was no such thing as an intended new bridge; so judge that, through the ridiculous omission of the name of *Dublin*, we have all been misled into believing the work to be in Cumberland instead of *Ireland*. If you will give publicity to this, you may save some others from the mistake of

A VICTIM IN PURSE AND TIME.

WINDSOR SEWERAGE.—In our paragraph on the 8th inst. on this subject, the name of Mr. Jenkins, the late surveyor of the Windsor board of health, was, by a printer's error, given as Mr. Perkins.

HOUSE PROPERTY IN BROMPTON.—No. 1, Pelham-crescent, a corner (ten-room) house, held for fifty-one years, at a ground-rent of 6*l.* per annum, was sold at the Mart, on the 14th inst., for 1,620*l.*, the fixtures to be taken at a valuation.

PATENT WOOD-WORKING MACHINES.—We are requested to state that the architraves and mouldings alluded to in our notice of 1st instant of the proceedings of the Liverpool Architectural Society were produced by the patent wood-working machines of Mr. Wm. Furness, of Liverpool.

ST. LUKE AS PAINTER.—If St. Luke was a painter, it would be interesting to know where he learnt. Had the Romans any painters in Syria? Had the Jews any school of their own? At any rate, St. Luke's paintings would not have the character of early Byzantine art. They would either be Jewish, Greek, or Roman in style.—A. B.

GOING THROUGH WITH IT.—We are told from America that there is a well in Oil Creek which has attained a depth of 875 feet, and yet yields no oil. The proprietors seem determined not to give it up, however, and are boring away as hard as ever. They have written on their derrick, "To Oil or China," and the people thereabout think they have a longish journey before them.

GRANITE.—A German *savant*, Herr Berlepsch, has the following eulogium on granite, which ought to gratify our Aberdeen friends: "Granite is a symbolic substance: it, in common with marble, is the historic stone. As among beasts the lion ranks as king, being the representative of noble qualities and physical power—as among plants the oak presents a picture of firmness and endurance, of proud contempt of storm and weather—so granite represents all that is unconquerable and unchangeable in the kingdom of dead organic matter: it is, in the narrow material sense, a substance of eternal duration." Not always.

PROPOSED MEMORIAL OF TYNDALE.—It is proposed to erect a tower to the memory of William Tyndale, on Nibley Knoll, a site which has been given by Lord Fitzbardinge. About 2,000*l.* will be required. Tyndale, when engaged in translating the Bible, was driven from England to Cologne, and afterwards to Antwerp, where attempts were made to persuade him to return to England. Vaughan, the English ambassador, failed to lure him into the lion's den; but he was betrayed into the hands of the Government of the Netherlands, through the intrigues of two abandoned Englishmen; was convicted on a charge of heresy; and strangled and burnt at Vilvorden, near Brussels, October 6th, 1536. Such a man should not be forgotten. The design of the tower is by Mr. S. S. Teulon.

TENDERS

For alterations, &c. to "Rose and Crown," Back Church-lane, Whitechapel. Mr. Ansell, architect.:—

Payne	£433 0 0
Dudley	428 0 0
Sparks	386 0 0
Mundy	375 0 0
Brown	294 0 0

For house at Maryland-point, Stratford, for Mr. T. Wood, of Bethnal-green. Mr. S. W. Iron, architect. Quantities supplied by Mr. Brett:—

Larke	£360 0 0
Reed	355 0 0
Markhall	320 0 0
Rivett	319 0 0
Wood, F. & F. J.	297 0 0
Jay	225 0 0*

* Letter afterwards sent by Mr. Jay stating his tender should have been £325.

For the erection of the first portion of the new church, West-hill, Wandsworth. Mr. John Halm, architect. Quantities by Mr. K. R. Roberts:—

	For the erection of church and works connected	For the erection of vestry, organ loft, and heating apparatus	For extra cost of Bath Stone Parapet, &c.	For extra cost of Kentish rag facing worked random range in lieu of rubble.	Totals
Aries	3971 0	515 0	361 0	203 0	5,051
Bird	3779 0	476 0	112 0	86 0	4,453
Myers & Sons	3492 0	470 0	95 0	254 0	4,412
Aries & Sons	3794 0	475 0	93 0	38 0	4,400
Piper & Wheeler	4387 0	468 0	100 0	75 0	4,387
Nicholson & Sons	3640 0	490 0	68 0	30 0	4,228
Dove Brothers	3435 0	443 0	70 0	30 0	3,975
Browne & Co.	3429 0	450 0	77 0	17 0	3,973
Adamson & Son	3295 0	424 0	47 0	20 0	3,856
Perry	3240 0	70 0	70 0	50 0	3,790

Mr. S. Aries tender withdrawn.

For thirteen additional alms houses and other works, at the Licensed Victuallers' Asylum:—

Haine	£3,300
Alldred	3,214
Todd, J. & C. W.	3,197
Adamson & Sons	3,131
Blackburn	3,120
Hebb	3,090
Martin	2,957
Wills	2,897
James & Ashton	2,892
Ennor	2,872
Greenwood	2,800
Morter	2,743
Searle	2,473
Harrap & Son (accepted)	2,100

For new Congregational chapel, Lozells, Birmingham. Messrs. Poulton & Woodman, architects:—

Jones	£3,550 0 0
Partridge	3,450 0 0
Hardwick	3,428 3 0
Wilson	3,390 0 0
Barnsley	3,378 0 0
Webb & Sons	3,360 0 0
Mathews	3,238 0 0
Bennett (accepted)	2,967 0 0

For two new galleries, pulpit, and reading desk, &c., in Christ Church, Tunbridge Wells. Mr. W. Bond, architect. Quantities by Mr. C. W. Strange:—

Winnidrith	£533 0 0
Pink	495 0 0
Edwards & Walkling	490 0 0
Perigoe	482 0 0
Strange	426 0 0

For repairs and alterations, 3, Little St. James-street, Piccadilly, for Mr. J. Dobson. Mr. C. J. Adams, architect:—

Clements	£158 8 0
Williams (accepted)	131 0 0

For a pair of villas in the Morland-road, Croydon, Surrey. Mr. John Berney, architect. Quantities supplied:

Dover	£2,999 0 0
Smith	2,590 0 0
King	2,554 0 0
Walking	2,548 0 0
Reid & Son	2,452 0 0

For erecting a dwelling-house in the Oakfield-road, Anerley. Mr. G. Elkington, architect. Quantities supplied by Mr. B. A. C. Herrug:—

Luscombe	£1,476 10 0
Downs	1,370 0 0
Barrett	1,297 0 0
Coleman	1,279 0 0
Kent	1,277 0 0
Conder	1,265 0 0
Thompson (accepted)	1,230 0 0

For a new police station, at Longford, near Coventry. Mr. William Kendall, county surveyor:—

Dutton	£1,330 0 0
Robinson	1,297 0 0
Marriott	1,240 0 0
Matthews, jun.	1,175 0 0
Fox	1,164 0 0
Hallam & Price	1,125 0 0
Potter	1,020 0 0
Storer, jun.	934 0 0

For rebuilding No. 11, Wells-street, Oxford-street. Mr. Edward Salter, architect:—

Rickets	£1,143 0 0
Janson	1,063 0 0
Macey	1,069 0 0
Huggett	1,050 0 0
Carter	1,048 0 0
Langmead (accepted)	998 0 0

For erecting a malthouse, near the Great Northern Railway Station, at Retford. Mr. Charles Baily, architect:—

Ward	£1,139 0 0
Fretwell	1,125 0 0
Lane	1,075 0 0

For a pair of houses to be built at New Wandsworth, for Mr. Thomas Cole. Mr. G. H. Page, architect:—

Piper & Wheeler	£2,362 0 0
Notley	2,110 0 0
Westamcott	2,100 0 0
Bass	2,020 0 0

For the ironwork and fixing for a cast-iron girder bridge, 42 feet span, average width between parapets 27ft. 6in. for crossing the river Soar at Leicester. Mr. E. L. Stephens, borough surveyor and engineer. Quantities furnished:—

Dunn	£828 0 0!
Cochrane	765 0 0
Swingler	705 5 0
Stapp	649 0 0
Handyside	630 0 0
Galloway	600 0 0
Head & Co.	600 0 0
Haywood	555 0 0
Sharman	445 0 0
Pegg, S.	420 0 0
Pegg & Co.	400 0 0
Gimson	398 10 0
Cliff, J. & R.	392 10 0
Law & Sons (accepted)	360 0 0!

For joiners' work, &c., Opera House, Malta. Mr. E. M. Barry, A.R.A., architect:—

Wardle & Baker	7,890 0 0
Myers & Son	7,250 0 0
Lawrence & Son	6,970 0 0
Trollope & Son	6,873 0 0
Piper & Wheeler	6,795 0 0
Patman & Fotheringham	6,757 0 0
Downes	6,570 0 0

For new domestic offices and dormitories at the Royal Medical Benevolent College, Epsom. Mr. G. Elkington, architect:—

Myers	£2,454 0 0
Browne & Robinson	2,453 0 0
Conder	2,412 0 0
Hack & Son (accepted)	2,339 0 0

For works required at the New Workhouse, Blackburn, Lancashire. Mr. John E. Oates, architect:—

For building Parapet Wall and Entrance Lodge, &c.
Mason's Work.

Arch & Neill	£996 0 0*

For Heating Apparatus and pipes, steam-boilers, and fitting up cooking kitchens.

Fryer	£1,738 0 0
Brooke	1,472 0 0
Clark & Co.	1,400 0 0
Wood & Co.	1,291 13 3
Baldwin	1,290 0 0*

For Gas Tubing.

Cowburn	£253 10 0
Metcalfe	236 0 0
Bell	195 0 0
Walsh	190 0 0
Wolstenhome	189 0 0*

For Tables, Desks, Benches, and other Fittings.

Bell	334 12 9
Baron, G. W.	250 0 0
Baron, W.	250 0 0*

* Accepted.

For the erection of two semi-detached villa residences in Moorland-road, Croydon. Mr. John Berney, architect. Quantities supplied:—

Dover	£2,999 0 0
Smith	2,590 0 0
King, Burton, & Hipwell	2,554 0 0
Walkey	2,548 0 0
Smith & Read	2,452 0 0
Richardson (accepted)	2,292 0 0

For a Parsonage House at Battersea. Mr. Ewan Christian, architect:—

	House.	Bay Window.	Gas.	Total.
Piper & Wheeler	£1,984	£71	£47	£2,022
Myers	1,649	69	32	1,731
Wells	1,635	50	24	1,709
Brown & Robinson	1,544	45	16	1,605
Dove, Brothers	1,518	51	18	1,585
Jackson & Shaw	1,504	45	26	1,575
Lathor	1,395	56	23	1,474

TO CORRESPONDENTS.

C. J. H. (Cheque and letter have been sent.)—J. M. G. (A subscriber, Leeds).—F. D.—T. B.—T. H. H.—T. R. S. (next week)—Ecclesiologi at (next week).—G. J. P. (there is no published experience as to concrete bones. See for general information, 1st Vol. of Transactions of the Institute of Architects, and recent volumes of Transactions of the Institution of Civil Engineers.)—Alpha. Five years' subscriber.—J. U. (Thanks. Not suitable).—P. Mc. F.—Minute Gun.—R. L. S. (Our own experience of such an arrangement of chimney-tops is not satisfactory).—M. M.—Dr. K. (in type).—A. W.—W. G.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

PAINTING IN WATER COLOURS, by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, obtainable for shaded, tinted, and outline, at the drawing-room tables. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

Price 4s. bound in cloth. (Established 1816.)

LAXTON'S BUILDER'S PRICE-BOOK for ARCHITECTS, BUILDERS, ENGINEERS, and CONTRACTORS. 41st Edition.

Containing a Wide of 30,000 Prices and Memoranda in all the various trades comprised in the operations of the architect, engineer, builder, contractor, and surveyor; also tables for purchasing leases, estates, and annuities. Areas and circumferences of circles; scantlings of timber; weights of iron, timber, &c; instructions for estimating and contracting, with a copy of bill of quantities adapted to general building work, including each trade detailed. Calculations and sketches of cast and wrought iron girders, &c.; with tables of deflections. All carefully corrected to the present time

Office, 13, Warwick court, Gray's Inn, Holborn; and all Booksellers.

This day published, price 1*l.* 5*s.* the First Part of the FAC-SIMILES of A. WELBY PUGIN'S original ENGLISH and FOREIGN SKETCHES, containing the chief objects of interest in France, Belgium, South Germany, Italy, and England, being the finest set of original Sketches ever brought together.

STEPHEN AYLING & CO. 493, New Oxford-street, London.

COMPLETION OF THE POST OCTAVO EDITION OF LORD MACAULAY'S HISTORY OF ENGLAND

On the 31st instant will be published, with a Brief Memoir by the Very Rev. the Dean of St. Paul's, and a Portrait engraved from Richmond's Picture, price 6*s.* cloth,

THE HISTORY of ENGLAND from the ACCESSION of JAMES the SECOND. By the Right Hon. LORD MACAULAY.

Volume the Eighth, completing the Edition in post 8vo. in 8 vols. 48*s.* cloth; or 8*s.* well bound in calf, lettered.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

In crown 8vo. price 10s. 6d. half bound, 800 pp.

MEN OF THE TIME. A Dictionary of Eminent Living Characters (including Women). A New Edition, thoroughly Revised, and for the greater part re-written, with the addition of several Hundred New Articles.
By EDWARD WALFORD, M.A.
Late Scholar of Balliol College, Oxford.
We cordially recommend this "Red Book" of celebrities as a most desirable library companion. In it will be found a brief but satisfactory sketch of every leading man or woman in any profession or denomination.—*Notes and Queries.*
London: ROUTLEDGE, WARNE, & ROUTLEDGE, Farringdon-street.

NEW WORK BY THE AUTHOR OF "SELF HELP."
Now ready, 5th Thousand, with Five Portraits and 200 Illustrations, 2 vols. 8vo. 42s.

LIVES of the ENGINEERS; with an Account of their Principal Works, and a History of Inland Communication in Britain. From the earliest Period down to the Death of Telford
By SAMUEL SMILES.
"It is not too much to say that we now have an engineers' Pantheon, with a connected history of the growth of the inland communication of Great Britain by means of its roads, bridges, canals, and railways; and a survey of the lighthouses, breakwaters, docks, and harbours constructed for the protection and accommodation of our commerce with the world."—*Times.*

By the same Author,
SELF HELP. With Illustrations of Character and Conduct. 40th Thousand. Post 8vo. 6s.

III.
The LIFE of GEORGE STEPHENSON. Arranged from the larger work for popular circulation. 20th Thousand. Woodcuts. Post 8vo 6s.

IV.
WORKMEN'S EARNINGS, SAVINGS, and STRIKES. Reprinted from the "Quarterly Review." Post 8vo. 1s. 6d.

Also, now ready,
METALLURGY: the Art of Extracting Metals from their Ores, and adapting them to various purposes of Manufacture. By JOHN PERCY, M.D. F.R.S Lecturer on Metallurgy at the Government School of Mines. With numerous Illustrations, carefully drawn to scale. 8vo. 21s.
Contents: Physical Properties of Metals. Metallurgical Processes. Slags. FUEL, Wood, Peat, COAL, Charcoal, Coke. Materials employed in Construction of Furnaces. FIRE-CLAYS. COPPER. Metallurgical Chemistry. Copper Smelting. ZINC, History, Metallurgical Chemistry. BRASS.
"*" The Second Volume, which is in active progress, will contain IRON
JOHN MURRAY, Albemarle-street.

THE ARUNDEL SOCIETY.
Now Ready,
A CROMOLITHOGRAPH from the well-known Fresco, by Andrea del Sarto, of the "MADONNA DEL SACCO," in the Cloister of the Annunziata at Florence. Price to members, 12s.; to strangers, 15s.
Specimens may be seen at the Office of the Society, 24, Old Bond-street, London.

II.
ILLUMINATIONS and MINIATURE PAINTING.—An ALPHABET of CAPITAL LETTERS, engraved in outline, from the Choral Books of S. Mark's, and the Duomo, Florence; and the Piccolomini Library, Siena; with one Letter attributed to Fra Angelico, coloured in facsimile. Price to members, 1l. 1s.; to strangers, 2l. The Outlines, printed on paper fit for colouring, separately. To members, 1s. 6d.; to strangers, 2s. The latter F, in facsimile, separately. To members, 7s. 6d.; to strangers, 10s.
Published by the ARUNDEL SOCIETY, 24, Old Bond-street, London, where specimens can be seen

This day, never before printed, price 2s.
THE RED TRACK: a Tale of Life in Mexico.
By GUSTAVE AIMARD, author of "White Scalper," &c.
London: WARD & LOCK, 158, Fleet-street.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia Stops, &c. Smoore, and other Organs usually in Stock. Also as to the Tuning, &c of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

TO ARCHITECTS AND SURVEYORS.
A JUNIOR MEMBER of the Profession wishing to commence PRACTISE, might do so in Partnership with the Advertiser, resident in a large manufacturing district in the provinces.—Address, A. B. Office of "The Builder."

CARMAN WANTED, one accustomed to the WINDOW-GLASS TRADE.—Apply by letter, stating where last employed and wages required, to P. P. 10, St. Ann's-gardens, Haverstock-hill.

WANTED, a thoroughly practical FOREMAN of CARPENTERS, who can take the Management of the Shop or Outworks.—Apply to Mr. EDWARD SMITH, Contractor and Builder, near Stourbridge

TO TINMEN AND ZINC WORKERS.
WANTED, a Man in the above Line, for a permanent SITUATION. References required.—Apply to Mr. DUFFIELD, Ironmonger, Slough.

WANTED, a good OUTDOOR WORKING FOREMAN.—Apply by letter, stating where last employed, and wages, to G. H 32, Snow hill, City

WORKING FOREMAN WANTED for a GAS WORKS.—The Banbury Gaslight and Coke Company (Limited) require a competent man as FOREMAN of their Works.—Applications, accompanied with references as to character and ability, &c. to be addressed to the Secretary, on or before the 31st MARCH instant.—Banbury, March 14, 1862.

TO CLERKS OF WORKS.
WANTED, TWO GOOD CLERKS of WORKS, for Superintending Carpenters' Work, and TWO ditto for Smiths' Work, for the North of England. Good references indispensable; also sober habits.—Address, with full particulars, and inclose twelve postage-stamps, to C. E. Library, 14, Palace-road, Lambeth, S.

TO PAINTERS.
WANTED, in the Country, a MAN that can do a little Plain Graining, Writing, and Paperhanging. Address, J. B Office of "The Builder."

WANTED, a sharp active LAD in a Builder's Office. Must write a neat and expeditious hand. Address, stating salary and where last employed, O. B. Office of "The Builder."

TO ZINC-WORKERS.
WANTED, an experienced HAND.—Apply to No. 12, Triangle, Southampton-street, Camberwell, S.

WANTED, in the Provinces, a SURVEYOR'S ASSISTANT, who can survey and level with accuracy; is a good draughtsman, can prepare ordinary architectural plans and estimates, and assist in the general work of a surveyor and engineer's office. Salary 25s. per week to commence.—Address, X. Z. Office of "The Builder."

TO PARENTS AND GUARDIANS.
WANTED, in the Office of an Architect and Surveyor, at the West end, a YOUTH, as ARTICLED PUPIL. A moderate premium required.—Address, A. S. care of Mr. HENRY MOODY, 9, Cadogan street, W.

WANTED, by an Architect in good practice, a YOUTH as a PUPIL. A well-educated person would be liberally treated.—Address, ARCHITECT, Post-office, Kendal.

TO ARCHITECTS AND SURVEYORS.
WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK of WORKS. First-class references.—Address, BLACKBURN, 54, London Wall, City, E.C.

WANTED, by a good Architectural Draughtsman, a RE-ENGAGEMENT in an Architect's or Surveyor's Office. Salary moderate.—For references and further particulars, address ALPHA, at Messrs. Hill and Sons, Bankers, 17, West Smithfield, City, E.C

TO ARCHITECTS, &c.
WANTED, a SITUATION, by the Advertiser, aged 22, who is a neat draughtsman, good accountant, and can assist in taking off quantities, measuring up work, estimating, &c. Has been five years with two architects and surveyors First class references.—Address, Y. Z. Post-office, Worcester.

WANTED, a SITUATION in a Builder's Office, by a Youth, aged 18. Can copy and trace drawings, is quick at figures, and has a knowledge of taking off quantities, and of the business generally.—Address, W. J. B. Post-Office, West Ham, E

TO ARCHITECTS.
WANTED, by an experienced ASSISTANT, 16 years in the profession, an ENGAGEMENT, permanent or otherwise. Fully qualified to take the management of an office.—Address, E. D. Office of "The Builder."

WANTED, by a Person, thoroughly competent and experienced in the manufacture of stoneware in all its branches, including sanitary goods, terra-cotta, &c., a SITUATION, as FOREMAN or MANAGER. Would either take the work by contract or salary. First-class testimonials.—Address, J. M. Bourne Valley Pottery, near Poole, Dorset.

TO PLUMBERS, BUILDERS, BREWERS, AND OTHERS.
WANTED, by a Young Man, a SITUATION as PLUMBER or THREE BRANCH HAND. Address, T. S 1, Somerset-terrace, Church-road, Battersea.

WANTED, by a respectable Youth, aged 20, a SITUATION as JUNIOR CLERK in an Architect's or Engineer's Office.—Address, X. Y. Z. 29, Alwyne-road, Canonbury, N.

WANTED, a Young Man, aged 25, EMPLOYMENT as a handy man in PLUMBING, PAINTING, and GLAZING. Well able to make himself generally useful in anything required, and principally at jobbing work. Wages no object.—Address, J. H. 81, East-street, Manchester-square, Marylebone, W.

TO CONTRACTORS.
WANTED, by a FOREMAN, a RE-ENGAGEMENT. He has had twenty years' experience on large works—a reason by trade—and has been engaged on several heavy Government works for contractors during the last eight years. Address, M. S. at Mr. Olivers's, 2, Chatham-place, Walworth, S.

TO BUILDERS AND PLUMBERS.
WANTED, by a respectable Young Man, a SITUATION as PLUMBER. No objection to fill up his time in painting, if required. Good reference can be given if necessary.—Address, T. G. No 15, Abbey-street, Bethnal-green Church, Southwark.

WANTED, by the Advertiser, who is capable of making out working drawings and specification, and conversant with the general business of an Architect's and Surveyor's Office, an ENGAGEMENT, where he may have an opportunity of improvement, at a moderate salary.—Address, R. C. 7 75, Coleman street, E.C.

CARPENTERS AND BUILDERS.
WANTED, by a Young Man, EMPLOYMENT at the Bench as IMPROVER. Age, 21.—Address, H B Mr. Duke, 7, Wellington street, Camden town.

TO PLUMBERS, &c.
WANTED, by the Advertiser, a SITUATION as IMPROVER to the PLUMBING BUSINESS. Has been four years in the trade.—Address, R S No. 8, Albert-crescent, Lee, Kent.

TO BUILDERS.
WANTED, a RE-ENGAGEMENT, by an efficient practical Shop-foreman, who has had considerable experience in London, and is fully acquainted with the most approved systems of executing work and managing workmen.—Address, F. H 28, Walton street, Brompton, London. N.B.—No objection to any part of the United Kingdom.

TO ARCHITECTS, BUILDERS, AND OTHERS.
WANTED, a RE-ENGAGEMENT as CLERK of WORKS, GENERAL FOREMAN, or to superintend Building Work on a Gentleman's Estate. Has a good knowledge of estate work. Can prepare working and finished drawings, and measure up work.—Address, M. N 29, Grafton-road, Kentish-town, N.W.

WANTED, a SITUATION in an Architect's Office, or to Superintend Works, by one who has been engaged for several years in the profession, and principally in Gothic and Italian work. Salary moderate.—Address, E. Z. News-rooms, 76, Strand

TO ARCHITECTS.
WANTED, a SITUATION as JUNIOR CLERK in an Architect's Office. Is a good draughtsman and colourist, understands the routine of an office, and has been four years in the profession. Salary very moderate.—Address, H. E. 60, Brompton-square, Brompton.

TO CARPENTERS AND BUILDERS.
WANTED, EMPLOYMENT at the BENCH or FIXING, by a Young Man aged 23. Town or country.—Address, R Y. 24, Norfolk street, Middlesex Hospital.

TO BUILDERS, &c.
WANTED, by a Young Man, a SITUATION where he can make himself generally useful. Is well conversant with the usual office duties. Can get out plans, measure up work, &c. Six years with present employer.—Address, A. B. No. 9, Mount-terrace, Hercules-buildings, Lambeth, S.

TO ARCHITECTS.
WANTED, by the Advertiser, an ENGAGEMENT as ARCHITECT'S ASSISTANT. He is well acquainted with Church and Domestic Work.—Address, F. R No. 15, Providence-terrace, Earl's court, S.W.

TO BUILDERS.
WANTED, by a thoroughly practical Foreman of Carpenters, a RE-ENGAGEMENT.—Address, J. O. Hyde Park Coffee house, 355, Oxford-street, W.

TO CONTRACTORS.
WANTED, a RE-ENGAGEMENT as AGENT or ENGINEER. Has had twelve years' practical experience on railway, water, and sewage works. First class surveyor, leveller, and draughtsman. Most satisfactory testimonials and references.—Address, A B C 170, Hi gh-street, Hoxton, London.

TO HOUSE DECORATORS, &c.
WANTED, by the Advertiser, a CONSTANCY as GRAINER. Thoroughly understands painting, &c. Town preferred.—Address, X. Y. care of Mr Tranter, 112, Fmedstreet, Paddington, W.

TO BUILDERS AND CONTRACTORS.
WANTED, a RE-ENGAGEMENT as LEDGER-CLERK and CASHIER, or PRIME-COST CLERK, by a highly respectable Young Man. Is thoroughly acquainted with the routine duties. Age 18. Security if required. Town or country. Address, G. B. W. 48, Milton-street, Dorset-square, N.W.

TO BUILDERS AND PAINTERS.
WANTED, by a Young Man, an ENGAGEMENT in Town as PAINTER and GLAZIER. Can do the jobbing, plumbing, graining, &c. or take charge of a job.—Address, F. B 12, Duke's-road, Euston-square.

TO BUILDERS.
WANTED, by an experienced Joiner, a SITUATION as SHOP FOREMAN. Good reference. Town or country. Age 36.—Address, J. W Hope Coffee-house, 79, New-cut, Lambeth.

WANTED, by a Young Man, aged 25, a SITUATION as CLERK in a Builder's or Architect's Office, or any situation where trust and confidence would be required. Unexceptionable references.—Address, W. A. E. 14, East street, W.C.

WANTED, by an Architect's Assistant, a SITUATION in an Office, where he could perfect himself in the various branches of the profession. Is a good draughtsman, and has had good experience in practical work. No objection to go abroad. Most unexceptionable references and testimonials.—Address, C. F. 33, Cloudesley square, Islington, N.

TO ARCHITECTS, SURVEYORS, AND OTHERS.
WANTED, by the Advertiser, who has been eight years in the profession, a RE-ENGAGEMENT as ASSISTANT. Can prepare finished and detail drawings, perspectives, specifications, and assist in taking off quantities. Thoroughly understands surveying, levelling, construction, and the usual duties of an office.—Address, H. W. Mr. Richards's, 76, High-street, Borough.

TO CIVIL ENGINEERS, SURVEYORS, AND OTHERS.
WANTED, by a Young Man, a SITUATION where he can make himself generally useful. Is a neat and careful Draughtsman and fair Colourist. Competent to undertake Land and Engineering Surveying, Levelling, &c. Salary moderate.—Address, SURVEYOR, 2, Prospect place, Kingsland road, N E

TO ARCHITECTS AND CONTRACTORS.
THE Advertiser wishes for a RE-ENGAGEMENT, as CLERK of WORKS, or FOREMAN of WORKS. First-class references. — Address, PRACTICAL, Office of "The Builder."

TO CIVIL AND MECHANICAL ENGINEERS.
THE SERVICES of an experienced ASSISTANT are offered and solicited on application by letter, stating terms, &c to P X Office of "The Builder"

TO ARCHITECTS, BUILDERS, &c.
THE Advertiser is open to an ENGAGEMENT as CLERK of WORKS, or ASSISTANT in an Architect's Office (could take the management of an office). Is a good practical draughtsman and measurer, and has had considerable experience in farm buildings, villa architecture, and warehouses. Can give first-class reference to Government and private offices for the last fifteen years.—Address, A B Post-office, Charing cross, London.

TO CIVIL ENGINEERS.
THE Advertiser wishes to be ARTICLED to a CIVIL ENGINEER, with whom he would have a practice to show. He will give a moderate premium, if required.—Address, "KAPPA," at the Office of "The Engineer," 163, Strand, W.

TO ARCHITECTS.—GAS ENGINEERS.
THE Advertiser, a person of experience in gas matters wishes to meet with an existing Company where MONEY and TIME could be advantageously employed, or would be willing to join in forming a Company to supply an unlighted district. Address, A B B 12, Bedfont, Temple Bar.

TO ARCHITECTS.
THE Advertiser, aged 20, wishes for a SITUATION, in an Architect's Office, in town or country, as JUNIOR CLERK. Is a neat draughtsman and colourist, can assist at quantities, and has had some experience in land surveying. A small salary only expected.—Address, H. G. 3, James terrace, Kerbey-street, Poplar, E.

TO ARCHITECTS.
THE Advertiser desires an ENGAGEMENT, in an Office of good practice, where his may perfect his knowledge of the profession. Can make perspective and working drawings, understands colouring, &c.—Address, M. B. A. Denton's, Lonsdale-street, E.C.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.
OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, writing specifications, measuring, and making up Builder's accounts, disputed or otherwise. Satisfactory references to Architects and Builders.—Address, X. Y. Z. 20, Charlotte-street, Portland-place.

TO HOUSE DECORATORS, BUILDERS, &c.
EMPLOYMENT WANTED, by a WRITER, GRAINER, DECORATIVE PAINTER, PAPER-HANGER, &c. Would be found useful in any branch. Town or country.—Address, W M. B. 26, Exeter street, Chelsea.

TO ARCHITECTS
A YOUNG MAN, aged 22, who has been six years in the offices of two architects of good standing, wishes to meet with a RE-ENGAGEMENT. Is a good draughtsman, and well up in detail and construction.—Address, A. B. 12, Anwell-street, Clarence-square

TO BUILDERS.
A SURVEYOR of considerable practical experience in taking off quantities, measuring, estimating, adjusting builders' accounts, making drawings, &c. Would be glad to undertake business for builders upon reasonable terms. A very small charge only is made for pricing bills of quantities if unsuccessful. Can occasionally introduce work to builders.—Address, S. V. B. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.
AN experienced ASSISTANT, just returned from a long country engagement, requires a SITUATION. Is a good draughtsman, designer, and constructionist, well versed in the various styles, understands levelling and levelling pegs are attended. Finished drawings, and perspective.—Address, T. G. B. Chevalier, Bowness, & Son's, 12, Bell-yard, Temple Bar.

TO STATUARIES, &c.
A GOOD ORNAMENTAL and FIGURE CARVER and LETTER-CUTTER desires EMPLOYMENT. Satisfactory reference.—Address, M. T. 75, Seymour-place, Bryanston-square, London.

A SITUATION WANTED, by an experienced Architect, who could undertake the entire management of a job in steam or hot water supply. His own capital at command if the return would be commensurate.—Address, F. J. 191, High Holborn, W.C.

TO BUILDERS, &c.

A YOUNG MAN, a Carpenter, is in want of a SITUATION as SHOP or OUT-DOOR FOREMAN. Has filled both situations, and can be well recommended. Address, D. W. 8, King Edward street, Westminster-road, Lambeth, London, S.

TO JOBBING BUILDERS, HOUSE-AGENTS, AND OTHERS.

A HANDY MAN is in want of a SITUATION to KEEP HOUSES &c. in REPAIR. He is by trade a Carpenter and Joiner, and can also be thoroughly competent to do all repairs of bricklaying, painting, glazing, paperhanging, &c. and willing to make himself useful. Town or country.—Address, J. N. M. care of Mr Strahan, 1, Hall place, Hall-park, Paddington, London, W

TO BUILDERS.

A YOUNG MAN, of practical experience, is in WANT of a SITUATION, as WORKING FOREMAN of MASONS. Good reference as to ability and steadiness. Address, W. H. 34, Upper James-street, Camden Town, N.W.

A GOOD THREE-BRANCH HAND WANTS a constant SITUATION. Is also a good gas-fitter and Paperhanger, understands generally repairs in all its branches, writes a good hand, can measure work, keep accounts, &c.—Address, J. B. S. 11, Henry-street, E. Avenue-road, St. John's Wood, N.W.

TO PROPRIETORS OF SLATE QUARRIES, MINING COMPANIES, CONTRACTORS, AND OTHERS

A MIDDLE-AGED MAN, bred to the Mining and Building Business, is desirous of SUPERINTENDING any WORKS, or as CASHIER. Can give good references, as to sobriety for several thousands. Security not an object, but merely being merely to have his time occupied.—Address, A. B. C. Box 286, Post office, Bristol

TO ARCHITECTS, &c.

AN ASSISTANT, competent to prepare finished and working Drawings, Perspectives, &c. is open to a TEMPORARY ENGAGEMENT, on moderate terms.—Address, E. S. 45, Chancery street, W.C.

TO BUILDERS, &c.

AN efficient CLERK is open to an ENGAGEMENT. Is a good practical draughtsman, and has had considerable experience in taking out quantities, measuring, and estimating.—Address, CHAMFER, 37, Aske-street, Hoxton, N.

AN ASSISTANT of many years' experience desires a RE ENGAGEMENT. He is skilful in geometrical and perspective drawing, is a good sketcher, and is indeed industrial and conscientious. A limited salary would be accepted in a well-established office.—Address, H. B. Office of "The Builder."

TO ARCHITECTS, SURVEYORS, &c

AN ASSISTANT, engaged in the office of a West-end firm, will be glad to ASSIST a Gentleman in getting out plans, sections, elevations, perspectives, finishing, tracing, or other branches of drawing. Terms moderate.—Address, H. CHAMBERS, 9, Lansdowne Terrace, Lansdowne road, Wandsworth, S

TO ARCHITECTS, FIRST-CLASS BUILDERS, OR CONTRACTORS

A PRACTICAL BUILDER, of fourteen years' experience, seven of which he has had the sole control as architect—in the erection of first-class buildings, is open to an ENGAGEMENT. He is able to take the entire management of one of the above departments. Aged 34.—Address, N. S. L. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

AN ASSISTANT, having a thorough practical knowledge of his profession desires to meet with a RE ENGAGEMENT.—Address, A. C. O. 15, Henrietta-street, Bath

TO ARCHITECTS.

A QUANTITY SURVEYOR and MEASURER, with a practical knowledge of building, would be glad to fill UP with ARCHITECTS for their Quantities, and Measurement, Work. Specimens can be furnished. Reference given to Architects. Quantities carefully Address, ALPHA, care of Mrs. Fuller, 84 Stonor, Vassal road, Brixton road, S.

AN experienced DESIGNER and SURVEYOR, would be happy to give ASSISTANCE in any department of the profession. Address, A. B. 79, Dunlop-street, Pimlico, S.W.

TO FURNISHING IRONMONGERS, SHEFFIELD WAREHOUSEMEN, and OTHERS. — TO BE DISPOSED OF, private contract, by direction of the executors, the old-established FURNISHING IRONMONGERY and SHEFFIELD PLATE BUSINESS, carried on for many years past by the late Mr J. Hickling, together with the valuable LEASE of the very desirable PREMISES, No 1, GRACECHURCH-STREET, adjoining St Peter's Church, and one door from Cornhill. The returns average about 2,500l. per annum, which may be largely increased. The profits are good. About 2,500l will be required.—Apply to Messrs. FULLER & HORSEY, Billiter-street, City, E.C.

Id, Billiter street, March 20, 1862

TO PLUMBERS, DECORATORS, GASFITTERS. &c.—TO LET, a good genuine BUSINESS, situate in Kent, about 12 miles from town. Large premises, low rented. Price for good will, all the shop and trade fixtures, steps, ladders, &c. 50l. The small stock at a valuation.—Address, A. B. 14, Gibson-street, Waterloo road

TO ARCHITECTS, &c.—A small PRACTICE in the above to be DISPOSED OF, with several works in hand, and a very respectable connection. The office furniture, works in hand, fixtures, plate, &c. for immediate sale, in consequence of the proprietor going to reside abroad. This is very suitable for an architect and engineer combined, and the works in hand will nearly cover the price.—Address, Mr. BAINES, 3, Upper Charlotte-street, Westminster.

BUILDER'S PREMISES, TONBRIDGE, KENT.—TO BE DISPOSED OF, in consequence of the death of the proprietor, the BUSINESS of a CARPENTER and BUILDER, which has been established many years. There is a good dwelling house, counting-house, workshops, and yard. Rent moderate. Builders an excellent opportunity for an energetic man, with a moderate capital. Further particulars may be had of Messrs. CHALLIN Surveyors, Tonbridge, Kent

TO IRONMONGERS.—A first-rate BUSINESS to be DISPOSED OF, situated within a few minutes' walk of the Great Western Railway, with lease and fixtures. No agent need apply.—Apply to C. H. 11, Princes-street, Lisson-grove, the Grove end

BLACK IRONMONGERY and IRON TRADE.—A BUSINESS to the CITY TO BE DISPOSED OF, doing a good trade with large houses and companies.—For particulars, apply to Mr. MURRELL, Auctioneer, 1, Walbrook, City, E.C.

TO YOUNG ARCHITECTS. — To DISPOSE OF, the PAPERS and GOODWILL of an old-established PRACTICE in one of the most prosperous towns in Yorkshire. For particulars, address A. Z. care of W. Blacket, esq. 7, Furnival's Inn, London, E.C.

LAND-SURVEYING and LEVELLING. First-class PLAN, SECTION, and CONTOUR WORKING DRAWINGS of any extent, made with accuracy and punctuality, by the Advertiser, who has no objection to go abroad.—Address, SURVEYOR, 29, Acton-street, Gray's Inn-lane, London, W.C.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street London. ROBERT M. LATHAM, Secretary.

A CARD.

MESSRS. CORDEROY, Surveyors (late of High street, Marylebone), have REMOVED the OFFICES to 17, KING WILLIAM STREET, STRAND, LONDON, W.C.

Office in Portsmouth—13, Ordnance-row, Portsea.

T. PETTITT & CO. LITHOGRAPHERS and GENERAL PRINTERS, Frith-street, Soho-square, W. beg to inform Surveyors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary speed and accuracy, and most respectfully solicit a trial. A scale of charges and specimens submitted on application.

To Surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West-end, must be evident from the great convenience it may afford where despatch is required.

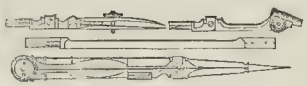
Working Drawings and Estate Plans carefully drawn and printed.

Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Builder's terms, thus enabling them to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.

Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO. Lithographers, &c. 5, Ave Maria-lane, E.C.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMPERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS, 20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Several hand instruments of all kinds, by the best makers, always in stock.



SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED, Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 2s and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1769, and the Patentees of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage stamps

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their inimitable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, fireplace, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACK FRIARS, TO 50, CONDUIT STREET, REGENT-STREET. ENCAUSTIC AND OTHER PAVEMENTS. FARTHENWARE AND PLAIN TILES. DESIGNS AND ESTIMATES PREPARED. MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sadly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tilories," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 38s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

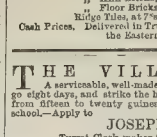
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike from fifteen to twenty guineas; adapted for the village church or school.—Apply to

JOSEPH FAIRER, Turret Clock maker to H. M.'s War Department, 188, St. George street East, London.

BENSON'S WATCHES and CLOCKS.

"Perfection of mechanism."—*Morning Post.*



Gold, 5 to 100 Guineas.

Silver, 2 to 50 Guineas.

BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, descriptive of every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free and safe by post on receipt of a remittance.

J. W. BENSON,

33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.

(Established 1749.)

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do. do.	25 "
Marine Chronometers	30 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand, adjoining Coutts's Bank, 33 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the Inventor at HALF THE COST of the OLD and QUITE DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor, GEORGE JENNINGS. Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

FOR CONTRACTORS' WAGGONS, DOBBIN CARTS, BARROWS, and RAILWAY PLANT, Apply to HUGHES & MARCH, Engineers and Timber Merchants, Falcon Works, Loughborough.

TARPAULINS, MARQUES, &c. for SALE or HIRE, SCAFFOLD and HEMP-ROPE FALLS. H. PIGGOTT, 89, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES. CARY & PRIER, DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

CROGGON & CO.'S NOISELESS ELASTIC KAMPTULICON, Or INDIA-RUBBER FLOOR-CLOTH.

Impervious to wet, indestructible by damp, soft to the tread, and warm to the feet; wears a good decade of years, requires little, if any, scrubbing, and as for its comfort as extreme durability. Also used very largely for billiard mats.—Patterns may be seen at 2, Bow-lane Hill, London, E.C.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, as made by GOUGH & BOYCE, the Original Patentees, and laid exclusively by them at the Houses of Parliament, and numerous other Public Offices. It is especially adapted for churches, manses, halls, public rooms, shops, and passages being clean, warm, noiseless, dry, and economical. GOUGH & BOYCE, No. 12, Bush-lane, Cannon-street, London. Forwarded to all parts of the country.

KAMPTULICON, or ELASTIC FLOOR CLOTH. TAYLER, HARRY, & CO. MANUFACTURERS and PATENTEES, 19, Gutter-lane, Cheapside. WORKS, DEPTFORD-GREEN.

HAY'S PATENT WATERPROOF GLUE (as invented by Mr. HAY, Admiralty Chemist at the Royal Naval Dockyard, Portsmouth) is of universal application, is a substitute for marine glue, and one third of the cost, namely, 22d per lb.

It is invaluable for caulking the seams of ships' decks, being three times as durable as ordinary pitch. It has been tried for upwards of seven years in Her Majesty's Navy, "Bonetta," perfectly resisting during that time the action of the sun and weather.

It causes joints of wood, slates, tiles, and all metals to adhere most firmly; will stand an enormous pressure, and make them water-tight.

It is a substitute for black paint, and is considerably cheaper as applied to weather-boarding and fencing; and is a preservative for all iron and woodwork, and when applied to bricks or stone will prevent damp. This composition is especially adapted for application as a coating to submarine and other telegraphic wires.

It is requested that on all orders the purpose for which it is required be stated.

London Agents,
Messrs. G. C. WARDEN & CO.
12, London-street, Fenchurch-street, E.C. Factory, Chandos-street, Lund, ort, Portsmouth.
GEORGE WEEKS, Manager.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4*l*. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

DRIVING BANDS, HOSE, VALVES, &c.

THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their VULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable than leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, cold, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Cart, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.

All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.

THE LEATHER CLOTH COMPANY, Limited,
56, CANNON STREET WEST, LONDON, E.C.

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF

PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maesta and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL.

LONDON, **SEYSSEL ASPHALTE,** PARIS,

AND BY H.M.'S ROYAL LETTERS PATENT,

MANUFACTURERS OF

1851. **METALLIC LAVA.** 1844.

FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT, and CROWDEN & GARROD, are stamped on the Brushes

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4*s.* per gallon; Middle Oak, 5*s.* per gallon; Dark and all other woods, 6*s.* per gallon. Varnishes for the above may be had at the Factory, 4*s.* James-street, Oxford street; also Manufacturer of Improved Knotting and Decorative Varnishes.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES (C. A. Watkin's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stippling, and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 15, Raven-row, Mile-end, E.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.

Where also may be obtained their CELEBRATED STAINS for EVERY DESCRIPTION of WOOD, Together with all kinds of Colours and Varnishes, Warranted of the pure at quality and at the lowest prices. Agents for Kershaw's Graining Machines.

COLOURS and VARNISHES at REDUCED PRICES.—Genuine White Lead, 30*s.* per cwt.; Linseed Oil, 3*s.* 10*d.* per gallon; Boiled Oil, 3*s.* 8*d.*; Turpentine, 5*s.* 4*d.* per gallon; Fine Pale Oak Varnish, 7*s.* 6*d.* per gallon, for cash, at F. LANG'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, brushes, &c. at the lowest prices

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30*s.* per cwt. Linseed Oil, 3*s.* per gallon; Boiled Oil, 3*s.* 4*d.* per gallon. Turpentine, 6*s.* 4*d.* per gallon. Fine Pale Oak Varnish, 7*s.* 6*d.* per gallon. For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 36, Upper Ebury-street, and 45, Colonhill-street, Pimlico, S.W. Every article for the Trade at the lowest price.

GENUINE WHITE LEAD, branded and warranted from the Manufacturers, 30*s.* per cwt.; Linseed Oil, 3*s.* per gallon; Boiled Oil, 3*s.* 4*d.* per gallon; Turps, 5*s.* 4*d.* per gallon; Fine Pale Oak Varnish, 7*s.* 6*d.* per gallon. Hamilton's and Kent's Grainers', Painters', and Plasterers' Brushes, to be had at D. J. PORTER'S White Lead and Colour Warehouse, Nos. 1 and 2, Pratt street, Camden Town, N.W.

HORTICULTURAL GLASS WAREHOUSE.

THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

PATENT and BRITISH PLATE GLASS. JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured. Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

STAINED GLASS and WALL PAINTING.
NOTICE OF REMOVAL.
MESSRS. CLAYTON & BELL,
Late of No. 24*a*, Cardington-street, Euston-square,
Have removed to
311, REGENT STREET, W.
(adjoining the Polytechnic Institution).

Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

MANCHESTER STAINED-GLASS WORKS.
R. B. EDMUNDSON & SON,

Artists in Stained Glass, Ecclesiastical and domestic of every description, Ancient and modern, Illuminated Commandments, &c. by their new process on Plate Glass; Mural and Heraldic Decoration. Monumental Brasses, &c. Designs and estimates on application.—R. B. EDMUNDSON & SON, having had upwards of thirty years' practical experience in the manufacture of every description of glass for ecclesiastical purposes, have most of their glass made to order, and from their own receipts, and which will be found nearer to the old glass than any others at present manufactured. Works—New Wakefield street, Oxford-street, near the Bridge.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet Horticultural, Stained, Coloured, Ornamental, Ground, Patent, Rough Plate Photographic, and every description of Glass.

Estimates and Price lists forwarded on receipt of address card

R. BITTUM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

PAINTED GLASS WINDOWS AND MURAL DECORATION.

LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford-street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINE.

Adapted for hand, horse, or steam-power, will make one-third more in quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.

Licences to Manufacture granted for certain districts.

For price and particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southboro.h (about one mile from the station), Kingston-on-Thames.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for GAS, Iron Chemical, and Smelting purposes, and in any business or manufacture where an intense heat is required.—For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch-street, E.C.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Grissells, Place, or Stock Bats, by large alongside, in the Thames or canals, on reasonable terms, either for cash or approved bills.

Belvidere-road, Lambeth, January, 1862.

BRICKS.

BEST KILN-BURNT BRICKS, of superior common quality, can be supplied by the Million. Also, FINE WHITE AND RED FACING BRICKS. WHITE, RED, AND BLACK CUTTERS. VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES. WHITE AND GREY LIME AND GLAZED STONEWARE PIPES. Vessels can load close to the Kiln's mouth, at the East Cowes Park Estate, on the river Medina, Isle of Wight.

RICHARD LANGLEY, Agent.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND BED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required

TO BUILDERS, BRICKMAKERS, and BALLAST BURNERS.—A large quantity of ex cellent COKE BREEZE FOR SALE, at the Western Gas-Works, Kensall Green. Good facilities for transit by Boats on the Grand Junction Canal, and by the Great Western Railway from a siding to the Works.—Apply to the Manager as above.

TO DUST CONTRACTORS.—WANTED, from THREE to FOUR THOUSAND CHALDRONS of HOUSEHOLD ASHES and BREEZE, to be put on board barges in the River. Would be preferred if from the districts of the City or West-end.—Letters, stating price for the supply of the whole or part, to be addressed to X. A. Office of "The Builder."

FRONTS of HOUSES.—To BUILDERS and OTHERS.—GREENE & CO'S PORTLAND CEMENT WASH is a superior Colouring, which does not vegetate or wash off, and is equal to Oil Paint in appearance and durability. In casks of 1 cwt. for 10*s.*—Factory, 22, Norfolk-street, Islington.

TO CONTRACTORS and BUILDERS.—FOR SALE, a PORTABLE LIME-MILL. Can be seen in work [illegible] Also, a LEATHER MILL-BAND, 33 feet long, 8 inches broad. Likewise Three Granite-edge Runner Millstones, 5 feet 6 inches diameter. Apply to G. ROBINSON, Railway Arches, High-street, Deptford.

INTERNATIONAL [illegible] EXHIBITION, 1862.

TO BUILDERS, UPHOLSTERERS, DECORATORS, &c.

THE OFFICIAL COLOURS, in CLOTHS and BAIZES, ARE NOW IN STOCK AT HILL & SON'S, [illegible]

TO BRICKLAYING TASKMASTERS.—[illegible] SCAFFOLDING, and [illegible] SIDE JOINT.—Address [illegible] Mr. KAYE, [illegible] Place, St. George's-road, [illegible]

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from **2s.** per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from **3s** per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 34, GRAY'S-INN-LANE, HOLBORN, LONDON.



REDUCTION IN PRICE

OF

CLARK'S

NEW PATENT REVOLVING SHUTTERS,

FOR

SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

INTERNATIONAL EXHIBITION, 1862.

ESTIMATES AND DESIGNS FOR SHOW CASES, METAL STANDS, &c.

With or without Revolving Machinery, by

BUNNETT & CO., ENGINEERS AND FOUNDERS,

DEPTFORD, KENT, S.E.; 17, QUEEN STREET, CHEAPSIDE; and 435, PARLIAMENTARY STREET, GLASGOW.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of animalcula. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TO BUILDERS.

PLASTERING WANTED, by a Practical Man. Materials and labour, or labour only. Town or country. Direct, A. B. 142, Lillington-street, Pimlico.

EDGE-RUNNER (Second-hand) WANTED, about 4 feet 3 inches high, 13 inch face.—Address, A.B. Founder's Arms, Holland-street, Blackfriars.

THE LONDON SUFFERANCE WHARF
COMPANY, LIMITED.
(Registered pursuant to the Joint Stock Companies' Acts, 1856 and 1857.)

Capital, 300,000*l.* in 30,000 Shares of 10*l.* each.

Deposit, 2*l.* per Share.—1*l.* to be paid on application, and 1*l.* on allotment; the remainder of the Capital to be called as the works progress, and with the demand for increased accommodation. Interest at the rate of 4 per cent. per annum will be allowed from the time of the registration of the Company until they commence business.

DIRECTORS

William Macnaughtan, Esq. Director of the City Bank.
Alex. Morrison, Esq. Pengelly House, Cheshunt, Herts.
John J. Lidgett, Esq. 9, Billiter-street.
Thomas White, Esq. (Messrs. White & Price), 57, Mark-lane.
John Vanner, Esq. Director of the City Bank.
Andrew Johnston, jun. Esq. Dowgate Dock, Upper Thames-street.
James Odams, Esq. 109, Fenchurch-street.

With power to add they number.

BANKERS.—The City Bank, Finch-lane, Threadneedle-street.

BROKERS.

Messrs. Barnett, Ellis, & Co. 18, Finch-lane.
Messrs. Tudor & Son, 29, Threadneedle-street.

SOLICITORS.

Messrs. Dawes & Sons, 9, Angel-court, Throgmorton-street.

AUDITORS.

(To be appointed by the Shareholders.)

SECRETARY, pro tem. Mr. George Wheeler.

ABRIDGED PROSPECTUS

The Company has been formed for the purpose of erecting a "SUFFERANCE WHARF and BONDED WAREHOUSES" on an extensive scale in a convenient locality on the North Bank of the Thames, where, by a series of detached buildings, and the classification of goods, greater security for their safe storage will be afforded than that which exists

It is impossible within the limits of a Prospectus to point out all the benefits to be derived from the Sufferance Warehouses now to be established by this Company. Amongst these, however (in addition to the Warehouses being detached and the Goods in them classified), may be named:—

First. The site can be reached in less than half an hour from the City, viz., by Blackwall Railway, 20 minutes; Steam Ferry, which will run from every Train to the Floating Pier alongside the Company's Wharf, 5 minutes; equal to 25 minutes. The facility of access is one of the principal features of the undertaking.

Second.—It is in direct communication with the London and North-Western, the Great Northern, the Midland, the Eastern Counties, and the Blackwall Railways

Third.—A great reduction in the rates for landing, Housing, Lighterage, and Delivery of Goods and Warehouse rents.

Fourth.—A most important reduction in the rates of Insurance. The difference in this item alone, on many articles, will be nearly sufficient to defray their wharfage charges

Fifth. Increased facilities for economical transit to and from the manufacturing districts, and large provincial towns, especially where Bonded Warehouses have been established under the Inland Bonding Act.

Sixth.—Unusual dispatch by means of hydraulic machinery, with its most recent improvements for unloading and loading goods, and tramways for speedy transport, as well as telegraphic communication with the City

Seventh.—Avoidance by vessels of the dangers, delays, and expenses consequent upon the navigation of the Pool

Merchants and Importers will thus obtain all the advantages now offered by the Docks and first-class Sufferance Wharfs in the Port of London, with the additional security, diminution of charges, and other advantages presented by this undertaking.

The services of a gentleman of many years' experience in London Wharf business will be secured, to manage the general arrangements and details.

As to Profits.—The Directors are unwilling to make any statement which may have the appearance of exaggeration; but, upon a moderate calculation, they confidently look forward to such a large return as will render it a most valuable investment.

Prospectuses and forms of application for shares may be obtained of Messrs. BARNETT, ELLIS, & CO. 18, Finch-lane, E.C.; and Messrs. TUDOR & SONS, 29, Threadneedle-street, Brokers of the Company; of the Solicitors, Messrs. DAWES & SON, 9, Angel-court, Throgmorton-street; or at the temporary Offices of the Company, 65, Fenchurch-street.

A deposit of 1*l.* per share must be paid to the Company's Bankers, previous to the application being sent in.

In the event of no allotment being made, the deposit will be returned to the subscribers without any deduction whatever.

THE LONDON SUFFERANCE WHARF
COMPANY (Limited).—APPLICATIONS for SHARES in the above Company will be received up to FRIDAY, the 28th instant (inclusive), for London, and up to MONDAY, 31st, for the Country.

BRAY'S TRACTION ENGINE COMPANY (Limited)
—INCREASE of CAPITAL from 25,000*l.* to 100,000*l.* by the issue of 15,000 5*l.* shares. Liability limited to the amount of shares held.

HONORARY DIRECTORS.

The Most Noble the Marquis of Bredalbane.
The Most Noble the Marquis of Huntingdon.
The Right Hon. the Earl of Caithness
The Right Hon. the Earl of Essex
The Right Hon. the Earl of Shrewsbury and Talbot.
The Right Hon. Lord Claude Hamilton, M.P.

DIRECTORS

The Hon. Reginald Capel, 21, Chesham place, Belgrave-square, S.W.
Henry D. Davies, Esq. Spring-grove, W.
Charles Osborn, Esq. 2, St. Stephen's-road, Westbourne-park, W.
Cornwall Simeon, Esq., Winchester.
Grenville G. Wells, Esq. Ashdown House, East Grinstead.

Bankers—The Union Bank of London, 4, Pall-mall East.
Consulting Engineer—D. K. Clark, Esq. C.E. 11, Adam-street, Adelphi, W.C.

The Directors, after several months' experience with the new engine, in the construction of which so many important improvements have been introduced, and which will be fully surveyed up to the 1st of May next, removing heavy goods to the Exhibition, can now with confidence lay the result of their labours before the public, and submit the undertaking to notice as one of the best investments of the day.

In addition to the sale of engines, from which a large royalty and profit are derivable, the Directors are enabled to state that by augmenting the rolling stock to the extent of only twenty engines and trains of waggons, and employing them at the various contracts open to the Company, a clear income would be obtained, after working at one-half the cost of horses, of over 10,000*l.* per annum

A deposit of 1*l.* per share must be paid on application, which will be returned in full if no allotment of shares is made

Prospectuses, with testimonials and all further information, will be obtained on application to Mr. S. H. LOUTTIT, Secretary, at the Offices of the Company, 12, Pall-mall East, London, S.W.

PHŒNIX FIRE ASSURANCE
COMPANY, Lombard-street and Charing-cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

Decimus Burton, esq.
Travers Buxton, esq.
Octavius Edward Coope, esq.
William Cotton, esq.
John Davis, esq.
George Arthur Fuller, esq.
Charles E. Goodhart, esq.
James Alexander Gordon, esq.
Edward Hawkins, jun. esq.
Kirkman D. Hodgson, esq. M.P.
William James Lancaster, esq.
John Dorrien Magens, esq.
John Tidd Pratt, esq.
Benjamin Shaw, esq.
Wm. James Thompson, esq.
Hy. Heyman Tulkinghorn, esq.
Matthew Whiting, esq.

AUDITORS.

John Hodgson, esq. | Peter Martineau, esq.

Joseph Samuel Lescher, esq.

SECRETARY.—George William Lovell, esq.
ASSISTANT SECRETARY.—John J. Broomfield, esq.
SOLICITORS.—Messrs. Dawes & Sons, Angel-court.

Insurances are effected for Fire only.

Insurances against Loss by Fire are effected by the Phœnix Company upon every description of Property in every part of the World, on the most favourable terms.

Persons insuring with the Phœnix Company are not liable to make good the losses of others, as is the case in some offices

Insurances with this Company expiring at Lady-day must be renewed within fifteen days thereafter, or they will become void

Receipts are now ready at the principal Offices, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

NORWICH UNION FIRE INSURANCE SOCIETY.
Notice.—LADY-DAY RENEWALS.

Losses by fire occurring during the fifteen days of grace are made good to the assured.

The business of the Company exceeds £8,000,000.

The duty paid to Government for the year 1860 was £1,332. 9*s.* 9*d.* and the amount insured on farming stock 9,988,268*l.*

A bonus of three-fifths of the profits periodically made to parties insuring, who have thus from time to time received sums amounting in the aggregate to £470,000

The rates of premium are in no case higher than those charged by the other principal offices making no returns to their insurers

For prospectuses, apply at the Society's Offices, Surrey-street, Norwich, and 6, Crescent, New Bridge-street, Blackfriars, E.C.

CARTS, LADDERS, BARROWS, &c.—
GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

SUN LIGHT, second-hand, in use only a
short time, in very good condition, with galvanized iron flue complete. TO BE SOLD very cheap.—Inquire of H. RALPH, Ironmonger, Chatham.

IMPORTANT TO BUILDERS, SAW-MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS.

WILSON'S PATENT LARGE TIMBER SAWING MACHINERY.
This machinery is adapted to cut square or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the log are arranged to carry the log past the saw to any extent without stopping for re-adjustment, by which the necessity for transoms is avoided, and they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly.

The speed of cutting may be varied from 10 inches to 10 feet per minute, and yet on account of the increased length of cutting edge, the saw is kept cool.

May be seen in operation, daily, at Messrs. JAMES WILSON & SON'S, Builders, Springfield Saw-Mills, Manningham, Bradford, Yorkshire. Full particulars may be had on application, by parties desirous of purchasing.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD,
Chelsea, HOT WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can refer to innumerable references of Churches, Dwelling-houses, Warehouses, &c &c where they have fixed their Hot-water Apparatus.

Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 34, Davies street, Three Doors from Oxford-street,

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW

Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

SURREY.—BUILDERS and CONTRACTORS
supplied with all descriptions of Ironmongery, Brassfoundry, Wrought and Cut Nails, Zinc, Rain Pipes, Stoves, Sash-weights, &c at the lowest prices, by EDWIN LADD, High-street, Camberwell.

HIGH PRESSURE STEAM BEAM ENGINE,
of 20 horse power, by Fraser, to be SOLD by PRIVATE CONTRACT: cylinder 18½ inches diameter, 4 feet 2 inches stroke; beam 8 feet long; also two wrought-iron Cornish steam-boilers, each 21 feet long and 6 feet diameter, the tubes 3 feet and 3 feet 6 inches diameter. For further particulars, and cards to view, apply to Messrs FULLER & HORSEY, 13, Billiter-street, London, E.C.



GALVANIZED IRON and ZINC WORKS.
Galvanized or Black sheet Iron, corrugated and plain, always in stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

TRADE MARK.

EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

DAY and GAS-LIGHT REFLECTOR
MANUFACTURER—THOMAS FOX, 99, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.

N.B.—The usual discount to builders and the trade.

IRON ROOFING of CORRUGATED IRON,
Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings, also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c suitable to all Climates, fixed complete in town or country, or packed for exportation

For Designs and Estimates apply to

RANDAL SLAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. SLAP are not fixtures on Leasehold Property.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c All kept in Stock

Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Plate, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the

OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED
TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.

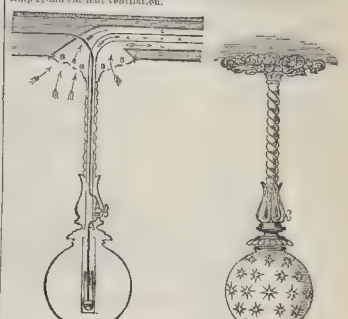
HULETT & CO. 35, High Holborn.

CAUTION to ARCHITECTS and
BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;

SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

RICKETT'S & HAMMOND'S VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

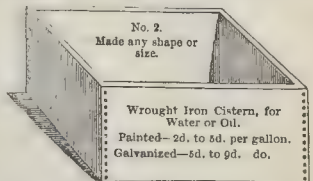
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

8, ADAM STREET, STRAND, LONDON, W.C.

WROUGHT-IRON TANKS, CISTERNS,
GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers
of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 35 and 36, High Holborn.

NAILS and IRONMONGERY,
from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.

A complete List of which will be forwarded upon application to FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street, London, E.C.

DEVAUX'S PURE THICK ROOFING
ZINC laid upon Mr. Edmeston's principle to insure durability, by

D. HAYWARD,
LONDON ZINC WORKS, No. 97, Blackman-street, Borough.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter	1*s.* 0*d.* per foot.
Half-inch diameter	1*s.* 6*d.* ,,
Five-eighths-inch diameter	2*s.* 0*d.* ,,

R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130 Strand, London.
,, Gateshead-on-Tyne.
,, 27, Dale street, Manchester.
,, 68, Anderston-quay, Glasgow.
,, 17, South Castle-street, Liverpool
,, Exchange-buildings, Dublin.
,, 7, Frederick-street, Aberdeen.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz great strength, great durability, and perfect incombustibility; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. to the square inch, equal to 500 feet head of water, and can be made up to any greater strength if required. They are only one fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c and Specimens of Pipes, may be obtained at the Office of the Company, on application to

Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.



PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.





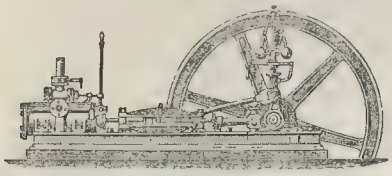
PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.





Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,
AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,

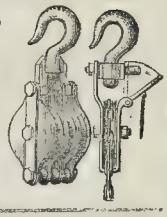


MANUFACTURERS OF
HORIZONTAL
AND
VERTICAL
STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB
WINCHES, &c.
SEVERAL ALWAYS READY
FOR DELIVERY.
Price List forwarded on application.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

CASTINGS, ANY WEIGHT AND QUANTITY,
With the utmost despatch, at Country Prices.
HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS
OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS,
GIRDERS, &c.
Crabs, Blocks, Jacks, Mortar-Mills, &c.





BELL'S PATENT CAST-IRON SINKS, PLAIN or GALVANIZED.
These admirable and economical Sinks are perfectly sweet in the escape of effluvia, and cannot get out of order.
WROUGHT-IRON and STEEL GIRDERS; WROUGHT-IRON SASHES; STABLE FITTINGS, with Patent SPRING-TOP GRATINGS; WROUGHT-IRON STALLS, and LOOSE BOX POSTS, with REVERSED HINGES. Column Girders, Rain Pipes, and MOULDED HEADS in stock, in great variety; Gutters, Coal Plates, &c. at
HOOD & SON'S CASTINGS WAREHOUSE,
68, UPPER THAMES STREET.



SMOKY CHIMNEYS ABOLISHED
W. S. WOOD'S PATENT TRISECTIONAL VENTILATING and SMOKE-CURING CHIMNEY-TOP, possesses the following advantages:—
1 It is constructed upon well-established scientific principles; it collects the air, imparts to it a strong upward current, which expels the smoke with great velocity, and renders downward draught and admission of smoke from other flues quite impossible.
2 It has no moveable parts, is particularly durable, and requires no brickwork in fixing.
3 Each top has a hood, which can be used or not; it is therefore a complete ventilator, and is in every way calculated to overcome the most obstinate cases of smoky chimneys.
4 It can be effectually swept by the chimney sweeper's machine.
5 Its simplicity of construction, its well-defined shape, and merits as a smoke-curer, dispense entirely with the whole family of unsightly tall boys, and with the useless species of whirling apparatus, which disfigure most of our houses and public buildings.
Prices:—Ordinary size, zinc, 1l. 10s; galvanized iron, 1l. 15, size 2 feet 10 inches high; 13 by 9 inches base. Kitchen size, 2l. 2s.
To be had only of the Inventor and Patentee, Camden Cottages, Chislehurst, Kent. Packed for transit to any part of the kingdom, and forwarded to any London Railway Terminus, for Orders of 40s. upon receipt of post office order.
Prospectus and testimonials sent upon receipt of two stamps.
The Invention can be seen at the Crystal Palace and the South Kensington Museum.



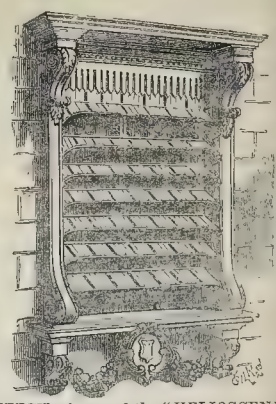
GREENHOUSES and SKYLIGHTS for the Million.
MR THOMAS NIXON, PLUMBER, &c. Horse Market, Kettering, begs to inform the nobility, clergy, gentry, and the public in general, that he has a method of cheap glazing, which is admirably adapted for greenhouses, cottages, and buildings in general, the inches being either placed or fixed. They require only light laps, and but little skill, and the Inventor will guarantee that they will keep dry for fifty years, without either putty or paint.
NIXON'S SELF VENTILATING SKYLIGHT (Registered) was established in 1851, and has stood the test of all weathers which has been proved by numerous testimonials. The following, lately received from Ireland, he begs to submit to the public:—
"Dunarry, Clogher, September 18th, 1861
SIR,—I wish you to know that the greenhouse you sold me in 1852 has given unqualified satisfaction, and has recommended many parties to get similar ones.—Yours, &c.
R. MAUD.
Mr T. Nixon."
This ventilation dries up all condensed damp; yet the process is not perceptible, and by horizontal lights in the ceiling closed tightly, and to open and shut at pleasure. It softens it is always safe from wet. This will answer the great question so much talked of, of ventilating public buildings.
The process will be shown in Class 10 of the Exhibition.

TO BUILDERS AND OTHERS.
A SECOND-HAND MOULDING MACHINE TO BE SOLD A BARGAIN.
Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W.

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from date, which article has neither the STRENGTH nor DURABILITY of FLAX, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

ROGERS' PATENT OUTLET for RAIN-WATER BUTTS and CISTERNS, which being placed inside the cask or cistern, cannot get out of order, and is quite free from the effects of frost, &c. Price, complete, 2-inch, 10s; 1-inch, 12s.—Drawings and full particulars, on application to the patentee,
G. ROGERS, HIGH-STREET, ETAINES.



SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.
These Blinds give a highly decorative finish to a plain front, whether fitted up in ornamental frames or without any. In the latter case top boxes only are required, which need not project beyond the reveals. Where there is no reveal, as in old houses, they would require a frame which need not project more than about 4 inches, and his to be hinged to swing down, or any other desirable fixture. Prices moderate. A liberal discount to Builders and the Trade.
R. LOWTHER & CO. 31, Regent-street,
(One door below the Pantheon Circus).
VENETIAN AND ALL OTHER BLINDS WHOLESALE.

CROGGON & COMPANY
GALVANIZED TINNED, FLAT, CORRUGATED, AND CURVED SHEETS,
PERFORATED AND PLAIN ZINC,
TINNED SHEETS,
GALVANIZED MANUFACTURED GOODS of every description.
2, DOWGATE HILL, LONDON.

TRADE MARK.
CROWN TUBE WORKS
WEDNESBURY, STAFFORDSHIRE.
Warehouse 81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent Aid in Ventilation.



It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In houses will burn all night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of Three pence; and deserving of special attention because of its safety, healthfulness, durability, and extreme simplicity.
Full particulars will be sent on application to the Inventors and Makers,
MUSGRAVE, BROTHERS,
Ann-street Iron Works, Belfast.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.
RAIN-PIPES, &c.—F. A. TIDDEMAN & CO. St. Anne's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large Stock of Rain Pipes, Heads, Shoes, Pockets, Hat-round and O G Gutters, Socket Pipes for Water or Gas, Flat Pipes, Hot Water Pipes and Connections, Sash Weights, and other Castings; Iron-work for Bakers' Ovens of every description, &c. complete, to be had in Sets or in Parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful Crane.



SMOKY CHIMNEYS.—T
best Cure is the PATENT ALBERT CHIMNEY CAP, sold in Buckingham Palace; in use at St. James's Palace, Windsor Castle, Government buildings, mansions, halls, club-houses, and buildings in general. Prospectuses on receipt of two postage stamps.
JAMES BARTON,
Iron Works, 370, Oxford-street, W.
N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

SKAIFE & COMPANY
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bolts, Rods, Hoops, Nails, Screws, and Manufactured Articles supplied to the Trade. Galvanized Tinned Sheets and Tiles for export.
IRON WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office, Leadenhall-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

LOSH, WILSON, & BELL
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work
Cast-Iron Goods and
STEWART'S PATENT CAST IRON GAS and WATER PIPES
Office No. 7, Size-lane, London.

VENTILATION.—M'KINNELL'S PATENT CONCENTRIC VENTILATOR commends itself by the simplicity of its action, its avoidance of draughts, and its economical adaptation to self-regulating the proper air flowing indoors by the warm, while the foul air produced by artificial means of illumination is at once carried off. It has been applied in many of the Public Buildings of the Government Offices in London, and extensively in churches, public halls, schools, offices, dwelling houses, &c. &c. and in ships, for which it has been awarded by Her Majesty's Emigration Commissioners. Patentee, JOHN M'KINNELL, 15 Lime-street, London, W. Description and testimonials on receipt of one stamp.

SAVING IN GAS
D HULETT, INVENTOR and PATENTEE. The Meridian Gas Regulator is the only efficient instrument for insuring wholesome and uniform lights, equalizing the pressure, and preventing irregularity in the height of the flame.
D HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

APPLY TO

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch "	12s. 6d.	13s. 6d.	13s. 6d. "
1-inch "	14s. 6d.	15s. 0d.	15s. 6d. "
1¼-inch "	—	18s. 0d.	19s. 0d. "

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. "
Spruce Deals ..... £16 10s. "

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. "
⅞-inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

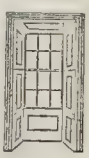
J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.



Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

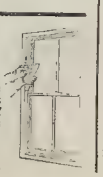
At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



J. GURMAN,

Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.



Send stamped envelope for Prospectus and Sectional Drawings.

Windows may also be seen at the Kensington and Conduit-street, Museums, London.

BUILDERS and CARPENTERS, and OTHERS, have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities.

All sawn goods carriage free within three miles.

¾-inch Flooring (well prepared), 11s. 6d. ¾-inch do. 13s. per square
Yellow Deals, sound and good ..... 19l. 10s. per 120, or 3½d. per foot.
Spruce Deals " 16l. 10s. " 3d. "
Yellow Battens, excellent quality 11l. 10s. " 2d. "
Pine Planks, dry, 12 ft. 3 in. by 11 ft. 21l. " 3s. 6d. "
Seasoned Mahogany, Plank and Board, 6d. per foot.

A very large Stock, ready sawn and seasoned.
ALFRED CARTER, Old Bethnal-green-road, N.E.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.

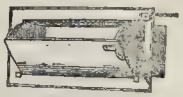
ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their Last Prices for Mouldings. A large stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 2s. 2d; Spruce, from 2s. 8d; Pine Plank, from 3s 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s; 1-inch White Flooring, from 14s. 9d.; 1 inch Yellow, from 13s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot place, Lambeth.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

CROGGON and COMPANY,
Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,
For Damp Walls and Lining from Houses.
2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

PORTLAND CEMENT WORKS,
Northfleet, Kent.
Messrs. ROBINS & CO.

To whom the Prize Medal was awarded in 1861, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines, Brierley-hill.
FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CRIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,
Office, 5, George-yard, Lombard-street.

PARIAN CEMENT for INSIDE WORK.
With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

KEENE'S and PARIAN CEMENT for internal use.—These well-known hard Stuccos dry quickly and can be painted upon within a few days
Made and sold by JOHN BAZLEY WHITE & BROTHERS,
Millbank street, Westminster.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14 SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN PIPE, HAIR, LATH, and FIRE GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

MARTIN'S PATENT FIREPROOF CEMEN

Is 35 per Cent. Cheaper than any other internal Cement in use.

Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.

186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS:
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P OVEN
COWLEY AND KENT BRICKS, AND PLASTERE S HAIR. GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS
RED DRAIN-PIPES, RED CHIMNEY-POTS, AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHA

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TA'HAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement
Agent in Liverpool—JOHN M'KENZIE, 13, Seel-street.
Do. do Manchester—THOMAS OAKDEN.

PORTLAND CEMENT. JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

STRINGFIELD and BLYTH,
Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA &c. CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

WHITE and RED SUFFOLK FAC
BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.
The BEST WHITE and BUFF SILICA PRESSED FACING B from the DIPPENHALL WORKS, FARNHAM, SURR
The YELLOW and PALE MALM CUTTERS and FACING B by Messrs. Caleb Hitch & Co. Ware, Herts.
The YELLOW and PALE MALM CUTTERS and FACING B SEWER PAVIORS, and BRIGHT COLOURED STOCKS, the Fields at South shoebury, Ingatestone, Essex.
The entire MAKE of BRICKS by Mr. William Ludgater, of th and Lower Halstow Fields; and Messrs. J. Butcher & Son, ham Quay, and Lower Rainham.
The MANUFACTURE of BLUE VITRIFIED SEWERAGE B by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Co. of Cannock, near Walsall, South Staffordshire.
The EWELL DEEP BLACK RUBBING and BUILDING and the EWELL and CHALFONT dark and bright RED R
COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge. SOLE CONSIGN
The usual commission a lowed to merchants of the trade the monthly price lists.
N.B. Every Description of the Building of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS
RIDGING Blue, Red, and Buff Terro-metallic Paving various designs. Blue and Red Plain and Ornamental Roo in great variety. Plain Rolled, Capped, and Pinnacled Ridg different pitch, and Grooves. Ridging, with Crest Ornaments, Blue, and Red, for the different periods. Vitrified Stable Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WO
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home Foreign Trade
Portland Cement is manufactured at these Works with reference to its destination, whether for stuccoing, brickwor for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBET

PORTLAND, ROMAN, and PLA
CEMENT MANUFACTORY, on the River Medway Kent.
Messrs. LARK, FLETCHER, & CO
are prepared to supply their CEMENTS of the BEST QUAL on ADVANTAGEOUS TERMS, either direct from the Ma or from White Lion Wharf, Bankside, London
N B. Shipping Merchants' and Brokers' Orders promptly e

PURE HYDRAULIC LIME, Manufa
from the best HALKIN MOUNTAIN LIMESTON supplied for the construction of the Liverpool and Birkenhe
The HOLYWELL LIMESTONE COMPANY are prepared the above, in lump or ground, packed in bags, into wagg Holywell Station of the Chester and Holyhead Railway, o vessels at Greenfield Wharf Chester River
Prices and particulars furnished on application to Mr. EVANS, Manager, Parys Mine Works, Holywell, Flint
The Company guarantee the quality of the Lime to be equ used by the Engineers of the Liverpool and Birkenhead
Agents wanted No application attended to witho banker's reference.

GREY STONE LI
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORK ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS,
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and and CEMENT MERCHANT, Whitefriars Wharf, W Fleet-street, City. Sand from above or below Bridge, delive yard or per barge. Ballast screened or unscreened, by t per barge. Stocks Lime and other Books. Dry rubbish del barge, in any quantity alongside the Thames.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.
PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

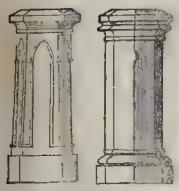
HENRY DOULTON & CO.
High-Street, Lambeth, London.

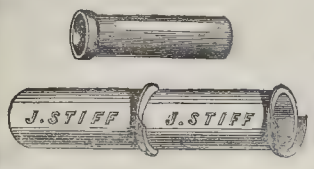
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.
TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S, City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr A. RITCHIE'S, Ravensbourne Wharf, Greenwich.
Mr LAVERS'S, Dowgate Wharf, Canal road, Haxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.
Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

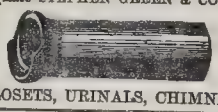
M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

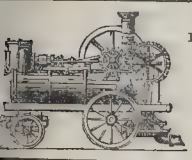
(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

BRICK-MAKING BY STEAM POWER.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,
Each producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS, London.
" BRASSEY & CO. London.
" BAKER & SON, Isle of Wight.
" ROBT. SHARPE & SONS, London.
S.-E. RAILWAY COMPANY, Folkestone.
Mr. GEORGE FURNESS, London.
Messrs. HENRY LEE & SON, Isle of Wight
Messrs. WEBSTER, VARNEY, & CO. Burham.

FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

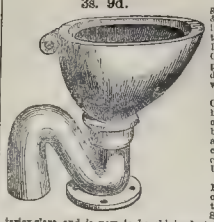
Machines can be inspected at the Works; at the Great Exhibition, South Kensington; or at their Show Rooms, Upper Montague-street, Montague-square; or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.
ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



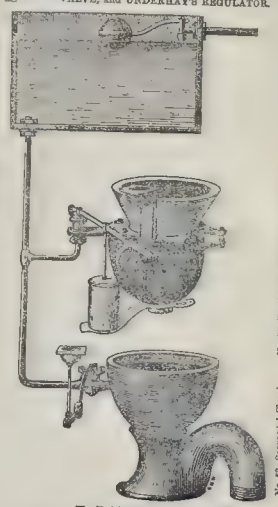
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

The objections to the Cheap Closet pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes, and the Pans become DISCOLOURED and UNFIT for USE.

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the 3s. 9d. Enamelled Stoneware Closet and Trap.

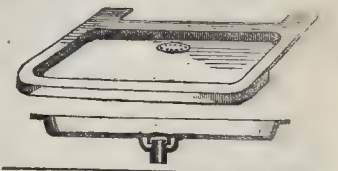
PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

PATENT CAST-IRON KITCHEN SINKS,

with TRAPS complete; manufactured by the Patentees, NEWTON, CHAMBERS, & CO. Thorncliffe Iron Works, near Sheffield.



SIZES. Long.	Wide.	Deep.	* Plain.	Galvanised.	Enamelled.
24 by	18	by 4	5s. 6d.	10s.	15s. each.
30 ,,	18	,, 4	7s. 6d.	12s.	19s. ,,
36 ,,	18	,, 4	8s. 6d.	14s.	22s. ,,
42 ,,	20	,, 4½	10s. 6d.	16s.	27s. ,,
48 ,,	20	,, 4½	12s. 0d.	21s.	31s. ,,

* These Sinks are covered with a Preparation which will prevent the possibility of their getting rusty.
To be had in London only of
Mr. J. JONES, Iron Merchant, 6, Bankside London.



TYE & ANDREW'S NEW PATENT SINK TRAP

is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL

MANUFACTURER, No. 149, Fleet-street, London.
These pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood.
H H H for architectural use.
H H for engineering.
H for sketching.
H B hard and black for drawing.
M medium.
F F light and shading.
F for general use.
B black for shading.
B B ditto ditto.
B B B ditto ditto.
B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

SALES BY AUCTION.

WESTMINSTER – BUILDING MATERIALS OF FOUR HOUSES

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 24th, at TEN for ELEVEN, the MATERIALS and FITTINGS of FOUR HOUSES, being Nos. 4, 5, 5a, & 6, Market Street, Millbank street (near the Horseferry); comprising wrought and cast iron roofs and doors, patent plain tiles, stone sound oak and deal timber roofs and doors, patent plain tiles, stone slates, paving, lead gutters, sashes, doors, partitions, chimney-pieces, stoves, paving, lead gutters, sashes, doors, partitions, chimney-pieces, stoves, range, and other fixtures and fittings-up.—May be viewed two days previous, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster; and 80, Fore-street, City.

LONDON-WALL.—EXTENSIVE SALE OF BUILDING MATERIALS

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 31st, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS-UP of about TWENTY HOUSES, being the whole of Saddler's place, London-wall (abutting to the Worshipful Company of Saddlers), Two Houses and Shops, Nos. 63 and 65, London-wall, and a range of Stabling, Workshops, &c. in the rear; comprising 500,000 good sound bricks, several tons of lead, in gutters and pipes, 15,000 lantiles, slates, and plain tiles, useful timber, in roofs and floors, sashes, doors, and fittings, floor boards, shop-fronts, folding-gates, weather boarding and carcassing, loop hole doors, pebble-paving, coping and cills, &c.—May be viewed on Saturday, and catalogues had of F. W. PORTER, Esq., Architect, 16, Bucklersbury; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, E.C. and 40, Parliament-street, Westminster, S.W.

Final Sale of the valuable Stock of Messrs. Browne & Co. comprising a selection of beautifully-sculptured Chimney-pieces in every variety of foreign Marble: a splendid Mural Monument of Classic design, noble Vases, choice Statues, some Scagliola Pedestals, and various objects of taste and utility, being the contents of two Galleries reserved for the last Sale.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT beg to announce that, having disposed of the unmanufactured stock, wagons, and implements, they are directed by Messrs. Browne & Co. to SELL BY AUCTION, in the Galleries, in Grafton-street East, near the London University, on WEDNESDAY, APRIL 9th, various costly CHIMNEY-PIECES, being a select portion of the extensive and valuable Stock of the above eminent firm, including four elaborately wrought chimney pieces, in the purest white marble, richly carved in high relief, supported by finely-sculptured console figures of boys, by a first-rate artist; a magnificent chimney-piece of large dimensions in pure Grecian taste, suitable for a palace or mansion of the first class, and many others, beautiful in design and of superior finish, in every variety of Italian, French, Spanish, and Belgian marbles, carefully selected from the best quarries. A grand and classical mural monument, in pure statuary; a slab of choice Oriental granite, 7 feet 8 inches by 3 feet 8 inches, cut from one of the pillars of Trajan's Forum; some smaller slabs in granite, brought from the ruins of Carthage; two pair of grand marble vases for terraces, Scagliola pedestals of large dimensions, suitable for groups, figures, or vases, &c.—May be viewed six days prior to the sale and Catalogues had of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville-row, Regent-street, W.; and 19, Change-alley, Cornhill, E.C.

HASTINGS, SUSSEX.—FREEHOLD BUILDING GROUND.

MESSRS. BREEDS & SONS have received instructions to SELL by AUCTION, on MONDAY, the 24th day of MARCH, 1862, at Six o'clock in the evening, at the CASTLE HOTEL, Hastings, in one lot, all those TWO MEADOWS called "The Great Brook," and "The Child," containing together about six acres, situate in the parish of St. Andrews, in Hastings, and now in the occupation of Mr. E. M. Hopper, as yearly tenant. This valuable estate is situate in the centre of the borough, near a dense and increasing population, contains a very large frontage towards St. Andrew's-terrace, and is exceedingly well situated for timber-yards, or any business requiring a large area, or for the erection of houses for which are much required in this part of the town.—For particulars and conditions of sale, apply to Mr. JOHN PHILLIPS, Solicitor, Hastings; and to Messrs. BREEDS & SONS, Auctioneers and Estate Agents, 68, George street, Hastings.

SOUTHGATE, MIDDLESEX, NEAR COLNEY-HATCH STATION, ON THE GREAT NORTHERN RAILWAY.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Waterfall Farm, on MONDAY, 24th MARCH, at TWELVE, the remaining PORTION of STOCK of a BUILDER, comprising 300 sound Elm boards, 300 poles, 42 dozen ends, 200 palings, 300 wheeling planks, 16 ladders, trestles, crab and mill, two air pumps, a few yellow battens, some timber and cut stuff, seven benches, old materials, 20,000 stock bricks, 10 brick, dobbin, and water carts, stone trunk, 25 furrows, stack of hay, hand some boy gelding, six sets of harness, &c.—Catalogues may be had on the Premises, and at the neighbouring taverns.—Auction Offices, 2, Cardington street, Hampstead-road.

WIMBLEDON.—Valuable Freehold Building Land, close to the Station

MR. H. O. MARTIN is instructed to SELL by AUCTION, at the MANSELL ARMS HOTEL, Wimbledon, on THURSDAY next, at TWO o'clock precisely, a most eligible FREEHOLD BUILDING LAND, in Plots of from 25 to 100 feet frontage, affording capital sites for Villa Residences. The land is efficiently drained by main sewers, is well supplied with water and gas, and is one of the best building properties in the vicinity of London. Plans, with particulars and conditions of sale, may be had at the Mansell Arms Hotel; of JAMES WRIGHT, Esq. 8, New Inn, Strand; and of the Auctioneer, 18, Adam street, Adelphi.

ISLE OF DOGS. — Valuable Freehold Land, adapted for Building Purposes, and containing about Eleven Acres.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on TUESDAY, APRIL 29th, at TWELVE, in two Lots, very valuable FREEHOLD LAND, situate in the East Ferry road, near the Lord Nelson Tavern, in the Isle of Dogs, and about two miles from the Poplar Station on the North London Railway, having considerable frontage to the road, adapted for building purposes, and containing together upwards of eleven acres. May be viewed, and particulars had of Messrs. WESTES & SONS, Solicitors, 7, Great James-street, Bedford-row; at the MART, and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

VALUABLE FREEHOLDS AND BUILDING GROUND, STOCKWELL, SURREY.—LAND TAX REDEEMED

MESSRS. BARTON & SON are instructed to submit by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on TUESDAY, APRIL 8th, at TWELVE, in seven lots, SIX neat FREEHOLD RESIDENCES, Nos. 1, 2, 3, 4, 5, and 6, Stockwell place, fronting the high road at Stockwell, and let to respectable tenants at rents varying from 42*l.* to 47*l.* per annum; also a valuable plot of BUILDING GROUND, adjoining the "Swan" Public-house, having a frontage to the high road of 121 feet, and a depth of 110 feet. May be viewed by the tenants, and particulars had at Garraway's; the Swan at Stockwell; of Messrs. POWNALL, SON, & CROSS, Solicitors, Staple Inn, Holborn; and at the Auctioneers' Offices, 7, Cheltenham-place, Westminster-road.

BUILDING MATERIALS for SALE by AUCTION, on the estate of the late Sir WM. P. WILLOUGHBY, Bart., at HACKNEY, by order of the Trustees, and with the approbation of his Honour the Vice-Chancellor Sir John Stuart, being for the purpose of clearance and re-letting.

MESSRS. DENT & SON will SELL by AUCTION, on the Premises, on TUESDAY, the 25th of MARCH inst., at TWELVE precisely the entire MATERIALS of SEVEN LARGE HOUSES, Nos. 3, 4, 5, 6, 7, 8, and 9, and the whole of Mare Street, Hackney; consisting of a large quantity of fine old brickwork, plain and pan tiling, a considerable quantity of timber in girders, joists, rafters and quarter partitions, flooring, [illegible] doors, [illegible] sashes, [illegible] fittings, [illegible] and other useful effects.—To be viewed one day before and on the morning of Sale; catalogues on the premises; at the Estate [illegible] Esq., Cornhill; at the auctioneers' Offices [illegible] and [illegible] Nos. 2 and 3, Mare Street, Hackney; and of Messrs. [illegible] Solicitors, 3, Old Square, Lincoln's-inn-fields; of Messrs. POWNALL'S [illegible] Staple Inn, Holborn; and of Messrs. DENT & SON, surveyors, 54, Great James-street, Bedford-row, W.C.

THE BUILDER.

BUILDING MATERIALS

MESSRS. FULLER & HORSEY are instructed by the Midland Railway Company to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 24th, 1862, at TWELVE o'clock, in lots, without reserve, the MATERIALS of FOUR HOUSES, being Nos. 8 and 9, Bolton-street, and Nos. 6 and 7, Burnham street West (adjoining the Canal). Agar-town, Old Saint Pancras-road; consisting of sound brickwork, slating, lead gutters, doors, sashes, flooring boards, stoves, ranges, York paving, iron railing, iron pir folding gates, 8 feet wide, 7 feet high, and other effects.—To be viewed the day previous and morning of sale, when Catalogues may be had on the Premises; of Messrs. BEALE & MARIGOLD, Solicitors, No 10, Park-street, Westminster, and 39, Waterloo street, Birmingham; and of Messrs. FULLER & HORSEY, Billiter-street, City, E.C

SEVEN MILLIONS of BRICKS will be SOLD by AUCTION, in consequence of giving up the land, by

MR WM. MAYALL, of Faversham, on THURSDAY, the 3rd APRIL next, at TEN o'clock, on the Ground, Bayford Brickfield, Sittingbourne, Kent, and Lands adjoining, comprising Stocks, Facy, Grizzle, Malm, Stock, Red, and White.—Catalogues free on application to the Auctioneer; or to Mr. GEORGE SMEED, Sittingbourne.

AYLESBURY, BUCKS. The whole of the valuable BUILDING MATERIALS of the Buckinghamshire General Infirmary, consisting of a large quantity of good sound Bricks, Tiles, Slates, Stone, Timber, Flooring, Lead, Iron, Glass, Lead, in flats, gutters, pipes, &c; Roof Timber, Floor Boards, Joists, modern Sash Windows, useful sized panelled and other Doors, Staircases, Lead Cistern, Heating Apparatus, Copper Bath, Counter, Water-closet fittings, Ironwork, and many other effects TO BE SOLD by AUCTION, by Mr. ROBERT GIBBS, on the PREMISES, Buckingham-road, Aylesbury, on WEDNESDAY, the 2nd day of APRIL, 1862, at ONE o'clock, by order of the Governors, in consequence of the completion of the new building. The lots will be on view two days before the Sale, and catalogues, with particulars, may be had in due time, of Mr. FRENCH, the Clerk of the Works of the new Infirmary, and of the Auctioneer, Aylesbury.

BELVEDERE, near Erith, Kent, S.E.—To BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES near London This beautiful Park is to be thrown open for building at the new year, 1863. Probably no district to the east of London has more natural advantages. The beauty of the river and land scenery is well known. The soil is dry and healthy, the water pure and abundant. There are stations of the North Kent Railway at Erith and at Belvedere. The former, near to the east end of the Park; the latter, within four minutes' walk of the west end of the Park, and it is Picarly and Lesness Heath portions of the estate. By the end of 1863, it is expected that there will be complete railway communication to Charing Cross. Picardy, close to the Belvedere Station and Lesness Heath (close to the Belvedere Church and School) are already (within two years) nearly covered with buildings, viz. villas of different classes, from 25*l.* to 70*l.* a-year, and shops of various descriptions; some plots, however, may still be had there. Some sites in the park are just let, and it is intended to grant leases of other similar plots for terms of 99 years, for erecting villas of a superior description. Plots will be laid out contiguous to four principal roads running through the park. These are the Park-road, leading from the Belvedere station to Rob street; the Avenue-road and the Tower-road, each leading from the public carriage gate at different points to the Tower; and the Valley-road, leading from the Erith Lodge to the archway in the park. The ground rents are very moderate.—Applications for plots, and for other particulars may be addressed to Messrs. WM. G. HABERSHON & PITE, Architects, 38, Bloomsbury-square, W.C. or Mr. STICKLAND, Lesness Heath, will show the ground to persons desiring to view the estate and to let on lease after April, 1863, for an hotel or public school, or other public institution.—For particulars apply to Messrs. NORTON & HOGGART, Old Broad street, E.C

BUILDING LAND TO LET, on long lease, in most cases direct from the freeholder, at HIGHBURY, CANONBURY, NORWOOD close to the Lower Norwood Station, at CROYDON (very near West Croydon Station), at the VAUXHALL GARDENS ESTATE, and HOLLOWAY, and at Messrs. CARCASSES, at BOW. Ground-rents moderate. The usual proportion of the cost of the houses erected would be advanced, and in some cases the freehold might be purchased.—For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

LIME and STONE QUARRY TO LET, WARWICKSHIRE.—TO BE LET, on the Grand Junction Canal, a FIRST-RATE QUARRY, capable of producing an unlimited supply of Lias lime and limestone. Also a Cottage and Garden.—Any person desirous of entering into the business and premises will find this a safe and lucrative investment.—Principals can obtain full particulars of Messrs. PETER BROAD & PRITCHARD, 28, Poultry.

BUILDING-GROUND. — CITY of London.—The Commissioners of Sewers of the City of London hereby give notice, that they intend, in the Guildhall of the said City, on TUESDAY, the 25th of MARCH next, at TWELVE o'clock precisely, to receive proposals for LETTING, on BUILDING LEASE, for eighty years, certain PIECES of FREEHOLD GROUND, situate in Newgate-street and Watling-street.—Further particulars, with conditions and printed forms of proposal, may be had on application at this Office, where plans of the premises may also be seen. The Commissioners do not bind themselves to accept any proposal unless deemed advantageous. Persons making proposals for the said plots of land must attend personally, or by duly authorized agents, on the above-mentioned day; and the parties whose offers are accepted will be required to execute an agreement under bond at the time.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, January 16, 1862.

FREEHOLD GROUND RENTS. — CITY of LONDON.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 8th of APRIL next, at TWELVE o'clock precisely, to receive TENDERS for certain FREEHOLD GROUND RENTS, on premises let on lease, having about eighty years to run, and situate 119 and 120, Chancery-lane, 79 and 80, Aldgate High-street, 1, Minories, 4 and 9, Maiden-head court, Aldersgate street, particulars and plans of which may be had at this Office. Further information can be had. Tenders must be sealed, endorsed outside "Tender for Ground Rents," and addressed to the undersigned, and must be delivered in before TWELVE o'clock, on the said 8th of APRIL next.—The Commissioners do not bind themselves to accept any Tender, unless the same be deemed eligible. Parties tendering must attend personally, or by an authorized agent, on the said day, and be prepared (if they are declared eligible Tenders), to pay the required deposit of 10 per cent. and to execute an agreement for the completion of the purchase agreeably to the conditions of sale.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, February 20, 1862.

TO BUILDERS and OTHERS.—SELHURST-PARK, Norwood, near the Junction Station.—The freeholder will co-operate with respectable builders in DETACHED HOUSES, to let at 45*l.* to 65*l.* Excellent bricks of every class on the estate. Proximity to the Junction Station, enables materials to be readily supplied. All roads made. Several detached houses now ready. Apply to Mr. TIDEY, Selhurst-park.

TYSSEN-AMHURST ESTATE.—LAND TO BE LET for BUILDING, in different parts of CLAPTON, HACKNEY, and KINGSLAND.—Plans and particulars may be had of Mr. CHESTER CHESTON, Architect and Surveyor, at the Offices, Church street, Hackney, N.E. near the Railway Station.

HERTS. — COUNTRY MANSIONS, VILLAS, and HUNTING-BOXES.—LAND on the estate of a large proprietor TO BE LET, on Building Leases, for ninety-nine years, in the most part of Hertfordshire, for the erection of Gentlemen's Residences of every description, where a most healthy material abounds. In the neighbourhood of two packs of hounds. Station in most cases. Distance from London forty-five minutes by Great Northern. Immediate applications will have the choice of site and option of acreage, including many acres of beautiful forest ground. Now that the Metropolitan Railway will soon be opened, so favourable an opportunity is not again presented itself to builders of capital and gentlemen desiring residences in the county, in which land so well situated can seldom be obtained.—Apply, in the first instance, by letter, addressed, STEWARD, care of Everett, Newsagents, 76, Old Broad-street, London.

PARISHES of ST. GILES WITHOUT, CRIPPLEGATE, and ST. LUKE, MIDDLESEX.—TO BE LET, by TENDER, on Building Leases, for a term of eighty years, a PLOT of LAND on the North Side of the Mile-end-road.—Particulars may be obtained at the Offices of Mr. A. J. BAYLIS, Solicitor, 27, Jewin-street, City; or at No. 11, Church-court, Old Jewry.

ST. GILES WITHOUT, CRIPPLEGATE, and ST. LUKE, MIDDLESEX.—Nos. 3 and 4, White-cross-street, Compton's Buildings, TO BE LET, by TENDER, on Lease for twenty-one years from Midsummer next, by the Joint-Estate Committee of the above Parishes.—Particulars may be obtained at the Offices of Mr. A. J. BAYLIS, Solicitor, 32, Redcross-street, City.

BUSINESS PREMISES WANTED, in the neighbourhood of Oxford-street or Piccadilly, comprising Back Workshops, with Front Shop or room, with or without Dwelling attached.—Apply to O. C. L. Milford House, Milford-lane, Strand, W.C.

MANUFACTURING PREMISES, SOUTHWARK.—TO BE LET or LEASE, direct from the Freeholder (for a building term if desired), spacious MANUFACTURING PREMISES, occupying an area of between 8,000 and 9,000 superficial feet, situate in Dorset street, Southwark, a few paces from the Thames, with a back frontage in Bear-garden. The buildings consist of ground-floor workshop of considerable extent, and warehousing. Apply to Messrs. FULLER & HORSEY, Billiter-street, City, E.C.

A DESIRABLE PLOT of FREEHOLD GROUND, in the High-street, Borough, with the MATERIALS of the HOUSES standing thereon, TO BE LET, for building.—The Wardens of the Parish Church of St Saviour are desirous of LETTING the SITE of the HOUSES, Nos. 100 and 101, in the High-street, and small Tenement behind, upon a Building Lease, or Leases, for eighty years, from the 24th June, 1863, for the erection of one house, or more as the party tendering may wish. The plot of land in question contains a frontage of about 33 feet in the High-street, with a returned frontage of 96 feet, all let out in the most thriving part of the Borough, having an entrance from Nag's Head-court, and offering a capability for the erection of very valuable premises. The lessee will be entitled to the materials of the present houses, and he will be required to expend in the erection of the premises a sum of not less than 6,000*l.*; and the premises to be erected must, in each case, accord with a plan of building and materials used, be to the satisfaction of Mr. EDWARD HAIBER-HON, the Parish Surveyor. Persons wishing to send in TENDERS must forward the same, sealed up, stating the amount of ground-rent, and the particulars of the proposed buildings, to the Wardens, at their Meeting, to be held in the Vestry-room in Saint Saviour's Church, on THURSDAY, the 27th of MAY next. The Wardens do not bind themselves to accept any Tender.—The drafts of agreement and lease, and plan and further information, can be inspected at the Offices of the Parish Solicitor.—HERBERT STURMY, Solicitor, Ribenia-chambers, London Bridge.

20th March 1862.

BEAUTIFUL FREEHOLD BUILDING SITES on the Surrey Hills, between Croydon and Godstone, to be SOLD or LET, in plots of from five to fifty acres, at prices, it is believed, lower than are quoted for any land possessing equal advantages within a like distance of London. There are two railway-stations on the estate, affording means of access both to the City and West-end, and the locality offers the especial advantages of a dry, pure, and bracing air (combining the district with the proverbial for health), a gravel and chalk subsoil, an abundance of excellent spring water, and a highly respectable neighbourhood.—Particulars and plans of Messrs. DEBENHAM & TEWSON, Estate Agents, 80, Cheapside.

FREEHOLD PAPER-MILLS FOR SALE by PRIVATE CONTRACT.—This important Freehold Property, situate at Rickmansworth, Herts, and Possesses a convenient Family Residence, placed in the centre of about 25 acres of park-like Meadow Land, with Pleasure Ground and productive Kitchen Garden. The Premises Kitewise constructed, and contains every requisite for carrying on a first-rate business, and possessing a powerful stream of water, and superior wasting water Power, for the production of considerable additional power. Large additions have been made within the last two years, and the best machinery introduced, and the manufacture of paper can be conducted with the greatest economy. The Property is 25 miles from London, 3 miles from Rickmansworth, and 7 from Watford, and a Station will shortly be opened at Rickmansworth. For particulars and to treat apply to Messrs. DANIEL SMITH and OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

TO BUILDERS and OTHERS.—TO BE LET, on a building lease, the FREEHOLD PREMISES, No. 12, GREAT PRESCOTT-STREET, GOODMAN'S FIELDS. — Apply to C. J. GRAHAM, Esq. 3, Plowden-buildings, Temple, E.C.

POLYTECHNIC.—Last Week and every evening at half-past 8, New Musical Entertainment by Mr. J. E. Carpenter, assisted by the Misses Mascall, entitled "The World and his Wife" Monday and Tuesday, at a quarter past 7, New Lecture by Professor J. H. Pepper, on "The last Appalling Accidents in Coal Mines"—Wednesday at 2, "Elementary Astronomy."—Beautiful Series of Dissolving Views, illustrating the "Last Days of Old Portland."—Exquisite Photographs, by Mr. England (London Stereoscopic Company) of "Scenes in America." Engagement of the celebrated Bronzi Family, commencing Monday next, at 8 o'clock. Open 12 to 5, and 7 to 10.

CHURCH PULPIT (wood, Gothic), with STONE FONT, STAIRS, READING-DESKS, &c. for SALE, cheap. Also Iron Gates, suitable for any Churchyard. To be seen at Messrs. PEARSON & SONS, Auctioneers, opposite the Female Orphan Asylum, in the Westminster-road, Lambeth, Surrey. Note to Church Builders—It would be invaluable to any contractor who can introduce it in their church buildings.

DURABILITY of GUTTA PERCHA PIPING.—Many inquiries having been made as to the durability of Gutta Percha Tubing, the Gutta Percha Company are giving publicity to the following letter from Sir HUGH MYDDELTON, Bart. TENNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1852.—In reply to your letter received this morning respecting the Gutta Percha Tubing for drawing Soda-water, also with acid [illegible] in, I answer decidedly. Many could run other persons have lately examined it, and there is not the least apparent [illegible] use the melting or drawing down, now several years. I am confident that it is to be adopted generally in the houses that are being erected here."

N.B. Further testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY ROAD, LONDON.

LONDON:—Printed by CHARLES WYMAN, Printer of the Printing Office of [illegible] and published by [illegible] at No. 4, Catherine-street, Strand, in the Parish of St. Mary-le-Strand, in the City of Westminster, and County of Middlesex.—Saturday, March 22, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XX.—No. 999. MARCH 29, 1862. Price Fourpence.

ILLUSTRATIONS.

The International Exhibition Building: East Front. Designed by Captain Fowke 225
The Remains of St. Anne's Chapel; Temple Church, London:—Excavation looking West: Excavation looking East: Exterior of the Chapel, from a Print in the British Museum, 1671 221
Chimney-piece of Majolica Tiles in Stone.—Executed by Messrs. Maw & Co., for the International Exhibition 224

CONTENTS.

Researches at Halicarnassus 217
On Pictorial Mosaic as an Architectural Embellishment 218
The Sister Arts in Relation to Architecture 220
Recent Discovery of the Remains of St. Anne's Chapel, in the Temple 221
On the Sewerage of Towns and Drainage of Houses 222
Chimney-piece constructed of Majolica tiles, set in Mansfield Stone 224
The International Exhibition 227
The Albert Memorials 227
Mr Peabody and the London Poor 228
Paris 228
Architectural Exhibition 228
Manchester Architectural Association 228
Glasgow Architectural Society 228
Testimonial to Mr. Charles Kean: Our Silversmiths 229
Telegraphic Progress 229
Competitions 229
The Industrial Farm Well, Brighton 229
Church building News 229
Byzantine Decorative Colouring 230
The Preservation of Ice 230
The Coloured Panels: Architectural Museum 230
Subjects for Medals and Prizes, 1862. Royal Institute of British Architects 230
Miscellanea 230

ART-UNION of LONDON.—Subscription, One Guinea.—Prizeholders select from the public exhibition. Every subscriber has a chance of a valuable prize; and, in addition receives an impression of a large and important line engraving by C. W. Sharpe, from the original picture by Fred. Goodall, A.R.A. entitled, "RAISING THE MAYPOLE," now ready for delivery. Subscription closes on Monday next.
444, West Strand. GEORGE GODWIN, } Honorary
March. LEWIS POCOCK, } Secretaries.

ROYAL ACADEMY of ARTS.—NOTICE to ARTISTS.—All Works of Painting, Sculpture, Architecture, or Engraving, intended for the ensuing EXHIBITION at the ROYAL ACADEMY, must be sent in on MONDAY, the 7th, or TUESDAY, the 8th of APRIL next, after which time no work can possibly be received, nor can any works be received which have already been publicly exhibited.
It is proposed to open the Exhibition Rooms on certain evenings of the week during the latter part of the season.
FRAMES.—All Pictures and Drawings must be in gilt frames. Oil Paintings under glass, and drawings with wide margins are inadmissible. Excessive breadth in frames as well as projecting mouldings may prevent Pictures obtaining the situation they otherwise merit. The other regulations necessary to be observed may be obtained at the Royal Academy.
Every possible care will be taken of works sent for exhibition, but the Royal Academy will not hold itself accountable in any case of injury or loss, nor can it undertake to pay the carriage of any package.
The prices of works to be disposed of may be communicated to the Secretary.
Artists sending works for exhibition are earnestly requested to abstain from giving any fees whatever to the servants or other persons employed by the Royal Academy to receive such works.
JOHN PRESCOTT KNIGHT, R.A. Secretary.

INTERNATIONAL BAZAAR, 1862, EXHIBITION ROAD, South Kensington.
A Building of large dimensions, consisting of a Central Hall and two aisles with capacious galleries, is in rapid course of erection on the space of ground in Exhibition-road, nearly opposite the grand entrance under the eastern dome of the International Exhibition and the entrance to the Royal Horticultural Gardens.
The proprietor of the land is erecting this building for the purpose of affording exhibitors in the Exhibition, as well as others, an opportunity of selling articles of manufacture principally of a portable character, sales not being permitted in the Exhibition.
Plans of the space to be let, with the tariff, can be seen at the offices at the building.
Rough counters will be provided for exhibitors.
The utmost exertion will be made to make the International Bazaar worthy of public support. The Bazaar will be opened and closed contemporaneously with the Exhibition of 1862.
Intending applicants for space are invited to inspect the progress of the building, and for further information apply to the Superintendent at the Building.

INTERNATIONAL BAZAAR, 1862, Exhibition-road, South Kensington.—To Refreshment Contractors.—APPLICATIONS for SUPPLYING REFRESHMENTS at the International Bazaar, from MAY until OCTOBER, will be received by the Superintendent, at the Offices, at the Building, who will give every information.

INTERNATIONAL BAZAAR, 1862, Exhibition-road, South Kensington. — To Photographers.—APPLICATIONS for the exclusive PRIVILEGE of TAKING PHOTOGRAPHS in the Building, from MAY until OCTOBER, will be received by the Superintendent, at the Building, who will give every information.

SIR JOHN SOANE'S MUSEUM, 13, Lincoln's Inn Fields.—The Museum will be OPEN every WEDNESDAY, THURSDAY, and FRIDAY, from TEN till FOUR, during the Months of APRIL, MAY, JUNE, JULY, and AUGUST.—Cards of admission to be obtained at the Museum.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—The Members and Friends of the above Institution are requested to notice that, in consequence of the pulling down of Lyon's Inn Hall, the present place of meeting, FUTURE MEETINGS of the Institutions will be held at the SUSSEX HOTEL, Bouverie-street, Fleet-street, on the First and Third Wednesday Evenings in every month.
March 19th, 1862. JOHN LUCAS, Secretary.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, NOW OPEN, from Nine till Six, admission 1s. Half crown season tickets admit at all times to the Exhibition, to the west gallery containing the entire collection of drawings and sketches by the late A. Welby Pugin, and to all the Lectures. First Lecture, TUESDAY, MAY 6, at Eight p.m. on the Transport and Erection of Obelisks and other large Monoliths in ancient and modern times, by Professor D naldson.
JAMES FERGUSON, F.R.A.S. } Hon Secs.
JAMES EDMESTON, F.R.I.B.A. }

ARUNDEL SOCIETY for PROMOTING the KNOWLEDGE of ART.—The drawings and publications of this Society are on view daily, for the Free Inspection all persons interested in Early Italian Art. The Society has lately added to the collection copies of the frescoes by Mantegna, in the church of the Eremitani, at Padua; and the masterpiece of Perugino, at Citta della Pieve.
Annual subscription to the Society, 1l. 1s.
Annual Publication for 1861—Seven Chromolithographs, from frescoes in the Brancacci Chapel at Florence
For Prospectuses, and List of Works on Sale, apply to Mr. MAYNARD, Assistant Secretary, 24, Old Bond-street, London.
JOHN NORTON, Hon. Sec.

COMPETITIONS.

TO ARCHITECTS.—A PREMIUM of TEN GUINEAS will be given to the AUTHOR of the best DESIGN for a WESLEYAN CHAPEL, to be built in Leicester, capable of holding 900 persons. Architects wishing to compete may, upon application to Mr. H. WALE, 96, New-walk, Leicester, receive a plan of the site, and instructions and any other information required. The plans to be forwarded, carriage free, addressed to Mr H. WALE, on or before the 1st day of MAY next, accompanied with a sealed envelope, containing the architect's name, and bearing a motto corresponding with one to be placed on his design.

CONTRACTS.

COAST-GUARD CONTRACT.—Notice to BUILDERS and CONTRACTORS.
Persons desirous of TENDERING for the ERECTION of a COAST-GUARD STATION, at Clovelly, near Bideford, in the county of Devon, may inspect the drawings and specifications at the Custom-house, Bideford, or at this Office, between the hours of TEN and FOUR, from MONDAY, the 24th inst. to SATURDAY, the 5th of APRIL now next ensuing (Sunday excepted).
Tenders to be sent to this Office not later than TWELVE o'clock at Noon on the 7th of APRIL, under seal, and directed to the Commodore Controller General for Coast Guard, and endorsed "Tender for Clovelly Station."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.
Dated this 27th day of March, 1862, at the Admiralty Coast-Guard Office 12, Spring Gardens, London, S.W.

TO BUILDERS.—Persons disposed to TENDER for the ERECTION of a BAPTIST CHAPEL, and the Conversion of the present Chapel into Schools, at Chipping Norton, may see the plans and specification thereof on application at the Offices of Messrs. GIBBS, THOMPSON, & COLBOURNE, Stratford-upon-Avon, between the hours of NINE and SIX, on and from TUESDAY, the 25th instant, to the 8th proximo, where the quantities, &c. may be had on payment of 10s. Tenders to be sent to Mr. G. B. SMITH, Chipping Norton, on WEDNESDAY, the 9th of APRIL, proximo. The lowest Tender will not necessarily be accepted.
Stratford-upon-Avon, March 18th, 1862.

TO BUILDERS, BRICKLAYERS, and OTHERS.—LIVERPOOL CEMETERY, ANFIELD PARK, WALTON.—The Burial Board for the Parish of Liverpool are prepared to receive TENDERS for the CONSTRUCTION of BRICK GRAVES, VAULTS, TERRACE STEPS, &c. in the above Cemetery. The plans and specification can be seen, and other particulars obtained, at the Offices of the Board, 12, Clayton square, on and after THURSDAY, the 20th instant. Sealed Tenders, addressed to the Chairman of the Board, endorsed "Tenders for Brick Graves, &c." are to be sent in on or before the 3rd day of APRIL next. The Board do not bind themselves to accept the lowest or any of the Tenders.
By order,
LUCY & LITTLER, Architects, } to the Board.
GEORGE TURVEY, Clerk, }
12, Clayton-square, March 18, 1862.

BIRKENHEAD UNION.—To Contractors and Builders.—The Guardians of the Poor of the Birkenhead Union, in the county of Chester, are prepared to receive TENDERS for the ERECTION and COMPLETION of the NEW UNION WORKHOUSE, to be built at Higher Tranmere, in the said county Separate and distinct Tenders will be required to be delivered for the building of the receiving and vagrant wards, and also for the completion of the cellarage under the main building. The drawings and specification may be seen, and further information obtained at the Office of Mr. THOMAS LAYLAND, Architect, 20, Castle-street, Liverpool. Sealed Tenders to be delivered or sent to me, at my Office, 60, Lord-street, Birkenhead, endorsed, "Tender for Workhouse," on or before SATURDAY, the 12th day of APRIL next. Security will be required from the Contractor for the due performance of the contracts. The Guardians do not bind themselves to accept the lowest or any Tender.—Signed by order of the Board,
PETER GREGORY,
Clerk to the Guardians of the Birkenhead Union.

CONTRACTS.

RESTORATION of the GREY-FRIARS CHURCH, Reading.—To CARPENTERS and OTHERS.—Parties desirous of submitting TENDERS for the CARPENTER'S and TILER'S WORK to the roof of the church, and for the PLUMBER'S WORK, gutters, water-pipes, and for the drainage, can see the drawings and specification at our Offices on and after WEDNESDAY next, APRIL 2nd. Tenders to be delivered to us on MONDAY, APRIL 14th, at TWELVE o'clock. The lowest Tender will not necessarily be accepted.
FOULTON & WOODMAN, Architects.
1, Grey-Friars-road, Reading, March 25th, 1862.

WATERWORKS at HALSTEAD, ESSEX. The Local Board of Health invite TENDERS for WATER-WORKS at Halstead, the plans and specifications of which may be seen after MONDAY next, the 31st instant, at the Office of the Clerk of the Board at Halstead. Sealed Tenders are required to be sent to the Clerk on or before SATURDAY, the 12th day of APRIL next.—The Board do not bind themselves to accept the lowest or any Tender.
G. P. ARDEN, Clerk to the Board.
Halstead, March 23th, 1862.

TO CONTRACTORS, MASONS, and OTHERS.—The Directors of the Todmorden Town Hall Company, Limited, are prepared to receive TENDERS for ARCHING OVER the RIVER, and other works in connexion with the foundations of the proposed Town Hall. Plans and specification may be seen at the Office of Mr. ALLEN, Old Fellows' Hall, Todmorden, from MONDAY, the 24th, to MONDAY, the 31st instant. Sealed Tenders, endorsed "Tenders for Town Hall, Todmorden," to be forwarded to Mr. J. GREEN, Architect, Portsmouth House, near Todmorden, on or before WEDNESDAY, the 2nd APRIL, at TEN a.m. after which no Tenders will be received.—The Directors do not pledge themselves to accept the lowest or any Tender.
March 20, 1862.

TO BUILDERS.—Parties disposed to TENDER for the ERECTION of a FARM-HOUSE, FARM BUILDINGS, and THREE COTTAGES, at Walton, near Much Wenlock, in the county of Salop, for the Right Hon. Lord Forester, may inspect the plans and specifications, and conditions of contract, at my Office, in Bridgnorth, on and after THURSDAY, the 3rd day of APRIL, until SATURDAY, the 19th, on which day Tenders must be delivered to me by TWELVE o'clock. Those persons intending to Tender are requested to send their names either to me or to his Lordship's Agent, WILLIAM BURCHNELL, Esq. Barrow, near Broseley, Salop, so that a time may be appointed for viewing the site and plans. No pledge is given that the lowest or any Tender will be accepted.
ROBERT GRIFFITHS, Architect.
Bridgnorth, March 22nd, 1862.

FALMOUTH DOCKS.—To Iron Ship BUILDERS, IRON FOUNDERS, and OTHERS.—Wrought-Iron Caisson for the Erection of the Graving Dock of the Falmouth Dock Company are prepared to receive TENDERS for the construction and delivery of a WROUGHT-IRON CAISSON, the drawings and specification of which can be inspected, and any other information obtained at the offices of the Docks Company, at Falmouth; or of JAMES ABERNETHY, Esq., M.I.C.E., 3, Parliament-street, Westminster, on and after the 31st day of MARCH instant. A printed form of Tender will be supplied, which must be filled in and delivered at the offices of the Company, at Falmouth, on or before the 18th day of APRIL, 1862.
JOHN P. BENNETTS, Secretary.
Falmouth Docks Offices, 23d. March, 1862

TO BUILDERS. — Persons desirous of CONTRACTING for the ERECTION and COMPLETION of FOUR first-rooned DWELLING-HOUSES, to be built on the Potteries Estate, Plumstead, Kent, near Woolwich, for Mr. John Tredd, may see the drawings and specification, at the Offices of Mr. WILLIAM GOSLING, Architect and Surveyor, 79, Wellington-street, Woolwich, on and after MONDAY next, the 31st inst. Tenders to be sent in on MONDAY, 7th APRIL, indorsed "Tender for Four Dwelling Houses," Mr. Tredd does not pledge himself to accept the lowest or any Tender.—Quantities will not be supplied.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of a PARSONAGE, at THURSLEY, Surrey, may see the plans and specification, on application to the Rev. H. BRANCKER, Thursley, near Godalming, Surrey, or to Mr. J. W. PENFOLD, Architect, 2, Charlotte-row, Mansion House, E.C. of whom the quantities may be obtained, price 15s. each. Tenders (on a printed form), to be sent in or before 12th APRIL, to the Rev. HENRY BRANCKER, who does not bind himself to accept the lowest or any Tender.

TO BUILDERS, &c.—NEW WESLEYAN CHAPEL, &c. Market Rasen.—Persons desirous of CONTRACTING for the whole or for any separate portion of the WORKS required to be done in TAKING DOWN the present, and ERECTING a new WESLEYAN CHAPEL, to accommodate about 700 persons, with School room and Vestries adjoining, at Market Rasen, may see the plans, specifications, and condition of contract on applying at the Vestry of the present Chapel, at that place; or duplicates thereof, at my Offices, 24, Parliament-street, Hull, from WEDNESDAY, the 26th instant, to TUESDAY, the 8th APRIL, inclusive. Tenders, endorsed "Tender for Wesleyan Chapel, &c." to be addressed to the Rev. JOSEPH OFFICER, Market Rasen; and must be received by him not later than WEDNESDAY, the 9th APRIL. The lowest or any Tender not necessarily accepted.
Hull, 18th March, 1862. WM. BOTTERILL, Architect.

BREEZE TENDERS.—To BRICKMAKERS and OTHERS.—The Directors of the Chartered Gas Company are desirous of receiving TENDERS, at per Chaldron, for the PURCHASE of BREEZE (from 6,000 to 7,000 chaldrons); to be removed from their Station in Horseferry-road, Westminster, during a period of twelve months. Payments to be made monthly, in cash. Proposals to be sent in on or before MONDAY next, the 31st instant, addressed to the Secretary, Horseferry-road, Westminster, S.W.; and endorsed "Tender for Breeze."
29th March, 1862.

[*For remainder of Contracts see next Page.*

CONTRACTS.

FLANCHFORD BRIDGE.—To CONTRACTORS and BUILDERS. The Committee of the Subscribers are desirous of receiving TENDERS from competent persons for the ERECTION of this BRIDGE, over the river Mole, to be erected from Ewell to Leigh—Plan and specification can be seen at the Office of Mr. GRANTHAM, 7, Great Smith-street, Westminster, London, S.W.; and at Mr. JOHN LEES, Reigate, Surrey, until the Tenders, forms of which can be had, must be sent to Mr. LEE'S Office on or before FRIDAY, APRIL 11th 1862.
March 29th, 1862.

TO BUILDERS.—PERSONS desirous of CONTRACTING for TAKING DOWN the SLATE ROOF, ERECTING a NEW ONE, and REPAIRING the AISLE ROOFS of Ramsgate Church, can see the plans and specifications at the Office on and after THURSDAY, the 27th instant, between the hours of TEN and FOUR. Sealed Tenders, endorsed "Tender for Parochial Church Roofs," to be delivered to me not later than SATURDAY, APRIL 5th. The lowest or any Tender not necessarily accepted.
JOHN HICKS, Architect.
Dorchester, Dorset, March 22nd, 1862.

TO BUILDERS and CONTRACTORS.—WILTON HOUSE ESTATE, WILTSHIRE.—Persons desirous of CONTRACTING for the ERECTION of FARM-HOUSES, extensive FARM-BUILDINGS, and numerous LABOURERS' COTTAGES, upon the Earl of Pembroke's estate, are requested to apply at the Offices of Mr. SAMUEL CLARKE, Architect, Engineer, and Surveyor, 1, Market House, Salisbury.—Plans and specifications for one Field Steading upon Avon Farm, near Salisbury, will be ready on MONDAY, the 24th of MARCH, 1862. All Tenders for the same are required to be sent to Mr. CLARKE, on or before MONDAY, the 7th of APRIL, 1862. The other plans and specifications will be ready for inspection as soon as they can be prepared, of which due notice will be given, as it is also intended to be commenced at a early date. The lowest or any Tenders will not necessarily be accepted.
Wilton House Office, March 2nd, 1862.

TO BUILDERS. — Faversham, Kent. — ALMSHOUSES and CHAPEL.—The Trustees of the Faversham Charity are desirous of receiving TENDERS for the ERECTION of Thirty ALMSHOUSES, and a CHAPEL for 240 persons. The plans and specification may be seen on and after the 27th instant, at the Office of B. A. C. HERRING, Esq. 1, Dane's Inn, Strand, London; as also at the Office of the Architects, Messrs. HOOKER & WHEELER, Bronchley, Kent, from whom any further information may be obtained. Sealed Tenders are to be sent to the Office of the undersigned, at Faversham, Kent, on or before the 10th of APRIL next. The Trustees do not bind themselves to accept the lowest or any Tender. The Builder whose Tender is accepted will be required to find sureties. FRANCIS F. GIRAUD, Clerk to the Trustees.
South House, Faversham, 21st March, 1862

TO BUILDERS.—Tenders are required for TAKING DOWN WOODLAND HOUSE KENTISH TOWN, and for ERECTING TWO NEW HOUSES on the site, with a road between them, leading to the land of St. John's College. A lease of ninety-four years will be granted by the College at the nett rent of fifty pounds, and if not at a ground rent, the amount of which is to be subject of the Tender. For plans and particulars, apply to Mr. H. BAKER, 11, Upper Gower-street, W.C.

TO ARCHITECTS and BUILDERS.—The Directors of the First Gloucestershire (Bristol) Volunteer Rifle Head Quarters Company, limited, are desirous of receiving PLANS for the ERECTION of a SHED for a DRILL GROUND for the Bristol Rifle Volunteers, to cover a space behind the Bishop's College, Park-street, Bristol, about 142 feet by 110 feet wide, and to be of flat centre timbers or supports. The plans may be sent by the 22nd of APRIL next to Captain JONES, Orderly-Room of the Bristol Rifle Volunteers, Exchange, Bristol.

TO BUILDERS.—Parties wishing to TENDER for the ERECTION of an ENTRANCE LODGE and several LABOURERS' COTTAGES, at Nonsuch Abbey, in the county of Surrey, may call (Tuesday and Saturday excepted) upon application to Mr. JOHN MILNER, Clerk of the Works, at the Abbey, on and from MONDAY, the 24th day of MARCH, to MONDAY, the 7th day of APRIL, 1862, on which day Tenders must be delivered to the Architect.—For further particulars apply to the Architect, Mr. M. E. HADFIELD, Corn Exchange, Sheffield.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29 30, and 31, Warwick street, W
EDWARDS BROTHERS, & BURKE, PROPRIETORS.
The largest and most superior Stock of Chimney pieces in Europe on view at the above-named Establishment
Manufactories: Carrara, Brussels, Patshead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

THE PANTECHNICON, QUEEN'S ROAD, BRIGHTON.
FOREIGN MARBLE GALLERIES, contain upwards of Two Hundred MARBLE CHIMNEY-PIECES, consisting of Carved Statuary, Veri, Sicilian, Blanc Fin, Blanc Clair, Royal Red, Arno, Black, Dupré, Verd des Alps, and other choice Marbles, in every variety of design and size, set up for view. Sculptured Marble Monuments, Headstones, &c. erected. An Inspection is respectfully solicited by the Proprietors and Importers, GEO. HEAD & SONS.
N.B. Packing-cases lent free of charge.

STONE CHIMNEY-PIECES. A. TELLING & CO. Beg to inform Builders and the public generally that they are prepared to supply STONE BOX CHIMNEY-PIECES, with Sinch Plate and Moulded Cap and Base, fitted to any opening for 7s. 10, CONDUIT-PLACE, LONDON-STREET, PADDINGTON, W.

WILLIAM S. LAWRENCE, PENNANT STONE MERCHANT STAPLETON
OFFICE: 10, MERCHANT STREET, BRISTOL.
All descriptions of Steps, Landings, Troughs, Block Tombs, Curb Ashlar, Paving, &c. always on Sale, at his associated Stone Quarries, Stapleton; and at Conham, on the banks of river Avon, near Bristol

BATH! BATH!! BATH!!! ROBERT STRONG, STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons' Work prepared ready for fixing.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E. and JERUSALEM COFFEE-HOUSE, E.C.

JOHN BAZLEY WHITE & BROTHERS, MARBLE MERCHANTS, MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and also to a correspondent at the office of Messrs. PINCHIP SIMPSON & SONS, 24, Saville-row, London, and at the Stone-yard, Portland.

A Specimen of Practical Geology, Jermyn-street, W

The above valuable specimen is kept for reference in books of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, for it is found in modern works and for the building and ornamental trade generally. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E. Seasoned Caen Stone always in Stock, and a large assortment of Sawn Bath in Parksprung, Harcuith, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE SILICEOUS STONE
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes.
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster or Patent Stone Works, Ipswich.

FOREST of DEAN STONE.—Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, as suitable for any in the world for general purposes, suitable for every purpose to which stone is applied.
That from their "Gosty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Park hill" Quarries is decidedly superior to it.
Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of Transit to any port or railway station in the United Kingdom.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Cumberland-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—30, Three Crown-square, Borough.

THE NORTH-WESTERN STONE WHARF, Canal Bridge, Camden town, is the cheapest Stone Wharf in London. Large STOCK of all sorts of YORKSHIRE and other STONE, GRANITE LURDING, and PITCHING, is always on hand to select from. Self-faced paving at 27s. per 100 feet; 14-inch tooled, ditto, 31s. ditto; 1-inch Hare hill Slate, 32s. ditto; and all kinds of stone, at equally low prices.—W. ASPINALL, Proprietor.
N.B.—Country orders, to ensure punctual attendance, must be accompanied by a remittance.

THOMAS ROBSON & NEPHEW, MARBLE MERCHANTS, WHITEHALL WHARF, CANNON-ROW, WESTMINSTER.
MARBLE OF BEST QUALITY IN BLOCK AND SLAB.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Transmutations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at a station in quantities of not less than five tons.—Terms forwarded and estimates given on application. Address,
No 1, BOLD TERRACE, CHESTER.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 464, Euston-road, N.W.

BLOCK STONE! BLOCK STONE! The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall, Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.
SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also NOTE delivered direct from the Quarries to all parts of the Kingdom
The BEST and CHEAPEST STONE-WHARF in LONDON.
Address, SAMUEL TRICKETT, Isle of Dogs, E.
A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRAHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the material's forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCALES & WOOD invite the attention of Masons, Builders, and others, to their Stocks as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

RED MANSFIELD STONE. WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned on railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

ROBERT WHITE, SLATE MERCHANT, SHEFFIELD
ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor Mold Junction and Ginaston.

TO ARCHITECTS.—Perspective Drawings carefully executed for the Royal Academy, and other exhibitions.—Address, B. C. B. Onwhyn's, 1, Catherine-street, Strand, W.C.

NOTICE.—Architects, Surveyors, Engineers, and Builders, before taking their Sons into the Office after leaving school, should put them for a few months in Messrs. F. J. HILLS and J. W. YOUNG'S DRAWING CLASSES.—Offices, 79, Old street, where prospectuses may be had of the day and evening classes.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms.—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents (sent free), and the mode of procedure to Completed Specifications (sent free), and the mode of procedure to Completed Specifications, gratis by the General Patent Company (limited), 71, Fleet street, London. ROBERT M. LATHAM, Secretary.

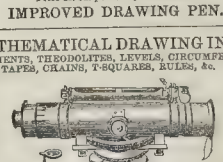
A CARD.
MESSRS. CORDEROY, Surveyors (late of High street, Marylebone), have REMOVED their OFFICES to 17, KING WILLIAM STREET, STRAND, LONDON, W.C.
Office in Portsmouth—13, Ordnance-row, Portsea.

T. PETTITT & CO. LITHOGRAPHERS and GENERAL PRINTERS, Frith-street, Soho square, W. beg to inform Surveyors that they are prepared to LITHOGRAPH BILLS of QUANTITIES with the necessary speed and accuracy, and most respectfully solicit a trial. A scale of charges and specimens submitted on application.
To Surveyors resident in the West of London, the advantage of their Offices being centrally situated in the West end, must be evident from the great convenience it may afford where despatch is required.
Working Drawings and Estate Plans carefully drawn and printed.
Estimates for executing Lithographic and general Printing of every description.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building Trades, and qualifying them to LITHOGRAPH BILLS of QUANTITIES SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.
Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.
Lithographers, &c. 5, Ave Maria-lane, E.C.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42 inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS, 20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre,
Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY. FURNITURE, HOUSEHOLD and OFFICE, WINE and SPIRIT WARRANTS, SHARES, DEBENTURES, &c. BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Balance-sheets Prepared, and Meetings of Creditors Convened. Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT 17, Moorgate-street, Bank, London.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE NOISOMELY AND DESTRUCTIVE SHUTTER BAR. Shops refitted in every part of London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and of the Inventor,
GEORGE JENNINGS,
Sanitary and Engineer ng Depôt, Holland street, Blackfriars road.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

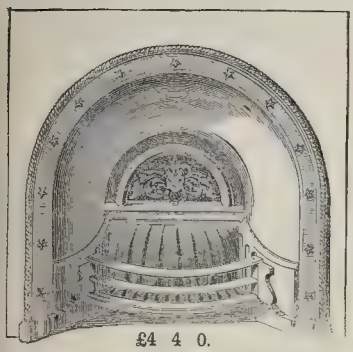


CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

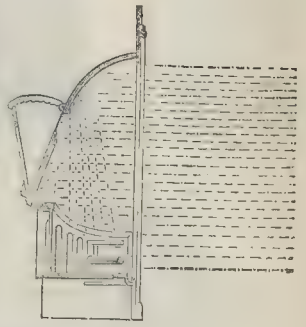
Orders requiring Despatch and Punctuality can be executed in a few days.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.



£4 4 0.

It is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO the CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VE-TA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz. — that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction, — thus thoroughly warming the lower atmosphere and floor of the apartment.



STOCK AT No. 159, SHOREDITCH, LONDON.

ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

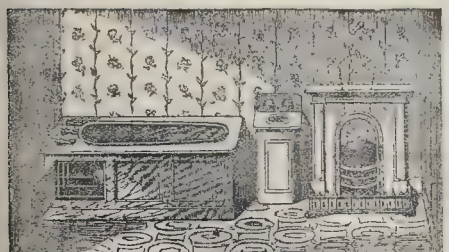
PROFESSOR VARNELL'S STABLE ARRANGEMENTS.

RECOMMENDED BY THE
ROYAL
VETERINARY COLLEGE.
INSPECTION OF THE
FULL-SIZED STALLS AND LOOSE BOXES,
ERECTED AT THE WORKS FOR SHOWING THESE INVENTIONS, IS INVITED.
Every Description of Stable Furniture.
ILLUSTRATED LISTS ON APPLICATION.



CAST AND WROUGHT IRON WORK OF EVERY DESCRIPTION,
PLAIN AND ORNAMENTAL.
GATES, CIRCULAR STAIRCASES, STAIRCASE, BALCONY, TOMB.
AND
OTHER RAILING;
VERANDAHS, IRON SASHES, CASEMENTS, SKYLIGHTS, CORRUGATED IRON ROOFS
AND
HOUSES, COLUMNS, GIRDERS, FLITCHES, TANKS IN WROUGHT AND CAST IRON, &c. &c.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their
BATH APPARATUS,
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.
Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

SHEET ZINC AND METAL PERFORATING WORKS.

FRANCIS RUMMENS,
PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.
HIGHLY APPROVED ROOFING ZINC,
BATTERY PLATES IN ZINC AND COPPER, ZINC SASH BAR, TUBING AND GUTTER.
ZINC SLATING NAILS.

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS P. HAWKINS, 27, Holeard, Birmingham.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS, according to the system of SIR SNOW HARRIS, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of SIR SNOW HARRIS, by C. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if required.
J. W. GRAY & SON, 114, Fenchurch-street, E.C.

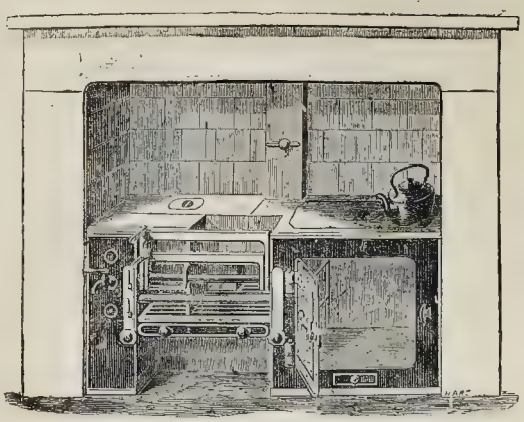
CHUBB'S LOCKS,
with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on Application
CHUBB and SON,
57, ST. PAUL'S CHURCH-YARD, LONDON,
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley fields, Wolverhampton

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable for Home and Foreign Climates; Iron Bedsteads with Dovetailed Joints, and Cornices; Portable Iron Bedsteads, Servants', Cots, Cribs, and Wood Pedestal Bedsteads; Mahogany, Birch, Walnut Tree Wood, Polished Deal and Japanned Bedsteads; also Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of Bedding and Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court-road, W.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.
The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.
The Oven and Hob can be kept sufficiently hot for the purpose of baking and broiling, with the fire only six inches long.
This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.
This Range, also Cundy's Muitum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

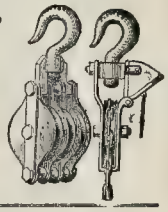
WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

CASTINGS, ANY WEIGHT AND QUANTITY,



With the utmost despatch, at Country Prices.
HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
Crabs, Blocks, Jacks, Mortar-Mills, &c.



MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 800 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,
MOREWOOD & CO.,
BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61A, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

GALVANIZED IRON AND ZINC WORKS.

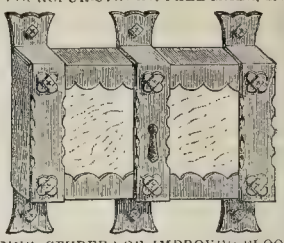
GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.
VAVASSEUR AND CO.
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.
The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of
IRON-FOUNDERS AND SMITHS.
CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.
PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

HART & SON,

53 to 58, WYCH STREET, STRAND, W.C., and 20, COCKSPUR-STREET, PALL-MALL, S.W.



MANUFACTURERS OF IMPROVED FLOOR-CENTRES, FOR SWING DOORS, BUFFER-SPRINGS, ARNOTT'S & SHERINGHAM'S VENTILATORS, PITT'S & CLARK'S PATENT DOOR FURNITURE,
And every description of General Ironmongery.

JOHNSTON, BROTHERS,

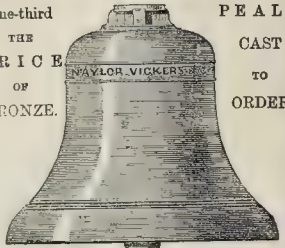
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



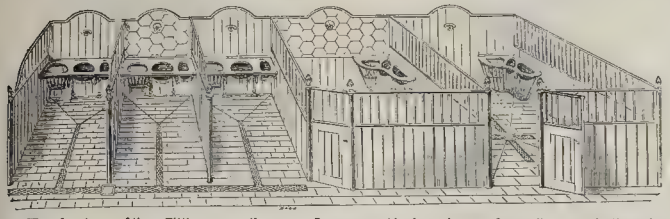
COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, of numerous designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET,
LONDON, W.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with plates, Iron Girders, Girders, and Radiating Roofs for Domestic Buildings for Domestic Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all climates, made complete in town or country, or packed for exportation
For Designs and Estimates apply to
RANDAL SIAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. SIAP are not fixtures on Leasehold Property.

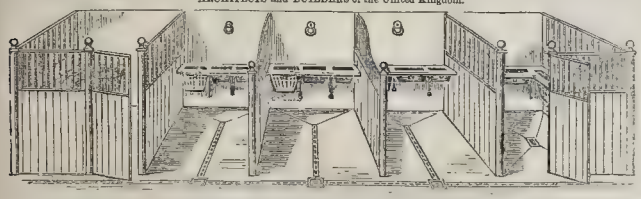
THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

COTTAM & CO. WINSLEY STREET, LONDON, W.
PATENTEES AND ORIGINAL INVENTORS OF
THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,
COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



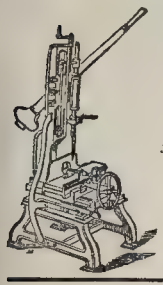
The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation, preventing foulness in the rack, facility in fixing, safety from accident, durability in construction and cleanliness in use.
STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.
COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.
KNIGHTLEY'S PATENT STABLE FLOOR.
ILLUSTRATED CATALOGUES FREE, on application to
COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.
COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.
N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

BARTON'S PATENT STABLE FITTINGS.
AND ENAMELLED MANGERS.
These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.
The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four postage stamps.
JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

BOND & SCAMMELL (late Thomas Pugh & Co.)
WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, LONDON, E.C.
PATENTEES AND PROPRIETORS OF THE
PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

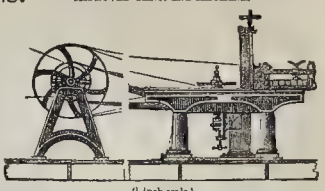


SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.
A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.
All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

DEVAUX'S PURE THICK ROOFING ZINC,
FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS
And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. BUMSTON, Esq. F.R.I.B.A. by whom a certificate is given.
ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.
Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.
MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.
N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.

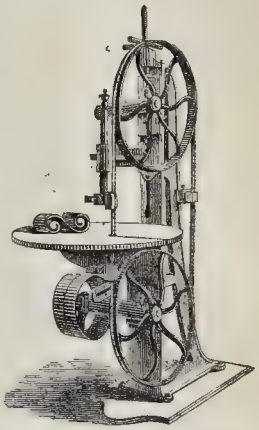
THE NEW CRYSTAL STAR AND SUN LIGHT.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
J. DEFRIES & SONS,
MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM
Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.
The Patent Gas Regulator and Purifier reduced to 8s. 6d. per dozen.

S. WORSSAM & CO.'S PATENT
IMPROVED TENONING MACHINE.



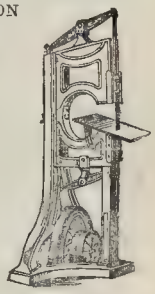
(¾-inch scale.)
This machine is adapted for working either hard or soft wood, and is fitted with an arrangement for cutting double tenons. It is made in two sizes, the smaller being adapted for builders' and joiners' purposes, and the larger for railway carriage builders, &c.—For priced illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

POWIS, JAMES, & CO.
VICTORIA WORKS, BLACKFRIARS ROAD, LONDON.

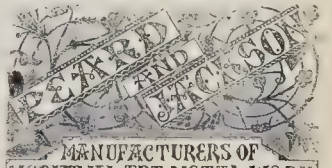


NEW PATENT ENDLESS BAND-SAWING MACHINE (the only patent in the United Kingdom for an improvement in this class of machine). Makers of all kinds of Sawing and Wood Cutting Machinery, Steam-Engines, &c.—Office, 30, Watling-street, London, E.C. where drawings and prices can be had on application.

THOMAS ROBINSON
and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20l.



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.



BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vases, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gaseliers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.
Specimens at the Architectural Exhibition, Conduit-street.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black sheet iron, corrugated and plain, always in stock.
Manufacturer of Gutt-ring, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.
TRADE MARK.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVE-FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

W. HARMER & SON

Beg to inform their Customers and the Trade generally, that having recently Removed into their new Premises, No 3, HORSEFERRY ROAD (which communicates in the rear with their Wholesale and Workshops in New Peter street), they have thereby been enabled largely to increase their Stock of BUILDERS' and CABINET MAKERS' IRONMONGERY, and which they are now selling at a considerably REDUCED LIST of PRICES, in consequence of the depression of trade in the manufacturing districts.

W. HARMER & SON,

IRONMONGERS, SMITHS, IRON AND ZINC MERCHANTS,

Nos. 3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.

ESTABLISHED 1817.



DRAUGHTS & DUST ROUND DOORS & WINDOWS

EFFECTUALLY PREVENTED BY

GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS

(Can be had any Length or Pattern).

The neatest, most simple, and effectual method of making air-tight joints to Joiners' or cabinet work, OLD or NEW

Self acting Spring Slides for the bottom of doors

The most imperfect door can be made air-tight without re-hanging.

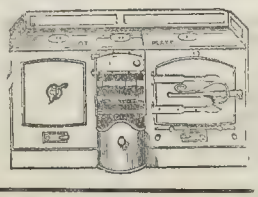
The Trade supplied on liberal terms.

JOHN GREENWOOD, PATENTEE,

10, Arthur-street West, London Bridge.



THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS.

38 and 66, York-street, Westminster.

CAUTION to ARCHITECTS and BUILDERS. In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

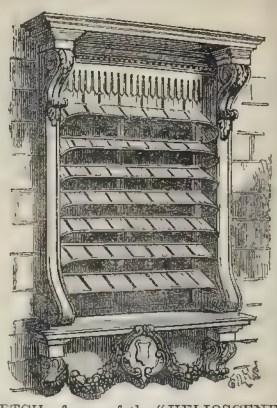
NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi),

Nail Manufacturer and General Factor, BIRMINGHAM, and 10, Gresham-street, London, E.C.



SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.

These Blinds give a highly decorative finish to a plain front, whether fitted up in ornamental frames or without any. In the latter case top boxes only are required, which need not project beyond the reveal. Where there is no reveal, as in old houses, they would require a frame which need not project more than about 4 inches, and has no side wings—sinking down, or any other disfigurement. Prices moderate. A liberal discount to Builders and the Trade.

R. LOWTHER & CO. 31, Regent-street,

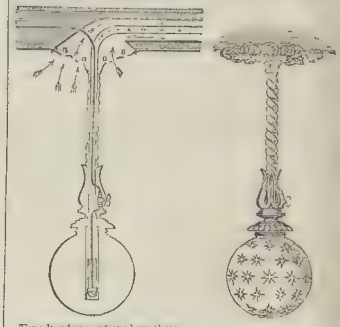
(One door below the Piccadilly Circus).

VENETIAN AND ALL OTHER BLINDS WHOLESALE.

RICKET'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

a novel, simple, and economical method of lighting, with convenient, simple, and efficient ventilation.



The globe light combines these —

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION

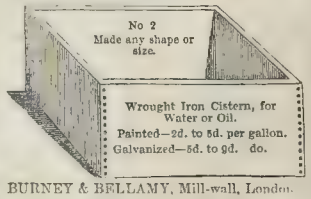
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as a Sixteen Burner Argand, with a reduction of 12 cents per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-list, 12s. Nos. 35 and 36, High Holborn.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.



At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended;" being the only prizes conferred on any competitor in this class.

Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS. Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, No. 24, Davies-street, Three Doors from Oxford-street, For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman square, London, W

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW. Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT. GENERAL IRON FOUNDERS GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

SURREY.—BUILDERS and CONTRACTORS supplied with all descriptions of Ironmongery, Brassfoundry, Wrought and Cut Nails, Zinc, Iron pipes, Sheets, Sash-weights, &c at the lowest prices, by EDWIN LADD, High-street, Camberwell

HIGH PRESSURE STEAM BEAM ENGINE, of 27 horse power, by Penn, to be SOLD by PRIVATE CONTRACT: cylinder 18½ inches diameter, 3 feet 2 inches stroke; beam 8 feet long; also two wrought iron Cornish steam-boilers, each 21 feet long and 6 feet diameter, the tubes 3 feet and 3 feet 6 inches diameter. For further particulars, and cards to view, apply to Messrs FULLER & HORSEY, 13, Billiter-street, London, E.C.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public N.B.—The usual discount to builders and the trade.

MOREWOOD & CO. (late Morewood & Rogers), Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON, PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock. Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c. Estimates given for Roofs, and every description of Galvanized Buildings, at the OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

TO IRONMONGERS, BUILDERS, &c. PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators. HULETT & CO. 85, High Holborn.

IRON BRIDGE WORKS, WROUGHT-IRON GIRDERS OF ALL KINDS. ROOFING, TANKS, BOILERS, SMITHS' WORK, &c. LEWIS & STOCKWELL, BARKING ROAD, LONDON, E.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furnitures, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each. J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE. 14, Stanhope-street, Clare-market, London.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame. D. HULETT & CO. 85, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Inverts &c &c.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRIDGE-STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

TO CONTRACTORS.—WANTED, for the Liverpool Corporation Waterworks, about Thirty Tons of Second-hand 25-lb. Wrought Iron T RAILS, to be delivered at the Houghton Station, Preston and Blackburn line.—Offers to be addressed to the Engineer, Waterworks Office, Hotham-street, Liverpool, on or before the 4th day of APRIL next.—By order. Liverpool, March 21, 1862.

TO BE SOLD, a bargain, as money is wanted, a new 6-horse portable ENGINE, with extra heating surface. Apply to Mr KENNARD, 284, Alpha road, N.W., where it may be seen

CROGGON & COMPANY, GALVANIZED TINNED, FLAT, CORRUGATED, AND CURVED SHEETS. PERFORATED AND PLAIN ZINC, TINNED SHEETS. GALVANIZED MANUFACTURED GOODS of every description. 2, DOWGATE HILL, LONDON

IMPORTANT TO BUILDERS, SAW MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS. WILSON'S PATENT LARGE TIMBER SAWING-MACHINERY. This machinery is adapted to cut up square or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangement, it will be found admirably suited to general use. By the adoption of the log are arranged to carry the log past the saw to any extent without stopping for re-adjustment, or when the necessity for transoms is avoided, and they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly. The speed of cutting may be varied from 10 inches to 10 feet per minute, as I set on account of the increased length of cutting edge the saw is kept cool May be seen in operation, daily, at Messrs. JAMES WILSON & SONS, Builders, Steam Saw Mills, Manufacturers, Bradford, York shire. Full particulars may be had on application, by parties desirous of purchasing.

MORTAR-MILLS, CRABS, CRANES, BLOCKS, JACKS, &c. &c.  PUMPS OF ALL DESCRIPTIONS. WELL-BORING TOOLS, IRON PAILS, &c. OF ALL SIZES. PORTABLE STEAM-ENGINES FOR HIRE OR SALE. R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

IRON SCHOOL-ROOM, WANTED to HIRE (or Purchase, Secondhand), within the dimensions of 90 feet by 30 feet.—Address, Rev. C. M. DAVIES, West London College, Queen's-road, Bayswater, W.

WANTED, SIX IRON GIRDERS, each about 14 feet long, suitable for forming half-brick arch flooring.—Address, J. N. D. 1, Grove-terrace, Brompton.

WANTED, a few good Second-hand TRAVELLING and QUARRY CRANES.—Address, stating price and where same may be inspected, P. care of Messrs. Waterlow & Sons, Parliament-street, Westminster.

DEVAUX'S PURE THICK ROOFING ZINC laid upon Mr. Edmeston's principle to insure durability, by D. HAYWARD, LONDON ZINC WORKS, No. 97, Blackman-street, Borough.

LIGHTNING CONDUCTORS. R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three eighths-inch diameter	1s. 0d. per foot.
Half-inch diameter	1s. 6d. "
Five eighths inch diameter	2s. 6d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" Gateshead-on-Tyne.
" 27, Dale-street, Manchester.
" 66, Anderson-quay, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE. REDUCTION IN PRICE, on account of the Exemption from Duty on Paper. These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven feet lengths, and the joinings are simple and inexpensive. They have been in use nearly three years, and have given the most perfect satisfaction. Further particulars as to duties, &c and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

TO BUILDERS AND OTHERS. A SECOND-HAND MOULDING MACHINE TO BE SOLD a BARGAIN. Apply to S. WORSSAM & CO. Engineers, 204, King's-road, Chelsea, S.W.

ESTABLISHED 1774. AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES. To BUILDERS, CARPENTERS, and BLIND MAKERS. J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his IMPERIAL PATENT FLAX SASH-LINES, of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer. They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given. JAMES HAYWOOD, JUN. PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

ROGERS' PATENT OUTLET for RAIN-WATER BUTTS and CISTERNS, which being placed inside the cask or cistern, cannot get out of order, and is quite free from the effects of frost, &c. Price complete, 4-inch, 10s.; 3-inch, 12s.—Drawings and full particulars, on application to the patentee, G. ROGERS, HIGH STREET, STAINES.

TRADE  MARK. CROWN TUBE WORKS, WEDNESBURY, STAFFORDSHIRE. Warehouse—81, Upper Ground street, London, S. JAMES RUSSELL & SONS, The Patentees and first Makers of Wrought-iron Tubes

SKAIFE & COMPANY, Manufacturers of PATENT GALVANIZED IRON. Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tinned Sheets and Tiles for export IRON WORK GALVANIZED. Roofing orders promptly and carefully attended to. Office—Commercial-road, Limehouse, London. Works—Copenhagen Wharf, Limehouse

LOSH, WILSON, & BELL, NEWCASTLE-ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work Cast-iron Goods, and STEWART'S PATENT CAST IRON GAS and WATER PIPES. Office, No. 7, Size-lane, London

TO BE SOLD, a nearly-new SHOP-FRONT, about 23 feet by 12 feet, with plate-glass, recessed doorway in centre, &c.—Apply to Mr. WALTER HITCH, Surveyor and Builder, Ware.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:— "The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church." H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 24, Stamford-street, S.

T. KENT'S PAINTING-BRUSH MANUFACTORY Is continued by his Successors, CROWDEN & GARROD, Falcon-square, London, E.C. Where the TRADE is supplied with the same superior quality that made it on the celebrated. N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes Also Manufacturers of the Patent India Rubber Knife boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W. Established 1777. KENT'S BRUSHES have been celebrated for their superior quality for the last eighty four years, and may always be depended upon as the best that can be made

TO BUILDERS, DECORATORS, &c. FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of HAMILTON & CO. PAINTING BRUSH MAKERS, No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W. And of their Agents, SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 83, High-street, Marylebone, London, W. N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for grailing every description of wood in all their purity of tone and colour, the same as used by himself. Full particulars forwarded on application to his Sole Agents, GIBBINS, BROTHERS, VARNISH and FINE COLOUR MAKERS and IMPORTERS, 30, LONDON WALL, E.C. Where also may be obtained their CELEBRATED STAINS for EVERY DESCRIPTION of WOOD, Together with all kinds of Colours and Varnishes, Warranted of the purest quality and at the lowest prices. Agents for Kershaw's Graining Machines

COLOURS and VARNISHES at REDUCED PRICES.—Genuine White Lead, 30s per cwt.; Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 2d.; Turpentine, 5s. 6d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c at the lowest prices

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt. Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon. Turpentine, 5s. 4d per gallon. Fine Pale Oak Varnish, 7s. 6d. per gallon. For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 36, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W. Every article for the Trade at the lowest price.

GENUINE WHITE LEAD, branded and warranted from the Manufacturers, 30s. per cwt: Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon; Turps, 3s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon. Hamilton's and Kent's Grainers', Painters', and Plasterers' Brushes, to be had at D. J. PORTER'S White Lead and Colour Warehouse, Nos. 1 and 2, Pratt-street, Camden Town, N.W.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, as made by GOUGH & BOYCE, the Original Patentees, as it had exclusively by them at the Houses of Parliament, and numerous other Public Offices. It is especially adapted for churches, coaches, public rooms, shops, and passages being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. 19, Bush-lane, Cannon-street, London. Forwarded to all parts of the country.

KAMPTULICON, or, ELASTIC FLOOR CLOTH. TAYLER, HARRY, & CO. MANUFACTURERS and PATENTEES, 19, Gutter-lane, Cheapside. WORKS, DEPTFORD-GREEN.

CROGGON & CO.'S NOISELESS ELASTIC KAMPTULICON, Or INDIA-RUBBER FLOOR CLOTH. Impervious to wet, indestructible by damp, soft to the tread and warm to the feet, well adapted for rooms of churches, public offices, shops, &c. as well for its comfort as extreme economy. Also used very largely for billiard mats.—Patterns may be seen at 2, Dowgate-hill, London, E.C.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the Londo atmosphere.

ADULTERATIONS. Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

ENAMELLED STONE CHIMNEY-PIECES,

Of Beautiful Designs, and to Imitate any kind of Marble; far Superior to Enamelled Slate, and considerably Lower in Price, INVENTED AND MANUFACTURED BY

W. J. ELLISON & CO.,

SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.

Also, MANUFACTURER of WALL-LININGS, composed of Stone Slabs, with a Veneer of Scagliola to Imitate Marble, and Enamelled by Heat. WARRANTED TO RETAIN ITS POLISH.

Office and Show Room, No. 3. WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.
Manufactory, EAST-ROAD, CITY-ROAD.

In Twelve Monthly Parts, 2s. each; Part I. May 1st, 1862.

Each Part consisting of Forty-eight Quarto Pages of Letterpress, with Two Plate Engravings, and numerous Woodcuts,

THE

PRACTICAL MECHANICS' JOURNAL

RECORD OF THE

GREAT EXHIBITION, 1862.

The account will deal most largely and carefully with the departments forming the special objects of the *Practical Mechanics' Journal*, and will also embrace notices referring to Architecture, Decoration, Art-Manufactures, and all productions of Fine Art directly dependent upon chemical or mechanical processes.

The account of the contents of the Exhibition will be prefaced by a notice of the construction of the several buildings of past exhibitions, a complete account of the building now erecting, and a notice of the principles of classification and arrangement in past exhibitions, and in that now proposed.

The object in view is to produce a work that shall become, *par excellence*, the Account of the Exhibition of 1862, viewed from a thoroughly well-informed and practical stand-point.

General Editor, Robert Mallet, Mem. Inst. C.E., F.R.S. &c. &c. The separate subjects being contributed by Warington Smyth, M.A., F.R.S., F.G.S.; Robert Hunt, F.R.S., F.S.S.; Professor Donaldson, P. L. Simmonds, F.S.S., F.R.G.S.; Dr. D. S. Price, F.C.S.; Professor J. Wilson, F.R.S.E.; Professor Voelcker, Ph.D., F.C.S.; E. J. Reed; Sec. Inst. Naval Architects: Peter Graham, esq.; J. F. Bateman, F.R.S., Mem. Inst. C.E.; G. B. Rennie, M.A.C.E.; W. J. Macquorn Rankine, F.R.S., LL.D.; W. Bridges Adams, W. Johnson, C.E.; James Edward McConnell, esq., Mem. Inst. C.E.; John T. Hodges, Professor of Chemistry, Chemico-Agricultural Society of Ulster, Belfast; Charles O'Neill, F.C.S.; A. Tylor, C.E.; Dr. Frankland, F.R.S.; Dr. Angus Smith, Ph.D., F.R.S.; Sebastian Evans, M.A.; R. W. Binns, F.S.A.; Dr. Richardson, F.R.S.E., F.C.S.; Professor Field, F.C.S.; Dr. Odling, F.R.S.; F. A. Abel, F.R.S.; Frederick Rowney, Dr. Diamond, Sir Henry James, R.E., F.R.S.; Major-General Portlock, R.E., F.R.S.; John Rigby, M.A.; Thomas Romney Robinson, D.D., F.R.S.; Samuel Haughton, M.A., F.T.C.D., F.R.S.; C. W. Siemens, Mem. Inst. C.E.; Professor J. Clark Maxwell, M.A., F.R.S.; W. Hislop, F.R.A.S.; Edward F. Rimbault, LL.D., F.S.A.; George Lawson, F.R.C.S.

Proprietors' Offices (Offices for Patents), 47, Lincoln's-inn-fields, London.
LONGMAN, GREEN, LONGMAN, & ROBERTS, Publishers.

INTERNATIONAL EXHIBITION.—NOTICE.—The present (April) Part of the ART-JOURNAL (price 2s 6d monthly) contains the first division of an ILLUSTRATED CATALOGUE of the INTERNATIONAL EXHIBITION, which Catalogue is to form a portion of each issue for eight consecutive months. The first selection comprises exhibited specimens of manufactures in Jewellery and Silver, Porcelain, Engraved Glass and Chandeliers, Furniture and Cabinet Work, Wood Carving, &c. &c. Articles and Correspondence on the progress of the Exhibition, and a comparison between it and that of 1851, are also included in the number. The principal Line Engravings are "THE SABBATH EVE," engraved by Lightfoot, after the picture by A. Johnston; "THE SUN RISING IN A MIST," by J. C. Armytage, after Turner.
London: JAMES S. VIRTUE, 26, Ivy-lane.

TO ENGINEERS, MILLWRIGHTS, &c.
Lately published, with new Illustrations, 13th Edition, corrected and improved, to which is added a new Table of Fractional Numbers, 12mo. 6s. cloth.

THE MILLWRIGHT and ENGINEER'S POCKET COMPANION: containing Decimal Arithmetic, Tables of Square and Cube Roots, Practical Geometry and Mensuration, Pumps, Pumping, and Steam Engines; with Tables of Circumferences, Squares, Cubes, &c.
By WILLIAM TEMPLETON. Revised by S. MAYNARD.
"A more useful addition to the engineer's library cannot well be conceived."—*Mechan ic's Magazine.*
"The present edition having undergone the careful revision of so competent an editor as Mr. Maynard, is worthy of special recommendation."—*Athenæum.*
"Will be found of great use to those for whom it is designed."—*Builder.*

Also, by the same Author,
TEMPLETON'S ENGINEER'S COMMONPLACE BOOK: consisting of Practical Rules and Tables adapted to Factory and Steam-Engines, &c. Fifth Edition, with several new Illustrations. 12mo. 5s. cloth.

TEMPLETON'S LOCOMOTIVE ENGINE POPULARLY EXPLAINED. Illustrated by new Designs. Second Edition 12mo 4s cloth
London: SIMPKIN, MARSHALL, & CO. Stationer's-hall-court.

Now ready, Second Edition, with Additions, 8vo. 1s.
WHAT IS GOOD IRON, and HOW IS IT TO BE GOT? By R. H. CHENEY
JOHN MURRAY, Albemarle street.

New Edition, in 1 vol. 12mo. limp cloth, pp. 140, with 103 Illustrations.
PRINCIPLES of CONSTRUCTION in ARCHES, PIERS, BUTTRESSES, &c. Useful to the Practical Builder.
By WILLIAM BLAND, Esq.
Being Vol. III. of Weale's Rudimentary Series.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

NEW WORK BY THE AUTHOR OF "SELF HELP."
Now ready, 5th Thousand, with Five Portraits and 200 Illustrations. 2 vols. 8vo. 42s.
LIVES of the ENGINEERS; with an Account of their Principal Works, and a History of Inland Communication in Britain. From the earliest Period down to the Death of Telford.
By SAMUEL SMILES.
"It is not too much to say that we now have an engineers' Pantheon, with a connected history of the growth of the inland communication of Great Britain by means of its roads, bridges, canals, and railways; and a survey of the lighthouses, breakwaters, docks, and harbours constructed for the protection and accommodation of our commerce with the world."—*Times.*

By the same Author,
SELF HELP. With Illustrations of Character and Conduct. 40th Thousand. Post 8vo. 6s.

III.
The LIFE of GEORGE STEPHENSON. Arranged from the larger work for popular circulation. 20th Thousand. Woodcuts. Post 8vo. 6s.

IV.
WORKMEN'S EARNINGS, SAVINGS, and STRIKES. Reprinted from the "Quarterly Review." Post 8vo. 1s. 6d.

Also, now ready,
METALLURGY: the Art of Extracting Metals from their Ores, and adapting them to various purposes of Manufacture. By JOHN PERCY, M.D. F.R.S. Lecturer on Metallurgy at the Government School of Mines. With numerous Illustrations, carefully drawn to scale. 8vo. 21s.
Contents.—Physical Properties of Metals, Metallurgical Processes. Slags. FUEL, Wood, Peat, COAL, Charcoal, Coke. Materials employed in Construction of Furnaces. FIRE-CLAYS. COPPER. Metallurgical Chemistry, Copper Smelting. ZINC, History, Metallurgical Chemistry. BRASS
"." The Second Volume, which is in active progress, will contain IRON.
JOHN MURRAY, Albemarle-street.

PAINTING in WATER COLOURS, by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, invaluable for student, teacher, amateur, or the drawing-room table. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

STABLE ARCHITECTURE. 2l. 2s.
Medium Folio.
By THOMAS EDWARD KNIGHTLEY, F.R.I.B.A. Architect, 23, Cannon-street, London.
The volume is handsomely printed in the best type, and the plates twenty eight in number, are executed chiefly in tinted lithography.
"The stable plans of Mr Knightley are admirable, and afford the most perfect ventilation without a cold current of air."—HON. ADMIRAL ROUS.

PRACTICAL MECHANICS' JOURNAL for APRIL, 1862. Part 170. Price 1s with a plate Engraving of Mr. J. Mallet's Mortar, a vertical Bar Furnace, and 30 Woodcuts. Original Articles on Mr. Mallet's Gun Mounting; History of the Sewing Machine; Waterloo Bridge Palace; Discharging Cannon under Water; Smoke-Consuming Furnaces; Culture of the Willow; Recent Patents: Robertson, Fire Arms; Dunn, Spinning; Hall, Safety Lamps; Holland, Signals; Johnson, Regulating Gas;—Law Reports of Patent Cases: Hills, Gas; Fastwood, Yarns;—Trade Marks: Young, Paraffin. Copyright; Reviews; Correspondence: Scientific Societies; Monthly Notes; Marine Memoranda; Lists of Patents; Designs Registered, New Series, &c.—New Vols. 1, 2, and 3, 2nd series, price 14s cloth, handsomely bound.
London: LONGMANS & CO. Ludgate hill.
Editor's Offices: Offices for Patents, 47, Lincoln's-inn fields, W.C.

BEARDMORE'S HYDRAULIC AND OTHER TABLES.
The Publishers beg to announce that this work, having been long out of print, has been entirely re-arranged, and the original Tables have been merged into a Treatise, entitled
A MANUAL of HYDROLOGY.—This book contains —
Division I.—Hydraulic and other Tables, with descriptive matter and many new Tables, the whole placed in a concise form
Division II.—On Rivers and Flow; on percolation of water; on wells and springs. On the flow in sewers, and water supply, with description of the floods of many considerable rivers, with other characteristics appertaining to their hydraulic conditions.
Division III.—On Tides, Tidal Rivers, Estuaries; containing the strictest details of the conditions assumed by the tides under the varied states of the bore, and of those places where the tidal wave vanishes, also showing the effect of improvements in many of the tidal rivers of this country. Explained by tidal diagrams, sections of rivers, cotidal lines, plates elucidating channel tides, &c. &c.
Division IV.—On Rainfall and Evaporation. Containing the best experiments on evaporation in various climates, tables of rainfall under every variety of elevation, period, and locality. These Tables include all parts of the British Isles, France, Germany, Italy, Russia, North America, Australia, and India
The work consists of 420 pages, and there are 20 large plates.
Will be issued on the 14th of April, price 21. 2s.
WATERLOW & SONS, 49, Parliament street, Westminster; 194, Birchin-lane; and London Wall, London.

Price 4s. bound in cloth. (Established 1816)
LAXTON'S BUILDER'S PRICE-BOOK for ARCHITECTS, BUILDERS, ENGINEERS, and CONTRACTORS. 41st Edition.
Containing upwards of 30 000 Prices and Memoranda in all the various trades used in the Construction of the Architect, Engineer, Builder, contractor, and surveyor; also tables for purchasing leases, estates, and annuities. Areas and circumferences of circles; scantlings of timber; the specific gravities of materials; instructions for estimating and contracting, with a copy of bill of quantities adapted to general building work, having each trade detailed. Calculations and sketches of cast and wrought iron girders, with tables of deflections. All carefully corrected to the present time.
Office, 13, Warwick-court, Gray's Inn, Holborn; and all Booksellers.

COMPLETION OF THE POST OCTAVO EDITION OF LORD MACAULAY'S HISTORY OF ENGLAND.
On Monday next will be published, with a Brief Memoir by the Very Rev. the Dean of St. Paul's, and a Portrait engraved from Richmond's Picture, price 5s cloth,
THE HISTORY of ENGLAND from the ACCESSION of JAMES the SECOND.
By the Right Hon. LORD MACAULAY.
Volume the Eighth, completing the Edition in post 8vo. in 8 vols. 45s. cloth; or 84s. well bound in calf, lettered.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

LEA'S TABLES of the STRENGTH and DEFLECTION of TIMBER, ADMEASUREMENT of EARTHWORK, &c. Published originally at 10s. 6d.
A limited number of copies of "LEA'S TABLES" may be had direct from the Author, carriage free, at 6s. 6d. a copy.—P. O. orders or postage stamps.—Address, WILLIAM LEA, Surveyor, 3, Highgate-place, Birmingham.

THE ARUNDEL SOCIETY.
A CHROMOLITHOGRAPH from the well-known Fresco, by Andrea del Sarto, of the "MADONNA DEL SACCO," in the Cloister of the Annunziata at Florence. Price to members, 12s.; to strangers, 15s.
Specimens may be seen at the Office of the Society, 24, Old Bond-street, London.

II.
ILLUMINATIONS and MINIATURE PAINTING.—AN ALPHABET of CAPITAL LETTERS, engraved in outline, from the Missal of Sta. Maria sopra Minerva, and the Duomo, Florence; and the Piccolomini Library, Siena; with one Letter attributed to Fra Angelico, coloured in fac-simile. Price to members, 1l. 1s.; to strangers, 2l. The Outlines, printed on paper fit for colouring, separately. To members, 1s. 6d.; to strangers, 2s. The letter F, in fac-simile, separately. To members, 7s. 6d.; to strangers, 10s.
Published by the ARUNDEL SOCIETY, 24, Old Bond-street, London, where specimens can be seen.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revolved, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TARPAULINS, MARQUES, &c. for SALE or HIRE.
SCAFFOLD and HEMP-ROPE FALLS.
H. PIGGOTT,
89, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

The Builder.

VOL. XX.—No. 999.

Researches at Halicarnassus.



H. R. NEWTON has been far more prompt in giving to the world an account of his explorations at Budrum (the ancient Halicarnassus)* than was our old friend Professor Cockerell in placing upon record the narrative of his researches made in Ægina and Arcadia in 1811, and which were reviewed by us in our columns just a year ago.† Mr. Newton's expedition, which was commenced in the autumn of 1856, and brought to a conclusion, as most of our readers are aware, in the middle of 1859, has resulted in bringing back to England a very considerable portion of the sculpture which once decorated the magnificent tomb of Mausolus, erected at Halicarnassus, in memory of that king, in the middle of the fourth century, B.C.; and which is now housed, and likely, we fear, to remain for some time housed, for lack of better accommodation, inside some unsightly sheds of black deal boarding, scarcely wind and weather proof, lately erected between the pillars which adorn the front of the British Museum. That they should have no better home is a sad disgrace,—we will not say to the trustees of the Museum, for we believe they are nearly helpless in the matter; but to her Majesty's Government, and to the British nation at large; and we trust that the present session will not be allowed to pass by without our being able to record that something definite has been done towards finding a local habitation for the art treasures with which private enterprize, aided by grants of a few thousand pounds, has recently enriched our national collection from the shores of Caria, from Cyrene, and from the east of the Mediterranean.

Mr. Newton's account of his own explorations at Halicarnassus is a very scholarlike production; and no one can fail to be pleased with the plain unvarnished narrative in which the author has recounted the labours in which he bore so large a share, and in which he has so disinterestedly contrived to turn the attention of the reader to the history and antiquities of the ancient Budrum, rather than to his own labours in bringing those antiquities to light.

A good deal of narrative relating to the excavations carried on by Mr. Newton, and the force employed under his directions, on the coast of Asia Minor, has already been made public in the shape of papers printed by order of Parliament, in 1858 and 1859; but Blue Books, as a rule, are not very generally read or studied; and, therefore, we think that he has not acted wrongly in giving a full statement of his labours and their results in the present volume. We have not room for more than a very cursory glance at these operations: this, however, is the less to be regretted, as we have before now given particulars of them from time to time.

It is well known that the tomb of Mausolus has given a name to all isolated buildings subsequently erected for the sepulture of the dead; and we learn from the pages of "Eustathius," that the mausoleum was still standing in the twelfth century: it is equally a matter of history that when the knights of St. John took possession of Budrum, in A.D. 1402, it was a mass of ruins, and that they used those ruins extensively as a quarry for the erection of their castle. "The first materials made use of would naturally be the marbles from the upper part of the edifice, which were lying *in situ*, detached by their fall, such as the steps of the pyramid, the architrave and slabs of the frieze. As the ruins were thus gradually cleared away, and the tomb became more accessible, the stylobate and marble facing of the basement would be stripped off, till nothing of the edifice remained but the solid core of the masonry."

It appears that this process must have gone on for nearly a century; for, when Cepio visited Budrum, in 1472, he speaks of only "*vestigia inter ruinas mausolei.*" These "*vestigia,*" as soon as they were levelled with the adjacent soil, became fainter and fainter, as Thévenot, the celebrated French traveller, who visited Budrum just two hundred years ago, notices the slabs of marble inserted in the walls of the castle, but clearly shows by his silence that he was not aware that these were relics of the grand and gorgeous mausoleum on whose site he was treading, and which once took rank as one of the seven wonders of the world.

In 1846 Lord Stratford de Redcliffe, then our ambassador at the Ottoman Porte, procured a firman authorizing the removal of these slabs from the castle walls at Budrum, and sent them to England in H.M.S. *Siren*. They had not been long in England when Mr. Newton, in conjunction with Professor Cockerell, drew up a "memoir" of these sculptures, which was published in the "Classical Museum" (vol. v., pp. 170—201), in which they endeavoured to determine the site of that building; fixing it on the very spot which Professor Donaldson had assigned to it some years previously, and on which Mr. Newton's subsequent excavations have proved that it stood. As, however, some distinguished travellers and surveyors entertained a different opinion as to its exact position, Mr. Newton visited the spot in person early in 1856.

Returning to England forthwith, and having consulted with Mr. Panizzi, Mr. Newton laid the importance of having the site excavated before Lord Clarendon, then Foreign Secretary, who placed at his disposal the services of a lieutenant of Engineers and a party of Sappers and Miners, together with a photographic artist, and also a ship of war, for six months, together with funds to the extent of 2,000*l*.

Arriving at Budrum at Christmas, 1856, they commenced operations on the following 1st of January, in a field which appears to have been laid out in gardens belonging to several different owners, and where the soil was full of splinters of the finest white marble. After considerable difficulties, they came upon fragments of friezes in high relief, and pieces of moulding identical with that of the slabs of the frieze brought home to England from the castle in 1846. Convinced that they were now upon the right track, they pursued their excavations with redoubled vigour, and in the course of a few weeks were able to trace the line of the foundations and pavements from south to north. Mr. Newton writes,—

"Having met with no vestige of these foundations to the west of this line, while there was a distinct return at its southern extremity, I assumed that this return was the south-west angle of a rectangular area, cut out of the solid rock, to receive the foundations of the mausoleum.

Knowing, from Pliny, that the circumference of the building was 411 feet, and that it was longest from east to west, I measured off approximately the lengths of its western and southern sides, examining the ground minutely, with a view to discovering the north-west and south-east angles. No trace of this latter angle presented itself: but a few feet to the north of the great stone there was an abrupt and strongly-marked depression of the ground, the distance of which from the return on the south was rather more than 100 feet. Thinking it probable that the north-west angle might be found here, I opened the ground, and, to my great satisfaction, came upon a very distinct right angle, cut in the native rock, one side of which, if produced to the south, would join the line of cutting on the west. The distance of this angle from the return on the south was 108 feet, which gave me the dimensions of two sides of the quadrangular area of the foundations. I next proceeded to explore by digging the ground on the east, till I found the south-east angle, at the distance of 127 feet from the south-west angle. Having obtained these data, I proceeded to purchase, and cleared away, all the houses, four in number, which stood on the site of the quadrangle itself. The difficulty of negociation being very great, a delay of several months occurred before I obtained possession of the whole of the ground; but, having finally removed both the houses and the superincumbent soil, I laid bare the whole area of the quadrangle. The result of this excavation is best seen in the plan and sections.

It will be seen by reference to these documents that the quadrangular area in which the foundations of the mausoleum were laid was cut in the native rock in beds of very various depths, the lowest part of the area being on the west side, where, under the great stone, the cutting is 15 feet below the natural level of the rock; while on the east side the bed rises within 4 feet of it. The whole of this area had been filled up with the courses of the foundations, consisting of slabs of a coarse green stone, strongly bound together with iron clamps, and generally measuring about 4 feet square by 1 foot thick. In some places as many as three courses of these foundation slabs remained; in others a single course, which, when first uncovered, had the appearance of a pavement, and is described as such in my earlier despatches. In other spots the whole of the foundation courses had been removed, and the original bed of the rock was laid bare.

The whole quadrangular area in which these courses still remained measured 127 feet from east to west, by 108 feet from north to south—dimensions which sufficiently correspond with Pliny's measurement for the entire circuit, which is 411 feet according to one reading, and 440 feet according to the other."

This discrepancy of 29 feet is accounted for by Mr. Newton by supposing that if the former reading be correct he must be supposed to exclude, and if the other be true, to include, the lowest tier of the foundations.

In the course of the excavations a number of architectural fragments, including the whole of the order, were found. These discoveries are embodied in a restoration by Mr. R. P. Pullan, accompanied by a number of plates of details and by a minute and careful description. Into the merits of Mr. Pullan's restoration, we have previously to some extent entered. The whole subject evidently needs much further consideration; and all that has been done as yet by Messrs. Newton and Pullan is but the preparing the ground on which the architects of this and other countries may make further speculations; for it must be acknowledged that, in spite of the addition of so many new architectural facts, Pliny's problematical description of the building still remains a case whereon to try the ingenuity of both commentators and professional men.

Farther and deeper excavations (described in chapter v.) revealed the fact that the platform of the peribolus occupied the site of an ancient quarry and cemetery, and laid bare a flight of steps, as well as some subterranean galleries round the quadrangle, and the sepulchral chamber itself in which the Prince of Caria was enshrined. Among the lesser, but not less interesting articles, which were thus brought to light, were a terra-cotta vase in the form of a female head (engraved at p. 124), a very interesting specimen of archaic modelling; an alabaster vase, bearing the name of Xerxes in two languages; and a very small ivory elephant, obviously a votive offering. To the above we must add many fragments of colossal horses, lions, chariot-wheels, and male and female statues; all of which are to be seen by any one who will take the trouble of paying a visit to the British Museum. They have been almost all described minutely, and do not therefore need to be particularized here, further than to say that in their general character they correspond very closely with our preconceived and traditional notions of the school of Scopas, and combine a happy union of the ideal and the real. Thus, for instance, the head of Mausolus is evidently a portrait taken from the life, though treated in an ideal manner. Mr. Newton shows apparently very satisfactory grounds for believing that the figure of Mausolus was represented as standing on the quadriga, with his left hand resting on a sceptre, and that the female figure, of which fragments were found by his side, was the goddess-chario-

* A History of Discoveries at Halicarnassus, Cnidus, and Branchidæ. By Charles T. Newton, M.A., keeper of the Greek and Roman Antiquities at the British Museum; assisted by R. P. Pullan, F.R.I.B.A. Vol. i., plates; vol. ii., Part I., text. (Day & Son, lithographers to the Queen. 1862.)

† See vol. xix., pp. 133, 153, 189.

teer; and also for believing that the fragments of a horse or horses, though together they would scarcely make up a single horse, are in reality constituent parts of two horses, and not of one only. There are several other fragments and remnants of sculptures in relief, consisting of four slabs of the frieze of the order, and fragments of three other friezes, one of which represents a chariot race with female charioteers, and is supposed to have ornamented the wall of the cella.

All the slabs which have been preserved, including those removed from the castle at Budrum by Lord Stratford, repeat one of the favourite subjects of Early Grecian art,—the Amazons; but in the composition, it is remarkable that the figures and groups are far less intermixed than is the case either with the frieze of the Parthenon, or with that of the Temple of Apollo, at Phigaleia, described so picturesquely by Professor Cockerell; and Mr. Newton remarks with justice on the "wonderful animation and energy which pervade the whole series." He writes:—

"A happy boldness of invention is shown in the incidents which represent the varied fortunes of a combat in which neither side can claim a decisive victory. A consummate technical knowledge is applied throughout, to render expression of each figure and group as intense as possible; and proportions are boldly exaggerated, in order to produce more telling effects. Tried by the standard of the school of Phidias, and viewed simply as a composition in relief, without regard being had to its original architectonic purpose, the frieze may, perhaps, be considered a little strained and overwrought in style. It may be thought that such intensity in the action needs the contrast of forms expressive of repose, such as we see introduced so skilfully into the metopes of the Parthenon and the Phigaleian frieze. We seem to miss, too, in the whole treatment of the subject, that grand Ethical spirit which pervades the art of Phidias, and which is especially noticeable in the groups where a mortal struggle is represented. We have not, as in the metopes of the Parthenon, the highest human heroism contrasted with mere brute passion; but the combatants on both sides seem, in some groups, to be animated with a rage which masters rather than develops the nobler part of their nature. In short, this composition, if compared with similar subjects, as treated by Phidias, seems less Ethical and more Pathetic. Moreover, in the representations of the Amazons, forms occur which seem rather too voluptuous for such an heroic type; and we may here detect the first germs of that sensual element which gained so powerful an ascendancy in the later schools of art, but of which we have no trace in the works of Phidias."

Mr. Newton does not fail to remind us, however, that in judging of the effect of this series, we must not forget that the figures do not form a continuous composition, that distance would tone down and harmonize many of the features which appear exaggerated on a nearer view, and that the whole frieze was coloured. All these, we must admit with him, are points which must have contributed to give distinctness and animation to the entire composition, and to unite the several groups in one great harmony. It is remarkable that, as is the case with the Temple of Apollo Epicurius, at Phigaleia, already alluded to, the Amazonomachia formed the subject of one frieze, while the Centauromachia formed the subject of the other.

Those of our readers who would wish to follow out the subject further, and to trace out the unity of plan and purpose which marks the above compositions, in spite of the diversity of artists by whose hands they were wrought, we must refer to Mr. Newton's work itself, pages 230—260, where they will find some useful materials for a new chapter in the history of Greek art, but which we have not space to transfer to our columns: we will therefore content ourselves with adding here the author's conclusion of his critical remarks upon the subject.

"The ideal portraits of this (the later Athenian) school may be regarded as the last great effort of Greek art; but in the attempt to invest living personages with the characteristics of divinity, sculpture itself fell, because it forgot its earlier and nobler aim, and allowed itself to be diverted to secular purposes. Hence, if we assume that the statue of Mausolus was the crowning feature in the whole composition to which it belonged, this work has a peculiar significance in our eyes. In that case we must regard the Mausoleum as a cardinal point in the history of ancient sculpture, marking the commencement of that great innovation which was consummated by the conquests of Alexander, and forming the boundary-line of two schools—the later Athenian or Pathetic school, and the school of Lysippus, which we may perhaps call the Realistic school."

Mr. Newton concludes his account of the Mausoleum with some happy illustrations drawn from classical descriptions of eastern tombs, showing how the chamber of the dead was furnished. The ancients of every civilized country believed that in a future state their dead heroes would follow the pleasures and the pursuits to which they had devoted their lives on earth; and this will account for the costly carpets, robes, embroidery, and couches, which, according to Arrian, decked the tomb of Cyrus, the great founder of the Persian dynasty; and for the iron sword, whips, and bow-case, found in the Scythian tomb discovered near Kertsch, in the Crimea, not ten years ago; to say nothing of the well-known passages in which Herodotus alludes to the inner chambers of the huge sepulchral piles of ancient Egypt.

Mr. Newton closes his volume with a chapter on the general topography of Halicarnassus and its neighbourhood, and two others on his minor excavations on the sites of a Roman villa, a supposed gymnasium, and a necropolis. The results of these researches are mostly to be seen in the British Museum.

It is almost premature to criticise the volume of plates, in elephant folio, which Mr. Newton has given to the world; and for this reason, because they contain the plans and illustrations of the excavations carried on not only at Halicarnassus, but at Cnidus and Branchidæ, to which at present we have no corresponding text, though we believe that we are right in asserting that the remaining instalment of the work will appear in a few months. On its appearance we may perhaps deal more critically with the subject: at present we will only say that the volume contains a most complete set of illustrations to the published volume on Budrum, and that it supplies the reader with all that is necessary to enable him to comprehend the text.

In conclusion, it should be remarked—the more necessarily so as one reviewer made a blunder in dealing with the subject—that the present volume of text is only an instalment (though a very large instalment) of Mr. Newton's work, and that he has reserved for a separate volume the narrative of his discoveries at Cnidus and Branchidæ.

ON PICTORIAL MOSAIC AS AN ARCHITECTURAL EMBELLISHMENT.*

A FEW words will suffice to dismiss the sixth species of mosaic, which I have called "*Italian portable.*" By this term, I would convey that the basis of the variety is not so much making portable mosaics; as, from the great weight of the materials, they can never be made easily portable; but rather making reproductions, in mosaic, of pictures in oil or other media, which may be really and readily transferable from place to place. This species is, in fact, little else than a revival of the fine *opus vermiculatum* of the ancients. It would be incorrect to say that the Greeks did not ever manufacture miniature mosaic pictures; because two noted specimens exist, to my knowledge,—one at Florence, and the other, of extraordinary perfection and curiosity, in the Kensington Museum but it may be safely averred, from the great rarity of such relics, that the practice was altogether exceptional. This, indeed, is not to be wondered at; since, with the quick-drying cement ordinarily used for mosaic work, it must have been extremely difficult to execute these almost microscopic pictures, which bring within the compass of a few square inches subjects usually worked out in as many square feet.

This leads us to the conclusion that the ancients for their finest mosaic pictures must have used some retarding agent, such as honey or beer would prove, to keep their cement plastic longer than it would remain if mixed with water only. When, however, Giovanni Baptista Callandra applied, early in the seventeenth century, a mastic in lieu of an ordinary hydrate of lime, to unite the tesseræ, it became comparatively easy to copy the most elaborate pictures in mosaic. By this artist was executed the beautiful reproduction of Guido's St. Michael; which, with Raffaelle's "Transfiguration," and Domenichino's "St. Jerome," is about the best of all the celebrated mosaic pictures in St. Peter's.

In the marble incrustation which forms our seventh species, and which is best known as *Florentine mosaic*, the tints and shades are given by the natural colours of the jasper, agates, and other precious materials of which the work is composed. The hardest minerals only are used; and, as each small piece must be cut and ground to a pattern, and each thin veneer backed by a thicker one slate, or some such material, in order to give it strength; so much labour and time are involved in its production that its high price has necessarily limited its use. Zobi, the principal writer on the art of *pietra dura* mosaic, tells us that he knows of "no existing example in Italy of marble pictorial mosaic executed during the first periods of the revival of the arts, excepting the specimen to be seen in the central nave of Siena Cathedral, said to be the work of Duccio di Buoninsegna, who lived in the fourteenth century." There can be no doubt, however, that the art was founded on the "opus sectile" of the ancients, and that it descended by regular tradition from classical times. I need scarcely recall to your recollection the extraordinary advance made in the pavement of the same cathedral upon the work of Buoninsegna, by that great master of the sixteenth century, Beccafumi. The art was greatly patronized by the Medici. The celebrated "Fabrica Ducale," of Florence, was founded by Ferdinand I., Grand Duke of Tuscany, in 1588; and its reputation during the seventeenth century was kept up by the exertions of those artists to whom Florence owes the finest specimens of mosaic which enrich her palaces and galleries, and whose names are for the most part given to us by Baldinucci.

Before taking leave of this subject, we must not omit to notice the exquisite specimens produced in India of pictorial mosaics, representing the finest Arabesque and conventional ornament in *pietra dura*. That the Indians were early in possession of all the technical ability necessary for such a work is proved by the antiquity of some of their gem-cuttings, inlaying, polishing, and carvings in hard stones; but it is probable that their sovereigns owed much to Italy for assistance in that beautiful marquetry which ornaments the great monuments at Delhi and Agra; for in 1688 a passport was obtained from the King of Spain, by the Grand Duke of Tuscany, for four workmen, skilled in mosaic working in precious stones, whom he was about to despatch to the Great Mogul.

This art is retained at the present day both in India and to even greater perfection in Italy; for the specimens contributed to the recent Exhibition at Florence, some of which may be even now on their way to this country, were quite equal to anything produced in the palmy days of the Medici.

It would take too long now to describe the practical processes adopted in this and other modes of mosaic working; and, having already given them in a work I published in 1848 on the subject, and in a report to the Board of Trade made in 1855, it is better to refer you to those sources of information than to further detain you from entering upon what is, indeed, the most practically interesting section of our inquiry this evening. Before commencing, however, upon the second part of our subject, the theoretical basis upon which we should, as architects, aid in the revival of pictorial mosaic, it behoves us to take stock of the present state of the material conditions likely to affect any such revival. In Italy, as I have already said, the art has lingered on;

* By Mr. M. Digby Wyatt. See p. 199, *ante*.

maintained in its monumental form by the necessities of repairing old works, rather than by the desire to create new; and in its portable form by the incessant demands of foreigners to carry off with them, as pilgrims' marks in the nineteenth century, slabs of what is generally known as "Roman mosaic." In France, under the first Republic, an effort was made to introduce this manufacture into Paris; and a "fabrica" was opened by the authorities, under the charge of a Signor Belloni, in the old College of Navarre, in the Rue de la Montaigne, Ste. Généviève. At the "Exposition" of the year X., some products were contributed from this establishment; but as it altogether disappears from the catalogue of subsequent expositions, there is every reason to believe that the experiment was abandoned. With this exception I am aware of no attempt made by France hitherto to revive pictorial mosaic. I have not heard of any other efforts, making or made, in any of the other countries of Europe, excepting our own.

Before noting what we are doing in this direction, it may be well to record the progress making in Italy. There are now three establishments in "*Italia*" (supposing it to be "*unita*"), at all of which I believe the *smalti*, or coloured vitreous paste requisite for mosaic working, are made, and from which they may be procured. These are each attached to great structures, the mosaics of which require occasional repairs; viz., St. Peter's, at Rome; St. Mark's, at Venice; and the Benedictine establishment at Monreale, near Palermo. Of the products of these establishments, the Roman and Venetian are the best, and the Sicilian the cheapest. Through the kindness of Mr. Penrose, of whose exertions in connexion with the revival of mosaic I shall presently have occasion to speak, I am enabled to bring to your notice the following particulars of the relative cost of the products of these establishments. At the Roman Fabrica he was furnished with an estimate for the execution of mosaic (of course, in very fine work) for "*opere di decorazione*," at the following rates, reduced to English feet and English money:—For figure subjects or landscapes, at from 23*l.* to 38*l.* per foot superficial; for flowers or animals, at from 23*l.* to 31*l.* per foot; for Grecian, Roman, or cinque-cento ornaments, at from 19*l.* to 27*l.* per foot; and for Byzantine ornaments, at from 3*l.* 17s. to 11*l.* 10s. I cannot help thinking that there must have been some misunderstanding with respect to the above estimate; for such prices might justify the very minute work requisite for copying highly-finished pictures, but are altogether unreasonably high for ordinary decorative work. I am led to this conclusion because Ciampini tells us that, when Clement VIII., in the beginning of the seventeenth century, commenced the embellishment with mosaic of the dome of St. Peter's, the price offered for the labour was about 1*l.* 10s. per English foot. This was so profitable to the workmen as to attract the labourers from all parts of Italy "*fama tam immodici pretii.*" The consequence was that very speedily the price fell to about 7s. 3d. per English foot. This would be, of course, exclusive of the value of the material employed, which latter would be worth, then, probably about 15s. an English foot. Allowing for a great increase of value since Clement VIII.'s time, it is hard to suppose that similar work could be worth more than about 3*l.* sterling per foot at the present time. This would agree pretty well with what the director of the mosaic establishment at St. Mark's,—Signor Moro,—told Mr. Penrose; viz., that the cost of finished work, similar to the ordinary Byzantine, would be about 3*l.* 2s. per English foot. With respect to the cost of the Venetian material, I have myself obtained from the Count Conaro the prices at which Signor Salviati, the practical manufacturer who makes for St. Mark's, will supply the *smalti*, viz., for gold and silver, 12s. per pound, cut into tesseræ; 6s. for the same quantity uncut. For varied colours, 3s. per pound uncut. Count Cornaro states that it will take about 33 English pounds' weight of gold and silver, or 50 pounds of coloured smalto to do a French metre superficial of mosaic; the French square metre being rather more than an English superficial yard. Mr. Penrose remarks that, at Palermo, the price is much the same as at Murano for the smalto, but that the price for cutting it into small pieces is very much lower in the former than the latter place: thus the prices for cutting only, at Murano, are, for coloured smalti, 6s. 8d.; and for gold, no less than 15s. 6d. per English foot; while at Palermo, for 4s. 7d. per foot, the manufacturers will cut up into tesseræ golden and coloured *smalti* indiscriminately. Mr. Penrose's object in making these inquiries was to ascertain how far it was practicable to enlist foreign assistance in carrying out some of his proposed decorations in St. Paul's in mosaic, of a more pictorial nature than we had at the date of his last visit to Italy succeeded in producing.

The notes he made become now, happily, of less importance than they then were; owing to the fact that with the exception of the gold ground mosaic which our manufacturers have not yet, so far as I am at present informed, been very successful with, all the other foreign pastes may be with advantage replaced by home produce, and the work done by English workmen. The actual purchases made by Mr. Penrose for the purpose of experimenting upon were as follows:—1,200 cakes of gilt smalto, sufficient, when cut up and wrought, to cover about 80 feet, English, 63*l.*; 332 lbs. avoirdupois of coloured smalto, sufficient to do about 128 feet, 35*l.*

In the recent Italian Exhibition tho Florentine and Venetian mosaic workers alone were well represented. Salviati, the manufacturer, and Vincenzo Redi, the mosaicist, both of Venice, combined in contributing a fine figure of St. Nicholas, taken from Sta. Sofia, at Constantinople; and an equally good one of our Saviour, copied from an original in St. Mark's. Both of these left nothing to be desired in the way of material or workmanship. Antonio Gazetta, also of Venice, exhibited a very good head. I saw nothing, however, at Florence in these works; which, with the exception, perhaps, of the good quality of the gold ground smalto, we could not, I believe, now rival in this country. It remains for us to see by what steps this newly-acquired faculty has been obtained.

The revival of mosaic in this country as an architectural adjunct may be considered to have begun in 1839-40; about which time Mr. Blashfield endeavoured to produce decorative pavements by means of inlaid asphalte, coloured cement, and Venetian pisé works, assisted, by the clever inventions of Mr. Singer, of Vauxhall, by his ingenious assistant, Mr. Pether, and also by Mr. Prosser's mode of producing a tile of great density and closeness of texture, by subjecting powdered China clay to strong mechanical pressure in iron moulds, and in this way obviating the shrinking caused by evaporation, which is unavoidable when the clay is used in a moist state. Mr. Prosser's invention was first applied to the manufacture of buttons, in which for some time a large trade was carried on. Recently the Messrs. Maw have invented a process by which they obtain tesseræ with the close texture and consequent hard surface, only to be attained by aqueous shrinkage, and hitherto only approached by subjecting the materials to extraordinary pressure.

Mr. Minton, I believe, at the suggestion of Mr. Blashfield, turned his attention to the application of Mr. Prosser's patents to the production of tesseræ suitable for the formation of pavements similar to those of the ancients. Many beautiful geometrical combinations for this purpose were suggested by Mr. Owen Jones; and the result of Mr. Minton's spirited efforts was the speedy introduction to the market of excellent tesseræ in all colours.

In 1844, when I went abroad to study my profession, Mr. Blashfield gave me a commission to obtain for him anything which I considered likely to render these tesseræ (the manufacture of which Mr. Minton had then just entered on) of more general utility. In Italy and Sicily I found much material, of which I believed little notice had at at that time been taken; and this induced me to make a series of drawings, which I afterwards published in the "Geometrical Mosaics of the Middle Ages." These drawings were shown to Mr. Minton by Mr. Blashfield; and, on my return to England in 1847, Mr. Minton applied to me to assist him in his views with respect to encaustic tiles, and their combination with tesselated work in general. For some time I rendered him what aid I could; and, but for other and more pressing professional engagements, I should probably have continued to do so. On Mr. Minton's retirement from active business, Messrs. Maw & Co., determining to add the execution of mosaic to their encaustic tile manufacture, sought my co-operation, which has been given, at such intervals as have suited our mutual convenience, up to the present time. Feeling their strength quite equal to the production of pictorial as well as geometrical mosaic, Messrs. Maw requested me, on the announcement of the intended Exhibition of 1862, to design a pavement of that character for them. Some of the working drawings for that commission I now exhibit; and do not doubt that, on seeing the work done from them in the Exhibition, you will admit that Messrs. Maw & Co. have fully proved their capability to rival any antique mosaic yet exhumed in this country. To have attempted successfully such an experiment, involving the production of an indefinite number of tesseræ of about one hundred different tints—many never previously got up in England—and the application of skilled labour as it had never before, I believe, been employed in this country since the last Roman quitted it,—is, I do not hesitate to say, highly honourable to them as manufacturers; and it is a source of gratification to me to have been associated with them in this the first practical endeavour to revive pictorial mosaic amongst us. That we shall soon have many rivals is not to be doubted; since already, through the energetic and most laudable prompting of Mr. Cole, a scheme has been set on foot to which no one amongst us can, I think, fail to give hearty sympathy and support. Some prospectuses, one or two of which I have laid upon the table, give the detail of a scheme, which, if carried out successfully, as I have every reason to think and believe it may, will give a rare impetus to the development of pictorial mosaic. Those details I do not dwell on; for the double reason that time will not now permit of my doing so, and that they will, I believe, form the subject of a paper hereafter at the Society of Arts. I may, however, point to two most hopeful features of progress certainly made; viz.,—1st. That already the practical co-operation of many of the most celebrated artists in this country has been secured; and 2nd. both Messrs. Minton and Messrs. Simpson (Messrs. Maw & Co.'s London agents) have proved, that if artists will only make good designs, they possess all the requisite power to realize their designs successfully. To prove this, I need only point to a specimen produced by Messrs. Simpson, which has been kindly lent me by Mr. Cole.

Such being the actual conditions of the manufacture at the present moment, I think it will be admitted that it is really incumbent on the studious architect to endeavour to grasp the theory of the right application of pictorial mosaic; and it is in the endeavour to either aid him by my advice, or to aid myself by eliciting a rectification of my views, that I put before you, as the second and concluding part of this paper, a few convictions on the subject, with respect to which I see my way at present pretty clearly.

The combined action of the moisture and severe frost of our climate is such as must always, I fear, render but little durable any extensive application of mosaic in small tesseræ as external decorations: to a great extent, therefore, architects will have to look upon it as an internal embellishment. It is, of course, a coloured incrustation applicable to any structural surfaces which it may be desirable to enrich; and its appropriate design must be strictly determined by very nearly the same laws which should govern the distribution of polychromatic decoration, executed through any other medium upon similar surfaces. The rationale of these laws has been by no one better illustrated than by Sir Charles Eastlake, in his invaluable reports to the Fine-Art Commission; and it is better that I should refer you to what he has so well written in those documents, than attempt to give you now any paraphrase of my own. The chief exceptional conditions are, firstly, its expense, which entails simplicity; secondly, the extremely vivid way in which it reflects light, and exhibits local colour partially, demanding judgment to adapt the design to the mode of lighting; and, thirdly, its limitations, under ordinary circumstances, as a means of artistic expression, which lead to the prudent avoidance of many of those pictorial elements, such as perspective, foreshortening, lively action, or complicated chiaroscuro, which are proper and agreeable sources of effect in mural paintings, executed with more tractable vehicles. That which the designer will probably at first feel to be his greatest difficulty, the arrangement of the cement joints which attach the tesseræ to one another, will, when once he has mastered the principles upon which they should be disposed, prove a ready and most essential means of heightening his effects. The jointing is, to a mosaic designer, exactly what the lines and reticulations of an engraving or etching are to an engraver; and the rules of taste which apply to the one apply equally to the other. For instance, as the engraver's lines by convexity or concavity express the undulations of drapery, and the modelling of surfaces advancing to or retreating from the spectator's eye, so precisely should the directions of the jointing of a piece of pictorial mosaic. Again, as the regular ruling or cross-latching of an engraved half tint is made to give value to the broken lights and shades of the leading figures, to which, by their vivid contrasts, attention has to be attracted; so precisely

should the uniformity of the jointing with even-sized tesseræ diminish the brilliancy of a mosaic background; breaking up the light which would otherwise be so strongly reflected from, say a white or golden background, as to quite kill the effect of the figures or ornaments to be relieved upon it. Another point which should be carefully attended to in arranging the jointing is to allow a row of tesseræ of the same colour as the ground to always follow every leading contour profiled upon the background. The use of this rule, which was invariably followed by all good mosaicists, is to prevent the directions of the generally horizontal and vertical jointing lines of the background from cutting awkwardly against the profiles; which the eye should be allowed to follow without being led off into other channels, or distracted by the occurrence of irregularly shaped tesseræ next to leading forms. This reduplication, as it were, of mosaic outline, has almost the effect of the lead line in stained glass, and is not much less essential to good effect. It is highly gratifying to observe the degree of judgment with which the mosaicist has emphasized the designer's intention, by a judicious treatment of the jointing in Messrs. Simpson's specimen head now exhibited. It is always to be remembered that at the distance from the eye at which mosaics are usually likely to be placed, mechanical defects disappear, but that artistic mistakes betray themselves, despite the most perfect mechanical execution. Hence it is far better to spend time, thought, and money, in getting really first-rate cartoons, than in endeavouring to bring the tesseræ to fine joints, or microscopic minuteness. In mounting to the summit of the great dome of St. Peter's, glimpses are caught from time to time of the nature of the mosaic work; and the observer who, from below, may have fancied the whole to have been wrought with great exactness, will find that the work is of the coarsest description, with joints in which often a good-sized pencil might be laid. From its judicious design, however, the effect of the whole is eminently satisfactory when viewed from the floor of the cathedral.

It may be well to remember also that although mosaic is, as it were, painting, it is something more in its relation to the structure it decorates: it has become "bone of its bone," and in virtue of its intimate and permanent union is especially bound to live in peace and harmony. As a good wife should make conspicuous the virtues of the husband she adorns, should hide his faults, and screen his defects; so should a well-devised system of mosaic give, by predominant vertical lines, height to a structure in which height is wanting; and, by predominant horizontal lines, length where length is needed. Brilliancy may be wrought out of darkness by allowing gold grounds and luminous colours to prevail; while the eye in another building, "faint with excess of light," may be refreshed by a preponderance of cool and quiet tones. Stringcourses and borders, archivolt and impost bands and friezes, should be treated as permanent frames to permanent pictures; essential, by their rectangularity or other simple geometrical character, to afford the eye a ready means of testing all adjoining and more complex forms by contrast. Need I say that where the skeleton of the picture's composition is tossed about in lively action, a stronger boundary of more vivid and contrasted hues must enclose it as a corrective, than when the motive power of the picture is of a quieter and simpler structure? That is the reason why the great Venetian pictures demand such massive framing; while the more serene compositions of the early Florentine and Siennese schools look best when separated one from another by little else than narrow bands of flat and softly-tinted ornament. In the same way in mosaic, the rigid saints of the early Byzantine school, with their evenly-balanced limbs and perpendicular draperies, need little else than vertical palm-trees or inscriptions, or even upright staves placed between them, to keep them architectonic; while the later corresponding figures of the Italian school, with their swaying lines, require often actual insertion into niches to keep them even reasonably quiet.

Such are a few of the most important theoretical points which have occurred to me; but had time permitted, I would willingly have entered this evening upon,—what I have indeed partly prepared,—an analytical sketch of the different artistic conventions, which form graduated stages between the crudest mode of, as it were, symbolising nature, and the most highly perfected form of imitative art. While an intimate acquaintance with the specific conditions of each of these stages —which are to the designer what keys are to the musical composer—will be a great assistance to the mosaicist; an ignorance of, or an indifference to, them will lead him into great trouble and confusion.

In bringing this paper to a close, I may be permitted to say a few words with respect to specific style, as affecting pictorial mosaic. We have seen that, as a decorative art applicable to monumental structures, it has survived every fluctuation and vicissitude which have affected architecture from the Christian epoch to our own time: as certainly will it outlive the little differences which split us up into Goths and Greeks—"big and little endians" of the professional golden eggs. We are now probably on the eve of introducing a new element into our national art; and happily one which may, with precedent, and therefore with a good conscience by those who lean heavily on precedent, be used alike in buildings of whatever historic style we may any of us peculiarly affect. Let me then express a hope that it may not be considered necessary to retain the defects and mannerism either of too much or too little academic knowledge, peculiar to ancient, mediæval, or modern times; but that we may rather concur in doing the very best we any of us can with this art, without pedantry or a slavish deference to the past. The whole history of monumental and industrial art has shown us, that never is perfection attained in any product in which the material conditions, and the processes by which those conditions may be best enhanced and developed, have not formed the basis of the the theory of construction, manufacture, or application, of any such product. This has held good of glass, stone, wood, marble, and of all the metals; and assured am I that, if we are to make this art of pictorial mosaic a credit to the nineteenth century, a similarly "objective" spirit must also direct and determine the specific mode in which, under every varying condition of style and historical association of ideas, we would endeavour to rival the great masters of old in their use of this time-honoured embellishment.

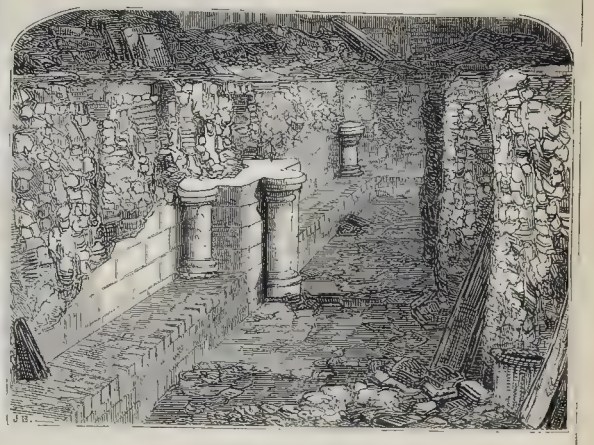
THE SISTER ARTS IN RELATION TO ARCHITECTURE.

A LECTURE on this subject was lately delivered by Mr. E. W. Godwin, in Northampton. In the course of it the lecturer said,—The question arises—What influence have the sister arts upon architecture? I am bound to confess, and to our shame be it spoken, that at present they have not the slightest influence in the world. If you are about to build a house, accommodation and cost are the great considerations. If we can get a certain number of rooms, of a certain size, at a certain cost, we are, generally speaking, content. Sometimes, if we are at all *artistically* inclined, we have an elaborate front elevation, about which we discourse very learnedly as to its classic proportions, and talk as if to the manner born about pediments and porticoes. It never occurs to us to ask for what purpose the poor wretch of a carver is compelled to repeat acanthus leaves *ad infinitum*, or whether there is any real merit or art in a hundred yards of eggs and anchors stuck on end; and yet these are the sculptural beauties which are forced upon us every day. We drag them down our streets, and twist them round our country houses, till the thing becomes as if it were a disease infecting everything around us; and, like a leprosy, attends us even to our very tombs. So, again, in the wide province of colour; no orders now for rooms to be painted green, with stars of gold; no more commissions for border fantasies or medallions painted with histories of the good and the wise: this is far too Mediæval for us. *We* are not such heathens as to require pictures of Dives and Lazarus, or St. Martin and the beggar, to keep alive our sympathies as we sip our claret in the soft light of crimson-curtained dining-rooms. Wild unmannered scrolls of red and yellow torture themselves into madness on the walls: impossible flowers in the most impossible of positions climb frantically over the most impossible of trellises; but *we* care not. In our self-satisfaction, and luxury, and pride, we never *see* such things in any other light than as the last French fashion, for which we have paid the very best price. You will say, perhaps, that we are advancing from this sluggish condition, and that I have taken an extreme view of the case. I wish in my heart it were so. I am rather inclined to fear that we are but changing from one fashion to another—going through the same diluting and stereotyping process with the Gothic and Italian as we have gone with the Greek and the Roman, without taking so much as one step towards the reconciling of the sisters, or the unity of art. I am well aware that there are exceptions; but, as a rule, I feel assured the public take no living interest whatever in ART, taken in its fullest sense, and freed from all the shackles of *style*. When the authors of those suburban villas which are scattered in discordant ugliness amidst our dearest bits of scenery shall have learnt to express, by the harmony of their works, the love they bear, or ought to bear, for one another; when round arch, and Gothic arch, and straight lintel shall meet together in amity; when perfect and grotesque humanity, and natural and conventional beauties, shall be chiselled in their proper place; when our mantelpieces shall incite us to thankfulness by its sculptures, picturing winter so that it may be deservedly likened to winter itself; when our walls are diapered by paint or paper, and powdered with medallions, or hung with pictures guiltless of heavy frames; when each room and each article of furniture shall be found to be but resolutions of the same key-note; when Royal Academicians and painters and sculptors of equal merit shall stand upon our scaffoldings, side by side with our architects, to hold affectionate counsel together, moved by the same principles, and actuated by the same motives; *then* may we hope to have an art of our own; then, and not till then, may we hope to see realized the picture on the "Art Journal" cover. There is nothing, believe me, visionary in this. Every man who desires to build himself a dwelling place which shall be to him as a *home* (for I refer not now to speculative building) may have all that I have said at no much greater cost than the ordinary outlay. And yet it is wonderful to note what little interest men take in their houses; while, to use the words of Sir Francis Scott, "there is hardly a man in England who keeps a horse but can describe, or imagines he can, all his animal's good points; takes a pride in doing so; and feels ashamed of himself if he cannot." And observe, the horse is a luxury that will last but a few years, the house a necessity which will last for centuries. I am sure there are artists—professors of each art—who, if they but found you valued their studies and their services, would soon rival, if not eclipse, the works of the former times, noble as they are. It is upon the public mind that the ultimate fate of art depends; and therefore the public must be indoctrinated with art. If, however, people will continue to prefer ancient Greece to modern England; if they have more love for heathen Rome than for their own fatherland; if they will listen to ignorant upholsterers' opinions rather than to artists' suggestions, if they are determined to be advised by the jobbing mason instead of the educated architect; if they will still purchase their enrichments and decorations at so much a yard; if they are bent upon machine-made buildings and manufactured ornament; then artists may strive and starve; for, in spite of all the zeal, and labour, and patience, and longing, of the painter, sculptor, architect; the age will be virtually unrepresented in the history of art. I say "*artists* may strive and starve," for the title is far too noble a one to be applied to those self-styled artists who are nothing more than panderers to and flatterers of that gross darkness and ignorance (all the more dark because of the glitter of its gold), which have taken root in so many hundreds of houses in this land; where, because it is fashionable, the so-called arts are, as a matter of course, patronized; and which, under the cloak of art, conceal the assassin's knife; ever ready to destroy, if it could, that reality and truth which constitutes, as it were, the life-blood of the sister arts. I know not why it should be so; but there seems to be a feeling that art is a luxury with which we may indulge ourselves according to our pleasure and our means; and that artists are our slaves, to minister to that pleasure. The feeling is by no means new. It arose with the spirit of Renaissance; and, until that debased spirit of wild voluptuousness and unrestrained freedom be subdued and cast out from among us as an unclean thing, the position of art, in all its nobility and in all the power of its moral and religious teaching, will never be fairly and fully realized. If, on the other hand, the arts were but united again, how great would be their influence upon one another! Painting would teach architecture to avoid those *sudden* transitions of colour which she has lately been indulging in; and no longer to riot in ill-arranged bands of red and white; having no earthly meaning unless it be to keep up a lively interest in the bacon trade. In our interiors she would teach us to subdue the colour of the walls and curtains; to note well those constant allusions to green and gold in the liberate rolls; and, if there be any pattern, to keep that pattern flat, conventional, and unobtrusive. She would tell us that flowers were not made to be trampled on; that green harmonizes with dark woods; and that purple is friendly inclined to-

THE REMAINS OF ST. ANNE'S CHAPEL; TEMPLE CHURCH, LONDON.



Excavation, looking East.



Excavation, looking West.

wards maple and the lighter woods. She might, perhaps, warn us to be jealous of ormolu; to guard against gold, white, and the three primary colours; and to use them like nature with such wise economy that their great glory may be seen and known.

Then, too, sculpture, if we treated her properly, would come out from her hiding-place, and show us how she could cut the histories of our cities and of our civil and religious freedom at the corner of every street, at a less cost than enriching cornices or balustrading parapets which people never strain their necks to look at; and, if they did, would certainly be none the better or wiser. She would tell us that the money we throw away upon eggs and anchors, to enrich the mouldings of our public buildings, would almost pay for large angle sculptures; which, while they softened the harsh angles of the walls, would convey some valuable lesson to every passer by. But then, of course, they must be near enough to be seen, not stuck up in pediments for the especial amusement of the servant girls over the way. Thus, over almost every doorway, certainly over the doorways of every public building, some expressive relief should shelter itself within the frame of the arch. * * *

And, now, what is the practical outcome of all this? In the first place, we should learn to look upon the fine arts (the knowledge of which an old writer has described as "the ultimate polish of a man") with reverence, and in a broad catholic spirit; and, in the second place, we should endeavour to know more of art, in order that we may see that artists have a higher mission in this world than the bare business of lodging us or ministering to our individual whims and fancies; and, lastly, we should all use the influence which we possess, be it great or little, in doing one act of love and kindness to a family which deserves to be treated well at our hands; but which, unfortunately, is at discord within itself; by labouring to unite its scattered members; to bring once more together the hands of the art sisters, that they may again rest in tender leanings upon one another's shoulders. History will tell you that it is *good* to do this. Your common sense and your own conscience will tell you *how* to do it.

RECENT DISCOVERY OF THE REMAINS OF ST. ANNE'S CHAPEL, IN THE TEMPLE.

THE discovery of these remains has caused some excitement amongst the dwellers in both the Inner and Middle Temple. They were found while excavating in Lamb's Buildings, for the purpose of making a drain for the use of the new range of chambers which is nearly completed in Churchyard-court. While busy with this work, at a short distance to the south of the circular part of the



Exterior of the Chapel, from a Print in the British Museum, 1671.

Temple Church, the pillars shown in the distance of the western view were brought to light; when it was determined to extend the digging eastward. This has led to the opening out of the basement of south side of the chapel which formerly stood here.

The remains are in a very perfect state of preservation; and in one part the white plaster, with red lines, which represent stone courses, is as perfect as if it had been completed but a short time ago. The pavement seems at some time to have been removed; but it was originally situate at about 5 feet 7 inches below the present surface of Lamb's Buildings. The space which has been dug out has been filled in with chalk and rubbish; probably the remains of the roof, &c., of the chapel. At the west end are steps, some of them much worn, which have communicated with a doorway that formerly existed in the round of the church.

As to the origin of the church most of our readers will remember that to alleviate the dangers and distresses of the various classes of pilgrims to the Holy Land, after the capture of Jerusalem in the eleventh century, nine knights formed a holy brotherhood in arms, and entered into a solemn compact to aid one another in clearing the highways of robbers, and in protecting the pilgrims through the passes and defiles of the mountains of the Holy City. They called themselves the "Poor Fellow Soldiers of Jesus Christ," and renounced the world and its pleasures after the manner of monks. At first they had no church or particular place of abode; but, in A.D. 1118, nineteen years after the conquest of Jerusalem by the Crusaders, they had rendered such good service to the Christians, that Baldwin the Second, king of Jerusalem, granted them a place of habitation, within the inclosure of the Temple, on Mount Morish; and thenceforth these soldiers were known by the name of "The Knighthood of the Temple of Solomon."

The name and reputation of the Knights Templars speedily spread throughout Europe; various illustrious pilgrims from the far west aspired to become members of the holy fraternity; and Baldwin, king of Jerusalem, foreseeing the great advantages which would accrue to the Latin kingdom by the increase of the power and numbers of these warriors, exerted himself to extend the order throughout all Christian dominions.

The order continued to increase in numbers and power; and, in A.D. 1128, Hugh of the Temple came from Jerusalem to the king in Normandy, and the king received him with much honour, gave him treasure in gold and silver, and afterwards sent him to England; and both there and in Scotland he received large sums, and grants of land as well as money.

As the houses of the Temple increased in number in England, sub-priors came to be appointed; and the superior of the order in this country was called the Grand Prior, and afterwards the Master of the Temple. Many illustrious knights of the best families of Europe aspired to the habits and vows; but none were admitted until they had proved themselves worthy by their conduct of such fellowship. As time passed on, the religious and military enthusiasm of the Mussulmans being aroused, the Templars were worsted in several battles, and the Latin kingdom of Jerusalem was shaken to its foundation; then about A.D. 1146, the second crusade was arranged, and the Templars, with the sanction of the Pope, assumed the red-cross, the symbol of martyrdom, whence they became afterwards known by the name of the Red Friars, and the Red-cross Knights. The second crusade proved a failure after many vicissitudes.

The patriarch came to London in the reign of Henry II., and was received by the Knights Templars at the Temple, in the City, which was then the chief house of the order in Britain; and this, it may be remarked, was the second chief house of this order in London; the other, as we have mentioned elsewhere, being without Holborn-bars, on the site where Southampton buildings now stand. About two centuries ago, part of the old chapel annexed to this establishment, and which was of a circular form, and built of Caen stone, was discovered in pulling down some old houses near Southampton-buildings and Chancery-lane. The first house

proving too small to be suitable to the prosperous circumstances of the order, they purchased a large space of ground, extending from the White Friars westward to Essex House, without Temple-bar, and commenced the erection of a convent on a scale of much dignity and grandeur. It was called the New Temple, and was adapted for the residence of numerous military monks and novices, serving brothers, retainers, and domestics.

The punishment of disobedient brethren was very severe. In the north part of the round church there may still be seen the penitential cell, only 4 feet 6 inches long by 2 feet 6 inches wide, in which unfortunate offenders were confined, but where no person of average growth could lie. In this place of little ease many were confined.

At the opposite side of the church, corresponding with the doorway of the staircase leading to the penitential cell, there were formerly another doorway and staircase which communicated with the chapel of St. Anne, which stood on the south side of the round.

This building, now re-opened, was removed during the repairs which were made in 1827, and was two stories in height. The lower story communicated with the round through a doorway formed under one of the arches of the arcade, and the upper story communicated with the body of the church. These doorways have been stopped up. These apartments were vaulted, and traversed by cross ribs of stone, and ornamented with bosses at the point of intersection. This chapel anciently opened upon the cloisters, and formed a private medium of communication between the convent of the Temple and the church. A plan of the chapel will be found in the "Vetusta Monumenta" of the Society of Antiquaries.

It was there that the papal legate and the English bishops had conference respecting the affairs of the English Church; and in this chapel Almeric de Montfort, the pope's chaplain, who was imprisoned by Edward I., was set at liberty at the instance of the Roman pontiff.

ON THE SEWERING OF TOWNS AND DRAINAGE OF HOUSES.*

TOWN-SEWERAGE on a grand scale is certainly co-existent with the Roman empire; and earthenware pipes are, probably, as old as the art of pottery. It has been ascertained that pipes of earthenware, "hand-thrown" on a potter's wheel, and not unlike, in form and dimensions, to hand-made pipes of the present day, were used throughout the East, in the remotest periods we are acquainted with, to conduct springs of water for human uses.

Earthenware pipes have been found beneath the great mound of Assyrian ruins; which pipes are supposed to have been drains; and the stalls in the Colosseum of Rome were drained with earthenware pipes. Earthenware pipes were also used by the Romans for watercourses.

The cloacæ of Rome, including the Cloaca Maxima, according to Livy, are as old as the reign of Tarquinius Superbus. Some authors declare that the construction of these public sewers must belong to an Etruscan nation, which preceded the birth of Romulus and Remus.

These old sewers, the ruins of which are to be seen in Rome to this day, were also "sub-ways" and sewers, having raised paths along the sides, and "side-entrances" for tributaries, from palaces and fountains. There were large cloacæ in the several cities throughout the empire, as mentioned in Pliny's letters to the Emperor Trajan. I have met in the works of travellers with descriptions of other ancient sewers and drains found beneath ruins in the East; the date of the formation of such sewers being lost in the darkness of antiquity. It is, no doubt, impossible to trace out the origin of sewers and drains: their "invention," construction, and use probably took place and commenced with civilization. We cannot, however, settle this point this evening. We have another purpose, namely, to discuss the uses and the abuses of sewers and drains at this day.

The Roman cloacæ were, probably, in many instances, of the character of the great sewers in this metropolis,—the Fleet, the Ranelagh, and others;—watercourses inclosed and arched to serve as sewers. The remains of sewers and drains found amidst ruins show us that their application was limited, and their uses only imperfectly understood. If sewers and drains had been generally in use amidst the populous cities and towns of antiquity, we should now find their remains abundantly. We know the extent of the Roman empire more fully and better by the buried remains of Roman pottery than by history, or than by any ruins or traces of ruins remaining on the surface. Brick sewers and earthenware pipe drains, if they had ever existed, would have been as enduring in their materials as frail pottery, or as the stone and brick cloacæ of ancient Rome and the drains of the Colosseum. We do not find such remains in abundance; and, therefore, conclude that a limited construction only took place for special purposes. The Roman cloacæ were originally under the superintendence of the censors; subsequently under that of the ædiles. The Emperors Agrippa and Trajan constructed many cloacæ during their reigns. We, in these modern times, divest our imperial Government of all such useful power.

Earthenware pipes, of 3 and 4 inches in diameter, were made in England more than half a century since, in Lambeth and in other places. Mr. Doulton, senior, can recollect their being made during this space of time; and I have received other evidence as to the make of earthenware pipes forty or fifty years ago in England. The first modern use of them for sewer purposes was suggested by Mr. Edwin Chadwick, C.B., soon after the year 1840. Mr. John Roe states in his Report to the Harrow Local Board of Health (1854);—"The introduction of stoneware pipes for general drainage arose from a suggestion made by Mr. Chadwick to me, in his desire to obtain smooth interior surface; and the first sewer pipes made for that purpose in the metropolis were for the Holborn and Finsbury office." In consequence Mr. Roe further states;—"immense benefit to sanitary measures has been afforded by the use of earthenware pipes, where judiciously applied and properly laid. They save fully two-thirds the cost of brick sewers; that is, where brick sewers for a town would cost 30,000*l.* the same town may be sewered by earthenware pipes for a cost of 10,000*l.*, and the cheaper pipes will effect the work far safer to health and life than the costly brick constructions." Combined back drainage is of the utmost importance in point of economy, and also in efficiency of working, where the drain-pipes are properly laid. There are many thousands of instances of successfully combined back drainage, in scores of towns, and complaints of failure or of annoyance are very rare. I do not think they amount to one per cent. upon the work executed. Mr. John Reid, in 1854, stated that, "thirty-six years previously (1818), two hundred houses on one estate in the Holborn and Finsbury districts had combined back drainage, and no complaint of their working or otherwise ever came in that period to the office." Mr. Roe further states, "in many country towns and places back drainage may be usefully adopted." This is the doctrine of the first Board of Health anticipated and confirmed. In some places back drainage will be impracticable, and of course should not then be adopted.

It is a great advantage to have a regular flow of water through any sewer. Drains are choked more from want of water than by having too much passed through them. Combine drains as much as practicable, lay them well, joint them evenly, properly, and smoothly, and there will be very few if any chokings.

Fully to understand the worst effects of want of sanitary arrangements in towns, we must go back to the days of the plague, sweating-sickness, and other similar diseases, and read up the literature of 16 0 and 1700, by Nathan Hodges, M.D., on the Plague of London, 1665; a Discourse on the Plague, by Dr. Mead; an Essay on the Different Causes of Pestilent Diseases, by John Quincy, M.D, and others; until we come to James Lind, M.D., and Sir John Pringle,—the one on diseases in the navy, and the other on diseases in the army. We may then visit the cities and towns in the East, where plague rages to this day, and see the causes in existence which prevailed in England two centuries since, and some of which causes prevail even now. Filth, squalor, darkness, neglect, vice, crime, and premature death; an annual mortality of 40, 50, and 60 in the 1,000 regularly, with an increase up to 100, 200, and even, in some places, 500, or a moiety of the entire population in one year, of plague and general sickness; "the living too few to bury the dead." The annual mortality of England at present in towns ranges from 20 to as low as 15, and even 11 in each 1,000. It is thought that 15 ought not to be exceeded even in our towns.

The Sanitary Commission of 1855 in the Crimea showed what could be done for an army in the field, where the mortality fell below that of the same troops in barracks at home; the French people knowing no such abatement. When fever had been all but banished from the British army and hospitals, the French at the end of the war were said to be losing by sickness in hospitals at a rate of 5,000 per month. 15,000 men perished in hospitals during the last three months of the war, as per French army medical returns.

There are no doubt many causes for disease in excess; but overcrowding, defective ventilation, and surrounding filth seem to be the worst. Proper sewers and drains will improve a town, but will not do all that is required.

The causes of fever in Liverpool, previous to the year 1840, were overcrowded cellar dwellings. The causes in Glasgow and in Edinburgh are overcrowded upper rooms and attics. The narrow streets, crowded houses, and small rooms of many continental towns may be improved by sewerage, drainage, surface pavements, and regular cleansing. But many of the causes of disease in excess might remain.

"Sewer," according to Lord Coke, is a place where water "issues;" or, vulgarly, "sues," whence the word "suers" or sewers. There are laws relating to sewers from Magna Charta to recent times. Callis, on the law of sewers, is the great authority. These laws, however, relate to sea defences, weirs, rivers, estuaries, and land-floods, rather than to town sewers.

Many persons use the words sewer and sewage improperly: they should be used as—

Sewer, a public sewer in street or road.

Sewage, that which flows through a sewer—the fluid.

Sewers (or sewerage), the plural of sewer.

Drain, a tributary to a sewer from house, building, or court.

Drains (or drainage), the plural of drain.

Sewers were first constructed in London under an Act (6 Henry VI., c. 5), 1428, amended by Parliament in the reign of Henry VIII.; and since this period to the present time there have been many amendments and alterations of laws for regulating sewers, into which I do not propose to inquire. The streets of London were begun to be paved in 1533. The first sewers in London would no doubt be in the several valleys on the line of existing watercourses,—the Fleet Ditch, the Ranelagh Level, &c. These watercourses were arched over, and the drainage of the adjoining streets and houses passed into them.

Stowe states that, "Anciently, until the time of the conqueror, and two hundred years later, this city of London was watered (besides the famous river of Thames on the south part) with the river of the Wells, as it was then called, on the west; with a water called Walbrook, running, through the midst of the city, into the river of Thames, severing the heart thereof; and with a fourth water, or bourn, which ran within the city through Langbourn Ward, watering that part in the east. In the west suburbs was also another great water, called Oldborn, which had its fall into the river of Wells."

The Fleet Ditch* was no doubt originally (in ordinary weather) a stream of bright, sparkling, sweet, and wholesome spring water—a river of "wells." But as early as 1290 the monks of White Friars complained to the king that the putrid exhalations arising from the river of Wells, or Fleet, were so powerful as to overcome all the frankincense burned at their altars during divine service, and even occasioning the deaths of many of the brethren.

The Fleet continued to receive additional impurities, until it became in the time of Pope—

> "The king of dykes, than whom no sluice of mud
> With deeper sable blots the silver flood."

Barges are said to have sailed up the Cloaca Maxima and the Fleet sewer alike; in both instances natural watercourses having been arched over and made receptacles of sewage.

Although the first formation of public sewers in the British metropolis dates so far back as 1428, by far the greater portion of the 1,500 miles of the main sewers in London have been constructed since the year 1824; Mr. John Roe having had the perseverance, honour, and credit of effecting more improvements in the main sewers of his districts, Holborn and Finsbury, up to the end of his period of service, than any other man. The improvement of adopting the egg-shape, in place of vertical sides for sewers, the introduction of side entrances, and means of flushing, and the experiments carried out by Mr. Roe and tables based on these experiments, are invaluable for the metropolis. Mr. Roe found the construction of sewers a matter of guess: he left it a matter of scientific certainty. If all the sewers of this great metropolis had been laid out and constructed on the plan proposed and adopted by Mr. Roe, in his divisions, vast additional sums of money would have been saved, and (humanly speaking) many lives prolonged: the flat-bottomed sewers which now exist would have had semi-circular channels: and the deposit which now accumulates and corrupts would have been regularly washed out, or periodically "flushed" out, at short intervals. Mr. Haywood has more recently done for the City what Mr. Roe did for Holborn and Finsbury.

The ventilation of sewers by vertical shafts and open grates in the centres of the streets was, no doubt, an improvement, though a very clumsy and disagreeable plan. Previous to the formation of these open ventilators, typhus and typhoid fevers prevailed in many houses connected by drains with the sewers and near the untrapped gully-holes. Mr. Fuller, a medical gentleman, in his evidence, 1834, states that eight-tenths of all the cases of typhus fever he witnessed he could trace to foul drains or foul gullies. The late Dr. Southwood Smith gave evidence to the same effect.

At present there is much injury effected by sewer gases passing through drains and into houses. In 1859, on the use of a disinfectant in the public sewers having a powerful odour, all the houses directly drained by these sewers were tainted, showing that there was a flow of air from the sewers to the houses. This should not be, and can only be avoided by external ventilation of each house-drain.

The progress of a nation may be measured by increase of population, by spread of education, by increase of commerce and wealth, by increased value of human life and respect for it, and by improvements in morals, in obedience to the laws of the realm, and in religion. We may read, in the eloquent pages of our great historian, Lord Macaulay, how England appeared about the year 1685. He wrote:—"Everything has been changed but the great features of nature and a few massive and durable works of human art. We might find out Snowdon and Windermere, the Cheddar Cliffs and Beachy Head: we might find out here and there a Norman minster, or a castle which witnessed the wars of the Roses; but, with such rare exceptions, everything would be strange to us. Many thousands of square miles which are now rich corn land and meadow, intersected by green hedgerows, and dotted with villages and pleasant country seats, would appear as moors or fens, barren, or else abandoned to wild ducks: we should see straggling huts built of wood and covered with thatch, where we now see manufacturing towns and seaports renowned to the furthest ends of the world."

The population of England, in 1690, was computed at nearly five millions and a half. The manners of the inhabitants were in accordance with the state of the country. In the northern counties bands of Scottish marauders fought with moss-troopers: the parishes were required to keep bloodhounds for the purpose of hunting freebooters: oxen were penned at night beneath the overhanging battlements of the residences: the inmates slept with arms by their sides; and, on a journey, it was necessary to carry provisions; for the country was a wilderness which afforded no supplies. Such was the state of England at the commencement of the year 1700, or little more than a century and a half since. To find a parallel to this state of things, we must now go to Russia in the north, and to the cities of the Sultan in the east. Here we may see vast tracts of land uncultivated, and without proper roads—the inhabitants wearing, and even working with, weapons of defence and offence in their belts or sashes—cities and towns reeking in filth—hovels for houses—food of the worst and poorest description—no security for person or property, human life having the least possible value—poor cultivation of land—no proper roads—in the towns no sewers, no drains, but a maximum of human misery and degrading vice in the East, and of drunkenness and ignorance in the North.

To ascertain the state of England in our own day, and at the present time, we must study in "blue books" the sanitary reports; and, although a commencement of sanitary work has been made, there are vast and wealthy populations living amidst cesspits and cess-pools. The good work has, however, been commenced; about 400 cities, towns, and places in England having adopted the powers of the "Public Health Act," 1848; or of the "Local Government Act," 1858. The "Common Lodging-houses Act" of Lord Shaftesbury may be adopted; and, where put in force, the results are most beneficial.

The question of sewerage and drainage concerns the poor more than the wealthy;—firstly, on account of numbers: and, secondly, because of close crowding. The poor must live, or linger rather, in squalor, sickness, and misery, and die prematurely, in such habitations as are provided for them. The fatal room tenements in English towns, the mud cabins of Ireland, and the bothies of Scotland, all tend to fill our gaols, lunatic asylums, and workhouses. When shall we learn and fully comprehend the fact that it will be more in accordance with the requirements of civilization, and even more economical, to prevent vice, and to make virtue possible, rather than to expend all our energies on reformatories, to make home comfortable rather than to build and endow public libraries, lecture-rooms, and reading-rooms? Do not neglect these, but first make the poor man's home wholesome.

The preponderance of numbers is shown in the case of Manchester and Salford. From a return by the Poor-Law Board of the numbers and occupiers of dwellings in

* Read by Mr. Robert Rawlinson, C.E., at the Society of Arts, on the 19th instant.

* "Fleet." This name is derived from the rapid flow of water from the higher districts drained.

parliamentary boroughs, it is shown that in Manchester, in 1859, there were 64,426 separate dwellings, of which number 24,457, or 38 per cent., were of 10*l.* annual rental or upwards; 29,538, or 35 per cent., below 10*l.* and above 6*l.* rental; and 17,431, or 27 per cent., not exceeding 6*l.*; or, on the whole, about 62 per cent. at and below 10*l.* rental.

In Salford there were 20,156 dwellings; 5,205, or 26 per cent., of 10*l.* rental and above; 8,131, or 40 per cent., of 6*l.* and below 10*l.* rental; 6,820, or 34 per cent., not exceeding 6*l.* rental. Taking Manchester and Salford in one district, there were 84,582 dwellings, of which 29,662, or 35 per cent., were 10*l.* rental and upwards; 30,669, or 36 per cent., of 6*l.* and not exceeding 10*l.* rental; and 24,251, or 29 per cent., at and under 6*l.* annual rental.

Many of the houses below 8*l.* per annum rental are of faulty construction. They are generally in rows, back to back, having no back doors nor windows, no yard nor privy, no sinkstone, nor internal water supply. Many sleeping-rooms have no flue, nor adequate means of ventilation. Privies have to be used in common; and, of course, are not what the name implies: they are frequently ruinous, and sickeningly dirty. Experience has shown that numbers of families should not be compelled to use privies common to several houses, unless regular cleansing is enforced. Every dwelling-house should have its own convenience. It is a libel on the poor to say they will not care for their own comfort. There are thousands of instances to the contrary. In Manchester, for the poor, waterclosets are the exception. The local municipal regulations discountenance them.

The annual death-rate in Manchester is 30·56 per 1,000, or double the death-rate in some districts. The death-rate throughout the manufacturing towns of Lancashire and Yorkshire generally is high, and will continue to be so until better sanitary regulations are adopted and enforced. The excuse offered by the Manchester corporation is, "Supplying the poor with waterclosets would waste water and foul the rivers." Proper apparatus will prevent the first, and intercepting sewers the latter.

London shows a diminished death-rate in proportion to the abolition of cesspools, although the sewerage is most defective, and the river Thames is fouled. Many thousands of cesspools have been abolished in the metropolis; probably not less than 100,000, within the last twenty years; but many thousands remain. Mr. John Roe, and some of the other district engineers, improved many miles in length of the metropolitan sewers and drains; but there are still many miles in length ruinous and foul. London is, however, much more healthy than the manufacturing towns of Lancashire and Yorkshire.

Those who wish to experience the horrible character of the cess-pits and middensteads of Manchester, Liverpool, and other northern towns should study the statistics, as they are weekly recorded, of 1,200 and 1,400 such places emptied; and then make a few night inspections of the localities in the hands of the "night-men:" the stench is abominable; many times worse than the Thames at its worst. The rivers flowing through Manchester can scarcely be worse than at present. The Irwell, the Medlock, and the Irk, are a disgrace to our civilization. They are fouled from their sources to the estuary; and, if the erection of waterclosets could be absolutely prohibited the construction of intercepting sewers should be made imperative. The solids of sewage can be precipitated; but agricultural land is the proper place and use for sewage.

In many cities and towns where sewerage and drainage are carried out, waterclosets are in general use. This is the case in the metropolis. For several years past some 1,000 soil-pans have been made and sold per week; or some 50,000 per annum; and they are of course used. In the cities and towns of Berwick-upon-Tweed, Alnwick, Morpeth, Carlisle, Lancaster, Halifax, Worthing, and many other places in England, the poor use this convenience and do not abuse it. In Manchester, 100,000 loads of night-soil are annually removed, at a loss of some 6,000*l.* per annum. In London the removal of dry ashes produces an income to the parishes.

There is no general rule for the dimensions of town sewers for populations below 100,000 in proportion to surface area; and any engineer who adopts the dimensions given in certain published tables will most probably make an expensive mistake for the district in which he is operating. The tables which are based on experiments made in the metropolitan sewers are no doubt correct and absolute for the districts from which they were constructed, and will be applicable to any other similar district, if all the peculiarities and contingencies are similar; but they are not applicable to towns generally. I have never used these rules, and should have caused great waste of money if I had done so. The science of engineering cannot be tabulated; and this truth ought to be inculcated on every student. As well say that all sorts of diseases can be cured with one set or sort of pills, as that tables of strengths of materials and dimensions of sewers can be relied upon, without the experience of practice. The published tables I allude to have worked injury, not only in Great Britain but all over the continent, where many sewerage works have been attempted. The civilized world looks to this country for practical information on this subject.

The recorded experiments of the best hydraulic engineers on the flow of water in open channels and in pipes may be relied upon. There is little to learn in this branch of hydraulics. Pipes have capacity in proportion to the squares of their diameters; and water obtains downward velocity in strict accordance with the laws of gravity, modified by friction in its thousands of forms. The invert gradient of a sewer is one element in the law of flow. The head of water and delivery are other elements, giving velocity and scouring power. I only object to tables of sectional dimensions for general use. The town of Alnwick, in Northumberland, with its 2,000 acres of drainage area, its 7,000 population, and some 1,000 waterclosets, is sewered by an earthenware pipe 18 inches diameter, and having a gradient of 1 in 400. Carlisle, with its 1,900 acres of drainage area, and 35,000 population, has an outlet sewer of 3 feet 9 inches by 2 feet 6 inches, with a fall of 1 in 700.

At Worksop the outlet sewer is an earthenware pipe, 15 inches diameter, laid at an inclination of 1 in 600. The population is upwards of 7,000, and the drainage area very large.

At Lancaster the outlet sewer is of brick, 5 feet 3 inches by 3 feet 6 inches, and laid at an inclination of 1 in 1,000. The population is about 15,000, and the drainage area considerable, having a rapid fall in some parts.

At West Ham, with an area of 4,730 acres, principally of flat water-logged marsh land, the outlet sewer is of brick, 5 feet 3 inches by 3 feet 6 inches, having a cast-iron invert laid level, and at low-water line of spring tides.

In all these cases the dimensions of the outlet sewers do not accord with the tables alluded to; and yet the sewers perform the work required to be done. Surface water and heavy falls of rain pass, as previously, over the surface; but there is not a duplicate system; nor do I advocate such.

At Carlisle the outlet is frequently blocked by land-floods; at Lancaster, daily, by tides; and at West Ham pumping is resorted to.

The first questions an engineer should ask himself with respect to any district or area to be sewered should be these:—"How have surface waters passed off up to this time without the aid of sewers or drains?" "Have any surface impediments been formed? if so, what are the effects? and can such impediments be removed?" "Have houses been erected and cellars excavated in improper places, and where injurious flooding cannot be prevented excepting at a ruinous cost to the rated property of the district generally?" "Can watercourses in the valley lines be deepened at a moderate cost?" and, "Can embanking and pumping be resorted to economically?" "Are there any mills and mill-dams which impede drainage and cause injurious subsoil—flooding regularly, and injurious flooding at intervals?" All these questions have a most important bearing on the dimensions of sewers.

It may look very egotistical, but I can better give an account of my own practice than that of any other person, and detail my own experience more confidently than stereotype it in tables, which, must, in such form, be misleading and injurious.

Natural streams down valley lines should never be converted into sewers. The maximum flow of water in such streams is to the minimum as three hundred or four hundred to one. Any sewer formed in such valley line, of sufficient capacity to carry off flood waters, would be much larger than requisite for the ordinary flow, and would become a cause of nuisance in dry weather. All valley lines should be improved, and the beds of natural streams should be preserved free and open for the escape of surface and flood waters. Sewers and drains should be of sufficient capacity to remove roof, yard, street soil, subsoil, and slop-water from the area drained during ordinary weather; and should be graduated to the amount of work to be done. Flood-water outlets or overflows into valley lines, or natural streams, to relieve the sewers during heavy rains, should be provided. There may be large gratings to remove surface storm waters at the outlet points of valley lines, but care must be taken not to make such places large stagnant cesspits.

All sewers and drains should be properly ventilated. This may be effected by connecting down-spouts with house-drains in proper situations; by connecting sewers with tall chimneys; or by providing, on the sewers and drains, ventilating shafts with charcoal filters for oxidizing sewer-gases. All sewers should have means of inspection, flushing, and cleansing provided. Sewers should be laid in straight lines, and with regular gradients. At each alternate change in direction, or alteration of gradient, a manhole or entrance to the sewer should be constructed. Agricultural drain-tiles are laid in straight lines. Ploughing, on the most approved plan, is also in straight lines. In both cases, truth and efficiency of workmanship are attained, and straight sewers and drains insure good workmanship. One defective link breaks the chain: one defective pipe-joint or defective yard of sewer is injurious.

Brick sewers should be formed of radiated bricks, set in hydraulic mortar. Pipes should be jointed with clay-puddle, or with cement, or mortar, or asphalte, according to the nature of the ground in which the pipes are laid. Great care should be taken in laying pipes in rock, in gravel, and also in clay. Many lines of sewer-pipes are injured by injudicious filling of a trench, or by a fall of clay or earth crushing the pipes. The inlets of all drains should be properly protected; and the openings should be reduced so that any substance entering the drain may pass freely into the main sewer.

Where a sewer or drain has once choked, and the ground is opened out for repairs, do not close it in again, but construct a manhole or lamphole, that any future obstruction may be removed at once.

Sewers and drains act as subsoil-drains to the full depth at which they are laid. In wet subsoils provision should be made for allowing subsoil-water to enter the sewers. A continuous flow of subsoil-water along a sewer or drain is generally an advantage, as the solids of sewage are more readily removed.

Neither sewers nor drains should be laid under new inhabited dwellings. If it be absolutely necessary to carry a drain under a house, the drain should be carefully laid, and the joints made perfectly tight, so as to prevent the escape of sewer gases into the adjoining subsoil. Many lines of earthenware pipe sewers and drains are ruined when laid in porous subsoils with leaking joints. The fluid sewage leaks away, and leaves the solids to accumulate and ultimately to choke the sewer or drain, as the case may be. Puddle should be used in such cases.

All junctions with main sewers should be made at a point above the ordinary water-level in such sewers; and, at the junction of branch or main sewers, the top of the sewers should be on the same level. Additional fall should be given at junctions or bends, to overcome increased friction. Junction entrances, provided for branch sewers and house drainage, should be protected by earthenware plates, or "disc-plugs." Street gullies should be small, compact, and double-trapped. There should be a sediment box, easily removed and easily replaced. Means of flushing should be provided in the gully, that choking of the pipe connexion with the sewer may be impossible. Large cesspit gullies are a nuisance. Small gullies of cast-iron are generally found the cheapest and best: increase the number of small gullies, rather than construct large cesspit gullies.

Fresh sewage, when properly diluted, filtered, or disinfected, may be passed into rivers, or into the sea, without causing nuisance or injury to fish. In arranging outlet sewers, provision should be made for applying the sewage to land in the immediate neighbourhood, for agricultural uses, by gravitation if practicable. Pumping by steam or other power is available. A town standing on ground having quick gradients requires special arrangements to break the rush of water down and of gases up. This can be done by breaking the line with a vertical fall, placing a flap over the mouth of the sewer, and ventilating at this point. The outlet ends of all sewers should be protected with a covering flap, to prevent the wind blowing in and driving back sewage gases. A cast-iron pipe, of comparatively small dimensions, on any river outlet-sewer, will pass the dry weather flow of sewage to and below the summer level of the river, so as not to be a nuisance.

It is not the special province of an engineer to enter into the question of diseases and their causes. There are many causes of disease other than filth, the result of no sewerage, or of defective sewerage; and even fevers may break out in a sewered town. Deficient and bad food, defective house-accommodation, and overcrowding, intemperance, and excesses of any kind, mental excitement, improper and deficient clothing, all tend to disease. The foundation of social improvement and comfort is, however, proper sewerage. The scale may be arranged in the following order, as things necessary in towns for health and comfort to the highest degree:—

1st. Main-sewerage, house-drainage, and street-pavements.

2nd. Good house-accommodation; rooms for the sexes, separate, with full ventilation.

3rd. Wholesome food, pure water, and proper clothing.

Then may be added, baths, reading-rooms, and museums.

A city of palaces, museums, picture-galleries, and of cesspools, is a sorry affair—a place to avoid rather than to dwell in. The cesspools of Paris detract from the beauties of the city above ground; and who is to visit and dwell in the cities of the Continent generally, if they remain neglected? Climate is blamed for producing disease in excess and premature death; but my experience has taught me that in any country and climate we must look to the habits of the people; and within their houses, rather than to the climate, for causes of disease in excess.

The cost of town sewerage works is an important matter; and, as continental governments look to England, and especially to the British metropolis, it is only right that they should have some sort of rule to judge by. In my experience I find that towns of and below 30,000 of population may have complete sewerage at or below one pound sterling per head. Where a population is compacted into a small area, and means of outlet are not distant, as in the cities on the Rhine, the estimate of one pound sterling may be relied on. But large brick sewers, for men to walk and work in, must not be constructed. The sewers must be of small sectional area; and so arranged that they may be cleansed absolutely and perfectly without sending men in and through them.

All rivers and streams are natural outlets for drainage; and, since men have dwelt on the banks of rivers, surface refuse has been allowed to pass into and mingle with the waters. There is at present a great outcry against the pollution of rivers by sewers, and the killing of fish. The questions may be asked, "Whether is it better to pollute rivers, or towns and houses? to kill fish, or to kill men?" I do not advocate the pollution of rivers, but the application of sewage to land for agricultural uses. If it will not pay, in some cases, as a commercial speculation, make it compulsory, and pay the cost by rate. By far the most expensive process in any community is filth in cesspools beneath houses, or on the surface around human dwellings.

Proper sewers and drains deliver sewage at the outfall fresh; and in this state fish are not killed, but are fed. The putrid sewage flushed from the foul sewers of the metropolis during hot weather by a thunder-storm taints the river and poisons fish; but even in the hot summer of 1859 the mortality in London was low, although the Thames was foul. As cesspools have been abolished, the public health has improved; and, if all the sewers were of sectional dimensions, forms, and gradients (as they may be) to transmit fresh sewage, and not retain it until putrifaction sets in, the public health would be further improved. It is practicable to so improve and manage the public sewers of this metropolis, that sewage one day old shall not remain, but shall be in motion towards some outlet; and in motion there is safety, but danger in stagnation.

The full and proper ventilation of sewers and drains is of the utmost importance: drains should be so laid and arranged as to render contamination of the air within houses (by sewage gases) impossible. At present, the sewers of the metropolis, with exceptions in the City, as recorded by Dr. Letheby and Mr. Haywood, ventilate, for the most part, direct to the open air, by means of the vertical shaft from the crown of the sewer. The gases of decomposition rise direct out; and road dirt, stones, and grit fall in. The gases foul the air in the street, and the dirt, ground by traffic through the open grates, blocks the invert of the sewers. The proper way to ventilate is to form a side-chamber, or side-shaft, and to place charcoal in the passage of communication from the vertical shaft by the side-chamber, so that all the gas escaping may be oxidised. The side-chamber receives the dirt falling through the ventilating-grate: it cannot enter the sewers. House-drains may also be ventilated in a similar manner.

Dr. Stenhouse pointed out the true uses of charcoal in 1853. I commenced the use of charcoal for sewer ventilation about the year 1858; and Dr. Letheby and Mr. Haywood commenced their elaborate and valuable experiments also in 1858. I think I may claim to have been one of the first, if not absolutely the first, to apply the use of charcoal for disinfecting the sewage gases of an entire town, upon a general plan, as part of a sewerage system. I may instance Worksop, Buxton, and West Ham.

Cesspools may be ventilated through charcoal with advantage, where they cannot be abolished entirely, which is the only safe remedy. At the County Hospital, Winchester, a large cesspool, some eight feet diameter, is ventilated through a covering of charcoal. The arch covering of the cesspool was removed: a wire-work basket, about ten feet square, supported on iron framework, covers the entire area of the cesspool; and this is filled with charcoal, broken fine (like peas), to a depth of twelve inches. There is a roof over the charcoal to prevent its being wetted by rain; and the whole is walled in so as to leave a clear passage round. It is reported to answer fully: there is certainly no nuisance from cesspool gases at this point.

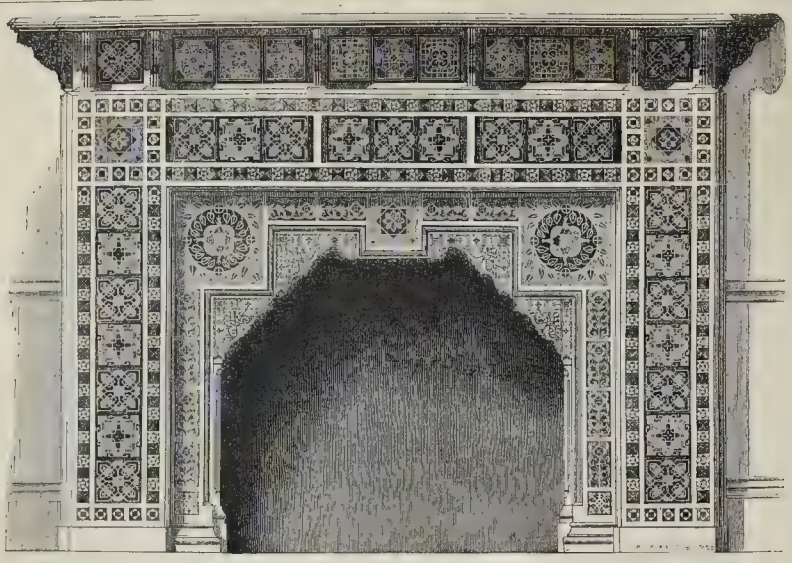
The following are details of sewerage works executed:—

CARLISLE.

The "drainage area" of the district sewered is about 2,000 statute acres.

The main outlet sewer for the entire area is 3 ft. 9 in. by 2 ft. 6 in. The sewer is laid with a gradient of 1 in 700. The outlet is extended to the centre of the river Eden, so as to deliver the sewage into the water of the river in the driest weather. The main sewer, and the low-lying portions of the city, may be relieved, by flood-outlets, of the drainage of 1,930 statute acres.

The "drainage areas" of the several "flood-outlets" may be described as follows:—



CHIMNEY-PIECE OF MAJOLICA TILES IN STONE.—*Executed by Messrs. Maw & Co., for the International Exhibition.*

Areas in acres.

1. Swift's-lane	330
2. Butt's-bank	50
3. Castle-mill	170
4. Dow-beck and Milbourn	750
5. Paddon-beck and Newtown	630
Total area in statute acres	1,930

The surface was most carefully considered, and all available means were used to prevent damage or inconvenience from local storms and flood-waters. The main sewers and secondary branches are built of bricks, moulded to the sectional form required for each sewer, and set in engine-ground hydraulic mortar.

Cast-iron pipes were used in crossing under rivers and watercourses and for the main low-water outlet. The means of flushing from surface waters are full and ample. Flushing-valves or sluices are provided on the Caldew, the Eden, Mill-beck, &c., and from a flushing-chamber in English-street (the highest part of the city), the sewers in twenty-eight streets in every direction may be flushed.

The sewers are designed to remove all sewage refuse without pumping. This will be accomplished completely at all ordinary times. An extraordinary flood may block the outlet; and a long-continued rain may then, for a short time, fill the lower sewers, simply because the surface waters impede all action: at such time the largest sewers would be filled; and, for a time, their delivery would be impeded. There have been as heavy floods in the district since the completion of the works as any previously recorded, causing no injury to the sewers. There has been local flooding, but no one blames the sewers as the cause.

The following are details of expenditure:—

Brick Sewers.

Size of Sewer.	Length in yards.	Average cost per yard.	£.	s.	d.	£.	s.	d.
ft. in. ft. in.		s. d.						
3 9 by 2 6	2,285	29 1½	3,326	19	10			
3 4½ „ 2 3	1,923	24 8	2,455	6	8			
3 0 „ 2 0	1,385½	21 6	1,491	16	2			
2 3 „ 1 6	3,209	16 6	2,644	0	11			
Total length of brick sewers	8,873							
Cost	....	.....	.....			9,918	3	7

Earthenware Pipe Sewers.

ft. in.	Yards.	Cost. s. d.	£.	s.	d.	£.	s.	d.
1 6	646	9 7	310	2	4			
1 3	4,352	8 5½	1,842	5	4			
1 0	6,569	6 8	2,167	11	9			
0 9	2,509	4 10	6	8	18	0		
0 6	168	3 10	32	4	0			
Total length of earthenware pipe sewers	14,184							
Cost	....	.....	.....			4,951	2	5

Cast-iron Sewers.

ft. in.	Yards.	Cost. s. d.	£.	s.	d.	£.	s.	d.
2 3	297	61 3½	910	3	2			
1 6	677	29 0	981	6	9			
1 0	48	18 2	43	10	9			
Total length of cast-iron sewers	1,022							
Cost	....	.....	.....			1,935	0	8
						£16,814	6	8

Summary of Sewers.

	Length in yds.		£.	s.	d.
Brick sewers	8,873	Total cost....	9,918	3	7
Earthenware pipe sewers	14,184	Total cost....	4,951	2	5
Cast-iron sewers ..	1,022	Total cost....	1,935	0	8
Total length..	24,079		£16,814	6	8

Manholes.

	No.	Average cost. £. s. d.	£.	s.	d.
On brick sewers	67	21 4 7	1,422	7	7
On earthenware sewers	60	7 1 1½	423	8	0
On cast-iron sewers.....	4	9 1 11	36	7	8
Total manholes	131				
Cost	..	.....	.....	£1,882	3	3

Lampholes.

	No.	Average cost. £. s. d.	£.	s.	d.
On brick sewers	18	1 14 6½	31	1	9
On earthenware sewers.....	79	1 17 11½	149	18	6
On cast-iron sewers.....	2	3 5 3	6	10	6
Total lampholes	99				
Cost	..	.....	.....	187	10	9
Gullies	366	2 19 0	.....	1,086	2	0
Flood outlets				445	16	9½
Flushing valves and sluices				341	14	6
Crossing rivers, and sundry expenses				747	3	7½
				£21,504	17	7
Engineer-in-chief.....				1,150	0	0
H. McKie, resident surveyor, and inspectors of brickwork, &c.				505	9	0
Incidental charges, say				150	0	0
				£23,310	6	7

Rateable value £60,378 7 9 } Annual rate in the pound required to repay principal & interest in 30 years, 6d.
No. of houses, about 6,838 }

The cost of draining "self-contained" houses, including one watercloset, was about	£6	2	1
The same, without a watercloset, about	5	6	4
The cost of draining "tenement houses," with one watercloset for each house, taking on an average of 71 tenements, was, per tenement	1	6	7
The cost of draining "tenement houses" without watercloset, taken on an average of 66 tenements, was, per tenement.....	1	10	0

Where a watercloset has not been used, a cesspit has been drained, and the drain is laid at a greater depth, involving larger cost. Where a water-closet has been used, the cesspit has been filled up.

All cesspits should be abolished, as nuisances, which draining only ameliorates, but does not cure.*

DECORATION AT ALNWICK CASTLE.—Herr Gotzenberg, a German artist, is at present engaged in making drawings of Chevy Chase, and other historic achievements of the House of Percy, for the Guard Chamber. We understand the commission was offered to Mr. Dyce in the first instance, who, from other engagements, declined it.

* To be continued.

CHIMNEY-PIECE CONSTRUCTED OF MAJOLICA TILES SET IN MANSFIELD STONE.

THE chimney-piece here represented has been executed by Messrs. Maw & Co. for the International Exhibition, and will form one of the principal features in a court in which a comprehensive collection of the clay manufactures of the Shropshire coal-field will be arranged under the superintendence of Mr. George Maw. It has been executed from the design of Mr. M. D. Wyatt, with the object of showing the general applicability of majolica or enamelled tiles for the purpose of inlaying stone as a means of architectural enrichment, both externally and internally; as well as for the simple covering of plain surfaces in dados, string-courses, friezes, &c., for which they are more commonly employed. It is impossible in an engraving to give a correct idea of the general effect of this chimney-piece, not only on account of the absence of colour, but because our engraving shows, of course, but one point of view. In this view the shape of the opening is not wholly satisfactory.

Messrs. Maw & Co. have introduced a variety of brilliant shades of purple, scarlet, rose colour, &c., into these and their other majolica tiles, which have not before been obtained in that material. Altogether, they comprise a large and varied selection of colours, the result of a long and careful study of this difficult and beautiful art.

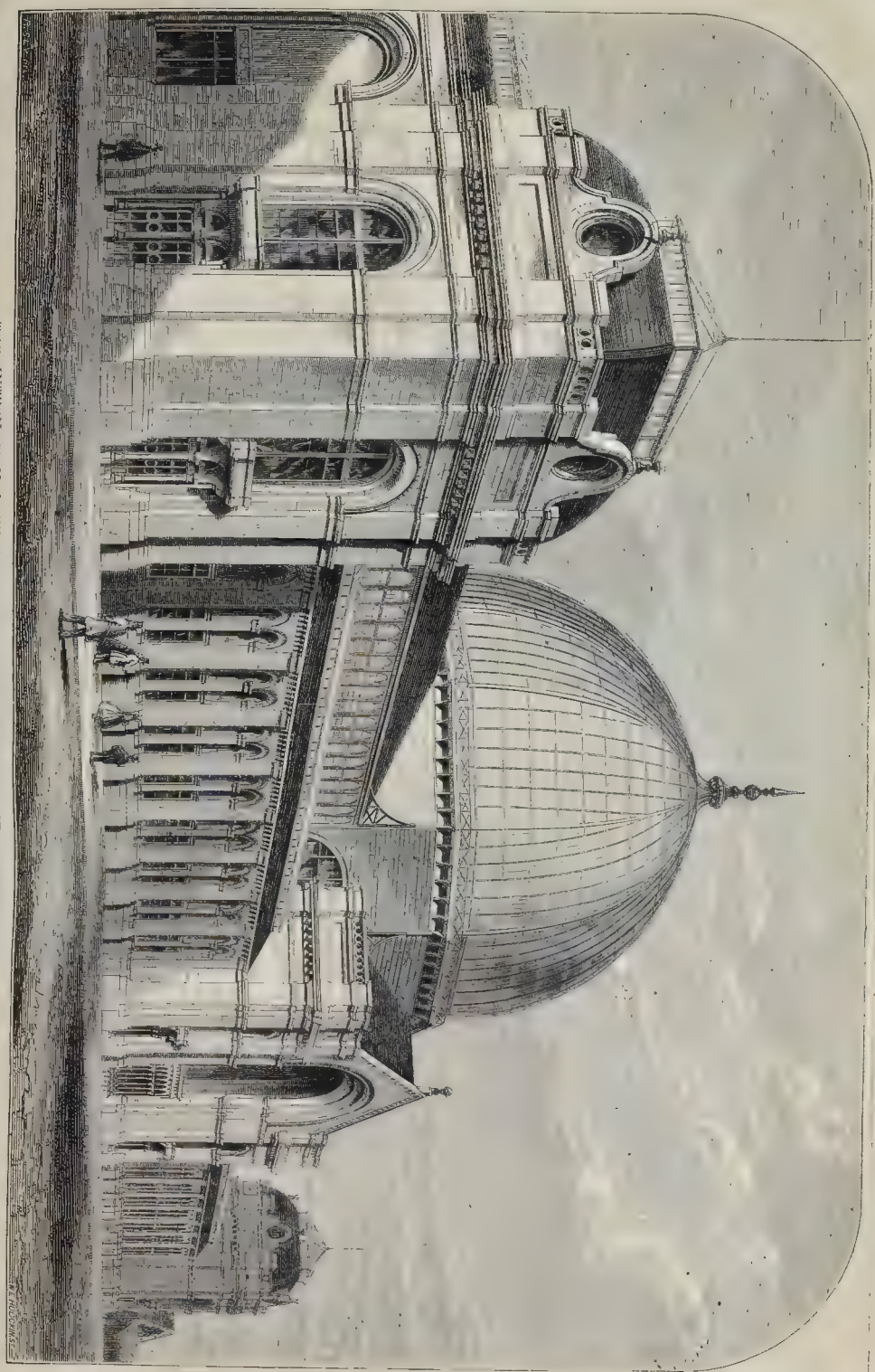
The means of fixing these tiles on the reveals of fire-places and other positions in which they are exposed to heat are provided; which prevent the possibility of their becoming detached by the fire, and, at the same time, improve the effect. The value of this fire-place, we understand, is about 125 guineas.

VENTILATION AND WARMING OF DWELLINGS.

A PLAN for supplying a constant current of warm air to domestic dwellings, public buildings, or conservatories, has been advertised by Mr. Joseph Newton, horticulturist. It appears that this adaptation of the ventilating principle has been tried with perfect success in several private mansions; and, from its comparative cheapness, it can be applied to small houses and cottages where the common fire-place may give a supply.

That anything wholly novel in principle can be claimed by the originator of this new combination of manifold experiments can hardly be expected; but if, as is alleged, a steady supply of warm air in cold weather, and of cool atmosphere in summer heat, can be obtained with certitude; then Mr. Newton's plan will be of great public value.

In cold climates, a system of regularly supplying a genial temperature, without expensive consumption of fuel, is a desideratum long sought for.



THE INTERNATIONAL EXHIBITION BUILDING: EAST FRONT.—*Designed by Captain Fowke.*

THE INTERNATIONAL EXHIBITION.

EXTERNALLY the building has now taken the shape it will on the present occasion retain; and internally the works are going forward rapidly towards completion. Much will have to be done after the 1st of May, and some of the best English works, we have reason to believe, will not be in the building by that date. Nevertheless, for all the purposes of the opening, quite enough will be done to support our character for punctuality and correctness. The English exhibitors are now sending in their cases, and the foundations for trophies are being constructed. The scaffolding has been removed from the upper part of the domes; and we are disposed to think, from the partial glance obtainable, that the coloured decorations of the domes will be found very successful,—more so, we should say, than those of the nave; which, nevertheless, give a sufficiently bright and agreeable aspect. The decorations of the transepts include inscriptions in large letters at the ends, under the semicircular lines of the roof-principals. Those in the English part are in the vernacular, and those in the foreign part are in Latin; thus we have at the south end of the east transept "Each climate needs what other climes produce;" and at the north end of the west taansept "*Domini est terra et plenitudo ejus.*" We must give up hope of any particularly striking effect,—any such effect, for example, as the long lines and the aerial lightness of the old Crystal Palace afforded. One of the most striking views probably will be obtained from the southern end of the western transept, which may take in the whole extent of the annexe, unless this be unwisely cut off, as has been done in other parts. The outer inclosure of the annexe, by the way, has gone over some few inches out of upright; but this need not lead to any serious inconvenience.

We have engraved a view of the eastern front of the building, from a photograph. It is fair to say that the outline of the dome, as seen from some other points of view, is more agreeable than in this. Prominent blots on this side of the structure are seen to be the meanness of the wooden tambour of the dome, the inartistic manner in which the brick entrance is connected with it, and the ranges of blanks with windows at the bottom. We have been reproved by lay writers for not "speaking out" on the subject of the ugliness of the building, and denouncing this and denouncing that. They ought to know that long ago we pointed out that the building would be very ugly and that the commissioners had acted unwisely, not to say unjustly, in ignoring the architectural profession. Beyond this we have no occasion now to go. We have the success of the undertaking most warmly at heart, and should be unwilling to assist in raising any inimical feeling. We would rather do all in our power to lessen the difficulties in the way of those who have to conduct it to a satisfactory conclusion.

Some of our readers appear to be misinformed as to the cost of the building; and it may be useful to repeat the terms of the arrangement with Messrs. Kelk & Lucas. The commissioners are to pay them 200,000*l.* as absolute rent for the use and occupation of the building: if the receipts reach 400,000*l.*, then the contractors are to receive all beyond that sum up to 500,000*l.* (or 100,000*l.* more); and the centre acre of the permanent building in the Cromwell-road is to be given up to the Society of Arts; the contractors removing and selling the remainder. Should, however, the receipts enable the commissioners to pay them 130,000*l.* in addition, or 430,000*l.* altogether, they are then to surrender the whole structure.

It seems tolerably certain that her Majesty will issue a Royal Commission to the Duke of Cambridge, the Archbishop of Canterbury, the Lord Chancellor, Lord Derby, and Viscount Palmerston, empowering them to open the International Exhibition in her name, and to invite foreign sovereigns to be present at the ceremony.

The hanging of the British pictures, which occupy the eastern portion of the permanent building, in Cromwell-road, is being fast proceeded with. The walls of the galleries are coloured sage green; the cove of the ceiling being ornamented with Venetian red lines and buff. There is reason to hope that the lighting will prove good; but unfortunately the appearance of the roof of the galleries is very unsatisfactory within.

The works for improving the approach by the Brompton-road are going on vigorously; and it is to be hoped that the committee will be so far aided, both by the public, with money, and the owners and tenants on the line, with good will and co-operation, that they may be able to make the improvement complete. We are anxious to see a beginning in Queen's-buildings, where the open space in front of the houses, which should be thrown into the road and path, is transformed into a public nuisance, especially on Saturday evenings. Amongst the improvements which could easily be made, but for the captious objection of a few individuals, is the much-needed way through Brompton-square. Mr. Robinson, the owner of a plot of ground at the north end of the square has offered to surrender it gratuitously to the public for that purpose; but at present the objections of occupants of houses at Prince's Gate stand in the way. It is much to be hoped that these will be removed.

We are requested to insert the following statement as to

The Battle of the Domes.

Some time ago a paragraph appeared in a weekly newspaper respecting the progress of the Great Exhibition, containing statements on the subject of the battle then raging between the contractors for the east and west domes, which, if left unanswered, may tend to mislead the public as to the amount of activity and skill displayed by each contending party. As the battle has now been fought, and the victory won by the eastern dome contractors, we consider this a fitting opportunity to put the public right on the subject, and to correct a few errors that have arisen. The construction of the two domes, and the whole of the roofing of the courts, was intrusted to the Thames Ironwork and Ship-building Company; the making and erection being placed under the superintendence of Mr. T. E. Hussey, an engineer of experience. He selected Mr. J. Mauldin (one of the sub-contractors for the erection of the transept and two towers of the Crystal Palace, under the inspection of Mr. Cochrane), to whom the erection of the two domes and the roofing of the courts were sublet. Mauldin hoisted the first column of the eastern dome on Monday, October the 21st, 1861; the first column of the western dome, Wednesday, November 13th, 1861; making three weeks and two days between the start of the two domes. Messrs. Kelk and Lucas then offered their assistance in erecting the western dome, which was accepted. From this time commenced the battle of the domes.

The western staff showed great spirit in putting up large wooden ribs, of which the eastern staff could not see the utility. This staff still kept their steady and safe course, while the western tried all they could to overtake them by employing nearly one third more men, and working till a late hour in the night, with the assistance of gas, the eastern men leaving work at the end of the day. The number of derricks rigged for hoisting and fixing the ground ribs for the eastern dome were nineteen. The whole of the main ribs of the eastern dome were hoisted and fixed by thirteen pairs of shear legs and thirteen derricks. The number of derricks rigged for hoisting the ground ribs in the western dome was twenty-eight. The number of shear legs for hoisting the main ribs was thirteen pairs, and twenty-six derricks: although this extra tackle and number of men were employed, yet they could not gain on the eastern dome. When the western found they could not gain the advantage they left off their nightly labour, and followed the eastern at a greater distance than when they started. The cost of labour for erecting the western dome is over 1,000*l.* sterling more than the cost of the eastern. There still is an extra cost for tackling.

Great credit is due to Messrs. Frost & Co. for recommending the rope for hoisting the ironwork: better could not have been made. The only tackle that gave way was the shafts of the steam-winches. Mr. Frost being present at the time one broke, suggested a plan to prevent it, which was adopted, and has been quite successful; neither of the shafts have given way since. Similar hoisting power was used in the erection of the two towers of the Crystal Palace, Sydenham, but to a greater advantage, as double the weight of iron was hoisted in less time than on the domes; so that the lift is not a new invention.

The break used for the dead stopping of the hoist, in case of danger, was invented, made, and fixed by J. Mauldin, for hoisting the ironwork for the towers at Sydenham. The large timber scaffolds erected for fixing the dome, were made under the direction and superintendence of Mr. Clemence. The erection of the eastern scaffold was sublet to Messrs. Fordham & Dean; the western to Messrs. Ransome & Last—men well experienced in such work. These are the two largest scaffoldings ever put up in so short a time. The whole of the cast-iron columns and girders for the galleries, and castings for the other works in the building, were erected under the superintendence of Mr. Ashton; the plans for the main bracing being supplied by Messrs. Ordish & Lefevre, engineers, of Great George-street. The plans for the dome scaffolds were supplied by Mr. T. E. Hussey: these are now being lowered; the eastern by its erectors; the western by Mr. Ashton; Messrs. Ransome & Last being engaged in another part of the building. The iron roofs of the long range of picture galleries, and the trussing of the galleries, were made at Messrs. Kelk and Lucas's, under the superintendence of Mr. Robert Hearn.

THE FOREMEN OF THE EXHIBITION.

THE ALBERT MEMORIALS.

The National Memorial.—At a recent meeting of the Queen's Committee it was stated that as yet no stone has appeared more suitable than the Argyll block at Mull; that the block is now cleared to a length of 115 feet; or 8 feet or 10 feet longer than it was supposed to be; and that practical men are of opinion that the stone is sound. A fragment is about to be polished in London. A granite block, 100 feet long and nearly 50 feet broad, has been found at Balmoral; but the colour is not so agreeable as that of the Mull granite, while the cost would be far greater for transit. These particulars, at all events, show that our suggestion at the outset, and before a monolith had been decided on, that, should the monument assume that form, it ought to be one of our own exclusive formation, and excelling all others in height, is likely to be capable of being realized. The amount subscribed is now 42,300*l.* Very much more will be required. Endeavours are about to be made to enable the working classes to co-operate.

Chapel Royal, Windsor.—We understand that Mr. Scott has prepared a design for a memorial window to his late Royal Highness, which is about to be laid before the Dean and Canons of Windsor for approval, previous to its being carried out in the window over the altar of St. George's Chapel.

Oxford.—At a recent meeting of the City Council, the mayor read a letter which he had received from the Lord Mayor of London, relative to the proposed national memorial to the late Prince Consort; and stated that he had replied to it to the effect that the citizens of Oxford preferred having a memorial of their own, and intended to place in the New University Museum a statue of Prince Albert. The mayor also stated that Mr. Woolnoth, the sculptor, had been engaged to supply the statue, at a cost of 300*l.*; towards which sum 200*l.* had already been raised.

Ipswich.—A densely thronged county meeting has been held in the council chamber of the Town Hall, Ipswich, under the presidency of the Earl of Stradbroke, lord lieutenant of the county, on a requisition signed by more than 800 persons, in order to consider the subject of a memorial of the Prince. It was resolved, at this meeting, "that a county memorial be raised in honour of his late Royal Highness the Prince Consort, and that a college for the scientific and practical instruction of the middle classes at a moderate cost would well accord with the views of the illustrious Prince, and would be of permanent benefit to the county." Upwards of 6,000*l.* were subscribed on the spot.

Faversham.—Here, as elsewhere, much difference of opinion prevails on the question between a local and the central memorial. Amongst the many irrelevant and even absurd suggestions as to "useful" memorials made throughout the country, Faversham seems to have been distinguished by the most pre-eminently ridiculous one,—namely, that an "Albert Pump" should be erected in the market-place. It has been resolved, however, to collect subscriptions in the mean time, and afterwards to decide as to what shall be done with the proceeds.

Bristol.—There was a large attendance at the Guildhall, Broad-street, on the 20th of March, convened by the mayor, to confer with him as to a suitable memorial of the Prince, when resolutions were passed, including one approving of subscriptions being raised for some suitable monument, but without more particularly deciding on the nature or locale of the memorial. The mayor spoke of a bronze statue, and a monolith was also suggested.

Edinburgh.—At a meeting of the General or Central Committee for promoting the Scottish National Memorial, a chairman and other office-bearers were elected, and an acting committee appointed (with power to add to their number), to take means, as soon as the amount of funds could be approximately estimated, for ascertaining the personal wishes of Her Majesty as to the nature, the site, and the execution of the memorial; and to report as to the best mode of carrying Her Majesty's wishes into effect. There was a numerous and highly-influential meeting, including the Duke of Buccleuch (who presided), the Duke of Athole, the Earl of Rosslyn, the Earl of Haddington, Lord Dunfermline, the Lord Provost of Edinburgh, and many others. The only county subscription as yet sent in, as a separate contribution, is that from Argyle, which amounts to 460*l.* Argyle is a county very thinly inhabited.

Glasgow.—It has been proposed by Mr. G P. Kennedy that the Glasgow memorial of the Prince Consort should be a cenotaph in the West-end Park; and he has prepared plans of such a building; containing an area of about 300 square yards, with façades of 52 feet each, and 115 feet in height to the top of the pinnacle. The proposed building is meant as a "repository for works of art, science, and manufacture, as well as being an honorary tomb;" and Mr. Kennedy adds that "such a spacious interior, with its smaller compartments, might be converted into a library or reading-room, and might be useful as a protection from the inclemency of the weather." The estimated cost is 5,240*l.*

Fettercairn.—At a very influential meeting here, it has been resolved to have a local memorial; the nature of it to depend on the sum subscribed. We must here protest against an absurd expression, which appears to be getting into use both in

England and Scotland (we have even seen it in a London newspaper), and which occurred at Fettercairn, where her Majesty was alluded to as "our gracious Majesty."

Dublin.—A highly influential meeting has been held at the Mansion House, Dublin, upon the invitation of the Lord Mayor, to inaugurate the movement for the erection in this city of an Irish memorial of the Prince Consort. The *Freeman* says:—"From the very successful beginning which has been made there can be little doubt that the 'memorial' will be worthy of the many claims which Prince Albert's memory has upon all classes, especially those engaged in science, the arts, and in commercial and industrial pursuits. The very handsome sum of 1,200*l.* was subscribed even before the meeting; and, if the subscriptions come in, as there is every reason to believe they will, with the same liberality and rapidity, a large sum will soon be realized. There will be a meeting of the committee of the county Dublin subscribers. They will be specially convened by the lieutenant of the county, the Earl of Howth, to consider the propriety of sending their subscriptions to the Irish instead of to the London fund. The county subscriptions, we understand, already reach the sum of 500*l.*, which will at least be doubled before the county lists are closed."

MR. PEABODY AND THE LONDON POOR.

MR. GEO. PEABODY, the American banker, has given a formal shape to his intention, already mentioned by us, of conveying to trustees 150,000*l.* to be applied "exclusively to such purposes as may be calculated directly to ameliorate the condition and augment the comforts of the poor who, either by birth or established residence, form a recognized portion of the population of London." He stipulates that "now and for all time there shall be a rigid exclusion from the management of this fund of any influences calculated to impart to it a character either sectarian as regards religion or exclusive in relation to local or party politics;" and says, "thirdly, in conformity with the foregoing conditions, it is my wish and intention that the sole qualifications for a participation in the benefits of this fund shall be an ascertained and continued condition of life such as brings the individual within the description (in the ordinary sense of the word) of 'the poor' of London, combined with moral character and good conduct as a member of society. It must, therefore, be held to be a violation of my intentions if any duly qualified and deserving claimant were to be excluded either on the grounds of religious belief or of political bias."

With the highest consideration for the motives of the benevolent donor, we must confess to strong misgivings as to the result of the donation. It sounds very much like offering a premium for hereditary and continuing poverty; and if this view be carried out, it will do an enormous amount of evil instead of good.

Mr. Peabody points out the probable desirability of applying "the fund, or a portion of it, in the construction of such improved dwellings for the poor as may combine in the utmost possible degree the essentials of healthfulness, comfort, social enjoyment, and economy;" and names the United States' Minister in London, Lord Stanley, Sir Emerson Tennent, Mr. C. M. Lampson, and Mr. J. S. Morgan, as trustees for the application of the fund, with power to add to their number. Before the words of the trust deed are settled, good counsel should be taken.

PARIS.

A FEW steps from the Boulevart de Sebastopol (*Rive droite*) a house is being constructed which will cause the disappearance of the last vestiges of one of the most ancient thoroughfares of this old quarter,—that of the Rue de la Vieille Monnaie. This street, whose origin *se perd dans les nuits du Moyen age*, was known, before the time of St. Louis, by the name of Rue de la Monnaie. A little higher up, on the Boulevart de Sebastopol, at the angle of the Rue Rambuteau, there remains also the last house of another old street: there commenced the Rue Salle-au-Comte. The Comte de Daumartin lived there; his hotel having been, some time afterwards, the abode of the Chancellor de Marie, who was massacred in 1418 by the Bourguignons when Paris was given up to the populace by Perinet Leclerc.

The belfry erected between the Mairie of the first arrondissement and the church of Saint Germain l'Auxerrois is completed, with the exception of the placing of the clock. The open space extending in front of this façade of the Louvre is completed; but not after the original design of Perrault; who proposed thereby to open an immense square between the colonnade and the Pont-Neuf; so that the demolition of the church of Saint Germain-l'Auxerrois and the adjoining block of houses would have followed.

In order to disengage the side of the Louvre in the direction of the river, Louis XIV. proposed the erection of a monumental bridge opposite the Lesdiguières pavilion. This bridge was to have terminated at the other side of the Seine, in a semicircular open space, whence three boulevarts were to radiate; viz., one to the south-west, towards the esplanade of the Invalides; another to the south-east to the Luxembourg; and a third straight to the south, joining into the road to Versailles.

The works of the Billancourt bridge, commenced in the month of September last, have been suspended, owing to the flood of water in the river. The structure is to be composed of two sections, united by an island; viz., three arches over the large branch of the Seine, and two over the others; in all five arches. The Billancourt bridge will afford ample means of communication with Boulogne and other suburbs on the right bank of the Seine, where the population is continually increasing, and desirous of communication with the communes of Issy and Bas-Meudon, so rich in materials of construction of all sorts. Above Billancourt the Seine is to be crossed by another bridge, a girder one, to carry the *chemin de fer de ceinture*, and for foot passengers. The execution has been ordered, and all steps taken for its construction.

THE ARCHITECTURAL EXHIBITION.

THE annual exhibition was inaugurated on Tuesday evening last, by a numerously attended *conversazione*, at the house in Conduit-street.

The galleries of the building were thrown open and brilliantly illuminated, while the walls and screens were covered with drawings, photographs, and sketches of architectural subjects.

Additional interest was imparted to the exhibition by the collection of original sketches and designs of the late A. Welby Pugin, the former taken in the principal cities of France, South Germany, Belgium, and Italy. These were exhibited by themselves in the west gallery.

The chair was taken by the Rev. R. Burgess, rector of Chelsea.

Mr. Edmeston (hon. secretary) said, that in the absence of their excellent treasurer, Mr. Ashpitel, he wished to make a few remarks in reference to the position of the undertaking. He was glad to be able to announce that the receipts during the last year had been sufficient to meet the expenditure. This, he believed, was partly owing to some new regulations, including the payment of the carriage of drawings sent from the country; thus affording architects in the provinces every opportunity for the display of their works. With regard to the present exhibition, he referred with pleasure to the Welby Pugin collection exhibited in the western gallery. Having been informed that Mr. Pugin was taking steps to exhibit the drawings of his eminent father, they had communicated with that gentlemen, who had consented to place them in the gallery, so as to avoid the cotemporaneous opening of two architectural exhibitions. The Pugin drawings might be viewed separately, at a charge of 1s.; but the subscribers to the society and season-ticket holders would be enabled to see them without further charge. He was sure that the public would avail themselves of the opportunity now afforded to them to improve their taste in architectural matters. The utility of such exhibitions as a mode of instructing and improving the public taste in architecture was obvious; and the necessity of some such improvement was equally clear; for all who had witnessed a certain great undertaking in the neighbourhood of the metropolis must admit the necessity of devoting greater attention to this important subject.

The chairman said he had been requested, without any previous notice, to take the chair on the present occasion; and that he presumed he would be expected to say something upon a subject as to which he was very ignorant. He had been connected with the institution for some years; and he confessed that he took great interest in the object which it was intended to promote. He highly approved of the liberal arrangement which the committee had made with regard to the admission of visitors and subscribers; and he believed that if the commissioners of the great International Exhibition were animated by a similar spirit, they would find their season-tickets going off at a more rapid rate. Exhibitions were now the order of the day; and it was impossible to overrate their importance as a means of instruction to those who, although, perhaps, not professionally engaged in works of construction, were at the same time desirous of improving their taste. Neither could it be denied that there was great scope for improving the architecture of the metropolis. But whatever shortcomings might be instanced in this respect, he believed that the fault lay not with the architects as a body, but with those who had the control of the public money. He had always been of opinion that it was a pity, when Parliament voted public money, some means was not adopted to insure the due preponderance of taste as well as utility. If, however, Parliament would be a little more liberal in the encouragement of architectural art, the metropolis would soon bear testimony to the improved tone of the Legislature in that regard. The rev. chairman then referred to the death of the late Prince Consort; and, having stated how much the world of art was indebted to him; he said that an architect of great eminence, whose studio had been frequently visited by the Prince, had assured him that he had never known a person who had so fine a taste or so correct a judgment with respect to sculpture.

On the motion of Professor Kerr, a vote of thanks was passed to the chairman for presiding.

The exhibition includes 343 designs and drawings, and 34 specimens of materials and inventions relating to buildings. In the latter department some prominent objects exhibited on a previous occasion have been left in their old position, and give the collection an aspect of staleness. The great feature of the exhibition is the remarkable collection of designs, drawings, and sketches, 700 or 800 in number, made by the late A. W. Pugin. When it is known that in addition to the inspection of these and the general collection at any time, the half-crown season-ticket admits to the following promising set of lectures,—(May 6th), On the transport and erection of Obelisks, and other large Monoliths, in Ancient and Modern Times, by Professor Donaldson; (13th), The Character and Career of the late A. W. Pugin, by Professor Kerr; (20th), Pagan Architecture, by Mr. W. Burges; (27th), Conventionality in Ornament, by Mr. J. P. Seddon; and (June 3rd), The Truthful in Art, by Mr. R. W. Edis;—the number sold ought to be very large.

The exhibition will remain open from the present time until the 30th of June next.

MANCHESTER ARCHITECTURAL ASSOCIATION.

A MEETING of this association was held at the Rooms, George-street, on the evening of Wednesday, March 19th, when Mr. R. W. Aitken read a paper on "Botany in Relation to Architectural Design." In the course of the paper the writer remarked:—Nature, as the model and source of architectural decoration, does not necessarily imply exact reproduction. Architectural style will not admit of this faithful copying; for, in proportion to the spirit of the style must be the character of the ornament; the greater extent of artificiality requiring corresponding conventionality. The writer reviewed the characteristics of the various leading styles in connexion with their relative possession of the attributes of "fitness," "simplicity," beauty, and expression; and, in referring to the primal sources of all decoration, viz., utility and beauty, remarked that,—The developement of utility, as first in order, was natural; inasmuch as it is especially connected with man's physical being; beauty with his intellectual: utility was necessary to his life as a creature; beauty to his existence as a human being.

Having secured his physical comfort by the erection of a shelter from the external elements; and thereby developing utility in construction; he would not rest contented till construction should elaborate itself in decoration, and his intellect receive thereby something to satisfy its wants.

A discussion ensued; in which, amongst other subjects, the use of conventionalism, in the adaptation of natural forms to decorative purposes, came under consideration.

GLASGOW ARCHITECTURAL SOCIETY.

AT a meeting of the Glasgow Architectural Society, held on the 17th, a paper was read by Mr. James Cousland, entitled "Remarks on Modern Church Architecture, with special reference to Plan, and the Adaptation of various Styles to suit its requirements." The reader said the problem to be considered was this:—Given the requirements of a Presbyterian church: how shall

we fully and completely meet them, and at the same time realize a perfect architectural composition? The solution may doubtless be arrived at in many ways; and it is the aim of the present paper to throw out a few thoughts towards this object. The requirements of a Presbyterian church are few and simple, possessing no ritual or liturgy. The sermon or exposition is the leading feature in her public worship: the great purpose to be served is, therefore, that an assembled congregation shall see and hear the preacher easily and with comfort. In fact, the interior of such a church should be practically an auditorium of the best construction: nothing more is absolutely necessary. With our simple forms of worship, the first thing which naturally suggests itself is, that the plan shall be so arranged that every one may, as far as possible, face the pulpit, and that there be no pillar or other obstruction to the view. Second, that the building should be expressive of a large and spacious interior; that externally some broad treatment or bold leading feature be introduced, to show plainly that it is not a building in stories nor divided into apartments. These points, successfully attained, would fulfil the conditions of fitness and expression of primary consequence in every essay at real and true architecture. Another quality desiderated, which is inseparably connected with those already mentioned, is that of truth. All the great features of the plan should proclaim their disposition and arrangement, and their relative importance, by the treatment of the masses and outline of the elevation.

TESTIMONIAL TO MR. CHARLES KEAN.

OUR SILVERSMITHS.

THE costly testimonial, subscribed for by the friends and admirers of Mr. Charles Kean, was presented to that gentleman in St. James's Hall, on Saturday last. The great room was full. The Chancellor of the Exchequer performed the office of presentation with properly appreciative words; and Mr. Kean replied at some length in an admirable speech admirably delivered. In the course of it he said,—"It has always been my earnest desire that the works of England's mighty dramatist should be presented to the world in a manner worthy of their innate beauty and grandeur; that each performance should represent truly 'the age and body of the time;' and where the architecture and costume should be alike portrayed either in their splendour or in their simplicity. By combining pictorial art with the finest poetry known to mankind; by assisting the delusion with regard to place and time; by holding up the mirror of history; I had hoped, without detracting from the power of the actor, or the importance of the author, to have rendered that stage over which I had control, something more than a mere vehicle of transient amusement;—an elevating and instructive recreation. If there be any who supposed that I intended to address myself merely to the eye, my purpose has been so far perfectly misunderstood; for I meant but to pass through that gateway of the mind, and appeal to the understanding of my audience."

The testimonial consists of nine pieces, in oxydised silver. The centre is a large vase (with singularly involved handles), presenting portrait models of Mr. and Mrs. C. Kean in the plays of "Lear," "Hamlet," "Henry IV.," "Winter's Tale," "King John," "Richard III." "Much ado," "Henry VIII." "Merchant of Venice," with figures of Shakspeare, and tragedy and comedy. Then come two candelabra for five lights, with portraits of Shakspeare in low relief; four dessert stands, bearing severally, on the base, a subject in low relief from Shakspeare's plays, and two silver groups; the first illustrative of "Midsummer Night's Dream;" the second of the "Tempest." The whole were designed and modelled by Mr. H. H. Armstead, and manufactured by Messrs. Hunt & Roskell.

The amount subscribed, if we understand rightly, was more than 2,000*l*. We regret that we cannot feel the same admiration for the works, in an artistic point of view, that has been expressed by our contemporaries; though some of the groups are very charmingly modelled and deserve praise. Want of the right appreciation of the capabilities of metal work is shown in the largeness, not to say coarseness, of the parts; which gives to them the aspect of cast-work. The foliage, for example, supporting the lights in the candelabra, is simply abominable. It may seem ungracious, in connexion with so interesting an event as we regard this presentation to be, to hint even at an objection to the way in which the wishes of the committee have been carried out; but in the interest of art-manufacture we are forced to speak. If we are to accept this costly testimonial (a magnificent commission) as the best that one of our best firms can execute, the art of the silversmith is not rising in England.

TELEGRAPHIC PROGRESS.

AN interesting report on the telegraphic communications established between the various police offices in the city of London has been printed by order of the authorities. From this report it appears that, when the system was resolved upon, it was considered best, if possible, to have the wires stretched between the various church towers; and permission was given by the authorities of all sects connected with the churches. The contract was given to Messrs. Reed, Brothers, telegraphic engineers; and completed, without delay, at a cost of less than 600*l*.; including not only instruments, but also an extra wire from the superintendent's residence to the chief office, for use during the night. The system comprises a separate wire from each police station in the City to the chief office. The whole line has now been at work for fifteen months; the men who happen to be on duty transmitting the messages themselves. The annual cost does not equal that of a single additional constable. Great facilities, as may be imagined, have resulted from this new police organization of the City; messages, which formerly required hours being now delivered in seconds: and reports, formerly made only once in twenty-four hours, being now superseded by hourly communications; while in cases of urgency, as at the great fire in Tooley-street, the police force can at any moment be concentrated on any one district of the City. The plan was originated and developed by Mr. Sydney H. Waterlow.

Throughout the city of Glasgow all the police-offices are now in communication by telegraph with each other, and also with the central fire-engine station; so that in case of fire in any district, information may at once be sent to the fire-engine office. The larger commercial firms are availing themselves extensively of the invention; about fifty sets of instruments being now in use in Glasgow; and in a week or two there will be in operation several hundred cables, containing from ten to thirty wires each.

An influential assemblage of gentlemen connected with the Atlantic Telegraph Company, or otherwise interested in telegraphic communication with America, have had an interview with Lord Palmerston as to the relaying of this telegraph. The Right Hon. Stuart Wortley, in stating the object of those with him, said that all the failures which had occurred hitherto had been in shallow water; and, out of twenty-four submarine telegraphs of different lengths, there were twenty-two at the present time in perfect order. The failure of the Atlantic cable, he said, arose from circumstances, connected with its manufacture and laying down, which subsequent experience had shown the projectors how to avoid. The depth of the sea was also now understood among men of science to be an advantage rather than otherwise. What the deputation wished his lordship in conjunction with her Majesty's Government to do was, to follow up the last partial success by sending a small expedition for the purpose of taking soundings along the proposed route between Ireland and the coast of Newfoundland; to give a favourable consideration to the overtures made by the American Government; and to guarantee, jointly with that Government, interest at 4 per cent. for thirty years, upon a capital of 700,000*l*.—equivalent to a guarantee of 28,000*l*. per annum for thirty years. In addition to this they should be glad if a commission were appointed to inquire into the whole subject of submarine telegraphs. Specimens of the cable used in the late attempt, and also of others, to show the great superiority in construction of the cable now proposed to be used, were then exhibited to his lordship, who carefully inspected them. His lordship observed that there was no question as to the value of telegraphic communication between this country and America; though he feared that unless backed by a Government guarantee the public would not be willing to subscribe their money to the undertaking. If a communication could be established the commercial intercourse would, doubtless, be enormous; and quite sufficient to pay a dividend without any assistance from the Government. He had heard the other day that the American Government had the notion of establishing telegraphic communication with Europe through Asia. After some further conversation Lord Palmerston requested that the chairman of the board of directors would forward to him an official statement embodying their proposal. His lordship also promised, on the part of the Government, that such statement should receive impartial consideration.

COMPETITIONS.

Painswick, Gloucestershire.—Designs having been submitted in competition for the proposed new cemetery, those by Messrs. Elmslie, Francy, & Haddon, architects, were selected as being the best and most suitable. The chapels, with porch and robing-room to each, are in the Decorated style, and are to be built of local stone, the roofs covered with Staffordshire tiles. Between the chapels is a tower and spire. The lodge, entrance-gates, boundary-walls, and palisading, are of appropriate character. The grounds are about 4 acres in extent, 2½ acres of which are allotted to the consecrated portion, and 1½ acre to the unconsecrated portion. Tenders for the whole of the works have been received, and that submitted by Mr. H. Birchall, of Birmingham, is accepted. The works are to be commenced immediately.

Dartmouth.—The Dartmouth town council have awarded their first premium to Mr. John Bell, engineer of the Dartmouth and Torbay Railway; and their second to Messrs. Hickes & Isaac, architects, of Bath, for plans for the improvement of their town.

THE INDUSTRIAL FARM WELL, BRIGHTON.

A GREAT event, in local estimation, has just occurred at Brighton. For the last four years a well has been in progress on the Warren Farm, on which the more youthful inmates of the Brighton workhouse, some 250 in number, are to be set to work in connexion with the Industrial Schools there. The farm is situate on the summit of the South Downs, some 370 feet above the level of the sea. When the contract was taken (by Mr. North) it was believed that a shaft of about 400 feet in depth and 6 feet in diameter would constitute the actual excavation. When the well, however, had been sunk to a depth of 437 feet 9 inches, there was still no water, and Mr. North threw up his contract. The guardians then took the work into their own hands, and had sunk the well to a depth of 1,282 feet, at a cost of about 100*l*. a week (or 6,500*l*. in all), when at last a strong body of fine soft water was reached on Saturday before last. The water on Monday had risen upwards of 700 feet in the shaft, which, however, had been diminished to a bore of 4 feet diameter, after sinking to a depth of 437 feet 9 inches, and cutting a horizontal chamber 421 feet 9 inches in length, from which the smaller shaft was sunk. The water, therefore, had nearly reached the head of the lower shaft.

The first intimation of the water having been reached was not understood. It consisted in the fact that "digging the well had ceased to make it any deeper:" in other words, the loose green sand had been forced up by the subjacent water in its rising as fast as that sand could be removed. The men were at last convinced of the winning of the water, and of their own imminent peril, by a loud report, and a rushing rumbling sound, soon followed by the actual rise of the water into view. The water rose 400 feet in a few hours, and continued to rise at the rate of 100 feet an hour.

The news was, of course, very welcome to the ratepayers as well as the guardians. The latter gentlemen deserve credit for their firmness in resisting the many attempts to dissuade them from proceeding farther with the work as it went on. Only the week previously the guardians had been advised to put a stop to such fruitless expenditure.

CHURCH-BUILDING NEWS.

Lowestoft.—The successful competitors for the erection of the New Wesleyan Chapel are as follows:—Bricklayer, Mr. George Rix, 792*l*.; carpenters, Messrs. Butcher & Blyth, 699*l*.; stonemason, Mr. Utting, 137*l*.; foundryman, Mr. B. H. Skoyle, 197*l*.; painter, Mr. J. W. Ling, 178*l*. The above sums leave out the odd shillings, and the total cost will be 2,004*l*. 4*s*., exclusive of the site, which, with the buildings thereon, cost a further sum of 750*l*. The new building will adjoin the present one with a frontage to the High-street.

Iver.—The church for the newly-formed district of Iver Heath has been consecrated by the Bishop of Oxford. The church, which stands upon a site given by Mr. H. G. Sperling, lord of the manor of Iver, is in the Decorated style of

architecture. The architect was Mr. C. Reekes; and the builder, Mr. Fassnidge, of Uxbridge. It is built of flint and Bath-stone, and consists of a tower, nave, transept, and chancel, and will accommodate, including the children's gallery in the tower, about 300. The total cost of the building has been 2,400*l.* The seats are all open, formed of pitch-pine, and hand-polished. The church is dedicated to St. Margaret: it stands in an open country. Six stained-glass windows, the altar-cloth, &c., and the communion plate, were the gift of the ladies of the parish; the font being presented by the builder.

Abingdon.—The foundation-stone has been laid here of a New Independent Chapel. Messrs. Winterborne & Rowles are the builders, and Mr. J. S. Dodd, the architect. The cost of the edifice will be about 2,000*l.*

Itchen Abbas (*Hants*).—The new church at Itchen Abbas will be built mostly on the old foundation. Mr. W. Coles, the architect, who reported on the old church, recommended a rebuilding of the edifice; and his suggestion was adopted; Lord Ashburton, who is the patron of the living, giving a donation of 500*l.*, Lady Ashburton, 100*l.* The new church will be in the same style as the old one—Norman,—enlarged on the plan by the addition of north and south transepts. In the latter there will be a vestry and heating apparatus below the general level of the church, and over this a minstrel gallery. The chancel arch and two of the external arches will be worked in again, and a great portion of the open roof will also resume its duty. The seats will be open, and afford a total of 250 sittings. The roof externally will have only a simple bell turret projecting. Mr. C. Fielder, of Winchester, is the contractor; Messrs. Newman & Son executing the stonework. The contract is taken at 1,050*l.*

Stoke-sub-Hamdon (*Somerset*). — Mr. Ferrey, the architect, having, at the invitation of the incumbent, viewed the church at Stoke-sub-Hamdon, and made a careful examination of its various parts, states that in the course of his experience he has seldom met with a more interesting parish church; and that the greatest possible caution should be observed in renewing any of the ornamental features which have been ruthlessly cut away. There is nothing of a conjectural kind needing to be replaced. The chancel arch, remarks Mr. Ferrey, in a letter to the Rev. W. Greenslade, the incumbent, leaves clear traces of the ornaments which have been hacked away; and the missing members can be replaced without any doubt. Steps should be taken to remove the flat ceiling of the nave, and lay open and restore, where necessary, the fine old oak roof above. The unsightly gallery at the west end, blocking up half the fine reticulated west window, should be got rid of. Eventually, it is to be hoped, the chancel may undergo some improvements. The church ought, also, to be reseated with open benches corresponding to some of the ancient benches which still remain. The porch, with its groined chamber over the deeply-recessed Norman doorway, the groined tower, the screen, the south transept, the noble Norman chancel arch, together with other objects, are seldom to be found combined, as here, in one small building. The church is therefore deserving of a careful restoration. Mr. Ferrey recommends a special appeal in the diocese for raising the necessary funds to carry into effect the recommendations made.

Brecon.—It is intended to re-open the restored chancel and transept of the Priory Church on the 23rd of April, being Wednesday in Easter Week. The chancel of the church (which is of thirteenth century architecture) was choked up with monuments, and had some of its best features hidden by plaster and whitewash. The stone vaulting was originally designed, but never before executed.

Liverpool.—A discussion arose at the Burial Board last week, according to the local *Courier*, as to the buildings proposed to be erected at the principal entrances of the new parochial cemetery at Walton. Mr. Lacy, the architect, attended; and in conjunction with the committee examined the various plans. It was ultimately agreed that the suggestion for a clock-tower, having a lodge at each side, be approved, and that Mr. Lacy and Mr. Kemp decide as to the best site for the offices and superintendent's house.

Lozells (*Birmingham*).—The foundation-stone of the new Congregational Chapel at the Lozells has been laid. The building is to be erected in the Italian style, by Mr. W. Bennett, builder, Lozells, from the plans of Messrs. Poulton & Woodman, of Reading, architects. The chapel is to accommodate about 1,000 persons, and the cost of the building, according to the tender (as given by us on 22nd March), is 2,967*l.*

Durham.—The cathedral authorities are now taking the necessary steps for polishing the Weardale marble pillars, of which there are a large number, in the nine altars. Hitherto their beauty has been entirely obscured by the accumulation of lime and other materials with which they have been coated. A polishing-engine, on a new principle, made by Mr. Howson, engine-builder, has been erected. Mr. Robert Beale, of Newcastle, has accepted the contract, and has commenced the work of restoration.

BYZANTINE DECORATIVE COLOURING.

BYZANTINE decorative colouring was rich and warm. Gothic seems to me to be "flashy and gaudy," rather than warm. South Kensington appears to be duly orthodox and cold; very correct; neat; but no life; no warmth;—wholly different from twelfth-century work. Gothic windows and walls, inasmuch as colour is concerned, are all spoiled by eternal diapers, patterns, borders: there are no broad masses of colour, as in Byzantine work. I use the word Byzantine to mean all Christian art before Gothic. Gothic is finicky; Byzantine manly and massive. If Byzantine had only had the pointed arch it would have been perfect. There is life in it, and plenty of grotesque,—the best sign of healthy minds. I should like to see some South Kensington grotesque: it would be interesting. Perhaps the master at Leeds, who once answered one of my letters, will send us a sketch of what the School of Design considers grotesque. Gothic grotesque is sensual compared with the open-hearted vigour of Byzantine.

Gothic form and outline are pretty elegant outline. Byzantine cares not a fig for elegance: it is noble, thick, massive, manly in form; and life is given to the form by the glorious grotesque. This may be well studied in the metal-work and furniture of the two. A. W.

PUTTY.

HAVING seen a report in one of the daily papers that some of the glass in the dome of the Exhibition building had been blown out, I wish to call the attention of builders, or any one having glass to put in, to the kind of putty they use. There is now an immense quantity of putty made of pine oil and whiting that never dries; and if you lay a good coat of paint on it, in a short time you may lift the paint from the putty like a piece of tape. This kind of putty is made to sell cheaply, and can be bought at about two-thirds the price of the genuine article, made from linseed oil. The adulterated putty is much whiter than the genuine, and will stick to your fingers like bird-lime; and, after it has been kept a few weeks, will go gummy on the outside and make very bad work,—particularly so where it is used for sky-lights: good tough clay would answer for glazing in many instances better than the adulterated putty, which is a direct fraud on the consumer and owners of property. LEEDS.

THE PRESERVATION OF ICE.

HAVING recently paid some little attention to the methods adopted for the preservation of ice, I can bear testimony to the accuracy and value of the article which recently appeared in your paper on that subject.

I should, however, like to be allowed to direct attention to two precautions which it is desirable to observe; and which might, in arranging an ice-house, possibly escape notice.

The first is the necessity of *trapping* the drains by which the water which melts from the ice is carried away. If this be not done; and with a trap of such a nature as to be almost certain to remain full of water; the drain will act as an inlet of warm air, and will effectually counteract all the best precautions of other sorts. It has actually happened that the ice in a well-built ice-house, with untrapped drains, was found to waste away so rapidly as to render the house useless; and that, on carefully trapping the drains, the melting was entirely stopped.

The other precaution to be taken is that of providing against the enormous lateral pressure which, in ice-houses built above ground, the side-walls have to sustain. This pressure arises from the sliding of the small fragments of ice over one another; and it is principally to counteract it that the enormously thick walls mentioned in your paper are requisite. Thinner walls, with a lining of straw or saw-dust, or some such material, would probably suffice to resist all ordinary changes of temperature, especially if sheltered from the sun's rays.

One of the best, and by far the simplest, ice-house that I have seen, is the one at the Crystal Palace; and the walls of it are only a brick and a half thick; but then two-thirds of its whole height are below ground; an arrangement which greatly protects it, both from lateral yielding and from extensive changes of temperature.

T. R. S.

THE COLOURED PANELS: ARCHITECTURAL MUSEUM.

SIR,—As one of the competitors for prizes offered for coloured decorations by the Ecclesiological Society, will you allow me to make the following remarks in your journal?

The Society stated in their circular, that "each candidate is expected to treat the panel as forming a portion of an architectural composition, and not as a cabinet piece. The original is in stone."

I treated my panel on these principles, according to my ability at least. Inferring from the closing sentence that the idea of stone was not to be lost, I presumed in my innocence that the thing was not to be made a doll of. Strange enough, the prize was given to a cast coloured most profusely; being nearly covered with decoration and elaborate penciling.

I do not presume to question the judgment as to treatment; but I do remonstrate on the decision as opposed to the published conditions.

These prizes are proclaimed as a stimulant to the mind of the "art workman;" but is it intended for the provincial workers, or only for the metropolitans? For compare the two bodies. I sent for a cast in order to compete: I was charged 5*s.* for the cast; 2*s.* for case; carriage both ways, 4*s.* 6*d*; costing me 11*s.* 6*d.*; whereas a man in town only pays 5*s.*, price of cast. He has a free ticket for a year to the Architectural Museum: so have I, but cannot use it.

Considering the apparent anxiety of the Society for the welfare of the "art workman," I looked for some analysis of the successful and unsuccessful competitions; showing, for the instruction of the people, what were the merits on which they succeeded, and why others failed; but there has been no sound. T. BOTTOMLEY.

SUBJECTS FOR MEDALS AND PRIZES, 1862.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE council will proceed, in January, 1863, to take into consideration the appropriation of the Royal Medal.

The Silver Medal of the Institute will be awarded to the author of the best essay on either of the following subjects:—

1st. The application of coloured bricks and terra-cotta to modern architecture.

2nd. The application of timber work in England, constructively and artistically, from the year 1400 to the present time.

3rd. On the stained glass of the twelfth and thirteenth centuries.

4th. On the use of concrete for vaults and roofing purposes.

The Silver Medal of the Institute, with five guineas, will be awarded for the best illustrations, geometrically drawn from actual measurement (*with dimensions figured*, both on the drawings showing the general arrangements, and on the details), together with descriptive particulars, of an abbey gateway, a bridge, or other mediæval building in the United Kingdom, hitherto unpublished in that manner.

The council suggest certain subjects.

Soane.

The Soane Medallion will be awarded for the best design, well illustrated by a sufficient number of drawings, for:—

A parochial church to contain 1,500 persons, and arranged for the Protestant worship, without any detached columns or piers, and so as to leave the sight and view clear and unobstructed throughout.

The style may be either Italian or Mediæval.

The successful competitor, if he go abroad within three years after receiving the medallion, will be entitled to the sum of 50*l.* at the end of one year's absence, on sending satisfactory evidence of his progress and his studies.

The Prize offered by the President, Mr. Tite, M.P., F.R.S.,

Ten guineas, will be awarded to the author of the best set of architectural drawings, executed in the best manner, and in the Italian style of architecture, for public buildings adapted to modern wants, *e.g.* churches, town-halls, railway-stations, public offices, &c., in England.

Sir Francis E. Scott's Prize,

Ten guineas will be given to the author of the best set of drawings for a building of moderate dimensions, devoted to civic or domestic purposes, in accordance, throughout, with modern requirements, and designed in harmony with the style of architecture of the thirteenth or of the fourteenth century.

The subject of the design for the Students' Prize in Books for the year 1862 is:—

"A Drinking-Fountain."

Miscellanea.

SIR ROBERT CLIFTON'S BRIDGE OVER THE TRENT.—The plan of this structure, says the *Notts Guardian*, provides for every exigency which may arise from the flooding of the Trent. The incline at either side is erected on arches, which will arise from inverted arches, so that the impediment to the free passage of the water when it should rise above the usual level will be reduced considerably. The expense is estimated to be 24,000*l.* at the lowest. The Trent Navigation Company, it is stated, intend to oppose the passing of the Act, on the ground that the track for the horses under one of the large arches is not to be fenced in with iron railings.

THE PHŒNIX PARK, DUBLIN.—In reply to Sir E. Grogan, in the Commons, Sir R. Peel said the Irish Government had entered into a very agreeable plan for ornamenting the Phœnix Park; and certain arrangements were made for planting it with ornamental and other trees. The question, however, was still under the consideration of the Treasury.

THE THAMES EMBANKMENT BILL.—In moving last week for leave to bring in the Thames Embankment Bill, Mr. Cowper stated that the powers contemplated by the Bill would be committed to the Metropolitan Board, without any control or interference, except that the coal dues were at present in the hands of the Treasury. The Bill would empower the Treasury to pay the money to the Board; who, however, would be left free and unfettered in executing the purposes of the Act. The Bill was described as one for embanking the north side of the river Thames from Westminster Bridge, and for making new streets in and near thereto, and from Blackfriars Bridge to the Mansion House. After some discussion, leave was granted to bring in the Bill.

LIVERPOOL SOCIETY OF FINE ARTS.—The annual general meeting of the members of this society has been held in the public sales-room, Liverpool and London Chambers, for the purpose of receiving the report for the past year, and electing the council and officers for the ensuing year. Mr. Boult, the honorary secretary, read the report; which stated that, in the first season, 1858, the amount realized by the sales was 2,256*l.*; in the subsequent years as follows;—1859, 4,830*l.*; 1860, 4,096*l.*; 1861, 5,390*l.* Total for the three years, 14,316*l.* Average for the three years, 4,772*l.* The chairman, Mr. T. W. Rathbone, in closing the proceedings, alluded to the strong desire he had to effect an amalgamation between the Society of Fine Arts and the Liverpool Academy; expressed his regret that the proposal had not been carried into practice; and intimated that the Society of Fine Arts would at any time be prepared to accept, in the most cordial manner, any overtures for amalgamation which might be made by the Academy.

ENLARGEMENT OF THE GENERAL HOSPITAL, BIRMINGHAM.—At a quarterly board of guardians of this charity it has been resolved, on receiving a report from the new wing committee, that the whole question relating to the new wing be referred to the weekly board; and that the plans of the architect be carried into effect as speedily as circumstances will allow. The addition of the new wing will provide space for ninety-six additional beds; but a chief object is to improve the accommodation for the present number of patients. As to cost, the architect says,—"I have estimated the cost of executing the various works shown on the plans and referred to in this report, and find that they will cost about 7,000*l.* This will include all buildings, alteration of out-patients' department, ventilating, fixtures, hot and cold water supply, lavatory, bath, and waterclosets, fittings, and all other work necessary for the completion of the whole of the works in the best manner.

ASSESSMENT OF PUBLIC WASHHOUSES.—On the 20th instant an appeal was heard in the board-room of the workhouse, Little Gray's-Inn-lane, against the heavy assessment of the Portpool-lane Washhouses, before Mr. J. Pownall and Mr. Goodhard, magistrates. Messrs. Hammond & Eiloart appeared on behalf of the Society for Improving the Condition of the Labouring Classes; and said that the society found it impossible to carry on the washhouses with their present loss; and in consequence of not being met in a fair spirit by the governors and directors they had resolved to close them on the 25th instant. For the last seven years there had been a deficit of 116*l.* per annum; the expenses being 517*l.*, and the receipts from 500 washers at 1d. per hour 411*l.* For this they were rated to the poor's rate at 420*l.* per annum. As regards the lodging-houses, there were tenements in the same street which were rated less in proportion than their own. Their houses, containing 116 rooms, had been rated equal to 3*l.* per room, while the other property mentioned had only been assessed equal to 2*l.* What they asked for was that the washhouses should be entirely relieved from rating, and the rate upon the lodging houses be reduced. Ultimately Mr. Pownall decided that the whole should be rated at 250*l.* He could not, however, agree to take the rating entirely off the washhouses; it being a bad precedent; and he should divide it by asscssing the tenements at 220*l.*, and the washhouses at 30*l.*; and this on the understanding that, if the premises were converted to any other use, it would be liable to be altered to the real value.

RAGGED SCHOOL, BUCK'S-ROW, WHITECHAPEL. The Duke of Marlborough has laid the foundation-stone of the ragged school about to be erected in Buck's-row, Whitechapel. The schools, which will accommodate 480 children, are to be built by voluntary subscriptions; and about 1,000*l.* have been collected or promised. The entire cost of the building is estimated at 1,600*l.*; and the committee earnestly appeal to the public for contributions in order that the deficiency may be made up.

THE FONT IN BRIDEKIRK CHURCH.—At the monthly meeting of the Newcastle Society of Antiquaries last week, a short paper, by Mr. Monkhouse, was read on the font in Bridekirk Church. Mr. Monkhouse, after investigation, came to the conclusion that the carving was Old English, the language Old English, and that the inscription was carved by Richard, Lord of Bridekirk, on the font in Bridekirk Church, in the thirteenth century.

WOLVERHAMPTON SCHOOL OF ART.—Mr. Mückley, the head master of this school, having resigned his situation in consequence of his appointment to a similar office in the Manchester School of Art, a meeting of members of the council and students of the Wolverhampton institution was held for the purpose of presenting him with two testimonials on vellum,—one from the meeting, and another from the students,—in recognition of the ability he has manifested and the zeal and liberality he has shown since his connexion with that establishment. Several members of the council were present. Mr. Mückley, in acknowledging the compliments paid him, alluded to the bleak prospects of the school; but said that, although things did look rather dismal, yet results were before them which proved that the school had done a certain amount of work; and that the students were in possession of certain principles which, if fully developed, would tend to results beyond anything they might imagine or expect.

ARTISTS' BENEVOLENT FUND.—At the annual meeting in connexion with this fund, held at the Freemasons' Tavern, Great Queen-street, Lincoln's Inn-fields, the report of the committee of management stated that the ordinary income of the institution during the year had been 849*l.* 14s. 3d., and the extraordinary 389*l.* 7s.; which, with a balance of 287*l.* 11s. 9d., carried from the previous year's account, the proceeds of the annual dinner, and the interest on funded property, made the total income for the year 1,450*l.* 13s. The ordinary expenditure had been 1,062*l.* 14s. 1d., and the extraordinary 187*l.* 6s. 6d., which made the total expenditure for the year 1,250*l.* 0s. 7d., and left a balance in hand to be carried to next year's account of 200*l.* 12s. 5d. During the year a sum of 777*l.* 10s. had been distributed in the shape of relief to 52 widows of artists, and 76*l.* 5s. to 16 orphans; making the total amount distributed in relief, by the society, to the widows and orphans of British artists since its formation in 1810, 23,894*l.* 7s. 3d. The funded property in the Reduced Three per Cents. belonging to the society now amounts to 22,000*l.* Lord Ashburton, the president of the institution, will take the chair at the annual dinner in connexion with it on the 31st of May next.

ENTRANCE FROM PICCADILLY TO PARK-LANE. In the Commons, last week, Sir H. Verney asked the First Commissioner of Works whether, in consideration of the inconvenience and danger arising from the narrow entrance from Piccadilly to Park-lane, he would take measures to open the communication from Park-lane into Hamilton-place. Mr. Cowper said that this communication between Hamilton-place and Park-lane was recommended by a committee of the House of Commons in 1855, and was fully considered by the Government in 1856; but the difficulties were found to be such that no steps were taken. When Hamilton-place was laid out in 1809 it was intended to be a street without any thoroughfare; and those who now held from the crown leases of those houses had taken these leases on the understanding that that arrangement was still to continue. If a communication were to be made from Hamilton-place to Park-lane, it must pass not only through gardens which were now considered a portion of Hyde Park, but likewise through two gardens held on lease in connexion with the adjoining houses, which were let on terms that had now forty years to run. Under these circumstances, the Government were not prepared to take any steps. Hamilton-place was not of the width required for an important thoroughfare; as the distance between one area railing and another, at one extremity of the street, was not more than 38 feet of admeasurement. He thought the better way to improve the communication would be by widening Park-lane. Who is to do it?

SOMETHING LIKE VENTILATION.—The newsroom at Kilrush is so well ventilated that it takes two members to hold a paper, while a third, with a top-coat buttoned up to his chin, and a sou'wester lashed to his head with a piece of spun-yarn, reads it.

MEMORIAL OF JOHN LOCKE FOR TAUNTON SHIRE HALL.—Carrying out our often urged suggestion that busts and pictures of local worthies should be placed in vestry and town halls, and such like public places; a movement has been made at Taunton for placing a bust of John Locke, the metaphysician, who was a native of Somerset, in the Shire Hall at Taunton. A model has been prepared by Mr. E. G. Papworth; Roubiliac's bust being used as a groundwork. The result is said to be satisfactory.

LIVERPOOL ARCHITECTURAL SOCIETY.—On Wednesday evening, the 19th, the members of the Liverpool Architectural and Archæological Society held their twelfth meeting of the session, Mr. J. M. Hay presided. Mr. Parsons exhibited a model of a house near Woolton; and Mr. Weightman showed a specimen of slating for flat roofs and the sides of houses. Mr. H. P. Horner read a paper on "Sources of Architectural Effect;" showing the effect of light, form, colour, &c.; and recommending a study of the picturesque in architecture.

BRISTOL ACADEMY OF FINE ARTS' EXHIBITION AND GRAPHIC CONVERSAZIONE.—The seventeenth annual local display of paintings in water and oil has just been inaugurated. The company was not quite so large as on previous occasions. The three rooms opening from the grand vestibule (which was decorated with flowering shrubs and exotics) were devoted to the exhibition of the year; there being altogether nearly 430 pictures from local, London, and other artists. The peculiar exhibition of the Graphic Society, which consisted of water-colour sketches, chiefly by local artists, was on the basement floor, and much frequented during the evening.

ST. MARY'S, TAUNTON.—We learn from the local *Courier* that there is a pretty certain prospect that, by the month of August next, the tower of Taunton Saint Mary Magdalen will be complete in restored beauty. A proposal has been made by the vicar of St. Mary's, and we believe we may say with fair chance of success. The county of Somerset, second in loyalty to no county in England, has as yet entered into no plan for a combined memorial to the late Prince Consort. It is proposed that the inhabitants of the county should be invited to join in placing in the new tower a memorial window, to occupy the opening over the western door. We also find that a subscription has been set on foot for placing in the niches in the first story of the tower statues of the Apostles.

DISASTROUS CONFLAGRATIONS AT CAMPDEN HOUSE, KENSINGTON.—A fire has almost entirely destroyed the mansion known as Campden House, the property of Mr. W. F. Woolley, and situate in the Campden House-road, Kensington. The building contained thirty elegantly-furnished rooms, picture-galleries, and the private theatre in which the Campden amateur actors used to perform for charitable objects. The building was of the reign of Queen Elizabeth. Adjoining is another mansion, almost as large, termed the Elms, belonging to Mr. A. L. Egg, A.R.A., who, unfortunately, at the present time is away in Africa, on business. This building has also been considerably burned. The total loss at Campden House must be considerable; the furniture, mirrors, &c., being of costly description. As to the origin of the fire, not the least information could be obtained.

A BRICK-KILN A NUISANCE.—In an action brought before Justice Weightman, at Maidstone, a nursery gardener at Plumstead complained of a brick-kiln near his house and garden as a nuisance, injurious to his stock as well as to his household. Evidence being led, the judge left it to the jury, first, whether the burning of the kiln made the house of the plaintiff substantially less comfortable; secondly, whether it caused substantial injury to the plaintiff's garden. There was, no doubt, evidence of injury to both: no doubt the business of brickmaking was useful and necessary; but it must not be carried on so as to cause a serious injury to neighbours. Then it appeared that the kiln lay in a hollow, and within 20 feet of the plaintiff's house. There did not seem to have been any real injury to health; but it would be enough to sustain the action that there was substantial injury to the enjoyment either of house or garden. The jury answered both questions in the affirmative; which, of course, came to a verdict for the plaintiff.—Damages 20*l.*

ROYAL ITALIAN OPERA, COVENT-GARDEN.—Mr. Frederick Gye has issued his programme for the coming season, showing his determination to provide evidence for the foreign visitors we shall have amongst us of the pre-eminence of the Royal Italian Opera among all similar establishments. With all the old favourites, including Mdlle. Patti, Mdlle. Csillag, Signors Mario, Tamberlik, and Graziani, five new artists will make their first appearance in England. Donizetti's "Don Sebastien" will be produced, and Meyerbeer's "Robert the Devil" revived, with entirely new paraphernalia.

RAILWAY TRAFFIC RETURNS.—The traffic receipts of railways in the United Kingdom amounted, for the week ending March 8, on 10,109¼ miles, to 462,838*l.*; and for the corresponding week of last year, on 9,871¾ miles, to 485,272*l.*; showing an increase of 237½ miles, and a decrease of 22,434*l.* The falling off in the traffic of the past week, as compared with the corresponding period of 1861, is about twice as much in the goods and mineral traffic as in the passenger traffic of the great lines, caused by the depression of trade in the manufacturing districts. The traffic receipts in the second week in March show a decrease of 3,452*l.* as compared with those of the preceding week ending 1st March.

MONUMENTAL. — The monument which is about to be erected in Chichester Cathedral to the memory of the late Duke of Richmond has been executed by Mr. Gaffin, sculptor. It is surrounded by a carved medallion of his grace; and on the sides are the names of the various engagements in which he took part. The tablet is stated, in the inscription, to be erected by the officers and non-commissioned officers who served under him in the Royal Sussex Light Infantry Militia.——On Saturday last the memorial stone which has been placed on the west wall of the building at Scovell's (Cotton's) wharf, Tooley-street, Londonbridge, near the spot where Mr. Braidwood met with his sad death, was uncovered in the presence of a large number of the police under Mr. Superintendent Branford.——A memorial to the memory of the late vicar of Misson, the Rev. W. Thorp, has just been placed in the churchyard at Misson. It is of Aberdeen granite, and consists of a base and shaft, with plinth, the whole inclosed by a palisading 6 feet by 9 feet.

THE BRIGHTON DRAINAGE.—The town council of Brighton having applied to the Home Secretary for a loan of money for the drainage of the town, in accordance with the surveyor's plan of carrying it out into the sea in front of the town, Mr. Ranger unexpectedly made his appearance at Brighton, and had interviews with the surveyor and other of the authorities, and with various gentlemen who have objected to the proposed mode of disposing of the sewage. Mr. Ranger expresses his determination to investigate and consider the whole subject minutely and thoroughly, as he is responsible to Government for the advice he may give as to the loan asked for; and on the whole he already appears to be unfavourably disposed towards the scheme in hand for carrying out the sewage into the sea in front of the town; and seems to consider that, in a popular watering-place such as Brighton, even prejudices ought to be cautiously dealt with, so as to avoid damaging the prosperity of the town. It is to be hoped that Mr. Ranger *will* advise the adoption of some better plan than the carrying of the sewage out into the sea in front of the town.

SITE OF ST. THOMAS'S HOSPITAL.—Mr. J. H. Elliott, a governor, writes,—Is it too late yet for all parties to make a rational settlement? Let the hospital remain where it is, and let the railway have all that is required. A portion given up to the railway, and the remainder (improved) left for the reception of patients, for the treatment of accidents, and of acute cases, and maybe for a medical school; and a sanitarium or an hospital, but in the country, for convalescents and for chronic sufferers. However unwise may have been the demands of the hospital, and however stern, under a sense of oppression, may be the railway; yet there is another large question involved, before whose grand claims all griefs and grievances should be put aside. Public bodies ought to know no jealousy, no single, personal, antagonistic interest to be struggled and fought for, inch by inch; but the public good should be liberally and disinterestedly consulted. In this respect a new railway, and especially one which traverses quite across London, and thus helps to relieve the dangerous and offensive congestion of London Bridge, Cheapside, or Holborn, is quite as much a sanitary institution, preserving and restoring health, as a hospital or a dispensary.

THE ARCHITECTURAL MUSEUM.—On Tuesday last, Mr. E. A. Freeman, M.A., delivered an address "On the difference between Minsters and Parish Churches." Mr. Beresford Hope, who presided, moved a vote of thanks to the lecturer, which was seconded by Mr. G. G. Scott. We may probably give an outline of the address hereafter.

THE ART-UNION OF LONDON.—The subscription lists will close on Monday night next: there is still time for such of our readers as desire it to send their guinea. Our advertising columns last week showed how many new works have been commissioned by the council, and how many advantages are offered to subscribers. Amongst other matters in course of preparation, a tazza from designs by Mr. John Leighton, commemorating the late Prince Consort as a patron of art, science, and literature, is now being produced for the Art-Union, and a number will be included as prizes in the next distribution.

INGENIOUS MODEL.—A man named Anderton, a labourer, residing at Bracebridge, has for many years been engaged on a model of Lincoln Cathedral in cork, which he intended obtaining space for in the Great Exhibition of 1862. The model is now complete, and is said to be an exact counterpart of the original. Upwards of a million of old corks have been used in the construction, each of which has been cut into a proper form with the aid of a knife alone. The length of the model is 10 feet 5 inches, width 7 feet 6 inches, and height 5 feet 9 inches. All the minutiæ of the original are faithfully copied; the figures on the west front and in the south-eastern entrance being, it is said, exceedingly well done. The interior has also been copied as faithfully as the exterior, even to the organ and the stained-glass windows.

UTILIZATION OF SEWAGE IN LIQUIDATION OF TAXATION.—The Select Committee of the House of Commons appointed to inquire into the best means of utilizing the sewage of cities and towns of England, with a view to the reduction of local taxation and the benefit of agriculture, having met for the first time, the Earl of Essex was examined. He stated that he had two hundred acres of land at Watford that he irrigated by sewage. He applied it chiefly to rye grass. He had also applied it experimentally to wheat, roots, and common grass, but more especially to rye grass, which gave him an increase in value of 2*l.* per acre clear profit. He irrigated two acres of wheat with from 60,000 to 80,000 gallons of sewage. Eighty thousand tons a year cost 1d. to 1½d. a ton, but it might in many cases be effected for ½d. He had found it most efficacious in destroying cutch and other weedy substances; and it had increased the production of corn to a most incredible degree. He had extensively applied the sewage to land, and in five minutes afterwards there was not the slightest smell therefrom. He had employed the same men to apply the sewage for years, and never knew them to suffer in health to the slightest degree. He used the sewage on land within 100 yards from his own house and found no annoyance from it. After another witness had been examined, the committee adjourned.

THE SINGULAR DISCOVERIES IN THE SWISS LAKES.—Recent discoveries show that at some primeval period a population of very considerable density lived in huts constructed on stages which rested on wooden supports driven into the bed of almost every Swiss lake, just as the Malays in Borneo and the Siamese in Bangkok may be seen living to this day. A wonderful number of articles pertaining to the daily life of those forgotten races have been brought to light. In some places the materials of the dwellings have been preserved in the mud,—the floor of hardened earth and the twisted branches and bark which formed the walls. Arms have been discovered in great quantities, tools, from swords in flint to needles in bone, ornaments, children's toys, the remains of stored-up fruits of various kinds, nay, even a cellar or receptacle full of corn, and a loaf of bread composed of bruised grain, and preserved by carbonization. By the side of these relics are found the bones of the animals which they slew in the chase, many belonging to species extinct before the rise of history, or barely mentioned in it. The urus, the bison, the elk, and the beaver furnished them with food and with the materials for some of their most ingeniously-constructed utensils. So plentiful and perfect are the remains found in the lakes that much more has been learned concerning the daily life and manners of men whose existence was not suspected ten years ago than is known of races which have left a famous name in history or tradition.

"THE ART-WORLD."—The new weekly periodical under this title, which devotes itself to the fine-arts, has been reduced in price. It is conducted by Mr. Henry Ottley.

SOCIETY OF BRITISH ARTISTS.—The thirty-ninth annual exhibition by this Society, now open in the Galleries, Suffolk-street, consists of 967 pictures and drawings, and nine pieces of sculpture. Though deficient in works of very striking merit, it includes some agreeable pictures, particularly in the department of landscape; and sales were effected on the private-view day and the Monday following, to the extent of 1,900*l.* We may return to it.

NATIONAL PORTRAIT GALLERY.—A return has been issued stating the attendance at this gallery. In 1859, the first year of its being open, admission was by tickets only, and the number of visitors in the year was 5,305. Early in 1860 the admission was made free, and in that year 6,392 persons visited the gallery. In 1861 the number rose to 10,907. The gallery is inconveniently lodged, and open only twice a week.

ABERDEEN.—The works of the new Grammar School for this city have been contracted for, at the sum of 9,330*l.* 13s. The following are the contractors:—Mr. A. Mitchell, for the mason work; Mr. J. Garvie, for the carpenter work; Mr. G. Davidson, for the slater work; Mr. W. Mearns, for the plaster work; Messrs. Hugh Gordon & Co., for the plumber work. The works will be begun immediately.

COST OF ALBUM PORTRAITS.—A curious fact, in connexion with the cost of production and the retail gain on album portraits came out in evidence in the case of Mayall *v.* Higby, tried in the Court of Exchequer a few days ago; when one of the witnesses stated that the cost of getting up these portraits was 1s. 9d. per dozen; and the wholesale price to the trade from 5s. to 8s. per dozen; the retail price at many shops being 1s. 6d. for a single copy; or about 1,000 per cent. profit on the first cost.

TENDERS.

For the formation and metalling of a portion of the new roads, Hampton Park Estate, Hereford. Messrs. Elmslie, Francy, & Haddon, architects, Malvern, London, and Hereford.—

Birchley	£642 17 8
Trumper	473 11 0
Walford	438 11 6
Scawdrett (accepted)	381 18 0

For house at Witham, Essex, for Mr. Charles Page. Mr. Frederick Chancellor, architect:—

Gardner	£667 0 0
Brown	665 0 0
Glasscock	660 0 0
Sandars (accepted)	600 0 0

For house in Long-alley, Bishopsgate. Messrs. Hovenden & Heath, architects. Quantities not supplied:—

Heeps	£339 0 0
Heath	304 0 0
Little	293 0 0
Henshaw (accepted)	279 0 0

For villa residence near Wargrave. Mr. Bryson, architect. Quantities supplied:—

Outhwaite	£1,597 0 0
Wheeler & Son	1,385 0 0
Architect's Tender	1,425 0 0

No. 1 contract for Italian chapel, George-yard, Hatton-wall. Mr. Bryson, architect. Quantities supplied:—

Patman & Co.	£4,120 0 0
Deards	3,997 0 0
Fish	3,490 0 0

For proposed new pair of double cottages at East Farleigh, Kent, for Mr. Gabriel Kennard. Mr. Joseph Hewitt, architect. Quantities supplied:—

Anscomb	£310 0 0
Reeves & Son (accepted)	308 0 0
Davis	270 0 0

For re-roofing and re-seating the Church of St. John Baptist, Brinklow. Mr. G. T. Robinson, archidiaconal architect:—

Denney	£1,675 0 0
Parnell	1,662 13 0
Bromwich	1,017 0 0
Hardy	920 0 0
Mault	890 0 0
Marriott	846 0 0
Bates (conditionally accepted)	777 0 0

For Moor Park Wesleyan Chapel, Preston. Messrs. Poulton & Woodman, Reading, architects:—

Tomlinson	£3,509 0 0
Bamber	3,297 0 0
Todd (accepted)	3,260 0 0

For alterations to house, Champion-hill, for Mr. R. G Cooper. Mr. W. Lee, architect. Quantities not supplied:—

Colls & Co.	£2,340 0 0
Fish	1,987 0 0
Newman & Mann	1,927 0 0
Beeton	1,761 0 0

For re-building the Griffin Tavern, Leonard-street, Shoreditch, for Mr. George Heavermann. Mr. William Lee, architect :—
The Tender of Mr. Green has been accepted.

For house, shop, show-rooms, &c., Church-street, Hackney, for Mr. T. Wilkinson. Mr. William Lee, architect :—
Mr. Beeton's Tender has been accepted.

For building labourer's cottage and other works, for Mr. Charles Cannon. Mr. Henry McCalla, architect :—
Porter (accepted).....£395 0 0

New Church, West Hill, Wandsworth.—The architect, Mr. John Hahn, says—"I made a mistake in copying Mr. C. J. Perry's tender for the vestry, organ loft, and heating apparatus. It ought to have been 430*l.* in lieu of 70*l.*"

TO CORRESPONDENTS.

Mr. R.—C. L. (the sum at present collected is insufficient. We cannot go into the other question).—H. P.—J. G. D.—Captain J.—H. J. G. (yes).—J. M. B.—J. L.—C. D.—A. W.—R. W.—R.—Resident in the Borough.—R. A. K.—L. & B.—H. S. P. (too late).—T. L. P.—W. G. L (accidentally overlooked. Apply to some respectable glass-painters).—F. P. L. (shall appear).—C. H. R. (probably in Daly's "*Revue*").—E. L.—H. A. L. (there are stamps in all professions. Architects' assistants should make inquiries before they engage).—Constant Reader (charcoal can scarcely be recommended as the best deodoriser for sick rooms).—W. B.—P. & W.—W. L.—Mr. H.—Mr. O.—S. F. X. (thanks for good opinion).—N. & M.—E. A. F.—Messrs. F.—J. K. (sorry for the accident).

Professor Smirke's Fifth Lecture has been unavoidably delayed We shall give it in our next number.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES: 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

PARTNER.—A Firm established for the last fifteen years in Contracting for Works, and also in Manufacturing Materials extensively used in Building, is desirous of taking into PARTNERSHIP a young business-like Man, possessing a moderate capital.—For further particulars apply to JOHN HOLMES, Esq. Solicitor, 25, Poultry, London, E.C.

TO GRAINERS AND WRITERS.
A GOOD WORKMAN WANTED, for a Permanency.—Apply to SMITH, BROTHERS, Northampton.

TO MARBLE MASONS AND POLISHERS.
AT the Westminster Marble Works there will be next month VACANCIES for a few extra hands, WANTED, also, a few Young Men as IMPROVERS in various branches of the trade.—Westminster Marble Works, Earl-street, Horseferry-road, Westminster.

CLERK ASSISTANT WANTED, on a General and Building Estate, ten miles from London. Must have a good knowledge of general accounts and book-keeping. If married and without family, could live on the estate, where a good cottage, firing, and gas, in addition to a salary of 35*s.* a week, will be given.—Address, D. 6, Glo'ster-gardens, Hyde-park, W.

TO ARCHITECTS' ASSISTANTS.
REQUIRED IMMEDIATELY, an experienced ASSISTANT.—Address, stating qualifications, age, salary, &c. Mr. J. at Mr. Clifford's, London-street, Greenwich, S.E.

WANTED, a first-class PAINTER and GRAINER, in the Midland Counties, who can take the MANAGEMENT of the BUSINESS in the absence of the principal. Very satisfactory reference required.—Address, F. J. care of Mr. T. W. Clarke, Stationer, Mansfield, Notts.

TO PLUMBERS, PAINTERS, &c.
WANTED, a THREE-BRANCH HAND for a constancy. A good workman, with a knowledge of the value of work, would find this a first-rate opportunity. Also wanted, a Handy Man.—Address, J. N. D. 1, Grove-terrace, Brompton-road.

TO SURVEYORS AND OTHERS.
WANTED, a good MAP DRAUGHTSMAN and WRITER.—Apply by letter only, stating salary and references, &c. to W. J. Estate Exchange, Change-alley, Cornhill.

WANTED, a first-rate FRET GLAZIER.—Apply at Messrs. MORRIS, MARSHALL, FAULKNER, & CO. 8, Red Lion square, Holborn.

WANTED, immediately, a Thoroughly-competent GENERAL FOREMAN, to superintend the erection of casemated barracks, to be built, with limestone, in South Wales. One who has been accustomed to such works preferred; and testimonials of character and ability will be required.—Apply to JOSH. WOOD & SON, Contractors, Worcester.

TO STONE CARVERS.
WANTED, Ten or Twelve HANDS, for town and country work.—Apply (after 7 p.m.) or address Mr. R. C. BAKER, Park-street, Camberwell, S.

WANTED, in an Engineer's Office, an Intelligent Youth, as OFFICE-BOY. He will have an opportunity of acquiring a knowledge of drawing, &c.—Apply, by letter only, to C. E. 19, Northumberland-street, Strand.

TO ARCHITECTS AND SURVEYORS.
WANTED, a SITUATION in an Architect's or Surveyor's Office in the country, as JUNIOR ASSISTANT.—Address, S. T. Office of "The Builder."

WANTED, by a Young Man, a SITUATION as CARPENTER and JOINER on an ESTATE, or to Look after Repairs in a Warehouse.—Address, stating wages, T. WATSON, 13, St. Leonard's-road, Poplar, London, E.

TO ARCHITECTS AND BUILDERS.
WANTED, by the Advertiser, an ENGAGEMENT. He is a good perspective and general draughtsman, thoroughly understands quantity-taking, estimating, &c. and possesses a sound practical knowledge, having been for several years with a builder doing an extensive business.—Address, E. W. Post-office, Leytonstone, N.E.

WANTED, by a respectable Young Man, a SITUATION as PLUMBER. No objection to fill up his time in painting Wages not so much an object as a permanency.—Address, C. B. 3, College-place, King's-road, Chelsea.

TO SMITHS AND BUILDERS.
WANTED, a SITUATION as a SMITH. Has worked in some of the best firms in London. Is a good tradesman, with three years' character from last employer.—Address, E. C. F. No. 6, Thomas street, Deptford creek, Deptford.

TO PLUMBERS.
WANTED by a Young Man a SITUATION to improve himself in Plumbing. Wages not so much an object as IMPROVEMENT.—Address, B. C, No 6, Samuel-row, Johnstreet, Stoke Newington.

TO BUILDERS, CARPENTERS, HOUSE-AGENTS, &c.
WANTED, either in Town or Country, by a respectable Young Man, aged 24, constant EMPLOYMENT, either at the bench or jobbing, or in a warehouse.—Address, W. H. L. 43, Borough-road, Southwark.

TO BUILDERS AND OTHERS.
WANTED, by a BRICKLAYER, a RE-ENGAGEMENT as WORKING FOREMAN, or Piecework preferred. Good reference.—Address to S. L. No. 9, Rochester-row, Rochester-terrace, Westminster.

TO BUILDERS.
WANTED, a SITUATION as CLERK in a Builder's Office.—Is a neat draughtsman, and used to the duties required. Further improvement being the object, salary moderate.—Address, W. W. Office of "The Builder."

TO SURVEYORS AND BUILDERS.
WANTED, a SITUATION, by a Young Man. Is quick at quantities, and a good surveyor and leveller. No objection to go abroad. Salary very moderate. Good references.—Address, H. 31, Cedar road, Fulham-road, London, S.W.

TO MASTER PAINTERS, &c.
WANTED, by the Advertiser, a CONSTANCY as GRAINER, WRITER, PAINTER, &c. Country preferred.—Address, J. S. Perseverance Coffee house, Carnaby-street, Regent-street, London.

TO BUILDERS.
WANTED, by a respectable Young Man, who understands plain drawing, a SITUATION as JUNIOR ASSISTANT, BOOK-KEEPER, or OUT-DOOR ASSISTANT.—Address, E. N. care of Mr. Bull, Bookseller, Devizes.

WANTED, by the Advertiser, a confidential SITUATION. Is practically acquainted with all the branches of the building trade from a long experience. Is a good estimator and measurer, and is in every respect qualified to take the entire management of a business.—Address, with full particulars, to H. NORTH, 46, Harbican, London, E.C.

WANTED, by an energetic Man, a SITUATION as SHOP or GENERAL FOREMAN, or to Take Charge of a Job in Town or Country. Is just finishing some extensive railway works. First-class references.—Address, A. B. 28, Upper Rosomun-street, Clerkenwell.

TO CARPENTERS AND BUILDERS.
WANTED, by a Young Man, aged 21, EMPLOYMENT at the BENCH as IMPROVER. A moderate premium will be given.—Address, A. B. care of Mr. Pearch, Newsagent, Wimbledon, Surrey, S.W.

TO BUILDERS AND DECORATORS.
WANTED, by the Advertiser, a SITUATION as CLERK and GENERAL ASSISTANT to a Builder or Decorator. Understands taking out quantities, measuring and estimating, and the general routine of the office. Good references.—Address, S. M. W care of Mr. Falconer, Stationer, No. 121, Crawford-street, Portman-square, W.

TO BUILDERS AND CONTRACTORS.
WANTED, by a Young Man, aged 22, a RE-ENGAGEMENT in either of the above offices. Understands book-keeping, and has a good knowledge of drawing. Satisfactory references from last employers, with whom he has been engaged five years.—Address, W. S. care of Mr. Benjamin Smith, Uxbridge-street, Notting-hill.

TO DECORATORS AND BUILDERS.
WANTED, by a Young Man, aged 21, a SITUATION as GRAINER and PAINTER. Has had good experience in both oil and burnish gilding. Wages not so much an object as constant employment.—Address, H. F. 7, Carburton-street, Fitzroy-square, W.

TO MASTER PLUMBERS AND BUILDERS.
WANTED, by the Advertiser, a constant SITUATION as PLUMBER. Understands gasfitting and zinc work. Has no objection to fill up his time with painting, &c.—Address, A. B. 4, Northampton-place, Upper Holloway, N.

TO BUILDERS AND OTHERS.
WANTED, by a Young Man, aged 25, EMPLOYMENT as a handy man in Plumbing, Painting, and Glazing. Well able to make himself generally useful in anything required, and principally at jobbing work of any sort. Wages 25*s.* per week.—Address, H. H. 33, Paddington-street, Portman-square, Marylebone, W.

WANTED, a RE-ENGAGEMENT by the Advertiser, who is accustomed to, and well qualified to perform, all the duties of a builder's office Several years' unexceptionable reference to present employers, a large London firm.—Address, J. K. 39, Brook-street, Kennington-road.

WANTED, by a respectable Young Man, a SITUATION as CUTTER and GLAZIER, or Light Porter in a Glass Warehouse. Can make himself generally useful.—Address, A. Z. 4, Tudor-place, Tottenham Court-road.

TO BUILDERS AND PLUMBERS.
WANTED, to ARTICLE a Young Man as IMPROVER, for two or three years to the PLUMBING, in a good firm. Age, 20 years. Has been five years in the trade, and has a kit of tools. Wages no object.—Address, F. H. No. 53, Portland-road North, Notting-hill.

TO ARCHITECTS AND SURVEYORS.
WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK of WORKS. First-class references.—Address, J. A. Office of "The Builder."

TO ARCHITECTS
WANTED, an ENGAGEMENT, permanent or temporary, by an experienced ASSISTANT, seventeen years in the profession, a first-rate draughtsman and artist, fully qualified to take the management of an office.—Address, E. W. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.
WANTED, by a thoroughly Practical Man, a RE-ENGAGEMENT as SHOP FOREMAN of JOINERS, or GENERAL FOREMAN, having some years' experience Good reference as to abilities, industry, and sober habits, if required.—Address, W. P. 2, Archbishop's-place, Brixton-hill, Surrey.

TO MASTER PAINTERS, &c.
WANTED, a SITUATION as FOREMAN, or GRAINER and WRITER. Has a good knowledge of his business, and quite competent to manage one.—Address, F. L. G. 4, Calton terrace, Devonshire-street, Mile-end, London.

TO BUILDERS, &c.
WANTED, a RE-ENGAGEMENT as SHOP, WORKING-SHOP, or GENERAL OUT-DOOR FOREMAN; or would take the entire Management of a Small Business.—Address, A. B. 5, Princes-street, Finsbury-square.

TO BUILDERS, DECORATORS, &c.
WANTED, a SITUATION, by a first-class GRAINER, WRITER, and DECORATOR.—Address, A. Z. 28, Upper Albany street, Regent's Park.

TO BUILDERS AND CONTRACTORS.
WANTED, a RE-ENGAGEMENT as PRIME-COST CLERK, or LEDGER CLERK and CASHIER, by a highly respectable Young Man, aged 27 Qualified to take charge of a set of books. Good reference. Security if required. Town or country.—Address, A. E. W. 133, Grove street, Camden-town, N.W.

TO ARCHITECTS, SURVEYORS, AND OTHERS.
WANTED, by the Advertiser, who has had eight years' experience in the profession, a RE-ENGAGEMENT, as ASSISTANT.—Address, S. S. Post-office, Commercial-road, Peckham.

TO ARCHITECTS &c.
WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK of WORKS. Undeniable references. Age 33.—Address, NASH, Mr. Sharpe's, 12, Great Winchester-street, City, E.C

TO PLUMBERS, &c.
WANTED TO APPRENTICE a YOUTH for 4 years, has been 12 months at the trade. Age 17.—Address, H. W. Mr. Pateman, 44, High-street, Marylebone.

TO ARCHITECTS, &c.
WANTED, a RE-ENGAGEMENT, in an Architect's Office. Is a good draughtsman, and well up in design and construction, &c. Has been six years with two first-class architects.—Address, ALPHA, 12, Amwell street, Myddelton-square.

TO ARCHITECTS.
WANTED, by a Gentleman, aged 25, of good education, a SITUATION in the Office of an Architect in London, where neat and expeditious draughtsmanship, good taste in design, &c. united with a fair knowledge of Gothic, are the main requisites. Salary moderate.—Address, C. T. N. Office of "The Builder."

TO MASTER PLUMBERS, BUILDERS, AND OTHERS.
WANTED, by a respectable Young Man, a constant SITUATION, as PLUMBER. Is a good painter and glazier No object whether town or country. Country masters to state wages given. Good reference if required.—Address, G. S. 68, Napier-street, Shepherdess-walk, Hoxton.

TO ARCHITECTS AND SURVEYORS.
THE Advertiser, who has had the Management of an Office, is desirous of a RE-ENGAGEMENT in town, either temporary or otherwise. Is fully competent to prepare detail and finished drawings, specifications, perspectives, make surveys of dilapidations, measure up works, take plans of property, &c Terms moderate.—Address, A. B. Z. Trimmer's Library, Broadway, Camden-town.

TO ARCHITECTS, BUILDERS, &c.
THE Advertiser is open to an ENGAGEMENT as CLERK of WORKS, or ASSISTANT in an Architect's Office (could take the management of an office). Is a good practical draughtsman and measurer, and has had considerable experience in farm buildings, villa architecture, and warehouses. Can give first-class reference to Government and private officers for the last fifteen years.—Address, R. E. 14, York-street, Covent Garden, W.C.

TO BUILDERS, DECORATORS, &c.
THE Advertiser WANTS EMPLOYMENT as PAINTER, GLAZIER, PAPERHANGER, GRAINER, &c. Has had thirty years' practice, can measure, and take the management of work if required.—Address, S. G. Office of "The Builder."

THE Friends of a Young Man, aged 17 years, wish to place him with an Architect as an in-door PUPIL, for three or four years. He has been with a Surveyor several months, has a knowledge of drawing, and can be well recommended. —Address, R. S. care of Messrs. Woollaston & Davison, 77, Basinghall-street, E.C

THE Advertiser, a practical Man, aged 25, desires EMPLOYMENT. He is a good free-hand and perspective draughtsman, and accustomed to the charge of workmen; is also a good ornamental penman.—Address, C. W. 50, St. George's-road, New Kent-road, Borough, S.E.

ONE HUNDRED POUNDS will be given to an Architect, in town or country, to receive a Young Man aged 16, as an INDOOR ARTICLED PUPIL. He has already acquired some knowledge of the profession Satisfactory testimonials can be given.—Address, E. H. care of Mr. Fry, Bookseller, High-street, Chelmsford.

TO ARCHITECTS.
E. C. 18, PERCY CIRCUS, W.C. has been eight years in the profession, in two good offices. Is a fair draughtsman, accustomed to prepare detail drawings, specifications, estimate for bills of quantities, and to measure work, desires an ENGAGEMENT in town Address as above.

TO BUILDERS.
A SURVEYOR of considerable practical experience in taking off quantities, measuring, estimating, adjusting builders' accounts, making drawings, &c. Would be glad to undertake business for builders upon reasonable terms. A very small charge only is made for pricing bills of quantities if unsuccessful. Can occasionally introduce work to builders.—Address, S. V. R. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.
AN experienced ASSISTANT, just returned from a long country engagement, requires a SITUATION. Is a good draughtsman, designer, and constructionist, well versed in the various styles, understands surveying and levelling; prepares finished full sized drawings, and perspective.—Address, T. G. B. Chevalier, Bowness, & Son's, 12, Bell-yard, Temple Bar.

TO BUILDERS, &c.
AN efficient CLERK is open to an ENGAGEMENT. Is a good practical draughtsman, and has had considerable experience in taking out quantities, measuring and estimating.—Address, CHAMFER, 37, Aske-street, Hoxton, N

A STAIRCASE HAND, of large practice, requires an ENGAGEMENT, either by the day or piece. No objection to the country.—Address, E. F. 77, Fetter-lane, Holborn

TO PROPRIETORS OF SLATE QUARRIES, MINING COMPANIES CONTRACTORS, AND OTHERS.

A MIDDLE-AGED MAN, bred to the Mining and Building Business, is desirous of SUPERINTENDING any WORKS, or as CASHIER. Can give good references, and security for several thousands. Salary not an object, his service being merely to have his time occupied.—Address, A. B. C. Box 206, Post-office, Bristol

TO ARCHITECTS.

A QUANTITY SURVEYOR and MEASURER, with a practical knowledge of building, would be glad to TREAT with ARCHITECTS for the Quantities, and Measuring Written Specifications, &c upon moderate terms. References given to Architects Quantities executed. Address, ALPHA, care of Mrs Fisher, Stationer, Vassall-road, Brixton road, S.

A LAND SURVEYOR, of extensive experience, wishes an ENGAGEMENT. He has good testimonials as to ability, is an accurate leveller, and is thoroughly conversant with all field and office operations. Has no objection to go abroad.—Address, SURVEYOR, 29, Acton-street, Gray's-inn-lane, London, W.C.

TO ARCHITECTS AND BUILDERS.

A YOUNG MAN who has served five years in the Office of a Manchester Architect wishes for an ENGAGEMENT. Salary not so much an object as improvement London preferred.—Address, H. W. 4, Nelson-street, Greenwich

AN experienced Land Agent and Surveyor's Clerk is open to an ENGAGEMENT. Aged 30. Well up in surveying and mapping, timber measuring and valuing, in preparing architectural plans, specifications, and estimates, and assessing dilapidations, &c. Now engaged with a country firm Twelve years' references. Salary moderate.—Address, R. E. S. Cluan's Hotel, Covent-garden, London.

A YOUNG MAN desires an ENGAGEMENT as ASSISTANT CIVIL ENGINEER or SURVEYOR. Understands land and engineering surveying, levelling, mapping, measuring, &c. Is a good draughtsman and colorist. Salary moderate.—Address, C. E. 2, Prospect-place, Kingsland road, N.E

TO ARCHITECTS AND ENGINEERS

AN Experienced CLERK of WORKS, aged 33, is open to an ENGAGEMENT, either in town or country. First-class references and testimonials.—Address, O. Z. Office of "The Builder."

TO ARCHITECTS, LAND-AGENTS, AND SURVEYORS.

A JUNIOR MEMBER of the Profession, who served two consecutive articles in the above professions, is desirous to ENTER a good OFFICE, where he can work himself into partnership Good references as to character can be given.—Address, A. B. D. OLDFIELD, Ashill, Thetford, Norfolk.

TO ENGINEERS AND SURVEYORS.

A YOUTH of talent and taste for his profession, and who understands surveying, levelling, draughting, tracing, and part office completion, is wanted where railways is OPEN to ENTER an OFFICE immediately.—Apply by letter to J. A. L. 160, King's-road, Chelsea

TO ARCHITECTS.

A THOROUGHLY competent Draughtsman is open to a RE-ENGAGEMENT. Has been accustomed to prepare prospective, working drawings, &c. Terms moderate First class references Address, K. A. Z Office of "The Builder."

A SOBER INDUSTRIOUS YOUNG Man, a Bricklayer, is desirous of getting work in London for improvement, has worked on London jobs, and had great experience in gauge work Satisfactory reference. Address, prepaid, to Mrs J Griffith, Coach Builder, 1, New Hurst street, Bermondsey.

TO ARCHITECTS AND SURVEYORS.

A YOUNG MAN, just out of his time, and conversant with the usual routine of an Office, is desirous of an ENGAGEMENT.—Address, W. C. G. 9, Cambridge-terraces, Loddiges road, Hackney, N.E.

TO ARCHITECTS.

AN ASSISTANT, aged 23, and who is competent to make drawings from rough sketches, copy, and trace, and colour perspectives, is open to a RE-ENGAGEMENT.—Address, G. B. J. 2, Lamb's-conduit-place, Russell-square, W.C.

TO ARCHITECTS AND ENGINEERS.

AS CLERK of WORKS, WANTED, by a thoroughly practical Man, a SITUATION as CLERK of WORKS. Has had considerable experience in public and private works. First-class references and testimonials.—Address, J. L. J. "Office of the Builder."

TO ARCHITECTS

AN efficient CLERK of WORKS wishes a RE-ENGAGEMENT. Age 49.—Address, JOHN COLEMAN, 4, Caroline-villas, Ealing, W.

TO ARCHITECTS.

AN ARCHITECT is willing to give OCCASIONAL ASSISTANCE, either in Office or at home.—Address, F. C. P. 2, Catherine-street, Strand, S.W.

TO CARPENTERS AND BUILDERS.

A YOUNG MAN wishes to ENGAGE himself as an IMPROVER in the above trade for one or two years. A good reference, if required.—Address, W. F. D. Mr. Britton's, Chipping Ongar, Essex

TO NOBLEMEN, ARCHITECTS, AND CONTRACTORS.

A THOROUGHLY PRACTICAL MAN is desirous of an ENGAGEMENT, either as CLERK of WORKS or Superintendent to a Gentleman's Estate or Contractor. Can design, prepare finished and detail drawings, take out quantities, and measure all kinds of artificers' work, and superintend large bodies of workmen. Address, G. L. 18, University-street, Tottenham-court-road, W.C.

TO ARCHITECTS

A THOROUGHLY Efficient CLERK of WORKS is desirous of a RE-ENGAGEMENT.—Address, A. N. Post-office, St. Albans, Herts

TO ARCHITECTS, BUILDERS, AND OTHERS

A THOROUGHLY Practical and Efficient FOREMAN, or as CLERK of WORKS, is open for an ENGAGEMENT; a plain trade; 37 years of age. First class references.—Address, stating salary given, A. S. Post-office, Leicester

TO ARCHITECTS, SURVEYORS, &c.

A GOOD DRAUGHTSMAN desires a temporary ENGAGEMENT at his own rooms, or otherwise, to prepare designs, finished working, and detail drawings, specifications, taking out quantities, surveying, &c. in town or country. Address, A. B. 49, Prospect-place, St. George's road, S.E.

CHURCH PULPIT (wood, Gothic), with STONE FONT, STAIRS, READING-DESKS, &c. for SALE, cheap, viz. Ten Guineas; suitable for any large church It is to be seen at Messrs. BARTON & SONS, auctioneers, opposite the Female Orphan Asylum, in the Westminster-road, Lambeth, Surrey. Select Church Builders.—It would be invaluable to any contractor who can introduce it in their church buildings.

BENJAMIN EDGINGTON, 9, DUKE STREET, FOOT of LONDON BRIDGE, S.E. Manufacturer of Tarpaulins, and Improved Dressed Cloth Tarpaulins Let on Hire. Scaffold-cord Rope, and Blocks of every description. Marquee Tents, Awnings, Rick-cloths, Sacks, &c. N.B. The ONLY ESTABLISHMENT is at 2, DUKE STREET, LONDON BRIDGE, S.E.

INTERNATIONAL BAZAAR, Exhibition-road, South Kensington. Applications will be received from STAINED GLASS MANUFACTURERS to exhibit stained glass, for which suitable windows are provided in the building For further information apply to the Superintendent.

GRIFFIN ANTIQUARIAN, a pure, choice, and first-class DRAWING PAPER, of Whatman's manufacture. A new batch of 1860 make is now in fine condition, and ready for delivery. Large sheets, 32 inches by 21 inches, 7s WINSOR & NEWTON, 38, Rathbone-place, London, and all Stationers and Artists' Colourmen

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer street), LONDON E.C.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

POLYTECHNIC.—MONDAY next, engagement of the celebrated BROUSIL FAMILY, Madlle. Cecile Brousil, Madl. Martha Brousil, Miss Agnes Brousil, Mons. Adolphe Brousil: Vocalists, Miss Rae, and Miss Howard: Pianiste, Madlle. Antonia Brousil; for a series of Concerts every evening at a quarter-past 8 and Tuesday, Thursday, and Saturday afternoons, at 3 o'clock.—Lecture by J. H. Pepper, Esq. on "The late Appalling Accidents in Coal Mines."—And all the other beautiful Dissolving Views and Entertainments as usual. Open from 12 to 5, and 7 to 10

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS BRICK, TILE, and PIPE MACHINE.
Adapted for hand, horse, or steam power, will make one third more in quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.
Licences to Manufacture granted for certain districts.
For price and particulars, apply to BUNNETT & CO. Engineers and Founders, Bedford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on Thames.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chimneys, and Smelting purposes, and in any business or manufacture where an intense heat is required.—For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch street, E.C.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Grizels, Place, of Stock Butts, by barge alongside, in the Thames or canals, on reasonable terms, either for cash or approved bills.
Belvidere-road, Lambeth, January, 1862.

BRICKS.
BEST KILN-BURNT BRICKS, of superior common quality can be supplied by the Million
Also,
FINE WHITE AND RED FACING BRICKS.
WHITE, RED, AND BLACK CUTTERS.
VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES.
WHITE AND GREY LIME AND GLAZED STONEWARE PIPES.
Vessels can load close to the Kiln's mouth, at the East Cowes Park Estate, on the river Medina, Isle of Wight.
RICHARD LANGLEY, Agent.

A NEW BRICK and LIME WHARF, and DRAWDOCK,
JOHN DOWNEY, Licensed Lighterman, of 71, Millbank-row, S.W. and Licensed Lighterman at 1 Warlinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

TO BUILDERS, BRICKMAKERS, and BALLAST-BURNERS.—A large quantity of excellent COKE BREEZE FOR SALE, at the Western Gas-Works, Kensall-green (good facilities for transit by boats on the Grand Junction Canal, or by the Great Western Railway from a siding to the Works —Apply to the Manager as above

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to
JOSEPH FAIRER,
Turret Clock-maker to H. M.'s War Department,
188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCKS FOR THE HOUSES OF PARLIAMENT, Invites attention to his superior workmanship and elegant design of his extensive Stock of Watches and Drawing-room Clocks
Ladies' Gold Foreign Watches ..... 8 Guineas
Gentlemen's do. do. ..... 10 „
Ladies' or Gentlemen's Gold English Lever Watches .... 18 „
Strong Silver Lever Watches ..... 6 „
Gentlemen's Gold Compensation Balance Watches ..... 40 „
Do. Silver do. do. ..... 25 „
Marine Chronometers ..... 35 „
Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Keyless Guard Chains, &c
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

BENSON'S WATCHES and CLOCKS.
"Perfection of mechanism."—*Morning Post.*
Gold, 5 to 100 Guineas.
Silver, 2 to 50 Guineas.



BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, describing every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use Watches sent free and safe by post on receipt of a remittance.
J. W. BENSON,
33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON, E.C.
(Established 1749.)

ACCIDENTS ARE UNAVOIDABLE. Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from £50 to £500 insuring against ACCIDENTS OF ALL KINDS
An Annual Payment of 3l. secures £1,000 in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
1/2,817. have been paid by this Company as COMPENSATION for 56 Fatal Cases, and 5 041 Cases of Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d or 3d at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

BRAY'S TRACTION ENGINE COMPANY (Limited) -INCREASE of CAPITAL from 25,000l. to 100,000l. by the issue of 15,000 5l. shares. Liability limited to the amount of shares held
HONORARY DIRECTORS.
The Most Noble the Marquis of Bredalbane
The Most Noble the Marquis of Cleveland
The Right Hon. the Earl of Caithness.
The Right Hon. the Earl of Essex
The Right Hon. the Earl of Shrewsbury and Talbot.
The Right Hon. Lord Charles Hamilton, M.P.
DIRECTORS
The Hon Reginald Capel, 21, Chesham place, Belgrave-square, S.W.
Henry D. Davies, Esq Spring grove, W
Charles Osborn, Esq 2, St. Stephen's-road, Westbourne park, W.
Cornwall Simson, Esq. Winchester.
Grenville G. Wells, Esq Ashdown House, East Grinstead
Bankers.—The Union Bank of London, 4, Fall-mall East.
Consulting Engineer—D. K. Clark, Esq. C.E 11, Adam-street, Adelphi, W.C.
The Directors, after several months' experience with the new engine, at the construction of which so many important improvements have been introduced, and which will be daily employed up to the 1st of May in removing heavy goods to the Exhibition, can now with confidence lay the result of their labours before the public, and submit the undertaking to notice as one of the best investments of the day.
In addition to the sale of engines, from which a large royalty and profit are derivable, the Directors are enabled to state that by augmenting the following sum to the extent of only twenty engines and their waggons, and working them at the various contracts open to the Company, a clear income would be obtained, after working at one-half the cost of horses, of over 10 per cent per annum.
A deposit of 10s. per share must be paid on application, which will be returned in full if no allotment of shares is made.
Prospectuses, with testimonials of all further information, will be obtained on application to Mr. H. HOUTH, Secretary, at the Offices of the Company, 19, Pall mall East, London, S.W.

GUARDIAN FIRE and LIFE ASSURANCE COMPANY,
No. 11, Lombard-street, London, E.C.
Established 1821.
Subscribed Capital, Two Millions. Paid up, One Million.
DIRECTORS.
Henry Vigne, esq. Chairman.
Sir Minto T. Farquhar, Bt. M.P. Deputy Chairman.
Henry Hulse Berens, esq. — John Labouchere, esq.
Chas Wm Curtis, esq. — John Martin, esq.
Chas F Deas, esq. — Rowland Mitchell, esq.
Francis Hart Dyke, esq. — James Morris, esq.
Sir Walter R. Farquhar, Bt. — Henry Norman, esq.
Thomson Hankey, esq. M.P. — Henry R. Reynolds, esq.
John Harvey, esq. — James Tulloch, esq.
John G. Hubbard, esq. M.P.
AUDITORS.
Lewis Loyd, esq. — Henry Sykes Thornton, esq.
Cornelius Paine, Jun. esq.
Thomas Tallemach, esq. *Secretary.* Samuel Brown, esq. *Actuary.*
LIFE DEPARTMENT Under the provisions of an Act of Parliament, this Company now offers to new Insurers EIGHTY PER CENT OF THE PROFITS, AT QUINQUENNIAL DIVISIONS, OR A LOW RATE OF PREMIUM without participation of Profits.
Since the establishment of the Company in 1821, the amount of Profits allotted to the Assured has exceeded in Cash value 950,000l. which represents an Annual Reversionary Bonus of 1 1/2 per cent.
After the Division of Profits at Christmas 1857, the Life Assurances in force, with existing Bonuses thereon, amounted to upwards of 4,750 000l. the Income from the Life Branch to 270,000l. per annum, and the Life Assurance Fund, Independent of the Capital, exceeded 1,618,000l
LOCAL MILITIA and VOLUNTEER CORPS.—No extra premium is required for service therein.
INVALID LIVES assured at corresponding Extra Premiums.
LOANS granted on Life Policies to the extent of their values, if such value be not less than 50l.
ASSIGNMENTS of POLICIES. -Written notices of, receved and registered
MEDICAL FEES paid by the Company, and no charge for Policy Stamps.
Notice is hereby given, That Fire Policies which expire at Lady-day must be renewed within fifteen days at this Office, or with Mr SAMS, No. 1, St. James's-street, corner of Pall-mall; or with the Company's Agents throughout the kingdom; otherwise they become void.
Losses caused by Explosion of Gas are admitted by this Company.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.
TRUSTEES AND DIRECTORS.
Decimus Burton, esq. — Kirkman D. Hodgson, esq. M.P.
Travers Buxton, esq. — William James Lancaster, esq.
Octavius Edward Coope, esq. — John Dorrien Magens, esq.
William Cotton, esq. — John Timothy Oxley, esq.
John Davis, esq. — Benjamin Shaw, esq.
George Arthur Fuller, esq. — Wm James Thompson, esq.
Charles E. Gladstone, esq. — Hy Heyman Toulmin, esq.
James Alexander Gordon, esq. — Matthew Whiting, esq.
Edward Hawkins, jun. esq.
AUDITORS.
John Hodgson, esq. | Peter Martineau, esq.
Joseph Samuel Lescher, esq.
SURVEYOR—Edward Lovell, esq.
ASSISTANT SECRETARY—John J Broomfield, esq.
SOLICITORS.—Messrs. Dawes & Sons, Angel-court.
Insurances against Losses by Fire are effected by the Phœnix Company upon every description of Property in every part of the world, on the most liberal terms.
Persons insured with the Phœnix Company are not liable to make good the losses of others, as is the case in some offices.
Insurances with this Company expiring at Lady-day must be renewed within fifteen days thereafter, or they will become void.
Receipts are ready at the Principal Offices, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from **2s.** per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from **3s.** per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 34, GRAY'S-INN-LANE, HOLBORN, LONDON.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

INTERNATIONAL EXHIBITION, 1862.

ESTIMATES AND DESIGNS FOR SHOW CASES, METAL STANDS, &c.

With or without Revolving Machinery, by

BUNNETT & CO., ENGINEERS AND FOUNDERS,

DEPTFORD, KENT, S.E.; 17, QUEEN STREET, CHEAPSIDE; and 435, PARLIAMENTARY STREET, GLASGOW.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

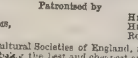
DRIVING BANDS, HOSE, VALVES, &c.

THE LEATHER CLOTH COMPANY, LIMITED, having now no Agents, supply direct their VULCANISED INDIA-RUBBER BANDS FOR MACHINERY, which they warrant more durable than leather, at half the price. These Bands neither stretch nor slip, and are not affected by heat, cold, or wet. HOSE for Breweries, Agricultural Buildings, and Steam Purposes. Patent Waterproof Cart, Waggon, and Rick COVERS, and every description of INDIA-RUBBER GOODS.

All Goods warranted, and a Discount of 17½ per Cent. for Cash allowed off list.

THE LEATHER CLOTH COMPANY, Limited,
56, CANNON STREET WEST, LONDON, E.C.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's  Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and only Patentees of

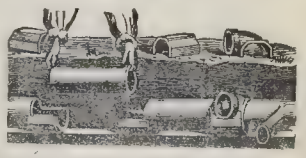
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronised by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing: also used for under slates at the Royal Agricultural Society's House, 11, Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths most suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO'S MANUFACTORIES, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER, upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of near One Million Feet. A liberal Discount allowed to the Trade.

FERGUSLIE FIRE CLAY WORKS,
PAISLEY.



PATENT GLAZED SEWER PIPES, according to Jenning's Patent, and the GLAZED SEWER PIPES with SOCKET JOINT. Also all articles made of Fire Clay. The Sewer-Pipes are in sizes from 2 inches up to 24 inches bore, and are of the most superior quality. Prices very moderate. The subscriber, from the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be.

ROBERT BROWN.

PATENT STONEWARE PAN CLOSET.

Makers and Patentees, the North Devon Pottery Company, near Bideford. In two Closet the Receiver is made of Vitrified Stoneware, and the Pan of White or Blue Printed Earthenware, to correspond with the Basin. The action is simple and the flush perfect. It may be seen in action at the house of the Architectural Exhibition, 9, Conduit-street.—For prices apply to Mr. B. JONES, at the Manufactory, near Bideford.—N.B. A London Agent wanted.

CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), posses es the exact properties, and acts in accordance with the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter houses, sinks, house drains, sewers, cesspools, graveyards, and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their pernicious character, or disagreeable smell, are wholly improper and inapplicable, such as permanganate of potash, pure water sweetening magnesia casks, charcoal, coal preparations in meat, game, fish, &c. as well as in the bath for preventive and maintaining personal purity. Obtainable of all Retail Chemists, in Bottles at 1s. 2s. or 4s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.

Wholesale of the Patentee, Battersea, Surrey, S.W.

DURABILITY of GUTTA PERCHA

TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart VENTNOR, ISLE of WIGHT.—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent affection since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¼ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¼ by 7 ,, ...	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,, ...	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer.....	from 1d. per foot
8,000 Yellow Deals.....	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

APPLY TO

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
½-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,, ...	12s. 6d.	13s. 6d.	13s. 6d. ,,
1-inch ,, ...	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,, ...	—	18s. 0d.	19s. 0d. ,,
Yellow Deals, 3 by 9 ..... £19 10s. per 120.		Pine Planks (Dry), 3 by 11	24l. per 120
Yellow Battens ..... £11 10s. ,,		Pine Deals do. 3 by 9	19l. 10s. ,,
Spruce Deals..... £16 10s. ,,		¾-Inch White Matched Lining	13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.



B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



J. GURMAN,

Inventor and Patentee of a New SASH POCKET and Fittings,

for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.

Send stamped envelope for Prospectus and Sectional Drawings.

Windows may also be seen at the Kensington and Conduit-street, Museums, London.



LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,000 feet in Plank and Board, sawn three years. E. BUTTERWORTH, ALUM STREET TIMBER-YARD, MANCHESTER.

BUILDERS and CARPENTERS, and OTHERS, have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities.

All sawn goods carriage free within three miles.

½-inch Flooring (well prepared), 11s 6d.	¾ inch do. 12s. per square		
Yellow Deals, sound and good	16l. 10s. per 120, or 3½d. per foot.		
Spruce Deals ,,	16l. 10s. ,,	22d. ,,	
Yellow Battens, excellent quality	11l. 10s. ,,	2d. ,,	
Pine Planks, dry, 12 ft. 3 in. by 11 ft. 2½.	,,	3s. 6d. ,,	

Seasoned Mahogany, Plank and Board, 6d. per foot.

A very large Stock, ready sawn and seasoned.

ALFRED CARTER, Old Belmont-green-road, N.E.

GREATER REDUCTIONS.—Yellow Deals, from 2s. 2d.; Spruce, from 2s. 8½.; Pine Plank, from 3s. 9d.; Mahogany, 6½.; ¾ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

TO BUILDERS, HOUSE-PAINTERS, and DECORATORS.—PATENT EXTRACT of LETHICIUM.—For Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. in a few minutes, and for Cleaning and Restoring Old Paint. Success guaranteed. Price 9s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London. — Messrs. NAENIARE & Co. 11, St. Andrew's hill, Doctor's-commons, London, E.C. N.B. Cheap patented Branches for laying on the Extract, and removing its old paint.

PORTLAND CEMENT WORKS, Northfleet, Kent.

Messrs. ROBINS & CO.

To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS, E. BAKER and CO.

(Contractors to Government),

24 WHARF, HARROW ROAD, PADDINGTON, W.

Every article manufactured at their own Works and Mines, Brierley-hill.

FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.

Shipments on the shortest notice

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours,

GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD.

Office, 5, George-yard, Lombard-street.

PARIAN CEMENT for INSIDE WORK! With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS & POTT, Nine Elms, London.

KEENE'S and PARIAN CEMENT for internal uses.—These well-known hard Stuccoes dry quickly and can be painted upon within a few days

Made and sold by JOHN BAZELEY WHITE & BROTHERS, Millbank street, Westminster.

PORTLAND CEMENT GREAVES & KIRSHAW,

14 SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

COLES, SHADBOLT, & CO CEMENT MANUFACTURERS,

LIME BURNERS,

BRICK MAKERS,

SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS

ST. JAMES'S and THORNHILL WHARFS,

CALEDONIAN ROAD, LONDON.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sewn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)
FIRE BRICK AND TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES.
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN PIPES, RED CHIMNEY-POTS, AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

MARTIN'S PATENT FIREPROOF CEMENT

Is 35 per Cent. Cheaper than any other internal Cement in use.
Manufactured ONLY by J. C. PART, successor to MESSRS. STEVENS & SON.
186, DRURY LANE, LONDON, AND DERWENT MILLS, DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TA'THAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PEARD-STREET, PADDINGTON.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.
Agent in Liverpool—JOHN MACKENZIE, 32, Seel street.
Do. do. Manchester—THOMAS OAKDEN.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

STRINGFIELD and BLYTH,
Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Wherever can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS
COWLEY and KENT BRICKS
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK Bricks and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Rail, way with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No application attended to without a banker's reference.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND-STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

JAMES STIFF & SONS,

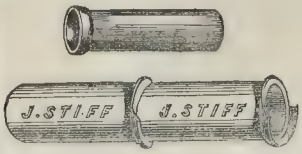
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz:—

Messrs GLADDISH'S, Fedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin
Messrs COLES, SHADBOLT, and CO'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIES, Ravensbourne Wharf, Greenwich
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.
Mr. GEORGE ALLEN'S, Danvers Wharf, Chelsea.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

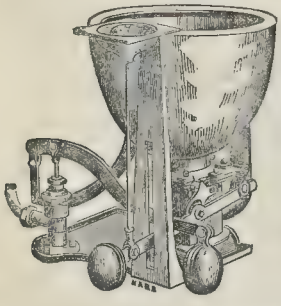
Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.

HAYWARD TYLER & CO.

ENGINEERS AND BRASSFOUNDERS,

84 AND 85, UPPER WHITECROSS STREET, LONDON, E.C.



HOWARD'S PATENT

REGULATING VALVE,

MANUFACTURED BY H. T. & Co.

Has been fixed in every situation, and proved to be

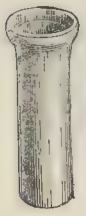
THE ONLY EFFICIENT VALVE

FOR

SUPPLYING CLOSETS WITH WATER WITHOUT THE COMPLICATED ARRANGEMENT OF CRANKS AND WIRES.

The "Great Eastern" has been fitted with these Closets, and hundreds are now in operation in many large establishments in the metropolis.

H. T. & Co. solicit an inspection at the Manufactory, where they may be seen in operation.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers,
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—

HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.

High-Street, Lambeth, London.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 35 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.



HEATON, BUTLER, & BAYNE'S Illustrated Treatise on the History and Use of STAINED GLASS FOR WINDOWS, Will be forwarded on receipt of 30 postage-stamps Memorial and Decorative Windows designed and executed.



HEATON, BUTLER, & BAYNE.
Works:—Cardington-street, Hampstead-road, London.

HORTICULTURAL GLASS WAREHOUSE.

THOMAS MILLINGTON,

87, BISHOPSGATE-STREET WITHOUT, E.C.

Lists forwarded on application.

STAINED GLASS and WALL PAINTING.

NOTICE OF REMOVAL.

MESSRS. CLAYTON & BELL,

Late of No. 34 a, Cardington-street, Euston-square,
Have removed to
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).
Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

MANCHESTER STAINED-GLASS WORKS.

R. B. EDMUNDSON & SON,

Artists in Stained Glass, Ecclesiastical and domestic of every description, ancient and modern, Illuminated Commandments, &c by their new process on Plate Glass; Mural and Heraldic Decoration. Monumental Brasses, &c. Designs and estimates on application.—R. B. EDMUNDSON & SON, having had upwards of thirty years' practical experience in the manufacture of every description of glass for ecclesiastical purposes, have most of their glass made to order, and from their own receipts, and which will be found nearer to the old glass than any others at present manufactured. Works—New Wakefield street, Oxford-street, near the Bridge.

CRYSTAL WHITE SHEET GLASS.—

WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate Photographic, and every description of Glass.
Estimates and Price-Lists forwarded free on receipt of business card addressed to
R. METTAM & CO
30 and 31, PRINCES STREET, SOHO, LONDON, W.

THE PATENT CRYSTAL WINDOW

BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

SOHO PLATE and GENERAL GLASS

WAREHOUSE, 20, Soho-square, W. and George yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES given and supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

GLASS.—W. H. JACKSON supplies

BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded on application at the Warehouse, 215, Oxford-street, W.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to heating or corrosion. The Asphalte is now extensively used for paving stables (as it is believed) the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

PRIZE MEDAL, LONDON, 1851.
GOLD MEDAL, PARIS, 1855.

ARMANI and CO. Importers direct from

the Mines of SEYSSEL-FRANGY (Savoy), SEYSSEL-VOLANT-PERRETTE (Savoy), MARSTU and MONTORIA (Spain), BASTENNES (Landes), &c. &c.

SEYSSEL ASPHALTE,

And by H.M.'s Royal Letters Patent, Manufacturers of

METALLIC LAVA.

For Price and Estimates apply at the
OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

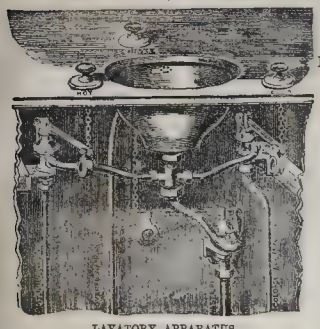
J. TYLOR & SONS,

MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

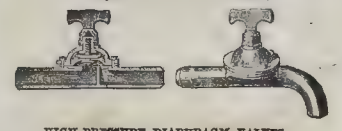
To be seen in action at the Manufactory,
WARWICK LANE,
And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent street, London.
ILLUSTRATED CATALOGUES ON APPLICATION.



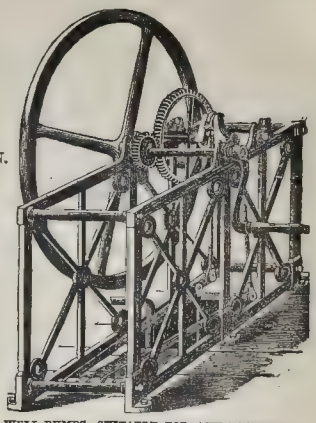
LAVATORY APPARATUS.



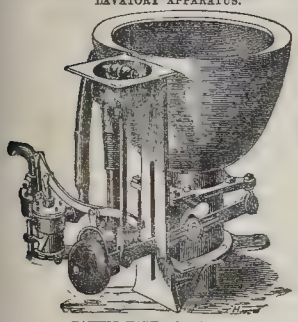
EQUILIBRIUM BALL VALVE.



HIGH-PRESSURE DIAPHRAGM VALVES.



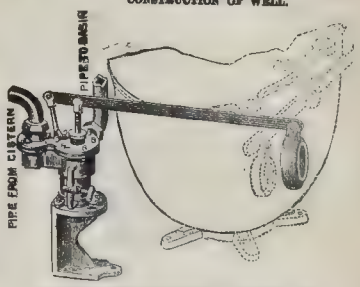
WELL-PUMPS, SUITABLE FOR ANY DEPTH OF CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



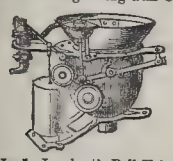
PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

THOMAS LAMBERT & SON,

No. 1. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



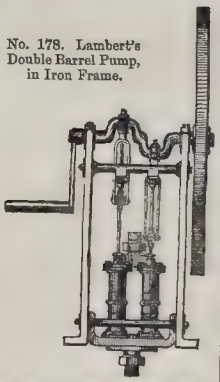
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,
SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.
M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1763, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 458, West Strand, who has on view a great variety of Specimens of the Pavements.

MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 35, CONDUIT-STREET, REGENT-STREET
ENCAUSTIC AND OTHER PAVEMENTS.
MARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Tndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 381, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" Scotch Pavings, at 27s 6d. per 1,000.
" Kiln Bricks, at 36s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7s. per 1,000.
Cash Prices. Deliveries in Trucks in London, or along the Line on the Eastern Counties Railway.

PATENT ASPHALTE CALDRON, for laying Asphalte Floors. The cheapest and best kind of floor, impervious to wet, and vermin will not touch it. Full particulars sent free, by
WOODS & COCKSEDGE,
IRONFOUNDERS, STOWMARKET.

SALES BY AUCTION.

LONDON-WALL.—EXTENSIVE SALE OF BUILDING MATERIALS

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 31, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS UP of about TWENTY HOUSES, forming the whole of Saddler's place, London-wall (belong ing to the Worshipful Company of Saddlers), Two Houses and Shops, Nos. 62 and 64, London wall, and a range of Stabling, Workshops, &c. in the rear: comprising 500,000 good sound stock bricks, several tons of lead, in gutters and pipes, 15,000 pantiles, slates, and plain tiles, useful timber, in roofs and floors, sashes, doors, and fittings, floor boards, shop fronts, folding gates, weather boarding and carcasing, hoop-hole doors, pebble-paving, coping and cills, &c.—May be viewed and catalogues had of F. W. PORTER, Esq. Architect, 16, Russell-square; and of PULLEN, HORNE, & EVERSFIELD, 30, Fore-street, City, E.C. and 14, Parliament street, Westminster, S.W.

BUILDING MATERIALS.—ST. MARY AXE.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, APRIL 4, at TWELVE, the BUILDING MATERIALS of a Stack of Warehouses, in the rear of No. 26, St. Mary-axe, of the usual description.—May be viewed the day previous, and catalogues had of W. SABINE, Jun. Esq. Architect, 54, Old Broad-street; and of PULLEN, HORNE, & EVERSFIELD, 30, Fore-street, City, E.C. and 40, Parliament street, Westminster, S.W.

BUILDING MATERIALS of the Drapers' Almshouses, Barbican.

PULLEN, HORNE, & EVERSFIELD are instructed, by the Worshipful Company of Drapers to SELL by AUCTION, on the PREMISES, on FRIDAY, APRIL 4th, at ONE o'clock, the BUILDING MATERIALS of the ALMSHOUSES in Beech-lane, Barbican: comprising brickwork, tiles, timber, and flooring boards; casements, doors, stone dressings, York paving, lead gutters, cisterns, &c. May be viewed the day previous, and catalogues had of HERBERT WILLIAMS, Esq. Architect, 22, Old Broad-street; and of PULLEN, HORNE, & EVERSFIELD, 30, Fore-street, City, E.C. and 40, Parliament-street, Westminster, S.W.

CARRARA WHARF, THAMES BANK, PIMLICO.—To SCULPTORS, MASONS, BUILDERS, and OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Fabbricotti, Brothers, to SELL by AUCTION, on the PREMISES, as above, in the course of the Ensuing Month, a large quantity of fine Sicilian, Veined, Statuary, and Coloured MARBLES, in blocks, with several thousand feet in slabs; also some Garlic, Figures and Vases, Baths, Mortars, and Alabaster Ornaments.—Approved bills at four and six months.—30, Parliament-street, S.W. and 30, Fore-street, E.C.

VALUABLE FREEHOLDS AND BUILDING GROUND, STOCK-WELL, SURREY.—LAND-PAX REDEEMED.

MESSRS. BARTON & SON are instructed to submit by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on TUESDAY, APRIL 8th, at TWELVE, in seven lots, SIX neat FREEHOLD RESIDENCES, Nos. 1, 2, 3, 4, 5, and 6, Stockwell-place, fronting the high road at Stockwell, and let to respectable tenants at rents varying from 42l. to 45l. per annum; also a valuable plot of BUILDING GROUND, adjoining the "Swan" Public house, having a frontage of 120 feet, and a depth of 140 feet. May be viewed by leave of the tenants, and particulars had at Garraway's; the Swan at Stockwell; of Messrs. POWNALL SON, & CROSS, Solicitors, Staple Inn, Holborn; and at the Auctioneers' Offices, 7, Cheltenham-place, Westminster-road.

SEVEN MILLIONS of BRICKS will be SOLD by AUCTION, in consequence of giving up the land, by

MR. WM. MAYALL, of Faversham, on THURSDAY, the 3rd-APRIL next, at TEN o'clock, on the Ground, Bayford Brickfield, Sittingbourne, Kent, and land adjoining, comprising Stocks, Place, Grizzles, Kiln-Stocks, Red, and White. —Catalogues free on application to the Auctioneer; or to Mr. GEORGE SMEED, Sittingbourne.

Final Sale of the valuable Stock of Messrs. Browne & Co. comprising a selection of beautifully-polished Jimmy-pieces in every variety of foreign Marble; a splendid Mural Monument of Classic design, noble Vases, choice Slabs, some Scagliola Pedestals, and various objects of taste and utility, being the contents of two Galleries reserved for the last Sale,

MESSRS. RUSHWORTH, JARVIS, & ABBOTT beg to announce that, having disposed of the unmanufactured stock, waggons, and implements, they are directed by Messrs. Browne & Co. to SELL by AUCTION, in the Galleries, in Grafton-street East, near the London University, on WEDNESDAY, APRIL 9th, various costly CHIMNEY-PIECES, being a select portion of the extensive and valuable Stock of the above eminent firm; including four elaborately wrought chimney-pieces, in the purest white marble, richly carved in high relief, supported by finely-sculptured female figures of boys, by a first-rate sculptor; a magnificent chimney-piece of large dimensions in pure Grecian taste, suitable for a palace or mansion of the first-class, and many others, beautiful in design and of superior finish, in every variety of Italian, French, Spanish, and Belgian marbles, carefully selected from the best quarries. A grand and classical mural monument, in pure statuary; a slab of choice Oriental granite, 7 feet 8 inches by 3 feet 8 inches, cut from one of the pillars of Trajan's Forum; some smaller slabs in granite, brought from the ruins of Carthage; two pair of grand marble vases for terraces, Scagliola pedestals of large dimensions, suitable for groups, figures, or vases, &c.—May be viewed six days prior to the sale and Catalogues had of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville-row, Regent-street, W.; and 19, Change-alley, Cornhill, E.C.

UPPER-STREET, ISLINGTON.

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, near the Three Wheat-sheaves, on THURSDAY, APRIL 3, at ONE, without reserve, by order of the Directors of the Agricultural Hall Company, Materials, comprising 60,000 stock bricks, 8,000 pan tiles, slates, timber of roofs and floors, floor lining, and Rebber-edge boards, shop-fronts, sashes, doors, coach-house gates, lead, &c. On view the day previous. Catalogues obtainable on the Premises, and of the Auctioneer, Tottenham.

WANDSWORTH COMMON AND ANERLEY.—Choice Freehold Building Sites.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on WEDNESDAY, APRIL 16, at TWELVE, a valuable PLOT of FREEHOLD LAND, frontage 51 feet, adapted for a gentleman's villa, situate facing Wandsworth Common, within three minutes' walk of Clapham Common Railway Station. The soil is gravelly, and the prospect very open and pleasant; also, TWO FREEHOLD PLOTS, at Anerley, frontages 25 feet 6 inches and 17 feet respectively, eligible for houses of a smaller class, abutting on the Station-road, within a few paces of the railway station. Particulars of Messrs. RUSSELL & DAVIES, Solicitors, No. 59, Coleman-street; and of the Auctioneers, 80, Cheapside.

CAMDEN TERRACE, CAMDEN TOWN.—Extensive and well-assorted Stock.—TO CONTRACTORS, BUILDERS, and OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, RAILWAY ARCHES, near the Old Eagle, on MONDAY, APRIL, 7th, at TWELVE for ONE, 3,000 yellow and white; red and spruce planks, deals, and battens; 700 sawn ditto; 141 squares of 1¼-in., 1-in., ¾ and ¾-in. prepared flooring; 8,000 ft. quartering; 4,000 ft. arris railing, 4,000 ft. dry white pine board; feather-edge and match boards; slating, battens, pantiles, laths, doors, and various Building Materials. Auction Offices, 3, Cardington-street, Hampstead-road, near the Euston Station.

GEORGE-LANE, WANSTEAD.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, within ten minutes' walk of the Snaresbrook Railway Station, on MONDAY, MARCH 31st, 1862, at TWELVE for ONE o'clock, a further portion of the excellent BUILDING MATERIALS of SYLVEY HALL; consisting of about 42,000 stock bricks and a large quantity of plain tiles, pantiles, slates, marble and stone paving, stone steps and sills, oak and other boards, beams, rafters, and floor-boards; windows, doors, firewood, &c.—May be viewed this day (Saturday); and catalogues obtained at the George, Wanstead; the Eagle, Snaresbrook; on the Premises; and of the Auctioneer, 14, Moorgate-street, London, E.C.

BELLINGDON, between TRING and CHESHAM.

MR. W. BROWN has received instructions to SELL by AUCTION, at the FULL MOON, Hawridge, on TUESDAY, APRIL 8th, 1862, at TWO o'clock, 200 OAK TREES of good quality, standing in the woods and hedgerows of Bellingdon Farm, three miles from Chesham, four from Tring, and five from Berkhampsted; also 700 larch poles, and 4,000 larch and other faggots, lying in Cheddington Wood and Guess Wood, adjoining the said farm. Way to be viewed on application at Bellingdon Farm. Catalogues obtained of Mr. ATTY, the tenant; at the Inns in the vicinity; and of Mr. W. BROWN, Land Agent, Tring, Herts.

BRIGHTLINGSEA, near Colchester, Essex.—SALE of first-class BRICKS.

MR. EDWARD SMITH is instructed to SELL by AUCTION, on FRIDAY, APRIL 4th, 1862, at the New BRICKYARD, Brightlingsea, about 300,000 capital hard red FACING BRICKS, quantity of good Splay Bricks, Coping Bricks, Bench Paramente, &c. &c. Mr. Edward Smith with great confidence calls the attention of the public to this auction. The bricks are of the most superior quality and make and are lying most conveniently for either land or water carriage, the yard being situated close to the navigable river Colne. Catalogues may be obtained at the Auctioneer's Office, North Hill, Colchester, where a sample of the bricks may be seen. Sale to commence at ELEVEN o'clock in the forenoon

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

MR. WILLIAM HODSOLL is instructed to SELL by AUCTION, at the LION HOTEL, Farningham, Kent, on FRIDAY, APRIL 11th, 1862, at TWO o'clock, about 800 superior OAK TIMBER TREES, and 950 OAK FELLERS, with their top, top, and bark, standing on various estates in the parishes of Wrotham, Ightham, Kemsing, Otford, Kingsdown, Horton Kirkby, Sutton-at-Hone, and Orpington, Kent. Also 94 Elm Trees, 4 Ash, and Walnut Trees (felled), at Southfleet. May be viewed at any time, and catalogues had eight days previously, at the Inns in the neighbourhood, and of the Auctioneer, Farningham, Kent.

BROADWAY, BLACKFRIARS.—BUILDING MATERIALS.

MESSRS. GLASIER & SON will SELL by AUCTION, on the PREMISES, on THURSDAY, APRIL 3, at TWELVE for ONE o'clock, the valuable BUILDING MATERIALS of Three Houses, Nos. 7 and 8, Broadway, and No. 47, Water-lane, Blackfriars; comprising capital sound stock brickwork, plain tiles, timber in roofs, floors, &c.; flooring, wainscoting, shop-fronts, sashes and frames, doors, lead on roofs, flats, gutters, pipes, cisterns, &c.; slate cisters, stoves, ranges, &c. &c.—May be viewed the day prior and morning of sale; and catalogues had of WILLIAM HUDSON, Esq. Architect, 29, Bennett's-hill, Doctors' Commons; on the Premises; and of the Auctioneers, 41, Charing-cross, S.W.

BUILDING LAND TO LET, on long lease, in most eligible situations, on the Estate of the Right Hon. the Earl of ESSEX, at the Manor of WALTHAM, in the County of Herts, about 12 miles from London, and 2 miles from the Waltham Cross Station on the Great Northern Railway, and 3 miles from the Enfield Station on the Eastern Counties Railway.

Apply to Messrs. BRIDGER & SONS, Land Agents, Enfield.

BUILDING LAND TO LET, on long lease, in most eligible situations, on the Estate of the Right Hon. the Earl of ESSEX, at the Manor of WALTHAM, in the County of Herts, about 12 miles from London, and 2 miles from the Waltham Cross Station on the Great Northern Railway, and 3 miles from the Enfield Station on the Eastern Counties Railway.

Apply to Messrs. BRIDGER & SONS, Land Agents, Enfield.

BUILDING LAND TO LET, on long lease, in most eligible situations, on the Estate of the Right Hon. the Earl of ESSEX, at the Manor of WALTHAM, in the County of Herts, about 12 miles from London, and 2 miles from the Waltham Cross Station on the Great Northern Railway, and 3 miles from the Enfield Station on the Eastern Counties Railway.

Apply to Messrs. BRIDGER & SONS, Land Agents, Enfield.

BUILDING LAND TO LET, on long lease, in most eligible situations, on the Estate of the Right Hon. the Earl of ESSEX, at the Manor of WALTHAM, in the County of Herts, about 12 miles from London, and 2 miles from the Waltham Cross Station on the Great Northern Railway, and 3 miles from the Enfield Station on the Eastern Counties Railway.

Apply to Messrs. BRIDGER & SONS, Land Agents, Enfield.

MANUFACTURING PREMISES, SOUTHWARK.—TO BE LET on LEASE, direct from the Freeholder (for a building term if desired), spacious MANUFACTURING PREMISES, occupying an area of between 8,000 and 9,000 superficial feet, situate in Emerson-street, Southwark, a few paces from the Thames, with a back frontage in Bear-garden. The buildings consist of ground-floor workshops of considerable extent, and stabling. Apply to Messrs. FULLER & HORSEY, Billiter-street, City, E.C.

A DESIRABLE PLOT of FREEHOLD GROUND, in the High-street, Borough, with the MATERIALS of the HOUSES standing thereon, TO BE LET, for building.—The Wardens of the Parish Church of St. Saviour desire to LET (LETTING the SITE of the HOUSES), Nos. 101 and 102, in the High street, and small Tenement behind, upon a Building Lease, or Leases, for eighty years, from the 24th June, 1862, at the option of such lessee, or more as the party tendering may wish. The plot of land in question contains a frontage of about 26 feet in the High-street, with a return frontage of 60 feet, and is eligibly situate for building part of the Borough having an entrance from Nag's Head-court, and offering a capability for the erection of very valuable premises. The lessee will be entitled to the materials of the present houses, and he will be required to expend in the erection of the premises a sum of not less than 3,000l.; and the premises to be erected must, as to elevation and plan of building and materials used, be to the satisfaction of Mr. EDWARD HABERSHON, the Parish Surveyor. Persons wishing to send in TENDERS must forward the same, sealed up, stating the amount of ground-rent, and particulars of proposed buildings, addressed to the Wardens, at their Meeting, to be held in the Vestry-room of Saint Saviour's Church, on TUESDAY, the 6th day of MAY next. The Wardens do not bind themselves to accept any Tender.—The drafts of agreement and lease, and plan and further information, can be inspected and obtained at my Offices—HERBERT SYER MY, Solicitor, 31, Bernard's chambers, London Bridge.

20th March 1862.

FREEHOLD GROUND RENTS. — CITY OF LONDON.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 8th of APRIL next, at TWELVE o'clock precisely, to receive TENDERS for certain FREEHOLD GROUND RENTS, on premises let on lease, having about eight years to run, and situate 119 and 120, Chancery-lane, 79 and 80, Aldgate High-street, 1, Minories, 4 and 9, Maidenhead-court, Aldersgate-street, particulars and plans of which may be had at this Office, together with conditions of sale. Tenders must be sealed, endorsed outside "Tender for Ground Rent," and addressed to the undersigned, and must be delivered on before TWELVE o'clock, on the said day of next.—The Commissioners do not bind themselves to accept any Tender, unless the same be deemed eligible. Parties tendering must attend personally, or by an authorized agent, on the day of tender, and be then prepared (if their Tender be accepted), to pay the required deposit of 10 per cent. and to execute an agreement for the completion of the purchase agreeably to the conditions of sale.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, February 20, 1862.

TO BUILDERS and OTHERS.—SELHURST-PARK, Norwood, near the Junction Station.—The freeholder will co-operate with respectable builders in ERECTING HOUSES, to let at 45l. to 65l. Excellent bricks of every class on the estate. Proximity to the Junction Station enables materials to be readily supplied. All roads made. Several first-class houses erected, all of which have been let before finished; and others are in course of completion. National taxation from 2s. to 2s. 6d. in the £. A proverbially healthy, water good and abundant, drives and walks beautiful; nine miles, or 18 minutes from City; 24 minutes from West-end; 4 minutes from Croydon, 10 minutes from Brighton. Trains constant from six a.m. till half-past twelve at night.—Particulars at Selhurst-park Office; or to Messrs. FRANCIS FULLER & CO. Cornhill, E.C.

BELSIZE PARK, HAMPSTEAD. — To BUILDERS and OTHERS.—LAND TO BE LET, for Building, with roads and sewers made, &c. For further particulars, apply on the estate, at Mr. TIDEY's Office, 20, Belsize-park.

BEAUTIFUL FREEHOLD BUILDING SITES on the Surrey Hills, between Croydon and Godstone, to be SOLD or LET, in plots of from five to fifty acres, at prices, it is believed, lower than are quoted for any land possessing equal advantages within a like distance of London. There are two railway stations on the estate, affording ready access both to the City and West-end, and the locality offers the especial advantages of a dry, pure, and bracing air (rendering the district proverbial for health), a gravel and chalk subsoil, an abundance of excellent spring water, and a highly respectable neighbourhood.—Particulars and plans of Messrs. DEBENHAM & TEWSON, Estate Agents, 80, Cheapside.

TO BUILDERS and OTHERS.—TO BE LET, on a building lease, the FREEHOLD PREMISES, No. 12, GREAT PRESCOTT STREET, GOODMAN'S FIELDS.—Apply to C. J. GRAHAM, Esq. 3, Plowden buildings, Temple, E.C.

HOUNSLOW, MIDDLESEX.—To BUILDERS.—TO BE LET on a Building Lease for 99 years (a very old term), a PLOT of GROUND, with SEVEN COTTAGES and THREE SHOPS, partly erected thereon.—For particulars apply to Mr. J. H. ROWLEY, Architect, 17, St. Helen's-place, Bishopsgate-street, E.C.

MANUFACTURING PREMISES WANTED.—WANTED, MANUFACTURING PREMISES, in or near the City, suitable for a wholesale manufacturing business.—Address, F. C. General Post-office, St. Martin's-le Grand, E.C.

FREEHOLD GROUND.—WANTED to PURCHASE, in the City of London, within the circumference of half a mile from the Mansion House, for building first-class Premises. It must contain a frontage of about 60 feet, by a sufficient depth to represent a superficial area of about 450 square yards.—Full particulars and situation, stating amount of land-tax (if any) to be sent addressed, prepaid, to OMEGA, No. 9, Birchin-lane, Cornhill.

TO BUILDERS.—FREEHOLD GROUND, in Little Turnstile, Holborn, TO BE LET, on a Building Lease. Apply to C. J. GRAHAM, Esq. 3, Plowden-buildings, Temple.

TO BUILDERS.—Unusual advantages are offered to Builders taking Land on the Cotton Estate, Limehouse, liberal use of existing roads made by the Proprietor. Bricks and sand may be obtained on the estate, at moderate charges; and credit is given to respectable parties. The new Church built and endowed a church on the estate, and also made the principal roads and sewers, in respect of which no charge is made. The property is freehold, land-tax redeem ed, and tithe free. Ready building sites to be let at moderate ground-rents, for terms of 99 years.—For full particulars apply to Messrs. BEADEL & SONS, 25, Gresham-street, E.C.

CRYSTAL PALACE (close to). — Valuable BUILDING SITES TO BE LET or SOLD, within a few minutes' walk of Sydenham Station, fronting a handsome roadway of considerable width. The supply of houses in the neighbourhood is quite inadequate to the demand. The situation being undoubtedly one of the most favourite and convenient in the vicinity of town; its healthful salubrity, picturesque scenery, proximity to the Crystal Palace and Park, facility of access to the City and West-end, will always insure to the locality a high rank in popular estimation, and remunerative rentals may consequently be relied on for any houses erected on the property, whether sold or let on ground-rents. For terms and plans apply to Messrs. EDWIN FOX & BOUSFIELD, Agents for the estate, 41, Coleman-street, City.

CAMBERWELL.—ELIGIBLE INVESTMENT.—FOR PRIVATE SALE, in one or two Lots, a valuable long LEASEHOLD ESTATE, of Sixteen excellent, well-built Eight-roomed Residences, of handsome and uniform elevation, and respectable with every convenience, including gas and blinds throughout. The property is well drained, and has been recently erected, and produces a net annual rental of 80l.—For full particulars, apply to Messrs. ODY & PADDISON, Solicitors, 3, New Boswell-court, Lincoln's-inn.

CROYDON, within a few minutes' walk of two Railway Stations.—To CAPITALISTS, most eligible BUILDING FRONTAGES. Advances made, if required.—Apply to Mr. WOODCOCK, Architect, Adelaide Offices, 16, Fish-street-hill, E.C.

TO SCULPTORS, STATUARIES, MARBLE MASONS, BUILDERS, and OTHERS.

A REMUNERATIVE BUSINESS, conducted successfully for more than half a century, is offered on most advantageous terms, as the Proprietor wishes to retire. Every information respecting the same will be given to any one wishing to negotiate

Apply to Mr. PLOWS, Fosbridge, York.

Also to be LET, Leased, or SOLD, a STONE WHARF, Workshops, Premises, Stock, and Plant, either together or separately. The money can be advanced for the purchase, at a low rate of interest, on security.

Also, to be SOLD, by Private Contract, much below the current trade, priced so as to insure an early sale, a few MARBLE CHIMNEY-PIECES, in variety; Tables, Cisterns, and other manufactured articles.

Also several hundreds of feet of superior MARBLE SLABS, of various sizes and kinds, including many of the choicest Marbles, some of which have been selected by the architects and sculptors in making the Holy Shrines in Italy; Statuary, Carrara Bardilias, Veined, Sienna, Dove, Black and Gold, Red, Griotte, Santa Pavo Brocadillas, Egyptian, Jasper, Red Granite, Green Serpentine, Barbe-ere, Mazipos Fossils, and other remnants of Marble, Plaster Models, &c.

Also, upon the Premises, to be Sold, immediately, a Condensing STEAM-ENGINE, with good Boilers; one Sawing-frame, one to twenty Saws of 12 feet each in length, one large solid iron circular Rubbing and Polishing Bed; Lathes for Polishing Arms, Turning Lathe, Lapidary's Wheel, &c. The whole driven by the engine.

Also, at the Wharf, a large CRANE, with shifting powers; Chelsea and Crown Wooden Screws, Bench Screws, Bench Screws, Iron Pulleys, Blocks, Ropes, Screw Vice, Trucks, Wheelbarrows, Crowbars, &c. &c.

N.B. Slab Marbles from 6d. per foot superficial.

TO FURNISHING IRONMONGERS, SHEFFIELD WAREHOUSEMEN, and OTHERS.—TO BE DISPOSED OF, part or entire, by direction of the executors, the old-established IRONMONGERY and SHEFFIELD PLATE BUSINESS, carried on for many years past by the late Mr. J. HARRIS, together with the valuable LEASE of the very desirable PREMISES, No. 1, GRACE CHURCH-STREET, adjoining St. Peter's Church, and one door from Cornhill. The returns average about 2,500l. per annum, which may be largely increased. The profits are good. At out 2,000l. will be required.—Apply to Messrs. FULLER & HORSEY, Billiter-street, City, E.C.

14, Billiter street, March 20, 1862

TO YOUNG ARCHITECTS. — To DISPOSE OF, the PAPERS and GOODWILL of an old-established PRACTICE in one of the most prosperous towns in Yorkshire. For particulars, address A. Z. care of W. Blackett, esq. 7, Furnival's Inn, London, E.C.

TO STONEMASONS and BUILDERS.—TO BE SOLD, the BUSINESS of a STONEMASON, where a good trade has been carried on for the last thirty-one years. It is in a first-class situation, and adapted for a single or small family present Proprietor retiring from business. Full particulars may be had on application to Mr. JAMES BELL, Stonemason, St. Michael-street, West Brouwich.

TO BUILDERS.—TO BE DISPOSED OF, in a good Town near London, and close to a railway station and church, an established BUSINESS in full work, with considerable connexion.—For particulars and cards to view, apply to J. W. D. at Mr. Moor's, Essex Coffee House, 224, Shoreditch. No correspondence will be entered into without satisfactory exchange of reference.

TO BUILDERS, CONTRACTORS, and OTHERS.—An excellent well-established BUSINESS in Bayswater, and the Lease of a Small House and Roomy Business Premises, Workshops, Stabling, &c. TO BE SOLD on easy terms. Plant and Stock to be taken by valuation or sold, as purchaser may prefer.—Apply to Mr. MOORE, Builder, 19, Inverness-road, Bayswater.

TO PAINTERS and PAPER-HANGERS. TO BE SOLD, a good BUSINESS in the above line, in the thriving town of Bradford, Yorkshire. The situation is good, and the premises very eligible. As the present proprietor is going abroad, he will treat liberally with any purchaser.—For particulars address J. EDWARDS, 67, Manch-road, Bradford.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles in the Fields, and published by the said CHARLES WYMAN, at the office of "The Builder," No. 2, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, March 29, 1862.

The Builder.

AN ILLUSTRATED JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XX.—No. 1000. APRIL 5, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Hemsted House, near Staplehurst.—Mr. David Brandon, Architect 243

Travelling Concrete Stage: Main Drainage Works, London 243

CONTENTS.

The Story of Monuments in Rome 233

Professor Smirke's Lectures on Architecture, at the Royal Academy 234

Marc Isambard Brunel 235

The Leonine City: Vatican 236

Stawley Church, Bucks: Galleries and Pews 238

Royal Institute of British Architects 239

British Archæological Association 240

Oxford Architectural Society 240

The Architectural Institute of Scotland: Prizes 240

Glasgow Archæological Society 241

The Sanitary Question: Northern Architectural Association 241

The Albert Memorials 241

The Mediæval Court at the International Exhibition 241

Improvement in Laundries: New Drying Room 241

Travelling Concrete Stage: Main Drainage Works 242

Hemsted House, near Staplehurst, Kent 243

The Priory Crypt of St. John's Church, Clerkenwell 243

South Kensington at the Grotesque 245

The Architectural Association 245

On the Sewering of Towns and Drainage of Houses 245

Supply Questions in House of Commons 248

Flaxman's Monument 248

Local Surveyors and their Rewards 248

The Female School of Art 248

School-building News 248

"Cottles Ventilation" 248

The Keats Testimonial 249

Registers 249

St. Luke and the Painters 250

Byzantine and Gothic 250

Public Wash-Houses 250

Can Two Styles Flourish together? 250

Dry Walls 250

Books received: Liverpool Archæological Society's Proceedings: Variorum 250

Miscellanea 251

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS.

Sir Robert Smirke, | A. J. B. Beresford Hope, Esq. M.P.

PRESIDENT.—Sydney Smirke, Esq. R.A.

TREASURERS.

Philip Hardwick, Esq. R.A. | Charles R. Cockerell, Esq. R.A.

Geo. Gilbert Scott, Esq. R.A.

TREASURER.—William Tite, Esq. F.R.S. M.P.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 32, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

THE ARCHITECTURAL MUSEUM,

SOUTH KENSINGTON MUSEUM, W.—SESSION, 1862.—On TUESDAY next, at EIGHT p.m. precisely, a LECTURE will be delivered, in the Theatre, on "Encaustic Tiles and Tile Pavements," by the Rev. LORD ALWYNE COMPTON.

A. J. B. BERESFORD HOPE, President.

GEORGE GILBERT SCOTT, Treasurer

JOSEPH CLARKE, Hon. Secretary.

(13, Stratford-place, W. of whom cards may be had by letter.)

ROYAL HORTICULTURAL SOCIETY'S

AZALEA SHOW, WEDNESDAY, APRIL 9th, at South Kensington. Open at ONE o'clock. Band commences at Three o'clock. Tickets, 2s. 6d. each, can be had at the Garden, and of the principal Librarians, Music sellers, &c.

Next Election of Fellows, APRIL 25th.

INTERNATIONAL BAZAAR, 1862,

EXHIBITION ROAD, South Kensington.

A Building of large dimensions, consisting of a Central Hall and two aisles with capacious galleries, is in rapid course of erection on the space of ground in Exhibition-road, nearly opposite the grand entrance under the eastern dome of the International Exhibition and the entrance to the Royal Horticultural Gardens.

The proprietor of the land is erecting this building for the purposes of affording exhibitors in the Exhibition, as well as others, an opportunity of selling articles of manufacture principally of a portable character, sales not being permitted in the Exhibition.

Plans of the space to be let, with the tariff, can be seen at the offices at the building.

Refreshments will be provided for exhibitors.

The utmost exertion will be made to make the International Bazaar worthy of public support. The Bazaar will be opened and closed contemporaneously with the Exhibition of 1862.

Intending applicants for space are invited to inspect the progress of the building, and to apply for further information to the Superintendent at the Building.

ARUNDEL SOCIETY FOR PROMOTING

the KNOWLEDGE of ART.—The drawings and publications of this Society are on view daily, for the Free Inspection all persons interested in Early Italian Art. The Society has lately added to the collection copies of the frescoes by Mantegna, in the church of the Eremitani, at Padua; and the masterpiece of Perugino, at Citta della Pieve.

Annual subscription to the Society, 1l. 1s.

Annual Publication for 1861.—Seven Chromolithographs, from frescoes in the Eremitani Chapel at Florence

For Prospectuses, and List of Works on Sale, apply to Mr. MAYNARD, Assistant Secretary, 24, Old Bond-street, London.

JOHN NORTON, Hon. Sec.

ARCHITECTURAL EXHIBITION,

9, Conduit-street, Regent-street, NOW OPEN, from Nine till Six. Admission 1s. Half-crown season tickets admit at all times to the Exhibition, to the west gallery containing the entire collection of drawings and sketches by the late A. Welby Pugin, and to all the Lectures. First Lecture, TUESDAY, MAY 6, at Eight p.m. on the Transept and Erections of Obelisks and other large Monoliths in ancient and modern times, by Professor Donaldson.

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.T.R.A. }

MEDALS and PRIZES of the ROYAL

INSTITUTE of BRITISH ARCHITECTS, Conduit-street, Hanover-square, W.

The Council will proceed, in January, 1863, to take into consideration the appropriation of the Royal Medal to be conferred on a distinguished architect or on a man of science who may have produced a work tending to promote the knowledge of architecture, or of the various branches of science connected therewith. Gentlemen desirous of sending essays, illustrations, and designs, in competition for the Silver Medals of the Institute, the Soane Medallion, with its Travelling Fund, and the Prizes offered by the President, Mr. W. TITE, M.P. F.R.S. and Sir FRANCIS R. SCOTT, Bart. may obtain the necessary information on application to the Honorary Secretaries, by letter, prepaid, at the above address.

T. HAYTER LEWIS, } Hon. Secs.
JAMES BELL, }

THE METROPOLITAN BUILDING

ACT, 1855, Sec. 33.—The Institute of British Architects hereby gives notice, that an examination of persons desirous of obtaining a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the Rooms of the Institute, No. 9, Conduit-street, Hanover-square, W. on WEDNESDAY, the 30th day of APRIL, at TEN o'clock in the forenoon. Persons desirous to be examined must, on or before WEDNESDAY, the 16th day of APRIL send an application, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.

T. HAYTER LEWIS, } Hon. Secs.
JAMES BELL, }

Conduit-street, April 2, 1862.

COMPETITIONS.

TO ARCHITECTS, LANDSCAPE

GARDENERS, &c.—The Burial Board for the Borough of Cheltenham are desirous of receiving PLANS, ESTIMATES, and general SPECIFICATIONS for the LAYING OUT, CONSTRUCTING ROADS and FOOTPATHS, ERECTING BUILDINGS on, FENCING IN and PLANTING certain LANDS purchased by them for a cemetery, the superficial area of which is eighteen acres. The designs must include a ground-plan, showing the sites of the different buildings required, the courses of the carriage roads and walks, the coarses also, of the drains, the division of the land into the several sectional burial places, and the subdivision of such places into plots for burial. The plan, also, should show the manner proposed for the ornamental planting of the land. Should the intentions of the designers as to the laying out of the land render it necessary, sections of the earthwork required, and formation of the ground surface as proposed to be made, should be provided, and such other details and suggestions as the competitors may think necessary to illustrate and make clear their designs. Plans, elevations, and sections must be provided for two chapels, dead-house, lodge, gates, and walls at entrances, &c. Specifications must accompany the plans, describing the manner of construction, the class and substance of material in the several buildings, and estimates of their several costs. Plans, specifications, and estimates of the manner of laying out and planting the site, of forming and making the roads and footpaths, and of the character and cost of fencing the site, to be also provided. Plans, &c. may be either for forming and finishing the roads and footpaths, laying out and planting the site, or for fencing the site, or for the chapels and other buildings before mentioned, and the entrance-walls and gates, or the whole of the works may be combined in the plans, &c. of any competitor; but the Board reserve the right of selection at their discretion from the plans, &c. submitted to them. A premium of forty guineas will be given for the best designs, specifications, and estimates for the whole of the works sent in; a premium of twenty guineas for the second best designs, specifications, and estimates for the whole of the works. Should designs, &c. be selected for part of the works only, a fair arrangement as to the premium will be made by the Board with the successful competitors. The plans, &c. selected to become the property of the Board. The plans, &c. are to be distinguished by a mark or motto, and accompanying them a sealed envelope, having the same mark or motto outside, and within the name and address of the designer, and the terms on which he will superintend and supply his professional services (an exception of the works. Plans and particulars of the land may be had on and after the 20th of MARCH inst. of Mr. HENRY DANGERFIELD, Borough Surveyor. The plans and other documents to be sent to me on or before the 29th day of MAY next.

G. E. WILLIAMS, Clerk to the Board.

Public Offices, Cheltenham, 29th March, 1862.

TO ARCHITECTS.—WANTED, PLANS

and ELEVATIONS for SCHOOLS and TEACHERS' RESIDENCES, in conformity with the Rules of the Committee of Council on Education, at Stockton-on-Tees, Durham. The boys' school to accommodate 250; the girls' school, 200; and the infants' school, 200 Three teachers' residences. Ten pounds will be given for the most approved set of plans.—Further information and tracing of site may be obtained of WILLIAM SKINNER, Esq. Stockton-on-Tees, to whom plans, with estimates of cost, must be sent, not later than the 30th of APRIL.

BOROUGH of BIRMINGHAM.—To

ARCHITECTS.—The Free Libraries Committee of the Council of this Borough are desirous of obtaining Plans, Sections, Specifications, and Estimates for the ERECTION of a FREE REFERENCE LIBRARY and READING ROOMS, Lending-Library and News Room, and Gallery of Art, upon the piece of vacant Land adjoining the Richard Inside Building, with an elevation to the Corporation Site of said building. Architects desirous of competing for the Erection of the same are requested to send in their Plans, Specifications, and Estimates, under cover, to the undersigned, endorsed "Plans for Free Reference Library Buildings," on or before the 16th day of JUNE next. Particulars of the accommodation required, and of the conditions of competition, together with a Lithographed Plan of the Site, may be obtained on application at my Office.—By order,

THOMAS STANDBRIDGE, Town Clerk.

Town Clerk's Office, Temple-street, 2nd April, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—

NOTICE to BUILDERS.—TENDERS are required for BUILDING a PROVOST ESTABLISHMENT at York Cavalry Barracks.

Parties desiring to Tender for the erection of these works must leave their names at the Office on or before the 15th day of APRIL next, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, York, March 28, 1862

BIRKENHEAD UNION.—To Contractors

and Builders.—The Guardians of the Poor of the Birkenhead Union, in the county of Chester, are prepared to receive TENDERS for the ERECTION and COMPLETION of the NEW UNION WORKHOUSE, to be built at Higher Tranmere, in the said county. Separate and distinct Tenders will be required to be delivered for the building of the receiving and vagrant wards, and also for the completion of the cellarage under the main building. The drawings and specification may be seen, and further information obtained at the Office of Mr. THOMAS LAYLAND, Architect, 20, Castle-street, Liverpool. Sealed Tenders to be delivered or sent to me, at my Office, 50, Lord-street, Birkenhead, endorsed, "Tender for Workhouse," on or before SATURDAY, the 12th day of APRIL next. Security will be required from the Contractor for the due performance of the contracts. The Guardians do not bind themselves to accept the lowest or any Tender.—Signed by order of the Board,

PETER GREGORY,
Clerk to the Guardians of the Birkenhead Union.

TO BUILDERS.—Parties disposed to

TENDER for the ERECTION of a FARM-HOUSE, FARM BUILDINGS, and THREE COTTAGES, at Walton, near Much Wenlock, in the county of Salop, for the Right Hon. Lord Forester, may inspect the plans and specifications and conditions of contract, at my Office, in Bridgnorth, on and after THURSDAY, the 3rd day of APRIL, until SATURDAY, the 19th, on which day Tenders must be delivered to me by TWELVE o'clock. Three persons intending to Tender are requested to send their names either to me or to his Lordship's Agent, WILLIAM THURSFIELD, Esq. Barrow, near Broseley, Salop, so that a time may be appointed for viewing the site and plans. No pledge is given that the lowest or any Tender will be accepted.

ROBERT GRIFFITHS, Architect.

Bridgnorth, March 22nd, 1862

FALMOUTH DOCKS.—To Iron Ship

BUILDERS, IRON FOUNDERS, and OTHERS.—Wrought-Iron Caisson, No. 3, Graving Dock.—The Directors of the Falmouth Dock Company are prepared to receive TENDERS for the construction and delivery of a WROUGHT-IRON CAISSON, the drawings and specification of which can be inspected, and any other information obtained at the offices of the Docks Company, at Falmouth; or of JAMES ABERNETHY, Esq., M.I.C.E., 3, Parliament-street, Westminster; on and after the 31st day of MARCH instant. A printed form of Tender will be supplied, which must be filled in and delivered at the offices of the Company, at Falmouth, on or before the 18th day of APRIL, 1862.

JOHN P. BENNETTS, Secretary.

Falmouth Docks Offices, 25th March, 1862

TO BUILDERS. — Persons desirous of

TENDERING for the ERECTION of a PARSONAGE, at THURSLEY, Surrey, may see the plans and specification, on application to the Rev. H. BRANCKER, Thursley, near Godalming, Surrey, or to Mr. J. W. PENFOLD, Architect, 3, Charlotte-row, Mansion House, E.C. of whom the quantities may be obtained, price 5s. each. Tenders (on a printed form), to be sent on or before 12th APRIL, to the Rev. HENRY BRANCKER, who does not bind himself to accept the lowest or any Tender.

FLANCHFORD BRIDGE.—To CON-

TRACTORS and BUILDERS.—The Committee of the Subscribers are desirous of receiving TENDERS from competent persons for the ERECTION of this BRIDGE, over the river Mole, on the road from Reigate to Leigh. The plan and specification can be seen at the Office of Mr. LEE'S Chapman, 7, Great Scotland-yard, London, S.W.; and of Mr. JOHN LEE'S, Reigate, Surrey; and the Tenders, forms of which can be had, must be sent to Mr. LEE'S Office on or before FRIDAY, APRIL 11th, 1862

March 29th, 1862.

TO BUILDERS and CONTRACTORS.—

WILTON HOUSE ESTATE, WILTSHIRE.—Persons desirous of CONTRACTING for the ERECTION of FARM-HOUSES, extensive FARM STEADINGS, and numerous LABOURERS' COTTAGES, upon the Earl of Pembroke's estates, are requested to apply at the Offices of Mr SAMUEL CLARKE, Architect, Engineer, and surveyor, Corn Market House, Salisbury.—Plans and specifications for one Field Stead being upon Avon Farm, near Salisbury, will be ready on MONDAY, the 24th of MARCH, 1862, and Tenders for the same are requested to be sent to Mr. CLARKE, on or before MONDAY, the 7th of APRIL, 1862. The other plans and specifications will be ready for inspection as soon as they can be prepared, of which an early notice will be given, as the works are intended to be commenced this spring.

The lowest or any Tenders will not necessarily be accepted.

Wilton House Estate Office, March 25, 1862.

TO BUILDERS. — Faversham, Kent. —

ALMSHOUSES and CHAPEL.—The Trustees of the Faversham Charities are desirous of receiving TENDERS for the ERECTION of Thirty ALMSHOUSES, and a CHAPEL for 240 persons. The plans and specification may be seen on and after the 27th instant, at the Office of Mr. C. C. HERRING, Esq. 1, Dane's Inn, Strand, London; as also at the Office of the Architects, Messrs. HOOKER & WHEELER, Bierschley, Kent, from whom any further information may be obtained. Sealed Tenders are to be sent to me, and not to the undersigned, at Faversham, Kent, on or before the 10th of APRIL next. The Trustees do not bind themselves to accept the lowest or any Tender. The Builder whose Tender is accepted will be required to find sureties.

FRANCIS F. GIRAUD, Clerk to the Trustees.

South House, Faversham, 31st March, 1862.

[*For remainder of Contracts see next Page.*

CONTRACTS.

LEEDS HOTEL, for the MIDLAND RAILWAY COMPANY.—TENDERS are WANTED for the PLASTERERS' and PAINTERS' WORK, BELL HANGING, and SMITH'S WORK, required in the ERECTION of the new HOTEL adjoining the Wellington Station, in Leeds. The plans and specifications may be seen at the office of the Architects, South Parade, Leeds, from THURSDAY, the 3rd of APRIL to FRIDAY, the 11th of APRIL. Sealed Tenders, addressed to the Architect, "Leeds Hotel," to be sent in on SATURDAY, the 12th of APRIL.

PERKIN & BACKHOUSE, Architects.

Pease's-built Rings, No. 5 South Parade, Leeds,
March 28th, 1862.

TO BUILDERS and CONTRACTORS desirous of TENDERING for the ERECTION of a FACTORY for PATENT OIL WORKS, at Coed Talon, near Mold, North Wales, are requested to communicate by letter, with Messrs. BEVINGTON & TOPHAM, Engineers, Stratford, London, E.

TO PLASTERERS.—WANTED, immediately, TENDERS for the PLASTERING of a VILLA, 17 miles down the South-Western Line.—Apply, on TUESDAY next, to Mr KAYE, Architect and Surveyor, 2, Richmond place, St. George's-road, Southwark.

TO BUILDERS. — NEW CHURCH at BWLCH-Y-CIBAU, in the parish of Meifod, Montgomeryshire. Any person wishing to TENDER for the ERECTION of the above named CHURCH can see the plans and specification at the temporary residence of the Rev. Thomas Jones, the Curate of the said parish, Bwlch-y-Cibau, seven miles from the Llanfyllin Station, and nine miles from Welshpool; or may obtain further particulars by applying to the Architect, G. G. SCOTT, Esq. 20, Spring-gardens, London. Tenders to be sent in before the 22nd of APRIL, addressed to the Rev. R. WYNNE EDWARDS, Meifod Vicarage, Welshpool, and endorsed "Building Tender." The Committee do not pledge themselves to accept the lowest Tender.

PADDINGTON.—To STONE-MERCHANTS and OTHERS.—Notice is hereby given, that TENDERS will be received by the Vestry of Paddington, for the SUPPLY of the best BLUE GUERNSEY or DROGS GRANITE and YORK —4,500 cubic yards of Broken, and 1,000 tons of Unbroken; and 1,000 tons of small paving setts to be used for HIGHGATE SURFACE or KENTISH FLINTS, ring from pebbles and dirt, at per ton; to be delivered in the order of the Road Wardens, at their Yard, Harrow-road, or such other place as shall be appointed by the Vestry, on or before MONDAY, the 29th day of SEPTEMBER next. The Tenders to be sent sealed, and addressed to the Vestry, and left at the Vestry Hall, Harrow-road, on or before MONDAY, the 14th instant (after which no Tender will be received), endorsed "Tender for Granite or Flints," as the case may be; and persons sending Tenders are to attend at the Vestry Hall above-named, on the following morning (Tuesday), at TEN o'clock precisely. The form of the Contracts may be seen at the Vestry Clerk's Office, between the hours of Ten and Four. The expense of the contract to be paid by the contractors. A deposit of 20*l.* to be previously lodged with the Vestry Clerk, as evidence that the Tenderer is able to enter into the contract; which deposit will be returned in case the Tender is not accepted; but, in the case of accepted parties, to be retained until the Contract is complete. The Vestry do not bind themselves to accept the lowest or any Tender.

By Order, &c.
Mar. 31st, 1862. FREDK. AVLING, Vestry Clerk.

TO CONTRACTORS.—The Trustees of the Chippenham Turnpike Roads are willing to receive TENDERS for the REPAIR of the said ROADS, about 17 miles, for a term of Seven from the 1st day of JUNE next. A specification may be seen at the Office of the Clerk, and copies furnished at stationers' charges. Sealed Tenders, stating distinctly the sum per mile required, to be delivered TWELVE O'clock at noon on FRIDAY, the 25th instant; and each Tender must be accompanied by the names of two responsible persons, to guarantee the payment of the same. The Trustees do not bind themselves to accept the lowest Tender.

THOS. ABDY FELLOWES, Clerk.

Chippenham, 1st April, 1862.

PARISHES of ST. GILES'S WITHOUT, CRIPPLEGATE, and ST. LUKE'S, MIDDLESEX.—TO BE LET by TENDER, on Building Leases for a term of eighty years, ABOUT 60 FEET of Land, at the north side of the Metropolitan Cattle Market. Particulars may be obtained at the Office of Mr A. J. BALLS, Solicitor, 22, Red Cross-street, City; or at 1, Church-court, Old Jewry.

TO BUILDERS and OTHERS.—The Board of Guardians of Whitechapel Union will meet in the Board Room of the Workhouse, Charles-street, Mile-end New Town, on FRIDAY, the 11th day of April next, at Six o'clock in the afternoon precisely, to receive TENDERS and CONTRACT for the ALTERATION and ERECTION of certain CHIMNEYS to STEAM-BOILER HEATING APPARATUS in the Union Infirmary Workhouse situate thereon. The Plans and Specifications of the proposed Works may be inspected at the office of Mr G. H. SIMMONDS, Surveyor, 7, Great Alie-street, Whitechapel. Tenders made in writing and endorsed "Tender for Chimneys," must be delivered at the Workhouse at or previous to the hour of meeting.—The Guardians do not bind themselves to accept the lowest or any Tender.—By order,

G. ADAMS FARR, Clerk.

Clerk's Office, Workhouse, Charles-street, Mile-end New Town, 17th March, 1862.

TO CONTRACTORS and OTHERS.—TENDERS are required for the MAKING of ROADS and SEWERS upon an Estate at Clapton, for the London and Suburban Freehold Land and Building Society. Separate Tenders are also invited for FENCING in the above Roads. Plans and specifications at the Office of Messrs. HAMMACK & LAMBERT, 59, Bishopsgate-street, City, E.C.—The Directors do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.—Persons disposed to TENDER for the ERECTION of a BAPTIST CHAPEL, and the Conversion of the present Chapel into Schools, at Chipping Norton, may see the plans and specification of the Proposed Alterations at the Offices of Messrs. GIBBS, THOMPSON, & COLBOURNE, Stratford-upon-Avon, between the hours of NINE and SIX, on and from TUESDAY, the 25th instant, to the 31st inclusive, where Tenders are to be sent in, and may be had on payment of 10*s.* Tenders for the Building, G. B. SMITH, Chipping Norton, on WEDNESDAY, the 9th of APRIL, proximo. The lowest Tender will not necessarily be accepted.

Stratford-upon-Avon, March 18th, 1862.

TO BUILDERS. — Persons disposed to TENDER for ALTERATIONS, and very considerable ADDITIONS, to a RESIDENCE, at Chipping Norton, may see the Plans and Specification thereof, on application at the Offices of Messrs. GIBBS, THOMPSON, and COLBOURNE, Architects, Stratford-upon-Avon, between the hours of NINE and SIX, on and from FRIDAY, the 11th instant, to the 18th inclusive, where Tenders are to be sent in, and may be had on payment of 10*s.* Tenders for the Building, Messrs. HINDLEY & WILKINS, Chipping Norton, on WEDNESDAY, the 23rd of APRIL instant. The lowest or any Tender will not necessarily be accepted.

Stratford-upon-Avon, March 25th, 1862.

WATERWORKS at HALSTEAD, ESSEX. The Local Board of Health invite TENDERS for WATERWORKS at Halstead, the plans and specifications of which may be seen after MONDAY next, the 7th instant, at the Office of the Clerk of the Board at Halstead, and Tenders are required to be sent to the Clerk on or before SATURDAY, the 12th day of APRIL next.—The Board do not bind themselves to accept the lowest or any Tender.

G. P. ARDEN, Clerk to the Board.

Halstead, March 25th, 1862.

TO ROAD MAKERS and CONTRACTORS. PERSONS desirous of FORMING about ONE AND A QUARTER MILES of ROAD, in TOTTENHAM WOOD ESTATE, at Wood green, Hornsey, on the forest North-East line, may see the drawings, specification, and quantities at the Offices of the Architects, Messrs. W. G. HABERSHON & PITT, 36, Bloomsbury-square, W.C. Tenders to be delivered on SATURDAY the 12th instant, at TWELVE o'clock.—The Architects do not bind themselves to accept the lowest or any Tender.

TO BUILDERS and OTHERS.—Notice is hereby given, that Plans and Specifications for RESTORING and PART REBUILDING the PARISH CHURCH of Wokingham, Berks (where there is a junction station of branches of the South Eastern and South Western Railways), will be lying at the Office of Mr. WILLIAM W. WHEELER, Solicitor, Wokingham, on MONDAY, the 7th day of APRIL next, and five following days. All persons desirous of Contracting for the above works are invited to make sealed tenders, directed to Mr. WHEELER, on or before TUESDAY, the 29th instant. The lowest nor any Tender will not necessarily be accepted. The Contractor will be required to enter into the usual legal Contract and bond with two good and approved sureties for the due fulfilment of his Contract.

PERRY J. FOULEY,
JAMES GROVE,
JOHN HULME, } Church-wardens.

Wokingham, 2nd April, 1862.

TO BUILDERS.—TENDERS are required for the several WORKS to be done in the ERECTION of St. SAVIOUR'S CHURCH, Bocup, Lansdown, of which the foundations are now laid level. The plans can be inspected on MONDAY 7th instant, on application to Mr ROBERT HOWARTH, of Stanhope, Bocup. Tenders, either for the whole of the works, or for the several portions, must be delivered to me at Stanhope, before ONE p.m. on WEDNESDAY, 23rd instant. The lowest Tender will not necessarily be accepted.

Huddersfield. EDWARD WYNDHAM TABEN, Architect.

TENDERS for STATION ROOF.—The Directors of the Bristol and Exeter Railway are ready to receive TENDERS for the ERECTION of a ROOF for their new Station at Exeter, having an area of [illegible] square feet. The drawings and specification will be on view at the Engineer's Office, Bristol Terminus, from the 7th of APRIL to the 9th of MAY, both inclusive. Sealed Tenders to be addressed to the Secretary, A. MILLS, Esq., not later than TUESDAY, the 13th of MAY.

Engineer's Office, Temple Meads, Bristol, 2nd April, 1862.

TO BUILDERS.—Tenders are required for TAKING DOWN WOODLAND HOUSE, KENTISH TOWN, and for ERECTING TWO NEW HOUSES on the Site, with a road between them, leading to the land of St. John's College. A lease of ninety-five years will be granted by the College the first year at a peppercorn, and thence at a ground rent, the amount of which is to be subject of the Tender.—For plans and particulars, apply to Mr H. BAKER, 11, Upper Gower-street, W.C.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to

JOSEPH FAIRER,
Turret Clock-maker to H. M.'s War Department,
188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and exact design of his entire stock of Watches and Clocks. Warranted Watches.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	25 "
Marine Chronometers	35 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

BENSON'S WATCHES and CLOCKS.
"Perfection of mechanism."—*Morning Post.*



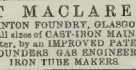
Gold, 5 to 100 Guineas.
Silver, 2 to 50 Guineas.

BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, descriptive of every construction of watch, and the prices of each, is now ready, and the largest with the greatest certainty the watch best adapted to their use. Watches sent free and safe by post on receipt of a remittance.

J. W. BENSON,
33 and 34, LUDGATE HILL, and
46 and 47, CORNHILL, LONDON, E.C.
(Established 1749.)

INTERNATIONAL EXHIBITION, 1862. TO EXHIBITORS.—FOR SALE, a very HANDSOME MAHOGANY CASE, 3 ft. 9 in. square, by 2 ft. 10 in. high, with Leather Top and glass doors on each of the four sides. Price 8*l.*—Apply by letter only in the first instance, to Mr. DOUET, 10, Fall-mall East, S.W.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12*s.*—Nos. 55 and 56, High Holborn.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS. Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwellings, Warehouses, &c. &c. where they have fixed their Hot water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, No. 25, Davies-street, Three Doors from Oxford-street, For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW, Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT. GENERAL IRON FOUNDERS GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

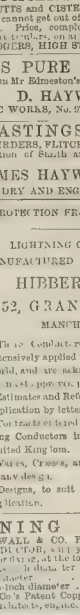
SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercuria Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c &c.

ROGERS' PATENT OUTLET for RAIN-WATER BUTTS and CISTERNS, which being placed inside the cask or cistern, cannot get out of order, and is quite free from the effects of frost, &c. Price, complete, 2-inch, 10*s.*; 1-inch, 12*s.*—Drawings and full particulars on application to the patentee,
G. ROGERS, HIGH STREET, STAINES.

DEVAUX'S PURE THICK ROOFING ZINC laid upon Mr Edmeston's principle to insure durability, by
D. HAYWARD,
LONDON ZINC WORKS, No. 97, Blackman-street, Borough.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY and ENGINEERING WORKS, DERBY.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style, sent on application.

LIGHTNING CONDUCTORS. R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same with the following and all other sizes, if required, at the following prices:—

Three-eighths-inch diameter	1*s.* per foot.
Half-inch do.	1*s.* 6*d.* "
Five-eighths-inch diameter	2*s.* 6*d.* "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is recommended by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" 64, Cross-street, Manchester.
" 27, Dale-street, Manchester.
" 68, Argyle-street, Glasgow.
" 2, Bridge-end, South Castle-street, Liverpool
" Exchange buildings, Dundee
" 7, Frederick-street, Aberdeen.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 224 lbs. on the inch (equal to 500 feet head of water), and are made in any greater strength if required. They are only one fourth the weight, and when laid down are 50 per cent. cheaper than iron. They require no workmen to assemble and fix the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars of Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr. ALEXANDER YOUNG, 14*a*, Cannon street, London, E.C.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 98, Prince-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street, London, E.C.

VENTILATION and WARMING.—Mr. NEWTON'S plan ensures constant supply of fresh air to every apartment; warm in winter, cool in summer, without current and dust; saves half the fuel. Adapted to mansion, cottage, or conservatory. Inspection and orders to view obtainable from Mr NAYLOR, 255, Oxford-street.

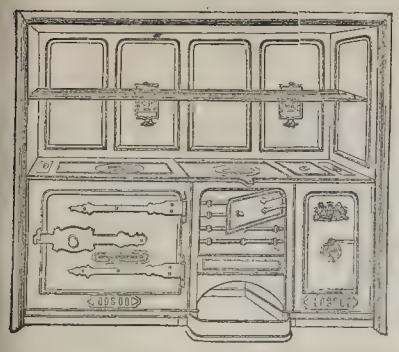
A TEN-TON CRANE FOR SALE.—TO BE SOLD, a TEN-TON IRON WHARF CRANE, with English Oak Jib, Chain, &c. complete.—For prices and further particulars apply to Mr. R. BURRELL, 3, Thames-street, Rotherhithe, S.E.

IRON GATES.—BREWING COPPER.—WANTED to PURCHASE, a PAIR of LIGHT CARRIAGE GATES, with or without Hanging Columns, not less than 9 ft. 3 in. by 6 ft. 3 in. Also, a sound Gigallon BREWING COPPER, with furnace, &c.—Address, stating particulars, price, and where to be seen, to Z. Oakley's Stables, Little Gray's-inn-lane.

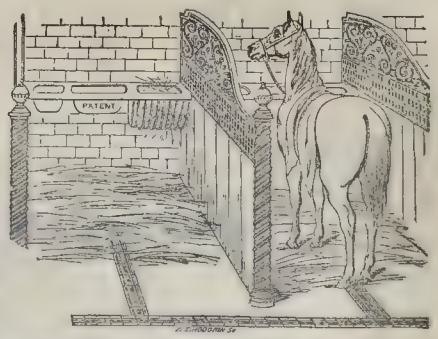
PUNCHING PRESS WANTED.—WANTED, a good SECOND-HAND PUNCHING PRESS, to punch up to 1¼-inch.—Apply to Messrs. C. & H. GRAYSON & CO. Sandon Graving Dock, Liverpool.

CROGGON & COMPANY, GALVANIZED TINNED, FLAT, CORRUGATED, AND CURVED SHEETS, PERFORATED AND PLAIN ZINC, TINNED SHEETS, GALVANIZED MANUFACTURED GOODS of every description. 2, DOWGATE HILL, LONDON.

W. BOOTH'S AUCTION WAREHOUSES for HARDWARE and GENERAL IRONMONGERY, White Lead, Colours, Builders' Goods, Tools, Machinery, &c. are OPEN DAILY to RECEIVE GOODS. Cash advances on goods for immediate sale. Public sales held about every 21 days. Office hours, 10 to 5. 6½, Snow hill, City, E.C. (entrance in Cook lane).
N.B.—The next sale will be held on the 9th instant, at TWELVE for ONE o'clock.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.

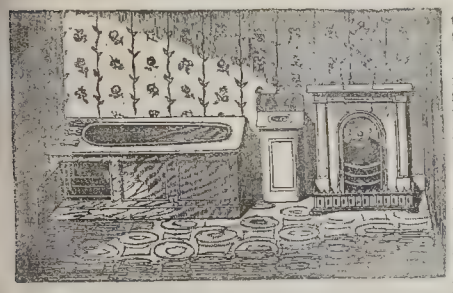


ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

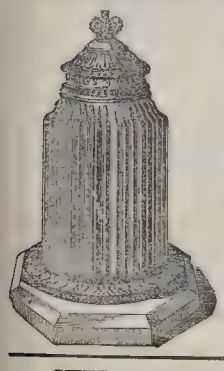


CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.
MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.
Orders requiring Despatch and Punctuality can be executed in a few days.

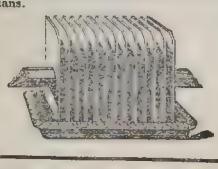
J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their
BATH APPARATUS,
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.
Illustrated Catalogues to be had of the Manufacturers,
J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.



THE LONDON
WARMING AND VENTILATING COMPANY,
LIMITED,
26, GREAT GEORGE-STREET, Westminster, S.W.
MANAGER, MR. WOODCOCK.
Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.
Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.
The cost is less and the effect greater than that of any other known Plans.



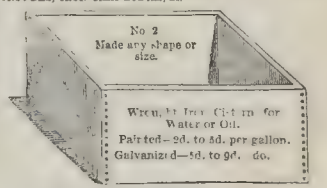
The Horticulturalist will find herein an instrument of new and important powers.
The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL, the various offices of the "Department of Science and Art," and at the Architectural Societies' House, 9, Conduit-street, Regent-street.
Particulars and testimonials forwarded on application.

SHEET ZINC AND METAL PERFORATING WORKS.
FRANCIS RUMMENS,
PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.
HIGHLY APPROVED ROOFING ZINC,
BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.
ZINC SLATING NAILS.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and at excellent Ventilation.
It will burn in Churches from Saturday till Monday Evening, with full attention during the hours of warmth. In kitchens it will burn day and night for weeks with little care. Capable of warming a large apartment for twenty-four hours, at a cost of Threepence; and deserving of special attention, because of its safety, healthiness, durability, and economy.
Full particulars will be sent on application to the Inventors and Makers,
MUSGRAVE, BROTHERS,
Ann-street Iron Works, Belfast.



WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES.
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 85, High Holborn.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Sliding Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired, on sale.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.



GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

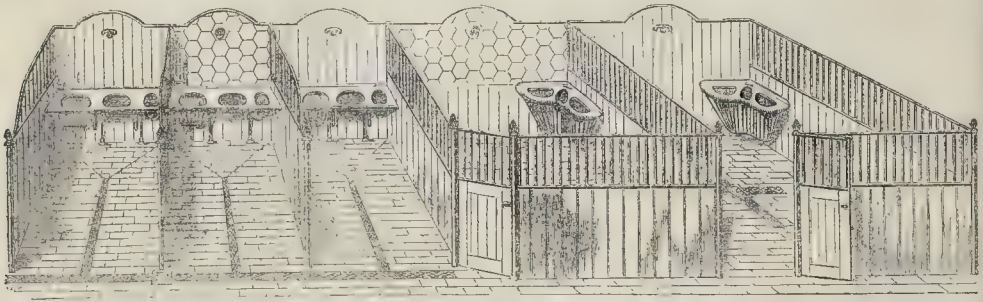
OLD SAINT PANCRAS ROAD, LONDON, N.W.

COTTAM AND CO. 2, WINSLEY-STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined. KNIGHTLEY'S PATENT STABLE FLOOR.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

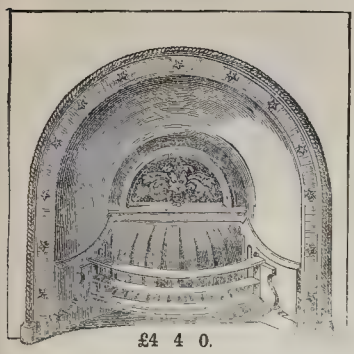
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

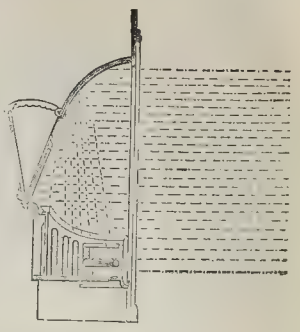
CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

CLARK & HUNT'S PATENT VESTA REGISTER GRATE.



£4 4 0.

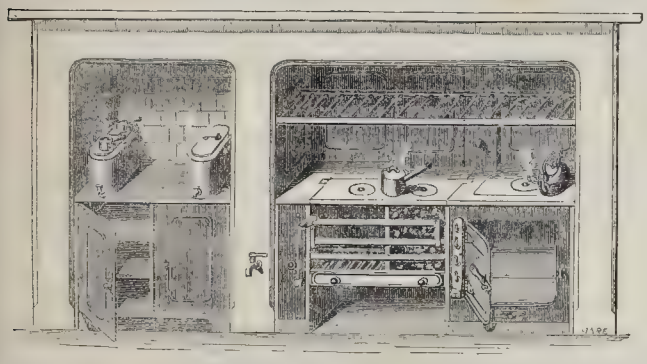
It is well known to those who are acquainted with the "Deep-Cheek Arch Plate Reflecting Grates," that although most efficient, they have yet two great defects. The one being the UNCHECKED RUSH OF AIR OVER THE FIRE INTO the CHIMNEY, often causing it to burn black on the top; the other, THE PROJECTION OF THE PRINCIPAL HEAT OF THE FIRE DIRECTLY TO THE CEILING OF THE APARTMENT. These serious defects the PATENT VESTA REGISTER GRATE entirely remedies; the first, by the introduction of a central door, which can and is intended to be kept shut when the fire has burnt up, thus completely checking the rush of air to the chimney,—the outer door or rim, being at the same time left open (or partly open), is sufficient to carry off the products of combustion without permitting any unnecessary waste of heat. The second defect is remedied by the adoption of a concave instead of a flat reflecting arch above the fire, the chief heat from which, viz. — that given off by the upper part or concave surface—is projected parallel with the floor instead of directly to the ceiling (as shown in Section), as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction,—thus thoroughly warming the lower atmosphere and floor of the apartment.



STOCK AT No. 159, SHOREDITCH, LONDON.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

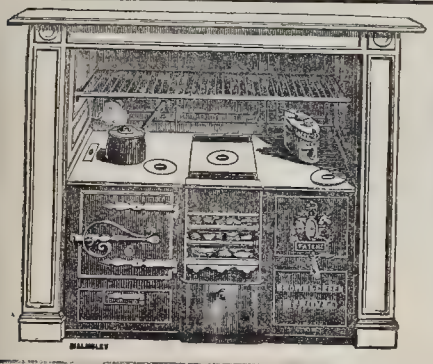
THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

Nos. 6 and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10*s.*

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges.

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen alone are employed.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat,—viz. that reflected from the upper or concave surface,—to be projected parallel with the floor, instead of directly to the ceiling, as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan like direction, thus thoroughly warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which is intended to be kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black on the top, and obviates any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18*s.* 6*d.*

BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.

F. THOMAS, Agent.

ILLUSTRATED PROSPECTUSES POST FREE.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.

38 & 65, YORK-STREET, WESTMINSTER.

IMPORTANT TO BUILDERS SAW-MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS

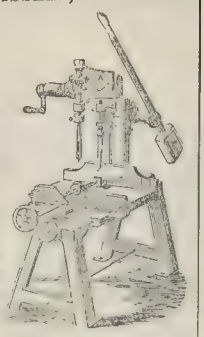
WILSON'S PATENT LARGE TIMBER SAWING-MACHINERY.

This machinery is adapted to cut up square or round timber, to the depth of 4 feet and upwards, and, from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the log are arranged to carry the log past the saw to any extent without stopping for re-adjustment, by which the necessity for transome is avoided, and they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly.

The speed of cutting may be varied from 1 inches to 10 feet per minute, and yet on account of the increased length of cutting edge, the saw is kept cool.

May be seen in operation, daily, at Messrs JAMES WILSON & SON'S, Builders, Springfield Saw Mills, Manningham, Bradford, Yorkshire.—Full particulars may be had on application, by parties desirous of purchasing.

WILLIAM BISSELL, Wholesale Ironmonger, Union-street West, Birmingham, Proprietor of the Patent EQUIACTION RIM and MORTISE LOCKS, Patentee of the FLOORING CRAMP, and Sole Agent for HAIGH'S PATENT MORTISING, BORING, and DRILLING MACHINES.



The most POWERFUL, SIMPLE, EASY, and DURABLE of the market, combining the best and most approved principles of EXCENTRIC and LEVER MOTIONS.

To the success of the highest testimonials from Builders in almost every part of the United Kingdom.

A Boring and Drilling Apparatus, which can be fixed at pleasure.

If to be supplied with a set of Gimlets, Screwdriver, and Boring Apparatus.

Any duty, if due, without the Boring Apparatus.

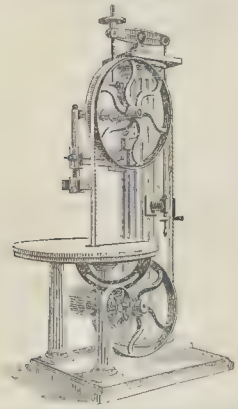
POWIS, JAMES, & CO.
ENGINEERS AND MACHINISTS,
VICTORIA WORKS, BLACKFRIARS-ROAD, LONDON,

Having been added to the premises of the late Mr. Braithwaite, known as the Surrey Iron Works, have added Portable Engines to their Sawing and Wood cutting Machinery business. Contractors, colonists, merchants, and shipowners will find economy and efficiency in the execution which has gained for the firm so respectable a position as Machinists and Tool Makers.

Specimen Machines and Engines can be seen at the Works at the Machinery Department, Crystal Palace, Sydenham, and in class 7, section 2, stand 267, in Portland and Italian Galleries, South Kensington.

Estimates for any work will be forwarded on application.

All Letters must be addressed to THE OFFICE, 26, WATLING STREET, E.C.



THE ENDLESS BAND SAWING MACHINE, shown above, is the ONLY PATENT in the United Kingdom for an IMPROVEMENT in [illegible]

THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

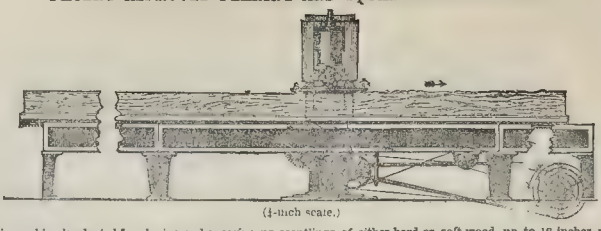


IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles.
Price 20l.
Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

TRADE MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

S. WORSSAM & CO.'S
PATENT IMPROVED PLANING AND SQUARING-UP MACHINE.



(¾-inch scale.)

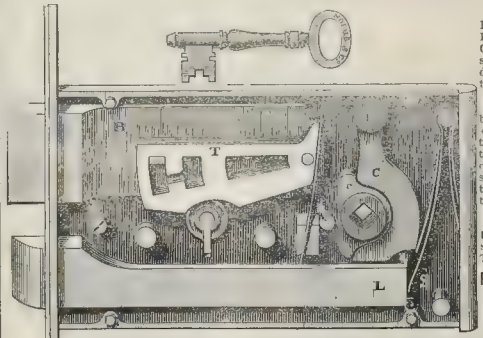
This machine is adapted for planing and squaring up scantlings of either hard or soft wood, up to 18 inches wide and 9 inches thick. The cutter-disc is furnished with a set of Wilson's Patent Cylindrical Gouges, which will last as long as eight sets of the ordinary gouges without being sharpened.
For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

GREAT NORTHERN IRON WORKS,
CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.
The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of
IRON-FOUNDERS AND SMITHS.
CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.
PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

BELL'S PATENT CAST-IRON SINKS, PLAIN or GALVANIZED.
These admirable and economical Sinks are perfectly sealed from the escape of effluvia, and cannot get out of order.
WROUGHT-IRON and STEEL GIRDERS; WROUGHT-IRON SASHES; STABLE FITTINGS, with Patent SPRING-TOP GRATINGS; WROUGHT IRON STALL and LOOSE BOX POSTS, with REGISTERED HINGES. Column Girders, Rain Pipes, and MOULDED HEADS in Stock, in great variety; Gutters, Coal Plates, &c. at
HOOD & SON'S CASTINGS WAREHOUSE,
68, UPPER THAMES STREET.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

TO ARCHITECTS, BUILDERS, AND CABINET-MAKERS.
HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,
Suited for all purposes, at Prices that silence competition.
SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.
PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

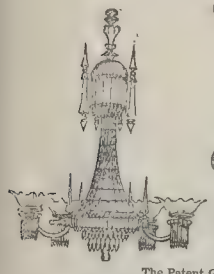
HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.
ESTIMATES, AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.
HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.
Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

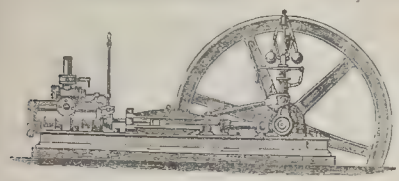
MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,
OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,
MOREWOOD & CO.,
BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

MALLEABLE IRON CASTINGS.
RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. Established 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

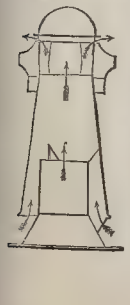
MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.
By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

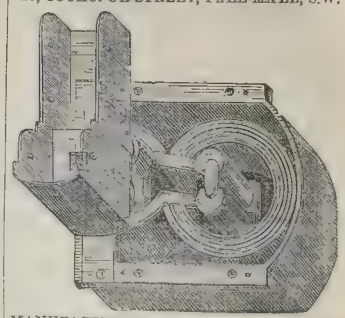

THE NEW CRYSTAL STAR & SUN LIGHT.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
J. DEFRIES & SONS,
MANUFACTURERS OF
MEDIÆVAL AND OTHER GAS FITTINGS,
CRYSTAL, BRASS, & ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY.
WORKS—LONDON AND BIRMINGHAM.
Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.
The Patent Gas Regulator and Purifier reduced to 8s. 6d. per dozen.

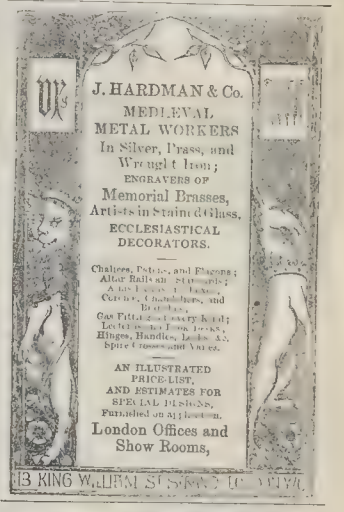
E. PAGE & CO. VICTORIA WORKS, BEDFORD,
AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,

MANUFACTURERS OF
HORIZONTAL
AND
VERTICAL
STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB WINCHES, &c.
SEVERAL ALWAYS READY FOR DELIVERY.
Price List forwarded on application.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.

PUMPS
OF ALL
DESCRIPTIONS.
WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.
PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.


SMOKY CHIMNEYS ABOLISHED
W. S. WOOD'S PATENT TRISECTIONAL VENTILATING and SMOKE-CURING CHIMNEY-TOP, possesses the following advantages:—
1. It is constructed upon well-established scientific principles; it collects the air, imparts to it a strong upward current, which expels the smoke with great velocity, and renders downward draught and admission of smoke from other flues quite impossible.
2. It has no moveable parts, is particularly durable, and requires no brickwork in fixing.
3. Each top has a hood, which can be used or not; it is therefore a complete ventilator, and is in every way calculated to overcome the most obstinate cases of smoky chimneys.
4. It can be effectually swept by the chimney-sweeper's machine.
5. Its simplicity of construction, its well defined shape, and merits as a smoke-curer, dispense entirely with the whole family of unsightly tall boys, and with the useless species of whirling apparatus, which disfigure most of our Houses and public buildings.
Prices:—Ordinary size, zinc, 1l. 10s.; galvanized iron, 1l. 15; size 2 feet 10 inches high; 15 by 9 inches base. Kitchen size, 2l. 2s.
To be had only of the Inventor and Patentee, Camden Cottage, Chislehurst, Kent. Packed for transit to any part of the kingdom, and forwarded to any London Railway Terminus, for One Shilling extra upon receipt of post office order.
Prospectus and testimonials sent upon receipt of two stamps.
The Invention can be seen at the Crystal Palace and the South Kensington Museum.


HART & SON,
53 to 58, WYCH STREET, STRAND, W.C., and 20, COCKSPUR-STREET, PALL-MALL, S.W.

MANUFACTURERS OF IMPROVED FLOOR-CENTRES, FOR SWING DOORS, BUFFER-SPRINGS, ARNOTT'S & SHERINGHAM'S VENTILATORS, PITT'S & CLARK'S PATENT DOOR FURNITURE,
And every description of General Ironmongery.



JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.

Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

CAST STEEL BELLS.
One-third THE PRICE OF BRONZE.

PEALS CAST TO ORDER.
NAYLOR, VICKERS, & CO.
SHEFFIELD.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.

Iron roofs erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Berkley-street, Birmingham, and Limehouse, London.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE ACTION DOORS.





PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

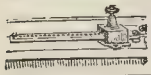
GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.





Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

MANUFACTURERS, BIRMINGHAM.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.



NUT



PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

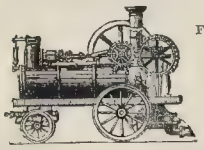
*** Illustrated cuts and particulars sent upon application.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,

STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, **TO LET ON HIRE**, by the Week or Month.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

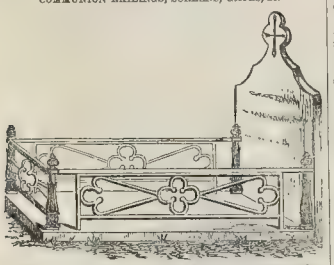
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.

N.B. Steam Power, with Workshops, to Let

IRON RAILINGS for ENCLOSING

TOMBS and GRAVES,

COMMUNION RAILINGS, SCREENS, GATES, &c.



Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY STREET, OXFORD STREET, LONDON, W.

SKAIFE & COMPANY,

Manufacturers of

PATENT GALVANIZED IRON.

Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tubes, Sheets and Tiles for Export.

IRON WORK GALVANIZED.

Roofing orders promptly and carefully attended to.

Offices—Commercial Road, Limehouse, London.

Works—Copenhagen Wharf, Limehouse.

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,

12, YORK-BUILDINGS, ADELPHI.



SMOKY CHIMNEYS. — The

best Cure is the PATENT ALBERT CHIMNEY CAP, 260 on Buckingham Palace; in use also at St. James's Palace, Windsor Castle, Government buildings, mansions, halls, club houses, and buildings in general. Prospectuses on receipt of two postage stamps.

JAMES BARTON,

Iron Works, 370, Oxford-street, W

N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

LOSH, WILSON, & BELL

NEWCASTLE-ON-TYNE,

Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work Cast-iron Goods, and

SIEWART'S PATENT CAST-IRON GAS and WATER PIPES

Office, No. 7, Size-lane, London.

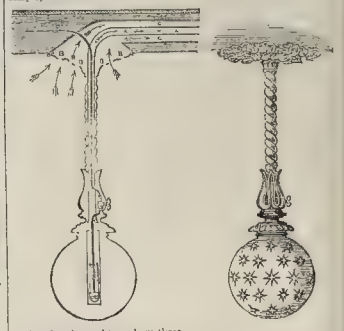
CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

RAIN-PIPES, &c.—F. A. TIDDEMAN

& CO. 81, Anne's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large Stock of Rain Pipes, Heads, Shoes, Elbows, &c. Half-round and O-G Gutters, Socket Pipes for Water or Gas, Flange Pipes, Hot Water Pipes and Connections, Sash Weights, and other Castings; Iron-work for Bakers' Ovens of every description, fitted complete, to be had in Sets or in Parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful Crane.

RICKETT'S & HAMMOND'S VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these—

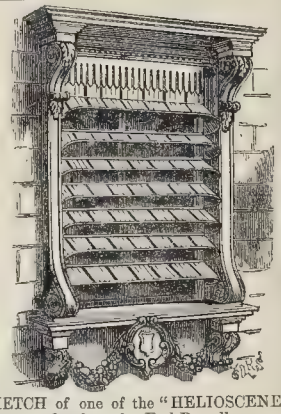
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

8, AGAR STREET, STRAND, LONDON, W.C.



SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.

These Blinds give a highly decorative finish to a plain front, whether fitted up in ornamental frames or without any. In the latter case top boxes only are required, which need not project beyond the reveal. Where there is no reveal, as in old houses, they would require a frame which need not project more than about 4 inches, and has no side wings coming down, or any other disfurement. Prices moderate. A liberal discount to Builders and the Trade.

R. LOWTHER & CO. 31, Regent-street,

(One door below the Piccadilly Circus).

VENETIAN AND ALL OTHER BLINDS WHOLESALE.

HANDSOME BRASS and IRON BED-

STEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED

CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of all different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to

RANDAL STAP, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

TO BUILDERS AND OTHERS.

A SECOND-HAND MOULDING

MACHINE TO BE SOLD a BARGAIN.

Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W.

DAY and GAS-LIGHT REFLECTOR

MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet prepared to the public.

N.B. The usual discount to builders and the trade.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.
THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.
Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.
BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

BUNNETT AND CO.
The Original Inventors and Patentees of every recent Improvement,
MANUFACTURE THEIR WELL-KNOWN
SUPERIOR REVOLVING IRON SHUTTERS
OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.
Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

INTERNATIONAL EXHIBITION, 1862.
ESTIMATES AND DESIGNS FOR SHOW CASES, METAL STANDS, &c.
With or without Revolving Machinery, by
BUNNETT & CO., ENGINEERS AND FOUNDERS,
DEPTFORD, KENT, S.E.; 17, QUEEN STREET, CHEAPSIDE; and 435, PARLIAMENTARY STREET, GLASGOW.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,
ESTABLISHED 1826,
Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.
DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,
WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.
EDWARDES BROTHERS, & BURKE, PROPRIETORS.
The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.
Testimonials from Architects, Bankers, &c. of their security and durability forwarded.
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.
Agent for the Crystal Glass Pillars and Sash Bars.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL
MANUFACTURER, No. 149, Fleet-street, London
These pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
	B B B B ditto ditto.
M medium.	

Sold by all the principal Stationers in town or country.

TARPAULINS, MARQUES, &c.
for SALE or HIRE,
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
99, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, £4. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. **ALL PLATES SHOULD BE REJECTED NOT BEARING**, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

Now ready, price 1s. 2d. to Subscribers, the First Part of

WELBY PUGIN'S ENGLISH and FOREIGN SKETCHES, Photographed from the Originals. Each Part contains 12 Plates. The Work to be completed in 20 Numbers.

Messrs. AYLING & Co. 493, New Oxford-street, London.

THE WELBY PUGIN COLLECTION consisting of upwards of 800 Original Sketches by that Eminent Artist, now open at 9, CONDUIT STREET, Regent-street—Admission, 1s.

THE ILLUMINATOR'S MAGAZINE,

No VI. price 2s. 6d. contains an article by Noel Humphreys on the Colored Decorations of the International Exhibition, illustrated by Designs printed in Gold and Colours. A page richly printed in colours from an Illuminated Calendar. An Essay on the Style of Ornament of the 10th Century. Andrea del Castagno, a Florentine Legend, by Miss Pardoe. A Lesson on Practical Illumination, by the Editor. The Life of Giulio Clovio, with authentic Portrait. Notes on Art, Correspondence, &c.

London: J. BARNARD & SON, 339, Oxford-street; and all Booksellers.

Sixth Edition, Illustrated, limp cloth, pp 172, price 1s with Illustrations,

RUDIMENTARY MECHANICS, for the use of Beginners. By CHARLES TOMLINSON.
FORMING Vol. V. of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

In 1 vol., New Edition, 12mo. limp cloth, price 4s. 6d.

THE RUDIMENTS OF CIVIL ENGINEERING, for the use of Beginners.
By HENRY LAW, C.E., and G. R. BURNELL, C.E. With numerous Illustrations.
FORMING Vols. XIII., XIV., XV., and XV.* OF WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

Sixth Edition, with Illustrations, 12mo. limp cloth, pp. 162, price 1s.

INTRODUCTION TO THE STUDY OF NATURAL PHILOSOPHY.
By CHARLES TOMLINSON.
BEING Vol. II. of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

In 1 vol limp cloth, price 5s. 6d.

A MANUAL of the MOLLUSCA, or a Rudimentary Treatise on Recent and Fossil Shells.
By S. P. WOODWARD, Assistant-Secretary of the Linnean Society, &c.
Illustrated by A. N. WATERHOUSE and J. W. LOWRY.
FORMING Vols. LXXII. to LXXV.* of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

Just published, Part I. containing Five Plates, of Imp. 4to. price 5s.

MODERN ARCHITECTURE: ECCLESIASTICAL, CIVIL, and DOMESTIC. Illustrated by Views and Plans of Gothic and Classic Buildings erected since 1850.
By JAMES MURRAY, F.R.I.B.A.

This work will consist of Lithographic Views and Plans of Churches, Town-halls, Mansions, Warehouses, Schools, Villas, &c., &c., and will be completed in Twelve Parts. Published Monthly. Subscribers' names to be sent to the Author at 5, Warwick-green, South, Coventry.

On 1st of April, price 1s. 6d. No. CXLIX (CXIII. New Series),

THE ECCLESIOLOGIST. Published under the superintendence of the Ecclesiological Society.
Contents:—The Metrical Court at the Great Exhibition.—Durham Cathedral (with an illustration).—History of Dereham Church (with two illustrations).—York Minster.—Painted Glass Windows in Glasgow Cathedral.—Tour in North Wales.—Colegate-Porch Gleanings.—Rules for a Dean and Chapter.—Weber's Architectural Sketches.—The Saxon Mass.—Ancient English Choral Service (eight pages of Music).—Reports of Societies &c.
London: J. MASTERS, Aldersgate-street, and New Bond street.

BEARDMORE'S HYDRAULIC AND OTHER TABLES.

The Publishers beg to announce that this work, having been long out of print, has been entirely re-arranged, and the original Tables have been merged into a Treatise, entitled

A MANUAL of HYDROLOGY.—This book contains:—

Division I.—Hydraulic and other Tables, with descriptive matter and many new Tables, the whole placed in a concise form.

Division II.—On Rivers and Flow; on percolation of water; on wells and springs; on the flow in sewers, and water supply, with description of the floods of many considerable rivers, with other characteristics appertaining to their hydraulic conditions.

Division III.—On Tides, Tidal Rivers, Estuaries; containing the strictest details of the conditions ascribed by the tides under the varied states of the bore, and of those places where the tidal wave vanishes, also showing the effect of improvements made in many of the tidal rivers of this country. Explained by tidal diagrams, sections of rivers, coast lines, plates illustrating channel tides, &c. &c.

Division IV. On Rainfall and Evaporation. Containing the best experiments on evaporation in various climates, tables of rainfall under every variety of elevation, period, and locality. These Tables include all parts of the British Isles, France, Germany, Italy, Russia, North America, Australia, and India.

The work consists of 400 pages, and there are 20 large plates.

Will be issued on the 14th of April, price 2l. 2s.

WATERLOW & SONS, 49, Parliament-street, Westminster; 24, Birchin-lane; and London Wall, London.

MEMOIR OF SIR M. I. BRUNEL, C.E.

Just published, in One Volume, 8vo. with a Portrait on Steel and 10 Illustrations engraved on Wood, price 14s. cloth,

LIFE of SIR MARC ISAMBARD BRUNEL, Civil Engineer, V.P. F.R.S. Corresponding Member of the Institute of France, &c.
By RICHARD BEAMISH, F.R.S.

"It is no small merit of Mr. Beamish's book that the manner in which its pages, and these, in its quite just right of the interest of the matter treated. It is a good biography, as it well be valued on that account. Many other respects, are likely to make it popular with the generality of readers."—*Globe.*
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

NEW, ENLARGED, AND GREATLY IMPROVED EDITION OF THE ARTISAN CLUB'S TREATISE ON THE STEAM-ENGINE.

In One Volume, quarto, with 37 Plates and 546 engravings on wood (200 new in this Edition), price 42s.

A TREATISE on the STEAM-ENGINE, in its various applications to Mines, Mills, Steam Navigation, Railways, and Agriculture; with theoretical investigations respecting the motive power of heat, and the proportions of steam-engines; tables of the right dimensions of every part; and practical instructions for the management and working of every species of engine in actual use. By JOHN BOURNE, C.E. Being the Fifth Edition of the "Artisan Club's Treatise on the Steam-Engine."

BOURNE'S CATECHISM of the STEAM-ENGINE, with Practical Instructions, and 89 wood-cuts, price 6s. London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

CHEAPER EDITION OF CRESY'S CIVIL ENGINEERING.

In One Volume, with above 3,000 woodcuts, price 42s.

ENCYCLOPÆDIA OF CIVIL ENGINEERING, Historical, Theoretical, and Practical. By EDWARD CRESY, Architect and Civil Engineer. New impression.

"A desideratum in engineering science supplied by the ready and available volume. There is not a member of the profession, from the most eminent civil engineer to the humblest surveyor, who will not find here the materials to enrich his mind and extend his knowledge."—*Railway Gazette.*
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

The Eleventh Edition, in crown 8vo. price 10s. 6d. cloth,

THESAURUS of ENGLISH WORDS and PHRASES, classified and arranged so as to facilitate the Expression of Ideas and Assist in Literary Composition.
By P. M. ROGET, M.D., F.R.S., Fellow of the Royal College of Physicians, &c.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

THE EDINBURGH REVIEW, No. CCXXXIV.—ADVERTISEMENTS intended for insertion are requested to be forwarded to the Publishers immediately. ADVERTISEMENTS and BILLS cannot be received later than WEDNESDAY NEXT.
London: LONGMAN & CO. 14, Ludgate-hill.

NEW EDITIONS OF NESBIT'S MENSURATION AND LAND SURVEYING.

A New and Improved Edition, augmented by a Treatise on Levelling, in 12mo. price 8s. bound,

A TREATISE on PRACTICAL MENSURATION, in Ten Parts, containing,—

The most approved Methods of Drawing Geometrical Figures.
Mensuration of Superficies.
Land Surveying.
Mensuration of Solids.
The Use of the Carpenter's Rule.
Timber Measure, in which is shown the Method of Measuring and Valuing Standing Timber.
Artificers' Work, illustrated by the Dimensions and Contents of a House.
Mensuration of Haystacks, Drains, Canals, Mariplts, Ponds, Milldams, Embankments, Quarries, Coal-heaps, and Clay-heaps.
Conic Sections and their Solids.
The most Useful Problems in Gauging, according to the New Imperial Measures.
Plane Trigonometry, with its application to the Mensuration of Heights and Distances.
Trigonometrical Surveys.
A Dictionary of the Terms used in Architecture.

By A. NESBIT.

New Edition, enlarged and greatly improved. To which is added, a Treatise on Levelling. The whole illustrated by nearly Seven Hundred Practical Examples and Eleven Hundred Woodcuts.

KEY to NESBIT'S PRACTICAL MENSURATION: containing Solutions to all Questions which are not answered in that work; with Reference to the Problems, Rules, and Notes, by which the Solutions are obtained. New Edition, corrected and greatly improved. 12mo. price 8s. bound.

By the same Author, New Edition, 8vo. with Plates, Woodcuts, and Field Book, price 12s.

TREATISE on PRACTICAL LAND-SURVEYING. Corrected and improved, with the addition of Plane Trigonometry, including the use of the Theodolite, and Railway Surveying, Railway Engineering, Levelling, Planning, Laying out Curves, &c.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

Complete in 3 vols. 8vo. with nearly 2,000 Wood Engravings, price 4l. cloth lettered, or 4l. 14s. 6d. strong half-bound in russia; to be had also in 13 parts, 5s. each,

DR. URE'S DICTIONARY of ARTS, MANUFACTURES, and MINES. *Fifth Edition*, chiefly rewritten and greatly enlarged.
Edited by ROBERT HUNT, F.R.S., F.S.S., Keeper of Mining Records, &c.; Assisted by numerous Contributors eminent in Science and Literature with Manufactures.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

KNOWLEDGE FOR THE YOUNG.
A New Edition, in 18mo. price One Shilling,

THE STEPPING-STONE to KNOWLEDGE: comprising several hundred Questions and Answers on Miscellaneous Subjects, adapted to the capacity of the Youthful Mind.

By a MOTHER.

In the same Series, price 1s. each, Stepping-Stones to
KNOWLEDGE, Second Series, 1s.
BIOGRAPHY, 1s.
GEOGRAPHY, 1s.
ROMAN HISTORY, 1s.
GRECIAN HISTORY, 1s.
FRENCH HISTORY, 1s.
BIBLE KNOWLEDGE, 1s.
NATURAL HISTORY of the VERTEBRATE ANIMALS, 2 Parts, 1s. each.
ASTRONOMY, 1s.
MUSIC, 1s.
ENGLISH HISTORY, 1s.
ENGLISH GRAMMAR, 1s.
FRENCH CONVERSATION and PRONUNCIATION, 1s.
ANIMAL and VEGETABLE PHYSIOLOGY, 1s.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

THE ARUNDEL SOCIETY.
Now Ready,

A CHROMOLITHOGRAPH from the well-known Fresco, by Andrea del Sarto, of the "MADONNA DEL SACCO," in the Cloister of the Annunziata at Florence. Price to members, 12s.; to strangers, 15s.

Specimens may be seen at the Office of the Society, 24, Old Bond-street, London.

II.

ILLUMINATIONS and MINIATURE PAINTING.—An ALPHABET of CAPITAL LETTERS, engraved in outline, from the Choral Books of S. Mark's, and the Duomo, Florence; and the Piccolomini Library, Siena; with one Letter attributed to Fra Angelico, coloured in facsimile. Price to members, 1l. 1s.; to strangers, 2l. The Outlines, printed on paper fit for colouring, separately. To members, 1s. 6d.; to strangers, 2s. The letter F, in fac-simile, separately. To members, 7s. 6d.; to strangers, 10s.

Published by the ARUNDEL SOCIETY, 24, Old Bond-street, London, where specimens can be seen.

Price 4s. bound in cloth. (Established 1816.)

LAXTON'S BUILDER'S PRICE-BOOK for ARCHITECTS, BUILDERS, ENGINEERS, and CONTRACTORS. 41st Edition.

Containing upwards of 30,000 Prices and Memoranda in all the various trades comprised in the operations of the architect, engineer, builder, contractor, and surveyor; also tables for purchasing leases, estates, and annuities. Areas and circumferences of circles; scantlings of timber; weights of iron, timber, &c.; instructions for estimating and contracting, with a copy of bill of quantities adapted to general building work, having each trade detailed. Calculations and sketches of cast and wrought iron girders, &c.; with tables of deflections. All carefully corrected to the present time.

Office, 13, Warwick-court, Gray's Inn, Holborn; and all Booksellers.

INTERNATIONAL EXHIBITION.

NOTICE.—The present (April) Part of the ART-JOURNAL (price 2s. 6d. monthly) contains the first division of an ILLUSTRATED CATALOGUE of the INTERNATIONAL EXHIBITION, which Catalogue is to form a portion of each issue for eight consecutive months. The first selection comprises exhibited specimens of manufactures in Jewellery and Silver, Porcelain, Engraved Glass and Chandeliers, Furniture and Cabinet Work, Wood Carving, &c. &c. Articles and Correspondence on the progress of the Exhibition, and a comparison between it and that of 1851, are also included in the number. The principal line Engravings are "THE SABBATH EVE," engraved by Lightfoot, after the picture by A. Johnston; "THE SUN RISING IN A MIST," by J. C. Armytage, after Turner.
London: JAMES S. VIRTUE, 26, Ivy-lane.

WATER-COLOUR STUDIES by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, invaluable for student, teacher, amateur, or the drawing-room table. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

KELLY'S PRACTICAL BUILDERS' PRICE-BOOK; or, Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an abstract of the New Building Act for regulating the Construction of Buildings. Revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by Steel Engravings and numerous Woodcuts. Royal 8vo. price 8s. neatly bound.

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL; and may be had of all Booksellers.

Of whom may be had, New Editions in Quarto, of the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET MAKING, Revised by TREDGOLD: being a new and complete System of Lines, for the Use of Workmen; founded on Geometrical and Mechanical Principles. Ten parts at 3s. or in boards, 30s.; containing upwards of 120 Steel Plates, and numerous Wood-cut Diagrams.

2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING (revised by TREDGOLD), both plain and ornamental; containing a new and complete System of Lines for Stone-cutting, for the Use of Workmen; the Formation of Mortars, Cements, Concrete, to which is added a variety of new designs for Mural Tablets, Tombs, Gravestones for Cemeteries, &c. &c.; and a description of the various Tools employed. Ten Parts at 3s. or in boards, 30s.; containing upwards of Ninety Steel Plates and Numerous Woodcuts.

3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the FIVE ORDERS of ARCHITECTURE: containing plain and simple Rules for Drawing and Executing them in the purest style; including an historical Description of Gothic Architecture. Illustrated by upwards of One Hundred Steel Engravings, executed by Artists of first-rate talent, including numerous Diagrams, &c. Twelve parts at 3s.; in Sets boards, 36s.

4. DESIGNS for COTTAGE and VILLA ARCHITECTURE: containing Plans, Elevations, Sections, Perspective Views, and Details, for the Erection of Cottages and Villas. By S. H. BROOKS, Architect. Beautifully engraved on steel, with Directions for Building, and the estimated Cost of each Edifice. Twelve parts at 2s.; or in boards, 28s.

5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views and Details of Churches, Chapels, Schools, Almshouses, Lodges, Gates, Markets, and other buildings for public purposes. By S. H. BROOKS, Architect. Beautifully engraved on steel. Ten Parts, at 3s. or 32s. boards.

6. THE HOUSE DECORATOR and PAINTER'S GUIDE: containing a series of Designs for Decorating Apartments with taste, and suited to the various styles of Architecture. By H. W. and A. ARROWSMITH, House Decorators to her Majesty. Ten Parts, at 3s.; or in boards, 32s.

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION: containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the Origin of Colour, the Laws of Harmonious Colouring, the Manufacture of Pigments, Oils, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by actual Specimens of Hand-Brush Graining and Marbling. Ten Parts, at 3s.; or in boards, 32s.

THE ENGINEERS' and MECHANICS' ENCYCLOPÆDIA, a new and enlarged edition, comprehending Practical Illustrations of the Machinery and Processes employed in every description of Manufacture in the British Empire. Illustrated by upwards of 2,000 Wood Engravings. By LUKE HERBERT, Civil Engineer, &c. The rapid progress of Mechanical Science has developed many of the important facts since the first publication, in 1835, of the Encyclopædia. The inventions and discoveries recently made have engaged the sedulous attention of the Editor; for, as the value of each was tested by experiment, a description was accordingly prepared. By the selection of new articles, and care in the revision of old ones, this edition has now become entirely new, and has been carefully and faithfully expressing "the existing state of Engineering and Mechanism, adapted to the wants of Practical Men." In two large 8vo volumes, cloth lettered, price 50s.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1799.—Apply for PRICED CATALOGUE of St. Cecilia, Boudmore, and other Organs made by the Firm. Also one to Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoked, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

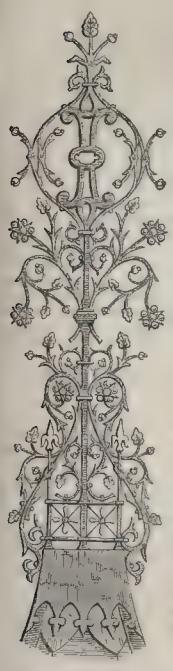
POLYTECHNIC.—NEXT MONDAY Evening, at a Quarter-past Seven, Lecture by Professor J. H. Pepper, on "The Eclipse of the Sun and Moon," and Grand Concert by the Brousil and Siapcott Families, the latter performing on their Silver Neo Horns. Lectures on "The Late Appalling Accidents in Coal-Mines," and on "The New Terrestrial and Stellar Chemestry." Elementary Astronomy, Wednesday at Two. Concert by the celebrated Brousil family every evening at Quarter-past Eight, and on Tuesday, Thursday, and Saturday mornings at Three. Beautiful series of Dissolving Views, illustrating the "Iron Walls of Old England." Open 12 to 5, and 7 to 10.

BUILDING MATERIALS TO BE SOLD, by TENDER, to be delivered to Messrs. MOORE & TEMPLE, at their Offices, on or before WEDNESDAY, the 9th of APRIL, by TWELVE o'clock precisely. The principal portion of the Materials of Two Houses, No. 18, Ludgate-hill, and No. 1, St. Martin's-court, adjoining.—To be viewed on Friday, the 4th instant, and descriptive particulars obtained on the Premises; and of Messrs. MOORE & TEMPLE, Auctioneers, No. 4, Bloomfield-street, City.

The Builder.

VOL. XX.—No. 1000.

The Story of Monuments in Rome.



It is about five years since attention was drawn to the interesting results of excavations in the gardens of S. Sabina, the Dominican Convent, on the Aventine; undertaken by the prior of that community, Père Besson, of French birth, and distinguished by talents as an artist; who had engaged an efficient person of his own nationality to superintend the works here. That convent, attached to one of Rome's finest churches in the Early Basilica style, was originally a castellated palace, of the potent Savelli family; till conceded, in 1216, by Honorius III., a pope belonging to that same house, for a cloistral residence to St. Dominic and his first followers under the rule he instituted. Portions of this Savelli palace, reduced to subterranean state, were identified; together with other remains of far higher antiquity; and fortifications, among the most ancient yet preserved in Rome, in these discoveries of buried ruin, reached, at more or less depth, below the garden grounds, on the Aventine's western declivity. We first entered a small vaulted chamber; quadrilateral, in good preservation, of antique Roman, mixed with Mediæval brick masonry; remains of white and black mosaic pavement on its floor; and at one side a construction in enormous blocks of volcanic peperino, pronounced by archæologists to be undoubtedly a part of the fortification commenced by Tarquinius Priscus, and completed by Servius Tullius; probably the very walls thrown up along this ridge by the former king, who did not live to finish his projected defences of the enlarged city. This fragment had evidently been absorbed within the structures of a palace, supposed of the imperial epoch, over which had again risen some advancing wing of the Savelli castle. Several other chambers, of various dimension, were thence entered; their masonry in parts of *opus reticulatum*; for the rest of compact lateritial brickwork; and one of these terminated in a spacious archway opening on the hill-side. Another, the loftiest and least ruined of these halls, still retained its stucco coating, with remains of painting, figures, and arabesque ornaments, most gracefully designed; one little group representing a sacrifice before the statue of a god, in an ædicula. Rudely scratched Latin lines on this stucco surface led to the inference that this chamber, after becoming subterranean and otherwise uninhabitable, had served for a prison; one unfortunate inmate having inscribed curses against those who caused his loss of liberty; and another, more devout, left record of his vows to sacrifice to Bacchus in case of recovering that blessing. Again was seen a portion of the Servian walls; its huge quadrate stones here still better preserved, and more fully exposed by the falling away of the brickwork that had encased it on both sides; here serving the purpose of a partition between two series of chambers. From the slopes of the hill we looked down into other larger rooms, deprived of roofs, but exhibiting many fragments of mosaic, either simply in black and white cubes, or more elaborately ornamented with designs. Skulls and bones lay strewn in different spots within the limits of these now subterranean buildings; and an entire skeleton, found in the painted chamber, seemed to prove the fate of one among its imprisoned inmates, never emancipated. A multitude of objects, found in the course of the excavating labours, were long visible in a room of the convent; some few of artistic and superior character; cornices and friezes, with beautiful chisellings in differently coloured marbles; a torso of Jupiter, and fragment of a draped female statue, both in good style; terra-cotta signets, with the professional works of masons or architects, as found in almost all ancient Roman edifices; numerous small lamps of the same material; ivory *styli*, and fragments of glass phials, remarkable for the attainment evinced in the manufacture of that material. Most curious, among several epigraphs, was one supplying the correspondent half to a mutilated tablet, at Naples, with record of a consulate hitherto wanting to fill the series of Roman annals. Of those walls begun by Tarquinius Priscus, we read in Livy (l. i. c. 36), that he began "muro lapidis circumdare urbem," when the Sabine war occurred to prevent their completion; that afterwards the works resumed were interrupted by the king's death; and, in Nibby's map of the several Roman fortifications, from Romulus to Urban VIII., we see the Servian lines carried along this Aventine height, precisely where uncovered; and visible to the extent described, when we visited the spot some years ago.

Such were the conditions in which we saw these unburied ruins when first brought to light. But what a change in their aspect when we visited them a few weeks since! Those subterraneans at the higher level of the hill were still indeed accessible; but their interiors were half filled up by the soil that had fallen from above; nor had it ever been cleared away; so that much was withdrawn from inspection; and of much more but an imperfect glimpse could be, with some inconvenience, obtained: as to those of the Servian walls, so interesting to the antiquary, nothing could be now reached or inspected; and one of the monuments of Rome's primitive history thus remains carelessly sacrificed! Lower down, indeed, on the declivity, we were indemnified by another curious series of antiquities, more completely accessible than at the earlier stage of their excavation. First, about midway, a long corridor, entered by a vaulted way, regularly hollowed, without any masonry, in the solid rock; narrowing in some places, but for the most part giving ample space to persons advancing in file; serpentine in its windings, but of what extent we could not ascertain; the friar who was our guide (and who indeed showed an adventurous spirit) never having reached its term, nor learnt more than enough for vague report on the mysterious subject. Lower down, near the level where these gardens are bounded by the wall that skirts the high road dividing the Aventine from the Tiber, we entered; descending, near the *puteal* of a deep well, another labyrinthine series of narrow corridors and chambers; one of the latter expanding to considerable width, and displaying remains of architecture ornate in character,—pilasters, pediments, cornices, and the traceable though impaired decoration of arched niches, at intervals round the walls; suggesting the idea of a Nymphæum,—some aristocratic or perhaps imperial retreat from the publicity and noontide fervour of summer days, amid these pleasant bowers on the fortified hill. The well, in a deep funnel, or shaft, of compact brickwork, had no doubt sent a supply of its waters to this Nymphæum; which we enter by descending the cork-screw stairs outside the walls of that building; like a sunken tower, inclosing the spring from the depth where it gushes forth. Years have passed since the discontinuance of all researches in these gardens; nor is there any present prospect of their being resumed, for the enterprising Prior Besson is no more: the Dominicans want means to carry on excavations further, and the Government does nothing to assist them.

On the southern slopes of the same hill is another extensive garden of the Jesuits, whence we enjoy a wide prospect, both within and beyond the Roman walls,—one of those scenes intensely characteristic; and so impressive in mournful solemnity, so fraught with memory and association, that, however familiar with such Roman landscapes, we ever gaze on them with renewed interest; in which a certain awe is blended with delight. Solitary old churches and convents; the distant fronts of stately basilicas; here and there a dilapidated farm or humble cottage amidst vineyards and orchards; a tower of Aurelian or Honorius rising from the dark line of turretted walls,—such are the salient features of this scene within the nearer region; whilst noble backgrounds of mountains close the distance by their majestic barriers. It is not many years since were discovered, on a ridge near the southern limit of the Jesuits' estate here, where the Aventine faces the height crowned by the antique church and monastery of St. Sabba (most picturesquely conspicuous), two considerable portions of the Servian walls, the most perfect indeed now visible on any site; the larger extending about 200 feet; the construction, in immense quadrilateral unequally sized blocks of peperino, laid in regular courses; and at about the centre, in the upper parts, a broad, very regular archway, of similar stone, quite uninjured by time, like the head of a portal; in *front* of which advances the curtain of wall, in this antique masonry, that seems to have screened altogether, if not the arch itself, the gateway probably surmounted by it. At both sides, on one hand, at a right angle with this fortifying wall, advance the ruins of structures in *opus reticulatum* (telling of the earlier imperial epoch), and so as to look upon that of Servius across a shallow moat, hollowed down to its base below the level of the cultivated grounds. Higher up on the declivity is seen the other fragment, much less considerable; exactly similar in style; being here almost entirely below the surfaces, and rising against one side of a deep pit, where the soil has been removed expressly to display this structure. At some distance, before a garden-house, lie heaps of marble fragments; one, a mutilated head, with scarce a feature traceable, found in clearing away the soil around these venerable remnants. The Jesuits, here as elsewhere, have shown an enterprising spirit; and have lately ordered, within the same territory, new researches, that may be supposed promising, though not yet proved productive.

The only other conspicuous portion of the Servian walls besides what we owe to these fathers researches, since these remains in the Dominican garden have been again interred, stands in sight from this spot on the declivity below St. Sabba, where its massive peperino courses form a buttress to the hill side, picturesquely shaded by creepers, and here more mellowed in hue by the action of time or climate. Nibby refers to the same fortifications, an inconsiderable ruin, but a few lines of stonework on the verge of the Tarpeian precipice below the Palazzo Caffarelli; but more recent writers consider these fragments to belong to the Temple of Juno Moneta, where the public money was deposited, on the site of Manlius's house. Of the *agger* of Servius much is indeed preserved, extending its prominent and now cultivated ridges through the Villa Negroni, on the Viminal, through the Barberini and Massimo gardens on the Quirinal.

A retrospect of the story of vicissitudes affecting monumental antiques in Rome may be not uninstructive, and may elicit many curious facts

to illustrate the spirit of the past; whilst too often exciting regrets, and compromising the credit of ecclesiastical power in its action; unchecked by any interference of civil authority, or any influences beyond its proper sphere. Not, indeed, that severe blame, or great surprise, should be roused by the shortcomings or positive wrongs attributable to ecclesiastic agency in this respect; since we have but to consider the natural perpetuation of that reaction and temper against Paganism, which impelled the early church to regard all its deities as so many infernal demons; to shiver its idols and devastate its fanes; whenever a juster principle failed to interpose for the object of dedicating them to a purer worship. The government of the present Pope, it must be owned, has done much for the furtherance of archæologic interests, and spent sums towards these objects, considerable in their proportion to its embarrassed finances, though far below what it has appropriated to Christian monuments or restorations. One of the greatest discoveries, for the light thrown on disputed topographic questions in the sphere of Roman antiquity, was that of the Julian Basilica, on the Forum; brought to view, after ages of interment, by excavations under Canina's superintendence, in the earlier period of this pontificate; though, indeed, no remains of beauty, or any architectonic elevation, but merely a stylobate heaped with fragmentary ruins, is left, —the visible result of those well-directed labours. And the excavations on the Appian Way, commenced in October, 1850, also directed by Canina, have laid open a street of tombs for an extent of several miles, from the mausoleum of Cecilia Metella to the base of the Alban hills, with advantages to the study of antiquity, claiming gratitude from all Europe. The Architectural Museum, in the Capitoline Tabularium; the repairs of the Colosseum; the disencumbering of the Pantheon, by removal of mean, unsightly houses around; and, above all, the excavations long since commenced, for some time suspended, but now again in progress at Ostia, under direction of Visconti, form other titles to respect on behalf of this government.

Very different is the evidence supplied by annalists respecting the procedure of the papacy in past ages towards those unique monuments, amid which its throne is placed; though, indeed, certain brighter pages shine out from the gloomy record; showing how its capital was benefited by the merits and intelligence of popes, such as Martin V., Nicholas V., the worldly but munificent Medici, the energetic Sixtus V., and Benedict XIV. For a picture of Rome in the first half of the fifteenth century, and for indirect proof of demolition's dire achievement subsequently, we may turn to the writings of Flavius Blondus (as he is known in his Latin authorship, otherwise as Biondo da Forli), giving a description of the desolate city under Eugenius IV. (1431-46), to whom he addresses his "Rome Restored and Italy Illustrated." Drawn up with careful minuteness, not much apparent knowledge of classic literature, but a *naïve* truthfulness that gives the sense of reality to the reader, his pages please, while his narrative often surprises. Referring to the Palatine, he becomes pensively facetious, and observes that the imperial mount being entirely abandoned to the pasturage of sheep, horses, buffaloes, and goats, the voices of those quadrupedal tenants might suggest the name *Balatinum*, rather than the classic one for that height! Yet still he tells us were erect among its ruins two portals of marble, the most splendid of their description in Rome. At the foot of the Aventine, between S. Maria in Cosmedin and the Tiber, he tells of having seen thrown down, to be converted into lime, some beautiful marble arches, popularly supposed to be in honour of Horatius Cocles, but probably a part of that splendid temple over whose ruins Adrian I., about 772, raised the basilica still standing, and containing several marble columns of the Pagan fane, dedicated (as some assume) to Fortune. The cave of Cacus, says Biondo, was still visible on the Aventine slope, near the back of that fine old church. At the foot of the Quirinal (here strangely mistaken for the Esquiline) he points out, above the piazza of Trajan's Forum, the ample and stately ruins called the Palace (or Thermæ) of Emilius, of which now remain but a few vaulted recesses, concealed by a few paltry houses, except where a glimpse may be obtained through a narrow obscure court, not always accessible, and still known popularly as the "Baths of Emilius," though shown by Canina to pertain to the vast system of outbuildings with arcades by which Trajan had his Forum bounded on this eastern side, under the Quirinal acclivity. On the heights above this Biondo indicates the conspicuous remains of Mæcenas's villa and gardens; then among the stateliest of Rome's ruins; together with the tower whence Nero looked down on the conflagration; of all which edifices nothing now stands save that tower, well known to be a Mediæval fortress, included, at present, within the premises of a fema'e convent.* In an apostrophe to Pope Eugenius, this writer highly compliments his holiness for his restorations of the much-injured Lateran Palace; residence of the pontiffs during 1,000 years; in laying foundations for additions to which he describes how had been discovered, at a depth of 18-feet below the surface, many spacious chambers and arcades, columns and incrustations of variously-hued marbles, and some "most beautiful statues;" relics, no doubt, of that imperial palace confiscated by Nero from Plautius Lateranus, and inhabited by Constantine till he bestowed it on Pope Sylvester; but how disappeared, or whither were transferred these precious materials and art-treasures, Biondo fails to inform us. We shall resume our stroll.

PROFESSOR SMIRKE'S LECTURES ON ARCHITECTURE, AT THE ROYAL ACADEMY.

LECTURE V.†

IN my last I addressed to you some remarks on the subject of form as it affects design in exterior architecture. I propose now to submit to you the result of my experience and reflections on design in inferior architecture. These two subjects, as I then stated, readily admit of separate consideration, and, indeed, almost demand it; for the aims, as well as the means, of the designer in each case are widely different.

In determining the external features of a building we have to consider, besides the character of the building itself, various collateral circumstances—such as the nature of the site, the character of the surrounding scenery, or of the adjacent architecture. It is far other wise with internal architecture; there we may disregard all these collateral circumstances, and limit our attention to the individual character of our subject.

In designing the interior of a building, however, there arises a new and peculiar source of difficulty. Considerations of convenience come in to embarrass our pencil and to complicate our task; architectural effect and fitness of arrangement will often militate most inopportunely against each other. We must needs have a door, perhaps, where we would fain have had solid masonry; and light, perhaps, can only be obtained from the east, whilst æsthetic considerations may point to the west as preferable. In fact, to reconcile these two important, yet often incongruous objects, forms one of the severest trials of an architect's skill and patience. The art of conveniently arranging the various parts of a plan, so as to fully adapt them to their special purpose, is truly one of primary importance. It is, indeed, obvious that all our labour and art may be wastefully expended if our plan be not such as to afford a convenient collocation of its several parts. To lay down a good plan, therefore, becomes the first duty of an architect, and demands his first and most earnest attention. The subject of a convenient arrangement of a plan cannot be entered upon with propriety here. I will, therefore, on this point confine myself to the general observation that simplicity and directness are cardinal virtues in all architectural arrangements. Avenues should be as straight, as short, and as obvious in their course as possible. The rules for the moral conduct of a man seem very applicable to this branch of our art; his ways should be clear and obvious, they should be free from ambiguity and uncertainty, without tortuous or dark places. The right way is always the straightforward way; but, when a turn is necessary, let it be one that cannot be mistaken.

The first impression on entering a building should be such as is becoming its special purpose, and, if possible, suggestive of it. The temenos of a Greek temple was well calculated to give an impressive air of sanctity to the temple itself, by excluding from view all incongruous objects. A similar feeling, perhaps, led the architects of early Christendom to form that peculiar forecourt or atrium in front of the naos, of which a few examples still remain. The basilicas of San Ambrogio at Milan, and of S. Clemente at Rome, are interesting examples. There can be little doubt that the builders of that devout age were influenced by subjective considerations of this kind, although the ritual appropriation of this portion of the building was to receive the catechumens of the church, and to afford a suitable place where the candidates for baptism might present themselves. At all events, a very powerful effect must have been produced upon the eye and mind by thus shutting off from view the outer world, and concentrating attention on the sacred structure about to be entered.

It was, perhaps, a similar motive, a legitimate artifice for the purpose of strongly impressing the mind of the worshipper, that led our old church builders usually to form their doorways of very moderate dimensions. Great emphasis was ordinarily given to the western, and often to the lateral doorways, by exterior decoration, but the actual opening of the doorway is usually comparatively somewhat low. The natural effect of this is to produce a surprise at entering, and so affecting the mind with awe.

Turning now to domestic architecture, we shall not fail to recognize the efforts made by the early Italian artists in designing the entrance halls of their noble palazzi, to secure a favourable first impression. Their halls are of large dimensions, treated in a broad and grandiose manner, without much ornament, but usually embellished with ancestral statues and warlike trophies.

This first entrance-hall is, however, sometimes made subordinate to a capacious inner central hall, giving means of communication with all the principal apartments; a happy idea, alike productive of social convenience and architectural effect. Palladio's celebrated Villa Capri is a specimen of eminent skill that has been productive of a host of similar examples, not only in the land of its birth, but even in our country, as at Cobham Hall, and other of our princely country mansions.

These inner central halls may, perhaps, be regarded as lineally descended from the interior peristyle of the Romans, which, as we see at Pompeii, formed the ordinary place of family resort, giving access to all the adjacent apartments.

The cloisters of conventual buildings were, apparently, an amplification of the same idea, and derived from the same source. Whatever the phase of art, whatever the mode of treatment, whether arcaded or columnar, or both, these columns afforded occasions for most picturesque and pleasing designs. At those interesting remains of Roman magnificence called the Villa Mecænas, at Tivoli, we have a remarkable instance of the union of the arcade and colonnade, forming a cloistered ambulatory, an arrangement by which we have the greatest possible variety of outline and *chiaroscuro*.

I proceed now to an important feature of almost every structure destined for man's habitation—I mean the staircase. In designing this often very picturesque feature, it must be admitted that we owe little to ancient examples. I am unable to cite any instance of an internal staircase of very striking effect in any classical remains. Magnificent exterior flights no doubt occur, and in Belli's description of the Greek theatres of Crete we see evidences of the existence of double returning flights, similar to those so common in modern architecture, having each flight inclosed within solid walls. The newel stair was certainly of purely Greek origin. A perfect example exists in good preservation among the ruined temples at Selinuntum; its dimensions, however, are extremely small, the diameter being only 6 feet 4 inches. The domestic architecture of Rome

* It was built in the time of Innocent III., by the family of one Peter Alexius, and now called Torre delle Milizie; and rises among the most conspicuous objects in its quarter of this city; still gravely pointed out by *cicerони* as the elevation where Nero played the lyre whilst Rome was burning!

† See p. 143, *ante*.

seems to have required little aid from interior stairs; and even in so sumptuous a building as the Coliseum, where 40,000 persons had to be provided with ready access to very high levels—built, too, when Roman power and art were in their zenith, expressly to gratify the extravagant love of display of the Roman people—we still find no very pompous staircase, although, it is true, the stairs are numerous, and, as I mentioned to you two weeks ago, executed with great masonic skill.

Among the buildings that remain of earlier Mediæval art, it is still difficult to point to any very fine staircase.

Highly effective flights of stairs no doubt occur. There are notable examples at Assisi and at Lucca, where there is a flight, 7 or 8 feet wide, with a marble arcaded balustrade, sufficient to show that the builders were to some extent aware of the fine effects attainable by the artistic treatment of this portion of their plan. Still, the examples are rare. I know of none in this country of greater importance than in the cathedral-close at Canterbury.

The newel-stair was certainly the most usual form of stairs in buildings, even of most important character, during the Middle Ages. The example at Dover Castle, known to most of us, is of large dimensions; that at Tamworth Church is, perhaps, unique in this country, as presenting a double spiral stair round one newel. So characteristic is the newel stair of Mediæval architecture, that the partially-detached turrets which usually contain them are among the most marked features of the style throughout Europe. Perhaps no city contains more remarkable examples than Nuremberg. Wherever this turreted staircase occurs, it always constitutes a pleasing object, imparting an agreeable variety of outline to the composition.

As peaceful arts advanced, and men ceased to look for security in embattled buildings, the artistic builder soon perceived the opportunities afforded by flights of stairs for pleasing and pictorial effects. Nor could he be insensible to the extreme inconvenience of the Gothic spiral form of staircase, where, whatever the length of the steps, there necessarily can be but one place offering a convenient proportion of the tread to the riser.

In the quiet times of the later Tudors, staircases in this country began to assume their proper character; and there is no part of our old Elizabethan mansions on which builders seem to have dwelt with more pleasure, or on which they were more wont to exercise their playful fancy, than the staircase.

But while those fantastic works were in course of erection which we see at Crewe Hall, Hatfield, and elsewhere, especially in Germany, the more polished artists of Italy were erecting staircases of magnificent proportions and bold character, yet of a totally different character, and this is a phenomenon well worthy of observation. At the very time when those rude and rather grotesque works were being executed here, there existed in that land of art, Italy, staircases designed by the great masters, which were consummate models of grace and refinement, like that at St. Giorgio, at Venice, by Palladio.

The genius of each people is well typified in this diversity. Bold, irregular, and unrefined, such were the Elizabethan and Jacobian schools; whilst the works contemporaneously executed by the Italian school were grave, symmetrical, and simple.

I am well aware that the study of this contrast may lead different minds to very different conclusions. The picturesque and quaint exuberance of our own old manner of designing the balustrading, for example, seems calculated to win the admiration of the painter, while a different feeling may prevail in the colder temperament, which is forced, as it were, on the architect by the very nature of his profession, working, as he does, not on canvas, but in solid masonry. As time advanced, the sobriety of manner which distinguished Italian staircases (and, indeed, architecture generally) in the fifteenth and early part of the sixteenth century, gave way, and staircases began to be designed in a capricious, fantastic manner. Excess of freedom, and a wonderful power of construction, led ultimately to the erection of staircases fit rather for the scene-painter than the architect.

Greatness of dimensions, however, was a merit to which all were alive, and we, therefore, find in Italy staircases of a size almost extravagant. The staircase in the Albergo dei Poveri, at Genoa, is 115 feet long by 63 feet wide, and that in the Royal Palace at Naples measures no less than 163 feet by 85 feet. The Renaissance school, to which I am more particularly referring, employed two very different types of staircases, each, perhaps, equally susceptible of beauty—one wherein both ends of the steps are supported by solid walls, the other where one end only was let into a wall. As notable and familiar examples of the first, I might refer to the palaces at Versailles, Fontainebleau, and the Louvre, and our own Reform Club. Their form of stairs is capable of great dignity as well as beauty; but it has some inherent inconveniences. The raking soffite of each flight is a source of difficulty in design, and gives rise to some unpleasing effects. They are wanting, too, in lightness and freedom, whilst persons ascending and descending do not see each other until they abruptly meet. The staircases of the second type are, on the other hand, far more free and open, and the eye expatiates over the whole area at once. It is almost needless to give examples of this latter familiar form. The elegant work of Palladio, to which I have already adverted, at Venice, and the stupendous example at Naples, will illustrate the type. I might add a third variety, viz., where there is no turn, and the stairs extend in a continuous straight line. The Royal Library at Munich has a staircase on this plan. The Scala Regia, in the Papal Palace at Rome, is another example, presenting an extremely striking architectural scene. The proportions are colossal, and the flight is flanked by a stately colonnade.

The effect of this staircase is artfully heightened by a peculiar expedient. The flanking walls are not parallel, but gradually approach each other, the width at the bottom being 10 feet wider than at top. The object no doubt was, by an optical illusion, to increase the apparent length of this avenue of columns—an architectural fraud, in fact, ingenious, but hardly to be recommended for imitation.

It is, I think, to the second type that I would point as most deserving approval. Schinkel's great work, the Museum of Berlin, is a favourable instance of it; and a still more colossal staircase at the same building has recently been erected by Stüler. Its dimensions are about 140 feet by 70 feet, the walls affording a magnificent field for the frescoes of Kaulbach.

The principal error to avoid in these great open staircases is an appearance of tediousness in mounting. It should never be overlooked that the great—indeed, the only legitimate object of a staircase—is to facilitate our way up or down; and no display of architecture will reconcile us to any unreasonable amount of indirectness in our course. Those large, straggling, tedious stairs up which we are occasionally compelled to work our way, and which, by following, in their turnings, along all the four sides of the staircase, seem to lead us in any direction rather than that which we desire to take, are at once unsightly and incommodious. Before I finally quit this subject, I desire to commend to your observation that a simple flight of even a few steps will be found, in the hands of the artist, capable of an agreeable effect. It would be easy to multiply illustrations, but I will confine myself to two or three simple instances derived from that land of art, Italy. At the entrance to the Incurable Hospital at Genoa, some local circumstances compelled the adoption of an indirect line, the public street not being at right angles with the direct line of access to the interior. So far from ignobly submitting to this as an inevitable awkwardness, the architect struggled, successfully, to give an apparent, as he could not give a real, symmetry to his plan, by a picturesque contrivance.

To descend to a still humbler illustration, I would adduce an instance occurring at a small, unpretending house at Boulogne. In a straight passage of moderate width it was necessary to rise 4 or 5 feet. The obvious and prosaic course to adopt was to place so many parallel steps across the passage; but such an inartificial mode of proceeding would ill accord with the æsthetic views of an Italian artist of the sixteenth or seventeenth centuries. He accordingly broke his flight of ten steps into two flights of five steps, with an intermediate landing, at which landing he introduced two short portions of ornamental balustrade, thus giving these few steps a positively ornamental appearance, and really assisting the person passing by affording an intermediate means of support.

A third example I noted at a convent in Rome. Here Bernini, whose principal aim at all times seemed to be to avoid insipidity at any cost, entailed, it is true, by the arrangement shown on my sketch, a constant source of inconvenience upon all succeeding ages, as long as the stairs may last; but he achieved his great object of avoiding the abhorred simplicity of a straight flight, and produced a pictorial effect with very small means and in small compass.

These few trifling examples are suggestive; they tend to show that a really inventive talent may find occasion to display itself, even in matters of a very insignificant and unobtrusive nature.

I hasten now to enter the apartments towards which we are proceeding. But first let us parley for a few minutes on the corridor that we have to traverse before we enter them.

Good taste, and, indeed, common sense, seems to suggest that the architectural aspect of a passage should be somewhat conformable in style and treatment with the more important object to which it leads, be it church or chamber. The eye and the mind would thus be, as it were, prepared for, and attuned to, the subject upon which it is about to be exercised; care, however, always being taken to keep this passage subordinate and subdued, so that there may be no risk of disappointment. Many modes present themselves of giving architectural effect to this passage: variety of light and shadow is an important means of doing so; we all feel the beautiful effect of this variety in natural scenery, those glimpses of sunshine, those alternations of gloom and cheerful daylight, so charming in a forest scene; and analogous effects are obtainable in our own art. A long passage may be much relieved of its length by a judicious breaking up of the vista with alternations of *chiaroscuro*.

With the same object in view of diverting the attention and relieving the monotony of a long corridor, we may with advantage place some object of interest for the eye to dwell on, such as a picture or a piece of sculpture, at its termination, or at a turn in its course.

The most beautiful passage in the world is, probably, that which Raffaelle executed at the Vatican. Independently of its frescoes, the protions of its piers and arches give it unspeakable grace; yet, beautiful as it is, the subordination to which I have just adverted has been so well observed, that the stanze, to which the loggie give admission, lose none of their interest by the contrast. Whilst on the walls and vaulting of the loggie are depicted those graceful arabesques and playful ornaments, the walls of the stanze, to which it leads, bear some of the grandest masterpieces of the genius of painting.*

MARC ISAMBARD BRUNEL.

Genius is a fearful gift. Its pleasures and its triumphs are intense; but so are its pains and penalties. Men of genius dwell, as it were, in a world of their own, apart from the worldly life; and there are few among the gifted who can fully enjoy both worlds. Genius is not incompatible with worldly wisdom, but it too often aims at independence of it; and sorrows and difficulties are the sure result. The imprisonment of the elder Brunel when his business at Battersea fell into confusion; much of the pecuniary shortcomings and shabby treatment of the Government; and many other worries and annoyances of his life; though by no means attributed by his biographer to any defects in the idiosyncrasy of Brunel himself; are far too like those so frequently experienced throughout the lives of eminent men of genius to be altogether ascribable to the defects of others. The very daring of his own inventive faculty, as in the case of the Thames Tunnel; and perhaps a hasty impatience of maturization in details, must have aided not a little in bringing down upon his devoted head much grief and annoyance. He himself declared that if he had another work of a similar kind to do he would do it differently. This, it is true, might have been said by any other engineer; but it was characteristic of the man; as well as of his gifted son; who, we dare say, had he had another *Great Eastern* to launch, would have done it, too, differently. However, in future time, so far as regards the Thames Tunnel, although it may continue to be an interesting question how it was done; and criticisms as to better ways of doing it may still be urged; the great inquiry will be, who did it? And the name of Brunel, and the skill and daring of the work, will be all that posterity will care to think of, in regard to it; at a time when the "Thames Tunnel Company," its immense outlays, and its failure as a commercial speculation, will be all forgotten.

Marc Isambard Brunel† was born at Hacque-

* To be continued.

† Memoir of the Life of Sir Marc Isambard Brunel, C.E., V.P.R.S., &c. By Richard Beamish, F.R.S. London: Longmans & Co. 1862.

ville, in Normandy, in 1769. His father designed him for holy orders; but the bent of his genius attracted him much more strongly to the carpenter's shop and the wheelwright's yard of his native village, than to its church or chapel.

"At a period when most children can scarcely manage an ordinary knife, young Brunel was familiar with the use of the greater part of the tools found in a carpenter's shop; and so inveterate was his love of such tools that he has been known to pawn his hat that he might possess one newly exhibited in a cutler's window at Rouen, though at the time unacquainted with its special use. At the age of twelve he constructed various articles with as much precision and elegance as a regularly educated workman."

It was a curious coincidence in his history, that, even while a boy, and from seeing some great cast-iron cylinders for a steam-engine at Rouen, which he was told had come from England, it became a chief desire of his life to visit this country; and that on this, his fixed idea and his destiny, a few years afterwards, the still stronger passion of love was brought to bear. England, being in want of him we imagine, sent over a powerful messenger to fetch him; in the form of a young lady, fitly named "Kingdom;" and, in Brunel's susceptible heart, "the United Kingdom" became thenceforth the ruling passion of his life. French revolutionary troubles, however, led to a change of affairs, which must have reduced poor Brunel to a hopeless state of despair that he should ever be united to Miss Kingdom; for he was obliged to fly hastily from his country in a vessel bound to America; and the lady in question, by an odd vicariousness of sacrifice, was seized and imprisoned, and every day expected to be guillotined,—not because she had seduced the affections of a valuable French citizen, and was destined to deprive his country of his future services for ever,—but simply and merely because she was an Englishwoman.

In America, Brunel's active mind and superior attainments soon found employment: nothing seemed to be beyond the universal grasp of his genius. Musical instruments, models of vessels, and the quadrant, had all been subjected to his improving hand and mechanical skill. He was engaged in projecting canals, in evading falls, and in removing obstacles to navigation in the beds of rivers: indeed, he may be considered as the pioneer of those great inland communications which have tended so largely to promote the commercial prosperity of the States. His design was accepted for the Congress House at Washington; and the theatre at New York was built from his plans: to him, also, America was indebted for a cannon-foundry; of which it is said, he organized an establishment for casting and boring ordnance that, from its novelty, practicability, and beauty, was considered at that time unrivalled, and was in itself sufficient to place its originator in the foremost rank of mechanical engineers. Mr. Brunel, however, found that he had to struggle with difficulties in America, and that the remuneration was not equal to his labours; but probably the strongest motive of all was a very different one, which led him, finally, to desert the rising America, repudiate revolutionary France, and turn his attention and his face to England. Here he arrived in 1799. His reputation had preceded him; and he was almost immediately engaged in works under Government; and especially in connexion with his block machinery; the invention of which Mr. Beamish has strongly and successfully vindicated for Brunel against recent assailants, who attempted to claim the chief merit for Sir Samuel Bentham.

Brunel was not long in securing Miss Kingdom, who had brought her head safely over with her from France, and had not forgotten the young Frenchman. They were married very shortly after his arrival at Falmouth; and nearly half a century afterwards he declared that "he was indebted to his wife for all his success in life." The honeymoon had scarcely waned, however, when he made love to another lady,—namely, the genius of invention, to whom he was no less devoted than to his wife. The first fruits of this devotion consisted in a duplicate writing-machine, which he patented. This was quickly followed by another for twisting cotton-thread and forming it into balls, for "Performing the operations of hemming, whipping, or otherwise securing from ravelling the edges of trimmings cut in narrow slips," which would seem to have been the true pioneer of the sewing-machine. A card shuffling-machine was another of the many inventions emanating from the extraordinary fertility of his brain. The block machinery, however, outshone all these in ingenuity and importance, as well as utility. In 1802 it was completed; but, although it effected all that Brunel promised; ten men, by its aid, doing better work than could be done without it by one hundred and ten; the inventor was long left unrewarded; and the distress to which he was reduced, while the country was saving many thousands annually by his invention, seriously affected his health; and he had an attack of nervous fever, during which the bleak prospects of his family appeared to be his chief source of anxiety. At length, in 1810, he received 17,093*l.* for his invention; and this vexatious pecuniary dispute being thus adjusted, he was free to turn his attention to other inventions,—all ingenious, and the majority of them highly useful. His shoe-making machinery was amongst these. Government gave him a large order, for the very superior shoes he made by this machinery, for the army; but unfortunately for Brunel, after he had prepared further machinery to supply the whole army, and had produced an immense stock of shoes, the war ceased, and he was again plunged into financial difficulties. How it was that cessation of the war prevented the army from wearing shoes it is not easy to see; although there might be less marching and fewer dead men's shoes lost in battle; but Brunel had mixed up his shoe-making business with another of his valuable machines,—the steam saw-mill, which he and his partners carried on at Battersea; and the whole affair got into an inextricable mess, which led to poor Brunel's imprisonment in the King's Bench prison, where he seriously meditated a new emigration,—namely, to Russia; instigated thereto, as so many others of our eminent men have been, by the nobly enticing efforts of the Russian emperor.

Government, however, at last came to his rescue, with a sum of 5,000*l.* for the discharge of his personal liabilities.

From that period till the opening of the Thames Tunnel, on the 25th March, 1843, Brunel was incessantly engaged in the exercise of his profession; evolving original conceptions, improvements on old contrivances, and propositions for novel enterprises, in unprecedented and inexhaustible profusion. We need only mention a few of his inventions; such as his machine for cutting veneers, his circular-saws, machinery for bending timber, improvements in the treadmill, &c.; but our space now only permits us to say a few words as to the greatest engineering work he ever did,—namely, the Thames Tunnel; and for which, and in which, he received the highest honour conferred on him at the hands of majesty—his knighthood. To give any adequate idea of the labours gone through, the mishaps, and the conquering of difficulties, in carrying out this great work, would require something like the large space Mr. Beamish, who was one of Brunel's own assistants in the construction of the tunnel, has devoted to it; and this we cannot, and indeed to many of our readers we need not, attempt.

Various abortive endeavours had been made to cross the Thames by a tunnel; and the difficulty in the way of the accomplishment of such a work must have had a special fascination for such a mind as Brunel's: his thoughts had been constantly directed to the subject, when one day,—

"Passing through the dockyard (at Chatham, where he was employed by Government), his attention was attracted to an old piece of ship timber which had been perforated by that well-known destroyer of timber—the *Teredo navalis*. He examined the perforations, and subsequently the animal. He found it armed with a pair of strong shelly valves which enveloped its anterior integuments; and that, with its foot as a fulcrum, a rotatory motion was given by powerful muscles to the valves; which, acting on the wood like an augur, penetrated gradually but surely; and that, as the particles were removed, they were passed through a longitudinal fissure in the foot, which formed a canal to the mouth, and so were engorged. To imitate the action of this animal became Brunel's study. 'From these ideas,' said he, 'I propose to proceed by slow and certain methods; which, when compared with the progress of works of art, will be found to be much more expeditious in the end.'"

Such was the leading idea which induced Brunel to undertake a work which for cost, calamities, and indomitable labour and perseverance, exceeded all expectation. Five times the water broke into and deluged the work; and at one time it was stopped for years (from 1828 till 1835), on account of both the breaking in of the river and the low ebb of the company's funds. Government then advanced 246,000*l.* to the Tunnel Company; and, notwithstanding repeated incursions of the river, and annoyances and hindrances with explosive and poisonous gases, &c.; on 7th January, 1842, "the work was entirely secured;" although the staircase had yet to be built and the approaches completed; so that the opening ceremony did not take place till 25th March, 1843. The work had thus cost the labour of eighteen years and thirty-eight days; nearly half a million of money; and several lives.

Brunel had now done his life's work. Paralysis succeeded to superhuman energy and invention; and in six years he expired, but at a good old age; having lived to see his 81st year.

To the natural benevolence and goodness of Brunel's character Mr. Beamish pays a just tribute, as well as to the quiet simplicity of his habits, and his carelessness of ostentation or worldly greatness.

The whole work is pleasantly written; and it has had the great advantage of an author possessed of a professional knowledge, and well versed in business details.

THE LEONINE CITY: VATICAN.*

Rome may be considered as three distinct cities, each inclosed by its own walls of as many distinct ages: the largest of these, including the great bulk of the population, occupies what was in olden time the Campus Martius, and the Seven Hills: its walls, beginning at the Tiber, near the Flaminian gate, and ending again with the river below the Porta Ostiensis, date from the period of the division of the empire between Arcadius and Honorius, towards the close of the fourth century. I remember some years ago to have read a paper on the walls and gates of this seven-hilled city, and I have no intention now to recur to any thing on that side of the Tiber. Let us call this *Urbs Roma*, or "the city."

The next portion, the Trastevere, is the Southwark of the metropolis. The walls of Honorius originally inclosed little more than the space covered by the Arx Janiculensis. They are now partly demolished and partly in ruins, being rendered useless by the modern inclosure of Urban VIII., A.D. 1630. Those Barberini walls begin near the Porta S. Spirito, and run up to the long ridge of the Janiculum, inclosing the extensive villas Lanti and Corsini, culminating at the Porta S. Pancrazio, and descending again to the Porta Portese. They very well parried the siege of Rome by the French army in 1848, and are now prepared for another in case of necessity; but neither do I intend to speak of the Transtiberine city which is defended by the walls of Pope Urban VIII. But there is yet a third city which has its own walls and gates, and claims a history of its own, belongs especially to the Popes, monopolises the Vatican Mount, contains the great temple of Christendom and the palace of the sovereign pontiff, and, though not more than three miles in circuit, may yet be destined to become an empire of itself. This is the city to which now all eyes are turned, and on which the eyes of Victor Emmanuel are *fixed*. I propose to offer you a history and description of this papal or Vatican City.

The appellation of Janiculum may be applied to the whole range of hills extending from the Montorio to the Monte Mario, inclusive; but the "Vaticani Loci" do not properly reach beyond the vineyard of S. Onofrio; the heights which rise behind the basilica of St. Peter and above the pontifical palace form the "Collis Vaticanus." In the days of Imperial Rome, this hill was covered with vineyards, producing a very bad wine, which they called Vappa. If etymologists may be trusted, it would seem that the spirit-rappers and table-turners held their happy mediums here, for both Aulus Gilleus and Sextus Pompeus combine to persuade us that the hill derived its name from *Vates* or *Vaticinia*, which just means the fortune-tellers and necromancers of ancient days, whose progeny will never die out as long as credulity and ignorance survive to feed them. The hill of prophecy, however, was accounted the most unhealthy district beyond the Tiber, where, as Tacitus tells us, the mortality was the greatest. The tradition that St. Peter was both crucified and buried in the Vatican, invested this once sickly region with a sanctity which we need not seek to disparage. As early as the age of Constantine, a large temple in the form of a basilica was erected where Anacletus, Bishop of Rome, had constructed his oratory over the traditional sepulchre of St. Peter, A.D. 306.

But this basilica stood alone, and was not inclosed, nor any part of the Vatican hill, until the year 848; and I am now to tell you how this most magnificent suburb of Rome first became a city. After the dominion of the Goths and the ravages of the Lombards had ceased to keep Rome in terror, a new danger arose in an unexpected quarter. The Saracens, who had established themselves in Sicily, infested the coasts of Italy, and, ascending the Tiber, plundered the basilicas of St. Paul and St. Peter, which lay open and exposed to their depredations. Leo III. began,

* Read by the Rev. R. Burgess, B.D., as elsewhere mentioned.

in his pontificate, to build walls about St. Peter's, but it remained for the magnanimous Leo IV. to effectually fortify Rome against the incursions of the infidels. About the year 731, we find something like a republic established under the influence of the Bishop of Rome. It was entitled the Roman Duchy. France, in the persons of Charles Martel and Pepin, successively saved Rome, and established the Popes Stephen II. and Gregory III. in their temporal power; and from that time the Popes began to act for themselves as sovereigns, until they were overpowered by the successors of Charlemagne. The first great and independent work of a secular kind executed by papal power was the city I am about to describe, and which the Pepin of the present day still defends, with all it contains, against the Lintprands and Garibaldis of the nineteenth century. In the year 848, then, Leo IV. resolved to restore the walls of Rome, especially on the right bank of the Tiber. He rebuilt fifteen of the ruined towers, and that the work might be done speedily he himself visited the walls sometimes on horseback, sometimes on foot, and after putting the old walls in a proper state of defence, turned his attention to fortifying the Vatican Basilica. The revenues of the Duchy of Rome were not sufficient. He applied to the Emperor Lotharius for help, and his majesty responded, not by sending him an army to take care of him, but ordering many pounds of silver to be paid to the enterprising pontiff. Not knowing how soon the Saracens might renew their destructive invasions, he pushed on his works; sent for labourers from every city, farm, and monastery, within the Roman duchy, and in four years the walls were complete, and this was very properly called the Leonine City, a name which was preserved until the sixteenth century, and is still used to designate the city of the Pope. I will not stop to describe the ceremonies with which the walls and bulwarks of this new city were inaugurated. Bishops and priests, and all orders of the clergy, with bare feet, and their heads sprinkled with ashes, made the circuit of the walls, singing litanies, psalms and hymns, and canticles, while the cardinal bishops sprinkled the walls with holy water. Anastasius, who lived near that time, has preserved a record of the solemnities, and has told us of three gates. One was called S. Peregrino, because it faced the church of that name; the other towards the Fort S. Angelo, was called Posterula, or Little Gate S. Angelo; the third was also a posterula, called Saxonum. The ceremony of inauguration ended in a liberal distribution to the Romans and strangers who were present on the great occasion. This passage of Anastasius is valuable as furnishing an example of the ceremonies which were observed in the dedication of cities in the ninth century. Now, of those original walls dedicated in the year 852-3, two sides of the quadrilateral figure remain almost entire, and with the aid of Bufalino's plan of Rome, published in 1551, we can see what the Leonine city was before it came into the hands of Sangallo, under Pope Pius IV. The first side, one of the long ones, is almost entire, except where it is broken by the Pontifical palace; the portion of it which runs from the Fort S. Angelo to the palace, was transformed by Alexander VI. (Borgia), into a corridor of communication between the Vatican and the castle. Here we place the first angular point of the Leonine city. Resuming the line of wall after its interruption by the invasion of the Vatican staircases and corridors, it runs up to the summit of the hill, and terminates in the round picturesque tower, called the Torre dei Venti, which is now inclosed within the enlarged circuit of Pius IV., and which we will soon describe. The whole length of this first side is 916 geometrical paces. From the tower the walls turn at a right angle, and continue in a straight line until they are joined by the modern walls at the Porta Pertusa, where another round tower, not so conspicuous as the former, rises, and indicates the third angle. This western side of the quadrilateral is only 1,000 feet in length, equal to 250 geometrical paces. The third side, nearly parallel with the first, is now, in a great measure, thrown down, but there remain vestiges of it which may be traced for about 250 feet from the Porta Pertusa; and again at the Porta Cavalleggieri, where the walls coincide, and, in fact, form part of the present circuit. The construction called Saracenic is immediately recognized as being similar to all the rest of these Leonine walls. The Saracens impressed their hated name upon a kind of masonry which really existed long before these fierce warriors were heard of. Specimens now exist in Hadrian's Villa, near Veli; it consists of small parallelepipedons of stone. In the Leonine walls the stone is granular, and was no doubt taken from some of the quarries in the neighbourhood. Another specimen of this *opus saracenicum* is to be found near S. Sabina, on the Aventine Mount, the work of Pope Onorius III., in the thirteenth century. This is a considerable improvement upon the *opus mixtum* of which I exhibit two specimens; the one is taken from the interior of a sepulchre on the Via Nomentana, near the bridge over the Anio; the other from the Circus on the Via Appia, to which I hardly venture to give a name, lest some disputatious antiquary may rise up and contend for the traditional name of Caracalla. We now pursue our wall, rendered invisible by more modern works, until we come to the Tiber, behind the church of S. Spirito, and at the bridge now destroyed to its foundations, commonly called the "Pons Triumphalis," but which is marked in Bufalino as "Pons Vaticanus;" and if ever it should be rebuilt for the mutual convenience of the King of Italy and the Pope to confer together on secular matters, I hope the name "Pons Vaticanus" will prevail: and no triumph for either king or pontiff. The length of this third side measures 4,000 feet, or 1,000 geometrical paces, and is therefore longer than its parallel by 334 feet. Here, however, must be found the third angle of the city of 852, and the fourth side, which completes the figure measures, like its parallel, 1,000 feet. The result of these measurements will give to the first Papal city a circuit of nearly two miles; and within this space 105 popes in succession were content to live before Pius III. began to think of enlarging the tent, to make more room for St. Peter's shrine, and for the comfort and splendour of his successors.

The Leonine City had originally, like the city of Romulus, three gates; and if I should attempt to fix their several positions, and insist upon names, it would be as weary a chase as it has been after the gates of the original imperial city. It is remarkable how antiquaries and topographers get puzzled about the entrances into old cities. What battles have been fought over the gates of Servius Tullius! Who can reconcile the walls of Honorius with the walls of Aurelian? The common-sense solution of the question seems to be this, that when the number of inhabitants increased there wanted more accommodation for going out and coming in. On the return of the Popes from Avignon the Leonine City received continual accessions of inhabitants, they settled in the part nearest the river, and beyond the ditches of the fort; the three old gates were insufficient, and one of them, at least, inconvenient. More were added with new names until the old nomenclature which seems to have little meaning was swamped; it cannot be of much consequence to investigate this dry subject which no ingenuity can make moist, but by reference to Bufalino's plan of Rome, we can with comfort see all the gates as they then existed, that is before the Papal City assumed the outlines it has now preserved since the days of Pope Pius IV., 1562, at that period when Pope Paul III. (Farnese), had done his part, there were six gates and two posterns in use, and all that part of the city which lay between the Fort S. Angelo and the Piazza S. Pietro was thickly inhabited; but it still remained as a separate city. The Porta S. Spirito, which led out into the Lungara, was a full mile distant from the P. Settimiana in the walls of Aurelian, and all that lay between was uninclosed whatever alterations or additions were made by the popes, from Alexander VI. (Borgia), to Clement VII. (Medici), they were all confined to the old Leonine City, until at length Paul III. commenced and Pius IV. completed the present walls and bastions, and Sixtus V., 1588, erected the whole into a 14th Ward or Rine of Rome called until this day the Borgo.

The Leonine City, from the very strength of its bulwarks, seems to have attracted the besiegers. Only forty-four years after their erection Arnolfus, Emperor of Germany, came against the city, and took it by assault. Pope Formosus was obliged to comply with the emperor's demand, which was that he would crown him as Charlemagne had been crowned nearly a century before; and, having obtained that blessing, which other emperors of the present day would like to have, Arnolfus returned home after a residence of fifteen days in Rome. A second capture of the city took place in 1063, effected by a nocturnal assault of the Anti-Pope Cadolo. Henry IV. and the ferocious Robert Guiscard, in 1084, did much damage to the Leonine City. Frederick Barbarossa did not improve it. In 1157 the Roman Senate found it necessary to make a general reparation, which lasted until Pope Nicolas V., 1452; but the last and most disastrous attack upon this ill-fated city was that of the Constable Bourbon, in 1527. The Colonnas, with the aid of the Viceroy of Naples, got possession of the city on the 22nd of September, 1526, and sacked the palace and Vatican Basilica, and a considerable portion of the Borgo, as fiercely as either Vandal, Goth, or Saracen. This war was caused by Pope Clement VII. having allied himself with the French against Charles V. The Duke of Bourbon was the *condottière* of the armies of that emperor. Having marched against Rome, he assaulted the Leonine City on the 6th of May, 1527; and, in attempting to scale the wall near the Porta S. Spirito, he was killed by a ball from an arquebus on the spot: the troops, nevertheless, turned towards the main city, passing the Ponte Christo; they plundered the houses of the inhabitants, putting to death several thousands of them, and committing the most unheard-of atrocities. The booty was said to amount to the value of six million pieces of gold. This was the most calamitous event that ever happened to Rome. Its horrors are described by Guicciardini and others, and the details of the assault upon the Leonine City acquire additional interest from the quaint but lively description of Benvenuto Cellini. He was an eye-witness of the siege, and it is even said that the ball which struck the Bourbon was shot from the hand-gun of Benvenuto Cellini. He ended by believing the story. This was the last siege and sack of Rome until 1848, when the proceedings were milder, and the defenders properly killed, according to modern improvements; and it is not a little remarkable that those two calamities, separated from each other by more than 300 years, should both have arisen from the French assisting the Pope against the German Emperor; but there is yet a Bourbon in Rome to renew the sorrows of 1527.

When Sir Walter Scott was in Rome, a little time before his death, it was observed that he took little interest in the ruins of ancient Rome, but was delighted with his visit to the Bracciano Castle; but that which most excited his curiosity was to find out the spot where the Duke of Bourbon was killed in scaling the walls. I believe they took him altogether to a wrong place; and, instead of showing him the Porta S. Spirito, led him to the corridor of Alexander Borgia, near the fort S. Angelo.

We are now prepared to contemplate an extension of the Leonine City, which, properly speaking, should cease now to be called by that name, because all that remains of those old Saracenic walls is found within the subsequent works of Sangallo; and, having lost their original use, are now become the dusky but picturesque ornaments of the Papal gardens.

Paul III. was pope from 1534 to 1549. He resolved to surround the Leonine City and the Vatican with new walls, and he committed the great work to Antonio da Sangallo: he commenced the fortifications on the side of the Porta S. Spirito, but a dispute having arisen between the engineer and the architect, Michelangelo, the work was interrupted, and was not completed until the reign of Pius IV.; indeed, the Porta S. Spirito still remains unfinished, *in memoriam*, as if it was meant to immortalize the proverb—"Every man to his trade, sir." Vasari, who was, of course, on the side of his master, Buonarotti, in the quarrel, has narrated all the circumstances in his "Life of Michelangelo." (Volume XIV. of his works.)

"Pope Paul," he says, "had made a beginning to fortify Borgo, and he brought together many signori to meet Antonio da Sangallo, and desired Michelangelo also to be present, for he was aware that the fortifications made about the Mount St. Miniato, at Florence, had been planned by Michelangelo. After much disputation he was asked to give his views; and, although he was of a contrary opinion to Sangallo and several others, he frankly told them all what he thought. Upon this Sangallo said to him that his business was sculpture and painting; not fortification. Michelangelo replied that he knew very little of the art of sculpture and painting, but as to fortification he had made it a study for a long time; and that, added to his practical experience, led him to think that he knew more about it than Sangallo and all his friends put together. At the same time he pointed out, in presence of the whole meeting, several mistakes in Sangallo's plans, and the altercation got to such a height that the Pope was obliged to impose silence upon them both. And, not long after, Michelangelo brought his designs for the fortifications of the whole Borgo, and took care of all that was already planned and done after; and this was the reason why the bastion and great

gate of S. Spirito, which was near the commencement, remained unfinished. As far as we can learn from this, it would appear that the dispute was as to the merit of the invention. The science of modern fortification was then in its infancy; none had been erected since the invention of gunpowder: the upright towers, connected by curtain walls, were no longer able to resist the new engines of war; and, although the quarrel between the two great geniuses of the day had suspended the works in the Vatican, Pope Paul III. recompensed Sangallo by employing him to raise the splendid bastion which now exists between Porta Appia and the Ostiensis, to which Sangallo gave his name for a memorial. Engineers of course repair to this first specimen of modern fortifications, and not the less all that portion of the city walls which defend the south part of the Aventine Mount, and secure the gate of St. Paul. The bastion of St. Gallo is worth a sketch. Sangallo died in 1546, leaving Michelangelo a clear coast, who lived until 1563. We may infer from subsequent events, that these two first-rate men were reconciled before the final separation. They were both employed about the Farnese Palace. Nevertheless, the fortifications round the Leonine City stood still for near a quarter of a century, and Sangallo had no more to do with them. Pius IV. took up the suspended work of his predecessor, impelled thereto by the incursions of the Turks, who had at that time begun to ravage some parts of Europe, and threatened destruction to Rome itself. On the 8th of May, 1561, the Pope laid the first stone of his new walls, and adopted the plans of Michelangelo, now near the end of his career. It may not be uninteresting if we pause here for a few moments to look at the modern distinctions of kindred professions,—distinctions from which no doubt the arts and sciences have gained greatly. It is evident that, in the revival of the fine arts of the Cinque Cento, great masters often invaded the provinces of each other. Raffaelle is put down among the architects; so is Peruzzi, of Sienna. Several others figure in the lists of both painters and sculptors. Michelangelo, as we have seen, planned the fortifications of the city of Pius IV.; and Sangallo designed the Palazzo Farnese; but neither of them carried their own plans into execution. Neither of them was the right man in the right place; but there can be little doubt that, if the two great rivals in civil engineering (before the art was well understood, both of them equally engaged by Paul III., as architects), had lived in the nineteenth century Michelangelo would have had the Great Exhibition, and Sangallo would have got Portsmouth; but, as I have said, professional distinctions were not then very much defined, and we must admit that Michelangelo was a striking instance of an engineer successfully attempting a palace. But, gentlemen, this anomaly in professional services comes down much later than you imagine. Lord Macaulay tells us that as late as 1685 most of the ships that were afloat were commanded by men who had not been bred to the sea. No state, he says, ancient or modern, had before that time made a complete separation between the naval and military services. Pompey and Agrippa fought battles by sea as well as by land. At Flodden the right wing of the victorious army was led by the Admiral of England; and even after the Restoration the same system was followed. Great fleets were intrusted to Rupert, a daring cavalry officer; and when General Monk once wished his ship to change her course, he moved the mirth of the crew by calling out, "Wheel to the left." There were naturally some professional blunders when men undertook too much. These were days in which neither the art of war nor the art of navigation made it so necessary to draw a line between two professions which had hitherto been confounded; but now one, at once and for all, is enough to occupy a single mind. The arts of peace as well as the arts of war now claim an undivided attention for their respective departments, and the only way to succeed in these days is to stick to one's text. There may be a comprehensive genius who may rear with equal success a Palladian palace or a Russian fort; but it happens to few, and, as a general rule, it is safe to be warned by the venerable axiom, *Ne sutor ultra crepidam.*

Paul IV. died in 1566—that is, five years after resuming the left-off walls of his predecessors; but the work was not completed until Pius V. He employed in the finishing a number of Turkish captives taken at the battle of Lepanto, 1571; but the circuit never went beyond the gate of the S. Spirito. As it stands now, firm and unshaken, it is three miles round. The gate near the Fort S. Angelo is closed. The Porta Angelica gives access to the Borgo from the roots of Monte Mario and the north. The Porta Pertusa—called also the Vindaria, because it led into the papal gardens—is now shut up. The Porta Fabrica, so called because it was convenient for approaching on the southern side of the Basilica, and the Cavalleggieri, because it was near the quarters of the pope's body-guard. Such is the present circuit of that magnificent city, marked out with admirable prescience just three centuries ago to be the seat of an empire which none can envy, and an abode of splendour which all must admire. The city I have described is complete in itself; it has thirteen principal streets, besides lanes and alleys, and open spaces; it contains twenty churches or chapels, independent of sisterhoods, fraternities, and charitable institutions; it has eleven palaces, ample and sufficient for foreign ambassadors. It contains the never-ending compartments of the great museum, the pontifical palace and gardens—

> "The dome, the vast and wondrous dome,
> To which Diana's Temple was a cell."

It may still have its Girandola and two fountains, with the courts and offices of the Holy Inquisition, and the magnificent colonnade, in the centre of which stands the monolith we want to imitate; and there is a peaceable and devoted population of more than 3,000 souls loving to dwell under the shadow of the Loggia Vaticana for an occasional benediction. Who, after having known the vicissitudes of all the Piuses up to the eighth, would not desire to be the ninth. Pius III., IV., and V. consumed their days in building walls and fortifications. Braschi Pius VI. was driven, for protection, to Vienna; Pius VII. was a captive in the hands of the first Napoleon; Pius VIII. was in Paradise in two years; but the last of the name has had the offer of a city and vast revenues, and no one to interfere with the canonizations of twenty-five Japanese martyrs; but these matters do not belong to us, who do not come here for building walls against which to run our heads, but to draw a line of ancient fortifications which will secure all contending parties within their own limits.

There stands within this city, of which we have now given the history and description, an object which, like others of its kind, has recently acquired additional interest; of course, I mean the obelisk in front of St. Peter's. As we are, by favour of the Institute and its generous president, to have a reprint of a paper, and discussion thereupon, with regard to obelisks at Rome, it would be unpardonable in me if I were now to inflict upon you a dissertation by way of appendix to my Leonine City. But a few words, perhaps, will be allowed me in collecting all the information we can as to the mode of erecting those monoliths which are now standing. Perhaps the Vatican obelisk affords most for our purpose. First, it is the largest mass of granite at Rome, except one, that of the Lateran; its weight was calculated at 331 tons. The length of the shaft is 80 feet 9 inches, the width at the base 8 feet 4 inches, contracting to 5 feet 8 inches at the pyramidion; if the basement and ornament at the top be included, the entire height is 127 feet 6 inches, which, I presume, will be about our affair. In the next place, it is not a genuine Egyptian obelisk; it has no hieroglyphics upon it; and we are not aware of the existence of any unsculptured obelisk ever erected in Egypt. The reading of Pliny is not received by critics; the text is manifestly corrupt, and there can be little doubt but it was cut by order of Caligula, in the quarries of Syene, and dedicated to the memory of Augustus, but actually set up on the Spina of the Circus of Nero. From that destination it was never moved until Sextus V. had it conveyed to where it now stands; four months were consumed in moving it 300 yards; you all know how and by whom the great work was effected. We shall want a Fontana and vast quantity of ropes, when we have found the granite mass. We cannot hope to reach the large grained red quarries of Syene, in upper Egypt. You are aware that Syenite is distinguished from common granite by having hornblende in the place of mica; it will be impossible, perhaps, to obtain the warm red granite which we generally associate with the idea of an obelisk, but if any of our native quarries can produce a fair specimen of the obelisk material, and any of our native geniuses set it up in its place as a memorial to all generations, we shall be proud of the achievement, and successive generations will learn in that stone that the memory of the just is blessed.

Copyright (Works of Art) Bill.—This bill has been read a third time and passed by the House of Commons.

STEWKLEY CHURCH, BUCKS.

GALLERIES AND PEWS.

Most of your readers are probably acquainted with this interesting church, either from actual inspection or from the engraving of it in Lysons. Its history is also well known as part of the history of art in this country. It is the sister church to Iffley, built on the same plan, in the same style, and probably by the same architect, as both churches were given about the same time to the Priory of Kenilworth. Hitherto, for 700 years, Stewkley Church has been fortunate enough to escape any alteration; and it is consequently the most perfect example of a rich Norman church of the middle of the twelfth century that we have remaining in England. But after escaping the perils of the Reformation in the sixteenth century, the great Rebellion of the Puritans in the seventeenth, and the ignorance and apathy of the churchwardens of the eighteenth; it is about to fall, in the nineteenth, under the hands of modern fashion, which has been more destructive to our old parish churches than all the others put together. The west end is to be pulled down, and the nave lengthened 15 feet, or one bay; on the pretext of making more room; but in reality to get rid of an ugly western gallery, which holds in fact more people than the proposed new bay of the nave will hold, and is nearer to the desk, the pulpit, and the altar. This gallery is to be got rid of as an eyesore, and in compliance with the well-known *dictum*, that "it is impossible to pray in a gallery." This *dictum* I believe to be absolutely false: as matter of fact, a person who is really disposed to pray will not be hindered from doing so by the accident whether he is placed in a gallery or on the floor. This *dictum*, then, is mere cant or affectation; and it has been, in practice, one of the most mischievous of all the dictations of modern fashion. The large gallery at Stewkley is an ugly thing which I should abstractedly be glad to see removed; but it is a mere piece of scaffolding, removable at any time when funds are forthcoming to build a chapel-of-ease, or schoolroom chapel, in another part of the parish, to hold the people now contained in the gallery; and the venerable structure would still remain intact.

The circular, which is issued for the purpose of obtaining money under the pretext of accommodating a larger number of worshippers, states that the parish is three miles long, and the population 1,500, while the church accommodation is only 200. Surely this is a strong case for a chapel-of-ease, and not for a mere temporary make-shift, which would destroy the original plan and proportions of the old church for ever, whilst the next incumbent will still cry out for a chapel-of-ease. This gallery hides nothing but a part of the small west window, the head of which is seen above it; and a small part of the top of the two side doorways; which would be avoided altogether by raising the front of the gallery about a foot. It seems to me just a case where a Mediæval architect would have shown his skill by making this useful gallery an ornamental feature. This was the great glory of the Mediæval architects. They never shirked a difficulty, but made useful things ornamental also. The modern fashion of abusing all galleries appears to me to be carried to an absurd length. Galleries of several kinds were freely used in the Middle Ages, and were no disgrace to the building. The triforium gallery of Westminster Abbey is not an ugly feature, nor the Norman galleries across the ends of the transepts of Winchester Cathedral, which would be equally applicable for a western gallery. The cathedral of Frankfort-on-the-Maine has galleries round three sides, part of the original design of the church, built of stone, in the best period of Gothic art, always intended for worshippers, and still in use. The numerous rood-lofts in our parish churches in Somerset and Devon are not ugly features, and yet they are galleries to all intents and purposes: loft is only another name for gallery.

But I had almost forgotten another grave and serious objection to the western gallery at Stewkley. When people first come into the church they will not be able to see the new roof which is to be put on the nave, and in which the original high pitch is to be *restored*, in compliance with another modern prejudice. That the outer roof at Stewkley was high-pitched is plain enough from the weather-moulding remaining on the tower; but it by no means follows that the high roof was open to the rafters within. It is far more probable that the nave was originally covered by a flat ceiling, painted, in the style of the one we have remaining at Peterborough; and which Mr. Burges has had the spirit

and good taste to adopt as his guide at Waltham, with remarkably good effect, as is generally acknowledged. That this was the usual covering of our Norman churches I have not the slightest doubt: it is the natural covering, and more consistent with that style than a high-pitched roof. In Italy, where the Roman style has never been discontinued, flat ceilings are almost universal; and although Peterborough is the only one that has escaped in this country, there is every reason to believe it was the usual custom here also when the church was not vaulted.

There is an eastern gallery of the twelfth century remaining at Compton, in Surrey; the front of which is engraved in the "Glossary of Architecture;" and there are traces of similar galleries at the east end of several other Norman churches, as at Darent, in Kent. This makes it evident that, if the architects of those days had wanted a western gallery, they would have built it, and have made it an ornamental feature. This is actually the case in many churches of the twelfth century in some parts of France; especially in Perigord, where the western stone gallery is the rule rather than the exception in small parish churches.

Another part of the plan proposed for Stewkley is to remove the *donkey-boxes*, and restore the open seats, to which every man of any pretension to good taste or good feeling would wish God speed. The mischief that has been done to the Church of England by the introduction of this Puritanical innovation is incalculable. These high inclosed pews may be traced to the Presbyterians of Scotland, and to the time of the Great Rebellion. This hideous and most mischievous and unchristian fashion followed chiefly the direct line from north to south, and reached across the channel into Normandy and Picardy: the eastern and western counties of England generally escaped the invasion of this plague; and for the most part still retain the fine old open seats which are peculiar to England, and are generally of about the time of the Reformation; some previous to it, others shortly after; and are the most fitting and the most ornamental furniture of God's house that has ever been invented. Those who have seen our genuine old English carved bench-ends in Somerset and Devon, Norfolk and Suffolk, will allow that it is impossible to praise them too warmly. But there is a modern prejudice against these also: nothing will go down now but moveable chairs, after the French fashion; the most ugly and inconvenient furniture for a church that ever was contrived. Those who have only a little knowledge of the Continent may admire the fine open space in the nave, when the chairs are all carefully stacked up to hide the windows of the aisles; but those who know the Continent well, and have had practical experience of the use of chairs, will be loud in condemning them. I should have thought that the English church in Paris was enough to satisfy any one of this. The miserable chairs standing at all sorts of angles, and with a second chair for each fine lady to kneel upon, which may be seen daily in most foreign churches, were found to take up so much room, that it became necessary to arrange them in rows, with deal boards nailed or tied to the back of them to keep them straight; as ugly and clumsy a contrivance as could well be imagined. Yet, to comply with this new prejudice, modern architects commonly propose either at once to introduce chairs over the whole or part of the nave of a church; or, in order to lead the way to it, make their open benches as ugly and inconvenient as they can contrive; and put kneeling-boards to them on which it is impossible to kneel for many minutes without serious pain. To my mind this interferes with prayer far more than galleries do.

Galleries were introduced into our churches in many instances by good and pious people as a makeshift; an endeavour to remedy as well as they could the evils which had resulted from the system of inclosing the greater part of the floor of God's house with large square hideous boxes for the accommodation of the few rich at the expense of the many poor. By this system the poor were compelled either to remain ignorant heathens, or to become schismatics or heretics. To remedy this as far as possible, galleries were in many instances built for the poor; and we should hesitate before we remove them until we have supplied something better. Unfortunately, the time at which these galleries were generally erected was one of extremely bad taste and great ignorance of art; and consequently they are often as ugly as stupidity could make them; and sometimes they are quite useless. In all such cases let them be destroyed whenever it is practicable without causing a more permanent and serious injury to the fabric. But a gallery is a piece of furniture removeable at any time; and in such cases as Stewkley it is better to endure it a little longer than do irreparable injury to an historical monument of importance.

If the fabric must be altered, the plan proposed may be the best that is practicable. It is intended that each stone of the west front shall be carefully marked, and replaced in the same position; and that the side windows shall be so scrupulously copied from the old ones, that in a few years' time no one can tell that the plan of the church has been altered at all. But this seems very like falsifying history. If a new west bay must be added, it would be more consistent with the professed object, and more truthful, to let it be designed and built at once of two stories; in the same manner as the domestic chapels and the almshouse chapels of the Middle Ages usually were; or as the transepts of large churches frequently were; and the west ends of churches in some districts (as already mentioned); and as they would have been in other places if the western gallery had been wanted. There is no occasion to go abroad for a model for this; it may be made thoroughly English. The manner in which some modern architects seize every opportunity to stick a bit of French, German, or Italian Gothic into our old English churches makes it dangerous to refer to any foreign examples, from which ideas might fairly be taken, if they would only be at the trouble of translating them into English, and making them assimilate with English art. One is continually reminded of that well-known *vulgar bore* in society, the man who has *been abroad* and knows a little of some foreign language, and who must be always displaying his little knowledge by interlarding his conversation with scraps of French, German, or Italian.

The incumbent of Stewkley is actuated by the best motives and intentions, and is very unwilling to disturb the fabric of his very remarkable old church; but the influence of modern fashion has been too strong for him; and, after some hesitation, he has yielded to its power. I hope it is not yet too late to make him see the barbarity of damaging an interesting page of the history of art in England; and feel that it is better to endure the eyesore of an ugly piece of scaffolding for a few years longer than to disturb the venerable fabric committed to his charge. The clergy are our natural conservators; and it is only since the spirit of change and innovation has reached them that so much irreparable mischief has been done.

John Henry Parker, F.S.A.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The usual meeting of members was held on Monday evening last, at the House in Conduit-street.

The chair was taken by the president, Mr. Tite, M.P.

The minutes of the last meeting having been read, and several donations announced,

The President said he wished to bring under the notice of the meeting four very curious drawings, which were on the easels at either side of the table. They were made by a very distinguished antiquary, to whom he (the president) had been introduced when a boy. His name was John Carter, and he was certainly the father of all the architectural reminiscences and restorations which had led to such important results in the present time. John Carter was *par excellence* the reviser and restorer of Gothic architecture. He published two books,—one upon the architecture, and the other upon the sculpture of England. He was extensively employed by the Society of Antiquaries, and he made for that learned body a series of drawings of York Minster, large, elaborate, and complete. When he (the president) was introduced to Mr. Carter, the drawings now in the room were hanging in his parlour. One of them represented the Gothic period in its prime, in the time of Edward III., with the king, queen, and court entering a great cathedral. The drawings in question exhibited Gothic habits and manners, with the most elaborate care; and such was Mr. Carter's admiration of Gothic, that had he, like Pugin, married, he would in all probability have decked his bride in the costume of that gorgeous period. But Carter was never married. Another of the drawings represented Gothic architecture as struck down by the Iconoclasts of the Reformation. Carter was an enthusiastic Roman Catholic, and he gave a graphic representation of the manner in which Gothic religion and the manners and customs of that picturesque period were assailed by the zealots of the Reformation. Of these drawings he (the president) had lost sight for more than forty years. Carter was not only an accomplished draughtsman, but a clever musician, and a charming companion. He had the highest respect for archæologists, but a great disrespect for booksellers. He etched his own drawings, bought the paper himself, and with the assistance of his old housekeeper stitched the covers, and delivered his works without the intervention of a bookseller. Another of the drawings, now in the room, represented, it was believed, the death of Richard II.; but the subject of the fourth he had not been able to determine. The manner in which the drawings were discovered was as follows. Happening a few days ago to enter the shop of Mr. Ambrozini, of Brighton, who had an interesting collection of old china and articles of *vertu*, he found the drawings exposed for sale. He told Mr. Ambrozini what he knew of the history of them, and he requested that gentleman to send them up to the Institute, so that its members might see what Gothic architecture was in its prime, and might see what a single man could do who thought and worked alone, and by whose exertions, mainly, the revival of Gothic architecture in England had been encouraged among us. If it could be conceived that the soul of one man could enter the body of another, it might be assumed that the soul of Carter had passed into the person of Pugin. Both drew admirably; both were masters of perspective; both were Roman Catholics; and both were enthusiastic admirers of the Gothic style of architecture. The drawings to which he more particularly referred were extremely interesting, and it was just possible that somebody present might be able to say something as to their history during the last forty years.

Mr. Digby Wyatt, V.P., observed that he had seen the drawings a few years ago in the possession of Mr. Pratt, of Bond-street; but that as to how they came into his possession, or how they left it, he had no information to give. Of the interest and value of the drawings there could, however, be no doubt; and if the funds of the council were more flourishing he was sure they would have great pleasure in buying them for the library. He believed that a bookseller in Bond-street had in his possession the original drawings for Mr. Carter's work, for which he wanted five or six pounds.

Mr. Street suggested that there should be a special subscription among the members for the purchase of the drawings to which the President had called attention, and said he was sure that as they were all Gothic architects nowadays, they would hail with pleasure the opportunity of securing such interesting illustrations. It ought, he thought, to be mentioned, in connexion with Carter, that he was a practical architect. He built the Roman Catholic church at Winchester, and restored the church at Sundridge, in Kent. With regard to the latter, he (Mr. Street), when charged with the superintendence of some subsequent repairs at the church, discovered some drawings on the wall, made by the hand of Carter, in reference to the works which he intended to carry out.

The President said he had informed the owner that the money value of the drawings was not equal to their interest. If it was proposed that the drawings should be purchased (which he hoped would be done), he was quite willing to assist Mr. Street with his contribution, but he suggested that the better plan would be to leave the matter in the hands of the council. The drawings were extremely curious and valuable, and he hoped they would find a place on the walls of the Institute.

Mr. Newton inquired whether the council had heard anything of a project for the lending of a portion of the Soane Museum to the Great International Exhibition. He fancied that lending the collection to the Exhibition meant really lending it to South Kensington. He had been informed by a gentleman, who had been a trustee of Sir John Soane's Museum, that the Bill now before Parliament, for authorizing the transfer from Lincoln's-inn-fields to Brompton, was encouraged by those who wished to remove the whole Soane Museum to South Kensington.

The President observed that he was one of the trustees of Sir John Soane's Museum, and that, as he understood the matter, the Commissioners of the International Exhibition wished to get a complete collection of the works of Hogarth, and that they considered the collection would not be perfect unless it contained the series called the "Rake's Progress." The trustees were requested to lend the pictures; but their reply was that they had not the power to part with a single pic-

ture. As, however, other galleries were labouring under a similar disability, it was suggested that it might be removed for the nonce, and it seemed that a Bill (of which, however, the trustees of the Sir John Soane Museum knew nothing) had been introduced, simply providing for the temporary transfer of the Hogarth pictures. The Bill to which Mr. Newton referred had not yet come down to the House of Commons; but he was sure the feeling of the trustees was not to allow the Museum to be shifted to South Kensington by a side wind, or by any other means. If he should be in the House of Commons when the Bill was introduced, he would venture, in his capacity of trustee, to state that their only object in lending the pictures was to promote a great national undertaking.

Mr. Newton said he had a copy of the Bill in his hand, and that it was drawn in such a manner as not to refer to the pictures alone.

The President.—Well, all I can say is, we only intend to let the pictures go for one distinct purpose. With regard to the paper which the Rev. Mr. Burgess has kindly promised to read this evening, I think it right to say that he has undertaken the duty at very short notice, and he has requested me to ask your indulgence on that account.

The Rev. Mr. Burgess then read a paper, entitled "On the Leonine City—Vatican."

This will be found elsewhere.

At the conclusion,

The President, in inviting discussion upon the interesting and erudite paper which Mr. Burgess had just read, observed that when at Rome he had often been struck by the singular mechanical accuracy of the Roman builders. The masons uniformly broke joint accurately, so that the whole stone or brick came over the joint below it. This was especially observed with regard to their brickwork; and he had never witnessed any ancient work of that kind in London, Paris, or Italy, where this peculiarity was not to be witnessed. Another peculiarity had struck him, which was the enormous thickness of the mortar-joint. In England, when the mortar-joint was too thick, it was thought that it made bad work; but the Romans did not think so, for the mortar-joint was often as thick as the bricks. In this country the bricks were good, and the mortar was also good, but the careless way in which the joints were put one over the other often spoiled the work. This was, no doubt, a common-place remark, but it was a practical one, which young architects would do well to regard, so that the infirmity of the joint might be met by the solidity of the brick or stone coming over the other. With regard to the sieges of the Leonine City to which Mr. Burgess had referred, it was singular that the two assaults which had been made upon it were made at about the same point. The soldiers seemed to have scaled the walls at the same side at which the great attack of Garabaldi was made three centuries afterwards. The atrocities which were committed during the first of these assaults were of the most dreadful description, and he had in his possession an account of them written by an eye witness, which entirely corroborated the account given by Benvenuto Cellini. The interesting account with which Mr. Burgess had favoured them that evening led him to hope that if any one were present who had visited Rome lately, he might wish to offer some remarks upon the present condition of the Leonine City.

Mr. Wyatt said he was sure they must all feel grateful to Mr. Burgess for his paper, with regard to which he (Mr. Wyatt) hoped he would not be considered as taking an ungracious exception if he ventured to say that the only charge which could be made against it was that it dwelt upon the casket and not sufficiently upon the jewels which it contained. Perhaps one of the chief causes of the protection of the Leonine City was to be ascribed to the Saxon pilgrims who inhabited the portion of it described by Mr. Burgess. The connexion of those pilgrims and their bishops with the court of Rome was interesting when associated with Saxon art. An interesting incident of this period was preserved in the great fresco of Raffaelle, which represented the whole front of the basilica, and the pope giving his blessing to the people, while at the same time the flames were suspended by the miracle which he wrought. All architects must, he was sure, feel interest in the basilica which preceeded that famous church, which is now the wonder of the world. Writers of the period, when the basilica was standing, left minute descriptions of the superb decorations with which it was embellished. They spoke of the value of the gold and silver which covered the shrines and of the candelabra which had been presented as votive offerings from great emperors. The taste for art which distinguished the Tuscan princes of that time, had led to the foundation of the museum, and of that wondrous collection of the masterpieces of art which the Vatican contained. It was, no doubt, much to be desired on political grounds, that the supreme Pontiff should be confined to his own legitimate limits as a spiritual prince. His holiness was a highly conservative sovereign, and preserved with perhaps too jealous care the treasures committed to his charge. No wonder, then, that the eyes of all who felt an interest in learning were fixed upon the unlocking of the treasures of the Vatican library, for it was the great source from which a new light was to break upon the history of art. He hoped that in any future distribution of the papal power which, he said, Mr. Burgess might make, he would see that the casket was unlocked more freely for the future. He begged to move a vote of thanks to the rev. gentleman for the admirable paper which he had read.

The President, in putting the vote of thanks, complimented Mr. Burgess upon the architectural and literary acquirements which he had brought to bear for the instruction and amusement of his hearers.

The Rev. R. Burgess expressed his acknowledgments, and suggested that Mr. Wyatt, who appeared so well qualified to treat the subject, would upon a future occasion give them a paper upon the treasures of the casket.

Mr. Bell (hon. sec.), announced that the paper to be read on the next night of meeting (the 28th April), would be on Jewish and Roman architecture in Palestine, from the earliest period to the time of the Crusades.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

On March 26th, Mr. George Vere Irving, V.P., in the chair, Mr. George Maw, F.S.A. exhibited three articles found between fifty and sixty years since, upon pulling down an old house in Norwich, including a letter dated February, 1615, by Martin Calthorpe, communicating that "Colonel Cromwell was alive and well since the printed newes of his beinge slaine in a duell in Holland, which report was unfounded." Mr. T. Ingall exhibited a painting of the bust of the Saviour, in oil, on a thin plaque of alabaster. It is believed to be the work of a Spanish artist, of the close of the sixteenth century. Mr. Syer Cuming made some observations on paintings upon stone, and referred to various examples. Dr. Barlow enumerated several on slate, a very remarkable example of which is a series of figures of the Apostles, in the church of St. Ursula, at Cologne. Mr. Syer Cuming read a paper "On Ancient Fibulæ;" also a paper "On Seals bearing a date." Hitherto he had not met with any before the fourteenth century, and only one of that era; of which an impression was exhibited. It was the seal of Cottingham Priory, founded in A.D. 1322, by Thomas Wade, Lord of Lyddel. Mr. Paul Brisdon, of Douglas, Isle of Man, forwarded some memoranda relating to Thomas Burton, Bishop of Sodor and Man, whose seal formed the front of a large silver bracelet, lately exhibited to the Association; and the chairman laid upon the table Part II. of the "Collectanea Archæologica," which completes the first volume of this additional publication of the Association.

OXFORD ARCHITECTURAL SOCIETY.

The first meeting of this society in Lent Term was held on the 11th ult.; Professor Goldwin Smith in the chair; when the president called upon Dr. Ermête Piérotti for his lecture upon "The General Topography of Jerusalem."

Dr. Piérotti regretted his inability to address the meeting in English. He described generally the several theories which had been put forward by Schultz, Barclay, Robinson, and others, as to the position and extent of the external wall described by Josephus, especially on the western and northern sides of the city. In passing along the line of the wall, he pointed out on his plan the south and western sides of the city, where he had discovered blocks of masonry in digging, and from which he gathered without doubt that the wall at a certain point diverged, taking a more westerly direction, instead of continuing due north, as is generally indicated in the maps of those who have as yet written on the topography of Jerusalem. In describing the north side, he drew the line of the wall across from east to west, much nearer to the southern side of the city than appeared on the plans of the writers mentioned. He requested Mr. George Williams to explain more fully in English the details of his discoveries.

Mr. Williams then explained at some length the views of Dr. Piérotti on the many controverted points in the topography of ancient Jerusalem. He laid much stress upon the importance of the gate Genath (*i.e.*, the gate of the Gardens), which occurred in the line of wall, and was not far from the site of the Holy Sepulchre, but which left it on the exterior of the city walls; so that there was great probability that the spot generally assigned to the Holy Sepulchre was the correct site.

The second meeting was held on the 18th ult., when various gentlemen were elected members of the society.

The President then called upon Dr. Piérotti for his lecture upon the "History of the Temple Enclosure."

Dr. Piérotti, as on the previous occasion, addressed the meeting in French. He said that, during the eight years he had laboured in Jerusalem, he had paid especial attention to that part which would form the subject of his lecture. He had examined several plans; but for wild imagination that of Mr. Fergusson stood foremost. It could only be accounted for by the fact,—and this he understood to be the case,—that Mr. Fergusson had never set foot in Jerusalem, and only gained his ideas from drawings or from the contradictory accounts of travellers. Thanks to the Pacha, and to his own position as engineer and architect to the Turkish Government, he had been able to work in this important spot, guarded by Moslem fanaticism, which had been generally hitherto forbidden ground for Europeans. He then briefly, as was the case with the first lecture, passed in review the main topics which he considered of interest, and especially dwelt on those points on which his discoveries threw any light.

Mr. Williams then interpreted more fully the views of Dr. Piérotti.

He divided his lecture into three parts. The first consisted of a rapid sketch of the history of Mount Moriah from the earliest period to our own time; recalling to memory the monuments erected thereon. He next proceeded to give a description of the outer wall forming the inclosure of the Haram Ech-Chereef. In the third part of the lecture he described the interior of the Haram Ech-Chereef. Dr. Piérotti's discoveries, he continued, left no room for doubt as to the "Place of Sacrifice," and the complicated series of underground drains of the time of Solomon were no doubt found necessary to clear away the blood and offal of the victims sacrificed.

Many other points of interest were introduced in the lecture. The *Oxford Journal*, to which we are indebted for these particulars, states that Dr. Piérotti intends shortly, by means of a volume of large illustrations and measured plans, with descriptive letter-press in French and English, to lay a full account of his excavations before the public.

THE ARCHITECTURAL INSTITUTE OF SCOTLAND.

PRIZES.

At a meeting of the Architectural Institute of Scotland, held in Edinburgh, on the 27th of March, the names of the successful competitors for the Institute's prizes were announced, and the prizes were delivered. Mr. J. D. Peddie presided. The secretary having read the report of the Council of Management on the works sent in for competition; and the students having been addressed by Mr. Lessels, architect; Mr. Peddie distributed the prizes as follows:—1. For the best geometrical drawing, by apprentices of not more than three years' standing;—First, medal, Alexander Fraser, apprentice to Mr. John Lessels, architect, Edinburgh; second, book, Thomas M'Mahon, also apprentice to Mr. Lessels. The council also consider the drawings of Mr. George Frederick Stalker, apprentice to Messrs. Peddie & Kinnear, architects, Edinburgh; and James M. Monro, apprentice to Mr. John Henderson, architect, Edinburgh, to be deserving of commendation. 2. For the best perspective drawing;—First, medal, Edward F. C. Clarke, apprentice to Mr. David M'Gibbon, architect, Edinburgh. 3. For a series of drawings from old buildings, measured and drawn from the originals;—First, medal, Alexander C. Beattie, apprentice to Mr. David M'Gibbon; second, E. F. C. Clarke. The council also commend another series of drawings sent in by the last-mentioned competitor. 4. For the best original design,—subject, a church belfry in perspective,—the council have had great difficulty in determining the comparative merits of the designs

of two of the competitors under this head; and they have resolved to consider them of equal merit, and each deserving of the medal. The successful competitors are Alexander C. Beattie, above-mentioned, and Bruce J. Talbert, improver with Messrs. Campbell Douglas and J. J. Stevenson, architects, Glasgow. The execution of the drawing of Mr. Talbert, the council consider to be deserving of very special notice. Four subjects have been fixed for a similar competition next year.

GLASGOW ARCHÆOLOGICAL SOCIETY.

This society met on the 24th of March, Mr. J. T. Rochead, V.P., in the chair; when Mr. James Napier read a paper "On Partick in olden times;" containing curious and interesting information regarding that ancient village, which is now a suburb of Glasgow. Mr. John Baird brought before the meeting a letter from the Duke of Argyll, giving instructions regarding the destruction of the "Bonnie House o' Airlie;" from which it appears that the duke was not present on that occasion. Mr. Baird also made a brief communication regarding Hamilton of Bothwellhaugh, who shot the Regent.

THE SANITARY QUESTION.

NORTHERN ARCHITECTURAL ASSOCIATION.

At the annual meeting of this society, held on Tuesday, the 25th inst., at the Old Castle, Newcastle-on-Tyne; Mr. John Dobson, the president, occupying the chair; a letter from the Birmingham Architectural Society stated that the society had considered the scale of charges sanctioned by the Northern Association; and inclosed a series of resolutions expressive of their opinion on the various items enbraced in the scale. It was further resolved, on the motion of Mr. Pritchett, of Darlington, that the consideration of the opinions expressed by the Birmingham Society do stand over for the present.

Mr. Austen read the third annual report, which spoke hopefully of the progress of the society.

Mr. F. R. Wilson read a paper on "the Sanitary Question," in the course of which he said,—"I would add a few more words on the primary importance of a salubrious site. In the case of cottages, particularly, we so often see the back-yard or back-garden, with the midden, privy, overflowing water-butt, and pig-stye, higher than the basement of the house. No art can prevent such places from being constantly damp; nor the persons who inhabit them from inhaling an imperceptible but pernicious vapour, drawn from the damp without by the heat within. The cottages of hinds are often built on slopes, below or against the cattle-sheds, and close to stagnant ponds. I lately inspected a row of cottages occupying this unenviable site. The back walls of the cottages formed the back walls of the cattle-sheds: close before the doors of the cottages stood the double pig-styes of the hinds; and at the end of the row was the green still pond. In this arrangement the cattle had the best of it; being on the ridge of the slope; the percolations from the sheds making their way to the lowest lying point,—the pond, beneath the flagging of the hinds' cots. Within the latter, the rafters were unceiled, but hidden with calico; and the imperfect thatching permitted the rain to trickle freely down the walls, and to drip heavily, in large tears, in different places, upon the floors. If, by any unfortunate chance, there is no choice of a better site than one in similar immediate contiguity to cattle-sheds, the soil should be covered with concrete before cottages are built upon it.

In model villages, too, I have seen great mistakes in the choice of sites. Landed proprietors, anxious to improve their cottage property, have obtained excellent designs from first-class men; but these have been placed in the hands of the surveyor to the estate for execution; and sanitary requirements in the matter of sites have been altogether overlooked. Where the old one-roomed thatched hovel stood, now stands the picturesque gable-fronted cottage; with, perhaps, rows of double daisies in the tiny fore garden; but there all improvement ends: the pig-stye is built against the back wall; the spouting is insufficient; and the soil in the rear is higher than the basement. I expect our esteemed member, Mr. Watson, who has turned his attention particularly to farm buildings, will agree with me that it is better to build on a ridge, bleak though it be, than to obtain a partial shelter from wind by building at the foot of a slope, on a site subject, by the laws of gravitation, to percolations from soil, sheds, byres, styes, or middens."

The meeting next proceeded to the election of office-bearers, which resulted as follows:—President, Mr. John Dobson; vice-president, Mr. Walker; hon. treasurer, Mr. Dunn; hon. secretary, Mr. Oliver; committee, Messrs. Austen, Howison, Kyle, J. Lamb, Moore, and Pritchett.

Mr. Pritchett moved, "That the association should appoint two delegates to attend the Alliance meeting, which it was proposed to hold in London towards the end of June."

Mr. Dunn seconded the motion, which was agreed to; Mr. Pritchett and Mr. Austen being appointed as delegates.

THE ALBERT MEMORIALS.

The National Memorial.—The amount now subscribed is 43,500*l.* At a meeting, on Wednesday last, at the Mansion House, a member of the working committee submitted a plan for enabling the great body of the people throughout the kingdom to subscribe. It met with approval, and will be further considered on Wednesday next.

Faversham.—The local committee here have resolved to recommend the erection of a sun-dial in the Recreation Ground as a memorial of the late Prince Consort.

Worcester.—At a common hall of the citizens, convened by the mayor, it has been resolved to aid the national memorial. The local *Chronicle* says, however, that many persons are of opinion that a local memorial ought also to be erected; but does not approve of the Infant Orphan Asylum proposed by Mr. Curtler; nor of a sanitarium, as also suggested; and urges the formation of an institution which will combine "a natural history room, school of art, hall for lectures and classes, with chemistry, botany, geology, &c., with a free library, and for the advancement of the social sciences generally;" the institution to be named "the Albert College."

Bristol.—The mayor has issued a circular stating that in compliance with the resolutions passed at the public meeting held in the Guildhall, on the 20th ult., it has been determined by the committee that the Bristol memorial to the late Prince Consort shall consist of a work of art of a monumental character, to be erected in the vicinity of the Victoria-rooms and the Fine Arts Academy. It is estimated that to erect a monument which shall be an adequate memorial of the late Prince, and worthily represent the wealth and population of the city of Bristol and its neighbourhood, the sum of 3,000*l.* will be required.

Devonport.—The suggestion of an Albert Museum for Devon and Cornwall, located at Devonport, as a memorial of the Prince, who, while in life, himself subscribed 50*l.* for such a museum, is supported by the Devonport *Independent*.

Wolverhampton.—Many influential persons here, says the local *Chronicle*, are in favour of the erection of a local monument to the Prince Consort, and some who have offered a certain amount towards a town fund for the central memorial have expressed their willingness to double it in aid of a local one: others have refused to subscribe at all, except to a local memorial. The paper named advises a bronze equestrian statue of the Prince, by Thornycroft.

Liverpool.—A meeting has been held in Liverpool, to inaugurate a movement for founding several Albert memorial scholarships at Cambridge. The meeting was a very influential one, and the resolution to found the scholarships was adopted, after some discussion as to the colleges where they should be established. It was finally agreed that they should be confined to Cambridge, and it was also agreed that they should be open to persons educated within a radius of seven miles of Liverpool. A sum of 3,000*l.* is looked for as requisite for the object in view. Of course, this new movement does not supersede the resolution of the authorities to erect a statue, already decided on.

Bradford.—A meeting (convened by the mayor) of the inhabitants of Bradford has been held in the Exchange Rooms, to consider and determine the best mode of testifying regard for the character and virtues of the late Prince Consort. The mayor presided. The meeting resolved that it is "desirable to erect, in this borough, in such form as may hereafter be determined upon, some lasting memorial to commemorate the distinguished virtues of the late Prince." Another resolution was passed to consider and report to a future meeting as to the best mode of carrying out the object. A sub-committee was afterwards appointed to convene another meeting.

Harrogate.—A subscription having been opened for the purpose of placing a stained glass window in Low Harrogate Church, as a memorial of his Royal Highness, a meeting of the subscribers has been held to inspect the designs prepared by Mr. J. W. Knowles, glass painter, York, and an order given to have the window completed. The east window is selected for the memorial, and is of three lancet lights. The centre compartment is to represent the "Ascension of our Lord," and underneath, the arms of the late much lamented Prince, and with a rich painted geometrical window on each side. The addition of a chancel to the church will, it is said, be shortly carried into execution, from plans prepared by and under the superintendence of Mr. R. Dyson, architect, Harrogate, so as to be ready by the time the artist has the window finished.

The Scottish National Memorial.—The *Scotsman* states that the acting central committee, appointed by the general meeting held on March 19th, have invited all the lords-lieutenant and conveners of counties, and provosts of burghs, who had not previously intimated their concurrence, to become members of the committee. A list of the committee as completed will be published. It has also been resolved to solicit the co-operation of Scottish regiments and of Scotchmen in the colonies in the erection of the national memorial; and a sub-committee has been appointed to carry out the practical measures of detail necessary to render the movement successful.

THE MEDIÆVAL COURT AT THE INTERNATIONAL EXHIBITION.

The court for the exhibition of Mediæval art is on the north side of the nave, not far from the eastern dome, and promises to be a very attractive feature. It will be remembered that the Ecclesiological Society obtained space for such exhibition; and since then various other exhibitors, in the same walk, to whom space had been allotted, have joined with the Society, and given them the general control and arrangement. We could print a considerable list of modern monuments, screens, sculptures, metalwork, and furniture, which will be found there; but think it better to wait.

The National Committee for Architecture has also the control of a court for the exhibition of architectural art-manufactures, of all styles, situate in the east transept; and here, too, are the galleries of the special Architectural Exhibition, comprising drawings and models. A fine collection may be anticipated.

IMPROVEMENT IN LAUNDRIES: NEW DRYING-ROOM.

An improvement in laundries has been brought under our notice which appears to be worthy of attention. It is patented under the name of "Huthnance's patent heating, purifying, and ventilating apparatus for drying-rooms, and improved laundry-stove and hotplate;" but the proprietor of the patent is Mr. William Pierce, of Jermyn-street. As described, "the drying-room is merely an ordinary room, with doors, windows, &c., that any one may enter; and every part of the room is heated equally, and thoroughly well ventilated; so much so, that beds and bedding can be dried upon the floor. The furnace-work forming this heating apparatus is placed inside the drying-room; and so arranged that it is perfectly accessible in the laundry or ironing-room; and forms an extensive hot-hearth ironing-stove, inclosed by sliding doors, which can be kept either shut or open, as most agreeable to the persons using it; and at the back of this hotplate and chamber are placed a series of pipes, heated from the furnace, and extending the entire length of the drying-closet. These pipes are protected by stone slabs, forming hot tables, upon which the linen can be laid, folded, and left at any time perfectly safe and free from any danger, as no fire whatever is accessible in the drying-room; all being protected by the stone tables." Thus the laundry and ironing-room are kept at a moderate temperature; but the system of ventilating the drying-room is considered the chief advantage, as the cold air is admitted through perforated panels placed in the lower part of the doors, and also through a perforated iron plate placed at the back of the stove, and opening direct into the drying-room, through which the air rushes in immense quantities; and, after it has produced its drying *and purifying* effects upon the linen, clothes, &c., it is carried off through the roof; where an opening is made for its escape and that of the steam, by means of a ventilator placed in the ceiling under a louvre close to the smoke-flue. The apparatus appears to be simple and cleanly, as well as wholesome; and to constitute a decided improvement on the usual laundry system.



TRAVELLING CONCRETE STAGE: MAIN DRAINAGE WORKS, LONDON.

TRAVELLING CONCRETE STAGE: MAIN DRAINAGE WORKS.

WE have pointed out that the exigencies of the Main Drainage works have called forth several novel contrivances. We present a view of a portion of the skeleton railway, with the movable stage upon it, which is made use of by the contractor, Mr. George Furness, for the purpose of casting down the concrete to form the embankment which conducts the parallel lines of sewers from the neighbourhood of the penstock chamber at Old Ford to the reservoir at Barking Creek. It will be borne in mind that from this point the district the sewers traverse is so low-lying that, although the level has a fall of two feet in a mile, it here becomes necessary to support the sewers at an elevation. This is done by means of an embankment of solid concrete, which is constructed in the manner shown in the engraving. As the surface of the land is irregular, piles of various heights are driven in till one regular height and level are attained. Upon this elevation sleepers are thrown across, from pile to pile, and rails placed upon them: upon these the waggons laden with concrete travel; and, where the ground has a sufficient fall, they simply tip over their contents from the line of rails. Where, however, the fall is not of the necessary depth to furnish the required shock to the concrete, additional height is gained by the travelling scaffold stage before us. The waggons are drawn up the inclined platform by the steam engine attached to the stage; and, when they have ascended to the summit of the scaffold, they are tipped up, and the concrete falls heavily among the piles. The grand feature in this contrivance is its movableness. As soon as sufficient concrete has been cast down, and one length of work is finished, the stage is propelled on to it, and a fresh length is commenced. The piles are, of course, left in the concrete; but the sleepers and rails will be taken up when their work is accomplished. It must be understood that this embankment is not in one continuous line. There are numerous irremovable obstructions in the way which call for the construction of aqueducts and for varied treatment;—amongst them four railways, seven small rivers—including the river Lea and the Channelsea river, the feeder of the East London Waterworks, a highway, a peatmoss, and several occupation roads. The embankment is, therefore, necessarily in different lengths. As the present level is to receive the inverts of the sewers in their bed of blue lias, the ultimate height of the work, when containing the perfected sewers, will be considerably greater.

HEMSTED HOUSE, NEAR STAPLEHURST, KENT.

ACCORDING to Hasted's History of Kent, Hemsted, in the reign of Henry III., belonged to Henry de Hemsted, who had assumed his surname from it, but his descendants did not continue long there for in the reign of Edward III. James de Echyngham, of Echyngham, in the county of Sussex, became possessed of it. In the next reign it belonged to Sir Robert Bilknof, Chief Justice of the Common Pleas, who being attainted in the eleventh year of that reign, the estate was forfeited to the crown, whence it was soon after granted to William de Guildeford, with whose descendants it remained until the year 1685, when it was sold to Sir John Norris, admiral of the fleet, who, in the year 1780, disposed of it to Thomas Henry Hodges, esq, who for some years represented the county in Parliament, and from whom it was bought by the present owner, Gathorne Hardy, esq., member for Leominster.

William de Guildeford is said to have made large additions to the house, of which, however, the only remains were some oak wainscot panels, and small portions of stonework, found in the office buildings of the house lately taken down, a comparatively modern structure, probably erected by Sir John Norris's descendants.

The new house represented by the engraving is built in the prevailing style of the time of James I., from the designs, and under the superintendence of Mr. David Brandon. The external walls are constructed of red bricks, made upon the property, and Box Ground stone; and the internal walls are principally constructed of local sandstone, brought from a distance of about two miles. The columns and arches of the arcade in the south front are of Portland stone; and the pavement is laid with Portland stone and tiles designed for the purpose and supplied by Messrs. Minton.

The dotted lines upon the plan (which we shall give in an early number) show the designs of the panelled ceilings, executed for the most part in plaster. The corridors and passages communicating with stone staircases are constructed fireproof, upon Messrs. Fox & Barrett's principle; and the floors of some of the rooms, and of the central staircase, are laid with parquetry supplied by Messrs. Arrowsmith, of Bond-street. The contract for the house was taken by Messrs. J. & C. P'Anson, who have also erected the stables and farm-buildings, as well as the gas-works. The engineering portion of the latter was executed by Messrs. Stevens & Son, of Southwark. The new approaches to the house, and the designs for the gardens, are being carried out under the direction of Mr. W. B. Thomas.

THE PRIORY CRYPT OF ST. JOHN'S CHURCH, CLERKENWELL.

AMONG the numerous ancient crypts which you have from time to time engraved and described in the *Builder* is that belonging to the ancient Priory of St. John, Clerkenwell; and, on January 23rd, 1860, an order in Council was made relating to the coffins contained therein, viz.;—"That the coffins contained in the public vaults be *laid down on the floor*, and covered with powdered charcoal and fresh earth." You will regret to learn that during the past week the coffins, instead of being laid on the floor, have been piled up from the floor to the ceiling or arch in the aisles of the crypt, and the doorways bricked up. In this manner the Early English trefoil-headed doorway, engraved in the *Builder*, vol. xii., p. 519, has been obliterated. The crypt has been thus shorn of its proportions, and almost reduced to a central avenue; which might have been avoided if the coffins had been laid on the floor, as directed by the order in council. The importance of placing these ancient crypts on record has been thus rendered evident; and I trust that, as far as possible, the interesting crypts remaining in London and elsewhere may be protected from a similar spoliation. The Cock-lane Ghost was discovered in the crypt: her remains were turned quite black, and have been placed in the north aisle, and bricked up with the rest of the coffins.—W. P. GRIFFITH.



HUNSTED HOUSE, NEAR STAPLEHURST.—Mr. David Brandon, Architect.

SOUTH KENSINGTON AND THE GROTESQUE.

I am sorry that your correspondent, "A. W." should appeal to so humble a person as myself for a sketch of the grotesque. The right person to apply to for information on that as well as other points, connected with the art and art inspiration proceeding from South Kensington, would be the Inspector-General for Art, Mr. Redgrave, who, by his report on the Exhibition of 1851, as well as by many valuable services to his country in art matters generally, has attained to the position of the highest art critic in England, in every phase and subject of art-workmanship. But as, unfortunately, Mr. Redgrave seldom either speaks publicly or lectures on such matters, and as I feel little disposed to allow a sneer at the place of my education, and at schools of design generally, to pass unnoticed, especially when I am personally referred to, I shall ask your permission to say a few words on the subject.

I concur heartily with your correspondent in his admiration for early work and modern Pre-Raffaellism in a state of sanity. It is a question with me whether anything built after the beginning of the fourteenth century is worth the trouble of preserving, but no question at all as to the position of Hunt and some few other men in the ranks of England's artists. Agreeing so far with "A. W.," it is not without some feeling of regret that it devolves on me to set him right once more on a point in connexion with our system of instruction in schools of design, or more properly schools of art, which, if he understood, would prevent these continual side-hits at the schools.

The grotesque is the embodiment of intense knowledge, exhibited sometimes under a humorous, and at other times under a terrible aspect. Used as a vehicle to convey ideas, or illustrate theories which the dignity of the highest art could not well stoop to handle, it yet requires for a successful treatment all the knowledge and all the experience which is necessary for success in the most elevated walks of art. To this must be added a keen sense of the ludicrous and the terrible, with the intellectual power to grasp the precisely grotesque features, the knowledge where to draw the line between the pure grotesque, and the merely distorted, with the technical manipulative skill required in the first order of works. It must have knowledge to distinguish what is apparently dissimilar but actually like, and the reverse; knowledge to discover the highest types and most perfect embodiments of physical faculties, and the highest mental developments; intellectual power to conceive the extraordinary, the possible and impossible, and to handle them in appealing to the imagination, so as to convey perfectly the image, idea, or theory which is illustrated; manipulative power and skill of the most consummate order, that a complex idea may suffer nothing in its expression.

Now if this is a fair description of true grotesque—and, at any rate, this is my own idea of it—it will be obvious that those only are capable of treating the grotesque who are capable also of almost everything else in art. And this, I maintain, is the difference between the grotesque and the caricature,—that whereas the latter may be the product of average minds, and having but a superficial meaning, the former requires the highest capacities, the greatest experience, the most perfect knowledge; and its significance should partake of the profound. It is infinitely the most difficult phase of art to handle truly, on account of these requirements, for nothing is more contemptible than tame, namby-pamby attempts at the grotesque. I question whether there are at present a dozen sculptors in London, or England, who could produce a specimen of the true grotesque. There may be a few painters, and they are very few.

I will ask, then, what have schools of art to do with the grotesque? A student comes to us unable to draw a stroke; attends two or three evenings a week for an average period of a year. In this time he will acquire a sound knowledge of the construction of plane geometrical figures, and learn to draw fairly from a copy of ornaments. When he stays longer, he requires to learn some practical drawing, which will help him on in his trade or business: if a mechanic, mechanical drawing; if an architectural pupil, construction, and plan and elevation drawing, with a little modelling; if a decorator, the coloured ornament of the historic styles; if a lithographer, chalk shading and drawing from nature.

Now this is precisely what Schools of Art were instituted for; and in performing this public duty successfully they assert their claim to public support, as having a general influence on the well-being of trade and manufactures. It is on these grounds their claim is acknowledged; and it is by these humble means that a vast and mighty agency is at work in England, repaying manifold the public money spent in the support of the schools.

Our raw material is very raw; our manufactured article must be a tolerably perfect machine, according to the time devoted to the process of manufacture. Our material is coarse; our means are humble; our opportunity short; our aims and object are therefore necessarily low. But what we do we endeavour to do well, to let it be sound and perfect as far as it goes. We neither attempt to draw with a piece of chalk at the end of a stick, nor endeavour to draw griffins and alligators before we can look a sucking dove in the face without blinking.

Your correspondent must not, therefore, go to South Kensington to look for the grotesque. If he go, and the oftener he goes the better, let him be content with the educational, and let him also acknowledge in it much of the true and the beautiful, for both are there. The national medallion works will be shortly exhibited at the Museum. There is therefore a good opportunity, for in these works the schools are on their best behaviour.

I suppose I was appealed to for a pencil sketch, to be engraved as an illustration for the *Builder*. I cannot find time just now to make an original one, even if I had the ability, and am not near enough to one of those grand old cathedrals, which your correspondent and myself equally admire, to go and make a sketch from some of the many examples which I could easily find in most of them. Yet the request shall be remembered, and at some future day be complied with. But instead of this at present I will give your correspondent a pen-and-ink sketch of the true grotesque, perhaps as perfect as an engraving.

When a man apparently studies a subject without a definite purpose, and evidently without system, and with scraps of information thus obtained periodically assails that which is beyond his comprehension, using the talents God has given him for a destructive instead of a creative purpose; when he cannot distinguish between educational means and the educational end, and persists in crying aloud for an effect, and ignoring the cause; when he ejaculates the result of his studies publicly in the form of short missives, innocent of a beginning, and guiltless of an end, in which it is both difficult to discover a reason for their appearance, and impossible to find any reasoning in them when appeared; when he cannot worship at his own shrine without bedaubing and bemiring the devotees of other small gods in his immediate neighbourhood; then I hold that he is in his own proper self, a very admirable example of the true grotesque; and I hope your correspondent will both acknowledge and recognize the truth of the portrait.

Walter Smith,
Head Master, Leeds School of Art.

THE ARCHITECTURAL ASSOCIATION.

The ordinary meeting of members was held on Friday (the 28th ult.) at the house in Conduit-street.

The President (Mr. Blomfield) occupied the chair.

Mr. Francis Sills was on ballot elected a member of the Association.

Mr. F. A. Skidmore then read a portion of a paper "On Metal Work," which he illustrated with diagrams, without the aid of which the essay would scarcely be intelligible.

There being no time for discussion, the further consideration of the subject was adjourned until a future evening.

ON THE SEWERING OF TOWNS AND DRAINAGE OF HOUSES.*

WORKSOP.

General Description of Works.

The outlet works consist of six trenches about 200 feet long, 3 feet deep, and 18 inches wide at the bottom, with side slopes of one to one. These trenches are provided with sluice-arrangements at each end, to allow of the sewage being diverted as may be required, either for cleansing the trenches or for other purposes.

At the termination of the outlet-sewer provision has been made for passing limewater, or other disinfecting fluid, into the sewage; and movable screens, for intercepting solid matter, have been placed in the trenches. Two outlets for filtered sewage-water are provided into the river Ryton. The area sewered is about 400 statute acres.

The sewer from Bridge-street to opposite Beaver-place is of brick, egg-shaped, 2 feet 3 inches by 1 foot 6 inches. At the termination of the brick sewer an overflow into the river Ryton is provided; and from this point to the outlet works the sewer is formed of 18-inch earthenware pipes; cast-iron pipes of the same diameter being laid across the river and mill-stream. The outlet sewer has a fall 1 in 600. This outlet serves for the entire district. The sewers are formed principally of stoneware pipes of 15, 12, and 9 inches diameter. The manholes and lamp-holes are furnished with movable covers to admit of the sewers being examined. The ventilating-shafts are fitted with charcoal-filters, through which the sewer gases are passed and thereby oxidised. Seventy-five manholes, 48 lamp-holes, and 51 ventilating shafts are provided on the sewers.

* By Mr. Rawlinson, C.E. See p. 223, *ante*.

WORKSOP MAIN SEWERAGE WORKS.

PARTICULARS OF COST.

Description of Works.	Quantities.		Average Cost per Yard.	Cost.	Amount.
Brick Sewers—	Cub. yds.	Cub. yds	£. s. d.	£. s. d.	£. s. d.
2 ft. 0 in. diameter, 9 in. thick	64	..	0 19 9½	63 5 3	
2 ft. 3 in. by 1 ft. 6 in. 4½ in „	950	..	0 13 8	648 17 1	
Total Brick Sewers	..	1014	..	..	712 2 4
Earthenware Pipe Sewers—					
15 inches diameter	3695	..	0 5 3	970 0 4	
12 inches do.	4081	..	0 4 6½	939 14 0	
9 inches do.	3537	..	0 3 2	560 2 3	
Total Earthenware Pipe Sewers	..	11316	..	..	2469 16 7
Cast-iron Pipe Sewers, for crossing canals and rivers, including cost of retaining walls, puddle, pitching, &c.					
15 inches diameter	69	..	2 13 5½	184 7 8	
12 inches do.	18	..	3 5 2	58 13 0	
9 inches do.	12	..	1 13 0	19 16 0	
Total Cast-iron Pipes	..	99	..	..	262 16 8
Total Length of Sewers	..	12429 or 7 miles 109 y.			
	Number.		Each.		
Manholes	75	..	6 15 6	508 2 9	
Lampholes	48	..	2 1 0½	98 9 9	
Gullies, with drains complete	136	..	2 1 11¼	285 3 8	
Three Flushing Chambers and three Overflows	6	..	4 13 8½	28 2 3	
Ventilating Shafts	51	..	1 16 6¼	93 4 3	
					1013 2 8
Outlet Works complete				..	257 1 4
Timber and Concrete in trenches				57 15 4	
Disc Plugs and fixing				7 17 0	
Making connections with old Sewers, &c.				18 3 11	
Assistance in levelling, and sundry expenses				13 12 10	
Land and Compensation				..	97 9 1
Rent of Pipe-yards and sundry expenses				..	331 19 6
Advertising and Stationery, &c...				..	3 16 4
Law expenses				..	28 13 9
R. Rawlinson, Engineer				..	20 19 9
W. McLansborough, Resident Engineer—Salary, office rent, and expenses				394 3 0	
				279 18 7	
					674 1 7
Total cost					5871 19 7

N.B. Earthenware pipes, 15 inches in diameter, were delivered at Worksop at 11d. per lineal foot; 2s. 9d. per yard.

Manholes throughout the entire sytem are provided with grooves for flushing sluices; and, in addition to these arrangements, flushing-tanks have been constructed at the upper ends of the sewers. Connections, for flushing purposes, have also been made with the open drain or watercourse in Chesterfield-road, and with the canal near East-gate.

136 gullies (including five for storm waters) are fixed within the district. The gullies are double-trapped, and are so constructed as to prevent road-dirt and solid substances passing into the sewers. Two overflows for storm waters have been provided near Beaver-place, and one for Low Town main.

Sewers are laid under the Chesterfield canal at two points, and over and under the river Ryton, and the canal feeder at seven points. In all cases the crossings have been made with cast-iron pipes of 15, 12, or 9 inches diameter.

The site on which Worksop is built presents several natural and artificial difficulties to cheap sewerage works. The valley is flat and liable to rain-floods: the river had to be crossed several times; as also the canal on one side, and the canal feeder on the other. The outlet works are simple in plan and economical in cost. Expensive tanks have been avoided; and the cheapest, but most effectual, means for intercepting and removing any solid, flocculent, or discolouring matter have been adopted. The experience of two summers has shown that these works are efficient.

The proper place for liquid sewage, however, is the land; and the best filter is vegetable soil under full cultivation; but when the sewage is so used at Worksop, the existing outlet works will be necessary, as it is advisable to intercept any floating solids and to irrigate with the fluid above.

The entire of the sewage of Worksop may be carried on and over the land below the outlet works very cheaply, by contour conduits, and be distributed by surface irrigation. A small outlay on such works, and intelligent management in irrigating and growing appropriate grasses, will prove beneficial to the farmer.

The entire system of sewers in Worksop is fully ventilated by special arrangements for this purpose at fifty-one places, and these include all upper ends of sewers. The estimated cost of the works was 6,000*l.*: the actual cost, including all contingencies, was 5,871*l.*

BUXTON.

Sewerage Works.—Particulars of Cost.

Earthenware Pipes.	Quantity.	Aver. Cost.	Amount.
	Lineal yards.	£ s. d.	£ s. d.
15 inches diameter	1590	0 8 3	657 11 9
12 inches do.	2522	0 6 0	756 19 2
9 inches do.	2151	0 4 6	483 10 8
Total Length of Sewers	6263		
	No.		
Manholes	45	11 11 0	520 17 4
Lampholes	35	5 11 0	196 1 0
Gullies	20	3 2 0	62 0 0
Cast-iron Pipes for crossing river outlet works and sundry works in connection with sewers—Compensation, &c.	—	—	46 1 2
Engineering & Superintendence	—	—	384 5 0
			3107 6 10

Outlets.

Two outlets for sewage have been formed into the river Wye; one near Wye-bridge, and the other opposite Duke's-drive. The outlet sewers are so arranged with regard to levels as to allow of the whole of the sewage being applied, by gravitation, in irrigating the land in the valley of the Wye.

Sewers, &c.

The district for sewerage purposes has been divided into two "drainage areas," the main sewer for each sub-district being formed of 15-inch stoneware pipes.

In many portions of the town the sewer excavations were made, wholly or partially, in limestone rock. In such cases the trenches were excavated 6 inches below the proposed level of the sewer, and a properly prepared bed was formed for the pipes by filling in the trench with clay, gravel, or sifted earth. Manholes and lampholes have been provided at all the changes of direction or alteration in gradient of the sewers. Flushing chambers have been constructed at the upper ends of the sewers; and provision has also been made for flushing from the baths and from the river.

The sewers from "High Buxton" have gradients of about 1 in 10. Overflows into the river Wye, for relieving the sewers during heavy rains, have been formed at river crossings and other suitable points. Ample means have been provided for ventilating the sewers by about thirty shafts furnished with charcoal filters.

My estimate for the public sewerage works of the district was 3,203*l.* The actual cost of the works as carried out was 3,107*l.* 6*s.* 10*d.*

WIGAN.

Mr. John Law Hunter, borough surveyor, has given me the following information as to drainage in Wigan:—

The average cost of draining cottages of about

3*l.* or 4*l.* rental has been at an average of....	£1	1	0
Ditto ditto 7*l.* or 8*l.* rental..	1	11	6
Ditto ditto 14*l.* or 15*l.* rental..	1	13	6

4,228 houses have been drained at a total cost of 8,796*l.* 19*s.* 10*d.*, or an average cost, per house, of 2*l.* 1*s.* 4*d.*

In draining 4,228 houses, 36,960 lineal yards of earthenware pipes have been used, being an average of 8¾ yards per house. The earthenware pipes used are from 9 inches to 4 inches internal diameter.

Many of the drains have been in use several years, and there have not been any complaints of choking or stoppages.

Water-closets are not in general use in Wigan, but cess-pits, yards, stables, and house sinks are drained. A general use of earthenware pipe drains prevents rats living in the sewers and drains. They have neither food nor means of shelter.

DISTRICT OF WEST HAM, ESSEX.

Public Sewerage Works.

The parish of West Ham consists of the sub-districts of Stratford, West Ham, and Plaistow, and comprises an area of about 4,735 statute acres.

Population about 35,000, but is rapidly increasing. Annual rateable value, 135,000*l.* The entire area is low and flat. The lowest surface area is near Hallsville, and is about 4 feet above Ordnance datum.

The highest surface area is near Forest-gate, and is about 45 feet above Ordnance datum. The difference of level within the parish is, therefore, about 41 feet.

A considerable portion of the parish is marsh, protected, by artificial embankments, from tidal waters and land floods, which rise to a height of from 6 to 10 feet above the surface of the land.

This marsh land is intersected by ditches, and is under the jurisdiction of the Havering and Dagenham Commissioners of Sewers.

The distance from the outlet works to the end of the sewer near Forest-gate is about 3½ miles; at Bow-bridge 2½ miles; in Romford-road, 2½ miles; in Barking-road, 1½ mile; and in the Lilliput-road, Victoria Docks, 1½ mile.

The outlet works consist of a pumping establishment and a low-water or relieving flood-water sewer.

The pumping establishment is erected on land purchased by the local board at Canning-town, and consists of an engine-house, boiler-house, coal-store, workshop, and engine-chimney, with pumping-wells, outlet-wells, and outlet-pipes.

Two condensing engines (of 40-horse power each), having 34 inch cylinders and 6-feet stroke, have been provided and fixed. Each engine works two pumps of 48 inches diameter, and 3-feet stroke. The two engines are capable of lifting 30,000,000 gallons* in 24 hours. The pumps are so arranged as only to lift to the level of the water in the river. The lowest lift is 8 feet: the highest lift is 22 feet.

The inlet and outlet pipes, to and from each set of pumps, are 30 inches diameter, having screw-down valves complete. Self-closing flap-valves are fixed on the outlet-pipes at the river-wall.

A low-water or relieving flood-water outlet has been formed at Bow-creek, near Barking-road station. The river Lea at this point is nearly 4 feet lower at low water of spring tides than the bed of the river opposite the pumping-works. This outlet, which is self-acting, discharges the flood-water for several hours each day without pumping. In the outlet-well adjoining the river, two self-closing flap-valves, similar to those at the pumping-outlet, have been fixed; and as a precautionary measure, one screw-down sluice has been placed in the manhole in Barking-road.

* 30,000,000 gallons, equal to 300,000,000 lb., or 133,928 tons.

The larger main sewers are formed of brickwork: smaller sewers are of stoneware pipes. Cast-iron pipes have been used for crossing navigable rivers, and also for crossing marsh drains, and for the main outlets. Brick sewers are "egg-shaped" on section, and vary in size from 6 feet 3 inches by 3 feet 6 inches, to 2 feet by 1 foot 4 inches. The whole of the brickwork is set in the best blue lias hydraulic mortar. Stoneware pipes are circular on section, and have half-socket joints. Cast-iron pipes are circular on section, and are formed with flange or socket joints. 24,227 lineal yards of brick sewers, 27,698 yards of stoneware pipe sewers, and 210 yards of cast-iron pipes, making a total of 52,135 lineal yards, or 29 miles 1,095 yards, have been constructed and laid within the district.

The sewers throughout the district have been designed with a view of obtaining the best practicable gradients, more especially for tributaries. In some cases, however, it has been necessary to lay the mains with a fall of not more than one in 3,520, or 15 inches per mile.

The sewers on plan have been laid in straight lines; and on section, with regular gradients. At each change in direction, or alteration of gradient, a manhole or lamphole has been constructed, affording means for inspecting and, when necessary, also for cleansing the sewers.

The main outlet sewers in Canning-town have been laid level, and the inverts are formed of cast-iron, to allow of their being laid and formed under water.

Considerable difficulties were experienced in the construction of the sewers in some portions of the district; arising from loose, wet, spongy, and other unfavourable descriptions of subsoil, and from other causes. Upwards of three miles of main sewers have been laid with cast-iron inverts, at or near the level of low water of spring tides, at the Barking-road outlet.

About 9,000 junctions for branch-sewers and house-drains have been provided on the main and tributary sewers. A careful account has been kept of these junctions, and has been placed in the hands of the surveyor to the board.

The main-sewer crossings, under three branches of the river Lea, consist of cast-iron pipes of 2 feet 6 inches, and 2 feet diameter. At each end of these cast-iron pipes under the rivers, a manhole is constructed with screw-down sluices, which may be put down in case of injury to the pipes under the rivers, and thus prevent flooding in the low districts.

The river-crossings were executed by Mr. Munday in a manner perfectly satisfactory to myself, and highly creditable to the contractor. By staging over the rivers, jointing the pipes, dredging the lines of mains, and lowering each entire length of pipe to its position, stoppage of traffic was rendered unnecessary, and claims for compensation, which might otherwise have arisen, were, by these arrangements, prevented.

Main and branch sewers have been constructed under the North Woolwich, the Barking and Tilbury, and Eastern Counties Railways, in eight separate places. The railway companies and their engineers afforded every facility for executing the works, and the crossings were completed without accident or stoppage of traffic.

On the sewers, as executed, there are 468 manholes, or means of access from the surface to the sewers for examination, for flushing, and, when requisite, for cleansing; and 197 lampholes for means of inspection, making, on an average of the entire length, one opening to the sewers from the surface of street or road, at about each 78 lineal yards. Manholes have step-irons, flushing-grooves, and movable iron covers complete. Lampholes have movable iron covers. There are 251 ventilating shafts provided on the sewers. These shafts are so arranged as to prevent road-drift falling into the sewers and impeding the flow. Sewer-gases are passed through wire baskets containing charcoal, and by this means are rendered innoxious. 718 gullies have been fixed within the districts. The gullies are so constructed as to prevent solid or other improper substances passing into the sewers.

Flushing arrangements are of three classes:—First, by the admission of water into the sewers through sluices, hose-pipes, or valves; second, by screwing down fixed sluices built in certain manholes, allowing the sewage water to accumulate, and suddenly raising the sluice; and, third, by inserting loose paddles in the grooves provided in nearly all the manholes. Thirteen flushing-valves and forty-two flushing-sluices are fixed in the sewers. By one or other of these arrangements, the whole of the sewers within the district may be flushed. About 310 feet in length of river wall has been put in, bounding the land belonging to the local board. This wall is constructed of brick and concrete, coped with stone, and is sound, firm, and calculated to be enduring. A wharf has been formed, at which coals for the engines are landed, but there is space for other traffic.

STATEMENT

SHOWING THE POPULATION, NUMBER OF HOUSES, LENGTH OF SEWERS, NUMBER OF MANHOLES, LAMPHOLES, AND GULLIES, AND THE TOTAL COST OF THE PUBLIC SEWERAGE WORKS IN THE SEVERAL TOWNS NAMED; TOGETHER WITH THE AMOUNT, AND RATE IN THE £ REQUIRED PER ANNUM TO REPAY THE PRINCIPAL AND INTEREST IN THIRTY YEARS.

Works Devised and Completed by Robert Rawlinson, Civil Engineer.

TOWN.	Population.	Number of Houses.	Total length of Sewers.	Number of Manholes.	Number of Lampholes.	Number of Gullies.	Total Cost of Works. Amount.	Per House.	Per Head.	Amount per Annum to Repay Principal and Interest in Thirty Years. Total.	Per House.	Per Head.	Rate in the £ per ann.
			Yards.				£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Alnwick	7,016	947	11,132	54	28	140	4,327 18 10	4 11 4	0 12 4	250 5 10	0 5 3	0 0 8½	0 0 5
Berwick	10,067	1,451	7,995	40	51	128	5,649 1 4	3 17 10	0 11 3	326 14 0	0 4 5½	0 0 7½	0 0 3½
Carlisle	26,310	4,113	24,079	131	99	366	23,310 6 7	5 13 4	0 17 8	1,348 2 3	0 6 6½	0 1 0½	0 0 6
Chorley	12,684	2,337	13,265	79	47	282	10,546 4 7	4 10 3	0 16 8	609 19 8	0 5 2½	0 0 11½	0 0 6
Lancaster	14,604	2,698	12,820	126	118	288	9,245 5 7	3 8 6	0 12 8	534 13 9	0 3 11½	0 0 8½	0 0 4½
Morpeth	4,096	580	7,171	22	-	82	2,720 0 9	4 13 9	0 13 3	157 6 2	0 5 3½	0 0 9	0 0 6
Ormskirk	5,548	942	6,839	28	—	72	2,982 8 7	3 3 4	0 10 9	172 9 8	0 3 7½	0 0 7½	0 0 4
Penrith	5,668	1,344	7,152	15	99	48	3,109 0 0	2 2 11	0 9 4	179 16 1	0 2 5½	0 0 6½	0 0 3
Tynemouth	29,170	4,478	17,871	122	154	559	12,404 18 5	2 15 4	0 8 6	717 8 5	0 3 2	0 0 6	0 0 5
Worksop	7,020	1,567	12,429	81	48	136	5,871 19 7	3 14 11	0 16 9	339 12 0	0 4 4	0 0 11½	0 0 6
TOTALS	123,183	20,457	120,693	698	644	2,101	80,168 3 3	—	—	4,636 7 10			
AVERAGES	—	—	—	—	—	—	—	3 18 4½	0 13 0	—	0 4 6½ Nearly.	0 0 9 Nearly.	0 0 5 Nearly.

Average Length of Main Sewer per House = 5·9 yards.

N.B.—Population to Houses about six to one; Private Works, such as house drains, yard sinks, soil-pans, &c., cost about equal rates to the above; that is, it is found from experience that the cost of private works of drainage, and of Water Supply Fittings, is about equal to the cost of Public Works of Sewerage and Water Supply.

West Ham.—Particulars of Cost.

		Amount.	Total.
Brick Sewers.			
Ft. In. Ft. In.	Yds.	Yds.	£ s. d.	£ s. d.
5 3 by 3 6	1,117	..	3,991 6 10	
4 6 ,, 3 0	2,462	..	7,426 4 0	
3 9 ,, 2 6	1,463	..	4,685 9 3	
3 0 ,, 2 0	7,588	..	12,376 7 11	
2 6 ,, 1 8	3,182	..	5,566 7 7	
2 3 ,, 1 6	8,231	..	9,156 17 11	
2 0 ,, 1 4	84	..	59 15 6	
Total Brick Sewers	..	24,227	.....	42,622 9 0
Earthenware Pipe Sewers.				
15 inches diameter	10,646	..	6,671 14 11	
12 ,, ,,	16,564	..	7,961 2 10	
9 ,, ,,	488	..	142 12 7	
Total earthenware pipe sewers	..	27,698	.....	13,875 10 4
Cast-iron pipes for river crossings, &c.	..	210		
Total length of sewers	..	52,135		
(or 29 miles 1,095 yards)				
	No.	No.		
Manholes and ventilating shafts	232	..	3,435 5 4	
Manholes	236	..	3,186 4 3	
Lampholes and ventilating shafts	15	..	97 8 3	
Lampholes	182	..	1,008 9 8	
		665		7,721 7 6
Gullies and pipes, fixed complete	..	718	.....	3,185 14 5
Outlet works, pipes, valves, &c			.....	1,754 14 5
River wall, wharf, and roads, at engine-house, and repairing roads			.....	2,677 9 2
Engine-house, boiler-house, chimney, and other works in connection therewith			.....	5,098 6 10
River crossings			.....	1,644 6 7
Engines, boilers, and pumps			.....	3,978 9 10
Cost of Works.				82,558 8 1
Engineering and superintendence			6,161 9 8	
Land and compensation, and law charges			2,999 8 8	
Coals and tallow, &c., for engines			303 5 3	
				9,464 3 7
Total cost				£92,022 11 8

N.B.—This amount includes purchase of implements, tools, and materials in the hands of the Local Board.

Alnwick.—First-Class House.—Rental £40 per Annum.

Water Supply.	Price not Fixed.	Price Fixed.	Total Cost Fixed.
	s. d.	s. d.	£ s. d.
143 lineal feet of 1-inch galvanized tube	0 7½	0 10½	6 5 1
56 ,, ¾ ,,	0 5½	0 8½	2 4 8
34 ,, ½ ,,	0 4½	0 7½	1 1 3
16 in. of lead pipe for water-closet pan	0 10	..	0 0 10
3 in. of india-rubber tubing for ditto	1 1	..	0 1 1
1 ¾-in. self-closing ferrule cock for ditto	7 4	..	0 7 4
1 1-in. elbow ferrule with union joint	3 10	..	0 3 10
1 1-in. elbow piece	1 6½	..	0 1 6½
2 ¾-in. ,,	1 0	..	0 2 0
5 ½-in. ,,	0 7½	..	0 3 1½
1 1 in. socket-piece	1 1	..	0 1 1
2 ¾-in. ,,	0 8	..	0 1 4
2 ½ in. ,,	0 6	..	0 1 0
1 1 to ¾ in. taper-piece	1 1	..	0 1 1
1 1-in. T-piece	1 7	..	0 1 7
2 1 to ¾-in. T-pieces	1 7	..	0 3 2
1 1-in. stop-cock	7 11	0 6	0 8 5
1 stop-cock case	4 6	1 6	0 6 0
1 1-in. screw plug, 9d.; 1 ¾-in. do., 4½d.	1 1½	..	0 1 1
1 ¾-in bib tap	2 10	0 6	0 3 4½
			11 18 11½
Sewerage.			
211 lineal feet of 6-in. earthenware pipe	0 5½	Price varies according to depth.	
68 ,, 4-in. ,,	0 4		
6 ,, 6 to 4-in. junction-pipe	1 6		
8 ,, 6 to 6-in. ,,	1 6		12 0 9
1 ,, 6 to 4-in. taper-pipe	1 4		
2 ,, 6-in. bend-pipe	1 6		
1 water-closet pan and fan, old seat refixed	8 6	17 0	0 17 0
3 earthenware yard sinks	6 0	9 6	1 8 6
2 6-in. bell traps	2 6	8 6	0 17 0
Sewerage	..	..	15 3 3
Water	..	..	11 18 11½
Total	..	..	27 2 2½

Second-Class House.—Rental £15 per Annum.

Water Supply.	Price not Fixed.	Price for Fixing.	Total Cost Fixed.
	s. d.	s. d.	£ s. d.
6 lineal feet of ¾-in. galvanised tube	0 4½	0 3	0 3 9
72 ,, ¾-in. ,,	0 5½	0 3	2 9 6
16-in. lead pipe for water closet pan	0 10	..	0 0 10
3-in. india-rubber tubing for ditto	1 1	..	0 1 1
1 ¾-in. self-closing ferrule cock for do.	7 4	..	0 7 4
1 ¾-in. elbow ferrule, with union joint	2 3½	..	0 2 3½
3 ¾-in. elbow pieces	1 0	..	0 3 0
2 ½-in. ,,	0 7½	..	0 1 3
7 ½-in. socket pieces	0 8	..	0 4 8
3 ½-in. ,,	0 6	..	0 1 6
1 ¾ to ½-in. T-piece	1 2	..	0 1 2
1 ¾-in. bib tap	3 4	0 6	0 3 10
1 ¾-in. stop-cock	5 2	0 6	0 5 8
1 stop-cock case	4 6	1 6	0 6 0
			4 11 10½
Sewerage.			
47 lineal feet of 6-in. earthenware pipe	0 5½	Price varies according to depth.	
12 ,, 4-in. ,,	0 4		
7 ,, 6 to 6-in. junction pipes	1 6		
2 ,, 6-in. bend pipe	1 6		4 0 1
1 ,, 4-in. bend pipe	1 0		
5 ,, 4 to 6-in. taper pipe	1 4		
3 earthenware sinks	6 0	3 6	1 8 6
2 6-in. bell traps, with earthenware dishes	2 6	5 0	0 10 0
1 water-closet pan and fan, with new seat	8 6	14 0	1 2 6
1 ash-pit, filled up and repaved	5 0	..	0 5 0
Additional clay puddle in passage	..	..	0 5 0
Sewerage	..	..	7 11 1
Water	..	..	4 11 10½
Total	..	..	12 2 11½

Third-Class House.—Rental £7 per Annum.

Water Supply.	Price not Fixed.	Price for Fixing.	Total Cost Fixed.
	s. d.	s. d.	£ s. d.
10 lineal feet of ¾-in. galvanised tube	0 5½	0 3	0 6 10½
14 ,, ¾-inch ,,	0 4½	0 3	0 8 9
12 in. of ¾-in. lead pipe for water-closet pan	0 10	..	0 0 10
3 in. of india-rubber tubing for ditto	1 1	..	0 1 1
1 ¾-in. self-closing ferrule cock for do.	7 4	..	0 7 4
1 ¾-in. elbow ferrule with union joint	1 6½	..	0 1 6½
1 ¾-in. ,, ,,	2 3½	..	0 2 3½
1 ¾-in. socket piece	0 8	..	0 0 8
2 ¾-in. elbow pieces	0 7½	..	0 1 3
3 ¾-in. socket pieces	0 6	..	0 1 6
1 ¾-in. bib-cock	3 4	0 6	0 3 10
1 ¾-in stop-cock	5 2	0 6	0 5 8
1 ½-in. stop-cock	3 6	0 6	0 4 0
2 stop-cock covers	4 6	1 6	0 12 0
			2 17 7½
Sewerage.			
32 lineal feet of 6-in. earthenware pipe	0 5½	Price varies according to depth.	
14 ,, 4-in. ,,	0 4		
1 ,, 6-in. syphon	4 6		2 6 7
1 ,, 6 to 6 in. junction pipe	1 6		
2 ,, 4 to 6-in. taper pipe	1 4		
1 ,, 6-in. bend	1 6		
1 kitchen sink	4 6	5 0	0 9 6
1 4-in. bell-trap for ditto	1 6	..	0 1 6
1 earthenware sink, basin, and syphon	6 0	3 6	0 9 6
1 water-closet pan and fan, old seat	8 6	8 6	0 17 0
1 6-in. bell-trap	2 6	6 0	0 8 6
Waste-pipe to kitchen sink	..	..	0 6 0
Ash-pit filled up and repaved	..	..	0 5 0
Sewerage	..	..	5 4 4
Water	..	..	2 17 7½
Total	..	..	8 1 11½

Cost of Private or House Drainage Works.

Alnwick.

The cost of house drainage works necessarily depends, in a great measure, upon the position of the premises drained with regard to the main sewer; the length of drains required; the depth at which they are laid, and the character of the subsoil.

The following particulars are given as the average cost of house-drainage works in the towns named:—

	£ s. d.
Houses of 40*l.* rental, with one water-closet, cost about	15 3 3
Houses of 15*l.* rental, with one water-closet, cost about	7 11 1
Houses of 7*l.* rental, with one water-closet, cost about	5 4 4

The length of drain to each house in Alnwick, taken on an average of 516 houses, is 25½ yards.

The following list of loans, sanctioned under the Public Health Act (1848) and the Local Government Act (1858), will show to some extent the progress that has been made in carrying out sanitary works in England during the last twelve years:—

	£ s. d.
1850, 15th June to 31st December	41,665 0 0
1851, 1st January to 31st December	103,706 0 0
1852, ,, ,,	246,470 0 0
1853, ,, ,,	509,740 0 0
1854, ,, ,,	599,893 0 0
1855, ,, ,,	424,126 6 3
1856, ,, ,,	522,703 16 5
1857, ,, ,,	312,612 11 0
1858, ,, 1st September	204,261 13 0
	£2,956,178 6 8
Amount of loans sanctioned under the Local Government Act:—	
1858, 1st September to 12th August, 1859	260,905 13 0
1859, 12th August to 21st August, 1860	289,259 7 4
1860, 21st August to 1st August, 1861	356,192 0 0
1861, 1st August to 1st March, 1862	129,998 0 0
	1,027,355 0 4
	2,956,178 6 8
	1,027,355 0 4
	£3,983,533 7 0

This amount has been borrowed by 178 towns or districts.

Improvement in social and in sanitary matters has made rapid progress of late. Within the last half century, land drainage and town sewerage have ripened into sciences. From rude beginnings, insignificant in extent, and often injurious in their effects, they have become of the first importance. The introduction of machinery to make land-drain pipes and town-sewerage pipes gave a forward movement to civilization. Land, by judicious training and improved cultivation, is frequently doubled in value; and town sewerage, with other social regulations, frequently prolongs human life from 5 to 50 per cent. as compared with previous rates in the same districts; and, within my own knowledge, house property throughout a whole town is reputed to have been increased 25 per cent. in value by such works. Agues and typhoid fevers are reduced or entirely banished. John Howard, by his labours, has shown to the world what could be done for gaols and for criminals; Edwin Chadwick for town sewerage; and Florence Nightingale for camps, barracks, and hospitals.

With respect to the beneficial effects of sanitary measures, Sir G. C. Lewis, in moving the army estimates, said:—"There have been a large number of improvements introduced for the purpose of bettering the moral and sanitary condition of the private soldier. In the first place, there has been a great improvement in barracks; and I am happy to say that these improvements in barracks have not been unattended with important results. I will read for the committee some statistical returns, which I believe to be authentic, and which will show a marked improvement as regards the rate of mortality in the army. The returns are taken for two periods for an average of six years,—1830-36, and 1854-60, giving the number per thousand. The annual mortality in the household cavalry from 1830 to 1836 was at the rate of 14 per 1,000: in the latter period it was only 5 per 1,000. In other cavalry it was at the first period 15 per 1,000; in the latter only 6 per 1,000. Royal Artillery, 18 per 1,000 in the first period; in the latter only 7 per 1,000. Foot Guards, 21 per 1,000 in the former period, and only 9 in the latter. The Infantry of the Line, 17 per 1,000 in the former period, and only 8 per 1,000 in the latter. The returns for the colonies, of all forces, for the same periods, showed that for the former—namely, from 1830 to 1836—the mortality at Gibraltar was 22 per 1,000; but in the latter period only 9. Malta showed a diminution from 18 to 14 per 1,000; Ionian Islands, from 27 to 9 per 1,000; Bermuda, 35 to 11 per 1,000; Canada, 20 to 10 per 1,000; Jamaica, from 128 to 17; Ceylon, from 74 to 27. These are great results; and they are owing to the changes made in the sanitary condition of the army."

Since the year 1840 great and beneficial sanitary improvements have been effected in English towns. An annual mortality of 44 in the 1,000 has been reduced to 27; and 30 to 20, and even as low as 15. Human life has more value in England than in any other country in the world, entirely due to better sanitary arrangements.

It has been said, "as are the people so will be the government;" but my experience leads me to the conclusion that bad government necessarily makes a bad people. Temptation is the parent of vice, and opportunity the broad road leading to destruction. A little leaven of evil leavens the whole mass. Lord Shaftesbury, through the entire of his most valuable life, has appreciated the facts stated, and has devoted himself to teaching by example and by precept,—to preventing as well as to reforming. His "Common Lodging Houses Act" has probably done more good than any other law of modern times by removing temptation, and, therefore, preventing evil. Before the passing of this act there was no check to vice in its most disgusting forms. I only indicate that which I have seen, and cannot, consistently with the decencies of society, openly describe. I can only say that our civilization resembled those volcanic regions

where the internal fires of destruction made the earth tremble beneath the feet of the dwellers on the treacherous surface: a sudden outbreak might at any time take place, and overwhelm all in ruin.

Social improvement must begin in the upper circles of society, that it may descend in precept, and be enforced by example. Our own good Queen Victoria understands this. The great and wise Prince we have recently lost, and whom we so deeply mourn, fully understood this. The deep-thinking far-seeing ruler who sits on the Imperial throne of France appreciates the fact. In the International Exhibition of 1851 the model cottages of Prince Albert probably worked more human good, by encouraging home improvements, than all the glitter of precious stones, the wealth of jewellery, and the subtle refinements of art. The poor are utterly powerless to help themselves in matters of sanitary improvement. They cannot build their own houses, but must inhabit such as are provided by others. They cannot make the laws, neither can they administer such laws as are made. If the laws are wise they receive the benefits; if otherwise, they suffer. Social science, as it is termed, must be administered by the State; and this Lord Brougham fully understands. It will be an evil day for society when Government divests itself of all executive power in social and sanitary matters. Freedom is a glorious thing, but license to initiate and work evil against the general body of society for private gain is neither a safe nor a desirable state of freedom. A state which can tolerate cesspools, beer-houses, gin-palaces, and can license dancing saloons, must bear with vice, crime, lunacy, and pauperism in excess.

Wise imperial laws are required; and honest and intellectual administration, nationally and locally to secure sanitary progress, and the greatest amount of political contentment, commercial prosperity, health, and social comfort to a nation.

PARTICULARS OF SEWERS AS EXECUTED IN THE CITY AND TOWNS NAMED.

	Depth to Invert of Sewer.	Thickness of Brickwork.	Number of Bricks Per Lineal Yard.	AVERAGE COST OF SEWERS PER LINEAL YARD. Birmingham.	Buxton (in Rock).	Carlisle.	Chorley.	Tynemouth.	West Ham.	Worksop.
Brick Sewers.	Ft. in.	Ft. in.		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
4 ft. 6 in. by 3 ft. 0 in.	10 0	0 9	432	1 11 6	—	—	—	—	2 3 3	—
3 ft. 9 in. by 2 ft. 6 in.	10 0	0 9	384	1 8 0	—	1 3 6	1 14 2	—	1 18 1	—
3 ft. 0 in. by 2 ft. 0 in.	10 0	0 9	304	1 6 0	—	1 2 6	1 5 5	—	1 8 8	—
2 ft. 3 in. by 1 ft. 6 in.	10 0	0 9	248	0 19 0	—	0 18 6	1 4 8	1 5 6	1 3 9	0 19 9
1 ft. 6 in. diameter ..	10 0	0 9	208	0 18 0	—	0 16 0	0 17 6	—	—	—
3 ft. 9 in. by 2 ft. 6 in.	10 0	0 4½	172	0 17 0	—	—	—	—	—	—
3 ft. 0 in. by 2 ft. 0 in.	10 0	0 4½	136	0 16 0	—	0 17 6	—	—	0 19 8	—
2 ft. 3 in. by 1 ft. 6 in.	10 0	0 4½	112	0 12 0	—	0 15 0	0 11 10	0 18 6	0 17 6	0 13 8
1 ft. 6 in. diameter ..	10 0	0 4½	88	0 10 0	—	0 14 0	0 10 11	—	—	—
Earthenware Pipe Sewers.										
15 inches diameter ..	10 0	—	—	0 9 4	0 11 3	0 9 6	0 9 10	0 9 2	0 11 10	0 5 9
12 inches do.	10 0	—	—	0 7 8	0 10 4	0 7 9	0 8 2	0 7 5	0 9 4	0 4 6
9 inches do.	10 0	—	—	0 6 5	0 9 0	0 5 9	0 5 4	0 5 7	0 7 3	0 3 9

QUESTIONS AND ANSWERS RELATIVE TO SEWERAGE WORKS IN THE TOWNS NAMED. MARCH 1862.

QUESTIONS.	ALNWICK.	BERWICK-ON TWEED.	BUXTON.	CARLISLE.	LANCASTER.	WORTHING.
What is the average annual expenditure incurred below the surface of the streets in cleansing the sewers?	Nothing.	From 10*l.* to 12*l.*	Nothing has been expended	None.	4*l.* in four years, or 1*l.* per annum.	Nothing. Works executed in 1854.
The number of sewers choked per annum, if any, and the causes of stoppage?	About twenty house drains per annum Sand, dish-cloths, and sticks.	Four or five, from offals of animals, ashes, sand, gravel, &c.	None.	Not more than two or three per cent. in 9-inch pipe sewers, owing to flat gradients and backing up of floods Direct stoppages are caused by improper substances being passed into the drains.	Average five at blank ends Main sewers never stopped.	None.
Have you any complaints of sewage injuriously affecting fish in the river or stream into which it passed?	No.	No.	No.	No. Any complaints on this head have been in consequence of an overflow from the sleeper dipping tanks of a railway company passing into the sewers. Waste creosote.	No.	The sewage does not go into a river or stream, but out to sea.
Average annual cost of flushing sewers, if any?	2*l.* per annum.	Flushed occasionally by the Surveyor or his assistant, but at no additional cost to the Board.	They have only been flushed once during the last year.	Water given by Water Compy. Flushing and maintenance of sluices attended to by scavengers.	5*l.* labour only.	About 13*l.*
Do the sewers generally serve the purposes intended?	Yes, if properly used.	Yes.	The main sewers are all in good order, and work well.	Yes.	Yes.	Yes.

SUPPLY QUESTIONS IN HOUSE OF COMMONS.

THERE were several questions and replies in reference to votes of supply for the palaces and parks, &c., on the 31st ult., which we may here briefly notify. On the question that 33,583*l.* (first vote class 1) be voted for the royal palaces, Mr. W. Ewart expressed an opinion that many of the works of art, at present in Hampton Court Palace, should be removed nearer London; also, that copies of them might be taken and distributed through the chief towns of the country. As they were circumstanced at present they were liable to be destroyed by fire. Lord W. Graham observed that the process of cleaning pictures had been given up at the National Gallery, and inquired why it was still continued at Hampton Court. After a few words from Mr. J. Rogers as to whether the cartoons in Hampton Court Palace were insured against fire; Mr. Cowper said it was not the practice to insure any of the Government property, but they considered it desirable to take every precaution to protect that property against fire. The sum of money which had been voted for the purpose of cleaning and varnishing the paintings in Hampton Court Palace would be expended under the direction of Mr. Redgrave, who superintended the cleaning of all the royal paintings. The pictures at Hampton Court had not been touched for many years, and some of them were literally perishing for want of varnishing, and it was absolutely necessary that they should be cleaned. Mr. Redgrave would be responsible for the manner in which the work would be done. As to bringing the cartoons to London, there was much to be said in favour of it, but at present there was not an edifice suitable for them; but when the National Gallery should be enlarged ample accommodation would, he supposed, be made for these cartoons.

In reference to the Trafalgar-square fountains, Mr. Cowper said he quite agreed that the fountains were in a condition that Englishmen might well be ashamed of. But he promised that in the month of May they would be in such a state as every Englishman would be proud of. The water which now supplied the fountains was water which had already been used in the condensing part of the engine, and which was thereby raised to a very considerable heat. It was then sent out to cool, and again returned to the condensing part of the engine. That inconvenience, however, in future would be remedied.

Sir S. M. Peto urged upon the Government to adopt some well-considered plan for the consolidation of the public offices, for which the country were now paying a rent of 27,000*l.* a year. He thought such a building might be erected for 300,000*l.* or 400,000*l.*

With regard to Battersea Park, Mr. Cowper said it had been complained that the anticipations held out to the house of a great return from that park had been disappointed; but if that were so it arose from the want of a proper main drain, without which the land would not let for building purposes. When the great southern sewer was completed the return would come. The toll on the bridge, as the hon. baronet had stated, was another obstacle in the way of letting the sites.

FLEXMORE'S MONUMENT.

A MONUMENT has been erected in Kensall-green Cemetery to the late Richard Flexmore, the "clown." It consists of a double plinth, with a pedestal and cornice. The upper part of the pedestal has on the angles four masked heads, representing Tragedy and Comedy on one side, and Music and Poetry on the other. Suspended on the four sides are festoons, composed of oak and ivy leaves, bound with ribbons. On the front is carved, in relief, a tambourine, walking-stick, and slippers, with an urn entwined with a laurel wreath. The height of the whole monument, complete, is 9 feet 6 inches. The design was furnished by Mr. Richard Wynn Keene, an artist familiar to the play-going public under the pseudonym of "Dykwynkyn," and has been executed by Mr. John Chapman, sculptor of Lambeth. It is thus inscribed:—

"In memory of
RICHARD FLEXMORE GATTER,
Who died August 20th, 1860.
'A fellow of infinite jest.'—*Shakspeare.*
This tribute in estimation of worthiness and talent is erected by sincere friends and fellow-artists."

STAINED GLASS.

Canterbury Cathedral.—The east window of the Warrior Chapel in Canterbury Cathedral has recently been filled with stained glass dedicated by the officers, non-commissioned officers, and privates of the "Buffs," to the memory of their brethren in arms who fell in the Crimean campaign, 1855-6. The window contains five main lights and tracing of ten principal lights. The idea suggested in all the subjects is typical of conquest—No. 1, Abraham offers Isaac; No. 2, Israel conquers Amalek; No. 3 (the centre), our Lord crowned, and bearing the banner of the Resurrection, is met by the spirits in prison; No. 4, Gideon conquers Midian; No. 5, Jehu conquers Ahab. In the upper part of the centre lights is shown the regimental flag. The whole memorial, in design and execution, was by the Messrs. O'Connor, of London.

Llanspythidd Church.—The west window of Llanspythidd Church, near Brecon, has just been filled with a stained-glass window. The new stonework for the same was designed and carved out by Messrs. Williams & Sons, architects, Brecon. The window is composed of three separate openings, containing a figure of Hope, with the anchor; the centre compartment being a figure of Faith, and the other a figure of Charity clothing a child. These figures are placed under canopies, on ruby and blue background. The tracery head of the window is filled with the crest of the Church Pearce family, the smaller parts filled in with rich foliage, and the two on each side of the crest have the emblems of Faith, Hope, and Charity. The artist was Mr. C. Gibbs, of London.

Holy Cross Church, St. Helen's.—Some stained-glass windows have lately been erected in a new church just about to be opened in this place. There is a series, fourteen in number, executed by Messrs. Pilkington, of this town. They are in *grisaille*, with coloured borders, and shields with

the instruments of the Passion of Christ, and with angels in the tracery bearing scrolls with texts. The style is that of the early part of the fourteenth century. The same firm has executed for the same church a two-light window, with full-length figures, under foliated canopies of S.S. Mary and Joseph; a memorial window, in three lights, divided by a transom, with a representation of the Transfiguration, the figure of Christ in the centre, Moses and Elias occupying the side-openings, the inferior ones filled with figures of S.S. Peter, James, and John; the whole under canopies of the Decorated period;—also a large four-light window, occupying the end of the south transept, and representing, under canopies, the finding of the cross by St. Helen, mother of the Emperor Constantine: the subject runs through the four openings, with figures nearly life-size, and the tracery is filled with angels bearing texts.

Alnwick Cemetery Chapel. — A three-light stained-glass window has been placed in the west end of the Episcopal chapel, in Alnwick Cemetery. Each light contains a distinct subject. The first shows a Miraculous Draught of Fishes; the centre, the Resurrection; and the third, Christ walking on the Sea. Each is surmounted by a canopy, and has an ornamental border at the base. The glass has been executed by Messrs. Clayton and Bell, of London. The same artists have made three windows for Warkworth Church. The memorial is executed at the sole cost of Mr. F. R. Wilson, architect to the Burial Board, Alnwick, in grateful remembrance of personal friendship with the deceased curate.

Windows for the International Exhibition.—A stained-glass window, intended for the east window of St. Mary's Church, Maidstone, Kent, has been prepared at Mr. Holland's, of Warwick. The window is 40 feet high, and consists of three compartments. The centre one represents the Crucifixion, the right-hand compartment the Baptism, and the left the Nativity.——In the premises of Messrs. Ballantine & Son, of Edinburgh, are two windows, described in the *Scotsman*, — one for a church, the other for a hall — being portions of the glass prepared by these gentlemen for the ensuing International Exhibition. The church window, executed for Prestolic Church, Lancashire, consists of five upright lights, with tracery. The subject is the Crucifixion, which is carried across the entire breadth of the window; each compartment having its canopy, base, and Mosaic groundwork; thus securing the necessary architectonic distinctness. In the tracery, angels are represented bearing scrolls with inscriptions. The hall window is for South Bontaskine House, which stands on the ground where the battle of Falkirk was fought in 1745. This window consists of three compartments, each of which contains a figure. Armorial bearings are introduced in the panelling over and beneath the figures; and each light is surrounded by an embattled bordering. The centre figure represents Prince Charles Edward Stuart, dexter Lord George Murray, sinister Lord John Drummond, the two chief officers of the Prince. They are arrayed in the full Highland costume of the period; and the likenesses, dresses, and accoutrements, seem to have been studied from authentic sources. The same artists have nearly completed three or four other large windows which are to be sent to the Exhibition.

COMPETITIONS.

St. John's, Battersea.—In a limited competition for the proposed new church of St. John's, Union-road, Battersea, the design marked "Apropôs," and prepared by Mr. E. C. Robins, was chosen, out of ten designs submitted. The working drawings are now being prepared.

LOCAL SURVEYORS AND THEIR REWARDS.

By the passing of the Local Government Act, 1858, Building Acts were applied in the form of by-laws to districts of local boards of health.

By the Local Government Amendment Act of 1861, very onerous duties were imposed on local surveyors in connexion with new roads.

It is notorious that local surveyors are underpaid, and that local boards are generally so constituted as to render it natural for them to underestimate the value of such services and labours; and the Legislature makes no provision for rewards proportioned to the increase of responsibility imposed from time to time.

Either a scale of fees should be prescribed, as in the Metropolitan Building Acts; or else all exceptional undertakings should be made the subjects of special and legal commission.

The present stage of the second Local Government Amendment Act now before Parliament presents an opportunity of rectifying these habitual, if not intentional omissions; and it is to be hoped that all local surveyors, true to themselves, will not allow it to pass without an effort to secure some tardy measure of justice. Let every one of them address the Home Secretary with his arguments on the subject.

THE FEMALE SCHOOL OF ART.

The Lord Mayor has kindly consented to preside on Wednesday, the 30th of April, at a meeting in the Long Parlour of the Mansion House, at two p.m., to promote the objects of the Female School of Art in Queen-square, which, as our readers know, is to assist in the solution of one of the great social problems of the day, "Employment for Women." The committee have bought their freehold premises: they have an admirable manager,—100 pupils full of zeal, and who have carried off a large share of prizes in the Governmental examinations;—but they want still 1,500*l.* to complete the establishment, and render it self supporting for 150 pupils. With such elements of success and hopefulness, and with the Government aid, we feel that they ought to be enabled to complete the good work.

We shall hope to see a good muster in the Long Parlour on the 30th, and that the result will be the *permanence* of the Female School of Art.

SCHOOL-BUILDING NEWS.

Potters Bar (*Middlesex*).—An infant school has been completed here, at the sole cost of the Rev. H. G. Watkins, the incumbent, the site also having previously been granted by him. The school-room is 22 feet long by 15 feet wide; the height to the ridge being 22 feet. The roof is constructed of open timber, plastered between the rafters; which, together with the rest of the internal woodwork, is stained and varnished. The porch is paved with Minton's encaustic tiles. A residence is attached. The external walls are constructed of picked stock brickwork, interspersed with a few white Suffolk bricks and red malms, with dressings of Bath stone. The roofs are covered with alternate bands of Bangor and Westmoreland slates. The bell-cot is covered with zinc, and surmounted with a wrought-iron ornamental vane. The architect is Mr. E. H. Lingen Barker. The cost of the works, including the boundary-wall, &c., is about 500*l.*; the contractor being Mr. J. F. Williams, of Potters Bar.

"COSTLESS VENTILATION."

My attention has just been directed to a statement headed "Costless Ventilation," which appeared in your esteemed columns March 1st last, signed "Peter Hinckes Bird, F.R.C.S., F.L.S."

This gentleman appears to court publicity by attacking some one in the following dogmatical lines:—

"For some time I adopted the plan of opening the window-sash at my patients' houses at the top, and stretching out on a frame a corresponding depth of tarlatan, to intercept blacks and prevent draught; but, although a modification of, but not an improvement on, this method has the support *of a popular lecturer at an institution for the diffusion of art and science, the principle is wrong and the result unsatisfactory*, as the draught is directed downwards on the sitter, and not upwards towards the ceiling: the screen, too, is anything but ornamental, and becomes clogged with blacks, so as to require removal and repair."

Presuming the popular lecturer to be myself, I may first be allowed to express a doubt whether it is good taste to attack another person's invention in order to puff your own; and secondly, I may be permitted to remark that if Mr. Peter Hinckes Bird had attended my lecture "On Ventilation," he would have discovered that his tarlatan invention had long since been anticipated by other persons, who have nailed a piece of wire gauze across the panes of the window, and, when they required fresh air, have lowered the top sash to correspond with the breadth of the wire gauze.

They have very judiciously preferred to use a material that could be brushed and cleaned, instead of an unsightly rag that would become soiled and require *removal* and *repair*. The fact of the tarlatan or wire gauze becoming clogged with blacks is one of the proofs of the efficacy of the system; and shows that whilst the external air has entered the room the "blacks" have been filtered out of it before being used for respiration.

As to the wire gauze becoming clogged with blacks, I have yet to learn that because a substantial article becomes dirty in a sooty atmosphere it is to be regarded as comparatively useless. No doubt Mr. Bird's argument applies to his own "tarlatan," but not to good wire gauze, which is easily cleaned with a proper brush.

Mr. Cooke's plan is not a modification of the "tarlatan" system, but of the wire gauze one; and I have also stated in my lectures that Mr. Palmer has used and patented perforated zinc cylinders, to be placed in the opening left by drawing down the top sash and drawing up the bottom one; whilst Mr. Mainwright has patented the insertion of small copper tubes in the top and bottom bars of the sash windows. All the patentees have endeavoured to arrange their plans for the entry of fresh air and the exit of the foul air; and I have shown, in Cooke's ingenious and simple folding wire gauze system, that, when a room is full of company, the lights burning, and the doors closed, the top fold permits the hot air to escape, and the bottom one allows the cold or fresh air to enter, gently warmed by the wire gauze, which is generally a few degrees warmer than the external air; whereas, Mr. Bird provides only one narrow slit or opening for this purpose, which he says will not permit *heavy blacks* to ascend and enter. And he says,—

"The method I now use is simple, economical, quite free from draught, and does not get out of order. *Raise the lower sash* of the window, and place in front of the opening, at the bottom rail, a piece of wood of any approved depth: this leaves a corresponding space between the meeting-rails in the middle of the window, through which the current of air is directed upwards towards the ceiling: *heavy blacks* cannot ascend with the air, which is driven so high as to be warmed before it descends. The principle may be modified in various ways, making the bottom frame of wire blinds supersede the strip of wood: in a word, open the lower sash of the window 2 or 3 inches, and block it up anyhow, and the air enters the space in the middle, and is carried to the ceiling."

I can quite believe that *heavy blacks* will gravitate to mother earth; but it is the "*light blacks*" we have unfortunately to contend against; and they would undoubtedly ascend Mr. Bird's space between the meeting-rails in the middle of the window. Moreover, the working of Cooke's plan depends on *lowering the top sash*; and, when that is done, he not only uses his own system, but that claimed by Mr. Bird; and with better effect; as the warmed and foul air may escape by the wire gauze at the top, and the cold air enter through Mr. Bird's space, between the meeting-rails in the middle of the window.

Polytechnic. John Henry Pepper.

THE KEAN TESTIMONIAL.

Sir,—I beg to congratulate you on the honesty of your remarks in reference to the memorial productions of "Our Silversmiths." An event recorded in your columns, which ought to have redounded as much to the credit of the art of design and the manufacturing skill of our country, as to the honour of a distinguished countryman, has certainly disgraced the former; and must, apart from the associated expression of goodwill, give pain to the highly-cultivated taste of the latter—perhaps even a keener sense of suffering from the conglomeration of "shreds and patches"—the ill-assorted cullings of all manners of outrageous designs, employed almost in mockery of the genuine sentiment by which the testimonial was dictated. An assemblage of objects more puerile in taste, less allied to utilitarian capabilities, and displaying more palpable imbecility, it would scarcely be possible to produce. Your notice of this "getting-up" will not pass without its reward.

John Burton.

MAJOLICA.

After looking-glass, perhaps there is no article of ornament in which the million indulge so much as china. And what trash they buy! But in this there is some blame to be attached to the manufacturers. As to Sèvres with its light blues and pinks, I must say I cannot see that it can improve taste: the very colours that are in vogue with it are wanting in the richness, vigour, and grandeur of the majolica colouring. It is with majolica that the eye can be more delighted than with any other in colour, form, life, and grotesque; but there is little or no majolica for the million. It has been splendidly revived; but all design in it has been more or less Renaissance in character: there is no design in a vigorous style.

In modern majolica there is much very bad design, such as natural tulips, and snakes curling round them; incipient dolphins, and the like; inanimate copies of nature, instead of any ornamental treatment of the ware. What we want, then, are some simple but vigorous designs, with fine colouring, rich and warm, and plenty of good grotesque; some flower vases of good form and

moderate price; in order that the million may learn, by this their favourite ornament, better ideas of form and colour; and that they may learn to take an interest in great art. If architects should design for pottery, they should take care not to introduce stone construction, as they too constantly do in wood-furniture,—always arching; but rather remember the material they have in hand, and its peculiarities. Wood and pottery are not stone. This, then, I would suggest to manufacturers, that they get something else than eternal Renaissance designs, and give the nineteenth century work a character of its own, expressive of our present thought and sentiment. A. W.

ST. LUKE AND THE PAINTERS.

ST. LUKE the Evangelist was not the painter of the wretched mulatto Madonnas which go by his name, and of which daubs most Catholic countries can boast two or three; but one "Signor Luco," who flourished in the fifteenth century; whose works were, by a "pious fraud" of the monks, attributed to the saint, as more likely to command the reverence of the ignorant, who were also taught to regard the pictures as "miraculous." You will find this mentioned *in extenso* in the "Private Diary of the Duke of Buckingham," recently published.

Were not the pre-Raffaellite painters of the present day giving some sanction to the Mediæval legend, I should recommend artists to abjure the patronage of so apocryphal a saint, and choose one of less Bedlamitic pretensions.

C. W. D.

BYZANTINE AND GOTHIC.

I LIKE A. W.'s remarks on Byzantine decoration: even their faults display a genuine feeling which is vigorous and noble. I fear it cannot be viewed as the olive-branch held out by the Greeks to the Goths; as he explains his use of the word "Byzantine" as synonymous with "Romanesque;" but, to show him how near he is to being a Goth, I will mention that, on the very day his remarks were being printed, I wrote nearly as follows:—"Byzantine is the connecting link between Classic and Gothic: its interiors, excepting Gothic, are the most beautiful in existence; and offer, *without any exception*, the finest field for decorative painting." I was speaking of *true* Byzantine, but in A. W.'s sense,—the Romanesque of the twelfth century; and, subject to his one acknowledged desideratum, the pointed arch we are absolutely united. The Gothic which he thinks trifling in its details must be the *later* Gothic. There is, however, a Gothic of the twelfth century, as at Notre Dame and St. Germain des Près, in Paris; at Sens, Noyon, Canterbury, Glastonbury, St. Cross, &c.; which is his Byzantine with the addition of the pointed arch; and in this Gothic we greatly rejoice: nor will we complain of an ally using the round-arched Romanesque or the domed Byzantine, and helping us to mould them into one style with the matured Gothic of the glorious thirteenth century; preserving the beauties and eschewing the faults of both. A GOTH.

PUBLIC WASH-HOUSES.

SIR,—With reference to your article on closing Portpool-lane Wash-houses, I think, provided the washing apparatus is not fully employed, the Society have in their employ inefficient persons. This can be the only reason for the washing apparatus not being fully engaged. Look to the neighbourhood,—Hatton Garden, Leather-lane, Holborn, &c. Suppose a person with good address were to call at each house, see the keeper of each, explain as you have done, or give a copy of your article to each; and tell them they could do a great public service, and perform a very great charity, which would do great good in many ways, without any cost to them, but a saving to them, by looking out for some poor deserving woman, and letting her call on the housekeeper, weekly, or oftener, and wash the clothes at the wash-houses, paying the woman for her time, and paying the wash-houses their charges, I feel convinced that the Wash-house Society would find it to their interest to enlarge their means of washing, and provide a woman to look to the things so sent to be washed being properly done.

We are not to follow the man with his wheel fast, praying, or expecting to be relieved without ourselves using any means. A hint of this kind to the Society and to the public generally might do good. Continue in your present course of sanitary teaching, and you will have a full reward in the life to come, but do not look for any return in this over busy world. S. P. X.

CAN TWO STYLES FLOURISH TOGETHER?

I SHOULD be very glad if you could find room for a few words on a subject which, it appears to me, must materially affect the prospects of architecture in this country; but which has not, so far as I am aware, met with its due share of notice in the conflict which has been raging about the styles.*

Most persons seem agreed that the Pointed style is the one best adapted to ecclesiastical buildings in this country; but there is by no means the same unanimity with regard to civil or domestic architecture. I leave to more able disputants to discuss this question on its merits, and to show whether Classical or Pointed architecture lends itself most readily to the requirements of modern civilization. What I wish to suggest is,—is it possible for more than one style of architecture to exist at one time? Is there any nation whose architectural history shows us such a phenomenon? Of course I do not deny that there are clever, well-educated architects in the present day, who will design buildings with perfect correctness in any given style; and it may be said, if so, what more do you want? I answer, I want a great deal more. I want to see architecture take root among us and grow. I want to see architects thoroughly imbued with the principles of construction, which are the foundation of styles; and able to rise by the application of those principles to the development of new forms of beauty. Now, as the principles of the Pointed and Classical style are entirely different, I cannot see how we can expect the same architects, or even the same school of architects, to cultivate both at the same time. It is no easy thing to raise up an art which has fallen so low as the hole-in-the-wall style of a London street, and make it produce forms of beauty. It certainly cannot be done, as it never has yet been done, unless there is some general agreement as to what that beauty is to consist in, and the principles which are to regulate it. Whatever schools of architecture have hitherto existed among us have been raised up in this manner.

The architects of the Middle Ages, when they built the cathedrals and churches which we acknowledge as models, were not called upon to divert their attention from the style to which they were vowed, to design a Grecian or a Roman palace; nor did the architects of the Renaissance suffer their gaze to be diverted from the Classical models on which they had concentrated their attention; even by those masterpieces of a bygone period with which they were surrounded. They did not allow that the principles of construction, which seemed good to them in one case, were out of place in another; nor why a church should differ, otherwise than in its adaptation to the purposes for which it was intended, from the civil and domestic buildings of the period. But now we are told this is all wrong;—Gothic is the proper style for churches, Classical for everything else. Are those who put forth this dogma aware that, although it has at no period been acted upon, yet that it has not even the merit of originality? Are they aware that an attempt was made in the reign of Charles I. to introduce the Pointed style for churches, while the Classical reigned everywhere else? And are they prepared to be ranked as the successors of Archbishop Laud and his school?

Certainly, if style in architecture were merely a matter of external ornament—if the decoration applied to the frame of the building determined the style—if the substitution of a pilaster for a buttress, or a Palladian detail for a Gothic one, converted a building from Gothic to Classical; why, then, I can see some ground for the distinction that is attempted to be drawn; but I cannot imagine any state of things more destructive of the real interests of architecture, and its progress as an art, than the prevalence of such an idea. Nor can I imagine, if architecture is to be pursued in this spirit, that it can be with the attention of any man of intelligence: it must speedily degenerate into a thing of shreds and patches,—of tinsel, and stucco mouldings at so much per foot.

It is perfectly true, as will no doubt be said, that after all the public will decide the matter: if they find the Gothic style convenient for one purpose, their buildings will be Gothic; if the Classical for another purpose, they will make use of it; and that architects will always take care that the supply shall equal the demand. Still, not the less on that account, but rather all the more earnestly, ought our architects to exert themselves in this matter, to guide and control that public opinion which they cannot force,—to become the educators of the people in this respect; and to endeavour to excite that interest and reverence for architecture, as one of the chief sources of beauty in this world, which they will never succeed in doing, unless they first show that they reverence it themselves. F. P. L.

* Our correspondent is apparently not acquainted with earlier volumes of the *Builder*.

DRY WALLS.

SIR,—In these days of cheap cottage building excitement, one hears of many expedients which, although not to be admitted into first-class practice, may still be worth a certain attention.

Amongst these is that of building hollow walls 10 inches thick; thus leaving a central cavity of one inch; the headers falling back to that extent from the internal surface, and being brought out by tiles dubbed in in cement. This method of building is recommended for various reasons, but principally as a preventive of damp in exposed situations, or where the bricks are of a more porous nature than usual.

A difficulty arises, however, and in this way:—As a matter of course, Flemish bond is the only bond possible in such walls; but supposing every header is taken through, any one can see that the chief object of the hollow is lost; not only because the clear spaces are only in reality 4½ inches by 1 inch; but because those spaces themselves, being so very small, inevitably get choked with mortar so thoroughly that the wall becomes, to all intents and purposes, a solid wall, admitting the damp as if no hollow existed. If, on the other hand, we only carry through, say, every third header, the work becomes scarcely substantial enough; though this, in fact, is the method most generally adopted.

I think the question is not unimportant, for I hesitate to fall back upon battening. It is bad in principle. Will any of your correspondents favour us with their experience? W. B.

Books Received.

Proceedings of the Liverpool Architectural and Archæological Society, 1860-61. Printed for the Society by Geo. Smith, Watts, & Co., Liverpool.

THE last part of the transactions of the Liverpool Architectural Society contains some very interesting matter. Some of the papers appeared in our pages at the time they were read. The book would take a more permanently interesting shape if the papers and addresses were printed separately, and the minutes of the meetings given at the end in the shape of an appendix.

VARIORUM.

"A Few Observations upon the Bill introduced by the Lord Chancellor to facilitate Conveyance of Real Estates. Draper, London." In this pamphlet Mr. Rupert Potter, Barrister-at-Law, comments chapter by chapter on Lord Westbury's Bill, and states such objections as occur to him. His opinion of the Bill as a whole is not made obvious.——"On Iron Breakwaters and Piers. By E. B. Webb, C.E., London. Lockwood & Co. 1862." Mr. Webb has designed and patented an open iron breakwater, which he believes to be free from the disadvantages of either floating or solid structures; and the objects sought, he remarks, are obtained;—1st. As to stability, by fixing the breakwater to the bed of the sea;—2ndly. As to prevention of silt, by allowing the tidal and other currents to pass freely through the breakwater;—3rdly. As to cost, by using (by preference), cast-iron in its cheapest form. We have no doubt Mr. Webb's breakwater will be very useful and economical in many localities where solid breakwaters would have a tendency to accumulate silt.—"Chambers's Social Science Tracts; edited by W. Chambers: Building Societies (W. & R. Chambers, London and Edinburgh)." This paper contains the able lecture delivered by Mr. William Chambers, at the Architectural Institute of Scotland, in Edinburgh, on 29th January last, and already noticed in our pages. It also contains an introduction relating to the same useful subject.——"Landlords and Labourers. By Robert Scot Skirving. A new edition. Blackwood & Sons, Edinburgh and London." This pamphlet, we believe, is being largely read in Scotland, and it well deserves to be so. Its chief object is to fix the attention of all interested on the deplorable want of houses for labourers in the agricultural districts of Scotland, of which, and of the abominable bothy system, we have often spoken. The author's object is a very disinterested one; inas-

much as the pamphlet, at the price, is not a paying one; and we sincerely trust he will ere long be repaid in the gratifying knowledge that he has hastened the advent of a better state of things, as regards domestic accommodation, for the poor labourer in agriculture; who, though providing the very staff of life for all, is amongst the worst paid and worst accommodated of all labourers, whether in England or in Scotland; and not much better off in these respects than the poor Irish peasant in his mud cabin.

Miscellanea.

The National Portrait Gallery, Great George-street, Westminster, will be open to the public on Easter Monday, Tuesday, and Wednesday, from ten to five o'clock.

The New River Water Company's Charges.—A correspondent, on the part of himself and other "poor labouring people;" and who tenants a small house, in which, lately, an old woman of 74 rented a room, at 3s. a week, and made a living by washing; complains that the New River Company have raised his rate from 20s. to 38s. on account of this poor lodger; or, at least, that their refusal to reduce it was based on the ground that a laundress lived in his house. Our correspondent asks whether, by their act, the New River Company are entitled to levy rates on lodgers; and thinks it would be quite as reasonable were they to charge him extra for every additional child he may have.

The Midland Nail and Chain Trade.—Both these trades are now in a somewhat depressed condition, according to the *Birmingham Journal*. Some of the nailmasters have for weeks, if not months past, been buying nails from their workmen at a reduction of 10 per cent. or more upon the prices ordinarily paid by the leaders of the trade. The masters called a meeting at Dudley, when a general reduction of 10 per cent. was resolved on. An almost general strike has ensued. Meetings of workmen have been held nearly every day at the Lye, Old Hill (the stronghold of the trade), Dudley, Hales Owen, and other places; and open-air assemblies and singing processions have not been uncommon. At these various assemblies resolutions have been unanimously passed, expressive of the men's determination not to return to work until the old price be given, and all the masters concur in paying one uniform rate of wages. Nailmakers' wages, even at the full rate claimed, are very low; only allowing an industrious man at work on 4-inch spike nails, for instance, to earn, by his own individual exertions, about 13s. 9d. a week, the price of five bundles at 2s. 9d. a bundle. Other sorts, of course, follow at proportionate prices. The men, therefore, consider it rather too hard upon them to attempt to reduce this 13s. 9d. to 12s. 6d. The chainmakers have a good many orders on hand, and the men think they should receive an advance upon their present rate of wages—a rather low rate, which has existed for some time past.

Meteorological Telegraphy.—At the Royal Institution last week, Admiral Fitzroy delivered a lecture, in which he gave "An explanation of the Meteorological Telegraphy, and its Basis, now under trial at the Board of Trade." Observations, he said, have shown that the currents of air in the atmosphere are regulated by fixed laws. The "law of storms" has been for some time recognized, and their directions have been accurately traced. These great disturbances of the atmosphere are found to be caused by opposing currents of wind, which give the air a rotary motion; and these whirlwinds, or "cyclones," are often of comparatively small diameter. By a careful study of the barometer and thermometer, and of the electrical indicator, called a "storm glass," the state of the weather at any place may be predicted with tolerable accuracy for three or four days in advance. The prognostications of the weather have thus been calculated; and the Board of Trade have, during the past month, sent them to the daily papers. At the beginning of 1861 the Board of Trade commenced the plan of telegraphing, to most of the ports of the kingdom, the forecasts of coming storms, which were based on observed sudden falls of the barometer at distant stations; a fall of the eighth of an inch of mercury in the course of an hour being considered a sure indication of an approaching storm. At first these warnings were disregarded by sailors; but the losses experienced by a storm in February of that year, which had been forecast and signalled, taught them to pay more attention to subsequent signals of danger; and in consequence many ships and numerous lives had been saved.

The New Foreign-Office.—In the Commons Mr. Cochrane asked the First Commissioner of Works what sum remained in hand, at the present date, of the 60,000*l.* already voted for the New Foreign-Office; and whether the additional vote of 15,000*l.* would be expended within the present year? He wished also to ask whether the State Paper-Office, which had only been built thirty years, was to be pulled down? In reply, Mr. Cowper said that the sum expended already was 56,900*l.*, and probably the additional vote would be required before the estimates of next year, 1862 3, became available. The State Paper-Office would be pulled down, as the House had been informed last year.

New Patent in Pottery.—Messrs. J. C. Coombe and James Wright, of Blackfriars, have taken out a patent for improvements in the manufacture of glass, pottery, porcelain, and other ceramic and plastic wares. This invention consists in the application of fluo-silicates and silicates of alkalies, or alkaline earths, and earthy bases, and precipitated silica, to the manufacture of glass, pottery, porcelain, and other plastic and ceramic wares. The patentees claim more particularly the substitution of the fluo-silicic salts of the alkalies, alkaline earths, and other earthy bases, for the phosphoric compounds of the same or other bases, in the manufacture of glass, pottery, porcelain, and other ceramic and plastic wares.

The Sanitary Condition of Leicester.—Mr. Moore, in his annual report on this subject, says, I regret to state that my report for 1861 will not be so favourable as that for 1860; the mortality returns showing an increase of 367 upon the previous year; the number registered being 1,418 for 1860, and 1,785 for 1861. The increase in the mortality for the year 1861, above that of 1860, extends throughout every quarter of the year, but principally the second and third. In the latter quarter alone it amounted to 201; one half of which arose from diarrhœa and consumption; viz.—75 in diarrhœa and 26 in consumption. The deaths from fever in 1860 were only 11; but in 1861 they increased to 61. From 1852 to 1862, however, the mortality was upon an average 77 per annum. The localities in which fever has been most prevalent are Upper Conduit-street and Northumberland-street with Old Mill-lane; and upon inspection it was found that in that portion of Upper Conduit-street where the disease prevailed no drainage had ever been formed, and in Northumberland-street and Old Mill-lane, it was in a very unsatisfactory state. The Board therefore at once ordered proper sewers to be constructed.

Ecclesiastical Dilapidations.—The Dilapidations Bill has been introduced by the Archbishop of Canterbury. There is to be a sufficient number of fit persons appointed in every diocese as surveyors of ecclesiastical dilapidations; but neither existing bishops, deans, canons, nor incumbents, are to be subject to the Bill unless they choose to submit to it, and thereby, after executing the repairs prescribed by the diocesan surveyor, free themselves for five years from all liability, even to a successor, except for damage by fire, flood, or tempest. But new incumbents may not only invite, but are to be liable, on the application of the archdeacon or the patron, to a visitation and report from the surveyor; the incumbent having power to appeal against the report to a referee appointed by the bishop. Extraordinary repairs prescribed by the report, with the surveyor's costs so far as relates to them, are to be defrayed by a grant from Queen Anne's Bounty fund, repayable as a charge on the benefice in yearly instalments not exceeding thirty. The ordinary repairs, with the surveyor's costs so far as relates to them, fall upon the incumbent; and if he neglects to execute them in the manner and within the time prescribed by the report, or within such extended time as the bishop shall grant (of which neglect the surveyor's certificate is to be "conclusive evidence"), the bishop is to authorize the execution of the works, and raise the amount by a sequestration of the profits of the benefice.

Borough Improvements.—Sir: Looking at the opening for our new street in the Borough, I cannot help imagining the space from where the town-hall stood, with the intervening houses cleared away, to make a direct opening from the High-street. Future generations will certainly look with contempt on our want of taste and meanness combined in not completing a good idea and making a *place* ornamental and worthy of the age in which we live. When the railroad crosses near the bridge, the necessity for this improvement will be more apparent.

A Twenty-five Years' Resident in the Borough.

Ordnance Survey.—Up to the end of March, 1861, there had been expended upon the Ordnance surveys of England, Scotland, and Ireland, the sum of 2,616,447*l.*

Ipswich Improvement.—Sir: I see that a plan for the sewering of the town, by a "C.E. *and photographic artist*," has been laid before the local Board of Health. Pray allow me to warn the town against employing a photographic artist on such an important matter as this.—A Subscriber.

Drainage.—We learn from *Galignani* that plans in relief, accompanied by lithographed drawings, of the rich pastures and School of Irrigation of Lézardeau, near Quimiperlé (Finistère), have been exhibited in the Salle des Pas-Perdus, at the Palace of the French Legislative Body. These plans are to form part of the French Exhibition at London, and are extremely interesting, as showing how agricultural skill can improve the most unpromising soil. The Government, struck with the results obtained by M. Decouedic, has founded at Lézardeau a school of irrigation, for teaching all the best means of reclaiming waste land.

Gas.—The express train from Manchester to London has been provided with appliances for securing a constant supply of gas throughout the passenger carriages, guard's van, &c.——A prospectus has been issued of the Singapore Gas Company, with a capital of 100,000*l.*, in shares of 5*l.* each. The town contains about 5,500 houses, exclusive of public buildings; and land for the works has been conditionally granted by the governor, while the municipality are prepared to arrange a contract for lighting the streets, &c., for a term of years. The calculations of profit are based on the assumption that coal must be obtained from England; but the belief is that much cheaper supplies will soon be procurable from the Labuan mines or from those of India or Australia.

Hydraulic Ship-Lifts.—At a recent meeting of the Liverpool Polytechnic Society, a description was given of a model exhibited by Mr. Walker, and entitled a "patent hydraulic ship-lift," invented by himself. The floating dock consisted of two series of pontoons; eleven on each side; and each held firmly together by four powerful wrought-iron tubular keelsons, which were ranged along the top. The pontoons were moored parallel to each other at about 60 feet apart, and a tray or skeleton work suspended between them, which tray was attached to hydraulic presses. The trays could be lowered to any depth, and the vessel floated between the two keels of pontoons and raised out of the water by the powerful lift of the presses in about one or two hours. A vessel of 1,000 tons could be thus lifted in half an hour with perfect ease. The leading objects of the invention were the total expulsion of water, avoiding rapid deterioration by oxydation; secondly, ready access to all parts of the dock without stopping the work going on; and the advantages were dispatch and a large saving of expense. The hydraulic power involved was 6,000 tons, capable of lifting 2,000 tons. The engines required for working the dock were one on each side of from 20 to 30 horse-power. The length of the structure was calculated at 300 feet, with 60 feet beam inside and 130 feet over all.

Fires in the Metropolis.—The committee appointed to inquire into this subject has had meetings. In the Lord Mayor's evidence his lordship said he would not suggest the establishment of a fire brigade for the whole kingdom, but only for the metropolis. The expense of the fire brigade of Liverpool, which has been stated as being very efficient, is paid out of rates levied upon the owners of property. He thought that 15 per cent. out of the Consolidated Fund would pay for the protection of life and property from fire. He proposed the repeal of the Fire Act, which compels parish authorities to provide fire engines. Questioned by Mr. Cowper, his lordship stated that he understood the insurance offices had come to a resolution not to continue the fire brigade. He thought they ought to have something to say in the matter; but they ought to contribute something towards the expense. He thought it desirable to have the fire brigade distinct from the police. Besides their not being skilled, there are a great many objections to making the police force firemen. He considered that a sum of 200,000*l.* a year would be required for the purposes of the force, to be limited to the metropolitan area. The business of the insurance offices would increase enormously if the duty on insurances was reduced as proposed. To the owners of property the imposition of any new tax would be obnoxious, but the insurance offices ought to pay something to the rate.

ARTISTS' BENEVOLENT FUND.—The dinner in aid of the Artists' Benevolent Fund took place on Saturday, the 30th ult., in Freemasons' Hall. Mr. Charles Dickens presided, and made a very excellent address. There was a strong muster of Royal Academicians, and others; and the amount subscribed was nearly 650*l*.

THE TOWER. — Every part of the Tower is undergoing alterations. In the White Tower, the Great Banqueting Chamber, as well as the Council Chamber above it, are now studded with arm racks, sufficient to contain thousands of arms. Hundreds of men are employed, particularly carpenters, in getting the old garrison in proper order for the reception of foreigners during the Exhibition.

THE NEW RESERVOIR AT CONYGREE.— The arrangements for supplying Dudley with service water from the South Staffordshire Company's reservoir at Lichfield, are now complete. The water will be conveyed from the Lichfield pumping station through 12-inch main pipes into the new reservoir at Conygree, near Dudley; and from the latter reservoir it will be pumped up into a second reservoir on a higher level, at Shaver's End. From this latter place the town and neighbourhood will be supplied. The whole of the works are now in full operation, and have been executed to the satisfaction of the company's engineers (Messrs. M'Lean & Stileman) by Messrs. J. & G. Davies, of Tipton.

SANITARY REFORM AT BIRMINGHAM. — It having been resolved to summon a meeting of ratepayers and owners of property, to take into consideration and determine upon the expediency of adopting the Local Government Act of 1858 in the suburban parish of King's Norton, a meeting was held at which the chairman put the resolution, "That the Local Government Act of 1858 be adopted in the parish;" but no one being in favour of the motion, the chairman declared that the decision of the meeting was against the adoption of the Act. A desire having been manifested that the Act should be carried out with respect to Balsall Heath, it was stated that to carry out the object it would be necessary to memoralise Government, and to have a petition signed by one-tenth of the ratepayers and owners of property in the district; and for this purpose the necessary steps were authorized.

THE NEW ROYAL ARTILLERY HOSPITAL, WOOLWICH.—Progress has been made in the preliminary arrangements for the erection of the Royal Artillery Hospital, in the district of Woolwich and Charlton, on Kilbrook Common. The frontage facing the Dover-road, which divides Woolwich and Kilbrook Common, will be 900 feet in length. The infirmary ground will extend over an area of eight acres. The difficulties of forming a solid stratum for the foundation walls have been found greater than was anticipated from the boggy state of the subsoil, which, in some places, has required a layer of concrete 4 feet in depth. The materials for this were carted from the gravel quarries at Plumstead, a distance of about three miles. The establishment intended for washing the hospital linen by means of strong machinery, commenced last year on Woolwich Common, is roofed in. The period for the completion of the building is three years.

IRON BEAMS.—In referring back to a letter in your issue for the 1st of February last, I saw one in which I think the writer ("T. M.") must be labouring under some misapprehension of Mr. Fairbairn's teaching as to the proportion the *top* flange of a wrought-iron beam ought to bear to the bottom, &c. What "T. M." states may be erroneously mentioned in the pocket-book he quotes; but it is certainly not what is mentioned in Fairbairn's latest work on the subject, at least. It is there stated, I believe, that the proportion the *top* ought to bear to the *bottom* flange is as 12 to 11,—very different to that mentioned by "T. M.;" and also that in two beams of equal strength, the *wrought* would be rather less than one-half the weight of the *cast*-iron one. I think these facts will considerably modify his other queries. He also seems to leave out the upright plate, or web, altogether, in his calculation. As bearing on this subject I may mention that the resistance of cast iron to a *tensile*, as compared with its resistance to a *crushing* force, is (from a mean of eighteen experiments on eighteen different irons, made by the commissioners appointed to inquire into the application of iron as used for railway purposes) as 1 : 5·636—the highest result (Mr. Morris Stirling's second quality iron) being, tensile, 25,764 lbs.; and crushing, 125,333 and 119,457 lbs.; and the lowest (Low Moor No. 1 iron) being, tensile, 12,694 lbs., and the crushing, 64,534 and 56,455 lbs.—HENRY PRICHARD, C.E.

PARISIAN SYNAGOGUES.—Two new synagogues are to be built in Paris, at a cost of about three millions of francs. Towards this sum M. de Rothschild has contributed 200,000 francs.

CHURCH BUILDING AT PECULIAR EXPENSE.—A liberal brewer has built a church at his sole expense, but unfortunately the stone engraver cut the stone, which was to immortalize the brewer's name, with—"Built by — —, at his '*Soul's* expense."

NEW GREEN DYE.—An invention has been provisionally specified by Mr. P. Morin, of Paris, which consists in the production of a green colour or pigment by the treatment of oxide of manganese. Protoxide of manganese is transformed into a crystalline transparent substance, and takes a very rich green colour and diamond-like brilliancy when treated with hydrochloric acid in the gaseous state.

STONEHAVEN.—The contracts for the new office for the Bank of Scotland are now arranged. The following are the firms whose estimates are preferred, viz.:—Messrs. J. Burness, for the masonwork; D. Thompson, for the slater work; Jas. A. Mitchell, for the plumber work; A. Cormack, for the plaster work; and J. Thomson, of Laurencekirk, for the carpenter work. The four fronts of the building are to be of stones from Burntisland, the same as were used for the erection of Ury House.

GUERNSEY.—The "Brethren" have erected a chapel in Valnord-road, close by Victoria-road. This meeting-house, which measures 64 feet by 54 feet, is a substantial building, erected in the short space of six months.——Messrs. J. Reidy & T. Swingler, the patentee and engineer of the steam stone-breaking machine, have arrived in Guernsey; and, having received tenders from contractors for the erection of yard-walls, sheds, &c., required, have now decided to cause the same to be built without delay. The machines are calculated to crack from fifty to one hundred tons of stone daily.

TENDERS.

For the erection of the mansion dairy at Wimpole, for the Right Hon. the Earl of Hardwicke. The clerk of the works on the estate (Mr. Erant) architect:—

Thoday & Clayton	£1,075	0	0
Bell & Sons	970	0	0

For a villa at Wimbledon Park, for Mr. J. K. Andrews. Mr. Francis H. Fowler, architect. Quantities supplied by Mr. William Harris:—

Munro	£2,087	0	0
Messrs. Dove	1,885	0	0
Little	1,880	0	0
Oxford & Co.	1,880	0	0
Rider	1,845	0	0
George	1,790	0	0

The tender of Mr. Perry, builder, of Stratford, has been accepted for altering premises, Stratford Broadway, for branch bank for the London & County Banking Company. Mr. John M. Dean is the architect. The front will be of white Suffolk mairns, with Portland-stone dressings.

For repairs to house and premises, formation of roads, and building eight small houses, at Twickenham, for Mr. Scovell. Mr. Henry McCalla, architect. Quantities not supplied:—

Todd	£2,800	0	0
Wright	1,934	0	0
Eydman	1,926	0	0
Greenwood	1,760	0	0
London Building Company	1,500	0	0
James & Ashton	1,493	0	0
Pugh & Wallis	1,425	0	0

For a villa at Reading, for Mr. G. Palmer. Mr. Joseph Morris, architect. Quantities supplied:—

ACCEPTED TENDERS.

Excavator and Bricklayer.

Strong	£926	16	0

Mason.

Wheeler & Sons	190	0	0

Slater.

Warmsley & Taylor	60	10	0

Plasterer.

Groover	210	0	0

Carpenter and Joiner.

Day	742	2	0

Smith, Zinc-worker, and Bell-hanger.

Huntley & Boorne	149	13	11

Plumber, Glazier, and Painter.

Burton	268	15	0

For the erection of a club-room at the Ghuznee Fort Inn, New Brompton, for Mr. J. B. Jude. Mr. J. H. Andrews, Rochester, architect:—

Gammon	£462	7	11
Mottram	410	0	0
Hopper	388	10	0
Pankhurst	358	0	0
Jennings	345	0	0
Sampson (accepted)	329	0	0

For additions (bedrooms, bath-rooms, &c.) to the Queen's Hotel, Southsea. Mr. Augustus F. Livesay, architect:—

Barbidge	£1,031	16	0
Light (Brothers)	991	0	0
Dillon & Co.	990	0	0

For the first portion of a convent, to be built at Hagley, near Hereford, for Mr. R. Biddulph Phillipps. Mr. E. Welby Pugin, architect. Quantities supplied by Mr. M. S. Sharples:—

Simpson	£7,180	0	0
Perkins	6,890	0	0
Glaister	6,670	0	0
Smith	6,435	0	0
Houghton	6,275	0	0

For alterations at Kingston, for Mr. J. Howell. Mr. W. H. Jarvis, architect. Quantities not supplied:—

Pugh & Wallis	£707	0	0
Crawley	700	0	0
Mursland	685	0	0
Tarrant	606	0	0
Mudie	644	0	0
Johnson & Pugh	567	0	0
Bottom & Co. (accepted)	497	0	0

For church of Sir Humphrey de Trafford, at Stretford, near Manchester. Mr. E. Welby Pugin, architect:—

Eaton	£5,650	0	0
Patterson	5,413	0	0
Southend	5,040	0	0
Glaister	4,770	0	0
Simpson	4,502	0	0
Watts	4,350	0	0
For the Presbytery:—			
Patterson	1,696	0	0
Southend	1,572	0	0
Eaton	1,563	0	0
Simpson	1,448	0	0
Glaister	1,445	0	0
Watts	1,320	0	0

For new school-room, for the trustees of the Felstead Grammar School, at Felstead, Essex. Mr. Fred. Chancellor, architect. Quantities supplied by Mr. Bartlect:—

Macey	£3,650	0	0
Todd	3,357	0	0
Burrell	3,312	0	0
Cushing	3,300	0	0
Conder	3,265	0	0
Ennor	3,220	0	0
Wood	3,073	0	0
Palmer	2,763	0	0
Rider	2,680	0	0
Brown	2,450	0	0

For Upper Norwood Congregational Chapel.* Mr. John Tarring, architect:—

Saunders	£2,254	0	0
Higgs	1,950	0	0
Richards	1,936	0	0
Jackson & Shaw	1,905	0	0
Seymore	1,897	0	0
Thomson	1,865	0	0
Newman & Mann	1,863	0	0
Dove (Brothers)	1,575	0	0

* Without galleries.

For new stable building, balconies, greenhouse, &c., and new boundary-wall, for Mr. G. Russell, Wandsworth, Surrey. Mr. C. R. Gribles, architect. Quantities not supplied:—

	Stable, Greenhouse, &c.	Boundary Wall.	Total.
Avis	£418	£85	£513
Adamson & Sons	411	79	490
Avies	358	109	467
W. Strong (acpd.)	355	108	463

For the erection of a dwelling house and offices, at Little Arnwood, near Lymington, Hants, for Mr. Henry Marshall. Messrs. Haslam & Buckland, architects. Quantities supplied:—

Till	£1,006	0	0
Sanders	872	0	0
Sharpington & Cole	819	0	0
Phipps	799	0	0
Tucker	796	0	0
Butcher (accepted)	716	10	0

For the erection of a pair of cottages and some farm buildings, on the Balmore estate, Caversham, Oxon, for Mr. C. H. Marshall. Messrs. Haslam & Buckland, architects. Quantities supplied:—

Day	£654	0	0
Woodroffe	647	0	0
Barnicoat	620	0	0
Wells	616	0	0
Shepheard	615	0	0
Matthews	597	0	0
Biggs (accepted)	580	0	0

TO CORRESPONDENTS.

"NUMBER ONE THOUSAND."—The publication of this, the thousandth number of *The Builder*, might justify a little gratulatory talk; but we content ourselves with pointing to the fact, as marking an epoch in its course.

G. W. S.—T. B.—Oxoniensis.—** (tracings have arrived).—J. M. (should write his name so that it can be read).—C. K. (ditto. An illegible signature is either a stupidity, a deceit, or an impertinence; in any case indefensible).—M. & P.—R. B. E.—J. G. M.—A. J. B. (Mr. Lovegrove's).—H. & R.—Col. S.—G. S. X. (the trustees ought to pay; but power to compel is not certain).—S. F. P.—S. P. X.—N. & M.—H. R. L.—Mr. P.—J. M. S.—G. J.—An Architect and Subscriber (we must avoid giving a precise reply, with insufficient information. We should suggest 2 per cent.)—J. M.—E. M.—N.—A. N.—G. M.—Mr. M. W. S.—J. M. B. (declined, as it has appeared elsewhere).—J. G. F. (thanks).—E. A. F.—C. J. H. (another article may be sent).

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE. —Every description of Architectural Drawings prepared, and Perspectives Outlined or Coloured, by Mr. T. T. MARDON, Jun.; Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c. 7, John-street, Bedford-row, W.C. Office hours, Ten to Four.

PARTNER.—A Firm established for the last fifteen years in Contracting for Works, and also in Manufacturing Materials extensively used in Building, is desirous of taking into PARTNERSHIP a young business-like Man, possessing a moderate capital.—For further particulars apply to JOHN HOLMES, Esq. Solicitor, 23, Poultry, London, E.C

TO GRAINERS AND WRITERS.

A GOOD WORKMAN WANTED, for a Permanency.—Apply to SMITH, BROTHERS, Northampton.

CLERK of WORKS WANTED, to overlook the Execution of Contracts for Sewerage and Waterworks in Wales.—Apply by letter to Messrs. R. DYMOND & SONS, Exeter.

DRAUGHTSMAN.—WANTED, a Young Man, who can prepare detail drawings; he must also be able to trace designs, and render them effectively. Apply by letter stating previous employment, references, salary expected, &c. to PEARD & JACKSON, Manufacturers of Mediæval Art Metal Work, 159, High Holborn, W.C.

GRAND SURREY DOCKS and CANAL. WANTED a Resident CLERK of WORKS, to superintend the Bricklayers and Carpenters, and the Works generally, going forward on the Premises; and must have such a knowledge of engineering as to be able to superintend the machinery connected with the sluices, bridges, and lock gates. The salary will be 150*l.* with a residence.—Applications by letter, with testimonials, to be sent in before ELEVEN o'clock on THURSDAY, the 17th instant, to the Secretary, at the Company's Office, St. Helen's-place, Bishopsgate street.—By order, 3rd April, 1862. G. W. HEISCH, Secretary.

JOINERY and CARPENTER WORK.— FOREMAN WANTED, an experienced and first-rate party.—Liberal terms.—Apply, stating age, last employment, and enclosing copy of last testimonial, to A. W. Everett's Newspaper Office, Old Broad-street, E.C.

TO CIVIL ENGINEERS, ARCHITECTS, AND SURVEYORS' ASSISTANTS.

REQUIRED immediately, an experienced ASSISTANT.—Address, stating qualifications, age, salary, &c. Mr. ALEXANDER TAYLOR, Surveyor to the Local Board, Scarborough.

YOUTH WANTED, in a Builder's Office, town or country. No salary first year.—Apply to W. BOTTOM & CO. 77, High-street, Southwark.

WANTED, a steady, active Man, for a PAPERHANGER, as a GENERAL SMITH, BELLHANGER, and GASFITTER; one from the country preferred.—Address, stating salary required and character, to Mr. OLIVER PITTS, Percy House, Walham-green, S.W.

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, in a Country Office, a useful ASSISTANT, well up in detail and construction. One who has a knowledge of levelling and surveying would be preferred.—Apply to FREDERICK FRANEY, Esq. 43, Parliament-street, Westminster.

TO PARENTS AND GUARDIANS.

WANTED, an IN-DOOR APPRENTICE to the PLUMBING, PAINTING, and GLAZING BUSINESS. Address, W. T. LYON, 10, Lower Tulse-hill, Brixton.

WANTED, a thoroughly experienced Man, to act as RESIDENT FOREMAN of WORKS on a large Estate. He must be a good practical builder and draughtsman, capable of superintending steam saw mills, timber-yard, and all repairs; the conversion of timber, and the planning of new buildings. Methodical and active in his habits, a good accountant, and with unexceptionable character.—Apply personally, or by letter, giving references and all particulars, to Mr IRVINE SHOBDON, Court House, near Leominster.

WANTED, in an Architect's Office in a Midland Town, a neat and expeditious DRAUGHTSMAN.—Address, stating terms, capabilities, &c. to W. H. Post-office, Northampton.

WANTED, a JUNIOR PARTNER, with from 1,000*l.* to 2,000*l.* in an old-established BUILDING CONCERN in the country.—Address, S. J. W. Office of "The Builder."

TO ZINC WORKERS.

WANTED, an experienced HAND.—Apply at No. 12, Triangle, Southampton-street, Camberwell, S.

WANTED, by an extensive Building Firm, a thoroughly competent ESTIMATING CLERK.—Apply, by letter only, stating terms and references, to A. B. Messrs. Field & Co. Stationers, 31, Nicholas-lane, E.C.

WANTED immediately, for a Permanency, a general BUILDERS' FOREMAN; a preference will be given to a Practical Carpenter and Joiner. Reference will be required as to character and ability.—Apply to Smith, Brothers, Northampton.

WANTED, Immediately, an Energetic WORKING FOREMAN of Masons, for a church restoration, thoroughly acquainted with Gothic Work in all its details. Undeniable references required as to ability, integrity, and general character.—Apply, stating wages required, to HENRY LOVETT, Builder and Contractor, Wolverhampton.

WANTED, a POT-MAKER.—Apply to A. TOMLINS, Manager, Bounds-green Potteries, near Colney Hatch, Middlesex.

WANTED, a thorough practical FOREMAN, to carry out a building in town. A carpenter by trade preferred. Address, stating age, salary, and where last employed, to J. P. N. Office of "The Builder."

TO PLUMBERS, GLAZIERS, PAINTERS, BUILDERS, AND HOUSE AGENTS.

WANTED, by a Handy Man, a SITUATION, to improve himself in plumbing (served his time to the above), or make himself useful to a builder, or on a gentleman's estate, in keeping houses in repair; can do jobbing carpentering, collect rents, or take any place of trust. In town or country.—Address, H. HENRY, 14, Hawkins-street, Sidney-street, Mile-end-gate, E.

TO BUILDERS, CONTRACTORS, &c.

WANTED, by a Builders' Foreman of many years' experience, a SITUATION as FOREMAN or CLERK of WORKS.—Address, J. L. 37, Nelson-square, Blackfriars-road.

WANTED, by a Young Man, a PERMANENCY as FRENCH POLISHER, or in a FURNITURE WAREHOUSE, where he would be willing to undertake other duties. Town or country.—Address, W. G. 12, Carnaby-street, Golden-square, W.

WANTED, by a Young Man, aged 18, a SITUATION as an IMPROVER to a PLUMBER. Has been three years in the trade.—Address, J. B. 28, George-street, Crooms Hill, Greenwich, Kent, S.E.

TO ARCHITECTS AND SURVEYORS.

WANTED, by the Advertiser, who has had eight years' experience in the profession, a RE-ENGAGEMENT as ASSISTANT.—Address, A. T. L. Post-office, 166, Great Dover-street, Southwark, S.E.

TO BUILDERS AND PLUMBERS.

WANTED, by a respectable Young Man, a SITUATION as a good PLUMBER. No objection to fill up his time in painting, if required. A good reference can be given.—Address, post-paid, A. B. No. 183, Bermondsey-street, Southwark.

TO IRONMONGERS, &c.

WANTED, by a Young Man, a SITUATION as BRASS-FINISHER, GAS-FITTER, and BELL-HANGER. Is well accustomed to the routine of ironmonger's work, and thoroughly understands moderator lamps, &c. Good references. Wages, 30*s.* per week. No objection to country.—Gddress, A. M. Office of "The Builder."

TO BUILDERS, PLUMBERS, AND PAINTERS.

WANTED, by a Young Man, aged 23, a SITUATION as PLUMBER, PAINTER, and GLAZIER. Understands paperhanging. Town or country.—Address, R. C. 37, George-street, Harmond-street, Camden-town, N.W.

TO BUILDERS, &c.

WANTED, an ENGAGEMENT, by a thoroughly efficient, practical SHOP FOREMAN, of superior abilities and unimpeachable character, who is thoroughly acquainted with the most improved London systems of management and execution.—Address, F. H. 23, Walton-street, Brompton, S.W.

N.B.—No objection to any part of the kingdom.

WANTED, by an ARCHITECT'S ASSISTANT, a SITUATION. Is a good draughtsman, and has had good experience in practical work. No objection to go abroad. Unexceptionable references.—Address, C. F. 53, Cloudesley square, Islington, N.

WANTED, a SITUATION, by a respectable Young Man, as PLUMBER. In town or country. No objection to fill up his time in painting or glazing.—Address, W.L. 19, Union-place, Lambeth road, S.

TO SAW-MILL PROPRIETORS, &c.

WANTED, a SITUATION as SAWYER, or to Sharpen Saws, or work as Mechanic in a Saw-mill. Has a good knowledge from experience of sixteen years. Can manage a saw-mill, or superintend machinery.—Address, B. M. care of T. Jenkin, Coal Merchant, Station Wharf, Burton-on-Trent.

TO BUILDERS.

WANTED, by a Practical Man, a PLASTERER, to TAKE WORK by the YARD or JOB. Town or country.—Address, A. B. 43, Hide-place, Vincent-square, Pimlico.

TO SAW-MILL OWNERS AND OTHERS.

WANTED, by a Young Man, a SITUATION as VENEER or CIRCULAR BENCH SAWYER. Has sixteen years' experience.—Address, A. Z. 4, Lucan-place, near Rossmary-branch Bridge, N.

WANTED, by a good Architectural Draughtsman, a RE-ENGAGEMENT in an Architect's or Surveyor's Office. Salary moderate.—For references and further particulars, address ALPHA, at Messrs. Hill and Sons, Bankers, 17, West Smithfield, City, E.C.

WANTED, a LAD of about 17, who has been employed in an Architect's office, and knows a little of Geometrical Drawing.—Apply, by letter, to B. S. E., Office of "The Builder."

TO BRASS ENGRAVERS

WANTED, a Good WORKMAN who has been accustomed to execute Monumental Brasses in the Mediæval style.—Apply, by letter, to B. S. E. Office of "The Builder."

TO BUILDERS.

WANTED, a SITUATION as CLERK in a Builder's Office.—Is a neat draughtsman, and used to the duties required. Further improvement being the object, salary moderate.—Address, W. W. Office of "The Builder."

TO BUILDERS.

WANTED, by a respectable Young Man, who understands plain drawing, a SITUATION as JUNIOR ASSISTANT, BOOK-KEEPER, or OUT-DOOR ASSISTANT.—Address, E. N. care of Mr. Bull, Bookseller, Devizes.

TO BUILDERS.

WANTED to APPRENTICE, in-doors, to a CARPENTER and BUILDER, a YOUTH of respectable connexions, fifteen years of age.—Apply by letter, prepaid, stating full particulars, to W. W. care of Mr. Smith, Chemist, &c. Southampton-street, Camberwell, S.

TO BUILDERS, PAINTERS, &c.

WANTED an ENGAGEMENT as FOREMAN OF PAINTERS, by a respectable well-educated man, possessing a good practical knowledge of the business.—Address, J. A. Office of "The Builder."

TO BUILDERS AND OTHERS.

WANTED, by the Advertiser, a CARPENTER by trade, a RE-ENGAGEMENT, as OUTDOOR FOREMAN, or to superintend private building works. First-class reference.—Address, W. T. Office of "The Builder."

TO MASTER HOUSE PAINTERS AND OTHERS

WANTED a JOB in the Country, by a House Painter.—Address, B. T. Pastry-cook's, 2, London street, Fenchurch-street, London, E.C.

TO BUILDERS AND CONTRACTORS.

WANTED, a SITUATION, as JUNIOR CLERK, in the office, or out on works, by a Young Man, aged 25, who is practically acquainted with the trade in all its branches. Moderate salary. Good references.—Address, A. A. 38, Camden-street, Islington, N.

TO ARCHITECTS AND SURVEYORS.

WANTED, by a CLERK of WORKS, who has now completed his late engagement, a RE-ENGAGEMENT. First-class London references. Age 33.—Address, BAKER, Mr. Jennings, Undertaker, Fore-street, City, E.C.

TO ARCHITECTS, SURVEYORS, &c.

WANTED, by a thoroughly-qualified ASSISTANT, a SITUATION in an ARCHITECT'S OFFICE, either for a short time or for a permanency. Terms, two guineas per week.—Address, A. B. care of Mr. Moody, 9, Conduit-street, Regent-street.

WANTED, a RE-ENGAGEMENT, in an Architect's Office. Is a good draughtsman, and well up in all requirements. Salary, 2*l.* per week.—Address, W. K. 38, Lincoln's-inn-fields, W.C.

TO BUILDERS, HOUSE DECORATORS, &c.

WANTED, EMPLOYMENT, by a first-rate House Painter, Grainer, and Paperhanger, by the day, or piece-work; or as WORKING FOREMAN, or otherwise.—First-rate references.—Address, R. W. Office of "The Builder."

TO CARPENTERS

WANTED, by a respectable Youth, aged 17, a SITUATION as IMPROVER.—Address, A. B. 11, Great St. Andrew-street.

TO BUILDERS, &c.

WANTED, by a respectable Young Man, a SITUATION as a thorough HANDY MAN. The first of references.—Address to H. E. 9, Old Bond-street, W.

TO RAILWAY CONTRACTORS AND OTHERS.

WANTED by a Young Man, 24 years of age, a SITUATION as TIMEKEEPER, or CLERK of WORKS. Can give good references. No objections to town or country.—Address, B. Post-office, Pensnett, near Dudley.

WANTED, by a Young Man, a SITUATION, to make himself generally useful as CARPENTER.—Address, stating wages, F. R. 54, Gee-street, Goswell-street, E.C.

TO ARCHITECTS AND ENGINEERS.

THE Advertiser is desirous of obtaining a SITUATION as CLERK of WORKS, either under an Architect or Engineer. He has had very considerable experience in every class of secular and ecclesiastical buildings. He would have no objection to take the entire management for a builder, or as foreman to any large undertaking. The most satisfactory references from architects and engineers can be adduced.—Address, F. B. Office of "The Builder."

TO ARCHITECTS, SURVEYORS, AND OTHERS.

THE Advertiser, Son of a Builder, wishes for a RE-ENGAGEMENT as CLERK of WORKS, or to superintend Private Building Works. Can prepare drawings, &c. Satisfactory reference from architects and builders.—Address, I. A. Office of "The Builder."

TO DECORATORS, UPHOLSTERERS, &c.

THE Advertiser, aged 25, desires EMPLOYMENT. He is a good freehand and perspective draughtsman, and ornamental penman. Can make plans and working drawings.—Address, W. C. R. 50, St. George's-road, New Kent-road, Borough, S.E.

TO ARCHITECTS, BUILDERS, &c.

THE Advertiser is open to an ENGAGEMENT as CLERK of WORKS, or ASSISTANT in an Architect's Office (could take the management of an office). Is a good practical draughtsman and measurer, and has had considerable experience in farm buildings, villa architecture, and warehouses. Can give first-class reference to Government and private offices for the last fifteen years.—Address, R. E. 14, York-street, Covent Garden, W.C.

TO SURVEYORS AND BUILDERS.

THE Advertiser, who has been six years in an architect and surveyor's office, wishes for an ENGAGEMENT to assist in making out quantities, making accounts, &c.; or as Clerk of Works, where he would have an opportunity of improving himself. Terms, for three months, one guinea per week. No objection to the country.—Address, A. A. 45, West-square, Southwark, London.

TO RAILWAY CONTRACTORS AND OTHERS.

THE Advertiser, 29 years of age, and married, wishes for an ENGAGEMENT. Has had ten years' experience on railway and dock works. The last twelve months as agent for an extensive railway contractor. Can both level, measure, take out quantities, &c. and is thoroughly conversant with the out-door management.—Address, W. R. care of D. H. Wilson, Grey-street, Newcastle-on-Tyne.

THE Ecclesiastical Commissioners for Ireland require the SERVICES of a Person competent to act as INSPECTOR of CHURCH WORKS in the north-west of Ireland; he should be thoroughly acquainted with all the details of building, be able to survey and report on buildings, prepare estimates, specifications, &c. and have considerable experience in the superintendence of works. They also require a Person to act as SUPERNUMERARY INSPECTOR, and to give assistance in the Architect's Office as DRAUGHTSMAN and CLERK; he must have experience in, and a thorough acquaintance with the practical execution of works; he will be placed in charge of a small district at once, and must be competent to take the place of any of the Inspectors in case of necessity. Applications, with testimonials, &c. and stating the age of candidate, are to be forwarded to the SECRETARY, Ecclesiastical Commissioners for Ireland, 24, Upper Merrion-street, Dublin, on or before the 23rd of APRIL next.

TO ARCHITECTS.

OCCASIONAL or PERMANENT EMPLOYMENT WANTED. The Advertiser, a first-rate Artist, has had sixteen years' experience in all the different branches of the profession.—Address, C. B. 54, Denbigh-street, Pimlico.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, writing specifications, measuring, and making up Builder's accounts, disputed or otherwise. Satisfactory references to Architects and Builders.—Address, X. Y. Z. 20, Charlotte-street, Portland-place.

MANAGER of BRICK and TILE-YARD. WANTED, by a respectable middle-aged Man, a SITUATION as above. Is accustomed to the trade in all its branches, including Pottery. Thoroughly understands burning, and is a good book-keeper. Most satisfactory testimonials from previous employers.—Address, J. A. 20, Grove street, Camden-town.

HANDY MAN.—A sober, steady, and industrious Man wishes for EMPLOYMENT. Can do jobbing, painting, glazing, whitewashing, and general repairs. Is capable of undertaking small houses. Good reference can be given.—Address or apply to No. 25, George-row, George-street, Albany-road, Camberwell.

A STAIRCASE HAND, of large practice, requires an ENGAGEMENT, either by the day or piece. No objection to the country.—Address, E. F. 77, Fetter Lane, Holborn.

TO BUILDERS.

A SURVEYOR of considerable practical experience in taking off quantities, measuring, estimating, adjusting builders' accounts, making drawings, &c. Would be glad to undertake business for builders upon reasonable terms. A very small charge only is made for pricing bills of quantities if unsuccessful. Can occasionally introduce work to builders.—Address, S. V. R. Office of 'The Builder.'

TO BUILDERS, &c.

AN efficient CLERK is open to an ENGAGEMENT. Is a good practical draughtsman, and has had considerable experience in taking out quantities, measuring, and estimating.—Address, CHAMFER, 37, Aske-street, Hoxton, N.

TO ARCHITECTS AND SURVEYORS.

AN experienced ASSISTANT, just returned from a long country engagement, requires a SITUATION. Is a good draughtsman, designer, and constructionist, well versed in the various styles, understands surveying and levelling; prepares finished full-sized drawings, and perspective.—Address, T. G. B. Chevalier, Bowness, & Son's, 12, Bell-yard, Temple Bar.

TO ARCHITECTS AND SURVEYORS.

AN ASSISTANT is desirous of a RE-ENGAGEMENT in Town, either temporary or otherwise. Is fully competent to prepare designs, detail drawings, specifications, perspectives, measure up works, make surveys of dilapidations, &c. Has had the management of an office in the City. Terms moderate.—Address, A. Z. Trimmer's Library, Broadway, Camden-town.

A YOUNG MARRIED MAN wishes to obtain a constant SITUATION in the country as a THREE-BRANCH HAND. He thoroughly understands pumps and water works; also a good grainer. Can have six years' character.—Address, E. W. Mr. Hunt's, 1, Union-street, Christchurch, Stratford, Essex

TO ARCHITECTS.

AN Efficient CLERK of WORKS wishes a RE-ENGAGEMENT. Age 42.—Address, A. B. 8, Bannerstreet, St. Luke's, E.C

TO BUILDERS, CONTRACTORS, AND OTHERS.

AS CLERK or TIMEKEEPER.—WANTED, by a respectable young Married Man, aged 30, a RE-ENGAGEMENT as above, or otherwise. He has been accustomed to taking out time and booking materials, &c., on some very extensive buildings for the last twelve years. Three years and a half with late employers. Satisfactory references can be given.—Address, W. G. 21, Craven terrace, Craven hill, Bayswater, W.

TO ARCHITECTS, CIVIL ENGINEERS, OR SURVEYORS.

A GOOD and useful DRAUGHTSMAN will be glad to RENDER temporary ASSISTANCE in the Preparation of Finished or Working Drawings, Tracings, or Duplicates of Engineering Drawings or Surveys. Good references if required. Terms moderate.—Address, T. C. 22, Harmood-street, Hampstead-road, N.W.

TO ARCHITECTS' ASSISTANTS.

AN Architect would be glad to obtain the OCCASIONAL SERVICES of a Gentleman to assist him during the pressure of his engagements. He must be skilful in planning able in design, and master of detail and construction. As a high standard of professional acquirement is looked for, none will reply who cannot fully meet the above requirements.—Address, stating salary required, age, &c. Mr. THOS. T. Office of "The Builder."

AN Architect in the suburbs of London requires an ASSISTANT. He must be a good draughtsman, have a taste for design, and good knowledge of detail and constructi n.—Address, with full particulars, giving age and salary required Mr. E. WILSON, Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

AS PRIME-COST CLERK, or LEDGER CLERK and CASHIER.—WANTED, a RE-ENGAGEMENT as above, by a Builder's Clerk, qualified to take charge of a set of books. Three years' last engagement. Satisfactorily retired. Town or country. Address, G. B. W. 48, Milton-street, Dorset-square, N.W.

TO ARCHITECTS AND SURVEYORS.

A YOUNG MAN, aged 20, just out of his time, and conversant with the usual routine of an office, is desirous of an ENGAGEMENT.—Address, W. C. G. No. 9, Cambridge-terrace, Lodge's-road, Hackney, N.E.

A YOUNG MAN, respectably connected, is desirous of a place as IMPROVER in the House Joining Line. Has no objection to the country.—Address, T. W. L. 96, Long-acre, London.

ADDRESS W. M. 24, Temple-street, St. George's-road.—CARPENTERING or REPAIRS, or as HANDY MAN in a Warehouse. Constant work required. Wages moderate. Character if required.

TO ARCHITECTS.

A QUANTITY SURVEYOR and MEASURER, with a practical knowledge of building, would be glad to TREAT with ARCHITECTS for their Quantities, and Measuring, Writing Specifications, &c., on moderate terms. References given to Architects. Quantities guaranteed.—Address, ALPHA, care of Mrs. Fisher, Stationer, Vassall-rd, Brixton-road, S.

TO BUILDERS, DECORATORS, &c.

A COMPETENT WRITER, EMBOSSER, and WRITER on GLASS seeks an ENGAGEMENT of not less than twelve months. Does not object to do interior plain painting.—Address, J. B. 7, Triangle, Kennington.

TO ARCHITECTS AND OTHERS.

AN experienced DRAUGHTSMAN, well versed in Gothic and Classic Details, requires an ENGAGEMENT. Measures, studies, takes off quantities, superintends, and constructs well. Good references. Terms reasonable.—Address, D. M. N. 52, Clarendon-square, N.W.

A GOOD BUILDERS' CLERK, aged 25, wants an ENGAGEMENT. Is well acquainted with estimating and measuring, and is a good draughtsman, &c. — Address, ALPHA, 5, Maison Dieu-place, Dover.

TO ARCHITECTS, BUILDERS, &c.

A YOUNG ARCHITECT will be happy to PREPARE DESIGNS, FINISHED or WORKING DRAWINGS, PERSPECTIVES, &c. either at his own chambers or otherwise. Terms moderate.—Address, E. S. 45, Chandos-street, Strand, W.C.

TO ARCHITECTS AND ENGINEERS

AS CLERK OF WORKS.—WANTED, by a thoroughly practical man, a situation as CLERK of WORKS. Has had fifteen years' experience, with first class testimonials.—Address, L. J. at Mr. Kirby's, 37, Lambeth-walk.

A GOOD WORKMAN WANTS EMPLOYMENT as BELL HANGER, GASFITTER, and SMITH Good reference.—Address, G. R 20, Molyneux street, Edgware-road.

TO ARCHITECTS.

AS CLERK OF WORKS. A thoroughly practical Man is desirous of a RE-ENGAGEMENT. Has had considerable experience in public and private works. First-class references.—Address, C. W. Office of "The Builder."

FREEHOLD PAPER-MILLS for SALE by PRIVATE CONTRACT.—This important Freehold Property is situate in the parish of Rickmansworth, and possesses a convenient Family Residence, placed in the centre of about 6½ acres of park like Meadow Land, with Pleasure-Ground and productive Kitchen Garden. The Mill is remarkably well constructed, and contains every requisite for carrying on a first-rate business, and possessing a powerful stream of water, and superior washing water in abundance. Very considerable alterations have been made within the last two years, and the best machinery introduced, and the manufacture of paper can be conducted with the greatest economy. The Property is 22 miles from London, 3 miles from Rickmansworth, and 7 from Watford, and a Station will shortly be opened at Rickmansworth. A portion of the purchase money may remain on mortgage.—For particulars and to treat apply to Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 19, Waterloo-place, Pall mall, S.W.

REMOVAL.—MR. E. BASSETT KEELING, Architect, from 33, Fleet street, E.C. to 1, Verulam-buildings, Gray's-Inn, W.C. A Vacancy for an Articled Pupil.

ASPHALTE—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1834.—TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by steam power, laid down in the best manner, or supplied in any quantity. Information for using forwarded with material. Post office orders or letters to the London premises attended to. Estimates given for every kind of the above work.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT, For Damp Walls and Lining Iron Houses. 2, DOWGATE-HILL, London; and 2, GORE PIAZZA, Liverpool.

VENTILATION—PURE AIR.



Sheringham's Ventilator for the admission of Pure Air through an EXTERNAL WALL.

With single pulley, from 6s each, with leading pulley, from 8s 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.



INTERNATIONAL EXHIBITION, 1862

TO BUILDERS, UPHOLSTERERS, DECORATORS, &c.

THE OFFICIAL COLOURS, in CLOTHS and BAIZES, ARE NOW IN STOCK AT HILL & SON'S, 88 and 89, ST. MARTIN'S LANE, CHARING CROSS, W.C.

BENJAMIN EDGINGTON, 2, DUKE STREET, FOOT of LONDON BRIDGE, S.E. Manufacturer of Tarpaulins, and Impressed Dessert Cloths. Tarpaulins laid on Hire. Scaffolding Ropes, and Blocks of every description. Marquees, Tents, Awnings, Rick cloths, Sacks &c. N.B. The ONLY ESTABLISHMENT in at 2, DUKE STREET, LONDON BRIDGE, S.E.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, as made by GOUGH & BOYCE, the Original Patentees, and all exclusively by them at the Houses of Parliament, and numerous other Public Offices. It is especially adapted for churches, mansions, public rooms, shops, and passages, being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. 12, Bush-lane, Cannon-street, London.—Forwarded to all parts of the country.

CROGGON & CO.'S NOISELESS ELASTIC KAMPTULICON, Or INDIA-RUBBER FLOOR-CLOTH.

Impervious to wet, indestructible by vermin, soft to the tread, and warm to the feet; well adapted for sheds of all kinds, halls, offices, rooms, shops, &c. as well for its comfort as extreme durability. Also used very largely for billiard mats.—Patterns may be seen at 2, Dowgate hill, London, E.C.

KAMPTULICON, or ELASTIC FLOOR CLOTH. TAYLER, HARRY, & CO. MANUFACTURERS and PATENTEES, 19, Gutter lane, Cheapside. WORKS, DEPTFORD-GREEN.

GRIFFIN ANTIQUARIAN, a pure, choice, and first-class DRAWING PAPER, of Whatman's manufacture. A new batch of 1860 make is now in fine condition, and ready for delivery. Large sheets, 52 inches by 31 inches, 7s. WINSOR & NEWTON, 38, Rathbone-place, London, and all Stationers & all Artists' Colourmen.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING. A STOCK OF THE ABOVE ALWAYS ON HAND. JAMES LYNE HANCOCK, VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON E.C.

TO CONTRACTORS. — FIVE GOOD DOBBIN CARTS for SALE, and some TRACE HARNESS. Apply to A. Buxton Arms, Buxton-road, Stratford.—P.S. Work wanted for Horses and Carts.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELI, Manufacturer of Carts, Vans, Waggons, Trucks and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS. G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c. DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE. Price Lists on application. GEORGE ELI, EUSTON WORKS, 356 and 368, EUSTON-ROAD, N.W.

CHURCH PULPIT (wood, Gothic), with STONE FONT, STAIRS, READING-DESKS, &c. for SALE, cheap, viz. Ten Guineas; suitable for any large church. It is to be seen at Messrs. BARTON & SONS, Auctioneers, opposite the Female Orphan Asylum, in the Westminster road, Lambeth, Surrey. Note to Church Builders.—It would be invaluable to any contractor who can introduce it in their church buildings.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Price, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS

CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS.

And every description of ornament for internal and external decoration, executed in Plaster, Cuton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS, 242, EUSTON ROAD, ST. PANCRAS.

PERSPECTIVE VIEWS MADE for the ACADEMY, or other EXHIBITIONS; Assistance given to Art lovers, either in their own offices or at home; and all communications carefully written, by a gentleman who has had considerable experience.—Address, ARCHITECT, care of Mr. T. Onwhyn, 1, Catherine-street, Strand, W.C.

NOTICE.—Architects, Surveyors, Engineers, and Builders, before taking their Sons into the Office after leaving school, should put them for a few months in Messrs. T. J. HILLS and J. W. YOUNG'S DRAWING CLASSES.—Offices, 7a, Old street, where prospectuses may be had of the day and evening classes.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling Civil Engineering, &c. For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Entrance.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Practical, Mechanical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street London. ROBERT M. LATHAM, Secretary.

A CARD.

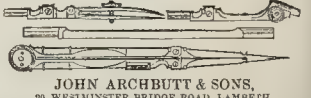
MESSRS. CORDEROY, Surveyors (late of High-street, Marylebone), have REMOVED their OFFICES to 17, KING WILLIAM STREET, STRAND, LONDON, W.C. Office in Portsmouth—13, Ordnance-row, Portsea.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.

Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO. Lithographers, &c. 5, Ave Maria-lane, E.C.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED. Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal" 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s. Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises. Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use. Lists of Prices on application. 3, GREAT TURNSTILE, HOLBORN, LONDON, W.C. Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS, 20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

TO ARCHITECTS AND SURVEYORS.

FOR SALE, the SURVEYING and OFFICE INSTRUMENTS of a gentleman (deceased), comprising theodolite level, prismatic compass, station staff, scales, T square, case of drawing instruments, &c. &c.; are of the best construction and make, and free from injury of any kind; can be parted with together or separate.—Address (prepaid) for particulars, to Mr. E. R. Wymer, 3, Edinburgh-terrace, Grey's-Inn-road.

SIXTY MARBLE CHIMNEY-PIECES
TO BE SOLD, in consequence of Monsieur Beernaert, of the Belgian and Westminster Marble Works, Millbank-street, Westminster, having discontinued his Show-rooms in London. The above Chimney-pieces consist of Carved Statuary, Bold Rouge Royal, Black Trussed, &c. &c. The above will be sold at a great sacrifice—in fact, no reasonable offers will be refused.—Apply to Mr FELTON, Westminster Marble Works, Earl-street, Horseferry-road, S.W.

THE PANTECHNICON, QUEEN'S ROAD, BRIGHTON.
FOREIGN MARBLE GALLERIES,
contain upwards of Two Hundred MARBLE CHIMNEY-PIECES, consisting of Carved Statuary, Vein, Sicilian, Blanc Pie, Blanc Clair, Rouge Royal, St. Ann's, Black, Jasper, Verd des Alps, and other coloured Marbles, in every variety of design and size, set up for view. Sculptured Marble Monuments, Headstones, &c. erected. An inspection is respectfully solicited by the Proprietors and Importers, GEO. HEAD & SONS.
N.B. Packing-cases lent free of charge.

WILLIAM S. LAWRENCE,
PENNANT STONE MERCHANT
STAPLETON.
OFFICE: 10, MERCHANT STREET, BRISTOL.
All descriptions of Steps, Landings, Troughs, Block Tombs, Curt Ashlar, Paving, &c., always on Sale, at his celebrated Stone Quarries, Stapleton; and at Conham, on the banks of river Avon, near Bristol.

BATH! BATH!! BATH!!!
ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM. WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons' Work prepared ready for fixing.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

JOHN BAZLEY WHITE & BROTHERS,
MARBLE MERCHANTS,
MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 89, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

FOREST of DEAN STONE.—
Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.)
The FOREST of DEAN QUARRIES, COLEFORD,
GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.
That from their "Gosty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Dark-hill" Quarries, is decidedly superior to it.
Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any Station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address
No. 1, BOLD TERRACE, CHESTER.

POLISHED GRANITE WORKS,
ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

BLOCK STONE! BLOCK STONE!
The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.
SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock. Also NOTE delivered direct from the Quarries to all parts of the Kingdom.
The BEST and CHEAPEST STONE-WHARF in LONDON.
Address, SAMUEL TRICKETT, Isle of Dogs, E.
A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slate, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCORLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

THE NORTH-WESTERN STONE WHARF, Canal Bridge, Camden-town, is the cheapest Stone Wharf in London. Large STOCK of all sorts of YORKSHIRE and other STONE, GRANITE CURBING, and PITCHING, is always on hand to select from. Self-faced paving at 27s. per 100 feet; 1½-inch tooled, ditto, 33s.; 2-inch, ditto; Landing, ditto; and all kinds of stone, at equally low prices.—W. ASPINALL, Proprietor.
N.B.—Country orders, to ensure punctual attendance, must be accompanied by a remittance.

VICTORIA MARBLE WORKS,
33, LOWER BELGRAVE PLACE, Adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

PURE STATUARY MARBLE!
and in slabs of large dimensions, can be obtained at
M. W. JOHNSON'S MARBLE WORKS,
333, EUSTON-ROAD, London, N.W.
Prices moderate
M. W. J. has also an Immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821.

BELLMAN & IVEY,
SCAGLIOLA MARBLE MANUFACTURERS,
14, BUCKINGHAM-STREET, FITZROY-SQUARE,
LONDON, W.
Execute, in the most workmanlike manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION,
IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.
Also Manufacturers of Superior and Improved Plaster of Paris

RANSOME'S PATENTED SOLUTIONS
for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

FREEHOLD GROUND RENTS.—CITY of LONDON.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 8th of APRIL next, at TWELVE o'clock precisely, to receive TENDERS for certain FREEHOLD GROUND RENTS, on premises let on lease, having about eighty years to run, and situate 119 and 120, Chancery lane, 79 and 80, Aldgate High-street, 1, Minories, 4 and 9, Maidenhead-court, Aldersgate-street, particulars and plans of which may be had at the Office, together with conditions of sale. Tenders must be sealed, endorsed outside "Tender for Ground Rent," and addressed to the undersigned, and must be delivered in before TWELVE o'clock, on the said 8th of APRIL next.—The Commissioners do not bind themselves to accept any Tender, unless the same be deemed eligible. Parties tendering must attend personally, or by an authorized agent, on the day of treaty, and be then prepared (if their Tender be accepted), to pay the required deposit of 10 per cent and to execute an agreement for the completion of the purchase agreeably to the conditions of sale. JOSEPH DAW, Principal Clerk.
Sewers' Office, Guildhall, February 20, 1862

TO BUILDERS and OTHERS.—SELHURST-PARK, Norwood, near the Junction Station.—The freeholder will co-operate with respectable builders in ERECTING HOUSES, to let at 45l. to 65l. Excellent bricks of every class on the estate. Proximity to the Junction Station, enables materials to be readily supplied. All roads made. Several first-class houses erected, all of which have been let before finished; and others are in course of completion. Natural drainage from all parts of the estate. Air proverbially healthy, water good and abundant, drives and walks beautiful; nine miles, or 15 minutes from City; 24 minutes from West-end; 4 minutes from Crystal Palace; 50 minutes from Brighton. Trains constant from station till half past twelve at night.—Particulars at Selhurst-park Office; or to Messrs. FRANCIS FULLER & CO. Cornhill, E.C.

BELSIZE PARK, HAMPSTEAD.—To BUILDERS and OTHERS.—LAND to BE LET, for Building, with roads and sewers all complete. For further particulars, apply on the estate, at Mr. TILDEY'S Office, 20, Belsize-park.

BEAUTIFUL FREEHOLD BUILDING SITES on the Surrey Hills, between Croydon and Godstone, to be SOLD or LET, in plots of from five to fifty acres, at prices, it is believed, lower than are quoted for any land possessing equal advantages within a like distance of London. There are two railway-stations on the estate, affording means of access both to the City and West-end, and the locality offers the especial advantages of a dry, pure, and bracing air (rendering the district proverbial for health), a gravel and chalk subsoil, an abundance of excellent spring water, and a highly respectable neighbourhood.—Particulars and plans of Messrs. DEBENHAM & TEWSON, Estate Agents, 80, Cheapside.

NORWOOD, FOREST HILL, and SYDENHAM.—To BUILDERS and OTHERS.—TO BE LET, on Building Lease, a PLOT of LAND, with 400 feet frontage in the Sydenham-road, with a side front of 300 feet on a new road, within five minutes' walk of the new junction station, Norwood, eligible for first-class villa residences, the corner suitable for a tavern. Also about 220 feet frontage on the new road, about two minutes' walk from Forest-hill Station, suitable also for the above class residences. Also Two Plots of Land, of 80 feet frontage each, situate in Wells-road, Sydenham, suitable for small cottage property, which is very scarce in that locality; all on the Brighton and Crystal Palace railways, with about eighty trains daily stopping at the above-named stations, rendering approach easy to the City, and West-end, by means of the London-bridge and Pimlico Termini.—For particulars apply to Messrs. M. & T. GARNAR, 8, King street, Bermondsey New-road, S.E.

GUILDHALL, 28th March, 1862.—The Committee for Letting the City's Lands will meet at Guildhall, on WEDNESDAY, the 9th day of APRIL next, at ONE o'clock precisely, to receive PROPOSALS for a BUILDING LEASE for Eighty Years, being the site of four houses formerly known as Nos. 14, 15, and 16, in Warwick-square, Newgate-street, in the city of London. Plans of the ground may be seen, and further particulars and forms of Tender obtained, upon application at the Architect's Offices, Guildhall. FERDINAND BRAND, Comptroller.

WOODFORD.—PLOTS of BUILDING GROUND TO LET, on the Grove Estate, within five minutes' walk of the Woodford station, close to the church, and twenty minutes by omnibus from Bishopsgate-street. Excellent spring Water supplied by the Low Leyton Water Company.—Apply to the Bailiff, WASHINGTON SINGLE, Esq. the Grove, Woodford.
Money advanced, if required.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

TO CARMEN, BUILDERS, and OTHERS.
PREMISES TO LET.—The Court of the Worshipful Company of Coopers are prepared to receive TENDERS for TAKING, on a REPAIRING LEASE for twenty-one years, the PROPERTY known as BURRINGTON MEWS, Bond street, Ratcliff. A plan of the same, together with particulars, may be seen at my Office. The Tenders to be delivered here on or before THURSDAY, the 3rd day of MAY next. The Court do not bind themselves to accept the highest or any Tender.
JAMES BOYER, Clerk.
Coopers' Hall, Basinghall-street, 3rd April, 1862.

TO BE LET by PUBLIC TENDER, by the Worshipful Company of Pewterers, on lease for twenty-one years, the lately-erected and most desirably built PREMISES, known as No. 17, Lime-street, in the city of London, and which is specially suitable for offices. Full particulars and cards to view can be obtained on application to Messrs. ELLIS & SON, of No. 49, Pancras-street, E.C.; or of the Clerk of the above Company, Mr. W. DADLEY, of No. 1, Anchor-terrace, Bridge-street, Southwark, to whom sealed Tenders are to be sent on or before the 15th day of APRIL, 1862. The Worshipful Company of Pewterers will not bind itself to accept the highest or any Tender.

BUILDING LAND in WAPPING.—The Board of Works for the Limehouse District are prepared to receive TENDERS from parties who may be willing to take on LEASE certain PLOTS of LAND in High-street and Red Lion-street, Wapping, suitable for warehouses and other purposes.—Particulars, conditions, and form of Tender may be obtained upon application to Mr. CHARLES DUNCH, Surveyor, at the Office of the Board, Whitehorse-street, Commercial-road, E.

PADDINGTON.—To BUILDERS and OTHERS.—THREE PLOTS of GROUND TO BE LET, for the Erection of Ten-roomed Houses, with large ornamental general garden at the rear. Terms, 10l. per annum per plot.—For further particulars apply to Messrs. LOCKWOOD, Surveyors, Burwood-place, Edgware-road, W.

MANOR of DULWICH. ALLEYN'S COLLEGE ESTATE.—The Governors of Alleyn's College are prepared to LET a PORTION of the ESTATE in Plots for Building Purposes.—Plans may be seen and particulars obtained from CHARLES BARRY, Esq. College Surveyor, at 27, Sackville-street, Piccadilly.

MANUFACTURING PREMISES WANTED, in or near the City, extensive, suitable to a wholesale manufacturing business, with Shaft and other requisites for Steam Power preferred.—Address, F.C. Poste Restante, St. Martin's-le-grand, E.C.

PREMISES WANTED, suitable for a Saw-Mill and Timber Yard, within half a mile of London or Blackfriars Bridges.—Address, H. B. Caxton House, opposite the Surrey Theatre

BUILDING LAND TO LET, on long lease, in most cases direct from the freeholder, at HIGHBURY, CANONBURY, NORWOOD (close to the Lower Norwood Station, at CLAPHAM, very near West Croydon Station), at the VAUXHALL GARDENS ESTATE, at DENMARK-HILL, &c. and some CARCASSES, at BOW. Ground-rents moderate. The usual proportion of the cost for the houses erected would be advanced, and in some cases the freehold, might be purchased.—For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

TO BUILDERS.—Unusual advantages are offered to Builders taking Land on the Cotton Estate, Limehouse, liberal advances being made by the Proprietor. Bricks and Timber can be obtained on the estate, at moderate charges; and credit is given to respectable parties. The owner has built and endowed a church on the estate, and also made the principal roads and sewers, in respect of which no charge is made. The property is freehold, land-tax redeemed, and tithe free. Plots of land are to be let at moderate ground-rents, for terms of 99 years.—For full particulars apply to Messrs. BEADEL & SONS, 25, Gresham-street, E.C.

BELVEDERE, near Erith, Kent, S.E.—To BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES near London.—This beautiful Park is to be thrown open for building at the new year, 1863. Probably no district to the east of London has equal natural advantages. The beauty of the river and land scenery is well known. The soil is dry and healthy, the water pure and abundant. There are stations of the North-west Railway at Erith and at Belvedere. The former near to the east end of the Park; the latter, within four minutes' walk of the west end of the Park, and the Foundry and Lesness Heath portions of the estate. By the end of 1862, it is expected that there will be complete railway communication to Charing Cross Pimlico, close to the Belvedere Station and Lesness Heath (close to the Belvedere Church and Schools) are already (within two years) nearly covered with buildings, viz. villas of different classes, from 25l. to 70l. a-year, and shops of various descriptions; some plots, however, are still to be had there. Some sites in the park are to be let, and it is intended to grant leases of other similar plots for ninety-nine years, for erecting villas of a superior description. Plots will be laid out contiguous to four principal roads running through the park. These are the Park-road, leading from the Belvedere station to Brook-street; the Avenue-road and the Tower-road, each leading from the public British-road at different points of the Park; and the Valley road, leading from the Erith Lodge to the archway in the park. The ground rents are very moderate.—Applications for forms and for other particulars may be addressed to Messrs. WM. G. HABERSHON & PITE, Architects, 38, Bloomsbury-square, W.C. Mr. STICKLAND, Lesness Heath, will show the ground to persons applying. The mansion will also be let on lease for April, 1863, for an hotel or public school, or other public institution.—For particulars apply to Messrs. NORTON & HOGGART, Old Broad-street E.C

TYSSEN-AMHURST ESTATE.—LAND TO BE LET for BUILDING, in different parts of CLAPTON, HACKNEY, and KINGSLAND.—For plans and particulars apply to Mr. CHESTER CHESTON, Architect and Surveyor, at the Offices, Church-street, Hackney, N.E. near the Railway Station.

IMPORTANT to BUILDERS and BRICK-MAKERS.—The finest BRICK EARTH that Suffolk or any other county can produce has recently been discovered, within a few hundred yards of the centre of the town of Sudbury, which could be made to yield a mine of wealth to those being, or who are desirous to become, brickmakers. The field in which the earth has been found contains upwards of thirty acres, the surface soil being of the finest possible quality for agricultural purposes, but its nature is that of excellent red brick and tile earth, and the subsoil, within three feet of the surface, is of the very best quality of pure white brick earth. Adjoining the same field, belonging to the same proprietor, can also be had an acre or two of land, possessing an inimitable supply of the best white sand. Sudbury stands proverbial for its peculiarity of white brick, but no part of the neighbourhood can boast of so valuable and unrivalling the singular advantage to the brickmaker that this does possess, that it requires no washing. The publicare respectfully invited to inspect the property, and any test as to the quality of the earth will be allowed. The above most desirable property is now TO BE SOLD, by PRIVATE CONTRACT.—For particulars, apply to Mr. F. SEXTON, Surveyor, Kersey, near Hadleigh, Suffolk.

TO BRICK and TILE MAKERS, and POTTERS. TO BE LET, at Bishop's Stortford, ten minutes from the station, HALF AN ACRE of fine TILE EARTH. Chalk, land, and pond, and close to canal, adjoining half acre. Rent 25l. Apply to Mr. HARLE, 9 Cross street, Islington, London.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL.
49, RATHBONE PLACE, W.
GEORGE JACKSON AND SONS
(Established in 1760)

GREAT EXHIBITION, LONDON, 1851.

For the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Patterns, suitable for Cornices, in the Old Italian, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles, also Pedestals and Panels, Decorations, Enrichments and Gothic Tracery, Door Cases, Mouldings of all sizes, and in the rarer varieties of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Cornices and Pilaster Capitals, all executed in the highest style of art.

For the new and enlarged experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c., for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest reputation, enables them with confidence to direct notice to that branch of their business.

They also beg to call attention to their large variety of Glass Frames, Tables, Cornices, Screens, Cupboards, &c. The extensive adaptation of their Carton-pierre and Papier-mache Compositions for every purpose requiring strength in matter of small space, while for strength, quality, relief, and finish, they far surpass anything at present produced.

DESIGNS MADE FOR ANY WORKS.
PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE PLACE, LONDON, W.

EXPOSITION UNIVERSELLE, PARIS, 1855.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.
AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

ENAMELLED STONE CHIMNEY-PIECES,

Of Beautiful Designs, and to Imitate any Kind of Marble, far Superior to Enamelled Slate, and considerably Lower in Price,
INVENTED AND MANUFACTURED BY
W. J. ELLISON & CO.,
SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.
Also, MANUFACTURER of WALL-LININGS, composed of Stone Slabs, with a Veneer of Scagliola to Imitate Marble, and Enamelled by Heat. WARRANTED TO RETAIN ITS POLISH.
Office and Show Room, No. 3. WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.
Manufactory, EAST-ROAD, CITY-ROAD.

BRICK-MAKING BY STEAM POWER.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,

(Each producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS, London.
" BRASSEY & CO. London.
" BAKER & SON, Isle of Wight.
" ROBT. SHARPE & SONS, London.
S.-E. RAILWAY COMPANY, Folkestone.
Mr. GEORGE FURNESS, London.
Messrs. HENRY LEE & SON, Isle of Wight
Messrs. WEBSTER, VARNEY, & CO. Burham

FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works; at the Great Exhibition, South Kensington; or at their Show Rooms, Upper Montague-street, Montague-square; or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.
ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.
JEFFS, BROTHERS,
CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

HORTICULTURAL GLASS WAREHOUSE.

THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

STAINED GLASS and WALL PAINTING
NOTICE OF REMOVAL.
MESSRS. CLAYTON & BELL,
Late of No. 24A, Cardington-street, Euston square,
Have removed to
311, REGENT-STREET, W.
(Adjoining the Polytechnic Institution).
Premises affording them accommodation and facilities more completely suited to the necessities of their work than were attainable at their old establishment.

MANCHESTER STAINED-GLASS WORKS.
R. B. EDMUNDSON & SON,
Artists in Stained Glass, Ecclesiastical and domestic of every description, ancient and modern, Illuminated Commandments, &c. by their new process on Plate Glass; Mural and Heraldic Decoration. Monumental Brasses, &c. Designs and estimates on application.—R. B. EDMUNDSON & SON, having had upwards of thirty years' practical experience in the manufacture of every description of glass for ecclesiastical purposes, have most of their past hands to make, and from their own receipts, and which will be found nearer to the old glass than any others at present manufactured. Works—New Wakefield street, Oxford-street, near the Bridge.

CRYSTAL WHITE SHEET GLASS.—
WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate
Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

PATENT and BRITISH PLATE GLASS.
JAMES HEILEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Shoe-lane, London.

PAINTED GLASS WINDOWS AND MURAL DECORATION.
LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford-street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford street, W.

GENUINE WHITE LEAD, branded and warranted from the Manufacturers, 30s per cwt. Linseed Oil, 3s. per gallon; Boiled Oil, 3s 4d. per gallon; Turps, 5s. 4d. per gallon; Pure Pale Oak Varnish, 7s. 6d. per gallon. Hamilton's and Kent's Grainers', Painters', and Plasterers' Brushes, to be had at D. J. PORTER'S White Lead and Colour Warehouse, Nos. 1 and 2, Pratt-street, Camden Town, N.W.

CROWDEN and GARROD
(successors to THOS. KENT & CO.), the celebrated
PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON SQUARE, LONDON, E.C.
. Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

GRAINERS and the TRADE SUPPLIED with all the TRANSPARENCIES and COLOURS, prepared Ready for Grainers every description of wood in all their variety of tint and colour, by the process of
LEWIS SMITH & CO.,
Who are the sole Agents, appointed on his decease by
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

COLOURS and VARNISHES at REDUCED PRICES. Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 2d.; Turpentine, 7s. 6d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash. T.E. LANGTON'S Colour Warehouse, 141 and 142, Whitecross-street, St. Luke's. Dry and Ground Colours, Brushes, &c. at the lowest prices.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s per cwt.
Linseed Oil, 3s. per gallon; Boiled Oil, 3s 4d. per gallon.
Turpentine, 7s. 6d per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 42, Colebill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristle, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

PATENT GRAINING APPARATUS.—
TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

TO BUILDERS, PAINTERS, &c.—OAK GRAINING in Oil 4½d. per yard, in quantities not less than 30 yards. Specimens of work may be seen at the Rev. Mr. Spurgeon's Tabernacle, Writing, &c. Reference given.—Apply, W. C. Pettit, 12, Maida-hill, Edgware-road, Paddington.

TERRA-COTTA WORKS, BLACK-FRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage stamps.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACK FRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 681, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 38s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 72s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

TO BUILDERS and CONTRACTORS.—HOISTING LADDER (Johnson's Patent) FOR SALE, at one third of its cost.—Address, JOHN CARD, No. 26, Norfolk-street, Lower-road, Islington, N.



J. GURMAN,

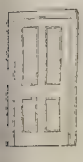
Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.

Send stamped envelope for Prospectus and Sectional Drawings.

Windows may also be seen at the Kensington and Conduit-street, Museums, London.



TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.



B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅝-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¼-inch "	12s. 6d.	12s. 6d.	13s. 6d. "
1-inch "	14s. 6d.	15s. 0d.	16s. 6d. "
1¼-inch "	—	18s. 0d.	19s. 0d. "

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. "
Spruce Deals ..... £16 10s. "

Pine Planks (Dry), 3 by 11 ..... 24/. per 120
Pine Deals do. 3 by 9 ..... 19/. 10s. "
⅝-inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UPON RECEIPT OF ONE POSTAGE STAMP.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11/. 10s. per 120
000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer.....	from 1d. per foot
000 Yellow Deals.....	from 3s. 3d. each	Maple ditto	from 1d. per foot
000 Spruce ditto	from 2s. 9d. each		

APPLY TO

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

LATHWOOD.—Best and largest Stock of

PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to

Inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,

30,000 feet in Plank and Board, sawn, three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

BUILDERS and CARPENTERS, and

OTHERS, have permitted to their notice these very reduced prices, the lowest consistent with really useful qualities.

All sawn goods carriage free within three miles.

½-inch Flooring (well prepared), 11s. 6d.	⅞ inch do. 13s. per square		
Yellow Deals, sound and good	10/ 10s. per 120, or 3d. per foot.		
Spruce Deals "	16/ 10s. "	24/. "	
Yellow Battens, excellent quality	11/. 10s. "	2d. "	
Pine Planks, dry, 12 ft. 3 in. by 11 ft. 2if.	"	3s. 6d. "	

Seasoned Mahogany, Plank and Board, 6d. per foot.

A very large Stock, ready sawn and seasoned.

ALFRED CARTER, old Bethnal-green road, N.E.

GREATER REDUCTIONS.—

Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 8d.; Mahogany, 8d.; 9d. Yellow Battens, 11/. 10s.; 1-inch White Flooring, from 14s. 9d.; 1 inch Yellow, from 15s. 3d.; ¼ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree walk, and Walcot-place, Lambeth.

ARTIFICIAL HYDRAULIC or PORT-

LAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties, that it is unaffected by frost, and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank street, Westminster, who prepare one quality only of Portland Cement.

Agent in Liverpool—JOHN M'KENZIE, 22, Seel street.
Do do. Manchester—THOMAS OAKDEN.

ROMAN, PORTLAND, PARIAN, and

KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.

No. 1, SOUTH WHARF, PRAED STREET, PADDINGTON.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN PIPE, HAIR, LATH, and FIRE GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.

ROMAN CEMENT made at the above works is of the best fresh from the kilns [illegible] great advantage to dealers and sewer contractors, [illegible] to whom [illegible].

PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will [illegible] and [illegible] of Portland Cement.

PLASTER OF PARIS, both coarse and fine, of very superior quality [illegible].

LIME.—Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the large or [illegible], and may be had fresh ground daily, by steam power, [illegible].

BRICKS from our fields in Kent, by the large [illegible], in the [illegible] canals, or by cart from the above wharf, [illegible] and [illegible].

A large Assortment of Glazed Stoneware Drain pipes, York-[illegible] Paving Tiles, Hair, Laths, Chimney Pots, &c. [illegible] of Stock.

BRICK-FIELDS, LIME WORKS, CHALK, PLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

PORTLAND CEMENT WORKS,

Northfleet, Kent.

Messrs. ROBINS & CO.

To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER and CO.

(Contractors to Government),

24 WHARF, HARROW ROAD, PADDINGTON, W.

Every article manufactured at their own Works and Mines, Brierley-hill.

FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.

Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N.

GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT

STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours,

GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,

Office, 5, George-yard, Lombard-street.

PARIAN CEMENT for INSIDE WORK.

With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

PORTLAND CEMENT.

GREAVES & KIRSHAW,

14 SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONEPAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

PARTS MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES. COWLEY AND KENT BRICKS, AND PLASTERERS HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c. RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.

" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.

SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.

SCOTT'S PATENT PLASTER.

GREY STONE LIME, of very superior quality. CHALK LIME.

Shipping orders promptly executed.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERR NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station on the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

For cost and particulars furnished on application to Mr EVAN EVANS, Manager, Bagillt Lime Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference.

IMPORTANT to BUILDERS and USERS of PORTLAND CEMENT.

"BENNETT'S INCRUSTING and QUICKENING SOLUTION for PORTLAND and OTHER CEMENTS," recently patented, obviates, as its name implies, those objections frequently urged against cements, and fully carry out the object for which they are used, viz., quick and hard, and thereby causing delay and expense. In works where rapidity of setting, hardness, and sharpness of outline are desirable, the use of this solution is highly recommended, and will prove both advantageous and economical. It is sold in stone quart bottles, price 2s. each, with printed directions for use, and can be obtained only of

F. & G. ROSHER,

CEMENT, BRICK, and LIME MERCHANTS (Sole Agents for its sale), at their Wharves, as under.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK-STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLD SWAN WHARF, QUEEN'S ROAD, CHELSEA, S.W.

LIMEKILN-HILL, LIMEHOUSE, E.

Wherever can be obtained, of the best quality:—

GREY-STONE CHALK, FLARE, and BLUE LIAS LIME

ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS.

COWLEY and KENT BRICKS.

WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.

Ditto and ditto WALL COPING BRICKS and TILES

YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.

WHITE, BLACK, and RED RUBBERS

STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS

TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS

Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN

DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, shops, Kitchen Ranges, &c.

WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS and TILES, of every description and size

GLAZED STONEWARE DRAIN PIPES, TRAPS &c.

RED DRAIN PIPES, TILES, and CHIMNEY-POTS

TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.

HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.

Goods forwarded by Railway with despatch.

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

STRINGFIELD and BLYTH,
Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S & B. Bangor Wharf, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY,

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Rainham Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, blue, and Red for the different periods. Vitrified Stable Pavings Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, bloeks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory or from White Hall Wharf, Benkside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

GREY STONE LIME
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

KEENE'S and PARIAN CEMENT for internal uses.—These well-known hard Stuccoes dry quickly and can be painted upon within a few days.
Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL,

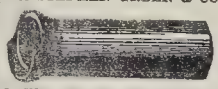
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.
PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.

High-Street, Lambeth, London.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS



MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

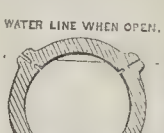
DOULTON'S PATENT OPERCULAR, OR LIDDED PIPES,

Permitting Examination and Cleansing without Disturbing any Part of the Invert of the Drain or Lessening its Capacity.

SOCKET JOINTS.



WATER LINE WHEN OPEN.



ADVANTAGES.

I. The Pipes may be laid whole as ordinary Socket Pipes, and the covers need only be removed should necessity arise.
II. On the removal of the lids the drain is laid open throughout its entire length, and may be cleaned without disturbing any part of the invert.
III. The advantages of inspection are obtainable without any imperfect joints or other complication, which would allow either the escape of the liquid contents of the drain, or the entry of the surrounding soil.
IV. The capacity of the Drain is not lessened when under examination, as is shown by the cross section.
V. The introduction of junctions is facilitated.
VI. The upper part or cover being fired in one piece with the Pipe, fits with a perfection and accuracy only possible by this peculiar mode of manufacture, and it cannot shift laterally.
VII. Perfect truth of form is secured, and increased strength obtained.
VIII. Simplicity of construction, and consequent efficiency.
IX. They may be laid alternately, or at any intervals, with ordinary Socket Pipes.

Manufactured by HENRY DOULTON and CO.

Offices—HIGH-STREET, LAMBETH, LONDON. Manufactories—HIGH-STREET, LAMBETH ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF

PRIZE MEDAL, LONDON, 1851. Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestn and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL, PARIS, 1844.

SEYSSEL ASPHALTE,
AND BY H.M.'S ROYAL LETTERS PATENT,
MANUFACTURERS OF
METALLIC LAVA.
FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.





UNDERHAY'S PATENT

REGULATOR CLOSETS for out-start or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves, Gas Meters, &c. on the same premises,
CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

The objections to the Cheap Closet pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pans become DISCOLOURED and UNFIT for USE.

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the 3s. 9d. Enamelled Stoneware Closet and Trap.

PATENT STONEWARE PAN CLOSET.

Makers and Patentees, the
NORTH DEVON POTTERY COMPANY, near BIDEFORD.

In this Closet the Receiver is made of Vitrified stoneware, and the Pan of White or Blue Printed Earthenware, to correspond with the Basin. The action is simple and the flush perfect. It may be seen in action at the rooms of the Architectural Exhibition, 9, Conduit street.—For prices apply to
Mr. H. JONES, at the Manufactory, near Bideford.
N.B. A London Agent wanted.

A PAN-CLOSET, BLUE BASIN, SUNK

DISH, and APPARATUS, complete, 21s.; a SELF-CLOSING COTTAGE CLOSET 12s. 6d.
PATTEN'S HIGH PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

THE ARCHITECTURAL POTTERY

COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAID MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes, string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.: also, the Architectural Pottery Company's patent orange-tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No. 36, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.

PELICAN LIFE INSURANCE

OFFICE, ESTABLISHED IN 1797,
70, Lombard-street, E.C. and 57, Charing cross, S.W.

DIRECTORS.

Octavius E. Coope, Esq.
Wm. Cotton, Esq. D.C.L. F.R.S.
John Dixon, Esq.
Jas. A. Gordon, Esq. M.D. F.R.S.
Edward Hawkins, Jun. Esq.
Kirkman D. Hodgson, Esq. M.P.
Henry Lancelot Holland, Esq.
William John Hankey, Esq.
John Labouchere, Esq. F.R.S.
Thomas Shaw, Esq.
Matthew Whiting, Esq.
M. Wyvill, Jun. Esq. M.P.

ROBERT TUCKER, Secretary and Actuary.

Examples of the amount of Bonus awarded at the recent division of profits to Policies of 1,000*l.* each effected for the whole term of life at the undermentioned ages:—

Age when Assured.	Duration of Policy.	Bonus in Cash.	Bonus in Reversion.
20	7 years	£29 7 0	£6 0 0
	14 years	36 2 0	7 5 0
	21 years	44 8 0	8 0 0
30	7 years	49 14 6	8 10 0
	14 years	61 2 0	9 10 0
	21 years	73 2 6	11 3 0
40	7 years	79 4 6	12 7 0
	14 years	117 2 6	14 11 0
	21 years	144 1 0	16 10 0

*** For Prospectuses, Forms of Proposal, &c. apply at the Offices as above, or to any of the Company's Agents.

THE LIZARD SERPENTINE

COMPANY, LIMITED
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company do not wish to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and filled it with the most improved machinery, they have now resumed operations and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.

All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

J. TYLOR & SONS,

MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.

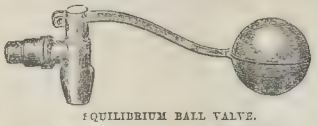
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

To be seen in action at the Manufactory,
WARWICK LANE,
And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent street, London.

ILLUSTRATED CATALOGUES ON APPLICATION.



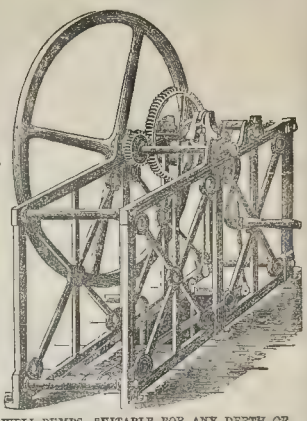
LAVATORY APPARATUS.



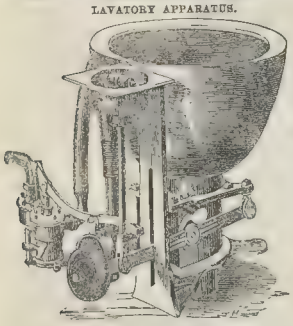
EQUILIBRIUM BALL VALVE.



HIGH-PRESSURE DIAPHRAGM VALVES.



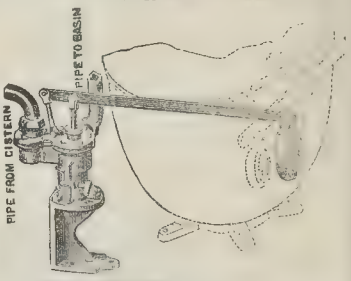
WELL-PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

JAMES STIFF & SONS,

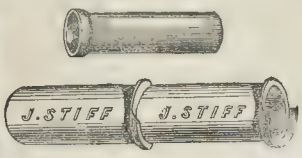
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz. —

Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & COE, City-road Wharf, City Basin
Messrs. COLES, SHADBOLT, and COS, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVERS'S, Isewgate Wharf, Carol road, Halton
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.

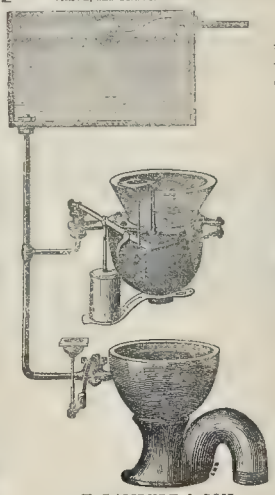
Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

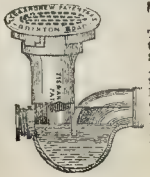
A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 9, Conduit-street, Regent-street, W.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

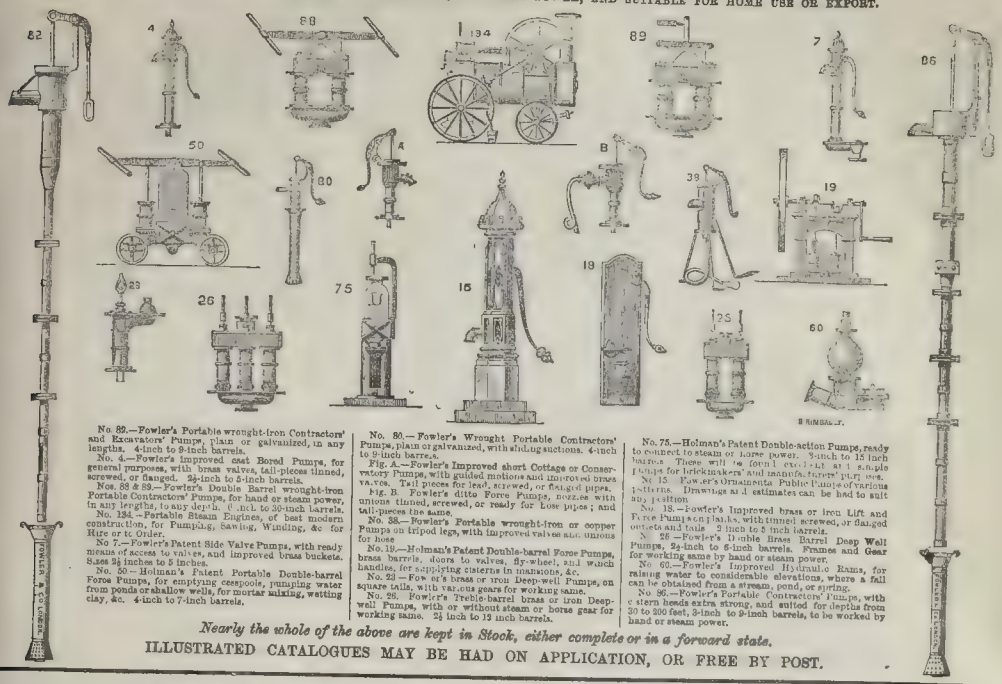
SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

BENJAMIN FOWLER & CO., WHITEFRIARS-ST., FLEET-ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DEEP OR SHALLOW WELLS, CUTTINGS, TANKS, &c., FOR MANUFACTURING, DOMESTIC, AGRICULTURAL, CONTRACTING, AND ALL OTHER PURPOSES;

TO BE DRIVEN BY HAND, HORSE, WATER, WIND, OR STEAM POWER, AND SUITABLE FOR HOME USE OR EXPORT.



No. 82.—Fowler's Portable wrought-iron Contractors' and Excavators' Pumps, plain or galvanized, in any lengths. 4-inch to 9-inch barrels.

No. 4.—Fowler's Improved cast Bored Pumps, for general purposes, with brass valves, tail-pieces tinned, screwed, or flanged. 2½-inch to 5-inch barrels.

Nos. 88 & 89.—Fowler's Double Barrel wrought-iron Portable Contractors' Pumps, for hand or steam power, in any lengths, to any depth. 6-inch to 30-inch barrels.

No. 134.—Portable Steam Engines, of best modern construction, for Pumping, Sawing, Winding, &c for Hire or to Order.

No. 7.—Fowler's Patent Side Valve Pumps, with ready means of access to valves, and improved brass buckets. Sizes 2½ inches to 5 inches.

No. 50.—Holman's Patent Portable Double-barrel Force Pumps, for emptying cesspools, pumping water from ponds or shallow wells, for mortar mixing, wetting clay, &c. 4-inch to 7-inch barrels.

No. 80.—Fowler's Wrought Portable Contractors' Pumps, plain or galvanized, with sliding suctions. 4-inch to 9-inch barrels.

Fig. A.—Fowler's Improved short Cottage or Conservatory Pumps, with guided motions and improved brass valves. Tail pieces for lead, screwed, or flanged pipes.

Fig. B. Fowler's ditto Force Pumps, nozzles with unions tinned, screwed, or ready for hose pipes; and tail-pieces the same.

No. 58.—Fowler's Portable wrought-iron or copper Pumps on tripod legs, with improved valves and unions for hose

No. 19.—Holman's Patent Double-barrel Force Pumps, brass barrels, doors to valves, fly-wheel, and winch handles, for supplying cisterns in mansions, &c.

No. 23.—Fowler's brass or iron Deep-well Pumps, on square tails, with various gears for working same.

No. 25.—Fowler's Treble-barrel brass or iron Deep-well Pumps, with or without steam or horse gear for working same. 2½ inch to 15 inch barrels.

No. 75.—Holman's Patent Double-action Pumps, ready to connect to steam or horse power. 3-inch to 15 inch barrels. These will be found excellent and simple pumps for brickmakers' and manufacturers' purposes.

No. 15. Fowler's Ornamental Public Pumps of various patterns. Drawings and estimates can be had to suit any position.

No. 18.—Fowler's Improved brass or iron Lift and Force Pumps on planks, with tinned screwed, or flanged outlets and tails. 2 inch to 5 inch barrels.

No. 26.—Fowler's Double Brass Barrel Deep Well Pumps, 2½-inch to 6-inch barrels. Frames and Gear for working same by hand or steam power.

No. 60.—Fowler's Improved Hydraulic Rams, for raising water to considerable elevations, where a fall can be obtained from a stream, pond, or spring.

No. 86.—Fowler's Portable Contractors' Pumps, with extra strong heads extra strong, and suited for depths from 30 to 200 feet, 3-inch to 9-inch barrels, to be worked by hand or steam power.

Nearly the whole of the above are kept in Stock, either complete or in a forward state.

ILLUSTRATED CATALOGUES MAY BE HAD ON APPLICATION, OR FREE BY POST.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 28.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead, gutta percha or cast iron flanged pipe, as required.	1 1 0
2½ „ long	3 6		1 10 0
3 „ ditto	3 6		2 4 0
3½ „ ditto	3 6		2 9 0
4 „ ditto	3 6		3 16 0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			3 0 0
2½ in. long ditto ditto			3 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.

A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

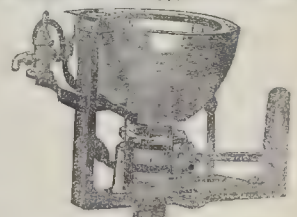
Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

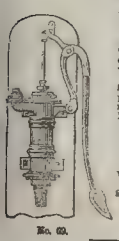
House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the bowl, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 1454.—Warners' Sizing Valve Closet on Iron Frame, with vulcanized India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 0
Sunk handle extra 0 4 0
Blue basin, extra 0 1 0



No. 62.

WARNERS' PATENT

BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£5	0	0
3 „	7	5	0
5½ „	8	0	0

Larger sizes when required.

Fitted to the best Plank, 5 ft. 8 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4	15	0
3 „	5	15	0



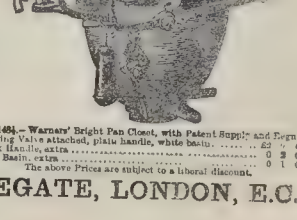
No. 381. No. 382.

WARNERS' HIGH PRESSURE COCKS

are made with grand Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re-leathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.



No. 1454.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £2 7 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0
The above Prices are subject to a liberal discount.



WARNERS'

BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from 2l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

J. WARNER & SONS'

PRICED

ILLUSTRATED CATALOGUE

WILL BE FORWARDED POST-FREE ON APPLICATION.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

IN CHANCERY.—"Booth v. Coulton," "Booth v. Booth," "Booth v. Neal."—A Freehold and Copyhold Estate, situate at Brentford, in the County of Middlesex.

MESSRS. FULLER & HORSEY will SELL by AUCTION, by direction of the Mortgagees, pursuant to an order of the High Court of Chancery, made in a cause "Booth v. Coulton," with the approbation of the Vice-Chancellor Sir John Stuart, the Judge to whom Court the cause is attached, on the PREMISES, Brentford, Middlesex, on WEDNESDAY, APRIL 9, 1862, in two lots. Lot 1. The highly important FREEHOLD and COPYHOLD ESTATE, known as Sir Felix Booth's grain distillery. This valuable property occupies an area of four acres and fifteen perches, more or less. It is situate in the High-street, Brentford, about seven miles from London, on the western road, on the banks of the Thames, and about midway between the Kew and Brentford Stations of the South-Western Railway; it is contiguous to the Kew Station of the North-London Railway, and also the new docks now constructing in connection with the Great Western Railway, affording great facility for transit by land or water carriage, either for raw or manufactured produce. The premises (which are available for any large manufacturing establishment) comprise the malthouse, a building of three floors, 254 feet by 110 feet; with kilns, the stillhouse, brewhouse, spacious back room, two corn-mills, granary, large bonded spirit warehouse, stabling for twenty horses, a malthouse or granary next the river side, wharf, extensive paved yards, offices for clerks and principals, commodious residence for a principal, a deep well, affording an abundant supply of pure water. Also, a detached range of STABLES, HARNESS-ROOM, and YARD, let at 35*l.* per annum.—Plans, particulars, and conditions may be had of St. P. B. HOOK, Esq. Solicitor, 3, Lincoln's Inn-fields, W.C.; of W. H. DAVIS, Esq. Solicitor, 10, Golden square, W.; of Messrs. KINGSFORD & DORMAN, Solicitors, Essex street, Strand, W.C.; of Messrs. R. & C. H. HODGSON, 10, Salisbury street, Strand; of Messrs. CLARK & RUSTON, Solicitors, Brentford; at the Globe and Herald Offices, Glasgow; the Midland Counties Herald Office, Birmingham; and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

In Chancery.—"Booth v. Coulton," "Booth v. Booth," "Booth v. Neal."—PLANT and MACHINERY of the BRENTFORD DISTILLERY, situate at Brentford, in the County of Middlesex.

MESSRS. FULLER & HORSEY will SELL by AUCTION, by direction of the mortgagees, pursuant to an order of the High Court of Chancery, made in a cause of "Booth v. Coulton," with the approbation of the Vice-Chancellor Sir John Stuart, the Judge to whose Court the cause is attached, on the PREMISES, Brentford, Middlesex, on WEDNESDAY, APRIL 9, 1862, and following days, in lots, without reserve, the valuable PLANT and MACHINERY of the BRENTFORD DISTILLERY, including a Coffey's apparatus in two columns, capable of distilling 7,000 gallons of wash per hour; copper spirit and feints refrigerators, in large cast-iron tank; four sets of three-throw spirit pumps, feints pump, spirit receiver, wash charger, six bolting backs with copper worms, cast-iron wort receiver, two cooling rounds with copper refrigerators and pipes; large cast-iron liquor back, two cast-iron mash tuns, each 28 feet 4 inches diameter, with improved mashing apparatus; two cast-iron under-backs, three sets of very powerful three-throw gun-metal wash and wort pumps, four well pumps, six high-pressure and condensing steam engines, including one of 50-horse power, one of 30-horse power, one of 16-horse power, and three of 8-horse power; ten wrought-iron Cornish steam-boilers of various dimensions; iron, lead, and copper steam and liquor pipes; wrought-iron shafting and gearing, eight pairs of 4-feet French mill stones, pair of crushing-rolls, sack tackle, elevators, and other fittings of the mill; ten circular iron-bound fermenting backs, about 40,000 gallons each; large cast-iron L pontback, 100,000 gallons; cast-iron coolers, with refrigerating pipes, hoisting tackle, large wash vat; six oak vats, about 3,000 gallons each; 700 yards wrought-iron tram-rails; turntables, several rods of brickwork, many tons of ironwork; valves, cocks, gas-fittings, counting house furniture, gas-holder, metal dinner-bell, chaff machines, and numerous other effects. To be viewed on MONDAY and TUESDAY previous to the sale, when catalogues, at 6*d.* each, may be had on the Premises; of St. P. B. HOOK, Esq. Solicitor, 9, Lincoln's-inn-fields, W.C.; of W. H. DAVIS, esq. Solicitor, 10, Golden-square, W.; of Messrs. KINGSFORD & DORMAN, Solicitors, Essex-street, Strand, W.C.; of Messrs. R. & C. H. HODGSON, 10, Salisbury-street, Strand; of Messrs. CLARKE & RUSTON, Solicitors, Brentford; at the Globe and Herald Office, Glasgow; the Midland Counties Herald Office, Birmingham; and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

Final Sale of the valuable Stock of Messrs. Browne & Co. comprising a selection of beautifully-sculptured Chimney-pieces in every variety of foreign Marbles; a magnificent Mural Monument of Grecian design, noble Vases, choice busts, some Scagliola Pedestals, and various objects of taste and utility, being the contents of two Galleries reserved for the last Sale.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT beg to announce that, having disposed of the unmanufactured stock, wagons, and implements, they are directed by Messrs. Browne & Co. to SELL BY AUCTION, in the Galleries, 34, Grafton street East, near the London University, on WEDNESDAY, APRIL 9th, various costly CHIMNEY-PIECES, being a select portion of the extensive and valuable Stock of the above eminent firm, including four elaborately wrought chimney-pieces, in the purest white marble, richly carved in high relief, supported by finely-sculptured console figures of young girls—rare and magnificent chimney-piece of large dimensions in pure Grecian taste, suitable for a palace or mansion of the first class, and many others, beautiful in design and of superior finish, in every variety of Italian, French, Spanish, and Belgian marbles, carefully selected from the best quarries. A grand and classical mural monument, in pure statuary; a slab of choice Oriental granite, 7 feet 8 inches by 4 feet 8 inches, cut from one of the pillars of Trajan's Forum; some smaller slabs in granite, brought from the ruins of Carthage; two pair of grand marble vases for terraces, Scagliola pedestals of large dimensions, suitable for groups, figures, or vases, &c.—May be viewed six days prior to the sale and Catalogues had of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville-row, Regent-street, W.; and 19, Change-alley, Cornhill, E.C.

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

MR. WILLIAM HODSOLL is instructed to SELL by AUCTION, at the LION HOTEL, Farningham, Kent, on FRIDAY, APRIL 11th, 1862, at TWO o'clock, about 850 superior OAK TIMBER TREES, and 950 OAK FELLERS, with their lop, top, and bark, standing on various estates in the parishes of Wrotham, Ightham, Kemsing, Ash, Kingsdown, Hartley, Southfleet, and Orpington, Kent. Also 94 Elm Trees, 4 Ash, and Walnut Trees (felled), at Southfleet. May be viewed at any time, and catalogues had eight days previous, at the inns in the neighbourhood, and of the Auctioneer, Farningham, Kent.

BUILDING SITES at HACKNEY and STRATFORD.—Important to Small Investors.

MESSRS. HAMMOND & KIRKLAND are instructed to SELL by AUCTION, at the MART, on WEDNESDAY, APRIL 16th, ONE PLOT at Hackney, in a good road, with capital building ground in it; also at Stratford TWO PLOTS near the station. Both these sites are in very flourishing positions, and leases for 99 years can be effected.—Particulars, with conditions of sale, to be had of Messrs. McLEOD & LANE, Solicitors, 61, Lincoln's Inn-fields; at the Mart; and at the Auctioneers' Offices, 3, Carey-street, Lincoln's Inn.

ISLE OF DOGS.—Valuable Freehold Land, adapted for building purposes, and extending about 11 acres.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on WEDNESDAY, APRIL 16, at TWELVE, in two lots, very valuable FREEHOLD LAND, situate in the East Ferry-road, near the Lord Nelson Tavern, in the Isle of Dogs, and about two miles from the Poplar Station, on the Blackwall Railway, having considerable frontages to road, adapted for building purposes, and contiguous together; and will also be sold in small lots.—Plans may be had of Messrs. WESTERN & SONS, Solicitors, 7, Great James-street, Bedford-row; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 3 Old Broad-street, Royal Exchange.

No. 665, SNOW-HILL, CITY.—TO BUILDERS, PAINTERS, IRONMONGERS, DEALERS, AND OTHERS.

MR. W. BOOTH will SELL by AUCTION, as above, on WEDNESDAY, APRIL 9th, at TWELVE for ONE o'clock, PUBLIC'S GOODS, comprising white and stone sash and fix colours, glass, oils, and nails, wood screws, locks, bolts, hinges, cast-iron pipes and gutters, 30 registered stoves, and general ironmongery; iron goods, presses, weighing-machine, &c.; 3,000 feet of roofing felt; a few materials, boards, and effects. On view, and catalogues the day prior and morning of sale.

BINFIELD, NEAR BRACKNELL, BERKS.—TO BUILDERS, PAINTERS, IRONMONGERS, DEALERS, AND OTHERS.

MR. W. BOOTH will SELL by AUCTION, at the back of the Water-house, near the Shoulder of Mutton Inn, on the Turnpike Road, as above, on THURSDAY, APRIL 17th, 1862, at ELEVEN for TWELVE o'clock, without reserve, a valuable STOCK, removed for convenience of sale (to be sold to wages advanced), comprising 13,000 feet of roofing felt, three tons of patent wrought and one ton of cut nails and general ironmongery, building materials, a large quantity of gravel and sand, &c. Full particulars next week. Other goods can be received, on application to W. BOOTH, Auctioneer, &c. Morland House, Hackney-road, London, N.E. or on the Premises.

BLOOMSBURY.—Building Materials of Two Houses.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on MONDAY, APRIL 28th, at TEN for ELEVEN o'clock, the materials for rebuilding the MATERIALS and FITTINGS UP of TWO HOUSES, being Nos. 38 and 39, Great Russell street, Bloomsbury, comprising sound stock bricks, plain tiles and slates, useful timber in roofs and floors, door backs, sashes, doors, partitioning and other fittings, plate glass shop front, marble chimney-pieces and stoves, marble squares, several tons of lead, stone paving, iron railing, and other effects. May be viewed on SATURDAY, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, S.W.; and 80, Fore-street, E.C.

VALUABLE FREEHOLDS AND BUILDING GROUND, STOCKWELL, SURREY.—LAND-TAX REDEEMED.

MESSRS. BARTON & SON are instructed to submit by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on TUESDAY, APRIL 15th, at TWELVE, in seven lots, SIX most FREEHOLD RESIDENCES, Nos. 1, 2, 3, 4, 5, and 6, Stockwell place, fronting the high road at Stockwell, and let to respectable tenants at rents varying from 42*l.* to 45*l.* per annum; also a valuable plot of BUILDING GROUND, adjoining the "Swan" Public-house, having a frontage to the high road of 120 feet, and a depth of 140 feet. May be viewed by leave of the tenants, and particulars had at Garraway's; of the Swan at Stockwell; of Messrs. POWNALL SON, & CROSS, Solicitors, Staple Inn, Holborn; and at the Auctioneers' Offices, 7, Cheltenham-place, Westminster-road.

CAMDEN-TERRACE, CAMDEN-TOWN.—EXTENSIVE AND WELL-ASSORTED STOCK.—TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Railway Arches, near the Old Eagle, on MONDAY, APRIL 7th, at TWELVE for ONE, 3,000 yellow, white, pine, and spruce planks, deals, and battens; 700 sawn ditto; 141 sides of 14 in. Jarrah; 1,000 prepared flooring; 8,000 feet quartering; 4,000 feet arris railing; 4,000 feet ory wide pine board; feather edge and tilt boards, skating battens, panelled doors, sashes, and various building materials. Auction Office, 2, Caroline-street, Hampstead road, near Euston Station.

CRAVEN HILL GARDENS, BAYSWATER. BUILDER'S PLANT AND MATERIALS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Craven Lodge, on MONDAY, APRIL 14, at ELEVEN for TWELVE, by order of the Proprietor, 600 SCAFFOLD POLES, 550 scaffold boards, and 70 dozen cords; 200 pullogs, blocks and falls, ladders, prepared joiners' work, 40 register and other stoves and ranges, ironmongery, brass work, plumbers' ditto, glass, gas bath, chimney-pots, drainpipes, chimney-pieces, stone, granite curb, castings, old iron, zinc, and materials; 25 benches, 2 cards, chaff-cutting machine, harness, and sundries.—May be viewed on Saturday prior to the sale, when catalogues may be had. Auction Offices, No. 2, Cardington-street, Hampstead-road, near the Euston Station

WATFORD, HERTS.

MR. THOMAS LAVENDER has received instructions to SELL, at the JUNCTION MART, near the Bank of England, on WEDNESDAY, APRIL 16, 1862, at TWELVE o'clock, highly eligible FREEHOLD BUILDING GROUND, land-tax redeemed, situate near the Junction Station, on the high road leading to St. Albans, close to the town of Watford, and within fifteen miles of London. This attractive building site will command first-class railway passes for houses of the value of 50*l.* per annum, and offers the opportunity of securing country residences in a delightful neighbourhood, within an easy distance of London. It also opens to builders and speculators, safe and permanent investments, there being an unprecedented demand for villa residences in this locality, remarkable for its salubrity, or gravelly soil, with abundant and excellent water. May be viewed any time, and catalogues had twenty-one days prior to the sale, at the Mart; of Mr. ALEXANDER BALDERSTON, Solicitor, 9, Serle-street Lincoln's-inn; Messrs. VEASEY, Solicitors, Baldock; at the Inns, at St. Albans, Barnet, Edgware, Harrow, Uxbridge, Kensington, Chesham, Great Berkhamsted, and Hemel Hempstead; and by application to Mr. THOMAS LAVENDER, Architect and Surveyor, Watford, Herts.

Holloway, Haverstock-hill, Hornsey, Colney-hatch, and Finchley.—Long Leasehold House Property and Freehold Building Land for almost unreserved Sale

MESSRS. DEBENHAM & TEWSON will SELL at the MART, on WEDNESDAY, APRIL 16, at TWELVE, in 11 lots, THREE RESIDENCES, Nos. 16 and 17, Wellington-road, St. James's-road, Holloway, and No. 10, Queen's-road Villas, Haverstock-hill, let at very low rents, amounting to 83*l.* per annum, and held for long terms, at moderate ground rents; two Plots of Freehold BUILDING LAND, opposite Hartings' Park, 11 noisy Green-lanes; four long LEASEHOLD RESIDENCES, in Lower Park-road, Colney Hatch, near the station, just finished, and worth 25*l.* a year each; and a pair of substantial Carcases adjacent; three Plots of FREEHOLD LAND, abutting on the Springfield-road, Colney Hatch; and seven Plots on the Stanhope estate, Finchley. Particulars (now ready), of GEORGE BADHAM, Esq., solicitor, No. 37, New Bridge-street, Blackfriars; of A. H. ELWORTHY, Esq., solicitor, 14, Southampton Buildings, Chancery-lane; and of the Auctioneers, 80, Cheapside.

TO BUILDERS.—CHIMNEY-PIECES, PAPERHANGINGS, &c.

MR. EDWIN WHITE will SELL, at 24, HOLBORN BARS and 1, CASTLE STREET, Holborn, on TUESDAY next, at ONE for TWO precisely, nearly 12,000 PIECES of PAPERHANGINGS, comprising flocks, golds, satins, grounded goods, tints, scagliola and sienna marbles, and others, in great variety; about 100 statuary, vein, Sicilian, and black marble chimney-pieces, 20 stone chimney-pieces, and 6 water-closets complete.—View and catalogues day prior and morning of sale.

BUILDING LAND, near Clapham Common, and Wandsworth Town.

MESSRS. CRAWTER will SELL by AUCTION on THURSDAY, MAY 8th, 1862, at GARRAWAY'S COFFEE HOUSE, at ONE o'clock precisely, in lots (unless the whole is previously disposed of by private contract), first, 11 and land tax redeemed, very eligible BUILDING LAND, containing nearly 12,000 square feet, with a frontage of 299 feet to the main road, opposite the Bishopsgate Almshouses, and 274 feet frontage to the rural road, opposite to Wandsworth, opposite Wandsworth Common, and Clapham; also two plots in St. Ann's-road, in a good neighbourhood. The situation is healthy, soil dry, and contains gravel; near railway stations and steam-boat pier. The property is well adapted for respectable buildings for private residents. Particulars and plans may be had 10 days before the sale, of Mr. EDWIN CARTER, High-street, Wandsworth; at the Inns at Wandsworth, Battersea, and Clapham; at Garraway's; of Messrs. DRUCE & SONS, solicitors, No. 10, Billiter-square; and of Messrs. CRAWTER, 5, Bedford-row, W.C.

TO BUILDERS and CAPITALISTS.—A very valuable FREEHOLD BUILDING ESTATE, of 62 acres, with a frontage to the main road of 1,200 feet, to be SOLD by AUCTION, by Messrs. R. & C. H. HODGSON, at the Finner, half an hour's ride from Euston-square, estimated to produce 2,000*l.* per annum ground-rents.

MESSRS. R. KENYON & CO. have received instructions to SELL, by AUCTION, at GARRAWAY'S, Change-alley, Cornhill, on TUESDAY, the 29th APRIL, 1862, at ONE o'clock precisely (unless previously disposed of by private contract), the above valuable BUILDING ESTATE, of Sixty-three Acres. The Estate is beautifully situate, being opposite to the Commercial Travellers' Schools and contains excellent Brick earth. Land and second class red-house clay much wanted at Pinner. Plots, parts, and general plans, apply at Garraway's; to Mr. CHAS. LAWS, Architect, 2, Walbrook-buildings; Messrs. PATERSON & LONGMAN, Solicitors, 3, Winchester-buildings; or to Messrs. R. KENYON & CO. Auctioneers, 11, Abchurch-lane, City, and Harrow.

TO BUILDERS AND CONTRACTORS

MESSRS. BRANSON & GWYTHER, who are about to retire, are desirous of entering into an arrangement with some competent person, with a view to effect a PARTNERSHIP with one of their Sons, to continue the business, which has been for the last twenty-five years so successfully conducted by them. Arrangements can be made to suit the means of any eligible person with a moderate capital. Further particulars can be obtained by applying to Messrs Branson and Gwyther, at their Offices, in Belmont-row, Birmingham. March 3rd, 1862. Until the above or other arrangements are made, the business will be carried on as usual

TO FURNISHING IRONMONGERS, SHEFFIELD WAREHOUSEMEN, and OTHERS.—TO BE DISPOSED OF, private contract, by direction of the executors, the old-established FURNISHING IRONMONGERY and SHEFFIELD PLATE BUSINESS, carried on for many years past by the late Mr. J. Hickling, top the north, the valuable LEASE of the very desirable PREMISES, No. 1, GRACECHURCH-STREET, adjoining St. Peter's Church, and one door from Cornhill. The returns average about 2,500*l.* per annum, which could be largely increased. The profits are good. Also at 2,500*l.* will be required 500*l.* may remain on security of lease, if required.—Apply to Messrs. FULLER & HORSEY, Billiter-street, City, E.C.

13, Billiter street, March 20, 1862.

TO PLUMBERS, PAINTERS, HOUSE DECORATORS, &c.—TO BE DISPOSED OF, solely in consequence of the death of the Proprietor, a BUSINESS in the above line, established forty-five years in an undeniable situation in five miles from Town. Coming in very low.—Apply to Mr. REYNOLDS, Auctioneer, 142, Bishopsgate-street Without.

CARPENTER'S BUSINESS FOR SALE, in consequence of the recent death of the Proprietor Established 25 years. Coach-house, stable, and workshops are situate near the Hampstead-road. Stock and premium, 110*l.*; rent, 23*l.* No taxes. Apply to the Agents, Messrs. LEREW & LEREW, No. 2, Cardington-street, Hampstead road.

TO YOUNG ARCHITECTS.—To DISPOSE OF, the PAPERS and GOODWILL of an old-established PRACTICE in one of the most prosperous towns in Yorkshire. For particulars, address A. Z. care of W. Blackett, esq. 7, Furnival's Inn, London, E.C.

TO STONEMASONS AND BUILDERS.—TO BE SOLD, the BUSINESS of a STONEMASON, where a good trade has been carried on for the last thirty-one years. It is in a most eligible situation, and disposed of solely on account of the present Proprietor retiring from business.—Full particulars may be had on application to Mr. JAMES BLUNT, Stonemason, St. Michael-street, West Bromwich.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINE.

Adapted for hand, horse, or steam-power, will make one-third more in quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.

Licences to Manufacture granted for certain districts.

For prices and particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chemical, and Smelting purposes, and in every business or manufacture where an intense heat is required. For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch-street, E.C.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Grissells, Place, or Stock Bats, by barge alongside, in the Thames or canals, on reasonable terms, either for cash or approved bills.

Belvidere road, Lambeth, January, 1862.

BRICKS

BEST KILN-BURNT BRICKS, of superior Common quality, can be supplied by the Million. Also, FINE WHITE AND RED FACING BRICKS. WHITE AND COLOURED STOCKS. VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES. WHITE AND GREY LIME AND GLAZED STONEWARE PIPES. Vessels can load at the Dalla's pound, at the East Cowes Park Estate, on the river Medina, Isle of Wight.

RICHARD LANGLEY, Agent.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
FIRE-BRICKS,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

BRICKS FOR SALE.—Between Two and Three Millions of STOCK and PLACE BRICKS for SALE, in large or small quantities.—For price, apply personally to Mr. TAYLOR, Clerk of the Works' Office, St. Paul's road, Bow Common.

WANTED, at Ascot, Berks, 60,000 CLINKER PAVING BRICKS (not Clinkers).—Send price and sample to J. & C. W. TODD, Builders and Contractors, Belmont, Lee, Kent.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM Mr. RAYMOND JARVIS, Earl VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

LONDON:—Printed by Charles Wyman, Printer, at the Printing-Office of Cox & Wyman, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said Charles Wyman, at the Office of "The Builder." No. 1, York-street, in the Parish of St. Paul, Covent-garden, 5th in the County of Middlesex.—Saturday, April 5, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1001. APRIL 12, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Drinking-Fountain, and Memorial of Myddelton, Islington-green.—Mr. John Thomas, Sculptor 261
Hemsted House, Kent.—Plan of Ground Floor.—Mr. D. Brandon, Architect 260

CONTENTS.

More from Rome 253
The Architectural Exhibition 254
The Metropolitan Underground Railway 255
Minsters and Parish Churches 255
The Green Park and London Monumental 256
The Dramatic College, near Woking 256
On the Decoration of the International Exhibition Building ... 256
The National Monument to the Prince Consort 259
Provincial Memorials of the Prince 259
Competitions 259
The Gallery of Illustration 259
Hemsted House, Kent 259
Drinking Fountain, and Statue of Myddelton, on Islington-green 262
Professor Smirke's concluding Lecture on Architecture, at the Royal Academy 262
The Drapers' Almshouses, Cricklewood Friars 263
Proposed Statue of the late Sir Charles Barry 264
Works in Manchester 264
Church-building News 264
Provincial News 265
Thames Embankment, Bill, North Side 265
Metropolitan Board of Works: Progress of the Main Drainage Works 265
Institution of Civil Engineers 266
Gye's Gasometers and Tanks 266
Chimney and Chimney Sweeping 266
Rival Surveyors and their Rewards 267
Paying out the Atlantic Cable 267
Decisions under Metropolitan Building Act: Wooden Buildings 268
Books received: Cranston's Horticultural Buildings (Birmingham); Viaductus 236, 267
Miscellanea 267

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS, Sussex Hotel, Bouverie street, Fleet-street.—A Quarterly General Meeting of Members will take place at the above address, on WEDNESDAY Evening, APRIL 16th instant, to take into further consideration the adoption of the revised rules; also to elect Officers for the ensuing six months.
JOHN LUCAS, Secretary.

BY ORDER of the SECRETARY of STATE for INDIA in COUNCIL.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the ENGINEER ESTABLISHMENT of the DEPARTMENT of PUBLIC WORKS in INDIA will, in the year 1862, be OPEN to PUBLIC COMPETITION.
A Competitive Examination will accordingly be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates may be admitted to the examination, and also respecting the nature of the appointment to be competed for, may be obtained at this Office, on application, either personally or by letter. (Signed) DE GREY and RIPON.
India Office, 13th July, 1861.
N.B. All communications to be addressed to the "Under Secretary of State for India."

INTERNATIONAL BAZAAR, 1862, EXHIBITION ROAD, South Kensington.
A Building of large dimensions, consisting of a Central Hall and two Naves with capacious galleries, is in rapid course of erection on the space of ground in Exhibition-road, nearly opposite the grand entrance under the eastern dome of the International Exhibition and the entrance to the Royal Horticultural Gardens.
The proprietor of the land is erecting this building for the purpose of affording exhibitors in the Exhibition, as well as others, an opportunity of selling articles of manufacture principally of a portable character, sales not being permitted in the Exhibition.
Plans of the space to be let, with the tariff, can be seen at the offices at the building.
Rough counters will be provided for exhibitors.
The utmost exertion will be made to make the International Bazaar worthy of public support. The Bazaar will be opened and closed concurrently with the Exhibition of 1862.
Intending applicants for space are invited to inspect the progress of the building, and to apply for further information to the Superintendent of the building.

ARUNDEL SOCIETY for PROMOTING the KNOWLEDGE of ART.—The drawings and publications of this Society are on view daily, for the Free Inspection all persons interested in Early Italian Art. The Society has lately added to the collection copies of the frescoes by Mantegna, in the church of the Eremitani, at Padua; and the masterpiece of Perugino, at Citta della Pieve.
Annual subscription to the Society, 1*l.* 1*s.*
Annual Publication for 1861.—Seven Chromolithographs, from the frescoes in the Rannucci Chapel at Florence.
For Prospectuses, and List of Works on Sale, apply to Mr. MAYNARD, Assistant Secretary, 24, Old Bond-street, London.
JOHN NORTON, Hon. Sec.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, NOW OPEN, from Nine till Six. Admission, 1*s.* Half-crown season tickets admit at all times to the Exhibition, to the west gallery containing the entire collection of drawings and sketches by the late A. Welby Pugin, and to all the Lectures. First Lecture, TUESDAY, MAY 6, at Eight p.m. on the Transport and Erection of Obelisks and other large Monoliths in Ancient and modern times, by Professor Donaldson.
JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

SIR JOHN SOANE'S MUSEUM, 13, Lincoln's Inn Fields.—The Museum is OPEN every WEDNESDAY, THURSDAY, and FRIDAY, from TEN till FOUR, during the Months of APRIL, MAY, JUNE, JULY, and AUGUST.—Cards of admission to be obtained at the Museum.

COMPETITIONS.

TO ARCHITECTS, LANDSCAPE GARDENERS, &c.—The Burial Board for the Borough of Cheltenham are desirous of receiving PLANS, ESTIMATES, and general SPECIFICATIONS for the LAYING OUT, CONSTRUCTING ROADS and FOOTPATHS, ERECTING BUILDINGS on, FENCING IN and PLANTING certain LANDS purchased by them for a cemetery, the superficial area of which is eighteen acres. The designs must include a ground-plan, showing the sites of the different buildings required, the courses of the carriage-roads and walks, the courses also, of the drains, the division of the land into the several sectional burial places, and the subdivision of such places into plots for burial. The plan, also, should show the manner proposed for the ornamental planting of the land. Should the intentions of the designers as to the laying out of the land render it necessary, sections of the earth work required, and formation of the ground surface as proposed to be made, should be provided, and such other details and suggestions as the competitors may think necessary to illustrate and make clear their designs. Plans, elevations, and sections must be provided for two chapels, dead-house, lodge, gates, and walls at entrances, &c. Specifications must accompany the plans, describing the manner of construction, the class and substance of material in the several buildings, and estimates of their several costs. Plans, specifications, and estimates of the manner of laying out and planting the site, of forming and making the roads and footpaths, and of the character and cost of fencing the site, to be also provided. Plans, &c. may be either for forming and finishing the roads and footpaths, laying out and planting the site, or for fencing the site, or for the chapels and other buildings before mentioned, and the entrance-walls and gates, or the whole of the works may be combined in the plans, &c. of any competitor; but the Board reserve the right of selection at their discretion from the plans, &c. submitted to them. A premium of forty guineas will be given for the best designs, specifications, and estimates for the whole of the works sent in; and a premium of twenty guineas for the second best designs, specifications, and estimates for the whole of the works. Should designs, &c. be selected for part of the works only, a fair arrangement as to the premium will be made by the Board with the successful competitors. The plans, &c. selected to become the property of the Board. The plans, &c. are to be distinguished by a mark or motto, and accompanying them a sealed envelope, having the same mark or motto outside, and within the name and address of the designer, and the terms on which he will superintend and supply his professional services in execution of the works. Plans and particulars of the land may be had on and after the 29th of MARCH inst. of Mr. HENRY HANGER FIELD, Borough Surveyor. The plans and other documents to be sent to me on or before the 29th day of MAY next.
G. E. WILLIAMS, Clerk to the Board.
Public Offices, Cheltenham, 29th March, 1862.

TO ARCHITECTS.—WANTED, PLANS and ELEVATIONS for SCHOOLS and TEACHERS' RESIDENCES, in conformity with the Rules of the Committee of Council on Education, at Stockton-on-Tees, Durham. The boys' school to accommodate 250; the girls' school, 200; and the infants' school, 200. Three teachers' residences. Ten pounds will be given for the most approved set of plans. Further information and tracing of site may be obtained of WILLIAM SKINNER, Esq. Stockton on Tees, to whom plans, with estimates of cost, must be sent, not later than the 30th of APRIL.

BOROUGH of BIRMINGHAM.—To ARCHITECTS.—The Free Libraries' Committee of the Council of this Borough are desirous of obtaining Plans, Sections, Specifications, and Estimates for the ERECTION of a FREE REFERENCE LIBRARY and READING-ROOMS, Lending-Library and News-Room, and Gallery of Art, upon the piece of vacant Land adjoining the Midland Institute Building, with an elevation uniform with the said building. Architects desirous of competing for the Erection of the same are requested to send in their Plans, Specifications, and Estimates, addressed to the undersigned, endorsed "Plans for Free Reference Library Building," on or before the 10th day of JUNE next. Particulars of the accommodation required, and of the conditions of competition, together with a Lithographed Plan of the Site, may be obtained on application at my Office.—By order.
THOMAS STANDBRIDGE, Town Clerk.
Town Clerk's Office Temple-street, 2nd April, 1862.

PRINCE CONSORT MEMORIAL.—DESIGNS for CLOCK-TOWER.—The Committee appointed to carry out the above object at Hastings invite architects and others to submit DESIGNS for the same. The sum of 70*l.* 10*s.* will be paid for the design approved of by the Committee, which design will then become the property of the Committee. Particulars as to space and limited amounts to be expended, &c. can be obtained at my Office, No. 80, High-street, Hastings. Designs must be delivered at my Office on or before the 1st of MAY next. ROBERT GROWSE, Town Clerk.
Hastings, April 9th, 1862.

CONTRACTS.

BRUNSWICK SQUARE and TERRACE DISTRICT.—Notice is hereby given to Persons willing to enter into a CONTRACT with the Brunswick-square and Terrace Commissioners, for CONSTRUCTING a MAIN SEWER and OUTFALL in the above district, that the plans and specifications of the several works to be executed may be seen, and all particulars obtained, at the Office of R. G. SUTER, Esq. the Surveyor of the Commissioners, at their Rooms in Brunswick street West, Hove, on any day after the date hereof, between the hours of TEN and five o'clock, where copies of the quantities, taken out by Messrs. BATSTONE & HUNT, of Parkstreet, Westminster, will also be supplied on payment of 10*s.* 6*d.* Tenders in writing, sealed and endorsed, "Brunswick-square and Terrace Drainage," are to be delivered on or before FIVE o'clock in the afternoon of Wednesday, the 16th day of APRIL instant, at the Office of Messrs. HILL & FITZROY, Solicitors, Brighton. The Commissioners do not bind themselves to accept the lowest or any Tender.
Dated the 11th day of April, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for BUILDING a PROVOST ESTABLISHMENT at York Cavalry Barracks.
Parties desiring to Tender for the erection of these works must leave their names at this Office on or before the 15th day of APRIL next, and pay the sum of 10*s.* 6*d.* for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, York, March 28, 1862.

TO BUILDERS.—Parties disposed to TENDER for the ERECTION of a FARM-HOUSE, FARM BUILDINGS, and THREE COTTAGES, at Walton, near Much Wenlock, in the county of Salop, for the Right Hon. Lord Forester, may inspect the plans and specifications and obtain Forms of contract, at my Office, in Bridgnorth, on and after THURSDAY, the 3rd day of APRIL, until SATURDAY, the 19th, on which day Tenders must be delivered to me by TWELVE o'clock. Those persons intending to Tender are requested to send their names either to me or to his Lordship's Agent, WILLIAM THURSFIELD, Esq. Barrow, near Broseley, Salop, so that a time may be appointed for viewing the site and plans. No pledge is given that the lowest or any Tender will be accepted.
ROBERT GRIFFITHS, Architect.
Bridgnorth, March 22nd, 1862.

TO BUILDERS and CONTRACTORS desirous of TENDERING for the ERECTION of a FACTORY for PATENT OIL WORKS, at Coed Talon, near Mold, North Wales, are requested to communicate, by letter, with Messrs. ELVINGTON & TOPHAM, Engineers, 32*a* road, London, S.E.

TO BUILDERS.—NEW CHURCH at BWLCH-Y-CIBAU, in the parish of Melfod, Montgomeryshire. Any persons wishing to TENDER for the ERECTION of the above-named Church, may see the plans and specifications on application at the said house, Bwlch-y-Cibau, six miles from the Llanfyllin Station, and nine miles from Welshpool; or may obtain further particulars by applying to the Architect, G. G. SCOTT, Esq. 20, Spring-gardens, London. Tenders to be sent in on or before the 22nd of APRIL, addressed to the Rev. R. WYNNE EDWARDS, Meifod Vicarage, Welshpool, and endorsed "Building Tender." The Committee do not pledge themselves to accept the lowest Tender.

TO BUILDERS.—Persons disposed to TENDER for ALTERATIONS, and very considerable ADDITIONS, to a RESIDENCE, at Chipping Norton, may see the Plans and Specifications thereof, on application at the Offices of Messrs. GIBBS, THOMPSON, and COLBOURNE, Architects, Stratford-upon-Avon, between the hours of NINE and SIX, on and from FRIDAY, the 11th instant, until the 23rd instant, where the quantities, &c. may be had on payment of 10*s.* Tenders to be sent to Messrs. TILSLEY & WILKINS, Chipping Norton, on WEDNESDAY, the 23rd of APRIL instant. The lowest or any Tender will not necessarily be accepted.
Stratford upon-Avon, April 2nd, 1862.

TO ROAD MAKERS and CONTRACTORS. PERSONS desirous of FORMING about ONE AND A QUARTER MILES of ROAD, on TOTTENHAM WOOD ESTATE, at Wood-green, Hornsey, on the Great Northern line, may see the Plans, Sections, and specification, at the Offices of the Architects, Messrs. W. G. HARRISON & PITE, 38, Bloomsbury-square, W.C. Tenders to be delivered on SATURDAY, the 12th instant, at TWELVE o'clock.—The Architects do not bind themselves to accept the lowest or any Tender.

TO BUILDERS and CONTRACTORS.—Persons desirous of CONTRACTING for the ERECTION and COMPLETION of a VILLA RESIDENCE, with Stable and Coach House, proposed to be built near Strond, Gloucestershire, may inspect the drawings and specifications at the Office of Messrs. FRANKLIN & CLISSOLD, Architects, Strond. Tenders to be delivered to the said Messrs. FRANKLIN & CLISSOLD on or before the 28th instant. Neither the lowest nor any Tender will necessarily be accepted. Each competitor must name a time within which he will engage to complete the work under a penalty, and that time named will be an element in the acceptance of a Tender.
Strond, April 9th, 1862.

TO BUILDERS.—The Board of Works for the Limehouse District are prepared to receive TENDERS for the ERECTION of NEW OFFICES and BOARD ROOM in White Horse street, Commercial-road East. The drawings, specification, and conditions of Contract can be seen, and forms of Tender and other particulars obtained, on and after the 28th day of APRIL inst. upon application to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial-road East. Tenders are to be delivered at the Offices of the Board not later than TWELVE o'clock on MONDAY, the 5th day of MAY, 1862. The Board will not be bound to accept the lowest or any Tender.
THOMAS W. RATCLIFF, Clerk of the Board.
10th April, 1862.

TO CONTRACTORS, BUILDERS, and OTHERS.—BROMPTON, CHATHAM, GILLINGHAM, and ROCHESTER WATERWORKS COMPANY.—The Directors of the above Company hereby give notice that they are prepared to receive TENDERS, from persons willing to CONTRACT for the CONSTRUCTION of a High-service RESERVOIR, near the Star Windmill, Chatham. Further particulars may be obtained, and the plans be inspected, by application at the Company's Offices, Maidstone-road, Chatham; or at the Office of J. FILLROW, Esq. Engineer to the Company, 34, Great St. Helen's, London, E.C.; where also specifications, conditions of contract, and forms of Tender, may be obtained upon payment of 5*s.* Tenders, properly endorsed, must be sent in, addressed to the Directors, at their Offices, Chatham, on or before TUESDAY, the 22nd day of APRIL, 1862.—By order,
April 9th, 1862. GEO. BOLTON, Secretary.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO BUILDERS.—Notice is hereby given, that the Guardians of the poor of the Wetherby Union are prepared to receive TENDERS for the various branches of work required in the ERECTION of a new UNION WORKHOUSE at Wetherby, in the county of York. The drawings, specifications, and conditions may be seen, and copies of the bills of quantities obtained, at my Office, on and after THURSDAY, the 17th instant, until MONDAY, the 28th instant. Tenders sealed, endorsed "Tender," and addressed to me, will be received on or before MONDAY, the 28th instant; and any further information may be obtained from the Architects, Messrs PRITCHETT & SON, Northgate House, Darlington. The Guardians do not bind themselves to accept the lowest or any other Tender.

JAMES COATES, Jun.
Clerk to the Board of Guardians of the Wetherby Union.
Wetherby, 8th April, 1862.

TO BUILDERS and CONTRACTORS.—WANTED, TENDERS for ALTERATIONS and ADDITIONS to FARM BUILDINGS, or the Erection of New Premises, at Burton-on-Trent, near Burton-on-Trent. Plans and specifications may be seen at the Office of the Architect, Mr. HENRY GURZON, 61, Lincoln's-inn-fields, W.C. before WEDNESDAY next, the 16th instant. The Architect does not undertake to reply to all communications. Quantities will be supplied.

HUNSTANTON ST. EDMUND'S, near KING'S LYNN. — The Hunstanton Building Association (Limited), is prepared to receive TENDERS for the ERECTION of THREE FIRST CLASS, FOUR SECOND CLASS, and FOUR THIRD CLASS HOUSES, at Hunstanton, according to plans, sections, elevations, and specifications, prepared by Mr. Butterfield. The plans, &c. may be seen at the Office of Mr. J. S. VALENTINE, C.E. 17, Parliament-street, Westminster; or at our Office, King's Lynn; or copies will be forwarded on the payment of 21s. Tenders, stating separate sums for second and third class houses, to be sent in to the Office at Hunstanton, to be delivered at our Office, on or before the 23rd inst. The Association do not bind themselves to accept the lowest or any Tender.

PARTRIDGE & EDWARDS, Solicitors to the Association.
King's Lynn, April 9, 1862.

EXTENSION of TIME for SENDING IN TENDERS. WATERWORKS at Halstead, Essex.—The Local Board of Health invite TENDERS for WATERWORKS at Halstead, the large and handsome wood shed may be seen at the Office of the Clerk of the Board at Halstead, or at Messrs. CURTIS & SONS, 5, Union-court, Old Broad street, London. Sealed Tenders are required to be sent to the Clerk's Office, on MONDAY, the 28th day of APRIL next. The Board do not bind themselves to accept the lowest or any Tender.

G. P. ARDEN, Clerk to the Board.
Halstead, April 9th, 1862.

BUILDERS and CONTRACTORS willing to CONTRACT for the ERECTION of a NEW LODGE at the entrance of Manner Park, Blackheath, may inspect the plans and specification at Mr. WILLIAM FORD'S, Architect, &c. 21, Lincoln's-Inn-fields, April 10th, 1862. Tenders to be delivered on or before the 18th instant.—P.S. The lowest Tender will not necessarily be accepted

TO BUILDERS.—SEVEN OAKS, KENT. Persons desirous of TENDERING for FOUR SEMI DETACHED VILLAS, proposed to be erected in the new railway Station, at Seven Oaks, Kent; may see the plans and specifications at the offices of the Architect, on and after THURSDAY the 10th inst., on plans will also lay a line Seven Oaks Railway Station, Seven Oaks. Sealed Tenders, endorsed "Tender for Villas, Seven Oaks," to be sent to the Architect not later than WEDNESDAY, 23rd inst. The lowest or any Tender will not necessarily be accepted.

HENRY H CRONK, Architect.
Dyott Terrace, Tonbridge Wells.

MARBLE CHIMNEY-PIECES, MAPPLEBECK & LOWE beg to announce the commencement of PRELIMINARY ALTERATIONS in the Smithfield Show Rooms, and the arrival of a large and beautiful Stock of MARBLE CHIMNEY-PIECES, which are now arranged in classic form with marble GRATES, FENDERS, FIRE IRONS, and ASH PANS, complete. STOVE GRATE and CHIMNEY-PIECE SHOW-ROOMS, BIRMINGHAM.
Manufacturers of the Leamington and other Kitchen Ranges

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 149 and 144, Regent-street; and 30 and 31, Wardour-street, W.
EDWARDES BROTHERS, & BUKES, PROPRIETORS
The largest and most extensive Stock of Chimney pieces in Europe on view, and at moderate prices. Established A.D. 1777.
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work

SIXTY MARBLE CHIMNEY-PIECES TO BE SOLD, in consequence of Monsieur Beernaert, of the Belgian and Westminster Marble Works, Millbank-street Westminster, having arranged to show only in London the above Chimney-pieces, at the Great Show Room, Belgrave Road, Pimlico. Trussed, &c. The above will be sold at a great sacrifice—in fact, to prevent the expense of removal. Apply to Mr. PILTON, Westminster Marble Works, Earl-street, Horseferry-road, S.W.

THE PANES HIPSON, QUEEN'S ROAD, BRIGHTON.
FOREIGN MARBLE GALLERIES. Exhibiting upwards of Two Hundred MARBLE CHIMNEY PIECES, Statuary, Vases, Tazzas, Tables, Slabs, Busts, Figures, Bas Reliefs, Groups, Bronzes, Ormolu, Grates, Fenders, Fire Irons, &c. Also, an extensive assortment of designs and sizes set up for view. Sculptured Marble Monuments, Headstones, &c. erected. An assortment of Grates, Tiles, and Hearths, by the Proprietors and Inventors, GEO. HEAD & SONS.
N.B. Packing cases built free of charge.

BATH! BATH!! BATH!!! ROBERT STRONG, STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies BOX HILL GROUND STONE, OF THE BEST QUALITY. Blocks of any dimensions cut to drawing. AGENT IN LONDON: SAMUEL TRICKETT, ISLE OF DOGS, E. and JERUSALEM COFFEE-HOUSE, E.C.

JOHN BAZLEY WHITE & BROTHERS, MARBLE MERCHANTS, MILLBANK-STREET, WESTMINSTER. Marble of all kinds, and of best quality, in Block and Slab. Marble Mortars, &c.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER SIMPSON & SONS, 20, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

FOREST of DEAN STONE.—Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.
That from their "Gosty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Dark-hill" Quarries, is decidedly superior to it.
Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

W & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 47, Millbank-street, London, S.W.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN. Cargoes shipped to order from Caen to any port. Contracts taken for any quantities. Depôt—GRANITE WHARF, East Greenwich. Office—10, Three Crown-square, Borough.

RED MANSFIELD STONE. WHITE MANSFIELD STONE. YELLOW MAGNESIAN or BOLSOVER LIMESTONE. Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station. Mr ROBERT LINDLEY, Mansfield Quarries Nottinghamshire.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition. Trade imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article. Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slate and Clay Tiles of every description in quantities of not less than five tons. Prices forwarded and estimates given on application.—Address, No. 1, BOLD TERRACE, CHESTER.

BLOCK STONE! BLOCK STONE! The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, at the VICTORIA STONE WHARF, Millwall Poplar. Architects, Builders, and Masons, are requested to call and examine the quality. SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also NOTE delivered direct from the Quarries to all parts of the Kingdom. The BEST and CHEAPEST STONE-WHARF in LONDON. Address, SAMUEL TRICKETT, Isle of Dogs, E. A large quantity of Portland Headstones for Sale. A Quantity of Grindstones for Exportation.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall SHOW ROOMS, 6, CANNON-STREET, E.C. London Agents—TREGELLES & TAYLOR. Manager—JAMES J. TRATHAN, Liskeard. This Granite is selected for the New Westminster Bridge. DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded by application EDGE RUNNERS OF SUPERIOR QUALITY.

VALE of WARDOUR FREE STONE. TISBURY QUARRIES, WILTSHIRE.—Geologically this stone is identical with the Portland Oolites; the beds vary in texture, the upper being a stiff roach, of which large blocks are readily obtained, and is suitable for heavy works, such as bed stones for engines, girders, machinery, &c. or for waterworks. The under beds produce shorter and finer texture, which is well adapted for carving, mouldings, tracery, labours, plinths, copings, cills, sills, and for building purposes generally, also for bricks, gravestones, chimney-pieces, steps, paving, hearth-slabs, troughs, &c. Numerous buildings of considerable antiquity attest the durability and texture of the stone of this district. Amongst these may be cited Salisbury Cathedral, Tisbury Church, the Poultry Cross at Salisbury, Wilton Abbey, &c. erected from Chilmark and other quarries immediately adjacent to those under notice. Specimens of the stone may be seen at Messrs POOLE & SON, Marble and Stone Works, Great Smith-street, Westminster; W. Darlington, Museum of Practical Geology, Jermyn-street, Nos. 311 and 312, Case V, London; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile end, London, or direct from the Tisbury Quarries. Orders for worked stone carefully executed at the Quarries.—Samples forwarded, and any other information may be obtained of Mr. T. P. LILLY, Gillingham, Dorset.

MARKET WHARF, REGENT'S PARK BASIN—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice. Country orders promptly attended to.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and 17, Orange-road, Pimlico, London. JOHN WREN Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices. N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E. Seasoned Caen Stone always in Stock, and a large assortment of Yorkshire Stone in Paving, Hearths, &c. &c. Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Stock Cargoes executed direct from the Quarries. Prices and specimens forwarded on application.

POLISHED GRANITE WORKS ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 424, Euston-road, N.W.

RANSOME'S IMPERISHABLE SILICEOUS STONE. ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decoration executed to order; and on extensive stock in hand at reduced prices. Filters and Filtering Slabs for Domestic or Manufacturing purposes For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster or Patent Stone Works, Ipswich.

ANCHOR BRICK-MOULD WORKS, HOUNSLOW, W J. LEACH, Millwright and Manufacturer, Improved MOULDS, STOCKS, and PLATES, with or without stock pegs; also Oak Stocks, the largest stock in England, of various sizes, and made to order. Wash, Chalk, Pug-mills, and Pumps, by steam or horse power. Brickmakers are cautioned against an impostor collecting orders in J. L.'s name, and supplying an inferior mould. Anti-friction Grease for Brickfields Established eleven years.

BRICKMAKING. BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINE. Adapted for hand, horse, or steam-power, will make one-third more in quantity of first class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order. Licences to Manufacture granted for certain districts. For price and further particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C. The Machines may be seen at work at Southborough (abt. one mile from the station), Kingston-on Thames.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chemical, and Smelting purposes, and in any business or manufacture where an intense heat is required.—For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Fen-court, Fenchurch-street, E.C.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Grisells, Place, or Stock Butts, by barge alongside, in the Thames or canals, on reasonable terms, either for cash, or approved bills. Belvidere-road, Lambeth, January, 1862.

BRICKS.—HEALTHY HOUSES, Separate Dwellings, with Gardens for the Working Classes.—WANTED, 750,000 Stock and other BRICKS, to be delivered to a Wharf near Kingsland-road Bridge, N. WANTED, also, a BRICKLAYER, used to Sub-Contract.—Price to be inclosed to Mr. J MORTIMER, Surveyor, 47, Gresham-street, E.C.; or 65, High-street, Hoxton, N.

BRICKS BEST KILN-BURNT BRICKS, of superior Common quality, can be supplied by the Million. Also, FINE WHITE AND RED FACING BRICKS. WHITE, RED, AND BLACK CUTTERS VARIOUS SPECIAL BRICKS AND RIDGE TILES. WHITE AND GREY LIME AND GLAZED STONEWARE PIPES. Vessels can be loaded at the Kiln's mouth, at the East Cowes Park Estate, on the river Medina, Isle of Wight. RICHARD LANGLEY, Agent.

A NEW BRICK and LIME WHARF, and DRAWDOCK, JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. VICTORIA WHARF, NINE ELMS, S. For the Sale of Building Goods generally. BRICKS, TILES, SLATES, LIME, CEMENT, HAIR, LATHS, PLASTER, SAND, BALLAST, GLAZED DRAIN-PIPES, AND RED GOODS; VERE-SCOTT'S SPLAY, JAMB, AND COPING BRICKS; SUFFOLK AND OTHER PAVIORS: STAFFORDSHIRE FIRE GOODS; MALM CUTTERS, PICKINGS, &c A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

FRONTS of HOUSES.—To BUILDERS and OTHERS.—GREENE & CO'S PORTLAND CEMENT WASH is a cement of Colour and Cement combined to resemble Portland Stone, and is applied to the Fronts of houses, &c. with great economy and durability. In casks of 1 cwt. for 10s.—Factory, 22, Norfolk-street, Islington.

PATENT PORTLAND and ROMAN CEMENT, AND PLASTER OF PARIS WORKS, FRINDSBURY, on the MEDWAY, KENT, and CANAL ROAD, KINGSLAND ROAD, N. MESSRS. FREEN & CO. Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER of PARIS, in any quantity, from the Kilns. Orders addressed to their LONDON WORKS, Canal-road, Kingsland, N. will meet with prompt attention

TO BE SOLD, a nearly-new SHOP-FRONT, about 23 feet by 12 feet, with plate glass, recessed doorway in centre, &c.—Apply to Mr. WALTER HITCH, Surveyor and Builder, Ware.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Counting-houses, Packing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to RANDAL STAPP, Contractor, No. 32, KING WILLIAM-STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAPP are not fixtures on Leasehold Property.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given. JAMES HAYWOOD, JUN. PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

PATENT SANITARY LEAD PIPES.—ALFRED COURAGE & CO. Proprietors of BENNETT'S PATENT SANITARY LEAD PIPES, in Alloy of Tin and Silver, are prepared to grant a limited number of LICENSES for its use. This pipe effectually prevents the poisonous action of lead on water, and insures PERFECT PURITY of supply for DOMESTIC USE.—For information as to licenses, prices of pipes, &c. apply to ALFRED COURAGE & CO. Upper Weras, Basilll, Plaintaire.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

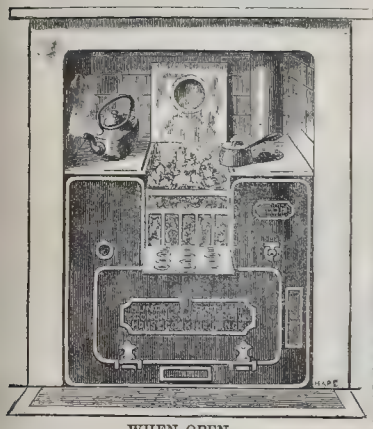


CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

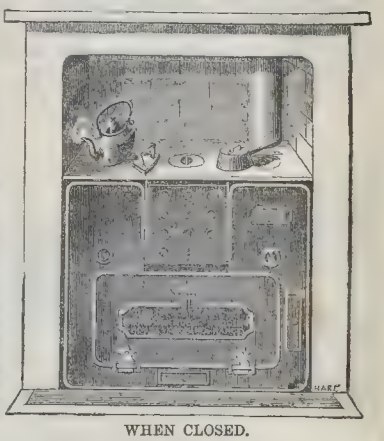
CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of

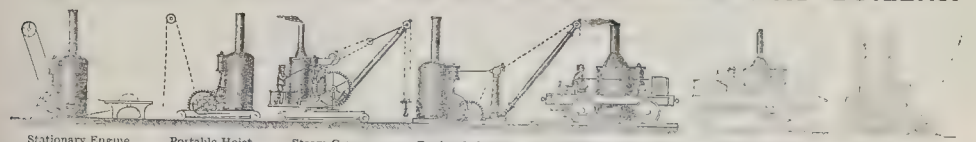
THE MANUFACTURER,



WHEN CLOSED.

WILLIAM ADDIS, Nos. 6 and 15, LEICESTER-ST. LEICESTER-SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.

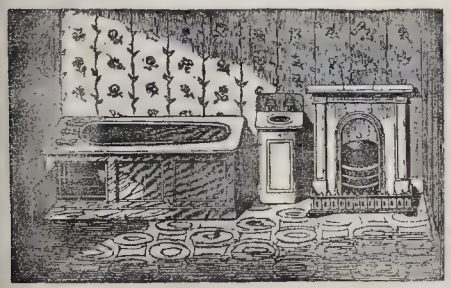


Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane. 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,
CRANSTON-HILL ENGINE WORKS, GLASGOW.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

HAWKINS'S REGISTERED CHAIN.—
This newly-invented article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-blinds, both outside and greenhouse screens, and heavy shutters; suspending lamps and chandeliers, either with or without balance balls; fitting up stables, workshops, &c., for tethering cattle, dogs, and poles; chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris by J. W. GRAY, who has successfully secured a large number of ships, public buildings, and mansions against the destructive effects of lightning, at the Houses of Parliament, Buckingham Palace, the Horse Guards, the War Department, and many thousand other objects of importance. Estimates surveyed, and plans and instructions forwarded free.
J. W. GRAY & SON, 114, Jermyn-street, S.W.

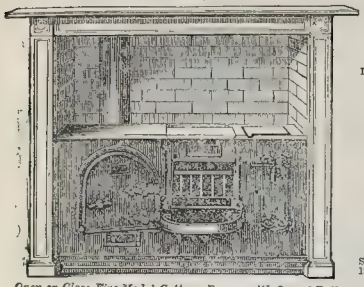
CAUTION to ARCHITECTS and BUILDERS.—In consequence of a dispute having arisen from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION INDIA-RUBBER SPRINGS, SMITH'S PATENT WEATHER TIGHT WATER BARS, and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS.

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 49, Prince street, Leicester-square, London, and SUCH ONLY are WARRANTED.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45s.



Open or Close Fire Model Cottage Range, with Oven & Boiler.

Self-acting, with Bright Wrought Bars.

34 inches ..... 54s.
36 „ ..... 56s.
38 „ ..... 58s.
42 „ ..... 60s.

Self-acting Cottage, with Oven and Back Boiler.

30 inches ..... 22s.
33 „ ..... 24s.
34 „ ..... 26s.
36 „ ..... 28s.

Register Stoves, with Strong Bars, from per inch, 4d
Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 45s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch. 1¼-inch. 2 inch. 2½-inch. 3-inch.
14s. 14s 12s. 12s. 11s 6d. per cwt.

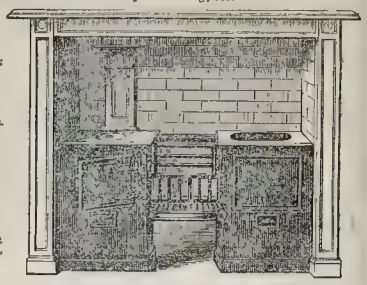
Best Sheet Cut Floor Brads, 12s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

2-in. 2½-in. 3-in
Cast Rain water Pipe .. 8d. 10d. 1s. per yard.
Cast Gutters, 4-in. 7d. per yard
4 in. 4½-in.
O G Cutters, with Clips on.... 10d. 1s. per yard.

2 3 4 5 6
Patent Line..3s. 6d. 4s. 6s. 7s. 9s. per gross.

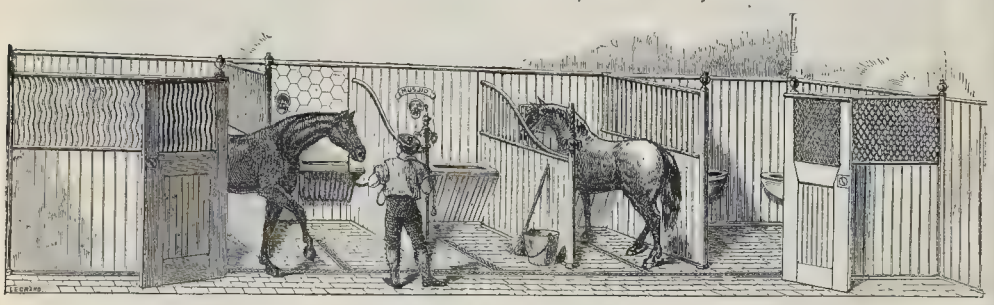
6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 12s. 6d. per cwt.
Dr. Arnott's Ventilators, 4s. each.
Brick Moulds kept in stock. Any size made to order.

Combined Range with Wrought Galvanized Boiler for Washing, 50s.



ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz. :—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,

Are prepared to supply, without delay,

MALLEABLE IRON CASTINGS TO PATTERN,

OF THE BEST QUALITY AND AT MODERATE PRICES.

SAVING IN GAS.

D HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c &c.

ROGERS' PATENT OUTLET for RAIN-WATER BUTTS and CISTERNS, which being placed inside the cask or cistern, cannot get out of order, and is quite free from the effects of frost, &c. Price, complete, 3-inch, 10s; 1-inch, 12s.—Drawings and full particulars, on application to the patentee,
G. ROGERS, HIGH-STREET, STAINES.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi),

Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street, London, E.C.

TRADE MARK.

CROWN TUBE WORKS,

WEDNESBURY, STAFFORDSHIRE.
Warehouse—31, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

LOSH, WILSON, & BELL,

NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

SHEET ZINC AND METAL PERFORATING WORKS.

FRANCIS RUMMENS,

PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.

HIGHLY APPROVED ROOFING ZINC,

BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.

ZINC SLATING NAILS.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

The Patent Gas Regulator and Purifier reduced to 8s. 6d. per dozen.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61A, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

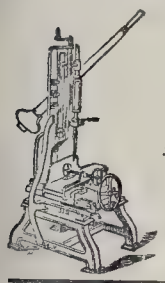
Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

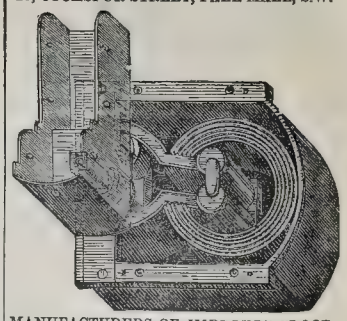
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

HART & SON,

53 to 58, WYCH STREET, STRAND, W.C., and 20, COCKSPUR-STREET, PALL-MALL, S.W.

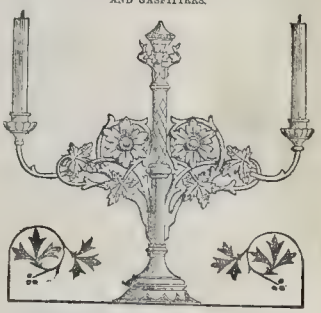


MANUFACTURERS OF IMPROVED FLOOR-CENTRES, FOR SWING DOORS, BUFFER-SPRINGS, ARNOTT'S & SHERINGHAM'S VENTILATORS, PITT'S & CLARK'S PATENT DOOR FURNITURE,

And every description of General Ironmongery.

JOHNSTON, BROTHERS,

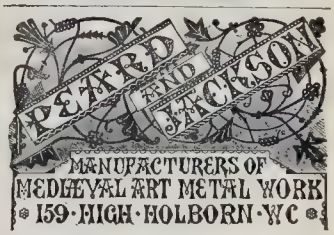
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W.

Drawings and Estimates furnished



BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vases, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Iron Brackets Standards, Gaseliers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.

Specimens at the Architectural Exhibition, Conduit-street, W.

WROUGHT-IRON TANKS, CISTERNS,

GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London, E.

MOREWOOD & CO.

(late Morewood & Rogers),

Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

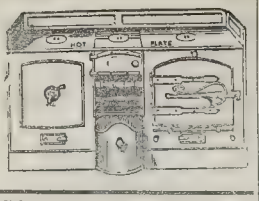
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Water and Gas Tubing, Sheeted and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Bolts, &c.

Estimates given for Roofs, and every description of Galvanized Buildings complete.

OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS.

36 and 65, York-street, Westminster.

W. HARMER & SON

Beg to inform their Customers and the Trade generally, that having recently Removed into their new Premises, No. 3, HORSEFERRY ROAD, which communicates in the rear with their Warehouse and Workshops in New Peter street, they have thereby been enabled largely to increase their Stock of BUILDERS' and CABINET MAKERS' IRONMONGERY, and which they are now selling at a considerably REDUCED LIST of PRICES, in consequence of the depression of trade in the building districts.

W. HARMER & SON,

IRONMONGERS, SMITHS, IRON AND ZINC MERCHANTS,

Nos. 3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.

ESTABLISHED 1817.

DEVAUX'S PURE THICK ROOFING ZINC,

FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS

And every ROOFING purpose is of great durability, and will not get out of order if laid on the new system introduced by J. DEMESTON, Esq. F.R.I.B.A. by whom a certificate is given.

ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.

Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.

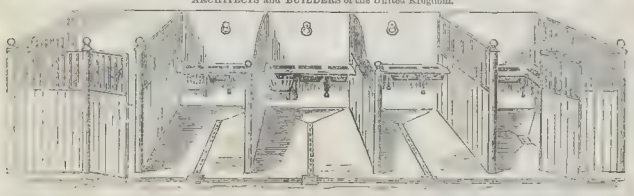
MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.

N.B.—Metal of the proper thickness only, is stamped with DEVAUX'S name.

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.

These SUPERIOR CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four postage stamps.

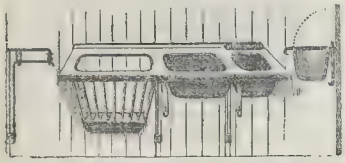
JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

COTTAM'S
PATENT INVENTIONS FOR STABLE REQUISITES,

Awarded a prize at the Paris Exhibition,

Patronized by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the Kingdom.

In use at her Majesty's Stables, Aldershott and Balmoral.

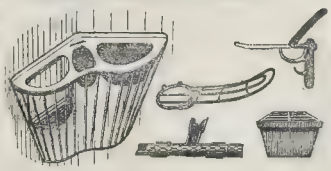


COTTAM & COMPANY, Winsley-street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Water-trough, and Wrought-iron Rack, united to an iron, lavatite, and forming one complete and useful fixture, having COTTAM'S Patent Noiseless Halter Guide and Collar Rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, protects the corn, and is economical in its results.

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, is a most essential addition to their fittings; it is never in the way; can be placed and replaced in an instant; when its cheapness, simplicity, and utility in keeping the contents of the manger clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED



can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT-IRON VENTILATING BRACKET preserves the shape and allows a free admission of air to the under parts of the saddle.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanized, and enamelled. Iron gates, fencing, hurdles, &c.

KNIGHTLEY'S PATENT STABLE FLOOR.

Illustrated Catalogues and Estimates gratis, upon application to

COTTAM & CO. 2, WINSLEY STREET, Oxford Street, London, W.

WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

PUNCHING-PRESS WANTED.—

WANTED, a good SECOND HAND PUNCHING PRESS, to punch up to 14-inch.—Apply to Messrs. C. & H. GRAYSON & CO. Sheaves Graving Dock, Liverpool.

POWIS, JAMES, & CO.

ENGINEERS AND MACHINISTS,

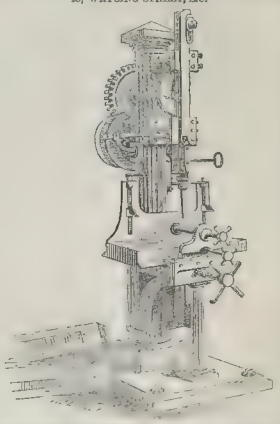
VICTORIA WORKS, BLACKFRIARS-ROAD, LONDON,

Having taken additional premises at 92 Blackfriars-road, known as the Surrey Iron Works, have added Portable Engines to their Sawing and Wood-cutting Machinery business. Contractors, architects, merchants, and shipowners will find these engines fitted with the same care exactness which has gained for the firm so respectable a position as Machinists and Tool Makers.

Specimen Machines and Engines can be seen at the Works, at the Machinery Department, Crystal Palace, Sydenham; and in class 7, section 2, stands 7, International Exhibition, South Kensington.

Engines, &c. on hire, with or without the option of purchase.

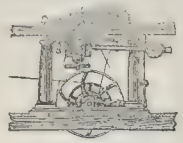
ALL LETTERS MUST BE ADDRESSED TO THE OFFICE, 26, WATLING-STREET, E.C.



IMPROVED STEAM POWER MORTISING MACHINE, for [illegible] Builders' and Cabinet Makers' work.

S. WORSSAM & CO.'S PATENT

SMALL MOULDING MACHINE.



(4-inch scale.)

Will stick single mouldings of any pattern, and of any width not exceeding 6 inches, at rates varying from 12 to 28 feet a minute. It will also make sash-bars, mould skirting or cut out eaves, trough-ing, &c.—For priced Illustrated Circulars, with full particulars, apply at the Works 334, King-road, Chelsea, S.W.

THOMAS ROBINSON

and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

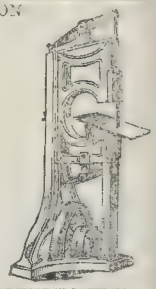
AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*



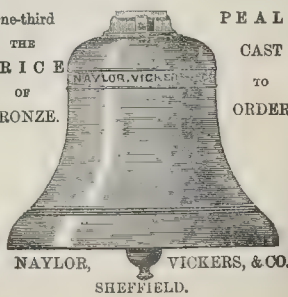
Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

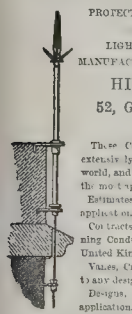
SHEFFIELD.

THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

CASTINGS, ANY WEIGHT AND QUANTITY,
With the utmost despatch, at Country Prices.
HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR-MILLS, &c.



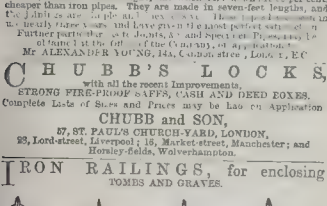

PROTECTION FROM LIGHTNING.
LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.
These Conductors have been very extensively applied to all parts of the world, and are acknowledged to be of the most approved principle.
Estimates and References furnished on application, by letter, or at the Works.
Contracts entered into to supply Lightning Conductors in any part of the United Kingdom.
Vanes, Crosses, and Terminals made to any design.
Designs, to suit any style, sent on application.



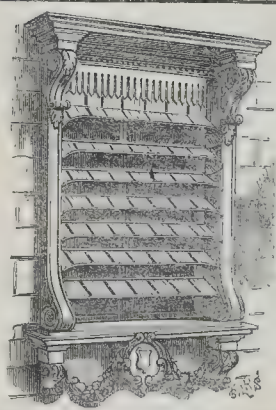

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the joint and all staples, complete for fixing, at the following prices:—
Three eighths-inch diameter ..... 1s. 6d. per foot.
Half-inch diameter ..... 1s. 6d. "
Five-eighths-inch diameter ..... 2s. 0d. "
R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.
Offices—109 Strand, London.
" Gateshead on Tyne.
" 57, Dale-street, Manchester.
" 58, Andrew-street, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

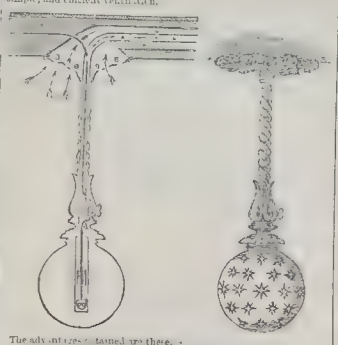
PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE
REDUCTION IN PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and freedom from oxidation, and being non-conductors, are not affected by frost like metal pipes. They are tested to resist a pressure of 220 lbs. on the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joints are made and set complete. These pipes have been in use nearly three years, and have given the highest perfect satisfaction.
Further particulars as to Joints, Price and Specimen Pipes may be obtained at the Office of the Company, or application to Mr ALEXANDER YOUNG, 163, Cannon-street, London, E.C.

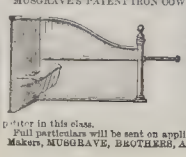
CHUBB'S LOCKS,
with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on Application
CHUBB and SON,
57, ST. PAUL'S CHURCH-YARD, LONDON,
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.

COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price-sheets for the above articles, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBYER, at the Great Exhibition of 1851, which also the attention of Builders, &c. is called to his Stock of Iron Fitted Locks of all descriptions, Cabin Locks, &c., Wood Part Locks, Cabin Knobs, with Patent Shifting Spindles; Dr Arnott's Ventilators, &c., and the New Registered Venetian Ventilator, so much admired and sold by
J. H. BOOBYER (late STURCH & BOOBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.


SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.
These Blinds give a highly decorative finish to a plain front, whether fitted up in ornamented frames or without one. In the latter case they are required, when raised up, to project beyond the reveal. Where there is no reveal, as in old houses, they would require a frame which need not project more than about 4 inches, and has no side wings—nothing lower, or any other disfigurement. Price moderate. A liberal discount to the Trade.
R. LOWTHER & CO. 31, Regent-street,
(One door new to the Pall Mall Circus)
VENETIAN AND ALL OTHER BLINDS WHOLESALE.

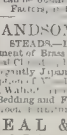
RICKETT'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.

The advantages claimed are these:—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES
MUSGRAVE'S PATENT IRON COW HOUSE STALL and IRON PIG-SERIES. These Inventions are confidently recommended as possessing many considerations to be found in any others. [illegible]

At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "Highly commended;" being the only prizes conferred on any competitor in this class.
Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

TO BUILDERS AND OTHERS
A SECOND-HAND MOULDING MACHINE TO BE SOLD a BARGAIN.
Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.
These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanised ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.


TRADE MARK.
GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES.
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton Staffordshire.

IMPORTANT TO BUILDERS, SAW MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS
WILSON'S PATENT LARGE TIMBER SAWING-MACHINERY.
This machinery is adapted to cut upon flat or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the log are arranged to carry the log at the same time to any extent without stopping for ready-sawn, by which the use of transoms is avoided, and they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly.
The speed of cutting may be varied from 12 inches to 14 feet per minute, and yet on account of the increased length of cutting stroke, the saw is kept cool.
May be seen in operation, daily, at Messrs JAMES WILSON & SONS, Builders, Springfield Saw Mills, Manningham, Bradford, Yorkshire.—Full particulars may be had on application, by parties desirous of purchasing.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Model Gas Regulator. Complete Pattern book and Price-list, 12s.—Nos. 5 and 5a, High Holborn.

HEATING BY  HOT WATER.
JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give unimpeachable references to Churches, Dwellings, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, Kingsroad, Chelsea.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 2a, Davies-street, Three Doors from Oxford-street
For the Supply of Builders, Cabinet-makers, Upholsterers, Smiths, Ironmongers, and the Trade in general, at wholesale prices. Illustrated with 3,000 Articles, No. 18, Bradford-street, Warwick-square, Continuation of Baker-street, Portman-square, London, W.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW
Manufacturers of all sizes of CAST IRON MAIN PIPES for Gas or Water, on IMPROVED PATENT.
GENERAL IRON FOUNDERS GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

CROGGON & COMPANY,
GALVANIZED TINNED, FLAT, CORRUGATED, AND CUT AND SHEETS,
PERFORATED AND PLAIN ZINC,
TINNED SHEET,
GALVANIZED MANGANESE RED GOOD Sheets of every description.
2, DOWGATE HILL, LONDON

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles to the Trade. Galvanizing for Private Parties on the Premises.
IRON WORK GALVANIZED
Roofing orders promptly attended to at reduced rates.
Office—Commercial-road Lambeth, [illegible]
Works—Cuttingham Wharf, Lambeth.

PATENT ASPHALTE CALDRON, for laying Asphalte Roofs. The cheapest and best method of flooring, impervious to wet, and vermin will not touch it. Full particulars sent free, by
WOODS & COCKSEDGE,
IRONFOUNDERS, STOWMARKET.

FOR SALE, FIFTEEN or [illegible] ÆVAL GASELIERS, nearly new, of a most chaste design, having 42 jets in each, admirably adapted for Chapels, Club-rooms, Public Halls, &c. a Bargain. For particulars apply to [illegible] DERS, 3, Oxford-street, W.C.

ESTABLISHED 1774
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CABINETMAKERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, [illegible] to direct the attention of the Trade to
IMPERIAL PATENT FLAX SASH LINE,
of which he is now making [illegible] mends that in all cases they should be purchased in preference to
PATENT LINES [illegible]
STRENGTH and DURABILITY of FLAX, [illegible]
to much used, to the [illegible]
They can be obtained of all Ironmongers, [illegible]
FACTORY, 4, West-castle House, [illegible]

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates, from Five Pounds [illegible] and elegantly Japanned; Plain Iron Bedsteads for servants' rooms; Mahogany Bedroom Furniture of [illegible] Bedroom Chairs, Dressing Tables, Washstands, Birch, Walnut, and Polished Deal Bedroom Furniture, with Bedding and Furnitures complete, as well as every article of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of [illegible] sheets, as well as a Bedding List, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY the process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS. Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

In 1 vol. limp cloth, price 5s. 6d.

A MANUAL of the MOLLUSCA, or a Rudimentary Treatise on Recent and Fossil Shells. By S. P. WOODWARD, Associate of the Linnæan Society, &c. Illustrated by A. N. WATERHOUSE and J. W. LOWRY.

FORMING Vols. LXXII. to LXXV. of WEALE'S RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

In 1 vol., New Edition, 12mo. limp cloth, price 4s. 6d.

THE RUDIMENTS OF CIVIL ENGINEERING, for the use of Beginners. By HENRY LAW, C.E., and G. R. BURNELL, C.E. With numerous Illustrations.

FORMING Vols. XIII., XIV., XV., and XV.* OF WEALE'S RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

Sixth Edition, 12mo. limp cloth, pp. 175, price 1s. with Illustrations,

RUDIMENTARY MECHANICS, for the use of Beginners. By CHARLES TOMLINSON

FORMING Vol. VI. of WEALE'S RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

Sixth Edition, with Illustrations, 12mo. limp cloth, pp. 162, price 1s.

INTRODUCTION TO THE STUDY OF NATURAL PHILOSOPHY. By CHARLES TOMLINSON.

BEING Vol. II. of WEALE'S RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

THE ARUNDEL SOCIETY.

Now Ready,

A CHROMOLITHOGRAPH from the well-known Fresco by Andrea del Sarto, of the "MADONNA DEL SACCO," in the Cloister of the Annunziata at Florence. Price to members, 12s.; to strangers, 15s.

Specimens may be seen at the Office of the Society, 24, Old Bond-street, London.

II.

ILLUMINATIONS and MINIATURE PAINTING.—An ALPHABET of CAPITAL LETTERS, engraved in outline, from the choral Books of S. Mark's, and the Duomo, Florence: and the Picc ominl Library, Siena; with one Letter attributed to Fra Angelico, and several Specimens. Price to members, 1*l.* 10s.; to strangers, 2*l.* The Outlines, printed on paper fit for colouring, separately. To members, 1s. 6d.; to strangers, 2s. The letter F, in facsimile, separately. To members, 7s. 6d.; to strangers, 10s.

Published by the ARUNDEL SOCIETY, 24, Old Bond-street, London, where specimens may be seen.

BEARDMORE'S HYDRAULIC AND OTHER TABLES.

The Publisher begs to announce that this work, having been long out of print, has been entirely re-arranged, and the original Tables have been merged into a Treatise, entitled

A MANUAL of HYDROLOGY.—This book contains:—

Division I.—Hydraulic and other Tables, with descriptive matter and many new Tables, the whole placed in a concise form

Division II.—On Rivers and Flow; on percolation of water; on wells and springs; on the flow in sewers, and water supply, with description of the floods of many considerable rivers, with other characteristics suggesting the Hydraulic conditions.

Division III.—On Tides, Tidal Rivers, Estuaries; containing the latest details of the conditions seen in the tidal waves ascending the rivers of the coast, and of those places where the tidal wave vanishes, also showing the effect of improvements in many of the tidal rivers of this country. Explained by tidal diagrams, sections of rivers, cotidal lines, plates elucidating channel tides, &c. &c.

Division IV.—On Rainfall and Evaporation. Containing the best experiments on rain, with its various climates, tables of rainfall under every variety of elevation, period, and locality. These Tables include all parts of the British Isles, France, Germany, Italy, Russia, North America, Australia, and India.

The work consists of 500 pages, and there are 20 large plates.

Will be ready in the Third Week in April, price 2*l.* 2s.

WATERLOW & SONS, 49, Parliament street, Westminster; 124, Birchin-lane; and London Wall, London.

MEMOIR OF SIR M. I. BRUNEL, C.E.

Just published, in One Volume, 8vo. with a Portrait on Steel and 10 Illustrations engraved on Wood, price 14s. cloth,

LIFE of SIR MARC ISAMBARD BRUNEL, Civil Engineer, V.P. F.R.S. Corresponding Member of the Institute of France, &c.

By RICHARD BEAMISH, F.R.S.

"Mr. Beamish has had access to the best sources of information, and copious for many years an intimate friendship with the subject of his memoir. The advantages to the biographer of this intimacy are obvious."—*Times*

"Mr. Beamish has had access to the best sources of information, and copious for many years an intimate friendship with the subject of his memoir. The advantages to the biographer of this intimacy are obvious."—*Times*

"It is as complete a picture of the distinguished engineer as can be conceived, and the style in which it is drawn is at the same time both modest and expressive."—*Daily News.*

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

KNOWLEDGE FOR THE YOUNG.

A New Edition, in 18mo. pp. One Shilling,

THE STEPPING-STONE to KNOWLEDGE: comprising several hundred Questions and Answers on Miscellaneous Subjects, adapted to the capacity of the Youthful Mind.

By a MOTHER.

In the same Series, price 1s. each, Stepping Stones to

KNOWLEDGE, Second Series, 1s.	ASTRONOMY, 1s.
BIOGRAPHY, 1s.	MUSIC, 1s.
GEOGRAPHY, 1s.	ENGLISH HISTORY, 1s.
ROMAN HISTORY, 1s.	ENGLISH GRAMMAR, 1s.
GRECIAN HISTORY, 1s.	FRENCH CONVERSATION and PRONUNCIATION, 1s.
FRENCH HISTORY, 1s.	ANIMAL and VEGETABLE PHYSIOLOGY, 1s.
BIBLE KNOWLEDGE, 1s.	

NATURAL HISTORY of the VERTEBRATE ANIMALS, 2 Parts, 1s. each.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

CHEAPER EDITION OF CRESY'S CIVIL ENGINEERING.

In One Volume, with above 3,000 woodcuts, price 42s.

ENCYCLOPÆDIA OF CIVIL ENGINEERING, Historical, Theoretical, and Practical. By EDWARD CRESY, Architect and Civil Engineer. New impression.

"A desideratum in engineering science is supplied by this remarkable volume. There is not a member of the profession, from the most eminent civil engineer to the humblest surveyor, who will not find here the materials to enrich his mind and extend his knowledge."—*Railway Gazette.*

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

Complete in 3 vols. 8vo. with nearly 2,000 Wood Engravings, price 4*l.* cloth lettered, or 4*l.* 14s. 6d. strongly half-bound in russia; to be had also in 12 parts, 6s. each,

DR. URE'S DICTIONARY of ARTS, MANUFACTURES, and MINES. *Fifth Edition*, chiefly rewritten and greatly enlarged. Edited by ROBERT HUNT, F.R.S., F.S.S., Keeper of Mining Records, &c.; Assisted by numerous Contributors eminent in Science and familiar with Manufactures.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

THE EDINBURGH REVIEW, No. CCXXXIV.

Will be published on WEDNESDAY NEXT.

CONTENTS.

I. JESSE'S MEMOIRS OF RICHARD III.
II. CENTRALISATION.
III. GUESSARD'S CARLOVINGIAN ROMANCES.
IV. RECENT RESEARCHES ON BUDDHISM.
V. MODERN DOMESTIC SERVICE.
VI. MOMMSEN'S ROMAN HISTORY.
VII. COTTON CULTURE IN INDIA.
VIII. ALISON'S LIVES OF LORD CASTLEREAGH AND SIR C. STEWART.
IX. PUBLIC MONUMENTS.
X. DAVID GRAY.
XI. CLERICAL SUBSCRIPTION.

London: LONGMAN & CO. Edinburgh: A. & C. BLACK.

THE QUARTERLY REVIEW, No. CCXXII

Will be published on WEDNESDAY NEXT.

CONTENTS.

I. DORSET.
II. HYMNOLOGY.
III. TURKEY—ITS STATE AND PROSPECTS.
IV. TRAINING OF THE CLERGY.
V. THORNBURY'S LIFE OF TURNER, R.A.
VI. THE EASTERN ARCHIPELAGO.
VII. THE LATER YEARS OF PITT.
VIII. THE MERRIMAC AND THE MONITOR.

JOHN MURRAY, Albemarle-street.

New Edition, with Eighty-nine Woodcuts, in fcp. 8vo. price 6s.

CATECHISM of the STEAM-ENGINE in its various Applications to Mines, Mills, Steam Navigation, Railways, and Agriculture: with Practical Instructions for the Manufacture and Management of Engines of every class.

By JOHN BOURNE, C.E. Author of "The Artisan Club's Treatise on the Steam Engine," of which the Fifth Edition, greatly enlarged, with 37 Plates and 546 Woodcuts, may now be had, in 4to. price 42s.

"This reproduction of 'The Artisan Club's Treatise on the Steam Engine' contains so many additions and emendations, as to render the work substantially a new one.—*Mechanic's Magazine.*

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

INTERNATIONAL EXHIBITION.

CAMPBELL'S GUIDE and HANDY-BOOK for VISITORS (price One Shilling), with Maps and Charts. "Patronized by the Exhibition." Post-free, 14 Stamps.

E. J. CAMPBELL, 18, King-street, Holborn, London.

No person intending a visit to London should come without it.

Just Published.

I.

A New Edition, being the FIFTH, Enlarged and more fully Illustrated, price 1s. 9d. cloth,

INTRODUCTORY TEXT-BOOK of GEOLOGY. By DAVID PAGE, F.G.S.

II.

A New Edition, being the THIRD. Enlarged and more fully Illustrated, price 6s.

ADVANCED TEXT-BOOK of GEOLOGY, Descriptive and Industrial. By DAVID PAGE, F.G.S.

WILLIAM BLACKWOOD & SONS, Edinburgh and London.

Of whom may be had, by the same Author,

HANDBOOK of GEOLOGICAL TERMS and GEOLOGY. 6s.

THE PAST and PRESENT LIFE of the GLOBE: being a Sketch in Outline of the World's Life System. 6s.

Just published, price 1*l.* 11s. 6d.

THE BOOK of FARM BUILDINGS: their Arrangement and Construction. By HENRY STEPHENS, F.R.S.E. Author of the "Book of the Farm," &c. And ROBERT SCOTT BURN, Engineer.

Royal octavo, pp. 562. Illustrated with twenty-eight Engravings on Copper, and 1,027 Engravings on Wood. Half-bound.

Uniform with the above.

THE BOOK of the FARM. By HENRY STEPHENS, F.R.S.E. 2 vols. royal 8vo. with Engravings. Price 3*l.* half-bound.

THE BOOK of FARM IMPLEMENTS and MACHINES. By JAMES SLIGHT and R. SCOTT BURN. Edited by HENRY STEPHENS, F.R.S.E. Royal 8vo. with 575 Engravings. Price 2*l.* 2s. half-bound.

THE BOOK of the GARDEN. By CHARLES M'INTOSH. 2 vols royal 8vo. with 1,055 Engravings. Price 4*l.* 7s. 6d. half-bound. Each vol. sold separately—viz.: Vol. I. Architectural and Ornamental, price 2*l.* 10s.; Vol. II. Practical Gardening, price 1*l.* 17s. 6d.

THE FORESTER. By JAMES BROWN, Wood-Manager to the Earl of Seafield. Third Edition, greatly enlarged, royal 8vo. with numerous Engravings on wood. Price 1*l.* 13s. half-bound.

FARM ACCOUNTS:—A Practical System of Farm Book Keeping, being that recommended in the "Book of the Farm." By HENRY STEPHENS, F.R.S.E. Royal 8vo. Price 2s. 6d. Also, SEVEN FOLIO ACCOUNT BOOKS, constructed in accordance with the System. Price 22s.

WILLIAM BLACKWOOD & SONS, Edinburgh and London.

STABLE ARCHITECTURE. 2*l.* 2s. Medium 8vo.

By THOMAS EDWARD KNIGHTLEY, F.R.I.B.A. Architect, 25, Cannon-street, London.

The volume is handsomely printed on the best type, and the plates (twenty-eight in number) are executed chiefly in tinted lithography.

"The stable plans of Mr. Knightley are admirable, and of the most perfect ventilation without a cold current of air."—HON. ARTILLERY CO.

WATER-COLOUR PAINTING, by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, invaluable for student, teacher, amateur, or the drawing-room table. Prospectus of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scholamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

GRIFFIN ANTIQUARIAN, a pure, choice, and first-class DRAWING PAPER, of Whatman's manufacture. A new batch of 1860 make is now in fine condition, and ready for delivery. Large sheets, 62 inches by 31 inches, 7s. WINSOR & NEWTON, 38, Rathbone-place, London, and all Stationers and Artists' Colourmen.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—

"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

MONEY on MORTGAGE, at the lowest current rates.—See Messrs. SALTER & ST. JOHN'S Monthly Circular and Lists of Mortgage Securities, Commercial Investments, and Moneys to put out free by post, for a stamp. 17, Abchurch-lane, E.C. and 212, Piccadilly, W.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY, FURNITURE, HOUSEHOLD and OFFICE, WINE and SPIRIT WARRANTS, SHARES, DEBENTURES, &c.

BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Balance-sheets Prepared, and Meetings of Creditors Convened. Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT 17, Moorgate-street, Bank, London.

The Builder.

VOL. XX.—No. 1001.

*More from Rome.**



If we follow the guidance of Flavio Biondo, we become more and more amazed at the contrast between the state of Rome's ruins as described by him, and their present condition; telling a mournful tale of demolition's unchecked progress during the four centuries since he wrote. We thread the labyrinthian streets, between the piazza of the Pantheon and the picturesquely-irregular old market-place of the Piazza Navona, without seeing any trace of the vast remains he speaks of, in a series of vaulted halls left by the thermæ of Alexander Severus; nor, turning to the purlieus of the Corso, do we find one remnant of the extensive ruins he refers to Domitian's Thermæ around the great convent of St. Silvestro, now a French barrack. On the opposite—the western—side of that street, we alike fail to discover the arcades and "immense substructures" still visible in his time; though a stately palace had been built over them by a cardinal, in the year 1300. At the highest level of the Quirinal (again mistaken by Biondo for the Esquiline) he calls us to admire the portico and four erect marble statues, with the name *Constantinus* on the base of one; near those noble colossi of Castor and Pollux, removed from their original to their present site, opposite the papal palace, in 1589, as directed by Fontana under Sixtus V.; but of those remains of Constantine's baths which these celebrated sculptures adorned, not one fragment is now visible, unless we descend into the cellars of the Rospigliosi palace; built above the spot, so as to crush or absorb its antiquities, by a Cardinal Borghese, early in the seventeenth century. Two of the statues Biondo mentions,—the Constantines, father and son,—are indeed preserved; and now stand, near the other colossi of Castor and Pollux, on the balustrade above the staircase leading to the Capitol by the approach formed under Paul III. Of the circus and other edifices in the gardens of Sallust, still remain several lofty vaults; extending their ivy-overgrown ruins, part concealed by underwood and vegetation, along the slopes of the Quirinal, within the Barberini vineyard; but insignificant indeed are these shattered piles of brickwork compared with what Biondo describes of "the marvellous and stupendous ruins" reaching from the Porta Pia to the Porta Salara (about half a mile), and as far within the walls as the church of St. Susanna, near Diocletian's Thermæ. Nor on the Esquiline is any longer cast a shadow by the great arcades before St. Pietro in Vincoli, which this antiquary erroneously supposed to be the Curiæ Veteres, in reality situate, where Nibby identifies their remains, at the oriental base of the Palatine.

Other authorities tell of various monuments, more or less entitled to respect, that were totally swept away from Roman sites before the end of the fifteenth century. Till this period had stood, now destined to disappear, the decorative arch leading to the bridge still called Fabrician (though more commonly, from the four four-headed Hermes', placed on its parapet walls, *ponte quattro capi*), built A. U. C. 733, by the curator Fabritius, to connect the island on the Tiber (St. Bartolommeo) with the river's eastern bank; of which no record was known to exist till a notice referring to this arch had been brought to light by the Chev. di Rossi, out of a forgotten MS. at the Magliabecchiana library, in Florence. And from the same document was first made known to modern readers by that gentleman, the triumphal arch on the Flaminian circus; a work of republican origin; restored in marble under the Empire; that stood in its place till demolished in this fatal fifteenth century. What must have been the licentious excess of the destroying mania when such outrages against *sacred* monuments could occur in this Catholic metropolis as to call for the bull from Sixtus IV. (1477); to be recorded to that pope's honour, indeed; threatening excommunication against the then frequent offence of despoiling churches; even basilicas; removing their precious marbles, porphyry, &c., for private uses; thenceforth punishable not merely by spiritual penalties, but by a fine of half a gold lira from every offender in each instance. Similar was the edict issued by Cardinal Barberini, vicar of Urban VIII. in 1640, against removing monuments or epitaphs from churches; especially addressed to the clergy and monastic bodies having charge of those very edifices they were, as this document evinces, often culpable for thus maltreating!—(Martinelli, "Roma ex Ethnica Sacra.") Between the bridge of St. Angelo and St. Peter's there rose, till this century, intact, the pyramidal mausoleum, called, by Mediæval ignorance, "memoria Romuli;" and which even Petrarch, in his "Familiar Epistles," admits, unquestioning, to be the veritable tomb of Rome's founder; but for the sake of widening the approach to the great basilica, this too was destined to destruction by Alexander VI.; and we have now only one authentic design of it, in the reliefs on the bronze portals of that church, by Filarete (1441), who introduced this pyramid in the background to the scene of St. Peter's martyrdom. As for the castle of St. Angelo, it has been saved from the total decay to which it was left exposed after the stormy vicissitudes of the tenth century; and after the "Tower of Crescentius" (its then name) had been abandoned by the popes and senators; long defending themselves within its walls; by its second appropriation as a modern fortress and occasionally a papal residence since the time of Boniface IX. (1389—1404); whose additions to its bulwarks were restored on a superior scale by Sangallo, under Alexander VI.; and, finally, the existing fabric of towers rose above its battlements, by command of Paul III. We now see of its antique structure, in the interior, nothing more than a segment of the spacious vaulted corridor that ascended by an inclining plane; along which a chariot might have been driven to the summit, from the ample portal (now walled up); and the quadrangular chamber of sepulture, where sarcophagi stood in the centre, and cinerary urns along a basement around. French permission must be obtained from the general of the troops to see this castle; and the torchlight by which its penetralia are inspected adds much to the romantic horror, picturesquely mysterious, of the stupendous pile in these dark recesses. Besides which we are admitted by the French custode to those horrific dungeons, in the upper part, for whose construction the Borgia must be responsible: the lowered torch enables us to look down into the infernal abysses called *trabocchetti;* and we remember with a shudder the fate of Beatrice Cenci, of Benvenuto Cellini, and the still darker tragedy of which the young Astorre Manfredi was victim here under Alexander VI. Can we consider that an ecclesiastical government invented and used these prison-dens, without seeing in the fact an argument against that "temporal power" now so much descanted on? The frescoes on mythologic and classico-historic subjects, by Pieria del Vaga, in the great hall of the Farnese's pope's addition, are striking, and in good preservation; but those by the same artist, on the vault of another large room, now a soldier's dormitory, seem to have suffered from every sort of maltreatment.

In that fifteenth century was standing, and it seems entire, the mausoleum of Sylla in the Campus Martius, mentioned in the second book of the "Pharsalia":—

> Felix his Sylla vocari,
> His meruit tumulum medio sibi tollere campo?

but completely swept away, when perhaps become less conspicuous, about the year 1662, to give place to a paltry church—one of the two with cupolas, and of nearly similar design, that first meet the traveller's gaze on entering Rome by the Porta del Popolo.

We come now to the century of the Medici and Farnese popes; when, certainly, much was effected on a splendid scale to protect and restore, to promote in every way, the interests of art and antiquity. Yet even within this epoch devastation and deplorable change passed over the imposing features of Rome's monuments. There then stood in the Colonna gardens on the Quirinal remains of Aurelian's Temple of the Sun; with pediment, cornices, and porticoes of a front pierced by arched windows; allowing its past magnificence to be appreciated far better than the more fallen, though still, indeed, imposing ruins in those gardens now permit; and the temple of "Jupiter Tragicus" (perhaps a unique dedication), first discovered, at this period, in the vineyard of the St. Lorenzo convent on the height of the Viminal, has since totally disappeared; except, among its remnants of sculpture, two statues; recognized as the comic dramatists Posidippos and Menandros; now in the Vatican; and distinguished by their Greek style, simplicity, and breadth of treatment (*vide* Canina, "Esposizione Topografica"). Most remorseless towards illustrious ruins was the procedure of Sixtus V.; in absolutely carrying away, for the adornment of St. Peter's, with its rich material and marble columns, the whole superb wing added to the Palatine by Septimius Severus; known as the Septizonium; whose site, at the Mount's southern base, is now a neglected plot of garden-ground, with a triangular inclosure of hedges, below the hill, but divided from it by a lane, between the S. Gregorio monastery and the now desolate valley of the Circus Maximus. From Flavio Biondo we learn, indeed, that this edifice was only half preserved, but still with three stories of colonnades, in his time; and the Pantheon, so maltreated by other popes, he finds a fair subject for praises addressed to Eugenius IV., who had repaired its cupola with leaden tiles, and removed the paltry shops thrown up against the pillars of its noble portico.

We must look, however, on the brighter side; and, considering all accomplished by the papal government for the interests of ornamental art in modern times, especially since the return of Pius VII. (1814), acknowledge many claims to gratitude, many efforts to make amends for all past deficiencies. The French usurping authorities, from 1808, had indeed set the first example; which was only followed, in the same track, after the legitimate restoration; the excavations of the Roman Forum, and that of Trajan, having never been efficiently achieved till the Napoleonic government set about that task; hitherto neglected by the papal; though, so early as 1742, some researches had, indeed, been ordered on the Forum (the Roman, to distinguish it from others) which led to the discovery of the Cloaca Maxima, at the depth of 30 feet below the existing level; and in 1775 many buried treasures, buildings, and artistic fragments, were exhumed on the Palatine. The Arch of Constantine had been, where requisite,

* See page 233, *ante*.

restored, and cleared of unsightly incumbrances, by Clement XII., in 1733.

What has been accomplished for archæologic interests under Pius IX. is beyond all we might have expected; considering how his government has suffered from shocks of political disaster. The discovery most valuable, for the light thrown on disputed questions of antique topography, is that effected, under Canina's directions, of the Basilica Julia on the Forum; though of the once splendid edifice remains nothing but a spacious area of marble pavement, raised on four steps; strewn with fragments of architectonic ornament, and with three travertine pilasters still in part standing. Next followed the excavations on the Appian Way; also under Canina's superintendence; begun in the autumn of 1850, and completed in 1853; though a memorial pillar opposite the adjacent church of St. Sebastian gives the previous year as date. From about a mile beyond the tomb of Cecilia Metella the street of mausolea, thus laid open, extends to the foot of the Alban Hill, beyond the eleventh mile from Rome; not more than about 3,000*l.* sterling having been the expenditure for this enterprise; and we now see displayed in all their imposing solemnity of decay those monuments once in great part concealed by soil amidst the most solitary region of the Campagna. Till within the last twenty-five years the Tabularium, of the Consular period, above which stands the modern Capitoline Palace, had not been accessible throughout its interior, being partly used as a debtor's prison; it was reserved for the present Pontificate to apply it to nobler purposes; effect some interesting discoveries of its inner construction, and appropriate the chief corridor within its Doric portico, as a museum of architecture; now containing all the most beautiful fragments found on the Forum, principally from the Temples of Concord and Vespasian. On a raised triangular space external to this consular building, overlooking the Forum, stood the portico and chapels of the twelve *Dii Consenti*: eight Corinthian columns of Carystian marble, partly modern, but with antique capitals and architrave, again rise on this spot; and the cellæ are again ranged in compact masonry behind them; for this sanctuary has been the object of a restoration, completed in 1858, as directed by Visconti, with taste that many have questioned. Four years have passed since were commenced, under that archæologist's superintendence, the excavations at Ostia, suspended in the autumn of 1860, owing to the invasion of the Papal States; but resumed about eighteen months later. The most important discoveries here are a Mythræum (Temple of Mithras), with its altar, and statues of priests; thermæ, and a large court preceded by a vestibule, the pavement of both formed in mosaics; that of the baths also mosaic, distinguished by figures of genii, dolphins, and gladiators in combat; and many sculptures, some in superior style, have been removed from these ruins to Rome. We have before us the report of the Roman Ministry on all noticeable works in the department of Fine Art and Antiquity, effected during 1858; therefore shortly before the period when these states lost that territorial integrity perhaps never to be recovered.

Here we read of restorations in various objects, for the greater part referring to the architecture and paintings in churches, but several for the interests of classic or monumental antiques;—the repair required to preserve from imminent decay the so-called mausoleum of Priscilla, near the beginning of the Appian Way beyond the Porta S. Sebastiano; that of the Etruscan Tomb at Veii, celebrated for its perfect series of paintings; the removal of encumbering bushes and weeds round the ruins of Adrian's Villa, near Tivoli; sundry repairs, as required, of the Clitumnus Temple, and that, believed one of Concord, near Spoleto; similar works at the noble arch called that of Augustus (though mostly of Etruscan origin) that spans a street in Perugia; the demolishing of some mean houses that had concealed a part of the Pantheon, and the restoring of its circular walls, in the segment thus laid open, where barbarously injured for the convenience of the modern mansions propped up against them,—a brickwork similar to the antique being used for this purpose; lastly (and most important), the discovery of the two painted tombs on the Via Latina, two miles beyond the Porta S. Giovanni, where a very extensive Roman villa and the long-buried basilica of St. Stephen had been brought to light, in February, 1858, by the researches on private speculation of Signor Fortunati, an enterprising archæologist;—those mausolea, of the period of the Antonines, containing sarcophagi sculptured with groups of much interest; and, on their ceilings, the most beautiful and complete ancient Roman paintings yet recovered or made known; their subjects from mythology or fabulous story; their execution and design alike admirable.

Recent excavations, on a spot near the Tiber, have been productive of fruits, among which were some sculptures reported by Visconti at the meeting of the Archæologic Academy last week;—three heads in Greek marble, and of a good style,—one a Mercury with the petasus, one a nymph, and the third, a matron, fitted to its figure, found not long afterwards,—a statue 10 palms high, recognized, both by the fashion of head-dress and the artistic treatment, to be of the period between the Flavian emperors and Trajan; therefore the best in Greco-Roman art. The French Government, having obtained casts of all the reliefs on the Column of Trajan, has ordered the preparation of others from those sculptures on the Arch of Constantine, of which was despoiled that of Trajan to adorn the monument of the Christian emperor.

THE ARCHITECTURAL EXHIBITION.

IT was to be expected that the desirability felt by architects to send illustrations of their works to the International Exhibition, would interfere with the annual exhibition, in Conduit-street; and the matter for wonder is not that there are fewer drawings in the latter than usual, but that there are sufficient to make an exhibition with any interest at all. The preparation of a drawing *fit* for exhibition implies the expenditure, by the architect, of a certain amount of money or of time that is equal to it; in some cases a considerable amount; and the advantages resulting to the man already known and in good practice, are not sufficient to carry him more than a certain distance in that direction.

The amount of art shown in the collection is not large, even with reference to the number of the works exhibited; and some of the drawings might have been retained in the office of the author without loss to the public. It is the duty of the profession to continue to maintain this Exhibition; and we shall hope next year to find a larger number of contributions from the elder members of the profession. The great feature of the present Exhibition, as we have already said, is the collection of sketches and designs by the late A. W. Pugin. These might have been better arranged. They afford a good lesson to all young architects, and should be studied.

Photographs of Pugin's Sketches are to be published, it appears, in bi-monthly parts: at too dear a rate, however, to justify the expectation of any large sale.

To the general Exhibition Mr. E. B. Lamb is probably the largest contributor; sending schools, houses, and churches; all thoughtful, and mostly appropriate. His "Warehouses for the Consignment and Store Company" (No. 40) are almost monumental. Mr. Burges shows his skill in Mediæval figure drawing by photographs of sculpture, executed from his designs. The "Elevation for Town Hall, Hull" (7), and that of "Town Hall, Northampton" (8), now being erected, both by E. W. Godwin, are very similar; being adaptations of that description of Italian-Gothic, involving as a striking feature statues on brackets between the windows, which is just now being reproduced on all sides. We do not say this, however, in disparagement of the architect in question, who has a power of his own. The curious condition of architecture amongst us is shown by the circumstance that the design for the first named Town Hall (Hull), to which the third premium was awarded, exhibited here by Green and De Ville (28), is a full fledged Corinthian building; and the design for the second (Northampton), "to which the first place was awarded by the professional referee" (185, Louis de Ville), is Corinthian and Doric. The fact is, we have not yet an architecture of our own; and, in the way we are now going on, it will be long before we shall have it. The last-named architects, Green & De Ville, exhibit their design for proposed Palais de Justice, Brussels, to which the third premium was awarded (205, 210, and 225): this we shall illustrate. (12), "Redhill Market Hall," T. & H. Francis, is too much like a private residence: it would be entirely so but for the clock in the porch. In like manner (212), "Design for the public Halls, Guildford," W. Lightly, fails to convey its purpose. (15), "Godolphin Schools, Hammersmith," C. H. Cooke, we have already engraved. The tower shown in the view now exhibited has not been built. Our engraving represents the building as erected, without it. (20), "Offices and Sale Rooms, Water-lane, City," John Whichcord, have the great merit of plenty of light. (24), "Slip roof now erecting at Millwall, for Messrs. Mare, for building Iron-cased Frigates," James Edmeston, is a satisfactory piece of iron framework. The same architect exhibits a view of "Messrs. King's premises, 77, Thames-street," a very lofty pile, with pointed red-brick arches, and picturesque arrangement of louvres on roof. The number of red-brick arches, by the way, in the collection is *very* considerable. (45) includes three graceful "Sketches in France," by R. Phené Spiers. (46) "St. Patrick's Cemetery, Low Leyton, Essex," Willson & Nicholl, shown by photographs. The buildings, Early Pointed in style, are appropriate and pleasing. The same gentlemen's "Studies for the high altars in churches of St. Charles Borromeo, Upper Ogle-street, London, and of the Augustinian Fathers, Limerick" (59), show knowledge and right feeling.

One of the best specimens of colouring in the rooms is No. 62, "Cathedral of St. Asaph, the Choir," J. Burbidge. We recognize the same gentleman's colouring in some of the other drawings here exhibited. 63 is one of Mr. Truefitt's characteristic houses "just erected at Hornsey-rise." 71, 72, and 73, C. J. Phipps, are some designs set forth in wild pen-and-ink scratches, which would disguise any idea, however good. 76, 114, 178, "Buildings designed and Buildings executed," J. P. Jones, show a fatal facility in recombining two or three of the fashionable elements, red-pointed arches and our friends the statues on brackets: we willingly recognize, nevertheless, a considerable amount of cleverness. 86 is a "Design for an Octagonal Vestibule, with four Porticoes to Government Offices at the crossing of two main thoroughfares," which the intelligent author of it, C. H. Smith, would be sorry to see carried out. Why put porticoes in a vestibule, when he would put down his own umbrella as soon as he reached it? 89, G. Goldie's solid-looking church at Greenock, we have already illustrated. 93, "Sculptural and Architectural Studies from Miraflores, Castille," J. B. Waring, show his great facility with the pencil and on stone. 95, "Designs for St. Michael's Schools and Lecture Hall, Handsworth, near Birmingham," S. C. Rogers. Although entirely plain and simple, its proportions, and the largely-overhanging roof on iron cantilevers, give it a distinguishing character. 108 and 109 are the section and elevation (not quite agreeing, by the way) of the design for an exchange for a large commercial city, for which the Royal Academy awarded the gold medal last year to Thomas H. Watson. The style is Italian Gothic, showing that timidity in the mouldings which characterizes it. The drawings are beautifully executed. Mr. I'Anson sends a pen-sketch of "The Château of Chambord" (25); and "A Villa at Dulwich" (30); Mr. Roger Smith, "The Design submitted in Competition for Hospital of Incurables" (125), which we mentioned at the time as the only one having the Gothic character; Mr. T. C. Clark, a very good drawing of the Presbyterian church he is now building in Upper-street, Islington (210); and Mr. Vaughan some of the excellent sketches he made abroad as the Soane medallion student of the Royal Institute of British Architects. Mr. Ashpitel, Mr. Brodrick, Mr. Joseph Clarke, Mr. Fowler, jun., Mr. Hadfield, Mr. Homann, Mr. Knightley, Mr. H. Oliver, Mr. Seddon, Mr. Shout, Mr. White, Mr. Wilkinson, and others, also exhibit, and aid in rendering the collection fully deserving of a visit.

The catalogue, we must mention, has a ragged and disjointed appearance, which might probably be remedied. Some little control, too, should be exercised over the descriptions inserted by manufacturers and companies.

THE METROPOLITAN UNDERGROUND RAILWAY.

If some astute opponent had managed the trip along the Metropolitan Railway made by a large party of invited guests on Saturday last,—one anxious to spread abroad a notion of its danger, dampness, and discomfort (in fact, to d. it altogether), he could scarcely have arranged better than the directors did on that occasion. In carts and out of carts, up ladders and down ladders, walking this bit, drawn by horses that, and pushed along by a locomotive another, through a suffocating atmosphere of sulphurous smoke; it was little better than a journey through a series of unconnected sewers; varied, midway, by a stoppage in a strong draught, while a group of the officials went out to be photographed. We have no hesitation in asserting that the majority of the visitors went away inwardly resolved never to use the Metropolitan Railway when it could by any possibility be avoided.

Our readers do not require to be told that we have a high opinion of the value of the line. We have before now spoken of the difficulty of the work; of the ability with which it is being executed; and we illustrated in our last volume the junction with the Great Northern Railway. They will know, therefore, that our present observations simply have reference to the recent ill-timed visit, and the utter want of proper arrangement to make it decently agreeable.

MINSTERS AND PARISH CHURCHES.

At the Architectural Museum, as we have already mentioned, Mr. Freeman, M.A., on 25th ult., gave an extempore lecture on "The Difference between Minsters and Parish Churches." The old English word "minster," one which appears to be fast dying out, is that which best expresses the class of churches,—cathedral, collegiate, or conventual,—which he wished to distinguish from common parochial buildings. The word *monasterium*, in Mediæval Latin, has two senses. In one it means *monastery*; in which sense it includes the church, the conventual buildings, and the whole society. In the other it means *minster* (German, *münster*; Old-French, *moustier*); that is, any great church, whether strictly monastic or not; but in this case it means simply the church, and not the society, or the subordinate buildings. It so happens that, among the churches to which the name *minster* is most commonly applied in England, a greater number are secular than regular; they were *monasteria*, therefore, only in the second, and not in the first sense. The architectural difference between these minsters and common parish churches is not merely a difference of size; some parish churches being larger than some minsters, and yet each retaining the genuine architectural character of churches of their own order. The wide distinction between minsters and parish churches is almost peculiar to England. Here we have two distinct types of church, each equally good in its own way; whereas, in France, the distinction is far less clearly marked. France is full, even fuller than England, of noble parish churches; but in France, when a parish church is a fine building at all, it has always more or less of the appearance of a small minster; while a fine English parish church has a wholly distinct character from the minster, but it may be equally good in its own way. On the other hand, though the great French churches in some respects surpass the English; yet some of the characters which we look on as essential to a minster come out much less strongly than in England. In England we look upon the perfect cross form, the transepts supporting the great central tower, as essential to the perfection of a minster. There are hardly more than three or four cathedral or abbey churches from which it is wholly absent,* while it is found also in numbers of our larger parish churches. In France, on the other hand, the true cross form, during the Gothic period, may be said to be wholly excluded from churches of the highest type. It occurs in the Romanesque of the south, but commonly in the shape of a dome: it occurs in Normandy, a province whose architecture in some other respects agrees with that of England: it occurs in numberless small minsters and large parish churches; but in the greatest churches of France proper the central tower seems absolutely unknown. This difference is closely connected with another great difference between French and English minsters, namely, the vast superiority of height in the French examples, which renders the central tower both constructively and æsthetically impossible.* From this it follows that the transept in French churches, though their north and south fronts are far more elaborate in England, are really of less consequence than in England. In fact, they may be omitted without any real loss. Churches like Bourges and Alby,† where the transept is wholly omitted, have really more satisfactory outlines than those of Amiens and Paris, where the transepts seem to ask for the central tower as their natural finish. In fact the common type of an English and a French cathedral gives the choice between the perfection of external outline and the perfection of internal majesty. Herein comes the unrivalled merit of St. Ouen at Rouen (the object of so much foolish and ignorant abuse, said Mr. Freeman, on the part of Mr. Ruskin), in that it alone unites the merits of the two classes of buildings. There are loftier interiors in France; there are more perfect outlines in England;‡ but there is no church which combines so admirable an outline with so stately an interior. Among many other points of difference between the great English and French minsters the most important are those which concern the treatment of the east and the west end. In France the apse surrounded by chapels is the usual, almost the universal, termination of the east end: in England it is only one form among several, and it is the rarest of any. At the west end the absence of the central tower in the French churches makes western towers more absolutely necessary than they are in England, and there is a marked difference in their treatment. In England the western towers are almost always exactly alike; and, in the few instances, as Llandaff, Canterbury (before the alterations), St. Margaret's, at Lynn, and St. German's, it seems to be always the result of later reconstruction; but in many instances in France the towers are evidently made purposely dissimilar. The doorways, also, in France are far more important than in England, and generally the west fronts are much more ornamented. There are many other differences: most of them may be studied without going out of England, or even going very far from London, by comparing the abbey of St. Alban, which exhibits the English peculiarities in an extreme form, with the abbey of Westminster, which is far more French than English. To turn to parochial churches: while in France the parish church is either a small minster or nothing, England has had the merit of developing two distinct types of beauty instead of one. Of course there are instances in which the two types run into one another. Many of our large parish churches with central towers have something of the character of the minster: many collegiate and a few monastic churches are not to be distinguished in their architecture from the parochial type; the whole class of friars' churches present a type intermediate between the two; still the distinction between the two classes, in the fully-developed examples of each, is plainly marked. It is not wholly a question of size and richness, for some perfect parish churches are larger and richer than some perfect minsters; though, undoubtedly, the minster type is that best suited for the largest, and the parochial type that best suited for the smallest churches. Nor is it wholly a question of style; though, undoubtedly, the minster type comes out best in one style, and the parochial type in another. The two things which do most to produce the character of the minster are the predominant central tower and the presence of the stone vault. From this last follows a certain massive dignity and solemnity in the minster, which is exactly opposed to the airy grace and lightness of the best purely parochial churches. From the same cause also follows the presence or absence of the triforium, which forms the chief distinction in the internal elevations of churches of the two types. This solemn massiveness, however, extends itself to churches where the vault is not actually present, —especially if there be no aisles, and if the style be Romanesque or quite Early Gothic,—as at Leonard Stanley in Gloucestershire, Llanbadarn-fawr in Cardiganshire, and the cathedral of Killaloe. All of these are minsters of the very smallest size; yet they preserve the minster character in its fulness. A slight degree of the same feeling extends itself to any church which has four well-developed limbs with high roofs, and a massive central tower. Thus, Broadwater Church, in Sussex, which has the further advantage of a vaulted choir, might almost pass as the church of a small monastery or as an Irish cathedral. On the other hand, a church without a vault,* and with its tower at the west end, however large and rich, is essentially parochial;—witness St. Margaret's at Leicester, Newark, Boston, and St. Michael's Coventry. The absence of the vault gives a wholly different character to the whole internal design, just as the absence of the central tower gives a wholly different character to the whole external outline. This difference will perhaps be best understood by running through the successive styles, and comparing the minsters and the parish churches in each. Romanesque is the most truly monastic style of all; even the parish churches built in it often catch something of the grandeur and dignity of the minster type. The style itself produces the required massiveness and solemnity; at no date is the cross form so common; and the frequent absence of aisles hinders the exhibition of the main difference at this date between the two types, namely, that in the internal elevations. For here the difference is most marked. It consists mainly in the presence of the triforium in the minster, and its absence in the parish church. But in a true Romanesque minster the triforium is a feature of such paramount importance, that its presence or absence makes a greater difference than anything else. The Romanesque minster, in its full English development, has a massive pier, round or shafted, a triforium nearly or quite as large as the arch below, a clerestory with a passage, and commonly an arch on each side of the opening of the window. The English parish church of the same date has a much slenderer pier, commonly a column with its distinct base, shaft, and capital: there is no triforium, and the clerestory is often absent, or at most it is a single window pierced through the wall over each arch. St. Sepulchre's at Cambridge is perhaps unique† as an example of a parish church with a triforium; but the triforium is not uncommonly omitted in small minsters like Buildwas Abbey; so that their arcades do not materially differ from those of parish churches. There are also other differences. The chancel arch projects much more, and is much more ornamented in the parish church than in the minster; and generally, throughout the Romanesque style, the larger the building the better it can dispense with ornament in all its parts. In the successive forms of Gothic, the importance of the triforium gradually diminishes. There are, indeed, a few instances, as at Romsey and Ely, of large Gothic triforia, but these are manifestly exceptional cases. The proportion has been determined by the necessary adaptation to the adjoining Romanesque work. Most contemporary triforia are very much smaller; at Wells the triforium has already sunk into a mere arcade, and in the later forms of Gothic it sinks from a mere arcade into a little panelling, as at Sherborne and St. Mary Redcliffe, or is wholly left out, as at Bath. Now, when the triforium is omitted, or has become insignificant, the difference between the internal design of the two types of churches is pretty nearly reduced to the difference produced by the presence or absence of vaulting. It is true that there is no time when the ordinary parish church differs more widely from the minster than during the days of Early Gothic. But this is because the parochial type of church was not yet fully worked out. There is abundance of beauty of particular parts in our Early Gothic parish churches, but it is very seldom that we find among them a real architectural design. Even the clerestory is most commonly omitted. Walton in Norfolk and Warmington in Northamptonshire are among the best; and the vaulted nave of Warmington so far makes some approach to the character of a minster, though the church is, in everything else, thoroughly parochial. Thus the contrast between the great and highly finished minsters of this date and the imperfect parochial buildings is stronger than at any other time, but it is generally the contrast between architectural character and its ab-

* Llandaff and Dorchester, both comparatively small buildings, are the most conspicuous examples of its total absence. At Westminster and Beverley the central tower exists, though it has never been carried up to any height. At Christ Church and Bangor it seems to have been intended. In some large parish churches, as St. Cuthbert's, Wells, it has been destroyed, and a western tower substituted.

* The central tower was actually built at Beauvais, but it fell soon after its erection. The attempt was probably unique, and it was made at a very late date.

† Alby, as a church not of French but of Aquitanian Gothic, does not properly enter into the comparison, but it illustrates this particular point.

‡ The outline spoken of is of course that originally designed, not that produced by the two new and foolish western towers.

* That is, one never designed for a vault. There are many cases where a vault was designed, but was never added: these are wholly different.

† St. Sepulchre's, Northampton, also probably shared the same peculiarity before its disfigurement. These round churches are a very exceptional class, and are hardly subject to ordinary rules.

sence, not the contrast between two different types of architectural character. For this last we have to look to the time when the parochial type was gradually worked out in the late Decorated and Perpendicular styles. The great parish churches of Somersetshire and of East-Anglia are as truly finished architectural designs as any minster can be. They are equally good in their own way, though the two ways are wholly different. But the difference is mainly produced by the absence of the central tower from the external outline, and the absence of vaulting from the internal elevation. The tendency of English architects to omit the vault was a peculiarity,—I venture to say a fault,—which shows itself from very early times. In Romanesque the vault is better away: the rich flat ceiling does far better; but it is strange to see naves like Llandaff and Romsey left intentionally unvaulted. Now, though the vault was constantly omitted during the early Gothic time, no *substitute* for it was discovered; the early wooden roofs (not of course the flat ceilings) are mere *makeshifts*. It was the later Gothic which first developed a *substitute* in the form of those grand wooden roofs which our architects, in many cases, evidently preferred to the vault. There are several types—the East-Anglian trefoil roof, perhaps better suited for a hall than for a church; the low-pitched tie-beam roof, which is found in most parts; and the coved roof of the West of England, which is most truly a substitute for a vault, and which, without any difference in its essential form, may be made as plain or as rich as anybody pleases. Now the development of the wooden roof, as an ornamental feature, is one of the characteristics of English Gothic and of later English Gothic. In France, the vault is infinitely more common than in England; but the choice lies between the vault and nothing. In England we have two forms of beauty, where France has only one. Grant the omission of the vault and the other parochial characteristics follow; the pier becomes taller and slenderer, the triforium vanishes, or sinks into a small line of panelling. The difference may be seen by comparing any of the great Somersetshire parish churches with Sherborne Minster and St. Mary Redcliffe. Redcliffe is probably the only parish church in England which is vaulted throughout; it therefore, though it has no central tower, has in everything else the perfect character of a minster. The difference is at once apparent if you contrast it with St. Michael's at Coventry, a church of still greater size, but unvaulted.

Mr. Freeman ended his lecture by reminding his hearers that though the two types, in their full developments, were thus widely distinct, they must be prepared to find many examples in which the two types run into one another. Thus the smaller collegiate and the larger parochial churches had much in common. In the great town churches, besides the rector or vicar, there were always chaplains, chantry-priests, and other assistant clergy, so that many of them were practically collegiate; and the smaller among the formally collegiate churches differed from them mainly in the legal incorporation given to their clergy. It is only natural, then, that no very wide architectural difference should be made between them. The friars' churches, again, form another intermediate class. The friars were monks, but monks who were brought into much closer contact with the people than the monks of the elder orders. Their churches, therefore, naturally form a link between purely monastic and purely parochial buildings. They have many peculiarities: the central tower is very common; but the perfect cross form hardly occurs: a single large transept on one side, and a single aisle, is very common; the clerestory is rare, the triforium probably unknown. In short, a friars' church may be roughly described as consisting of a parochial nave for the public sermons of the friars, a choir, much like a college chapel, for their private devotions, and a tall slender tower interposed between the two. Most of the English examples of friar's churches are much spoiled and mutilated. There are examples at Austin-friars, in London; at Winchester, at Reading, and at Brecon; but the best is probably to be found at Norwich. The nave is now a music-hall, and the choir a Dutch church. The interposed tower has fallen down, but it may easily be replaced in idea by that which stands all alone at Lynn. But the country where these churches may be best studied is Ireland. The ruins of friars' churches are there most abundant, as are also the ruins of monastic churches of the elder orders, on a smaller scale than are common in England, so that there are the best possible materials for the comparison.

THE GREEN PARK AND LONDON MONUMENTAL.

IN our number of the 22nd March, we gave utterance to our thoughts touching the laying out the Green Park in a way, as we believed, worthy of our world-renowned capital; the chief city of the largest empire in the world, upon which, it is said, the "sun never sets;" and yet, for all this might and power, there is scarcely a small German or Italian capital that does not excel us in our street architecture. Ours is detestable; some late examples excepted. Look at our miles of ugly brick houses begrimed with smoke, without one feature of architecture the weary eye can look satisfactorily on: it is literally all "desert from Dan to Beersheba." We have heard that foreigners, after travelling some hundreds of miles, in other instances some thousands, to visit the modern Babylon; which, alas! it only resembles in its size and its sins; have asked to be shown "the *grande place*!" and Trafalgar-square has been exhibited to them. Let any one place himself on those steps leading to the two or three rooms which we bombastically call our National Gallery, and look southwards at the higgledy-piggledy wretched-looking habitations that alone meet the eye from Charing-cross downwards, unrelieved except by a couple of drinking-fountains,* to which there have never been caps; and a Corinthian pillar erected, to the memory of Nelson some twenty-five years ago, and never yet finished.

We will not further digress from our subject by showing how, by the *placing* of the present gallery out of *a place*, a really fine situation has been lost; nor how, by unwise and ill-judged economy, we have gone on for so many years contriving, and altering, and patching up temporary or insufficient buildings for any required object; and by such condemnable expediency spending in the end infinitely more money than it would have cost to erect such masses of architecture as would have rendered us respectable in our own eyes, and saved us from being the laughing-stock, as we really are, of other nations. We believe that no country has lavished more money on these abortive attempts than England; but we have been either unfortunate or stupid—perhaps both; for really we have as yet produced very *little* that is *great*; and that man would deserve well of, and would, there can be no doubt, eventually receive the thanks of his country, who had the boldness and genius to break through this penny-wise and pound-foolish huckstering economy, and propose and carry out—for if he persevere he will carry it out—some great and comprehensive plan that would give to London the "*grande place*" which it ought to have; and which we hope we may be forgiven for saying it is a discredit—nay, let us not spare ourselves—a disgrace to be without. We believe that the plan we have suggested for laying out the Green Park would, if adopted, give us this desideratum; and such a one as would be found to be *unequalled* in any other country. In saying this we do not forget the *Champs Elysées*, and the beautiful gardens of the Tuileries, which, we believe, we should more than equal. We should have a "Walhalla" terminating and forming a continuation of Pall Mall; for though, by an inadvertence, we omitted to allude to this, one of its greatest features, in our first plan, it forms an integral part of it; and so, far as the opening from Pall-mall to the Green Park goes, was one contemplated by the then authorities of the day. There are not any serious obstacles, to our knowledge, to contend with in making this most desirable opening; and we will appeal to any persons of taste as to what would be the effect from this really already fine street, of such a termination to it as the one proposed. The architect, the artist, the sculptor, the man of taste,—whatever may be his vocation,—could not fail to carry in his mind's eye the grand *coup de Théâtre* that would be produced. Pall Mall, with its many fine palatial buildings,—straight and level to a line, as it should be,—passing by St. James's Palace* on the left, and Bridgwater House, the last on the right; and so at once into the Park, with its terraces, fountains, and statues; and the great culminating point, a memorial of the late Prince, terminating this unequalled vista. No one can doubt that the effect, as seen from this point, would be superb; and it would have this additional and crowning advantage, of being within ken, as it were, of "the town" itself: it would form, as it were, *a part of the city*. We should not have to make a purpose journey to see it,—as a distant object, not decorating, as it were, the capital, but rather the neighbourhood. The promenaders, the passers-by in the streets, would always have it before the eye;—and this is as it should be. It has been suggested, and most considerately, that so laying out this little park might interfere with the amusement or relaxation of the public. It will be borne in mind that St. James's Park and Hyde Park are close at hand; and, if it be necessary or desirable to provide lawn for reclining or sleeping on, ample space will be found in either of these parks for this purpose; but, even in the proposed conversion of the Green Park, the slopes (and indeed other accommodation) might be set apart for this object. But supposing this particular indulgence were lost to the few who would take advantage of it, they would be amply compensated for it by the fine walks, fountains, statues, and other objects of art which would gratify the eye.

* We were very glad to hear the First Commissioner of Works announce to the House of Commons that in the month of May—our merry month—"these fountains would be such as every Englishman might be proud of; that works were now in progress which will make them very ornamental." How this most desirable work has been so very unexpectedly and quietly carried out we know not; but we own it is a most agreeable surprise; and we await the result with a somewhat pleasurable impatience. It is of no use asking the Chief Commissioner of Works if the long-promised lions intended for the Nelson column,—promised—not indeed by him, but by his predecessors, will be ready also by the month of May? All the British lions would welcome them with a joyful roar. Their completion appears to rest with another. As we have said elsewhere, they have been a long time about.

THE DRAMATIC COLLEGE, NEAR WOKING.

Two blocks of houses, five double homes in each, are nearly ready for habitation. The water is being forced up to the top of each from a well sunk for the purpose; and, probably, by Shakspeare's birthday, some will contain comforted occupants. Each home includes a sitting-room (give us the upper one in preference, with its pleasant seat in the bay window and far-away view), a bed-room, and a little kitchen, with place for coals, and private conveniences. Some picture-rods round each sitting-room will enable the tenants to keep alive their love of the beautiful, without making holes in the plaster. Externally, the buildings have the Elizabethan character; and show gables and finials, lofty moulded brick chimneys, bay windows, and an open arcade with ornamental columns, stone being used somewhat profusely with the red brickwork.

A scheme is on foot, and money quietly subscribing to turn the capitals of these columns, at present *en bloc*, into a number of pleasant illustrations in stone of dramatic literature. If this idea be well carried out, visitors will have something to look at besides the wonderful bank of rhododendrons; stretching the whole length of the frontage; and to which the railway gives elevation. When the bushes are in bloom, this will be a sight to see, and will show cause for some excursion trains. The two blocks have yet to be converted into a whole by the erection between them of a hall of size, for which a somewhat wide space has been left. This is to form an important part of the Institution: pictures, books, and theatrical collections are promised; affording materials, it may be hoped, for the history of our stage that is yet to be written. Here meetings will be held, and perhaps Theatrical Fund dinners eaten; for in the country though it be, it is not an hour's distance from Waterloo. We must whisper in the gentlest tones to the committee of which Mr. Benjamin Webster is the active head, that they have been led to spend rather a larger sum considering the number of houses built than might have been expected,—but then, on the other hand, the works are well and soundly done, and will last, if not as long as the gravedigger's, a goodly number of centuries. The Dramatic College has our heartiest good wishes.

ON THE DECORATION OF THE INTERNATIONAL EXHIBITION BUILDING.

ON Wednesday evening last Mr. J. Gregory Crace read the following paper at the Society of Arts, Adelphi:—

The building for the International Exhibition, now so shortly to be opened, has been lucidly explained by Captain Phillpotts, in the paper read before you in December last; therefore, it will be unnecessary for me to take up much of your time in a description of the various parts of it; and I

* It must not be supposed that we for one moment think that the rotten group of miserable brick tenements huddled together and called a "palace" would be any ornament in this proposed plan: far from it. We imagine it to have received proper attention and revision.

will only briefly recall to your minds the main features and arrangement of the building, in order that you may more easily understand me when I refer to them in my description of the decoration. This arrangement of the building will be easily understood by referring to the ground-plan. The principal front faces the Cromwell-road, and has a south aspect: it extends nearly 1,200 feet. On the first floor of this front range the series of picture galleries. Parallel with this front is the nave, 800 feet long, and terminating at each end in the great domes, each 160 feet in diameter. From these extend again, north and south, the transepts, having each a length of 200 feet on either side of the domes. The extreme length is 1,200 feet. The height to the pitch of roof in nave and transept is 100 feet, and the width between the columns 85 feet. The great domes have a diameter of 160 feet, and rise to an interior height of 200 feet. Galleries, 50 feet wide, extend on both sides of the nave and inner sides of transepts. Other galleries, 25 feet wide, are carried round the outer sides of transepts and sides of walls of picture galleries, and one 12 feet wide against walls of refreshment-rooms.

Parallel with the nave, and on either side of it, are the glass courts; those on the south side being 200 feet wide, those on the north 87 feet.

On the north side of this area is a large range of building, forming the refreshment-rooms; through these, under a triple archway, nearly opposite the main entrance from the Cromwell-road, is an entrance to the Horticultural Gardens, of which a most pleasing view is here seen. This completes the description of the main area of the building; but at both extremities extend two very important additions, namely, the eastern and western annexes, the latter nearly 1,000 feet long, and the former 775 feet.

Having refreshed your memory as to the form, size, and arrangement of the building, I will now speak of the decoration of it.

We will enter by the great archway in the centre of the south front; and, passing by the staircase which leads to the picture-galleries, and to which we will return by-and-by, we proceed to the nave. I confess that when I first saw this interior my heart quailed; its general aspect was not encouraging; the day was damp and bleakly cold; the rough polygonal arched principals and diagonal boarded ceiling looked heavy and difficult to manage; the light from the clerestory windows fell in faint streams on the muddy road, that was then the traffic way in the interior; masses of dark scaffolding, obstructing the light from where the domes were then being erected, and the various trials of colouring which had been already made, —one, at least, of them by an able man,—showed me that it would require very careful consideration indeed before I should decide upon what style of decoration to adopt. Do not let me be unjust, nor let my own apprehensions as to a successful treatment of the decorations lead you to suppose that I mean to reflect on the building itself. When I came quietly to consider all the features of the construction, I found that those apparently heavy principals only required to be properly treated in colour to be sufficiently light; that they were also of most ingenious construction; that the proportion was pleasing; and that the light of the clerestory windows was amply sufficient. I fear that many may have seen the building under the same adverse circumstances that first presented it to my view, and have passed criticisms not so just as the merits of the undoubtedly talented contriver of the building should deserve. Pardon me if I have wandered for a moment from the subject of my paper, more especially as I earnestly hope that, in any discussion that may follow, it will be borne in mind that it is only the decoration of the building which is now before us.

Well, we are in the nave. How to decorate it? I had not too much time to think; the work must be done. It was January the 23rd when I received the authority from the Royal Commissioners to assume the decoration of the building with the entire responsibility of the results—the work must be completed by March.

After careful consideration I decided that the general tone of the roof must be light, and that the best colour would be a warm pale grey; that the arched principals must be made to stand out clear from the roof; that they must look well in a perspective of 800 feet; and that they must not look heavy or confused as they approached each other in the distance. No single colour would do, and after a pretty stiff bit of reflection of twenty-four hours, I confirmed myself in my opinion of what would be the most likely way of treating the principals.

I have remarked that the form of these is polygonal. They are in three thicknesses, the centres of the outer planks covering the joints of the inner ones.

I consider that the form precluded the use of a continuous repeat ornament. I therefore decided on following the form of the construction, and adopted panellings of blue and red alternately, relieved by coloured lines, intersected at the joints by circles of black, on which are gold stars, and from these spring ornaments in vellum colour, with green in the filling, as shown in the coloured drawing.

Following out this arrangement I had a pattern painted on paper of the full size of one of the principals, and it was fixed in its place within a week from the time of my appointment; part of that identical pattern is now in this room; it has never been altered, and thus exactly it has been carried out throughout the roofs of the naves and transepts.

Until the principals were coloured, it seemed to me that the thicknesses were lost. I wished to make the construction evident, and I therefore coloured the two outer edges in chequers of black and vellum colour, and the centre edge full red. As to the bracings above the polygonal arches I coloured them the warm-wood colour, with red or blue coloured lines on the face, and the under thicknesses red.

I have said that I decided on warm grey for the roof of nave. I did so because it gave space and lightness; and on its surface I introduced an upright scroll ornament in red, with gold, star-like rosettes, sparingly introduced. My object in this ornament was to raise the apparent pitch of the roof, and to relieve and warm the effect of the grey. The horizontal purlins, on the contrary, I kept purposely light, so as not to depress the rise of the roof, or interfere with, or confuse the effect of the principals. The ridge piece of the roof, in itself comparatively small, I marked as strongly as possible, as the apex, in black and vellum white, *en chevronné:* on each side I coloured a margin of maroon red, and a little below that a bordering of very warm green, shaped to accord with the top scrolls of the red vertical ornament, the green being relieved with rosettes of gold colour. At the base of the slope of roof this green is again introduced in much the same way, and the band of maroon also. Below this are the clerestory windows.

The next important features in the nave are the iron columns, supporting the principals as well as the galleries. These I have painted pale bronze colour, relieved with gold colour vertical lines. The capitals are gilt; the grounds being picked in rich red or blue alternately; the centre blocks of the columns are also coloured red, with bands of blue, or *vice versa*, the mouldings being gilt, and the same style of colour is continued to the bases. The top plate above the columns is painted bronze colour, relieved with light gold colour ornament on the upper part, and a vitruvian scroll in gold colour, with a maroon red base on the lower part.

The gallery railings are light bronze colour, the rose, shamrock, and thistle ornament being partly gilt, and the whole backed with deep red cloth. The plate under the gallery is painted oak colour, relieved with deep brown interlaced ornament.

I have kept the part below the line of arches purposely quiet in colour, in order that the brilliancy and richness of the various articles exhibited may not be interfered with. The roof, on the contrary, is rather vivid in colour, to carry up as it were, in some degree, the gaiety of the scene below; and this will be still further sustained by a series of banners of the various countries whose products are assembled in this International Exhibition.

Much variety of opinion has been expressed at my introduction of the vivid colours in the arched principals of the nave; but I think that many who fancied it would look too powerful, will confess their surprise at its comparatively quiet effect now that it is completed. The colours being properly balanced have neutralized each other. Most of you probably know that blue, red, and yellow, in the proportion of three, two, and one, when mixed with white, produce a grey, exactly the same as a grey produced by mixing black and white. I will show you. I take ultramarine blue three parts, vermilion two parts, and chrome yellow one part. I mix them together, add some white—you observe it is grey. I take some black and white, mix them, and identically the same grey is produced. If you paint on a disc radiated stripes of blue, red, and yellow, in proper proportions, and make the disc revolve rapidly, you find grey produced, the same as if they were stripes of black and white. The effect of the roof of the nave exemplifies this theory.

I have heard it said by some that it would have been better to have employed panelings of one colour instead of two to each principal, and made the principals alternately blue and red; in my opinion they would have been utterly disappointed; the striped contrasts would have by no means given the softness, richness, and glow of the present colouring. To convince myself I, at one stage of the colouring, tried, by fixing blue paper over the red panelings in one principal, and red paper over the blue panelings of another; the effect was not nearly as good, and I was confirmed that the principle I had adopted was the right one.

You will find this principle of counterchanging colours adopted in most of the decorations of the early masters, which abound in Italy. Those decorations, so beautiful, so interesting, rich, glowing in colour, full of fancy and taste in the ornament, the masses well arranged, the most perfect harmony everywhere, and dignified by often acting as the framework of the highest gems of art. My son, who has been lately studying from these works in Italy, has made a series of sketches from some of them, which I thought might illustrate the observations I am addressing to you, and prove not uninteresting to those who are fond of decorative art.

You will find in the roof of the Upper Church of Assisi, in the Chapel of St. Corporale, of Orvieto, and in the Palazzo Spinola, examples of countercharging of colouring, and in the roof of the Cathedral of Lucca the chevroneze of black and gold. In fact, the works of the Italian decorators of the fifteenth century afford most valuable lessons in ornamentation and colouring. But I must not be led astray from my more immediate subject. Having described the nave, I will now proceed to the domes which rise at either end of it, and form a point of intersection with that and the transepts. They are undoubtedly the main features of the building.

In plan their form is dodecagonal, or twelve-sided; but made to assume the appearance of an octagon, because the arches towards the nave and transept cross each other, and form a kind of angular-arched opening of 85 feet span, the intermediate arches being about 35 feet span. From the floor of the nave to the springing of the domes is 114 feet, the total interior height to the crown of the domes being about 200 feet. There are twelve main ribs to each dome, meeting in a sort of ring plate, and thence eight of them carry on to the centre. The crown of each dome has an ornamental zinc covering, as explained in the drawing; all below this is glass.

My principal difficulty in carrying out the decoration of the domes was, that I could see nothing of them. The scaffold formed a series of solid stages or floors, through which it was impossible to view anything; and I confess I never could mount the ladders above 100 feet; but even there the scaffolding was so thick that I could see nothing of the top, and very little of the cornice, fascia, and walls.

At last Mr. Ashton contrived to get for me an open square box into which I got, and was drawn up by means of his beautiful little engine very pleasantly to the top; yet, when I got there, the ceiling almost touched my head, so that I had no opportunity of judging beforehand of the effect of distance and light upon my colouring, and I knew well that they were very formidable elements for consideration. The knowledge that the scaffold would be taken down before I possibly could judge of the effect, and that, when once down, I could never hope to touch my decoration again, caused me many an anxious thought.

The main ribs are painted bright red, with spaced black and white at the edges, and a fine gold line up the centre spreads at intervals of about 4 feet into lozenges and circles containing gilt stars on a blue ground: where the main ribs reach the ring plate I carry round the red, marking the points of intersection with black and white; thence the eight main ribs are painted deep blue, relieved with red, gold, and black, until they meet in the centre pipe or pendant, which is gilt bordered with red. The shaped covering, or umbrella, as I am accustomed to call it, is painted light blue; gold colour and gilt rays diverging from the centre and streaming a considerable way down the blue, the shaped outline of which is bordered with red and gold ornament.

In decorating the walls of the domes, the solid parts between the arches, and the springing of the roof, it was necessary to consider the probable effect of the great mass of light above. On the one hand it was desirable to sustain it with suffi-

cient strength of colour; on the other, it would be dangerous to make it too heavy.

The moulding of the cornice and fascia are painted vellum colour, very slightly relieved by gilding; the trusses are gold colour; the fascia between them is red, with a vellum patera; the soffit is green. The broad fascia below is painted blue, and on it is inscribed, in gold letters, 3 feet high, the exordium of David, in the 29th chapter of the First Book of Chronicles,—"Thine, O Lord, is the greatness, and the glory, and the victory, and the majesty: for all that is in the heaven and the earth is thine;" and, "O Lord, both riches and honour come of Thee, and Thou reignest over all; and in Thine hand is power and might, and in Thine hand it is to make great."

The large iron columns, which rise nearly 100 feet high, are painted dark maroon colour, their capitals being richly gilt. The paneling between the arches and the frieze is painted in shades of red, relieved by coloured lines; in the four broad compartments are inscribed, on dark-green panels, Europe, Asia, Africa, and America; below, on a circle, are the initials of those so beloved by us all, Victoria and Albert. On the eight spandrils to the four main arches are medallions, 8 feet diameter, by Mr. Burchett, of the Kensington School of Art, emblematic of manufactures, commerce, and the various arts and sciences which lend their aid. These were executed in an exceedingly short time; and, like all the rest of the work, with no opportunity of judging how they would look in their elevated situation. I should add that, round the red paneling is a broad margin of sage green, on which are stencilled paterae. The moulding of the arches is painted vellum colour, the top fillet being gilt, and the face of them ornamented with vitruvian scroll, in dark colour.

The walls at the gable end of the nave and transept are treated so as to recall the arched form of the principals. Under these a semi-circular panel is formed of warm brown colour, bordered by a broad blue margin, on which are gold stars. Inside the panels are written the following sentences:—

On the east end of nave—

"The wise and their works are in the hand of God."
Ecclesiastes, chap ix., v. 1.

On the east end of transept—

"Alternately the Nations learn and teach."—Cowper.

On the south-east end of transept—

"Each climate needs what other climes produce."
Cowper.

On the west end of the building the sentences are in Latin, being the part occupied by foreign exhibitors. At the end of nave is written—

"Gloria in excelsis Deo et in Terra Pax."

At the north-west end of transept—

"Domini est Terra et plenitudo ejus."

At the south-west end of transept—

"Deus in terram respexit et implevit illam bonis suis."

Inside these semi-circular panels are a series of radiating panels, painted maroon, and bearing the names of the various sciences and arts which have affinity with the objects exhibited.

I have mentioned that on either side of the nave extend the series of courts roofed with glass. These admit of very limited decoration, and the colouring I consider should be of a subdued and retiring character. The objects exhibited are to be the show. The brick walls which form the boundary on one side not being dry, it was necessary to have a colour which would not be materially affected by that circumstance. I adopted a quiet maroon colour made with venetian red and purple brown. The columns are painted pale bronze, relieved by gold colour.

The skylight frames are painted cream white, relieved by lines of red and blue alternately. Under the galleries the ceilings are painted very light grey, the joists cream white, the bottom edges lined blue, and the girders lined maroon red.

Let me here offer a few words of advice to the exhibitors of manufactured goods in silks, woollens, and cottons.

Many rich and valuable stuffs were seriously injured at the Exhibition of 1851, by injudicious arrangement of them. Brocaded silks of gay colours, or printed woollens or cottons, are best exhibited if somewhat shaded from the light; it would be well, too, if they were contrasted with deep tones of velvet or other plain material.

In the arrangement of plain fabrics, such as cloths, merinos, or velvets, much will depend on the way the colours are brought together. Avoid blazing contrasts of colour, such as bright red next bright green; or bright blue next bright yellow; such contrasts are not harmonious: let one of the two colours always be subservient to the other. It is not so much what colour a material is, but how that colour is made to appear. It is necessary to bear in mind that all colours have their complementaries, which add to or detract from the beauty of the adjoining colours, according to what they may be. Thus, the complementaries of red are green; blue are orange; yellow are violet. If you cut out pieces of grey paper in an ornamental form, and stick a piece on each of the three colours I have named, you will find, in a shaded light, the grey will be fully tinted by the complementaries of these colours. But you cannot lay down precise rules. An experienced artist can bring any two colours together by properly modulating them.

Nothing is so charming and so refreshing to the eye as an harmonious arrangement of colours. They are "like a sweet chord of music to the sense." The hand of nature never errs, whether it brings together scarlet and crimson, as in the cactus; scarlet and purple, in the fuschia; yellow and orange, as in the calceolaria; or the colours in the varied plumage of exotic birds—the harmony is always beautiful, ever perfect. The laws of harmonious colouring are a necessary part of the knowledge of the manufacturers of coloured fabrics.

I will suggest a few contrasts.

1. Black and warm brown.
2. Violet and pale green.
3. Violet and light rose colour.
4. Deep blue and golden brown.
5. Chocolate and bright blue.
6. Deep red and grey.
7. Maroon and warm green.
8. Deep blue and pink.
9. Chocolate and pea green.
10. Maroon and deep blue.
11. Claret and buff.
12. Black and warm green.

Resuming our immediate subject, we will now return to the principal staircase, which we passed on our entrance from the Cromwell-road. The walls of the lower part of this staircase will be painted maroon red, as a background for the statues, bas-reliefs, and other art works which will be placed here. The upper part of the wall, or, rather, space above the wall, will be inclosed by the various specimens of stained glass. Arrived at the landing, we enter the centre vestibule, from which we first gain the view of the magnificent range of picture galleries, extending 500 feet on each side. This vestibule will itself be filled with sculpture. The walls are coloured subdued red up to the string course: above that they are sage green.

The picture galleries on the east side contain the collection of the British, those on the west side the foreign schools; in size and arrangement they are exactly the same. The width of the galleries is 50 feet; the wall is 31 feet high, up to the cornice, from which springs a deep cove supporting the centre light.

Many of the pictures to be exhibited having been painted many years, it was essential to have a very low tone of colour for the walls; I adopted a sage green. When the colouring was partly done, and there remained some of the white wall still uncoloured, it was thought by many that the tone would be far too dark, and I mention this to show how difficult it is to judge of effects of colour till all the parts are complete. I never at present hear any fears expressed of the too great depth of colour. The cornice is painted vellum colour, with maroon in the hollow: the ground of the cove is tinted of the same hue as the walls, but much lighter. I have divided it into two compartments by upright margins in vellum colour, on which is stencilled ornament on a deep ground; the compartments of green are marginal lines of maroon. The soffit is also vellum colour relieved by stencil ornament in maroon, and the upper cornice is cream colour.

The end walls of the principal galleries are slightly decorated; on either side of the arched entrance it is intended to place statues, and therefore it was necessary to have a maroon-red panel background; this is carried up to the springing of the arch, and thence broken into five concentric panels; above these are painted ornaments supporting medallions, in which are inscribed the names of painters.

To show with what energy it was necessary to carry out the works, I will mention that the whole of the picture galleries on the east side were painted and decorated in five days. I was asked on Saturday if my designs were ready—I decided the colours on Monday morning, the work was commenced at mid-day, and completed mid-day the following Saturday.

At the end of the principal galleries we enter the auxiliary galleries, which have a length of nearly 250 feet on each side of the domes; in these will be arranged the collection of water-colour drawings, architectural designs, &c.; here I have adopted a lighter tone of the same colouring as in the larger galleries.

Crossing over to the north side of the building we enter by the triple archway, which I have before mentioned, the immense range of apartments devoted to refreshments; unfortunately, the state of the walls is such, that it will not be possible for the present to decorate them, except indeed the three large rooms on the upper floor, where the ceilings are of wooden construction; but I must needs confess that nothing I could do on the walls would compete with the charming view to be seen from the windows which run the entire length of these rooms. The whole of the new Horticultural Gardens is seen with beautiful effect; all their ornamental parterres, fountains, and walks, bounded by the handsome colonnades and conservatory, being seen in greater perfection than from any part of the Gardens themselves.

Having thus described to you, very imperfectly I confess, the decoration we have done, let me explain to you, briefly, how we did it. It was indispensable, in all the designs for the decorations, that they should be so arranged as to be easy of execution; that the important principle of "the greatest effect at the least cost," should be strictly attended to. Therefore all ornament had to be done by stenciling, and all the colouring on woodwork was to be done in distemper. What the stenciling is I will explain presently. Distemper is a very ready means of colouring surfaces, because one coat of it bears out and gives a result more solid and more luminous than four coats of oil paint, but it has the disadvantage of not being preservative like the last, and it cannot be washed. Perhaps no one will ever discover the very rough state of the principals of the roof of nave, which are simply saw-cut, besides being blemished by the process of carting and lifting them. The coat of distemper conceals all that. It is composed of whiting and size, made of any tint required by adding the usual colours.

Stenciling is performed by cutting out the pattern required in stout strong paper, which is then varnished over to strengthen and preserve it; taking care also to leave proper ties to keep the pattern together. I think that in the progress of the work more than 100 men must have been employed at this stenciling; out of whom, I have reason to believe, scarcely half a dozen ever did it before; and yet the work has been very well executed, and reflects much credit upon all those engaged upon it. I am happy to acknowledge the intelligence and perseverance of Mr. Huish, the foreman painter of Messrs. Kelk & Lucas, in directing these men. Also they will join with me, I am sure, in confessing how much they and I are indebted to the able assistance of my artist, Mr. Haslin; nor can I be silent on the constant aid I have received from my eldest son, whose sketches will sufficiently speak for him. The task I undertook was attended with difficulties of what I may call a diplomatic kind. The contractors were at the expense of carrying out the work I directed, and were naturally not desirous to be wasteful; the Royal Commissioners wished the work to look as well as possible: therefore, it is easy to be imagined that where one side used the whip the other pulled the reins; nevertheless, I feel bound to state that the contractors desired to have the decorations of the building well carried out, and that they have been actuated by liberal and unselfish feelings.

I have little more to say, but there is one word of thanks I cannot but give expression to on this occasion; it is to acknowledge with gratitude the encouraging support I have derived from the criticisms on my work which have appeared occasionally in the *Times* newspaper.

In a few days the International Exhibition will be opened, the collected industry, science, and art of the whole world, thus brought together, will be opened to your view. I trust that they will in no way be injured by what I have done.

LINCOLN CATHEDRAL.—The Earl of Yarborough has expressed a wish to evince his respect and affection for his late father by placing, at his own cost, a memorial window in the cathedral at Lincoln. It is probable, therefore, that the subscriptions to the window will be discontinued.

THE NATIONAL MONUMENT TO THE PRINCE CONSORT.

We have every reason to believe (and are very glad to hear it) that the national memorial to be erected in honour of the late Prince Consort will not take the form of a monolithic obelisk. If the statements we hear are correct, Her Majesty's Committee are disposed to adopt the design we threw out immediately after the lamented death of the Prince, and which we forbore to urge, in deference to the suggestion made in Her Majesty's letter. What we said was this:—

Numerous suggestions as to the form the memorial should take have been addressed to the committee; but at present they confine themselves solely to raising a fund. When the amount is known, they will then be better able to consider what should be done with it. For our own part we desiderate a grand union of the arts in honour of one who knew and loved them all. We see in the mind's eye a magnificent Temple enshrining a noble statue of the Honoured One. Upon and around the pedestal are groups and *relievi* illustrating his character; while other *relievi* and paintings, in the entablature and elsewhere, set forth the incidents of his life. The worker in metal, the glass-painter, the mosaicists, have co-operated with the architect and sculptor: marbles of all sorts join with the richest materials of their several kinds and the cunningest art: and we have at once a fitting monument for the Hero of the family-life, and an evidence of the position to which the arts have attained amongst us. A large sum would of course be needed to make the vision a reality—but what of that? It would be a good investment for the country; a worthy evidence of the national feeling: that which would give joy and elevation of thought to generations, would be cheap at a very large sum. The genius required to produce it might be more difficult to find than the money; but even that we think would be forthcoming if properly called out.

We shall sincerely rejoice to find our information correct.

A correspondent unacquainted with our early suggestion writes as follows:—

It appears to me to be a great pity that so excellent a man as the late lamented Prince, "Albert the Good," should be likely to have so poor a monument to do honour to his life and memory, as what is now called a "monolith." The largest monument of this kind must be somewhat poor, as being merely the successful effort of machinery moved by a huge sum of money. Of course, if it were desirable, we could erect the Mull stone, and Cleopatra's Needle on the summit of it, and the "monoxyle" from Norfolk Island on the top of the two monoliths. And what then? We should have a most costly result of, what we may call, brute force, most skilfully and extravagantly applied, and all for one memory. But the present is an opportunity which may not again, in our time, occur, of erecting a "Valhalla" to enshrine the memories of illustrious Englishmen of all classes and in all arts. The building might be exceedingly well designed upon some such plan as the church of San Tomaso in Limine (see Fergusson's "Handbook of Architecture," vol. ii., p. 546, figs. 423, 424); of which it is well observed by the author, "we must regret that the idea was never carried out on such a scale as to enable us to judge of the effect of such a domical arrangement as is here attempted." This church is domical, of two stories; and if such a design were carried out on a very large scale, the building (which need not necessarily be a church), with a lofty campanile for a clock bell, and a cloister, might be a glorious architectural work of the highest art; of ample size, and exceedingly well fitted to contain monumental sculpture, frescoes, windows, &c.; and I think would be a far more appropriate monument to Albert, the good Prince Consort, than a tall stone post, whose chief characteristics are bigness, shinyness, and costliness. He would have been the last to wish for so (apparently) selfish and costly a monument to himself; and, being himself an artist of no mean rank, he would have rejoiced in the idea of *his* monument sheltering under its lofty and wide-extending dome the monuments of his fellow-Englishmen of all classes. L.

The amount now subscribed is 44,300*l.* A very erroneous impression of a proposal made by a member of the committee to initiate a wider subscription than has yet been practicable having been given by some of the daily papers, we print the following letter which was submitted on Thursday last to the committee appointed by the Society of Arts to afford to every subject of the Queen the means of subscribing:—

"Brompton, April 9th, 1862.

National Monument to the Prince Consort.

Dear Sir,—I am very sorry that an engagement will prevent me from attending the preliminary meeting of committee to-morrow to which you have invited me.

On the 2nd instant I submitted to the Mansion House Memorial Committee, of which I am a member, a scheme for the distribution of a large number of collecting cards, with the view of affording to all classes an opportunity to subscribe to the proposed National Memorial. To-day it was further considered by the Mansion House Committee, and it was resolved that, in deference to the movement which had since been inaugurated by the Society of Arts in the direction pointed to by my proposal, no steps should be taken upon it. It was suggested, however, by the Lord Mayor, that I should communicate the proposition to the Society of Arts, Committee; and I now, therefore, beg leave to send you a proof of card and suggested slip to accompany it.

My notion would be to print, say 10,000 such cards and slips, to begin with, of the size given, to suit ordinary envelopes. The cards to be numbered consecutively, and every person who receives a supply to be accountable for the same. A clerk to register all issued. Each card to be returned by collectors to *the person from whom they received it*. A large distribution of the cards might be made:—

By means of the societies in union with the Society of Arts;

By members of the committee handing them to friends, and the latter again to others;

By the railway companies and bankers;

By large manufacturers;

By various Government offices;

By ladies' committees, who would distribute, collect, and return them; &c. &c.

I forward this suggestion simply that the committee may have it before them, with others, for consideration, and so be assisted in devising the best arrangement to effect the good object they have in view.—I am, &c.,

George Godwin.

P. Le Neve Foster, esq., secretary."

PROVINCIAL MEMORIALS OF THE PRINCE.

Oxford.—The idea of erecting an ornamental fountain in St. Giles's has been revived, and it is suggested that it would serve as a memorial of the Prince Consort. Some time ago a design was prepared by Mr. Scott, architect. In that design a statue of Alfred the Great formed an important feature, but it has been suggested that a statue of "Albert, the Good and Great," should be substituted. Some time ago the Street Commissioners voted 200*l.* towards it. The design for the fountain is now on view at Oxford.

Bradford.—The memorial committee here have resolved, "That the establishment of an institution for the promotion of art and science, to be called 'The Albert Institute,' would be a fitting mode of perpetuating the memory of his late Royal Highness the Prince Consort; and that a sub-committee be formed to ascertain the probability of securing sufficient funds for the effective carrying out of this object." The sum to be aimed at is 10,000*l.*

The Suffolk Memorial.—A meeting of the general committee, held in the Railway Station, Ipswich, was very fully attended. The Earl of Stradbroke took the chair. The subscriptions for the Albert Memorial College were announced to amount to nearly 9,000*l.* It was resolved that an executive committee of twenty-three members be appointed, and that in addition all subscribers of 500*l.* be *ex officio* members.

An Ipswich Memorial.—It has been resolved, at a public meeting convened by the mayor, to found a scholarship in connexion with Queen Elizabeth's Grammar School, in Ipswich, to be called "The Albert Scholarship." His Royal Highness laid the chief stone of the new school buildings in 1851.

Plymouth.—A subscription of 100 guineas is in course of being made up here for the purpose of obtaining a copy of the Prince's robed portrait, by Winterhalter, at Buckingham Palace, to be placed in the Guildhall. The portrait will be 8 feet 10 inches by 5 feet 10 inches in dimensions, and is to be done by Mr. Carden, who has already made copies of the Prince's portraits. The price of the copy will be eighty guineas; frame, twenty guineas.

COMPETITIONS.

Bicester Church.—With reference to the proposed restoration of Bicester Church, the committee have selected the designs of Mr. Beazley, of Upper Gower-street, London.

Oxford Workhouse.—At a special meeting of the local board of guardians, last week, to decide upon the plans, a discussion took place as to whether the report of the architect applied to should be published. The Rector of Exeter moved that the report be regarded as a confidential communication to the board; which motion was ultimately carried by 13 to 7; after an amendment, that Mr. Aickin and the three competing architects be consulted before the report is published, had been rejected by 11 votes to 10. The report was read by the chairman. It was of great length; and, having described the merits and demerits of the plans submitted to him from Messrs. Fisher, Seckham, and J. Castle, recommended the Board to adopt Mr. Fisher's; and to make certain alterations which he (Mr. Aickin) had marked in pencil upon the plans themselves. The Rector of Exeter then moved that a letter be written by the clerk to the editors of the three Oxford papers, to the effect that the board regarded Mr. Aickin's report as a confidential communication, and on that ground had decided that it should not be published. Alderman Towle seconded the motion, which was carried by 11 votes to 9. Dr. Adams moved "that the second plan of Mr. Fisher be adopted." In passing that resolution, he said, they would not decide that Mr. Fisher was the architect; or that he would have the reward offered for competition; unless his plans could be carried out by a competent builder for the sum specified. The motion was carried unanimously. Mr. Adams then moved "that it be referred to the Building Committee to consider and decide on the alterations suggested by Mr. Aickin." The alterations alluded to, he remarked, did not affect the main building, but had reference to the internal arrangements of the proposed new house. This motion was also carried unanimously. It was stated that Mr. Aickin's professional charges against the board for examining the designs amounted to 23*l.* 10*s.*

THE GALLERY OF ILLUSTRATION.

The new entertainment produced here on Monday evening last, called "The Family Legend," is the work of Mr. Tom Taylor, and approaches more closely the drama than any that has yet been given. It includes a number of characters,—English, Scotch, Welsh, Irish, and French; and is pleasantly relieved by a variety of new ballads, concerted pieces, and selected music, calculated to display the abilities of Mr. and Mrs. German Reed and Mr. Parry to the greatest advantage. Mrs. Reed's *Babette* (a Bretonne) and her *Elsie* (a mad wanderer); Mr. Reed's *Pilkington* (a British butler on his dignity); and Mr. Parry's personation of *Mr. Warble* (a poetical traveller), are as admirable in respect of acting as anything that has been seen for a long time. The writing, too, is very good, quite worthy of Mr. Taylor's reputation; and the scenery, by Messrs. Grieve & Telbin, beautiful. The action is laid in a Gothic house at Dinas-y-Coed, in the winter, Snowdon and Llanberris being seen outside by daylight and moonlight.

In half a dozen words, "The Family Legend" is a very charming entertainment, and ought to prove a great success.

HEMSTED HOUSE, KENT.

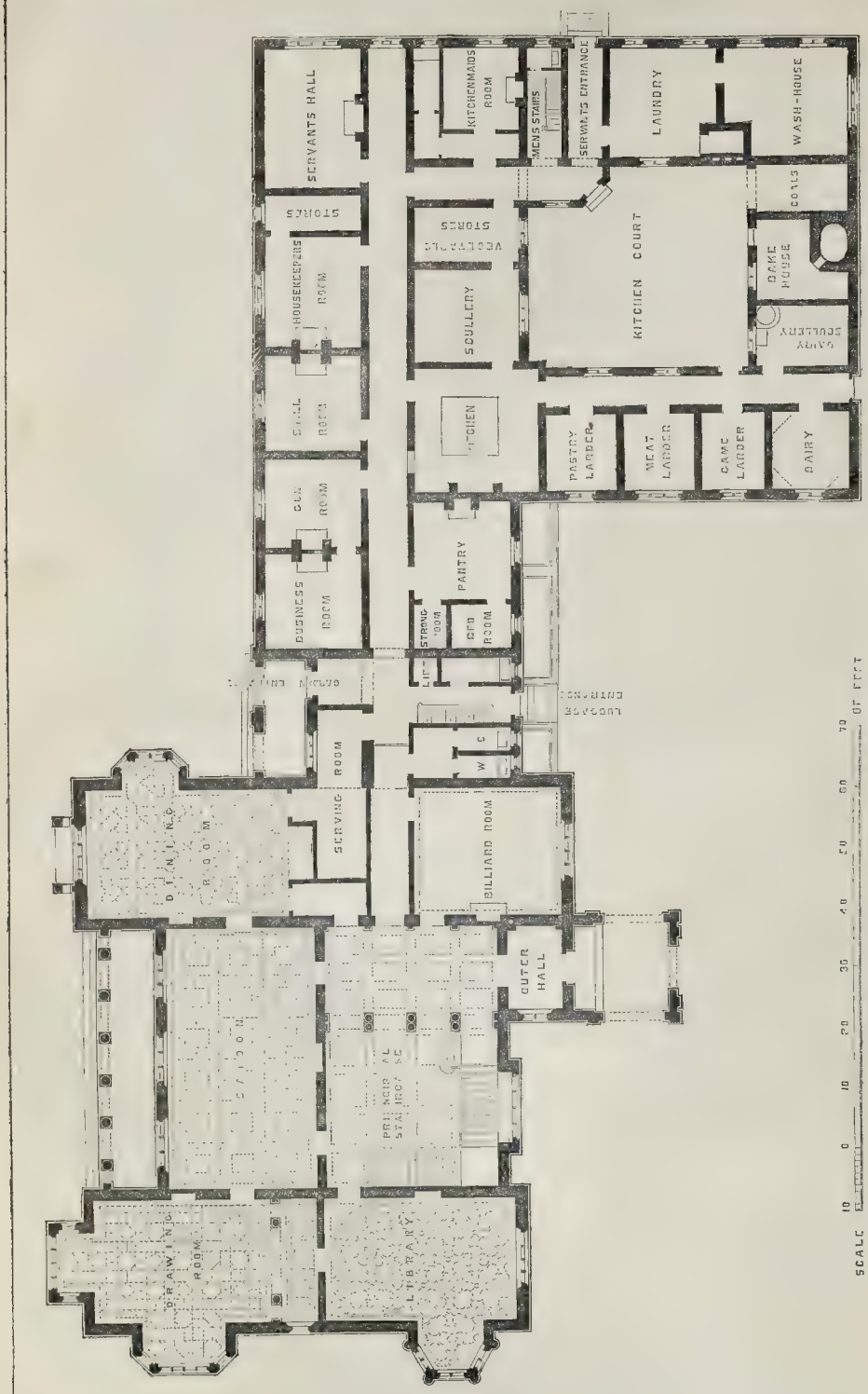
We add, as promised, a plan of this mansion.* The principal rooms facing south and east overlook a terrace 110 feet wide, from which there is a flight of steps descending into a well-wooded park, and they command views of picturesque distant scenery. From the top of the tower may be seen the coast of France and extended panoramic views of the surrounding counties of Surrey, Sussex, and Essex. On the west side of the house, but not shown on the plan, there are coal-stores, carpenters' sheds, game-larders, &c. &c. In the basement story are general stores, wine and beer cellars, clothes-brushing room, and a furnace-room containing a boiler and pipes for warming the staircases, corridors, library, billiard-room, saloon, drawing-room, and dining-room. On the first floor there is a boudoir, school-room, nurseries, family and visitors' bed and dressing rooms, two bath-rooms, &c. &c.; and on the second floor on the south and east side similar bedrooms and dressing-rooms; and on the north side, bedrooms for female servants.

Local traditions relate to a moated house or castle said to have stood in the centre of the grounds now laid out as pleasure-gardens; but no remains of any foundations have been found. A strong spring of water still exists, which it is supposed supplied the moat; but now feeds a sheet of water on the west side of the park. It seems probable, however, that a structure of some importance once stood there, as a fine avenue of elm-trees leads up to the spot. On an adjoining mound is a tree, said to have been planted by Queen Elizabeth, commemorative of a visit to the then owner of Hemsted, who held office in the royal household.

Without going into particulars of what has or has not been spent here, which might not be agreeable to the owner, we may state as a guide for some inquirers that the cost of such a mansion as we have here illustrated, may be put at about 23,000*l.*

---

* See p. 242, *ante*, for view and description.



HEMSTED HOUSE, KENT.—*Plan of Ground Floor.*—MR. D. BRANDON, ARCHITECT.



DRINKING-FOUNTAIN, AND MEMORIAL OF MYDDELTON, ISLINGTON GREEN.
MR. JOHN THOMAS, SCULPTOR.

DRINKING-FOUNTAIN AND STATUE OF MYDDELTON ON ISLINGTON GREEN.

AT the southern extremity of Islington-green, where the old Watch-house stood, the basement has been erected for a drinking-fountain, surmounted with a statue of Sir Hugh Myddelton, who brought the New River to London. It is designed and executed by Mr. John Thomas, and promises to be an ornament to the district. Myddelton is attired as a wealthy merchant of the period. The statue is executed, as are those of the boys below, who pour water from beakers, in Sicilian marble. The pedestal is of granite, the basement Portland stone.

Sir S. M. Peto, Bart., with his usual liberality, contributes the figures: the other parts will be paid for by subscription amongst the wealthy inhabitants of the neighbourhood. The height of the figure is 8 feet 6 inches; the total height of the structure about 21 feet. The entire cost is about 1,000*l*. The Goldsmiths' Company give 50*l*.

PROFESSOR SMIRKE'S CONCLUDING LECTURE ON ARCHITECTURE, AT THE ROYAL ACADEMY.

LECTURE V.*

In the vaulted corridors of the great Flavian amphitheatre we have a remarkable instance of correct judgment. These corridors are strictly consistent in character with the enormous building of which they form a subordinate part: they, in fact, appear to have become not only the type and model on which all other works of a like nature were subsequently erected, but the fertile parent, also, of those beautiful arcades which so frequently court our admiration, both in ancient and modern Italy. These are, it is true, pre-eminent examples which I have cited, and it may be thought that noble works of the highest grade of art offer no available materials for our imitation or study in fulfilling the humbler tasks that fall to the lot of most of us. It is not so, however: a right principle is applicable alike to great things and small; and I consider that the rule which I have ventured to enunciate—that in all works of architecture every passage or ante-room should be conformable in style, yet subordinate in treatment, to the apartment to which it leads—is of universal application. Let us now proceed to those apartments towards which we have been so long advancing.

There are few objects connected with our art that have been more frequently dwelt on by those who have undertaken to be our guides and monitors than the right proportions to be given to a room. Vitruvius led the way, and subsequent theorizers have laid down—sometimes very dogmatically—their views of just proportions.

I find, however, in the actual practice of the ablest men, such extreme diversity; and I observe pleasing effects producible by the adoption of such widely different proportions, that I confess myself to be somewhat incredulous of all these theories.

Certainly, if beauty could thus be reduced to a formula, and the proper relation indisputably established between the length, breadth, and height of a room, a royal road would, indeed, be cleared for us, most convenient both to those who teach and those who learn. But I cannot hope to furnish you with such a desirable help in your studies. I find rooms of universally admitted beauty, yet of almost every geometrical figure. I have heard the room called the Tribune, in the Museum at Florence, spoken of in terms of rapturous approval for its beautiful form and proportion: this is an equilateral octagon on plan. I have known square rooms greatly admired—for example, the central hall at Cobham is spoken of as the *chef-d'œuvre* of Inigo Jones: this, if I remember rightly, is a cube of 40 feet. Who is there that is not charmed with the proportions of the Pantheon, at Rome? This, you know, is circular; whilst the Sistine Chapel, upon which all the best art of Italy in its best days was expended, is a triple cube—viz., 133 feet by 44 feet. The truth, I believe to be, that so bounteously have we been endowed, and so liberally have the laws of beauty and proportion been framed, that there exists, in fact, an endless variety of beautiful forms and proportions.

It is, I think, as little consistent with truth to lay down any one definite proportion as the best, as it is to extol any one particular curve as the line of beauty. Harmony in form is as infinitely various as the harmonies of colour and of sound.

The purpose of a room must always be an important guide in determining the form and proportions of it. The octagon form, for instance, so much affected by our ancestors in planning their chapter-houses, owes its origin, probably, far more to the propriety of that form for a chamber destined for the assemblage of the members of the chapter, sitting in council, than to any intrinsic architectural beauty.

This fitness to its purpose should obviously be among our very first objects of consideration. But it is the diversity of those objects to be kept in view which complicate the task of an architect, and render it often very difficult.

In a public hall, for example, he has to consider not only its agreeable proportions, but its acoustic properties, its aptness for seeing, its capacities for lighting and ventilation, the most serviceable distribution of its means of ingress and egress, and many other considerations, among all of which he has to attach to each its relative importance, and to determine to what extent one object may give way to another, and where a sacrifice can best be made.

Unfortunately for the architect, whilst these conflicting considerations are taxing his judgment, the critic stands by, regardless of all these embarrassments, and tests the beauty of our work by the inflexible rules of the dogmatist on whom he may have happened to pin his faith.

In planning an apartment, as in planning a house, we must consult the genius of the place. There are occasions when a simple, geometrical plan would be most suitable; and there are also occasions when too great symmetry is to be avoided. In rooms intended for social uses, convenience, as well as beauty, alike suggest variety in boundary lines of the room. The deeply-embowed recesses that occur so often in our old domestic architecture are a source of great beauty and interest, varying the lights and shadows, and breaking the monotony of parallel lines. The oriel window of our old halls, whatever may have been its purpose, is always a pleasing feature, and the deep bays in the galleries of those picturesque buildings happily compensate for their usual narrowness. "These be pretty places for conferences," says Lord Bacon; and his remark, in a lively and agreeable way, truly indicates the commodiousness of those cheerful recesses. The Italian masters, struck by the dryness of a plain rectangular form of room, adopted not unfrequently a very happy mode of concealing or obviating that effect, by converting the upper part of the square room into an octagon supporting the angle walls by arches or pendentives, and so leaving the rectangular area unencroached upon. This contrivance is, in truth, of early date. At the Castel del' Novo, in Naples, is, or was, a very fine hall wherein this expedient is most effectively carried out.

This mode of growing an octagon out of a square led to a variety of contrivances for the due decoration of the couch, or spandrel space, formed by the overhanging of the four diagonal walls, among which, perhaps, the most ingenious and elaborate were the pendentives devised by the Saracenic artists; a multitude of miniature groined arches, rising in successive tiers, and corbelling over so as to form those singular stalactitic ceilings so characteristic of Moorish architecture.

The remains at Pompeii, and, indeed, of Roman art over all Europe, show that the semi-cylindrical vault was the most usual mode of constructing ceilings in the Classic era; varied, often, however, by groining.

This diagonal vaulting was very dexterously executed by forming the intersecting lines of the groin in a careful, solid manner, filling in the spandrel spaces less carefully and with lighter materials, such as tufa and volcanic scoria. It was this mode of construction, no doubt, which led to the Mediæval mode of vaulting, the intersecting diagonal lines being more emphatically pronounced by wrought and moulded ribs. As at the Coliseum, Pantheon, and other Classic vaulting, we find the spandrel spaces executed on this principle, so in Mediæval buildings chalk and even calcareous tufa (as at Glastonbury Abbey) were similarly used.

It is not, however, to be forgotten that flat timber ceilings were occasionally executed, not only during the whole Mediæval period, but even from earliest Classic times, also, builders so wrought. The Homeric writings abound with allusions to timber ceilings, with beams painted in bright colours, and even incased in plates of metal work; but we can now only trace indications of the existence of these timbers in the apertures left in the masonry for their reception.

In later Classic times representations of flat timber ceilings occur not unfrequently in frescoes. In the fifteenth century (by far the most actively inventive period of modern art) Italian architects contrived an entirely novel form of ceiling, for which no preceding school of art had furnished the slightest precedent. They reconciled the convenience of a flat ceiling to the more elegant form of the vault, by adopting the cove, or half-vault. This was first executed in wood, the earliest examples of which, so far as I know, are at the Palace of the Academy at Venice.

Afterwards these coves became worked in plaster—a mode of construction which hardly bears date earlier than the beginning of the sixteenth century. Attempts are made to obtain a similar effect, in a more truthful mode of construction, by turning in masonry extremely flat elliptical vaults. But Sansovino, who ventured on this expedient at the Library, in Venice, was thrown into prison, and fined 1,000 scudi for its failure—a fate which must have powerfully operated on the minds of his brother artists in overcoming their scruples about plaster coves.

Another mode of forming ceilings which was much practised by early Italian artists was to frame them in deep coffers or panels, wholly of wood, often richly carved, painted, and gilt.

I know few palatial apartments equal in grandeur of effect to the great halls of the palace built by G. Romano, at Mantua. They are for the most part of this trabeated construction, and the gigantic force of their coffers, relieved by the extreme richness of the carving, proclaims the master hand of the great master who designed them. In the nearly contemporary flat, panelled ceilings, executed in England by Holbein, as in the Chapel Royal, St. James's, we have but weak and faint imitations; yet, even these are almost bold when compared with the tame and poor panelling of later times. The stuccatori of the last century introduced with some success a more free and artistic treatment of their material, but their art ultimately succumbed and gave way to plaster casting of the feeblest kind.

Having briefly touched on the subject of the forms and proportions of rooms, we will now pass on to the equally important subject of giving light to them.

So much of the architectural effect of a building for whatever purpose it may be destined, and so much of its aptness and convenience, depends on the mode that may be adopted of giving light to it, that it is certainly a matter demanding your special attention and study. The more so, because no general rules can be laid down for the proportioning of windows to the area they have to light.

Much, obviously, must always depend on the purpose of the room to be lighted; much also on the nature of the medium through which the light passes; much on the position of the windows; and, above all, perhaps, upon the degree of intensity of the light obtainable from without. The practice of Italy, for example, would be a very unsafe guide for us in our uncertain climate and sombre atmosphere. Here the most ample panes and the clearest glass will often hardly suffice; whilst, in Italy, such is the penetrating fervour of the sun's rays, that sometimes men are content, as at Saint Miniato, near Florence, with the light that can make its way through slabs of alabaster in lieu of glass. We know, indeed, that lapis specularis was much used for this purpose in Classic times. Then, again, the light which is obtainable in an open country and in a crowded city obviously must require totally different proportions, whilst a window filled with stained glass will need, in order to afford a given volume of light, an extent of perforated surface that would be altogether disproportionate where clear glass is used.

In the absence, then, of any definite rule, it becomes especially necessary, by habitual observation and comparison, to learn our wants and our resources.

I last week adverted to the importance of the study of the effects of light and shadow in the design of exterior architecture; at least equal importance is to be attached to this consideration in interior design.

In the production of all great effects, chiaroscuro plays an important part, whether it be in a building or a picture. The quality of grandeur depends not merely on largeness of dimensions, but on general treatment, and especially on the treatment of this chiaroscuro. When the form of an apartment is simple, rectangular, for example, the impression of grandeur can perhaps only be effectually produced by real size; but when the form is complex, a new element of grandeur arises in the diversity and breadth of its light and dark parts. It is to this, far more than to any other cause, that we are to attribute the powerful impression made on the mind by the interior of a Gothic cathedral; the burst of light from the

* See page 234, *ante*.

transept breaking the monotonous effect of the nave; the light on the screen brought out into prominence as seen in contrast with the dim haze of the choir beyond; the splendour of the clerestory, as opposed to the comparative gloom below; these are all effects wholly due to chiaroscuro, and constitute the chief charm of those fine architectural compositions. It has always appeared to me a subject of regret that the undue interference of incompetent judges prevented Sir Christopher Wren from carrying out his first and perfectly original idea for St. Paul's Cathedral, where the effects produced by the double vaulted aisle, surrounding the octagonal nave, would have been truly surprising; my conviction is that had that design been carried out an interior architectural scene would have been the result, wholly unparalleled in any building in Christendom.

The present is, of course, not a proper occasion for discussing the utilitarian requirements of a room. No doubt an apartment destined for pictures must have its light admitted far differently from a room where sculpture is to be exhibited, and both widely differ from the requirements of an ordinary living-room. But these are questions, although of high importance to every student, which must not here engage us.

There are, however, purely æsthetic considerations connected with this subject of the admission of light, which are, it appears to me, perfectly fit to be entertained within these walls. Very forcible effects are produced by mere contrast in the degree of light admitted. When an apartment is desired to be specially marked by a gay and festive character, the eye should be prepared by subjecting it to a comparatively dim light. If, on the other hand, a solemn effect is to be aimed at, that object is promoted by previously subjecting the eye to a strong light. I have been frequently struck by the far greater effect of solemnity produced on the mind by entering a cathedral direct from the clear, external air, than when entered from the cloisters or chapter-house, where the eye has already got somewhat accustomed to a subdued light.

Indeed, for every great architectural scene, it is well that the eye should be duly prepared. I think it may be broadly stated that a high light is, for almost every purpose, more pleasing than a low light. This is more especially the case when a grand or broad effect is aimed at. By lifting the windows above the ordinary range of vision, the intensity of the light is subdued, and a quiet effect is produced. The sombre light so striking in the early basilicas of Italy is due to this arrangement. No doubt much of the charm of those remarkable buildings is attributable to the unaffected symplicity of form which distinguishes them from the theatrical straining at effect, the multiplicity and complexity of parts, the architectural flutter, which are apt to characterize later Mediæval works. Still, this pleasing sobriety of form is greatly enhanced by the mode of admitting the light. I will refer you to another illustration, and that of a comparatively modern date, to show you that the principle which I urge on your attention is irrespective of style. At Milan, the ante-chapel of a church, probably of the sixteenth century, is appropriated as a mausoleum for the family of the great Condottiere Trivulzi. At a considerable height from the pavement are deep recesses, which receive the sarcophagi, and over all is the clerestory. The only light, therefore, that this lofty ante-chapel receives is from above, and the effect is extremely impressive. A brief inscription on the walls, alluding to the active life of the great commander, is in excellent keeping with the repose of the scene:—

"Qui nunquam quievit, quiescit—tace!"
(Be silent! for he who never rested, rests.)

I have now sufficiently brought before you the importance of the study of proportion and position of the lights; but yet another essentially necessary consideration remains; I mean the colour and texture of the walls to be lighted. Whether these vertical surfaces are themselves light or dark in tone; whether of a nature to absorb or to reflect light, are circumstances never to be overlooked. We all know practically, when a room has to be lighted up artificially, how much the requisite number of lights depends on these accidental circumstances.

Observe the strong light produced by a single taper in a room with white walls, and compare it with the dim glimmer obtained from the same taper in a room papered with a dark red paper.

Of course the same must hold good in the case of daylight. If, therefore, we have dark walls and furniture it behoves us to have large windows.

You perceive, then, how futile and empirical would be any rule for determining the proportion of solid to void in the external wall of a room. It is, in truth, experience derived from habitual, unremitting observation that can alone safely guide us.

"There are rooms," says the great observer, Bacon, "where you cannot tell where to become to be out of the sun or cold;" and the excess he condemns is, doubtless, a serious fault; but I believe, generally, that an excess of light is a less serious fault than a deficiency, for, in the one case a variety of means present themselves of remedying the defect, whilst the other is not so readily curable.

I have now touched upon some of the more material subjects of inquiry in the interior disposition of a building.

The subject is too large to admit of being treated on in detail in this place, and it would lead us out of the sphere of æsthetics to which I am limited. Nor shall I now enter upon the wide field of interior decoration. I will confine myself to the laying before you a few remarks on the general treatment of interior architecture.

I am afraid I venture an opinion at variance with general practice when I express my conviction that the introduction of a complete order into the interior of a building is a solecism and an indefensible inconsistency.

An entablature, as usually composed, seems essentially a piece of external architecture. The triglyphs of a Doric frieze, for example, are but the ends of the timbers of a floor or roof, and a cornice is but the overhanging extremities of a roof. To introduce these features, therefore, within, seems almost irrational. I know of no evidence of this practice having prevailed among the masters of Greek art, until that art had lost its youthful purity, and the original intention of the several component parts of an order had been lost sight of. At all events, I think that these features of exterior construction should be avoided within ordinary apartments. I am aware that this dogma, carried out to its full limit, would extend to the condemnation of labels, or dripstones, and battlements, and other details exclusively derived from external architecture. Nor do I see that such can be defended when introduced in the interior, except on the ground that these solecisms prevailed at the best periods of art, and are productive of great richness of effect.

At all events, I would counsel you to be on your guard against a too ready aquiescence in the ordinary practice of applying to the interior of buildings the forms and features of exterior architecture.

Nor need the exclusion of these rigid forms in any way embarrass us. Before "paint and paper" had usurped their undivided dominion over the decorators of our apartments, our ancestors resorted to many means of internal mural ornamentation—means, possibly, more costly, but certainly more worthy of the dignity of art.

Tyre supplied its rich drapery to embellish the walls of Roman buildings, and following in the steps of Egypt, Assyria, and Greece, the artists of Rome loved to depict their fairest forms and most brilliant conceptions on the walls of their rooms. Inspired by the example of Eastern art, the founders of ecclesiastical architecture encrusted their walls with mosaics. The looms of the East, also, furnished them with rich hangings, rivalled afterwards by the weavers of France, of Flanders, and of England. But the too general demand for economical decoration in latter times has created whole branches of mechanical manufacture to supply the place and mock the semblance of more durable, solid, and real enrichment. Costly hangings are represented by fabrics manufactured by the mile, and the most precious woods and marbles are reproduced by the simple apparatus of the paint-brush and the varnish-pot.

It is now necessary that I should draw these desultory observations to a close; and in thus concluding my addresses to you, at all events for this year, I cannot do so more satisfactorily than by giving you a few words of hope and encouragement. I have, in the course of the season, brought to your notice many noble works and many distinguished men; let these examples excite your emulation and quicken your zeal; and especially do I hope that my faltering though earnest words may animate those among you, students of the Royal Academy, whose fortune it may be to encounter early difficulties. Let those difficulties be regarded as a call upon your patient exertions, and let them be the earnest of your ultimate success.

It was remarked to me by an eminent writer and acute observer of nature, in Canada, that those trees ever produced the best timber which, lying on the unsheltered outskirts of a forest, were consequently most exposed to the vicissitudes of climate and most agitated by storms and tempests. So it is, perhaps, that by similar trials the young mind is hardened and nurtured into a firm and vigorous maturity. I might detain you long by a view of the early struggles of great minds, from Giotto, who first imbibed the principles of that art by which he achieved an immortal name, whilst he "tended the homely, slighted, shepherd's trade," down to our own Turner, whose earliest aspirations of genius were breathed amidst the uncongenial obstacles and objects of his humble origin.

The annals of genius are, indeed, full of such examples. Nor let these experiences be lost, even on the youth who may be conscious of less elevated powers. We well know that all cannot be first in the race. Yet the history of art records many an instance of men of very moderate claims to the character of genius, whose useful labours have placed them in a highly honourable position. To such men, a steady, well-directed, and judicious application of their natural talents, united with an open, frank, and honourable conduct have secured for them that reward to which higher genius has often failed to attain.

THE DRAPERS' ALMSHOUSES, CRUTCHED FRIARS.

The almshouses erected and endowed by direction of Sir John Milborn may be considered worthy of note at a time when they are about to disappear. Many who have wandered in this ancient district, by a sight of the quaint picturesque building, have had their thoughts taken back to other and far different times from those in which we now live. The stone carving, well executed, of the Assumption of the Virgin, over the Tudor gateway leading towards the pleasant little garden,—the shields, with heraldic devices,—the old-fashioned roof, and dark, rich, red-coloured brickwork,—formed a picture well remembered by many. The church and other parts of the establishment of the Crutched Friars stood close to these almshouses. The ground on which the church and monastery of this order were built was of considerable extent, and was purchased, for what seems now to be a very small sum, from the Prior of the Holy Trinity, London.

In 1521 Sir John Milborn was Mayor of London; and he had for several years been chosen master of the Drapers' Company; which was then as it had been for some centuries previously, a most prosperous society. Fitz Alwin the first Mayor of London, left lands in the care of an association of drapers; and the city records show that there has been a larger number of drapers elected to the honourable position of chief magistrate of the metropolis than has fallen to the lot of any of the other great liveries.

Sir John bought the land on which these buildings were erected from the Crutched Friars; and after his death, in accordance with the instructions given in his will, thirteen decayed members of the Drapers' Company, or *bedemen*, who occupied the thirteen almshouses, proceeded daily to the adjoining church, to pray at the tomb of their benefactor, who was buried in that place. Heart-burnings and disputes, however, happened between the drapers and the monks, which only ended when the monastery was suppressed. After this the church seems to have been allowed to fall into decay; and eventually the body of Sir John Milborn (and probably some of the other persons who were laid here) was removed.

In John Stowe's time, where the church had stood, there was a carpenter's-yard, a tennis-ground, and such like; and the friars' hall was made a glass-house, wherein "was made glass of divers sorts to drink in." At this time wood, instead of coal, was used in the manufacture of glass; and it is likely that wood and charcoal were chiefly used at that time for manufacturing purposes. In this instance, Stowe tells us that in September, 1575, a terrible fire broke out in this glass-house; which raged with so much force, that all the means which were practised failed to extinguish it, until all except the wall had been totally destroyed. For some time before this event, large quantities of wood had been stored for the use of the glassmakers. By this fire 40,000 billets of wood, which were stored in the old hall, were entirely consumed.

In glancing at the past history of London, it will be observed that the glassmakers had taken possession of several of the ancient buildings. We have here the instance of the Crutched Friars; and it is well known that this important manu-

facture was carried forward in part of the Black Friars' monastery, where the *Times* printing-office now is. There was also a glass-house in part of the Savoy Palace, in the Strand. The history of glassmaking in the metropolis has much interest, and is a subject to which more careful investigation might be usefully given than has yet been bestowed upon the matter.

There were some other charitable bequests which were made by Sir John Milborn, which, according to Stowe, were misappropriated. We trust, however, that the necessity which has caused the removal of the almshouses will be the means of providing a more salubrious situation, and a building better arranged, so far as sanitary arrangements are concerned. The old gate and the sculptures should be preserved and incorporated with any future structure devoted to the uses of this charity.

When it is considered how great has been the increase of the value of lands and tenements during the last two or three centuries; and that the property which has been left by persons for benevolent purposes has in some instances increased tenfold in value; it is a matter for regret that there are so few cases of the proportionate expansion of the donors' original idea. The number of poor persons who were to be provided with certain advantages in their old age and poverty is seldom increased, although the money means have become ample for the purpose.

PROPOSED STATUE OF THE LATE SIR CHARLES BARRY.

AN erroneous statement having appeared in some of the newspapers, it may be as well to say that the memorial intended to be placed on the staircase at the Houses of Parliament has not yet advanced beyond the sketch-model. Mr. Foley, the sculptor commissioned to execute the statue, has submitted to the committee a model of a standing figure and one of a sitting figure. The latter, having reference to the position it is to occupy and the light available, is preferred; and, unless the Fine Arts Commissioners (whose assent has been applied for) object, will be executed. The seated figure is to measure 5 feet in height, the pedestal 4 feet; together, therefore, 9 feet high from the pavement. The cost of the figure, exclusive of pedestal, will be 900*l.*

WORKS IN MANCHESTER.

The Assize Courts.—This new and extensive Gothic edifice approaches completion externally. The cost will be about 100,000*l.* The architect, as our readers know, is Mr. Alfred Waterhouse, of Manchester. The courts extend 270 feet in length by 170 feet in depth. The principal façade is to the west in Great Ducie-street, and another is on the south, in Southall-street. The north end abuts upon the judges' lodgings, a structure now nearly completed, and separated only from the main building by a court-yard. The general character of the buildings is of the period between the Early English and Decorated. The arrangement places the two courts and a hall, together with a tower, in the centre of a range of buildings three stories in height. The principal façade of the courts comprises a central and projecting entrance, 46 feet in length and 14 feet deep, with flanks, each 75 feet long, and a pavilion at each end. The basement story rises very considerably above the ground; succeeded by the principal story on the level of which are the great hall and courts. The upper story, in which are the chancery court and grand jury room, is succeeded by a high-pitched roof; the grand entrance, however, being finished with a gable. The principal story is reached through the chief entrance by twenty-eight steps in two flights, the visitor passing under a double-recessed open portico, 36 feet in depth, formed by a double tier of three arches each, which are supported by shafts of Dalbeattie grey granite on massive bases. The central entrance is supported by this portico. The portico leads by three doorways, formed by the arches into the great hall, which is 100 feet long by 48 feet 6 inches wide, and 75 feet high. It will be well lighted by traceried windows, and the roof will be of open timber. From this hall admission to the courts can be gained by the direct entrances, or by the corridors which run around the building. The crown court is to the right, the civil court to the left. Each is in size 59 feet by 45 feet, and lofty. Between the two courts will be consultation-rooms for the judges. The tower will rise 210 feet from the ground. It will consist of a plain panelled shaft, finished with gablets flanked by turrets, and a pyramidal roof. The judges' lodgings are situate between the north end of the building and Cottam-street. The principal front is towards Great Ducie-street. The building covers an area of 92 feet by 98 feet, and is composed of three stories in the front and four in the back. The architecture is in keeping with the style of the courts. The building will be warmed and ventilated on the plan of Messrs. Haden.

Sheffield Trade Driven to Manchester.—It cannot be very surprising to those who have heard of the trade outrages at Sheffield, during some years past; consequent upon any attempt to introduce improved machinery; to find that the particular trade which has distinguished that town is no longer likely to be confined to it or its locality. A Patent File Machine and File Manufacturing Company has been established here, at Ardwick, one of the suburbs of the city. A good deal of the machinery in this establishment is the invention of Mr. Francis Preston, of Manchester: it is to supersede hand labour, and a large portion of it is worked by steam. About three years ago Mr. Preston invited the then Master Cutler of Sheffield, the Mayor of Sheffield, and some of the leading firms of that town, to inspect his machines; and offered to make terms with them for the introduction into Sheffield of this machinery; but they informed him that they really dared not introduce it into the town.

School of Art.—The annual meeting has been held at the Royal Institution, Mosley-street. The chairman stated that, in addition to the retirement of Mr. Hammersley, the head master, other changes had been effected. There could be no doubt, he said, but that the institution was doing a large amount of good. It was stimulating art-education, and thus shedding beneficial influence over a very wide circle. He looked at its effect upon the working population as very cheering. The report stated that the recently-appointed head-master, Mr. Mückley, would direct the attention of his students to the necessity of drawing from natural foliage and flowers. A class for the study of the draped living model would also receive his special attention. The outside schools, under the management of Mr. Rome, continued to give the advantages of art-education to a wide and extending circle; whilst the central school would still continue to have the benefit of the labours of Mr. John Evans, as second master, and Mr. Robert Routledge, as teacher of mechanical, architectural, and perspective drawing. The expenditure during the year had exceeded the receipts. No systematic canvass had been made for some years past to increase the subscription-list; and no reliance could be placed on aid from voluntary and unsolicited sources. The subscription list had, therefore, continued to decline; and there was also a reduction in the amount of fees received from students. The committee did not doubt that considerable increase would take place in this item when the new arrangements were in practical progress. The meeting acknowledged the services of Mr. J. A. Hammersley, as head-master for nearly thirteen years; and wished him happiness and prosperity in his new sphere of action at Leicester. A cordial welcome was also accorded the new master, Mr. W. J. Mückley, of Wolverhampton.

St. Stephen's Church, Chorlton-on-Medlock.—On Saturday and Sunday, 22nd and 23rd March, services were held at St. Stephen's church, Chorlton-on-Medlock, on the occasion of formally opening the new chancel and the new organ. The enlargement of the church has been effected at a cost (including the organ) of more than 1,100*l.*, and has been carried out under the direction of Mr. John Lowe, of this city, architect. The church is cruciform in plan, and has been very much improved, according to our authority, the local *Courier*, by this addition; while free accommodation receives the entire benefit of the enlargement. There are now nearly 500 sittings appropriated to the use of the poor. The new organ, which has been built by Messrs. Conacher and Co., of Huddersfield, at a cost of 325*l.* is placed in a chapel on the north side of the chancel. The case is in accordance with the architecture of the building: the front pipes are diapered.

St. Paul's Church, Chorlton-on-Medlock.—This church has been consecrated. A large proportion of the building fund, according to the *Guardian*, has been made up of small sums collected in the district. The church consists of nave and aisles (with clerestory), chancel, vestry, a porch on the south side, a porch and gallery staircase at the north-east corner, with a tower at the east end of the south aisle. The building is in the Gothic style of the Perpendicular period, faced with stone on all sides, and the tower will contain a bell and clock. The east window is filled with stained glass; and the compartments represent three scenes from the life of the Apostle Paul. The circular window in the east end gable is also of stained glass, and contains emblems of the four Evangelists. These windows were presented by Mr. John Robley. Upon the west end window (the gift of Mr. Edmondson) are half figures of the four greater prophets. Except in the pews, the floors are paved with Minton tiles. The gas-fittings were given by Mr. John Gray Bell. The font is of Bath stone. A portion of the chancel wall has been fitted with ornamental panelling, and the chancel contains seats for the choir on each side. Accommodation is provided for 615 persons on the floor, and 470 in the galleries. The building cost about 4,500*l.* A parsonage-house will be erected at the west end. The architects were Messrs. Clegg & Knowles, of Manchester, under whose superintendence the works have been carried out.

New Wesleyan Chapel at Cheetham.—The new Wesleyan chapel at Rydal Mount, Waterloo-road, Cheetham, has been opened for Divine service. The building is in the Early English style of architecture. The extreme height is 67 feet; the length 68½ feet; and the width 50 feet 6 inches. Two octagonal turrets, rising to a height of 30 feet above the roof, are placed on either side. The chapel is capable of accommodating about 600 persons. The interior is fitted up with open seats. The aisles are paved with encaustic tiles, but there is little other ornament. The whole cost of the construction has been 2,600*l.*

Proposed New Wesleyan Chapel in Rusholme. The foundation-stone of a new chapel in Rusholme, for the use of the Wesleyan Methodists, was laid on the 29th of March. The style of architecture will be Gothic, of the Geometric Decorative period. The facing of the external walls is to be of Pierrepoint stone, with dressings of Hollington stone. The roof will be open, and will have a span of 43 feet. The principal entrance will be from Dickenson-road, through moulded doorways. The bays are to be divided respectively by buttresses, and will contain side windows of two lights, with traceried heads. Over each of the two entrances is to be a gable, containing two other two-light windows, intended to afford light to a future gallery at the western end of the building. The front will consist of a gable, divided by buttresses into three compartments; the centre containing a triplet of two-light windows; and above these there is to be a five-light window, 12 feet wide by 21 feet high. The gable will be surmounted by a stone cross. The nave will be furnished with open seats, of plain design. At the east end will be the transept, measuring 69 feet by 25 feet: the gables here will project transversely from the nave, and will have a pair of couplet windows below a wheel window. This portion of the building will be supplied with vestries, and, for the present, will also be used as a school; but on some future occasion it will be converted into a north and south transept, to be respectively thrown open by cross arches into the nave. At the same time the nave will be extended eastward, and terminated by an octangular apsidal chancel, for which provision will be made by an eastern gable and moulded arch in the school wall. The chapel will contain 473 sittings; and, including the land, which has been purchased for 600*l.*, will cost about 4,000*l.*, of which 2,500*l.* have already been contributed. Messrs. Haley & Son, of Manchester, are the architects; and the contractor is Mr. Robinson, of Hyde.

CHURCH-BUILDING NEWS.

Reading.—The Greyfriars church is to be restored at last, notwithstanding all alleged difficulties. Messrs. Poulton & Woodman, of Reading, are the architects employed; and they have already advertised for tenders for the works to be done. We doubt not that the visit of the British Archæological Association has had something to do with this satisfactory announcement, as it also had with the restoration of the Abbey gateway.

Guildford. — The subscriptions for the nave restorations at St. Mary's church, estimated at 1,520*l.*, have now reached about 1,000*l.*; but it appears from a circular recently published by the committee that an additional outlay is desirable on the eastern portion of the church, to the extent of 1,000*l.* more.

Wickham (Hants).—The parish church of this village, which has long been in a state of decay and dilapidation, has just undergone extensive repairs and restorations, at a cost of nearly 1,500*l.* The works commenced in June last, and consisted

of the rebuilding of the north transept, which was in an insecure condition; the addition of a tower at the west end, with wooden belfry stage, and small broach spire, covered with shingles, in place of the unsightly modern belfry; the substitution of open timber, boarded roofs to nave and chancel, instead of the lath and plaster ceilings; the introduction of new stone windows in exact correspondence with the old; and new seating of uniform height and design, in lieu of the old irregular pewing which formerly existed. The utmost care has been taken to preserve intact every feature of interest, and in no way to seek to modernize the church wherever any original feature could be preserved. The walls throughout have been faced with hopped flints from the neighbourhood, set in lias cement, with Bath stone for the several windows, quoins, strings, &c. New Bath stone arches have been inserted at the transepts, in place of the semicircular plaster arches before existing; and a new chancel arch has also been added, with carved capitals to the shafts, representing the passion-flower, vine, and wheat. There is a new pulpit of Bath stone, with serpentine marble shafts, and glazed encaustic tiles let in. Seats for the choir, with open traceried fronts, occupy the space between the pulpit and desk, westward of chancel steps. The chancel has been fitted up with plain stalls, facing north and south; and the vestry, formerly a chapel, in which are two large monuments, has been separated from the chancel by an open parclose, or screen. The floor of chancel is paved with red and black tiles in pattern. The fine peal of bells, removed from the old belfry, has been rehung in the new tower. Several memorial windows, by Mr. A. Gibbs, of London, have been inserted in the church; and another is about to be placed in the east chancel window, to the memory of the Misses Garnier, sisters of the present dean of Winchester. It may not be out of place to mention that William of Wykeham, founder of Winchester College, and bishop of the see, was baptized in this church. The works have been carried out by Messrs. Chinnock, of Southampton, builders, under the superintendence of Messrs. Francis, of London, architects.

Bettiscombe (*Dorset*).—The foundation-stone of a new church has been laid here. Mr. Hicks, of Dorchester, is the architect. Three old perpendicular windows left in the walls of the old church, according to the *Dorset Chronicle*, will form the type of the old structure; and, instead of having an unsightly gallery, accommodation will be provided on the floor for about 160 persons in open seats. The edifice will consist of nave, north aisle, and chancel; with a battlemented tower, a vestry, and a porch on the south side.

Bath.—The Argyle Chapel is about to be altered and improved. The walls, roof, galleries, and pulpit will be retained; but an increased height will be given to the front elevation; and another series of columns will be introduced: an alteration of the ceiling will be effected, with fresh ornamentation; and an entire repewing of the building. To Messrs. Hickes & Isaac is intrusted the supervision of the work as architects; and the outlay contemplated is about 1,200*l*.

Woodchester (*Gloucestershire*).—A new church, from a design by Mr. Teulon, is to be erected here; and the foundation-stone has just been laid. The edifice will consist of a nave, with north aisle, chancel, south porch, and tower. The greater part of the funds required for the building has already been raised by subscription. Four or five hundred pounds are still required.

St. George's (*Shropshire*).—An appeal for donations and increased subscriptions has again been made by the committee of the memorial church of the late Duke of Sutherland, now in course of erection at St. George's. No contract has at present been entered into for a tower and spire, which are required to complete the design; since the whole sum needed is 5,400*l*., while the total amount of the contributions promised is only 3,500*l*.

PROVINCIAL NEWS.

Worthing (*Sussex*).—The pier here will be formally opened, it is said, on this Saturday, 12th April, on which occasion the two borough members and other leading persons will take part in the inaugural ceremony.

Brighton.—It is proposed to establish a fashionable place of resort by the erection of new rooms in the neighbourhood of Brunswick-square. The capital required for the building is 2,500*l*. The plans are being exhibited. There is to be a suite of three reading-rooms, from 30 to 40 feet each; a refreshment-room, &c.

Dudley.—The foundation-stone of the new dispensary, about to be erected in the Priory-road, has been laid. The building will be erected by Mr. Nelson, of this town, after a design in the Domestic Gothic style, by Mr. Thomas Smith, of Stourbridge. The plan includes all necessary offices and appointments, and a reserve of land to enlarge the building, when necessary. The building is estimated to cost between 1,500*l*. and 1,600*l*., including fittings and a residence for the medical officer.

Bristol.—The directors of the First Gloucestershire (Bristol) Volunteer Rifles Head-Quarters Company (Limited) are about to erect a shed for a drill ground for the Bristol Rifle Volunteers, to cover a space behind the Bishop's College, Park-street, Bristol, about 145 feet long by 94 feet wide, without centre pillars or supports. Plans are being advertised for.

Exeter.—It has been resolved to erect a new wing to the North Devon Infirmary, at Barnstaple, in honour of the late Earl Fortescue. The committee of the Fortescue Memorial Fund give 750*l*. towards the object. The cost, estimated by Mr. Gould, the architect, is 1,050*l*.

Devonport.—The Admiralty have taken possession of the extensive premises of Mr. W. C. Hare, at Stonehouse, for the purpose of enlarging the Royal Marine Barracks. There was a difference between the amount asked and the one offered, according to the local *Independent*; but, by arrangement, after inspection of the premises by the referee, Mr. Moss, of King William-street, London, 10,000*l*. was paid on account, and an agreement signed to pay such further sum of money as Mr. Moss might award.

Hereford.—The Corn Exchange of this city has just received the addition of a clock turret, fitted up with illuminated dials. The upper portion of the turret contains the bell, and is surmounted by a figure of "Ceres." The total cost of the works is about 250*l*. Messrs. Elmslie, Francy, & Haddon were the architects. The works were executed by Mr. William Benvan, builder; and the clock supplied by Mr. A. W. Bezant.

Nottingham.—The Odd Fellows of Nottingham have projected an "Imperial Hall," as it is to be called; to be built by a company, whose prospectus is about to be brought before the Nottingham public, together with the design and plan. Mr. Bakewell is the architect. The edifice will be in the Italian style. A portion of the exterior is intended to be faced with the best moulded bricks; but the Hollington stone from Staffordshire, which experience has proved to be adapted for resisting the deleterious atmosphere of our manufacturing towns, will be largely used as a facing for the ground story; for the windows of the upper story; and for the pilasters, columns, and cornices; together with the balustrading and finials. All the windows and doors of the exterior have circular heads, and the whole of the ground story will be executed in rusticated mason-work. The staircases will occupy the corners of the building, and are indicated in the drawing by slight projections. They are carried up a little higher than the main cornice; forming four pavilions or towers,—one at each corner; and the roofs are finished with an ornamental wrought-metal gilded cresting. Between the pavilions or towers the main cornice is crowned with a balustraded parapet, finished with a block and finials. The principal front on the ground-floor in Parliament-street will contain an arcaded corridor, from the right and left ends of which large stone staircases will lead to the hall above. The corners of the building in Parliament-street will be occupied by two large shops; and there will be eleven shops fronting Sheep-lane. The ground-plan includes a room capable of accommodating about 400 people. It will occupy the lower end of the building. The music-hall will occupy the whole of the upper story, with the exception of the space necessary for approaches, offices, and retiring-rooms. It will be about 140 feet long by 60 feet wide. It is calculated that in the body of the room and the galleries there will be accommodation to seat comfortably 2,500 people; and on extraordinary occasions as many as 3,000 will be enabled to find room.

Liverpool.—The new establishment of Messrs. Ingham & Morgan, of Scotland-road, covers an area of 368 square yards, having a frontage of 61 feet to Scotland-road. There are two principal entrances, and the whole extent of front is rendered attractive by plate-glass windows, mounted in mahogany panels. At the back part, and extending the full width of the shop, is a gallery; the access being had by a staircase. A row of iron columns support the gallery, the front of which is finished with an ornamental balustrade. The lower portion of the shop is appropriated for general drapery goods; the gallery being reserved for lighter articles, such as shawls, mantles, millinery, &c. The domestic departments are improved as well as the business portion of the establishment. The building was erected from designs by Mr. Culshaw, architect; the work being executed by Mr. Burroughs, builder, of this town, as the sole contractor.

THAMES EMBANKMENT BILL, NORTH SIDE.

The bill for embanking the north side of the Thames and forming a street from Blackfriars Bridge to Cannon-street and the Mansion House was read a second time in the Commons on Monday last; 116 voting for to 9 against. Mr. Cowper said that the estimated expenditure for carrying into effect the provisions of the bill was 1,500,000*l*. The amount was made up in the following manner:—500,000*l*. for the works, embankment, roadway, and new streets opening on to the embankment; 500,000*l*. for compensation to wharfingers, persons having frontage on the river, and others; and the remaining 500,000*l*. of the estimate was attributed to the total loss which was expected to arise in connexion with the new street to the Mansion House, the purchase of lands, &c. The length of the embankment would be 1 mile, 17 chains, and 90 links. The committee which sat in 1860 went very fully into the subject, but did not recommend any particular design. They received nine plans, and thought very highly of five of them, but they naturally felt they were not the body which could properly decide upon their relative merits.

Mr. Ayrton said Mr. Bunning, the City architect, placed the cost of the new street alone at 1,000,000*l*.

METROPOLITAN BOARD OF WORKS.

PROGRESS OF THE MAIN DRAINAGE WORKS.

At the usual meeting of the board, Mr. Bazalgette presented a report of the progress of the Main Drainage Works, of which we give an abstract.

The continued and heavy rains during the past month have been very unfavourable for the execution of the works. The progress made by Mr. Furness upon the northern outfall contract has, nevertheless, been considerable; about 22,000*l*. worth of work having been executed under this contract since my last monthly report. The cutting through the Eastern Counties Railway embankment progresses slowly but safely, and the two outside permanent brick piers are now carried up to the requisite height for the support of the rails, which now rest upon temporary timbers. The contractors' line by the side of the permanent works has been extended on from Plaistow to the Stratford-road; and the concrete embankment has been thereby pushed forward between these points. The brickwork in the intercepting sewers and the foundation piers and arches through the marshes and peat subsoil have made considerable progress, and the total value of the work now executed is about 232,000*l*. The general character and management of this work is very creditable. The northern high sewer, which has been some time finished and in operation, continues to perform its duty satisfactorily. Messrs. Brassey & Co. have now completed about 25,300 feet of the middle level sewer; varying in size from 4 feet by 6 feet to 12 feet by 9 feet in diameter. They have also completed about half the sewer under the Regent's Canal; and there is every reason to expect that they will complete this difficult portion of their work without any further accident. They have moreover made good progress with the tunnel under Oxford-street, and are now preparing to leave this thoroughfare free during summer. The total value of the work done by them is about 116,000*l*. The weirs, overflows, and connexions at the junction of the Ranelagh storm overflow with the middle level sewer in the Uxbridge-road, progress slowly; but the works are of a very substantial character and amount to about 28,300*l*. in value. All obstructions have been removed from Hyde Park and Kensington Gardens, and the ground has been levelled and grass sown. On the southern high-level sewer Messrs. Lee & Bowles have constructed about 8¼ miles of sewer, at an estimated cost of 154,000*l*. On the southern high-level sewer extension Mr. Pearson has constructed 1,035 feet of sewer, at an estimated cost of 1,536*l*. Mr. Webster will shortly complete the southern outfall sewer. It has been executed in a manner that has given general satisfaction in

the localities through which it passes. The total value of the work executed is about 284,000*l.* Messrs. Aird & Son have made fair progress with the Deptford pumping-station, together with the river-wall, coal-sheds, and other works in connexion therewith. This section amounts to 68,500*l.* in value. The progress of the Southwark new street is now more satisfactory.

INSTITUTION OF CIVIL ENGINEERS.

ON March the 18th and 25th, Mr. Hawkshaw, president, in the chair, the paper read was "A Description of Works at the Ports of Swansea, Silloth, and Blyth," by Mr. James Abernethy.

The author gave an account of the past and present history of these ports, so far as they possessed engineering interest, and described the works connected with them.

The most important work connected with the port of Swansea was the range of floating-dock accommodation called the South Dock, which was formed on the foreshore of the sea beyond high-water mark. An Act was obtained, in 1847, for the construction of this dock, according to a design furnished by Mr. T. Page, M.I.C.E. In 1850, the author was requested to make the necessary plans for a trumpet-mouthed entrance basin, having an area of three acres; for a half-tide, or outer dock entrance, 70 feet in width, with a single pair of gates, and having a depth of water over the cill of 24 feet; for a half-tide basin, or outer dock, containing an area of four acres, with a depth over the cill of 25 feet 6 inches; for an entrance lock, 300 feet long and 60 feet wide, divided by intermediate gates so as to form a greater or a smaller lock, with an average depth over the inner cill of 22 feet 6 inches; and for a dock having an area of thirteen acres, with a depth of 24 feet. Considerable progress had been made with these works when they were suspended, in 1855, for want of funds. They were resumed in 1857, and were completed in 1859, at a total cost of 169,073*l.* One of the first operations was the formation of an embankment to exclude the sea. Careful observations showed that the main action of the sea and the set of the tides were to the eastward, towards the Mumbles headland. It was, therefore decided to construct a series of timber groynes, at intervals of 1,500 feet, extending from the shore to the line of the proposed embankment. Rough boulder gravel, found immediately under the sand and the made ground, was tipped between the seaward-ends of the groynes, until a shingle beach, of great depth, was gradually formed, which served as a face to the embankment, and proved an effective barrier to the encroachments of the sea. The centre of the embankment was composed of the clay and peat found in the excavations; so that something like a puddle dyke was formed; and very ordinary means were sufficient to keep down the accumulation of water within the works. When the sea embankment had advanced some distance, the masonry of the dock walls was proceeded with. These walls consisted of rubble, with coursed rubble facework to a height of 2 feet below the general level of the surface of the water in the dock. They were faced in the upper part with ashlar, projecting 3 inches beyond the rubble facework. They were backed with the lightest and driest material that could be procured, in layers forming an angle from the wall; and rubble drains, with pipes for carrying off any spring or upland waters were placed at intervals in the walls. In no instance had any failure taken place, although the walls were subjected to a severe test; inasmuch as they were nearly completed when the works were suspended; and on their resumption the dock and outer basin were found to have become filled with water.

GYE'S GASOMETER'S AND TANKS.

MR. FREDERICK GYE, of the Royal Italian Opera, Covent Garden, has invented certain improvements in constructing gasometers and gasometer tanks. He constructs a gasometer tank in such a manner as to render available much of the central space of land now covered or occupied by the tank of a gasometer. The tank is made double at the outer circumference to receive the water or fluid employed, the interior space being left free for use when roofed or closed in air and gas tight. Instead of placing a gasholder tank on the surface or below the surface of the ground, Mr. Gye erects a circular wall of brickwork or a circular framework of iron or other suitable material. This circular erection may be perforated with arched or other openings of a height convenient to admit men or materials being carried through them. The breadth of this wall or erection is to be sufficient to admit of a double or ring gasholder tank being placed on its upper surface; the tank being of sufficient width to admit of the working therein of a single or double, that is, a telescope gasholder. The space extending from one side of the interior tank to the other is to be roofed over. There is then a covered circular apartment approached by the openings through the circular wall or structure below. The roof of this apartment may, if necessary, be conveniently supported by a central column with radiating struts (umbrella-like) or by a series of columns or otherwise. This invention is also applicable when constructing gasometers the tanks of which are built below the level of the surrounding ground, and for which an excavation has been made; only, in that case, it would be necessary to descend by an inclined plane, or other means, in order to enter the inclosed covered space under the gasometers. As the action of the wind might be found inconvenient, the outer ring of the tank may be made of a height equal, or nearly so, to the greatest height to which the outer gasholder will rise when completely filled with gas; and on the inside surface of this outer ring are placed either the wheels or the guide-rods necessary to the steady working of the holder.

CHIMNEYS AND CHIMNEY SWEEPING.

I AM neither builder nor architect, but a friend to both; having laid out some thousands in building; and consequently become a sadder and a wiser man than I was when I began. I am, however, a householder; and agree with many of your correspondents in complaining of the misery of chimney-sweeping. The chimneys of the house I live in were built before machine-cleaning was imperative; and the flues go off at a considerable angle just above the fireplace; so that a machine won't do the work properly. So I sometimes have the machine, and sometimes a boy is smuggled in; not without some dread of the mayor hearing of it, and sometimes my double-barrel gun is fired up, to the great consternation of my womankind and the sparrows and starlings who frequent the housetops. But none of these means are effective: the machine drags, the boy is careless, and the gun does not remove the cake of soot.

Now, sir, being, as I said before, neither builder nor architect, I have often thought that these gentlemen must be in a conspiracy with those very unpleasant customers the chimney-sweepers, and do all they can to prevent housekeepers sweeping their own chimneys by the obvious means of a brush, put in at the top and worked up and down by Jeames (not in red plush) at the top, and Mollyduster, in double crinoline (one over her head), at the bottom. As to the soot, it would be Mollyduster's perquisite by way of *solatium*, or go to the dusthole; but in the country it is too valuable to be lost to the paddock or garden; and most of mine goes to the roots of the gooseberry and currant-trees; being almost a specific against the saw fly caterpillar.

But how is Jeames to get at the top of the chimneys? I am now looking at mine in dismay. They are of freestone, and thirty years' standing; consequently decayed; and I see no way of repair but by a scaffold.

They say there is no fool like an old fool; and I am actually talking sometimes of building another house for myself; and what I want to submit to your professional correspondents is this question: "*Why are chimneys so constructed as to be for all common purposes inaccessible from the outside, and dangerous to get at?*" And the same observation applies to the sloped roof, with a sheer descent, of common dwelling-houses.

Now what I propose to myself is a flat roof, with a parapet, catching all the rain-water, which would be led to the house-tanks and drains. Snow would not want moving; for I should put a row of horseshoe tiles, or some other similar contrivance, in the angle of the parapet, and so prevent the capillary attraction which brings snow-water through the slates of a house.

The flat roof will enable Jeames to reach the top of the chimneys. I propose also to have a small room, in the middle of the roof, which will be suitable for a view over the hills,—an observatory, or for smoking; and I am contemplating a contrivance by which the flues can be swept from the inside of this room.

Possibly this may elicit some observation from your numerous correspondents;—perhaps Mr. Jennings, as he is sanguine that a flue of the diameter of $3 \times 3 = 9$ will answer, because he has found one of $7 \times 7 = 49$ succeed. Allow me to submit to his consideration that a small flue is not essential to a sharp draught; and that, after all which has been written on the subject, no theory has ever beaten that of our Great Grandfather Telford; viz., a slow draught at bottom;—no contraction there; but the *inside* of the flue contracted at the top, in proportion to the size of the room below, and according to a scale he lays down.

If the roofs of barracks were flat, the soldiers could sweep the chimneys, and the item of 5,891*l.* for chimney sweeping be saved. H.

LOCAL SURVEYORS AND THEIR REWARDS.

I AM obliged to the notice in the *Builder* of last week for the suggestion as to memorializing the Home Secretary on the subject of the Second Local Government Amendment Act now before Parliament; for I must confess I was not aware of a Second Amendment Act being before the House. I thought we had had enough of them; but am persuaded all local surveyors will heartily cooperate in any endeavour to have such clauses inserted in the present Bill as will not only rectify past omissions, but provide for future additional duties; and I think they must all be ready to testify to the extra duties imposed upon them by the Act of 1858 and Amendment Act of 1861, for which no remuneration has been provided.

Where the surveyors are not allowed private practice, a scale of fees, as in the metropolis, seems desirable.

Some immediate action should be taken; and I hope this may elicit the suggestions of other local surveyors as to the best mode of organizing a united action.

A LOCAL SURVEYOR.

PAYING OUT THE ATLANTIC CABLE.

SINCE the Atlantic Telegraph enterprise is again revived, and will, in all probability, be once more attempted, I beg leave to draw attention to a circumstance connected with the laying of the first Atlantic Cable; which course, it is to be hoped, will not be repeated in the next. The point I particularly allude to is the lapping of the cable around drums, for the purpose of controlling its exit from the ship. The injurious consequences of such practice will be seen, when it is calculated how much the cable must stretch at one of its sides, in bending round a circular body; and, when thus made to undergo a succession of bends and stretches, may fairly be said to be "broken on the wheel." In this case, two drums (for want of more efficient means) were employed on board each vessel, and the cable put four times round them; the immediate effect of which was bending the cable *sixteen times* throughout every inch of its length, and compelling it to stretch no less than 12·3040 inches in every 75·3984 feet.

It should be borne in mind, that an insulated cable, made straight, cannot be subjected to inflections without changing the disposition of its particles; and allowing such change to take place is calculated to open pores therein, and forcibly destroy that perfect cohesion which it is so essentially necessary to preserve. Hence it follows, that an insulated cable ought not to be manipulated nor bent, but in the least possible degree.

If those gentlemen and engineers who are interested in the extension of electric telegraphy should be of this opinion, and require one, a *single sheave* shall be placed at their disposal, that with half a turn round it will give the requisite control; at once supply both the break and dynamometer; and pay out, *without stretching* (by machinery) the Atlantic Cable. GEO. JOHNSON.

DECISIONS UNDER METROPOLITAN BUILDING ACT.

WOODEN BUILDINGS.

ON Saturday, Messrs. Lee & Bowles, contractors for the Southern High-level Sewer, were summoned before Mr. Traill, at the Greenwich Police Court, by Mr. Whichcord, district surveyor of Deptford, for erecting a wooden building in the Broadway, and also another building in Church-street, both being constructed contrary to the requirements of the Metropolitan Building Act.

Mr. Whichcord, the district surveyor, stated that late on Friday evening he had received a communication from the Metropolitan Board of Works, stating that the Board had sanctioned the continuance of these irregular buildings for three months.

Summons adjourned for three months, and Messrs. Lee & Bowles to pay district surveyor's costs.

A number of persons were summoned for having erected wooden buildings, all being constructed contrary to the rules of the Metropolitan Building Act; and orders to amend or demolish were made in every case, except one, where the summons was adjourned for one month, pending the result of an application to the Metropolitan Board of Works for permission to retain the building. Costs in every case ordered to be paid by the party summoned.

Books Received.

An Account, with Illustrative Sketches, of Cranston's Patented Buildings, applied to Horticulture. Birmingham.

THE main element in Mr. Cranston's system, set forth in this pamphlet, is a "light," with a perforated rail under one side of it, which he calls a radial rib; and a triangular or spandril piece under each end, running from the width of the rail to a point. With these each compartment is fixed at a different angle; so that curvilinear roofs of any contour are produced; and this with the use of straight instead of bent glass.

One of the simplest of these houses—a lean-to of the width of 7 feet, and formed with a short side to its roof, hanging over the top of a 6-feet wall—is thus described:—

"There are four compartments of rafters filled with glass, each 3½ feet long; three compartments towards the

front; and one facing over the wall the contrary way; and these divisions are separated by what has been called, to distinguish them clearly, 'radial ribs,' fixed edgeways, and running lengthways of the building under the lower ends of the bottom rafters, and between the top and bottom ends of all the others; each radial rib, in all cases, irrespective of the shape or size of the building in which it is, or any other consideration whatever, being perforated for ventilation, by small openings close to each other, from end to end; and having a valvular apparatus on the inside of it, for properly regulating the ingress and egress of air. To the bottom edge of each radial rib the upper ends of the rafters are secured; and upon the top side of it the feet of the rafters rest. The external aspect of a roof so framed presents to the eye a series of planes fitted with glass, divided vertically by small wood rafters, and horizontally by the radial ribs, also of wood, so fixed to make the top of one plane recede a few inches, that the lower end of the plane immediately above it might project and overhang. The radial ribs are themselves fixed to other timbers, put together in the shapes necessary to receive them; and which act as 'principals,' spanning the house internally at intervals of about 8 feet"

Mr. Cranston dwells on the importance of thorough ventilation; and this he gets by means of the perforations in the radial ribs; so that the more rafters and glass the more ventilation. Small flaps open and close these perforations.

The illustrations show that very tasteful designs can be carried out, under the system of which we have endeavoured to give a notion.

VARIORUM.

"A Letter to the Right Hon. the Earl of Derby on the proposed Memorial to the Prince Consort" (Darton & Hodge, Holborn-hill, for the author) urges the association of sculptures with the (once) intended obelisk,—such sculptures, he remarks, as will simply and truthfully represent the man whose memory we desire to honour. The author suggests that the monolith "should be a majestic pile, rising from a basis formed with three gradients, thus affording twelve panels or surfaces for sculptures and inscriptions;" and on the lowest and largest he proposes a family sculpture of exact life-size, with portraits of the Prince, the Queen, and the royal family. In others he suggests the opening of the 1851 Exhibition, and a House of Lords scene; but he omits two or three which would be certainly no less characteristic of the Prince as a lover of art, science, and literature; and which might readily be indicated, respectively, and with significant adjuncts, in sculptures representing the Prince as President of the Society of Arts, President of the British Association, and Chancellor of the University of Cambridge. Inscriptions in many languages are also suggested by the author of the "Letter" under notice.——"Patent Rights; an Inquiry into their nature. By A. Percy Sinnett." (Ridgway, Piccadilly.) Mr. Sinnett proposes the substitution of a real for a nominal patent commission, and the occasional grant of patents free of cost to the inventor. By a real commission he means one made up of gentlemen well acquainted each with some great branch of science or invention, and able to distinguish good or promising inventions from useless or worse than useless ones, such as offer annoying hindrances and obstacles to really useful inventions; and that this commission should examine all applications for patents, and exercise something like discrimination in the grants of patents; but especially for behoof of poor inventors, so that these might be granted patents free of all cost; thus liberating many inventive geniuses from bondage to capitalists, and enabling them to reap the fruits themselves of their own ingenuity. The unappropriated surplus and profits of the Patent Office Mr. Sinnett would devote to the appointment and continuance of the new commission.

Miscellanea.

The George Stephenson Monument. — We understand that the erection of the pedestal for the Stephenson Monument has been intrusted to Mr. Donkin, builder, Ponteland, and will be proceeded with immediately. The statues are now all cast, and will be completed in a short time. We are sorry to hear that the work will not form part of the forthcoming International Exhibition. Surely it would have been an interesting feature. It was offered as a whole.

Stratford and West Ham.—The tender of Mr. Perry, of this place, builder, has been accepted for altering premises in Stratford Broadway for a branch bank for the London and County Banking Company. Mr. Dean is the architect. The front will be of white Suffolk malms, with Portland stone dressings.——The proposed new road from the Blue Boar-court, Stratford, to Canning Town, according to the *Chelmsford Chronicle*, has already enhanced the value of land contiguous, for building sites, in the vicinity of the former place.

British Museum.—The Museum will be closed on Monday, the 28th of April, and re-opened on the following Monday, the 5th of May. From that time to the 30th of August inclusive, the Readingroom will be kept open for readers, not later than five o'clock. The Museum collections will be kept open daily, Thursdays and Sundays excepted, from ten o'clock in the morning till eight in the evening, during the months of May, June, July, and to the 16th of August, inclusive; but till half-past seven only for the remainder of that month. During the same months and days the Reading-room, and a portion of the libraries will be open to the public from five to eight, or half-past seven, as before mentioned.

Numerous Strikes.—At the present time there are strikes going on in different parts of the country. The painters of Brighton have now been on strike for some days against the hour system, claiming 4s. 6d. per day of ten hours. About one-half of the employers in the town have conceded the terms; the others still refusing. About 100 men are on strike; receiving 12s. each per week. The South Yorkshire colliers in the Gildersome district, to the number of 700, have been on strike for the last month against a reduction of 10 per cent. on their wages. The bakers of Edinburgh are on strike for the abolition of night and Sunday work, and the reduction of the day's work from twelve to ten hours. More than one-half of the masters have conceded the terms. The masons of Dundee have been on strike for the last few weeks for a nine hours' day and nine hours' wages. A majority of the employers refuse the terms. There are 140 on strike; about fifty working for the employers who have given the nine hours; and about twenty work on the old terms.

The Nelson Monument, Trafalgar-square. On the motion for going into committee of supply, Admiral Walcott drew attention to the incomplete state in which the base of the Nelson monument is still suffered to remain. It was most discreditable, he remarked, to see, in the grand square of the capital, in the great thoroughfare leading to the wealth of the metropolis and the chambers of the Legislature, an incomplete memorial of one of our greatest naval heroes and admirals. He hoped the House would join him in calling on the Government no longer to permit delay to exist in the matter, but at once to insist on the monument being completed. Mr. Cowper, in reply, said he greatly deplored that the monument had not been long ago completed. In 1858 Sir Edwin Landseer had been intrusted with it. But genius was not always to be commanded; and he had not been able to satisfy himself as to the works of art suitable for this monument, nor to name a time when these lions would be completed. All that he (Mr. Cowper) knew was, that Sir Edwin Landseer had been constantly studying the habits of lions, and regularly visiting the Zoological Gardens for that purpose. Surely it is quite time that Sir Edwin should be called on to complete what he has undertaken.

Captain Cowper Coles's Cupola Ships and Ericsson's "Monitor."—In a long letter to the *Times*, Captain Cowper P. Coles, of the Royal Navy, shows his claim to be regarded as the true inventor of the form of iron ship which is exciting so much attention, both in America and in this country. Captain Coles sends to the *Times* drawings of the *Monitor*, and of a vessel proposed by him, to the Admiralty, in 1855; and says:—"It will be seen that my first vessel, proposed as above stated in 1855, was on the same principle as the *Monitor*; having a double bottom; light draught of water, with a power of giving an increased immersion when under fire; sharp at both ends; a formidable prow; her *rudder* and screw protected (a most important point) by a projection of iron; the only difference being that the tower is hemispherical instead of cylindrical, and was not on a turntable; she being designed for the purpose of attacking stationary forts in the Baltic and Black Sea; when a part would have admitted of sufficient training from the vessel itself turning with great rapidity, and so that the expense and complication of the turn-table became unnecessary. (See report sent from Black Sea, 1855, and the *Times*, November 20, 1855.) A rough model, made by the carpenter of the *Stromboli*, is to be seen in the United Service Institution." It would, therefore, appear that Captain Ericsson, having been so unsuccessful with all his own peculiar inventions as he has been, now seeks celebrity by appropriating the inventions of others. Whether, as he boasts, this new invention of *his* be about to put an end to England's empire on the ocean remains to be seen. Several vessels on Captain Coles's principle are now about to be prepared for our own navy.

Majolica Chimney-piece.—We are asked to say that the stonework of Messrs. Maw's chimney-piece, engraved in the *Builder* of the 29th ult., was executed by Mr. R. Yates, of Shiffnal.

Prizes to Working Men. — Mr. George Robert Stephenson, the present head of the engineering establishment at Newcastle, has just inaugurated a new feature in the educational movement. Being the owner of a marine residence at Cowes, Isle of Wight, Mr. Stephenson some time ago offered a number of prizes, amounting altogether to 100*l.*, to the working men of that neighbourhood most proficient in reading, writing, and arithmetic. A large number of candidates entered the list; and, due examination having been made, the prizes were recently distributed before a crowded public meeting, at the Sailors' and Working Men's Reading-room, Cowes.

Public Buildings.—Mr. B. Cochrane has given notice that he will on April 29th move for a Royal Commission to inquire into the state of public buildings erected by Parliamentary grant during the last twenty years; as well as of houses rented for the public service; and to ascertain whether, if a more comprehensive plan of building were adopted, greater public convenience, economy, and unity of design might be attained.——Mr. Dillwyn has also given notice that he will, on the same day, move a resolution to the effect that, in the opinion of the House, it is desirable that in all cases of the erection of works, fortifications, and public buildings, distinct from those already existing or sanctioned by Parliament, the estimate of such new works should be submitted to the House in a separate form from the annual estimates for current expenditure.

Stone-cutting by Machinery.—Mr. Hunter, of Dean Forest, has invented a machine for cutting stones. The *Arbroath Guide*, in speaking of this machine, which is now in process of completion by Messrs. Munro, of Arbroath, founders and engineers, says;—"Mr. Hunter, formerly of Leys-mill, and now of Dean Forest, in Wales; the inventor of the stone-planing and patent ridge-dressing machines; has invented another, so elaborate in its motions that it will perform with speed, accuracy, and regularity of finish, nearly the whole of the masonwork, hewing, dressing, &c., now executed by hand previous to the operation of building. It will plane, dress, and polish stones; work out checked rabbets and window-sills; and do almost everything appertaining to plain masonry; giving to ashlar work an ornamentation quite unique. This machine is an amplification and completion of the inventor's idea that seven years ago found expression in the ridge-dressing machine which was then patented. From the appearance of the machine, and the thorough success of the ridge-dresser, there is no reason to doubt that an equal success will attend this new invention. We understand that at a meeting of the master builders, held yesterday, in Dundee, where a masons' strike exists, it was resolved that they should visit and inspect the machine (which is now patented), with the view of considering the propriety of purchasing one for their joint use."

Newcastle School of Art.—The annual meeting of this school has just been held, under the presidency of Viscount Ingestre, M.P. The school has been successfully conducted during the past year; the efficiency of the master (Mr. Bacon) and the perseverance of the students being manifested by the drawings executed within that period; and which formed an attractive feature in the proceedings of the evening. There was a numerous attendance at the anniversary; including many influential residents of the town and neighbourhood; and the proceedings were of an animated character. The report of the committee stated that the number of persons who, during the past year, had been taught drawing through the instrumentality of the school, had been 439; being an increase of nine on the previous year. The inspector, Mr. Eyre Crowe, has visited the school during the last month, and awarded seven medals and one honourable mention: only seventeen works were in competition. Fewer works were in competition, but the paucity of the medals is attributed to the fact that some of the advanced students have left the town. The committee regretted that the ceiling and roof of the rooms used by the schools were in such a bad state of repair as to interfere considerably with the efficiency thereof. It was much to be wished that some united effort could be made for the purpose of raising funds to put a new roof on the entire building; or, in conjunction with the Literary and Scientific Institution, to make the building, and the purposes to which the same is devoted, more useful or more socially suitable to the advanced spirit of the times.

HOLLOW WALLS.—A correspondent, H. McC. writes:—"I have seen in the country cottages with hollow walls, nine inches thick, built with common bricks *on edge*, Flemish Bond; thus leaving a space three inches wide, which I think superior to the 10-inch wall with 1-inch tile closers, mentioned by your correspondent, W. B." Walls so formed are not uncommon; but have a very ugly aspect.

COPING.—Sir: Will some of your learned readers assist me in regard to coping for rubble stone walls. I live in a district where stone is plentiful; yet, with stone given gratis, I am charged 2s. a yard for coping 16 inches wide Our other charges are for rubble walling, per rood, quarrying, 5s.; walling, 5s. 6d. (sand, leading, and time found by proprietor). I may add, also, scaffolding with close joints are 5s. per rood extra. For a park wall, for instance, 2s. a yard for coping (say 5,000 yards) becomes a heavy sum. X. Y.

CONSECRATION OF A NEW CHURCH AT ST. HELENA.—Overhanging the valley in which Napoleon vegetated for nearly twenty years; on a hilly plot of ground; a ceremony of more than ordinary interest to the inhabitants of St. Helena took place on the 24th of February; viz., the consecration of St. Matthew's Church, Longwood, St. Helena. At the suggestion of Bishop Claughton, according to the *Northampton Herald*, it was determined, a church being much required, to send to England for an iron building; and within ten months from the order being given the church was open for divine service.

MR. PEABODY'S BENEFACTION.—In the Court of Common Council, Mr. Charles Reed has given notice of motion,—"That the honorary freedom of this city, in a gold box of the value of 100 guineas, be presented to George Peabody, esq., an American citizen, in grateful recognition of the princely munificence displayed by him in devoting the sum of 150,000*l.* towards the relief of the needy and deserving poor of this metropolis, and of the Christian liberality of sentiment which dictated that the funds thus created should be administered irrespective of the distinctions of nationality, party, or religious belief." It is to be hoped the terms of the trust have been altered.

SANITARY CONDITION OF LIVERPOOL.—The annual report of the medical officers of the borough has been made to the local Health Committee of the corporation. From this report it appears that the deaths in the parish for the past year were 8,680, and in the out townships 4,253; giving for the former the very heavy death-rate of 31·9; for the latter, 24·2; and for the borough, 28·8 per 100. This is still a sad contrast to the 16 or 17 per 100 of our healthiest localities; and even to the metropolitan average. The deaths registered in Liverpool during the fifty-two weeks ending the 28th December, were 12,933, being 1,697 more than in the previous year, and about 600 less than the average of the preceding ten years, corrected for increase of population. "The mortality was about equal to the average of the five preceding years; but, as compared with the mean of the ten years 1851-60, there was a saving of about 600 lives; and, as compared with that of the ten years preceding the Sanitary Act, the returns show that not less than 1,650 lives were saved last year in Liverpool." And yet, what a multitude of additional lives could be saved were Liverpool even only as comparatively healthy as London. "The excess of 1,697 deaths over those of the previous year is furnished almost exclusively by three classes of diseases; viz., zymotics, showing an excess of 1,017, inflammatory affections of the lungs, 350, and diseases of the nervous system (chiefly infantile convulsions), 231. The remaining diseases, with one or two exceptions, showed little variation in the two years." Intemperance was assigned as the direct cause of death in 57 cases, including 20 of delirium tremens. This shows a ratio to population more than double that of London, and 73 per cent. more than that of even the eight principal towns of Scotland,—Glasgow, Edinburgh, Dundee, Aberdeen, Paisley, Greenock, Leith, and Perth, some of which have been so notorious for drunkenness. "The death-rates (per 10,000) were as under, viz.:—Vauxhall Ward, 351; Exchange Ward, 316; Scotland Ward, 308; St. Paul's Ward, 303; St. Anne's Ward, 301; South Toxteth Ward, 296; Pitt-street Ward, 270; Great George Ward, 264; North Toxteth Ward, 236; Castle-street Ward, 233; Everton and Kirkdale, 221 (Everton, 228, Kirkdale, 200); Lime-street Ward, 217; Abercromby Ward, 216; West Derby Ward, 201; Rodney-street Ward, 197; St. Peter's Ward, 188.

PONDS.—Sir: Can your readers kindly put me up to a "wrinkle" or two in regard to the making of ponds.—A REGULAR SUBSCRIBER.

DISCOVERY OF ANCIENT CITY IN CENTRAL AMERICA.—It is reported from Guatemala that the ruins of an immense city have just been discovered there, containing a very large number of fine specimens of sculpture.

BATH SURVEYOR OF WORKS.—At a meeting of the corporation of Bath, held April 8th, to elect a surveyor of works (architect) in the room of Mr. Manners, resigned; Mr. Charles E. Davis was elected by a majority of two votes over the other candidates. The applicants were Mr. Gill, late partner to Mr. Manners, Mr. C. J. Phipps, and Mr. Hicks.

NO "WAITING FOR THE WAGGON."—A first-class covered goods waggon has been made at the works of Mr. Ashbury, at Openshaw, near Manchester, in 11 hours and 20 minutes; not simply put together, but wrought out of the raw materials of timber and pig-iron. The next day it was in its place in the International Exhibition. For this remarkable piece of waggon rearing, its builders must take their place in the van.

PATENT "OZONE LIGHT."—This latest improvement in the combustion of air for illuminating purposes, says the *Manchester Courier*, has just been tried at the Victoria Station. The invention is patented by Messrs. Trachsel & Clayton, engineers, Ardwick. A first-class carriage was darkened and then lighted with the brilliancy of gas by the new flame, which burned in the usual lamp. Its advantages are that it cannot explode and shows colours as in daylight. The light is very mild and steady even when the carriage is in motion. The light is evolved from air passing through certain chemicals. It is not dearer than gas, and is much more portable.

LIVERPOOL ARCHITECTURAL SOCIETY.—The thirteenth meeting of the present session of this society was held last week; Mr. J. M. Hay in the chair. The secretary, Mr. W. H. Picton, announced the receipt of several donations. The paper for the evening was by Mr. Frank Howard, "On Decoration in Architecture;" in which he insisted upon perfect flatness in architectural decoration, and that all the figures should be upon one plane. He called upon architects to insist upon their own boundaries, and leave the decorators to do their parts. In the course of the discussion which followed the reading of the paper, the chairman observed that the boundaries left by the architect in his work should be always respected by the artist, whether decorator or sculptor. A discussion ensued, and thanks were awarded to Mr. Howard.

TELEGRAPHIC PROGRESS.—The Electric and International Telegraph Company's new submarine cable, for connecting England with the south of Ireland, has, it is reported, been successfully laid between the coasts of Pembroke and Wexford. The cable, manufactured by Glass, Elliott, & Co., is sixty-three miles in length; contains four conducting wires, insulated with gutta-percha and other materials on the latest methods; and is protected by twelve heavy iron strands; the total weight being 6½ tons per mile. The novelty introduced in the manufacture has been the coating of the entire cable with a composition (Bright and Clark's patent) for the purpose of protecting the iron from corrosion and decay. The Electric Telegraph Company purpose using the same composition in the cable to be shortly laid between England and Holland.——A late Boston (U.S.) paper says an appropriation of 100,000 dollars and two small vessels will be asked for in Congress for the purpose of instituting a survey, in conjunction with other nations, of a telegraph line from San Francisco to the north-west coast, overland; *vid* Behring's Straits and Asiatic Russia; to the mouth of the Amoor river, as proposed by McDonald Collins. The scheme is to connect the American system of telegraphs, from a point in Missouri, with the line now being constructed from Kenzan to the Amoor. When finished, the line will bring into telegraphic union the whole European and American systems, and belt the world.

TENDERS.

For additional show-rooms, workshops, and alteration of premises, in Bedford and East Streets, Plymouth, for Messrs. Plimsaul, Brothers, ironmongers, &c. Mr. Wm. Henry Reid, architect:—

Lethbridge	£3,087	0	0
Finch	2,812	0	0
Matcham (accepted)	2,784	0	0

For a house, at Barnet. Mr. George Truefitt, architect. Quantities supplied —

Hill, Keddel, & Robinson	£4,987	0	0
Browne & Robinson	4,694	0	0
Longmire & Burge	4,589	0	0
Patrick (accepted)	4,479	0	0

For the erection of four shops and houses, at Wimbledon, for Mr. J. R. Andrews. Mr. Charles R. Gribble, architect:—

Patman	£2,783	0	0
Crouch	2,765	0	0
Myers	2,746	0	0
Downs	2,644	0	0
Nicholson	2,590	0	0
Aviss	2,365	0	0
Adamson (accepted)	2,299	0	0

For stabling, greenhouse, and other works, at Southfields, Wandsworth, for Mr. G. Russell. Mr. Charles R. Gribble, architect:—

Aviss & Sons	513	0	0
Adamson	490	0	0
Aviss	467	0	0
Strong (accepted)	463	0	0

For sundry alterations and repairs at 316, Regent-street, for the British Nation Assurance Company. Mr. H. E. Coe, architect:—

Bracher & Son	£995	0	0
Keys & Head	978	0	0
Hill & Co.	941	0	0
Jackson & Shaw (accepted)	850	0	0

For four dwelling-houses, in Virginia-road, Leeds, for Mr. Nussey. Mr. Corson, architect. Accepted tenders:—

Digger, Bricklayer, and Mason.

Whiteley	£1,235	0	0

Carpenter and Joiner.

Nicholson & Son	720	0	0

Slater.

Ellis	97	0	0

Plumber and Glazier.

Bedford	155	0	0

Plasterer.

Branton	155	10	0

Smith and Bell-hanger.

Singleton & Tennant	70	8	6

Painter.

Wood & Son	45	0	0

For dwelling house, in Clarendon-road, Leeds, for the Rev. T. Hincks. Mr. Corson, architect:—

For Digger, Bricklayer, Mason, Slater, and Plasterer's Work.

Woolley & Son (accepted)	£465	0	0

For Carpenter and Joiner, Plumber and Glazier, and Painter.

Britton	367	1	0

For building Park Church, Highbury, for the Rev. J. Edmond, D.D. Mr. Edward Habershon, architect. Quantities furnished.—

Higgs	£7,936	0	0
Mansfield & Son	7,725	0	0
Pritchard & Son	7,720	0	0
Patman & Fotheringham	7,650	0	0
Rowe	6,964	0	0
Brass	6,853	0	0
Piper & Wheeler	6,795	0	0
Matthews	6,780	0	0
Downs	6,730	0	0
Sawyer	6,386	0	0

For Houses in Margaret-street, Oxford-street. Messrs. Poland & Dobson, architects:—

Hill & Co.	£2,397	0	0
Myers & Sons	2,220	0	0
Keys & Head	2,188	0	0
Longmire & Burge	2,095	0	0
Patman & Fotheringham	2,016	0	0
Macey	1,927	0	0

For additions and alterations to Ilford Hall, Essex. Mr. Bartlett, architect:—

General Work.

Condor	£1,570	0	0
Browne & Robinson	1,550	0	0

Painter's Work.

Horne	485	0	0
Pickering & Son	467	0	0

For erecting and completely finishing four houses, at Eglinton-road, Plumstead, Kent, for Mr. John Trodd. Mr. William Gosling, architect:—

Richards	£1,849	0	0
Sutton	1,780	0	0
Bemister	1,575	0	0
Ledbetter	1,475	0	0
Lonergan	1,380	0	0
Smith	1,263	0	0
Bailey	1,220	0	0

For additions and alterations to the Ordnance Arms, Enfield Lock, Middlesex, for Mr. W. M. Creed. Mr. William Gosling, architect:—

Cook	£337	0	0
Bentley	315	0	0
Goffe	309	0	0

For erecting new congregational chapel, Baxter-road, Islington. Mr. William Smith, architect:—

Dove, Brothers (accepted)	£3,550	0	0

For the erection of a furnace, shaft, and forming flue &c., to boilers, at the workhouse, in Charles-street, Mile-end New Town, Whitechapel Union. Mr. G. H. Simmonds, architect:—

Mundy	£310	0	0
Pritchard & Son	286	0	0
Messrs. Jacobs	278	0	0

For a semi-detached house, at Bow. Mr. R. W. Gibletts, architect:—

Greenwood	£250	0	0
Ashton	247	0	0
Bamster	246	0	0
Marshall	234	0	0
Messrs. Bond	214	11	0
Hearle	195	0	0
Ewett (accepted)	185	0	0
Welch	155	10	0
Hope	148	15	0

For new congregational chapel, Lytham, Lancashire. Messrs. Poulton & Woodman, architects:—

	Chapel.			School.		
Todd	£2,834	0	0	£521	0	0
Bamber	2,800	0	0	457	0	0
Clark & Jones	2,670	0	0	497	0	0
Tomlison	2,525	0	0	492	0	0
Catterall	2,268	10	0	381	0	0
Cooper & Tullis (accd.)	2,125	0	0	416	0	0

TO CORRESPONDENTS.

ASPHALTE.—L. and B. say,—"Can any of your readers inform us if asphalte, when used for kitchen or washhouse floors, is injurious to the health of persons standing upon it, with or without cocoa-nut matting. Complaints have reached us to this effect, and a statement that it draws the feet. Any information will be esteemed a favour."—C. H.—R. R.—M. & P.—J. W. W.—G. J.—E. T. B.—O. N. S.—W. H. R.—Amicus (lead for cisterns is unquestionably objectionable, although with some water it may prove innocuous).—J. T.—T. M., Capt. T.—Dr. G.—C. C. N.—Xeres (we do not know that such a "design" could be secured. Consult a patent agent).—P. H. B.—T. C. C.—C. B. (shall appear).—J. H. & Co.—H. B. & B.—E. W. P.—W. F.—W. K. (address, Houses of Parliament).—A. B. C.—A. N. (we are forced to decline pricing correspondents' bills).—Young Architect (ditto).—C. (ditto).—G. L.—Grey Metal (nothing is yet settled).—T. E. K.—E. F. H.—* * (send particulars for view of house by return).—W. B. S. (the fact has already been stated).—I. U. H. (the beetle has been called the type of the sun. The Egyptians, it is said, found in it an emblem of the world instinct with the seeds of life; because the beetle represented by them forms a ball of earth, in which to deposit its eggs).

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

PARTNER.—A Firm established for the last fifteen years in Contracting for Works, and also in Manufacturing Materials extensively used in Building, is desirous of taking into PARTNERSHIP a young business-like Man, possessing a moderate capital.—For further particulars apply to JOHN HOLMES, Esq., Solicitor, 23, Poultry, London, E.C.

CLERK of WORKS WANTED, to overlook the Execution of Contracts for Sewerage and Waterworks in Wales.—Apply by letter to Messrs. R. DYMOND & SONS, Exeter.

CLERK and SURVEYOR WANTED, with knowledge of mapping and keeping drainage accounts.—Apply to M. SCOTT, Land-agent, 16, Parliament-street, Westminster.

OFFICE LAD.—A VACANCY for a YOUTH occurs in an ARCHITECT'S OFFICE.—Address, by letter, to R. P. Esq., 81, Gracechurch-street, stating age and other particulars.

WANTED, a good THREE-BRANCH HAND, as Plumber, Painter, and Glazier.—Apply to J. B. MILLINGTON, 1, Marlborough-place, Harrow-road, Paddington.

WANTED, in a Builder's Office, an experienced BOOK-KEEPER. He must be capable of taking out quantities, measuring, and estimating.—Address, 32, Upper Albany-street, Regent's-Park, London, N.W.

WANTED, a thoroughly experienced Man, to act as RESIDENT FOREMAN of WORKS on a large Estate. He must be a good practical builder and draughtsman, capable of superintending steam saw mills, timber yard, and all repairs; the conversion of timber, and the planning of new buildings. Methodical and active in his habits, a good accountant, and with unexceptionable references.—Apply personally, or by letter, giving references and all particulars, to Mr. IRVINE SHOBDON, Court House, near Leominster.

WANTED, a JUNIOR PARTNER, with from 1,000*l.* to 2,000*l.* in an old-established BUILDING CONCERN in the country.—Address, S. J. W. Office of "The Builder."

WANTED, by an extensive Building Firm, a thoroughly competent ESTIMATING CLERK.—Apply, by letter only, stating terms and references, to A. B. Messrs. Field & Co. Station Pl, 31, Nicholas-lane, E.C.

WANTED, in the Office of a Plumber, Decorator, and General Contractor, a CLERK (age 18 or 20, who has been used to a similar situation. One who has a slight Knowledge of the building trades preferred.—Address, X. Y. No. 103, Upper Thames-street, E.C.

TO HARD-STONE MASONS.

WANTED, immediately, a WORKING FOREMAN of MASONS, thoroughly acquainted with Railway Work.—Apply, stating wages, &c. to K. & M. Post office, Conwil, Carmarthen, South Wales.

WANTED, a steady Man, as PLUMBER, who has no objection to fill up his time with painting, &c. A constant situation. Good references required as to character and ability. Address, W. G. 14, Hatton-garden, E.C.

TO HOT-WATER SMITHS.

WANTED, a Steady Workman, who thoroughly understands Greenhouse Works. Also a handy Labourer, who can caulk pipes.—Apply by letter only, stating where last employed, and full particulars, to H. T. care of Mr. Hughes, 96, Hatton-garden, Holborn-hill, E.C.

WANTED, a persevering Practical Man in the Building Trade, who can command 400*l.* to 500*l.* to join the advertiser in a first rate speculation near town. Good security for the amount, with a mutual interest in the undertaking.—Address, R. O. Office of "The Builder."

TO CLERKS OF WORKS.

WANTED, immediately, a CLERK of WORKS for a Parish Church, to be built in Yorkshire. The Gentleman who can submit the best testimonials from one or more ecclesiastical architects as to his ability and general good conduct, will be engaged.—Apply, by letter, to Mr. W. H. CROSSLAND, Architect, Halifax, stating salary required.

WANTED, a respectable YOUTH, about 16 or 17 years old, in a Builder and Decorator's Office.—Address, stating reference and salary required, in own hand-writing, to Mr. SAPWELL, 9, Shepherd street, Mayfair, W.

WANTED, a WORKING FOREMAN of JOINERS, capable of setting out joiners' work, measuring and booking materials, &c.—Apply, by letter, to X. Y. Lawson's Post office, Kingsland-road.

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, a CLERK who can make working and detail drawings for ecclesiastical and domestic work, write specifications, and measure up work. As he will be required to make out details for chancel and houses in the Gothic style only, the gentleman who can submit the best testimonials from one or more London architects as to his practical ability will be engaged.—Apply to Mr. W. H. CROSSLAND, Architect, Halifax, stating salary required.

YOUTH WANTED in a BUILDER'S OFFICE.—Apply to J. B. MILLINGTON, 1, Marlborough-place, Harrow-road, Paddington.

TO BUILDERS.

WANTED, by a respectable Young Man, age 24, a SITUATION as IMPROVER to the JOINERING. Wages not so much an object as constant employment.—Address, X. Y. 1, Soley-terrace, Amwell street, Clerkenwell.

SMITH WANTED.

WANTED, for a permanency, a Man who thoroughly understands Steam and Hotwater Work and Cooking Apparatus.—BROWN & GREEN, 81, Bishopsgate-street Within.

TO BUILDERS AND CONTRACTORS.—AS PRIME COST CLERK, OR BOOKKEEPER.

WANTED, a RE-ENGAGEMENT, as above, by a BUILDER'S CLERK. Good references.—Address, G. B. W. 46, Milton-street, Dorset-square, N.W.

WANTED, by a thoroughly Practical Man, a Carpenter and Joiner by trade, a SITUATION of trust on a Nobleman's or Gentleman's Estate. Is thoroughly experienced in all branches of building, having been in business. Unexceptionable references.—Address, Y. Y. 51, Benyon-road, Southgate-road.

WANTED, a SITUATION in a Builder's or Architect's Office as BOOK-KEEPER or CASHIER, &c. Seven years' reference to a London firm, where he was chief clerk. A rapid writer and accountant, sober, and honest. Age 26. Address, P. A. 7, Grove-place, Lisson-grove, N.W.

TO BUILDERS, &c.

WANTED, an ENGAGEMENT, by a practical Builder, as FOREMAN. Superior abilities, active in all its branches. Thirty years' experience in the line. Undeniable references if required. No objection to the country.—Address, W. M. 25, Stanhope-street, Hampstead road, N.W.

TO CIVIL ENGINEERS, ARCHITECTS, &c.

WANTED, by a respectable Youth (at present at school), aged 15 years, a SITUATION in the Office of either of the above. Has a good taste for drawing. Salary for first six months no object.—Address, A. B. 24, Cochrane-terrace, St. John's Wood, N.W.

TO BUILDERS, CARPENTERS, &c.

WANTED, by a respectable Young Man, aged 25, constant EMPLOYMENT at the BENCH or otherwise, or in a Warehouse.—Address, A. B. 3, Prospect-place, Queen's-road, Peckham.

TO BUILDERS AND CONTRACTORS.

WANTED, by a practical Man, a Carpenter, aged 39, a SITUATION as GENERAL or WORKING FOREMAN, or to Take Charge of a Job. Can prepare drawings, measure up work, and estimate. No objection to the country.—Address, G. W. M. 75, Islington-street, Pimlico, S.W.

WANTED, a SITUATION as PLUMBER, Painting and Glazing if required.—Address, R. B. 47, Princess-street, Edgware-road.

TO BUILDERS, SLATERS, AND OTHERS.

WANTED, by a respectable Young Man, a SITUATION as SLATER and SLATE MASON. The highest references as to character, &c. Knows the trade well, having been in business. The country preferred.—Address, B. Y care of Mr. Holmes, Ironmonger, Limehouse Causeway, West India-road, London, E.

TO ARCHITECTS.

WANTED, a SITUATION in the above Office as IMPROVER. Can trace and copy drawings and specifications. Has served four years in the profession. Age 18. A small salary expected.—Address, H. A. B. No. 60, Brompton-square, Brompton, S.W.

TO GAS AND RAILWAY COMPANIES, BUILDERS, IRONMONGERS, AND OTHERS.

WANTED, by an experienced Man, a SITUATION to Manage the Manufacture and Fitting of every Description of Gas Apparatus. Has a thorough practical knowledge of his business. Can estimate. Age 40.—Address, B. C. No. 61, Old Broad-street, City, E.C.

TO RAILWAY CIVIL ENGINEERS AND OTHERS.

WANTED, by a Young Man, a SITUATION as DRAUGHTSMAN or GENERAL ASSISTANT. Has had four years' experience in a railway, and was previously engaged on ordnance survey. Age 20.—Address, J. SPENCE, No. 83, Praed-street, Paddington, S.W.

TO BUILDERS AND HOUSE AGENTS.

WANTED, by a Handy Man, steady, sober, and industrious, a SITUATION. Can do jobbing, painting, glazing, whitewashing, and general repairs, and make himself generally useful; or take any place of trust. Good references can be given.—Address, or apply to B. COLE, No. 23, Georges-row, George-street, Albany road, Clerkenwell.

TO BUILDERS AND OTHERS.

WANTED, a permanent ENGAGEMENT in a Builder's Office, or otherwise, by a respectable practical Young Man, Son of a Builder. Can prepare finished and working drawings, take out quantities, and square dimensions. Has had the management of workmen, and time and account-keeping, &c. Terms moderate, and good references given.—Address, C. A. No. 39, College-street, Homerton, N.E.

WANTED, by the Advertiser, aged 23, a SITUATION in a Civil Engineer's Office, as IMPROVER. Understands land and engineering surveying, levelling, plan drawing, &c. Is a good draughtsman and colourist. Would give his services for a very moderate remuneration if opportunities of improvement were offered.—Address, E. C. 21, Upper Rosoman-street, Clerkenwell, E.C.

TO MASTER PAINTERS, &c.

WANTED, a SITUATION, as FOREMAN or GRAINER, SIGN or GLASS WRITER. Good general knowledge of his business. Good references, if required. All letters to state wages, &c.—L. G. 12, Lancaster-terrace, Benacre street, Buckingham.

TO BUILDERS.

WANTED, an ENGAGEMENT, in the country, by a thoroughly practical SHOP FOREMAN of JOINERS and CARPENTERS. A permanent engagement preferred to a high salary.—Address, TUDOR, 14, Palace New-road, Lambeth, S.

WANTED, a first-class GRAINER of WOODS and MARBLES. Good wages and constant employment will be given.—Apply, stating terms, to JOHN GRAHAM, 2, St. Bothwell-street, Edinburgh.

WANTED, a RE-ENGAGEMENT as SHOP or GENERAL FOREMAN, by a thoroughly practical Carpenter and Joiner, well versed in construction, can prepare finished and working drawings, take out quantities, &c. Good references.—Address, X. Y. Mr. Borman's, 10, St. John's-road, Hoxton, N.

TO PAPERHANGING MANUFACTURERS, WHOLESALE DEALERS, AND DECORATORS.

WANTED, by a respectable Man, a SITUATION as SHOPMAN or WAREHOUSEMAN. Has filled a similar situation in a first-class house.—Address, A. B. 28, University-street, Tottenham-court-road, W.C.

TO BUILDERS.

WANTED, by a Young Man, aged 22, a SITUATION in a JOINER'S SHOP as IMPROVER. Has been seven years in the trade. Willing to lend occasional assistance in an office, and make himself generally useful.—Address, C. B. Post-office, Hastings.

TO ARCHITECTS, SURVEYORS, AND OTHERS.

WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK of WORKS, or to superintend private building works. Can prepare drawings. Satisfactory references to architects and builders.—Address, T. W. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, by an efficient Young Man, a SITUATION in a Builder's or Contractor's Office. Can prepare finished and working drawings, take out quantities, measure up work, and has a good knowledge of estimating and the general routine of the office.—Address, B. D. C. Office of "The Builder."

TO BUILDERS AND DECORATORS.

WANTED, a SITUATION as FOREMAN to PAINTERS, PAPERHANGERS, &c. in consequence of retirement of present employer, sole head of a very extensive firm. Reference and particulars. Apply by letter.—A. B. 36, FITZAVERN, 17, Barossa place, Trafalgar-square, Brompton, Middlesex.

TO IRONMONGERS AND BUILDERS.

WANTED, by a steady active Young Man, a SITUATION as GENERAL SMITH and RANGE FITTER. Thoroughly understands Lock-smithing and Bell-hanging.—Address, J. P. No. 6, Sussex-place, Leadenhall-street, City, London.

TO ARCHITECTS AND SURVEYORS.

WANTED, an ENGAGEMENT by the Advertiser, who is a good draughtsman, capable of making detail, working drawings and specifications, and competent with the general duties of an architect's and surveyor's Office. Terms moderate. No objection to the country.—Address, R. C. J. 73, Coleman-street, E.C.

WANTED, in a Builder's Office, a CLERK, TIME and STORE KEEPER.—Apply, by letter only, in own handwriting, stating salary required and references to last employer, to R. G. No. 55, Goldington street, Old St. Pancras road, N.W.

WANTED, by an ARCHITECT'S ASSISTANT, a SITUATION. Is a good draughtsman, and has had good experience in practical work. No objection to go abroad. Unexceptionable references.—Address, C. F. 23, Cloudesley-square, Islington, N.

TO BUILDERS, CONTRACTORS, AND OTHERS.

THE Advertiser, with twenty years' practical experience in an extensive business in every department, both as to superintendence, details, estimating, and measuring, is open to an ENGAGEMENT, generally, or in the superintendence of a large public contract.—Address, X. Z. Office of "The Builder."

THE Advertiser, who has served five years in the office of a Manchester architect of high standing, is desirous of an ENGAGEMENT. Salary not so much an object as improvement. London preferred.—Address, H. S. 4, Nelson-street, Greenwich.

TO ARCHITECTS, GENTLEMEN, AND OTHERS.

THE Advertiser wishes for a RE-ENGAGEMENT as FOREMAN of PLASTERERS. Is competent in mixing all cements for building purposes, moulding and casting in artificial stone. Has no objection to the country. Gentleman's or nobleman's estate preferred. Has a thorough knowledge of building business.—Address, F. F. G. Office of "The Builder."

THE Ecclesiastical Commissioners for Ireland require the SERVICES of a Person competent to act as INSPECTOR of CHURCH WORKS in the north-west of Ireland; he should be thoroughly acquainted with all the details of building, be able to survey and report on buildings, prepare estimates, specifications, &c. and have considerable experience in the superintendence of works. They also require a Person to act as SUPERNUMERARY INSPECTOR, and to give assistance in the Architect's Office as DRAUGHTSMAN and CLERK; he must have experience in, and a thorough acquaintance with the practical execution of works; he will be required in charge of a small district at once, and must be competent to take the place of any of the Inspectors in case of necessity. Applications, with testimonials, &c. and stating the age of candidate, are to be forwarded to the SECRETARY, Ecclesiastical Commissioners for Ireland, 24, Upper Merrion-street, Dublin, on or before the 23rd of APRIL next.

TO ARCHITECTS, BUILDERS, AND OTHERS.

THE Advertisers, two young Germans, last employed in France, want an ENGAGEMENT in an Architect's Office in London or country. They are good draughtsmen, and well up in details and construction. Aged 23 years. Salary can be fixed after having seen their capabilities. The advertisers have been clerks of works, and speak English.—Address, R. HOSSFELD, 239, Strand, London.

THE Advertiser, a CARPENTER and JOINER, wishes for IMPROVEMENT at the BENCH. Age, 22.—Address, N. U. X. Office of "The Builder."

TO PLUMBERS, BUILDERS, AND OTHERS.

THE Advertiser, who thoroughly understands plumbing, gas-fitting, painting, and glazing, wishes for a PERMANENCY.—Apply to E. F. 1, White Hart-court, Bishopsgate-street Without, E.C.

TO ARCHITECTS AND SURVEYORS.

THE ADVERTISER, who has been between five and six years in the profession, four of which with an Architect and Surveyor of good standing, and since in a first-rate Gothic office, desires an ENGAGEMENT in either of the above offices.—Address, J. P. Ebury Warf, Upper Belgrave-place, Pimlico, S.W.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who has had the management of an office, is desirous of a RE-ENGAGEMENT, temporary or otherwise. Is a good designer, and thoroughly understands construction, preparing working drawings, specifications, taking out quantities, making surveys of dilapidations, &c.; or would prepare plans, &c. at his own residence. Terms moderate.—Address, C. T. Agent's Library, Park street, Camden Town.

STAIRCASE HAND.—The Advertiser, having had twenty years' experience in the construction of stairs, hand rails, and all house-fittings, is now prepared to treat with town and country joiners for such work. He can also introduce machinery whereby a saving of upwards of 20 per cent. will be realized.—Apply to G. B. 12, Church-street, Islington, N.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.

A YOUNG MAN, 23 Years of Age, having been upwards of 6 years in an extensive builder's establishment in the country, and who is thoroughly acquainted with the routine of office work, and can also assist in preparing plans and specifications, is desirous of a RE-ENGAGEMENT.—Address, E. B. 48, Eversfield place, St Leonards-on-Sea.

TO ARCHITECTS.

A QUANTITY SURVEYOR and MEASURER, with a practical knowledge of building, would be glad to TREAT with ARCHITECTS for their Quantities, and Measuring, Writing Specifications, &c. upon reasonable terms. References given to Architects. Quantities guaranteed.—Address, ALPHA, care of Mrs. Fisher, Stationer, Vassall road, Brixton road, S.

TO ARCHITECTS.

AN Efficient CLERK of WORKS wishes a RE-ENGAGEMENT. Age 42.—Address, A. B. 8, Bannerstreet, St. Luke's, E.C.

TO CONTRACTORS

A GOOD BUILDERS' CLERK, aged 25, wants an ENGAGEMENT. Is well acquainted with estimating and measuring, and is a good draughtsman, &c.—Address, ALPHA, 5, Maison Dieu-place, Dover.

TO ARCHITECTS

A FIRST-CLASS Perspective and General Draughtsman is desirous of having a PERMANENT ENGAGEMENT in the Metropolis or its neighbourhood. On application (by letter) a large Perspective Drawing will be shown, also terms stated.—Address, M. R. A. Office of "The Builder."

A FIELD ENGINEER wishes an ENGAGEMENT, either at home or abroad, where all kinds of surveying and levelling, getting up of working plans and sections, and setting out work in the ground, whether for private or railway, sanitary, agricultural, or other purposes are required. References good.—Address, SURVEYOR, 29, Acton-street, Gray's-inn-road, London, W.C.

TO SURVEYORS, BUILDERS, &c.

A YOUNG MAN having a great deal of his time disengaged, wishes for OCCASIONAL EMPLOYMENT in London or the Suburbs. Is well up in Measuring, Quantities, estimating, measuring, and builders' accounts generally. Also a good draughtsman. Good references. Terms very moderate.—Address, E. M. Post-office, Throgmorton-street, City.

TO MASTER BUILDERS AND PAINTERS.

A FIRST-RATE Workman wants a SITUATION as GRAINER, WRITER, GILDER, &c. Town or country, but country preferred. Is a very steady man.—Address, M. W. H. No. 13, Netherland-place, Caledonian street, King's-cross, London.

TO ARCHITECTS.

A READY DRAUGHTSMAN in any style of architecture, if it finds with effect, requires an ENGAGEMENT. He measures, sketches, details, and takes off quantities. His terms are moderate, and references good.—Address, L. M. N. 52, Clarendon-square, N.W.

TO BUILDERS, CONTRACTORS, AND OTHERS.

A CLERK or TIMEKEEPER.—WANTED, by a respectable young married man, aged 30, a RE-ENGAGEMENT as above or where a Horse is kept. Has been accustomed to taking men's time and booking materials, &c. on some very extensive buildings for the last twelve years. Three years and a half with late employers. Satisfactory references can be given.—Address, W. G. 21, Craven-terrace, Craven-hill, Bayswater, W.

A FIRST-CLASS FIGURE, ANIMAL, and DECORATIVE DESIGNER and PAINTER, will shortly be open to an ENGAGEMENT.—Address, ARTIST, Office of "The Builder."

A LIBERAL PREMIUM will be GIVEN with a YOUNG GENTLEMAN, to APPRENTICE him to an ARCHITECT, CIVIL ENGINEER, CONVEYANCING, LAND, and Estate Counter LAND AGENT, AUCTIONEER, SURVEYOR, and VALUER of FARM STOCK, &c. In-doors preferred.—Direct, stating present and present weeks, to Mr. RICARDEN, 91, Pembroke

TO ARCHITECTS AND BUILDERS.

A THOROUGHLY PRACTICAL MAN, who has had many years' experience on first-class works, is desirous of a RE-ENGAGEMENT as CLERK of WORKS or GENERAL FOREMAN. Can take out quantities and measure up works.—Address, W. H. K. Office of "The Builder."

A YOUNG MAN, having served his time to the Plumbing, Painting, and Glazing Business, is desirous of obtaining a permanent SITUATION.—Apply W. W. care of Mr. Adams, Eaton Ford, St. Neots.

TO ARCHITECTS, &c

AN ASSISTANT, qualified to prepare finished and working drawings for churches, &c. is open to a temporary ENGAGEMENT. Terms moderate. Address, P. R. 47, Cumberland-street, Strand, W.C.

TO ARCHITECTS AND OTHERS

A GOOD DRAUGHTSMAN, who has only part of his time engaged, wishes to FILL UP the spare TIME by COPYING, DRAWING, &c. (can design). Could attend for three or four hours in the middle of the day, or in the evening, if required.—Address, WALTER W. BROWNE, 23, Alwyne-road, Canonbury, N.

TO ARCHITECTS, ENGINEERS, AND SURVEYORS

A RESPECTABLE YOUNG MAN, who is a good Draughtsman and Colourist, will be glad to render TEMPORARY ASSISTANCE in the Preparation of Architectural Drawings (finished, working, or detail); also tracing, or duplicates of engineering drawings, or maps. Good reference if required. Terms moderate.—Address, T. C. 22, Harmood-street, Hampstead-road, N.W.

TO PLUMBERS AND BUILDERS.

A STEADY YOUNG MAN wants a Constant SITUATION as Plumber, or three-branch hand. Understands gasfitting, and would be glad to be of use. Where he has worked for many months in town.—Address, G. F. 5, Linward street, Regent's Park.

TO BUILDERS

A SURVEYOR of considerable practical experience is taking off quantities, measuring, estimating, adjusting claims, and making drawings, &c. Would be glad to undertake business for builders upon reasonable terms. A very small charge only is to be expected, as he is desirous of quantities of measurement occasionally introduced work to builders.—Address, S. V. B. Office of "The Builder."

AN efficient CLERK of WORKS, of twenty years' experience, wishes a RE-ENGAGEMENT. First-rate testimonials.—Address, GOTHIC, 22, Queen's-terrace, St. John's-wood, N.W.

TO CIVIL ENGINEERS AND ARCHITECTS.

A GOOD DRAUGHTSMAN, WRITER, &c. is open to an ENGAGEMENT.—Address, X.Y. Z. Sotheran & Willis, 10, Little Tower-street, E.C.

TO ARCHITECTS AND SURVEYORS.

A GENTLEMAN fully qualified is open to an ENGAGEMENT. A good Gothic, and Classic Draughtsman; will do ample justice to his employer's sketches, or design and plan entirely. Terms moderate; references respectable.—Address, A. M. Y. Post-office, Gray's Inn-road, W.C.

A SITUATION WANTED by a Young Man, where he could Improve himself in the PLUMBING and PAINTING.—Address, A. B. 119, Fore-street, City.

CLERICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY
13, ST. JAMES'S SQUARE, LONDON, S.W.
Established 1824. Empowered by Special Act of Parliament.
BONUS MEETING 1862

The Report presented at a Meeting held on the 2nd January last, for the declaration of the SEVENTH BONUS, showed,

IN EVIDENCE OF THE PROGRESS OF THE SOCIETY,

that during the quinquennial period which terminated on the 30th June, 1861,

NEW ASSURANCES for a total sum of 1,486,370l. had been effected being an increase of 62,215l. on those of the previous five years: that

The INCOME had increased from 108,800l. to 139,400l. per annum: that

The ASSURANCE FUND had risen from 1,151,276l. to 1,422,191l.; and that a

REVERSIONARY ADDITION to the Policies of 275,077l. was then declared, against 2 24/0 at the prior division.

IN ILLUSTRATION OF THE RESULTS OF THE DIVISION,

that the Reversionary addition above named averaged 45 per cent or varied with the different ages from 26 to 80 per cent on the Premiums paid in the five years; and that the

CASH BONUS averaged 28 per cent on the Life Premiums, being amongst the largest ever declared by any office.

The Report explained at length the nature of the investments, and the cases of the encumbrances, the results on which, as above shown, are eminently favourable.

The following are among the distinctive features of the Society:—

CREDIT SYSTEM.—On Policies for the whole of life, one half of the Annual Premiums during the first five years may remain on credit, and may either continue as a debt on the Policy, or be paid off at any time.

POLICIES for TERMS of YEARS may be effected at rates peculiarly favourable to Borrowers.

INVALID LIVES may be assured at Premiums proportioned to the increased risk

PROMPT SETTLEMENT of CLAIMS. Claims paid thirty days after proof of death

The ACCOUNTS and BALANCE SHEETS are at all times open to the inspection of the assured, or of persons proposing to assure

Tables of rates, forms of proposal, the report above-mentioned, and a detailed account of the proceedings of the bonus meeting, can be obtained from any of the Society's agents, or of

GEORGE CUTCLIFFE, Actuary and Secretary,
13, St. James's square, London, S.W.

The NEXT DIVISION of PROFITS will take place in JANUARY, 1867, and persons who effect NEW POLICIES before the end of JUNE next, will therefore let at that division to one year's additional share of profits over later assurers.

ACCIDENTS ARE UNAVOIDABLE.
Everyone should therefore provide against them
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100l. to 1,000l. insuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.
Apply for Forms of Proposal at any Railway Station to the PROVINCIAL AGENTS, the BOOKING CLERKS of the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
£ 2,817. have been paid by this Company as COMPENSATION for 56 Fatal Cases, and 5,041 Cases of Personal Injury.
The SOLE COMPANY Purchasing Agents to one RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

BELSIZE PARK, HAMPSTEAD.—To BUILDERS and OTHERS.—LAND TO BE LET, for Building, with roads and sewers all complete. For further particulars, apply on the estate, at Mr TILEY'S cottage, 2, Belsize-park.

WOODFORD.—PLOTS of BUILDING GROUND TO LET, on the Grove Estate, within five minutes' walk of the Great Eastern Station, near to the church, and twenty minutes by rail from Fenchurch-street. Lies high and dry. Water supplied by the East London Water Company.—Apply to the Freeholder, WASHINGTON SINGLE, Esq. the Grove, Woodford.
Money advanced, if required.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is picturesque, is well drained, and handsomely timbered. It has a substratum of gravel, and commands [illegible] and will be let in lots (or in one if a purchaser should require only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

TO CARMEN, BUILDERS, and OTHERS.
PREMISES TO LET.—The Court of the Worshipful Company of Coopers are prepared to receive TENDERS for TAKING, on a REPAIRING LEASE for twenty-one years, the PROPERTY known as BURLINGTON MEWS, Bond street, Ratcliff. A plan of the same, together with particulars, may be seen at my Office. The Tenders to be delivered by or before THURSDAY the 24th of MAY next. The Court do not bind themselves to accept the highest or any Tender. JAMES BOYER, Clerk.
Coopers' Hall, Basinghall-street, 3rd April, 1862.

TO BE LET by PUBLIC TENDER, by the Worshipful Company of Pewterers, on lease for twenty-one years, the [illegible] street, [illegible] PREMISES, known as No. 27, Lime-street, in the city of London, and which is specially suitable for offices.—Full particulars and cards to view can be obtained on application to Messrs. ELLIS & SON, of No. 49, Poultry street, E.C.; or of the Clerk of the above Company, Mr. W. DADLEY, of No. 1, Anchor-terrace, Bridge-street, Southwark, to whom sealed tenders are to be delivered on or before the 16th day of APRIL, 1862. The Worshipful Company of Pewterers will not bind themselves to accept the highest or any Tender.

BUILDING LAND in WAPPING.—The Board of Works for the Limehouse District are prepared to receive TENDERS from parties desirous to take on LEASE certain PLOTS of LAND in High-street and Red Lion-street, Wapping, suitable for warehouses and other purposes.—Particulars, conditions, and form of Tender may be obtained upon application to Mr. CHARLES DUNCH, Surveyor, at the Office of the Board, Whitehorse-street, Commercial road, E.

MANOR of DULWICH. ALLEYN'S COLLEGE ESTATE.—The Governors of Alleyn's College are prepared to LET a PORTION of the ESTATE in Plowden Buildings Purposes.—Plans may be seen and particulars obtained from CHARLES BARRY, Esq. College Surveyor, at 27, Backville-street, Piccadilly.

TO BUILDERS and OTHERS.—SELHURST-PARK, Norwood, near the Junction Station.—The freeholder will co-operate with respectable builders in ERECTING HOUSES, to let at 45l. to 65l. Excellent bricks of every class on the estate. Proximity to the Junction Station, enables materials to be readily supplied. All roads made. Several first-class houses erected, all of which have been let before finished; and others are in course of completion. Natural drainage from all parts of the estate. Air proverbially healthy, water good and abundant, drives and walks beautiful; nine miles, or 35 minutes from City; 24 minutes from West-end; 4 minutes from Crystal Palace; 50 minutes from Brighton. Trains constant from 8 a.m. till half-past twelve at night.—Particulars at Selhurst-park Office; or to Messrs. FRANCIS FULLER & CO. Cornhill, E.C.

IMPORTANT to BUILDERS and BRICKMAKERS.—The finest BRICK EARTH that Suffolk or any other county can produce has recently been discovered, within a few hundred yards of the centre of the town of Sudbury, which could be made to yield a mine of wealth to those being, or who are desirous to become, brickmakers. The field in which the earth has been found contains upwards of thirty acres, the surface soil being of the finest possible quality for agricultural purposes, but its manure is that of excellent red brick and tile earth, and the subsoil, within three feet of the surface, is of the very best quality of pure white brick earth. Adjoining the estate [illegible], belonging to the same proprietor, can also be had an acre or two of land, possessing an unlimited supply of the best white sand. Sudbury stands proverbial for its peculiarity of white brick, but in no part of the neighbourhood is earth so found affording the singular advantage to the brickmaker that this does, namely, that it requires no washing. The public are respectfully invited to inspect the property, and any sample of earth will be allowed. The above most desirable property is now TO BE SOLD, by PRIVATE CONTRACT.—For particulars, apply to Mr. F. SEXTON, Surveyor, Kersey, near Hadleigh, Suffolk.

FREEHOLD PAPER-MILLS for SALE by PRIVATE CONTRACT.—This important Freehold Property is situate in the parish of Rickmansworth, Herts, and possesses a convenient Family Residence, placed in the centre of about 60 acres of park-like Meadow Land, with Pleasure-Ground and productive Kitchen Garden. The Mill is replete with well-constructed, and contains every requisite for carrying on a first-rate business, and possessing a powerful stream of water, and superior washing water in abundance. Very considerable alterations have been made within the past two years, and the best machinery introduced, and the manufacture of paper can be conducted with the greatest economy. The Property is 22 miles from London, 2 miles from Rickmansworth, and 7 from Watford, and a Station will shortly be opened at Rickmansworth. A portion of the purchase money may remain on mortgage.—For particulars and to treat apply to Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

BUILDING LAND TO LET, on long lease, in most eligible situations close to the Lower Norwood Station, at CROYDON (very near West Croydon Station), at the VAUXHALL GARDENS ESTATE, at DENMARK-HILL, and some CARCASSES, at BOW. Ground-rents moderate. The usual proportion of the cost of the houses erected would be advanced, and in some cases the freehold might be purchased. For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad street, E.C.

CROYDON.—TO BE LET, on Building Lease, or the Freehold SOLD, a desirable PLOT of LAND, on a main road, 114 feet front by 200 feet deep, near the Two Railway Stations. Rent or price may be known on application to Mr. BLAKE, Solicitor, Croydon; or 39, King William street, City.

GROUND RENT.—WANTED to PURCHASE, a LEASEHOLD GROUND RENT of from 10l. to 20l. per annum, with not less than fifty years to run.—Send price and full particulars to Messrs. HAMMOND & ELLIOTT, 28, Chancery-lane, W.C.

MANUFACTURING WATERSIDE PREMISES, WEST.—TO BE LET, Commodious MANUFACTURING PREMISES on the Surrey side of the Thames, with private Quay. Apply to Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

SALE of ST. THOMAS'S HOSPITAL PROPERTY, LONDON BRIDGE.—The Governors of the Charing-cross Railway Company are prepared to receive PROPOSALS for the PURCHASE of the LAND and BUILDINGS of ST THOMAS'S HOSPITAL London Bridge, comprising an area of nearly four acres, except so much of the Site of the Garden on the north-west side, which is required for the widened approaches. Possession can be given to the purchaser on the 1st of AUGUST next. Particulars may be had on application to Mr. HENRY HOOD, Solicitor, 16, Parliament-street; and proposals to be addressed to the Secretary
By order, S. SMILES, Secretary.
Charing-cross Railway Offices, London-bridge, April 9th, 1862.

PLAISTOW. Several PLOTS of FREEHOLD LAND FOR SALE, or TO BE LET, on Building Leases, in Balmoral-road, Plaistow, near the Railway Station.—For particulars apply to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial-road, E.

BETHNAL-GREEN.—BUILDING LAND at Low Ground rents—PLOTS of LAND, for small Houses, near Cambridge-road, Bethnal-green, on the Estate of the late Samuel Baldwyn. Plans and roads are completed. For particulars, apply to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial-road, E.

TO BUILDERS.—A Plot of Valuable FREEHOLD GROUND, about 76 feet frontage, and of considerable depth, TO BE LET, on a Building Lease, at a low ground-rent, situate in Hill-street, Peckham, S.E.—Apply to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial-road, E.

CARCASES FOR SALE.—FIVE CARCASES of SHOPS and PRIVATE HOUSES to BE SOLD, upon reasonable terms, in low ground-rents, in Baker's-lane, Bethnal-green.—Apply to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial road, E.

WAREHOUSE FLOORS TO LET, at No. 3, St. Mary-axe.—Apply to Messrs. FULLER & HORSEY, 13, Billiter-street.
N.B. Goods housed at reasonable rates.

TO BE LET, upon a building lease, a CORNER PLOT of FREEHOLD GROUND, at the bottom of Tower Hill, and about 150 yards from the Bank of England. For further particulars, apply to Mr. JACKSON, No. 7, Tokenhouse Yard, E.C.

TO BUILDERS.—FREEHOLD GROUND, in Little Turnstile, Holborn, TO BE LET, on a Building Lease. Apply to J. GRAHAM, Esq. 3, Plowden-buildings, Temple.

TO BUILDERS and OTHERS.—TO BE LET, on a Building Lease, the FREEHOLD PREMISES, No. 12 GREAT PRESCOT STREET, GOODMAN'S FIELDS.—Apply to J. GRAHAM, Esq. 3, Plowden-buildings, Temple, E.C.

TO BE LET, with immediate possession, GROUND-FLOOR OFFICES in the centre of London, close to the principal Banking Establishment and Law Courts. This is the most best thoroughly repaired, and is eligible as a family, business, or religious residence, or for any professional man requiring a quiet locality.—Apply at 16, Surrey street, Strand, W.C.

TO LET, an Old-established Retail TIMBER and DEAL-YARD, with Dwelling and small Saw-mill attached. Apply of the Proprietor, on the Premises, No. 7, Union-road Rotherhithe.

TO BUILDERS.—First-class BUILDING SITES TO BE LET at Beckenham, Putney, Fulham, Weybridge, Brockley Hill, Croydon, Wandsworth, Shepherd's Bush, and Parson's Green. Low ground-rents, roads and sewers made, with the use of plans. 70 per cent. advances made to respectable builders.—For further particulars apply at Mr. A. C. HOOK'S Offices, No. 13A, Great George street, Westminster.

TO BRICK and TILE MAKERS and OTHERS.—TO BE LET, on Lease on very moderate terms, those Excellent BRICKFIELDS, late in the occupation of the Northolt Brick Company, adjoining the Paddington Canal, and comprising seven acres, with the use of the extensive Plant, consisting of a 16-horse power steam-engine, pug and wash mills, smithy, engine-house, three cottages, kiln, and all other appliances for the manufacture of bricks, tiles, drainpipes, &c. The Company expended 12,000*l.* in the erection of the necessary plant, &c. and which the lessee will have the entire use during the term. For further particulars apply to Mr. CHAS. LAWS, Architect, 1, Walbrook-buildings, City, and Harrow; or to Messrs. R. KENYON & Co. Auctioneers and Land Agents, 11, Arch-street, City, and Harrow; where specimens of bricks, &c. can be seen.

SMALL MANUFACTURING PREMISES TO LET, with Steam Power.—Apply to BRYANT & BAUGH, Builders, 1, Brook street, Euston-road.

CRYSTAL PALACE (close to).—Valuable BUILDING SITES TO BE LET or SOLD, within a few minutes' walk of Sydenham Station, fronting a handsome roadway of considerable width. The supply of houses in the neighbourhood is quite inadequate to the demand, the position being undoubtedly one of the most favourite and convenient in the vicinity of town; its healthful salubrity, picturesque scenery, proximity to the Crystal Palace and Park, facility of access to the City and West end, will always insure to the locality a high rank in popular estimation, and remunerative retals may consequently be relied on for any houses erected on the property. Sewers made; gas laid on. For terms and plans apply to Messrs. EDWIN FOX & BOUSFIELD, Agents for the estate, 11, Collmans-street, City.

POLYTECHNIC.—On MONDAY Evening, at Half-past Seven, the Rev. J. B. Owen, M.A. Vice-President of the Institution, will delivr the opening Lecture of the second Monday Evening Course to the Industrial Classes. Conducted by the celebrated Brinsley Family every evening at 8, on Tuesday, Wednesday, Thursday, and Saturday mornings at Three. The "Marriage," the "Monitor," the "Warrior," and "La Gloire." Splendid series of Dissolving Views, illustrating the "Iron Walls of Old England." Lecture by Professor J. H. Pepper, on "The Life Assurance Accounts of Coal Mines," also on Elementary Astronomy, and spectrum Analysis. Great preparations are being made for the Easter Holidays. Open 12 to 5, and 7 to 10.

HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.



Illustrated Treatise, Post free, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:—
Cardington Street, Hampstead road, London.



STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, &c. &c. combining perfect transmission of light, durability against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho square, W. and George yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, BROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

MANCHESTER STAINED-GLASS WORKS.
R. B. EDMUNDSON & SON,
Artists in Stained Glass, Ecclesiastical and domestic, of every description, ancient and modern, Illuminated Communications, &c. by their new process on Plate Glass; Mural and Heraldic Decoration, Monumental Brasses, &c. Designs and estimates on application. R. B. EDMUNDSON & SON, having had upwards of thirty years' practical experience in the manufacture of every description of glass for ecclesiastical purposes, have most of their glass made to order, and from their own receipts, and which will be found nearer to the old glass than any others at present manufactured. Works—No. 4 Wakefield street, Oxford-street, near the Bridge.

GENUINE WHITE LEAD, branded and warranted from the Manufactory, 30*s.* per cwt.: Linseed Oil, 3*s.* per gallon; Boiled Oil, 3*s.* 4*d.* per gallon; Turpentine, 3*s.* 6*d.* per gallon; Fine Pale Oak Varnish, 7*s.* 6*d.* per gallon. Hamilton's and Kent's Graiuers', Painters', and Plasterers' Brushes, to be had at D. J. PORTER'S White Lead and Colour Warehouse, Nos. 1 and 2, Pratt street, Camden Town, N.W.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Mattings, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. B. CHICHESTER, of Chittlehampton, near South Molton:—
"The effect produced by the Stained Elastic Varnish has given such entire satisfaction, that the parishioners have requested me to paint the pulpit the quality now pew. For, in order to finish the church."
H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for grinding every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices
Agents for Kershaw's Graining Machines.

COLOURS and VARNISHES at REDUCED PRICES. Genuine White Lead, 30*s.* per cwt.; Linseed Oil, 3*s.* per gallon; Boiled Oil, 3*s.* 3*d.*; Turpentine, 3*s.* 6*d.* per gallon; Fine Pale Oak Varnish, 7*s.* 6*d.* per gallon, for cash.—J. P. LANGTON'S Colour Warehouse, 143 and 144, Whitecross street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30*s.* per cwt.
Linseed Oil, 3*s.* per gallon; Boiled Oil, 3*s.* 4*d.* per gallon.
Turpentine, 3*s.* 4*d.* per gallon.
Fine Pale Oak Varnish, 7*s.* 6*d.* per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 15, Cole-hill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK STREET, SOHO SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22*s.*

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompson, and several of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hair Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRIDGE STREET GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

CHURCH PULPIT (wood, Gothic), with STONE FONT, STAIRS, READING-DESKS, &c. for SALE, cheap, viz. Ten Guineas; suitable for any large church. It is to be seen at Messrs. BARTON & SONS, Auctioneers, opposite the Female Orphan Asylum, in the Westminster-road, Lambeth, Surrey. Note to Church Builders.—It would be invaluable to any contractor who can purchase it in their church rail bags.

TO ROAD and SEWER CONTRACTORS.—NEW ROADS, SEWERS, DRAINS, and FENCING, on the Clapton Estate. Suburban Freehold Land Society.—Copy plans and conditions of contract of Mr. and Mr. GARDNER & CO. surveyors, 1, South Sampton street, Coldharbour, S.

HYPSELOGRAPHS—an invention supplying the place and saving the cost of wood engraving. The inventor, H. MAYRAFTER, Head Master of the Government School of Art, Coventry, by this method will undertake all sorts of illustrations, comprising original compositions in figure and landscape engineering, architectural, and ornamental drawing.—5, Barr's-buildings, Coventry.

TARPAULINS, MARQUES, &c. for SALE or HIRE.
SCAFFOLD and HEMP-ROPE FALLS.
H. PIGGOTT,
29, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD and HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, as made by GOUGH & BOYCE, the Original Patentees, and last exclusively by them at the Houses of Parliament, and numerous other Public Offices. It is especially adapted for churches, mansions, public rooms, shops, and passages, being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. 12, Bush lane, Cannon-street, London.—Forwarded to all parts of the country.

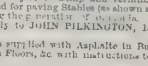
KAMPTULICON, or, ELASTIC FLOOR CLOTH.
TAYLER, HARRY, & CO.
MANUFACTURERS and PATENTEES, 10, Cutler Lane, Cheapside.
WORKS, DEPTFORD GREEN.

CROGGON & CO.'S NOISELESS ELASTIC KAMPTULICON, or INDIA-RUBBER FLOOR CLOTH.
Impervious to wet, indestructible by any acid to the front, and warm to the foot, we supply it to churches, public offices, mansions, &c. as well for its economical as extreme durability. Also used very largely for billiard tables.—Full Price List sent on application, 2, Dowgate Hill, London, E.C.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS, GOSWELL ROAD, or North Street, Spencer street, LONDON, E.C.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS, BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS.
LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

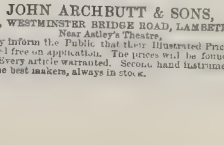
DRAUGHT, DUST, and DAMP EXCLUDED.—All jarring and rattling of doors or windows is obviated by the application of BROWN'S PATENT. Cases for plate, jewellery, and valuable specimens, &c. are lined and fitted at the several establishments where this preservative linen tape is in use. Testimonials from all quarters, and numerous instances may be viewed at the Depôt, 285, Wellington-street, Strand, W.C.

POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED  1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

IMPORTANT to ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decoration, in Fibrous Plaster, Cuttin Pierre, Composition, and every kind of plastic process.
MESSRS. HERBERT, MODELLERS, 249, EUSTON ROAD, ST. PANCRAS.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVE..
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5*s.* and 7*s.* 6*d.*; 33-inch, 3*s.* 6*d.* and 5*s.* 6*d.*; 27-inch, 2*s.* 6*d.* and 3*s.*
Mathematical Instruments of every description, of the best possible make, and highest finish, kept on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2*s.* 6*d.* post free, STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

INTERNATIONAL EXHIBITION, 1862.

ESTIMATES AND DESIGNS FOR SHOW CASES, METAL STANDS, &c.

With or without Revolving Machinery, by

BUNNETT & CO., ENGINEERS AND FOUNDERS,

DEPTFORD, KENT, S.E.; 17, QUEEN STREET, CHEAPSIDE; and 435, PARLIAMENTARY STREET, GLASGOW.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

MARBLE AND STONE WORKS,

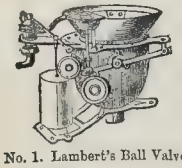
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

THOMAS LAMBERT & SON,

No. 5/. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



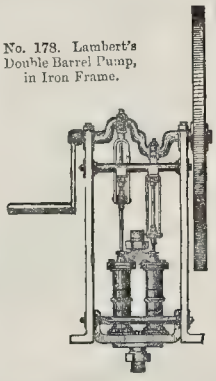
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

ENAMELLED STONE CHIMNEY-PIECES,

Of Beautiful Designs, and to Imitate any kind of Marble, far Superior to Enamelled Slate, and considerably Lower in Price, INVENTED AND MANUFACTURED BY

W. J. ELLISON & CO.,

SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.

Also, MANUFACTURER of WALL-LININGS, composed of Stone Slabs, with a Veneer of Scagliola to Imitate Marble, and Enamelled by Heat. WARRANTED TO RETAIN ITS POLISH.

Office and Show Room, No. 3. WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.

Manufactory, EAST-ROAD, CITY-ROAD.

STONE CHIMNEY-PIECES FOR THE MILLION.

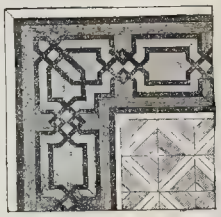
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country



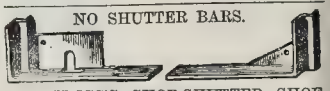
SOLID PARQUET FLOORS, ARROWSMITH'S PATENTED,

From 1s. per foot, in various woods, ½inch thick, grooved, ongued, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 80, New Bond-street, W.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE, combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable, such as purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c. as well as by use in the bath for promoting and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 1s. 2s. or 4s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.

Wholesale of the Patentee, Battersea, Surrey, S.W.

THE LIZARD SERPENTINE COMPANY, LIMITED.

Works—CARLEON COVE, LIZARD, CORNWALL.

Offices—24, ST. JAMES'S STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and filled it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.

All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PARTS MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES.
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PURE HYDRAULIC LIME, Manufactured

from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

THE HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference.

IMPORTANT to BUILDERS and USERS of PORTLAND CEMENT.

"BENNETT'S INDURATING and QUICK-SETTING SOLUTION for PORTLAND and OTHER CEMENTS," recently patented, obviates, as its name implies, the chief objections urged against cements, and particularly against Portland cement, of not setting sufficiently quick and hard, and thereby causing delay and expense. In works where rapidity of setting, hardness, and sharpness of outline are desirable, the use of this solution is strongly recommended, and will prove both advantageous and economical. It is sold in stone quart bottles, price 2s. each, with printed directions for use, and can be obtained only of

F. & G. ROSHER,

CEMENT, BRICK, and LIME MERCHANTS (Sole Agents for its sale), at their Wharves, as under

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.

Wherein can be obtained, of the best quality:—
GREY-STONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, MARTIN'S, and PARIAN CEMENTS
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK FLINT, and ROAD BALLAST WHARFS, NORTHFLEET, KENT.

STRINGFIELD and BLYTH,

Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

WHITE and RED SUFFOLK FACING

BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere road, Lambeth, and Kent-road Bridge. SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the invariably price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.

-Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Groove I.B. laying, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.

J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants' and Brokers' Orders promptly executed.

GREY STONE LIME.

WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, White-friars Wharf, Whitefriars, Fleet-street, City.

Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT.—JOHN GOFFIN

& CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.

White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

KEENE'S and PARIAN CEMENT for

internal use.—These well known and Stuccoes dry quickly and can be painted upon within a few days.

Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank street, Westminster.

BUILDERS and CARPENTERS, and OTHERS, have submitted to their notice these very reduced prices, the lowest consistent with really useful qualities.

All sawn goods carriage free within three miles

½-inch Flooring (well prepared), 11s. 6d. ¾-inch do. 13s. per square
Yellow Deals, sound and good ... 16l. 10s. per 120, or 3½d. per foot.
Spruce Deals ,, 16l. 10s. ,, 2½d. ,,
Yellow Battens, excellent quality 11l. 10s. ,, 2d. ,,
Fine Planks, dry, 12 ft. 3 in. by 11 ft. 2½. ,, 3s. 6d. ,,
Seasoned Mahogany, Plank and Board, 6d. per foot.

A very large Stock, ready sawn and seasoned.
ALFRED CARTER, Old Bethnal-green-road, N.E.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 9d.; Spruce, from 2s. 8d.; Pine Plank, from 2s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 8d.; ¼ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

TO BUILDERS and CONTRACTORS.—HOISTING LADDER (Johnson's Patent) FOR SALE, at one third of its cost.—Address, JOHN CARD, No. 26, Norfolk-street, Lower-road, Islington, N.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & R. KNIGHTS, Lathwood Merchants, Importers, &c., Baltic wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,000 feet in Planks and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

TO BUILDERS, HOUSE-PAINTERS, and DECORATORS.—PATENT EXTRACT of LETHEUM.—For Preparing Borders, Removing Old Paint, Varnish, Whitened Paper, &c. in a few minutes, and for Cleaning and Restoring Old Paint. Success guaranteed. Price 5s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London.—Messrs. NAENIARE & Co. 11, St. Andrew's hill, Doctor's-commons, London, E.C.—N.B. Good patented Brushes for laying on the Extract, and removing the old paint.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN PIPE, HAIR, LATH, and FIRE GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not require to damp previous. Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.
Agent in Liverpool—JOHN MACKENZIE, 42, Seel-street.
Do do. Manchester—THOMAS OAKDEN.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMENT WORKS,
Northfleet, Kent.
Messrs. ROBINS & CO.
To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines, Brierley-hill.
FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,
Office, 5, George-yard, Lombard-street.

PARIAN CEMENT for INSIDE WORK. With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

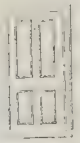
PORTLAND CEMENT.
GREAVES & KIRSHAW,
14 SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.



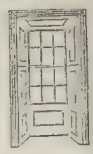
J. GURMAN,
Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.
Send stamped envelope for Prospectus and Sectional Drawings.
Windows may also be seen at the Kensington and Conduit-street, Museums, London.



TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot-houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on receipt of stamp.
Estimates furnished on application.



B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER. & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER.
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by
J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
½-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¼-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £9 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,
Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
½-inch White Matched Lining .... 13s. per square
J. TERRY & SON, 109, Borough Road, S.E.

MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.
PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
½ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¼ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

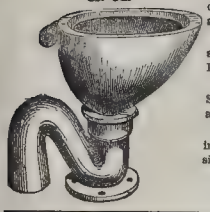
FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

APPLY TO
SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

DOULTON & WATTS,
LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

Be particular to order the

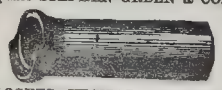
3s. 9d. Enamelled Stoneware Closet and Trap.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

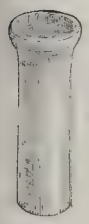
(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUFF OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories, —

HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.
High-Street, Lambeth, London.

ENCOURAGE COUNTRY MANUFACTURE.



MANUFACTURERS OF THE LARGEST SIZES OF

SALT-GLAZED SOCKETED DRAIN-PIPES,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

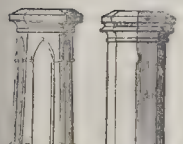
JAMES STIFF & SONS,

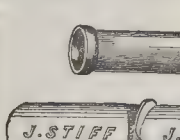
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz. :—
Messrs GLADDISH'S, Pedlar's-acre, Lambeth; Duckhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs BLACKMORE & CO'S Chelsea Wharf, City Basin.
Messrs FOLEY, SHARPOUT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. LEWIS'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danvers Wharf, Chelsea.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

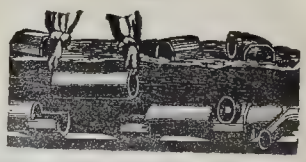
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

FERGUSLIE FIRE CLAY WORKS,

PAISLEY.



PATENT GLAZED SEWER-PIPES, according to Jenning's Patent, and the GLAZED SEWER PIPES with SOCKET JOINTS. Also all articles made of Fire Clay. The Sewer-Pipes are in sizes from 2 inches up to 24 inches bore, and are of the most superior quality. Prices very moderate. The subscriber, from the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be.

ROBERT BROWN.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, 2s.; a SELF-CLOSING COTTAGE CLOSET, 12s 6d.

PATTEN'S HIGH PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c

W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage stamps.

IMPERISHABLE TESSELATED PAVEMENTS,

combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, grate, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 485, West Strand, who has on view a great variety of Specimens of the Pavements.

MINTON & CO.

HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,

TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sadly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and Sadly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 27s. 6d. per 1,000.
" Kiln Bricks, at 36s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 72s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

BENJAMIN EDGINGTON,

2, DUKE STREET, FOOT of LONDON BRIDGE, S.E.

Manufacturer of Tarpaulins, and Impressed Dressed Cloths.

Tarpaulins Let on Hire. Sailcloth, Rope, and Blocks of every description. Marquees, Tents, Awnings, Rick Cloths, Sacks, &c.

N.B. The ONLY ESTABLISHMENT is at 2, DUKE STREET, LONDON BRIDGE, S.E.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and

MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches		8 Guineas.
Gentlemen's	do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches		18 "
Strong Silver Lever Watches		5 "
Gentlemen's Gold Compensation Balance Watches		40 "
Do. Silver	do. do.	23 "
Marine Chronometers		50 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Architecture Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—

A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to

JOSEPH FAIRER,

Turret Clock-maker to H. M.'s War Department,

188, St. George-street East, London.

BENSON'S WATCHES

and CLOCKS.

"Perfection of mechanism."—*Morning Post.*



Gold, 5 to 100 Guineas.

Silver, 2 to 50 Guineas.

BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, descriptive of every construction of watch, enables persons in any part of the world to select with the greatest confidence the watch best adapted to their use. Watches sent free and safe by post on receipt of a remittance.

J. W. BENSON,

33 and 34, LUDGATE HILL, and

46 and 47, CORNHILL, LONDON, E.C.

(Established 1749.)

SALES BY AUCTION.

DISSOLUTION OF PARTNERSHIP.—To Coachbuilders and Others
The commanding Leasehold Premises, with possession, for many years past occupied by Messrs. Gowar, Broadway, Stratford.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, APRIL 23, at TWELVE, at the AUCTION MART, London, the extensive COACH MANUFACTORY, with Show Room and Dwelling House, for many years past occupied by Messrs. Gowar, the eminent coachbuilders, situate in the Broadway, Stratford. The principal building was erected but a few years since, and is of commanding elevation, and finished in good taste; the ground-floor is arranged as a lofty show-room, and the upper part as two dwelling-houses, with private entrance to each. The buildings in the rear comprise a carriage-room, with spacious painting-loft over, carriage-shop beyond, with open wheelwright's shop under, two offices, covered yard, large smith's shop, timber-shed with saw-pit and stable, with body-loft over, and an open yard of considerable extent, with gateway entrance from West Ham-lane. The whole held on lease for a long term of years, at a ground rent of 90l. per annum. To be viewed till the sale. Particulars in due time be had 14 days prior to the sale of Messrs. FRY & LOXLEY, Bedford-row, Clerkenwell; of Messrs. THOMPSON & DEBENHAM, Solicitors, Salters' Hall; at the SWAN, Stratford; at the MART; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

DISSOLUTION OF PARTNERSHIP.—TO COACHBUILDERS AND OTHERS. Stock in Trade, Tools, and Effects, Broadway, Stratford.

MESSRS. FULLER & HORSEY are instructed by Messrs. Gowar to SELL by AUCTION, on MONDAY, APRIL 28, and following day, at ELEVEN each day, on the Premises, Broadway, Stratford, in lots, without reserve, THIRTY-EIGHT CARRIAGES, including waggonette, park phaetons, stanhope, pony chaise, spring cart, brougham, clarence, barouche, seat able, omnibuses, &c.; the unmanufactured stock, including several thousand feet of seasoned ash, elm, and other boards, and sound panel pine; pole, plank and cut deals, 500 ash felloes, pair stocks, 2,000 spokes, five sets lancewood shafts, five tons tyre iron; the tools and implements in the various trade, smiths' tools, three circular blowing-machines, fine bellows, anvils, vice, and bottom tools, forge troughs, plate-surface plate, tyre furnace, wheel pit, vices and benches; stores of various description, paints and varnishes, oilcloth, spring steel, two portable forges, drilling machine, new and second hand wheels, new bodies for phaeton and dog-cart, weighing-machine, scales and weights, 19 trucks, hand cart, and harness, stable utensils, counting-house furniture, and numerous other effects. To be viewed on Saturday previous and morning of sale, when catalogues may be had at the premises; of Messrs. FRY & LOXLEY, solicitors, Chesapside; of Messrs. THOMPSON & DEBENHAM, solicitors, Salter's-hall; and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

To BUILDERS and CAPITALISTS.—A very valuable FREEHOLD BUILDING ESTATE, of 63 acres, with a frontage to the main road of 1,500 feet, adjoining the London and North-Western Station at Pinner, half an hour's ride from Euston-square, estimated to produce 2,000l. per annum ground rents.

MESSRS. R. KENYON & CO. have received instructions to SELL by AUCTION, at GARRAWAY'S, Change-alley, Cornhill, on TUESDAY, the 29th APRIL, at 2 for 3 o'clock precisely (unless previously disposed of by private contract), the above valuable BUILDING ESTATE, of Sixty-three Acres. The Estate is beautifully situated, adjoining to the Commercial Traveller's Schools, and contains excellent Brick earth. First- and second-class residences are much wanted at Pinner.—For particulars and plans, apply at Garraway's; Mr. CHAS. LAWS, Architect, 2, Walbrook-buildings; Messrs. PATERSON & LONGMAN, Solicitors, 2, Winchester-buildings; or to Messrs. R. KENYON & CO. Auctioneers, 11, Aldermanbury, City, and Harrow.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 23rd day of APRIL, 1862, at 10 for 11 o'clock punctually. Luncheon at Half past Twelve o'clock.
For account of Importers.
21,000 Spruce Deals, Battens, Scantling, Boards, and Ends
6,000 Quebec Pine Deals
5,000 St. Petersburg Redwood and Whitewood Deals
5,000 Gefle, Archangel Red Deals, Battens, and Boards
2,500 Wyborg Redwood Deals
1,500 Dantzic and Memel Deals
1,000 Memel Redwood Deals
1,000 Swedish Deals and Battens
300 Loads Quebec Yellow Pine
50 Loads Quebec Red Pine
100 Loads Dantzic Red Timber
200 Loads St. John Pine Timber
50 Loads Miramichi Hard Pine Timber
400 Loads Swedish Timber
1,000 Memel Pipe Staves
6,000 W. I. Puncheon Staves
100 4 to 6-inch Norway Spars
200 4 inch ditto
100 Hacks ditto
80 Fathoms Dantzic, St. Petersburg, and Quebec Lathwood
5,000 Flooring Boards
50,000 Battens
61 Logs Honduras Mahogany
26 Logs Quebec Walnut
With other Goods.
Catalogues will be issued on the Week of Sale.
F. K. BARNES & SONS, Brokers.
Canons' Marsh, Bristol, April 9th, 1862.

BINFIELD, NEAR BRACKNELL, BERKS.—TO BUILDERS, IRONMONGERS, PAINTERS, FARMERS, DEALERS, AND OTHERS.

MR. W. BOOTH will SELL by AUCTION, at the back of the Water-house, near the Shoulder of Mutton Inn, on the Turnpike Road, as above, on THURSDAY, APRIL 17th, 1862, at ELEVEN for TWELVE o'clock, without reserve, a valuable COLLECTION of GOODS, removed to the above premises, for convenience of sale, to repay advances, comprising 13,000 feet of reading fall, three tons of stench wrought flat joints, and one ton of cut nails, wood screws, locks, bolts, hinges, stoves, galvanized iron buckets, glass paper, sash-line, white lead, ground and dry colours, old materials, doors, sashes and frames, shutters, boards, pantile laths, &c. a large quantity of gravel and sand, about 10 spades, shovels and forks, and other goods on view the day prior and morning of sale. Catalogues may be had on the Premises; at the Inns in the Neighbourhood; by post for a stamp; and of the auctioneer, W. BOOTH, Morland House, Hackney-road, London, N.E.

IN BANKRUPTCY.—To Iron Merchants, Wellborers, Machinery and Plant Dealers, Smiths, the Trade, and Others

MR. CHARLES TEAGUE is directed by the Assignees of Mr. Stephen Bodman, jun. to SELL by AUCTION, on the PREMISES, 8, St. Alban's-place, Vauxhall-bridge-road, on MONDAY, APRIL 14, at TWELVE for ONE precisely, the STOCK in TRADE, comprising a set of very powerful three-throw lift and force pumps complete, two 12-inch and 4-inch ditto complete; several wrought boilers, including one 4-horse power; double and single puncheon cranes, a set of sheer legs with tackle complete, a sausage chopping-machine, a rag-breaking machine, by Tidcombe, of Witford; upwards of 150 large and small pulley wheels, anvils, very superior shear and cast-steel, Oxley and Turton's make; and other items appertaining to the trade; also, a nearly new modern waggonette, three light and heavy spring carts, sets of plated and brass-mounted harness, and the usual stable appendages. May be viewed, and catalogues had of J. P. MURROUGH, Esq. Solicitor, Warwick Chambers, Gray's Inn-road, at the Auction Offices, 11, Poultry, City, and 12, Oakley-street, Chelsea.

PUBLIC OFFICES EXTENSION.—Tenth Sale of BUILDING MATERIALS

MESSRS. GLASIER & SON are favoured with instructions from the Commissioners of her Majesty's Works and Public Buildings, to SELL by AUCTION, on the Premises, on TUESDAY, APRIL 15th, at TWELVE for ONE, the valuable BUILDING MATERIALS of SEVEN HOUSES, being No 9, Duke-street, and No. 17 to 22, Lower Crown-street: comprising about 400,000 capital stock bricks; a large quantity of plain tiles, sound timber in roofs, floors, &c, wainscoting, doors, sashes and frames, chimney-pieces, register and other stoves, paving, coping; several tons of lead, and very superior fixtures and fittings, including metal-top counter, 7 mottion beer-engine, &c. On view day prior and morning of sale. Catalogues had at the Office of Works, 12, Whitehall-place; of JAMES TENNYSON, Esq. 7, Whitehall yard; on the Premises, at Garraway's; and of the Auctioneers, 41, Charing-cross, S.W.

Building Materials, Great Tower-street.

PULLEN, HORNE, & EVERSFIELD are instructed by the Hon. Commissioners of Sewers, to SELL by AUCTION, on the Premises, on MONDAY, APRIL 14, at TWELVE, in lots, all the valuable BUILDING MATERIALS of THREE HOUSES and SHOPS, Nos 52, 53, and 54, Great Tower-street, comprising sound brick-work, stout timber in roofs and floors, plain tiles, plate glass shop-fronts, grained sashes, doors, chimney-pieces, sound floor boards, wainscoting, stone copings and sills, lead flats, gutters, cisterns and pipes, settles at bar-room, mahogany tables and fittings of dining-rooms, stoves, ranges, and other useful fixtures. May be viewed and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

BLOOMSBURY.—Building Materials of Two Houses.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on MONDAY, APRIL 28th, at TEN for ELEVEN, to clear the site for rebuilding, the MATERIALS and FITTINGS-UP of TWO HOUSES, being Nos. 48 and 49, Great Russell-street, Bloomsbury; comprising sound stock bricks, plain tiles and slates, useful timber in roofs and floors, fire-proof arches, two cast-iron girders, 12 lights of plate glass, shop-front, marbled chimney-pieces of fine sorts, marble square, several tons of lead, stone paving, iron railing, and other effects.—May be viewed on SATURDAY, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W.; and 80, Fore-street, E.C.

CARRARA WHARF, THAMES BANK, PIMLICO. To SCULPTORS, MASONS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Fabbricotti, Brothers, to SELL by AUCTION, on the PREMISES, Carrara Wharf, on TUESDAY, APRIL 22nd, a large quantity of fine Sicilian, Veined, Statuary, and Coloured MARBLES, in blocks, with several thousand feet in slabs; also some Block Figures and Vases, Busts, Mortars, and other Ornaments. Approved Blocks for random sawing.—May be viewed one day previous, and Catalogues had on the Premises; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

PUTNEY.—BUILDING MATERIALS of the Mansion, Lime Grove Estate.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, near the Railway-station, Putney, on TUESDAY, MAY 6th and following day, at TWELVE for ONE precisely, each day, the valuable MATERIALS and FITTINGS-UP of the MANSION and OFFICES; comprising 800,000 capital bricks, 80 squares of slates, large quantity of plain and pan tiles, 150 squares of flooring, excellent oak and fir timber in roofs, joists, and girders; oak staircase, 50 squares of York, Portland, pebble, and clinker paving; 400 feet of Portland coping, 20 pairs of plate-glass sashes, 30 panelled and other doors, expensive Spanish mahogany glazed bookcases, four carved statuary chimney-pieces, several other chimney-pieces and stoves, kitchen range, four coppers and laundry fittings; the fittings-up of a brewhouse, comprising 150-gallon copper, fir back lined with lead, force pumps, &c.; yard and coach-house gates, stable fittings, 30 tons of lead, and other effects. May be viewed on SATURDAY and MONDAY previous, and catalogues had on the Premises; also of Messrs. BAXTER, ROSE, & NORTON, 6, Victoria-street, Westminster; of GEORGE POWNALL, Esq. Architect, 60, Lincoln's-inn-fields; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

TO CONTRACTORS AND BUILDERS.—VALUABLE BRICK EARTH.

MESSRS BUCKLAND & SON have received instructions TO LET, or SELL by PRIVATE CONTRACT, a FIELD of Excellent BRICK EARTH, containing about 10 acres, situated about 10 fifty miles from London, on the South-Western and Staines Railway.—Further particulars may be had on application.—Auction Offices, Windsor.

CHARING CROSS RAILWAY.—Fourteenth Clearance Sale—Building Materials.—First portion of the Hungerford Market.—To Builders, Contractors, Others.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, the 22nd of APRIL, 1862, at ONE o'clock punctually, in lots, the first portion of the excellent and useful MATERIALS of the HUNGERFORD MARKET: consisting of two public houses, the large music-hall, and two ranges of shops, with cellarage under the whole, of carving and stock brickwork, about 100 squares of flooring slates, sound timber in floors and roofs, good flooring boards, panelled and other doors, lead in gutters, several slide cisterns, iron girders, a number of stone columns and pedestal bases, a quantity of granite and York paving, flights of stone steps, a cast-iron pump, with circular granite basin, and a mass of useful fixtures and fittings-up.—May be viewed the day previous to sale, and catalogues had of Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C. and Wimbledon-hill, Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices in the London-bridge Terminus.

FOR SALE, by PUBLIC AUCTION, At GARRAWAY'S COFFEE-HOUSE, CORNHILL, On TUESDAY, 29th APRIL, 1862, At HALF-PAST FOUR o'clock precisely, By order of the Importers, 160 Loads Quebec Yellow Pine Timber.
155 " Red Pine.
15,000 Quebec Spruce Deals and Battens.
18,000 St. John's ditto. ditto.
1,500 Yellow Pine ditto.
2,000 Spruce Palings.
503 Loads Italian Oak Timber.
And at SIX o'clock precisely,
Mahogany, 546 Logs (Cuba,) of superior quality, well squared,
Cedar, 79 " do. " and good dimensions,
Being the entire Cargo just landed at the Eastwood Wharf, West India Docks, ex "Ina," from Havannah.
Walnut Wood, 340 Logs, Planks, and Burr's Italian and Circassian.
Santa Maria Wood, 1 Log Honduras.
Orders may be left at the Bar of
THOS. ROBERTS & CO. Brokers, 9, Billiter street, E.C.

CRAVEN-HILL GARDENS, BAYSWATER.—BUILDER'S PLANT

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Craven Lodge, on MONDAY, APRIL 14th, at ELEVEN for TWELVE, 600 SCAFFOLD POLES and 550 boards; 300 pulleys, blocks and falls, ladders, prepared ridges' work, 12 stoves and range, cistern, iron, 22 gas bibb chimneypots, drainpipes, stone, curb, castings, old iron; 25 benches; hay saddle horse, 2 carts, chaff-cutting machine, harness, &c.—Auction Offices, Carlington-street, Hampstead-road, near the Euston Station.

TO IRONMONGERS, BUILDERS, AND OTHERS.

MR. CHARLES WOOLTORTON, Ironmongers' Auctioneer, Valuer, and Agent, will SELL by AUCTION, at ELEVEN for TWELVE o'clock, on MONDAY next, APRIL 14, 1862, on the PREMISES, 61, Marchmont-street, Russell-square, the capital STOCK of FURNISHING and BUILDERS' IRONMONGERY, nearly all newly purchased, and well arranged in lots suitable for private purchasers and builders; consisting of two each improved oak grained and mahogany closetures, two each patent oak grained and mahogany portable water-closets, very superior, with a large general assortment of every description of furnishing goods, twenty sets of beautiful japanned trays, and ten handsome moderator lamps, several baths, and the copper, Britannia metal, and silver-plated articles of superior quality, several registers and kitchen-ranges and a 4-feet improved kitchener. Builders' Ironmongery comprises a capital stock of mortice, rim, and other locks, bolts, latches, cut clasp, floor and joiners' brads, with glue, white lead, &c. and some famous anvils, vices, smiths' bellows, and a set of japanned grafitters' stocks and dies, with the valuable LEASE of the old-established PREMISES, with excellent Smith's Shop, well fitted with forges, benches, and fixtures, suitable for conduct on a good trade.—May be viewed Saturday previous and morning of sale.—For further particulars and catalogues apply on the Premises, or to the Auctioneer, at his Offices, 5, Farringdon-street, E.C. City.

ACTON, MIDDLESEX.—Twenty-one Acres of first-class Freehold Building Land, surrounding the Acton Station of the Kew Branch of the North-London Railway, with quick and cheap trains every hour to the City and West-end

BAKER & SON will SELL by AUCTION, on FRIDAY, APRIL 25th, at TWELVE, at the MART, in Thirty-seven Lots, Twenty-one Acres of highly-valuable LAND, sloping south, from the Acton Station to the Uxbridge-road, to which it has extensive and important frontages, and also to the road in front of the Railway-House to the Acton Station. The water and gas are laid up the frontage next the Uxbridge road, and the whole is ready for building operations, offering all the inducements, so fully appreciated by men of business in the City, of pure air, good water and drainage, elevated, dry, and healthful locality, with rail and omnibus every hour to the City and West-end, and also within a few minutes' of Kew Gardens, Richmond, and the Star and Garter. There are good veins of brick earth and gravel in the property. Immediate possession. The land-tax value redeemed.—May be viewed one week prior. Particulars and plans had at the George Inn, Acton; at the Mart; of Messrs. BISCHOFF, COXE, & BOMPAS, Solicitors, 19, Coleman-street, City; and of BAKER & SON, Land and Railway Surveyors, Kilburn.

PLUMBER'S and PAINTER'S, &c. BUSINESS, eighteen miles from London. Been in it fifteen years. Returns about 700l. a year. First-class connection. Coming-in, 200l. Apply to Mr. PATCHING, 33, Cranbourn-street, Leicester-square.

TO FURNISHING IRONMONGERS, SHEFFIELD WAREHOUSEMEN, and OTHERS.—TO BE DISPOSED OF, private contract, by direction of the executors, the long-established FURNISHING IRONMONGERY and SHEFFIELD PLATE BUSINESS, carried on for many years past by the late Mr. J. Hickling, together with the valuable LEASE of the very desirable PREMISES, No. 3, GRACECHURCH-STREET, adjoining St. Peter's Church, and one door from Cornhill. The returns average about 2,500l. per annum, and may be largely increased. The profits are good. About 2,000l. will be required. 500l. may remain on security of lease, if required.—Apply to Messrs. FULLER & HORSEY, Billiter-street, City, E.C.
13, Billiter street, March 20, 1862.

TO STONEMASONS and BUILDERS.—TO BE SOLD, the BUSINESS of a STONEMASON, where a good trade has been carried on for the last thirty-one years. It is in a first-class situation, and disposed of solely on account of the present Proprietor retiring from business. Full particulars may be had on application to Mr. JAMES BLUNT, Stonemason, St. Michael-street, West Bromwich.

WANTED to PURCHASE, the ENTIRE or HALF SHARE of an ARCHITECT'S PRACTICE of an extensive and first-class nature (Gothic preferred). Any gentleman about to retire, or who has more work than one principal can manage, with means to secure the publications and means to either succeed or join him.—Full particulars, directed to M. Mr Reardon's, 21, Piccadilly, shall be treated with strict confidence.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Projection; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter. Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Offices, Limited, Fleet-street, London. ROBERT M. LATHAM, Secretary.

A CARD.
MESSRS. CORDEROY, Surveyors (late of High-street, Marylebone), have REMOVED their OFFICES to 17, KING WILLIAM STREET, STRAND, LONDON, W.C.
Office in Portsmouth 13, Ordnance-row, Portsea.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient Staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.
Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.
Lithographers, &c. 5, Ave Maria-lane, E.C.

VENTILATION—PURE AIR.



With single pulley, from 6s each; with leading pulley, from 8s 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

INTERNATIONAL  EXHIBITION, 1862.

TO BUILDERS, UPHOLSTERERS, DECORATORS, &c.
THE OFFICIAL COLOURS, in CLOTHS and BAIZES,
ARE NOW IN STOCK AT
HILL & SON'S,
88 and 89, ST. MARTIN'S LANE, CHARING CROSS, W.C.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, April 12, 1862.

The Builder,

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1002. APRIL 19, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Modern French Architecture: House recently erected in Boulogne 279
A Mediæval Lewis 278

CONTENTS.

Antique Vases and Mural Decorations, as Illustrative of Architecture 269
Conversazione of the Architectural Association 270
The Horticultural Gardens, South Kensington 271
The Bridge of Avignon 271
Artificial Ice 272
Short time in Education 272
The Monument to Dr Jenner 273
The Street Architecture of London 273
British Archæological Association 274
Gardens: Civil and Mechanical Engineers' Society 274
The late Mr James Elmes, Architect 275
The late Mr. John Thomas, Sculptor 275
Old and Modern Engines of War 275
The White Tower, the Tower of London 275
The Fall of Towers and Spires 276
The Allen Memorials 276
The French Gallery, Pall-Mall 276
The Proposed New Courts of Justice 276
Niello Work 276
Railway Accidents: Institution of Civil Engineers 277
Royal Institute of British Architects 278
The Architectural Museum 278
A Mediæval Lewis: Newport, Rhode Island (U.S.) 278
French Architecture: House in Boulogne 281
The site of King's Cross and Line of the Underground Railway 281
Competitions 281
Provincial News 281
School Building News 282
Church building News 282
Stained Glass 282
Crystal Palace Approaches 283
Brick-Making 283
"Useless Ventilation" 283
Hollow Walls 283
On Iron Beams 284
The Smoke Nuisance 284
Patents Connected with Building 284
Books Received: Variorum 284
Miscellanea 284

ART-UNION of LONDON.—The Annual GENERAL MEETING, to receive the Council's Report, and to Distribute the Amount Subscribed for the Purchase of Works of Art, will be held at the NEW THEATRE ROYAL ADELPHI, on TUESDAY, APRIL 29th, at HALF PAST ELEVEN for TWELVE o'clock, by the kind permission of BENJAMIN WEBSTER, Esq.

The receipt for the current year will procure admission for members and friends.

GEORGE GODWIN, } Hon. Secs.
No. 444, West Strand. LEWIS POCOCK, }

EASTER HOLIDAYS.—The SOUTH KENSINGTON MUSEUM will be OPEN FREE from MONDAY, 21st, to SATURDAY, 26th APRIL, 1862.
Hours from TEN a.m. to TEN p.m.

EVENING LECTURES at the GOVERNMENT SCHOOL OF MINES, JERMYN-STREET.—Dr. HOFMANN, F.R.S. will commence a Course of TEN LECTURES on the OUTLINES of CHEMISTRY, on MONDAY, the 28th APRIL, at EIGHT o'clock; to be continued on each succeeding WEDNESDAY and MONDAY EVENING, at the same hour.—Tickets for the whole Course, price 5s., may be had at the Museum of Practical Geology.
TRENHAM REEKS, Registrar.

INTERNATIONAL BAZAAR, 1862, EXHIBITION ROAD, South Kensington.
A Building of large dimensions, consisting of a Central Hall and two aisles with capacious galleries, is in rapid course of erection on the space of ground in Exhibition road, nearly opposite the grand entrance under the eastern dome of the International Exhibition and the entrance to the Royal Horticultural Gardens.
The proprietor of the land is erecting this building for the purpose of affording exhibitors in the Exhibition, as well as others, an opportunity of selling articles of manufacture principally of a portable character, sales not being permitted in the Exhibition.
Plans of the space to be let, with the tariff, can be seen at the offices at the Building.
Rough counters will be provided for exhibitors.
The utmost exertion will be made to make the International Bazaar worthy of public support. The Bazaar will be opened and closed contemporaneously with the Exhibition of 1862
Intending applicants for space are invited to inspect the progress of the building, and to apply for further information to the Superintendent at the Building.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, NOW OPEN, from Nine till Six, admission 1s. Half-crown season tickets admit at all times to the Exhibition of the west gallery containing the entire collection of drawings and sketches by the late A. Welby Pugin, and to all the Lectures. First Lecture, TUESDAY, MAY 6, at Eight p.m. on the Transport and Erection of Obelisks and other large Monoliths in ancient and modern times by Professor Donaldson.
JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

SIR JOHN SOANE'S MUSEUM, 13, Lincoln's Inn Fields. The Museum is OPEN every WEDNESDAY, THURSDAY, and FRIDAY, from TEN till FOUR, during the Months of APRIL, MAY, JUNE, JULY, and AUGUST.—Cards of admission to be obtained at the Museum.

MEMORIAL FUND.—HIS LATE ROYAL HIGHNESS THE PRINCE CONSORT.
PRESIDENT—The Right Hon. WM. CUBITT, Lord Mayor.
Amount of Contributions to April 9 ..... £44,239
Amount subscribed during the week ending April 15 1,420
Total £45,665
Subscriptions continue to be received by the Right Hon the Lord Mayor, at the Mansion House; and by all the London Bankers.
A Sub-Committee sit daily at the Mansion House.
MICHAEL GIBBS, } Honorary
S. R. GOODMAN, } Secretaries.
SAMUEL BROWN, }
Mansion House, E.C. April 18th, 1862.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.—SESSION, 1862.—On TUESDAY next, at EIGHT p.m. precisely, a LECTURE will be delivered, in the Theatre, on "The History of the Temple Area at Jerusalem, with its Buildings and Sub-structures," by Dr. ERMETE PIEROTTI, Architect to the Pasha of Jerusalem.
A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Secretary.
(13, Stratford-place, W. of whom cards may be had by letter.)

COMPETITIONS.

TO ARCHITECTS.—WANTED, PLANS and ELEVATIONS for SCHOOLS and TEACHERS' RESIDENCES, in conformity with the Rules of the Committee of Council on Education, at Stockton-on-Tees, Durham. The boys' school to accommodate 250; the girls' school, 200; and the infants' school, 200 Three teachers' residences. Ten pounds will be given for the most approved set of plans.—Further information and tracing of site may be obtained of WILLIAM SKINNER, Esq. Stockton-on-Tees, to whom plans, with estimates of cost, must be sent, not later than the 30th of APRIL.

HOOPER MEMORIAL.—To SCULPTORS.—The Committee appointed to carry out the above object at Gloucester, invite sculptors to submit MODELS of DESIGNS for the FIGURE of BISHOP HOOPER, which is intended to be placed under the canopy of the monument just erected in the churchyard of St. Mary de Lode, Gloucester. The models or statuettes to be carved in stone, and to be one-quarter the real height (7 feet). The author of the best design, approved by the Committee, will be appointed to execute the full-sized figure; and the sum of ten guineas will be awarded for the second best design. The full-sized figure to be executed in Portland stone, at a cost not exceeding one hundred guineas.—Further particulars may be obtained at the office of the Architects, Messrs. MEDLAND & MABERLY, Gloucester. The designs to be delivered at the King's Head Hotel, Gloucester, directed to the "Hooper Memorial Committee," on or before 12th MAY next.
Gloucester, April 17, 1862. J. H. BROWN, Hon. Sec.

THE Corporation of the Borough of Kingston-upon-Thames having determined to take steps for the Drainage of the Borough, hereby invite ENGINEERS and OTHERS to submit PLANS, SPECIFICATIONS, and ESTIMATES for a thorough and complete SYSTEM of DRAINAGE of the Borough, and offer a Premium of 100l for the Plan approved, retaining the liberty to carry it out or not. The Plan approved to become the property of the Corporation; but the Corporation does not bind itself to accept or carry out any plan. The system of drainage to blend as far as practicable with existing drains, the plans and descriptions of which are at the Town Clerk's Office. The Plans, Specifications, and Estimates, stating also the Commission for carrying out the Works, to be sent to the Town Clerk's Office on or before the 17th day of MAY next.
WILLIAM PHILLIPS, Town Clerk.
Kingston, April 15th, 1862.

CONTRACTS.

TO BUILDERS. — NEW CHURCH at BWLCH-Y-CIBAU, in the parish of Meifod, Montgomeryshire. Any persons wishing to TENDER for the ERECTION of the above-named Church, may see the plans and specifications on application at the Schoolhouse, Bwlch-y-Cibau, six miles from the Llanymech Station, and nine miles from Welshpool; or may obtain further particulars by applying to the Architect, G. G. SCOTT, Esq. 20, Spring-gardens, London. Tenders to be sent in on or before the 22nd of APRIL, addressed to the Rev. R. WYNNE EDWARDS, Meifod Vicarage, Welshpool, and endorsed "Building Tender." The Committee do not pledge themselves to accept the lowest Tender.

TO BUILDERS. — Persons disposed to TENDER for ALTERATIONS, and very considerable ADDITIONS, to a RESIDENCE, at Chipping Norton, may see the Plans and Specification thereof, on application at the Offices of Messrs GIBBS, THOMPSON, and COLBOURNE Architects, Stratford upon Avon, between the hours of NINE and SIX, on and from FRIDAY, the 11th instant, until the 23rd instant, where the quantities, &c. may be had on payment of 10s. Tenders to be sent to Messrs. TISLEY & WILKINS Chipping Norton, on WEDNESDAY, the 23rd of APRIL instant. The lowest or any Tender will not necessarily be accepted.
Stratford upon Avon, April 2nd, 1862.

EXTENSION of TIME for Delivering TENDERS.—HUNSTANTON, St. Edmund's, near King's Lynn.—The Hunstanton Building Association (Limited) are prepared to receive TENDERS for the ERECTION of Three First-class, Four Second-class, and Four Third class HOUSES, at Hunstanton, according to plans, sections, elevations, and specifications, prepared by Mr. HUTTERFIELD. The plans, &c. may be seen at the Office of Mr. J. S. VALENTINE, C.E. 17, Parliament-street, Westminster; or at our Office, King's Lynn; or copies will be forwarded on prepayment of 2l. Tenders, stating a separate amount for each class of House (marked "Tenders for Building at Hunstanton"), to be delivered at our Office, on or before the 14th MAY next. The Association do not bind themselves to accept the lowest or any Tender.
PARRINDER & EDWARDS, Solicitors to the Association.
King's Lynn, 18th April, 1862.

CONTRACTS.

ARMY CONTRACTS.—Commissariat, South Camp, Aldershott, 10th April, 1862.—TENDERS will be received at this Office until Noon, on THURSDAY, the 1st MAY, 1862, from persons who may be willing to enter into CONTRACTS to supply FLOUR for Hospital Bread, in such quantities as may be required, from 1st JUNE, 1862, to 30th NOVEMBER, 1862, for the use of her Majesty's Land Forces stationed at Aldershott Camp, and within the command.
Forms of Tender and conditions of Contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.
Tenders on the printed forms must be properly filled up and signed, and delivered at this Office, under closed envelope, marked on the outside, "Tender for Flour for Hospital Bread," and no Tender will be noticed unless made on forms obtained from this Office.
ALFRED SALWEY, Deputy-Commissary-General.

ARMY CONTRACTS.—Commissariat, South Camp, Aldershott, 10th April, 1862.—TENDERS will be received at this Office, until noon, on THURSDAY, the 1st MAY, 1862, from persons who may be willing to enter into CONTRACTS to supply FLOUR and MEAT in such quantities as may be required from 1st JUNE, 1862, to 30th NOVEMBER, 1862, for the use of her Majesty's Land Forces stationed at Aldershott Camp, and within the command.
Separate Tenders are required for Flour and for Meat.
Forms of Tender and conditions of contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.
Tenders on the printed forms must be properly filled up and signed, and delivered at this Office, under closed envelope, marked on the outside "Tender for Commissariat Supplies," and no Tenders will be noticed unless made on forms obtained from this Office.
ALFRED SALWEY, Deputy-Commissary-General.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS and OTHERS.—TENDERS are required for the EXTERNAL COLOURING and PAINTING the Wellington Barracks, London.
Parties desiring to Tender for these works can obtain the Specification and Quantities, together with a Form of Tender, on application at this office, between the hours of TEN a.m. and THREE p.m. from the 21st to the 29th APRIL, 1862
The Tenders must be addressed, under cover, to the Director of Contracts, War Office, Pall-Mall, London, S.W. on or before the 3rd of May, 1862, marked on the corner of the envelope, "Tender for External Colouring and Painting the Wellington Barracks, London."
The Secretary of State for War does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, London District, 11, James-street, Buckingham-gate, S.W. April, 1862.

TO HOTEL PROPRIETORS, BUILDERS, JOINT STOCK COMPANIES, and OTHERS.—The Directors of the Charing-Cross Railway Company are prepared to receive TENDERS for a SITE, measuring about 150 feet by 60 feet, adapted for the erection of a first-class HOTEL, over their Terminus at Charing-Cross.—Particulars may be had on application to the Secretary of the Charing-Cross Railway Company, at the London-bridge Station, from and after MONDAY, the 21st instant, and sealed Tenders to be sent in to the Secretary, on or before TUESDAY, the 20th day of MAY next.
S. SMILES, Secretary.
Railway Terminus, London-bridge, April 16, 1862.

TO BUILDERS and CONTRACTORS.—Persons desirous of CONTRACTING for the ERECTION and COMPLETION of a VILLA RESIDENCE, with Stable and Coach House, proposed to be built near Stroud, Gloucester-shire, may inspect the drawings and specifications at the Office of Messrs. FRANKLIN & CLISSOLD, architects, Stroud. Tenders to be delivered to the said Messrs. FRANKLIN & CLISSOLD on or before the 28th instant. Neither the lowest nor any Tender will necessarily be accepted. Each competitor must name a time within which he will engage to complete the work under a penalty, and that time named will be an element in the acceptance of a Tender.
Stroud, April 9th, 1862.

TO CONTRACTORS.—BUILDERS desirous of TENDERING for the ERECTION of a LARGE BUILDING in Edinburgh, may see the plans and specifications, and receive schedules of quantities of work at the Office of Mr. HENDERSON, Architect, 7, Hill-street, Edinburgh. Tenders to be sent in by the 15th May.

TO BUILDERS.—Notice is hereby given, that the Guardians of the poor of the Wetherby Union are prepared to receive TENDERS for the various branches of work required in the ERECTION of a new UNION WORKHOUSE at Wetherby, in the county of York. The drawings, specifications, and conditions may be seen, and copies of the bills of quantities obtained, at my Office, on and after THURSDAY, the 17th instant, until MONDAY, the 28th instant. Tenders sealed, endorsed "Tender," and addressed to me, will be received on or before MONDAY, the 28th instant; and any further information may be obtained from the Architects, Messrs. PRITCHETT & SON, Northgate House, Darlington. The Guardians do not bind themselves to accept the lowest or any other Tender.
JAMES COATES, Jun.
Clerk to the Board of Guardians of the Wetherby Union.
Wetherby, 8th April, 1862.

TO BUILDERS, &c.—NEW METHODIST FREE CHURCH, Holt, Norfolk. Persons wishing to CONTRACT for BUILDING the above CHURCH may see the plans and specifications at the Office of Mr. JECKYLL, the Architect, Queen-street, Norwich, on and after the 16th day of APRIL instant. Combined or separate Tenders for different parts of the work to be sealed and delivered to Mr WILLIAM LIGGATE, Holt, on or before TEN o'clock of the 30th day of APRIL, endorsed, "Tender for Methodist Free Church." The Committee do not bind themselves to accept the lowest or any Tender. The names of two sureties must be inserted in the Tender.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS.—The Board of Works for the District of West Ham are desirous to receive TENDERS for the ERECTION of NEW OFFICES and BOARD ROOM in White Horse-street, Commercial-road East. The drawings, specification, and conditions may be seen, and forms of Tender and other particulars had, on and after the 24th day of APRIL next, upon application to Mr CHARLES DUNCH, Architect, White Horse-street, Commercial-road East. Tenders are not to be received at the Offices of the Board not later than TWELVE o'clock on MONDAY, the 5th day of MAY, 1862. The Board will not be bound to accept the lowest or any Tender

THOMAS W. RATCLIFF, Clerk of the Board.

30th April, 1862

TO BUILDERS. –DARLINGTON NEW MARKET, TOWN OFFICES, and CLOCK TOWER.—Parties desirous of contracting for the ERECTION of the above, may see the plans and specifications on and after MONDAY, 7th instant, at the Offices of the Offices of Mr. ALFRED WATERHOUSE, Architect, Manchester. Tenders to be sent in to me, addressed "Tender for Darlington Market," and addressed to the Chairman of the Darlington Local Board, Health Office, Post Office, MONDAY, 12th of MAY next. No Tender is to be considered unless on a Printed Tender.

GEORGE DICKINSON, C.E.

Surveyor to the Board.

Central Buildings, Darlington, 8th April, 1862

TO CONTRACTORS, BUILDERS, and others. - BROMPTON, CHATHAM, GILLINGHAM, and ROCHESTER WATERWORKS COMPANY. – The Directors of the above Company are now prepared to receive TENDERS for the required TENDERS from persons willing to CONTRACT for the EXECUTION of a High-service RESERVOIR, near the Star Windmill, Chatham. Further particulars may be obtained, and the plans, &c. inspected, by application at the Company's Offices, Military-road, Chatham; or at the Office of J. PILBROW, Esq. Engineer to the Company, 1, Great Marlborough-street, Regent-street, W., where also specification, conditions of contract, and Form of Tender, may be obtained on payment of 5s. Tenders, properly directed, must be sent in, addressed to the Directors, at their Offices Chatham, on or before TUESDAY the 22nd day of APRIL, 1862 By order,

April 9th, 1862. GEO. BOLTON, Secretary.

TO BUILDERS.—Persons desirous of furnishing TENDERS for the ERECTION of a BANK and MANAGER'S HOUSE at Spalding, for the Spalding Local Board Banking Company, can obtain particulars on application to Mr. WILLIAM EVE, Surveyor, 3, Union court, Old Broad-street, E.C.

Tenders will have to be sent in on or before the 17th MAY next. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS.—CITY of ROCHESTER.

Persons desirous of TENDERING for the ERECTION, for the Corporation of Rochester, of a TOWN QUAY and LANDING-PLACE at the south side of Rochester, may inspect the drawings and specifications at the Office of Mr. HENRY ANDREWS, Surveyor, Rochester, between the hours of TEN and FIVE o'clock, after WEDNESDAY, the 16th day of APRIL instant. A bill of quantities of the proposed work can be had of the Surveyor, on payment of five shillings. Tenders to be sent in to the Office of the undersigned, Rochester, Kent, not later than TWELVE o'clock at noon, on WEDNESDAY the 30th day of APRIL instant, and endorsed "Tender for Work at West Kent Quay at Landing Place." The Corporation do not bind themselves to accept the lowest or any Tender. By order,

RICHARD PRALL, Junior, Town Clerk.

Town Clerk's Office, Rochester, 12th April, 1862

TO BUILDERS. — Persons desirous of CONTRACTING with the Committee of Management of the West Kent Infirmary, Maidstone, for the ERECTION of a new WING to the SMITH'S Ward, UPPER STORY, are requested to attend at the Office of Mr. HENRY BLANDFORD, Architect, Maidstone, on or after FRIDAY, April 25th instant, between the hours of Eleven and Two, to receive Tenders for the work, sealed in and endorsed "Tender for Work at West Kent Infirmary," to the Secretary, at the Infirmary, on SATURDAY, MAY 3rd, not later than TWELVE m. The Committee do not pledge themselves to accept their lowest or any Tender.

HENRY BLANDFORD, Architect.

Maidstone, April 19th, 1862.

CONTRACT for SEWERAGE WORKS.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS to CONSTRUCT certain SEWERS, with their Appurtenances, in several streets near Forest Gate, within their District, according to plans, sections, detail drawings, specifications, and conditions, prepared by Mr. MARSHALL, their Surveyor, which may be inspected on and after the 12th inst., between the hours of TEN and FOUR o'clock, or application to the said Surveyor, at his Office, 6, Rood's Hour, Stratford. The Tenders must be delivered to me on or before the 28th instant, marked "Tender for Sewerage Works," and the party whose Tender may be accepted will be required to enter into a contract and to find sufficient sureties for the due performance of the works, and such contract shall not be prepared in the Clerk to the Board at the expense of the contractor

W. J. BARSHAM, Clerk to the Local Board.

Stratford Green, April 9th, 1862.

TO BUILDERS. — GRAVESEND GAS-WORKS.—The Directors of the Gravesend and Milton Gas-light Company are ready to receive TENDERS for PERFORMANCE of the WORK required in the PATENT Neat Stone RETORT-HOUSE and COAL STORE, and alterations in other parts of the Works. Plans and specifications of the work may be seen at the Company's Works, Gravesend, after the 14th instant, and any information required thereon may be obtained of Mr J CHURCH, Civil Engineer, Gravesend. Sealed Tenders must be sent to the Secretary's Office, at Gravesend, endorsed "Tender for Retort-House," before the 28th instant, marked "Tender for Building." The Directors will not attend to open any Tenders, but will be at liberty to accept the lowest or any Tender. The person whose Tender may be accepted must enter into and give security for the due performance of the Directors, for whom he must enter into a deed under seal and sign at the joint expense of the Company and the contractor.

By order of the Directors,

SOUTHGATE & SON, Secretaries.

Gravesend, April 18th, 1862.

BRIGHTON HOVE OUTFALL DRAINAGE. — BRUNSWICK SQUARE and TERRACE DISTRICT. — Notice is hereby given to Persons willing to undertake a CONTRACT with the Brighton Commissioners of Sewers, for CONSTRUCTING a MAIN SEWER and OUTFALL in the above district, that the plans and specifications of the several works to be executed, and the conditions of contract, may be seen at the Office of R. G. SUTER, Esq., the Surveyor of the Commissioners, at their Rooms in Brunswick street West, Hove, Brighton, on any day after this date hereof, between the hours of TEN and five o'clock, where copies of the quantities taken out by Messrs. BAT-TONE & HUNT, of Parliament-street, Westminster, will also be supplied on payment of 10s 6d. Tenders to be addressed and sent by post, to Messrs. Sadler and Terrace Lancaster, and to be delivered on or before FIVE o'clock in the afternoon of Wednesday, the 30th day of APRIL instant, at the Office of Messrs HILL & FITZHUGH, Solicitors, Brighton The Commissioners do not bind themselves to accept the lowest or any Tender.

By order of the Board, 1862.

TO BUILDERS.—The Guardians of Mile-end Old Town are prepared to receive TENDERS for the ERECTION of "IMBECILE WARDS" at the Workhouse Establishment. The plans and specification may be inspected at the Office of Mr DOBSON, Architect, 20, Mile-end-road, E. A bill of quantities may be had upon payment of one shilling, which will be returned to all parties who send in Tenders are called. Tenders and will "Imbecile Wards," and must be sent before ONE on THURSDAY "4th APRIL next, and the person whose Tender must be in attendance at SIX in the evening. The Guardians do not pledge themselves to accept the lowest or any Tender – By order,

E. J. SOUTHWELL, Clerk.

Workhouse, Brunswick road, Mile end, N.E.

8th April, 1862.

NOTICE to CONTRACTORS.—DOUGLAS HARBOUR, ISLE OF MAN.—The Isle of Man Harbour Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a BREAKWATER, of 1,100 feet in length, or thereby, at the Harbour of Douglas. Plans, sections, specifications, and conditions of the work may be seen on and after the 12th inst. at the Offices of the Engineer, JAMES ABERNETHY, Esq. 31, Parliament-street, Westminster. Sealed Tenders, endorsed "Tender for Breakwater," to be delivered to me, the undersigned, or before the 30th day of APRIL next. The Commissioners do not bind themselves to accept the lowest Tender, and further reserve to themselves the power of rejecting all Tenders which they shall consider unsatisfactory.

RICHARD QUIRK, Receiver-General.

Douglas, Isle of Man, April 14, 1862

MRS. COOK'S MEMORIAL CHURCH, Burlington-street, in the eastern part of Brighton.—To BUILDERS. Persons desirous of CONTRACTING for the ERECTION and COMPLETION of this CHURCH in a special manner specified in the plans of the Architect, BENJAMIN FERREY, Esq., 1, Trinity place, Bank, city cross, London, S.W. on and after the 21st of APRIL. Tenders to be sent in to the Architect's Office on or before the 28th of APRIL, at TWO o'clock, addressed to the Rev. A. LEPEVRE COOPER, who will not bind himself to accept the lowest or any Tender. The contractor will be required to enter into the usual securities for the due performance of the work.

CONTRACT for REPAIRING ROAD.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS for the required REPAIRS to the STREET and Way-roads, and, also, to the Footpaths, according to plans, and specifications prepared by Mr MARSHALL, their Surveyor, which may be seen on and after the 12th instant, at the Board's OFFICE, No. 6, ROOD'S HOUR, LEYTON, and application to the said Surveyor at his Office in Rood's Hour, Stratford. The Tenders must be delivered to me on or before TWELVE o'clock on the day of Meeting, and endorsed "Tender for Repairing Road," and the party whose Tender may be accepted will be required to enter into a contract and to find sufficient sureties for the due performance of the undertaking, such contract and bond to be prepared by the Clerk to the Board at the expense of the contractor.

W. J. BARSHAM, Clerk to the Local Board.

Stratford green, April 9th, 1862

TO SCAVENGERS, CONTRACTORS, and others.—The Commissioners of Sewers of the City of London will meet at Guildhall, in the said City, on TUESDAY, the 6th of APRIL, 1862, at TWELVE o'clock at Noon precisely, to receive TENDERS for CLEANSING the STREETS, REMOVING DUST, &c. from the houses of the Inhabitants, and for WATERING certain Streets within the said City, for the term of One year, from Midsummer next. Printed forms of Tender may be had at the Office of the City Solicitor, at this Office. The City is divided, for the purposes of these Contracts, into Six Districts. Each Contractor is required to send in a separate Tender for Cleansing, and 10th, for each Division for Watering, for the due performance of the several Contracts, and the consent in writing of the sureties proposed for each Tender, to be indorsed with the Tender. Contractors are to attend personally at the Court of Sewers at the time appointed, or their Tenders will be rejected. No Tender will be received after TWELVE o'clock on the day of Treaty, nor will any Tender be received unless it contains a deposit the sum of Twenty Pounds in bank of England notes for each Division for which the Tender is made, which deposit will be returned to the person making such Tender, if he is not accepted, but will be retained by the Commissioners if the Contractor shall refuse or neglect to enter into and duly executed by the person Tendering and their sureties, and in case of such Contracts and bonds not being duly executed, the said sum of money will be forfeited to the Commissioners, and be applied by them to the purposes of the Commission.

JOSEPH PAW, Principal Clerk.

Sewers' Office, Guildhall, 14th April, 1862

TO ENGINEERS.—The Corporation of Bath are prepared to receive TENDERS for the ERECTION of new STEAM PUMPING MACHINERY, to connect with the Horse Bath and Lime Kiln rooms. Contractors desirous of tendering for the specifications and forms of Tender prepared by Mr G. L. FULLER, C.E., 19, Lincoln's-inn-fields, London. Specimens of general arrangement, &c. will lie at the Offices of Mr FULLER aforesaid; Mr. C. E. DAVIS, Architect, Surveyor of Works to the Corporation of Bath, 53, Pulteney-street, Bath; and at the Guildhall, Bath, from the 21st of APRIL to the 2nd of MAY, when Engineers may be supplied with the specifications, forms of Tender, and plans, can be obtained of the Town clerk on payment of 8s. Tenders to be sent to the Town-clerk's Office on or before the 3rd of MAY, endorsed, "Tenders for new Steam-Pumping Machinery." The lowest or any Tender will not necessarily be accepted. By order,

Guildhall, Bath, April 14, 1862. JOHN STONE, Town-clerk.

THE Board of Works for the Fulham District hereby give notice, that they will be prepared to receive, at their next meeting, TENDERS or the LOAN of £10,000 required by the Fulham Vestry, for the purpose of the Act, for the annual instalments in a period of twenty years. Tenders stating the rate of interest, to be delivered at the office, Broadway House, Hammersmith W. on or before TUESDAY, the 29th of APRIL, 1862, addressed to the Chairman, and marked on the outside, "Tender for the loan of £10,000." The Board do not bind themselves to accept the lowest or any Tender.—By order, W. LOVELY, Clerk.

BATH. — RECONSTRUCTION of the PROVISION MARKETS.—To IRONFOUNDERS, CONTRACTORS, and OTHERS.—Parties willing to CONTRACT with the Corporation of Bath for the RE-ROOFING of UNION HOUSE MARKET, and other Works, involved in the RECONSTRUCTION of the PROVISION MARKETS, may inspect the plans and specifications, and obtain copies of the same, on application, on and after the 28th inst., and after the end of MAY next (during which period Tenders for the separate Trades concerned "Tenders for the Reconstruction of Markets," addressed to the Town Clerk, Guildhall, Bath, and not later than TUESDAY, the 10th of MAY. The lowest or any Tender will not necessarily be accepted

HICKES & ISAAC, Architects, 13, Northgate-street, Bath

April 14, 1862.

BOARD OF WORKS for St. SAVIOUR'S DISTRICT.—TO DUSTMEN and SCAVENGERS.—Notice is hereby given, that the Board will meet in the Board room in Bankside, Southwark, on WEDNESDAY, the 7th day of MAY next, at SIX o'clock in the evening, for the purpose of receiving TENDERS for the execution of the several works of DUSTING and SCAVENGERING, hereinafter mentioned, for the term of three years, from the 1st of JULY next, and also for the supply of the PIECE WORK required during the said term, at the option of the Board: that is to say, for removing the dust ashes, &c., and the work from all houses as well in two divisions of the district, namely, that of the parish of St Saviour, and for cleansing the roads, streets, lanes, courts, alleys, passages, and places, and also all gulleys, drains, &c. within the said parish, and the whole of the parish of Christchurch, and that of the Clink Liberty, in the parish of St. Saviour

The contractor as to the dusting, and also as to the scavengering, will be required to enter into a contract or contracts and also with two responsible persons, their sureties in bond or bonds in the sum of £250, for each division; and the contractor will be required to execute the contract, and in the usual form for the faithful performance of the same. He is required to perform the several services by himself, or by and with the assistance of his partners, and not by sub-contract or otherwise, without the consent in writing of the Board for that purpose. In case Parliament shall at any time hereafter, within the term of the contract, extend the limits of the district, the contractor will be required to perform the several services in the extended district, at the same rate per house as he shall be paid for the same services in the district now under the contract. He is required to perform the several services, namely, as to dusting and scavengering, and of the PIECE WORK required, for the term hereinafter mentioned for the

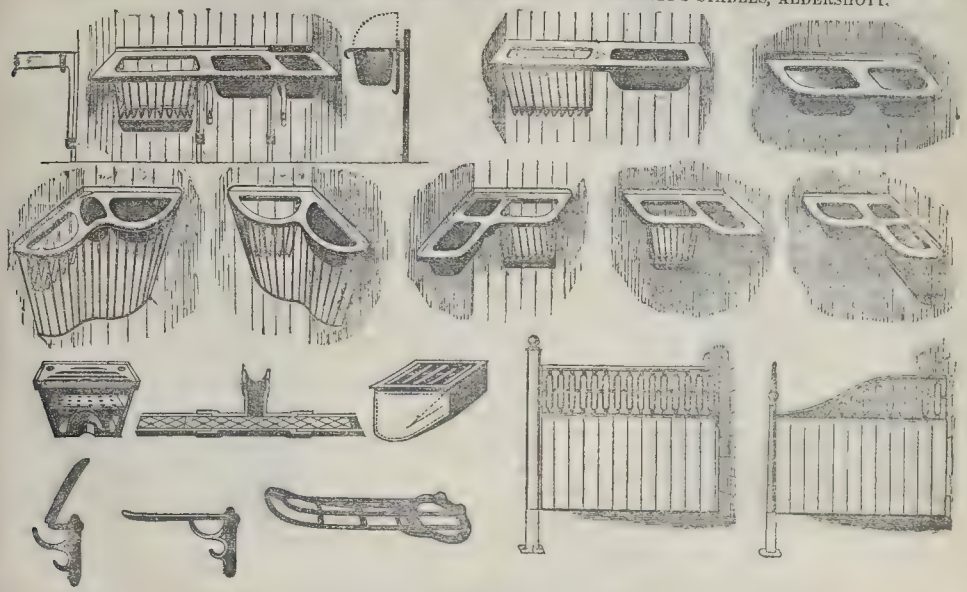
COTTAM & COMPY. 2, WINSLEY STREET, OXFORD STREET. LONDON W.

COTTAM'S PATENTED AND REGISTERED

STABLE AND HARNESS-ROOM FITTINGS.

ORIGINAL INVENTORS OF THE UNDER-FEEDING PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, AS ONE FIXTURE.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM arranged for inspection in full-sized Stalls, Loose Boxes, &c. a portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

Knightley's Patent Stable Floor.

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to

COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—Winsley Street is the Street opposite the Pantheon.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tough Fenders, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Pig and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

TO BUILDERS AND OTHERS.

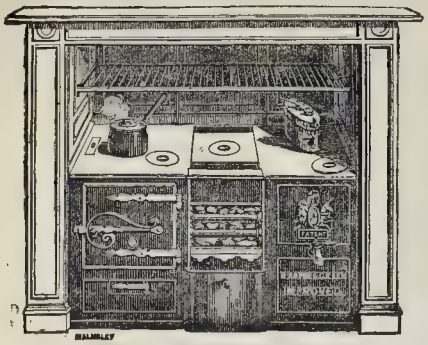
A SECOND-HAND MOULDING MACHINE TO BE SOLD A BARGAIN. Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 9, Baldwin's-gardens, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.

N.B.—The usual discount to builders and the trade.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators. HULETT & CO. 35, High Holborn.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10*s.*

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen alone are employed.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke-curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat,—viz. that reflected from the upper or concave surface,—to be projected parallel with the floor, instead of directly to the ceiling, as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction, thus thoroughly warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which is intended to be kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black on the top, and obviates any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18*s.* 6*d.*

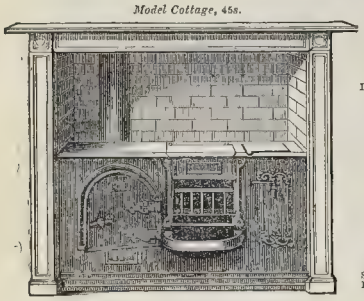
BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.
F. THOMAS, AGENT.

ILLUSTRATED PROSPECTUSES POST FREE.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45*s.*



Open or Close Fire Model Cottage Range, with Oven & Boiler.

Self-acting, with Bright Wrought Bars.		Self acting Cottage, with Oven and Back Boiler	
34 inches	54*s.*	30 inches	22*s.*
36 ,, ...	56*s.*	32 ,, ...	24*s*
38 ,, ...	58*s.*	34 ,, ...	26*s.*
42 ,, ...	6*l* 8*s*	36 ,, ...	28*s.*

Register Stoves, with Strong Bars, from per inch, 4*d.*
Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4*d* per inch.
Best ditto, with Fire brick Back, from per inch, 5*d.*
Bright Stoves, with Two Fires, 46*s.* to 100*s.* each.

Best Cut Clasp and Rose Nails.

1-inch.	1½-inch.	2 inch.	2½-inch.	3 inch.
14*s.*	14*s.*	16*s.*	22*s.*	11*s.* 6*d.* per cwt.

Best Sheet Cut Floor Brads, 11*s.* per cwt
Best Cut Lath Nails, 14*s.* per cwt,

	2 in.	2½ in.	3-in.
Cast Rain-water Pipe....	8*d.*	10*d.*	1*s.* per yard.

Cast Gutters, 4-in. 7*d* per yard

	4-in.	44-in.
O G Cutters, with Clips on..	1*s.*6*d.*	2*s.* per yard.

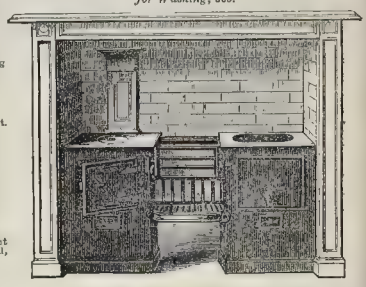
	2	3	4	5	6
Patent Line	3*s.* 6*d*	4*s*	5*s.*	7*s.*	9*s* per gross.

6 inch Rd Ward Mortise, with best Furniture and Patent Spindles, 2*s.* 8*d.* each. Light Elliptic and Register Metal, 12*s.* 6*d* per cwt.

Dr Arnott's Ventilators, 4*s* each

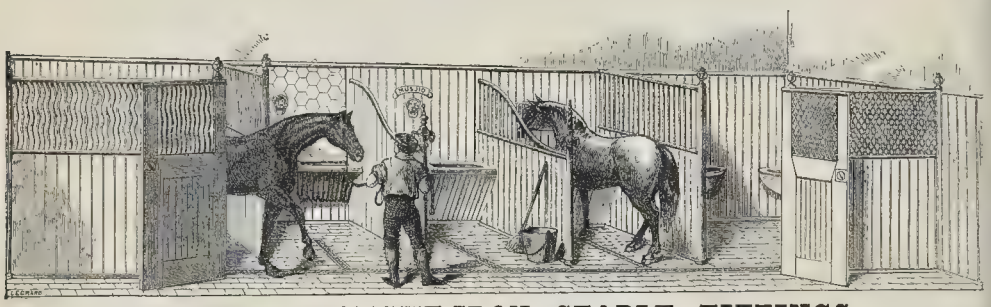
Brick Moulds kept in stock. Any size made to order.

Combined Range with Wrought Galvanized Boiler for Washing, 50*s.*



ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

PATENT SANITARY LEAD PIPES.—ALFRED COURAGE & CO. Proprietors of BENNETT'S PATENT for Coating Lead Pipes with an Alloy of Tin and Silver, are prepared to grant a limited number of LICENSES for its use. This process effectually prevents the poisonous action of lead on water, and insures PERFECT PURITY of supply for DOMESTIC USE.—For information as to licenses, prices of pipes, &c. apply to ALFRED COURAGE & CO. Upper Works, Bagillt, Flintshire.

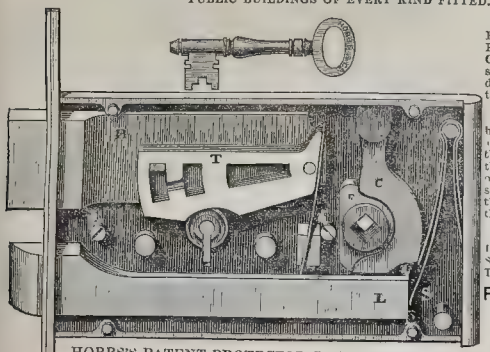
TO ARCHITECTS, BUILDERS, AND CABINET-MAKERS.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES, AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

CHUBB'S

WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

OF VARIOUS SIZES, FOR STRONG ROOMS,

AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

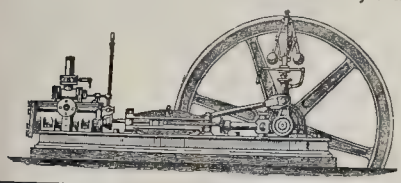
DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.

38 & 65, YORK-STREET, WESTMINSTER.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,

AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF

HORIZONTAL AND VERTICAL STEAM-ENGINES,

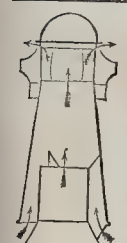
From 2 to 30-horse power and upwards.

PORTABLE ENGINES, CRAB WINCHES, &c.

SEVERAL ALWAYS READY FOR DELIVERY.

Price List forwarded on application.

SMOKY CHIMNEYS ABOLISHED.



W. S. WOOD'S PATENT TRISECTIONAL VENTILATING and SMOKE-CURING CHIMNEY-TOP, possesses the following advantages:—

1. It is constructed upon well-established scientific principles; it collects the air, imparts to it a strong upward current, which expels the smoke with great velocity, and renders downward draught and admission of smoke from other flues quite impossible.
2. It has no moveable parts, is particularly durable, and requires no brickwork in fixing.
3. Each top has a hood, which can be used or not; it is therefore a complete ventilator, and is in every way calculated to overcome the most obstinate cases of smoky chimneys.
4. It can be effectually swept by the chimney-sweeper's machine.
5. Its simplicity of construction, its well-defined shape, and merits as a smoke-cure, dispense entirely with the whole family of unsightly tall boys, and with the useless species of whirling apparatus, which disfigure most of our houses and public buildings.

Prices:—Ordinary size, zinc, 1*l.* 10*s.*; galvanized iron, 1*l.* 15; size 2 feet 10 inches high; 15 by 9 inches base. Kitchen size, 2*l.* 2*s.*

To be had only of the Inventor and Patentee, Camden Cottage, Chislehurst, Kent. Packed for transit to any part of the Kingdom, and forwarded to any London Railway Terminus, for One Shilling extra upon receipt of post office order. Prospectus and testimonials sent upon receipt of two stamps.

The Invention can be seen at the Crystal Palace and the South Kensington Museum.



MOREWOOD & CO.

(late Morewood & Rogers),

Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Nails, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the

OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW.

Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

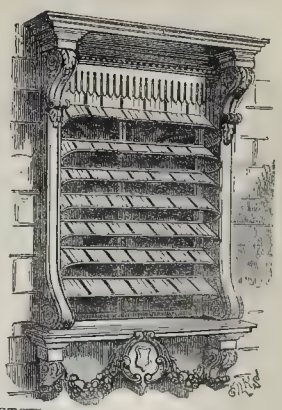
LOSH, WILSON, & BELL,

NEWCASTLE-ON-TYNE,

Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and Cast-Iron for Gas or Water, by an IMPROVED PATENT.

STEWART'S PATENT CAST-IRON GAS and WATER PIPES.

Office, No. 7, Size-lane, London.



SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.

These Blinds give a highly decorative finish to a plain front, whether fitted up in ornamental frames or without any. In the latter case top boxes only are required, which need not project beyond the reveal. Where there is no reveal, as in old houses, they would require a frame which need not project more than about 4 inches, and has no side wings coming down, or any other disfigurement. Prices moderate. A liberal discount to Builders and the Trade.

R. LOWTHER & CO. 31, Regent-street,

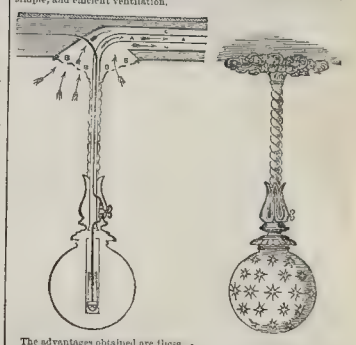
(One door below the Piccadilly Circus).

VENETIAN AND ALL OTHER BLINDS WHOLESALE.

RICKET'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these:—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect incombustibility; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 508 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to

Mr. ALEXANDER YOUNG, 14a, Cannon street, London, E.C.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furnitures, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators 4s; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare-market, London.

TRADE MARK.

CROWN TUBE WORKS,

WEDNESBURY, STAFFORDSHIRE.

Warehouse—81, Upper Ground-street, London, S.

JAMES RUSSELL & SONS,

The Patentees and first Makers of Wrought-iron Tubes.

CAUTION to ARCHITECTS and BUILDERS—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;

SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester square, London, and SUCH ONLY are WARRANTED.



PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.





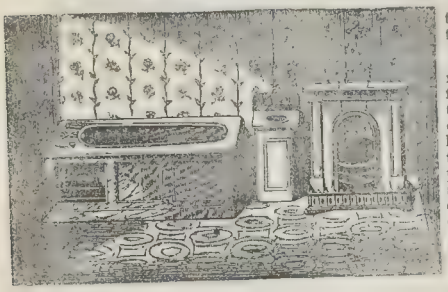
PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.





Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their
BATH APPARATUS,
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.
Illustrated Catalogues to be had of the Manufacturers,
J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET LONDON.

CASTINGS, ANY WEIGHT AND QUANTITY,
With the utmost despatch, at Country Prices.
HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR-MILLS, &c.





SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.
THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.
BOND & SCAMMELL (late Thomas Pugh & Co.)
WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.



NUT



PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.
New and Designs in [illegible] brass, bronzed, gilt, carved work, [illegible] &c. to any design.
THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.
A most complete and extensive stock of every description of locks, latches, brass [illegible], at the lowest [illegible] prices.
*** Illustrations and [illegible] sent upon application.

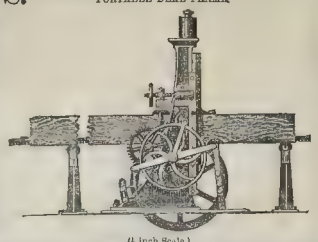
TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.
Iron roofs erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Berkley-street, Birmingham, and Limehouse, London.
LONDON OFFICE—61A, MOORGATE STREET, E.C.

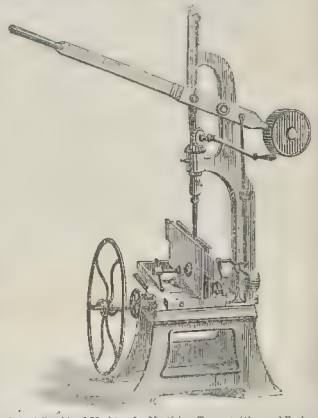
GREAT NORTHERN IRON WORKS,
CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.
The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of
IRON-FOUNDERS AND SMITHS.
CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.
PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

S. WORSSAM & CO.'S PATENT PORTABLE DEAL FRAME.



(¼ inch Scale.)
This machine is so constructed as to require no foundations for fixing; it can be driven either from an underground or overhead shaft, or from a portable engine, and is peculiarly useful for builders and contractors.—For priced illustrated Circulars, with full particulars, apply at the Works, 304, King's road, Chelsea, S.W.

POWIS, JAMES, & CO.
ENGINEERS AND MACHINISTS,
VICTORIA WORKS, BLACKFRIARS ROAD, LONDON,
Having taken additional premises at 92, Blackfriars road, known as the Surrey Iron Works, have added Portable Engines, their Sawing and Wood-cutting Machinery business. Contractors, colonists, merchants, and ship owners will find these engines fitted with the same care and finish which has gained for the firm so high a reputation as Mechanical Tool Makers.
Specimen Machines and Engines can be seen at the Works, at the Model in Battersea, Crystal Palace, Splendiani, and in class 7, section 2, and 1217, International Exhibition, South Kensington.
Engines, &c. on hire, with or without the option of purchase.
ALL LETTERS MUST BE ADDRESSED TO THE OFFICE,
29, WATLING STREET, E.C.



Patent Combined Machine for Morticing, Tenon-cutting and Boring. (Protected by patent in the United Kingdom for one machine to do the three kinds of work.)

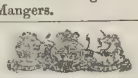
THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*

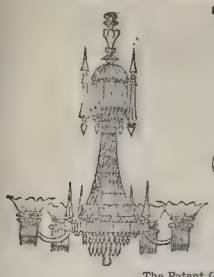


Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.



SMOKY CHIMNEYS.—The best Cure is the PATENT ALBERT CHIMNEY CAP, 250 on Buckingham Palace; in use also at St. James's Palace, Windsor Castle, Government buildings, mansions, halls, club-houses, and buildings in general. Prospectuses on receipt of two postage stamps.
JAMES BARTON,
Iron Works, 370, Oxford-street, W.
N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

HEATING BY  HOT WATER.
JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.



THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF

MEDIÆVAL AND OTHER GAS-FITTINGS,

CRYSTAL, BRASS, & ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY.

WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

The Patent Gas Regulator and Purifier reduced to 8s. 6d. per dozen.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c.

STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.

SHEET ZINC AND METAL PERFORATING WORKS.

FRANCIS RUMMENS,

PHŒNIX PLACE, CALTHORPE STREET, GRAY'S INN ROAD, LONDON, W.C.

HIGHLY APPROVED ROOFING ZINC,

BATTERY PLATES IN ZINC AND COPPER, ZINC SASH-BAR, TUBING AND GUTTER.

ZINC SLATING NAILS.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of WROUGHT IRON TUBE and FITTINGS,

FOR HIGH-PRESSURE-WATER; OR STEAM.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

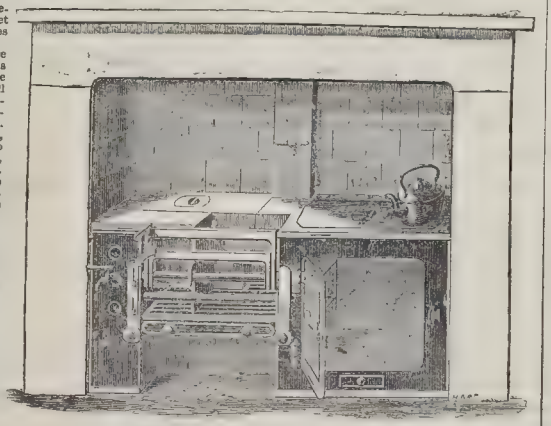
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Muitum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,

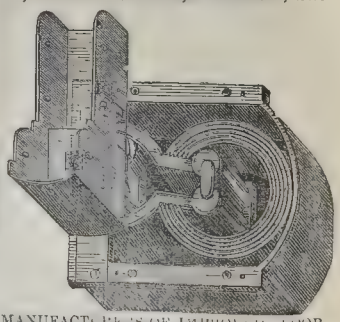
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

HART & SON,

53 to 58, WYCH STREET, STRAND, W.C., and 20, COCKSPUR-STREET, PALL-MALL, S.W.



MANUFACTURERS OF IMPROVED FLOOR CENTRES, FOR SWING DOORS, BUFFER-SPRINGS, ARNOTT'S & SHERINGHAM'S VENTILATORS, PITT'S & CLARK'S PATENT DOOR FURNITURE,

And every description of General Ironmongery.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.

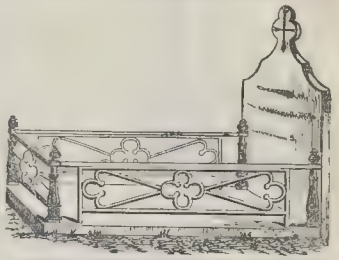


Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W.

Drawings and Estimates Furnished.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES, COMMUNION RAILINGS, SCREENS, GATES, &c.



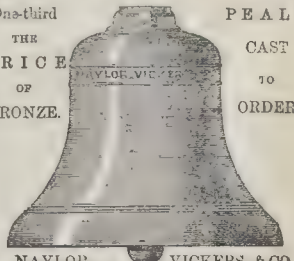
Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY STREET, OXFORD STREET, LONDON, W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.

SKAIFE & COMPANY,

Manufacturers of

PATENT GALVANIZED IRON.

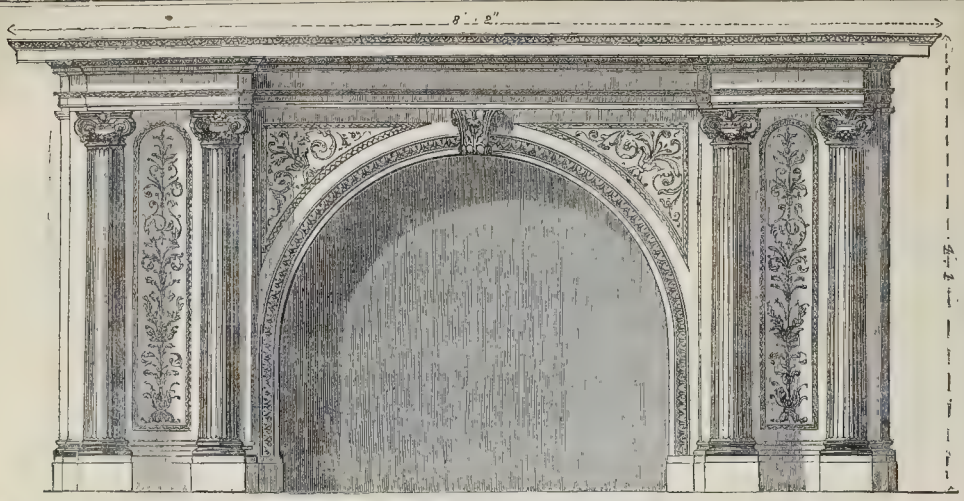
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tubes, Sheets and Tubes for export.

IRON WORK GALVANIZED.

Roofing orders promptly and carefully attended to.

Office—Commercial-road, Limehouse, London.

Works—Copenhagen Wharf, Limehouse.





MANUFACTURED

OUT OF

THE BEST STATUARY MARBLE.

EXHIBITED ON THE SOUTH SIDE OF THE EASTERN DOME,

Class 10 C, in the International Exhibition of 1862,

BY

GEORGE MITCHELL.

MARBLE WORKS, WALTON STREET, BROMPTON.

Price Two Hundred Guineas.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1760)

GREAT EXHIBITION, LONDON, 1851.

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also Rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Capitals, all executed in the highest style of art.

The large and length ned experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct branch of their business.

Paperhangers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

EXPOSITION UNIVERSELLE, PARIS, 1855.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Beg most the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

The Builder.

VOL. XX.—No. 1002.

Antique Vases and Mural Decorations, as illustrative of Architecture.



THE number of details of plan and ornamentation in the architecture of the ancients, and points of history, which require elucidation, is very considerable. We do not even yet know how the Parthenon was lighted: there are different restorations of the polychromy; and we are not certain about the arrangement of the internal columns. Respecting the *scene* of the ancient theatre much is wanting: the design of the Mausoleum is not admitted to have been reproduced; and the dates, localities, and modes of origin of the *orders*, are not completely unveiled. The insufficiency of remains of the ancient buildings to afford the desired information, leaves great importance to such researches as those of Professor Donaldson. Quite as valuable as medals, probably are the mural paintings, as those of Pompeii, Herculaneum, and Rome, and the paintings on terra-cotta vases. To this subject, including that of the decoration of the exteriors of temples, Mr. Hittorff, as well known, has given much attention. A *mémoire* by him will be found in the second volume, published in 1830, of the "*Annales*" of the Archæological Institute of Rome; and his elaborate work—"*Restitution du Temple d'Empédocle à Sélinunte, ou Architecture Polychrome chez les Grecs*" (Paris, 1851)—will be in the recollection of our readers. Mr. Hittorff has lately made, at the Academies "des Beaux Arts" and "des Inscriptions et Belles Lettres," a further important contribution to his subject, under the form of an Essay on the Ancient Paintings, in their Relation with Architecture, and especially on a Painting at Pompeii which presents the prototype of the most remarkable tomb of Petra the ancient capital of Arabia Petrea. The author has entrusted us with the original essay and drawings; and though we cannot give a complete translation of the one, or a reproduction of all the illustrations; we proceed to note the main points which he has brought to light, and shall engrave some of the drawings to accompany a second article on the subject. It will be understood that we are giving a summary of Mr. Hittorff's investigations and conclusions, unless otherwise made apparent in what follows.

The painter's art in the decoration of public and private buildings of the Greeks and Romans comprised a great number of different forms of treatment. Without speaking of all, three grand categories may be distinguished. First, there is decorative painting properly called. This consists of compartments constantly varied, strewn with flowers and fruits, and figures of men and animals; and also offering charming architectonic inventions, in which the real monuments are transformed into fanciful edifices, where the innumerable colonnades and porticoes are composed of the thinnest stalks from the vegetable kingdom, carrying enamelled tiled roofs, pediments edged with lace, and cupolas in gold and silver network. Secondly, there are the paintings of mythological and historical subjects, in which philosophy, so familiar to the artists of antiquity, placed instructive scenes in the midst of capricious and light arabesques. These compositions, in which the actions of heroes, and the idea of the influence of the divinities, and of fatality pursuing the royal families, dominate, seem to have had for object the bringing the thoughts back to the implacable destiny of man,—showing him daily his existence shared with happiness and misfortune. The third class is composed of landscapes, sea pieces, and architectural views; sometimes apparently truthful representations, and sometimes fanciful compositions.

This classification is not adapted to the paintings on vases. In these, the subjects of the poems of Homer, the mythological fables of the rhapsodists transformed into popular legends, and scenes from the Greek tragedies and sometimes from the comedies, predominate. The human figure, idealized by the features of gods and heroes, occupies the principal place. But in these compositions, again, architectonic elements are very numerous and of the highest interest. Towns, temples, theatres, fountains, royal palaces, and private edifices, and a considerable number of funereal monuments, may be distinguished. In many of the paintings, where the entire scene could not be depicted, the artist has tried to express it partially. The indication of a doorway, the outline of openings of an unusual form, or of ordinary windows, the suspension of offerings and pictures *ex voto*, and of arms and trophies, serve to express the entrance of a temple or a palace, or the walls of a *pronaos* or a *prothyrum*: an altar, and a vase or cup, indicate the place of sacrifices and ablutions: columns represent the *pteroma* which surrounds the *naos* of a divinity, or the peristyle which forms the atrium of a palace. Having remarked, as said above by ourselves, that the knowledge of these paintings would supply the place of documents that are wanting on the general history of the architecture of the ancients, Mr. Hittorff proceeds to mention some of the examples which he has published; and he then proceeds to a new and extended study of one painting in particular. The first cites the reproduction, in the form of painting, of two funereal monuments of which the form is that of works of the kind, still existing. In one of the cases, the subject of a painting mentioned by Pausanias as nearly effaced, is completed by the painting on the vase. The other painting also seems to represent a tomb with a figure-subject as decoration. In both these examples, drawn from the work of Passeri, "Picturæ Etruscorum," &c., columns with Ionic volutes are represented, as well as pediments; whilst the last-mentioned example displays a frieze with triglyphs conjoined with the Ionic.

The representations of columns on vases, the author observes, would afford occasion for some most important studies. The number and variety might form materials for a nearly complete course on the history of architecture. There may be found, he says, "the use, as conical support, of the tree denuded of its bark, thin in proportions, and bearing at the summit a piece of timber: this last oversails the thickness of the shaft only on two sides, in order to take the bearing of the architraves. These then are columns and capitals which explicitly characterize the primitive use of wood in the constructions of the Hellenes: they are consequently a powerful confirmation of the historic ideas which establish this fact admitted by men the most erudite." Continuing what we believe is a correct translation:—"A shaft much diminished; then above, a lusty *echinus*; the two joining together by the progressive jutting-out of a curved line with a broad and lofty square platform, the abacus: behold the first manner in which stone was used in the form of the Doric column. This shaft, again, presents the traces of a reminiscence of the form of the tree: but its crown-work is imprinted with the character, very pronounced, of a capital worked in a block, and no longer fashioned from a piece of wood. It is, in fact, the expression of the type of the column in stone, of the most ancient examples known." Representations of all the variations of the Doric shaft, of different dates, he says, are to be found. It will be seen that Mr. Hittorff does not notice any theory of the derivation of the Doric from Egypt, or the hypothesis of the production of the column of that order through the medium of successive chamferings of angles, starting from a square pier,—any more than the assertion of many writers as to the greater affinity of the form with original stone construction than with wood,—against which hypothesis and assertion, however, must be set the undoubted fact of the imitation of the stalks of plants in the most bulky of the Egyptian columns.

But, not only the Doric, the Ionic order, Mr. Hittorff continues, is equally represented in all its phases. The study of the representations of columns with voluted capitals has even greater historic importance than the other: it shows that the origin of the Ionic, like that of the Doric order, mounts to the most distant period; and that the use of the former has followed the same gradation as that of the latter. At first, the proportions of the columns, are like those of the primitive Doric; the shafts have no bases; the capitals are composed of big volutes, and thick *abaci*; whilst subsequently, the proportion of the shafts; the bases; and the capitals and their ornaments, are similar to those of the Erectheion of Athens. In fine, a succession of columns of the same order, filling up the interval between the original rude solidity, and the perfect measure, of force and grace of the monuments raised at the best epochs of the art, unfolds a complete series of facts, left hitherto hardly perceived. In comparing the voluted capitals discovered in Sicily and Greece, with those on the vases, the accordance between the most ancient of the forms, like that of Selinus, confirms the fidelity of the representation. The accordance also furnishes, by the proof which it gives of the very great antiquity of the Ionic, a peremptory reason for its use with the entablature of triglyphs. This point long unsuspected, Mr. Hittorff claims to have established, not only by the evidence of ancient paintings of all kinds, but by that of many buildings. It is equally worthy of remark, he continues, that the most ancient forms of the capitals are solid masses; where the abacus and the volutes, intimately bound together, extend themselves laterally in the direction of the architraves, and so as to relieve them: these capitals have the appearance of two consoles, joined together, or a form more rational than was that of the Doric capital, of which the projection in front and rearward, was without object,—since it carried nothing, and interrupted the fine horizontal line of the architrave. In taking into account the provision of solidity as "*point de départ*," it is the voluted capital as at its origin, and consequently the Ionic column, which would have been employed the earliest: the capital was most *en rapport* with the entablature of triglyphs, "of which the original rational construction in carpentry has never been in the position to be contested in a plausible manner."

These observations, then, Mr. Hittorff urges, indicate a succession of circumstances entirely in favour of the appearance of the Ionic order in Greece, concurrently with the Doric. One may conclude from them, he says, the impossibility of deriving the capital of the former, from that of the latter order, and of placing its first employment at the temple of Ephesus, or its creation exclusively in Ionia: they open in fine, a wider field for considerations on the pedigree of the

nations that employed the Ionic, as also on the epochs when such nations raised the buildings bearing the predominant character of the architecture in which the order is found. Looking at the character of antiquity of the Sicilian Ionic capitals, and that still more ancient of the capitals on the vases, the author of the essay feels permitted to carry the date of the use of this kind of capital to that of the primitive edifices of Selinus. Now, that city was founded towards the thirty-seventh Olympiad, or eighty-four years before the commencement of the construction of the temple of Diana at Ephesus, fixed as towards the fifty-eighth Olympiad. According to Pliny, the construction of the latter temple lasted 220 years, and the first Ionic capitals and the first bases were employed there. Taking this assertion, and supposing regular progression in the works, it would have required 110 years to arrive at the capitals, which therefore could not have been set in their places before the seventy-third Olympiad. But the allegation of that first use of the voluted capital seems so much the less certain, because Vitruvius, where he speaks of the same temple, makes no mention of the circumstance.

It is in explaining the origin of the three orders, that the Latin author cites the Doric as the most ancient, and as invented fortuitously. It is in the same place that he attributes to the Ionians:—1, the discovery of the proportion of the Doric column of 1 to 6, which they had derived from the relation of the length of the foot with the height of a man; and, 2, the Ionic proportion, 1 to 8, as taken from the proportions more slender of the woman, the adoption of the base in imitation of sandals, the junction of volutes to the capitals to reproduce the curls of the hair, and the employment of the fluting of the shaft to figure the folds of the robe. It is in the same place that he explains the Corinthian column as representing the graceful form of a girl. It is not necessary, says the French author, to insist on the slight consistency of these several assertions. As regards the Doric, they are refuted by very ancient columns of that order which have only a height of little more than four diameters, and by those of the Parthenon, which have only five diameters and a half. As regards the Ionic, the forms of ancient capitals existing and of these on vases, are against the hypotheses, whether of curls of hair, or rams' horns on altars, or others. It is the same as regards the flutings; since the Doric has them at all epochs, and has not only those with an arris, but those with the fillet usually considered peculiar to the Ionic. Lastly, as to the base in imitation of the sandals; these were worn by men as well as women.

We do not find that Mr. Hittorff has quite explained the circumstance that some of his examples, from the vases, which we understand him to give as of early date, are greatly attenuated in proportions; and we should be wrong in not adding, whatever importance our readers may attach to the remark, that the fluting of the pillars, or pilasters, and some other details, have great resemblance to details of Roman works which are late in date.

The Corinthian and Composite columns painted on the vases, Mr. Hittorff adds, bear like the Ionic, sometimes the entablature with triglyphs.

Relative to the character of architecture that was the result of this mixture, as we should call it, of the orders, he has some remarks which may be interesting to those who have read our article of a recent date on Mr. E. Renan's researches. These researches, it will be remembered, had some bearing on the question of architecture, if art there was, amongst the Jews. Mr. Hittorff says, if it appear contestable to draw the rigorous consequence, from the antiquity of the Ionic order, and its primitive use without base, and with an entablature of triglyphs,—as the order is seen in the tombs hewn in the rock near Jerusalem,—namely, that these tombs mount to the epoch of the kings of Judah and of the prophets of whom they bear the names,—it is impossible not to see in them the traditional imitation of monuments of epochs very distant; a supposition that is confirmed by the elements of Egyptian architecture that those tombs also display.

In one of the plates of Mr. Hittorff's work on polychromatic architecture already named, representations were given of Greek and Roman monuments, in which there were entablatures with triglyphs surmounting Corinthian and Composite columns. The fact of such a conjunction practised, is confirmed by what may be found in the first chapter of the fourth book of Vitruvius. The old author, as we translate from the French, says:—"The Corinthian column is different to that of the Ionic only in the capital, which is in height the diameter of its shaft; whilst the Ionic capital has in height but a third of this diameter. The entablature for the Corinthian order is borrowed alternatively from the Doric or the Ionic. The Corinthian order has by itself, nothing pertaining to it in its entablature and the ornaments of this latter; but sometimes, according with what is proper for triglyphs, mutules are placed in the corona, and guttæ in the architrave, as in the Doric order; sometimes, according to the Ionian variety, it has the frieze ornamented with sculpture and dentils distributed in the cornice. So that, by the side of the Doric and Corinthian orders, the introduction of a capital has created in architecture a third order." In reference to this Mr. Hittorff had said, in his book, that many Corinthian entablatures, belonging to the antique, that Philibert de l'Orme had drawn at Rome and which he published in his work, bear in like manner triglyphs.

All the varied representations of columns are recognized as copies of real architectonic elements, made with rapidity by painters with whom might be expected to be wanting the rigid exactitude, that architects alone might have been capable of bringing to the work. That would probably be our author's explanation of a difficulty which we have alluded to. Finally, the *stèles* on the vases crowned with palmettes, and identical with the *stèles* of marble, should be examined, as well as the Doric and Ionic columns of a particular proportion, and an expressive character as isolated funereal monuments; also the very simple folding-doors to openings, with their accessories, rails, stiles, knockers, locks and ornamented nails, as they are sculptured on tombs, or on stone and marble relievoes; and other folding-doors which bring to mind the descriptions of the magnificent gates of bronze enriched with sculptures in gold and silver, or of precious woods encrusted with ivory, mother of pearl, and ebony, which decorated the splendid sanctuaries;—let these be observed, he says, as well as the ornaments of architecture, and always will be found reproduced the *motifs* that we admire now, as painted upon the ancient temples of Sicily, or sculptured on the fine monuments of Greece.

CONVERSAZIONE OF THE ARCHITECTURAL ASSOCIATION.

THE annual Conversazione of the members of the Architectural Association and their friends was held on Friday evening (the 11th instant), at the house in Conduit-street.

The President (Mr. Blomfield), on taking the chair, expressed his regret that Mr. Tite, M.P., who had kindly promised to preside that evening, was prevented by indisposition from doing so. Had that gentleman been present he would, no doubt, have made some appropriate observations, not only with reference to the prizes to be awarded that evening, but with respect to the object for which the Association had been formed and the ends which it desired to accomplish. In the absence of Mr. Tite, however, it became his (the president's) duty to declare the names of the successful prizemen. The committee had awarded Mr. Tite's prize, for the best design for a town mansion, to Mr. Henry Hack; and the prize for the second-best design to Mr. A. Walcott. The first prize for the best design for a tiled pavement to Mr. E. Winbridge; and the second to Mr. P. B. Hayward. The first prize for the best piece of wall decoration, to Mr. E. J. Tarver; and the second-best to Mr. E. Winbridge.

The prizes having been delivered to the successful candidates,

Mr. E. B. Lamb observed that he had been requested quite unexpectedly to make a few observations to the younger members of the Association; who, he had no doubt, participated in the general expression of regret that Mr. Tite, the donor of two of the prizes which had just been awarded, was not present to give them away. The progress which the Association had made was, he thought, most gratifying to those who had watched its steps and felt an interest in its success. He remembered a time when the profession of architecture was not studied as it now was. There was then no Royal Institute of British Architects, and few of those aids to progress which at present abounded. There were, it was true, occasional meetings attended by a few members of the profession, but they were thought little of and known less of. But, notwithstanding this discouraging state of things, there was an undercurrent of progress, the results of which had since been realized. Britton had been at work, and John Carter had commenced what might be termed the resuscitation of Gothic architecture in England. The elder Pugin had previously laid the foundation in a sound and solid way; and there were exhibited in the room that evening the works of his descendant,—wonderful examples of talent, taste, and industry, the number and variety of which might well evoke the surprise and admiration of all who beheld them. The Royal Institute of British Architects then sprung up, and to its exertions the architectural body had reason to be deeply grateful; for it had laboured unwearily to advance the art and to improve the public taste. Following it came the Architectural Association, which might be said to have established a school of its own, by means of classes for modelling and designing. The importance of such practical aids to progress could not be overrated by the modern student. He remembered having heard Mr. Tite, at the Institute, refer to the great difficulties which the art student had to encounter when *he* was a young man and worked at the Academy. At that time the student was left to find his own way; and if he had not the means or opportunity of travelling and drawing the best examples of continental building, he was obliged to remain in ignorance of them. Now, however, it was very different. By means of the photographic art, every building in Europe worthy of representation was, as it were, brought to our very door. It was no longer necessary to go to Rome to study the Classic school; to France or Normandy for Gothic; or to Egypt for the wondrous remains of magnificence to be found in that historic land. The photographer brought them all home; and the student could study them under the most favourable circumstances. He would, however, urge upon his young friends the propriety of regarding those monuments more in the light of subjects for study than with the view of reproduction. He had no doubt but that the rising generation of young architects would see the appropriateness of this recommendation, because it was most desirable that originality should prevail. The young architect, when designing a work, should, in fact, think for himself. He should remember that architecture was not a mechanical process, to be regulated by the line and rule,—that an architect was an artist, and that he had a higher mission than the mere adaptation of bricks and stones. The architect was an artist as much as a painter; for architecture was one of the fine arts, and was governed by the same laws which governed painting. The object of the architect and the painter ought to be the same—namely, the production of a beautiful picture. The painter took up his palette, and, by the skilful application of his colours, realized on canvas a design pictured in his mind, and produced a beautiful painting. The architect, it was true, dealt with less plastic materials; but his object was similar to that of the painter: he endeavoured, by bringing brick and stone, and iron and wood, into beautiful and graceful forms and combinations, to produce a pleasing painting on the ground. Both laboured to produce a similar effect, and both were equally entitled to be considered artists. He enjoined the students of architecture to bear in mind that they were destined to take their place in a noble profession, which required not only careful and painstaking study, but which called for the highest exercise of

the cultivated mind. They should also remember that their advancement depended upon their own thoughtful and industrious application to the types and models set before them; because, although they might study under the most eminent and successful architect, it was impossible that he could devote his time exclusively to their instruction. Unless, therefore, the pupil was studious and self-reliant, it was impossible for him to gain the higher places in the profession. In many cases, inattention to self-culture made the pupil blame his master; whereas, if he were to look at home, he would see reason to blame himself. For his own part, he owned that he was anxious that architecture should take the position which it ought to assume. Although he was not what might be considered an old man, in the conventional sense of the term, he was old enough to remember a period when the claim of architecture to be considered as belonging to fine art or high art was disputed; and when some persons even went the length of saying that it ought to be turned out of the Royal Academy. But that period had passed away with the growing civilization of the age; and there were architects among the royal academicians; and architecture was admitted to be not a mechanical art, but a department of art in its most noble and exalted phase. Mr. Lamb concluded by stating that although he had not had an opportunity of examining the prize drawings as carefully as he could have wished, still that he had seen enough of them to be able to congratulate the successful candidates upon obtaining rewards which he was sure would serve as the stepping-stone to higher distinctions in future years.

Mr. Godwin (having been called on by the president) regretted that, having that instant entered the room, he had not heard Mr. Lamb's remarks. He expressed his satisfaction at the progress which the Association had made; and a hope that it might continue to be prosperous. He was sorry, however, that there were not a greater number of the senior members of the profession present that evening; for their absence might be supposed to some extent to indicate that they had not been invited; which he was sure was not the case. Had they been present they would, he was persuaded, have been gratified at the proceedings; and for coming they would have obtained the respect and gratitude of the junior architects. Possibly their non-appearance might be accounted for by an apprehension that their presence might damp the enthusiastic utterance of their younger and less experienced friends. With regard to the Architectural Association itself, there could be no doubt of the advantages which had resulted from it; and for his own part he had always been anxious to acknowledge how much the profession was indebted to it, and the other Associations of a kindred character, for the impulse which they had given to the study of architecture. With regard to the approaching Exhibition, and its effect upon their art, he had reason to believe that a very important collection of architectural drawings would be presented to view; and that it would be found that England would hold her own in architecture as she had before done in foreign competitions.

Mr. Seddon also expressed the gratification he felt at the progress of the Association, and dwelt at some length upon the importance of consistent study and a steady intention to accomplish something really good, in preference to aspirations for what was merely novel. The class of design, and that for modelling, were, in his opinion, particularly worthy of commendation. The latter he regarded as especially valuable, because it would enable an architect to demonstrate to the workmen under him what he really desired to have done.

The President, in returning thanks on behalf of the Association to the gentlemen who had made observations in the course of the evening, stated, in reference to a remark which had fallen from Mr. Godwin, and for which he was obliged to him, that nothing could afford the Association greater pleasure than to see among them the elder members of the profession, many of whom had been invited that evening.

Architectural Gallery, International Exhibition.—The hanging is nearly completed in the Architectural Gallery of the Great Exhibition. The hanging committee (Messrs. S. Smirke, J. Fergusson, and T. H. Lewis, with much help from Mr. Bell), have had a pretty hard time of it for the last fortnight; and will doubtless, in return, be duly execrated by the great body of the hanged.

THE HORTICULTURAL GARDENS, SOUTH KENSINGTON.

That part of the garden works the execution of which falls upon the society, is nearly completed. The conservatory, the council-room, the terraces, the various terrace-steps, and terrace-walls, the band-houses, the basins and canals, the Artesian well and water-works, the laying out of the garden, are all finished or far advanced. The portico leading from the council-room into the garden, and the space adjoining it, have still to be plastered and finished. The works undertaken by the Commissioners of 1851 are not in so advanced a state. The decorations, both external and internal, of the Arcades are in a different position from others, and will probably be the work of years. The gardens have an aspect somewhat bare just now, but can probably be furnished at will. A series of semi-circular tables, for plants, have been put up along the walls of the conservatory. These have the advantage of allowing a great number of visitors to gather round them, and examine their contents at one time. Those now putting up, with the exception of one or two at the south-west corner (which represent the first idea, and are not so well contrived as the rest), are made of iron, and have the foot so constructed that a box of earth can be placed beneath in the middle next the wall, in which a climbing plant may grow and creep up behind the table; space being left for this purpose between the table and the wall. The margin of the table is fitted with an edging of wire, worked into a sort of ledge expanding both upwards and downwards, looking like filagree work. Within this are placed the pots; the interspaces as well as the outer edging being filled with green moss.

A fine pavement has been laid down on the raised part of the conservatory, at the foot of the staircases. It has been executed by Messrs. Minton, Hollins, & Co., who have liberally given it to the society at something less than half its actual cost. It is a combination of the manufacture and the design, or rather is the modern imitation, of two kinds of mosaic art—one known as Alexandrine work (*opus Alexandrinum*), and the other as tesselated work (*opus tesselatum*). The latter, it will be remembered, consisted of small cubes of marble sawn or worked by hand into such simple geometrical forms, as when combined would form a figure equally geometrical, but of course characterized by greater intricacy. The other, or *opus Alexandrinum*, was constructed by chasing channels in white marble slabs, and filling them in with dark reddish purple porphyry, or green serpentine. There is a very interesting specimen of this in Westminster Abbey, referred to the year 1260; and one probably still earlier and more purely Italian in style, in Canterbury Cathedral.

In the early endeavours to imitate such pavements, the encaustic tiles were made into forms of clay of about 6 inches square, into the surface of which, while still in a soft state, were pressed metal dies upon which a pattern was worked in relief: the ornament being thus indented, the intaglio or indentation was filled up with different coloured clays whilst in a liquid or "slip" state. The tile was then baked and covered with a vitreous glaze; at once enhancing and protecting the colour of the material. The great difficulty which was experienced arose from the different kinds of clay not amalgamating so as to contract equally in the oven. By long-continued perseverance and costly experiments this difficulty, it is said, has been overcome.

The tesseræ, or plain tiles, have also proceeded through many difficulties towards perfection. The first improvement was to place compact and well-manipulated clay in a machine from which it was compelled by great pressure to exude through a small horizontal aperture, where it was cut into lengths as it appeared. The plan adopted by Messrs. Minton for the manufacture of tesseræ, such as those in this pavement, was discovered in 1840, by Mr. Prosser, of Birmingham. "He found," to quote from Mr. Blashfield's work on mosaic floors, "that if the material of porcelain (a mixture of flint and fine clay) be reduced to a dry powder, and in that state subjected to strong pressure between steel dies, the powder is compressed into about a fourth of its bulk, and is converted into a compact substance of extraordinary hardness and density, much less porous and much harder than the common porcelain uncompressed and baked in the furnace." We are forced to doubt this to a certain extent.

The design of the pavement in the conservatory is the work of Mr. Harry Green, formerly a student under the Department of Science and Art, and now attached as artist to Messrs. Minton & Co.'s establishment. It is mainly derived from specimens of Renaissance art. In colour it is somewhat gray and cold. The conservatory, being agreeably warmed, has proved a delightful resort during the late unpleasant weather.

THE BRIDGE OF AVIGNON.

The construction of the Bridge of St. Benézet, at Avignon, was one of the most remarkable events of the twelfth century in France. In the present time, the first railway did not excite more admiration and enthusiasm than was created at this remote period by the boldness of the design and the consideration of the benefits expected to accrue from the erection of this first bridge over the Rhone. It established something like a new bond of brotherhood between the district of Provence and the counties of Venaissin and Dauphiné, and put an end to all the difficulties of intercommunication, and other numerous dangers. The lower orders of the people long continued in ecstacy on the possibility of passing from one bank of the vast river to the other in all seasons, and in all sorts of weather; either on foot or on horseback; so rapidly and with so great security. Such feelings of simple wonderment have been transmitted to us in the celebrated song so popular all over France:—

"Sur le pont d'Avignon tout le monde y passe!"

The song had its origin as a jubilation of gratitude and wonder on the completion of the work. The gigantic monument was also viewed, in accordance with the spirit of the time, as the result of divine inspiration; and has given birth not only to the above-mentioned song, but also to the following legend, narrated by the old chroniclers, by whom the first thought of the bridge is attributed to a little shepherd youth, of Alvilard, in Vivarais, aged only twelve years. It may be that his extreme youth has been exaggerated; but there is strong reason to conclude that the work was due to the advanced ideas and resolute will of one of the lower ranks of life. The belief that Benézet obeyed the dictates of a divine injunction in coming to Avignon to proclaim and to exhort people to build the bridge is attested by many old documents preserved in the central departments of France. The chroniclers relate—

There dwelt, a long time since, before the arrival of the Popes at Avignon, and before the towers of the palace were built, a young herd named Benézet, who tended his mother's sheep in the country. One day, the sun became darkened, as if a veil had covered its face; and suddenly these words resounded in the air, repeated three times:—

"Benézet, my son, listen to the voice of Jesus Christ."

The child, astonished, replied—"Where are you, Lord? I hear your voice, but I see not your person."

"Attend, without fear," replied the voice. "I am that God who created by a word the heavens, the earth, the sea, and the whole world."

"I attend, my God. What would you have me to do?"

"Leave the flock of thy mother, and go and build a bridge over the Rhone."

"Lord, I know not where the Rhone flows, and I cannot leave the flock confided to my care."

"Have I not told thee to believe? Depart without fear: I will protect thy sheep, and will give thee a faithful guide."

"But, Lord, I possess only six *oboles*. How can I build a bridge?"

"Thou wilt learn, my son: I will reveal the means."

Obeying the order of God, the young shepherd departed, and soon met an angel in the dress of a pilgrim, who said to him,—

"Dear child, follow me without fear: I will guide thee near to the river where thou art required to build a bridge; and will show thee how to do it."

This said, in an instant they arrived at the bank of the Rhone; on viewing the vastness of the bed of which the youth was struck with dismay; and cried out that it was impossible for him to build the bridge.

"Cast away every doubt, my son," replied the angel: "the spirit of God rests upon thee. Here is a boat to cross the river. Enter into the town of Avignon, and make known thy mission to the bishop and to the people."

At these words the angel disappeared.

Benézet, approaching the boat, prayed the boatman, for the love of God and of the Virgin Mary, to convey him across the river.

The boatman, who was a Jew, replied: "I have nothing to do with the Virgin Mary. I value three *deniers* more than I do her protection."

The youth gave him three *oboles*, with which the boatman, for lack of more, was content; and he was soon landed at the gate of the town. Benézet entered, and found the bishop (Pons), to whom he communicated his mission. The bishop was unable to believe him, and sent him to the magistrate, who heard him with anger, and said,—

"How can one of thy degree accomplish that which the most powerful—even the Emperor Charlemagne—did not dare to attempt. But as bridges are built of stone and mortar, I desire thee to supply a stone which will be found in my palace: if thou canst carry it, I will then believe in the result of thy project."

Benézet, full of confidence in God, went to the palace of the magistrate, followed by all the people; and there lifted the enormous stone which the united efforts of thirty men had been unable to move; and placed it upon his shoulder with the same ease as if it had been a small pebble. Advancing thus, followed by all the inhabitants of the town, he came to the bank of the river, and placed that stone as the foundation of the first arch of the bridge.

The spectators, in their admiration, celebrated the power of God. The magistrate first fell upon his knees; and, saluting Benézet with the name of saint, he gave him 300 sous to defray the expense of constructing the bridge.

The historians are considerably more concise in their narration. Papon, in his "General History of Provence," states that a landsman named Benézet conceived the project of building the bridge; and such was the energy with which he was inspired on the subject, that he animated the bishop and people of Avignon with a zeal equal to his own. The bridge took twelve years in being built, and was 138 feet in length, and had eighteen arches. Some writers, however, say nineteen; and others even twenty-five. A religious community, soon after its erection, was established in the immediate neighbourhood; on the side nearest the town of Avignon; charged to receive pilgrims, and also particularly to attend to the preservation of the bridge, and to construct others over the Rhone. This was the origin of the *frères pontifes*, of whose labours the Pont du Saint-Esprit yet remains a monument.

In 1669 the rapidity of the current of the river carried away several of the arches; and these never having been replaced, the bridge was shortly afterwards reduced to a ruinous state. It has long since been replaced by another, in a more central position; but the old ruin still remains a strikingly picturesque object, which more than once has called in request the pencil of French artists, and will more than repay the attention of any tourist who may happen to be attracted to this neighbourhood.

ARTIFICIAL ICE.

Ice is a natural product or a manufactured article. Rich crops of it are gathered every winter in New England; in Norway; and in other countries in the same latitudes. In the frigid zone it is common, and worthless to the inhabitants; but in warm climates it is in summer either a luxury or a necessary of life. Its value to the millions who inhabit the torrid, and a large portion of the temperate, zone is becoming every year more apparent: in many cases of sickness and disease it is now regarded as indispensable, and it is equally prized by rich and poor. The demand for it is healthy and natural. When the supply afforded by nature or commerce fails, or where it is inaccessible, men frequently go to the expense of making it for themselves. A few years ago it was supposed by many that it could be manufactured in large quantities and at a moderate cost. This opinion, however, does not appear to be well founded. None of the numerous attempts to make it on the Continent, or in this country, or in America, have been successful commercially. A knowledge, however, of the different modes adopted, the contrivances tried, and the results obtained, in the experiments of the last fifty years, is most valuable in illustrating the natural production of ice, and in teaching us how we may best obtain a small quantity of it at any time and in any locality. An acquaintance with the principles embodied in these experiments is essential to complete success in the art of ice-preservation,—as in the art of preserving vegetables, milk, butter, and all similar perishable articles.

Ice may be produced (1) by radiation, (2) by evaporation, (3) by expansion, and (4) by contact with ice or frigorific mixtures, that is, by liquefaction.

From time immemorial, ice has been made in Bengal by *nocturnal radiation*. Shallow earthen vessels, filled with water, are placed upon beds formed of sugar-canes, or stalks of Indian corn, laid loosely together. When the sky at night is clear, the air calm, and the temperature falls below fifty degrees, the water is found frozen in the morning. This experiment has been tried in this country in summer with perfect success. But, as a mode of procuring ice in these latitudes, it is commercially worthless. It deserves notice, however; as it might, under some circumstances, be found useful in cooling milk, butter, vegetables, and similar articles in summer.

Ice may be produced by the *evaporation* of water or some other liquid. Evaporation may be effected either by passing a current of dry air over the water, or in vacuo. The former method is in common use for refrigeration, or the production of a moderate degree of cold, as in breweries, for cooling malt; in steam-engines, for cooling water; and in mines, houses, and similar inclosed places, for cooling the air. But where a greater degree of cold is required, as in freezing water, the plan adopted is evaporation in vacuo.

Many experiments have been made in different countries to test the commercial value of the numerous contrivances for producing ice which have been based upon this principle. Water, alcohol, and ether are the liquids which have been most frequently used. Ice may be produced by placing a vessel filled with water under the receiver of an air-pump, and then exhausting the air, thus favouring evaporation, and cooling the water below freezing point. To make the vacuum perfect, it is necessary to use chloride of calcium, or some other substance which has a strong affinity for moisture, for the purpose of absorbing the vapour from the water. This method is objectionable on many accounts, and is now generally regarded merely as an interesting but practically useless experiment. It illustrates, however, the general truth that ice may be produced by evaporation in vacuo.

Ether is the liquid generally used for evaporation in the production of cold and ice. Into the details regarding the different arrangements of apparatus for evaporating ether, which have been tried since Jacob Perkins first drew general attention to the subject by his patent of 1834, it is unnecessary to enter. In 1859 Mr. Painter of Maryland, U.S., made an apparatus in which he volatilized ether, and prepared ice in considerable quantities; but, when he tried the experiment upon a large scale, he failed to obtain satisfactory results. The exposed surfaces of the vessels for the water and the ether were too large to be kept easily for a length of time at the proper temperature; and the pump employed could not draw off the vapour from the ether as rapidly as was necessary. With apparatus arranged differently more favourable results have been obtained. For instance, with one apparatus tested in America, it is said that a temperature 17° below freezing point is obtained; and one pound of ice is produced for every pound of ether vaporized. The operation lasts only about one hour; and the ice produced is said to cost about one halfpenny per pound avoirdupoise. In France, Mr. Carre has constructed an apparatus based upon the same principle. From his experiments it appears that 66lbs. avoirdupoise of ice can be produced, per horse power, per hour. The temperature reached in his refrigerator is sometimes 35° below freezing point. Last year the apparatus of M. Rezet, of Rouen, for making ice by volatilizing ether, attracted considerable attention. It is a machine of twelve-horse power. Working at eight-horse power it is capable of producing nearly three tons of ice per day, at a cost price of less than five pence per cwt. As the mode of producing ice by evaporation is extensively practised, and is in many cases very useful, we may direct attention to the importance of the facts which appear to be now generally recognized as of the first importance in the construction of apparatus upon this principle, and stated in Harrison's patent of 1857; namely:—"to make ice cheaply, it must be made slowly. Time and surface are more important than increased intensity of cold."

Ice may be produced by *expansion*. For instance: an ingenious but complicated apparatus for producing ice by the expansion of compressed air was patented in this country in 1850. But every apparatus based upon this principle must be so complicated and expensive that this mode of making ice is never likely to be brought into common use. The process has been tried in India under favourable conditions, but the cost of manufacture has been found so high that those who attempted to carry out the plan were unable to compete with the importers of ice from America.

Ice is generally produced by the fourth method mentioned; namely, by *contact* with ice or frigorific mixtures, either directly or through some good conductor.

In all frigorific mixtures, the cold is produced by the liquefaction of one or more of the substances brought into contact. For instance, in a mixture of pounded ice or snow and salt, the melting of the former abstracts heat from surrounding bodies; lowers their temperature; and (if they are good conductors) freezes any water in contact with them, if the operation be continued a sufficient length of time.

The degrees of cold produced by different frigorific mixtures are given in all standard text-books of chemistry. But the value of any of these mixtures in practice depends upon the prime cost of the materials employed, the cost of any apparatus required with them, the time of refrigeration, and similar circumstances, as well as upon the greatest degree of cold produced. Regarding the merits of different "freezing powders," or "ice-moulds," "freezing-pots," and "freezing-pails," we need not express any opinion. Only the results said to be obtained claim our notice at present. In the apparatus first brought under public notice in 1845 by Mr. de Villeneuve, the frigorific mixture used was hydrochloric acid and the sulphate of soda crystallized. With this apparatus and this mixture, nearly 6 lbs. 10 oz. of ice could be produced per hour, with a consumption of over 13 lbs. of the sulphate, and 10 lbs. 9 oz. of acid. Ice is produced by this process at a cost of about twopence per pound. With other apparatus, using other freezing mixtures, better results have been obtained. For instance, 11 lbs. of ice have been produced with a frigorific mixture, in from fifteen to eighteen minutes, at a cost of about twopence per pound, which is now the retail price in London for preserved ice, when bought in quantities less than 25 lbs. By one apparatus now very extensively used for preparing sherbet, from 8 lbs. to 11 lbs. of ice may be produced in five minutes, using the labour of one man, and the freezer making 300 turns per minute in a mixture of salt and pounded ice.

By none of these different methods, each useful in some places and at certain times, can we procure ice as good and as cheap as it can be obtained from natural sources. We can make it in small quantities, and of an inferior quality. Nature is the only manufacturer of it. In the latitude of these islands, heat is carried off in winter by radiation, by evaporation, and by currents of cold air and cold water from the north; hence ice grows in abundance, and in all degrees of purity, in our own immediate neighbourhood; and we have only to choose the best within our reach, and preserve it for future use. Ice is so valuable an article to mankind, that we need never grudge a good harvest to our ice-gatherers and ice-merchants.

SHORT TIME IN EDUCATION.

Two instructive and important documents have been printed, by order of the House of Commons, on this subject. They appear under the general head of "Education Commission," and are both titled "Copy of two Papers submitted to the Commission by Mr. Chadwick; one entitled communications of Half-time Teaching, and on Military Drills; the other a Letter to Mr. Senior, explanatory of the former Paper."

In the first of the two papers a great mass of evidence is brought forward by Mr. Chadwick in favour of short time in education, or what is called "Half-time School System;" especially as regards the children of the working classes, but mostly applicable to all children. From this evidence, taken generally, it appears that the attention of children is so usually exhausted in course of three hours or so, that no advantage is derivable from any vain attempt to enforce that attention for a longer period at any one time; or, rather, in course of any one day: on the contrary, the irksomeness, fatigue, and disgust induced by the attempt very often obliterate all the good that may have been done during the first three hours of attention. There are also, as regards the poor, questions of social economy which indicate the advisability of good education; and, strange to say, one chief objection to the education given on the half-time system is that there is "over-education." The evidence of Mr. Tufnell, one of the Privy Council inspectors of schools, is so much to the point on these heads that we may at once quote what he says, in reply to the

question, "Will you describe the sort of objections you meet with to the extent of instruction given in these half-time schools?"—

"Many persons object, as to the book knowledge communicated in them, that we are over-educating the children; but my reply has always been, that I never wished them to receive more education than is necessary to ensure that they shall never become paupers again. If we educate them so that they fall below this mark, we probably entail upon the parish the expense of two or three hundred pounds in each case where a failure takes place. If, as sometimes happens as a consequence, they become thieves instead of paupers, we know from the report of the Constabulary Force Commissioners that they would plunder the community on an average of about thirty shillings a week; and, finally, if they are transported or imprisoned, they would cost the country from twenty to thirty pounds per annum ever after. Now as the difference of the cost between a bad and a good education is not more than about thirty shillings a year for each child, I maintain that it is excessively uneconomical, putting aside higher motives of Christianity or morality, to under-educate the child for the sake of this miserable saving."

Mr. Tufnell states that he is inclined to insist on music and singing as part of a popular course of instruction; music having a powerful effect in softening and humanizing the children; of which effect, he says, the most remarkable instances are drawn from the ragged schools and reformatories.

One remarkable result of the half-time teaching, adduced by Mr. Tufnell, is that where large and good schools exist in consequence of the liberality of wealthy employers, the attainments of the so-called half-timers, or three hours daily pupils, are generally at the least equal, and often superior, to those of the day pupils *in the same schools, under the same teachers and methods*, but attending five and six hours instead of three. Perfectly analogous results are, as he states, obtained in the district pauper schools which are under his own supervision, and which may be particularly called half-time schools.

Another of her Majesty's Inspectors, the Rev. Mr. Mitchell, refers in his evidence to the insanitary construction of common schools in towns, (of which we have before now spoken), and its effects on teachers as well as pupils;—another argument, by the way, in favour of short time education. He says,—

"It is a curious fact that, of the pupil-teachers and mistresses who have failed in health, all, with but one exception, have taught in schools thus constructed. It would be hardly possible to produce a more conclusive proof of the baneful effects of this sort of ill-ventilated and unlighted room. Strangers visiting the school only for half-hours do not feel it; but there is, doubtless, a silent, constant wearing effect, which in time does its work upon the bodily and mental health, and gradually undermines the constitution and the brain. . . . There is a peculiar wild look about the eyes of most teachers in such rooms as I have described; and there is a heaviness and want of energy in the conduct of the school which no physical ability seems able to conquer."

But these evils are not confined to the town schools. Mr. Watkins, the school inspector for the northern districts, states that doors and windows remain closed in winter; there being no other means of ventilation; and the air which the children breathe is in a state of great impurity. Mr. Chadwick also himself remarks that he has found it difficult to stay in schools in which the children have been for some little time previous to his arrival.

"I very seldom," says the Rev. D. J. Stewart, another inspector, "enter a school-room of which I can say that the air is without taint; and I find that in many instances the teachers know it, suffer from it, but yet shrink from the only alternative within their reach; viz., doing their work in a thorough draught. I cannot omit to mention that a great amount of illness among the school-teachers in this district has come to my knowledge during the year. Three teachers are dead: one mistress is still unable to take a school: several have suffered from fevers or ulcerated sore throat; and the health of some students in training who have been apprenticed in schools remarkable for want of ventilation has broken down. I think that I am quite justified, under these circumstances, in directing your lordship's special attention to the whole subject; for if it can be shown that the conditions under which adult teachers work are prejudicial to their health, it may be taken for granted that the school children have suffered quite as much, if not more, although the fact is not so readily got at. I say that it may be taken for granted; because it is well known that young children suffer more than adults from confinement in close rooms. It often happens, and especially in towns, that a particular school acquires an amount of popularity which attracts to it a crowd of children, filling up every available seat till there is literally no room left for real work. When a room is thus overfilled very little real teaching is done; and yet the managers, from a variety of causes, will not make up their minds to limit the number of admissions."

Now, as to the consequences of all this in the production of disease, Miss Nightingale, who began her career of devotion as a missionary in the schools of the poor, states in a letter to Mr. Chadwick on the subject;—

"I have unquestionably seen (in my schoolmistress days) bred, under my eyes and nose, scarlet fever in the higher class (even) of boys' schools. Every one has seen the same process as to measles in all rich and poor schools (National, Union, &c.). But parents, rich and poor, are so blinded by the idea that everybody must have measles once in their life, and 'you had better have it young,' that they do not understand what they see."

Mr. Chadwick says he has the warranty of Professor Owen for stating that, even in the best warmed and ventilated schools, five or six hours enforced stillness of little and growing children is a violation of the primary laws of physiology.

Amongst a number of important general conclusions which Mr. Chadwick gives in his letter to Mr. Senior,—one of her Majesty's Commissioners for inquiring into the State of Education, are the following:—

"That by the exercise of improved educational power, and by physical and industrial, as well as mental training on the half-time system [amongst orphan and destitute children] as exemplified in district schools, moral failures (to an extent to disqualify from respectable service) have been reduced from a common average of more than 60 to less than 2 per cent.

That by improved early physical training, given by means of systematised gymnastics, congenital defects or bodily weaknesses in the rising generation may be removed or diminished; and the duration of the working ability and productive industry of the population, and especially of the urban population, considerably extended.

That by legislation on sound principles, and by efficient executive administration, local as well as general, such improvements might be generally imparted to the rising generation, and the improved moral as well as economical results be attained, within a period of ten years of the complete operation of appropriate measures.

That the improved educational power, if duly applied, is fully adequate to the extirpation, within such period, of hereditary pauperism, of hereditary mendicancy, and of habitual juvenile delinquency.

And, as relates to the general population;—

That the usual courses of school teaching, which require five or six hours of mental effort from very young children of the average ages taught, from the seventh to the tenth year and above, in the common elementary schools, are largely in excess of their capacity of attention at those years, and in violation of the laws of psychology.

That the present excessive duration of sedentary application required from little children, beyond their proved capacity of voluntary and profitable attention, is mentally injurious, by inducing associations of weariness and disgust with the matters taught; by creating comparatively diffused, slow, and dilatory habits of mind, often provoking corporal chastisement.

That, however good may be the sanitary condition of a school; however well it may be ventilated, warmed, and lighted; the common period of six or even five hours of sedentary constraint, required from young and growing children, of the average ages attending schools for elementary instruction, are in violation of the laws of physiology; injurious to the full bodily development of children, and to their vigorous aptitude for labour."

These documents demand the fullest consideration.

THE MONUMENT OF DR. JENNER.

The removal of the Jenner memorial, from its central and public position in Trafalgar-square, has caused surprise, particularly when it is seen that the effigy of no other worthy is to be placed on the spot: and, although the situation might be objected to, it was doubtless intended as a mark of honour to erect this statue of a great man in a position where it could be daily seen by thousands. It has been said that, as its name implies, this situation is best adapted as a site for monuments of warlike heroes; in the same way as the neighbourhood of the Houses of Parliament is suitable for those of eminent statesmen. The new law courts, when finished, may afford the opportunity, externally, for the introduction of memorial sculpture; but, at present, there is not in the metropolis any place in which some classes of our eminent men could be properly represented. The monuments of Sir Robert Peel and King William IV. in the City, and several others in various situations, have not a good effect in connexion with the surrounding buildings; but having been so placed as a mark of respect by a generation who appreciated the merits of the persons whose figures are set up, it would not be right, unless a great necessity should occur, to remove them to some distant and comparatively unfrequented spot. The Duke of Wellington, it may be recollected, objected to the removal of his own statue, even from the abominable site it still occupies, after it was once put up; and not on the ground of any preference for the site itself, but simply because, being once placed, the idea of shifting it about was unpleasant.

As regards Dr. Jenner, there are few men who have proved greater benefactors of mankind, throughout the world. In Switzerland, by the introduction of vaccination, that loathsome and fatal disease—the smallpox—which had carried away thousands, has entirely disappeared; and in England, and in other countries, although a universal system of vaccination has not been carried out, there is no doubt that the exertions and discoveries of Dr. Jenner have saved some millions of lives. In connexion with any memorial of this benefactor to the human race, it is not creditable to the present age, when the value of science is more generally appreciated than formerly, to do anything which may appear to manifest a want of respect, appreciation, and gratitude. Before any design intended for a public situation is determined upon, it should be approved by competent authorities. The artists employed to carry this purpose out should also be carefully determined upon. Such a committee, composed of persons of high attainments, and of good taste, would prevent the erection or placing of many monuments in a way which now gives, and will hereafter give, cause for regret.

Next to the excellence of the design, the placing of a public monument is of the greatest importance. The desiderata, as regards this, are,—the fitness of the locality; the choosing of a site, then, where it will be seen by the largest numbers; and the harmony of the surrounding objects with the style of the sculpture, &c. As an example of a local monument placed in the neighbourhood of the birthplace of a man of note, and amid the scenes of his early labours, the monument to the elder Stephenson, for Newcastle-upon-Tyne, will be admirably placed on the High-level Bridge constructed by his son. The monument, in consequence of its lofty situation, will be visible from many parts of the town and neighbourhood. Close by, to the west, is the great manufactory in which the earliest locomotives were built, and in which gigantic works are still carried forward. Further away stretches the valley of the Tyne, in which George Stephenson first saw the light; and in all directions are evidences of industries which have been vastly increased by the genius and persevering industry of this man. Moreover, the site on which the memorial will shortly be placed is an important point on the leading railway from the north to the south. Mr. Lough is lucky; and has shown himself able.

It is to be regretted that many other monuments on which large sums have been expended are less satisfactorily placed. It would not, however, be well to remove them when they have become permanently fixed.

We should not like to see the monuments of Nelson, Wellington, Pitt, Beckford, &c., taken from the Guildhall; the monuments of various dates from the Poet's Corner and other parts of Westminster Abbey; the statue of Charles I. from Charing-cross; nor that of King James from Whitehall. Nor do we, as a matter of principle, approve of the removal of the statue of Dr. Jenner from Trafalgar-square to Kensington Gardens.

THE STREET ARCHITECTURE OF LONDON.

At a meeting of the Society for the Encouragement of the Fine Arts, on the 10th of April, a paper on this subject was read by Mr. James Edmeston. We give some portions of it.

London in many parts may certainly be called picturesque; full of sites offering fine opportunities for effect. One part has grown out of another, as occasion made necessary. No generally dominant idea can be said to prevail: it has spread, and that to a most inconvenient extent,—unfortunately, not upwards, by which it might have become a far finer city; but a great growth of area has taken place, adding nothing at all to the general effect. The sites I allude to are not such as Oxford-street or the Strand; broad, straight streets, which might be flanked on either side by lofty buildings, with a predominance of long, level cornices and lines in their composition, like the new Parisian boulevards; but Holborn-hill, Ludgate-hill, Fleet-street, Cheapside, Whitehall, Piccadilly, &c.,—localities which all of them invite that particular treatment which we find exemplified in the new buildings in Bishopsgate-street, opposite Crosby Hall, a coach-builder's premises near the Park, in Piccadilly, and those very striking schools in Bloomsbury, with others I might name. In the situations above-named how can the eye be satisfied unless there is a broken and well-defined skyline, a certain amount of irregularity, order within disorder, in that which we call picturesque, an acceptance of every little difficulty, in order to clothe it with beauty and meaning.

There is something so oppressive to the imagination if one pictures sites like these as being rebuilt in the studied, carefully cut up, divided, and subdivided styles of Italian architecture, as practised in this day, that one would almost rather they remained as now, with little or nothing to boast of architecturally, as a whole; and let it be specially borne in mind that you, who are not building houses yourselves in these localities, may

yet be able to influence others who do so. Every building will become an item in the final result, and I know how often everything is overlooked except mere utility;—nay, more, that the architect is often blamed if he is supposed to give much attention to external appearance.

Writers in the public papers commonly speak of the architect as being the ruling power in all cases. Indeed, he is no such thing; and in the majority of instances he is obliged to give up many points which he would far rather have maintained; and in many more cases he knows beforehand that to attempt what his client would call wild vagaries, or pretentious displays, or needless outlay, would lose him his business, and soon compel him to retire, without even what the advertisements call "a moderate competency." Where there is an intentional and studied effect visibly apparent, and the result of which is bad, of course the architect should be blamed; but this is not the reason of failure in the great majority of instances which excite adverse criticism. If I see a design in one part of which the architect has set his thought; which he has filled with the impress of his own mind; where he has ventured to indulge in some piece of good and effective design, and has dared to introduce some judicious and well-studied ornament—almost by stealth, as it were,—I know I must absolve him from blame if the rest of the design be bald and uninteresting, flat and commonplace, or even in some aspect of proportion or arrangement offensive.

In street architecture the surface decoration has, for the most part, a secondary office to fulfil: the buildings are seen in a sharp perspective; and the projections, reveals, and soffits contribute most to the effect—particularly bay windows or corbelled turrets, and an effective treatment of the roof; which latter, I think, should not have too much projection, but should cut well against the sky, and should obscure as little as possible of the upward view: in street architecture especially do the roofs play a most important part, both by the picturesque outline they may present, and by the more varied effects of light and shade which they contribute where the light may fall. I cannot well imagine any street ugly where there is a general harmony of main lines, and a well studied and picturesque treatment of the sky line; while I cannot imagine a plain row of houses looking very well, where there may be an elaborate care bestowed in the treatment of the flat surface, but which ends only with a plain level parapet presenting one never-varying effect against the sky, and throwing one dead shadow on the opposite side. * * * *

Will any one deny that in a long continued façade of buildings—say the Rue de Rivoli—it is most refreshing and agreeable to come to a break where there is a design of another character, successful in the particulars to which I have alluded? It is, however, not because the design may be what is called "Gothic," that it will prove deserving of favour above Classic—there are some new Gothic houses on both sides of Cheapside—but they both of them fail to give so pleasing an effect as a smaller and less pretentious building now just finished in Old Broad-street; because, in the former cases, the old level line of parapet is adhered to; while, in the latter, a gabled roof finishes the design. A merely carved or sloped roof, so long as it can be seen from below, will go far to supply what is wanted. The French are fully aware of this, and always let their roofs be seen; and, among others, I may mention the Universal Marine Office, in Cornhill, as an instance of the truth of this remark; giving the whole building a more pleasing form, and one which the eye readily singles out in spite of the ornamental and towering structure occupied by Messrs. Sarl, in the neighbourhood.

What I have said is, however, perhaps rather as hoping to influence the future, through those who may agree with me, than as speaking of the present. Our street architecture is, upon the whole, lamentably deficient in this attribute; and when one really feels how wonderful the change would be if any of our five main thoroughfares could be remodelled with careful study as to the roofs. It is impossible to help dwelling on the point, and very earnestly entreating all who can do so to consider and to advocate the subject as opportunity arises; the difficulties interposed by the Metropolitan Building Act notwithstanding.

There is, however, another point in connexion with our street architecture not easily to be dealt with, but which it would be most desirable to control if it could be done; which is, that it constantly happens that new buildings very much spoil one another, and very needlessly; every man considering just exactly what he has before him, and utterly ignoring what will exist on each side of his design. The result is most painful. Moulding and cornice are abruptly cut off: every feature is utterly at discord in each case with the others: no pains ever is taken to render the design complete in itself; and the front looks as if it had been intended to be one of a row which, by some change of intention, was never continued. To enumerate instances is needless: every main thoroughfare exhibits them; and strangers must be struck with this state of things as a peculiarity of municipal management of a most extraordinary character.

I fear no ordinary means are sufficient to cure this state of things. In the present state of architectural feeling, while the battle of the styles is either breaking out in open fury, or smouldering out of sight and ready to break out, there is a habitual disregard of other than personal feeling, and rather a delight in showing contempt for all work of a different character brought into juxtaposition. It becomes, for example, an article of faith to show as much as possible how the creed professed by the disciple of Gothic architecture differs from that of the Classic architect, who has been at work on the next plot of ground, and *vice versâ*, though, perhaps, the injury sustained is at least equal to that which is inflicted. All this is wrong; and is, perhaps, at the present moment the greatest bane of our street architecture; every integral part destroying its neighbours as far as it can; whereas the study should be to make the whole as perfect as a whole as possible. Now far be it from me that public censors should be established in matters of art; or that there should be any additional legislation in such matters: still I do think that some general rules might be laid down applicable to our main thoroughfares; and which would injure no one; interfere with no private rights; and which would succeed in reforming to some extent the present state of chaos. For example, just as a certain line of front is established, let certain main lines of elevation be fixed, which shall not be departed from: let the height of the ground-floor stories be fixed, the line of the top of the one-pair windows, the line say of the coping or finishing gutter, leaving all above that free. Now this would so far control designs as to enable the architect to show his talent, which would enable him to keep these main lines as boundaries, while he would fill up between them as suited the requirements of the work in hand. He might in the interval have fewer or more stories than his neighbour; he might divide them differently; and an absence of all sameness would be secured; but there would be just so much control over the *ensemble* as would tend to promote a general harmony of effect. And if, instead of every man cutting off his projections ruthlessly, just where the centre of his party-wall may come, he was compelled, in a give-and-take way, to return and finish them properly, while the lines of one composition were made either to lead out of those already established or else to be made properly distinct; I can believe that a great gain in our architecture would be accomplished, while there would be as much freedom as there is now. A government or a municipal body has something to answer for in this respect. What shall be said if the re-arrangement of the New Government Offices at Whitehall is not complete as a whole; every part helping every other part. How admirably is this carried out in the capital to which we have before referred. I think it is a disgrace to our "local management" that the beauty of our city is not cared for in its several districts as well as the cleanliness; and I believe it might practically be done.

I might single out many buildings recently erected, and which go very far to redeem our streets from the architectural barreness of which I have complained; but I feel it would be somewhat presumptive for me to do so; and that the task is better left in the hands of a non-professional critic. You have heard the treatment which I advocate; and doubtless several examples of it will have occurred to you during my observations. If you should not agree with me, you will at least judge and compare as you have opportunity; and you will arrive at a determination, one way or other, in your own minds. If architecture does not progress as it should, it is because there is a public apathy and want of interest arising from a lack of knowledge upon the subject not creditable to us as a nation; and which, of course, begets a lack of taste, or perhaps a bad taste founded on no principles and guided by no rules; so that we occasionally hear in high places most extraordinary reasoning upon this subject, when some great occasion brings it to notice; or we find an individual absolutely appointed to foster, encourage, and promulgate art, able to convince himself that architecture is a mere mechanical effort; not exactly of heaven-born genius, because any one may perform it; nor yet of mental training, because, says an authority, there have been great architects who it seems have had little of this. So that careful loving study of the subject, with toilsome experience in it, go for nothing. All very unworthy, mistaken, and contemptible falacies; which, if they could have any weight at all, would tend to undo any good that has been of late years effected; and would end by extinguishing one of the three fine arts entirely. Such mistaken statements stand rebuked by the great monuments of past ages, as well as by a thousand efforts in more modern times; and, I may add, stand exposed in their absurdity by every effort to act upon or to give any practical effect to them.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

On the 9th of April the annual general meeting was held, Mr. G. Vere Irving, V.P., in the chair. The report of the auditors, balance-sheet, lists of associates elected, withdrawn, and deceased, were read. The finances of the association were shown to be in a favourable condition: 702*l.* 3s. 2d., including a balance from the previous year, had been received, and 530*l.* 2s. 6d. paid by the treasurer; leaving a balance in favour of the association of 172*l.* 0s. 8d. This included the entire payments of the journal for the year, and on account of the first part of the "Collectanea Archæologica," all subscriptions for which have not yet been received.

The Congress for 1862 was fixed for August, at Leicester; and that of 1863, for Leeds. Thanks were voted to the president and others, and a special vote to the treasurer, Mr. Pettigrew.

A ballot then took place for the officers and council, when the following were returned elected:—President, Sir S. H. Northcote, bart.; Vice-Presidents, Sir C. Rouse Boughton, bart.; James Copland, M.D.; G. Godwin, F.R.S.; Nath. Gould, F.S.A.; James Heywood, F.R.S.; G. Vere Irving; T. J. Pettigrew, F.R.S.; Sir J. Gardner Wilkinson. Treasurer, T. J. Pettigrew. Secretaries, J. R. Planché, Rouge Croix; H. Syer Cuming. Foreign Secretary, T. Wright, M.A., corr. member of the Institute of France. Palæographer, Clarence Hopper. Curator and Librarian, Geo. R. Wright, F.S.A. Draughtsman, H. C. Pidgeon. Council, Geo. Ade, John Alger; W. H. Bayley, F.S.A.; Dr. William Beattie; Henry G. Bohn; Gordon M. Hills; John Lee, LL.D.; Edward Levien, M.A.; W. Calder Marshall, R.A.; George Maw, F.S.A.; R. N. Philips, F.S.A.; J. W. Previté; Rev. James Rudgway, M.A.; Edward Roberts, F.S.A.; S. R. Solly, F.R.S.; Robert Temple. Auditors, George G. Adams, George Patrick.

GIRDERS.

CIVIL AND MECHANICAL ENGINEERS' SOCIETY.

At the last meeting, Mr. J. B. Walton, V.P., in the chair, a paper on single and continuous straight girders, by Mr. Francis Campin, President, was read. After a few preliminary remarks upon the impulse given to the progress of bridge-building, by the introduction of wrought iron as a material for that purpose, the author proposed to explain a simple and practical method of proportioning the flanges of straight girders. The amount of strain upon any part of a straight girder might be calculated to the greatest nicety by formulæ deduced from mathematical investigations; which, however, are generally too complicated to be practically available.

The curve of strain upon a girder simply supported at each extremity is a parabolic segment, which, however, may be closely approximated by a circular segment, hence the least area of any section of the flanges may be measured on the ordinates of a curve drawn as follows.

Find the area at the centre of the girder, from which point lay off to scale at right angles to the girder, an ordinate representing such area, then describe a circle passing through the extremities of the ordinate and line of girder. It is desirable that the vertical scale of areas be as small as possible in proportion to the horizontal scale. The area of either flange at the centre, including loss by rivets, may be found from the expression,

$$0{\cdot}0313\ \frac{w.l2}{d}$$

where w = load in tons per foot run, l = span in feet, d = depth in feet, the result being the area in square inches.

One span of a continuous girder may be regarded as virtually divided into two or more parts, a central part acting as a girder supported at each end, and limited in length by the points of contraflexure, which part may be treated exactly as any ordinary single girder, as described above, and one or two end parts, of which each acts as a girder,

fixed at one end, and free at the other, bearing an uniform load, w per foot run, distributed over its length, and a concentrated load at its extremity equal to half the total load on the central part of the girder. The area at the point of fixture being found for either flange from the expression

$$\frac{W x}{8 d}$$

where W = total load on half beam, and on central part, d = depth of girder, x = distance of point of contra-flexure from point of support = length of half beam. All that remains to be determined is the value of x which corresponds to a minimum area of the curve of strain.

The author then explained the process of finding x which gives for a beam fixed at both ends,

$$0{\cdot}215\ l,$$

and for a beam fixed at one end and supported at the other,

$$0{\cdot}25\ l.$$

In the case of a continuous girder the values of the x's are assumed first as equivalent to one of the above quantities, and then reduced to give an equality of area over the points of support whichever span such area is calculated from.

The author then proceeded to find the actual saving from the use of continuous girders; and, from a calculation of numerous existent cases, found that it sometimes amounted to 25 per cent. of the weight, averaging about 18 per cent.

These results were obtained from an empirical formula, for the weight of metal in a bridge, supposing single spans to be used: it is,

$$\frac{b\ l\ 2{\cdot}25}{10{,}000}$$

giving the weight in tons, b = the breadth, and l = the span, both in feet; the quantity 2·25 being found from the expression

$$n = \frac{log.\ w - log.\ w' + log.\ b' - log.\ b}{log.\ l - log.\ l'}$$

in which, w, b, l, w', b', l', are the weights, breadths, and spans for two cases: $n = 2{\cdot}25$ was the mean result of a number of solutions of the above equations.

THE LATE MR. JAMES ELMES, ARCHITECT.

WE have to record the death of Mr. James Elmes, formerly surveyor to the port of London, which took place on the 2nd inst., after a lingering decay, although unattended with great bodily suffering. Mr. Elmes, who is perhaps best known by his work on "Dilapidations," and as the father of the architect of Liverpool Town-hall, studied architecture under Mr. George Gibson. He gained the silver medal in architecture at the Royal Academy in 1804, and afterwards designed and carried out some buildings in London and the neighbouring counties, and in Ireland. He relinquished his principal office, and that of vice-president of a society "for the diffusion of the knowledge of the fine arts among the people," in 1828, through loss of sight, which, however, he partially recovered a few years since. Mr. Elmes is the author of a memoir of the "Life and Works of Sir Christopher Wren," published in 1823; a volume on "Sir Christopher Wren: his Life and Times;" a volume of "Lectures on Architecture;" a "General and Bibliographical Dictionary of the Fine Arts;" "Elmes's Quarterly Review;" "The Annals of the Fine Arts;" "Thomas Clarkson: a Monograph," and other works. His remains were interred at Charlton on the 5th inst.

THE LATE MR. JOHN THOMAS, SCULPTOR.

IN our last number we illustrated a work on which Mr. John Thomas was engaged. In this we have to record, and we do so with real regret, his death, which took place, after a short illness, at his residence, Blomfield-road, Maida-hill, on the 9th ult., at the early age of forty-nine. By his death we have lost a versatile genius, and an energetic and amiable man. It would be difficult to enumerate all his works, but we may mention the colossal lions at the ends of the Britannia Bridge over the Menai Straits; the large *bas reliefs* at the Euston-square station; the pediment and figures in front of the Great Western hotel; figures and vases of the new works at the Serpentine; the decorative sculpture on the entrance piers at Buckingham Palace; and the sculpture of numerous buildings throughout the country. From his designs were erected Somerleyton, the seat of Sir S. M. Peto, one of his early patrons; the National Bank of Glasgow; the mausoleum of the Houldsworth family, with its figures of Faith, Hope, and Charity; much of of the Royal dairy at Windsor; Mr. Brassey's house at Aylesford, in Kent, and others. In Edinburgh there are specimens of his handiwork, on the Life Assurance building, the group of figures in the Masonic Hall, and the fountain at Holyrood. The sculpture at the Houses of Parliament, which first brought him to London, and gave him a position, affords striking evidence of his versatile talent. In Windsor Castle he was much engaged for his late Royal Highness the Prince Consort, especially in the decoration of an audience-chamber, the last spot where His Royal Highness bestowed his guiding advice;—advice which all who had intercourse with that illustrious man know the value of.

In interior decoration Mr. Thomas was much engaged, especially for the mansion of the late Mr. Houldsworth, which is enriched with his designs, from floor to ceiling, cabinet-work and carpets. Of the late artist's higher-class works, we may mention, his Musidora in marble, Lady Godiva, Una and the Lion, and a long-dreamed-of work, a study nearly 30 feet high, for a national monument to Shakspeare, which is to appear in the International Exhibition, after a struggle for space, denied at first by the Royal Commissioners, in terms which pained him greatly; and, if some of his friends state correctly, had a visible effect upon his sensitive mind; already overworked in carrying out, amongst other things, the huge Majolica fountain, in conjunction with Messrs. Minton, intended to be set up in the Exhibition building, when the orchestra is removed, and of which we gave an engraving a few weeks ago. Mr. Thomas has left several works unfinished, though far advanced; including the statue of the late Mr. Sturge, about to be erected in Birmingham; the statue of Sir Hugh Myddelton; and a drinking-fountain, for Maidstone.

Only a week or two before his death, he had been summoned to Windsor, to receive her Majesty's commands for future works.

Mr. Thomas has left a widow and one daughter to lament his loss.

OLD AND MODERN ENGINES OF WAR.

IN the armoury within part of the Norman keep of the Tower of London, the visitor may note arrow and spear heads of flint; Roman swords of bronze; primitive bows and arrows; cunningly-constructed cross-bows; arquebuses; ordnance of leather, and of wood, hooped with iron; cannon, muskets, and a variety of small arms of about Henry VIII.'s reign; and the different weapons which were in use from the reign of Queen Elizabeth to that of Queen Victoria.* Equally curious are the numerous examples of armour and other defences for man and horse, against various weapons. Surrounding the armoury, the towers, gates, walls, portcullis, &c., are a good example of the means provided to resist the old engines of war.

An inspection of the armoury teaches that for more than one thousand years the bow and pike were, with the exception of the cavalry, the chief arms of the English soldiery; and during a little more than two centuries, when small fire-arms have superseded the bow, many changes and improvements have been made; none of them being of anything like equal importance to those which have been carried out in the last quarter of a century. In the manufacture of cannon; in the improved construction and increased power of ships of war, far more important changes have been introduced during the last few months.

Huge floating forms, mailed, in a fashion similar to the warriors of old, in steel plates of immense strength, have been opposed to the projectiles from a rifled cannon; and from day to day the contest of engineering skill is continued. From time to time the plates are thickened; but in a corresponding ratio the guns are increased in power; and, at the present time, in the battle between gunpowder and metallic defences, the victory is on the side of Sir William Armstrong's great cannon; which, even without rifling, has broken through the stoutest shield which has yet been used for the defence of war vessels. It seems, however, that eventually the question of naval supremacy will be decided by the power of steam applied to vessels of a peculiar shape instead of gunpowder. To this matter Mr. James Nasmyth has recently directed attention, and remarks that, although the *Merrimac* is imperfectly constructed, it is a bonâ-fide steam-ram; and in the performance of her duty in this way, in her contest with the *Cumberland*, by one blow acting as a steam-ram, she sank that vessel into the water, a hopeless wreck. Mr. Nasmyth is of opinion that, notwithstanding the resisting powers of plated vessels, not one of them could exist above water after receiving on its side a single blow from an iron-plated steam-ram of 2,000 tons. Such a weight of ram, moving with a velocity of eight or ten miles an hour, would, if it deposited its momentum on the side of the strongest iron-plated ship, transcend in the destructive effect of that single blow all the broadsides which could be delivered during hours of continued firing. Mr. Nasmyth continues to say that one blow properly delivered by a steam-ram of this description would make a hole as large as a church door in the stoutest plated ship; and remarks that in the construction of such rams everything depends in giving her "end way strength;" being at the same time fettered by no interior fittings except what was due to the attainment of high speed, for the purpose of disabling the iron-coated monsters of the deep. Mr. Nasmyth recommends the use of a convoy of "smaller nimble rams," which might be called "cripplers," which could rush at the rudders and screws of the enemy's ships, and would render them an easy prey to the great rams and other engines of destruction.

Besides the power of destruction there are, however, other considerations to be studied in connexion with naval warfare: there are the winds and waves to contend with: wide oceans, in many instances, have to be crossed; and for various purposes large bodies of men must be conveyed, if possible in safety and in health, through long voyages. For those purposes we must have forms which are suitable to withstand storms; and which, in combination with speed and strength, will allow of sufficient space for the crew, and afford means for the arrangement of ventilation and air supply, which is so needful to life: therefore if it has become a thing of necessity to abandon the use of the "wooden walls of old England," as we have given up the cross and long bows, the ancient armour, the battering rams, the muskets, including "Brown Bess," and the imperfect ordnance, there will still continue the necessity for vessels which have sea-going qualities, and stout hearts and able heads to navigate them.

To form an idea of the effect which will be produced by the changes now going forward, would not be an easy matter: it is, however, hopeful for our own future that, as walls of iron instead of wood are needed for our defence, we have ample materials in this island, and sufficient energy and skill to use them.

* There might, in this valuable collection, be arranged, with advantage to many visitors, drawings or models of the battering-rams and other engines which were used with formidable effect in England in the old times. And when is the armoury to have a proper curator?

THE WHITE TOWER, TOWER OF LONDON.

IN the ancient keep or citadel of this ancient fortress there is now going forward in parts of the interior a busy scene of preparation. The chapel of St. John has been entirely cleared of the matters which for so long have disfigured it, and now presents a very impressive and picturesque scene: the massive pillars; the plain but variously ornamented capitals; the vaulting beyond the upper tier of arches, and that of the roof, are in an excellent state of preservation. Many parts are however, thickly coated with whitewash, which might with advantage be removed. At present the pavement is covered with wooden boards, which are in parts broken. We do not, however, see any indication at these points of any mosaic or other ornament. This fine interior is lighted on one side only by a lower and upper row of circular-headed windows; which, although disfigured in the exterior by the Jamesian restoration, inside have all their old characteristic features. The light falling in this way distributes great breadths of shadow and delicate effects of reflection. The floor of the chapel is at a considerable height from the surface of Tower Green, and is reached by two circular staircases, one on the west and the other on the north side of this central building.

The next apartment to the chapel is the council chamber, a large room lighted by one row of circular-headed windows. The roof is flat, and supported by rough wooden pillars. This interior, although plain and not very pleasing to the eye, has many historical and literary associations. This place, which had for long been used as a store for the parliamentary rolls and other records, has been cleared; but a strong body of workmen are engaged fitting it up with frames and shelves, — not, however, for the

keeping of parchment documents, but for several thousand stands of small arms. When the work is completed, the apartment will be divided into several narrow aisles; which, when occupied by the multitude of weapons, will, by their long perspectives, make a good show. Many would have preferred that this room should have been, like the chapel, unoccupied. Space is, however, valuable within the bounds of this fortress. When completed, which they will very shortly be, these interiors will be thrown open for the inspection of the public, in the same way as the Beauchamp prison and some other parts of the Tower now are.

The circular staircase which leads from the north side of the keep is an interesting example of the constructive skill of the Norman period. Some alterations are going forward in this part, which have caused the workmen to dig into the massive masonry. The task is a most difficult one. Amongst the stone, flint, and mortar, there is, near the base, a considerable admixture of very hard brick.

There are other portions of the interior of this building which are well worth examination. The view from the roof is striking; and here may be noted the constant passing of steam-packets, the crowd of shipping on the Thames, the soldiers of Queen Victoria's Guard, and the other features of modern London now clustered around.

THE FALL OF TOWERS AND SPIRES.

After cursorily looking over "Murray's Handbook," and Dr. Willis's paper published in the *Builder*, on April 13, 1861, I have jotted down a few evidences of the instability of human grandeur, which I beg to subjoin. It would be profitable if your readers would be so good as to extend this list, which I have only just commenced.

I believe that the list would be alarmingly lengthened were the inquiry extended to parochial churches.

An awful catalogue would be the result of a similar search among the writings of Viollet le Duc and others, respecting French and German casualties.

As to Italy, not a spire now survives.

Dr. Willis says,—"In examining the history of Norman cathedrals, it would be found that *falls* were the *characteristics* of several of them;"—in short, that this falling was a way they had got into, and they could not help it. VISIGOTH.

Winchester Cathedral,—Tower fell in 1107.
Ely Cathedral,—Central tower fell suddenly, in 1321 or 41.
Gloucester Cathedral,—Tower fell suddenly in 1160.
Worcester Cathedral,—Tower fell in 1175.
" " —Two towers fell in 1222.
Lincoln Cathedral,—Tower fell in 1240.
Norwich Cathedral,—Spire and tower fell in 1361, destroying the choir.
Hereford Cathedral,—Western towers and front fell within the last century.
Wells Cathedral,—Prevented from falling in 1321, by inverts and buttresses, "in gross violation of all taste and architectural propriety." (See Dr. Willis's paper.)
Chichester Cathedral,—Tower and spire fell in 1861.
Dunstable Priory Church,—Two towers fell in 1221.
Evesham Priory Church,—One tower fell in 1213.
Canterbury Cathedral,—Tower saved from destruction, in Dr. Willis's opinion, by means similar to those at Wells.
Salisbury Cathedral,—The spire 23 inches out of the perpendicular: its fall predicted in the *Builder*, April, 1861.
St. Nicholas, Hereford; St. Mary's, Redcliff, Bristol,—Both with truncated spires, owing either to their upper part having fallen, or to their being left incomplete in apprehension of a fall.

THE ALBERT MEMORIALS.

Bristol.—At a meeting of the committee held at the Council-house, under the presidency of the mayor, the precise form which the memorial should take was discussed; and it was resolved that it should be a statue, and that, should a sufficient amount be obtained, there should be an addition of water, in such shape as would present a statue and fountain in harmonious combination. The subscriptions then amounted to 370*l.*; and confident hopes were expressed that the amount required would be obtained.

Hanley.—Upwards of 500*l.* has already been contributed towards the cost of converting the Hanley School of Art into a memorial of the late Prince Consort, by the purchase of the premises and their adaptation to an extended scheme of usefulness.

Liverpool.—Mr. Thornycroft has been selected by the committee of the corporation of Liverpool, to execute the equestrian statue of the Prince to be erected there.

Wakefield.—At a meeting held at Wakefield, under the presidency of the mayor, it has been resolved to erect some memorial of the Prince in that town. The form of the testimonial was left for further consideration, but the enlargement of the Clayton Hospital was suggested.

The Scottish National Memorial.—At a recent meeting of the local committee for the city of Edinburgh, it was announced that the subscriptions reported to the conjoined committees for the city, and the county of Mid-Lothian, exceeded 3,370*l.* This was exclusive of the subscriptions at Leith, Musselburgh, and Portobello, which were under the charge of separate committees; and also exclusive of sums collected by the numerous local committees in different parts of Scotland. Arrangements, according to the *Scotsman*, are in progress for affording an opportunity to artisans and domestic servants to subscribe sums of whatever amount they may find convenient.

THE FRENCH GALLERY, PALL-MALL.

The ninth annual exhibition, in London, of pictures of the French and Flemish schools is a good one. It consists of 194 works mostly of merit. Rosa Bonheur (a small Meadow Scene, 13), Henrietta Browne ("Interior of the Harem," 19, a charming picture), Edouard Frere (especially 66, "Good Friday at Notre Dame"), Louis Gallait (76, "The Roman Mother"), Henry Leys (115, "Synagogue at Prague"), Louis Ruiperez, (114, "Soldiers at Leisure"), Jean Trayer ("Early Morning," 170), and J. G. Vetter (186, "Palissy's final experiments," a charming production), supply attractive and satisfactory examples. Meissonier sends three of his remarkable photographs, so to speak; of which we prefer the "Flute Player" to the more elaborate group, "Corps de Garde," 119. The life given to the performer by the raised foot is wonderful. A large picture by Cermak, called here "Raid of Montenegrins in the Herzegovina," 28, which excited much admiration in Antwerp last year, and was spoken of by us at the time, is certainly less effective in the present smaller gallery, and amongst cabinet pictures, than it was there. It is a remarkable piece of flesh-painting, and shows fine drawing too.

THE PROPOSED NEW COURTS OF JUSTICE.

By a chance majority of two votes in the House of Commons, the arrangements for the proposed new courts of justice have been for a time delayed; and the inconveniences which for long have been evident, allowed for a season to continue. In whatever way this subject is viewed the decision is a matter for much regret.

The present law courts of the metropolis, in their architectural features, in their sanitary derangements and general unfitness for the important purposes to which they are devoted, undoubtedly are disgraceful. Look, for instance, at the exterior of the buildings in Lincoln's-inn—than which it is difficult to conceive anything more mean and unsatisfactory. Nor are the interiors much better; and the arrangements of the ventilation and heating are no less defective. Yet here we have the chief seat of justice in this great country.

It seems scarcely necessary to argue that the distribution of the Courts of Justice over several localities must be the cause of a vast amount of confusion, loss of time, and inconvenience, as well as expense to the public and the profession. The necessity for a change is as evident as that the construction of the new buildings may be made a means of adding to the adornment of the metropolis. The site chosen for the purpose is a central one; at present chiefly covered with buildings of a dilapidated and unwholesome description; and it cannot be truly said that the chief part of them are occupied by masses of the struggling poor; but rather by those who have made several portions of the neighbourhood a nursery of vice and immorality. The removal of these buildings would be a decided advantage. Moreover, this appropriation of the accumulated Court of Chancery funds, which it is proposed to devote to the purpose of purchasing the site between Lincoln's-inn and the Strand, and erecting the new courts of justice, will not be felt, or cause the public inconvenience. The proposal to cover the open space of Lincoln's-inn-fields we have often protested against. We cannot spare any such spaces as still remain within the limits of the metropolis. They ought to be held more sacred even than Hyde Park, standing as it does on the open outskirts.

The chief objection which has been made by those opposed to the projected improvement of the law courts seems to be that the works will cost more than has been estimated by Mr. Cowper (1,500,000*l.*); and no time should be lost in coming to a satisfactory conclusion on this point. The cost of the site could be estimated; and a plan and design for the buildings being clearly decided upon, there need not be much difficulty in the matter.

The courts *must* eventually be erected; and delay is likely to add to the cost; for, in correspondence with the alterations going forward in nearly all parts of the metropolis, ere long many of the old premises which now stand on the proposed site will be removed; and others of a much more valuable description take their place.

The Society for the amendment of the law have just held their tenth general meeting, at which Mr. Hastings called attention to the rejection of the Bill; which, he said, he deeply regretted. He had during the past year twice visited Dublin; and nothing could be more admirable than the arrangements there for the accommodation of the bar, the solicitors, and their clients. He understood that the courts at Edinburgh were equally commodious and convenient; and it therefore became the more astonishing that in the metropolis of the world the courts were not only inconvenient in their size but were also scattered over London. He looked at the matter as one of law reform; for there could be no doubt that a convenient arrangement of the courts of justice would greatly facilitate the administration of the law, and so far diminish the expense entailed on clients. He was entirely, on sanitary grounds, opposed to the proposal that the new courts should be erected on the area of Lincoln's-inn-fields.

At the next meeting of the society, he added, he would move a resolution to the effect that the society had heard with deep regret that the second reading of the bill referred to had been postponed (he could not consider it rejected *sine perpetuum*); and would take steps to secure its passage through the Legislature next session of Parliament.

Mr. Lawrence, on the part of the Incorporated Society, stated that that body fully coincided in the views of Mr. Hastings, and ridiculed the idea of Mr. Selwyn being the advocate of economy, especially as the Suitors' Fee Fund was really no man's fund.

NIELLO WORK.

At the last meeting of the Archæological Institute, Mr. Edmund Waterton, F.S.A., read a paper on "The Art of Niello," of which the Institute propose to exbibit, in June, a series of examples; combined with specimens of enamel; so as to present materials for the history of the two kindred arts which contributed so essentially to the enrichment of the metal works and elaborate jewellery of the Middle Ages. Mr. Waterton gave a sketch of the process of applying the metallic compound known as *nigellum*, formed of silver, with other metals, fused with sulphur and borax. He traced the early knowledge of the art amongst the Etruscans and Romans, and described some examples of high antiquity; of which one in the Kircherian Museum at Rome has been assigned to B.C. 600. A celebrated votive throne in the same collection is decorated with niello; its date being about three centuries before the Christian era. Of the fifth century there are several specimens. Silver vases, preserved in the Vatican, and several rings ornamented by this curious art, exist, of which one is preserved in Mr. Waterton's collection: it is a work of the seventh century. The Anglo-Saxons, who were celebrated for skill in delicate metalwork, made use of niello; and a valuable specimen is presented in the ring bearing the name of Ethelwulf, father of Alfred the Great, now in the British Museum. It was likewise known to the Irish artificers; and very curious examples exist in the Museum of the Royal Irish Academy, and also on the famous Cross of Cong, made about 1185. Niello is found also on Scottish brooches, some of which possess the character of very ancient style of design. The art was probably introduced from the south of Europe. Theophilus, in his treatise of the Early Arts, commends Tuscany as the country where niello-work was most skilfully practised. Mr. Waterton described some of the finest examples of the Mediæval periods, such as church ornaments, some of which have been well illustrated by Cicognara. The use of niello has a peculiar interest, as having led to the art of chalcography, through the sagacity of Finiguerra. Niello was much employed by Cellini, whose recipe for the metallic compound has been preserved; and the art continued long amongst the later *orefici* in Italy. It has also been used with considerable perfection in Russia; but the work is deficient in delicacy and the artistic effect found in Mediæval examples.

RAILWAY ACCIDENTS.

INSTITUTION OF CIVIL ENGINEERS.

At the meeting, April 1st, Mr. Hawkshaw, president, in the chair, the first paper read was on "Railway Accidents—their causes and means of prevention, showing the bearing which existing legislation has upon them," by Mr. James Brunlees. The author proposed to treat the subject by dealing with the facts as they were, the causes of accidents being, in nearly all cases, sufficiently apparent; he would not, therefore, attempt by theory, to establish rules for their prevention. From the reports of the officers of the Board of Trade it appeared that, during the seven years from 1854 to 1860, the number of accidents amounted to 540, as the result of 1,274 distinct causes. Of these accidents 11 per cent. were attributed to the permanent way, 7 per cent. to the rolling stock, and 76 per cent. to the management, including insufficient means for securing safety, leaving only 6 per cent. as not ascertained.

The accidents due to the permanent way were then referred to in detail, and it appeared that the general defects were most evident in the system of ballasting, of joint-fishing, of turning the rails, and of fastening the chairs to the sleepers. With regard to the ballast, it was argued that it would be found economical to have at least 6 inches, or 9 inches of rough gravel, or broken stone, as a free draining bed to the sleepers and to the "top-dressing;" and that, during the months of September and October, an extra number of men should be employed to drain the ballast and beat up the road, in order that it might become consolidated before the winter's rains and frost set in, and thus avoid the evil effects of frost on wet ballast. It was urged that the plan, now in general use, of placing the fish-joint between two sleepers was objectionable, as the ends of the rails were unsupported except by the fish-plates, which together were frequently only equal to two-thirds of the section of the rail. It was submitted that all the joints should be fished directly over a sleeper, or that a bracket chair should be used. The practice of turning the rails was condemned, because when a rail was so much worn as to require turning, its strength was generally so reduced as to render it unfit for main line traffic. With regard to the fastenings of the chairs to the sleepers, it was urged that it was desirable that iron spikes only should be employed on the outer side of curves, or else that the chair should be partially sunk into the sleeper, to lessen the strain on the treenail. The superior economy of steeled, or partially steeled, rails, points, and crossings, was also incidentally noticed.

In reference to the accidents which had arisen from defective, or neglected rolling stock, it was found that many of the fractures had occurred during the winter months, owing, possibly in some degree, to the rigid state of the "way" in frosty weather; whilst others were due to the use of bad iron, and some to defects either in the welding of, or in the mode of attaching the tyres of the wheels. Steel, or partially steeled, tyres were now, to a certain extent, in use, and tyres formed of a continuous ring, or unwelded piece of metal, were also successfully employed. Several new methods of fastening the tyres had proved as fruitful of mischief as the ordinary plan of simply shrinking them on, though others had been found to be efficient; and it was said that on some lines the tyres had not failed to any great extent. The author hoped, that the importance both of the tyres and of the axles of wheels would lead to a useful discussion on this branch of the subject. The usual want of uniformity in the main features of the carriage portion of the rolling stock was then commented upon: and it was considered that this variety not only increased the cost of manufacture and of maintenance, but was often the cause of accidents, and frequently contributed to render them disastrous. The author thought that the carriages should be nearly uniform in size, and that the buffers should, in all cases, be the same height above the rails. The longitudinal beams should be in the same line throughout, be strong in themselves, and the framing securely braced. The present coupling in the centre should be increased in strength, and the whole attachment between the carriages should be such as to render a train in effect, as far as practicable, as one carriage, with a certain amount of flexibility; so that in the event of collision, the carriages should retain their position, instead of rising upon one another; and if an axle, or a wheel broke, the crippled carriage should be partially borne up by the neighbouring carriages until the train could be stopped.

On the question of Management, after some remarks upon the speed of trains, it was shown that by punctuality, both in the time of starting and in the rate of running, safety, so far as human foresight was concerned, was insured. The system of working the traffic of a railway by allowing an interval of *time* between the trains was deemed unsatisfactory, and far inferior to the system of an interval of *space*. The accidents arising from the irregularity of excursion-trains were then alluded to, and it was remarked that if, during the summer and autumn, the ordinary trains were run at lower rates of fares, the traffic would be increased, as the public would feel greater security in travelling. The difficulty in running coal or mineral trains to a fixed time-table might be met by a more general use of the electric telegraph, and by a better system of signalling arrangements. During the seven years, from 1854 to 1860 inclusive, 88 accidents happened from inefficient signals, of which 14 occurred in 1860. In some cases, especially at sidings, there were no signals; in others they were defective in form, or were improperly placed. It was desirable that junction signals and points should be worked simultaneously by one man; and at junctions, separate main and distance signals should be provided for each line. If the system of working the traffic by the electric telegraph was generally adopted, and the line was divided into sections, so that a train should be prevented from entering any section until the preceding one had passed to the section in advance, collisions would be impossible, except those liable to arise from disregard of the signals, and a proper interval would be secured between the trains, in spite of unpunctuality. As the want of a means of communication between the engine-driver and the guard, or conductor, had frequently been experienced, and as plans were in daily use on several lines, there was no reason why it should not be adopted on all. To render it fully effective, the guard or conductor ought to start the train from each station by means of that machinery, so as to prove that it was in working order. Owing to the general high speeds and heavy trains, it was of the utmost importance that ample break power, capable of being applied in the least time, should be provided with each train. It was a question how far a regularly-distributed retarding force, acting at the same moment on all the wheels, might not be preferable to a concentrated force applied at particular points. By the system of "continuous breaks," the employment of several men with each train was unnecessary. It had also another advantage, that a train was more under control, and could be stopped in a shorter distance. The negligence of servants, arising from their ignorance or inefficiency, was next adverted to; and it was thought to be due to the pay being too low to command the services of men of intelligence, steadiness, and self-reliance. Frequently they were insufficient in number, leading to overwork; and instances were on record in which engine-drivers had been employed for seventeen hours daily, and in some cases for twenty-six and thirty hours continuously.

The author proposed leaving the bearing of existing legislation upon railways to be dealt with by Captain Douglas Galton. He would, however, observe, that Government interference was not likely to render railways safer or more available to the traveller; and that it would be better to rely on the consideration and calm reflection of those immediately interested in these enterprises, especially as from the heavy expenses attendant on accidents, directors and shareholders would naturally desire to render this mode of travelling as safe as possible.

A paper on the same subject was read by Captain Douglas Galton.

It was stated that the length of railway communication opened in the British Isles at the end of 1860, was 10,433 miles, upon which 163,435,678 passengers were conveyed in that year. From official returns it appeared, that during the seven years ending the 31st December, 1860, there were 116 passengers killed, and 2,832 injured, from causes beyond their own control. From the sums paid by railway companies for compensation, it was calculated that an insurance of one twenty-fourth part of a farthing per passenger per mile would, on the average of all lines, cover the cost of railway accidents. It had been found impossible to obtain reliable information, as to the number of coach accidents in this country. But the returns of the "Messageries Impériales" showed, that in a series of years, the number of passengers killed and injured, from causes beyond their own control, was 1 in 28,000. From the latest comparative returns, the number of passengers killed and injured was on British railways 1 in 334,000, on Belgian railways 1 in 1,600,000, on Prussian railways 1 in 3,000,000, and on French railways 1 in 4,900,000. The greater comparative safety of foreign railways was traced to differences in the conditions of the traffic and of the management, as well as in the habits of the people.

In endeavouring to elucidate the question, whether any of the accidents which had occurred could have been prevented by reasonable precautions, the first point which arose was, the extent to which the amount of traffic on the several lines influenced the number of accidents. The general averages thus obtained showed, that lines of small traffic were comparatively safe. But as traffic alone did not determine the number of accidents, it was necessary to analyse the causes in detail; taking, first, those which could not be guarded against; and secondly, those which were within the control of the managing, or working staff. During the seven years before referred to, 534 accidents to trains had been reported upon by the Inspecting Officers of the Board of Trade, in which 2,912 passengers were killed, or injured. In many of these cases there had been more than one contributing cause, but the majority might be thus tabulated:—

	Number of Accidents reported upon	Number not Sufficiently Explained	Cases in which the Accidents could not be guarded against	Cases in which the Accidents were due to Causes within the control of the Management.		
				Mismanagement of the Works or Rolling Stock.	Arrangements of the system of Working.	Neglect or Inefficiency of Servants.
Accidents from engines and carriages leaving the rails, or fractures of machinery	135	313	70	98	15	1,
Collisions of every description	69	232	16	222	219	18

These figures showed that a large proportion of the so-called accidents were due to preventible causes. Those arising from the fracture of axles and tyres, and from engines and carriages leaving the rails, were less than one-half of the number which could not have been guarded against. But out of the 319 collisions, only 16 were attributable to purely accidental causes, whilst 183 were assigned to the negligence of inferior servants, and 120 to the manner in which the traffic was conducted, and which ought not, therefore, to have occurred.

With regard to the first class of cases, accidents which could not have been guarded against, the author remarked, that the best form of tyre for a railway wheel had not yet been definitely settled. The wheels and axles could scarcely be said to be mechanically satisfactory; the form of break in use was also imperfect. Although simple negligence could not be entirely prevented, yet in several cases the negligence had been attributable to the defective arrangement of the company, in permitting pointsmen and engine-drivers to be habitually over-worked. Those accidents which arose from trains passing on to a wrong line through facing-points, might not have occurred, if an indicator had been attached to the points, to show in which direction they were set. The comparatively small number of accidents from negligence alone afforded strong evidence of the efficacy of the direct responsibility of the inferior servants. A few instances were then cursorily alluded to, in illustration of those accidents which were wholly, or partially attributed to defects in the condition of the railway, or the vehicles, or to the absence of the requisite auxiliaries to safety, such as signals, breaks, &c. It was observed, that it was not for want of good rules that accidents occurred, but for want of a continued enforcement of those rules, and a close examination into the details of the manner in which the traffic was worked.

The discussions which had taken place on this subject in Parliament, both in 1853, and again in 1857, were then considered, and the conclusion was arrived at, that freedom from railway accidents was not to be obtained by Government interference, but by an effective and responsible internal management, which would enforce the greatest punctuality and care in working the traffic, and maintain the strictest discipline amongst the servants employed.

The existing law, affecting railway companies as carriers, was then alluded to; and attention was next called to the principle of compensation for injuries sustained, Lord Campbell's Act being specially cited, as the Parliamentary recognition

of that principle. It was said that this Act removed a technical difficulty in the way of recovering compensation, rather than gave a new right to compensation. The money payment thus provided operated as a punishment, and tended to prevent the commission of careless acts. Compensation might, therefore, be looked upon, partly as a penalty upon the company for its corporate carelessness, and partly as a remedy to the sufferer for the injury received. If viewed as a remedy, it should be such as to tend to prevent a recurrence of the act for which punishment was awarded. It should, therefore, depend on the degree of blame which attached to the management for the accident, and it should be equally certain and just in its operation. In its aspect as a remedy, it should be easily recoverable by the sufferer. As at present levied, it did not properly fulfil either of these conditions, for reasons which were stated. Assuming that such a maximum amount was fixed upon as would fairly compensate the generality of passengers, according to the class in which they were travelling; and assuming that it were made payable in the case of every accident which occurred, beyond the control of the passengers, without there being any obligation to prove negligence, the author was inclined to think, that the fine would be rendered more certain in its operation, but that as a preventive the effect of the alteration would not be appreciable. The true remedy against railway accidents lay, in the author's opinion, with the railway companies themselves. Improved management would be greatly assisted by placing at the head of each railway a director of adequate capacity, responsible to the board for the management of the concern, who should be required to devote the whole of his time to its interests, and be paid in proportion;—by giving the chief officers of the railway control of, and making them responsible for, the several departments, so that they might be answerable for the results; and by providing a gradation of responsibility throughout all the *employés*. Improvements in the machinery, and systems of working, might be promoted by the formation of an association amongst railway companies, embracing the objects of the association between the German railway companies, and of the association between manufacturers, near Manchester, for the prevention of boiler explosions. It was doubtful, however, whether such an association could become of any practical utility in this country, unless it assumed the form of an association for the purpose of mutual insurance against accidents, managed by a board of railway officials, chosen from the associated companies.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the next ordinary meeting, to be held on Monday evening, the 28th, the royal medal, the silver medal of the Institute, and the other prizes awarded at the special general meeting, will be presented by the President; and the following paper will be read:—"On Jewish and Roman Architecture in Palestine, from the Earliest Period to the time of the Crusades," by Signor Pierotti.

We are sorry to learn that Messrs. Hayter Lewis and James Bell do not propose to offer themselves for re-election as honorary secretaries at the ensuing annual meeting, being unable longer to afford the time required to fulfil adequately the duties of the office.

THE ARCHITECTURAL MUSEUM.

The lecture to be delivered on Tuesday next is "On the History of the Temple Area at Jerusalem, with its Buildings and Substructures," by Dr. Ermete Pierotti, architect to the Pasha of Jerusalem. The following outline will show its scope:—

The Temple Area.—1. History from the time of David to its occupation by the Mohammedans. 2. Survey of the exterior:—Solomonian, Herodian, and Roman masonry; the golden gate; gates in the south wall; Dr. Robinson's bridge; Solomon's causeway; vast gallery connected with the Fortress Antonia, discovered by Signor Pierotti; part of Bethesda. 3. Survey of the interior;—The dome of the rock; the substructures in the south-east angle; the Mosk el-Ahsa, Justinian's Church; its vaulted substructure; north-west angle; Herod's occult passage. 4. Cisterns and aqueducts; the fountains of Etham; aqueduct of Solomon; waters of the temple; vast system of aqueducts and conduits discovered by Dr. Pierotti; their connexion and purpose; conclusions.

A MEDIÆVAL LEWIS.

NEWPORT, RHODE ISLAND (U.S.).



In the number of the *Builder* for January 25th, a correspondent asks to be informed when the "Lewis" was first used in England or any other country. Of its antiquity there can be no doubt. Possibly it may date back to the building of the Pyramids, and was used in connexion with the instrument spoken of by Herodotus, and the "polyspaston" mentioned by Vitruvius. The stones in the pyramids have holes in them 8 inches by 4 inches, evidently made for the introduction of some instrument employed to raise them to the several levels of the work. The large fragments of buildings in and around Rome show that they were originally raised and placed in the walls with the aid of the lewis, and I have examined a large fragment of a polished blue granite (Egyptian) column in the neighbourhood of the Coliseum, which had a hole drilled in the smaller diameter, for a lewis, just as we would prepare it for raising at the present day.

But my object is to call your correspondent's attention to the lewis described and figured in the "Facsimile of the Sketch-book of Wilars de Honecort," edited by M. J. Quicherat, and translated by the Rev. Robert Willis. The note under De Honecort's drawing is as follows:—"This is the way to make the most powerful engine known for raising weights;" and in the chapter descriptive of the plate a drawing of the lewis (of which I inclose a rough sketch), on an enlarged scale, is given. This carries us back to the thirteenth century. The translator says:—"This lewis is of a form hitherto unknown, and is extremely simple. It has escaped the notice of the French commentators of Wilars." In the note to the above the reader is referred to Perrault's translation of Vitruvius, and also to Piranesi, for all the known forms of this instrument. Newton's translation of Vitruvius will give the same information, and is much more accessible.

This small place (Newport), though dignified with the title of "city," has a population of 10,000 only. It is, however, widely known as the most fashionable watering-place in the States. The island takes its name from Rhodes, which it much resembles in many particulars; and the turf that covers every spot of soil not under cultivation, down even to the rocky shore line, is like that of the best English lawns. The Indian name of the island is "Aquidneck,"—Isle of Peace,—and the tribe in possession at the time of the first white settlement was marked by a superiority that made the most favourable impression on the new comers. With the exception of a few of their names associated with the islands and the more prominent points, we have nothing now to remind us of the race that once roamed the shores now frequented by beaux and belles, for pleasure, and a bath in the sea. Along the avenues, on the gentle hill sides overlooking the sea, and on the bold headlands, stately villas and picturesque cottages have been erected, many of them with little regard to expense, for the enjoyment of the "merchant princes" of the larger cities, who find time to spend their summers on this charming spot,—bathing in the surf in the morning, driving along the beaches, or through winding roads and dewy vales in the afternoon, and in the evening entertaining their friends at home. These estates are only occupied (as a general thing) four months in the year. They embrace from two to forty acres of land, often laid out and embellished with exquisite taste, and, in the aggregate, millions have been expended on these "cottages," for all are so designated.

In the town proper there are a number of buildings that carry the mind back to colonial times, one, of them, if we may believe the antiquary, dating back even to days when the Viking rover,

> "Wandering from his region frozen,
> On Vineland's shores delighted once to roam."

Small as the place now is, prior to the revolution which resulted in separating America from the mother-country, it was one of the leading places in the country, and its merchants established the market price in New York on all important goods. At that time its inhabitants were largely engaged in commercial pursuits; but at the same time they paid due regard to the claims of art and literature, and were not unmindful of what they owed to posterity. The present City Hall, a building in the Ionic order; the State House, an imposing structure; and the Redwood Library, an exquisite specimen of Roman Doric, were all from designs by Peter Harrison, architect; and are all alike monuments of his skill and of the taste of those who favoured their erection.

The Redwood Library was founded by Abraham Redwood, who came from Antigua in early life, and was so charmed with the island, that he spent the remainder of his days here. In connexion with a number of others, he formed a literary and philosophical society, of which Dean Berkeley, during the time of his residence in the island, was unquestionably the head. The books collected by the society formed the basis of the library, which was subsequently enriched by large purchases of books by Mr. Redwood, by the gift of a site for the library building on the part of Henry Collins, a member of the society; and the liberal support of the many friends of the institution. A few years since, it was found that the building was too small for the wants of the library; and it has since been enlarged, and a fine reading-room and picture-gallery have been added.

Dean Berkeley, when he came to America, landed at Newport, intending to sail from this port to Bermuda, the proposed site of his college. We all know how that project failed. He erected a house here, some distance in the rear of the city, and called it "Whitehall," a name that it still bears. When he returned to Dublin, he gave the estate to Yale College. The old building is still standing; and the students who resort to the island in the summer season frequently visit the spot associated with so respectable a name. A short distance from Whitehall there is a wild place, overlooking the sea, known as "hanging rock." In a fissure in this rock, large enough for a chair and table, Berkeley spent many hours in study, and here he wrote his "Minute Philosopher." On his return to Dublin, he purchased and sent out to Trinity Church a very fine organ, still in the church, and surmounted by the crown of England, which has never been removed. Trinity Church deserves more than a passing notice, for its history is an interesting one; but I must pass it.

In later years, Channing, whose writings are well known in England, was born here, and his early love of literature was fostered and strengthened in the Redwood Library. The first lessons in art received by Allston, who subsequently rose to the highest position in art in America, were given to him in this place; and his fellow-student, Malbone, who was equally noted as a miniature painter, had a career as bright as it was short. And Stuart, who was born on a farm a few miles from the town, painted here prior to his visit to England, where he became the pupil of West; and on his return he painted many pictures, including the full-length portrait of Washington, now in the State House, some few of which are still to be found in the town.

But I have already encroached too much on your time, particularly as my sole object in addressing you is to call your correspondent's attention to the lewis described by De Honecort, and not to take up your space with the relation of events that at best can have but little more than a local interest.

Geo. C. Mason.

Rhode Island.



MODERN FRENCH ARCHITECTURE: HOUSE RECENTLY ERECTED IN BOULOGNE.

FRENCH ARCHITECTURE: HOUSE IN BOULOGNE.

The preceding engraving represents part of a detached house in Boulogne, and serves to show the style often adopted in modern French architecture. We may give some descriptive particulars hereafter.

THE SITE OF KING'S CROSS AND LINE OF THE UNDERGROUND RAILWAY.

Various and striking are the changes which have taken place here within a little more than a quarter of a century. Many still remember the making of the New-road; the starting along it of Shillibeer's first omnibus; the late Mr. Stakey's mountain dust-heap; the locomotive trials on the site of the present Euston railway-station; the old fever and small-pox hospital on the place where the Great Northern station now stands: and who that has seen it can forget the statue of King George IV., to which we have on several occasions referred. The late removal of houses at Battle-bridge, across that singular thoroughfare called "Fifteen-foot-lane," to Coppice-row, now makes a good opening, through which the locomotive will ere long run. The high land of the east part of Clerkenwell, occupied by Holford-square, &c., has for London a bold appearance. Many who take a view from here now did not before think that any part of the metropolis was so hilly as those knew it to be who had looked down over the fields towards the Bagnigge-wells tea-gardens.

Viewing the site of King's-cross at present, one cannot fail to be struck by the convenience of the situation, and note how surely it must, as the metropolis grows, increase in importance. The central area now looks very spacious, and will be more so when, as will probably be the case ere long, the wooden railing in front of the Great Northern station is thrown down, and a compact booking-place for the underground railway is erected. Four great thoroughfares branch from here—the New and Euston roads, Maiden-lane, now the North-road, and the Gray's-Inn-road, leading towards the City. These must all become places of very great traffic. Shops will ere long line the Euston-road; and already there is the sure evidence of this change between King's-cross and Tottenham-court-road.

In consequence of the tradition which exists that Battle-bridge was so called in consequence of the great contest having taken place there between Queen Boadicea and the Romans, we have constantly made inquiries, as we have before now mentioned, while all excavations have been in progress in this neighbourhood; and, what with the formation of the Great Northern terminus, the openings for the underground railway, the formation of sewers, &c., there has been scarcely any portion of the ground left unturned. There has been no trace, however, discovered of this important contest. Generally it was seen to be virgin soil, with here and there traces of sewers, drains, and the ill-constructed foundations of houses, and sheds. A few coins, and some vessels of glass and pottery have been found. Of such a battle as is described in English history to have been fought, if it had happened on this spot, some trace must during the late important works have been discovered.

While wandering hence Cityward, small and dilapidated houses for the most part are observed to line the railway until we reach Coppice-row, when the scene which is presented is still extraordinary. The immense shorings which prop the dwellings, workhouse, and other buildings; the suspended traffic, and general confusion, all show how thankful we should be that we need not now dread that the Strand and Fleet-street will be blocked up in a similar way by the main-drainage works.

COMPETITIONS.

Glasgow.—The committee have selected the design of Mr. Honeyman from those submitted to them in a limited competition for the new United Presbyterian Church for the west end of Glasgow. The church will occupy a very conspicuous site on the Great Western-road, between Lansdowne-crescent and the River Kelvin, and the works are to be commenced immediately.

The Oxford Workhouse Plans.—After all the fuss about the reservation of the architect's report, it has been published at the express desire of the gentleman whose feelings were so tenderly considered, but who seems not to have appreciated the motives of the *guardians* of his professional reputation. The architect disapproves of the design of Mr. Castle as inefficient; but Mr. Castle intimates that the reason why it is inefficient is, that the sum proposed to be expended—namely, 7,000*l.*—is itself "inefficient." He regards the reporter's remarks, however, as "gratuitously offensive." Mr. Castle alleges that the most efficient plan is one or other of the three which they excluded on the question of cost. He proposes that all the designs be exhibited to the citizens. The Board of Guardians, however, considered such an exhibition premature, as it was not known whether the plan selected could be executed for the sum stipulated. One of the guardians has suggested that the clause in Mr. Fisher's specification providing for foundations is unsatisfactory; and that two or three holes be dug on the site in order that an accurate depth for the foundation might be ascertained, and a proper clause inserted in the specifications before the new buildings were tendered for. The following passage from the report relates to the area covered according to the several plans under consideration, and the probable cost.

"I next ascertained if they each possessed the stipulated requirements regardless of their suitability, and generally found them to have complied with the conditions, and then to find the area covered by each plan and its cubical contents so as to form some idea of their relative costs. The following are the results:—

	Area covered by Buildings in Feet.		Cubical contents in Feet.
Mr. W. Fisher	31,816	..	933,000
Mr. J. Castle.....	31,855	..	920,000
Mr. J. L. Seckham..	32,099	..	860,000

Thus it will be seen that in the area covered and in their cubical contents little difference existed; another point also established being that, supposing the gentlemen's estimate of 7,000*l.* to be correct, the cost per foot cube would be about 2d. Not having carried out any work in Oxfordshire, I am not prepared to say what can be done; but my experience in several parts of the country widely apart has been, that between 3d. and 4d. per foot is the very lowest sum for which a building of this kind can be executed."

As we have already stated, Mr. Fisher's design was that preferred in the report.

Liverpool.—In the recent competition for laying out the estate of the Tranmere Freehold Land Society, the committee, after examination of the plans submitted by about thirty competitors, awarded the first premium of 20*l.* to Messrs. W. Lownsborough & J. A. Meakin, of Liverpool; and the second premium of 15*l.* to Messrs. Underwood & Billing, of Clifton, near Bristol.

PROVINCIAL NEWS.

Shrewsbury.—The foundation-stone of a Working Men's Hall has been laid in Shrewsbury, on the site of the buildings lately occupied as the Fox Hotel. Mrs. Wightman, a local celebrity, according to the *Chronicle*, was the originator of this work. A book titled "Haste to the Rescue," by Mrs. Wightman, has already realized a sum of 700*l.*; and this she has appropriated to building purposes; and, in addition to this, subscriptions have come in rapidly; so that upwards of 1,800*l.* are already obtained. It is, however, calculated that about 1,400*l.* more will be necessary to complete the undertaking. The style of the building is to be an adaption of the Italian Mediæval. It will be built of red brick, with parti-coloured brick and stone dressings, and encaustic tiles, with marble shafts to the window, and porch columns. It will have a frontage to Princess-street of 36 feet, extending backwards to College-hill 125 feet. The entrance will be by a recessed porch in the tower, which will be 65 feet high to the summit of the roof. The basement will contain baths and lavatory: there will be rooms for night schools; a reading-room for a library, where papers and periodicals will be supplied; a room where friendly societies may transact business instead of meeting in a public-house; and a large common room, to which a man may take a friend at any hour, and where coffee, &c., will be supplied. There will also be a lecture-hall, where the weekly meetings of the institution will be held. This room will be 66 feet long, 42 feet wide, and 23 feet high. Mr. Treasure, of Newport, has engaged to erect the building, according to the plans and specifications of the architect, Mr. Randal, of Shrewsbury, for the sum of 3,120*l.*

Chester.—The foundation-stone of the new market has been laid at Chester. The architects are Messrs. W. & J. Hay, of Liverpool; and the contractor is Mr. J. Roberts, of Chester.——The various works which, during the last twelve months, have been in progress at Tatton Park, the seat of Lord Egerton, are now nearly completed. The alterations and additions, according to the *Chester Chronicle*, comprise almost an entirely new western wing. The windows of Lord and Lady Egerton's private apartments in this part of the building open upon a colonnade, from which a view is obtained of the pleasure-grounds and flower-garden, laid out some years ago from the design of Sir Joseph Paxton. The colonnade is of Hollington stone. The lower order is Doric, the upper Ionic; the columns of which have pedestals, and the intercolumniar spaces have stone balustrades 3 feet in height. The architect was Mr. G. H. Stokes, of London; and the works have been executed by Messrs. Foggett, Ellis, & Hinchliff, of Manchester, under the personal superintendence of Mr. Bindley.

York.—At the West Riding sessions, Mr. Greenwood said he wished to call the attention of the Court to a very serious matter. On the 1st of March, he found, in the newspapers, a notice signed by Mr. Munby, calling a meeting of the gaol sessions; and at the bottom had slipped in an intimation that it would be proposed that a sum not exceeding 3,000*l.* should be expended in the erection of additional cells at York Castle. Mr. Greenwood then entered into the question of the origin of the present system of concentrating prisoners in York Castle; and expressed his conviction that if the 3,000*l.* were expended it must lead to an outlay which he feared might reach 150,000*l.* He concluded by moving a resolution empowering the chairman and other magistrates of the Riding to seek an interview with the Home Secretary, with the object of obtaining his permission that the prisoners sentenced at York Castle to long periods of confinement should be remitted to the house of correction of the Riding from which they were sent. After some discussion, the chairman intimated his willingness to seek an interview with the Home Secretary on the subject, and the resolution was then formally adopted.

Halifax.—The Halifax corporation have recently completed a new reservoir, which is called the Albert. It is capable of holding 28,000,000 gallons. At the present time the corporation reservoirs are all full of water. The total storeage will be about 220,000,000 gallons. The daily consumption is about 1,003,000 gallons.

Wakefield.—It is understood that an arrangement has been made between the Wakefield corporation and the directors of the Wakefield waterworks, that the town shall purchase the works, and all existing liabilities of the company, at 5*l.* per cent. on the share capital, and 25*l.* for the shares. This will settle a long vexed question.

Bradford.—Some fine warehouses have been built of late years, according to the local *Observer*. The pile of warehouses in Peel-place and Leeds-road cover a building area of about 1,200 square yards of ground. They are six stories in height, and built in the Italian Renaissance style of architecture, the basements being of Bramley Fall sandstone, and the remainder of the principal façade of Park Spring ashlar, enriched with carving, chiefly symbolical of the trade and commerce of the town. They are partly fireproof, are all heated by steam, and have steam power for working the hoists, packing, and rollers, &c. The length of frontage to Peel-place and Leeds-road is about 160 feet, and the height from the causeway 64 feet; area of flooring nearly 6,000 square yards. Total cost, about 24,000*l.*, including site. The large warehouse of Schwann, Kell & Co., in Vicar-lane, covers an area of about 1,150 square yards of land, is six stories in height, besides attics, and has two frontages of a plain Italian style of architecture, about 210 feet in length and 66 feet in height. This building is also heated by steam, and has steam-engines of 12-horse power, which furnish power for driving the hoists, rolling frames, cranes, and other machinery. This warehouse contains three large fire-proof strong-rooms; and the staircases are entirely of stone. A water main is carried the whole height of the building within the back staircase, and valves are placed on each story, to which can be attached the hose, which is constantly kept on the premises, in case of fire. The total area of flooring is nearly one acre; and the cost, including the site, but without furniture, about 12,000*l.* The large pile of buildings in Well-street, known as Foster's Buildings, has, during the last year, been considerably added to and improved. The carving in the whole of these buildings has been executed by Messrs. Mawer & Ingle, of Leeds, from the designs of the architect. Five other warehouses are also in course of erection, by the same architect (Mr. E. Milnes), principally in Leeds-road and the Vicarage estate. The greatest difficulty the architect has had to contend with has been caused by the very inefficient drainage which exists in and under the public streets, and the great influx of water,

caused, as is supposed, by the stoppage of the collieries at Bunker's-hill.

South Shields.—It is proposed to do away with the high and low railway stations at South Shields, and construct one station instead, according to a correspondent of the local *Gazette*. The proposed change, he says, will be injurious to the inhabitants of the town. The low station is at a junction of five streets or roads; the high station, near Trinity Church, is at a junction of five or six streets or roads; and the diversion of these thoroughfares to one station would be a great inconvenience. As to the nearest road to the Tyne Docks from the centre of the town, he adds, the nearest way is by Holborn-hill, along High Holborn, which is a less rise or radius than any other way to the docks, it being nearly a straight line from the Market-place.

Workington.—Messrs. Blain & Frazer are the contractors for the new dock here, in place of Mr. Ritson, who has withdrawn. The new contractors are ready to break ground.

Dundee.—An improvement has been recently made in the reading-room of the Chamber of Commerce, according to the *Warder*. The hall is nearly 80 feet long, and about 35 feet in breadth. The roof is open timber, having dormer windows with Gothic tracery. There is a stained glass window in the west gable; and under this the hall is lighted by three large windows. In the space on each side of the centre window are placed busts, that on the south being the late Sir Robert Peel, and the one on the north the late Lord Panmure. Both are of white marble, placed on pedestals about 4½ feet high, of finely-polished Peterhead granite. Over the busts, and reaching to about 13 feet from the floor, are placed canopies of open Gothic work, in oak and gold. From these are suspended draperies of fine crimson cloth with deep fringes and silk tassels. These draperies form niches, as also a background, which brings out the sculptured work of the busts to advantage.

SCHOOL-BUILDING NEWS.

Braintree and Bocking.—A new public school has been erected and opened here. The building, which is erected in the Tudor style, was designed by Mr. H. Stock, of London, the surveyor to the county of Essex, and erected by Mr. J. Brown, of Bocking. The side of the main room fronts the street, and is relieved by four gables breaking out from the roof, and in which are placed the windows. From the centre of the roof rises a bell turret, surmounted by a spire finished with a gilded finial. The building is faced with red bricks, relieved by Bath-stone dressings. The front grounds are laid out with a green lawn and planted with shrubs; the whole being inclosed with a wall of brick and stone, surmounted by a horizontal iron fence. The main school-room is 71 feet long and 32 feet wide, and about 20 feet high to the centre of the ceiling, which is plastered white, and is made in the form of an ellipse, supported by arched timber ribs. There is a Gallery Class-room, 21 feet by 13 feet, and a committee-room about the same size. The whole of the rooms are heated by hot-water apparatus, and lighted by rows of starlight gas-burners; this part of the work being executed by Mr. F. B. Crittall, of Braintree. The main room is ventilated by two of Watson's patent syphon ventilators.

CHURCH-BUILDING NEWS.

Cambridge.—Fresh efforts are being made for the erection of a new church for All Saints' parish, on the piece of ground opposite to Jesus College, offered by the Masters and Fellows of that Society; and for the removal of the present structure, which is so great an impediment to the widening of the narrowest part of Trinity-street. A liberal response, according to the local *Chronicle*, has been made to this appeal for funds; and the architect consulted, Mr. Bodley, of London, having estimated the cost at 4,000*l.*, tenders were invited, and have been sent in by Messrs. Thoday & Clayton, Bell, Attack, and Bullock, of Cambridge; Smith, of London; and Ruddle, of Peterborough. The lowest tender, however, is for 5,400*l.*, and the highest for 6,200*l.*; these sums being exclusive of the upper part of the tower, seats, &c.; additions which would probably cost 3,000*l.* more.

St. Mary Cray.—The parish church, which has been closed about nine months for the purpose of undergoing a general reparation, has now been reopened. The restoration work includes new pewing, floor raised by a bed of concrete, new tiling, new roof over nave, gallery removed and tower thrown open, two chapels restored (one seated for the congregation), organ repaired, new stonework to six windows, new vestry and porch, churchyard levelled and old tombs lowered, and a new buttress. All the works were designed by Mr. E. Nash, of London, architect, and have been executed by Mr. Holledge, of Norwood. The cost of the works has been about 1,800*l.*, part of which has been obtained by a rate.

Marlborough.—A vestry meeting has been held in St. Peter's Church, to consider the report presented by Mr. Wyatt, the diocesan architect, for the repairing and repewing of the church. The report fully detailed the dilapidated state of the roof, the present injudicious internal arrangements, and the means proposed to remedy these evils, the cost of which was estimated at 1,000*l.* for the necessary repairs of the church, and 1,500*l.* for repewing and other internal alterations. It was resolved that the sum of 1,000*l.* should be raised on the rates of the parish, and that the rector be empowered to write to Mr. Wyatt for plans, specifications, &c., of the alterations proposed.

Dorchester.—The little chapel recently added to the Dorset County Hospital has been opened by the Bishop of Salisbury. It has been erected at the sole expense of Mr. Robert Williams, of Bridehead, according to the *Dorset Chronicle*, which states that the new building is situate on the north-east corner of the hospital, and forms as it were a continuation of the Bankes' wing. It is in the Early English style of architecture, built of Ridgway random coursing, with Portland stone dressing, and is surmounted with a bell turret and spire, ornamented with crockets and gargoyles. At the east end there is a three-light window, the upper part of which is filled with tracery; and lancet windows are inserted on each side. The roof is formed of circular ribs, with diagonal boarding; and the walls are also panelled to a certain height all round. Under the chapel there is a lobby open to the yard by two arches, for the patients to resort to when the weather renders it advisable; and the whole arrangements have been laid out by Mr. B. Ferrey, of London, architect; while the work has been executed by Mr. Wellspring, of Dorchester, builder.

Worcester.—A third contract for the work of restoration at this cathedral is about to be entered upon. Messrs. Bennett & Son, of Birmingham, have hitherto carried out the works. The great or lower transept will form the main portion of the work to be done under this contract; as also the walls and roofs between it and the porch. A new window will be inserted in the transept, but the design is not yet fixed. New windows are also to be inserted in the aisles on either side of the great west window of the nave. The great east window of the Lady chapel has been removed by Messrs. Hardman, of London, for the International Exhibition. Workmen are still employed on the upper transept; and the floor of the Lady Chapel will shortly be laid with encaustic tiles.——It has been resolved that Mr. W. J. Hopkins be appointed the architect of the new district church of St. Martin's parish; and Mr. Hopkins is accordingly engaged in preparing the necessary plans, &c. The roof of the ancient Guesten Hall (now, we are sorry to say, about to be destroyed) will be presented by the dean and chapter for the new church; but its use depends on the state of its timbers on inspection by the architect. They are to a certain extent at least said to be rotten. The new church will be on Shrub Hill: it will be constructed to accommodate 800 persons.

Bollington, near Macclesfield.—It has been decided to erect a Congregational chapel and schools in this place (containing about 6,000 in population), designs for which have been prepared by Mr. Williamson, of Bollington, architect. The arrangements comprise a chapel, 57 feet 6 inches by 36 feet, to accommodate, with gallery at one end, 480 persons. The school building is 52 feet 6 inches by 24 feet, in two stories, and is intended to be built so that whenever it may become desirable to extend the chapel it will only be necessary to remove the partition wall to form commodious transepts thereto. The building will have a tower and spire 80 feet high; and the style of architecture adopted is the Early English period of Gothic. The estimated total cost is 1,800*l.*; all the stone being obtainable close to the intended site.

Manchester. — With reference to a recent rumour, a local paper says;—We regret to be under the necessity of contradicting the alleged bequest of 8,000*l.*, by the late Mr. George Faulkner, for the restoration of the tower of Manchester Cathedral. The statute of mortmain would make any such bequest illegal; for, according to that law, money cannot be devised for the purchase of land or the erection of buildings. This, of course, would bar such a bequest; but further, Mr. Faulkner never had such an intention. His wishes and words were confined to the expression of a belief that, if his sisters survived him, they would probably rebuild the cathedral tower. A new tower would cost 8,000*l.*: the subscriptions amount to only 2,500*l.* For some time past the canvassers have ceased their labours.

STAINED GLASS.

St. Mary's Redcliff, Bristol.—The window in the east end of the south aisle has been filled with stained glass, executed by Messrs. Clayton & Bell. The four chief subjects are "The Agony in the Garden;" "The Betrayal;" "Ecce Homo;" and "Bearing the Cross." Beneath are "The Last Supper;" "Judas leading the Soldiers into the Garden;" "Our Lord before Caiaphas;" and "The Mocking;" while correspondent with these above are "Judas receiving the Bribe," "The Suicide of Judas," "The Scourging," and "The Disrobing." Surmounting all the other subjects are the angels and Maries at the tomb in the middle compartments, with sleeping soldiers at each side. The window is good in expression; but rather weak in colour. As a whole it is a very noticeable work.

All Saints', Dorchester.—A stained-glass window has been recently erected in All Saints' Church, Dorchester, in memory of the late Mr. A. H. D. Troyte. The work was executed by Messrs. Clayton & Bell. The subjects chosen are representations of infant baptism, ordination, the celebration of the Holy Communion, and the burial of the dead.

Ringwood Church.—The subscribers to the memorial to the late Rev. C. H. Maturin, for which about 80*l.* have been already raised, have resolved that the amount subscribed be expended in placing one or more windows in the chancel of the church, with brasses underneath; a suitable inscription being engraved thereon. Mr. James Webb objected to the contemplated windows, on the ground that they would be liable to be broken by storms, or at election contests, should Ringwood become a parliamentary borough; and moved, as an amendment, that the memorial should be a monument in stone or marble. The amendment, however, was negatived.

Scarning Church (Norfolk).—A stained-glass window has been inserted in the chancel of Scarning Church, the gift of Mr. P. N. Aufrere, the son of the late rector, in memory of his parents. The window consists of three lights. The centre one contains the figures of the Saviour in suffering, and the Saviour glorified: the side lights are filled with the figures of St. Peter and St. Paul, to whom the church is dedicated; and beneath St. Peter is depicted his trial of faith, and under St. Paul his martyrdom. A septfoil in the head of the window is filled with tracery, and the arms and monogram of the donor are in two trefoils on each side of it. The work was designed and executed by Mr. Wailes, of Newcastle. There are also two other tracery windows in the same chancel, by the same artist, the gift of Mr. W. M. Warcup, M.D.

St. Martin's at Palace, Norwich.—A memorial window, the gift of Mrs. Marquitson, executed by Messrs. Heaton, Butler, & Bayne, has been erected in this church. The subject selected (Nathaniel brought to Christ) occupies the three openings in the tracery figures of the prophets.

Leeds Parish Church.—A new stained glass window has been inserted at the south-east of the chancel. The window is of three main lights, with transoms dividing it rather unequally; the upper spaces being the largest. Advantage has been taken of this architectural feature to place those subjects which require the greatest vertical space in the upper position. As a memorial window, man's birth, early life, and admission into the church, death, resurrection, and hoped-for ascension into Heaven, had been illustrated by similar events taken from our Lord's history; and these again are typified by scenes under the old dispensation. In the three lower openings are represented our Lord's birth; the Adoration of the Magi; and the Baptism in Jordan. Below them are the Old Testament types of the Expulsion from Paradise; the Queen of Sheba presenting gifts to Solomon, in admiration of his wisdom and greatness; and Moses striking the Rock in the Wilderness. In the three upper lights are represented our Lord's death, resurrection, and ascension. Beneath them respectively are the sacrifice of Isaac; the whale casting forth Jonah; and Elijah ascending into Heaven, his mantle

falling upon Elisha. Interwoven in the ornamental canopies which surmount these upper groups are angels with scrolls and texts; and in the larger portions in the tracery are angels bearing emblems of the Passion.

CRYSTAL PALACE APPROACHES.

The Chatham and Dover Railway Company have this session promoted a line starting from the junction of their Metropolitan and Victoria lines at Brixton, and proceeding through Peckham, Forest Hill, and Sydenham, up to the road front of the Crystal Palace; and the Parliamentary Committee have declared that, subject to the Brighton Company constructing a portion of the line, over which the other company is to have ample running powers, the Bill should pass. This measure will give access to the palace on a sufficiently high level to avoid the inconvenience caused by the present numerous stairs; and as the new station —which is intended to be placed in Dulwich Wood, immediately opposite the palace—will have platforms of nearly 1,000 feet in length, with several wide covered lateral approaches to the level of the lower floor of the building; it is obvious great public convenience will result from the passing of this additional means of access to the palace. As this new line will also open up the Metropolitan (Underground) railway by the intended bridge at Blackfriars, the Northern railways, the metropolitan stations in Farringdon-street and in the New-road, will thus be in direct communication with the palace. The chain of communication with the North London railway by Kensington and Wandsworth is also fast approaching completion; and thus it is evident that, ere long, the great *desideratum* of ready and convenient railway access to the Crystal Palace will be attained. At the present moment considerable works are being carried out at the palace. The floors of the building, to which attention was directed in our pages some time since, are being repaired. A new wide triple staircase has been erected; leading from the great transept to the basement; so that the crowds assembled at the palace on days when the great fountains are played, and on popular occasions, may escape from the building to the gardens, and *vice versâ*, without the pressure and inconvenience so often complained of.

BRICK-MAKING.

The manufacture of bricks has undergone many improvements of late years; yet has scarcely kept pace with other departments of industrial invention and utilization. The greater portion of the bricks ordinarily used for building purposes are the same in quality and texture as they were from twenty to thirty years back. Later still, and until about the commencement of George III.'s reign (at which period a great impetus in the extension of the metropolis took place), when stone was but sparingly employed, and then generally in conjunction with brick; we have evidence now existing in the presence of a few old houses scattered here and there, that bricks were better and more carefully manufactured than at the present day. Yet this is somewhat incomprehensible, seeing that bricks still hold the foremost rank as a building material, and will doubtless long continue to do so. Stone is mostly too dear for the purpose; and iron, the only possible substitute, has several objectionable qualities that will probably stand in the way of its general adoption. Many clays and earths might be worked up with advantage, both as to solidity and ornamental appearance: for example, how many beautiful and durable earth compositions brought into existence by the potters' art might be used, with certain modifications, in the construction of buildings and houses; and especially those of the highest type, where the increase of a few thousands of pounds is of little moment.

A good means of preventing wet from penetrating through the walls of houses, &c., would probably be by having, as you have already suggested, one side of bricks (for the outside surface) glazed: where used for outhouses or other erections which are not to receive paperhanging ornamentation, &c., they might be glazed on *both* the inward and outward sides.

Washing or brushing the walls of a new building, as soon as the mortar has had time to harden, with boiled oil, or other and resinous liquids, would probably prove effective, and last many years. This could be renewed, if necessary, at distant periods, and the cost need not be much.

Notwithstanding the many improvements in brick manufacture, the primitive, clumsy, and extravagant process of drying them by means of kilns still prevails. Would it not be better to construct cast-iron and brick buildings, of a *circular* form, and closed; having many ranges of *shelved* galleries, upon which to lay the bricks to be dried? A comparatively small furnace in their centre would generate a regular amount of heat; which pervading the whole building, all would be thoroughly dried and hardened. To effect this, however, the shelves should be made in open lattice-work or grating (I am at a loss here for suitable technical language), so that the hot air may dry the bricks equally on both sides: the bricks should also be so placed that a trifling space be left between each of them,—say a quarter of an inch. By adopting a rational system like this, a great saving in the consumption of fuel might be effected, and in the loss from spoilt and imperfectly-burnt bricks. A decreased cost in brick manufacturing would undoubtedly lessen the expense of house-building; and it is therefore only a just expectation to look for an ultimate decline in the price of rent,—a great benefit to the majority of the people, to whom it is the heaviest of their burden.

M. M. P.

"COSTLESS VENTILATION."

Feeling satisfied that this important subject would gain by being "ventilated;" I sent to Mr. John Henry Pepper, Polytechnic, a copy of my letter on this subject inserted in your columns on March 1st; a fact he might, in his remarks in your issue of the 5th instant, have acknowledged.

I only mentioned the "Tarlatan system" to condemn it, and to state that the principle of admitting the air at the top of the window-sash was wrong, as the draught is directed downwards on the sitter; and on the all-important question of draught from the plan on which he lectures and advocates, Mr. Pepper is discreetly silent; for the fact is, wire gauze does not prevent it; and on this part of the subject I may observe, that while at the outset the tarlatan of a mauve colour is hardly visible, and did with me last in decent order a summer season untouched; in no case does the "unsightly rag" become such an eye-sore and obstruction to light as wire gauze; is infinitely less costly; and is renewed with less trouble than the cleaning the wire gauze takes. Another serious objection to the fastened folding gauze is, that it limits the opening of the window-sashes, both for increased ventilation and other uses. Mr. Pepper admits that the wire gauze becomes clogged with blacks; and triumphantly points to this as "one of the proofs of the efficacy of the system;" but while, in this condition, it is for the time a useless obstruction, in how many cases would the trouble be taken to remedy it, even if discovered?

Wishing not to "protest too much" in favour of "costless ventilation," I stated "heavy blacks cannot ascend with the air:" I will strengthen this assertion by now stating *light blacks* are not admitted in ordinary conditions of the atmosphere; though doubtless they are in cases of violent commotion, caused by very high wind: the more the lower sash is raised, the more the difficulty of blacks entering between the meeting rails is increased.

The "narrow slit" between the meeting rails will doubtless be found to admit as much air as the openings of wire gauze or perforated zinc. I have satisfied myself that the outward and inward currents of air are uniform in direction,—the former being always at the sides of the window, the air rushing in at the centre.

Although the plan I have suggested answers admirably for ordinary daily ventilation, for windows without overhanging drapery, at night, with gas in crowded rooms; neither the above nor the one mentioned "in another place" is at all equal to the occasion: in these cases I adopt the following, also costless, very efficacious, and which may be used with overhanging draperies.

Throw up the lower sash 2 feet or more, at pleasure, and draw the blind down to within 6 inches of opening: at 9 inches *above* the height of an ordinary person, say 6 feet or 6 feet 3, place a hook in moulding of shutter case *furthest* from the window, on each side, and another 2 inches *below* the moulding on each side, in front of window-sill: *tightly* stretch across the window a length of linen or calico, with loops or rings to attach to the four hooks; leaving the calico 9 inches larger than required to hang down loosely on each side: this forms what is, I believe, technically called by architects a "hopper." The air enters in full volume, strikes against the broad surface of the calico, and is directed upwards towards the ceiling. Here is the advantage of a window 2 feet open *with privacy* and *without draught*. When not in use, this calico can be rolled up into a very small compass.

Unpatented, I with pleasure give the result of my investigations to your readers (to whom I leave the decision where is the "puff" to which Mr. Pepper alludes); wishing them to experiment with a piece of wood and calico, and judge for themselves. Perhaps, too, Mr. Pepper himself, interested in the welfare of the public, will do the same; and, if satisfied, will give these plans the advantage of his support. Fortunately, however, from their simplicity, costlessness, and efficacy, they will recommend themselves, and will not require for their establishment a company of "limited liability."

The following facts may interest your readers. Before adopting these two plans, my room was generally, *at ceiling*, with four gas-jets lighted, 80 degrees of heat, when the thermometer, breast-high, stood at 65 degrees: *now*, the two thermometers are generally within one degree of each other; and in the evening, when the gas is burning and the thermometer outside at 45 to 50 degrees, I have two openings near the ceiling (instead of at the meeting-rails), *each* 5 *feet by* 4 *inches*, and the window open 2 feet, with hoppers just described. With this arrangement, the thermometer generally rises 2 to 3 degrees. When the thermometer outside stands at 50 to 55 degrees, I have both windows open, with hoppers in front as described, besides the two openings at ceiling.—a ventilation at such a season as this never before bearable. In such a wholesome atmosphere the social meal, with "the feast of reason and the flow of soul," most pleasantly runs on; probably because an *al fresco* spread is more exhilarating than one in a deleterious atmosphere. So highly do I appreciate ventilation, that I am not satisfied if I enter my home from the outside air and detect a perceptible deficiency of atmospheric purity within.

Peter Hinckes Bird.

HOLLOW WALLS.

Your correspondents, in alluding to the subject of hollow walls, seem to deem the use of headers for connecting the inner with the outer portions of the wall indispensable; but such is really not the case. If they were to visit the town of Southampton they would find the hollow-wall system prevailing to such an extent, that at least 80 per cent. of the dwellings of the working classes erected there within the last ten years, have their external walls hollow.

The method adopted is this:—Two 4½-inch walls are built, with an intervening space of 2 inches, and connected by means of light cast-iron clamps, shaped somewhat like the letter H; the two parallel bars being about 3 inches by 1 inch by ¼ inch, and the connecting bar from ⅜-inch to ½-inch diameter, and of such length as to allow the parallel bars to rest in the frog of the brick. There is a boss or moulding cast on the connecting bar in the centre of its length, which prevents the passage of moisture along the clamps. These clamps are usually built in every fourth course in height, and about 3 feet apart in length of the wall; care being taken to place them in each alternate tier in such a manner that the clamp in one tier comes over the centre of the space between the clamps in the next lower tier, or, as it may be called, breaking joint with them.

So common is the use of these clamps in Southampton and its neighbourhood, that they form part of every local ironmonger's stock-in-trade; and that they form an efficient tie for walls of the above description is abundantly proved by their continued use; and I think I may say the absence of a single failure, or wall-splitting case; and, as a proof of their value in forming a dry wall, I have seen instances where one or more headers have been carried through the whole thickness of the wall through the negligence of the workman, in which case they rarely failed to discover their presence by a damp spot on the internal plaster, or a soil on the paper in damp weather. Another method of keeping thin or defective walls dry, in the above-named locality, is to cover them with slates, a custom which, for obvious reasons, is more honoured in the breach than the observance.

C. B.

Ventilation of Water-closets. — A correspondent points out the small provision for ventilation of closets provided in some of the new houses in the suburbs of London. We fully agree with him as to the fact, and the evils resulting.

ON IRON BEAMS.

In answer to a letter in your journal (p. 252), allow me to observe that the pocket-book alluded to transcribes *verbatim* pages 73 to 79 inclusive of Fairbairn's "Treatise on Cast and Wrought Iron, 1854;" which is the date given of Fairbairn's treatise in the list of works recommended by the Royal Institute of British Architects to candidates for a voluntary architectural examination, 2nd May, 1861. Well, in page 77 of this work, we read, "Now a cast-iron beam of the best form and strongest section, and calculated to support the same load, would weigh about 2 tons, whereas the wrought-iron beam would only weigh 16 cwt. 1 qr. 14 lb., *or little more than one-third* of the weight of the cast-iron beam. This difference of weight is of considerable importance, as the advantages of using the plate-beams do not consist solely in the saving of *nearly two-thirds* of the material, but there is less weight to carry, and much greater certainty as regards the ultimate strength and security of the beams."

Let us now turn to page 166, where in speaking of the plate beam we read as follows:—"It will be observed that the beam above referred to had its flanges of equal section, and equal areas; whereas the top flange should have been *nearly double* that of the bottom one, in order to have equalized the forces of resistance to the tranverse strain." At the bottom of the same page we again read "it will be safer, and more in accordance with the experiments, to take 60 for the constant in the usual formula, instead of 75 for the plate beams, which are secured from lateral flexure." In my letter I took the constant 26 for cast-iron (see page 27 of Fairbairn), and constant 75 for the wrought-iron plate beam. Let us now reduce the latter to 60, as recommended by Mr. Fairbairn, for when the beam is not secured from lateral flexure, and omit taking into account the web of the beam, for the simple reason that this forms no part of Fairbairn's calculations for the strength of these beams; and we shall then find that the area and weight of the top and bottom flanges is positively greater in the wrought-iron beam than in the cast-iron beam. If we use the constants 60 and 26 to express the areas of the bottom flanges, we shall, by reversing them, have 26 for area of bottom flange for the wrought iron beam, and 60 for area of bottom flange for the cast-iron beam; we shall also have $26 \times 2 = 52$ for area of top flange for the wrought-iron beam, and $60 \div 6 = 10$ for area of top flange for the cast-iron beam; therefore—

	Bottom flange.	Top flange.	Total.
Wrought-iron	26	52	78
Cast-iron	60	10	70

Mr. Prichard does not mention the title and date of Mr. Fairbairn's latest work on the subject, where, he believes it to be stated that the proportion the top ought to bear to the bottom flange is as 12 to 11. I will, in conclusion, merely refer to a back number of your journal, containing remarks on the strength of materials deduced by Mr. Charles H. Haswell (for the "Journal of the Franklin Institute"), from the experiments of Barlow, Buchanan, Fairbairn, Hodgkinson, Stephenson, Major Wade, and others; there we find "the following results of the resistances of metals will show how the material should be distributed, in order to obtain the *maximum* of strength with the *minimum* of material:—

	To tension. Tons.	To crushing. Tons.
Wrought-iron	23	12
Copper	16	3
Cast-iron	8	51
	8	37

Hence in a wrought-iron beam the upper flange should be as 23 to 12, or 2 to 1. T. M.

THE SMOKE NUISANCE.

At the last meeting of the Holborn Board of Works, Dr. Gibbon, the medical officer of health, made a report containing the following:—

"I have received a complaint of a smoke nuisance arising from Mr. Kemble's furnace, at No. 20, Hatton-wall. On examination I found that the only attempt that the proprietor has made towards consuming the smoke has been by drilling a few holes in the furnace-door: this may, perhaps, have a little abated the dense volumes of black smoke that issue from the chimney-flue, but is assuredly not what the Act of Parliament means by an efficient smoke-consuming apparatus. Hitherto your Board has left the suppression of these smoke nuisances in the hands of the police, who are required to carry out the provisions of the Smoke Act; but I am sorry to be obliged to say that they have done so with little effect in this district.

The smoke nuisance in the metropolis is a very great one: it not only detracts greatly from the architectural splendour of the metropolis, and entails a considerable expense upon the inhabitants for cleaning, washing, &c., but is very detrimental to the public health. It not only thickens and contaminates the air we breathe; but, by arresting a great portion of the sun's rays, and by blighting vegetation, it enfeebles the vital powers of the people. Direct sunlight has a most beneficial influence on the human frame, in preventing rickets, scrofula, and consumption. That smoke destroys vegetation is a matter of every day experience; and as vegetation absorbs carbonic acid gas, and exhales pure oxygen gas; being in fact the only known source from which oxygen of the atmosphere is derived; its destruction amidst a population of three millions of people must have a baneful effect on the public health. This nuisance also exerts an indirect influence on health, by necessitating the closure of windows to keep out the blacks, and thus prevents the adequate ventilation of dwelling-rooms, counting-houses, and manufactories.

Under these circumstances, it appears to me to be a question deserving serious consideration, whether it is not desirable for your board to institute direct proceedings to abate the smoke-nuisance, as you do to prevent other evils that are prejudicial to the public health."

Telegraphic.—A prospectus has been issued of the Cape of Good Hope Telegraph Company, with a capital of 62,000*l.*, in shares of 5*l.* each, for the construction of a system of telegraph in South Africa, with a subsidy of 1,500*l.* per annum from the Cape Legislature for fifteen years.

PATENTS CONNECTED WITH BUILDING.*

Window-sashes.—*D. Miles*, Newport, Monmouthshire. Dated 7th August, 1861.—The patentee claims the combination of parts tied or kept together by metallic tongues; forming, when complete, a rigid and secure window-sash; and permitting, on the withdrawal of the said metallic tongues, both the upper and lower sashes partially to revolve, in order that either side of the glass may be cleaned from the interior of the room or chamber at pleasure;—also the combination of parts in using which he dispenses partly with the metallic tongues for the lower sash, or for both upper and lower sashes, and uses a spring catch, or two spring catches, in lieu thereof;—also the combination of parts by which he causes both upper and lower sashes to present, singly or together, either face of the glass to the interior of the chamber, substituting the use of spring catches in lieu of metallic tongues.

Covering for Houses, &c.—*N. A. Lessueur*, Paris. Dated 7th August, 1861.—This invention consists, principally, in giving to bricks, tiles, &c., by means of grooves, notches, or mortices cut in dovetail, the faculty of being set and fixed rapidly, solidly, and economically.

The Construction of Doors, Gates, and Shutters, principally applicable to Fire-proof Buildings.—*W. S. Hoog*, Rotherhithe, London. Dated 8th August, 1861.—This invention consists in forming the above-mentioned articles of parallel iron or other metal bars, rebated or grooved to receive bricks or other moulded forms of earthen materials. In many cases ordinary bricks will answer the purpose, and may be variously disposed according to the structure required. The parallel iron bars are combined with an external iron framing of the form and size desired.

Preservation of Stone and other Analogous Absorbent Substances.—*F. S. Barff*, Dublin. Dated 9th July, 1861.—This invention consists in employing for the said purposes solutions of the alkaline silicates, combined with the aluminate of potash, or other suitable re-agent, in such proportions as to allow sufficient time to elapse for manipulating the said solutions, and thus enabling it, when applied to the surface of the stone, or otherwise, to enter into and effectually penetrate the same. The said solutions, in combination with powdered pumice-stone, or other like material, are also employed for producing or manufacturing artificial stone for attrition, building, or other purposes.

Glazing Horticultural Buildings, the Roofs of Railway Stations, &c.—*T. G. Messenger*, Loughborough. Dated 6th September, 1861.—This invention consists in laying glass in such wise that each edge of the glass (which glass may be of any required shape or size) shall lie on one side of an open gutter, which said gutter may form a gutter only, or it may form a gutter and rafter, either cast or rolled in one or two parts: the said gutter is made to carry off all the condensed vapours from the interior, as well as the rain, &c.

Bricks. — *R. O. White*, Blackheath Park. Dated 7th September, 1861.—This invention is applicable when burning bricks in open clamps or kilns, where fire is mixed with the brick earth, and is also interposed in between some of the courses. For these purposes, in order that the bricks may be more uniformly burned, and come out of an open kiln or clamp of uniform quality, the system of setting the bricks in "necks," heretofore practised, is got rid of; and the bricks are set in one direction, in such manner that each course of bricks breaks course with the course above and below.

Apparatus for Making Bricks, Tiles, Drain-Pipes, &c. — *P. Effertz*, Manchester. Dated 5th September, 1861.—This machine is intended for producing perforated solid and paving bricks, gutter-tiles, roofing-tiles, cornice-tiles, pan-tiles, drain-pipes, and other similar articles. The clay is fed into the machine through a hopper, mixed by a combination of screws through a grate to be cleansed from stones and other objectionable matters, modelled or moulded by pressure to the desired shape, and received as an endless band by a rolling table in front of the machine. This rolling table is provided with a self-acting cutter put in motion by the band of clay emerging from the machine, and cutting the said band into any length desired at right angles to the surface, or at an angle proportionate to the velocity. The necessary pressure is exerted through a combination of screws requiring less power than any other now in use. The machine consists of two main parts or divisions. Firstly, the press for mixing, cleansing, and shaping the clay. Secondly, the self-acting cutting-table on which the band of clay emerging from the mould is cut. The invention cannot be described without reference to the drawings.

Heating and Ventilating, especially applicable to Turkish Baths.—*R. W. Jones*, Cork. Dated 26th August, 1861.—By this invention the patentee proposes, by flues, passages, or air-chambers, peculiarly constructed and arranged between the heated floor immediately over the heating flues and under the upper floor of the sudatorium and tepidarium, to prevent accidents by burning. The heating flues are connected with an ordinary furnace, over which are placed two boilers; one a circulating boiler for heating water, the other a steam boiler for generating steam or vapour, which is admitted into the hot rooms of the Turkish baths by a pipe which branches off into each room, and is regulated or controlled by separate cocks; to which again are attached perforated pipes which can be arranged in such a manner that the general and equal distribution of vapour is so completely under control that the vapour can never become disagreeable or oppressive, nor condense on the body of the bather. The hot-air flues, passages, or chambers constructed between the two floors are also used to obtain an equal and even distribution of heat in every part of the hot room or sudatorium, and also in the tepidarium; and maintaining the required difference in the temperature of the two rooms; and, further, for lowering or increasing the temperature for the admission of pure oxygenized hot air for the purpose of ventilation, driving out impure air; and which obviates the necessity of chilling the bather by the introduction of cold air; and this pure oxygenized hot air is also used for disposing of the vapour, which is only allowed to pass over the surface of the body of the bather, to soften it, and to assist perspiration. By the use of tiles of a peculiar make, which fit into each other where they join over the heating flues, the admission of gas, smoke, or any other injurious or deleterious matter, is impossible, and the air is thereby preserved pure. For retaining heat fine sand is used.

* Selected from the *Engineer*, and other sources.

Books Received.

VARIORUM.

No. III. of *London Society* contains, amongst other well written papers, an appreciative description of the remarkable work just now finished by Mr. Maclise, in the Royal Gallery, House of Lords—"The Meeting of Wellington and Blucher after Waterloo." The number is a very good one.——"The Popular Science Review: edited by James Samuelson. London: R. Hardwicke."—The April number of this cheap and popular quarterly review contains articles on the Phosphorescence of the Sea, by A. de Quatrefages; on the Sun and Solar Phenomena, by Professor Breen; on Light and Colour, by Robert Hunt; on the Great Exhibition Building, by W. Fairbairn,—slighter than we should have anticipated; on the Application of Science to Electro-plate Manufactures, by G. Gore; on Artificial Precious Stones, by W. S. Howgrave; and various other and miscellaneous matter, including reviews, and scientific summary. This number is the third only of this new review, but it appears to be both entertaining and instructive. Some of the papers are illustrated by engravings, coloured as well as uncoloured.——"The War in America; being an historical and political account of the Southern and Northern States; showing the origin and cause of the present Secession War. By Colonel Tal. P. Shaffner, LL.D. and Barrister, &c. London: Hamilton, Adams, & Co." The British public is better acquainted with Colonel Shaffner's name in connexion with the friendly desire of our Transatlantic cousins to communicate with us by electric telegraph, than as an author. The present work appears to be moderately conceived and executed, as regards political bias; so much so that the author expects that "neither the fanatics of the north nor the fire-eaters of the south will be pleased with the expositions" he has made. The account of the origin of the federality (which, by the way, was itself a secession from a previous confederation, though of very brief duration) is particularly interesting at the present moment; and it seems to show that, while the respective states contemplated a lasting union, they specially reserved each its own sovereignty, freedom, and independence; as, indeed the republicans were not very likely at that time to overlook the determination to do; and it appears to have been partly because this seems to

have been imperfectly effected in the first confederation that the secessional federality was gone into by Washington and his confrères. The present secession, however, is a sad blow to the greatness (in every sense) of the United States; and it is to be hoped that Colonel Shaffner's hint of the conquering power of "the olive-branch" may somehow lead to a settlement of the unfortunate difference. We are inclined to think, with the author, that the South cannot be finally subjugated by the cannon, however triumphantly the federal troops may march through the land. Colonel Shaffner's book contains much to interest.

Miscellanea.

Somerset County Surveyorship.—It has been resolved at the Spring session for the county to raise the surveyor's salary from 200*l.* to 300*l.* per annum.

Metropolitan Building Act (1855) Amendment.—Colonel Sykes having obtained leave to bring in a bill to alter and amend the Metropolitan Building Act (1855), the bill was brought up and read a first time.

Railway Traffic Receipts.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 5th of April, on 10,145 miles, to 491,720*l.*; and, for the corresponding week of last year, on 9,911 miles, to 525,580*l.*; showing an increase of 234 miles, and a decrease of 33,860*l.* The falling off in the traffic of the week, as compared with the corresponding period of 1861, is considerable in the passenger traffic of the great lines; caused by the comparison being made with Easter week in 1861; and also in the goods traffic, in consequence of the depression of trade in the manufacturing districts. The traffic receipts of the week show an increase of 23,120*l.* as compared with those of the preceding week ending the 29th of March.

Property in Liverpool. Exchange Buildings.—Mr. Norton, valuer, of London, the umpire in the reference between the old proprietary and the new company, has awarded to the former the sum of 317,350*l.* for the purchase by the latter of the Exchange Buildings. The quantity of land occupied by the buildings is 4,370 superficial yards, so that the price to be paid is equal to 72*l.* 12*s.* 6*d.* per yard. It was contended by Mr. John Stewart, Mr. Culshaw, and Mr. Cunningham, that the present rentals were too low, and that they thought that, considering the demand for offices and the increase of commerce, properly improved, it would be worth 401,000*l.* On the other hand, Mr. Samuel Holme, Mr. Picton, and Mr. Boult considered the present value as being a building site, reducing it to land, and adding the value of the present buildings as materials to be re-used in the new erection. Mr. Holme valued it in this light at 245,000*l.*, and Mr. Picton at 243,000*l.*

Institution of Engineers in Scotland.—The proceedings at the sixth meeting of the present session of this institution have been printed. They comprise papers "On Veneer-cutting Machinery," by Mr. Whitesmith; "On Movable Bridges," by Mr. D. M'Call; and "On the Expansive Working of Steam," by Dr. Macquorn Rankine; together with discussions on the various papers, and on that of Mr. J. F. Spencer "On Surface Condensation." In the paper on veneer-cutting machines, Mr. Whitesmith states the case as so far against the new German cutting-machine and in favour of the old circular-saw system; but on the whole gives the palm to the German; at least as regards the number of veneers to be had per inch; the maximum of which, by the circular saw, he states at seventeen, and by the German cutting-knife at twenty-two; but the averages in both cases he fixes at eleven to fourteen or sixteen for the circular saw and "much fewer" than twenty-one for the knife. One objection he has to the latter is, that from having to use oxalic acid to promote facility of working with the knife, chemical reactions must take place, whereby the tannin of the wood and oxide of the knife must produce ink which would discolour the veneer; and that the grain in German cut veneers was generally indistinct, so that they were left unsold when those produced by the circular saw mixed with them had been sold. On being questioned on the subject of discolouring, however, Mr. Whitesmith admitted that he merely spoke of the risk of discolouring, and did not seem to have seen or known of any instance in point. On the other hand, water was said to be what was mostly used for facility of working with the German knife, which was thus kept cool, as it required to be from the rapidity of its action.

Big Ben.—In reply to a question in the House of Commons, Mr. Cowper said it appeared, from the report of Dr. Percy, of the Metallurgical Museum, Jermyn-street, that the bell might be used, but at the risk of its breaking to pieces and falling upon the heads of persons below. Under these circumstances he was unwilling to take upon himself the responsibility of having the bell used without a further examination. When the bell did sound it created considerable dissatisfaction and annoyance to hon. members of this house; and he also believed that there was no wish to have a repetition of the same melancholy sound. Before the bell was re-cast he should bring the matter before the House, and place an estimate on the table.

The Embankment of the Thames.—On the 10th inst., a deputation from the vestry of the parish of Chelsea waited by appointment on the Right Hon. W. Cowper, the Chief Commissioner of Works, at the House of Commons, to urge upon him the desirability of having the embankment of the Thames continued from Westminster to Battersea-bridge, and the low level sewer carried under it. Mr. Tite explained the objects of the deputation; and Mr. Cowper, in reply, said he fully agreed with them that the present was the time to move in the matter; but as the case of Chelsea differed from that of the Strand and Fleet-street, and had no excessive traffic of which to be relieved, he did not see how any portion of the coal dues could be applied to the work of embankment there. It appears that between 30,000*l.* and 40,000*l.* were voted some time ago by Parliament, for the purpose in view, and that this sum is now lying at the Treasury, unappropriated.

The Holy Sepulchre.—The *Monde* publishes a letter from Jerusalem of the 27th March, in which, referring to some observations previously made on the dilapidated condition of the cupola of the Church of the Holy Sepulchre, it states that on the occasion of an accident which had happened to a pilgrim from the fall of a portion of the ceiling, it has reason to believe that the Cabinet of the Tuileries has called the attention of the Sultan to the subject. Whatever may have been the steps taken at Constantinople, it is certain that the Governor of Palestine lately received instructions from the Ottoman Minister to take measures to prevent accidents to pilgrims in their pious visits to the church. An examination of the cupola has consequently taken place, and the architects employed have expressed their surprise that the whole of the dome had not fallen in during the tempests of the past winter. The result of the consultation is, that the restoration of the building is declared to be a matter of urgent necessity.

Chelsea Suspension Bridge.—Recently, in the House of Commons, Sir J. Paxton asked the First Commissioner of Works whether there was any truth in the rumour that the traffic over the Chelsea Suspension Bridge was restricted by the police on account of some defects in the structure; and if the bridge would furnish safe accommodation for the traffic arising from the Exhibition and the Royal Agricultural Show shortly to be held in Battersea Park. Mr. Cowper said the police regulation had not arisen from any defect in the construction of the bridge, but was part of the original design. Mr. Page, when he designed the bridge, intended that the light traffic should go on one portion of the bridge, and the heavy traffic on another. He constructed a roadway for light traffic by placing planks of oak on bitumen; that bitumen resting on a concrete of earth and bitumen, and thus making an elastic roadway. Of course, heavy traffic could not pass along that elastic roadway; and for the accommodation of heavy carriages, Mr. Page had constructed an iron tramway at the two sides of the bridge. There was no reason to doubt that the bridge would furnish safe accommodation for the traffic that would cross over it at any time. It was true a question had arisen as to whether the bridge was fit to bear the vast load that might possibly come upon it. Mr. Page had not provided against such a load as other persons of high authority thought ought to be provided against. The question had been under consideration, and his own opinion was that the bridge ought to be strengthened; but, at the same time, there was no reason to doubt that it was quite strong enough to carry any weight that would be brought upon it under ordinary circumstances. One might not like to see a dense crowd packed upon it; nor would it be advisable to allow troops to march across it; but he believed it was able to bear any traffic that would be permitted to come upon it.

Thames Embankment Bill.—On the motion of Mr. Cowper, in the Commons, the following members have been nominated on the select committee of this Bill:—Mr. Cowper, Sir J. Pakington, Sir M. Peto, Sir J. Shelley, Lord R. Montagu, Sir J. Paxton, and five members to be added by the committee of selection. It has also been resolved, on a motion of Mr. Ayrton, that the committee be directed to inquire into the expenditure of the proposed works, and report to the house.

Operative Masons' Protection Society.—At a recent meeting of operative masons, held in the Teetotal Hall, Southgate, Bradford, the principles and objects of this society were explained, and those who were not connected with the society were urged to join it. There was a numerous attendance. The chairman, in opening the business of the meeting, stated that the society numbered 10,000 members, and had 248 lodges throughout the country. During the past twenty-one years, the society had paid in sick allowance to members 27,297*l.*; for travellers' relief, 28,357*l.*; funeral expenses, 9,611*l.*; on account of members injured or killed by accident—in sums of not less than 50*l.* to 100*l.*, 8,900*l.*; donations to charitable institutions, 3,300*l.*; to members during strikes, 32,434*l.*; total expenditure during twenty-one years, 109,899*l.*

Intelligence from Guernsey.—The hall of Elizabeth College having on various occasions been found too contracted for the public examinations of the students, the directors are now lengthening the hall 25 feet. A large window is to be placed at the west end, and a few old Elizabethans wish to fill up the window with stained glass. The college is named from Queen Elizabeth, but the present building was reared in 1826.——There is a gradually increasing attention to the improvement of the shops in High-street. —— The Douzaine of St. Peter-Port has resolved on converting into a drinking-fountain the pump which occupies the square on the eastern side of the town church.——St. Paul's Chapel was opened on 6th inst. It is in the Early Decorated style. The front facing is of red tinted granite, and worked in random masonry. The sides and west gable are of grey granite, the joints being pointed in cement. The dressing and mouldings are in imitation of Caen stone. The east end or entrance, facing St. Paul's-square, is decorated by a centre finial and by four small spires, by a centre five-light window, upwards of 30 feet in height, filled with tracery, and also by two smaller ones. At the west end of the chapel is a recess, 16 feet by 14 feet, in which is a stained glass window, by Mr. Gibbs, of London. The interior of the chapel is 72 feet in length, by 48 feet in width, and contains sitting accommodation for 950 persons, about one-third free. The whole cost was about 5,000*l.* Mr. James Le Page was the builder, and Messrs Poulton & Co., of Reading, were the architects.

St. Thomas's Hospital.—On Tuesday, at a numerous meeting of the governors of this hospital, the projected removal of the hospital underwent anxious deliberation. Sir John Musgrave, the president, acted as chairman. A report was presented by the Secret Committee, so called; who had been appointed with power to choose a site for a new hospital; and to negociate for the purchase of land. It stated, in substance, that offers had been made of nearly 50 sites; that the committee had examined many of them; and that those which appeared most eligible were the Surrey-gardens, two at Camberwell, one at Walworth, and one at Lewisham. It should be stated that at a previous meeting of the governors it was decided that the hospital, if rebuilt, should be on the south side of the Thames. Mr. Baggally, the treasurer, moved the adoption of the report; and that it be referred back to the committee to pursue the inquiries and negociations as to the site; reporting again to the Court. To this an amendment was proposed by Alderman Humphery, to the effect that negociations be opened with the railway company with the view to repurchasing the greater part of the present site. It was urged, however, that a much larger space was required for such an hospital than the three acres of ground to which the arrangements of the railway company would confine it; and that the medical officers were unanimously of opinion that the necessary quiet of the institution would be materially impaired by its immediate proximity to a great line of railway. On a division, after a long debate, the amendment was negatived by a considerable majority; the report by the committee was adopted; and so the matter remains for the present. Our opinion remains as it was at first, that a good spacious site at Lewisham is the right solution of the difficulty.

Foreign Workmen's Visit to the Exhibition.—A committee has been formed, with Mr. Blanchard Jerrold as hon. manager, and several members of Parliament on the committee, for the purpose of arranging the proper reception and treatment of the foreign workmen who are about to visit the International Exhibition. It is proposed to lodge and provide for these visitors at cost price; to organize a corps of interpreters; to procure medical attendance; and to arrange excursions to the interesting buildings and sights in and around London. As these objects cannot, however, be carried out without considerable expense, it is resolved, in order to cover the necessary outlay, that an appeal shall be made to the British public; who, we trust, will see the importance of the courteous aim which the committee have in view. Subscriptions may be addressed to the honorary manager, at the offices of the committee, 57, Pall-mall, S.W.; or to the London Joint-Stock Bank (West Branch), 69, Pall-mall, S.W.

Royal Italian Opera House, Covent Garden.—The revival of the *Trovatore*, on Tuesday night, was distinguished by two first appearances on the Italian stage, that of Mr. Santley and Madame Gordosa, both, moreover, English. The part of the Conte di Luna was never better sung; and Mr. Santley established his claim to be admitted to the first rank of singers. *Il Balen* was enthusiastically encored, and his success throughout was complete. Of Madame Gordosa we may not speak in quite the same terms; but her performance was, nevertheless, one of considerable merit. She has much histrionic power, great facial expression, and has been well taught. Her voice, however, has less sweetness than power. Tamberlik was in magnificent voice, and the performance of the opera in the other departments was irreproachable. The scenery, strange to say, for the Royal Italian Opera House, is not chronologically correct. The time of the action is the fifteenth century, the scenery late in the sixteenth.

Oil Wells.—The last Canadian papers show that the supplies from the oil wells constitute an increasing topic of attention throughout the province. As the quantities are apparently illimitable, freight is the grand question for consideration. A class of tank vessel will probably have to be created for the purpose. The value of the petroleum, landed at Liverpool, is about 1s. per gallon, and nearly the whole of this consists of the charges for transport; while the belief in Canada is that under an organized system these charges might be reduced to 2½d. per gallon, or even lower. At one of the flowing wells the oil rises from a depth of 234 feet, at the rate of 25 barrels, or about 1,000 gallons per hour; and much of it is allowed to run to waste from the inadequacy of the supply of barrels, and of the other means to store it. At another well the supply is alleged to have poured forth at the rate of 70,000 gallons a day uninterruptedly (except when the opening was plugged) since the 16th of January last. The United States' wells in Pennsylvania are equally, if not more extensive; and the quantities of oil seeking transport to New York and Boston are said to be far beyond the carrying power of the Atlantic and Erie Railways.

Royal General Theatrical Fund. — The dinner in aid of this fund, which took place on Monday last, was a great success. Mr. Alfred Wigan presided, and was supported by Earl Somers, Sir Coutts Lindsay, Mr. T. P. Cooke, Mr. Charles Hill, Mr. Henry Hill, Mr. B. Webster, Mr. Buckstone, Mr. Stirling Coyne, and about 200 other gentlemen. Mr. Wigan made an eloquent and effective address, and succeeded in getting a very large subscription. One of his best points, among many good ones, was made in reminding those who, partly from prejudice — in former days well grounded—partly from absolute ignorance of all that was said and done in theatres, regarded them with disfavour; that the more the cultivated and pure,—those whose tastes and instincts required wholesome food,—abstained from the theatre, the more subject it would be to those evil influences which sorely tempted the actor to lower his teaching to the standard that he found would please. We must not let him, however, without a word or two, rank the practice of the fine arts among the unproductive labours; those arts which bring to the country excelling in them the wealth of all other countries; and give to a lump of clay or a piece of canvas the value of an estate. Political economy may be with him, but we are not. This, however, is an aside. Mr. Wigan discharged his duties admirably. Mr. Buckstone, the treasurer of the fund, was very amusing, as usual, and the evening was most agreeably spent.

The Guesten Hall at Worcester Cathedral.—It is very much to be regretted that this hall seems destined after all to be immediately destroyed, as it is now being stripped of the roof, which is to be placed on the district church, to be erected near the railway station, for St. Martin's parish. We would urge, even still, a revival of the movement which on a former occasion was the means of arresting the work of destruction. That movement, however, was for the purpose of assisting the dean and chapter to repair or restore the hall by raising a fund with that view; but nothing, it appears, was done, and the demolition has only been postponed till now.

Hull Waterworks.—The new Cornish pumping-engine, which has been erected at the Stoneferry Waterworks, to supply Hull with water, has been started. The engine is of 220 horse-power, has cost 8,500*l.*, and is from the works of Messrs. Hawks, Crawshay, & Sons, of Gateshead-on-Tyne. The diameter of the cylinder is 85 inches; length of stroke of piston, 10 feet 6 inches; diameter of plunger, 34⅝ inches; length of stroke, 10 feet 6 inches. The pump will deliver at each stroke 427 gallons of water; and as the engine can be worked at the rate of ten strokes per minute, 4,270 gallons can be supplied to the town per minute, or 3,074,400 per twelve hours.

The Drinking-Fountain Movement.—Mr. Robert Neill, builder, Strangeways, and a member of the Manchester council, has presented to his fellow-citizens a drinking-fountain. It is placed at the junction of Strangeways with Waterloo-road. The fountain was manufactured by Messrs. M'Farlane & Co., of Glasgow. It is made of cast-iron; and consists of a square basement (which also supplies water to dogs), surmounted at each angle by columns, composed of reeds and clustering water leaves. From the capitals, consoles, with griffin terminals, unite with arches formed of decorated moulding and a frieze of cusping; the leading features being a cable moulding encircling a water fowl, with spandrels of open foliage. Surmounting this is an open dome, the apex occupied by a pillar and lamp, the gift of the corporation. Under the canopy is the fountain, surrounded by four drinking-cups. From each of the four sides of a vase the water flows into the drinking-cup by simply pressing its edge against a projecting stud which acts as a self-closing valve.

The Roman Foot.—A writer in "Notes and Queries" says:—"It is not generally known, and it may be of much interest to your readers to be told, that the late celebrated architect and antiquary, Luigi Canina, made a great number of inquiries as to length of the ancient Roman foot. He measured very carefully the Antonine and Trajan columns, and found them (exclusive of their pedestals and some pieces let in to repair them) exactly alike. This height, which was known to have been 100 Roman feet, was measured with extreme care by means of rods of wood carefully dried, and found to be exactly 29·635 French mètres. Measuring chains were then constructed of this length, and the Roman miles (*mille passuum*) carefully measured down the Appian Way as far as the twelfth mile, and were found to correspond with the traditional sites of the milestones. The great length of these measurements being such an extensive check, their accuracy was at once accepted by the Roman archæologists as the best authority known. This would make the ancient Roman foot 11·66753 English inches; and the mile 4861·41 English feet; being about one-eleventh less than our English mile of 5,280 feet. For rough reckoning the antiquary may deduct one-eleventh from Roman miles to bring them into English; or may add one-tenth to English miles to bring them into Roman; the ratio being 10 : 11, but inversely. There is a common error in supposing the Roman mile, or *mille passuum*, was 1,000 paces or single steps. This is not the case: the military *passus* consisted of *two* steps (*gressus*), or about 5 feet Roman.

TENDERS.

For building a house on Metheringham Heath, Lincoln, for Mr. J. Greenham. Mr. Goddard, architect, Lincoln

Pattinson	£1,525 5 0
Jackson	1,350 0 0
Bavin & Knight	1,334 0 0
Calvert	1,322 10 0
Bavin	1,248 0 0
Belton	1,205 17 0
Robinson & Stiles	1,177 0 0
Lovelee (accepted)	1,159 10 0

For rebuilding No. 2, Margaret-court; Mr. Bull, architect:—

Longmire & Burge	£603 0 0
Hill, Keddell, & Co.	569 0 0
Myers & Sons	554 0 0
Macey	548 0 0

For the new Catholic Schools, at Greengate, Manchester; Mr. E. W. Pugin, architect. Quantities by Mr. S. Marples:—

Eaton (first tender)	£2,390 0 0
Ditto (second tender)	2,045 0 0
Hevingham	1,900 0 0
Simpson	1,754 0 0
Farrell	1,713 0 0

For a new warehouse, and alterations to dwelling-house, at No. 42, Marsham-street, Westminster, for Mr. John Coppen; Messrs. Jacques, architects:—

Mcllwraith	£215 0 0
Hemmings	214 0 0
Carter (accepted)	169 10 0

For works for the Right Hon. Earl Amherst; Mr. Mathews, architect. Quantities not supplied:—

	Nett Sum.	Allowed for Old Materials.	Total.
Punnett	£1,418	£120	£1,538
Worsell	1,421	55	1,476
Grover	1,425	87	1,512
Henderson	1,452	130	1,582

For the erection of nine warehouses, being the second portion of the reinstatement of the Cotton's and Depôt Wharf Warehouses, Tooley-street, Southwark; Messrs. Snooke & Stock, architects:—

Lawrence & Sons	£49,800 0 0
Lucas, Brothers	46,200 0 0
Lee & Son	45,500 0 0
Hill & Co	44,950 0 0
Ashby & Horner	44,000 0 0
Cubitt & Co.	43,800 0 0
Rider	43,550 0 0
Browne & Robinson	42,750 0 0
Myers & Sons	41,847 0 0
Holland & Hannen	41,250 0 0
Trollope & Sons	40,873 0 0

For villa at Hampton, near Coventry; Messrs. Nevill & Son, architects. Quantities supplied:—

Makepeace	£1,695 0 0
Dutton	1,560 0 0
Marriott	1,550 0 0
Robinson	1,550 0 0
Wilson	1,410 0 0

For corporate buildings and offices, in the city of Coventry; Mr. Murray, architect. Quantities not supplied:—

Storer & Wright	£3,370 0 0
Matthews, jun.	3,295 0 0
Robinson	2,950 0 0
Marriott	2,770 0 0
Mault	2,620 0 0

For erecting three cottages at Enfield Highway; Mr. J. Tanner, architect:—

Clarke	£498 0 0
Frost	495 0 0
Scott	460 0 0
Patman	399 0 0
Colher (accepted)	360 0 0

For the erection of five houses, Gore-road, Kensington, for Mr. James Whatman; Mr. C. J. Richardson, architect. Quantities supplied by Mr. Gordon Stanham:—

Messrs. Axford	£12,750 0 0
Hurst	12,700 0 0
Aldin	11,850 0 0
Vaughan	11,745 0 0
Jackson	11,500 0 0
Bird	11,414 0 0
Mathews	10,745 0 0

For new bank for the London and County Bank, Aylesbury, Bucks; Mr. Fred. Chancellor, architect. Quantities supplied by Messrs. Curtis & Son:—

Mayne	£2,894 0 0
Palmer	2,867 0 0
Donnelly	2,690 0 0
Osborne	2,688 0 0
Bardiman & Sandon	2,670 0 0
Todd	2,666 0 0
Wood	2,593 0 0
Carter	2,500 0 0
Sawyer	2,490 0 0
Stevenson	2,459 0 0
Brown	2,450 0 0
Cooper	2,379 0 0
Storer	2,353 0 0
Winfield	2,286 9 0
Boddington	2,145 0 0

For the erection of a brick bridge, with approaches, over the river Mole, at Flanchford, near Reigate, under the direction of Mr. R. B. Grantham, C.E., and of Mr. John Lees, architect:—

Bottom	£2,900 0 0
Slap	1,655 0 0
Waldon	1,505 11 3
Barnes	1,295 10 0
Wesley	1,190 0 0
Dalrymple & Finlay	1,110 0 0

For villa at Sydenham-hill; Messrs. Banks & Barry, architects:—

Ruddall	£5,220 0 0
Rider	5,180 0 0
Piper & Wheeler	5,154 0 0
Downs	5,110 0 0
Perry	5,063 0 0
Ashby & Horner	5,050 0 0
Wardle & Baker	4,935 0 0
Sawyer	4,813 0 0

TO CORRESPONDENTS.

Salt in Sand.—A "Seaside Builder" says:—It would be conferring a general benefit on builders and clerks of works, engaged in building near the seaside, if any of your correspondents would supply some simple and efficient test by which salt in building materials—sand, gravel, &c. may be discovered, and also the best and cheapest method of freeing it from such impurity; and, first, will dry heat, such as baking, in kiln or clamp, destroy or render harmless the salt which may be contained in puddled clay, &c.? And again, salt being heavier

than fresh water, how is the salt to be washed out of sand and gravel? A solution of these matters would greatly aid keeping cottages by the seaside dry and comfortable. A Seaside Builder.

*** Some observations on the subject will be found in our earlier numbers.

W. C. G.—H. H. V. (declined with thanks.)—P.—Mr. P.—T. E.—J. T.—W. (thin sheet lead is often used for such a purpose. Better get rid of the cause of dampness by remedy on the outside.) –Constant Reader (for plainness we should incline to black letters on white ground.)—P. W. (we will find an opportunity to illustrate it.)—J. N.—Dr. G.—T. K.—Mr. L.—B. & G.—J. M.—Architect (the old grate may be put back)—Smoke-Dried (there is every reason to expect so.)—M. & P.—A. C.—H. M.—H. L. (shall appear.)—A. C.—T. H. V.—W. H. (if used before date of patent, patentee could not enforce his right.)—A. J.—H. B.—A Pupil (by becoming a student. Inquire at 9, Conduit-street.)—P. T. P.—T. & P.

Note.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Notice.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and Not to the "Publisher."

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE. —Every description of Architecture' Drawings prepared, and Perspectives Outlined or Coloured, by Mr. T. T. MARDON, Jun.; Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c. 7, John-street, Bedford row, W.C. Office hours, Ten to Four

AGENCIES.—An established Fire and Life Insurance Company is in want of active AGENTS, both in London and the suburbs, as well as in the provinces. Liberal commission allowed. Application to be sent to A. F. care of Messrs. Hooper & Cull, General Advertisers, 12, George-street, Mansion House, London.

BOROUGH of IPSWICH.—The Local Board are desirous of receiving APPLICATIONS for the OFFICE of SURVEYOR and INSPECTOR of NUISANCES, under the Public Health Act, 1848, and the Local Government Act, 1858. The emolument will be a salary of 300*l.* a year. He will be required to devote his whole time to his duties, to reside within a convenient distance of the office of the Local Board, and he will be expected to enter into such sureties. Any further information that may be required as to the duties may be obtained at the Office of the Local Board, Princes street, where all applications, accompanied by testimonials, are to be sent, not later than WEDNESDAY, the 14th day of MAY next.

Ipswich, 16th April, 1862.

WANTED, a JUNIOR PARTNER, with from [illegible] 2,000*l.* in an extensive BUILDING CONCERN in the country.—Address, S. J. W. Office of "The Builder."

WANTED, a steady, active, and industrious Man for a CLERK and SALESMAN in a timber Yard. A married man, and who has filled a similar situation before preferred. Must write well and be a good bookkeeper, and have undeniable reference as to character.—Apply by letter, stating age, last employment, and salary expected, to Mr. T. JONES, care of Mr. W. Drewett, 55, Borough, S.E.

TO LAND SURVEYORS.

WANTED, immediately, for a short time (not more than eight weeks), a practical and experienced LAND SURVEYOR.—Apply by letter only, stating terms, to C. U. E. No. 1, Argyll-terrace, Kilburn, London.

TO GLASS PAINTERS.

WANTED, immediately, a thoroughly competent Man at Modern GLASS PAINTING. Apply, stating terms, at once, to Mr. WILLIAM BELL, Glass Painter, 15, High-street, Cambridge-heath, London.

WANTED, for a PERMANENCY, a WORKING FOREMAN of JOINERS. He must be able to make working drawings, measure up, and work from details and of shop orders and needs to have good references, stating to where last employed, and wages expected, to A. S. Post-office, Bramley, Leeds.

TO ART DRAUGHTSMEN.

WANTED, a DESIGNER, conversant with Mediæval Metal work (iron and brass), accustomed to prepare detail drawings, and to superintend the execution of the work. Testimonials and specimens of design to be forwarded; also, state salary required.—Apply, by letter only, to HIBBERT & CO. 32, Granby-row, Manchester.

TO CIVIL ENGINEERS, CONTRACTORS, AND OTHERS.

WANTED, a PARTNER, with from 2,000*l.* to 3,000*l.* to COMPLETE a WATERWORKS, for a considerable town. The requisite land, plans, &c. are in advertiser's possession and estimates carefully calculated at not less than from 10 to 15 per cent with prospects beyond. Address—Public partnership by addressing HYDRANT Office of "The Builder."

WANTED, a YOUTH, in a Builder's Office in the City, quick at figures, and to write a good hand. Must have been in a similar office before. Address, stating age, salary expected, and where last employed, to G. S. Everett's Advertising Offices, 75, Old Broad street, E.C.

TO PAINTERS AND PAPERHANGERS.

WANTED, a steady MAN, who well understands his business, as PAINTER, GLAZIER, and PAPERHANGER, for a constancy. Also, SIX HOUSE PAINTERS, for three or four months.—Apply to GEORGE PESCUD, Painter, Alresford, Hants.

WANTED, in a few weeks' time, in a permanent situation, a thoroughly practical, experienced, and energetic MANAGING FOREMAN of JOINERS. He must be capable of keeping books, taking out quantities, estimating, drawing, and designing details. One who has some knowledge of the cabinet business preferred. Apply, stating salary required, age, references, and other particulars, to R. W. Post-office, York.

TO BUILDERS, &c.

WANTED, a SITUATION, by a Young Man, well acquainted with office duties, and the business generally; can set out plans, measure up work, &c. Good references Address, B. W. 63, Hatfield-street, Stamford street, S.

TO ARCHITECTS, &c.

WANTED, by the Advertiser, a RE-ENGAGEMENT in an Architect's Office. Is a first rate draughtsman, and well up in Gothic and Italian.—Apply to H. F Office of "The Builder."

TO MASTER PLUMBERS AND BUILDERS.

WANTED, by a respectable Young Man, EMPLOYMENT in the THREE BRANCHES. Has had good experience in the plumbing. Good references.—Address, W. H. 16, East-street, Manchester-square.

WANTED, by a Young Man, a SITUATION as CLERK and ASSISTANT to a Builder.—Address S. G. 176, High street, Mile Town, Sheerness.

WANTED, a SITUATION by an experienced GRAINER, WRITER, and ORNAMENTAL PAINTER. In or near London preferred. Is a good designer and draughtsman, thoroughly competent to manage a business.—Address, A. L. No. 7, Gloucester-terrace, Cambridge Heath Gate, N.E.

TO BUILDERS AND CONTRACTORS.

WANTED, by a thoroughly Practical Man, a RE-ENGAGEMENT as WORKING SHOP FOREMAN of JOINERS or otherwise; can superintend repairs and buildings on good estate. Good reference as to abilities. Industrious and of sober habits.—Address, W. P. 2, Archbishop's-palace, Bishop's Hill, Surrey.

TO CARPENTERS AND BUILDERS.

WANTED, to APPRENTICE a strong LAD to the above trades. Age 15 years. Address, stating terms, to W. P. 23, Amwell-street, Pentonville, E.C.

TO BUILDERS.

WANTED, by a practical Man, a PLASTERER, to TAKE WORK by CONTRACT.—Address, X. Y. 3, Lorrimore-street, Lorrimore-road, Walworth.

WANTED, by a Young Man, a SITUATION in an Architect and Surveyor's Office. Understands surveying levelling, &c and is a neat draughtsman. First-class references.—Address, J. C. N. 8, Post-office, Shrewsbury.

TO BUILDERS.

WANTED, a RE-ENGAGEMENT, by a thoroughly efficient SHOP FOREMAN, in a Shop or Building. Is well acquainted with the general and best system of Labour-management and execution, having held a similar situation for nine-and-seven years, and can produce the best of references.—Address, H. P. 6, Wilchampton-street, Cropley-street, Hoxton, N.

TO BUILDERS AND OTHERS.

WANTED, a RE-ENGAGEMENT as SHOP FOREMAN, or to Take Charge of a Job, by a thoroughly practical Carpenter and Joiner, well versed in construction. Has experience in the first-class work. Can prepare detail and working drawings take out quantities, &c. &c. Good references.—Address, B. A. care of Mrs. Borman, 16, St. John's-road, Hoxton, N.

TO BUILDERS AND HOUSE AGENTS.

WANTED, by a Handy Man, steady, sober, and industrious, a SITUATION. Can do jobbing, painting, glazing, whitewashing, and general repairs, and make himself generally useful; or take any place of trust. Good references can be given.—Address, or apply to B COLE, No. 25, Georges-row, Georges-street, Albany-road, Camberwell.

TO BUILDERS AND CONTRACTORS.

WANTED, a RE-ENGAGEMENT, by a BUILDER'S CLERK. Is a rapid writer and thorough bookkeeper. Salary moderate. Aged 28. Town or country.—Address, A. E. W. 24, Milton-street, Dorset-square, N.W.

WANTED, a SITUATION, as WORKING FOREMAN of CARPENTERS. Understands lines, squaring dimensions, &c. Country preferred. — Address, Y. N. H. Post-office, Southall, Middlesex

TO BUILDERS AND CONTRACTORS.

WANTED, by a respectable Young Man, from the country, a SITUATION as IMPROVER to the STONE-MASON'S.—Address, C. A. S., 5, New Inn-court, Butter-lane, Holborn, London.

WANTED, a SITUATION as MILLWRIGHT and ENGINEER. Practical experience in founding, brass-finishing, fitting, and Patent Gratch. No objection to the town or country. Ten years' character—A. B. 31, STAPLETON, 14, Alie-street, Liverpool-road, N.

WANTED, by a First-class JOINER, a Permanent SITUATION in the Country.—Address, stating wages, A. B. Southville, Post office, Wandsworth-road, S.W.

TO BUILDERS, CONTRACTORS, &c.

WANTED, by the Advertiser, who is 27 years of age, a SITUATION as ESTIMATING or COST-PRICE CLERK. Fully conversant with all the departments of a general builder's business. Can correctly measure up and prepare detail drawings, specifications, &c. Unexceptionable references. Address, N. A. office of "The Builder."

TO MASTER PLUMBERS, BUILDERS, AND OTHERS.

WANTED, by the Advertiser, a PERMANENCY as PLUMBER. Understands gas-fitting and smith's work. Has a good knowledge of all the above branches, &c. Good references.—Address, A. B. Mr. Bateman's, 1, Junction-place, Upper Holloway, N.

TO CIVIL ENGINEERS AND SURVEYORS.

WANTED, by a Young Man, a RE-ENGAGEMENT. Can survey with accuracy, a good leveller, and a neat and expeditious draughtsman.—Address, C. B. Office of "The Builder."

TO ARCHITECTS AND BUILDERS.

WANTED, by a Builder's Son, who has been six years articled to an architect and surveyor, and lately been assisting to manage his father's business, a SITUATION in either of the above lines. Understands land-surveying.—Apply to Mr. VICARS, St. John's, Warwick.

TO ARCHITECTS, BUILDERS, AND LAND-AGENTS.

WANTED, by a Practical Man, a RE-ENGAGEMENT as CLERK of WORKS, General Foreman, or Superintendent on a Gentleman's Estate. Can prepare plans or detail drawings, and is used to keep books and take out quantities. Address, W. W. Office of "The Builder."

THE Ecclesiastical Commissioners for Ireland require the SERVICES of a Person competent to act as INSPECTOR of CHURCH WORKS in the north-west of Ireland; he shall be thoroughly conversant with all the duties of building, be able to survey and report on buildings, prepare estimates, specifications, &c. and have considerable experience in the superintendence of works. They also require a Person to act as SUPERNUMERARY INSPECTOR, and to give assistance in the Architect's Office as DRAUGHTSMAN and CLERK; he must have experience in, and a thorough acquaintance with the practical execution of works; he may be placed in charge of a small district of works, and must be prepared to take the place of any of the Inspectors with testimonials, &c. and stating the salary required, are to be forwarded to the SECRETARY, Ecclesiastical Commissioners for Ireland, 24, Upper Merrion-street, Dublin, on or before the 23rd of APRIL next.

TO SURVEYORS AND DRAINAGE ENGINEERS.

THE Advertiser desires a RE-ENGAGEMENT.—Can prepare estimates and superintend land drainage and irrigation. Is a fair draughtsman and can survey and take levels. Good references.—Address, J. E. A. 15, Manchester-buildings, Parliament-street, S.W.

HANDY MAN to Builders, House-agents, owners of house property. Understands painting, whitewashing, paper hanging, and general house repairs. Age 27. Excellent references.—Address, G. Bullock, 6, Church-street, Trinity-square, S.E.

TO ARCHITECTS AND SURVEYORS.

EVENING EMPLOYMENT.—An Assistant would be glad to ASSIST a Gentleman in getting out Plans, Elevations, Sections, Perspectives, Specification Copied, &c. Terms moderate.—Address, A. E. N. 6, Lansdown-terrace, Lorrimore-road, Walworth.

EMPLOYMENT WANTED, by an active, middle-aged Man, of business habits, and a good accountant. Has been brought up as a builder. Could manage an estate, or fill any of the subordinate situations, and would make himself generally useful. Unexceptional references. Salary moderate. Country preferred. Address J. C. 95, Clarendon-square, St. Pancras, N.W.

TO CONTRACTORS.

AN active, experienced middle-aged Man, who writes a good hand and is competent to estimate, keep books, take plans, &c. wishes for EMPLOYMENT.—Address, X. Z. No. 9, Great Smith-street, Westminster.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.

A YOUNG MAN, 23 Years of Age, having been upwards of 6 years in an extensive builder's establishment in the country, and who can execute neat work with the pencil or pen, wishes to meet with a similar engagement, preparing plans and working drawings, in consequence of a RE-ENGAGEMENT.—Address, F. R. 48, Liverpool-place, St. Leonard's-on-Sea.

TO SURVEYORS AND LAND AGENTS.

A YOUNG MAN desires a RE-ENGAGEMENT with the above. Highest references given.—Address, W. P. care of Mrs. Keene, 13, Great Carter-lane, Doctors Commons.

TO ARCHITECTS AND SURVEYORS.

A GOOD DRAUGHTSMAN desires a temporary ENGAGEMENT in town or country (at his own rooms or otherwise), in preparing designs, working and detail drawings, getting out quantities, writing specifications, measuring, &c. Terms moderate.—Address, A. B. 49, Prospect-place, St. George's-road, Southwark, Pimlico, S.

TO SMITHS AND BELLHANGERS.

A STEADY MAN in the above line may hear of a permanent SITUATION by applying to Mr. DUFFIELD, Lancaster, Scotch, Bucks.

TO MASTER PAINTERS AND BUILDERS.

A GRAINER is in want of an ENGAGEMENT with either of the above. No objection to do Painting. Address, P. Office of Mr. Bull, 6, Sekforth-street, Eaton-road.

AN ARCHITECT in business on his own account, but having spare time at his disposal, is desirous of EMPLOYMENT in the Preparation of Detail and Working Drawings, or in any part of the country. Moderate terms. Would arrange with a Client desirous of getting out entire sets of drawings.—Address, E. A. care of Porter, Gresham House, Old Broad-street, City

AN ARCHITECTURAL and ENGINEERING DRAUGHTSMAN, [illegible] an ENGAGEMENT.—X. Y. Z. Little Ormond-street, E.C.

TO ARCHITECTS AND BUILDERS

A YOUNG MAN, who has served with an eminent London architect, wishes for a SITUATION. In London or the country. Speaks French fluently.—Address, H. No. 3, Hansford terrace, Bayswater-road, W.

TO PLUMBERS.

A YOUNG MAN wishes for a SITUATION as IMPROVER.—Address, J. B. 3, Pickering place, Bayswater, W

TO ARCHITECTS

A QUANTITY SURVEYOR, MEASURER, DRAUGHTSMAN, [illegible] practical experience, wishes to get a few hours' employment with Architects, Surveyors, or Builders.—C. SMITH, 14, Mount-st., Manchester-sq. Fine drawing, DRAWINGS, and working DETAILS. Terms very low. Quantities guaranteed.—Address, J. W. B. 5, Ernest-street, Granby-st., Bermondsey, London.

A FIELD ENGINEER wishes an ENGAGEMENT, either at home or abroad, where all kinds of surveying, levelling, laying out of works, plans and sections, valuations, and other duties required. References and terms.—SURVEYOR, 24, Arlington-street, Camden-road, London, W.

GRIFFIN ANTIQUARIAN, a pure, [illegible] and first-class DRAWING PAPER, of Whatman's manufacture. A new batch of 1860 make is now in fine condition, and for sale, wholesale, by large stocks, at works of all kinds, by WINSOR & NEWTON, 38, Rathbone-place, London, and all Stationers and Artists' Colourmen.

C. H. T. BIKKER, 110, Bradford-street, and 162, Cheapside, Birmingham, ARTIST in REVIVALISTICAL DECORATIONS, HOUSE and CHURCH DECORATOR. Will prepare designs, &c. according to the true style of the twelfth, thirteenth, and fourteenth centuries. Every description of ecclesiastical writing, labelling, and Gothic decorations in the Egyptian, Roman, and Grecian styles executed with punctuality and correctness with the general style. Experienced Stained-glass artist to most of the United Kingdom. Architects' designs carried out and superintended by the above. Estimates furnished if required. Specimens may be seen only carried out at the above address.

TO BE SOLD, the Interior FITTINGS of the LOWER LEEDING CHURCH, near Fareham, Hants, consisting of Thirty pews, a small gallery, and [illegible] pews, with folding doors. Apply to Messrs. FATMAN & FOTHERINGHAM, 68, Theobalds road, W.C.; or the Clerk on the job.

WANTED to PURCHASE, a CARVED PAINTED WOODEN MANTEL PIECE, style of about one hundred and fifty years ago.—Particulars (if possible a rough sketch with dimensions) and price to be sent to Mr. E. A. GRUNING, 25, Old Broad street, E.C.

TO DRAUGHTSMEN AND CIVIL ENGINEERS

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London. These pencils are [illegible] and in various degrees of hardness and shade

H H H for drawing on wood.	F Flight and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
H medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

In Twelve Monthly Parts, 2s. each; Part I. May 1st, 1862.

Each Part consisting of Forty-eight Quarto Pages of Letterpress, with Two Plate Engravings, and numerous Woodcuts,

THE

PRACTICAL MECHANICS' JOURNAL

RECORD OF THE

GREAT EXHIBITION, 1862.

The account will deal most largely and carefully with the departments forming the special objects of the *Practical Mechanics' Journal*, and will also embrace notices referring to Architecture, Decoration, Art-Manufactures, and all productions of Fine Art directly dependent upon chemical or mechanical processes.

The account of the contents of the Exhibition will be prefaced by a notice of the construction of the several buildings of past exhibitions, a complete account of the building now erecting, and a notice of the principles of classification and arrangement in past exhibitions, and in that now proposed.

The object in view is to produce a work that shall become, *par excellence*, the Account of the Exhibition of 1862, viewed from a thoroughly well-informed and practical stand-point.

General Editor, Robert Mallet, Mem. Inst. C.E., F.R.S. &c. &c. The separate subjects being contributed by Warington Smyth, M.A., F.R.S., F.G.S.; Robert Hunt, F.R.S., F.S.S.; Professor Donaldson, F. L. Simmonds, F.S.S., F.R.G.S.; Dr. D. S. Price, F.C.S.; Professor J. Wilson, F.R.S.E.; Professor Voelcker, Ph.D., F.C.S.; E. J. Reed; Sec. Inst. Naval Architects: Peter Graham, esq.; J. F. Bateman, F.R.S., Mem. Inst. C.E.; G. B. Rennie, M.A.C.E.; W. J. Macquorn Rankine, F.R.S., LL.D.; W. Bridges Adams, W. Johnson, C.E.; James Edward McConnell, esq., Mem. Inst. C.E.; John T. Hodges, Professor of Chemistry, Chemico-Agricultural Society of Ulster, Belfast; Charles O'Neill, F.C.S.; A. Tylor, C.E.; Dr. Frankland, F.R.S.; Dr. Angus Smith, Ph.D., F.R.S.; Sebastian Evans, M.A.; R. W. Binns, F.S.A.; Dr. Richardson, F.R.S.E., F.C.S.; Professor Field, F.C.S.; Dr. Odling, F.R.S.; F. A. Abel, F.R.S.; Frederick Rowney, Dr. Diamond, Sir Henry James, R.E., F.R.S.; Major-General Portlock, R.E., F.R.S.; John Rigby, M.A.; Thomas Romney Robinson, D.D., F.R.S.; Samuel Haughton, M.A., F.T.C.D., F.R.S.; C. W. Siemens, Mem. Inst. C.E.; Professor J. Clark Maxwell, M.A., F.R.S.; W. Hislop, F.R.A.S.; Edward F. Rimbault, LL.D., F.S.A.; George Lawson, F.R.C.S.

Proprietors' Offices (Offices for Patents), 47, Lincoln's-inn-fields, London.

LONGMAN, GREEN, LONGMAN, & ROBERTS, Publishers.

In 1 vol. limp cloth, price 5s. 6d.

A MANUAL of the MOLLUSCA, or a Rudimentary Treatise on Recent and Fossil Shells.
By S. P. WOODWARD, Associate of the Linnæan Society &c.
Illustrated by A. N. WATERHOUSE and J. W. LOWRY.
FORMING Vols. LXXII. to LXXV.* of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

In 1 vol., New Edition, 12mo. limp cloth, price 4s. 6d.

THE RUDIMENTS OF CIVIL ENGINEERING, for the use of Beginners.
By HENRY LAW, C.E., and G. R. BURNELL, C.E. With numerous Illustrations.
FORMING Vols. XIII., XIV., XV., and XV.* OF WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

Sixth Edition, 12mo. limp cloth, pp. 172, price 3s. with Illustrations,

RUDIMENTARY MECHANICS, for the use of Beginners. By CHARLES TOMLINSON.
FORMING Vol. VI. of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

Sixth Edition, with Illustrations, 12mo. limp cloth, pp. 162, price 1s.

INTRODUCTION TO THE STUDY OF NATURAL PHILOSOPHY. By CHARLES TOMLINSON.
BEING Vol. II. of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

BEARDMORE'S HYDRAULIC AND OTHER TABLES.

The Publishers beg to announce that this work, having been long out of print, has been entirely re-arranged, and the original Tables have been merged into a Treatise, entitled

A MANUAL of HYDROLOGY.—This book contains:—

Division I. Hydraulic and other Tables, with descriptive matter and many new Tables, the whole placed in a concise form.

Division II.—On Rivers and Flow; on percolation of water; on wells and springs. On the flow in sewers, and water supply, with description of the floods of many considerable rivers, with other characteristics appertaining to their hydraulic conditions.

Division III. on Tides, Tidal Rivers, Estuaries; containing the strictest details of the conditions assumed by the tides in the various states of the bore, and of those places where the tidal wave vanishes, also showing the effect of improvements in many of the tidal rivers of this country. Explained by tidal diagrams, sections of rivers, colloid lines, plates elucidating channel tides, &c. &c.

Division IV.—On Rainfall and Evaporation. Containing the best experiments on evaporation in various climates, tables of rainfall under every variety of elevation, period, and locality. These Tables include all parts of the British Isles, France, Germany, Italy, Russia, North America, Australia, and India.

The work consists of 400 pages, and there are 20 large plates.

Will be issued on the 15th of April, price 21s.

WATERLOW & SONS, 49, Parliament street, Westminster; 24, Birchin-lane, at London Wall, London.

New Edition, with Eighty-nine Woodcuts, in fcp. 8vo. price 6s.

CATECHISM of the STEAM-ENGINE in its various Applications to Mines, Mills, Steam Navigation, Railways, and Agriculture: with Practical Instructions for the Manufacture and Management of Engines of every class.
By JOHN BOURNE, C.E., Author of "The Artisan Club's Treatise on the Steam Engine," of which the Fifth Edition, greatly enlarged, with 37 Plates and 546 Woodcuts, may now be had, in 4to. price 3l.

"As a treatise for practical men, this work is as near perfection as any that has yet been published, and will doubtless long maintain the high reputation which its acknowledged merits have secured for it."—*Mining Journal.*
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

Now ready, in 1 vol. royal 8vo. with 17 Illustrations in Chromo-Lithography and on Wood, including a Coloured Map, price 18s. cloth,

THEBES, its TOMBS and their TENANTS, ANCIENT and MODERN; including a Record of Excavations in the Necropolis.
By A. HENRY RHIND, F.S.A. &c.
London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

THE EDINBURGH REVIEW,
No. CCXXXIV.
Was published on WEDNESDAY LAST.
CONTENTS.

I. JESSE'S MEMOIRS OF RICHARD III.
II. CENTRALISATION.
III. QUESNAY'S CARLOVINGIAN ROMANCES.
IV. RECENT RESEARCHES ON BUDDHISM.
V. MODERN DOMESTIC SERVICE.
VI. MOMMSEN'S ROMAN HISTORY.
VII. COTTON CULTURE IN INDIA.
VIII. ALISON'S LIVES OF LORD CASTLEREAGH AND SIR C. STEWART.
IX. PUBLIC MONUMENTS.
X. DAVID GRAY.
XI. CLERICAL SUBSCRIPTION.
London: LONGMAN & CO. Edinburgh: A. & C. BLACK.

LAND SURVEYING.
TWO HUNDRED DIAGRAMS AND PLATES.
By JOHN GUNNESTED
A New and Improved Edition (the sixth). Price 3s. 6d.; or, by post free, for forty-two stamps, of
RELFE, BROTHERS, 150, Aldersgate-street, London.

Now published, price 17. 1s. to Subscribers, the First Part of

WELBY PUGIN'S ENGLISH and FOREIGN SKETCHES, Photographed from the Originals. Each part contains 12 Plates. The Work to be completed in 20 numbers.
Messrs. AYLING & CO. 393, New Oxford-street, London.
The WELBY PUGIN COLLECTION, consisting of upwards of 800 Original Sketches by that Eminent Artist, now open at 9, CONDUIT-STREET, Regent-street.—Admission, 1s.

THE QUARTERLY REVIEW,
No. CCXXII.
Is published this day.
CONTENTS.

I. DORSET.
II. HYMNOLOGY.
III. TURKEY—ITS STATE AND PROSPECTS.
IV. TRAINING OF THE CLERGY.
V. THORNBURY'S LIFE OF TURNER, R.A.
VI. THE EASTERN ARCHIPELAGO.
VII. LAST DAYS OF PITT.
VIII. IRON SHIPS AND IRON FORTS.
JOHN MURRAY, Albemarle-street.

Now ready, New Edition for 1862, the cheapest Peerage,

CAPT. DOD'S PEERAGE, BARONETAGE, KNIGHTAGE, &c. for 1862 (Twenty-second Year), containing all the new Peers, Baronets, Knights, Bishops, Privy Councillors, Judges, &c. corrected throughout on the highest authority.
WHITTAKER & CO. Ave Maria-lane; and all Booksellers.

This day is Published, price 18s. cloth,

A TREATISE on the LAW of PUBLIC HEALTH and LOCAL GOVERNMENT of TOWNS: including the Law relating to the Removal of Nuisances injurious to Health, and to the Prevention of Diseases, with the Statutes. 8s. and edition.
By W. CUNNINGHAM GLEN, Esq. Barrister at Law,
Author of "The Law of Highways," &c. &c.
London: KNIGHT & CO. 90, Fleet street.
Publishers by Authority to the Poor Law Board, and to the Home Office, for the purposes of the Local Government Acts, 1858.

CAPTAIN COLES'S IRON-PLATED CUPOLA-SHIPS.—See the "ILLUSTRATED TIMES" of Saturday next for Seven Varieties of CUPOLA-SHIPS, designed by Captain COLES, and accompanied by Descriptive Notices from his pen.
Price 2d.; free by post, 4 stamps.—Office, 2, Catherine-street, Strand, W.C.

WATER-COLOUR PAINTING, by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, invaluable for student, teacher, amateur, or the drawing-room table. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

PATENT and BRITISH PLATE GLASS. JAMES HEILEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

PAINTED GLASS WINDOWS AND MURAL DECORATION.
LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford-street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

MANCHESTER STAINED-GLASS WORKS.
R. B. EDMUNDSON & SON,
Artists in Stained Glass, Ecclesiastical and domestic of every description, ancient and modern, Illuminated Commandments, &c. by their new process on Plate Glass; Mural and Heraldic Decoration, Monumental Brasses, &c. Designs and estimates on application.—R. B. EDMUNDSON & SON, having had upwards of thirty years' practical experience in the manufacture of every description of glass for ecclesiastical purposes, have most of their glass made to order, and from their own receipts, which will be found nearer to the old glass than any others at present manufactured. Works—New Wakefield street, Oxford-street, near the Bridge.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8	Guineas.
Gentlemen's do. do.	10	,,
Ladies' or Gentlemen's Gold English Lever Watches	18	,,
Strong Silver Lever Watches	5	,,
Gentlemen's Gold Compensation Balance Watches	40	,,
Do. Silver do.	25	,,
Marine Chronometers	25	,,

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike the hours, for forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to
JOSEPH FAIRER,
Turret Clock-maker to H. M.'s War Department,
188, St. George-street East, London.

BENSON'S WATCHES and CLOCKS.
"Perfection of mechanism."—*Morning Post.*



Gold, 5 to 100 Guineas.
Silver, 2 to 50 Guineas.
BENSON'S NEW ILLUSTRATED PAMPHLET, free for two stamps, descriptive of every construction of watch, enables persons in any part of the world to select with the greatest certainty the watch best adapted to their use. Watches sent free and safe by post on receipt of a remittance.
J. W. BENSON,
33 and 34, LUDGATE HILL, and 46 and 47, CORNHILL, LONDON,
(Established 1749.)

CLOCK MANUFACTORY.—Established 1740.—THWAITES & REED beg to call the attention of Provincial Watchmakers to their Establishment, the OLDEST in the TRADE, where every description of CLOCK is made in the best possible manner, and at as low a price as first-rate work can be got up for. Original inventors of the Spiral Door Springs.
London: 4, Rosoman-street, E.C.

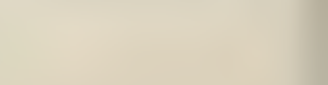
POLONCEAU and LIMMER ASPHALTE.



ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above) the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with Instructions to lay it down.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutter and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

TARPAULINS, MARQUES, &c. for SALE or HIRE.
SCAFFOLD and HEMP-ROPE FALLS.
H. PIGGOTT,
89, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD and HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

CLERICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY, 13, ST. JAMES'S SQUARE, LONDON, S.W. Established 1824.—Empowered by Special Act of Parliament.

BONUS MEETING, 1862

The Report presented at a Meeting held on the 2nd January last, for the declaration of the SEVENTH BONUS, showed,

IN EVIDENCE OF THE PROGRESS OF THE SOCIETY, that during the quinquennial period which terminated on the 30th June, 1861,

NEW ASSURANCES for a total sum of 1,486,370l. had been effected being an increase of 12 21% on those of the previous five years: that The INCOME had increased from 166,860l. to 195,400l. per annum: that

The ASSURANCE FUND had risen from 1,154,276l. to 1,422,191l.; and that a

REVERSIONARY ADDITION to the Policies of 273,077l. was then made, as against 232,473l. at the prior division.

IN ILLUSTRATION OF THE RESULTS OF THE DIVISION, that the Reversionary addition above named averaged 18 per cent. or varied with the different ages from 4d to 8l per cent on the Premiums paid in the five years; and that the

CASH BONUS averaged 28 per cent. on the like Premiums, being amongst the largest ever declared by any office.

The Report explained at length the nature of the investments, and the bases of the calculations, the results of which, as above shown, are eminently favourable.

The following are among the distinctive features of the Society:—

CREDIT SYSTEM.—On Policies for the whole of life, one half of the Annual Premiums during the first five years may remain on credit, and may either continue as a debt on the Policy, or be paid off at any time

POLICIES for TERMS of YEARS may be effected at rates peculiarly favourable to assurers.

INVALID LIVES may be assured at Premiums proportioned to the increased risk.

PROMPT SETTLEMENT of CLAIMS.—Claims paid thirty days after proof of death.

The ACCOUNTS and BALANCE SHEETS are at all times open to the inspection of the assured, or of persons proposing to assure.

Tables of rates, forms of proposal, the report above mentioned, and a detailed account of the proceedings of the bonus meeting, can be obtained from any of the Society's agents, or of

GEORGE CUTCLIFFE, Actuary and Secretary,
13, St. James's square, London, S.W.

The NEXT DIVISION of PROFITS will take place in JANUARY, 1867, and persons who effect NEW POLICIES before the end of JUNE next, will be entitled at that division to one year's additional share of profits over later assurers.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, TREODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH
Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

WOODLEY'S DEVONSHIRE MARBLE WORKS.—To MARBLE MASONS, BUILDERS, and OTHERS.—TO BE DISPOSED OF (in consequence of the death of the proprietor), the DWELLING-HOUSE and BUSINESS PREMISES, lately occupied by him, situate in St. Mary Church, Torquay, Devon, together with a large assortment of articles in English and foreign Marbles and Madreporas, and of unmanufactured Materials. Tools, Implements, Machinery, &c. The house is well built, commodious, and prominently situated, and the workshops, yards, and appurtenances immediately adjoining, comprise every requisite for an extensive business. These works have been carried on for upwards of fifty years, and have acquired a world-wide celebrity (especially as regards the Babbicombe or Jettitor marbles), the merits of their products having been attested by the personal patronage of royalty, by the award of the Royal Medal at the Great Exhibition of 1851.—To view and for further particulars, apply on the Premises; or to Messrs. KITSON, Solicitors, Torquay.

Dated, Torquay, April, 1862.

TO BUILDERS, &c.—An old-established BUSINESS in W. C. London TO BE DISPOSED OF, owing to the continued illness of the proprietor. The premises comprise large carpenters' shops, brickmakers', plasterers', and painters' shops and sheds, a back entrance, and every convenience for carrying on a large and flourishing business. Terms moderate.—Address, C. B. Office of "The Builder."

TO HOUSE-DECORATORS and PAPER-HANGERS.—For DISPOSAL, a first-class West-end BUSINESS in PAPER HANGINGS (wholesale and retail) and HOUSE DECORATING; stock, fittings, and valuable lease, about 1,200l. The business is working to a considerable profit, and the connexion is extensive and valuable. An excellent dwelling-house attached. Net rental very moderate.—Apply to Messrs. SALTER & ST. JOHN, 17, Abchurch-lane, E.C. and 212, Piccadilly, W.

CARCASES FOR SALE.—FIVE CARCASES of SHOPS and PRIVATE HOUSES TO BE SOLD, upon reasonable terms, at low ground-rents, in Bonner's-lane, Bethnal-green.—Apply to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial road, E.

CRYSTAL PALACE (close to).—Valuable BUILDING SITES TO BE LET or SOLD, within a few minutes' walk of Sydenham Station, fronting a handsome roadway of considerable width. The supply of houses in the neighbourhood is quite inadequate to the demand, the position being undoubtedly one of the most favourite and convenient in the vicinity of town; its healthful salubrity, picturesque scenery, proximity to the Crystal Palace and Park, facility of access to the City and West-end, will always assure to the locality a high rank in popular estimation, and remunerative rentals may therefore justly be relied on for any houses erected on the property. Sewers made; gas laid on. For terms and plans apply to Messrs. EDWIN FOX & BOUSFIELD, Agents for the estate, 41, Coleman-street, City.

BELSIZE PARK, HAMPSTEAD.—To BUILDERS and OTHERS.—LAND TO BE LET, for Building, with roads and sewers all complete. For further particulars, apply on the estate, at Mr. TIDEY'S Office, 29, Belsize-park.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is already approached by an entrance lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

MANOR of DULWICH. ALLEYN'S COLLEGE ESTATE.—The Governors of Alleyn's College are prepared to LET a PORTION of the ESTATE in Plots for Building Purposes.—Plans may be seen and particulars obtained from CHARLES BARRY, Esq. College Surveyor, at 27, Sackville-street, Piccadilly.

TO BUILDERS and OTHERS.—SELHURST-PARK, Norwood, near the Junction Station.—The freeholder will co-operate with respectable Builders in ERECTING HOUSES, to let at 45l. to 65l. Excellent bricks of every class on the estate. Proximity to the Junction Station, enables materials to be readily supplied. All roads made. Several first-class houses erected, all of which have been let before finished; and others are in course of completion. Natural drainage from all parts of the estate. Air proverbially healthy, water good and abundant, drives and walks beautiful; nine miles, or 15 minutes from City; 24 minutes from West end; 4 minutes from the Crystal Palace; 50 minutes from Brighton. Trains constant from station, till half past twelve at night. Part owners at Selhurst-park Office; or to Messrs. FRANCIS FULLER & CO. Cornhill, E.C.

FOR SALE, a Second-hand DEAL SAW-FRAME, to take in 18 inches, with Saws complete. Price 40l. Apply at 35, Brook-street, Euston-road, N.W.

TO ENGINEERS, CRANE MAKERS, and OTHERS.—WANTED, a CIRCULAR WORKING CRANE, with 16 to 18 feet radius, and to carry five tons.—Particulars to be sent to Mr. GARMESON, 9, Temple-street, E.C.

FOR SALE, THREE SECOND-HAND CAST-IRON LEVER COAL DROPS, by Burlinson, capable of lowering three-ton waggons, with brake-wheels, cradle, and machinery complete. For further particulars apply at the Engineer's Office, Harbour and Dock Works, Sunderland.

LIGHTNING CONDUCTORS. R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the joint and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d.	per foot.
Half-inch diameter	1s. 6d.	"
Five-eighths-inch diameter	2s. 0d.	"

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" Gateshead-on-Tyne.
" 27, Dale-street, Manchester.
" 66, Anders-quay, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.



These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style, sent on application.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

IMPORTANT TO BUILDERS, SAW-MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS

WILSON'S PATENT LARGE TIMBER SAWING-MACHINERY.

This machinery is adapted to cut up square or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the log are arranged to carry the log past the saw to any extent without stopping for re adjustment, by which the necessity for transoms is avoided, and they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly.

The speed of cutting may be varied from 10 inches to 10 feet per minute, and yet on account of the increased length of cutting edge, the saw is kept cool.

May be seen in operation, daily, at Messrs. JAMES WILSON & SON'S, Builders, Springfield Saw Mills, Manningham, Bradford, Yorkshire.—Full particulars may be had on application, by parties desirous of purchasing.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No 18, Blandford street, Manchester-square, running out of Baker-street, Portman square, London, W.

FOR SALE, FIFTEEN or LESS MEDIÆVAL GASELIERS, nearly new, of a most chaste design, having 42 jets in each, admirably adapted for Chapels, Churches, Public Halls, &c. a Bargain. For particulars apply to Mr. F. SANDERS, 475, Oxford-street, W.C.

ESTABLISHED 1774.

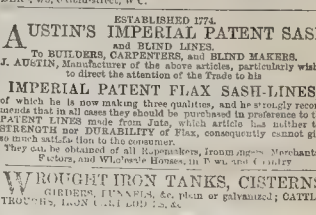
AUSTIN'S IMPROVED PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, from most Merchants, Factors, and Wholesale Houses, in Town and Country.

WROUGHT IRON TANKS, CISTERNS, GIRDERS, TUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON GATES, HURDLES, &c.



BURNEY & BELLAMY, Mall-wall, London.

FIRE-PROOF CONSTRUCTION.—FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,
Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent Aid in Ventilation.



It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of Threepence, and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

Full particulars will be sent on application to the Inventors and Makers,
MUSGRAVE, BROTHERS,
And Steel Iron Works, Belfast.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

RAIN-PIPES, &c.—F. A. TIDDEMAN & CO. St. Anne's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large Stock of Rain Pipes, Heads, Shoes, Elbows, &c. Half-round and O-G Gutters, Socket Pipes for Water or Gas, Flange Pipes, Hot Water Pipes and Coil connections, Sash Weights, and other Castings; Iron-work for Bakers' Ovens of every description, fitted complete, to be Laid in Sets or in Parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful Crane.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c &c.

WANTED to PURCHASE, a Second-hand MORTISING MACHINE.—Apply by letter to G. P. No 11 Campbell-street, Hall park, Paddington.

ROGERS' PATENT OUTLET for RAIN-WATER BUTTS and CISTERNS, which being placed inside the cask or cistern, cannot get out of order, and require no care from the effects of frost, &c. Price, complete, ¾-inch, 10s; 1-inch, 12s.—Drawings and full particulars, on application to the patentee,
G. ROGERS, HIGH STREET, STAINES

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham-street, London, E.C.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

IRON CASTINGS, WROUGHT and CAST IRON GIRDERS, FLITCHES, and TANKS Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY and ENGINEERING WORKS, DERBY.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6d. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.
Testimonials from Architects, Bankers, &c. of their security and durability forwarded.
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.
Agent for the Crystal Glass Pillars and Sash Bars.

JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.
JEFFS, BROTHERS,
CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required. 4th. It can be easily applied by any unpractised person. 5th. From its lightness, weighing only about 3 lbs. to the square of 100 feet, the cost of carriage is small. 6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INDIGROUS FELT, for covering walls and ceilings, fences, &c., at the low PENNY per square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. prevents the radiation of Heat, saving 25 per cent. of Fuel, and lessening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GORE PIAZZA, Liverpool.

TO MARBLE MASONS and BUILDERS
TO BE SOLD, cheap, AT ONE-HALF THE USUAL WHARF PRICES, a quantity of STATUARY MARBLE, in Slabs, ¾ and 1 inch, with one Slab of 2¼ inch. Also Sienna, in Slabs from ¾ to 2 inch Breccella d'Antico and Irish Green, 9 Slabs, at half Price. 20 Scagls. Also a nice selection of elegant CHIMNEY PIECES in various coloured Marbles some richly carved in Statuary, Black and Gold, Granite Black, Veined, &c. May be seen, and particulars obtained, upon application to Mr. BURTON, 6, Jermyn street, Regent-street.

MARBLE CHIMNEY-PIECES.
MAPPLEBECK & LOWE
Beg to announce the completion of PRELIMINARY ALTERATIONS in the Smithfield Show Rooms, and the arrival of a large and beautiful Stock of
MARBLE CHIMNEY-PIECES,
Which are now arranged and ready for immediate
GRATES, FENDERS, FIRE-IRONS, and ASH-PANS, complete.
STOVE GRATE and CHIMNEY-PIECE SHOW ROOMS,
BIRMINGHAM.
Manufacturers of the Leamington and other Kitchen Ranges.

SIXTY MARBLE CHIMNEY-PIECES
TO BE SOLD, in consequence of Monsieur Beernaert, of the Belgian and Westminster Marble Works, Millbank street, Westminster, having discontinued his Show rooms in London. The above Chimney pieces consist of Carved Statuary, Bold Rouge Royal, Black Trusses, &c. The above will be sold at a great sacrifice—in fact, no reasonable offers will be refused. Apply to Mr. PILTON, Westminster Marble Works, Earl-street, Horseferry road, S.W.

THE PANOPTICHNICON, QUEEN'S ROAD, BRIGHTON
FOREIGN MARBLE GALLERIES,
contain upwards of Two Hundred MARBLE CHIMNEY-PIECES, consisting of Carved Statuary, Vein, Sicilian, Blanc Pic, Blanc Clair, Rouge Royal, St. Anne's, Black, Jasper, Verdi des Alps, and other coloured Marbles, in every variety of design and accompaniment for view. Sculptured Marble Monuments, Headstones, &c. erected. An inspection is respectfully solicited by the Proprietors and Importers, GEO. HEAD & SONS.
N.B. Packing cases lent free of charge

BATH! BATH!! BATH!!!
ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons Work prepared ready for Using
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

JOHN BAZLEY WHITE & BROTHERS,
MARBLE MERCHANTS,
MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

POLISHED GRANITES.—TOMBS,
COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

PURE STATUARY MARBLE!
and in slabs of large dimensions, can be obtained at
M. W. JOHNSON'S MARBLE WORKS,
363, EUSTON-ROAD, London, N.W.
Prices moderate.
M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821

BELLMAN & IVEY,
SCAGLIOLA MARBLE MANUFACTURERS,
14, BUCKINGHAM-STREET, FITZROY-SQUARE,
LONDON W.
Execute, in the most workman-like manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL MARBLES, &c. to any design, in imitation of the richest and most expensive marbles, of which they have for inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION,
IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS
Also Manufacturers of Superior and Improved Plaster of Paris

RANSOME'S PATENTED SOLUTIONS
for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested, prevented, absorbency stopped, and all inability to dampness removed with, or injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

MARKET WHARF, REGENT'S PARK
BASIN—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and others, to their stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs PINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum, of Practical Geology, Jermyn-street, S.W.
This stone (which is a perfect colite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for docks, also for restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

FOREST of DEAN STONE.—
Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.)
The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, of a quality for any in the world for general purposes, such being the only purpose well stone is applied.
That from their "Gooty Knolle" Quarry is of GREAT, and by the York Rock" Pink Stone, stone, both from their "Brick-hill" and "Dark-hill" Quarries, is decidedly superior to it.
Prices quoted on application, delivered on Lord's vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned by railway trucks direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from Rail at any railway station in
Mr ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Patent Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application. Address,
No. 1, BOLD TERRACE, CHESTER.

BLOCK STONE! BLOCK STONE!
The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall, Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.
SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also NOTE delivered direct from the Quarries to all parts of the Kingdom.
The BEST and CHEAPEST STONE WHARF in LONDON
Address, SAMUEL TRICKETT, Isle of Dogs, E.
A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

GRANITE.—The Cheesewring Granite
Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 8, CANNON STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES TRATHAN, Liskeard
The Granite is conveyed to the Commercial-road, New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

POLISHED GRANITE WORKS,
ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship. Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 364, Euston-road, N.W.

IMPORTANT to BUILDERS, CONTRACTORS, and HOUSEHOLDERS generally.—Amongst the various uses of HAY'S PATENT WATERPROOF GLUE VARNISHES is efficacy, none exceeds its application to NEW or DAMP WALLS unfit for papering. Two thin coats rubbed in with a half-worn paint brush, render new or damp walls fit to receive the most valuable papers without detriment.—For further particulars and prices apply to Messrs WARNER & CO. 12, London-street, London; or to Mr. GEORGE WEEKS, Manager, at the Factory, Chandos street, Landport, Portsmouth.

STAINING DEAL TO IMITATE ALL
KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark Oak, all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

GENUINE WHITE LEAD, branded and
warranted from the Manufacturers, 30s. per cwt; Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon; Turps, 5s. 6d. per gallon. Fine Pale Oak Varnish, 7s. 6d. per gallon. Hard and Kent Brushes, Painters', and Plasterers' brushes, to be had at D. J. PORTER'S Wholesale and Oilman Warehouse, Nos. 1 and 2, Portsmouth-street, Clare Market, W.C.

CROWDEN and GARROD
(successors to THOS. KENT & CO.), the celebrated
PAINTING and GENERAL BRUSH MANUFACTORIES,
FALCON-SQUARE, LONDON, E.C.
. Also Manufacturers of the Patent Indiarubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD are stamped on the Brushes

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
KENT'S BRUSHES have been celebrated for the superior quality for the last eighty-four years, and may always be depended upon as the best that can be made

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

GRAINERS and the TRADE SUPPLIED
with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines

COLOURS and VARNISHES at
REDUCED PRICES.—Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d.; Turpentine, 5s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices

TO BUILDERS, HOUSE-PAINTERS, and
DECORATORS' PATENT EXTRACT of LETHICUM For Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. in a few minutes, and for Cleaning and Restoring Old Paint. Sucess guaranteed. Price 5s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London. — Messrs. NARNIARE & Co. 11, St. Andrew's Hill, Doctor's-commons, London, E.C.—N.B. Cheap patented Brushes for laying on the Extract, and removing the old paint

IMPORTANT to BUILDERS and
PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon.
Turpentine, 5s. 4d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES
(C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

PATENT GRAINING APPARATUS.—
TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a Stamped Envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, as made by GOUGH & BOYCE, the Original Patentees, and laid exclusively by them at the Houses of Parliament, and numerous other Public Offices. It is especially adapted for counties, museums, public rooms, shops, and passages, being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. 12, Bush lane, Cannon street, London.—Forwarded to all parts of the country.

KAMPTULICON,
or, ELASTIC FLOOR CLOTH.
TAYLER, HARRY, & CO.
MANUFACTURERS and PATENTEES, 19, Gutter lane, Cheapside.
WORKS, DEPTFORD-GREEN.

INDIA-RUBBER MILL BANDS,
WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON E.C.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,
MANUFACTURE THEIR WELL-KNOWN
SUPERIOR REVOLVING IRON SHUTTERS
OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.
Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from **2s.** per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from **3s.** per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.
EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

ENAMELLED STONE CHIMNEY-PIECES,

Of Beautiful Designs, and to Imitate any kind of Marble, far Superior to Enamelled Slate, and Considerably Lower in Price,
INVENTED AND MANUFACTURED BY
W. J. ELLISON & CO.,
SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.
Also, MANUFACTURER of WALL-LININGS, composed of Stone Slabs, with a Veneer of Scagliola to Imitate Marble, and Enamelled by Heat.
WARRANTED TO RETAIN ITS POLISH.
Office and Show Room, No. 3, WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.
Manufactory, EAST-ROAD, CITY-ROAD.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

TERRA-COTTA WORKS, BLACK-FRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage stamps.

MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACK-FRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 71 Wharf, Macclesfield-street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 37s. 6d. per 1,000.
" Kiln Bricks, at 36s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7s. per 100.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

BRICKS.—Messrs. J. & W. EASTWOOD, have to SELL Good ROUGH STOCKS, Grissells, Place, or Stock Bath, by barge alongside, on the Thames or canals, on reasonable terms, either for cash or approved bills.
Belvidere-road, Lambeth, January, 1862.

BRICKS
BEST KILN-BURNT BRICKS, of superior Common quality, can be supplied by the Million. Also,
FINE WHITE AND RED FACING BRICKS.
WHITE, RED, AND BLACK CUTTERS.
VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES
WHITE AND BUFF LIME AND GLAZED STONEWARE PIPES.
Vessels can load close to the Kiln's mouth, at the East Cowes Park Estate, on the river Medina, Isle of Wight.
RICHARD LANGLEY, Agent.

TO BRICK-MAKERS and OTHERS.—WANTED, for cash, 250,000 good STOCK BRICKS.—Direct, stating full particulars, to Mr. T. PULLIN, on the Works, Crescent place, Hackney road, London

TO BUILDERS. — REDLEAF BRICK-YARD.—For SALE, 70,000 good common STOCK BRICKS, near the Penshurst Station.—Address, by letter, JAMES BARNETT, Chiddingstone.

ANCHOR BRICK-MOULD WORKS, HOUNSLOW, W.
J. LEACH, Millwright and Manufacturer. Improved MOULDS, STOCKS, and PLATES, with screw stock pegs; also Oak Stocks, the largest stock in England, of various sizes, and the cheapest in the trade. Wash, Chalk, Putty Balls, and Pumps, to steam or horse power. Brickmakers are cautioned against an imposition covering others of J. L.'s name, also supplying an inferior and Anti-friction Grease for Brickcasts.
Established eleven years.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINE.
Adapted for hand, horse, or steam-power, will make one-third more in quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.
Licences to Manufacture granted for certain districts.
For price and particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames.

LEE MOOR FIRE-BRICKS.—These Fire-Bricks have been found superior to any others for Gas, Iron Chemical, and Smelting purposes, and in any business or manufacture where an intense heat is required. For testimonials and other particulars, apply to M. J. LAY, at the Company's Office, 4, Pen-court, Fenchurch-street, E.C.

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE BLUE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

DURABILITY of GUTTA PERCHA TUBING. Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Isle of Wight Pure Spring Water Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND PARVIS, Bart VENTNOR, ISLE OF WIGHT. Second Test Month.—March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.

PRICED LISTS FORWARDED ON RECEIPT OF ONE STAMP.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅜-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
½-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
⅜-Inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

APPLY TO

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER. & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

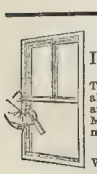
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,



J. GURMAN,

Inventor and Patentee of a New SASH POCKET and Fittings,

for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.

Send stamped envelope for Prospectus and Sectional Drawings.

Windows may also be seen at the Kensington and Conduit-street, Museums, London.



TEMPLE JOINERY WORKS, CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on receipt of stamp.

Estimates furnished on application.



B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS and CARPENTERS, and OTHERS, have submitted to their notice those very reduced prices, the lowest consistent with really useful qualities.

All sawn goods carriage free within three miles.

⅜-inch Flooring (well prepared), 11s. 6d.		⅜-inch do. 13s. per square	
Yellow Deals, sound and good	19l. 10s. per 120, or 3½d. per foot.		
Spruce Deals	,, 16l. 10s.	,, 2½d.	,,
Yellow Battens, excellent quality	11l. 10s.	,, 2d.	,,
Pine Planks, dry, 12 ft. 3 in. by 11 ft. 2½		,, 3s. 6d.	,,

Seasoned Mahogany, Plank and Board, 6d. per foot.

A very large Stock, ready sawn and seasoned.

ALFRED CARTER, Old Bethnal-green-road, N.E.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 12s. 3d.; ¼ White, from 11s. 6d. Carriage free to any part of town.

T. FORMAN,

1, Walnut tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,000 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER and CO.

(Contractors to Government),

24 WHARF, HARROW-ROAD, PADDINGTON, W.

Every article manufactured at their own Works and Mines, Brierley-hill.

FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.

Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours.

GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,

Office, 5, George-yard, Lombard-street.

PARIAN CEMENT for INSIDE WORK. With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

PORTLAND CEMENT.

GREAVES & KIRSHAW,

14 SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,

LIME BURNERS,

BRICK MAKERS,

SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,

ST. JAMES'S and THORNHILL WHARFS,

CALEDONIAN ROAD LONDON.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.

Agent in Liverpool—JOHN McKENZIE, 42, Seel-street.

Do. do. Manchester—THOMAS OAKDEN.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.

No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMENT WORKS, Northfleet, Kent.

Messrs. ROBINS & CO.

To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES.
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TAYLHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIME-STONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

IMPORTANT to BUILDERS and USERS of PORTLAND CEMENT.
T. BENNETT'S INDURATING and QUICKENING SOLUTION for PORTLAND and OTHER CEMENTS," recently patented, obviates, as its name implies, the objections frequently urged against cements, and particularly against Portland cement, of not setting sufficiently quick and hard, and thereby causing delay and expense. In works where rapidity of setting, hardness, and sharpness of outline are desirable, the use of this solution is strongly recommended, and will prove both advantageous and economical. It is sold in stone quart bottles, price 2s. each, with printed directions for use, and can be obtained only of
F. & G. ROSHER,
CEMENT, BRICK, and LIME MERCHANTS (Sole Agents for its sale), at their Wharves, as under.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Where can be obtained, of the best quality:—
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN PIPES, BENDS, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

STRINGFIELD and BLYTH,
Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W., will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the monthly price-lists.
N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING—Blue, Red, and Buff Terro metal n. Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

KEENE'S and PARIAN CEMENT for internal use.—These well-known hard Stuccoes dry quickly and can be painted upon within a few days.
Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank street, Westminster.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG SHAPED.

M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.
PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.
High-Street, Lambeth, London.

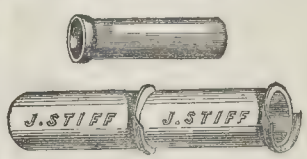
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz:—
Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Deckhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danvers Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Cannonbridge, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL,

MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

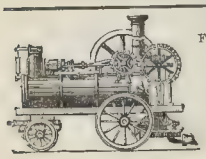
MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

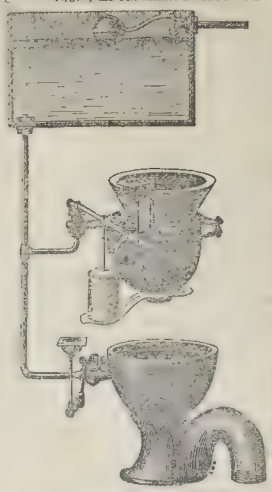
PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, **TO LET ON HIRE**, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

DAN CLOSET fitted with LAMBERT'S
VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SOUTH-SIDE, LAMBETH.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

DOULTON & WATTS,
LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce extensively a system of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

The objections to the Cheap Closet pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes, and the Pans become DISCOLOURED and UNFIT for USE

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white Interior glaze, and is now to be obtained at the price of the common yellow and white earthenware

Experience has shown that this shape is the most simple and efficient, and that its strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the 3s. 9d. Enamelled Stoneware Closet and Trap.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, 24s.; a SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATEN'S HIGH PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish street, St. Paul's, London, E.C.

INTERNATIONAL  EXHIBITION, 1862.

TO BUILDERS, UPHOLSTERERS, DECORATORS, &c.
THE OFFICIAL COLOURS, in CLOTHS and BAIZES,
ARE NOW IN STOCK AT
HILL & SON'S,
88 and 89, ST. MARTIN'S LANE, CHARING CROSS, W.C.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



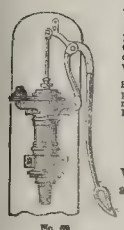
No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead, gutta percha or cast iron flanged pipe, as required.	1 1 0
2½ „ long	2 3		1 10 0
3 „ ditto	3 6		2 4 0
2½ „ ditto	2 6		2 9 0
4 „ ditto	2 6		2 16 0
2½ „ short, with 25 feet of lead pipe attached, ready for fixing			2 0 0
2½ in. long ditto ditto			2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.



No. 69.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£6 0 0	Larger sizes when required.
3 „	7 5 0	
2½ „	8 0 0	

Fitted to the best Plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4 15 0
3 „	5 15 0



WARNERS' BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

A PRIZE MEDAL FOR BELLS

Was awarded to JOHN WARNER and SONS,



AT THE GREAT EXHIBITION IN 1851.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384. No. 383.

WARNERS' HIGH PRESSURE COCKS are made with gland stuffing-boxes and loose Valves. They can always be made sound after wear, and re-seathered with facility.

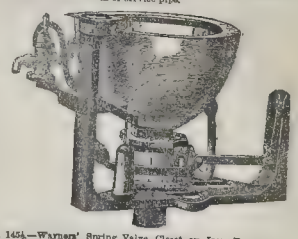
All Warners' Cocks are tested with hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

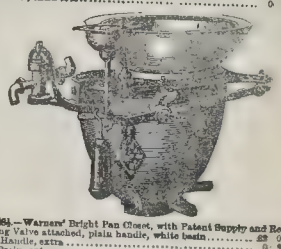
J. WARNER & SONS' PRICED ILLUSTRATED CATALOGUE WILL BE FORWARDED POST-FREE ON APPLICATION.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 1454.—Warners' Spring Valve Closet on Iron Frame, with vulcanized India rubber valve, and patent supply valve attached, plain handle, and white basin £5 15 0
Sunk handle extra 0 3 0
Blue basin, extra 0 1 6



No. 1464.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £3 0 0
Sunk Handle, extra 0 2 6
Blue Basin, extra 0 1 0

The above Prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

J. TYLOR & SONS,

MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

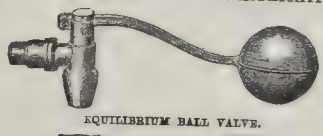
To be seen in action at the Manufactory, WARWICK LANE,

And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, London.

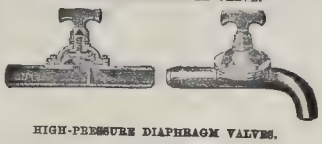
ILLUSTRATED CATALOGUES ON APPLICATION.



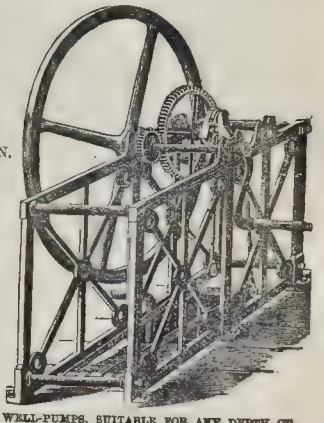
LAVATORY APPARATUS.



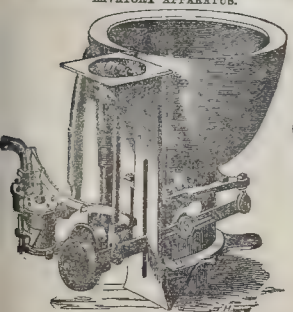
EQUILIBRIUM BALL VALVE.



HIGH-PRESSURE DIAPHRAGM VALVES.



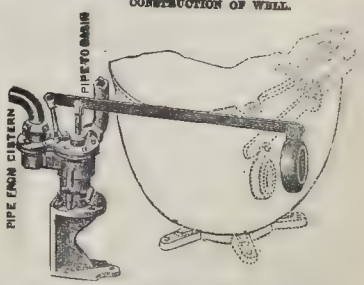
WELL-PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

SALES BY AUCTION.

DISSOLUTION OF PARTNERSHIP.—To Coachbuilders and Others
The commanding Leasehold Premises, with possession, for many years past occupied by Messrs. Gowar, Broadway, Stratford

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, APRIL 23, at TWELVE, at the AUCTION MART, London, the extensive COACH MANUFACTORY, with Show Room and Dwelling House, for many years past occupied by Messrs. Gowar, the eminent coach builders, situate in the Broadway, Stratford. The principal building was erected about a few years since, and is of commanding elevation and finished in good taste; the ground-floor is arranged as a lofty show-room, and the upper part as two dwelling-houses, with private entrance to each. The buildings in the rear comprise a carriage-room, with spacious painting loft over, carriage-shop beyond, with open workers shop under, two offices, covered yard, large smith's shop, timber shed with saw pit and stable, with body-loft over, and in open yard at considerable extent, with gravel entrance from West Ham-lane. The whole held on lease for a long term of years, at a ground-rent of £40 per annum. To be viewed till the day of Sale.—Particulars may be had 14 days prior to the sale, of Messrs. FRY & LOXLEY, Solicitors, Cheapside; of Messrs. THOMPSON & DEBENHAM, Solicitors, Salters' Hall; at the SWAN, Stratford; at the MART; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

DISSOLUTION OF PARTNERSHIP.—TO COACHBUILDERS AND OTHERS.—Stock-in-Trade, Tools, and Effects, Broadway, Stratford.

MESSRS. FULLER & HORSEY are instructed by Messrs. Gowar to SELL by AUCTION, on MONDAY, APRIL 28, at 1 following day, at ELEVEN each day, on the Premises, Broadway, Stratford, in lots, without reserve, THIRTY-EIGHT CARRIAGES; including waggonette, park phaetons, stanhopes, gigs, dog carts, broughams, clarences, barouches, sociables, omnibuses, &c.; the unmanufactured stock, including several thousand feet of seasoned ash and elm plank and boards, single and double trees, shafts, five tons tyre iron; the tools and 1 spokes, five sets of dashes and shafts, five tons tyre iron; the tools and implements in trade, smiths' tools, three circular blowing machines, force bellows, anvils, top and bottom tools, forge trucks, planed surface plate, turning wheel pit, vices and benches, stores of every description, paints and varnishes, oilcloth, spring steel, two vans in description, paints and varnishes, oilcloth, spring steel, two portable forges, drilling machine, new and second-hand wheels, new bodies for panel-work, wrought and cast iron, rods, axles and weights, 12 trucks, horse, cart, and harness, stable utensils, counting-house furniture, and numerous other effects. To be viewed on Saturday previous and morning of sale, when catalogues may be had on the premises; of Messrs. FRY & LOXLEY, solicitors, Cheapside; of Messrs. THOMPSON & DEBENHAM, solicitors, Salter's-hall; and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

To BUILDERS and CAPITALISTS.—A very valuable FREEHOLD BUILDING ESTATE, of 63 acres, with a frontage to the main road of 1,800 feet, adjoining the London and North Western Station at Pinner, half an hour's ride from Euston-square, estimated to produce £600 per annum ground-rents.

MESSRS. R. KENYON & CO. have received instructions to SELL by AUCTION, at GARRAWAY'S, Change alley, Cornhill, on TUESDAY, the 29th APRIL, 1862, at ONE o'clock precisely (unless previously disposed of by private contract), the above valuable BUILDING ESTATE, of Sixty-three Acres. The Estate is beautifully situate, being opposite to the Commercial Traveller's Schools, and contains an excellent Brick and Tile and second-hand Slates, and contains an excellent Brick and Tile and second-hand Slates, and contains an excellent Brick and Tile and second-hand Slates

The Builder

AN ILLUSTRATED WEEKLY JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1003. APRIL 26, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

The Royal Stables, Chantilly, France. Exterior of the Riding School: Elevation of End of Stables: Plan of the Stables and Riding School 297

The Collyer Memorial Schools, Peckham. Mr. J. G. Stapelton, Junior, Architect 293

The Locke Memorial at the Roman Catholic Schools, Barnsley. Mr. M. E. Hadfield, Architect 296

CONTENTS.

Walk and Talk in Rome 289

Lighthouses in France: Notes of the New Lamps for Lenticular Lanterns 290

Social Bridges 291

The Albert Memorials 291

National Portraits 292

Tile Pavements: Architectural Museum 292

The Collyer Memorial Schools 293

A Ramble through Lincoln's-Inn 294

Elevation of the Principal Towns of France, and the Summits of Public Buildings 294

The Société Libre des Beaux-Arts, Paris, and "The Builder" 295

The Surroundings of St Paul's 295

The Germ of the Advertising System 295

The Locke Memorial, Barnsley 296

Stable Architecture 298

Competition 298

Windsor Royal Free and Industrial Schools 298

Independent Schools, Ashton under-Lyne 298

Canterbury, New Zealand 298

Provincial News 299

Stained Glass 299

Church-building News 299

The Proposed Competition for Completing the Midland Institute 300

Pond Making 300

"Chimneys and Chimney Sweeping" 301

Sewerage of Buxton 301

Builders' Actions 301

Patents Connected with Building 301

Books received: Transactions of Social Science Association (Parker) 302

Variorum 302

Miscellanea 302

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION, to procure and issue to subscribers Photographs of subjects strictly illustrative of Architecture and of its subsidiary Arts. Subscriptions to be paid to Mr. HENRY MOODY, 9, Conduit-street, Regent-street, from whom particulars may be obtained.
W. LIGHTLY, Hon. Sec.

SOUTH KENSINGTON MUSEUM.—The New Court and Cloisters in the South Kensington Museum, chiefly filled with works of Italian Art, will be OPENED to the Public on and after 7th APRIL next.—By order the Lords of the Committee of Council on Education
R. W. JELF, D.D. Principal.

PRACTICAL GEOLOGY.—KING'S COLLEGE, LONDON.—PROFESSOR TENNANT, F.G.S. will commence a COURSE of LECTURES, on WEDNESDAY Morning, APRIL 30th, at NINE o'clock, having especial reference to the application of Geology to Engineering, Mining, Architecture, and Agriculture. The Lectures will be continued on each succeeding FRIDAY and WEDNESDAY, at the same hour. Fee, £1 11s. 6d.
R. W. JELF, D.D. Principal.

N.B. The Class will be accompanied by the Professor to the British Museum, the Great Exhibition, the Museum of Practical Geology, and to places of Geological interest in the country.

EVENING LECTURES at the GOVERNMENT SCHOOL OF MINES, JERMYN-STREET.—Dr. HOFMANN, F.R.S. will commence a Course of TEN LECTURES on the OUTLINES of CHEMISTRY, on MONDAY, the 28th APRIL, at EIGHT o'clock, to be continued on each succeeding WEDNESDAY and MONDAY EVENING, at the same hour.—Tickets for the whole course, price £1, may be had at the Museum of Practical Geology.
TRENHAM REEKS, Registrar.

INTERNATIONAL BAZAAR, 1862, EXHIBITION ROAD, South Kensington.
A Building of large dimensions, consisting of a Central Hall and two sales with connecting galleries, is in rapid course of erection on the space of ground in Exhibition-road, nearly opposite the grand entrance under the eastern dome of the International Exhibition and the entrance to the Royal Horticultural Gardens.
The proprietor of the land erecting this building for the purpose of affording exhibitors in the Exhibition, as well as others, an opportunity of selling articles of manufacture principally of a portable character, sales not being permitted in the Exhibition.
Plans of the space to be let, with the tariff, can be seen at the offices of the building.
Rough counters will be provided for exhibitors.
The utmost exertion will be made to make the International Bazaar worthy of public support. The Bazaar will be opened and closed contemporaneously with the Exhibition of 1862.
Intending applicants for space are invited to inspect the progress of the building, and to apply for further information to the Superintendent at the Building.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent street, NOW OPEN, from Nine till Six. Admission is. Half-crown season tickets admit at all times to the Exhibition to the west gallery containing the entire collection of drawings and sketches by the late A. Welby Pugin, and to all the lectures. First Lecture, TUESDAY, MAY 6, at Eight p.m. on the Transport and Erection of Obelisks and other large Monoliths in ancient and modern times, by Professor Donaldson.
JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

OPENS, on the 28th instant, SOCIETY of PAINTERS in WATER COLOURS.—The Fifty-eighth Annual Exhibition, at their Gallery, 5, Pall-mall East (close to the National Gallery). Admittance, 1s.; Catalogue, 6d.
JOSEPH J. JENKINS, Secretary.

COMPETITIONS.

HOOPER MEMORIAL.—To SCULPTORS.—The Committee appointed to carry out the above object at Gloucester, invite sculptors to submit MODELS of DESIGNS for the FIGURE of BISHOP HOOPER, which is intended to be placed under the canopy of the monument just erected in the churchyard of St. Mary de Lode, Gloucester. The models or statuettes to be carved in stone, and to be one-quarter the real height (7 feet). The author of the best design, approved by the Committee, will be appointed to execute the full-sized figure, and the sum of ten guineas will be awarded for the second best design. The full-sized figure to be executed in Portland stone, at a cost not exceeding one hundred guineas. Further particulars may be obtained at the Office of the Architects, Messrs. MEDLAND & MABERLY Gloucester. The designs to be delivered at the King's Head Hotel, Gloucester, directed to the "Hooper Memorial Committee," on or before 12th MAY next.
Gloucester, April 17, 1862. J. H. BROWN, Hon Sec.

THE Corporation of the Borough of Kingston-upon-Thames having determined to take steps for the Drainage of the Borough, hereby invite ENGINEERS and OTHERS to submit PLANS, SPECIFICATIONS, and ESTIMATES for a thorough and complete SYSTEM of DRAINAGE of the Borough, and offer a Premium of 100l. for the Plan approved, retaining the liberty to carry it out or not. The Plan approved to become the property of the Corporation; but the Corporation does not bind itself to accept or carry out any plan. The system of drainage to blend as far as practicable with existing drains, the plans and descriptions of which are at the Town Clerk's Office. The Plans, Specifications, and Estimates, stating also the Commission for carrying out the Works, to be sent to the Town Clerk's Office on or before the 17th day of MAY next.
WILLIAM PHILLIPS, Town Clerk.
Kingston, April 15th, 1862.

ST. FINBAR'S CATHEDRAL, Cork.—To ARCHITECTS.—It having been resolved to Re-build St Finbar's Cathedral, ARCHITECTS are invited to furnish DESIGNS for the ERECTION of a NEW CATHEDRAL at a cost not exceeding 15,000l. A premium of 100l. will be given for the best and most approved plan, and 50l. for the second. Plans and designs to be sent to the Hon Secretaries, Ven the ARCHDEACON of CORK, Rev. J. N. WOODROFFE, or T. M. USBORNE, Esq. Cork, not later than the 1st day of AUGUST next. Further information and a plan of the site may be obtained on application to W. C. BENNETT, Esq. Notary Public and Chapter Clerk, 15, South mall, Cork.

BOROUGH of BIRMINGHAM.—To ARCHITECTS.—The Free Libraries Committee of the Council of this Borough are desirous of obtaining Plans, Sections, Specifications, and Estimates for the ERECTION of a FREE REFERENCE LIBRARY and READING-ROOMS, Lending Library and Newsroom, and Gallery of Art, upon the piece of vacant Land adjoining the Midland Institute Building, with an elevation uniform with the said building. Architects desirous of competing for the erection of the same are requested to send in their Plans, Specifications, and Estimates, under cover, to the undersigned, endorsed "Plans for Free Reference Library Building," on or before the 19th day of JUNE next. Particulars of the accommodation required, and of the conditions of competition, together with a Lithographed Plan of the Site, may be obtained on application at my Office.—By order,
THOMAS STANDBRIDGE, Town Clerk.
Town Clerk's Office Temple-street, 2nd April, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS and OTHERS.—TENDERS are required for the EXTERNAL COLOURING and PAINTING the Wellington Barracks, London.
Parties desiring to Tender for these works can obtain the Specification and Quantities, together with a Form of Tender, on application at this office, between the hours of TEN a.m. and THREE p.m. from the 21st to the 26th APRIL 1862.
The Tenders must be addressed, under cover, to the Director of Contracts, War Office, Pall mall, London, S.W. on or before the 3rd of May, 1862, marked on the corner of the envelope "Tender for External Colouring and Painting the Wellington Barracks, London."
The Secretary of state for War does not bind himself to accept the lowest or any Tender
Royal Engineer Office, London District, 11, James-street, Buckingham-gate, S.W. April 16, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of an OFFICE for Storekeeper, and RESIDENCE for Foreman, at the Hyde park Infantry Barracks, in the County of Middlesex.
Parties desiring to Tender for the erection of these works must leave their names at this Office between the 20th APRIL and 3rd MAY, 1862, both days inclusive, and pay the sum of 10s 6d for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of state does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, London District, 11, James-street, Buckingham gate, 24th April, 1862

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for WORKS to be executed in RE COVERING the ROOF, &c. of the ROTUNDA at the Royal Military Repository, Woolwich.
Parties desiring to tender for these works must leave their names at this Office on or before the 14th day of MAY, 1862, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of state does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Woolwich, April 24, 1862.

CONTRACTS.

EXTENSION of TIME for Delivering TENDERS.—HUNSTANTON, St. Edmund's, near King's Lynn.—The Hunstanton Building Association (Limited) are prepared to receive TENDERS for the ERECTION of Three First class, Second class, and Four Third-class HOUSES, at Hunstanton, according to plans, sections, elevations, and specifications, prepared by Mr. J. S. VALENTINE, C.E. 17, Parliament-street, Westminster; or at our Office, King's Lynn; or copies will be forwarded on prepayment of 2l. Tenders, stating a separate amount for each class of House (marked "Tenders for Building at Hunstanton"), to be delivered at our Office, on or before the 14th MAY next. The Association do not bind themselves to accept the lowest or any Tender.
PEARTREE & EDWARDS, Solicitors to the Association.
King's Lynn, 16th April, 1862.

TO HOTEL PROPRIETORS, BUILDERS, JOINT-STOCK COMPANIES, and OTHERS.—The Directors of the Charing Cross Railway Company are prepared to receive TENDERS for a SITE, measuring 80 by 150 feet by 60 feet, adapted for the erection of a first-class HOTEL, over their Terminus at Charing-Cross.—Particulars may be had on application to the Secretary of the Charing-Cross Railway Company, at the London-bridge Station, from and after MONDAY, the 21st instant, and sealed Tenders to be sent in to the Secretary, on or before TUESDAY, the 20th day of MAY next.
S. SMILES, Secretary.
Railway Terminus, London-bridge, April 16, 1862.

TO CONTRACTORS.—BUILDERS desirous of TENDERING for the ERECTION of a LARGE BUILDING in Edinburgh, may see the plans and specifications, and receive schedules of quantities of work at the Office of Mr. HENDERSON, Architect, 7, Hill-street, Edinburgh. Tenders to be sent in by the 15th May.

TO BUILDERS.—Persons desirous of CONTRACTING with the Committee of Management of the West Kent Infirmary, Maidstone, for the ERECTION of a new WING, the ADDITION of an UPPER STORY to the present Central Building, and other WORKS, may see the plans and specification at my Offices every day (Sundays excepted) on and after FRIDAY, APRIL 25th instant, between the hours of NINE and SIX. The Tenders to be sent, sealed up and endorsed "Tender for Works, West Kent Infirmary," to the Secretary, at the Infirmary, on SATURDAY, MAY 3rd, not later than TWO p.m. The Committee do not pledge themselves to accept the lowest or any Tender.
HENRY BLANDFORD, Architect.
Maidstone, April 19th, 1862.

CONTRACT for SEWERAGE WORKS.—The Local Board of Health for the District of West Ham, in the County of Essex, are prepared to receive TENDERS to CONTRACT for certain SEWERS, with their Appurtenances, in several streets, near Forest Gate, within their District, according to plans, sections, detail drawings, specifications, and conditions, prepared by Mr. MARSHALL, their Surveyor, which may be inspected any day after the 12th instant, between the hours of ELEVEN and FOUR, on application to the said Surveyor, at his Office, in Rokeby House, Stratford, E. The Tenders must be delivered to me on or before the 28th instant, marked "Tender for Sewerage Works," and the party whose Tender may be accepted will be required to enter into a contract and bond with two sufficient sureties for the due performance of the undertaking, such contract and bond to be prepared by the Clerk to the Board at the expense of the contractor.
W. J. BARSHAM, Clerk to the Local Board.
Stratford Green, April 9th, 1862.

CONTRACT for REPAIRING ROAD.—The Local Board of Health for the District of West Ham, in the county of Essex, are prepared to receive TENDERS to carry out certain REPAIRS to the STREET called Western-street, Stratford, within their district, according to sections, plans, and particulars prepared by Mr. MARSHALL, their Surveyor, and which may be inspected any day after the 12th instant, between the hours of ELEVEN and FOUR, on application to the said Surveyor, at his Office, in Rokeby House, Stratford. The Tenders must be delivered to me on or before the 28th instant, marked "Tender for Repairing Road," and the party whose Tender may be accepted will be required to enter into a contract and bond, with two sufficient sureties, for the due performance of the undertaking, such contract and bond to be prepared by the Clerk to the Board at the expense of the contractor.
W. J. BARSHAM, Clerk to the Local Board
Stratford green, April 9th, 1862.

TO SCAVENGERS, CONTRACTORS, and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 29th of APRIL, 1862, at TWELVE o'clock at Noon precisely, to receive TENDERS for CLEANSING the STREETS and REMOVING DUST, &c. from the houses of the inhabitants, and for WATERING certain Streets within the said City, for the term of One year, from Midsummer Day next, agreeably to specifications, copies of which may be had at this Office. The City is divided, for the purposes of these Contracts, into five divisions. Each Contractor will be required to enter into Bond, with two approved sureties, in the sum of 500l. for each Division for Cleansing, and 150l. for each Division for Watering, for the due performance of the several Contracts, and the consent in writing of the Parties proposed as such sureties must be inclosed with the Tenders. The Commissioners do not undertake to accept the lowest or any Tender, or any one, unless deemed satisfactory. No Tender will be received after TWELVE o'clock on the day of Treaty, nor will any Tender be received unless it contains inclosed the sum of Twenty Pounds in Bank of England notes for each Division tendered for, in evidence that the same is made bond fide, which sum of money will be returned to each person whose Tender is not accepted, but will be retained in the other cases until the Contracts and bonds shall have been duly executed by the parties Tendering and their sureties; and in case of such Contracts and bonds not being duly executed, the said sums of money will be forfeited to the Commissioners, and be applied by them to the purposes of the Commission.
JOSEPH DAW, Principal Clerk.
Sewers' Office, Guildhall, 14th April, 1862.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO BUILDERS.—CITY of ROCHESTER.
Persons desirous of TENDERING for the ERECTION, for the Corporation of Rochester, of a TOWN QUAY and LANDING-PLACE at the said City of Rochester, may obtain the drawings and specifications at the Office of Mr. HENRY ANDREWS, Surveyor, Rochester, between the hours of TEN and FIVE, on and after WEDNESDAY, the 16th day of APRIL instant. A bill of quantities of the proposed work can be had of the Surveyor, on payment of five of 10s 6d. Tenders to be sent to the Offices of the undersigned, High street, Rochester, not later than TWELVE o'clock at noon, on WEDNESDAY, the 30th day of APRIL instant, under seal, and directed to the Mayor, Aldermen, and Citizens of the City of Rochester, and endorsed "Tender for Erection of Town Quay and Landing place." The Corporation do not bind themselves to accept the lowest or any Tender.—By order,
RICHARD PRALL, Junior, Town Clerk.
Town Clerk's Office, Rochester, 15th April, 1862.

TO BUILDERS.—The Board of Works for the Limehouse District are prepared to receive TENDERS for the ERECTION of NEW OFFICES and BOARD ROOM in White Horse street, Commercial-road East. The drawings, specification, and conditions of Contract can be seen, and forms of Tender and other particulars obtained, on and after the 28th day of APRIL inst. upon application to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial-road East. Tenders are to be delivered at the Offices of the Board not later than TWELVE o'clock on MONDAY, the 5th day of MAY, 1862. The Board will not be bound to accept the lowest or any Tender.
THOMAS W. RATCLIFF, Clerk of the Board
10th April, 1862

TO BRICKMAKERS and OTHERS.—
The Directors of the Surrey Consumers Gas Company are prepared to receive TENDERS for DISPOSING of about 250 CHALDRONS of COKE BREEZE, at these works, for twelve months, at per chaldron.—The Tenders must be in writing, and sent in on or before MONDAY, the 5th MAY, and the contractor will be required to enter into an agreement to remove all or any of the breeze from time to time upon receiving notice from the Company's Engineer for that purpose.
W. P. BODDY, Secretary.
Works, Rotherhithe, April 21, 1862.

TO BUILDERS.—Persons desirous of furnishing TENDERS for the ERECTION of a BANK and MANAGER'S HOUSE, at Spalding, for the Stamford, Spalding, and Boston Banking Company, can obtain particulars on application to Mr. WILLIAM EVE, Surveyor, 3, Union court, Old Broad-street, E.C. Tenders will have to be sent in on or before the 17th of May next. The lowest or any Tender will not necessarily be accepted.

BUILDERS willing to CONTRACT for the ERECTION of RAGGED SCHOOLS in Ogle Mews, St. Marylebone, may see the drawings, specification, and conditions at my Office, 16, Guildford-street, Russell-square, from the 29th instant to MAY 6th, between the hours of NINE and FOUR o'clock. Tenders to be delivered, under seal, to F. PITTS, Esq. Hon. Sec. 54, Foley-street, on or before MAY 7th. The lowest or any Tender will not necessarily be accepted.
W. P. GRIFFITH, Architect.
16, Guildford-street, Russell-square.

RIVER THAMES. — WAREHOUSE FRONTS.—TENDERS are required for NEW RIVER FRONTAGES to the Granaries and Warehouses of the Oil Mills abutting on the Thames, at Limehouse Hope, between Limekiln Dock and the Limehouse Entrance Lock of the West India Docks, the property of the Messrs. JOHN GARFORD & SONS.—Plan, specification, form of Tender, and general bill of quantities, may be obtained on the Premises, or at the Office as below, of Mr. J. B. REDMAN, Civil Engineer. Tenders are to be delivered on or before the 15th MAY next. The Messrs Garford do not bind themselves to accept the lowest or any Tender.
2, New Palace-yard, Westminster, S.W. April 24, 1862.

TO BUILDERS and OTHERS. — The Stockton and Darlington Railway Company are prepared to receive TENDERS for the ERECTION of STABLING to the ZETLAND HOTEL, at Saltburn-by-the-Sea. Plans and specification may be seen upon application at the Offices of the Company, in Darlington from THURSDAY, April 24th, to WEDNESDAY, MAY 7th, 1862. Tenders to be delivered not later than the THURSDAY following, addressed to the Secretary, and endorsed "Tender for Stables" No pledge is given that the lowest or any Tender will be accepted.
THOS. MACNAY, Secretary.
Railway Office, Darlington, April 21st, 1862.

HILGAY PARISH CHURCH, and the PLANS and SPECIFICATIONS, will be shown by the Rev W. J. CLARKE, on the spot, to parties who may wish to TENDER for the REPAIR and RESTORATION, during the whole of one fortnight, after the 25th inst.

TO BUILDERS.—GLOUCESTER NEW OIL MILLS.—Persons wishing to TENDER for the proposed BUILDING, to be erected at Gloucester, for Messrs. T. N. Foster & Co. may see the plans at the Spread Eagle Hotel, Gloucester, from TUESDAY, the 29th of APRIL, to FRIDAY, the 9th of MAY 1862 both inclusive. Tenders to be addressed to Messrs T. N. FOSTER & CO. Evesham, on TUESDAY, the 13th of MAY, endorsed "Tender for New Oil Mill." The lowest or any Tender not necessarily accepted.
Evesham, April 27, 1862. GEO. HUNT, Architect.

TO BUILDERS.—Parties desirous of CONTRACTING for the several WORKS required to be done in RE-BUILDING the PARISH CHURCH of STROUD may see the plans and specification, and obtain forms of quantities, at the Office of Mr. J. G. BLAND, Architect, Birmingham, on and after the 8th day of MAY next. Tenders to be delivered on the 20th. Copies of drawing and plans of the church will also be at Stroud for inspection, and may be seen on application to the Architect. The Committee do not bind themselves to accept the lowest or any Tender.
April 19, 1862

FIRST GLOUCESTERSHIRE (BRISTOL) RIFLES' HEAD QUARTERS COMPANY, LIMITED TO BUILDERS.—Builders desirous of TENDERING for the ERECTION of a DRILL SHED, in rear of the Club Buildings, Queen's-road, can inspect the plans and specification thereof, by applying to the Architect, Mr CHARLES F. HANSOM, Rock House, Clifton, from MONDAY, the 28th inst. till SATURDAY, the 3rd MAY, inclusive. The Directors do not pledge themselves to accept the lowest or any Tender
Clifton, Bristol, April 22, 1862

TO BUILDERS.—Church of St. ALDATE, Oxford.—Persons wishing to TENDER for the ENLARGEMENT and RE-PEWING of the above-named church, may see the plans and specifications on and after WEDNESDAY, APRIL 30th, at 40, Pembroke street, Oxford, or at the office of Mr. JOHN T. CHRISTOPHER Architect, 10, Cursitor-street, London, E.C., of whom all parts may be obtained. Sealed Tenders to be sent on or before WEDNESDAY, MAY 14th, addressed to the Rev. the Rector of St Aldate's, 40, Pembroke street Oxford, and endorsed "Tender for Works at St. Aldate's Church." The Committee do not bind themselves to accept the lowest or any Tender

BATH. — RECONSTRUCTION of the PROVISION MARKETS.—To IRONFOUNDERS, CONTRACTORS, and OTHERS.—Parties willing to CONTRACT with the Corporation of Bath for the ERECTION of IRON ROOFS MASONRY, and other Works, involved in the RECONSTRUCTION of the PROVISION MARKETS, may inspect the plans and specifications and obtain copies of the bills of quantities, on application at our Offices, on and after the 1st of April next. Sealed Tenders for the separate Trades, endorsed "Tender for the Reconstruction of Markets" to be delivered at the office of the Town Clerk, Guildhall, Bath, on or before 11th SUNDAY, the 15th of MAY.—The lowest or any Tender will not necessarily be accepted.
HARRIS & ISAAC, Architects, 13, Northgate-street, Bath.
April 14, 1862.

METROPOLITAN IMPROVEMENTS.—
Southwark and Westminster Commissioners.—The GRAPES PUBLIC-HOUSE, Counter-street, Southwark.—TENDERS for BUILDING LEASE.—The Metropolitan Board of Works hereby give notice, that they will meet at their Office in Spring gardens, Charing-cross, on WEDNESDAY, the 7th day of MAY next, at TWELVE o'clock at noon precisely, and will then be prepared to OPEN TENDERS by persons who may be willing to TAKE or LEASE the premises known as the GRAPES PUBLIC-HOUSE, Counter-street, Borough, together with PLOT No. 20 in the line of the Southwark new street, as shown on the lithographed plan published by authority of the Board. Particulars, conditions, and forms of Tender may be obtained at the Office of the Board between the hours of TEN and FOUR p.m. and after the Architect of the Board will attend at the Office of the Board on TUESDAY, the 6th of MAY next, at TWELVE o'clock at noon, to afford any information required by Tenderers. The proposals are to be sent to the Clerk of the Board, endorsed "Tender for Grapes Public-House, Counter-street, Borough, and for Lot 20, adjoining, in the line of the Southwark new street, on or before FOUR o'clock in the afternoon of TUESDAY, the 6th day of MAY next, and no Tender will be received after that hour. The Board do not bind themselves to accept the highest or any Tender.
JOHN POLLARD, Clerk of the Board.
Spring-gardens, Charing-cross, April 14, 1862.

TO BUILDERS. — Persons desirous of CONTRACTING for the ERECTION of a DETACHED RESIDENCE, to be built on a portion of the estate, late the property of CHARLES HALLOWELL CAREW, Esq. situate at Beddington, in Surrey, can see the plans and specification at my Office, and after this day.—Tenders to be delivered to me at or before TWELVE o'clock, on THURSDAY, the 8th MAY next. Neither the lowest or any other Tender will necessarily be accepted.
61, North-end, Croydon, JOHN BERNEY, Architect.
April 26, 1862

TO BUILDERS. — Mr. J. H. BLAKE, Architect and Surveyor, invites responsible BUILDERS to offer TENDERS for the ERECTION of a VILLA RESIDENCE situate at BLACKHEATH. Quantities supplied — Plans and specification may be seen at the Offices of the Architect, 11, Montpelier-row, Blackheath. Tenders to be delivered on or before MONDAY, the 5th day of MAY, at ONE o'clock precisely. The lowest or either of the Tenders not necessarily accepted.

PROPOSED NEW SCHOOLS, VESTRIES, &c. Rawtenstall, Lancashire.—Persons desirous of CONTRACTING for the ERECTION of the above may see the plans and specifications at the Offices of THOMAS HESKETH, Architect, Nottingham, from WEDNESDAY, APRIL 30th, to MAY 10th, inclusive; and at Rawtenstall on application to THOS HOYLE WHITEHEAD, Esq on and after MONDAY the 12th day of MAY. Printed quantities will be supplied on application to the Architect. Tenders to be delivered to THOS HOYLE WHITEHEAD, Esq Rawtenstall, on or before WEDNESDAY, the 21st day of MAY. The Proprietors do not bind themselves to accept the lowest or any Tender.

TO PAINTERS. — The Guardians of the Whitechapel Union are desirous of receiving TENDERS for PAINTING the Outside WOOD and IRON WORK of the Union Workhouse, in Charles-street, Mile-end New Town (N.E.). The specification of the Works may be inspected on application at my Office, between TEN and THREE o'clock, till the 11th of MAY next. Tenders must be delivered at the Workhouse before SIX o'clock in the Afternoon of the 13th MAY next. Printed forms of Tender (none other will be received) can be had on application to me. The Guardians do not bind themselves to accept the lowest or any Tender
G ADAMS FARR, Clerk to the Guardians.
Clerk's Office, Whitechapel Workhouse, N.E.
24th April 1862

TO BUILDERS and CONTRACTORS.—
TENDERS are requested for BUILDING THREE SHOPS, HOUSES, and OFFICES, at Aughton, Radnorshire. The plans and specifications are to be seen at the residence of Mr. GRENHOUSE, Norton, near Presteigne, and further particulars can be obtained on application to the Architect.—The Tenders are to be delivered to the Architect, on or before the 7th day of MAY next, and no pledge is given that the lowest will be accepted.
THOMAS NICHOLSON, F.I.B.A. Architect, Hereford.

THE City of Ely Local Board of Health hereby give notice that they will, at their next meeting, be prepared to receive TENDERS from persons desirous of CONTRACTING for the DELIVERY, by Ely, of about 100 yards of 12 inch CAST-IRON WATER PIPE. The specification may be seen at the Office of the Surveyor, and scale of Tenders, endorsed "Tender for Pipe," are to be delivered at the Office of WILLIAM MARSHALL, Esq., Ely, Clerk to the Board, not later than TEN a.m. on the 7th day of MAY next. The Local Board do not bind themselves to accept the lowest or any Tender.
BALDWIN LATHAM, C.E. Surveyor.
23rd April, 1862.

TO BUILDERS and CONTRACTORS.—
TENDERS are requested for BUILDING a FARM HOUSE at PONTPINNA, near Tumaston, Herefordshire.—The plans and specifications are to be seen at the Offices of the Architect, and the Tenders are to be delivered to the Architect on or before the 14th day of MAY next. No pledge is given to accept the lowest.
THOS. NICHOLSON, F.I.B.A. Architect, Hereford.

BOARD OF WORKS for St. SAVIOUR'S DISTRICT—TO DUSTMEN and SCAVENGERS.—Notice is hereby given, that the Board will meet in the Board-room, Emerson-street Bankside, on WEDNESDAY, the 7th day of MAY next, at SIX o'clock in the evening precisely to receive TENDERS for the performance of the several works in DUSTING and SCAVENGERING, after mentioned, for the term of three years, from the 1st of June, 1862, determinable at the end of the first or second year at the option of the Board: that is to say, for removing the dust ashes, &c., once a week from all houses, &c within two divisions of the district, namely, that of the parish of Christchurch, and that of the Clink Liberty, in the parish of St. Saviour; and for cleansing the roads, streets, lanes, courts, alleys, passages, and places, and also all gulley-holes, &c., within the same two divisions, viz. that of the parish of Christchurch, and that of the Clink Liberty, in the parish of St. Saviour.
The contractor as to the dusting, and also as to the scavengering, will be required to enter into a contract or contracts, and also with two responsible persons, to enter into a bond or bonds in the sum of £250. for each division; or if two divisions are comprised within the contract, then in the sum of £500. for the faithful performance of the contract. The Tenders must be for each division separately, both as to dusting and cleansing; and one of the printed forms prepared by the Board must be used for the purpose. In each Tender a sum of £5. must be inclosed, which, if the Tender be not accepted, will be returned. If the Tender be accepted, the money will be retained until the execution of the contract and bond; and in case of default in the execution thereof by the person or persons whose Tender shall be accepted and the sureties, the £5. will be forfeited to, and retained by, the Board, without prejudice to the other remedies of the Board. The contractor will have to bear the expense of the bonds
The details of the contracts and bonds, and also further and necessary particulars, can be obtained, and the forms of Tender will be supplied, on application being made for the purpose at the Board-room. The Tenders must be sent in, endorsed "Tender for Cleansing," or "Dusting," as the case may be, before Half-past FIVE o'clock in the evening of the above-mentioned day; and the persons sending in the same must be in attendance at the meeting of the Board. The Board do not bind themselves to accept the lowest or any Tender.
HERBERT STURMY, Clerk.
Board room, Emerson-street Bankside, Southwark,
15th April, 1862.

CHEAPSIDE.—BUILDING LAND.—To BUILDERS, CAPITALISTS, and OTHERS.—A valuable SITE in Cheapside, of about 69 feet frontage and averaging 45 feet in depth, TO BE LET on Building Lease, for a term of 80 years from Lady Day, 1863, suitable for the offices of a public company, or for warehouse or business premises. Tenders will be received up to the 30th day of MAY next.—Plans for inspection and conditions of Tender may be seen on or after the 24th instant, on application to the Clerk, Saddlers' Hall, Cheapside, E.C.; or to Mr. F. W. PORTER, Architect, 16, Russell-square, W.C. between TEN and FOUR.

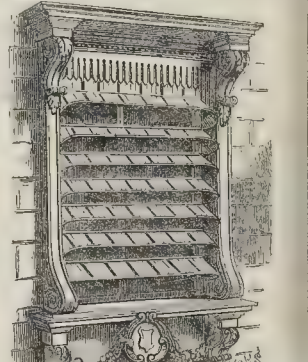
TO BUILDERS.—TO BE LET by CONTRACT, the RE-BUILDING a PUBLIC-HOUSE, destroyed by fire, on its present foundation; 25 miles south of London, and within fifty yards of a station. Plan and specifications to be seen at W. EVERETT'S, 17, Royal Exchange, on Monday, Tuesday, and Wednesday next. Tenders to be delivered by 3rd of MAY.

TO BUILDERS AND OTHERS.
A SECOND-HAND MOULDING MACHINE TO BE SOLD a BARGAIN.
Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public
N.B.—The usual discount to builders and the trade.

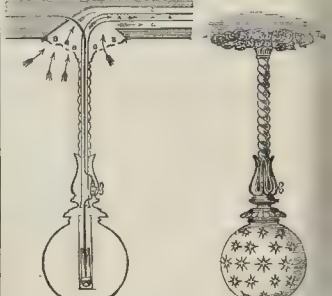
TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr Arnott's improved Ventilators.
HULETT & CO. 55, High Holborn.

PATENT SANITARY LEAD PIPES.—
ALFRED COURAGE & CO. Proprietors of BENNETT'S PATENT for Coating Lead Pipes with an Alloy of Tin and Silver, are prepared to grant a limited number of LICENSES for its use. This invention as to interest, prices of pipes, &c apply to ALFRED COURAGE & CO. Upper Works, Bagille, Flintshire.



SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.
These Blinds give a highly decorative finish to a plain front, whether fitted up as an ornamental feature or with none at all. In the latter case top boxes only are required, which need not project beyond the reveal. Where there is no reveal, as in old houses, they would require a frame which need not project more than about 4 inches, and has no side wings coming down, or any other disfigurement. Prices moderate. A liberal discount to Builders and the Trade.
R. LOWTHER & CO. 31, Regent-street, One door below the Piccadilly Circus.
VENETIAN AND ALL OTHER BLINDS WHOLESALE.

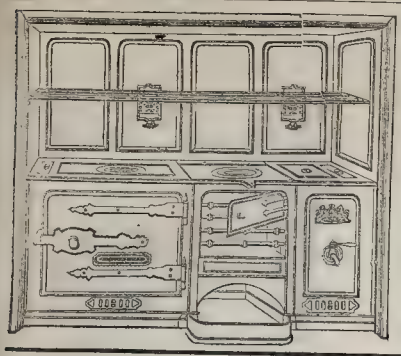
RICKETT & HAMMOND'S VENTILATING GLOBE LIGHT, combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



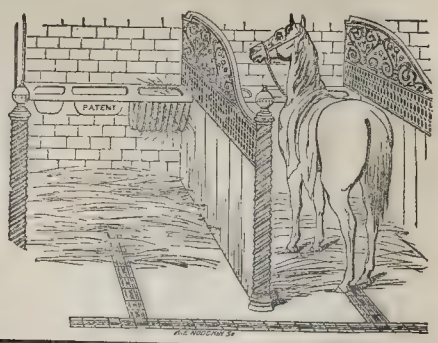
The advantages obtained are these —
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS
SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,
The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.
These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS
Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.
ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.
Orders requiring Despatch and Punctuality can be executed in a few days.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61a, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.

MUSGRAVE'S PATENT STABLE
FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW HOUSE FITTINGS and IRON PIG HOUSES.

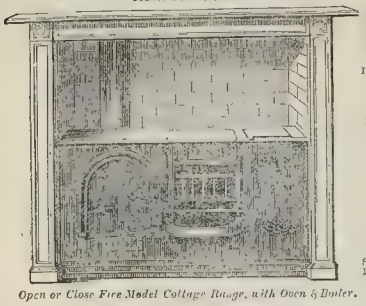


These Inventions are confidently termed model as possessing those requisites in stables, both ornamental and useful.
At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended;" being the only prizes conferred on any competitor in this class.
Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45s



Open or Close Fire Model Cottage Range, with Oven & Boiler.

Self acting, with Bright Wrought Bars
24 inches ..... 24s.
30 " ..... 30s.
8 " ..... 38s.
12 " ..... 47s.

Self acting Cottage, with Oven and Back Boiler
24 inches ..... 29s.
32 " ..... 24s.
34 " ..... 30s.
36 " ..... 38s.

Register Stoves, with Strong Bars, from per inch, 4d
Improved New Pattern Circular Check Register, with strong Bars and Frames, 4d. per inch.
Best ditto, with Fire Brick Back, from 1 inch, 6d.
Bright Stove, with Two Fires, 40s to 100s each.

Best Cut Clasp and Rose Nails.
1 inch. 1½ inch. 2 inch. 2½ inch. 3 inch
14s. 18s. 23s. 28s. 31s. 6d. per wt.

Best Sheet Cut Floor Brads, 11s per cwt.
Best Cut Lath Nails, 13s per cwt.

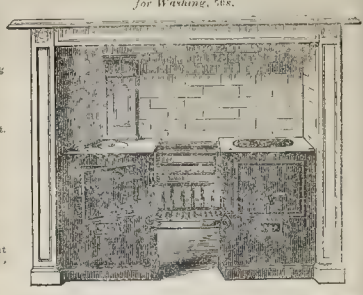
2 in 2½ in. 3 in.
Cast Rain-water Pipe . 8d. 10d. 1s per yard

Cast Gutters, 4-in. 7d per yard.
4-in. 4½-in
O G Cutters, with Clips on . 1s6d. 1s. per yard.

Patent Line. 3s. 6d. 4s. 5s. 7s. 9s per gross.

6 inch Rd Ward Mortise, with best Furniture and Patent S. ladles, 2s 9d each. Light Elliptic and Register Meas., 12s 6d. per cwt.
Dr Arnott's Vent Jalousies, 4s each
Brick Moulds kept in stock. Any size made to order.

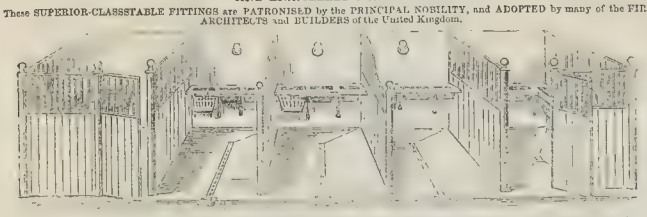
Combined Range with Wrought Galvanized Boiler for Washing, &c.



BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.

These SUPERIOR-CLASSSTABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four postage stamps.

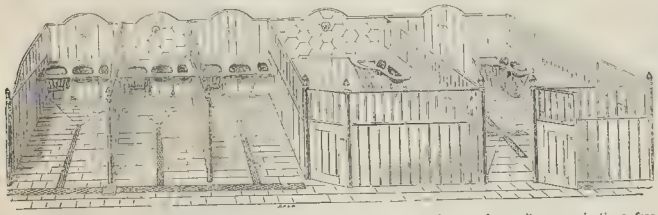
JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

COTTAM & CO. WINSLEY STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation, preventing foulness in the rack, facility in fixing, safety from accident, durability in construction and cleanliness in use.

STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.

COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

KNIGHTLEY'S PATENT STABLE FLOOR.

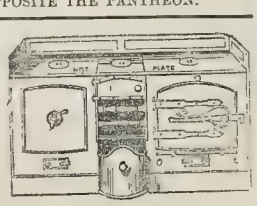
ILLUSTRATED CATALOGUES FREE, on application to

COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.

COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.

N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS.

38 and 65, York-street, Westminster.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

CHUBB'S LOCKS,

with all the recent improvements.

STRONG FIRE PROOF SAFES, CASH AND DEED BOXES.

Complete Lists of Sizes and Prices may be had on Application

CHUBB and SON,

57, ST. PAUL'S CHURCH-YARD, LONDON,

23, Lord-street, Liverpool; 16, Market street, Manchester; and Horsley-fields, Wolverhampton.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY-STREET, OXFORD-STREET,

LONDON, W.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, on the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 11, Pancras-street, E.C.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY-ROW,

MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths inch diameter. ..... 1s. 6d. per foot.
Half-inch diameter ..... 1s 6d. "
Five-eighths inch diameter ..... 2s. 6d. "

R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—170, Strand, London.
" Gateshead-on-Tyne.
" 27, Dale-street, Manchester.
" 68, Anderston-quay, Glasgow.
" 17, South Castle street, Liverpool
" Exchange-buildings, Dundee
" 7, Frederick-street, Aberdeen.

HEATING BY HOT WATER.

JOHN WEEKS & CO. KING'S ROAD,

Chelsea, HOT WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.

Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

CASTINGS, ANY WEIGHT AND QUANTITY,



With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.

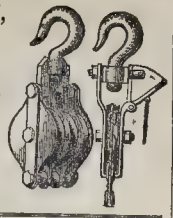
IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR-MILLS, &c.



GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

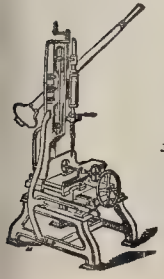
73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

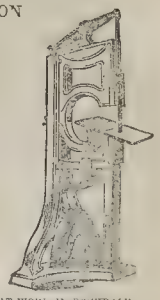
AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l*.



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

POWIS, JAMES, & CO.

ENGINEERS AND MACHINISTS,

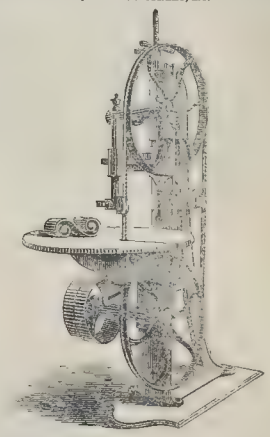
VICTORIA WORKS, BLACKFRIARS-ROAD, LONDON,

Having taken additional premises at 92, Blackfriars-road, known as the Surrey Iron Works, have added Portable Engines to their Sawing and Wood cutting Machinery business. Contractors, colonists, merchants, and shippers will find these engines fitted with the same care exactness which has gained for the firm so respectable a position as Machinists and Toolmakers.

Specimen Machines and Engines can be seen at the Works, at the Machinery Department, Crystal Palace, Sydenham; and in class 7, section 2, stand 217, International Exhibition, South Kensington.

Engines, &c. on hire, with or without the option of purchase.

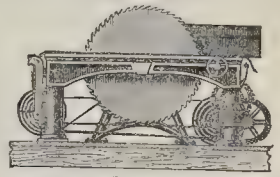
ALL LETTERS MUST BE ADDRESSED TO THE OFFICE, 26, WATLING STREET, E.C.



NEW PATENT ENDLESS BAND-SAWING MACHINE (the only patent in the United Kingdom for an improvement in this class of machine).

S. WORSSAM & CO.'S PATENT

SELF-ACTING SAW-BENCH.



(4-inch scale.)

This Bench will take a Saw up to 42 inches in diameter, and is adapted for splitting deals, breaking down small timber, and all the purposes of an ordinary saw-bench. It is fitted with a rope-feed motion for bringing the stuff up to the saw, at rates varying from 30 to 60 feet a minute.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's road, Chelsea, S.W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

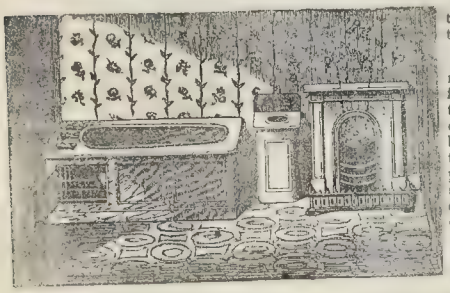
NAYLOR, VICKERS, & CO.

SHEFFIELD.

THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

THE NEW CRYSTAL STAR AND SUN LIGHT.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
J. DEFRIES & SONS,
MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.
Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.
The Patent Gas Regulator and Purifier reduced to 8s. 6d. per dozen.

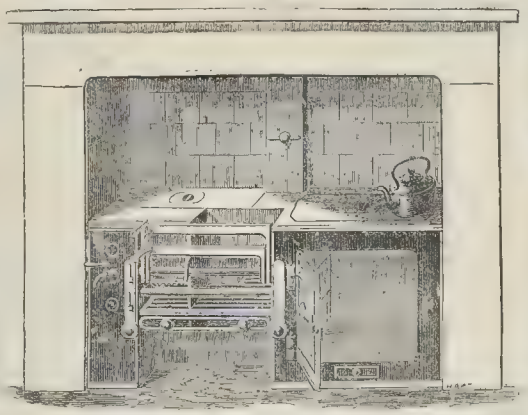
J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their
BATH APPARATUS,
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.
Illustrated Catalogues to be had of the Manufacturers,
J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.
The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.
The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.
This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.
This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

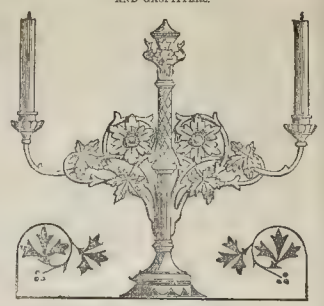


Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,
WILLIAM ADDIS,
6 and 15, LEICESTER STREET, LEICESTER SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

MALLEABLE IRON CASTINGS.
RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

W. HARMER & SON
Beg to inform their Customers and the Trade generally, that having recently Removed into their new Premises, No. 8, HORSEFERRY ROAD (which communicates in the rear with their Wharf, &c. and Workshops in New Peter street), they have thereby been enabled greatly to increase their Stock of BUILDERS' and CABINET-MAKERS' IRONMONGERY, and which they are now selling at a considerably REDUCED LIST of PRICES, in consequence of the suppression of those oppressive Manufacturing duties.
W. HARMER & SON,
IRONMONGERS, SMITHS, IRON AND ZINC MERCHANTS,
Nos. 3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.

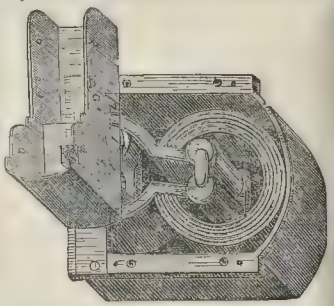


Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.



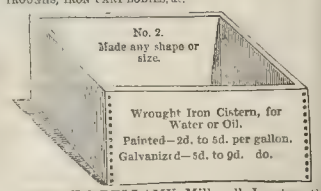
BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gasoliers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.
Specimens at the Architectural Exhibition, Conduit street.

H ART & SON,
53 to 58, WYCH STREET, STRAND, W.C., and 20, COCKSPUR-STREET, PALL-MALL, S.W.



MANUFACTURERS OF IMPROVED FLOOR CENTRES, FOR SWING DOORS, BUFFER-SPRINGS, ARNOTT'S & SHERINGHAM'S VENTILATORS, PITT'S & CLARK'S PATENT DOOR FURNITURE,
And every description of General Ironmongery.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Swanpan and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, &c. &c.
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

DEVAUX'S PURE THICK ROOFING ZINC,

FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS

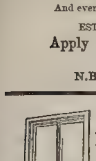
And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. EDMESTON, Esq. F.R.I.B.A. by whom a certificate is given.

ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.

Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.

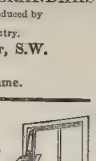
MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.

N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.



J. GURMAN,

Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.



Send stamped envelope for Prospectus and Sectional Drawings.

Windows may also be seen at the Kensington and Conduit-street, Museums, London.

CARSON'S ORIGINAL ANTI-CORROSION PAINT.

Patronised by

THE BRITISH GOVERNMENT, THE FRENCH GOVERNMENT, THE RUSSIAN GOVERNMENT, H.R.H. THE PRINCE CONSORT, MOST OF THE NOBILITY & GENTRY, THE DOCK COMPANIES, RAILWAY AND CANAL COMPANIES THE PRINCIPAL COLLIERIES, MILL OWNERS, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also

IRON ROOFING, BRIDGES, HURDLING,

AND EVERY DESCRIPTION OF IRON WORK;

FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone. The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, and will keep any length of time.

OIL, TURPENTINE, AND BRUSHES.

Prices, Patterns, and Testimonials sent upon application to

WALTER CARSON AND SONS,

(SUCCESSORS TO THE INVENTORS,)

9, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to duties, &c and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

A PRIZE MEDAL for SUPERIOR LOCKS

was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare-market, London.

HAWKINS'S REGISTERED CHAIN.—

This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS P. HAWKINS, 37, Dale-end, Birmingham.

CAUTION to ARCHITECTS and BUILDERS.—

In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;

SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—

THOMAS WILLIAM COWAN begs to call the attention to Rae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr Letheby, Dr Dundas Thompson, and most of the most eminent Architects, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Cinders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c &c.—KENT IRON WORKS, BRIDGE STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

FOR SALE, a Second-hand DEAL SAW-FRAME, to take in 18 inches, with Saws complete. Price 40l.

Apply at 35, Brook-street, Euston-road, N.W.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Gutt-ring, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, stores, &c.

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

SKAIFE & COMPANY,

Manufacturers of PATENT GALVANIZED IRON.

Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tipped Sheets and Tiles for export.

IRON WORK GALVANIZED.

Roofing orders promptly and carefully attended to.

Office—Commercial-road, 1,000 house, London.

Works—Copenhagen Wharf, Limehouse.

TRADE MARK.

CROWN TUBE WORKS,

WEDNESBURY, STAFFORDSHIRE.

Warehouse—81, Upper Ground-street, London, S.

JAMES RUSSELL & SONS,

The Patentees and first Makers of Wrought-iron Tubes.

IMPORTANT TO BUILDERS, SAW-MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS

WILSON'S PATENT LARGE TIMBER SAWING-MACHINERY.

This machinery is adapted to cut logs square or round timber, to the depth of 4 feet and upwards, and, from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the logs are arranged to carry the log past the saw to any extent without stopping for re-adjustment, by which the necessity for traversing is avoided, and they are capable of travelling at different speeds on the same or opposite directions, and of being set in motion, reversed, or stopped instantly.

The speed of cutting may be varied from 10 inches to 10 feet per minute, and at rest on account of the increased length of cutting edge, the saw is kept cool.

May be seen in operation, Daily, at Messrs. JAMES WILSON & SON'S Builders, Springfield Saw Mills, Manningham, Bradford, Yorkshire.—Full particulars may be had on application, by parties desirous of purchasing.

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW.

Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

LOSH, WILSON, & BELL,

NEWCASTLE-ON-TYNE,

Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and

STEWART'S PATENT CAST-IRON GAS and WATER PIPES.

Office, No. 7, Size-lane, London.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from flax, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Rope-makers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

PATENT ASPHALTE CALDRON

for laying Asphalte Floors. The cheapest and best kind of floor, impervious to wet, and vermin will not touch it. Full particulars sent free by

WOODS & COCKSEDGE,

IRONFOUNDERS, STOWMARKET.

LOCOMOTIVE STEAM-ENGINE (second-hand) TO BE SOLD, with tubular boiler, three cylinders,

14in. dia. pressure. Weight, 6 tons 17 cwt. To be seen on application to M. TILBURY, No. 25,161, at the Panteehnicon, Belgrave-square. This engine was first used as a traction engine on a tramroad.

TO CONTRACTORS, BUILDERS, SAW-MILL PROPRIETORS, and OTHERS.—

TO BE SOLD, a bargain, a 16-horse power High pressure HORIZONTAL STEAM-ENGINE, with a 30-horse power Cornish Boiler, heating apparatus, and all the necessary steam-pipes and connections ready for fixing. Both are quite new, and by an eminent maker.—For further particulars and to view the same apply to AMIES & BARFORD, Queen-street Iron Works, Peterborough.

CONDY'S PATENT FLUID is adopted by

the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodoriser for sick rooms, slaughter houses, sinks, house-drains, sewers, cesspools, graveyards &c., and is permanently useful for numerous domestic purposes, for which all other deodorising agents (on account of their pungent character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c as well as by use in the bath for promoting and maintaining personal purity.—Obtainable of all Chemists, Oilmen, &c. in Bottles at 1s. 2s. or 4s. each; or per Gallon, 5s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.

Wholesale of the Patentee, Battersea, Surrey, S.W.

H. M. & G. M., GRAINERS and

WRITERS to the Trade, Gilders, &c.—Contracts given in for Graining Oak Graining done in Oil from 4l to 5l per yard. All orders punctually attended to, either in town or country.—Address, 13, Cumberland-street, near Middlesex Hospital.

IMPORTANT to BUILDERS, CONTRACTORS, and HOUSEHOLDERS generally.—

Amongst the various uses of HAY'S PATENT WATERPROOF GLUE VARNISHES is efficacy, none exceeds its application to NEW or DAMP WALLS, unfit for papering. Two thin coats applied in wet with a half-worn paint-brush render new or damp walls fit to receive the most valuable papers without detriment.—For further particulars and prices apply to Messrs. WARDEN & CO. 12, London-street, London; or to Mr. GEORGE WEEKS, Manager, at the Factory, Chandos street, Landport, Portsmouth.

GENUINE WHITE LEAD, branded and

warranted from the Manufacturers, 30s. per cwt; Linseed Oil, 3s per gallon; Boiled Oil, 3s. 1d. per gallon; Turps, 3s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon. Hamilton's and Keith's Graining, Painters', and Plasterers' Brushes, to be had at D. J. PORTER'S White Lead and Colour Warehouse, Nos. 1 and 2, Pratt-street, Camden Town, N.W.

KENT'S PAINTING BRUSHES

are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

T. KENT'S PAINTING-BRUSH MANUFACTORY

Is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.

Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

GRAINERS and the TRADE SUPPLIED

with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS, 30, LONDON WALL, E.C.

Where also may be obtained their CELEBRATED STAINS for EVERY DESCRIPTION of WOOD, Together with all kinds of Colours and Varnishes, Warranted of the purest quality and at the lowest prices. Agents for Kershaw's Graining Machines.

COLOURS and VARNISHES at

REDUCED PRICES.—Genuine White Lead, 30s. per cwt. Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 2d.; Turpentine, 5s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash at F. LANGTON'S Colour Warehouse, 145 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices

IMPORTANT to BUILDERS and PAINTERS.

Genuine White Lead, 30s. per cwt.

Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 2d. per gallon.

Turpentine, 5s. 4d per gallon.

Fine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Cole-hill-street, Pimlico, S.W.

Every article for the Trade at the lowest price.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES

(C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stippers, and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.

PAINTING BRUSH MAKERS,

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

And of their Agents,

SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

PATENT GRAINING APPARATUS.—

TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest must not be without them. Prospectus with terms sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

DURABILITY of GUTTA PERCHA TUBING.—

Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following extract from SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT. Second Testimonial.—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first having been in several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

MEMORIAL FUND.—HIS LATE ROYAL HIGHNESS THE PRINCE CONSORT.

President—The Right Hon. WM. CUBITT, Lord Mayor

Amount of Contributions to April 16 ..... £43,665
Amount subscribed during the week ending April 22 1,366
Total £45,871

Subscriptions continue to be received by the Right Hon. the Lord Mayor, at the Mansion House; and by all the London Bankers.

A Sub-Committee sit daily at the Mansion House.

MICHAEL GIBBS,
S. R. GOODMAN,
SAMUEL BROWN, } Honorary Secretaries.

Mansion House, E.C. April 23rd, 1862.

NATIONAL MEMORIAL to the PRINCE CONSORT.

House of the Society of Arts, Adelphi, London, W.C.

GENERAL COMMITTEE.—

The Archbishop of Canterbury
The Lord High Chancellor
The Archbishop of York
The Duke of St Alban's
The Duchess of St Alban's
The Duke of Buccleuch, K.G.
The Duke of Devonshire, K.G.
The Duke of Manchester
The Duchess of Manchester
The Duchess of Norfolk
The Duchess-Dowager of Norfolk
The Duchess-Dowager of Sutherland
The Duchess of Wellington
The Marquis of Abercorn, K.G.
Frances Anne, Marchioness of Londonderry
The Marquis of Salisbury, K.G.
The Marchioness of Salisbury
The Marquis of Westminster, K.G.
The Marchioness of Westminster
The Earl of Dalhousie
The Countess of Dalkeith
The Earl of Clarendon, K.G.
The Countess of Clarendon
The Earl Cowper
The Countess Cowper
The Countess of Derby
The Earl of Hardwicke
The Countess of Hardwicke
The Earl of Malmesbury, G.C.B.
The Countess of Malmesbury
The Earl Nelson
The Countess Nelson
The Countess Russell
The Earl of Sefton
The Earl of Shaftesbury
The Countess of Shaftesbury
The Earl Somers
The Countess Somers
The Earl of Shelburne
Lady Adelaide Maurers
Lord E. F. G. Howard, M.P.
Lady E. F. G. Howard
Lord Henry George Lennox, M.P.
The Viscount Palmerston, K.G
The Viscountess Palmerston
Lord Elcho, M.P.
Lady Elcho
Lady Mildred Hope
A. J. B. Hope, esq.
The Bishop of London
The Bishop of Durham
The Bishop of Bangor
The Bishop of Chester
The Bishop of Lincoln
The Bishop of Oxford
The Bishop of Ripon
The Bishop of Rochester
The Bishop of Worcester
The Bishop of St. David's
The Right Rev. Dr. Grant
Lord Ashburton
Lady Ashburton
Lady Foley
The Dowager Lady Lyttelton
Lord Lyttelton, Lord Lieutenant of Worcestershire
The Right Hon. W. E. Gladstone, M.P.
Mrs. Gladstone
The Right Hon. W. Cowper, M.P.
Mrs Cowper
The Right Hon. the Lord Mayor
The Count P. de Strzelecki, C.B. D.C.L.
Lady Mary Hoare
Henry Hoare, esq.
The Hon. Mrs. Ellis
The Hon. and Rev. the Dean of Windsor
The Hon. Mrs. Wellesley
The Hon. and Rev. Canon Grey
The Hon. Colonel Douglas Pennant, M.P.
Lady M. L. Douglas-Pennant
The Hon. Col. Talbot
Lady Knight Bruce
Vice Chancellor Sir W. Page Wood, V.P.R.S.
Lady Wood
The Hon Fred Byng
The Hon. and Rev. Samuel Best
The Hon. A. Kinnaird, M.P.
The Hon. Mr. Kinnaird
Lady Molesworth
Sir John P. Boileau, Bart.
Sir J. V. Shelley, Bart. M.P.
Sir C. Wentworth Dilke, Bart.
Miss Burdett Coutts
Sir Thomas Phillips, Vice President and Chairman of the Council of the Society of Arts
Sir R. I. Murchison, F.R.S.
Mrs. Tollemache
The Dean of Canterbury
The Rev. C. B. Gleig, Chaplain-General of the Forces
The Rev. Canon Champneys, Vicar of St. Pancras
The Rev. Canon Fearon, Loughborough
The Rev. Canon Lonsdale, Secretary of the National Society
The Rev. Canon Miller, Rector of St. Martin's, Birmingham
The Rev. I. C. Harrison, Camden Chapel
The Rev. J. Howard Hinton
The Rev. J. F. Lingham, Rector of Perth
The Rev. S. Martin, Westminster Chapel
The Rev. J. Rattenbury, President of the Wesley in Conference
The Rev. J. Stoughton
Thomas Dyke Acland, esq. Exeter
F. D. P. Astley, esq. Dukinfield-lodge, Cheshire
John Alger, esq.
T. Bazley, esq. M.P. Manchester
John Bell, esq.
Richard Bitkin, esq. Mayor of Nottingham
W. H. Bodkin, esq.
Antonio Brady, esq.
T. Brassey, esq.
Henry Bury, esq. Manchester
Harry Chester, esq.
John M. Clabon, esq. hon. sec.
Henry Cole, esq. C.B.
T. Clegg, esq. Manchester
G. Clowes, esq.
A. B. Cochrane, esq.
F. Crossley, esq. M.P. Halifax
G. Dawbarn, esq. Wisbech
R. Dawbarn, esq. Wisbech
G. Dawson, esq. M.A.
John Dillon, esq.
G. Dines, esq.
Wm. Fairbairn, esq. LL.D. F.R.S. Manchester
P. Le Neve Foster, esq.
J. G. Frith, esq.
M. A. Garrey, esq
G. Godwin, esq.
Peter Graham, esq.
E. Vernon Harcourt, esq.
Edward Hamilton, esq.
William Hawes, esq.
Jas. Hartley, esq. Sunderland
John Hawkshaw, esq. President of the Institution of Civil Engineers
H. T. Hope, esq.
Messrs. J. & F. Howard, Bedford
David Howell, esq. Machynlleth
Mrs. Howell
Robert Hunt, esq. F.R.S.
John Kelk, esq.
Mrs. Kelk
R. Kendall, esq. M.P.
J. B. Lawes, esq. St Alban's
E. Levy, esq. Newport
Francis Le Breton, esq.
T. Longman, esq.
Messrs. Lucas, Brothers, Lambeth
J. C. Macdonald, esq.
W. T. Mackrell, esq.
E. Macfarlane, esq. Hon. Treasurer
M. H. Marsh, esq. M.P.
T. J. Miller, esq. M.P.
J. Moffatt, esq. M.P.
S. Morley, esq.
Daniel Pope, esq.
Edward Peyton, esq. Birmingham
Mrs. J. G. Phillimore
John Platt, esq. Oldham
H. Pownall, esq. Chairman of Middlesex Sessions
Wyndham S. Portal, esq.
F. Ransome, esq. Ipswich
Samuel Redgrave, esq. Hon Secretary
J. R. Reid, esq.
Arthur Reid, esq.
W. B. Simpson, esq.
F. Sopwith, esq. F.R.S.
R. J. Spiers, esq. Oxford
William Tite, esq. F.R.S.
H. Hussey Vivian, esq. M.P.
W. Graham Vivian, esq.
G. F. Wilson, esq. F.R.S.
Thomas Wilkworth, esq.
E. Wigram, esq.
J. Carter Wood, esq. Victoria-street, Westminster

EXECUTIVE COMMITTEE:—

The Duke of St. Alban's
The Marquis of Salisbury, K.G.
The Earl of Derby, K.G.
The Earl of Malmesbury, G.C.B.
The Hon. Colonel Talbot
The Hon F. Byng
Sir Thos. Phillips
H. Cole, esq. C.B.
H. Chester, esq.
M. H. Marsh, esq. M.P.
The Hon. Treasurer
The Hon. Secretaries

The Committee presided over by the Lord Mayor have collected funds chiefly among public bodies and wealthy individuals; but a general feeling has for some time prevailed that, in order to give a national character to the Memorial, means should be taken to interest in the movement the industrial classes, so that the fund may include the shillings or the pounds of the farmer and tradesman, as well as the pounds of the artisan and labourer. It was the constant aim of the Prince to promote the well-being of all classes of the Queen's subjects, and to all the opportunity should be afforded of joining in the tribute of a nation's gratitude.

The Executive Committee have formed to promote this object.

The Committee ask for the aid of the clergy, of ministers of all denominations, of all employers of labour, of vestrymen, churchwardens, deacons, visitors, school teachers, and other influential persons.

The remittances should be by Cheque on a London bank, crossed Coutts & Co.; or by a post-office order on the Charing Cross Office, made payable to Samuel Thomas Davenport, Assistant Treasurer.

JOHN M. CLABON,
P. LE NEVE FOSTER, } Hon. Secs.
SAMUEL REDGRAVE,

Dedicated, by permission, to the Right Hon. Lord Palmerston.

DESIGNS for MONUMENTS, TOMBS, GRAVESTONES, &c. price 16s complete in one volume.

By JOSEPH B ROBINSON, Sculptor, Derby.

The Designs in this volume are suitable for either cemetery or churchyard. The book forwarded free to any part of the kingdom for post office order.

EVERY MAN HIS OWN GARDENER.

COMPLETE (The) GARDENER; or,

Calendar of work to be done in every month of the year. By THOMAS MAWE and JOHN ABERCROMBIE. To which is added a Treatise on Drawing-room Gardening, Wardian Cases, and Fern Culture, by GEORGE GLENNY, F.H.S. 12mo. cloth, 6s.

GARDENERS' (The) POCKET JOURNAL.

By JOHN ABERCROMBIE With a Treatise on Drawing-room Gardening, by GEORGE GLENNY, F.H.S. 18mo cloth, 3s.

London: WILLIAM TEGG, Pancras-lane, Cheapside.

Now ready, in 1 vol. royal 8vo. with 17 Illustrations in Chromo-lithography and on Wood, including a Coloured Map, price 18s cloth.

THEBES, its TOMBS and their TENANTS, ANCIENT and MODERN; including a Record of Excavations in the Necropolis.

By A. HENRY RHIND, F.S.A. &c.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

STABLE ARCHITECTURE. 21. 2s. Medium Folio.

By THOMAS EDWARD KNIGHTLEY, F.R.I.B.A. Architect, 25, Cannon-street, London.

The volume is handsomely printed in the best type, and the plates, twenty-eight in number, are executed chiefly in tinted lithography.

"The stable plans of Mr. Knightley are admirable, and afford the most perfect ventilation without a cold current of air."—HON. ADMIRAL ROUS.

BEARDMORE'S HYDRAULIC AND OTHER TABLES.

The Publishers beg to announce that this work, having been long out of print, has been entirely rearranged, and the original Tables have been merged into a Treatise, entitled

A MANUAL of HYDROLOGY.—

This book contains:—

Division I.—Hydraulic and other Tables, with descriptive matter and many new Tables, the whole placed in a concise form

Division II.—On Rivers and Flow; on percolation of water; on wells and springs. On the flow in sewers, and water supply, with description of the floods of many considerable rivers, with other characteristics appertaining to their hydraulic conditions.

Division III.—On Tides, Tidal Rivers, Estuaries; containing the strictest details of the conditions are read by the tides under the varied states of the bore, and of those places where the tidal wave vanishes, also showing the effect of improvements in many of the tidal rivers of this country. Explained by tidal diagrams, sections of rivers, cotidal lines, plates elucidating channel tides, &c. &c.

Division IV.—On Rainfall and Evaporation. Containing the best experiments on evaporation in various climates, tables of rainfall under every variety of elevation, period, and locality. These Tables include all parts of the British Isles, France, Germany, Italy, Russia, North America, Australasia, and India.

The work consists of 440 pages, and there are 20 large plates.

Will be issued on the 14th of April, price 21. 2s.

WATERLOW & SONS, 49, Parliament-street, Westminster; 24, Birchin-lane; and London Wall, London.

THE QUARTERLY REVIEW,

No. CCXXII.

Is published this day.

CONTENTS

I. DORSET
II. HYMNOLOGY.
III. TURKEY—ITS STATE AND PROSPECTS.
IV. TRAINING OF THE CLERGY.
V. THORNBURY'S LIFE OF TURNER, R.A.
VI. THE EASTERN ARCHIPELAGO.
VII. LAST DAYS OF PITT.
VIII. IRON SHIPS AND IRON FORTS
JOHN MURRAY, Albemarle-street.

Now ready, New Edition for 1862, the cheapest Peerage,

CAPT. DOD'S PEERAGE, BARONETAGE, KNIGHTAGE, &c. for 1862 (Twenty-second Year), containing

all the new Peers, Baronets, Knights, Bishops, Privy Councillors, Judges, &c. corrected throughout on the highest authority.

WHITTAKER & CO. Ave Maria-lane; and all Booksellers.

WATER-COLOUR PAINTING, by

AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, invaluable to Landed, teacher, amateur, or the drawing-room table. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest

Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and

MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

Invites attention to the superior workmanship and elegance design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	25 "
Marine Chronometers	25 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—

A serviceable, well-made, and warranted TURRET CLOCK, to go eight days, and strike forty guineas; not to strike, from fifteen to twenty guineas; adapted for the village church or school.—Apply to

JOSEPH FAIRER,

Turret Clock-maker to H. M.'s War Department,
138, St. George-street East, London.

CLOCK MANUFACTORY.—Established

1749. THWAITES & REED beg to call the attention of Provincial Watchmakers to their Establishment, the OLDEST in the TRADE, where every description of CLOCK is made in the best possible manner, and at as low a price as first-rate work can be got up for Original Inventors of the Spiral Door Springs.

London: 4, Bassomar-street, E.C.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON

FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY; TIMBER, WINE, and SPIRIT WARRANTS.

BANKRUPTS' and INSOLVENTS' CASES CONDUCTED.

Balance-sheets Prepared, and Meetings of Creditors Convened.

Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

TO ARCHITECTS, BUILDERS, and

OTHERS, desirous of having the TOPS of their CHIMNEYS UNIFORM and ORNAMENTAL, and their HOUSES perfectly SECURED AGAINST the EFFECTS of the WIND—J. S. HENDY, having for many years studied and experimented to prevent down-draughts, and to bring life and up-action in chimneys, is now happy to say he has perfectly succeeded in accomplishing this desired object. J. S. HENDY therefore begs the favour of all persons, before they finish their chimney-tops, or spend money to prevent smoky chimneys, to inspect his newly-invented PATENT AIR-COUNTER-ACTING CHIMNEY-POTS, at 16, Essex-street, Strand, London, W.C.

GRIFFIN ANTIQUARIAN, a pure,

choice, and first-class DRAWING PAPER, of Whatman's manufacture. A new batch of 1860 make is now in fine condition, and ready for delivery. Large sheets, 53 inches by 31 inches, 7s. WINSOR & NEWTON, 38, Rathbone-place, London, and all Stationers and Artists' Colourmen.

BRYCESON'S ORGAN FACTORY,

BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1795.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

ACCIDENTS ARE UNAVOIDABLE.

Every one should therefore provide against them.

THE RAILWAY PASSENGERS' ASSURANCE COMPANY

Grant Policies for Sums from 100l. to 1,000l. assuring against ACCIDENTS OF ALL KINDS.

An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.

Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.

£12,817 have been paid by this Company as COMPENSATION for 25 FATAL Cases, and 1,931 Cases of Personal Injury.

The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.

Empowered by Special Act of Parliament, 1849.

64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

CLERICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY.

13, ST. JAMES'S SQUARE, LONDON, S.W.

Established 1824.—Empowered by Special Act of Parliament.

BONUS MEETING, 1862.

The Report presented at a Meeting held on the 2nd January last, for the declaration of the SEVENTH BONUS, showed,

IN EVIDENCE OF THE PROGRESS OF THE SOCIETY,

that during the quinquennial period which terminated on the 30th June, 1861,

NEW ASSURANCES for a total sum of 1,486,370l. had been effected being an increase of 62,215l on those of the previous five years: that The INCOME had increased from 166,800l. to 195,400l. per annum: that

The ASSURANCE FUND had risen from 1,154,276l. to 1,422,191l; and that a

REVERSIONARY ADDITION to the Policies of 275,077l. was then made, as against 232,479l at the prior division

IN ILLUSTRATION OF THE RESULTS OF THE DIVISION, that the Reversionary addition above named averaged 48 per cent. or varied with the different ages from 33 to 89 per cent. on the Premiums paid in the five years; and that the

CASH BONUS averaged 26 per cent. on the like Premiums, being amongst the largest ever declared by any office.

The Report explained at length the nature of the investments, and the bases of the calculations, the results of which, as above shown, are eminently favourable.

The following are among the distinctive features of the Society:—

CREDIT SYSTEM.—On Policies for the whole of life, one half of the Annual Premiums during the first five years may remain on credit, and may either continue as a debt on the Policy, or be paid off at any time.

POLICIES for TERMS of YEARS may be effected at rates peculiarly favourable to assurers.

INVALID LIVES may be assured at Premiums proportioned to the increased risk.

PROMPT SETTLEMENT of CLAIMS.—Claims paid thirty days after proof of death.

The ACCOUNTS and BALANCE SHEETS are at all times open to the inspection of the assured, or of persons proposing to assure.

Tables of rates, forms of proposal, the report above-mentioned, and a detailed account of the proceedings of the bonus meeting, can be obtained from any of the Society's agents, or of

GEORGE TRIPP, Actuary and Secretary,
13, St. James's square, London, S.W.

The NEXT DIVISION of PROFITS will take place in JANUARY, 1867, and persons who effect NEW POLICIES before the end of JUNE next, will be entitled at that division to one year's additional share of profits over later assurers.

BRICKS.—Messrs. J. & W. EASTWOOD,

have to SELL Good ROUGH STOCKS, Grissells, Place, of Stock Bats, by barge alongside, in the Thames or canals, on reasonable terms, either for cash or approved bills.

Belvidere-road, Lambeth, January, 1862.

BRICKS.

BEST KILN-BURNT BRICKS, of superior

Common quality, can be supplied by the Million. Also,

FINE WHITE AND RED FACING BRICKS.

WHITE, RED, AND BLACK CUTTERS.

VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES.

WHITE AND GREY LIME AND GLAZED STONEWARE PIPES.

Vessels can load close to the Kiln's mouth, at the East Cowes Park Estate, on the river Medina, Isle of Wight.

RICHARD LANGLEY, Agent.

TO BUILDERS. — REDLEAF BRICK-

YARD—For SALE, 70,000 good common STOCK BRICKS, near the Penshurst Station.—Address, by letter, JAMES BARNETT, Chddingstone

---

ANCHOR BRICK-MOULD WORKS,

HOUNSLOW, W.

J. LEACH, Millwright and Manufacturer. Improved MOULDS, STOCKS, and PLATES, with screw stock pegs; also Oak Stocks, the largest stock in England, of various sizes, and made to order. Wash, Chalk, Engine, and Horse Mills, of various or horse power. Brickmakers are cautioned against an impostor collecting orders in J. L.'s name, and supplying an inferior mould. Anti-friction Grease for Brickfields. Established eleven years

---

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINE.

Adapted for hand, horse, or steam-power, will make one-third more in quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.

Licences to Manufacture granted for certain districts.

For prices and particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W and Licensed Lighterman, of the Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.

BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

The Builder.

VOL. XX.—No. 1003.

Walk and Talk in Rome.



THE ROMAN FORUM! Who, without emotion, can wander for the first or hundredth time over those classic purlieus? Yet, for many, first impressions here may be strangely conflicting,—a mixture of wonder, delight, provoked surprise, and disappointment, at that spectacle of the grandeur of ruin, and of the injuries done by man, the false taste that has impaired, the neglect that has sacrificed, the noble relics left by antiquity. Without political prejudice the conclusion may, indeed, force itself on our acceptance that no civilized government *could* have treated the precious bequest from ancient empire and art with more palpable abuse, misappropriation, or outrageous indifference than are chargeable against that of Papal Rome, from the realities presented to view on the Forum! Study and observation may, indeed, lead us to qualify this sentence; and the efforts of the present century to restore or reclaim persuade us to consider the error of ages past to some extent atoned for. We see here evidences of the natural action of an absolute ecclesiastic rule—supreme regard to religious with comparative indifference to antiquarian as, generally, to material interests; for within the narrow limits circumscribing this renowned area have sprung up five churches, two with their adjacent convents, not to mention others once, but no longer, standing here, and the same half-dozen still existing in the immediate vicinity,—this in a region where population is almost null! Yet, if everything modern in this quarter be either paltry or vulgar, the churches of the worst possible style, the scanty houses mean or obtrusive; there are, notwithstanding, those redeeming features observable amidst all the squalor and disorder of Italian (especially Roman) scenes that produce an *ensemble* picturesque and romantic: frivolity, worldly ostentation, have *not* intruded themselves; and there is a certain harmony even amidst the grotesque appositions and bewildering contrasts at this chief centre of Rome's antiquities.

The controversies kept up for the last three hundred years as to the boundaries of the Forum have been set at rest by Niebuhr, Bunsen, Canina; and, since the recent discovery of the Julian Basilica, we see, determined beyond all doubt, the original plan and direction; not, as assumed by the antiquaries of the seventeenth century, followed by Nibby and Burton, from east to west; but from north to south-east. Curious is the story of conflicting theories that centre in that narrow space, where not only the antiquaries of the sixteenth and seventeenth centuries, but writers and illustrated works of the present, have assigned misnomers to every relic of the past, mistake as to whose origin was possible. Montfaucon, with all the learning manifested in his "Antiquité Expliquée," could see in the Basilica of Maxentius the Temple of Peace, Vespasian's foundation, though no feature or arrangement proper to a fane of Pagan worship is traceable in those ruins. Flaminius Vacca, the sculptor, an esteemed authority on Rome in the sixteenth century, assumed the church of St. Cosmos and Damian to be, "*nihil dubii*," the Temple of Romulus and Remus, who certainly never had a sanctuary dedicated to their joint worship.* Tournon, minister of the French Government during the occupation of Rome under the first Napoleon, in his very carefully drawn-up work on the statistics of this city and her provinces, shows us the condition of the Forum before those excavations which the French initiated, and the Papal authorities, after the restoration in 1814, completed; almost every ruin at that period being to about half its elevation buried in the ground!

Entering within this Classic area, our attention naturally directs itself first to the most strikingly grouped objects on the slope under the Capitol, with the advantageous circumstance of a background alike antique,—that Tabularium, which was not perfectly cleared from mean encumbrances till 1839; the architect, Azzurri, effecting this by the removal of paltry buildings long left to cluster in front. The massive structure, in quadrilateral blocks of volcanic tufa from Gabii (*lapis Gabina*), is referable to different periods anterior to the Empire;—its basement walls to the year of Rome, 578; the first story to 594; and the higher, which has still the traces (rather than remains) of a Doric portico, with arcades, all, save one, now built up, to A.U.C. 675, or 79 B.C. The Arch of Septimius Severus remained half underground till 1811, though an earlier clearing of its purlieus had been ordered by Pius VII.; and till 1803 the two lateral archways that pierce it were left filled up by paltry shops,† accumulations having gathered around it, even since excavations, partially effected, with a view to isolating its structure, under Leo X.; a second time in the sixteenth; and again in the seventeenth century. More impressive than the reliefs on its surface, which so convince us of the deep decline of Roman art at the opening of the third century, are the moral meanings conveyed by the record, in the epigraph on its ponderous attic, of that remorse which so agonized the fratricide emperor, that every memorial and image of his murdered brother threw him into a passion of grief: in the fourth and part of the third line the cavities for the letters, once filled with bronze, exhibit irregularity in the holes for nails once fastening that metal; and a species of erasure can be detected by close inspection on the marble surface, leading to the inference that the names and titles of Geta originally came next to those of Septimius Severus and M. Aurelius Antoninus (Caracalla), here designated, in the *substituted* line, *P. P. Optimis Fortissimisque Principibus*. One is glad to be convinced by Canina's arguments, in his "Esposizione Topografica," that the curved elevation terminating in a circular structure at one end (the other being still under earth), brought to light not many years ago, at our left, below the Septimian Arch, is no other than the *Rostra Veteres*, one of the two tribunes for public speaking on the Forum, distinguished from the other rostra, in front of the Senate House, as that for harangues immediately addressed to the people,—for *popular*, whilst the latter was for *forensic* oratory. From the time that the Senate began occasionally to assemble in the adjacent Temple of Concord, this also was used by its conscript fathers when speaking to the public in the open air; and, following that example, the Tribunes ever after made their harangues from these rostra, on which stood appropriately an ædicula to the "Genius of the People," besides the altar on a platform near that curved basement, whose brickwork still retains a remnant of marble incrustation. Historically venerable as it is, perhaps deepest interest will be excited by the tragic remembrance that here, on the circular pulpit at that extremity near the arch, was exposed the head of Cicero by Antony's order, after the Triumvir's wife had vented her unwomanly hatred on the sacred relic. That Temple of Concord, where the sublime orator addressed the Senate on occasion of, and to denounce, the Catiline conspiracy, had long been imagined to exist in the ruins of Saturn's Temple, further westward on the same hill; till in 1817 was uncovered all left—a stylobate paved with precious marbles and strewn with magnificent architectonic fragments (now mostly in the Museum of the Tabularium), immediately below the Capitoline buildings; on a threshold-stone near which were still seen the concave forms of Mercury's caduceus, Concord's symbol, once inlaid with bronze. But the extant remains are not those of the fane dedicated under the dictatorship of Camillus; being referable (as Canina assumes) to the restoration by Tiberius; or else to that other, after the conflagration of this temple in the revolt against Vitellius, effected by the Flavian emperors. Vespasian's Temple, long mistaken for that of Jupiter Tonans, and now represented only by three superb fluted columns (Corinthian) with a remarkably rich entablature, was restored by Severus and Caracalla, as recorded in the epigraph seen and copied by a pilgrim in the eighth century, but now extant only in the imperfect word "estituer" (*restituerunt*); and this beautiful ruin had actually remained more than half interred till 1811; when, before removing the soil heaped up nearly to the border of its capitals, it was deemed necessary to inspect the shafts and basements; excavating for which purpose, it was found that the columns had been pared away around their bases, to use their marble for some modern decoration; a horizontal channel having enabled the despoilers to reach them! In consequence of which, they had to be restored with travertine, and the whole entablature taken down before its weight could be entrusted to a support yet uncertain, as thus enfeebled by Vandal misuse. The adjacent and long-disputed-on Temple of Saturn marks the site where the primæval altar to that deity was erected,—by Hercules in the mythologic, by the Pelasgians in the historic account,—and where stood the Ærarium, behind its cella, in two compartments, the inner called *sanctior*, because containing a deposit only to be used in extreme urgency. Here, too, was kept a treasure of another description,—the ashes of Orestes, reckoned among the "seven fatal things,"—*fatal*, in the sense of mysterious sanctity,—bound up with the destinies of Rome; and near this temple's front, the victor, ascending the Capitol in solemn triumph, used to arrest the progress of his chariot for giving the order (rarely omitted) to inflict death on the captives in the Mamertine prisons, who had just before been led away from that gorgeous procession to the last horrific scene of their humiliation and sufferings. One can look with little pleasure on the lately re-erected portico of the twelve Dii Consenti, beyond that temple, on an elevated platform at the angle between the Tabularium and the embankment of a modern road that winds up to the Capitol on this side: its effect is, like the "new cloth on an old garment," inappropriate and trivial; and, to supply the requisite nine columns with Corinthian capitals, five shafts of smooth travertine have been companioned with four others,—the antique, of fluted marble, two modern with seven antique capitals, the architrave and cornice alike of patchwork, the original epigraph preserved, and another, against the wall near the row of quadrate chambers, also restored to represent the *sacella* of the deities, setting forth in pompous terms that

* The valuable Latin work on Roman antiquities by this artist has never, that we are aware, been edited, but is amply quoted from by Montfaucon in his "Diarium Italicum."

† The works ordered by that pope were suspended owing to public vicissitudes.

this work was accomplished under Pius IX., in 1858.

A spacious excavated area enables us to look down upon the stylobate of the Julian Basilica, forming the western boundary to the Forum; disinterred, as another long epigraph here informs us, in the seventh year of the present pontificate; and though but a waste of marble pavement, mutilated ornamental fragments, and stunted brick pilasters; still a feature that adds solemnity, in its vague grandeur of decay, to the scene of illustrious ruin.

> Tully was not more eloquent than thou,
> Thou nameless column with the buried base,

is a couplet of Byron's no longer applicable to the isolated Corinthian column on a lofty plinth with steps, the spoil from some edifice of a superior art epoch (probably the Antonine), and long supposed the member of a portico, till, in 1813, the soil was cleared around its quadrangular staircase and basement, displaying the inscription that tells its dedication by the Exarch Smaragdus, A.D. 608, to the Emperor Phocas, one of the most infamous and blood-stained of the Byzantine despots, but here addressed as *Optimo Clementis Pirissimoque*, and by Gregory the Great written to in letters full of deferential loyalty (to counsel, not indeed to approve his conduct), evincing how that pontiff accepted his position of subject to the Greek Empire. It appeared, in result of the excavations, that the ancient level had been encumbered, around this column, to a height of at least six feet, from some early period in the Middle Ages, and that towers had risen around it for feudal masters about the beginning of the twelfth century. The foundations are formed by a congeries of wrought marbles, broken and cut by instruments to be thus used for purposes baser than their original ones. Turning to the area's eastern limits we first notice the circular temple now serving as vestibule to the church *S.S. Cosma a Damiano*, the earliest to rise within the Forum, built by Pope Felix IV., about A.D. 530; vaguely styled throughout the Middle Ages the Temple of Romulus, Remus, or both, and first designated by Bunsen, on far more plausible theories, the *Ædes Penatium*. No ancient writers, nor even the Regionaries, have mentioned this edifice; but, from the style of its brick masonry, and the marble ornaments of its portal, also from the two imperfect columns of cipollino, with the fragment of an architrave, now near the door of a contiguous oratory, it is argued that the Diocletian period may be conjectured; and those columns probably belonged to a portico in front, advancing before the circular building, as in the plan of the Pantheon. Since the modernization of this church by Urban VIII. the original level of the whole, both in its Christian and Pagan construction, has become subterranean, but may still be inspected by torchlight; and the crypt thus formed, since the seventeenth century, is open for public services on two festivals every year. It was here that Flaminius Vacca saw dug up the unique, though very imperfect, plan of Rome, chiselled on marble slabs, supposed of the time of Severus or Caracalla, now in the Capatoline Museum. The German archæologists first recognized, in the remains behind this church,—an immense construction in quadrilateral peperino blocks, inclosed in a narrow court, and not often accessible through its gateway,—that superb Temple of Peace, raised by Vespasian after his triumphs in Palestine; applied also to the purposes of an art-museum and library; but which, with all its treasures, became a prey to the flames under Commodus. Emil Braun conjectures that the fragments of colossal statues now in a court of the Capitoline Palace may be remnants saved from its sculptures. Another precious deposit laid there by Vespasian is known to have been rescued during the conflagration,—those sacred vessels from the Temple of Jerusalem exhibited in the emperor's triumph, and represented on the Arch of Titus. We learn that they were removed when the fire broke out at the imperial palace; carried away from the Palatine with other costliest spoils by Genseric (as Procopius informs us, l. ii. cap. x.); by that conqueror brought to Carthage, but soon to be removed when that city was taken by Belisarius, who carried them to Constantinople, again to be exhibited at a public triumph: from Constantinople they finally returned to Jerusalem, as an offering of Justinian to a church there founded by him; and the last trace we can obtain of these sacred spoils is one resting merely on the conjecture that they were a *fourth* time among the prizes of victory, a *second* time transported from Jerusalem on the Christian city's capture by the Persian Chosroes, A.D. 614. One may be amazed at the barren ugliness of the church *S. Lorenzo in Miranda*, raised with wretched taste inside the portico and cella (mostly preserved) of the temple to Antoninus Pius and Faustina,—a noble ruin with columns of green-veined carystian marble (cipollino), with a frieze above the lateral walls of the cella, adorned with graceful reliefs, still perfect, of griffins, vases, and candelabra; once ascended to from the Via Sacra by a staircase of twenty-one steps, but now so deeply buried in earth, though an excavated area opens in front (the result of works undertaken in 1810, allowing us to look down to the basements of those pillars), that not one step of that approach is left uncovered. The lower line of the dedication, *Divæ Faustinæ ex S. C.*, was the sole original inscription; the upper, *Divo Antonino*, being added on an architrave placed above that bearing the former line, after the emperor's death, to whom this fane was then dedicated conjointly with his wife—so little deserving of his confidence or her posthumous honours. In the Middle Ages were thrown up houses against the columns of this majestic portico: and for the roofing or rafters deep grooves were cut in their shafts at about half their altitude then above ground, as the disfigurement still visible too plainly shows.

Near the Forum's south-western angle stands the noblest ruin in sight, of all the most disputed on by archæologists, who have given no fewer than twenty designations to those three fluted columns of Greek marbles with a splendid entablature, successively regarded as the Græcostasis, the Temple of Castor and Pollux, that of Jupiter Stator, and (by Montfaucon) that of Julius Cæsar, &c. Bunsen supposed it dedicated to Minerva Chalcidica, but connected, as a sacred forecourt, with the Curia, or Senate-house; whilst Canina argues, and most ably, that it can be no other than the Curia Julia itself,—a theory, indeed, reflecting the highest interest on its majestic remnant. The original Curia Hostilia (as its story is interestingly traced by him), after being enlarged and embellished by Sylla, became a prey to the flames on occasion of the funeral of Clodius, described by Cicero in the oration, "pro Milone;" after which its rebuilding was entrusted to Faustus, Sylla's son. Under pretext of raising a temple to Felicity (but in reality out of hatred to that leader's memory), this new edifice was soon taken down by Lepidus, and another Curia ordered to be built by Julius Cæsar, which Augustus completed under dedication to his adoptive father, "Divo Cæsari." We see all left of its portico of eight front and fourteen lateral columns, in which the tribunes assisted to examine the decrees of the Senate, but never to enter within that august body's proper penetralia—a quadrangular hall 75 feet square, external to which was the *Minervæum*, with the statue of the Goddess of Wisdom. In that portico stood the altar and image of Victory, to whom each senator offered incense before entering to deliberate in the inner hall, and respecting which effigy arose a vehement controversy in later ages. Removed, as an object of idolatry, by Constantine, it was restored by Julian; suffered to remain by that emperor's first successors; but again removed by Gratian, in the year 379; nor could the Pagan party, represented by Symmacus, succeed in their efforts to secure its restoration, first in 382, and again two years later; the emperor refusing to listen or even receive the deputation sent for promoting that suit in the interest of the fallen worship. This subject brings us to consider the Forum and its aspects under Christian influences and in mediæval times, for which we must here pause in our ramble among its ruins.

LIGHTHOUSES IN FRANCE.

NOTES OF THE NEW LAMPS FOR LENTICULAR LANTERNS.

AUGUSTIN FRESNEL,* while constructing his first lens, applied himself, in concert with Arago, to devise lamps capable of furnishing a much larger and more brilliant light than that of the lamps in ancient reflecting lighthouses.

Lamps with multiplied wicks, of which the first idea was given by Rumford, were the results of Fresnel's experiments; but he confined his essays to the best form of wick; regulating its height, the supply of air, lowering or raising the chimney, &c.; not paying any attention to the mechanism for furnishing a steady supply of oil to the burner. They were content to use, till a few years ago, a superior reservoir, where the oil was maintained at a constant level. Several improvements since the researches of Fresnel had been suggested; unattended, however, with satisfactory results; so that the evils attending an irregular supply of oil still continued. Whether they were of clock-work machinery, on the ancient system, or those of Lepante and Wagner, the arrangements were always similar to those of the Carcel lamp of commerce: a mechanism more or less delicate in workmanship, moved by a weight and placed at the lower portion of the lamp, gave an alternate motion to pumps placed in the upper part, and these furnished the quantity of oil which has been considered necessary for the best combustion, viz., about *four times the quantity consumed*. Whatever the mechanism may be it is obliged to be constructed with the greatest precision, and therefore contains very delicate portions. To take to pieces all this mechanism once a year at least, besides sundry repairs, &c., necessary from time to time, was a difficult duty to be confided to light-house keepers, who are in general not apt for such work. Thus it became necessary for each light-house to be provided with three lamps in working order; especially as, when one got out of order, it was obliged to be sent to Paris to be repaired. This, in some foreign countries, where there were no means of repairing them, was one of the causes of the non-adoption of lenticular lanterns. Among the many faults in this sort of lamp the principal one is the irregularity in the supply of oil, owing to the opening and shutting of the leather valves. When the flame of a lamp has attained its maximum effect, the slightest diminution of the supply of oil causes the flame to become elongated and give out smoke. Thus the keepers, to avoid continually touching the wicks, keep the flame always a little too low, and so lessen the very effect for which the beacon was constructed. To remedy all these inconveniences, Mr. Degrand, engineer of the ponts and chaussées, has constructed lamps by which a weight acts on the surface of the oil as the spring does in the moderator lamp of commerce.

The following is a description of one of Mr. Degrand's lamps of the first order, with four concentric wicks:—To the body of the lamp, of cylindrical form, a cast-iron piston, with a leather collar, is fitted and loaded with weights. The piston is raised by means of a chain attached to its centre, and to a wrought-iron shaft, turned by a winch, at the upper portion of the cylinder. The weights are of lead, in tin cases, and fitted to cavities made for them in the piston, according to the required pressure. A tube, concealed in one of the ornamental bronze ribs of the lamp, connects the lower portion of the cylinder with the burner by the ordinary means. This is all the mechanism absolutely necessary for the lamp; so that, when the piston is at the top of the cylinder, and the latter filled with oil, the weight presses on the surface and forces the liquid into the burner. Though, strictly speaking, this is all the machinery necessary, the pressure of the piston is continually diminishing as it descends; and some additional machinery is therefore adapted analogous to that called the moderating contrivance in the moderator lamps.

To effect this, the shaft on which the piston

* See illustration of North Foreland lighthouse in the *Builder* of August 28, 1858.

chain is wound is threaded on a portion of its length, and fitted with a movable nut with a projecting pin sliding horizontally in a small groove parallel to the shaft. This pin is connected with a rod regulating the opening of the supply tube in such a manner that when the piston is at its height the supply is at a minimum, and gradually increasing according as the piston descends.

In constructing these lamps the inventor, Mr. Degrand, proposed to obtain a reduction in the cost of the general apparatus, but the constructors would not condescend to any reduction of importance, and a lamp of the first order costs still about 26*l*. At all events, the new lamps are made more ornamental, and sometimes entirely of bronze or brass; instead of, as formerly, an envelop of tin sustained by a framework of roughly-wrought iron. The modern lamps have also bronze ornamental stands.

The lamp above described is 14·5 inches internal diameter; length of cylinder, 22·6 inches; stroke of piston, about 18 inches. When the piston is raised and the cylinder filled, the pressure, neglecting friction, necessary to force the oil as far as the burner, is equivalent to a column of oil about 14·2 inches high. After twelve hours of combustion the level of the liquid has fallen about 4·3 inches, and the pressure increased to a column of oil 18·5 inches. But, owing to the friction of the piston and the number of bends in the feed-pipe, this is below the real force required, and a greater pressure must be applied.

If we were to suppress the moderating screw altogether, and to load the piston with a weight of 220 lb., there would be nothing extraordinary in so doing. This weight applied to the above lamp would be equivalent, taking into account all friction, &c., to a column of oil 3·28 feet high; capable of producing, at the moment of lighting, an actual velocity of supply corresponding to a column of oil 25·2 inches, roughly calculated at about 5 feet 11 inches per second. After twelve hours' illumination, the height of the column representing the pressure will be 4·3 inches less, or 20·9; and the velocity of the supply only 5 feet 1 inch per second. If, now, instead of a moderator at the extremity of the tube of ascension, we place a diaphragm perforated with a hole 0·034 of an inch diameter, we obtain, with due regard to the velocities given above, a supply per hour through the diaphragm of 7 lb. of oil at the commencement of the burning, and 6 lb. at the end. The regular supply calculated for a lamp of this power should be 6·6 lb. per hour; but this need not be so rigorously adhered to, as a lamp can burn as well with a supply of 7 lb. or 6 lb.

In fine, by disposing the diaphragm, as in the lamps recently patented by Lepante, with a conical screw to adjust the orifice; the keeper, by merely loosening it a little, can always obtain his regular supply.

These lamps, without the moderator, can be constructed at a very low cost compared with the others. Those furnished with clockwork adjustment are about 28*l*. each; but it is most probable that they are soon to be set aside all through France.

Mr. Degrand, through the kindness of the inspector-general, director of the lighthouses, sent an assortment of the above lamps, in 1851, to be tried at the mouth of the river Cauche; and in 1858 they were in perfect working order. Similar ones have been executed for the lighthouse of Belle Isle, and figured in the Paris Exhibition, 1855. Since that period the system has been extended, through France and Spain, to a great many lighthouses.

SOCIAL BRIDGES.

The sympathy of the British people for distress and suffering is a national trait of character to which we may justly refer with some little pride. Of late years it has been shown in a striking manner; as in connexion with the disastrous commencement of the Crimean War; and more recently in the relief of the Indian Famine, and the Hartley Colliery Accident. In connexion with the latter, when the news of the sad event became known, it was thought that from 17,000*l*. to 18,000*l*. *might* be raised for the support of the widows and orphans; but nearly this sum was sent to the London Mansion House alone; and, up to the time of writing, upwards of 75,000*l*. has been subscribed by all classes of the community. Besides these occasional supplies, the extent of subscriptions for more permanent purposes, in the metropolis alone, is enormous. There are, for instance, such endowments as the Charter House, Westminster, City of London, Merchant Tailors', and other foundations and schools; the old hospitals, such as St. Bartholomew's, St. Thomas's, &c.; the numerous almshouses which are to be met with both in the throng of the town and in the suburbs; the charities of the corporate companies; the Foundling Hospital; and other establishments, which date their commencement before the beginning of the present century. It is, however, those institutions which have been more recently brought into use that we purpose just now more particularly to glance at.

At the present time there are not less than 530 charitable societies existing in London alone; and a sum of nearly two millions of money is annually spent by them; while the probable amount of alms distributed altogether is not less than three millions and a half sterling.

Notwithstanding all that has been done, and is still doing, there is need for new and most vigorous exertions; but, when we note the evils which still exist, and refer to the efforts which are being made, it is difficult to imagine the condition in which not only the metropolis, but also many other large towns, would now have been but for the social bridges which are such a means of usefulness. Although not confined to the London district, the British and Foreign Bible Society has been a source of great good; and, although it originated no longer ago than 1804, it has been instrumental in translating the Scriptures into 160 different languages or dialects, including 190 separate versions. In the United Kingdom there are now 3,728 auxiliary branches and associations. The number of issues during the last commercial year amounted to 594,650 copies of the Old Testament, and 544,901 copies of the New Testament; and during the year the receipts of this society from subscriptions and the sale of books amounted to 206,778*l*. 12s. 6d. There is also the Society for Promoting Christian Knowledge; which, during the same period, has issued 157,358 Bibles, and 78,234 New Testaments, besides Prayer-Books, tracts, and other publications. The receipts of this society amounted, in the year, in subscriptions, to 31,297*l*. 19s. 7d.; sale of publications, 81,516*l*. 6s. 8d.

Very recently we have had commenced open-air meetings; and Sunday preaching in the naves of Westminster Abbey and St. Paul's Cathedral; and in theatres and working men's churches. The London City Missionaries alone conducted 4,489 open-air services in the courts, alleys, streets, &c., of neglected and degraded neighbourhoods; and from May 1, 1860, to March 1, 1861, the number of persons who attended is given at 465,070. This most useful and valuable institution was only commenced in 1835; but from small beginnings it has grown; and now the staff of Missionaries consists of 389 earnest and intelligent men. Six of this body are appointed whose exclusive duty it is to visit the public-houses and coffee-shops of London. There are also three who devote their attention to the cabmen. The exertions which have been made in various ways are remarkable. Our space will not, however, allow us to go into detail; but we must mention that, in the year 1861, 1,815,332 visits were made, and nearly 3,000,000 tracts, &c., distributed. The income was 35,018*l*. 6s. 10d. The Church of England Scripture Readers' Society must not here be forgotten; for it is also a means of much benefit: its annual income is nearly 10,000*l*.

The Religious Tract Society, which now carries forward gigantic operations, was established no longer ago than 1799. Last year it issued 41,883,000 publications; 13,194,154 of which fall under the head of periodicals. Since the date above mentioned the issue has been 912,000,000. There are also free grants of books, tracts, &c., made by this Society to schools, village libraries, prisons, workhouses, soldiers, sailors, emigrants; and these tracts, &c., in the year numbered nearly 6,000,000, and were of over 6,000*l*. in value. In 1861, the entire receipts of this Society amounted to 103,127*l*. 16s. 11d.

Working on a smaller scale, but in similar spirit, are the Weekly Tract Society, the English Monthly Tract Society, the Book Society, &c.

Amongst other agencies which are in operation are the Temperance Associations, the National and British Schools, the Ragged Schools and Ragged School Unions, &c. The number of buildings now in existence in London appropriated to educational purposes amongst the very poorest is 176. The day-schools are attended by 17,230 scholars. The evening schools, of which there are 215, have 9,840 scholars; Sunday schools, 207 in number, have 25,260. By the exertions of teachers, &c., in course of the year, 1,800 boys have been placed in situations; and in connexion with them there are penny banks, clothing clubs, and reading-rooms.

Amongst no class of London society is there so much need of assistance as amongst that for whom the Ragged Schools are intended; and it seems strange that the annual amount of subscriptions is under 6,000*l*.

The societies for improving the dwellings of the industrious and working classes, are so well known to our readers, that we need not now enter into particulars.

The condition of many female servants, who may be thrown out of situations, much needs consideration; and, with a view towards preventing the dangers to which they are exposed, a society has been formed to provide homes and registering offices for this part of our population; and, as this is greatly in want of support, it will be worth while to mention that these homes, &c., are situate in Nutford-place, Edgware-road; Hatton-garden, Holborn; Blackfriars-road, and Woodland-terrace, Greenwich. For a class which are beset by much temptation, there are also the Female Aid Society; the Girls' Laundry; and the Training Institutes for Young Servants; the Association for the aid and benefit of Dressmakers and Milliners; the Society for promoting the Employment of Women; the Young Women's Christian Association, &c.

In any review of social bridges such as these, however brief, we must not omit the places of refuge for destitute men and women. Amongst the most important are the Field-lane Refuge; the Dudley-street Refuge; a similar establishment in the Golden-lane district; the Society for Promoting the Relief of Destitution in the Metropolis; the House of Charity; the reformatories; penitentiaries for females; soup-kitchens, &c. Nor must we, in the list of preventive and persuasive agencies, neglect the Metropolitan Early-Closing Association; and the Metropolitan Evening Classes, which are greatly needed, and which we trust will be well supported by the many thousands of young men by whom they are much required.

The Society for the Suppression of Vice, established in 1802; the Associate Institution (date of commencement, 1844), for Improving and Enforcing the Laws for the Protection of Women; the Society for the Prevention of Cruelty to Animals (established 1824); the Society for Promoting the Due Observance of the Lord's Day;—these and many other social bridges, to which we have not room just now to refer, cannot fail to have beneficial effects. We know, however, how much more work is needed to be done; and trust that those classes whom so many are desirous of benefiting will endeavour to the utmost to improve themselves; and to take advantage of those means which the advanced intelligence of the age has placed at their disposal; for, at present, many of the efforts which are being made are paralyzed by the carelessness of those for whose benefit they are intended.

THE ALBERT MEMORIALS.

The National Memorial.—It will have been seen that our intimation of the abandonment of a monolithic obelisk was correct. The Queen's Committee, in their first report, say of the block of granite which they have been considering:—

"The length, which in the excavated portion already exceeds 115 feet, would, we consider, suffice for the intended obelisk. There appears, however, to be reason to apprehend that the width of the stone near the centre would be insufficient, according to the proportions of the most approved ancient examples, to be consistent with that height.

It is also by no means certain that the block referred to has the necessary thickness in those portions which are not yet cleared. An experienced contractor who has examined it has stated that nothing can be affirmed respecting the fitness of the stone 'until it be raised and turned out from its present bed.' For such operations a large outlay would be required; and we cannot but hesitate to recommend such outlay while we have no absolute certainty of a satisfactory result."

Afterwards they say:—

"While, therefore, we see no reason to conclude that success is absolutely unattainable, we believe that it would be accompanied by difficulties and by expenditure at present wholly incalculable. Nor can we refrain from expressing our serious doubts whether, even if the mere enterprise were successful, the ultimate effect would be such as to realize your Majesty's just and natural expectations."

General Grey, in reply, said:—

"Her Majesty sees, therefore, no alternative but to acquiesce in the abandonment of the idea of an obelisk, and to request the committee to turn their attention to the possibility of finding some other mode in which the great object in view may be most satisfactorily effected.

Her Majesty's wish is to leave the committee quite free to recommend whatever may appear to them to afford the best hope of a satisfactory result; and she would hereby throw out as a suggestion, whether the opinions of some of the foremost architects of the day might not be advantageously taken as to the means of combining the groups of statuary mentioned in my letter to the Lord Mayor (amongst which, of course, a statue of the Prince would be prominent), with some other design."

The Queen's Committee will not meet again till the 30th, when probably some course will be determined on.

An offer has been made to the Lord Mayor, through Mr. Henry Stevens, by the owners of a granite quarry in America, to place at the disposal of the committee a monolith, 140 feet long, close to the edge of the sea. It is understood, however, that the intention to have an obelisk is finally abandoned, and probably the question will not be re-opened. We may still hope to see our original proposition,—a Temple of Honour, telling, by means of all the arts, of the Prince's life and times, —resorted to.

The total amount subscribed to this date is something over 47,000*l.*

Maidenhead.—At a meeting held here to consider the propriety of making a parochial collection towards the central fund, it was resolved that a contribution should be solicited from every parishioner in the parish towards the Prince Consort Memorial Fund. At the meeting the parish was divided into districts, and working men consented to be collectors. The contribution will be one penny, or two shillings and sixpence, according to the ability of the giver.

Guildford.—The establishment of a Surrey County Hospital at Guildford as a memorial of the Prince is being mooted by a committee, who have issued a circular on the subject. The movement has the support of the Lord Lieutenant, the Earl of Onslow, the county members of Parliament, and many other influential gentlemen; and a public meeting was to be held on the 23rd of April; Mr. Samuel Gurney, M.P., in the chair; to consider the subject.

Hastings and St. Leonard's.—The Memorial Committee here have issued a specification to the effect that the space to be occupied by the tower which is proposed as a memorial is limited to 15 feet; and the amount to be expended, exclusive of the clock and four dials, to be 500*l.* It is not to be used for any commercial purpose.

Wolverhampton.—The movement set on foot in this town towards the erection of a local memorial is progressing satisfactorily. The list of subscriptions already promised amounts to 750*l.* At the council meeting last week, the mayor announced that Mr. Thorneycroft, the sculptor, who has undertaken to erect a statue at Liverpool, had intimated that he should be willing to erect an equestrian statue of the Prince in this town for 1,000*l.*; and that the site of the Russian gun in the Market-place was eligible for that purpose. The question as to whether the statue shall be placed on the pedestal upon which the gun rests, or whether a more suitable one shall be provided, will be brought before the subscribers at a public meeting which the mayor expressed his intention of calling.

Bristol.—The mayor has issued an address to his fellow-citizens, calling upon them for a warm response to the appeal which has been made to them for funds adequate to erect an "Albert Memorial" which shall be "an ornament and honour to the ancient city;" and to this end recommends the organization of parish committees, the members of which shall make a personal canvass of their respective districts.

Cheltenham.— At an influential meeting, to consider the communication received from the Lord Mayor of London, relative to the town of Cheltenham subscribing to the National Fund, it has been unanimously resolved, that it is desirable an effort should be made for the purpose of erecting in Cheltenham some appropriate edifice sacred to the memory of his late Royal Highness. Steps are to be forthwith taken to carry out the proposition.

Taunton.—A project has just been started to erect, on the parade of this town, a monument to perpetuate the memory of the Prince, the design for which is said to be a composition of architectural and sculptural art. The total height of the memorial will be 36 feet. On the four sides of the base, in panels, are medallions of the Queen, the royal arms, and the arms of the Prince: these, with carved and moulded details, form the base. There are four diapered columns of marble or coloured stone, at the back of which is an octagonal stone; and between the pillars, under arched canopies, are figures of art, science, literature, and agriculture: these will be six feet high. Above is a dome-like roof, upon which, on a carved shaft, stands a figure of the Prince. There is much ornament about the whole design. The estimated cost is 700*l.*

Scarborough.—Sir Joseph Paxton, who has been consulted as to the site of the proposed memorial, suggests the top of Oliver's Mount, and the mayor feels inclined to entertain the suggestion. The popular feeling in the town, hitherto, has been in favour of the St. Nicholas Cliff site; and it appears that about 200*l.* of the 560*l.* already promised to the Memorial Fund is contingent on that site being adopted. A committee has meantime been appointed at once to set about the work of obtaining subscriptions and making inquiries as to site, and to report to a future meeting.

The Scottish National Memorial.—The Duke of Buccleuch, on behalf of the acting central committee, has sent a circular to the conveners of local committees throughout Scotland, in which he says, "It is hoped that each local committee will take such measures as may appear to them best suited to remove the impression that any contribution is too small to be offered or received, as an indication of the donor's feelings. The committee feel that this memorial of a nation's admiration and sorrow for the Prince they have lost, and of sympathy with their Queen, would be incomplete if it could not be regarded as a memorial of the sentiments of all classes, the humblest as well as the highest. It is most desirable that means should be taken, and every effort made, to explain these views to the whole body of the people, and to facilitate to them as much as possible the payment of small contributions, by naming sub-committees and well-selected collectors in many places to receive them."

Glasgow.—At a meeting of the general committee for the erection of a memorial in Glasgow to the Prince, the site of the proposed statue or structure formed the principal topic of deliberation. It was suggested that the site upon which St. George's Church stands would form one of the best, or possibly the very best, within the bounds of Glasgow, as it would open up this part of the city, and the memorial would stand in the centre of an open "place." To effect this, it was proposed that the church should be removed further west; and it was estimated that a new site could be obtained and a new church erected for the sum of 8,000*l.* The subscriptions for the memorial, however, would be reserved for their own proper object. The meeting, which was a very influential one—comprising the Lord Provost, present and late members of Parliament, &c.,—thought so much of the suggestion, that they appointed a committee to consider the whole subject, and specially to inquire into the practicability of carrying it out. It is said, on the other hand, that one of the best sites for the memorial in Glasgow would be the West-End Park, near the elevated site where stand the Sebastopol guns.

Montrose.—There is talk here of a local memorial in preference to aiding the Scottish Central Memorial.

NATIONAL PORTRAITS.

In this department of art there is no country more deficient of collections for public use. At Hampton Court, it is true, there are many good and original portraits, but chiefly of sovereigns and characters not entitled to peculiar veneration. Scattered through metropolitan buildings, such as Guildhall, some few worthies and benefactors grace the walls in solemn isolation. It is, however, in the British Museum that we find the most extensive and valuable collection; embracing kings, queens, poets, orators, generals, divines, and worthies, and those limned by the ablest masters of their respective times.

It might be expected that such a treasure, in the care of an institution the most signal for the careful and judicious assortment and arrangement of its manitold possessions in trust, should be set forth in the best light, and exhibited in the plainest order. What is the fact? Ninety-five veritable and original pictures are hung in five large rooms filled with cases, chiefly of the ornothological department, at an average height of 30 feet above the spectator!

The names or titles of the originals are inscribed upon the frames; and on most of them those of the painters and donors; but all this is a dead letter to the visitor of the Museum, if, perchance, a stray wanderer ever looks beyond the catalogued and instructive as well as more immediate objects of his pursuit, viz., — the collections of birds, beasts, fishes, antiquities, and curiosities of this unrivalled institute.

It is in no degree of objection or reproach that the misappropriation of this fine gallery of portraiture is made subject of remark: on the contrary, the writer offers his full meed of admiration for the inestimable advantages afforded by the admirable classification of all these accumulated wonders of ancient and modern art and ingenuity; as also for the boon (greater, if possible) of the glorious reading shrine that centres within the universal libraries of the Museum; but it would seem as if the department of pictorial art had no place in the comprehension of so many schools and wonders.

To discern the merits of a picture, or even its prominent points, at the distance in which they range, and under the shadow of the ceiling, in rooms lighted from above, is simply impossible. From the first impress the features of a Shakspeare, a Newton, a Prior, a Cromwell, a Marlborough, a Cranmer, an Elizabeth, Bluff Harry, and sundry ancient sages, kings, and queens, may be recognized; but they are beyond the field of inquisitive inspection, and wholly withdrawn from the test of critical appreciation: in fact, most of them are so beshadowed and obnubilated that the clumsiest copies might quite as well be substituted for gems of high art, such as many of them are: for instance, a noble landscape by Wœnix (the only one there) is utterly undiscernable!

With the greatest respect for the leading authorities of the Institution, it is suggested that a chamber, and it need not be a very large one, to contain the 95 pictures, together with 11 others, which are somewhere else in the Museum, be appropriated to exhibit these reliques; which are doubly valuable, inasmuch as they hand down to us the works of our earliest artists, and the verified similitudes of many historical characters who were illustrious for their virtues, their rank, or mayhap their vices.

The view of meritorious paintings is always a treat to persons of taste, and a school of instruction to the young and aspiring artist; but, to be either useful or entertaining, the subjects ought to be placed at the proper distance from the beholder. Thus the visitors who have studied Newton, or feasted on Shakspeare, sipped Prior, pitied Cranmer, or wondered at royal personations and heroes, might converse unreservedly with really speaking portraits.

Might not a niche of the coming grand Exhibition be devoted advantageously to an introduction of these hitherto occulted characters to its million visitors? Surely the trustees of the Museum would grant the indulgence, and as surely would it it be appreciated.

TILE PAVEMENTS.

ARCHITECTURAL MUSEUM.

On the 8th instant the Rev. Lord Alwyne Compton lectured on "Encaustic Tiles and Tile Pavements." Speaking of various ways of fixing the dates of tiles, the lecturer said,—"First, there were a few tiles that had got the date on them, as at Gloucester. There were other tiles, which were originally intended to be erected as a border to a wall, dated. There were tiles in Devonshire having dates, one of them being 1708. Then, when there was no date on the tiles, they could sometimes find out the date by the armorial bearings, but sometimes tiles were found without any armorial bearings; yet clues were found to distinct dates. But heraldry on tiles was of great use in fixing the dates. He next came to the question of the patterns for the fixing of the dates of tiles: it was not a very satisfactory one, but still it had much to do with the matter. Another mode by which dates were fixed was, examining inscriptions upon tiles. Another mode of finding dates was by examining carefully the portions of the building where the tiles were found. Such were the various modes of dating tiles; first, from dates actually on them; secondly, from armorial bearings; thirdly, from inscriptions; fourthly, from the patterns; and fifthly, from the buildings in which the tiles were found. Adopting this mode of examination, the rev. lecturer explained, by means of the drawings on the wall, the probable dates of a great number of tiles found in various buildings, as at Salisbury, Winchester, Westminster Abbey, various parts of London, Exeter, Rumsey, York, Leicester, Hampshire, Coventry, Bristol, and some other places. In some of the buildings the same pattern occurred again and again, but still of some patterns there was great variety, there being some slight difference in the design."

The lecturer then referred to the drawings on the wall, and fixed the probable dates of tiles occurring in Sussex, Buckinghamshire, Bedfordshire, Ely, Gloucestershire, Malvern, Devonshire, and various other places throughout this country. He wished next to speak of the arrangement of the tiles; and in arranging the tiles it was found that there were a great many examples of fragments of pavements, and of incomplete ones. As to a small room, it was usual to inclose it with tiles of one pattern; but when the room was



THE COLLYER MEMORIAL SCHOOLS, PECKHAM.——*Mr. J. G. Stapelton, Jun., Architect.*

larger, more patterns were introduced (which he explained by reference to drawings of tiles found in various parts of the country, and from which it was shown that the divisions of the three panels in a room were very different in different places). Then, as to the pavement of a whole church or cathedral, in that case a very peculiar pattern ran from column to column, and the whole of the aisles were richly paved. The whole of the pavement was next subdivided. The rev. lecturer, in the course of his observations on this part of his subject, observed that the green tiles of Mr. Minton combined most beautifully with red ones; and he explained drawings of a number of pavements found in different churches; first of specimens having a square of one pattern, and afterwards of pavements of a later date in which were found several patterns in the squares.

THE COLLYER MEMORIAL SCHOOLS.

We publish the elevation of these schools, proposed to be erected in affectionate remembrance of the late Rev. William B. Collyer, LL.D., D.D., &c., whose gift of eloquence and cultivated mind gave him a distinguished place as a popular preacher in the metropolis for full thirty years.

Several friends, in conjunction with the Rev. R. W. Betts, his late colleague, are anxious to perpetuate his name by the erection of these schools, upon a freehold site in Peckham, at a cost of about 1,500*l.*, including the purchase of site.

The school is 60 feet long by 32 feet wide, capable of division, with a curtain in the centre, covered by an open-timbered roof, stained and varnished. On one side of the schools are two entrances and porches; on the other, infant school, class-rooms, and platform, covered by a cove. About 700*l.* have been already subscribed for this object.

The design is by Mr. James G. Stapelton, jun., who was appointed architect to the work by the committee.

A RAMBLE THROUGH LINCOLN'S INN.

It is a remarkable feature of London how much in special districts different classes and pursuits are concentrated. We have an artists' district, a theatrical district, a district for foreigners, a weavers' district; and other crafts have their peculiar places of abode in which they congregate. In Kensington, at the time of the taking of the last census, there resided, all persons over twenty years of age, male and female, of the professional classes and of clergymen, barristers, solicitors, physicians, surgeons, authors, editors, painters, architects, men of science, music, school, and other masters, 3,103, in a population of 73,205; the number in every thousand being 42·4. At Whitechapel, in a population of 45,988 of the same class of persons, there were only 381 persons,—8·3 in each thousand of the population,—of the above class, and a large portion of those would be medical men. In Rotherhithe there are only three barristers and solicitors: in Kensington there reside a powerful army of 722. The total number of those professional persons within the metropolitan limits was over 47,000, and they constitute nearly one-fifth of the entire intellectual class distributed throughout Great Britain. Of these there are 5,863 lawyers, 5,631 doctors, 2,393 clergymen and ministers, and 11,210 subordinates; making altogether 22,097 persons belonging to the learned professions, besides persons not generally recognized as of the above class, of whom there were 1,195 literary men, 17,241 teachers, 156 professors of sciences, and 4,057 artists and architects. At the present time there is an average of more than 50,000 persons, the chief portion of them devoted to mental and intellectual pursuits.

Varied and marked are the different localities which the chief bulk of the Londoners, with both brain and hands, occupy for the purpose of residence, or for carrying on business. None of these, however, are more remarkable than the inns of law, which stretch, with but little interruption, from Gray's-inn-lane to the Temple.

In the Temple, in Gray's Inn, Lincoln's Inn, Furnival's Inn, Staple Inn, Serjeant's Inn, Clifford's Inn, Clement's Inn, Lyon's Inn, Symond's Inn, Barnard's Inn, and Thavies Inn, and in the streets and passages adjoining, are carried on the chief operations of the English law, and although its dignity is undoubted, there is carried on within this small but important district of the metropolis a vast amount of low and knavish practice.

Quaint and dingy-looking, and in several instances without any architectural features of note, are those precincts in which, in the midst of the roar and bustle of the City, a sort of monastic silence reigns. In most even of the smallest there are trees and other attempts at greenery, which look pleasant in their season.

In the buildings of most of the Inns of law, as in the chapels and halls, there are subjects of interest, which, although of no great age, would repay the visit of the antiquary: there are heraldic windows, memorials of departed lawyers, furniture, and other matters of past times; and it is not unpleasant, when leisure allows, to step aside from the crowded thoroughfares into those sanctums of the law;—from Chancery-lane, for instance, into Lincoln's Inn, where the Lord Chancellor of England may be seen sitting, with the mace and great seal of the kingdom before him, and surrounded by his officers and some of the most cunning in this formidable department of the law. There are also the courts of the Vice-Chancellors, and other judges—generally, in the interiors, of indifferent Tudor design, but wanting in stately or noble appearance. They are also inconvenient, and not too well ventilated; although, next after the places of religion, those in which justice is administered should be most cared for. If the interiors of the courts of Lincoln's Inn are deficient of good appearance and state, the exteriors are much worse: dwarfed and miserable they look, even in contrast with the Tudor entrance from Chancery-lane. We will, however, walk to a more pleasant portion of this inn, and look with pleasure at the turreted entrance from Lincoln's Inn-fields, which has been improved by the footpath now running round the railings of the enclosure,—an example which might be usefully followed in other squares of the metropolis. Some of the stone devices of this gateway are admirably designed and executed; the fine new hall, library, &c., form a structure creditable to the skill of this age; but marks of decay in the stonework are already evident. The gardens surrounding the hall, the terraces, trees, flowers, and green slopes of lawn, are pleasant to look on. Stone-buildings, which abut upon part of this green, with its long range of rusticated basement, Grecian capitals, and other good features, are remarkable for their extent and somewhat stately appearance. The part below what should have been the actual base is of unsightly brickwork: the ground which shows this, however, has been sloped away for the purpose of supplying light and air to the lower chambers: this is necessary from the bottom to the top of this great building: busy work is here going on; and in all directions may be seen bewildering piles of papers and parchments. Much care has evidently been taken here of the vegetation; and it is pleasant to see the daisies, in such a situation, growing amongst the grass.

Old-buildings, which reach southward from Stone-buildings to a considerable distance, contrast with Stone-buildings and the New Hall: here, in parts, the gables, highly-pitched roof, and

diamonded brickwork, show that they are as old as the gateway in Chancery-lane: some of the leadened glazings of the windows still remain: there are, however, evidences of extensive alterations which have been made, probably soon after the time of the Great Fire: in parts the lead frames have been replaced by those of thick and heavy woodwork.

On one of the buildings is a sun-dial, of bold proportions and design, on which is inscribed—

"T.
Rt Honble
W. P.
1794.
Qua redit nescitis Horam."

This has been restored in 1848. In the pediment at the top is a shield of arms.

There is another sun-dial, on which is inscribed

"T.
W. S.
1840."

And the motto, "*Ex hoc momento Pendet Æternitis.*"

In part of Old-buildings the domed bell-tower, surmounted by a vane of goodiron work, the gables, chimneys of strange shapes, the uncouth devices of the smoke doctor, who seems to have been kept in good practice in all parts of this inn, present an appearance which cannot be considered either picturesque or beautiful.

An archway, above which is T. M. A. 1737, and a black lion rampant on a shield, leads to the curious basement of the chapel: the attempt at Gothic work by one whose taste and skill were devoted to another style of architecture is a curious study: the general appearance has not a bad effect; but, on looking into details, the feeling excited is most unpleasant. Under the shadow of the groined roof, which is only in part finished with bosses, and the massive and dwarfed columns, are the tombstones of several persons who have been connected with this place: one of these is a mutilated memorial, on which is,—

"Phillipus
Bradall A +
4th Oct., 1699."

There is one of the date 1695. The last interment seems to have taken place in 1851. There are some memorials of interest on the staircase leading to the chapel, and in the chapel itself, which latter, notwithstanding its imperfections, is worthy of examination: it is open for service every morning, and twice on each Sunday.

Old-buildings are continued to New-square, where may be noted some vine and fig trees. The New-square is more modern than the buildings just mentioned. Here seems to be the head-quarters of the "Devil's Own" Volunteers. Above are the royal arms: the lion supports are very hirsute. This carving may have been here at the time of the last great war. The gateway leading to Carey-street, although an attempt at the Tudor style, is an example of decayed taste. On one side is "T W * D 1697," a black lion rampant on a gold shield. On the other side is the same, with the addition of the initials A. S. in old English. In the centre is "T. C. T. S. and at each side N. G. C. The parts "T. 1848." 1818." surrounding Lincoln's-inn are noticed in Bishop's-court, Chichester-rents, Bell-yard, &c. There are some very old houses and shops near the gate just mentioned: some shops are stuck up against the main building: these in former days have probably been book-stalls. After a margin of offices and shops of booksellers and law-stationers, there are, unfortunately, in nearly all directions, masses of squalid dwellings, with misery and neglect, which it is sad to contemplate. It would be worth while for wealthy members of the bar to dive occasionally into these regions, where good might be done by supporting the schools and other institutions which are here struggling into existence.

ELEVATION OF THE PRINCIPAL TOWNS OF FRANCE, AND THE SUMMITS OF PUBLIC BUILDINGS.

The following is a statement of the heights above the sea of the principal towns of France, and of the summits of the principal buildings, which served as points for triangulation in the trigonometrical surveys of that country. It will be valuble to tourists for reference hereafter. The numbers represent English feet.

Bourg (Ain).—Summit of the lantern of the church of Nôtre Dame, 902·6; level of ground, 745·1; difference, 157·5.

Laon (Aisne).—Summit of the ball of the clock tower, 821·9; ground, 592·2: diff., 229·7.

Soissons (*id.*).—Summit of the gallery of the cathedral, 374·0; pavement of the "Place de la Cathedrale," 161·8; diff., 212 2.

Saint Quentin (*id.*).—Summit of the college turret, 538·7; ground, 342·5; diff., 196·2.

Briançon (Hautes-Alpes).—Western tower of the church, 4502·3; ground, 4335·5; diff., 166 8.

Mézières (Ardennes).—Ball of small cupola of steeple, 712·3; cill of entrance door, 561·1; diff., 151·2.

Pamiers (Ariège).—Summit of cathedral tower, 1087·9; cill of doorway, 939·6; diff., 148 3.

Saint-Girons (*id.*).—Steeple summit, 1427 9; ground, 1276·6; diff., 151·3.

Troyes (Aube).—Turret of the south angle of the cathedral of Saint Pierre, 592·2; ground, 360·9; diff., 231·3.

Carcassonne (Aude).—Parapet of St. Vincent tower, 605·3; ground, 340 2; diff., 165·1.

Limaux (*id.*)—Summit of spire, 711·3; ground, 537·8; diff., 173·5.

Narbonne (*id.*).—Summit of turret of the north tower of the cathedral, 235 9; pavement of church, 42 6; diff., 193 3.

Castelnaudary (*id.*).—Summit of ball of stone spire, 773·6; ground, 608 9; diff., 164·7.

Rodez (Aveyron).—Summit of head of Virgin, surmounting the tower of Nôtre Dame, 2326 9; ground of the sacristy, 2073 6; diff., 253·3.

Villefranche (*id.*).—Steeple summit, 1066·9; ground, 876 3; diff., 190·6.

Marseilles (Bouches-du-Rhone).—Summit of ball of steeple of Les Acoules, 230 6; street pavement, 55 7; diff., 174·9.

Aix (*id*).—Steeple of Cathedral of St. Sauveur, 835·0; ground, 672 3; diff., 162·7.

Bayeux (Calvados).—Foot of cross on cathedral steeple, 397·0; ground, 153·9; diff., 243·1.

Angoulême (Charente)—Summit of steeple of St. Pierre, 491·1; ground of church, 300·1; diff., 191 0.

La Rochelle (Charente-Inför.).—Tower of the lantern, 198·8; cill of the guard-house, 27·9; diff., 170 9.

Marennes (*id*).—Summit of steeple, 287·8; ground, 33·5; diff., 254·3.

Saintes (*id*).—Summit of St. Eutrope Church, 281·5; pavement before church door, 89·9; diff., 191·6.

Bourges (Cher).—Clock turret of St. Etienne Church, 739·2; ground, 512·8; diff., 226·4.

Tulle (Corrèze).—Summit of ball of steeple, 935·1; ground, 702·5; diff., 232 6.

Dijon (Côte-d'Or).—Ball of the steeple of St. Benigne, 1109·3; cill of principal doorway, 806·1; diff., 303 2.

Beaune (*id.*).—Summit of ball of lantern of Nôtre Dame, 894·0; cill of principal doorway, 722·1; diff., 171·9.

Dinau (Côtes-du-Nord).—Lantern of steeple of St. Sauveur, 426 5; pavement of the church, 239·5; diff., 187 0.

Guincamp (*id.*).—Summit of steeple, 437·7; landing of the steps, 145 0; diff., 292 7.

Périgueux (Dordogne).—Summit of steeple, 517·4; ground, 321·2; diff, 196·2.

Portarlier (Doubs).—Upper ball of steeple, 2910·6; ground, 2748 8; diff., 161·8.

Evreux (Eure).—Ball of cathedral spire, 456·4; interior pavement of cathedral near lateral door, 218 2; diff., 238·2.

Chartres (Eure-et-Loir).—Summit of new steeple of cathedral, 878·5; ground of church, 517·4; diff., 361·1.

Quimper (Finistère).—Cathedral of St. Corentin, summit of north spire, 195 2; "pavé des Sonneurs," 21·0; diff., 174 2.

Toulouse (Haute-Garonne).—Summit of the steeple of St. Sernin, 670·0; ground, 456·4; diff., 213 6.

Lectoure (Gers).—Balustrade of steeple, 745·1; ground, 590 9; diff., 154·2.

Bordeaux (Gironde).—Summit of ball of west spire of cathedral, 286 8: interior pavement, 21·7; diff., 265·1.

Bazas (*id.*).—Summit of steeple, 437 0; ground, 259 9; diff., 177·1.

Redon (Ille-et-Vilaine).—Summit of spire, 259·8; ground, 41·0; diff., 218 8.

Tours (Indre-et-Loire).—Summit of north tower of cathedral, 404·2; ground, 181·8; diff, 222·4.

Loches (*id.*).—Summit of grand tower, 464·3; ground, 284 0; diff., 180·3.

Poligny (Jura).—Base of lantern of steeple of St. Hippolyte, 1,223·5; ground, 1,064·4; diff., 159·1.

Blois (Loir-et-Cher).—Summit of the upper cupola of the tower of St. Louis, 506·6; ground, 335·0; diff., 170·6.

Romorantin (*id.*).—Steeple summit, 443·9; exterior ground, 280·2; diff., 162·7.

Vendôme (*id.*).—Summit of abbey spire, 533·5; ground, 277·2; diff., 256·3.

Le Puy (Haute-Loire).—Summit of grand steeple of the cathedral, 2,421·4; ground, 2,250·1; diff., 171·3.

Nantes (Loire-Inférieure).—Summit of roof over the tower of cathedral, 241·8; ground, 61·7; diff., 180·8. *Id.* Tower of Launay.—Summit, 221·8; ground, 41 0; diff., 180·8.

Orleans (Loiret).—Summit of steeple of Sainte-Croix, 644·1; pavement of church, 381·6; diff., 262·5.

Pithiviers (*id.*).—Summit of spire, 609; ground, 393·4; diff., 215·6.

Gien (*id.*)—Ball of lantern-tower, 669 6; ground, 499·0; diff., 170·6.

Cahors (Lot).—Summit of cathedral steeple, 556·8; cill of principal doorway on level with Place Royale, 405·2; diff., 151·6.

Agen (Lot-et-Garonne).—Summit of balustrade of cathedral steeple, 291·0; ground, 140·0; diff., 151·0.

Mende (Lozère).—North spire of cathedral, under the ball, 2679 9; cill of west door, 2426·3; diff., 253·6.

Angers (Maine-et-Loire).—Summit of spire of south tower of cathedral, 399·6; ground, 154·2; diff., 245·4.

Saint-Lo (Manche).—Summit of north spire, 323·5; cill of principal door of Nôtre Dame church, 108 6; diff., 214·9.

Coutances (*id*).—Summit of leaden tower of cathedral, 481·3; ground, 301·5: diff., 179·8.

Valonges (*id*).—Summit of the highest spire, 248·3; cill of principal doorway, 100·7; diff., 147 6.

Chalons-sur-Marne (Marne).—Summit of north spire of the cathedral, 494·1; ground at porch, 268·4; diff., 225·7.

Rheims (*id.*)—Summit of pyramidal roof of north tower of cathedral, 543·7; level of interior under the tower, 282·5; diff., 261·2.

Sainte-Menchould (*id.*)—Summit of pinnacle of steeple, 649·3; pavement of the "Place" opposite Hôtel de Ville, 453·4; diff., 195·9.

Vitry-le-Français (*id.*)—Ball of the north cathedral tower, 492 8; cill of doorway to tower stairs, 332·4; diff., 160·4.

Langres (Haute-Marne).—Summit of college steeple, 1724·8; ground, 1551·9; diff., 172·9.

Nancy (Meurthe).—Centre of ball of steeple, 902 6; ground, 654 9; diff., 247·7.

Luneville (*id.*)—Head of the statue on the north tower, 966·3; ground at first step of the flight, 769·7; diff., 196 6.

Metz (Moselle).—Cathedral spire, base of the least one, 839·0; interior pavement immediately under, 580 7; diff., 258·3.

Nevers (Nièvre).—Steeple of the cathedral, tower of St. Cyr, summit of cross, 871·4; ditto, base of cross, 838·6; ground, 658·8; differences, 212·6 and 179·8.

Clamecy (*id.*)—Summit of steeple, 694·9; ground, 516 8; diff., 178·1.

Lille (Nord).—Ball of the lantern of the dome of the Madeleine, 235·9; ground, 77 8; diff., 158·1.

Douai (*id.*).—Summit of tower of St. Pierre, 279·2; ground, 78.4; diff., 200 8.

Dunkerque (*id.*).—Pavilion tower, platform, 198·8; ground, 25·6; diff., 173·2.

Hazebrouck (*id.*).—Summit of spire, 297·6; ground, 58·4; diff., 239 2.

Avesne (*id.*).—Summit of church-tower, 755·3; ground, 564 3; diff., 191·0.

Cambrai (*id.*).—Summit of ball of tower of Saint Gery, 436·4; ground, 175·2; diff., 261·2.

Valenciennes (*id.*).—Summit of belfry, 263·8; ground, 84 6; diff., 179·2.

Beauvais (Oise).—Steeple of St. Pierre, 429·5; ground, 232·0; diff., 197·5.

Senlis (*id.*).—Summit of St. Jacques's steeple, 507·6; ground, 245 8; diff., 261·8.

Argentan (*Orne*).—Summit of great ball of St. Germain steeple, 705·7; street pavement, 545·3; diff., 160·4.

Anas (Pas-de-Calais).—Foot of the belfry lion, 462 6; ground, 218 5; diff., 244·1.

Béthune (*id.*).—Summit of steeple of St. Vaast, 270·3; pavement of church, 103,0; diff., 167·3.

Saint-Omer (*id.*).—Foot of telegraph ladder, 238 2; cill of principal door of the church, 75·5; diff., 162·7.

Clermond-Ferrand (Puy-de-Dôme).—Summit of the largest of the two balls surmounting the cupola of the cathedral, 1531·2; ground, 1336·0; diff., 195·2.

Bayonne (Basses-Pyrenées).—Summit of cathedral steeple, 201·1; ground under nave, 37·7; diff., 163·4.

Strasbourg (Bas-Rhin).—Summit of cathedral spire, 939 0; pavement of the church, 472 8; diff., 466·2.

Schélesladt (*id.*).—Balustrade of cathedral, 755·3; ground, 565 0; diff., 190 3.

Colmar (Haut-Rhin).—Cathedral lantern of steeple, 824·5; ground, 640·1; diff., 184·4.

Mâcon (Saone-et-Loire).—Summit of St. Vincent tower, 752·7; ground, 605·3; diff., 147·4.

Autun (*id.*).—Summit of Cathedral steeple, 1497·1; pavement of the grand nave, 1243·8; diff., 253·3.

Châlon-sur-Saone (*id.*).—Summit of the ball of the St. Pierre steeple, 749 0; ground, 585·3; diff., 163 7.

Le Mans (Sarthe).—Foot of cross on St. Julien's Tower, 448·2; ground, 251·0; diff., 191·2.

Saint Calais (*id.*).—Summit of steeple, 495·1; ground, 337 9; diff., 157·2.

Paris (Seine).—Summit of lantern of Pantheon, 472·1; interior pavement, 198 8; diff., 273 3.

Saint Denis (*id.*).—Ball of spire, 392·1; pavement of church, 108·6; diff., 283·5.

Meaux (Seine-et-Marne).—Summit of the pinnacle opposite to that by which the tower of the cathedral is entered, 410·8; ground, 191·0; diff., 219·8.

Provins (*id.*).—Balustrade of lantern of steeple of Saint Quirace, 597·1; ground, 446·5; diff., 150 6.

Versailles (Seine-et-Oise).—Ball of the steeple of St. Louis, 602·4; first step of church, 403·6; diff., 198 8.

Pontoise (*id.*).—Summit of lantern of steeple, 307·8; ground, 160·1; diff., 147 7.

Rouen (Seine-Inférieure).—Summit of cathedral spire, 320·9; foot of north tower of façade, 70 9; diff., 250·0.

Neufchâtel (*id.*)—Summit of steeple, 457·0; ground, 302 5; diff., 154·5.

Amiens (Somme).—Foot of cross on cathedral spire, 445·2; ground, 118·1; diff., 327·1.

Niort (Deux-Sèvres).—Summit of steeple of Nôtre Dame, 342·2; ground, 95·8; diff., 246·4.

Bressuire (*id.*).—Steeple summit, 789·1; ground, 606 0; diff., 183 1.

Alby (Tarn).—Turret or pinnacle of the cathedral (summit), 798 9; ground, 554 5; diff., 244·4.

Montauban (Tarn-et-Garonne).—Summit of steeple of Saint Jacques, 491·8; Place des Oules, north of church, 318 6; diff., 173·2.

Fontenai (Vendée).—Summit of Nôtre Dame steeple, 333 7; ground, 74·8; diff., 258·9.

Loudun (Vienne)—Summit of the stone spire, 510·2; ground, 360 6; diff., 149 6.

Limoges (Haute-Vienne).—Summit of the church of St. Michel-des-Lions, 1122·4; pavement of church, 941·6; diff., 180·8.

Mirecourt (Vosges).—Ball of spire, 1065·3; ground of the arcade before entrance-door, 917·0; diff., 148·3.

Remiremont (*id.*).—Ball of the steeple, 1501·7; ground of church, 1323 5; diff., 178·2.

Saint-Dié (*id.*).—Ball of steeple of Saint Martin, 1293·7; ground of church, 1124·7; diff., 169 0.

Auxerre (Yonne).—Summit of the small cupola on the tower of St. Etienne, 624·1; ground, 400 3; diff., 223·8.

Sens (*id.*).—Summit of the tower of the cathedral, 487·9; ground, 250·7; diff., 237·2.

Public Buildings in Paris.—Pinnacle of the "Invalides," above pavement, 334·5; balustrade of towers of Nôtre Dame (*id.*), 216·5; column of Place Vendôme (*id.*), 141·1.

THE SOCIÉTÉ LIBRE DES BEAUX-ARTS, PARIS, AND "THE BUILDER."

This very useful and esteemed Society usually refer any artistical publication that comes under their notice to some member, who reports upon it to the general body. Such reports have been often made by them on our own journal, and one by M. Dufour appears in the present volume of "*Annales*." To show the Society our appreciation of their good opinion, we print a translation of it.

It it be not in the power of every person to give himself up to the study of the fine arts, exclusive of other occupation, every intelligent man ought at least to consecrate his *leisure hours* to that study which offers a salutary distraction to the barren toils, the hurry, the deceptions of every-day life, and which replaces the mind in the high position it should always occupy.

It is because such is my firm conviction, gentlemen, that I solicited the honour of joining your ranks: this alone was my title to the distinction I craved; and, since you have been willing to accede to my request, allow me, on this my first occasion of addressing you, to express my full appreciation of the favour you have conferred upon me.

The lines that first attracted my attention in those numbers of the *Builder* that were confided to me for examination are under date December 7, 1861, and they treat significantly of the advantages of an artistic education. "There is," says the writer, "but little chance that the fine arts will, in England, take the position that is due to them until the system of education here adopted shall have undergone a complete change. Is it not absurd to neglect to teach a child drawing because is has never shown any taste for that art? This reasoning would not be tolerated with regard to the ordinary branches of education; for what father ever thinks to inquire if his son has exhibited a taste for grammar or geography?"

The author concludes with the aspiration, that ere long artistic education may come to be considered that which in reality it is,—a grand means of cultivating the mind, and a source of high intellectual enjoyment to those who shall have entered upon it, even should they only be able to master the elementary principles; and he adds, the more fully it is mastered the more perfect are the delights it affords.

These reflections struck me with their appropriateness. Just consider, among the crowds of persons whom fashion, or want of other occupation, leads to museums and other places, how few can form any adequate idea of the beauties they inclose? The greater number cast a hasty, unintelligent glance upon the treasures there collected: *oculos habent et non vident*.

On the other hand, what thoughts, what sensations, fill the mind of him who has been initiated into the science and faith of the beautiful, in presence of some Greek or Roman statue! Ancient civilization has vanished: the false gods are dethroned: time, revolutions, wars, have changed the face of the world; but those masterpieces of art which two thousand years ago won the admiration of the ancients, still produce upon us the same effect: alone they have triumphed over us—"*Des siècles impuissants qu'a vaincus leur beauté.*"

These reflections are a sublime encouragement to him who—painter, poet, or sculptor—can say with the unfortunate Chénier, "I have something here;" and who feels within himself the right to aspire to a like immortality.

To return to the *Builder*. In the number for the 30th of November, I find an article upon taste in design as applied to the industrial arts, and which consists in giving, to the most ordinary objects, an appearance of elegance and harmony: this, says the author, unfortunately is but seldom found amongst the English; and it existed almost universally among the ancients. In support of his assertion, he compares the vases and lamps of the moderns with the antique, and he expresses the regret, full of humour, that the use of tea had not obtained among the Greeks, because they would at least have left us a model for a tea-service, somewhat more graceful than that which we have found for ourselves. The writer ends by hoping that Government will offer annual and important prizes for the best designs in objects of common use; and that artists will set themselves to work to aid in this desired object. Michelangelo, Holbein, Albert Durer, says he, occupied themselves with these details; and it is to be regretted that there exists so little of the same spirit among artists of our time: let us endeavour to inculcate it.

In the number for the 7th of December there is an admirable article upon the artistic education that a person may give to himself, and showing how a simple mechanic may arrive at the possession of right ideas most useful to him in matters of art. Another article, in the number for the 21st of December, headed, "How shall we rise?" seems to me full of good advice and encouragement to those who, being nothing, desire to rise and to become something: all the ideas hang upon and develop one another, and I regret that the limits imposed will not permit me to translate the article in a simple notice like the present.

I will just mention, in passing, an account of a journey in France, because it bestows such great eulogium on the style of decoration pursued in our *cafés* and our shops.

I will conclude, gentlemen, with calling your attention to a lecture given by Mr. G. G. Scott, at the Royal Institute of British Architects, which appears to me remarkable; but which, being very long, it would be difficult to analyze briefly; besides which, it is not yet terminated. I shall therefore reserve all further mention of it for a succeeding report.

After what I have had the honour to lay before you, gentlemen, I think the universal opinion must be, that the conduct of the *Builder* is continued in a most excellent manner; and that this journal, if it has a wide circulation, must exercise in England a most beneficial influence.

THE SURROUNDINGS OF ST. PAUL'S.

In the notice of the late James Elmes, no mention was made of a project of his, which, had it been adopted and properly carried out, would have been a most important architectural improvement, and would have rendered his name no less distinguished than that of his son. By entirely reshaping St. Paul's "Churchyard," he proposed to place Wren's majestic edifice in the centre of a piazza that would be not only regular in its plan, but also correspond in general outline with that of the cathedral itself, there being a small crescent on the north and south sides answering to the transepts and their semicircular porticoes, and a third on the east. Uniformity of character and design was to be kept up in the elevations also, so that the whole of its surroundings would be in accordance with, though duly subordinated to, the cathedral. The present area would not have been much enlarged, because, according to Elmes's plan, though the line of houses would have been considerably set back in some parts, in others it would have been brought forward. But of space around St. Paul's there is enough; it does not so much require addition as to be equalized.

Notwithstanding that it was set on foot under high auspices, and for a while seemed to promise success, poor Elmes's scheme came to nothing, as the death of the Duke of York—its ostensible patron—proved the death-blow to it; though wherefore it is rather difficult to understand, for it ought to have found sufficient patronage among the City people—those who, though they do not all of them reside within the sound of Bow Bells, make the City their California.

What was not done then might surely be done now; or, if not, St. Paul's Churchyard will probably for ever remain in its present horribly amorphous, though no doubt picturesque shape. No one can charge it with being too formal. If, as some will have it, irregularity be, even in architecture, the source, not to say the soul, of the picturesque, St. Paul's Churchyard, with its zigzags and "evitation of parallelism," must be the perfect quintessence of the picturesque.

W. H. L.

THE GERM OF THE ADVERTISING SYSTEM.

A short time ago, the local papers announced and lamented the death of the venerable bellman of Clerkenwell parish. With him has died this ancient office in that district; and we believe that throughout the metropolis the bells and proclamations of these once important functionaries have now ceased to be heard. Before the days of the modern newspapers, and even for long afterwards, the bellman was almost the only means available of advertising the wants of trade and commerce, and the other miscellaneous matters which form such a large portion of numerous periodicals of the present day. In some ancient or out-of-the-way places, the parish or town bellman still exists; shorn, even in these cases, of much of his former importance; but in a few years the bellman will be no longer heard in England. Considering him as the herald of the extensive system of advertising which has now become such an important element in carrying on the affairs of the country, it may be worth while to record a few recollections of the bellman, who in days gone by was as necessary a part of the corporations and parishes as the mayors and churchwardens. The duties of the bellman were various: he officiated at royal proclamations, in the absence of the trumpeters of the sheriffs; and at elections of knights of the shires or boroughs: he had at times to do with the royal writs at assizes, and with the "crying" of fairs. After several sonorous preliminary tolls of his bell, he was wont thus to proceed:—"Oh, yes!* Oh, yes!! Oh, yes!!! Take notice, that a valuable cargo of corn—or fish, or timber, or other merchandise,—has arrived at ——, and will be sold at ——, by——. God

* A corruption from the old Norman.



THE LOCKE MEMORIAL AT THE ROMAN CATHOLIC SCHOOLS, BARNSLEY.

Mr. M. E. Hadfield, Architect.

Save the Queen;"—"And Hang the crier," was often added by the assembled *gamins*.

He also announced, with some formality, the sale or need of houses or lands; the loss of men, women, or children: he gave notice that a man would not be answerable for his wife's debts; or offered the sale of a child's caul (not seldom still to be seen in the *Times* and other advertisers) for behoof of those about to encounter the dangers of the deep. The introduction of street placards was a blow to the prosperity of the bellman; who, before then, was the only means of making known the arrival of quack-doctors, mountebanks, and strollers. He also fulminated the orders of the local authorities. In times of pestilence he gave forth, in the streets, lanes, and alleys, instructions of a sanitary nature; and in days of political excitement he gave the necessary warning for attention to the preservation of the peace, and fifty other important matters. Being, however, an officer whose duties did not bring him into personal antagonism with his neighbours, he was generally on good terms with the middle and lower orders; and was also treated with consideration by those above.

In most instances the bellman was distinguished by his portly and imposing presence; sometimes, however, by some peculiarity of appearance, gait, or manner. One worthy, who had lost one arm, and performed his office in a very impressive manner, rode upon a donkey: another had a wooden leg.

We have known bellmen who have not been able either to read or write; and in these instances it was necessary to make them understand verbally what was to be made public; and this often led to the most ludicrous mistakes. Whether it might happen to be a pig or a cow in the pound, or some other event of great importance, the message of the bellman was seldom received with much reverence by the assemblage who heard him, who were usually composed of a considerable number of small children; and loud was the general cheer and laugh which mostly greeted the "God save the king" or queen at the termination of each cry. In case of fire in some places, the bellman, if he could be wakened in time, sallied forth in the night to alarm the district; and it may be worthy of consideration if a bell something similar to that used by the old walking advertiser might not be attached, with benefit, to the fire-escapes and other means used for the salvation of life in the time of those calamities; for a bell is more startling on the ear than the rattle, or even the battering of truncheons: many a life might be saved by the use of this sonorous alarum.

THE LOCKE MEMORIAL, BARNSLEY.

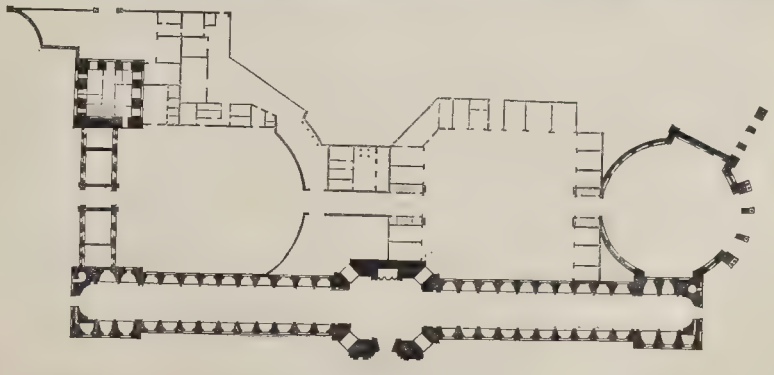
A memorial, of which we give an engraving, has been erected in front of the Roman Catholic Schools at Barnsley, by the Very Rev. Henry Canon Cooke, as a tribute of respect and gratitude to the late Mr. Joseph Locke, M.P., who was a great benefactor to the schools.

The monument was designed by Mr. M. E. Hadfield, who was also the architect of the schools. It is of Huddleston limestone, and 40 feet in height; and is surmounted by a gilt cross. Round the base runs the inscription, in raised letters,—"To Joseph Locke, Esq., M.P., Pres. Inst. Civ. Eng., Officier de la Légion d'Honneur; and to Phœbe, his wife.—Henry Canon Cooke, Rector. MDCCCLXI." The work has been executed by Mr. Thos. France.

THE ROYAL STABLES, CHANTILLY, FRANCE.







1. *Exterior of the Riding School.* 2. *Elevation of End of Stables.* 3. *Plan of the Stables and Riding School.*

STABLE ARCHITECTURE.

In the volume which Mr. Knightley has just now issued* he rightly insists on the importance of light and ventilation in stables, and asserts truly that a good arrangement of stables, instead of being the rule, is the exception. He has classified the details under various headings, such as site, design, construction, ventilation, light, warmth, fittings, &c.; and, although we may not think him in all these points in advance of opinion on the subject, the book will be found of value. Under the head of "Ventilation," he says,—

"It is now generally admitted that close and confined and badly-ventilated stables produce most of the diseases to which the horse is liable; and as the author's object in writing is a practical one, it is perhaps unnecessary to do more than to show by examples the different modes and contrivances for ventilation, and to call attention to a few facts. When examining the racing stables of a nobleman, and speaking to his trainer of the importance of proper ventilation, and the manner of effecting it, the author was gratified to find his views supported by a very recent experience. Into these stables it appears the owner went one day, and, complaining that they were cold, desired that the ventilators above the horses' heads might be closed, and in this his orders were obeyed, but in less than a fortnight each horse had a cough, or showed some symptom of debility. When, however, the ventilators were again opened for the emission of the vitiated air, all symptoms of debility disappeared,—a circumstance practically illustrating the fact that, if openings are made for the admission of fresh air while none are provided for the passage of foul air, the air becomes charged with impurities, and is the exciting cause of disease. This is more especially the case amongst horses whose work is rapid and not of long duration, and who consequently stand in the stable many hours. If, in a sickly season, irregular attention to clothing, food, and grooming be added, the stud will be very considerably thinned, and the proprietor, after thus paying for experience, will discover that the horse is a breathing animal, and that the chief cause of destruction has been the violation of a natural law."

He recommends the admission of air through the walls *behind* the standings, and Arnott ventilators over the horses' heads, to permit the escape of air from within, but not to admit it from without. Experience seems to show that horses are less liable to take cold from air admitted in front of them than when it comes from behind. He recommends the iron hay-racks and fittings of Messrs. Cottam.

Mr. Knightley has patented a stable floor. This has a margin of brick or stone, to curtail expense; is perfectly level, is made of yellow deal, preserved by a chemical, in two folds (which work on centres), and give access to the receiver beneath; the spars or boards are 3½ inches wide and 2 or 2½ inches in substance, are laid anglewise, with spaces between of 1 inch for the passage of urine; and on the surfaces of the spars are nails, resembling in form and substance a penny-piece deeply cross-hatched. The inventor says,—"From ordinary floors, horses sometimes rise with difficulty, and frequently fall; but from this floor, as the spars are laid at an angle, and are studded with nails, the horse rises with certainty, for if his toes miss the spaces his shoes grip the surface nails." The receiver beneath is trapped: an arrangement not desirable, since certain emanations are sure to arise from it.

We have engraved some illustrations of the Royal Stables at Chantilly, situate about twenty-five miles from Paris, on the Great Northern Railway of France, as a costly mistake, showing what to avoid. Our riding-schools are usually inclosed and roofed in: the lighting and ventilation are effected in the upper parts of the inclosing walls, and every precaution is taken to arrange them so that the horse, when having his lesson, may not have his attention distracted. The opposite of all this applies to Chantilly. The stables, too, although the most royal in Europe, are altogether erroneous in arrangement: for example, a noisy or restless horse would disturb the repose of the whole stable. In the event of an epidemic, one-half the stud may be affected before the fact is discovered. Separation, too, becomes almost an impossibility; and, unless the stable is always fully occupied, the temperature is too much reduced; indeed, as a rule, large stables are a great blunder.

The interior of the hall is vaulted with stone. The height of the dome is upwards of 115 feet. At each corner of the walls supporting the dome, and raised about 6 feet from the pavement, are full-sized stone carvings of stags. Opposite the doors is a fountain 50 feet in height. In the upper part of this fountain is the following inscription:—

"LOUIS HENRI,
de Bourbon,
7me Prince de Condé,
a fait construire cette Ecurie
et les batimens qui en dependent,
commencés en 1719, et finoris
en 1725."

Louis Henri de Bourbon, the founder of this edifice, whose work is thus commemorated, was, in his day, a mighty Nimrod. There is a tradition in the town that he used to light up the woods of Chantilly with flambeaux, to hunt the wild boar and the stag at night.

A little above the level of this fountain is an ornamental gallery, extending around the dome, and giving access to a corridor, which runs at the same height along the whole length of the stables, living and sleeping rooms, which were formerly used as domestic apartments for the Prince of Condé's retainers, communicating with each corridor. Extending from beneath the dome, along the wings of the building, are stalls for one hundred and seventy-two horses, — eighty-six horses being accommodated in each wing,—with space between the stalls sufficient for a straw bed for exercise. The vault of the stalls is semicircular in form, and is not less than fifty feet in height. A portion of this riding-school, which looks towards the old chateau of Chantilly, has an elevation of great elegance. It is supported by Ionic columns, surmounted by a balustrade, and a group of sculpture more than a hundred feet in length. Every detail of the architecture of this remarkable division of what is called *le grande Ecurie* is designed and executed with great skill. Some of Mr. Knightley's own designs, Gothic in style, are very tasteful.

* "Stable Architecture, by Thomas Edward Knightley, F.R.I.B.A., Architect. Cannon-street, London, E.C. Illustrated by Twenty-five Plates, including some Designs for Model Buildings. Baily, Brothers, London."

COMPETITION.

Warehousemen and Clerks' Schools.—In a limited competition amongst architects, the committee of this Institution have awarded the premium of fifty guineas to Mr. James L. Pedley, architect, Southampton-buildings, Chancery-lane, for his design for the proposed new building.

WINDSOR ROYAL FREE AND INDUSTRIAL SCHOOLS.

The new building erected for these combined institutions was inaugurated on Monday. It is pleasantly situate close to an open piece of ground belonging to the borough, and called "The Bachelor's Acre." The building, which is calculated to accommodate 500 scholars of both sexes, is a plain red-brick structure, with some Elizabethan features. The boys' school is on the ground-floor, and the girls' school above. The boys will be taught gardening and other industrial employments; while the girls are to be fitted for domestic service by being trained in cooking, washing, nursing, &c. The total cost of the site, buildings, and fittings is 4,898*l.*, towards which the Committee of Council have given 1,050*l.*; the National Society, 120*l.*; the Diocesan Education Society, 50*l.*; the remainder being chiefly made up by voluntary subscriptions.

Mr. John Walter, M.P., made a telling and instructive address.

INDEPENDENT SCHOOLS, ASHTON-UNDER-LYNE.

What is said to be the largest block of buildings ever erected in the world exclusively for Sunday-school purposes in connexion with a distinct congregation, was opened on Friday last at Ashton. The main feature of the new building internally is the large school-room, the "great room," the dimensions of which are 100 feet by 50 feet (exclusive of the recesses on each side), and 25 feet high to the tie beams. Including the recesses, the extreme internal dimensions are 116 feet by 70 feet, and the centre portion of the ceiling (which rises into the roof) is 35 feet high.

Each end recess is occupied by a platform 4 feet high; that at the east end for speakers or lecturers, and the opposite platform for an organ of suitable power, which will shortly be placed there.

The north-side recess is separated from the room by a partition, and is divided into two compartments for the use respectively of secretary and librarian. The area thus obtained for the school library is 23 feet by 10 feet.

Each side recess has two sets of coupled iron columns, painted sage green, and ornamented with white and gold foliated capitals; and from these columns spring a central and two smaller arches, with panelled soffits.

For supplying fresh air to the school-room, ventilating valves, opened and closed at pleasure, are provided in the sill of each window; and a centre turret on the roof contains one of Muir's "four points ventilators," for action in summer weather. In addition to these supplies, and for use in warm weather, sixteen casements are provided in the semicircular heads of the windows, opening inwards.

For warming the room, two pedestals in connexion with Messrs. Haden's heating apparatus supply an ample volume of fresh warm air, which will keep up an even temperature of 55 to 60 degrees in the coldest weather.

For extraction of foul air, numerous openings are provided in the flat portions of the ceiling; fitted in with ornamental iron gratings, decorated in blue and gold. These communicate with large flues which lead directly to a fire-stove in the lofty extraction shaft, which our readers have observed as the most prominent external feature of the building. The roof of this shaft is covered with galvanized corrugated iron, so placed as to give protection against weather, and allow of the free escape of vitiated air.

On the ground-floor of the building are ten class-rooms, of varied sizes, the largest being 20 feet by 14 feet, and the smallest 14 feet by 12 feet.

The style adopted by the architects is Italian, and the details are in good keeping throughout. White brick is freely introduced as a relief to the red bricks, of which latter material the walls are constructed; but the contrasting colours are so judiciously arranged that perfect harmony exists throughout. These white bricks have been supplied by Messrs. Hall & Sons, of Dukinfield, and we predict an extensive adoption of this material.

The cost of the whole undertaking will be about 10,000*l.*

The whole of the works have been executed under the superintendence of Messrs. Paull & Ayliffe, architects; and the general contractors are Messrs. J. & J. Longson, of Stockport.

The gas-piping has been laid by Mr. McKay, the plumbing and glazing executed by Mr. Knowlson, the plastering by Mr. Cocker, and the painting and staining by Mr. Bushell, all of Ashton. Mr. James Kitchen was clerk of works.

CANTERBURY, NEW ZEALAND.

The Provincial Council is prorogued, after a protracted sitting. The estimated expenditure for the financial year ending September 30, 1862, is upwards of 200,000*l.*, of which more than half is devoted to surveys and public works. The staff engaged for these objects is on a liberal scale, which does credit to the Government of this rising province.

The survey department comprises a chief surveyor at 550*l.*, three district surveyors at 350*l.* each, and two assistant surveyors at 300*l.* each, besides a staff of map draughtsmen and a number of surveyors employed on contract work.

The geological survey is in the hands of a professional geologist, assisted by a surveyor attached to this department.

The public buildings are under the control of the provincial architects, who are paid on the percentage system.

The staff engaged on the public works comprises an engineer-in-chief at 800*l.*; three district engineers, at salaries varying from 300*l.* to 450*l.*; three clerks of the works, at from 200*l.* to 280*l.*; a surveyor at 450*l.*; and a staff of clerks and draughtsmen at the head offices in Christchurch.

There is nothing specially worthy of remark in the ordinary public works of the province, which consist of ferries, wooden bridges, and a number of small works of little interest in an engineering point of view, although in the aggregate they present an amount of work which has seldom been accomplished in any new colony during the short period which has elapsed since the settlement of Canterbury.

The three main roads of the province,—viz., that from Christchurch to Lyttelton, a distance of eleven miles; from Christchurch to the Nelson frontier, about sixty miles in length; and from Christchurch to the Otago boundary, a distance of 150 miles,—although in many places mere unmetalled tracks,—are open throughout for cart traffic, and are being improved year by year. Ferries have been established at the principal rivers, and the creeks and small streams are crossed by temporary bridges, which are being replaced by substantial erections as funds permit.

The most important work now in progress is the Lyttelton and Christchurch Railway, six miles in length, connecting Christchurch, the capital of the province, with the harbour of Port Lyttelton.

The principal feature in this undertaking is a tunnel, a mile and three quarters long, under the volcanic hills which surround the harbour. The town of Lyttelton is built on the crater of an

extinct volcano, of which the harbour occupies the centre, the crater wall rising up precipitously behind the town to the height of 1,600 feet. The works are steadily progressing under the present contractors, Messrs. J. Holmes & Co., of Melbourne.

On the Lyttelton side the work is being carried on by shafts, but on the Christchurch side the tunnel approaches have been opened up to the tunnel-mouth, and the waggon-road has been laid up to the inner face of the workings, a distance of about a quarter of a mile.

The total lengths of heading-drivers up to the end of January, 1862, is between 1,600 and 1,700 feet.

The bridge over the hills road at the north end of the tunnel is now in progress, and is worthy of notice as being the first brick bridge built in the settlement.

The amount of Messrs. Holmes's contract is 240,500*l.*, which includes the whole work of the line with the exception of the stations. The line is to be ready for opening by the end of June, 1866.

The work is being carried on under the superintendence of Mr. Edward Dobson, the engineer-in-chief of the Canterbury province, formerly on the staff of Mr. J. K. Rastrick. Mr. George Robert Stephenson is the consulting engineer in England.

The funds for the construction of the railway are to be raised on debentures, an Act having been passed by the General Assembly at Auckland authorizing the raising of a loan of 300,000*l.* for this purpose. The revenue of the province is, however, in so satisfactory a state that the first year's issue of debentures, amounting to 50,000*l.*, has been cancelled, and the amount passed to railway account out of provincial revenue.

The census of the province has recently been taken, but the results are not yet published. It is anticipated that the population will have risen since the taking of the last census to about 17,000, exclusive of the Maories, who do not, however, amount to a large number in the Middle Island.

PROVINCIAL NEWS.

Colchester.—The works in connection with the new cattle market, Middleborough, under the superintendence of Mr. James S. Cooke, C.E., are in progress. The drainage, as far as at present proceeded, is said to be satisfactory.

Worthing.—The new pier has been formally opened. It is constructed of iron.

Manchester.—A lofty building in the Italian style has been erected in King-street, Manchester, for the Liverpool and London Insurance Company; and on Saturday week the directors gave a dinner to the workmen, &c., at Belle Vue Gardens.

——The Meat and Fruit new Market in London-road is a stone building, in the Venetian style, ornamented with the Manchester arms, stone carvings of fruit, &c., and disfigured, says the *Courier*, by enormous letters, announcing who was mayor of this city in the year 1862. The market has a frontage of 90 feet to London-road, where is the principal entrance. There are also two entrances from Birmingham-street, and two from Swarbrick-street, by both of which streets the market is bounded. The lower part of the front portion of the building is divided into shops. The upper story is used for offices. The market itself is behind these shops and offices, and covers a space of 90 feet by 70 feet. It is approached by a porch, over the doorway of which is a pyramidal device, showing the purposes to which the market is to be devoted. At the top there is an ornamental balustrade. The interior of the market consists of three bays, supported by iron pillars, and lighted by skylights. There is accommodation for fifteen butchers' stalls, and various stalls for fruiterers and greengrocers, and dealers in miscellaneous articles. The work has been carried out under the superintendence of the city surveyor. The clerk of the works was Mr. S. Taylor.

Gateshead.—The directors of the Whittle Dene Water Company (says the local *Observer*) have obtained the assent of all the landowners on the line of their new pipe between Newcastle and Newburn. A considerable portion is already laid, the operation having been facilitated by the employment of a travelling crane, attached to semi-circular bars slung across the pipe. The crane lifts the pipe, weighing about 1¼ ton, into its place, to be jointed; and the line of rails being in two divisions, it is made to form its own "permanent way" by lifting each length forward as it is required. The present 24-inch pipe has been in use since 1848. If the town increases as hitherto, the 30-inch pipe now being laid should suffice for a long period of years.

Gourock.—The waterworks reservoir, on the farms of Cove and Auchneagh, is sufficient for storing an ample supply of water for Gourock. The length of the reservoir is about 360 yards, the average breadth 100; and its area comprehends upwards of seven acres. The maximum depth is 20 feet, and its storing capacity 15,750,000 gallons. One-fourth of this quantity of water had to be passed, in terms of agreement, as compensation water to the proprietor; and the remainder, nearly 12,000,000 gallons, is held in reserve for the inhabitants, which is considered a sufficient supply, under ordinary circumstances, for five months without rain. The quality of the water is said to be excellent, containing, according to Dr. Penny's analysis, only seven grains of solid matter in the gallon.

STAINED GLASS.

Lincoln Cathedral.—The Revs. A. and F. Sutton (sons of the late Sir Rd. Sutton, bart.) have placed two additional stained-glass windows, at their own expense, in this cathedral. Some time ago they filled in the first and second windows in the south side of the aisle; the subjects being Moses and Joshua. They have now filled in the third window; taking the subject from Judges. The figures, which are twelve in number, are surmounted by the emblems of justice. The window is filled in with stars, and surrounded by an antique border, copied from one of the patterns in the old window at the east end. The other window filled in is that at the north-east end of the choir. The centre light contains the figures of Parmenas and Nicanor, two of the seven deacons appointed by the Apostles (Acts vi. 5). The Messrs. Sutton contemplate filling in the windows on the north side of the choir with the remainder of the deacons, and with three apostles, to correspond with the figures of the saints in the windows on the opposite side. The Messrs. Sutton have now filled in sixteen of the windows in the cathedral with stained glass.

Ely Cathedral.—A four-light window has been recently filled in the choir south aisle of Ely Cathedral with stained glass of very elaborate design. The incidents, set forth in twelve canopied subjects, are illustrative of the life of St. Peter. At the base of the window runs the following inscription:—"This window is dedicated by Hester, youngest daughter of Bowyer Edward Sparke, formerly Bishop of Ely, to the honour of God, and in memory of her husband, Henry Pratt, lieutenant-colonel of the 17th Lancers, who died A.D. 1860." Messrs. Clayton & Bell are the artists.

St. Lawrence's, Evesham.—A large stained-glass window has just been erected in the east end of St. Lawrence's Church, by Mr. E. C. Rudge, Abbey Manor, to the memory of his late father. In the lower portion of the window is represented the Lord's Supper, and in the upper part the Resurrection and the Day of Pentecost. Around these groups is a border of flowers, among which are suitably placed the arms of the see of Worcester and St. Lawrence. When the other window at the east end of the church is completed (which is being done by the executors of the late Mr. W. Barnes), the whole of the east end of the edifice will then have stained-glass windows. The subject of Mr. Barnes's window is the Descent of the Holy Ghost, with the figures of David, St. Stephen, Isaiah, John the Baptist, the Prophet Joel, &c. The cost of Mr. Rudge's window will be upwards of 300*l.*

Bromyard Parish Church.—Another stained-glass window to the memory of a member of the Shelton family has been placed in this church. It is placed in the south aisle, and has been designed and executed by Mr. George Rogers, of Worcester. The window was presented by Mr. W. Jenkins, of Birkdale Park, Southport; and is a two-light Decorated, with quatrefoil head. The subjects represented are Jesus in the house of Martha, and Jesus appearing to Mary in the Garden. Initials and crest are displayed in the design.

CHURCH-BUILDING NEWS.

Otley.—That portion of the new cemetery at Otley set aside for the members of the Established Church has just been consecrated by the Bishop of Ripon. The Burial Board has been formed for the townships of Otley, Lindley, and Newall-with-Clifton. The new cemetery has cost about 3,400*l.*, which has been borrowed from the Government.

Darlington.—A meeting of parishioners for St. Cuthbert's restoration was lately held, at which a number of resolutions were submitted by the executive committee appointed to carry out the restoration of the church. Plans, showing the appearance of the edifice and the arrangement of the pews as designed by Mr. Scott, were laid on the table for inspection. The chief business was to elect a commissioner, to be named in the faculty, for carrying out the work.

Blaydon.—The parish church of Blaydon, which has for about twelve months past been undergoing a process of enlargement, has been re-opened for public worship by the Bishop of Durham. During the time it has been closed the building has been much altered in size and general appearance; and the result has been an increase of the sitting accommodation in some degree commensurate with the growing wants of the parish. The additions, which have been carried out in accordance with designs furnished by Mr. J. E. Watson, of Newcastle, architect, consist of a chancel, a side aisle on the north side of the building, a vestry in the angle formed by the aisle and chancel, and a tower at the west end, which is ultimately intended to be surmounted by a spire rising to the height of 130 feet. In thus remodelling the church the Early Gothic style of architecture, which was the characteristic of the original building, has been adhered to. The roof of the old building has been entirely removed; and in the new edifice the nave aisle and chancel are furnished with high-pitched open-timber roofs. The additional space obtained inside is so considerable as to admit of the number of sittings being doubled. The masonry has been executed by Mr. March, of Blaydon, while the joiner work has been completed by Mr. Southern, of Newcastle,—the contractor by whom it was originally undertaken having failed during the progress of the operations. The whole expense hitherto incurred has been between 1,400*l.* and 1,500*l.*, of which only about 300*l.* remain to be raised. In addition to this, however, 200*l.* will be wanted for the spire.

Bromfield (Cumberland).—The parish church of Bromfield has been re-opened by the Bishop of Carlisle. Instead of having to descend two steps on entering the church, the floor has been raised to the level of the porch. The church has been re-pewed, and is now heated by hot air. Other improvements have been made, one of which is the removal of the gallery, displaying two Roman arches which have hitherto been hidden. Transepts have been opened out. The windows in the north and south transepts are of stained glass, illustrating several incidents in the life of our Saviour. The east window, also of stained glass, has been placed there, at the cost of the parishioners, to the memory of the late Mr. George Dixon. The west window was supplied by Mr. George Reay, of the Gill, to the memory of his wife. Besides these, other alterations and improvements have been made.

Stratforth (Teesdale).—A faculty has been obtained for the demolition of the old church of the Holy Trinity, Stratforth; and a new edifice is to be erected on the same site. The new church will be of much larger dimensions than the old one, and will extend northwards and westwards over the present site. The chancel is to be 25 feet by 20, nave 54 feet by 24, and south porch 8 feet by 8 feet. The tower is 14 feet square and 90 feet high, with angle buttresses, and angle stair-turret to west gallery and belfry. Buttresses divide the nave into three bays, lighted by double lancets, with pier between. Two lancets light the chancel on the south side, and a traceried window of three lights fills up the east gable. The roofs are high-pitched, covered with green Westmoreland slates, and open in the interior to the ridge. The chancel roof is to be boarded and painted with moulded ribs, and all the woodwork exposed to view will be stained and varnished. Open benches of Baltic fir, with kneelings for 200, will be provided in the nave, and twenty in the chancel. Children's seats are to be placed in the tower gallery; the front seat of which, 4 feet wide, extending right across the west end of the church, is to be set apart for the choir. The exterior is to be built of snecked and squared rubble, from the Spital quarries, and the dressings to be of polished stone. Messrs. R. and T. Borrowdale have contracted to do the work for the sum of 1,275*l.*, and to have the church ready for divine service by the 1st day of December next. Although they are the sole contractors, Mr. Hutchinson will execute the carpenter's and joiner's work, and Mr. T. A. Jackson the plumbing and glazing. The design is by Messrs. W. & J. Hay, of Liverpool, and was selected from amongst others sent in competition. The estimate made out by the architects, in the first instance, amounted to 1,450*l.*, less about 200*l.* for old materials.

Cambridge.—The contemplated alterations of

Great St. Mary's, Cambridge, at a cost of 3,000*l.*, include the removal of the "Doctors' Gallery;" the re-arrangement of the sittings in the chancel and body of the church; the proper warming of the church; the removal of the pulpit to the north pier of the chancel arch; the entire removal of the west gallery; the extension of the north and south galleries to the western tower; and other and minor alterations. Plans for these purposes have been prepared by Mr. Scott; and, on the necessary faculty being obtained from the Chancellor of the diocese, the works will be at once commenced.

Rochester and Chatham.—St. Nicholas's Church, which has been undergoing a renovation and improvement for twelve months past, has been re-opened for Divine service. This church has now three stained-glass windows. That over the altar is the gift of the surviving sister of the Rev. J. F. Spong. This window has cost some 300*l.* In the centre is a representation of the raising of the widow's son; at the lower part an inscription telling by whom it was erected and with what object. At the west end of the church, facing this window, is one presented by Alderman Foord; the colours being generally not deep; so that this window admits much light into the church: in various parts are the initials of members of the Foord family. On the north of this window is another, presented by Mr. P. W. Martin, M.P. In it are represented the city, the Wykeham, and the Martin arms. Coloured glass will be introduced also into the upper portion of the windows in the sides of the building. Near the altar, under the pulpit, and in every corner of the building, seats have been contrived, so as to give the largest possible amount of accommodation. All the seats are open, with low divisions,—a number of them free. Part of the floor of the church is paved with old tombstones: the graves and vaults beneath have been hermetically sealed with asphalte over brick vaulting. The seats are raised on a wooden flooring above the stone floor. The church will be lighted at night by gas-branches. Great increase of accommodation has been obtained by forming a gallery around the body of the church. The cost of the alterations and renovation of the church, irrespective of the stained-glass windows, the gifts of individuals, has been some 1,700*l.*,—a sum raised by subscriptions. The recent works have been executed by Mr. Stump; Mr. Gough, of London, having been the architect.

Ashling (Sussex).— Mr. Horace Goulty, architect, Brighton, is preparing designs for a (Dissenting) memorial chapel, to be erected at Ashling; and in a note to one clause in his specification it is said that "The stone to be used in the erection of the walls of the chapel will be supplied to the contractor from the ruins of Chichester Cathedral."

Cirencester.—Cirencester Abbey Church is to be restored by Mr. Scott, at an outlay of 10,000*l.*

North Bradley (Trowbridge). — The parish church, which has fallen into decay, is to be renovated and restored. A faculty has been obtained, and the work is now in progress. The sum at which the architect, Mr. T. H. Wyatt, estimates the expenditure, is 1,600*l.* During the work, it having been discovered that the old foundations of the building were reared upon vaults, which crumbled beneath the workmen, the difficulty arose as to whether the repair should be proceeded with, and the foundation jobbed up, or a new foundation be laid. The latter course has been decided upon, and the foundation-stone has been laid. The repairs are entrusted to Messrs. J. Davis & Son, of Frome, builders.

Berkeley.—Lord Fitzhardinge has given instructions, in the carrying out of the restorations of Berkeley Church, to have the work restored, as far as possible, to its old state; and it is intended to leave the old work in its present state, merely washing off the whitewash and colouring, cleaning the Early English capitals of the arcades, and painting and gilding them after the ancient manner,—one of them having been found with sufficient of the ancient colouring to give the clue to its restoration. The pavement will be taken up and relaid to its ancient level, and the incised slabs refixed in their present positions. A new carved stone pulpit, with figures and marble shafts, will be placed outside the screen, and there will be a new carved oak reading-desk. The organ and gallery will be removed, and the western windows opened and repaired, the organ being refixed at the north aisle. The whole of the church will be repewed with low oak sittings; his lordship setting the example of giving up his own seat and substituting open seats similar to others in the church. The stonework is to be repaired, the windows re-glazed with quarries, the roughcast beaten off the walls, pointed, and repaired. The chancel is not to be done at present. The roofs are to be repaired and restored. The work of restoration is to be under the superintendence of Messrs. Popes & Bindon, of Bristol. The estimated cost is about 2,000*l.*

Derby.—The new Baptist chapel, Osmaston-road, Derby, has been opened. This edifice, which, with its tower and spire, is built of stone, stands at the corner of one of the intended new streets leading from the Osmaston-road, and forms a conspicuous feature in this approach into Derby. It is built in the style of the fourteenth century, and is from the design of Messrs. Hine & Evans, the architects to the large building of this description lately erected in Victoria-street. The building comprises a nave, north and south aisles, and transepts containing galleries, a chancel for the choir, a baptistery at the west end, and a tower and spire on the north side. The extreme length of the interior is 107 feet, and the width in clear transepts 70 feet. The nave is divided from the aisles and transepts by cast-iron columns supporting the curved trusses of the roof; the timbers of which are stained and varnished, and the intermediate spaces embellished with colour. At the extremity of the nave is a space set apart for the organ and choir by a triple arcade supported by clustered columns of stone and marble; and west of this is the baptistery. This building, which is under a separate roof and is lighted by stained-glass windows, contains an octangular font, or large basin, constructed of Caen stone, marble, and encaustic tiles; raised above the level of the floor; and of sufficient capacity to admit of the baptism of adults by immersion. It is approached by marble steps in front; but is so contrived that the egress shall be on either side direct into the vestries. The chapel is fitted up with benches. The tower, which is on the north side of the edifice, contains in its lower story one of the gallery staircases; and in the upper stage, which is pierced with traceried windows and arcades, a clock chamber. The spire is broached and intersected at the base of the gables over the clock faces. The total height of the tower and spire is 112 feet. The windows throughout the church are traceried and filled with tinted glass in quarries. The carving and the wrought metal work, both exterior and interior, were done, the former by Mr. Thompson, of Lincoln, and the latter by Mr. T. Brawn, of Birmingham. The contractors were Messrs. Thompson & Fryer, who executed the works under the superintendence of Mr. Appleton, clerk of the works.

Bradford and Beswick (Manchester).—Christ Church, Bradford and Beswick, has been consecrated. This church is the first of a series which have been undertaken under the auspices of the Diocesan Church Building Society, with a view to evangelize populous and overgrown districts. Sir Oswald Mosley and Mr. Townley Parker gave the site. The endowment was provided some years ago, by Lady Arabella Hoghton. The church has cost about 4,500*l.* It accommodates in all about 1,000 persons, including 200 children in a west gallery. It consists of one broad nave, transepts, chancel (terminated by a semicircular apse), with a tower and spire at the north-west. The entrance, at the time of Divine service, is by north and south doors at the west end, opening into a lobby with double folding-doors, which are so arranged as to exclude draughts. At the close of the services, five doors are opened, to facilitate a speedy exit. The extreme internal length, from east to west, is 114 feet: the width, measured from north to south, is, in the nave, 45 feet, and in the transepts 79 feet. The designs were prepared by Messrs. Hayley & Son. The contract was taken by Mr. J. Grason, of Bradford. The parsonage it is proposed to build immediately, on a plot of ground adjoining the church. The architect who has been entrusted with this work is Mr. J. M. Taylor, of Manchester.

THE PROPOSED COMPETITION FOR COMPLETING THE MIDLAND INSTITUTE.

Sir,—Some of your readers have probably seen with surprise a recent advertisement inviting architects to send in designs to finish the Birmingham and Midland Institute, of which I am the architect.

In the year 1855 a limited competition was entered into for this building by nine architects (one of whom is since dead), the condition being that the selected architect should receive no premium, but should be intrusted with the professional superintendence of the work. My designs were chosen, but, owing to financial difficulties, only one half of the building could be then erected, and this was completed some years since, from my drawings, and under my superintendence.

The town council of Birmingham, being now desirous of erecting a free library, propose to build it in connexion with the Institute, and thus complete the latter building.

At their request, I have furnished them with a complete set of upwards of fifty working and other drawings, specifications, &c.; but on advertising for tenders, it has proved impossible to erect the building for the amount of my first rough estimate, which was based upon the cost of the first half of the works. On this fact being ascertained, I at once offered to forego all claim for remuneration for what I had done, and to prepare new plans to suit the financial exigencies of the case.

The first part of my offer was at once accepted, and the only answer to the latter has been an invitation to other architects to furnish plans to complete the building *according to my elevation*, which invitation is accompanied by a block plan, *copied from one of mine*, which the council happen to possess.

I cannot suppose that such an invitation will be responded to by any one who either respects himself or the profession to which he belongs; but feeling that on public grounds the matter ought not to rest where it is, I have placed it in the hands of my solicitor, and am advised that the proposed competition cannot be legally carried out, and that those who may take part in it will consequently lose their time and labour.

You will see by the inclosed statement the opinion of most of the competitors in the original competition in 1855; and I have been assured by those of the latter whose names are not appended to the statement, that they fully concur in its views.

Edward M. Barry.

March, 1862.

Having furnished designs in the original competition for the Birmingham and Midland Institute, I am of opinion that it would not only be unjust to Mr. Barry to intrust the completion of his design to other hands, but that such a course would be a direct breach of the engagement entered into by the Institute at the time of the competition to intrust the architect of the selected design with the professional superintendence of the building.

Signed by H. Bowman,
J. Gibson,
E. Vanson,
J. James,
J. Lockyer.

POND MAKING.

"A Regular Subscriber" asks for "a wrinkle" in pond making.

If it be intended to excavate the pond, it is possible that the bottom surface, when excavated, may be one impervious to water, or nearly so; or if it be not, perhaps such a stratum of earth may lie at a little distance below that level: if so, he may make the sides retentive by spreading a layer, a few inches thick, of clay-puddle, round the inside of the pond; tying the lower edge of the clay-lining well into the impervious bottom or stratum below, and carrying up the clay-lining to a few inches above the proposed surface-level of the water.

If it be necessary to form a dam for the water, this may be done by an earthwork embankment, in the centre of which a "puddle-trench," or a wall of puddle (6 or 8 inches thick, if the pond be not very large), should be formed; taking care to well tie in the clay-puddle to the impervious stratum of the bottom, if there be such; and to carry up the puddle to a few inches above the waterline, as before named. The embankment should have a slope of not less than $1\frac{1}{2}$ to 1.

If no sound bottom be reached, it will be necessary to spread a layer of puddle all over the bottom, connecting it with the puddle-trench, or with the clay lining of the sides.

A thin spread of shingle, or loose small stones, over the inner surface of the pond, for 2 or 3 feet down the slope, at the waterline, will prevent the ripple of the water from wearing away the clay or the earthwork, which would be liable to receive damage without such precaution.

The tempering of the clay should be carefully done, and all stones, &c., be cast out of it; and, in laying in the clay-lining, or in forming the puddle-wall, great care should be taken to make it homogeneous and without flaws; or leakage will ensue; which, though it may be little at first, will almost certainly increase. It is generally best to *tread* the puddle solid into its proper form and place, either on clay-lining or in the puddle-trench.

Henry Littler.

"CHIMNEYS AND CHIMNEY SWEEPING."

In your impression of 12th inst. you give much space to this subject; and, as my name is incidentally mentioned, I trust you will give me an opportunity of replying to your correspondent "H.," who asks, "Why are chimneys so constructed as to be for all common purposes inaccessible from the outside and dangerous to get at?"

The most obvious reply is, that intelligent consideration was not exercised when the chimneys were built.

As to my being "sanguine that a flue of the diameter 3×3=9 will answer, because I have found one of 7×7=49 succeed," allow me to say that truth is only discovered by investigation and experiment. The theories of a Stephenson were considered wild and chimerical until he practically demonstrated them.

My object is to reduce the size of chimney-stacks; to, insure the thorough ventilation of all rooms having a fireplace; to entirely abolish all chimney-pots, that now more or less disfigure every class of building; and to prevent for the future all annoyance from smoke.

The experiments I have tried, and am trying, lead me to suppose that all these advantages are quite attainable; and the results will be made public as soon as my experiments are complete.

As to the "theory of our great-grandfather Telford," it is no way binding on me. I regard the "theories" of dead men as finger-posts to guide succeeding generations to further discoveries and practical results.

As to the "sweeping of chimneys," all chimneys ought to be so constructed that they may be swept from the basement; or, if in an external wall, from the outside of the building.

I fear further to trespass on your valuable space, or I might expatiate more fully on this subject, which is interesting to every householder, as tending to comfort and health; and to every architect, as preventing the disfigurement of buildings.

The chimneys of your correspondent "H." (if in an external wall) are not so hopeless as he seems to imagine. A couple, or even three, double soot-doors, fixed in the flue by a bricklayer of ordinary intelligence, would give ready access to those parts of the flue of which he now complains; or, should his flues be in an interior wall, if he will write me I will endeavour to suggest another remedy, without again trespassing on your valuable space.

George Jennings.

SEWERAGE OF BUXTON.

Sir,—In your issue of the 5th inst. there appears a statement, *in extenso*, of the public sewerage works executed under the direction of Mr. R. Rawlinson, the publication of which, I presume, is intended to advance the sanitary movement in towns. That object, undoubtedly, is one of great public importance, and the works necessary for its accomplishment ought to be as perfect as circumstances will admit.

The general principles of trapping, ventilating, flushing, &c., applicable to town drainage are, I believe, pretty well established; but, if the public must derive any real benefit from such statements as those put forth (be they official or otherwise), perfection of the works set forth as executed, accuracy of figures, and a correct construction of the contract documents, ought to form items of vouchers for their admission, as they who read such published statements usually take for granted that the works executed at the several enumerated places, are all that can be desired in completeness of engineering detail.

Now, let us test this by one recent case named in the list quoted—that of Buxton; and, if the other towns have been more fortunate, it must be allowed that it stands with them in an unenviable position. The sewerage of this town is executed with cylindrical socket pipes, and the cuttings are in rock and earth. At the head, in Higher Buxton, is a length of 77 yards, with a fall of 1 in 642, and another length of 33 yards with a fall of 0.03 inch, and for which lengths there is no flush but that of the surface water. The fall on each side of Higher Buxton to the two divisions is so great that, upon the steep gradient, no mention need be made; but the low lines in the lower town, especially the main sewer of the town (of 15-inch pipes) are laid in a most erratic manner, and not to regular gradients, the latter for a considerable length in the middle standing 12 inches in water.

In laying down the lines of main sewers in towns, it is, of course, necessary to take cross sections, in order that their levels shall be fixed so as to receive the lateral or private drainage. Now in this case cross sections have not been taken, in consequence of which a great number of cellars cannot be drained; and in Higher Buxton the mains are so near to the surface that cellar drainage is out of the question.

There is a portion of these statements that is worth the attention of sanitary engineers. It is shown how cheaply public sewerage may be obtained in the execution of the works; but we come to an item (in this case, for instance) of 384*l.* 8*s.* for engineer's superintendence, &c. This charge upon the cost of works, 3,107*l.*, amounts to 12½ per cent. as a commission—tolerably liberal, I should think, and a temptation sufficient to bring into the field a host of sanitary engineers.

Being cognizant of the facts stated above, and feeling it due both to the public and the profession that published statements of this nature should not pass unnoticed by those who can speak to such facts, I trust you will allow me space for this in your next number.

Investigator.

BUILDERS' ACTIONS.

Longmire v. *Hands*.—In this action, tried at the Bail Court, on the 17th instant, Mr. Serjeant Shee and Mr. Hodgson were counsel for the plaintiff, and Mr. Serjeant Parry and Mr. Leigh for the defendant.

The plaintiff was a builder in Marylebone, and the defendant was a gentleman of property, living in the Harrow-road. The action was brought upon a builder's bill for work done by the plaintiff to a house of the defendant in Stamford-street, Blackfriars-road. The defendant had paid 105*l.* 5*s.* 4*d.* into court, and the sum now in dispute was only 18*l.* 7*s.* 10*d.* During the time the work in question was in progress; there being no hoarding, and there being no front door; some thieves had entered the premises, and had stolen a quantity of lead, which had caused extra expense; and the defendant disputed his liability to pay for the lead and the additional expense which had been incurred in consequence of the theft. The defendant employed an architect, who employed the plaintiff. The architect had directed the plaintiff to put fresh lead on.

The defence was that there was negligence on the part of the plaintiff, who had pulled down the front door, and had not put up any hoarding; so that the lead and everything on the premises were at the mercy of any one who passed. The defendant swore that he had told his architect that he should hold him or the builder liable for any damage; as the architect had told him not to interfere with the builder; nor did he in fact know who the builder was.

The jury returned a verdict for the plaintiff for 18*l.* 7*s.* 10*d.*

PATENTS CONNECTED WITH BUILDING.*

Conservatories, Orchard-houses, and other Horticultural Erections.—*J. Cranston*, Birmingham. Dated 24th August, 1861.—This invention applies to horticultural buildings to be constructed of wood and glass, and also to erections for any other purposes in which the same principle of construction is carried out; but, with the use of iron, zinc, copper, tin, lead, or other suitable material in the place of glass; all the buildings being pinned and screwed together, and made to rest upon blocks of wood or butts of trees sunk in the ground; so that they can be erected with great ease, and are portable.

Machinery for Dressing Slates.—*C. E. Amos*, Grove, Southwark, and *J. Francis*, Penrhynn Slate Quarries, near Bangor. Dated 27th July, 1861.—This invention relates to a novel arrangement of machinery whereby roofing slates may be cut, trimmed, or dressed to the different sizes used for building purposes. The machine consists of a rectangular frame, which may, if necessary, be mounted on wheels for the convenience of transporting or removing the machine from one locality to another. This frame is provided with a fixed knife, and also suitable bearings for a lever or "sword arm," which carries a movable knife. The "sword arm" or lever is suspended by a spring or springs; so that, when in a normal position, the movable cutting edge is raised above the lower knife edge, and the two edges resemble a pair of open "shears," and act in the same manner.

Manufacture of Boxes, Cases, Tubes, Rings, &c.—*J. R. Black*, Summer-place, Onslow-square, and *H. W. Spratt*, Walbrook-buildings. Dated 6th July, 1861.—This invention consists in an improved mode of constructing and manufacturing boxes, cases, tubes, rings, and other such like articles (some of which have been usually made of pasteboard or thin wood and paper) by moulding and forcibly compressing into the form required pulp made from vegetable or animal fibres, in conjunction with earthy matter, starch, size, gum, oil, glycerine, resin, or other similar stiffening substance. The machinery employed is of the following construction:—The patentees employ a mould or die to receive the pulpy substance. They then employ one or more plungers to mould and forcibly compress it into the form required. The mould or plunger is pierced so as to permit the air and water to pass through it.

Veneering Presses.—*C. Board*, Bristol. Dated 21st September, 1861.—Upon a strong wood or metal frame the patentee lays and secures a sheet or plate of zinc or other metal, on the upper surface of which he fixes metal bars, in such manner that series of chambers or passages, extending from end to end of the plate, are formed. He places strips of wood, or other suitable material, at the ends and sides; and he covers the whole with another sheet of metal, similar to the first, in order to obtain a smooth and hollow bed on which to perform the veneering. Having formed the hollow bed, he places pipes below it in communication with the ends of each of the passages; at one end of which he admits steam, hot air, or hot water, which, travelling along the passage, passes off at the other end. Clamps are fitted to the press, which, for convenience, he hinges at one end of the frame.

Improvements in Treating Stone, Bricks, and other Surfaces and in the Manufacture of Filters.—*F. M.* and *E. L. Ransome*, Ipswich. Dated 16th September, 1861.—For the purpose of treating stone, bricks, and other surfaces, the patentees employ powdered glass, or other vitrified or hard substance, or powdered flint, or powdered stone, or sand mixed with soluble silicate, with or without colouring matter; the object being so to apply soluble silicate that it may, for the most part, be retained in combination with the pulverised substance on the surface of the stone, bricks, or other substances to which it may be applied; and this is effected by the admixture of the pulverised substances with it. The compound of soluble silicate and pulverised matter or matters having been applied to the surface of the stone, bricks, or other material, the soluble silicate is then rendered insoluble in like manner to that practised when impregnating stone or other substances with soluble silicate; but by this mode of treatment the pulverised matters will be combined with the silicate (which is rendered insoluble), on the surface of the stone, bricks, or other substances. When making parts of filters of pulverised stone, sand, or other materials, cemented by soluble silicate; and also, when using other porous stone or material; the patentees form such porous matters into hollow triangular forms or tubes, by which they are enabled to obtain more extended filtering substances within a given space than can be obtained by other constructions of filters; and such triangular tubes may be combined at pleasure, according to various arrangements.

Fittings and Method of Hanging Window-Sashes.—*J. Gurman*, Southampton. Dated 18th September, 1861.—This invention relates, first, to the fitting and hanging of window-sashes in such manner that they can be readily removed from the frames for cleaning and other purposes without the necessity of disturbing the beads. To effect this the patentee forms what he terms a pocket in one side of the window-frame, similar to that which is sometimes made to get at the counter-balance weights. He makes such pocket somewhat longer than one of the sashes; and fits it with pieces jointed together in the length; the upper end having a spring catch, and the lower one fitting into a step or socket, or *vice versâ*; by which means such pieces may be released and slid out and into position; the sash at the time being in a suitable position. In this pocket-piece he also comprises part of the bead that separates the sashes; so that when the pocket-piece is removed, a part of the bead of some length also comes out. The pocket-piece having been removed, the inside sash is slid into the position embraced by the pocket, and may there be moved laterally to an extent of, say ¾ of an inch, which is sufficient to clear the bead on the opposite side, and the sash so removed from the frame. In order to attach the cords readily he secures a metal-piece to the end of the cord, which piece has a globular enlargement at the end: this is received in a socket fixed to the sash, from which it may be readily detached in the manner of a door-chain. In the piece attached to the cord he forms a hole or socket to receive the end of the cord, which he secures thereto by one or more bending screws. The outside sash may also be slid to position opposite the pocket, into which it may be moved laterally; being first moved inwards a little on the pocket side, for which it is free; the mid or parting bead being removed at that point, as before-mentioned. The attachments of the cords are as before described; and in this way both sashes are readily capable of removal. The next part of these improvements relates to the fittings of sashes which balance each other. For this purpose he uses cords with suitable metal attachments, such as before described; and at the one end he applies a regulating screw, which can be turned at pleasure to regulate the length of the cord, to allow for expansion and contraction thereof, and insure the simultaneous closing of the upper and lower sashes. The pulleys over which the cords pass to connect the two sashes are situate in the mid bead, or bead disposed between the two sashes. He forms the bracket or piece in which such pulley is mounted with a frame or part to form the continuation of such bead, and so give the whole a perfect appearance, and insure the necessary strength.

Improvements in the Manufacture of Stones, Bricks, Tiles, Slabs, Statuary, and such like Materials, and in the Method of and Means for Cleansing and Indurating the same.—*J. C. Combe* and *J. Wright*, Bridge-street, Blackfriars, London. Dated 19th September, 1861.—The patentees propose to make use of a solution of silicate of potash, weak or strong, as required by circumstances; and then to add to this solution a sufficient quantity of hydrofluo-silicic acid, weak or strong as required; but preponderating in its equivalent, so as to leave the mixture decidedly acid.

Roof and other Lights.—*R. Smith*, Hornsey; *B. Brookes*, King's-cross; and *J. Smith*, Tottenham. Dated 13th September, 1861.—The patentees form the bars and other parts where they support the glass with longitudinal recesses or gutters, over which the edges of the glass are laid; and the glass is then retained by putty in the usual way, or by other suitable holding means. When from any cause the putty or other holding means admits water through it, such water, after passing under the edges of the glass, in place of

* Selected from the *Engineer*, and other sources.

dropping at once therefrom, will be received into the longitudinal recesses or gutters, and by them may be conducted to suitable channels or receivers.

Books Received.

Transactions of the National Association for the Promotion of Social Science, 1861. Edited by GEORGE W. HASTINGS, LL.B., General Secretary of the Association. London: Parker & Son. 1862.

THE Dublin meeting of the Sanitary Association, presided over by Lord Brougham, was an interesting and successful one, of which we duly gave particulars at the time. The voluminous proceedings at that meeting have now been embodied in this goodly octavo, consisting of upwards of 800 pages, with a useful index. It contains the opening addresses, by Lord Brougham; the Right Hon. Joseph Napier (on Jurisprudence and Law); Sir John Shaw Lefevre (on Education); the Right Hon. Thomas O'Hagan, Attorney General of Ireland (on Punishment and Reformation); Lord Talbot de Malahide (on Public Health); Hon. Judge Longfield (on Social Economy); and Mr. Michel Chevalier (on Trade and International Law); together with a host of select papers, notices of papers, &c., on all the subjects already named, and an Introduction to the whole by the editor.

A paper by Mr. Nugent Robinson, City Hall, Dublin, on "The Condition of the Dwellings of the Poor in Dublin, with a Glance at the Model Lodging Houses," gives a fearful idea of the state of things in some parts of Dublin. In perusing what is said of these, one feels as if, by mistake, an account were being given of the vilest and most wretched districts in Constantinople, or of some still worse city of semi-civilized China. As regards the streets, however, much is done to promote cleanliness; but the state of the dwellings in the poorer districts of Dublin is dreadful, and, as Mr. Robinson remarks, "a disgrace to modern civilization."

"The visitor whom necessity or philanthropy may drive into the lanes and alleys with which our city is intersected, can alone form an idea of the sties in which the poor are compelled to drag on their existence. These places are like so many hotbeds, from whence all diseases are transplanted into our hospitals. The number of tenements—that is, of houses let out in rooms within the municipal boundary—is close upon 8,000, or better than one-third of the total number of houses in the entire city. As the large majority of these are overcrowded, we may safely venture upon the average of eight persons to each house, which gives us 64,000 people out of a population of 249,733,—0,000 at least of whom reside in a fetid and poisonous atmosphere. The dwellings of the poor are chiefly confined to about 450 lanes, courts, and alleys, and about sixty streets. The worst districts are the Liberties on the south, and the parish of St. Michan on the north side of the city. The major portion of these tenements are situate in the Liberties. The entrance to most of these courts is very narrow—a sort of great stench valve, or overground sewer. As a general rule, there is a green slimy stream oozing from a surcharged and choked-up cesspool, through which the visitor is compelled to wade. The stench from this ooze is intolerable. In a tottering house, in an alley like this, the deformed offspring of a narrow street, the working man is forced to dwell. Finding that to enumerate the lanes and alleys, and the statistics connected therewith, in so small a space as is allowed to this paper, is utterly impossible, I have taken 134 of the worst streets and alleys; and having condensed the figures connected with them into totals; the following are the results, as near as I could gauge them. In these 134 streets there are 2,102 houses occupied by room-keepers, 11,214 rooms, 14,850 beds, including wads of straw, and 40,319 persons, giving the following averages:—

Average number of persons to each street ..	300·888
Average number of persons to each house ..	19·181
Average number of persons to each room	3·595
Average number of persons to each bed	2·715

There is a class of people in Dublin called "house jobbers," to whom the wretchedness of the dwellings of the poor is mainly owing. As for amendment, in many cases nothing but the demolition of whole streets will be of any avail. An extensive fire, could the poor people only have sufficient warning, would be a merciful dispensation; and, indeed, in these "sties," as the author of the paper calls them, fever must destroy hundreds for every one that would be likely to suffer from any smart and destructive conflagration.

"In a return made by the sanitary inspector of the principal fever sites in the city in the year 1855, the streets he selected as being the lurking-places of fever are almost identical with those chosen by me as being the most filthy as well as the most crowded. It was not until after I had completed my researches that this document fell into my hands. Some of these houses are in a most ruinous condition: an eminent architect tells me he 'would not guarantee their safety while he wound his watch.'.... The people inhabiting these localities look as though stricken by the plague. In the majority of the rooms there are no beds, nothing but wads of straw. Sixpence a week is the rent paid for a miserable apartment: the ceilings are low, and the place is literally filled with hot air. In traversing these districts the stench that assails the nostrils is of the most sickening character. The reason of the existence of this bad odour arises partly from the total want of dustholes, &c. The houses are built in blocks, leaving no space whatever for yards or necessaries, whereby the landlords do not come under the Removal of Nuisance and Diseases' Prevention Act. The police interfere whenever they can do so, to compel dustholes and necessaries to be erected; but they have no power to issue an order to remove nuisances till a complaint has been formally lodged against the house, signed by two of the inhabitants. In many cases the people are afraid to complain, for by so doing they bring down upon themselves the wrath of the landlord, so the grievance remains unredressed, and the work of corruption goes on."

The Transactions of the Social Science Association, of which this is the fifth volume, form a very valuable record of social short-comings and defects as well as of social progress.

VARIORUM.

MRS. S. C. HALL'S novel, "Can Wrong be Right?" (two vols., Hurst & Blackett), originally published in the *St. James's Magazine*, is even more effective, read as a whole, than month by month. Indeed, we are mistaken if it do not come to be considered, as a work of art, the most complete of Mrs. Hall's many excellent books. The plot, a novel one, is effectively worked out; and, while it greatly interests and amuses, is made to teach. It deserves to have, and will have, numerous readers. Mrs. Hall dedicates the book in these striking words:—"I inscribe these volumes to the guide, the counsellor, the unchanging affectionate friend, the devoted husband, who for five-and-thirty years has laboured for me, and with me: to whose care and judgment I owe whatever success I have achieved, and from whose example I have learned to value the dignity and happiness of work." Mr. Hall may justly be proud of the testimony.——In "St. Thomas's Hospital: a Statement of the principal Considerations involved in its change of Site," Mr. Whitfield, the resident medical officer, brings together all his arguments and facts in support of the proposal to remove the hospital to Lewisham or some other suburban position, as urged by ourselves. In reply to some of the statements that have been made as to the probability that physicians and surgeons of high eminence would not attend if the hospital were removed to a healthy suburban site, he prints a letter dated 27th June, 1832, signed by the medical and surgical officers of that period, setting forth the present bad position and construction of the hospital, and urging the rebuilding of it in a more salubrious situation. If it be removed a little way out of town, as we sincerely hope will be the case, the treasurer's suggestion to build a collegiate establishment in connection with the hospital might be carried out advantageously. Those who insist on keeping the hospital on a site "detestable as a residence" have not an argument left.——The current *Quarterly* has, amongst other articles, a capital paper on "Dorset;" a very damaging smash-up of Mr. Thornbury's "Life of Turner;" and some not very conclusive observations on "The Merrimac and Monitor."——No. 6 of *The Illuminators' Magazine* (Barnard & Son, Oxford-street) contains a coloured plate showing the decorations of the nave of the Exhibition building. The effect conveyed, however, is not that of the building, where the columns and the roof scarcely seem to belong to each other.

Miscellanea.

MR. FRITH'S "RAILWAY STATION."—The reputed large price agreed to be paid for this work before a line was drawn (8,750*l.*, including the right to exhibit and engrave, and a reduced copy for the latter purpose) led to so much talk about it that the chances were the public would be disappointed with the result. We have no hesitation, however, in saying that this will not be the case. It is one of the finest works of its class ever produced;—full of story, full of truth, and full of beauty. Notwithstanding the large number of figures engaged, and the episodical nature of the incidents (a struggling Frenchman in the hands of a cabman, a wedding party, sailors, soldiers, fussy women, boys for school, the arrest of a forger, and a dozen other points), they group admirably, and form a whole of a remarkable character. In respect of manipulative skill, too, its merits are very striking: notice the shawl of the mother who is stooping in the foreground to kiss her departing child; and the dress of the porters. Mr. Frith has done honour to himself and the British School, and deserves the hearty congratulations of his contemporaries.

MARBLE ELEPHANTS FOR THE QUEEN.—The marble elephants, which stood in the Kaiser Bagh at Lucknow, and which were removed from there a short time back, are *en route* for England, as an offering to "the Empress of India."

WESTMINSTER BRIDGE.—The removal of the massive scaffold and travelling-cranes used in the construction of the lower half of the new Westminster Bridge commenced on Tuesday in last week; the whole of the arches being turned and the entire structure completed. The bridge is to be opened to the public during the ensuing month of May.

GAS.—The price of gas supplied by the Isle of Thanet Gas Company is to be reduced from 5s. to 4s. 6d. per 1,000 feet.——The erection of the Pangbourne gasworks has been commenced near the Great Western Railway station of that village, and the pipes are to be extended to Whitchurch. Mr. Briant, of Whitchurch, has taken the contract for the buildings, under the superintendence of Mr. Bower, the engineer, who is one of the principal shareholders, and who will chiefly manage the works after erection.——The Durham Gas Company have announced a reduction in the price of gas to private consumers of 3d. per 1,000 feet. On the following scale of consumption the prices annexed will henceforward be charged:—Under 150,000 feet, 3s. 9d.; above 150,000, and under 300,000, 3s. 6d.; 300,000 and under 600,000, 3s. 3d.; and 600,000, 3s.

LIVERPOOL ARCHITECTURAL SOCIETY.—The fourteenth meeting of the session, on Wednesday evening before last, at the Royal Institution, was presided over by Mr. Goodall. After some routine business had been transacted, Mr. Heffer drew attention to the death of Mr. Thomas, the sculptor; which gave rise to some remarks favourable to Mr. Thomas, as an artist and a good man; and ended in a request that Mr. Heffer, who is an old pupil of Mr. Thomas, will draw up a memoir of him to be read at next meeting, which Mr. Heffer promised to do. The paper of the evening was by Mr. Frank Horner, "On some of the Relations existing between Modern Literature and Art." The paper was favourably received; and, after a discussion in which Mr. Picton and other members joined, thanks were voted to Mr. F. Horner.

WINDSOR CASTLE: THE NEW GUARD-ROOM.—A new building is in course of construction in the Early English style, extending from the Salisbury Tower, near Henry VIII.'s Gateway, along the western side of the lower foundation to the Old Garter Tower. It will comprise every necessary accommodation for officers and men. The building contains a guard-room, 74 feet by 20 feet, in the clear: at one end there is also an open corridor, 28 feet by 20 feet; and at the opposite end officers' apartments are to be built in the Old Garter Tower, beneath which is to be a kitchen, connected by an underground passage with the guard-room. The wall fronting the Castle-yard is 4 feet in thickness, and that fronting Thames-street 5 feet, composed of heath-stone, with Bath-stone dressings. The roof is covered with asphalte, which forms a terrace walk, approached by a flight of stone steps from the Castle-yard. The length of the building from the Salisbury Tower to the Garter Tower is 124 feet. All the apartments are vaulted, and lighted by windows looking into the Castle-yard and Thames-street. Mr. George Smith, of Pimlico, is the builder; Mr. Anthony Salvin, the architect; and Mr. Jackson, clerk of the works.

A GOLDEN BRONZE FOR STATUES, &c.—The Paris correspondent of the *Birmingham Journal* describes a novelty in manufacture which, he states, has been accepted with great interest by the metallurgists of the Government. The discovery appears to have been purely accidental, and to have originated in what was at first regarded as a disastrous mistake, made by one of the workmen in the employment of Mr. Hullin, of the bronze powder factory at Chatelherault. The spilling of some chemical matter (which of course remains a secret) into copper and iron filings has produced two new metals or alloys, possessing every quality of gold and silver excepting weight. Both are inoxidable, and as rich and bright in colour as the real metals, of which they are rather to be deemed the humble rivals than the mere imitators. The price is fixed at fifteen francs the kilogramme; and its cheapness has induced the experiment to be made public by the execution of a statue of Saint Anne, for the hermitage of Auray, in Brittany. The statue is intended to be of colossal proportions, and to adorn the roof of the grotto. A tea service of the metal, it is added, has been sent to London for the Exhibition. Ancient bronzes were ordinarily gilt.

The One-shaft System in Mines.—Another illustration of the danger attendant on the one-shaft system in mines has just occurred at West Hetton Colliery, Durham, which is subject to this defective arrangement. The workings were last week blocked up by the falling of a quantity of timber from the shaft, occasioned by a cage slipping out of the "slides." At the time, 230 men and boys were at work underground, and several hours elapsed before they were released from their perilous situation.

Architectural Society of the Archdeaconry of Northampton.—At a committee meeting held April 7th, Lord A. Compton in the chair, the secretary stated that the Leicestershire Society, in connection with that of Lincoln, were about to meet at King's Bosworth battle-field during the autumn; and that the Archæological Association would probably select Leicester as their place of meeting for this year. The anastatic proofs of cottage designs to appear in the forthcoming volume were exhibited and approved. The committee adjourned to visit St. Sepulchre's Church, which is now externally complete, and only awaiting sufficient funds to carry out the paving and seating before the new part can be opened. Madame Lind-Goldschmidt's generous offer to sing at the concert on Easter Wednesday, on behalf of the Restoration Fund, was very cordially acknowledged.

Iron and Concrete Pavement in the City.—The roadway of the Poultry, commencing at the corner of Charlotte-row, Mansion House, and extending about 100 yards westward from that point, is being laid with Knapp's patent pavement, which consists of hollow iron blocks, divided into small compartments, the latter being filled up with concrete level with the surface. Four of these blocks will make a square yard. On each side of the road, close to the edge of the footway, are being laid hollow cast-iron tramplates, 6 feet in length and 18 inches broad, which are first filled with concrete, and then turned over, leaving the indented iron face upwards, thus forming solid tramways. To keep the paving level at each end, iron girders, 18 feet 9 inches in length, will cross the roadway. The blocks lock into each other, and form a solid mass of iron and concrete. One great question, of course, will be its slippiness, or otherwise, in frosty weather.

House Property.—At the Mart, by Messrs. Foster.—Leasehold dwelling-house, No. 19, Priory-street, Camden Town, estimated value 30*l.* per annum, term unexpired sixty-two years, ground-rent, 7*l.*: sold for 200*l.*—Leasehold residence, No. 16, William-street, Knightsbridge, let at 150*l.* per annum, term eighty years from 1836, ground-rent, 30*l.*: 1,790*l.*—Leasehold residence, No. 91, Eaton-place, Belgrave-square, let at 150*l.* per annum, term seventy-nine years from 1840, ground-rent, 24*l.* 10s.: 1,810*l.*—Leasehold residence, No. 12, Eccleston-square, Pimlico, let at 150*l.* per annum, term seventy-seven years from 1849, ground-rent, 20*l.*: 1,790*l.*—Leasehold residence, No. 73, Eccleston-square, let at 170*l.*, term eighty-four years from 1842, ground-rent, 2*l.*: 2,610*l.*—Leasehold residence, No. 1, King-street, St. James's, let at 240*l.* per annum, term ninety-nine years from 1845, ground-rent, 65*l.*: 2,430*l.*—Leasehold residence, No. 1, Warwick-square, Pimlico, let at 140*l.*, term unexpired seventy-two years, ground-rent, 5*l.*: 1,630*l.*—Leasehold dwelling-house, No. 1, Gloucester-street, Belgrave-road, Pimlico, let at 65*l.* per annum, term unexpired sixty-seven years, ground-rent, 10*l.*: 685*l.*

Bath Theatre Burnt.—The theatre at Bath has been totally destroyed by fire. It was built in 1805 at a cost of about 25,000*l.* The present lessee is Mr. Chute, who is also lessee of the Bristol Theatre. The building was insured in the West of England and Norwich Union offices for about 6,000*l.* The origin of the fire is uncertain; although it is stated that a flue, built against the theatre wall, and used for a furnace fire of the theatre tavern adjoining, originated the mischief. The funds for the erection of the Bath Theatre were raised by a tontine, which has not yet expired, the principal holder at present being Mr. E. King. The house was built from a design by the late Mr. G. Dance, R.A. There were three entrances, in as many different directions. The grand front in Beaufort-square was about 125 feet in length, and 70 feet high. The exterior buildings contained dressing-rooms, scene-rooms, wardrobes, &c., the interooms and saloons to the boxes, rooms of accommodation to the private boxes, which were twenty-six in number, inclosed with gilt lattices, &c. The pillars of cast iron were placed at a distance of 2 feet from the front, by which the first row of each circle appeared as a balcony independent of the main structure.

National Association for the Promotion of Social Science.—The Corporation of the City of London have granted the use of Guildhall, with the courts and offices adjoining, for the purposes of the sixth annual meeting of the National Association for the Promotion of Social Science, to be held in London from the 5th to the 14th of June next. A strong feeling is exhibited in the City in support of the meeting; and the Fishmongers' Company have given fifty guineas to the fund that is being raised to defray the local expenses.

Discovery at Worcester.—The men engaged in digging the foundations for the new City police-station, in Copenhagen-street, Worcester, have come upon some interesting remains. About 8 or 9 feet from the frontage of the present street, and 7 feet below the surface, they have discovered the remains of an ancient roadway, and the bases of two columns, standing about 7½ feet from each other. The bases are of sandstone, and have been broken off from the columns which they supported. They are of Roman type; but from the rudeness of their form they can hardly have been the work of Roman hands: they are, therefore, supposed to be of a date a little subsequent to the Roman period.

Baines's Girders and Frames.—In the forms or sections of plates used in the construction of these frames or compound girders, the invention of William Baines, of Smethwick, one part of each is male and another part female: by bringing these parts together they become inserted; and, being secured by bolts or rivets, effect a vertical union and continuous bearing; branching or extending where required. In constructing the movable parts of railway turntables, the plates are bent and formed into suitable parts or segments, and secured in their respective places by bolts or rivets; thus constituting one entire frame forming its necessary cross girders, which can be produced to suit any angle for any number of roads upon the table.

The Ipswich Surveyorship.—The surveyor to the corporation and the local Board of Health, Mr. Taylor, having resigned his offices, the paving and lighing committee recommended the separation of these offices, and the appointment of a separate surveyor to the Board of Health and inspector of nuisances, with a salary of 200*l.* a year; and reported that they were ready to submit the names of three persons to the Board, all qualified and willing to undertake the office. On the motion that the report of the committee be adopted by the Board, a good deal of discussion ensued; during which it was proposed to advertise for a surveyor; when a member of the Board said it should be announced, in such an advertisement, that "none but Mr. William —— need apply," as he knew the matter was already decided. Ultimately it was resolved that the offices be divided; that the salary of the Board's surveyor and inspector be 200*l.* a year; and "that advertisements be inserted in the local papers, *Times*, and *Builder*, inviting applications for the offices; and that the applications and testimonials be laid before the paving and lighting committee and the estate committee jointly, and to report thereon to an early meeting of the council."

Arsenical Paper-hangings.—Mr. John Humphreys, the coroner for the county of Middlesex, received information on Tuesday from the parish of St. Ann, Limehouse, of the deaths of four children, from the effects of arsenic, under extraordinary circumstances. It appears that the four children resided with their parents at Tomlin's-terrace, Salmon's-lane, Commercial-road, Limehouse; and the father (Richard Turner), who is a journeyman bricklayer, occupied a small tenement, with his wife and four children, at the place above named. The house was well drained, and the family were in perfect health until about six weeks since, when one of the younger children was found to be unwell. Dr. Orton, who is one of the most experienced officers in the east end of London, repaired to the place, and found the house in capital condition, well drained and ventilated. He could not find any local cause for the deaths of the four children in a sanitary view; but he subsequently went to the room where they had slept, and there he found that the walls of the apartment had been papered with a green-coloured paper. He examined the walls and found that large pieces of the paper had been torn off by the children while in bed. They had played with portions and licked the green colour off the surface. He had tested the substance, which was easily removed by the slightest moisture, and discovered by experiments that the paper contained immense quantities of arsenic, which, he believed, had been the cause of the four children's deaths.

A Universal Square.—Among inventions recently submitted to the Franklin Institute at Philadelphia is a patent universal square, which combines the try-square, the mitre, the T-square, the centre-square for finding the centre of a circle, and the graduated rule.

Aldershott.—The present temporary building used as a theatre for amateur performances by the military being unfit for that purpose, a plan is under the consideration of the authorities for constructing a building capable of holding 1,000 persons. A design has been prepared by the army schoolmaster, Mr. H. A. Binckes, in accordance with which the theatre will be 120 feet long by 30 feet wide, with dressing and refreshment rooms, &c., and detached residence for the manager.

Darlington School of Art.—The annual *conversazione* of the friends of the Government School of Art in Darlington has been held in the Mechanics' Hall there. The room was decorated with evergreens and pictures drawn by students. The attendance was considerable. A report for the past year was read. Its aspect was of a satisfactory character; there being funds in hand to commence the work of another year, and the number of pupils in connection with the school increasing daily. The prizes were awarded at the meeting.

The Nottingham School of Art.—The medallions, medals, and prizes, form a test of the relative success of the different schools as regards the proficiency of the students. The maximum number of medallions awarded to any school is five, and of medals thirty. The Nottingham school obtained four national medallions at the last competition, and twenty-eight medals at the examination just concluded. This number entitles the school to the privilege of selecting works of art to the value of 54*l.* towards the formation of a permanent museum.

New Church at King's-cross.—A gentleman, whose name has not publicly transpired, has given a site for a new church, and an endowment of 200*l.* per annum, for a church for the district of St. Michael, adjoining King's-cross. About 1,000*l.* more have been subscribed by the friends of the founder, and 600*l.* have been promised by the London Diocesan Church Building Society. About 1,400*l.* more will be required to complete the work. The Rev. John Lowder Lees, of St. Bees' College, Cumberland, late curate of the working men's wooden church, Luton, will be the incumbent of the new church and district.

The Durham School of Art.—The ninth annual report of this school has been printed. It states that the balance sheet of this year will show that the school is now in a much better position, financially, than it was when the last report was issued. The expenditure has been brought into a condition that will enable the funds to meet it, providing the annual subscriptions do not fall off. The committee observe that there is a great want of casts to illustrate the different periods of Gothic art; as also of architectural patterns for those who are pursuing that branch of drawing. The present state and progress of the drawing department is shown in the following statement of the drawing-master:—Morning class:—Number of students who have attended the class for any time, 19; average attendance, 10. Afternoon class — Number of students who have attended the class for any time, 32; average attendance, 20. Evening class —Number of students, 61; average attendance, 35. St. Margaret's school has been added to those which already receive instruction in drawing. The number of children under instruction is about 400.

Demolition of "King John's Palace" at Nottingham —That quaint "nook and corner of old Nottingham," known as "King John's Palace" (says the local *Guardian*), is a thing of the past. Some doubt has been expressed whether it ever formed part of a royal house. In favour of the hypothesis is the well-known tradition, which has come down from father to son; and it is borne out by one or two facts, not the least important of which was the existence of an old carved mantelpiece in the large room, on which the royal arms were quartered. This was sold some time ago. The public-house in Bridlesmith Gate, "King John's Palace," and the old gabled structure, in the same style of architebture, in Peter Gate, are said to have formed portions of the palace; which, in that case, originally covered a large extent of ground. Some fine old oak panelling and curiously carved oak skirting have been preserved; including the grotesque figures which attracted the attention of the curious as they examined the archway leading to the old court-yard. These carvings will, probably, be placed in the museum attached to the Mechanics' Institution.

DISCOVERY OF AN ANCIENT THEATRE AT ATHENS.—A letter from Athens announces that the researches which Mr. Starck, an English architect, and member of the archæological commission sent to Greece, has caused to be made at his own expense, have brought to light the ancient theatre of Bacchus, upon the southern slope of the Acropolis.

GREAT FIRE AT FALMOUTH.—Thirty houses have been destroyed at Falmouth, together with a large amount of property, and causing great distress to many families. The fire broke out on Ludgate-hill, it is supposed in the store at the back of a grocer's shop. Four houses were ultimately pulled down, one on either side at both ends of the street. These measures were so far successful, and the loss was limited to twenty-six houses burnt and four pulled down.

LITERARY INQUIRERS IN THE COURT OF PROBATE. Considerable facilities have been afforded by Sir Cresswell Cresswell for the admission of literary inquirers to the principal registry of her Majesty's Court of Probate. The regulations have been published. Visitors are allowed without fee to search the calendars, to read the registered copies of wills proved before the year 1700, the probate and administration act books to the same date, and to make extracts from such wills and books.

THE BISHOP HOOPER MONUMENT.—The monument to Bishop Hooper at Gloucester, erected on the site of his martyrdom, is (says the *Bristol Mercury*) now nearly complete. The design consists of a pedestal with open canopy, surmounted by richly-carved pinnacles and a crocketed and carved spire. The monument is about 40 feet high, and the committee have advertised for designs for a statue, to be 7 feet high, and the cost not to exceed 100 guineas.

ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY OF DURHAM AND NORTHUMBERLAND.—Under this title a new society has been established "to promote the study of architecture and archæology, to preserve architectural and other ancient remains, and to improve, as far as may be, the character of ecclesiastical and other edifices to be erected in future." The Society will meet for the reading and examination of works of architectural interest from time to time, and also hold one general annual meeting.

TAUNTON SCHOOL OF ART.—On Monday, Tuesday, and Wednesday, in last week, the Government Inspector attended at this school for the purpose of making his annual examination of the drawings, &c. The examination was open to students at other schools, and to persons receiving private tuition. The number examined was 200. The inspector expressed himself highly pleased with the examination. The number of local medals awarded was twenty-three; works selected for national competition, nine.

FALL OF AN ARCH UNDER A CANAL IN SCOTLAND.—A portion of the arch under the Monkland Canal, close to the entrance of the Summerlee and Gartsherrie branch, lately fell in, and the water dashed out into the burn beneath, which, from the great body of water escaping, soon had all the appearance of a large river. The whole stretch of the canal, from Sheepford Locks on the east to the Blackhill Locks on the west, was drained, so that there is about a mile of the canal entirely emptied.

PIPE JOINTS.—Mr. Lesourd has recently patented an improvement in joining pipes, communicated by Mr. Lemoine. The specification, filed by Mr. Henry, patent agent, Fleet-street, describes the invention as consisting in fitting round the pipe junction or contiguous ends, a hollow box consisting of two parts, hinged or otherwise, held together; into which, when closed, a quantity of cement, luting, or other suitable agent, is run, so as to stop any opening that may occur at the junction. The box may be left on or removed: in the latter case, however, the cement is left round the joint. The box has feed and air openings. Sulphur is recommended as the plugging agent, to be used in a state of fusion.

THE DRAINAGE OF BRIGHTON.—According to a letter from Mr. Somers Clarke, under the consideration of the works committee of the council of Brighton, the Brunswick-square commissioners are about to take the drainage of their district, and probably of the rest of Hove, into the sea opposite Western-street. The committee had an interview with the Brunswick-square and terrace commissioners, but the latter held out no hopes of altering their determination. They stated that their reason for not draining to the west was, that they were afraid it would return on them. At the very point they had selected for their outfall, were 28 machines, besides 150 between that spot and the battery.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—On Wednesday evening, the third *conversazione* of this society took place at the Galleries of the Society of British Artists, Suffolk-street, Pall-mall, the walls of which, hung with the pictures constituting the exhibition of the year, and brilliantly lighted with gas, presented an admirable *coup-d'œil*. The music, under the direction of Mr. Alfred Gilbert, comprised a selection from the works of Mozart.

AN ENGRAVING MACHINE.—A machine has been invented by a practical steel engraver which promises, according to the *Mechanics' Magazine*, to revolutionize the arts of metal engraving and cameo cutting. The most elaborate medals of the celebrated engraver Andrieu, struck during the Consulate and the Empire of Napoleon I., have been copied by the new process, it is said, with faultless precision, and in an incredibly short space of time.

A SELF-ACTING TROWEL.—A machine for making drain-pipes of cement underground has been invented by a Mr. Watson, in Ohio, and appears to dispense entirely with hand labour. He fixes a cutter to the ploughshare, which cuts down to the required depth in the subsoil, and forms a proper channel for the flow of water. Besides this, the plough carries a hopper filled with hydraulic cement: this cement flows downwards, while the implement is in motion, into a spiral conical trowel, which, moving slowly round, leaves behind a complete tube, requiring but a few hours' drying to become a permanent drain.

TELEGRAPHIC PROGRESS.—It is said collodion forms an insulator of extraordinary power, and that the Government will henceforth insist on all submarine telegraphs under their control or influence being coated with it; whatever additional insulation or protection, whether with gutta percha, india-rubber, or anything else be provided. The thinnest possible film, we hear, has been found to be equivalent to the usual thickness of other insulators. It is to be hoped no Atlantic telegraph will be laid anew without well considering and testing, at all events, what is reported of collodion, with the view of adopting it for interior coating, if what is said of it be correct.

THE LEICESTERSHIRE ARCHITECTURAL SOCIETY.—The usual bi-monthly meeting of this Society was held in the Town Library, Guildhall, Leicester, on the 31st ult. A correspondence from the editor of the *Gentleman's Magazine* was read, from which it appeared that there is a probability that, after an existence of 130 years, its publication will be discontinued. Some new members of the Society were elected, and various objects of interest exhibited. The Rev. J. H. Hill then read a paper upon the Langtons of Lincolnshire, illustrated by two worked pedigrees of that family.

ARCHITECTURAL EXHIBITION.—Mr. W. Burges writes,—Will you kindly permit me to supply an omission in your notice of the Architectural Exhibition? In it you have done me the honour to mention my name as the designer of the sculpture at Gayhurst, but you have forgotten to say that the credit of the execution belongs to Mr. Thomas Nicholls, of Lambeth; and, indeed, with regard to the procession of the Boar's Head, the credit is almost entirely his own; my part of the work being limited to the supplying the costume, and suggesting a few hints as the work proceeded. I am sure, from the courtesy which you invariably show to all artists, you will not, in justice to Mr. Nicholls, refuse the insertion of the above.

OPENING OF A NEW DRINKING FOUNTAIN AT CAMBERWELL GREEN.—On Wednesday afternoon, a drinking fountain was opened by the Hon. and Rev. Bury Caple, vicar of St. Giles's, Camberwell. The fountain is the gift of Miss Caroline Edwards and the Metropolitan Free Drinking Fountain Association, and has been erected under the superintendence of that society. The fountain is described as a square Gothic dome in Portland stone, supported by four columns of serpentine marble, resting on a square solid pedestal. Under the dome, four jets of water spring forth from an ornamental stone in the centre. The design is by Mr. Rolles.

TENDERS.

For building new Wesleyan schools in King street, Exeter. Mr. W. Blackmore, architect:—

Bradford	£1,120 0 0
Moass & Sons	1,065 0 0
Mitchell	1,056 0 0
T. [illegible]	1,029 0 0
Ware & Son	995 0 0
Gardner	989 0 0
Mo[illegible]	932 0 0
Wo[illegible]dman	870 0 0
Grant & Son (accepted)	715 0 0

For alteration and addition to a chapel at Enfield Mr. T. E. Knightley, architect. Quantities supplied:—

Patman	£1,212 0 0
Farr	1,197 0 0
Clark	1,180 0 0
Field & Son	1,165 0 0
Cushing	1,159 0 0
Williams	1,090 0 0
Harridine	950 0 0

For alterations and additions, Place Farm, Folkington, Sussex. Mr. Robert Blessley, architect:—

Brickwork, Mason's Work, &c	
Thompson	£161 10 0
Carpenter's Work.	
Gaell	134 12 6
Painting, &c.	
Isard	63 9 6
	£359 12 0

For finishing No. 26, Gore-road, Kensington. Mr. Robert Blessley, architect:—

Fawcett (accepted)	£1,540 0 0

For erecting stabling, &c., to No. 28, Gore-road, Kensington. Mr. Robert Blessley, architect:—

Fawcett (accepted)	£295 0 0

For shops, dwelling-houses, and warehouse, in Paternoster-row, for Messrs. Knight & Sons. Mr. Andrew Wilson, architect:—

Axford	£5,214 0 0
Ennor	4,987 0 0
Pritchard & Shelton	4,754 0 0
Hill, Keddell, & Robinson (accepted)	4,650 0 0

For St. Michael's Schools, Handsworth, Birmingham. Mr. E. W. Griffiths, architect. Quantities supplied by C. Isaac Newey:—

Cresswell	£1,110 0 0
Fisher	1,037 16 0
Ramsey	1,023 5 0
Harley	1,000 0 0
Wilson	1,000 0 0
Chambers & Hilton	944 0 0
Barker (accepted)	940 0 0

For rebuilding the British Prudential Assurance Offices, 35, Ludgate-hill. Mr. R. L. Roumieu, architect. Quantities supplied by Messrs. Welsh & Atkinson:—

I'Anson	£4,927 0 0
Mansfield	4,827 0 0
Myers	4,510 0 0
Pritchard	4,492 0 0
Batterbury	4,464 0 0
Sewell	4,456 0 0
Piper & Wheeler	4,359 0 0
Lawrence	4,270 0 0
Ashby & Sons	4,251 0 0
Brown & Robinson	4,243 0 0
Burton	4,063 0 0*

* Including a credit for the old building.

For Congregational Meeting House, Barnsbury, Islington. Mr. James Wesley Reed, architect:—

Warne	£2,490 0 0
Sale	2,423 0 0
Carter (accepted)	2,390 0 0

For erecting new screen wall and Portland stone balustrade, sundry alterations to house at Whitmore Farm, and various other works on the estate of Mr. Holloway, at Sunninghill, Berks. Mr. Alfred Smith, architect:—

Woodward	£1,994 0 0
Oades	1,989 0 0
Sewell & Son	1,987 0 0
Bowley, Brothers	1,700 0 0
Colls & Co. (accepted)	1,644 0 0

For alterations and repairs to Bromley Chapel, Kent. Messrs. Searle & Co., architects:—

Tully & Sons	£474 0 0
Turner and Sons	459 0 0
Clemence	424 0 0
Sands	420 0 0
Howlet & Brown	379 0 0

For the erection of a warehouse and embankment at Wapping, for Mr. E. Phillips. Mr. Henry Harrison, architect. Quantities supplied:—

Piper & Wheeler	£8,760 0 0
Brown & Robinson	8,682 0 0
Ashby & Horner	8,598 0 0
Cubitt	8,558 0 0

For new wing to Lansdown Villa, Bath, for Mr. W. Douglas; Mr. W. J. Green, architect —

Rogers (accepted)	£807 0 0

For the enlargement of the Britannia Iron Works, Bedford, for Messrs. James & Frederick Howard. Mr. Robert Palgrave, architect:—

Day	£1,850 0 0
Freshwater	1,825 0 0
Bryant	1,741 19 0
Francis & Son	1,649 6 0
Conquest (accepted)	1,528 7 4

For parsonage-house for the district of St. Paul's, Haggerstone. Mr. Ewan Christian, architect:—

	House.	Gas.	Total.
	£.	£.	£.
Bishop	2,510	29	2,5[illegible]
Myers	1,897	33	1,9[illegible]
Rhodes & Roberts	1,910	19	1,929
Wells	1,874	22	1,[illegible]
Piper & Wheeler	1,887	26	1,913
Jackson & Shaw	1,798	23	1,821
Brown & Robinson	1,784	24	1,8 8
Scott	1,790	17	1,807
Dove, Brothers	1,760	15	1,775

Blackpool Pier. — The tender (£11,540) of Messrs. Laidlaw & Son, of Glasgow, has been accepted for the construction of the Blackpool promenade pier. Messrs. J. B. & E. Birch, engineers. Quantities supplied by Messrs. R. L. Curtis & Son.

TO CORRESPONDENTS.

E. C. A. (yes. If their patented principle be made use of the improvement can be patented).—T. H. K.—E. D. (glad to hear).—D. H.—J. P. (shall hear).—R. M. P.—H. U. V. (very small chance in Paris).—H. B.—W. P. (where Parliamentary papers are obtainable).—W. B.—J. W. R.—A Glazier.—W. W. A. (apply to Messrs. Day & Son).—E. M.—W. B.—R. J.—J. D. (we do not state such things on hearsay).—T. D.

Errata.—In notice of the late Mr. Elmes, for he was "the father of the architect of Liverpool Town Hall," read *St. George's Hall, Liverpool.*—In our obituary notice of the late Mr. John Thomas, sculptor, the National Bank of Scotland, Glasgow, should have been mentioned as the work of Mr. John Gibson, architect.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH BUILDINGS, FENCHURCH-STREET, E.C.

AGENCIES.—An established Fire and Life Insurance Company is in want of active AGENTS, both in London and the suburbs, as well as in the provinces. Liberal commission allowed.
Application to be sent to A. F. care of Messrs. Hooper & Cull, General Advertisers, 12, George-street, Mansion House, London.

A JUNIOR CLERK WANTED in a Builder's Office. Must have been in a Builder's or Surveyor's office before.—Address, stating age, salary expected, and where last employed, to G. H. Messrs Dawson, 74, Cannon-street, E.C.

TO MARBLE MASONS AND POLISHERS.
AT the Westminster Marble Works there will be next month VACANCIES for a few extra hands. WANTED, also, a few Young Men as IMPROVERS in various branches of the trade.—Westminster Marble Works, Earl-street, Horseferry-road, Westminster.

BOROUGH of IPSWICH.—The Local Board are desirous of receiving APPLICATIONS for the OFFICE of SURVEYOR and INSPECTOR of NUISANCES, under the Public Health Act, 1848, and the Local Government Act, 1858. The emolument will be a salary of 200*l.* a-year. He will be required to devote his whole time to his duties, to reside within a convenient distance from the office of the Local Board, and he will be subject to removal on three months' notice. Any further information that may be required as to the duties may be obtained at the Office of the Local Board, in Princes street, where all applications, accompanied by testimonials, are to be sent, on or before WEDNESDAY, the 14th day of MAY next.
Ipswich, 16th April, 1862.

CITY of MANCHESTER.—Township of Cheetham.—The Committee of the Council of Manchester, acting for the Township of Cheetham, are prepared to receive APPLICATIONS for the SITUATION of SURVEYOR for such township, at a salary of 150*l.* per annum. Applications, inclosing testimonials, to be addressed to the Chairman of the Committee, and delivered at the Town Hall, Manchester, on or before WEDNESDAY, the 7th day of MAY next.—By order,
JOSEPH HERON, Town Clerk.

GENTLEMEN desirous of extending the business of FIRE and LIFE ASSURANCE may be appointed AGENTS, either publicly recognized or private, by addressing letters "No. 1,159," City of Glasgow Bank, Argyle-street, Glasgow.

TO PAINTERS, &c.
GOOD WORKMEN TAKEN ON.—Apply at 19 and 13, Bermondsey-wall, S.E.

TO LITHOGRAPHIC DRAUGHTSMEN.
WANTED, a DRAUGHTSMAN and WRITER on STONE, accustomed to plan work.—Apply by letter, inclosing specimens and stating salary required to W. W. Waterlow & Sons, 65, London-wall.

WANTND, a SHOP FOREMAN of JOINERS One who has filled a similar situation, and been used to piece-work, preferred. Apply to J. & C. W. FODD, Builders and Contractors, at the office, Church-lane, Lee, Kent, at Nine in the morning, or from 8 to 8 in the evening.

WANTED, a First-class THREE-BRANCH HAND. One who understands gas fitting and bellhanging. Apply, E. M. N. at Mr. Williams, 54, Praed street, Paddington, W.

TO HOUSE-PAINTERS.
WANTED, immediately, several GOOD HANDS.—Apply at Builder's Workshops, 24a, Carlington-street, Hampstead-road, N.W.

WANTED, for the West of Scotland Iron-mongery Establishment, Union-street, Glasgow, a First-class SALESMAN, for the Furnishing Department. None need apply but those who have a thorough knowledge of the business and capable of taking the entire charge of this department.—A. & J. NISBET, Proprietors.

WANTED, for a Permanency, Three or Four first-class hands as RANGE FITTERS — Address, TOWN & GREEN, 81, Bishopsgate street Within.

WANTED, by an Architect in the Country, a first-class ARCHITECTURAL ASSISTANT. He must be thoroughly conversant with Gothic and Italian, and a good out-liner. Liberal terms will be offered to a first-rate man.—Address, E. B. Office of "The Builder."

TO ARCHITECTS' ASSISTANTS.
WANTED, immediately, a thoroughly competent, clever ASSISTINT.—Address, stating age, salary, full particulars, J. V. Office of "The Builder."

TO CARPENTERS.
WANTED, a GOOD MAN, as FOREMAN, to SUPERINTEND a small job that is to be done in the country. Good wages will be given.—Apply at once, at 30, Blandford-street, Baker, W.

TO ARCHITECTS.
WANTED, in the above Office, a SITUATION as IMPROVER. Can trace and copy drawings and has the routine of an office. A small salary expected at first.—Address, 10, Walton-place, Brompton, S.W.

WANTED, a WORKING SHOP FOREMAN of JOINERS. Must have filled a similar situation and be well recommended.—Apply, stating previous engagement and wages required, to A. P. Office of "The Builder."

WANTED, in the Office of a Gothic Architect, an IMPROVER. He must be a good line draughtsman, and thoroughly conversant with the routine duties of the Office. Address, with particulars as to qualification and salary required, to ARCHITECT, care of Mr. Pilcher, News Agent, Gray's-inn-lane, W.C.

TO TIMBER MERCHANTS.
WANTED, by a respectable, middle-aged Man, a SITUATION as FOREMAN, in or out of the yard, or as woodreeve to a gentleman. First-class reference as to ability, sobriety, &c.—Address, E. SAXBY, Battle-hill, Sussex.

TO ASSISTANT SURVEYORS.
WANTED, by a LAND AGENT and SURVEYOR, in a Midland County town, a CLERK or ASSISTANT, who is a good land surveyor and draughtsman, and can attend to the general duties of an Office. A knowledge of architectural and engineering drawings would be a recommendation. None need apply whose character will not bear the strictest investigation.—Application, by letter only, stating last employment, names of referees, amount of salary required, and age of applicant, whether married or not, to be addressed to S. Post-office, Derby.

TO BRICKLAYERS AND CONTRACTORS.
WANTED, a BRICKLAYER, to Contract for BUILDING SIX HOUSES, or to Take Work by the Rod Apply at 10, Tent street, North street, Mile-end Gate.

WANTED, CARPENTERS' or JOINERS' WORK by the PIECE, by Two experienced Men.—Address, by letter, T. L. Joiners' Arms, Wiuchester-street, Pentonville-road.

WANTED, an energetic FOREMAN, to Superintend the Erection of Farm Buildings. Reference required.—Address, stating age, wages, &c. to A. Z. Post-office, Bishop Stortford.

TO ARCHITECTS AND BUILDERS.
WANTED, by a Builder's Son, who has been six years articled to an architect and surveyor, and lately been assisting to manage his father's business, a SITUATION in either of the above offices. Understands land-surveying Apply to Mr. VICARS, St. John's, Warwick.

TO CARPENTERS AND JOINERS.
WANTED, a Thorough Practical Man as Joiner, &c. to take the lead in a shop, one who can measure up and set out work, must be a sober steady man, and with good reference.—Apply, per letter or personally, to Mr. J. HAINES, Builder, &c., West-street, Farnham, Surrey.

TO ARCHITECTS, CIVIL ENGINEERS, AND SURVEYORS.
WANTED, by the Advertiser, an ENGAGEMENT with either of the above. Is 33 years of age, and has had great experience in measuring, valuing, estimating, taking off quantities, and surveying generally. Can produce first-class testimonials and references.—Address, O. Z. Mr. Pausey, 127, Fulham-road, Brompton, S.W.

WANTED, by a thoroughly Practical Man, a Carpenter and Joiner by trade, a SITUATION of trust on a Nobleman's or Gentleman's Estate. Is thoroughly experienced in all branches of building, having been in business. Unexceptionable references.—Address, Y. Y. 51, Benyon-road, Southgate-road.

TO BUILDERS, CONTRACTORS, AND OTHERS.
WANTED, by a respectable Man, aged 30, a RE-ENGAGEMENT as TIME-KEEPER, CLERK, or UNDER-FOREMAN. Three years and a half with late employers. Satisfactory references can be given.—Address, W. G. 21, Craven-terrace, Craven-hill, Bayswater, W

TO BUILDERS AND CONTRACTORS.
WANTED, a RE-ENGAGEMENT, by a Builder's CLERK. Is a thorough book-keeper. Salary moderate. Age, 28. Good references. Town or country. — Address, A. E. W. 48, Milton-street, Dorset-square, N.W

TO ENGINEERS, RAILWAY CONTRACTORS, AND OTHERS.
WANTED, an ENGAGEMENT by a Practical and Active ASSISTANT SURVEYOR possessing a thorough knowledge of building in all its details, civil works, &c. Also quick and correct in taking out quantities, in king estimates, measuring up, sub contracts, and superintendence of works References of the highest class given from the present time, and for the last fifteen years.—Address, R. S. care of Robert Smith, Surveyor, Abbey Foregate, Shrewsbury.

TO SAW-MILL PROPRIETORS AND BUILDERS.
WANTED, by the Advertiser, a SITUATION as SAW SHARPENER, or would Take the entire Management of a Deal Frame or Circular Saw, and look to Engine if required.—Address, W. F. 15, Albert-street, Paddington, W.

TO ARCHITECTS AND BUILDERS.
WANTED, by the Advertiser, a RE-ENGAGEMENT. He is a good perspective and general draughtsman, thoroughly understands quantity taking and estimating, and possesses sound practical knowledge, having been engaged for several years with a builder of extensive practice.—Address, E. W. Post-office, Leytonstone, N.E.

TO SAW-MILL PROPRIETORS, BUILDERS, AND OTHERS.
WANTED, by a Sawyer, a SITUATION to SHARPEN and WORK at a CIRCULAR-SAW BENCH.—For sobriety, &c. address C. Z. A. Office of "The Builder."

WANTED, by a Young Man, who writes a good hand, a SITUATION as CLERK or BOOK-KEEPER. Good accountant. Testimonials excellent.—Address, L. M. Post-office, Bere Regis, Blandford, Dorset.

TO ARCHITECTS.
WANTED, a SITUATION, by an Assistant, chiefly accustomed to Gothic work. Terms moderate.—Address, H T Office of "The Builder"

TO ARCHITECTS AND BUILDERS.
WANTED, by an efficient CLERK of WORKS, a RE-ENGAGEMENT. Good at setting out work. Just completed a large country mansion. Been used to town work. Good references.—Address, J. W. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.
WANTED, by a BRICKLAYER, a RE-ENGAGEMENT as FOREMAN. Just completed a large job, from which he can be well recommended. No objection to piece-work by the rod.—Address, J. J. Post-office of "The Builder."

TO ARCHITECTS, SURVEYORS, AND OTHERS.
WANTED, by the Advertiser, a RE-ENGAGEMENT as ASSISTANT. Has had eight years' experience in the profession. Can prepare finished, detail, and perspective drawings, assist in taking off quantities, thoroughly understands surveying, levelling, and construction, and the usual routine of the office.—Address, H. H. Post-office, New-cross Gate, S.E.

TO ARCHITECTS.
WANTED, by the Advertiser, an ENGAGEMENT in a town office. Can prepare finished and working drawings; understands perspective, and is a good colourist.—Address P.H. Office of the "Builder."

TO BUILDERS.
WANTED, by a Carpenter and Joiner, a RE-ENGAGEMENT as a SHOP FOREMAN. Undeniable references.—Address, O. Y. Post-office, Victoria-terrace, St. John's-wood, N.W.

TO BUILDERS AND CONTRACTORS.
WANTED, by a respectable Young Man, from the country, a SITUATION, as IMPROVER to the STONEMASONRY. London preferred. — Address, C. A. 6, Norwich-court, Fetter lane, Holborn.

TO CARPENTERS AND JOINERS.
WANTED, to APPRENTICE a Strong LAD to the above trades Aged 15 years.—Address, stating terms, to W. P 52, Amwell street, E.C.

TO BUILDERS.
WANTED, EMPLOYMENT in a General Builder's Workshop, in town, as IMPROVER, by a stout young Carpenter, of seven years' experience in smaller towns. A good set of tools.—Address, X. M. Office of "The Builder."

TO PLUMBERS AND BUILDERS.
WANTED, a SITUATION, by a good PLUMBER, who thoroughly understands his business in all its branches, and has no objection to fill up his time with Painting and Glazing. In or near town. Good references, if required.—Address, B. B. No. 11, Jerusalem-passage, Clerkenwell, E.C.

TO SMALL MASTER CARPENTERS AND JOINERS.
WANTED by a Steady, Industrious Young Man, aged 20, with Ten years good character from one place, to article himself to the above, where he would endeavour to give the utmost satisfaction No premium given, but low wages taken.—Address, W. H G at 11, Boston-street, Hackney-road, London

TO BUILDERS, CONTRACTORS, AND OTHERS.
WANTED, an ENGAGEMENT, either as AGENT, MANAGER, or GENERAL SUPERINTENDENT. With many years' experience, and a thorough and practical knowledge in estimating accounts and general superintendence. Or would take the entire charge of a large public work.—Address, P. Q. Office of "The Builder."

WANTED, a SITUATION as CLERK, by a Young Man, aged 21, who can keep books, trace drawings, square dimensions, &c.—Address, X. Mr. Lear's, 6, Edward-street, Hampstead road.

WANTED, by the Advertiser, aged 23, a SITUATION, in a Civil Engineer's or Surveyor's office, as IMPROVER Understands land and engineering surveying, levelling, plan drawing, and measuring Is a good draughtsman and colourist. Would give his services for a very moderate remuneration.—Address, S. C. 21, Upper Rosoman-street, Clerkenwell, E.C.

TO BUILDERS, CONTRACTORS, AND OTHERS.
WANTED, by a Steady BRICKLAYER, of 25 years' practical experience in London and the country, a SITUATION as FOREMAN. Is a fair draughtsman; is competent in setting out works; well up in the manufacture of bricks by hand or machine; or would superintend on an estate. Great experience in railway matters and drainage works. Would take tuck pointing or gauge work. Has had the entire charge of 200 men in all the building branches. Town or country.—Address, J. C. B 6, South-road, Wimbledon, Surrey

TO RAILWAY CONTRACTORS AND OTHERS.
THE Advertiser, who has just completed a two years' engagement as Assistant Engineer, is desirous of a RE ENGAGEMENT in the above capacity; or with a Borough Surveyor. Good references as to character and ability from late employers.—Address, D. D. at J. T. Hill's, 70, Old-street, E.C.

TO ARCHITECTS, &c
THE Advertiser, who is a first-rate Draughtsman, and has a thorough knowledge of detail and construction, is open to an ENGAGEMENT. Terms moderate.—Address, F. H. 17, Brompton-row, Brompton.

TO PLUMBERS AND BUILDERS.
THE Advertiser, leaving his Situation now or a week hence, wishes for another as PLUMBER. Can fill up time at gas-fitting and jobbing-work.—Address, A. Z. No. 8, William-street, Caledonian-road, Islington.

TO ARCHITECTS AND SURVEYORS.
THE Advertiser is desirous of an ENGAGEMENT in either of the above offices. Is a neat and expeditious draughtsman and colourist, capable of making details, &c. Understands surveying, and the general duties of an architect's office.—Address, E. F. Ebury Wharf, Upper Belgrave-place, Pimlico, S.W.

TO THE IRON TRADE, BUILDERS, &c.
THE Advertiser, who has been 15 years with an eminent manufacturing firm in the iron trade, and is well acquainted with the business, and a good accountant, is desirous of an ENGAGEMENT as CASHIER, BOOK-KEEPER, or otherwise.—Address, L. X. 27, Grafton-road, Kentish Town, N.W.

TO MASTER PAINTERS, &c.
THE Advertiser is in want of a Permanent SITUATION as WRITER, GRAINER, PAINTER, &c. Country preferred.—Address, J. M. 12, Carnaby street, Golden square, W.

TO PAINTERS, BUILDERS, AND OTHERS.
PARTIAL EMPLOYMENT WANTED, by a respectable, experienced Man, who has two days unoccupied per week. Can measure work, estimate, and keep books; is a quick calculator and a good penman. Good reference. Terms very moderate.—Address, A. B. Mr. Holsdon's, 9, Huntley street, Tottenham-court road.

MANAGER of BRICK and TILE-YARD. WANTED, by a respectable middle-aged Man, a SITUATION as above. Is accustomed to the trade, plain and ornamental, in all its branches, including Pottery and Machinery. Thoroughly understands burning, and has a good book-keeper. Most satisfactory testimonials from previous employers.—Address, J. A. 20, Grove-street, Camden-town.

EVENING EMPLOYMENT.—The Advertiser is desirous of EVENING EMPLOYMENT for a short time, at own residence, if preferred. Can make, trace, or copy drawings, &c. and is a neat draughtsman and fair colourist. First-class testimonials. Moderate salary.—Apply by letter to M. C. Office of "The Builder."

TO BUILDERS.
EVENING EMPLOYMENT WANTED by a Young Man, to prepare drawings, tracings, specifications, or accounts. Is a neat writer. Terms very moderate.—Address, R. 25, St. Alesbury-terrace, Pimlico.

ENGAGEMENT WANTED by the Advertiser, with thorough practical knowledge of Joinery, and fifteen years' subsequent experience as book-keeping, taking quantities, estimating, and measuring with first-rate builders. Unexceptionable references. Address, D. E. Office of "The Builder"

TO ARCHITECTS AND SURVEYORS.
AN ASSISTANT, competent to prepare perspectives, working drawings from rough sketches, and who will trace and copy, or copy specifications, wishes for EVENING EMPLOYMENT.—Address, OUTH, 56, King street, Whitehall S.W.

TO SURVEYORS AND LAND AGENTS

A YOUNG MAN desires a RE-ENGAGE MENT with the above. Highest references given.—Address, W. P. care of Mrs. Keen's, 23, Great Carter-lane Doctor's Commons.

STAIRS AND HANDRAILS.

A COMPETENT WORKMAN requires EMPLOYMENT.—Address, G. S. 23, Durnford-terrace, Maldon road, Kentish Town

TO ARCHITECTS AND BUILDERS.

A YOUNG MAN, having served with an eminent London architect, and had good practical experience, wishes a SITUATION.—Address, M 3, Hereford-terrace, Leinster-square, W.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.

A YOUNG MAN, 23 Years of Age, having been upwards of 6 years in an extensive builder's establishment in the country, and who is thoroughly acquainted with the routine of office work, and can also assist in preparing plans and specifications, &c., wishes an OUT OF A RE ENGAGEMENT.—Address, F. R. 45, Eversfield-place, St. Leonards-on-Sea

A FIELD ENGINEER wishes a RE-ENGAGEMENT, either at home or abroad, where all kinds of surveying and levelling, the getting up of working plans and sections, and setting out on the ground, whether for public or private, sanitary, agricultural, or other purposes are required. References good Address, SURVEYOR, 29, Acton-street, Gray's-inn road, London, W.C.

A PRACTICAL BRICKLAYER wishes to take BRICKWORK, by the rod or otherwise.—Address, R. W. 13, Selwood-terrace, Queen's Elm, Brompton.

TO ARCHITECTS AND BUILDERS.

A THOROUGHLY PRACTICAL MAN, who has had many years' experience on first-class works, is desirous of a RE ENGAGEMENT as CLERK of WORKS, General Foreman, or Superintendent to an Estate.—Address, J. H. Office of "The Builder."

AN Architectural and Engineering DRAUGHTSMAN, &c., is open to an ENGAGEMENT.—Address, X. Y. Z Sotheran & Willis, Little Tower-street, City.

A SHOP or OUT-DOOR FOREMAN.—WANTED, an ENGAGEMENT by a Joiner of ten years' experience in the above capacity. Would not object to take work by the piece.—Address, T. G. 3, Harcourt-place, York-road, E.C.

AN efficient CLERK of WORKS, of twenty years' experience, wishes a RE-ENGAGEMENT First class testimonials.—Address, GOTHIC, 22, Queen's-terrace, St. John's-wood, N.W.

TO ARCHITECTS AND SURVEYORS.

A YOUNG GENTLEMAN, 19 years of age, desires an ENGAGEMENT to IMPROVE. He has served three years' articles with an eminent member of the profession. A moderate salary required.—Address, AUGUSTUS, 14, Upper Stamford-street, S.

TO MASTER PLUMBERS AND PAINTERS.

A YOUNG MAN is desirous of IMPROVING HIMSELF in the PLUMBING. Has been several years at the painting business, and will serve three years at low wages, and make himself generally useful.—Apply to W. B. care of Mr. UBBARD, 2, Tavistock-street, Covent Garden.

A YOUNG ARCHITECT, who has already work upon his own account, is desirous of obtaining a JUNIOR PARTNERSHIP, upon reasonable terms.—Address, F. H. G. Office of "The Builder."

TO UPHOLSTERERS, DECORATORS, AND BUILDERS.

A DRAUGHTSMAN AND FOREMAN of CARVERS, of much experience in warerooms and workshops in London, Paris and the provinces, is open for a RE-ENGAGEMENT. Address, GEORGE LOCK, 31, Cirencester-place, Fitzroy-square, London.

TO ARCHITECTS, CIVIL ENGINEERS, AND SURVEYORS.

AN experienced CLERK of WORKS, aged 34 with good testimonials and references, is desirous of a RE ENGAGEMENT, either in town or country. Has been accustomed to large jobs.—Address, C. E. Mr. Paisey's, 127, Fulham road, Brompton, S.W.

TO MASTER-BUILDERS AND PAINTERS.

A FIRST-RATE WORKMAN wants a SITUATION as Graiuer of Woods and Marbles, Writing, Gilding, &c. Is a very steady man. Town or country, but country preferred.—Address, M W H 4, Upper North-street, Caledonian road, King's-cross, London.

TO ARCHITECTS AND SURVEYORS.

AN ASSISTANT, who has had 12 years' experience in London, is desirous of an ENGAGEMENT. He is a good general and perspective draughtsman and understands surveying, levelling, and the management of house property.—Address, M Messrs. A and C S, Parliament-street, S W

TO SCULPTORS, MARBLE MASONS, &c.

AN Experienced CARVER seeks an ENGAGEMENT. He can give satisfactory reference.—Address, G. B. 6, Abbey-gardens, St. John's-wood, London.

TO ENGINEERS AND SURVEYORS.

A YOUTH of talent, who understands levelling surveying, draughting, and bridge-constructing, is open to EMPLOYMENT in an Office, or in connection with public works or railways.—Address, J. A. L. 160, King's-road, Chelsea.

TO ARCHITECTS AND ENGINEERS.

AS CLERK of WORKS.—WANTED, by a thoroughly practical Man, a SITUATION as CLERK of WORKS Has had fifteen years' experience First-class testimonials. Address, L. J. at Mr. Kirby's, 37, Lambeth-walk.

TO BUILDERS, CONTRACTORS, AND OTHERS.

AN experienced practical Man, CARPENTER and JOINER by trade, is open to an ENGAGEMENT as GENERAL or WORKING FOREMAN.—Address, G. M. 14, Gloster-terrace, Park-walk Fulham-road, S.W.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street, London, E.C.

SAVING IN GAS. D HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D HULETT & CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c &c.

ROGERS' PATENT OUTLET for RAIN-WATER BUTTS and CISTERNS, which being placed inside the cask or cistern, cannot get out of order, and is quite free from the effects of frost, &c. Price, complete, ¾-inch, 10s ; 1-inch, 12s.—Drawings and full particulars, on application to the patentee, G. ROGERS, HIGH STREET, STAINES.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings ; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to

RANDAL STAP, Contractor, No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN. PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

CARCASES FOR SALE.—FIVE CAR CASES of SHOPS and PRIVATE HOUSES TO BE SOLD, upon reasonable terms, at low ground-rents, in Bonner's-lane, Hackney-green.—Apply to Mr. CHARLES DUNCH, Architect, White Horse street, Commercial-road, E.

INTERNATIONAL  EXHIBITION, 1862.

TO BUILDERS, UPHOLSTERERS, DECORATORS, &c.

THE OFFICIAL COLOURS, in CLOTHS and BAIZES, ARE NOW IN STOCK AT HILL & SON'S, 88 and 89, ST. MARTIN'S LANE, CHARING CROSS, W.C.

TO BUILDERS, CONTRACTORS, and OTHERS.—FOR SALE, a capital TIMBER CARRIAGE, on springs, to carry 6 to 7 tons, nearly new ; likewise, TWO strong useful SPRING VANS.—Address, R. H REED, Lock's-fields, Walworth, S.

BRICKWORK.—TO BE LET, the LABOUR of about 40 Reds, three miles from London Bridge. A liberal price will be paid, but only as each floor is completed will payments be made.—Address, Mr. THOMAS, Decorator, 4, Bride-lane, Fleet street, E.C.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up. Sold by all Ironmongers, and the Inventor, GEORGE JENNINGS, Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

TARPAULINS, MARQUES, &c. for SALE or HIRE. SCAFFOLD and HEMP ROPE FALLS. H. PIGGOTT, 59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES. CARY & PRIER, DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

CHEAP for CASH. Must be SOLD immediately, now in the Crystal Palace, Sydenham, an elegant PLATE GLASS SHOW-CASE, 10 feet high, 5 feet 3 inches front, glazed ends, all handsome facing Aisle, an IRON SPIRAL STAIR-CASE of handsome design. Has been used to connect ground and first floor.—Apply at UREH & CO'S, 84, Long-acre.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now in every way used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

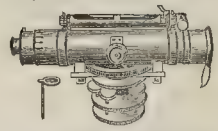
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK, VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON E.C.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS, 20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre.

Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 8d ; 23-inch, 2s 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

THE LIZARD SERPENTINE COMPANY, LIMITED.

Works—CARLEON COVE, LIZARD, CORNWALL. Offices—21, ST. JAMES'S-STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and filled it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.

All communications to be addressed to the Secretary, 21, St. James's street, London, S.W.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 140 and 144, Regent street; and 28 and 31, Warwick-street, W.

EDWARDS, BROTHERS, & BURKE, PROPRIETORS.

The largest and most superior Stock of Chimney-pieces in Europe on view at the above named Establishment.

Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.

Estimates for every description of Marble Stone and Granite Work.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

BLOCK STONE! BLOCK STONE! The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall, Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.

SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock ; also NOTE, delivered direct from the Quarries to all parts of the Kingdom.

The BEST and CHEAPEST STONE-WHARF in LONDON.

Address, SAMUEL TRICKETT, Isle of Dogs, E.

A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.

SHOW ROOMS, 8, CANNON-STREET, E.C.

London Agents—TREGELLES & TAYLOR.

Manager—JAMES TATHAN, Liskeard.

This Granite is selected for the New Westminster Bridge.

DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application

EDGE RUNNERS OF SUPERIOR QUALITY.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior works and up, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

BRICK-MAKING BY STEAM POWER.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,

(Each producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz. :—

Messrs. PETO & BETTS, London.
" BRASSEY & CO. London.
" BAKER & SON, Isle of Wight.
" ROBT. SHARPE & SONS, London.
S.-E. RAILWAY COMPANY, Folkestone.
Mr. GEORGE FURNESS, London.
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO. Burham.

FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works ; at the Great Exhibition, South Kensington ; or at their Show Rooms, Upper Montague-street, Montague-square ; or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.

ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

MARBLE CHIMNEY-PIECES.
MAPPLEBECK & LOWE
Beg to announce the completion of PRELIMINARY ALTERATIONS in the Smithfield Show Rooms, and the arrival of a large and beautiful Stock of
MARBLE CHIMNEY-PIECES
Which are now arranged and classified with suitable GRATES, TENDERS, FIRE-IRONS, and ASH-PANS, complete. STOVE GRATE and CHIMNEY-PIECE SHOW-ROOMS,
BIRMINGHAM,
Manufacturers of the Leamington and other Kitchen Ranges.

TO ARCHITECTS, BUILDERS, and OTHERS.—MARBLE and STONE COLUMNS TURNED and POLISHED by improved machinery, at half the usual cost. Fonts, Chimney pieces, Mural Tablets, Tombs, &c. at the lowest possible prices.—WM F. WILLIAMS, 316, Euston-road, N.W.

THE PANTECHNICON, QUEEN'S ROAD, BRIGHTON,
FOREIGN MARBLE GALLERIES,
contain upwards of Two Hundred MARBLE CHIMNEY-PIECES, consisting of Carved Statuary, Vein, Sicilian, Blanc Fin, Blanc Clair, Rouge Royal, St. Ann's, Black, Jasper, Verd des Alps, and other coloured Marbles, in every variety of design and size, set up for view. Sculptured Marble Monuments, Headstones, &c erected. An Inspection is respectfully solicited by the Proprietors and Importers, GEO. HEAD & SONS.
N.B. Packing-cases lent free of charge

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

BATH! BATH!! BATH!!!
ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY,
Masons' Work prepared ready for fixing.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

JOHN BAZLEY WHITE & BROTHERS,
MARBLE MERCHANTS,
MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slate, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c cut on the shortest notice.
Country orders promptly attended to.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

FOREST of DEAN STONE.—
Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.
That from their "Gouty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brack-hill" and "Dark-hill" Quarries, is decidedly superior to it.
Prices quoted on application, delivered on board vessel or rail, at Sydney, with cost of transit to any port or railway station in the United Kingdom.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering or Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for general contracts, including quarry work or other labour, forwarded on application.—Office, 27, MILLBANK-STREET, London, S.W.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN,
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

POLISHED GRANITE WORKS,
ABERDEEN TOMBS, COLUMNS, PILASTERS, &c. executed in the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London depôt, 404, Euston-road, N.W.

HY. GEORGE & COMPANY,
CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Stock. Cargoes shipped direct from the Quarries.
Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE SILICEOUS STONE
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at limited prices
Filters and Filtering Slabs for Domestic or Manufacturing purposes
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster
Patent Stone Works, Ipswich.

SLATES.—MESSRS. JONES & CO. have on a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities not less than five tons.—Prices forwarded and estimates given on application.—Address,
No. 1, BOLD TERRACE, CHESTER.

ROBERT WHITE, SLATE MERCHANT, SHEFFIELD.
ROOFING SLATES, CISTERNS, and SLABS supplied in quantities not less than five tons, from the Depôts, Bangor Mold Junction and Preston.

CRYSTAL PALACE (close to).—Valuable BUILDING SITES TO BE LET or SOLD, within a few minutes' walk of Sydenham Station, fronting a handsome roadway of considerable width. The supply of houses in the neighbourhood is quite inadequate to the demand, the position being undoubtedly one of the most favourite and convenient in the vicinity of town; its healthful salubrity, picturesque scenery, proximity to the Crystal Palace and Park, facility of access to the City and West-end, will always insure to the locality a high rank in popular estimation, and remunerative rentals may consequently be relied on for any houses erected on the property. Sewers made; gas laid on. For terms and plans apply to Messrs EDWIN FOX & BOUSFIELD, Agents for the estate, 41, Coleman street, City.

BELSIZE PARK, HAMPSTEAD. — To BUILDERS and OTHERS.—LAND TO BE LET, for Building, with roads and sewers all complete. For further particulars, apply on the estate, at Mr. TIDEY's Office, 30, Belsize-park.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway station, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

MANOR of DULWICH. ALLEYN'S COLLEGE ESTATE. The Governors of Alleyn's College are prepared to LET a PORTION of the ESTATE in Plots for Building Purposes. Plans may be seen and particulars obtained from CHARLES BARRY, Esq. College Surveyor, at 27, Sackville-street, Piccadilly.

TO CAPITALISTS, BUILDERS, and SPECULATORS.—An advantageous opportunity now offers of selecting choice SITES for VILLAS, on the Boscombe Spa Estate, in the parish of Holdenhurst, Hants. Boscombe Spa is one mile from the fashionable watering-place, Bournemouth, and three miles from Christchurch and its railway station. It is a plateau of twenty-three acres, commanding views of the Isle of Wight, Swanage, and Poole Bays, &c. and is sheltered by woods on three sides, with the sea in front. Besides excellent springs of water on various parts of the estate there is a mineral spa similar to that of Harrowgate. Great advantages are offered to parties taking plots, as there is brick earth to let, in small portions, in the vicinity; also timber.—For further particulars, apply to Mr. ELLIOTT, Christchurch; or Mr. WILLIAMS, 17, Dorset-place, Dorset-square, London, where a model of the ground may be seen.

TO MANUFACTURING CHEMISTS, &c. TO BE LET, on lease, for ninety-nine years, SIX ACRES of LAND, well adapted for the above, or any firm requiring to erect a factory a distance from dwelling-house, situate about five miles from London Bridge. Good roads, drainage, and water supply.—Apply to Mr. DRESSER ROGERS, Auctioneer, 45, Borough, London Bridge.

PARISHES of ST. GILES WITHOUT, CRIPPLEGATE and ST LUKE, MIDDLESEX.—TO BE LET, by TENDER, on the 2nd of MAY, 1862, TWO PLOTS of LAND, on the west, and one on the east side, of a perpetual new road, leading out of the Mile-end-road, and near the King Harry's Head Tavern, on building leases for eighty years.—Particulars may be obtained, and plans seen at the Offices of Mr. A. J. BAYLIS, Solicitor, 22, Red Cross-street, Cripplegate, and 1, Church court, Old Jewry.

PARISHES of ST. GILES WITHOUT, CRIPPLEGATE, and ST LUKE, Middlesex.—To BREWERS, LICENSED VICTUALLERS, and OTHERS.—TO BE LET, by Tender, on the 2nd of MAY, 1862, on Building Leases for eighty years, a PLOT of LAND on the west side of the Mile End-road, near the King Harry's Head Tavern, and at the corner of a proposed new road for the ERECTION of a TAVERN and THREE HOUSES.—Particulars may be obtained and plans seen at the Offices of Mr. A. J. C. BAYLIS, Solicitor, 22, Red Cross-street, Cripplegate; and 1, Church-court, Old Jewry.

TO CAPITALISTS and BUILDERS.—TO BE LET, in perpetuity, in large or small plots, and at low rates, the BELMONT, STUVENHAM, and GLEN MACHAN ESTATE, IRELAND. The estate is of more than 700 acres in extent, and is situate within two miles of Belfast, on the borders of Belfast Lough. The main roads are made; there is a stone quarry and large quantities of brick earth on the estate. Bricks, stone, and sand may be had at low prices. A church and a large number of first-class villas have already been erected and have let readily. Close to the estate there are two stations on the Holywood branch of the County Down Railway, which runs along the western boundary of the estate. The vicinity of the estate to Belfast, the picturesque views of the adjacent sea and of the surrounding country, with many natural advantages under the estate suitable for the erection of first class villas, for which there is a large demand, all tend to render it one of the most eligible sites for building purposes in the neighbourhood of Belfast.—Plans may be seen, and particulars obtained of Messrs. HOVENDEN & HEATH, Surveyors, 15, Broad street buildings, E.C.; and of THOMAS MACLURE, Esq. Belmont, Belfast, Ireland.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive Manufacturing Premises, known as TREDEGAR WORKS, Bow, Machine shop, 61 ft. by 34 ft.; two ranges of workshops 71 ft. by 25 feet; steam engine, boilers, forge, sheds, stabling, counting-house, and all other conveniences suitable for a large factory.—For further particulars and leave to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

FREEHOLD LAND TO BE LET, on Building Leases, in the most improving part of Longton, Essex, within five minutes' walk of the Railway Station, suitable for villa residences.—For terms apply to Messrs. HAMMACK & LAMBERT, 59, Bishopsgate-street, City, E.C.

TO BUILDERS, SPECULATORS, and OTHERS TO BE DISPOSED OF, a valuable FREEHOLD ESTATE, containing about 25 acres, with a small cottage thereon, situate within a few minutes' walk of the Colney Hatch station on the Great Northern Railway. The site is admirably adapted for building villa residences, for which there is a great demand, in consequence of the facilities that will shortly be afforded to all residents on the Great Northern line, being enabled to reach the heart of the City by the Metropolitan Railway.—Apply to Messrs. PRICKETT & SON, Land Agents, &c. 69, Chancery-lane, W.C. and Highgate, Middlesex.

TO BUILDERS AND OTHERS.
WANTED, a good-sized HOUSE, to open in the Beer Trade, where there is a prospect of a spirit licence, in a new and improving neighbourhood. West preferred.—Address, with full particulars, to M. T. Mr. Bell's, Grocer, Paddington-green.

BEAUTIFUL BUILDING FREEHOLD SITES, on the Surrey Hills, between Croydon and Godstone.—TO BE SOLD or LET, in plots of from 5 to 50 acres, at prices, it is believed, lower than are quoted for any land possessing equal advantages within a like distance of London. There are two railway stations on the estate, affording means of access both to the City and West End; and the locality offers the special advantages of a dry pure, and bracing air (rendering the district proverbial for health), a gravel and chalk subsoil, an abundance of excellent spring water, and a highly respectable neighbourhood.—Particulars and plans of Messrs. DERENHAM & TEWSON, Estate Agents No. 80 Cheapside.

SITE for a TOWN.—FREEHOLD ESTATE TO BE SOLD, offering peculiar advantages to BUILDERS, SPECULATORS, and LAND SOCIETIES. Four fifths of the money can remain on mortgage.—Apply to Messrs. DERENHAM & TEWSON, Land Agents, 80, Cheapside, where a plan can be seen.

BUILDING LAND TO LET, on long lease, in most cases direct from the freeholder, at HIGHBURY, CANONBURY, NORWOOD (close to the Lower Norwood Station, at CROYDON (very near West Croydon station), at the VAUXHALL GARDENS ESTATE, at DENMARK HILL, &c. and some CARCASSES, at BOW. Ground rents moderate. The usual proportion of the cost of the houses erected would be advanced, and in some cases the freehold might be purchased. For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad street, E.C.

MANUFACTURING WATERSIDE PREMISES, WEST.—TO BE LET, Commodious MANUFACTURING PREMISES on the Belgrave Dock, with private Layby. Apply to Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

PLAISTOW.—Several PLOTS of FREEHOLD LAND FOR SALE, or TO BE LET, on Building Leases, in Balaam street Plaistow, near the Bark ng-road.—For particulars apply to Mr CHARLES DUNCH, Architect, White Horse-street, Commercial-road, E.

BETHNAL-GREEN.—BUILDING LAND at Low Ground-rents—PLOTS of LAND, for small Houses, near Green-street, Bethnal green, on the Estate of the late Samuel Eudey, Esq. The sewers and roads are completed.—For particulars, apply to Mr CHARLES DUNCH, Architect, White Horse-street, Commercial-road, E.

TO BUILDERS.—A PLOT of Valuable FREEHOLD GROUND, about 70 feet frontage, and of considerable depth, TO BE LET, on a Building Lease, at a low ground-rent, on the estate of Hill street, Peckham, S.E.—Apply to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial-road, E.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of Plaster Ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS, 242, EUSTON ROAD, ST. PANCRAS.

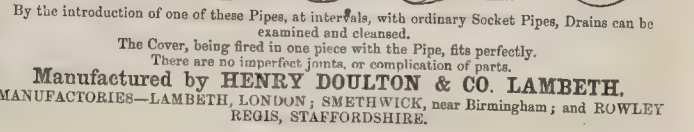
TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.
An illustrated Priced Catalogue will be forwarded upon the receipt of eight postage stamps.

MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET,
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON TRENT.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given that the LONDON DEPÔT for the WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City road Basin, N. Purity, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and lastly, that the "Reports of the Juries," page 881, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Paving, at 37s. 6d. per 1,000.
" Kiln Bricks, at 26s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall passage, conservatory, verandah, floors, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

DOULTON'S PATENT OPERCULAR PIPES.


By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed.
The Cover, being fired in one piece with the Pipe, fits perfectly.
There are no imperfect joints, or complication of parts.
Manufactured by HENRY DOULTON & CO. LAMBETH.
MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.
THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.
Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.
BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

BUNNETT AND CO.
The Original Inventors and Patentees of every recent Improvement,
MANUFACTURE THEIR WELL-KNOWN
SUPERIOR REVOLVING IRON SHUTTERS
OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.
Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,
ESTABLISHED 1826,
Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.
DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.
G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.
ESTIMATES WILL MEET WITH PROMPT ATTENTION.

HUBBUCK'S PATENT WHITE ZINC PAINT.
BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

ENAMELLED STONE CHIMNEY-PIECES,
Of Beautiful Designs, and to Imitate any kind of Marble; far Superior to Enamelled Slate, and considerably Lower in Price,
INVENTED AND MANUFACTURED BY
W. J. ELLISON & CO.,
SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.
Also, MANUFACTURER of WALL LININGS, composed of Stone Slate with a Veneer of Scagliola to Imitate Marble, and Enamelled by Heat WARRANTED TO RETAIN ITS POLISH.
Office and Show Room, No. 3. WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.
Manufactory, EAST-ROAD, CITY-ROAD.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

FERGUSLIE FIRE CLAY WORKS,
PAISLEY.



PATENT GLAZED SEWER-PIPES, according to Jenning's Patent, and the GLAZED SEWER PIPES with SOCKET JOINT. Also all articles made of Fire Clay. The Sewer-Pipes are in sizes from 2 inches up to 24 inches bore, and are of the most superior quality. Prices very moderate. The subscriber, from the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be.
ROBERT BROWN.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, as made by GOUGH & BOYCE, the Original Patentees, and laid exclusively by them at the Houses of Parliament, and numerous other Public Offices. It is especially adapted for churches, mansions, public rooms, shops, and passages, being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. 18, Bush-lane, Cannon-street, London.—Forwarded to all parts of the country.

KAMPTULICON,
or, ELASTIC FLOOR CLOTH.
TAYLER, HARRY, & CO.
MANUFACTURERS and PATENTEES, 19, Gutter-lane, Cheapside.
WORKS, DEPTFORD-GREEN.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE FREE.

			Laths, 28s. per load.
Three-quarter inch Flooring (well prepared), 11s. 6d. per square.			
Yellow Deals, sound and good	£19 10 0	per 120, or	0s. 3½d. per foot.
Spruce Deals	16 10 0	,,	0 2½ ,,
Yellow Battens, excellent quality	11 10 0	,,	0 2 ,,
Pine Planks, dry, 12 feet 5 inches by 11 feet	21 0 0	,,	3 6 ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅜-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
½-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,
Yellow Deals, 3 by 9	£19 10s. per 120.	Pine Planks (Dry), 3 by 11	24s. per 120
Yellow Battens	£11 10s. ,,	Pine Deals do. 3 by 9	19s. 10s. ,,
Spruce Deals	£16 10s. ,,	⅜-Inch White Matched Lining	13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅜ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
½ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.



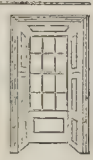
TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Work-rooms, fitted up with Improved Steam Machinery especially adapted for the more future of JOINERS' WORK of every description, and that he is now prepared to supply the trade with first class goods at the lowest possible scale of prices—for each

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water Closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green Houses, Hot Houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

10, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 2s. 3d.; Mahogany, 6d.; ¾ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 386 and 388, EUSTON-ROAD, N.W.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.
Agent in Liverpool—JOHN McKENZIE, 42, Seel-street.
Do. do. Manchester—THOMAS OAKDEN.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.)
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMENT WORKS,
Northfleet, Kent.
Messrs. ROBINS & CO.
To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall; and at the Works

PATENT PORTLAND and ROMAN CEMENT,
AND PLASTER OF PARIS WORKS,
FRINDSBURY, on the MEDWAY, KENT, and
CANAL ROAD, KINGSLAND ROAD, N.
MESSRS. FREEN & CO.
Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER OF PARIS, in any quantity, fresh from the kilns.
Orders addressed to their LONDON WORKS, Canal-road, Kingsland, N. will meet with prompt attention

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14 SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines, Brierley-hill.
FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,
Office, 5, George-yard, Lombard-street.

PARIAN CEMENT for INSIDE WORK. With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIFFERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TAYLHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference

IMPORTANT to BUILDERS and USERS of PORTLAND CEMENT
"BENNETT'S INDURATING and QUICKENING SOLUTION for PORTLAND and OTHER CEMENTS," recently patented, obviates, as its name implies, the object so frequently urged against cements, and particularly against Portland cement, of not setting sufficiently quick and well, and thereby causing delay and expense. In works where rapidity of setting, hardness, and sharpness of outline are desirable, the use of this solution is strongly recommended, and will prove both advantageous and economical. It is sold in stone quart bottles, price 2s. each, with printed directions for use, and can be obtained only of
F. & G. ROSHER,
CEMENT, BRICK, and LIME MERCHANTS (Sole Agents for its sale), at their Wharves, as under.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Where can be obtained, of the best quality:—
GREY STONE, CHALK, FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
DUTCH and GUTS WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS BLACK BRICKS and PLAIN & GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS
BLUE, RED, and BUFF ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS and TILES, of every description and size
GLAZED STANDARD DRAIN PIPES, TRAPS &c
RED DRAIN PIPES, TILES, and CHIMNEY POTS
TERRA COTTA ORNAMENT, CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BUILDING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS
Goods forwarded by Railway with despatch
LIME WORKS, CHALK PLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

STRINGFIELD and BLYTH,
Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, } SOLE CONSIGNEES.
WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
19, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge Stocks Lime and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

KEENE'S and PARIAN CEMENT for internal uses.—These well-known hard Stuccoes dry quickly and can be painted upon within a few days.
Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank street, Westminster.

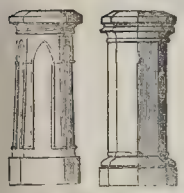
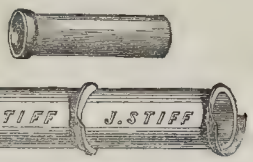
ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

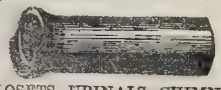
JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.
May be had also at the following Wharfs, viz.:—
Messrs GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs BLACKMORE & COE'S City-road Wharf, City Basin.
Messrs COLES, SHADBOLT, and CO'S, St. James's and Pheruhill Wharfs, Caledonian-road, Pentonville.
Mr A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Cambridge, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed street, Paddington.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.
JOHN CLIFF & CO.
(Late STEPHEN GREEN & CO.)
GLASS-LINED AND SALT-GLAZED

SANITARY GOODS.
FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

DOULTON & WATTS,
LAMBETH POTTERY, LONDON.
3s. 9d.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.
The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.
The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.
Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.
Be particular to order the
3s. 9d. Enamelled Stoneware Closet and Trap.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862
By Her Majesty's Royal Letters Patent.
F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and only Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been established, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal snow, and frost at 0° a good conductor of heat and sound. The Felt can be cut to any length, or 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, also the rights best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactories LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER upwards of three Millions of Feet, also the GREAT EXHIBITION BUILDING of 1862, of near One Million Feet. A liberal Discount allowed to the Trade.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6d. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.
Testimonials from Architects, Bankers, &c. of their security and durability forwarded.
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.
Agent for the Crystal Glass Pillars and Sash Bars.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.

Illustrated Treatise, Postfree, 2s. 6d.
HEATON, BUTLER, & BAYNE.
Works:— Cardington Street, Hampstead road, London.


HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouse as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

MANCHESTER STAINED-GLASS WORKS.
R. B. EDMUNDSON & SON,
Artists in Stained Glass, Ecclesiastical and domestic of every description, ancient and modern, Illuminated Commandments, &c. by their new process on Plate Glass. Mural and Heraldic Decoration Monumental Brasses, &c. Designs and estimates on application.—R. B. EDMUNDSON & SON, having had upwards of thirty years' practical experience in the manufacture of every description of glass for ecclesiastical purposes, have most of their glass made to order, and from their own receipts, and which will be found nearer to the old glass than any others at present manufactured. Works—New Wakefield street, Oxford-street, near the Bridge.

CROGGON and COMPANY,
Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,
For Damp Walls and Lining Iron Houses.
2, DOWGATE-HILL, London: and 2, GOREE PIAZZA, Liverpool.


SOLID PARQUET FLOORS.
ARROWSMITH'S PATENTED,
From 1s. per foot, in various woods, inch thick, grooved, cogged, and keyed together, but not veneered
For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.
SHOW ROOMS, 50, New Bond-street, W.

SALES BY AUCTION.

DISSOLUTION OF PARTNERSHIP.—TO COACHBUILDERS AND OTHERS.—Stock-in Trade, Tools, and Effects, Broadway, Stratford.

MESSRS. FULLER & HORSEY are instructed by Messrs. Gowar to SELL by AUCTION, on MONDAY, APRIL 28, and following day, at ELEVEN each day, on the Premises, Broadway, Stratford, in lots, without reserve, THIRTY-EIGHT CARRIAGES; including waggonette, park phaetons, stanhopes, gigs, dog-carts, brougham, clarences, barouches, sociable, omnibuses, &c.; the unmanufactured stock, including several thousand feet of seasoned ash and elm plank and boards, mahogany panel boards, pine plank and cut deals, 5,000 ash felloes, 150 pair stocks, 2,000 spokes, five sets transwood shafts, five tons tyre iron; the tools and implements in trade, smiths' tools, three circular blowing machines, force bellows, anvils, top and bottom tools, forge troughs, planed surface plate, tyre furnace, wheel pit, vices and benches; stores of various description, paints and varnishes, oilcloth, spring steel, two portable forges, drilling machine, new and 1 second-hand wheels, new bodies for plaistow and dog-carts, weighing-machine, scales and weights, 12 trucks, horse, cart, and harness, stable utensils, counting-house furniture, and numerous other effects. To be viewed on Saturday previous and morning of sale, when catalogues may be had on the premises; of Messrs. FRY & LOXLEY, solicitors, Cheapside; of Messrs. THOMPSON & DERENHAM, solicitors, Salter's-hall; and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

TO BUILDERS and CAPITALISTS.—A very valuable FREEHOLD BUILDING ESTATE, of 63 acres, with a frontage to the main road of 1,350 feet, adjoining the London and North-Western Station at Pinner, half an hour's ride from Euston-square, estimated to produce 2,000l. per annum ground-rents.

MESSRS. R. KENYON & CO. have received instructions to SELL by AUCTION, at GARRAWAY'S, Change-alley, Cornhill, on TUESDAY, the 29th APRIL, 1862, at ONE o'clock precisely (unless previously disposed of by private contract), the above valuable BUILDING ESTATE, of Sixty-three Acres. The Estate is beautifully situate, being opposite to the Commercial Traveller's Schools, and contains excellent Brick earth. First- and second-class residences are much needed at Pinner.—For particulars and plans, apply at Garraway's; to Mr. CHAS. LAWS, Architect, 9, Walbrook-buildings; Messrs. PATERSON & LONGMAN, Solicitors, 3, Winchester-buildings; or to Messrs. R. KENYON & CO. Auctioneers, 11, Aberchurch-lane, City, and Harrow.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, CARPENTERS, AND OTHERS.—Sale of the Upper Grange-road Timber Yard, Bermondsey, near the Railway Bridge.

MR. PEAKE will SELL by AUCTION, on the PREMISES, as above, on TUESDAY, April the 29th, at ELEVEN for TWELVE o'clock, on account of the number of lots, by order of Mr. Cain, a portion of the Premises being taken by the Brighton Railway Company, the STOCK-IN-TRADE, comprising 3,000 Pine Plank, Deals and Battens; 2,500 Yellow Plank, Deals and Battens; 2,000 White ditto, ditto; 200 Oak Posts; 7,000 feet Teak Plank and Slab, quantity Oak Beams and Plank, Cut Stuff, Quartering, &c. May be viewed the day previous and morning of sale. Catalogues obtained on the Premises; "Dun Cow," Old Kent-road; and at Mr. PEAKE'S Offices, 44, Tooley street, Southwark. Luncheon at Two o'clock.

FOR SALE, by PUBLIC AUCTION, At GARRAWAY'S COFFEE-HOUSE, CORNHILL, On TUESDAY, 29th APRIL, 1862, At HALF-PAST FOUR o'clock precisely, By order of the Importers.

160 Loads Quebec Yellow Pine Timber.
Red Pine.
20,000 Quebec and St. John's Spruce Deals and Battens.
1,500 Yellow Pine ditto.
Staves, 20,000 Quebec and New Orleans Pipe, &c.
Italian Oak, 505 Loads good Ship-building Timber.
Also at SIX o'clock precisely,
Mahogany, 540 Logs Cuba, of superior quality, well squared,
Cedar, 79 ditto, and good dimensions.
Being the entire Cargo just landed at East Wood Wharf, West India Docks, ex "Ina," from Havannah.
Walnut Wood, Italian and Circassian, in Logs, Planks, and Burrs.
Cocus Wood, Fustic, Santa Maria Wood, and other Goods.
Catalogues in due time of
THOS ROBERTS & CO. Brokers, 9, Billiter-street, E.C.

1,000 Ash, Elm, Beech, large Larch, Cherry, some Oak, and other Timber Trees, at Pole Beach, near Uxbridge, Middlesex.

MESSRS. HERON & SONS have been favoured with instructions from B. H. W. Way, esq. to SELL by AUCTION, at the "HARE AND HOUNDS," Red Hill, Denham, on FRIDAY, 2nd, MAY next, at ONE for TWO o'clock, in lots, about 1,000 TIMBER TREES and POLES, comprising 17 oak, 248 ash, 472 beech, 276 wych-elm, 58 elm, 440 larch many very large), 25 Scotch, 56 spars, 140 chance poles, 1 year, and other trees, and about 600 10-feet lengths of beech, very suitable for railway and other fencing. The whole are lying on the Denham Place Estate, near to good roads, and about two miles from the Grand Junction Canal.—May be viewed seven days before the sale, and catalogues had of Mr. CAVE (the Steward), at Hollybush; of Mr. PENDRY (at the Keeper's Cottage); and of Messrs. HERON & SONS, Auctioneers and Valuers, Uxbridge, Middlesex

---

HOMERTON.—Materials of large Dwelling-houses, a quantity of loose Materials, Carts, &c.

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, near the Spread Eagle, Homerton, on MONDAY, APRIL 28, at ONE, the excellent MATERIALS of TWO large DWELLING-HOUSES, in one lot; the purchaser having the privilege of re-selling them in lots on the ground. Also, in various lots, a quantity of useful BUILDING MATERIALS; 10,000 paviors, stable fittings, iron, iron hurdles, cucumber frames, tanks, tubs, spring and trumbrel carts, and a variety of effects.—May be viewed. Catalogues obtained on the Premises; and of the Auctioneer, Tottenham.

PRELIMINARY NOTICE.—TO CONTRACTORS, BUILDERS, BRICKMAKERS, AND OTHERS.

MR. THOMAS DODSON will SUBMIT to AUCTION, early in MAY next, the whole of the STOCK-IN-TRADE, PLANT, &c. at the NEWTON BRICKFIELD, situate at Goathorn, in the Isle of Thanet, on the west side of Tooke Farm, which will comprise about 500,000 Fire and Building Bricks, Crushing and Pug Mills, Drying Sheds, Hack Houses, Kilns, &c. particulars of which will appear in future advertisements.
Dated Weymouth, April 22nd, 1862

TO ENGINEERS, MACHINISTS, and OTHERS.—Stanwell street, Colchester.—To be SOLD by AUCTION, by

MR. GARRARD, on TUESDAY, 29th of APRIL, 1862, at ELEVEN o'clock in the forenoon, all the valuable PLANT at the Starch Factory, comprising a capital four-horse steam engine, steam-boiler, rasping stove, tail stones, and fittings, square and round vats, pug-mill, screw-press, shafting, sack-hoist, platform, and various other articles, as will be expressed in catalogues, to be had in due time. The whole may be viewed by application at the Brewery, St. Botolph's-street, Colchester.

BARNES, SURREY, near Hammersmith Suspension Bridge.—To be SOLD by AUCTION, by

MR. J. GOWER is instructed to SELL by AUCTION, on the PREMISES of the West Middlesex Waterworks Company, as above, on THURSDAY, MAY 8, at TWELVE o'clock, the entire PLANT of Mr. T. BROWER, Contractor, that have been employed forming the new reservoir and filtering beds for the above company, now completed, consisting of about twenty-five cart or van horses, harness, bridles, collars, carts, timber carts, heavy earth waggons, eighty tons iron rails, chairs, nails, &c.; 5,000 sleepers, wrought and cast iron; navvy barrows, wheeling planks, rammold boarding, smith's bellows, anvil, vice and tools, spring tip horse and chain, tarpaulins, stable utensils, &c.; temporary buildings, as erected office, cottage, stabling, blacksmiths' and carpenters' shops, sheds, &c.; 10-horse horizontal engine, with fly and band wheel, and gearing for lifting; new tubular boiler, 15 feet by 4 feet 6 inches, by 2 feet 6 inches, with valves complete; new portable 10-horse engine, double cylinder, by Garret; portable lime mill, two stones, 4 feet diameter; three centrifugal lift and force pumps, by Gwynne.—On view two days prior. Catalogues had at the Place of Sale; and of the Auctioneer, at his Repository, Barbican, London, E.C.

BLOOMSBURY.—Building Materials of Two Houses.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on MONDAY, APRIL 28th, at TEN for ELEVEN, in lots, near the site for rebuilding, the MATERIALS and FITTINGS UP of TWO HOUSES, being Nos. 48 and 49, Great Russell-street, Bloomsbury; comprising sound stock bricks, plain tiles and slates, useful timber in roofs and floors, floor-boards, sashes, doors, partitioning and other fittings, plate-glass shop front, marble chimney pieces and stoves, marble squares, several tons of lead, stone paving, iron railing, &c.—May be viewed, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W.; and 80, Fore-street, E.C.

PUTNEY.—BUILDING MATERIALS of the Mansion, Lime Grove Estate.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, near the Railway-station, Putney, on MONDAY, MAY 12th and following day, at TWELVE for ONE precisely, each day, the valuable MATERIALS and FITTINGS-UP of the MANSION and OFFICES; comprising 800,000 capital bricks, 80 squares of slates, large quantity of plain and pan tiles, 150 squares of flooring, excellent oak and fir timber in roofs, joists, and girders; oak staircase, 50 squares of York, Portland, pebble, and clinker paving; 400 feet of Portland coping, 20 pairs of plate-glass sashes, 60 panelled and other doors, four carved stationary chimney-pieces, several other chimney-pieces and stoves, kitchen range, four coppers and laundry fittings; the fittings-up of a brewhouse, comprising 15 gallon copper, fir back lined with lead, force-pumps, &c.; yard and coach-house gates, stable fittings, 20 tons of lead, and other effects.—May be viewed on FRIDAY and SATURDAY previous, and catalogues had of Messrs. BAXTER, ROSE, & CO. 6, Victoria-street, Westminster; of GEORGE POWNALL, Esq. Architect, 66, Lincoln's-inn-fields; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

IN LUNACY: in the matter of George Singleton Tovell, a person of unsound mind.—To Stone Merchants, Masons, Coal Merchants, and others.

MR. B. RIX is instructed by the Committee appointed by Samuel Warren, Esq. one of the Masters in Lunacy, TO DISPOSE OF, by Private Treaty, the BUSINESS of the STONE MERCHANT dealer in fire-clay goods, drain-pipes, tiles, and coals), for many years past carried on by the above-named George Singleton Tovell, in Ipswich. The premises, well known as the Three Cranes Wharf, are admirably adapted and advantageously situated on the Wet Dock and the New Cut road. The lease will be assigned, and the stock may be taken at a valuation or not, at the option of the purchaser.—Particulars on application to Mr. B. RIX, Land and Brewery Agent, 2, Spread Eagle-court, Royal Exchange, London, E.C.; and at Ipswich.

TUESDAY NEXT, APRIL 29, at ONE for TWO, precisely.

MR. EDWIN WHITE'S NEXT SALE, at 12, Holborn-row, and 1, Castle-street, Holborn, will include nearly 10,000 pieces of superior PAPIER MACHÉ TRAYS, 100 marble, slate, and stone chimneypieces, both plain and sculptured; 1,000 feet gilt room moulding, six w. c. apparatuses, and three first-class fireproof safes, by an eminent maker.—View and catalogues day prior and morning of sale.

1,000,000 BRICKS and ELM TIMBER for SALE.—To TIMBER MERCHANTS, BUILDERS, and CONTRACTORS.—South Shoebury, near Southend, Essex.—To be SOLD by AUCTION, by

W. H. JACKSON, on WEDNESDAY, MAY 7th, 1862, at ELEVEN for TWELVE o'clock precisely, at the CHERRY TREE FARM, by direction of the Trustees under the will of the late J. L. Gowland, esq.

188
ELM TREES,

lately felled, and many of good meetings, lying contiguous to water carriage, and part of which are now in a close to the beach

In the SHOEBURY BRICKFIELD, by order of Mr. DALE KNAPPING, about

ONE MILLION
of ROUGH STOCK and PLACE
BRICKS,

and a large quantity of BATTS.

The bricks are sold to clear the clamp grounds for the new make of the season, and can be shipped from the wharfs upon the premises. The company are requested to meet at the Cherry Tree Farm.—Catalogues to be had at the Places of Sale; Hotels, Southend; Kent Ale Stores, Shoebury; Pilcon Inn, Gravesend; King's Head, Maldon; and of the Auctioneer, Rochford.

VALUABLE PLOT OF FREEHOLD BUILDING GROUND, (CONTIGUOUS TO THE BARNSBURY TAVERN) AND LEASEHOLD PREMISES.

MESSRS. HUDSON & SON will SELL by AUCTION, by order of the Trustees of the late Charles Fenham, Esq. at their AUCTION ROOMS, Woolwich, on WEDNESDAY, APRIL 30th, 1862, at FOUR for FIVE o'clock, a Valuable PLOT of FREEHOLD BUILDING LAND, containing 3 acres and 2 roods, situate immediately at the rear of Clarence-place, Adelaide-place, and Queen's-terrace, Woolwich Common, with carriage approaches from Welsh Common (part the Barnsbury Tavern) and Jackass Lane.—Particulars of sale may be had of W. H. DEAN, Esq. Surveyor, 43, Fenchurch-street, City; of R. PIDCOCK, Esq. Solicitor, Church-hill, Woolwich; and of the Auctioneers, Brewer-street, Woolwich.

TO BUILDERS, CARPENTERS, AND OTHERS

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, N.W. near the Railway Station and Old Eagle, on MONDAY, APRIL 28th, at TWELVE, a large STOCK of TIMBER, namely, 2 245 planks, deals, and battens, cut stuff, 137 squares of flooring, 12,000 feet quartering, 2,000 feet ash railing, 1,000 feet wide pine boards, 56 squares, feather edge, and match board, 65 dozen slating battens, 80 dozen pantile laths, a few new 4-panel doors, and materials.—Auction Offices, Carlington-street, Hampstead road, near the Euston Station.

GOSWELL-STREET, E.C. in the rear of St. Thomas Charterhouse Schools.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, on MONDAY, MAY 5th, at TWELVE, the MATERIALS and FITTINGS of FOUR HOUSES and a SHED, to be taken down by purchaser. Also, a quantity of loose Materials.—Auction Offices, Carlington-street, Hampstead-road, near the Euston Station.

BAYSWATER.—To BUILDERS, CONTRACTORS, and OTHERS.

MR. ROBERT BOYCE has been favoured with instructions from Mr. William Dethick, who has finished his contract for the main drainage through Hyde park and Kensington gardens, to SELL by AUCTION, on MONDAY and TUESDAY, MAY 5th and 6th, 1862, at TWELVE each day, on the PREMISES, Elm-lane, near the Swan Tavern, Bayswater-road, the first portion of the valuable PLANT; comprising a capital 10-horse power portable condensing steam-engine, in sound working order; a capital mortar-mill, with cast-iron pan 6 feet in diameter, with edge runners, 30 cwt. each, and crown gear complete; quantity of larch butts, Memel and Baltic baulk timber; 10,000 feet deals square, 1,500 planks, 3 inch, and useful cart-horses, twelve capital single and double shoot carts, fifty wheelbarrows, trawley, quantity of iron in tram and pipes, and other effects.—May be viewed Saturday previous and morning of sale; and catalogues had at the Swan Tavern, Bayswater-road; the Acorn Tavern, Great Cambridge-street, Hackney-road; and at the Auctioneer's Offices, 47, High-street, Hoxton.

WALTHAMSTOW.—Building Materials of a large range of Stabling, Coach houses, and other Buildings.

MESSRS. GADSDEN, WINTERFLOOD, and ELLIS, will SELL by AUCTION, on the PREMISES, opposite Wadham-row House, on TUESDAY, 29th APRIL, 1862, at TWO for THREE o'clock precisely, 190,000 sound STOCK BRICKS, 120 squares of countess slating, stone coping, window-sills, paving and pitching, about 3 tons of lead; timber, in rafters, plates, girders, joists, &c.; a granary building, floors, window-frames, framed partitions, doors, gates, staircases, chimney-pieces, stoves and coppers, a large cast iron tank, and various other effects. May be viewed day preceding and morning of sale. Catalogues may be had on the Premises; at the Inns in the neighbourhood; and at Messrs. GADSDEN, WINTERFLOOD, & ELLIS'S Offices, 18, Old Broad-street, City.

ROTHERHITHE.—Valuable Freehold Land, well adapted for building small Dwelling houses on Manufacturing Premises.

MESSRS. PRICKETT & SON will SELL by AUCTION, at the MART, City, in lots, on WEDNESDAY, MAY 7, at TWELVE, some valuable PLOTS of FREEHOLD BUILDING LAND, situate in the Bunnet part of Rotherhithe, adjoining the Surrey Gas Company's Works, the Surrey Docks, and contiguous to the Thames Tunnel, and numerous manufactories.—Particulars can be obtained at the Auction Mart; of H. C. ELLIOTT, Esq. Solicitor, 69, Lincoln's-inn-fields; and of Messrs. PRICKETT & SON, Auctioneers and Surveyors, 62, Chancery-lane, W.C. and Highgate, N.

ONE MILLION OF BRICKS FOR SALE, in lots, by Auction, Three miles from the Marble Arch, on

MESSRS. PETER BROAD & PRITCHARD will SELL by AUCTION, at the Starch-green Brick Fields, three miles from the Marble Arch, on TUESDAY, MAY 6th, at TWELVE o'clock, the remaining STOCK IN-TRADE, comprising about One Million of capital STOCKS, GRIZZLE, and PLACE BRICKS, in lots suitable to contractors, builders, and others.—Catalogues at the Sun Inn, Starch-green; and of Messrs. BROAD & PRITCHARD, 23, Poultry, E.C.

TO HOUSE-DECORATORS and PAPER-HANGERS.—For DISPOSAL, a first-class West-end BUSINESS in PAPERHANGINGS (wholesale and retail) and HOUSE DECORATING; stock, fittings, and valuable lease, about 1,200l. The business is working, established over twenty years. The proprietor will act as manager, foreman, or clerk of works, at a fair remuneration, and introduce to all the customers. Good will, 310l. Stock and plant at valuation, or as may be agreed. Apply, HARDING'S BUSINESS OFFICE, Kennington Cross.

TO BUILDERS.—TO BE DISPOSED OF, in a good town, near London, and close to a railway-station, an Old-established BUSINESS, in full work, with considerable connexion.—For particulars, and cards to view, apply to J. M. D. at Mrs. Moor's, 223, Shoreditch.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, & LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Model Painted and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Two Lessons per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street London.
ROBERT M. LATHAM, Secretary.

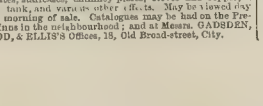
A CARD

MESSRS. CORDEROY, Surveyors (late of High-street, Marylebone), have REMOVED their OFFICES to 17, KING WILLIAM STREET, STRAND, LONDON, W.C.
Office in Portsmouth—13, Ordnance-row, Portsea.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.
Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.
Lithographers, &c. 5, Ave Maria-lane, E.C.

POLYTECHNIC.—ATTRACTIVE NOVELTIES. 1. Engagement of George Buckland, Esq. for his New Musical Buffo Entertainment "Blue Beard," illustrated with Dissolving Views, Shadow Pantomimic Effects, and concluding, 2.—with an entirely new Scenic and Mechanical illuminated and Chromatic Fountain Spectacle. 3. New and brilliantly illustrated Lecture by Professor J. H. Pepper, on "Colour in General and Coal-Tar Colours in Particular." 4.—New and Magnificent Dioramic Dissolving Views of "London" in the Roman, Anglo Saxon, Norman, Plantagenet, Tudor, Stuart, and Hanoverian Epochs, with descriptive Lecture by James D. Malcolm, Esq. 5.—New Lecture by J. L. King, Esq. entitled "Curiosities of Science." 6.—New and charming series of Photographic Dissolving Views (by Mr. England) of "Paris as it is." 7.—New Scene by J. K. Mathew, entitled "Foster Out-Fostered," being an exposé of the Spirit Medium. 8.—The "Merrimac" and "Monitor," the "Warrior" and "La Gloire," illustrated in a splendid series of Dissolving Views. 9.—Re-engagement of the celebrated Brousil Family for another series of their popular Concerts. Open from 12 to 5, and 7 to 10. Admission to the whole, 1s.

VENTILATION—PURE AIR.



With single pulley, from 6s each; with leading pulley, from 6s. 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is close, for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, April 26, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

CONTAINING

VOL. XX.—No. 1004. MAY 3, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

The North Court, South Kensington Museum.—Capt. Fowke, Architect 315
The Site of the International Exhibition, not long ago 314

CONTENTS.

The New Court, South Kensington Museum 305
The Art-Union of London General Meeting 306
The Old and New Water-Colour Societies 306
Guides to the International Exhibition 308
St. George's Church, Benenden, Kent 308
Architecture of Palestine from the Earliest Times to the Crusades 309
The Palace of Art and Industry 313
Juries for International Exhibition 314
Royal Institute of British Architects · The Medals 317
The Architectural Association 318
The International Bazaar, South Kensington 318
The Albert Memorials 318
On Leadwork 319
Foreign Workmen 320
The Thames Embankment 320
Public Buildings: Proposed Foreign Office 321
The New British Church, Naples 321
How Modern Architects are Esteemed 321
Stained Glass 321
Church-building News 321
On the Improvements about York Minster 322
State of the Organ, Hereford 322
Music and the Stage 323
Sewerage of Buxton 323
Patents Connected with Building 323
Books received · Variorum 323
Miscellanea 323

MEMORIAL FUND.—HIS LATE ROYAL HIGHNESS THE PRINCE CONSORT.

PRESIDENT - The Right Hon WM. CUBITT, Lord Mayor.

Amount of Contributions to April 23 ..... £46,971
Amount subscribed during the week ending April 29 1,148
Total £48,119

Subscriptions continue to be received by the Right Hon. the Lord Mayor, at the Mansion House; and by all the London Bankers.

A Sub-Committee sit daily at the Mansion House.

MICHAEL GIBBS, S. R. GOODMAN, SAMUEL BROWN, } Honorary Secretaries.

Mansion House, E.C. April 30th, 1862.

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS.
Sir Robert Smirke. A. J. B. Beresford Hope, Esq. M.P.
PRESIDENT—Sydney Smirke, Esq. R.A.
TREASURER—William Tite, Esq. F.R.S. M.P.
TRUSTEES. Philip Hardwick, Esq. R.A. | Charles R. Cockerell, Esq. R.A. | Geo. Gilbert Scott, Esq. R.A.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 59, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

LECTURES on PHYSICS.—

Dr. TYNDALL, F.R.S. will commence a course of FORTY LECTURES on PHYSICS, on MONDAY, 5th MAY, at ONE o'clock, at the Government School of Mines, Jermyn-street; to be continued on each succeeding Tuesday, Wednesday, Thursday, Friday, and Monday, at the same hour. Fee for the course, 3l.

TRENHAM REEKS, Registrar.

SCIENCE and ART DEPARTMENT of the COMMITTEE of COUNCIL on EDUCATION, SOUTH KENSINGTON.—A Course of TWELVE LECTURES, on the HUMAN FORM, will be delivered by JOHN MARSHALL, Esq. F.R.S. F.R.C.S. Surgeon to University College Hospital, in the Lecture Theatre, during the Session 1862:—

Lecture 1, 2nd May.
Lectures 2 and 3,—9th and 16th May.
Lectures 4, 5, and 6,—23rd and 30th May and 6th June.
Lectures 7 and 8,—13th and 20th June.
Lecture 9, 27th June.
Lecture 10,—4th July.
Lecture 11,—11th July.
Lecture 12,—18th July.

This Course will be delivered on FRIDAY Afternoons, at FOUR o'clock. Masters in training and registered Students of the Department are admitted free. The public are admitted on payment of 6s. for the Course of Twelve Lectures, or 1s. each Lecture.

N B—This Course is such as may be attended by Female Students. The Lectures will be illustrated by Diagrams and Sketches. Students are recommended to provide themselves with note-books for pencil outlines and memoranda. Time will be allotted at the end of alternate lectures for the examination of such note-books as are handed to the Lecturer.—By order of the Committee of Council on Education.

THE ARCHITECTURAL MUSEUM,

SOUTH KENSINGTON MUSEUM, W.—SESSION, 1862.—On TUESDAY next, at EIGHT p.m. precisely, a LECTURE will be delivered, in the Theatre, "On the Various Systems of Coloured Decoration of the Middle Ages," by W. BURGESS, Esq.

A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Secretary.

(3s, Stratford-place, W. of whom cards may be had by letter.)

SOCIETY of PAINTERS IN WATER COLOURS.—The FIFTY-EIGHTH ANNUAL EXHIBITION is now OPEN at their GALLERY, 5, Pall-mall East (close to the National Gallery), from NINE till SEVEN. Admittance, 1s.; Catalogue, 6d.

JOSEPH J. JENKINS, Secretary

THE NEW SOCIETY of PAINTERS in WATER-COLOURS. The Twenty-eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall-mall, near St. James's Palace, from NINE till Dusk. Admission, 1s.; Catalogue, 6d. Season Ticket, 5s.

JAMES FAHEY, Secretary.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, NOW OPEN, from Nine till Six. Admission 1s. Half crown season tickets admit at all times to the Exhibition, to the west gallery containing the entire collection of drawings and sketches by the late A. Welby Pugin, and to all the Lectures. First Lecture, TUESDAY, MAY 6, at Eight p.m. on the Transport and Erection of Obelisks and other large Monoliths in ancient and modern times, by Professor Donaldson.

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

COMPETITIONS.

ST. FINBAR'S CATHEDRAL, Cork.—To ARCHITECTS.—It having been resolved to Re-build St. Finbar's Cathedral, ARCHITECTS are invited to furnish DESIGNS for the ERECTION of a NEW CATHEDRAL at a cost not exceeding 15,000l. A premium of 100l. will be given for the best and most approved plan, and 50l. for the second. Plans and designs to be sent to the Hon. Secretaries, Ven. the ARCHDEACON of CORK, Rev. J. N. WOODROFFE, or T. M. USBORNE, Esq. Cork, not later than the 1st day of AUGUST next.—Further information and a plan of the site may be obtained on application to W. C. BENNETT, Esq. Notary Public and Chapter Clerk, 15, South-mall, Cork.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of an OFFICE for Storekeeper, and RESIDENCE for Foreman, at the Hyde-park Infantry Barracks, in the County of Middlesex.

Parties desiring to Tender for the erection of these works must leave their names at this Office between the 30th APRIL and 3rd MAY, 1862, both days inclusive, and pay the sum of 10s 6d for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District, 11, James-street, Buckingham-gate, 24th April, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for WORKS to be executed in RE COVERING the ROOF, &c of the ROTUNDA at the Royal Military Repository, Woolwich.

Parties desiring to Tender for these works must leave their names at this Office on or before the 14th day of MAY, 1862, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, April 24, 1862.

TO HOTEL PROPRIETORS, BUILDERS, JOINT-STOCK COMPANIES, and OTHERS.—The Directors of the Charing-Cross Railway Company are prepared to receive TENDERS for a SITE, measuring about 150 feet by 65 feet, adapted for the erection of a first-class HOTEL, over their Terminus at Charing-Cross.—Particulars may be had on application to the Secretary of the Charing-Cross Railway Company, at the London-bridge Station, from and after MONDAY, the 21st instant, and sealed Tenders to be sent in to the Secretary, on or before TUESDAY, the 20th day of MAY next.

S. SMILES, Secretary.

Railway Terminus, London-bridge, April 16, 1862.

TO BUILDERS.—Persons desirous of furnishing TENDERS for the ERECTION of a BANK and MANAGER'S HOUSE, at Spalding, for the Stamford, Spalding, and Boston Banking Company, can obtain particulars on application to Mr. WILLIAM EVE, Surveyor, 3, Union-court, Old Broad-street, E.C. Tenders will have to be sent in on or before the 17th of May next. The lowest or any Tender will not necessarily be accepted

RIVER THAMES. — WAREHOUSE FRONTS.—TENDERS are required for NEW RIVER FRONTAGES to the Granaries and Warehouses of the Oil Mills abutting on the Thames, at Limehouse Hole, between Limekiln Dock and the Limehouse Entrance Lock of the West India Docks, the property of the Messrs. JOHN GARFORD & SONS.—Plan, specification, form of Tender, and general bill of quantities, may be obtained on the Premises, or at the Office as below, of Mr. J. B. REDMAN, Civil Engineer. Tenders are to be delivered on or before the 13th MAY next. The Messrs. Garford do not bind themselves to accept the lowest or any Tender

5, New Palace-yard, Westminster, S.W. April 24, 1862.

TO BUILDERS.—GLOUCESTER NEW OIL MILLS.—Persons wishing to TENDER for the proposed BUILDING, to be erected at Gloucester, for Messrs. T. N. Foster & Co. may see the plans at the Spread Eagle Hotel, Gloucester, from TUESDAY, the 29th of APRIL, to FRIDAY, the 9th of MAY, 1862, both inclusive. Tenders to be addressed to Messrs. T. N. FOSTER & CO. Evesham, on TUESDAY, the 13th of MAY, endorsed "Tender for New Oil Mill." The lowest or any Tender not necessarily accepted.

Evesham, April 27, 1862. GEO. HUNT, Architect.

CONTRACTS.

TO BUILDERS and OTHERS. — The Stockton and Darlington Railway Company are prepared to receive TENDERS for the ERECTION of STABLING to the ZETLAND HOTEL, at Saltburn by the Sea. Plans and specification may be seen upon application at the Offices of the Company, in Darlington, from THURSDAY, APRIL 24th, to WEDNESDAY, MAY 7th, 1862. Tenders to be delivered not later than the THURSDAY following, addressed to the Secretary, and endorsed "Tender for Stables." No pledge is given that the lowest or any Tender will be accepted.

THOS. MAC NAY, Secretary.

Railway Office, Darlington, April 21st, 1862.

TO BUILDERS.—Parties desirous of CONTRACTING for the several WORKS required to be done in RE-BUILDING the PARISH CHURCH of STROUD may see the plans and specifications for same, and obtain bills of quantities, at the Office of Mr. J. G. BLAND, Architect, Birmingham, on and after the 8th day of MAY next. Tenders to be delivered on the 20th. Copies of drawing and specifications will also lie at Stroud for inspection, and may be seen on application to the Architect. The Committee do not bind themselves to accept the lowest or any Tender.

April 19, 1862.

PROPOSED NEW SCHOOLS, VESTRIES, &c. Rawtenstall, Lancashire.—Persons desirous of CONTRACTING for the ERECTION of the above, may see the plans and specifications at the Offices of THOMAS SIMPSON, Architect, Nottingham, from WEDNESDAY, APRIL 30th, to MAY 10th, inclusive, and at Rawtenstall, on application to THOS. HOYLE WHITEHEAD, Esq. on and after MONDAY, the 12th day of MAY. Printed quantities will be supplied on application to the Architect. Tenders to be delivered to THOS. HOYLE WHITEHEAD, Esq. Rawtenstall, on or before WEDNESDAY, the 21st day of MAY. The Proprietors do not bind themselves to accept the lowest or any Tender.

CHEAPSIDE.—BUILDING LAND.—To BUILDERS, CAPITALISTS, and OTHERS.—A valuable SITE in Cheapside, of about 65 feet frontage and averaging 45 feet in depth, TO BE LET on Building Lease, for a term of 80 years from Lady-Day, 1863, suitable for the offices of a public company, or for warehouse or business premises. Tenders will be received up to the 20th day of MAY next.—Plans, particulars, and conditions of Tender may be seen on or after the 24th instant, on application to the Clerk, Saddlers' Hall, Cheapside, E.C.; or to Mr. F. W. PORTER, Architect, 16, Russell-square, W.C. between TEN and FOUR.

TO BUILDERS and OTHERS. — The Burial Board for the parish of Broadwater, in the county of Sussex, hereby give notice, that they are prepared to receive TENDERS for the ERECTION of TWO CHAPELS and KEEPER'S LODGE, and OUT-OFFICES connected therewith, on land at Broadwater, intended to be used as a cemetery for the parish of Broadwater and town of Worthing, together with the boundary walls and other works connected therewith.—The plans, drawings, and specifications of the works may be seen, and any further information that maybe required obtained, on application to the undersigned. Sealed Tenders endorsed, "To the Burial Board for the parish of Broadwater, Tender for Works," to be delivered at the Clerk's Office, 15, High-street, Worthing, before FIVE o'clock on the 20th day of MAY next.—The Burial Board do not bind themselves to accept the lowest or any Tender.

W. VERRALL, Clerk to the Burial Board.

Worthing, April 29, 1862.

TO BUILDERS, &c.—Notice is hereby given, that PLANS and SPECIFICATIONS for REPAIRING and RESTORING the PARISH CHURCH of LONG COMPTON, Warwickshire, near Chipping Norton, will be hung at the Vicarage, Long Compton, from the 10th of MAY to the 17th of MAY, both inclusive, Sunday excepted, and all persons desirous of CONTRACTING for the WORKS must send in sealed Tenders, directed to the Rev. H. LANPHIER, Long Compton Vicarage, Shipston on Stour, on or before the 24th of MAY. The lowest Tender or any will not necessarily be received.—The contractor must be prepared (if required) with two good and approved bondsmen, to enter into the usual legal bond for the due carrying out of the work.

TO BUILDERS. — Persons desirous of CONTRACTING for the ERECTION of a small CHURCH Little Ammell, near Ware, are informed that the plans may be seen on and after WEDNESDAY, the 7th inst., at the office of the Architect, Mr CHRISTIAN, 81, Whitehall-place, London, S.W. The Committee do not bind themselves to accept the lowest Tender.

ISLEHAM PARISH CHURCH, near Newmarket.—Parties desirous of CONTRACTING for the REPAIR and RESTORATION of the above CHURCH may see the plans and specifications for same at the VICARAGE, Isleham, on and after the 7th of MAY next. Tenders to be delivered at the RUTLAND ARMS, Newmarket, on the 20th day of MAY, 1862, at TWELVE a.m. The Committee do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.—TENDERS are required for the ERECTION of TWO first-class DWELLING-HOUSES at Saltburn-by the Sea, plans and specifications of which can be seen at the Offices of Mr JOHN ROSS, Architect, Paradise row, Darlington, from MONDAY, the 28th inst. until FRIDAY, MAY 9th. Tenders to be delivered on the morning of the latter day, at the above address.

Darlington, April 14th, 1862

FENCHURCH STREET.—The Vintners' Company are prepared to receive TENDERS for a BUILDING LEASE, from MIDSUMMER next, of the PREMISES, No. 95, Fenchurch-street. Particulars may be obtained at the Clerk's Office, Vintners' Hall, Upper Thames-street, where Tenders (under seal) are to be delivered on or before the 12th day of JUNE next. The Company do not bind themselves to accept the highest or any Tender.

GEORGE LOMAS, Clerk to the Company.

[For remainder of Contracts see next Page.

CONTRACTS.

FLEET STREET and SALISBURY COURT.—The Vintners' Company are prepared to receive TENDERS for a REPAIRING LEASE for 21 years, or for a BUILDING LEASE for a longer term, from CHRISTMAS next, of the PREMISES, No. 31, Fleet-street, and Nos. 1 and 2, Salisbury-court, adjoining. Particulars may be obtained at the Clerk's Office, Vintners' Hall, Upper Thames-street, where Tenders (under seal) are to be delivered on or before the 12th day of JUNE next. The Company do not bind themselves to accept the highest or any Tender.
GEORGE LOMAS, Clerk to the Company.

TO BUILDERS.—TENDERS are required for BUILDING a RESIDENCE, at Norham Manor, Oxford Park, and specification may be seen, and a copy of the conditions obtained, at the Office of Mr. WILKINSON, Architect, Bramhall-street, on and after the 31st day of MAY.—Tenders to be sent in to Mr. WILKINSON, on or before the 14th day of MAY, endorsed "Tender for Residence, Norham Manor."

BUILDERS willing to TENDER for doing sundry REPAIRS and ALTERATIONS at 57, Westbourne-street, Hyde-park, are requested to inspect the drawings and specification at the Office of the Architect, who reserves the right on behalf of Mr. W. Fleet of not accepting the lowest or any Tender. Tenders to be delivered May 7th, 1862, by parcel to HENRY MCALLA, C.E., Architect, Offices, 25, Westbourne-place, Eaton-square, and Eastbourne.

CRYSTAL PALACE (close to).—Valuable BUILDING SITES TO BE LET or SOLD, within a few minutes' walk of Sydenham Station, fronting a handsome roadway of considerable width. The supply of Gas, as in the neighbourhood, is quite adequate to the demand, the position being in addition one of the most favourable and convenient in the vicinity of town; its healthful salubrity, picturesque scenery, proximity to the Crystal Palace and Park, facility of access to the City and West-end, will always insure to the locality a high rank in popular estimation, and remunerative rentals may consequently be relied on for any houses erected on the property. Covers made gas laid on. For terms and plans apply to Messrs. EDWIN FOX & BOUSFIELD, Agents for the estate, 41, Coleman-street, City.

BELSIZE PARK, HAMPSTEAD. — To BUILDERS and others.—LAND TO BE LET, for Building, with roads and sewers all complete. For further particulars, apply on the estate, at Mr. TILBEY'S Office, 29, Belsize-park.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a weighty soil and quiet street, about one mile from the railway stations from whence the metropolis is accessible in half an hour. The land, which is picturesque, by an entrance lodge, well-wooded, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let for the erection of private residences only in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

MANOR of DULWICH. ALLEYN'S COLLEGE ESTATE.—The Governors of Alleyn's College are prepared to LET a PORTION of the PSTATE in Plots for Building Purposes.—Plans may be seen and particulars obtained from CHARLES BARRY, Esq. College Surveyor, at 37, Sackville-street, Piccadilly.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive Manufacturing Premises, known as THEDGAR WORKS, Bow. Machine shop, 61 ft. by 54 ft.; two ranges of workshops 74 ft. by 25 feet; steam-engine, boilers, forge, sheds, stabling, counting-houses, and all other conveniences suitable for a large factory.—For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

PLAISTOW. Several PLOTS of FREEHOLD LAND FOR SALE, or TO BE LET, on Building Leases, in Balsam street, Plaistow, near the Barking-road.—For particulars apply to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial-road, E.

BETHNAL-GREEN.—BUILDING LAND at Low Ground-rents—PLOTS of LAND, for small Houses, near Green-street, Bethnal-green, on the Estate of the Late Samuel Ansley, esq. The sewers and roads are completed. For particulars, apply to Mr CHARLES DUNCH, Architect, White Horse street, Commercial-road, E

TO BUILDERS.—A PLOT of Valuable FREEHOLD GROUND, about 70 feet frontage, and of considerable depth, TO BE LET, on a Building Lease, at a low ground-rent situate in Hill street, Peckham, S.E. Apply to Mr CHARLES DUNCH, Architect, White Horse street, Commercial road, E

BUILDING LAND TO LET, on long leases in most cases direct from the freeholder, at HIGHBURY-CANONBURY, NORWOOD close to the Lower Norwood Station, at CROYDON (very near West Croydon Station), at the VAUXHALL GARDENS ESTATE, at PENGE-PARK HILL, and at ANERLEY.—ESSEX, at BOW. Ground rents moderate. The usual proportion of the rest of the house rented would be six times, and in some cases the freeholds might be sold. For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

BELVEDERE, near Erith, Kent, S.E.—To BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES near London.—This beautiful Park is to be thrown open for building at the new year, 1863. Probably no district to the east of London has such a stupendous advantage. The beauty of the river and land scenery is well known. The soil is dry and healthy, the water supply abundant. There are stations of the North Kent Railway at Erith and at Belvedere. The former, near to the east end of the Park, the latter, within four minutes' walk of the west end of the Park, and the Pleasure and Recreation Ground portion of the estate. By the end of 1863, it is expected that there will be complete railway communication to Charing Cross. Penny, close to the Belvedere Station and Lessees Estate (close to the Belvedere Church and Schools) are already (within two years) nearly covered with buildings, six villas of different classes, from £90 to 701. a-year, and shops of various descriptions; some plots, however, may still be had there. Some sites in the park are just let, and it is intended to grant leases of other similar plots for ninety-nine years, for erecting villas of a superior description. Plots will be laid out for cottages as to four rooms, each road through the park. The centre the Park road, leading from the Belvedere station to Bexley-street; the Avenue-road, and the Tower-road, each leading from the public Erith-road at different points to the Tower; and the Valley-road, leading from the Erith Lodge to the archway in the park. The ground is to be sold by public auction, and the terms and for other particulars may be addressed to Messrs. WM G. HABERSHON & PITE, Architects, 38, Bloomsbury square, W.C. Mr. HENRY LAND, Estate Agent, will show the ground to persons applying. The museum will also be let on lease after April 1863, for an hotel or refreshment-house, or other public institution.—For particulars apply to Messrs. NORTON & HOGGART, Old Broad-street, E.C.

TYSSEN-AMHURST ESTATE.—LAND TO BE LET for BUILDING, in different parts of CLAPTON, HACKNEY, and KINGSLAND. For plans and particulars apply to Mr. HENRY NELSON, Architect and Surveyor, at the Offices, Church-street, Hackney, N.E. near the Railway Station.

TWICKENHAM MEADOWS, near Richmond Bridge.—TO BE LET, for Building, according to plans to be agreed upon, about TEN ACRES of FREEHOLD LAND, well and fully situated, well drained, gravelly soil, and healthy, with large frontage to the Thames at—Apply to Mr BRADLEY, at the Lodge; or Messrs. PEW & CO 2, Henrietta-street, Covent garden.

CARCASES FOR SALE.—FIVE CAR CASES of SHOPS and PRIVATE HOUSES TO BE SOLD, upon reasonable terms, at low ground rents in Bonner's-lane, Bethnal green.—Apply to Mr. CHARLES DUNCH, Architect, White Horse-street, Commercial-road, E.

FREEHOLD BUILDING LAND.—TWELVE ACRES TO BE LET, within one hundred yards of the Ealing Station, on the Great Western Railway.—Apply to Messrs GRAY & BERRY, 166, Edgware road, W.

TO BUILDERS and OTHERS.—FREEHOLD LAND, three miles from the City, TO BE LET on Lease, at moderate ground-rent, for a public house, shops, or private houses, in a rapidly growing and flourishing neighbourhood, close to the intended Station of the London and Brighton Railway Company.—Apply to Mr. BIRKS, 11, Clifton Cottages, Clifton-road, Peckham.

PREMISES, for a Builder or other parties requiring space, in HAMILTON STREET, Cavendish-square, two spacious LOFTS, STABLING, YARD (pump water), and with immediate possession. TO BE LET on Lease, 180 Guineas, and 50l. premium. Inquire on the Premises.

CITY of LONDON.—EASTCHEAP.—TWO HOUSES, SHOPS, and PREMISES—The Trustees of the Whitechapel Estate are prepared to receive TENDERS for a LEASE or LEASES of Nos. 88 and 89, Fenchurch, at the corner of Philpot lane, in the city of London. The Tenders may be either for a term of twenty-one years, from Lady-day, 1863, with the usual covenants to repair, &c. or for a building lease or leases, for a term not exceeding sixty-five years from the before-mentioned date. The draft of the proposed lease, &c. may be inspected at my Office. The Tenders for a building lease or leases will be received, subject to the approval of Charity Commissioners. Tenders, sealed, and indorsed "Tenders for Premises in Eastcheap," must be left with me, on or before the 17th of JUNE next.—Further particulars can be obtained of me; or Mr. G. H. SIMMONDS, Surveyor, of No. 7, Great Alie-street, Whitechapel. The Trustees do not bind themselves to accept the highest or any Tender.

T. S. MITCHELL, Clerk and Solicitor to the Trustees.
Vestry Clerk's Office, 7, Great Prescot-street, Whitechapel.

OFFICES in the CITY.—TO BE LET, by PUBLIC TENDER, by the Worshipful Company of Pewterers, on lease, for twenty-one years, terminable at the end of the first seven or fourteen years at the option of either party lately erected and most substantially built Premises, known as No. 17, Lime-street, in the City of London, and which is specially suitable for offices.—Full particulars and cards to view can be obtained on application to Messrs ELLIS & SON, of 49, Fenchurch-street E.C.; or of the Clerk of the above Company, Mr. W DADLEY, of No. 1, Anchor-terrace, Bridge street, Southwark, to whom sealed Tenders are to be sent on or before the 20th day of MAY, 1862. The Pewterers' Company will not bind itself to accept the highest or any Tender.

FREEHOLD BUILDING SITE, of from 5 to 10 acres, WANTED, for a large school, within 12 miles of London, adjacent to a railway station.—Particulars, by letters only, to A. Z. James Edell, Esq.'s, 6, Size-lane, London, E.C.

SALE of ST. THOMAS'S HOSPITAL PROPERTY, LONDON BRIDGE.—The Directors of the Charing Cross Railway Company are prepared to receive PROPOSALS for the PURCHASE of the LAND and BUILDINGS of St. Thomas's Hospital, London Bridge, occupying an area of nearly four acres, except only the small portion of garden at the north-west corner, which is required for the works of the Railway. Possession can be given to the purchaser on the 1st of August next.—Particulars may be obtained on application to Mr HENRY TOOGOOD, Solicitor No 16, Parliament street, and Proposals to be addressed to the Secretary.
By order,
S. SMILES, Secretary.
Charing cross Railway Offices, London Bridge, 30th April, 1862.

TO BE LET, on Building Lease, 32 Acres of Eligible LAND for Villas, close to the most beautiful part of the Thames opposite Cheften and Taplow Woods, and five minutes' walk from the Maidenhead Station.—Apply to ROBERT ARTHUR WARD, Esq Solicitor, Maidenhead.

MANUFACTURING WATERSIDE PREMISES on the THAMES—TO BE SOLD or LET on LEASE, the extensive PREMISES lately occupied as the Distillery at Brentford, occupying a site of about four acres, having a considerable frontage next the Thames, a plentiful supply of pure spring water, and well placed for lighter carriage, being but a short remove from the Brentford Docks, and immediately contiguous to three lines of railway; there are some very capacious and substantial buildings, and a good dwelling house, with large garden, the whole presenting advantages for any large manufacturing establishment.—For further particulars apply to Sir P. B HOOK, Esq. Solicitor, 9, Lincoln's Inn-fields, W.C.; or to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

LONDON WALL, City.—WAREHOUSES, situate Nos. 31 and 32, London Wall, TO BE LET by Tender, at a Court of Assistants of the Drapers' Company, to be held at their Hall, in Throgmorton-street, on THURSDAY, the 8th day of MAY, and persons wishing to treat for the same must attend the Court at ONE o'clock on that day, having previously delivered in written Tenders. Further particulars may be had on personal application to Mr. W. H. SAWYER, Drapers' Hall.

GUILDHALL, 30th April, 1862.—The Committee for letting the City's Lands will meet at Guildhall, on WEDNESDAY, the 14th of MAY next, to receive PROPOSALS for a Lease of a House, No. 9, Giltspur-street, in the city of London. Plans of the property now in hand, and forms of Tender attained, upon application at the Architect's Office, Guild hall.
FERDINAND BRAND, Comptroller.

UPPER THAMES-STREET; St. Bartholomew's Hospital.—To BUILDERS and OTHERS—TO BE LET, on a Building Lease, for 70 years, from Michaelmas, 1869, the whole of a FREEHOLD ESTATE belonging to this Hospital, comprising the premises Nos. 148, 149, and 151, Upper Thames-street, with a frontage of 98 feet towards Thames-street, and 79 feet towards Suffolk-lane.—For further particulars, apply at Mr. HARDWICK'S Office, No. 1, Henrietta-street, Covent-garden. Tenders are to be sealed up, and delivered at the Clerk's Office, within the Hospital, on TUESDAY, the 13th day of MAY, at a Quarter before ELEVEN precisely. WILLIAM WILBY, Clerk.
St. Bartholomew's Hospital, May, 1862

BUILDING LAND, situate between Reigate and Horley, in the parish of Betchworth, TO BE LET upon long LEASES, in plots of various sizes, suitable for the erection of a good class of private residences.—For particulars, apply to Messrs. CLUTTON, 9, Whitehall-place, Westminster; or Messrs. NASH, Reigate

BUILDING GROUND, HOLLOWAY, with good Brick Earth.—TO BE SOLD, or LET on Building Leases, about FIFTEEN SQUARES of FREEHOLD LAND, situate between Blenheim-road, at Hurley-road West, Horley-road, and close to the omnibus station.—Apply at the Enterprise Tavern, Blenheim-road; Mr. Corrick, Hanley-road West; or to Mr. Bilney, 166 Marylebone-road.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of cement, at reduced prices.
MESSRS. HERBERT, MODELLERS, 242, EUSTON ROAD, ST. PANCRAS.

TO ASPHALTERS, BOILER MAKRS, and OTHERS.—WANTED, to PURCHASE, a SECOND-HAND IRON STILL or BOTTLE STEAM-BOILER, for distilling gas-tar. Not less than 400 gallons. With or without a Condensing or Still Pipe. Also a PERSON who under-stands preparing and laying down asphalte and tar flooring.—N B. Any person of business habits, with a small capital, might have a share in the business if preferred. Apply to C. COLLINS, Builder and Auctioneer, Broad-street, Stamford.

LOCOMOTIVE STEAM-ENGINE (second-hand) TO BE SOLD, with tubular boiler, three cylinders, 140 lbs. pressure. Weight, 6 tons 17 cwt. To be seen on application to Mr. TILBURY, No. 25, 181, at the Pantechnicon, Belgrave-square. This engine was first used as a traction engine on a tramroad.

LOCOMOTIVE STEAM ENGINE TO BE SOLD, in a thorough state of repair, with two 7½-inch Cylinders and Copper Fire-box, 4-feet Driving-wheel, and 1 foot 6 inch stroke.—For price, apply to Mr. JOHN MERRY, 13A, Cannon-row, Westminster, London.

TO BUILDERS.—TO BE SOLD by private contract, one of GOUGH'S PATENT PORTABLE ENGINES, together with the Stone sawing machinery, which can be seen at work at Welbeck Abbey Works; also several cranes, double purchase crabs, and one stone ditto, calculated to carry twenty tons.—Address C. C. & A. DENNETT, Welbeck Abbey Offices, Notts.

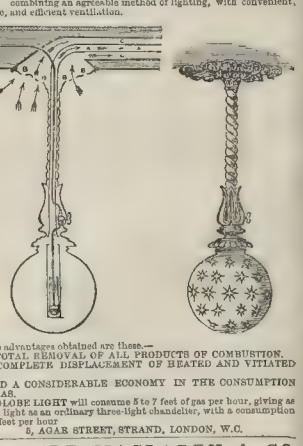
TO BE SOLD, a bargain, a new 6-horse portable STEAM ENGINE, with extra heating surface.—Apply to Mr. KENNARD, 20A, Alpha-road, N.W.; or the Engine to be LET.

FOR SALE, THREE SECOND-HAND CAST-IRON LEVER COAL DROPS, by BURLINSON, capable of lowering 40 tons of waggons, with Brake Wheels, Handles, and Machinery complete.—For particulars apply at the Engineer's Office, Harbour and Dock Works, Sunderland.
April 19, 1862.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanised ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

RICKET'S & HAMMOND'S VENTILATING GLOBE LIGHT, combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour
5, AGAR STREET, STRAND, LONDON, W.C.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

LOSH, WILSON, & BELL, NEWCASTLE-ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods an d STEWART'S PATENT CAST-IRON GAS and WATER PIPES. Office, No. 7, Size-lane, London.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction
Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr. ALEXANDER YOUNG, 14A, Cannon-street, London, E.C.

IMPORTANT TO BUILDERS, SAW-MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS.
WILSON'S PATENT LARGE TIMBER SAWING-MACHINERY.
This machinery is adapted to cut massive or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the log are arranged to carry the log past the saw to any extent without stopping for re-adjustment, by which the necessity for transoms is avoided, and they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly.
The speed of cutting may be varied from 10 inches to 10 feet per minute, and yet on account of the increased length of cutting edge, the saws keep cool.
May be seen in operation, daily, at Messrs JAMES WILSON & SON'S, Builders, Springfield Saw Mills, Manningham, Bradford, Yorkshire. Full particulars may be had on application, by parties desirous of purchasing.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES
TOMB RAILING.

VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



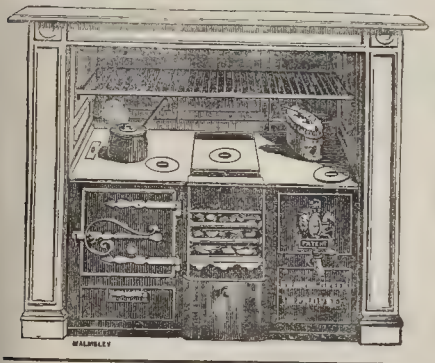
ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10*s.*

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other Appliances, are perfectly adapted for Noblemen's and other large establishments No charge is made for Designs and Estimates, and experienced workmen are employed.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke-curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat,—viz. that reflected from the upper or concave surface,—to be projected parallel with the floor, instead of directly to the ceiling, as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction, thus thoroughly warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which is intended to be kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black on the top, and obviates any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18*s.* 6*d.*

BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.

F. THOMAS, AGENT.

ILLUSTRATED PROSPECTUSES POST FREE.

THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his STOCK of Ironmongery, Brass Founding, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, Chains, Grass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators (a good the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare-market, London.

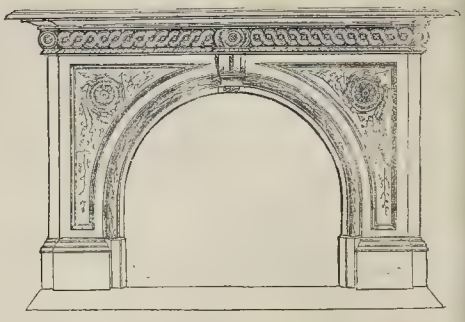
THE RICHEST ASSORTMENT OF CHIMNEY-PIECES

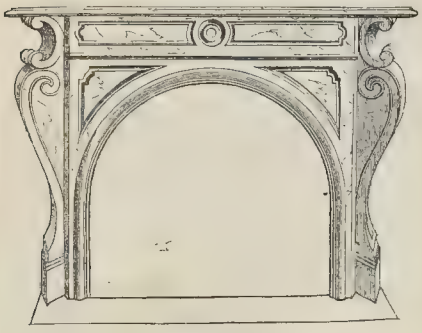
IS AT

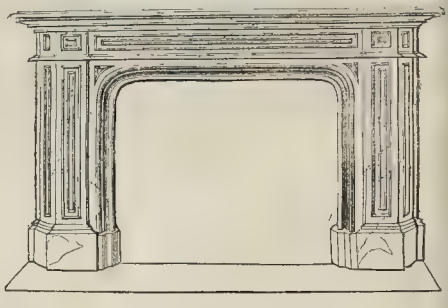
WILLIAM S. BURTON'S.

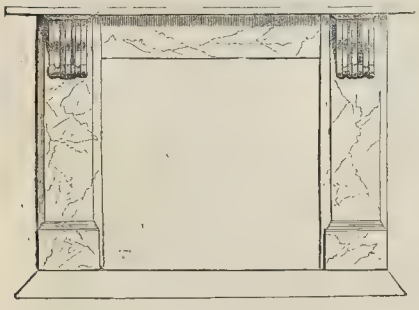
It embraces the following Foreign and English Marbles:—Italian Statuary, Brocatelle d'Italie, Brocatelle d'Espagne, Brocatelle Brune, Griotte d'Italie, Jaune Fleuri, Vert Antique, St. Remis, Black and Gold, Black, Rouge Royale, Vein, &c. &c.; and it includes the undermentioned styles: Renaissance, Louis XIV., Louis XV., Pompadour, Louis XVI., Moderne, à Balustres, &c. &c. Most of the designs are new; while several, from their rich and exquisite sculpture, are veritable works of art. A complete assortment of Enamelled Slate Chimney-pieces is also on show, including many elegant designs. The Prices range from 1*l.* 8*s.* to 100*l.*

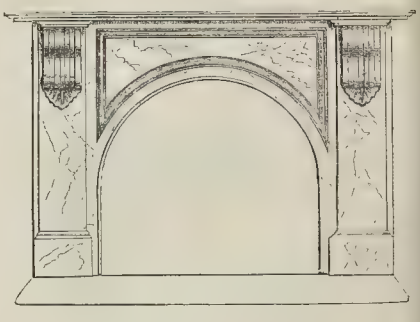












WILLIAM S. BURTON'S

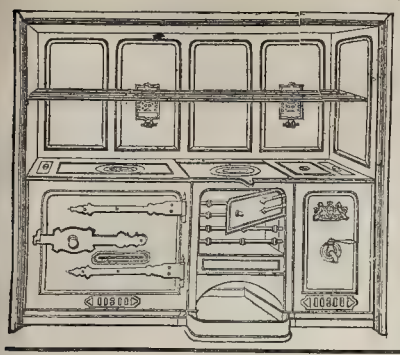
GENERAL FURNISHING IRONMONGERY CATALOGUE

MAY BE HAD GRATIS, AND FREE BY POST.

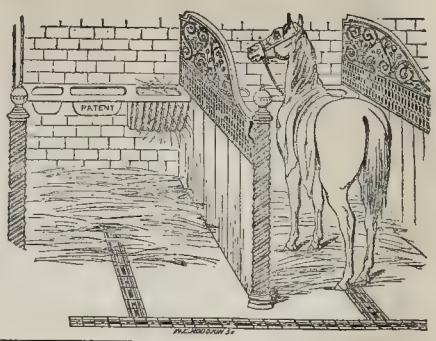
It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro Plate, Nickel Silver and Britannia Metal Goods, Dish Covers, Hot-Water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays, Urns, and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed-room Cabinet Furniture, &c. with Lists of Prices and Plans of the TWENTY LARGE SHOW-ROOMS at

39, OXFORD-STREET, W; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE; and 1, NEWMAN-MEWS, LONDON.

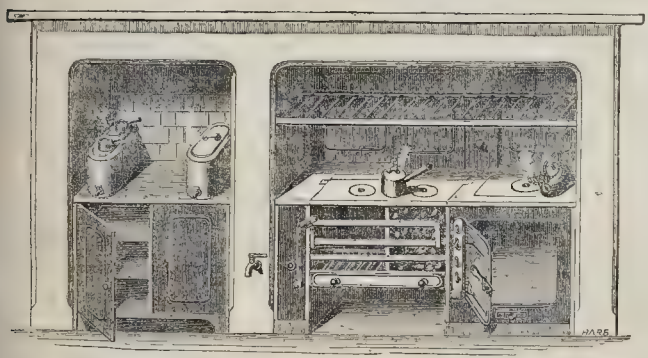
ESTABLISHED 1820.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



CUNDY'S
PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

Nos. 6 and 15, LEICESTER STREET, LEICESTER SQUARE,

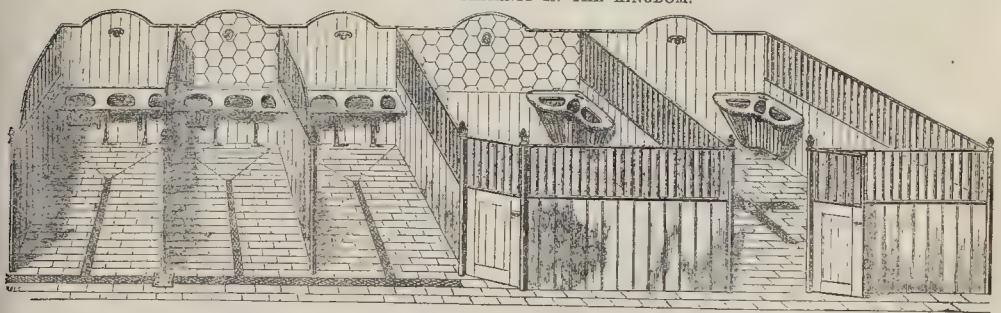
Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

COTTAM AND CO. 2, WINSLEY-STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined. KNIGHTLEY'S PATENT STABLE FLOOR.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET LONDON.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,

MALLEABLE IRON CASTINGS TO PATTERN,

OF THE BEST QUALITY AND AT MODERATE PRICES.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.
The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.
PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C.; AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

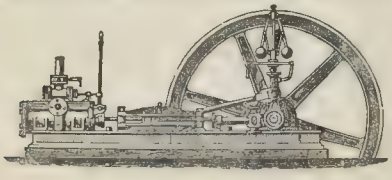
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,

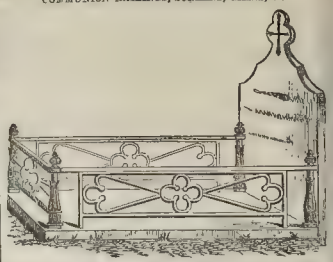
AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF
HORIZONTAL
AND
VERTICAL
STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB WINCHES, &c.
SEVERAL ALWAYS READY FOR DELIVERY.
Price List forwarded on application.

IRON RAILINGS for ENCLOSING

TOMBS and GRAVES,
COMMUNION RAILINGS, SCREENS, GATES, &c.

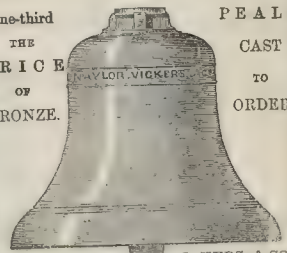


Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY STREET, OXFORD STREET, LONDON, W.

CAST STEEL BELLS.

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.



LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter ..... 1s. 0d. per foot.
Half-inch diameter ..... 1s. 6d. "
Five-eighths-inch diameter ..... 2s. 0d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" Gateshead-on-Tyne.
" 27, Dale-street, Manchester.
" 68, Anderston-quay, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange Buildings, Dundee.
" 7, Frederick-street, Aberdeen.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD,

Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

SKAIFE & COMPANY,

Manufacturers of
PATENT GALVANIZED IRON,
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tanned Sheets and Tiles for export.
IRON WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial Road, Limehouse, London.
Works—Cubitt's Wharf, Limehouse.

TRADE  MARK.

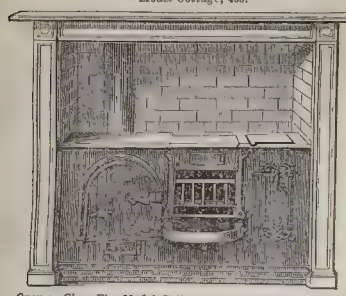
CROWN TUBE WORKS,

WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45s.



Open or Close Fire Model Cottage Range, with Oven & Boiler.

Self-acting, with Bright Wrought Bars.
34 inches 54s
36 " 59s
38 " ..... 58s.
42 " ..... 66s.

Self acting Cottage, with Oven and Back Boiler.
30 inches ..... 22s.
32 " ..... 24s.
34 " ..... 26s.
36 " ..... 28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 11 per inch
Best ditto, with Fire brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 40s. to 100s each.

Best Cut Clasp and Rose Nails.
1 inch 12s. | 1½-inch. 14s. | 2 inch. 13s | 2½-in h. 12s. | 3-inch. 11s 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

2 in. 2½ in. 3 in.
Cast Rain-water Pipe....8d. 10d. 1s. per yard.

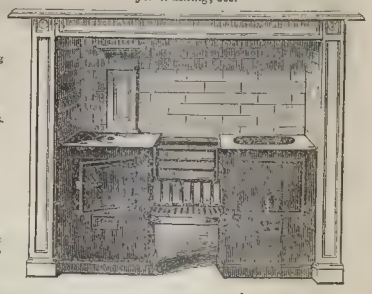
Cast Gutters, 4-in. 7d per yard.
4-in. 5½-in.
O G Cutters, with Clips on.... 1od. 1s. per yard.

2 3 4 5 6
Patent Line..2s. 6d. 4s. 5s. 7s. 9s. per gross.

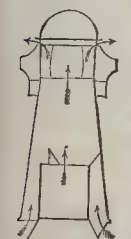
Cloth R? Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d each. Eight Elliptic and Register Metal, 12s 6d. per cwt.

Dr. Arnott's Ventilators, 4s each.
Brick Moulds kept in stock. Any size made to order.

Combined Range with Wrought Galvanized Boiler for Washing, 50s.



SMOKY CHIMNEYS ABOLISHED.



W. S. WOOD'S PATENT TRISECTIONAL VENTILATING and SMOKE-CURING CHIMNEY TOP, possesses the following advantages :—

1. It is constructed upon well-established scientific principles; it collects the air, imparts to it a strong upward current, which expels the smoke with great velocity, and renders downward draught and admission of smoke from other flues quite impossible.

2. It has no moveable parts, is particularly durable, and requires no brickwork in fixing.

3. Each top has a hood, which can be used or not; it is therefore a complete ventilator, and is in every way calculated to overcome the most obstinate cases of smoky chimneys.

4. It can be effectually swept by the chimney-sweeper's machine.

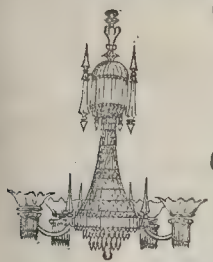
5. Its simplicity of construction, its well defined shape, and merits as a smoke-curer, dispense entirely with the whole family of unsightly tall boys, and with the useless species of whirling apparatus, which disfigure most of our houses and public buildings.

Prices :—Ordinary size, nine, 1l. 10s.; galvanized iron, 1l. 15; size 2 feet 10 inches high; 13 by 9 inches base. Kitchen size, 2l. 2s.

To be had only of the Inventor and Patentee, Camden Cottage, Chislehurst, Kent. Packed for transit to any part of the kingdom, and forwarded to any London Railway Terminus, for One Shilling extra upon receipt of post-office order. Prospectus and testimonials sent upon receipt of two stamps.

The invention can be seen at the Crystal Palace and the South Kensington Museum.





THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF

MEDIÆVAL AND OTHER GAS-FITTINGS,

CRYSTAL, BRASS, & ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY.

WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

The Patent Gas Regulator and Purifier reduced to 8s. 6d. per dozen.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c, STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)



NUT



PLATE.

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid &c &c for to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass founder, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices

*** Illustrations and particulars sent upon application.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.

Iron roofs erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Berkley-street, Birmingham, and Limehouse, London.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mouldings, and elegantly japanned. Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Wood, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of the different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham court-road, W.

CANNON IRON FOUNDRY, 80, Goswell-street, St Luke's.—JONES & BLANTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.



SMOKY CHIMNEYS. — The best Cure is the PATENT ALBERT CHIMNEY CAP, 380 on Buckingham Palace; in use also at St. James's Palace, Windsor Castle, Government buildings, mansions, halls, club-houses, and buildings in general. Prospectuses on receipt of two postage stamps.

JAMES BARTON,

Iron Works, 370, Oxford-street, W.

N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

FIRE-PROOF CONSTRUCTION.—FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,

13, YORK-BUILDINGS, ADELPHI.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and at the same time Affords Ventilation.



It will burn in Chimneys from Saturday till Sunday Evening, without attention during the hours of worship; but it will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of Three-pence, and deserving of special attention, because of its safety, low boldness, durability, and extreme simplicity.

Full particulars will be sent on application to the Inventors and Makers,

MUSGRAVE, BROTHERS,

Ann street Iron Works, Belfast.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

RAIN-PIPES, &c.—F. A. TIDDEMAN & CO. St. Anne's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large Stock of Rain Pipes, Heads, Shoes, Elbows, &c. Half-round and Ogee Gutters, Socket Pipes for Water or Gas, Flange Pipes, Hot Water Pipes and Connections, Sash Weights, and other Castings, Iron work for Bakers' Ovens of every description, fitted complete, to be sent in Sets or in Parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful Crane.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and Manufacturers of the Metallic Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 35 and 36, Hatton Garden, Holborn

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE.

No. 34, Davies-street, Three Doors from Oxford-street,

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.



PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



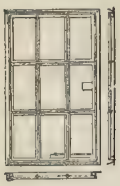


Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.



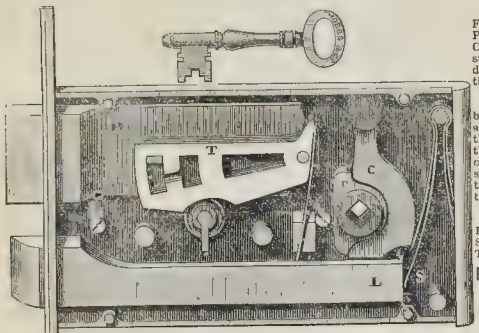
J. GURMAN,
Inventor and Patentee of a New SASH POCKET and Fittings,
for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows.
They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.
Send stamped envelope for Prospectus and Sectional Drawings.
Windows may also be seen at the Kensington and Conduit-street, Museums, London.





BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.
DESCRIPTION AND PRICES ON APPLICATION.
ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

TO ARCHITECTS, BUILDERS, AND CABINET-MAKERS.
HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,
Suited for all purposes, at Prices that silence competition.
SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.
PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.
ESTIMATES, AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.
HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.
Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

CASTINGS AND WROUGHT IRONWORK
OF EVERY DESCRIPTION.
GLOVER, BROTHERS,
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.
Wheelwrights and Contractors—1, Dean-street, Oxford-street, and Parker's-row, Bermondsey.

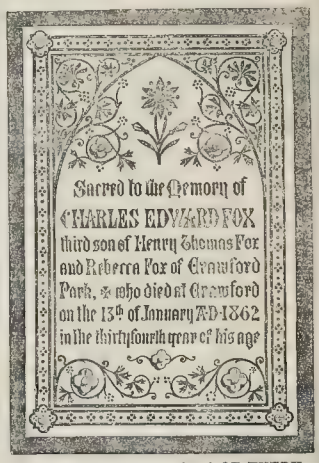
J. HARDMAN & Co.
MEDIÆVAL METAL WORKERS
In Silver, Brass, and Wrought Iron;
ENGRAVERS OF
Memorial Brasses,
Artists in Stained Glass,
ECCLESIASTICAL DECORATORS.
Chalices, Patens, and Flagons; Altar Rails and Standards; Alms Basins and Boxes; Corona, Chandeliers, and Branches; Gas Fittings of every Kind; Lecterns and Book Desks; Hinges, Handles, Locks, &c. Spire Crosses and Vanes.
AN ILLUSTRATED PRICE LIST, AND ESTIMATES FOR SPECIAL DESIGNS, Furnished on application.
London Offices and Show Rooms,
13 KING WILLIAM ST STRAND LONDON W.C.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W
Drawings and Estimates furnished.

HART & SON,
WYCH-STREET, and COCKSPUR-STREET, LONDON.



WROUGHT-IRON WORK OF EVERY DESCRIPTION.
HINGES, GRILLES, LOCKS, FINGER-PLATES, STANDARDS, CORONÆ, PENDANTS, &c.—CHALICES, FLAGEONS, PATENS, ALMS DISHES, ALMS BOXES, ALTAR RAILS, MONUMENTAL BRASSES, &c. &c.



TRADE MARK.

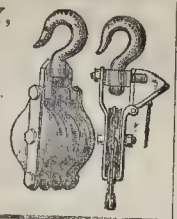
GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR-MILLS, &c.





THE LONDON WARMING AND VENTILATING COMPANY,

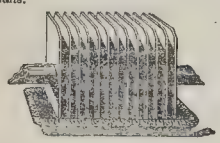
LIMITED,
26, GREAT GEORGE-STREET, Westminster, S.W.
MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known Plans.





The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL, the various offices of the "Department of Science and Art," and at the Architectural Societies' House, 9, Conduit street, Regent-street

Particulars and testimonials forwarded on application.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4S. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2S. 6D. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

NAILS and IRONMONGERY,

from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street, London, E.C.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c &c.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

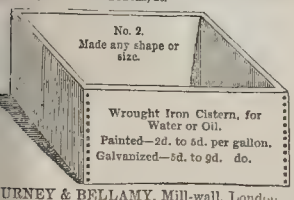
IRON CASTINGS, WROUGHT and

CAST IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

WROUGHT-IRON TANKS, CISTERNS,

GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



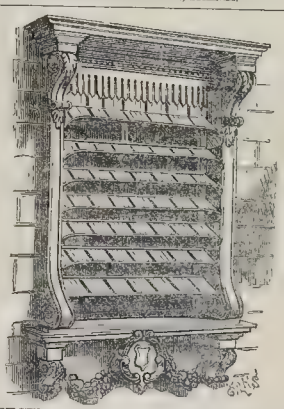
GURNEY & BELLAMY, Mill-wall, London.

MOREWOOD & CO.

(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPES, &c. All kept in Stock.
Tanks, Wire, Wire-Netting, Nails, Rivets, Nuts, &c
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

ROGERS' PATENT OUTLET for RAIN-

WATER BUTTS and CISTERNS, which, being placed inside the cask or cistern, cannot get out of order, and is quite free from the effects of frost, &c. Price, complete, ½ inch, 10s.; 1-inch, 12s.—Drawings and full particulars, on application to the patentee,
G. ROGERS, HIGH STREET, STAINES.



SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.

These Blinds give a highly decorative finish to a plain front, whether fitted up in ornamental frames or without any. In the latter case two boxes only are required, which need not project beyond the reveal. Where there is no reveal, as in old houses, they would require a frame which need not project more than about 4 inches, and has no side wings coming down, or any other disagreement. Prices moderate. A liberal discount to Builders and the Trade.

R. LOWTHER & CO. 31, Regent-street,
(One door below the Piccadilly Circus)
VENETIAN AND ALL OTHER BLINDS WHOLESALE.

CAUTION to ARCHITECTS and

BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

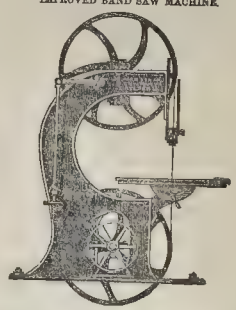
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

PATENT SANITARY LEAD PIPES,—

ALFRED COURAGE & CO. Proprietors of BENNETT'S PATENT for Coating Lead Pipes with an Alloy of Tin and Silver, are prepared to grant a limited number of LICENSES for its use. This process effectually prevents the poisonous action of lead on water, and insures PERFECT PURITY of supply for DOMESTIC USE.—For information as to licenses, prices of pipes, &c. apply to ALFRED COURAGE & CO. Upper Works, Baglili, Flintshire

S. WORSSAM & CO.'S PATENT

IMPROVED BAND SAW MACHINE.



(¼ inch scale.)

S. Worssam & Co. have recently made new patterns for band saw-machines of two sizes, and introduced all the latest improvements to obviate the breakage of saws, and can with the greatest confidence, recommend their new machines as the best yet out.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

POWIS, JAMES, & CO.

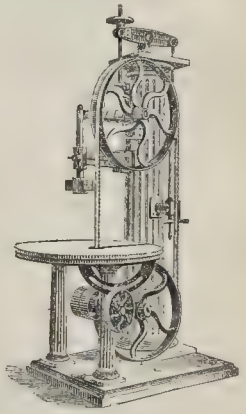
ENGINEERS AND MACHINISTS,
VICTORIA WORKS, BLACKFRIARS-ROAD, LONDON,

Having taken additional premises at 32, Blackfriars-road, known as the Surrey Iron Works, have added Portable Engines to their Sawing and Wood cutting Machinery business. Contractors, colonists, merchants, and shippers will find these engines fitted with the same care Machinists and Tool Makers.

Specimen Machines and Engines can be seen at the Works, at the Machinery Department, Crystal Palace, Sydenham; and in class 7, section 2, stand 217, International Exhibition, South Kensington.

Engines, &c, on hire, with or without the option of purchase.

ALL LETTERS MUST BE ADDRESSED TO THE OFFICE,
26, WATLING-STREET, E.C.



The ENDLESS BAND-SAWING MACHINE, shown above is the ONLY PATENT in the United Kingdom for an IMPROVEMENT in this class of Machine.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.

TO BUILDERS AND OTHERS.

A SECOND-HAND MOULDING

MACHINE TO BE SOLD a BARGAIN.
Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH

and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1780)

GREAT EXHIBITION, LONDON, 1851.

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam power and machinery, enables them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS.
PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.

EXPOSITION UNIVERSELLE, PARIS, 1855.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.
AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

BEARDMORE'S HYDRAULIC AND OTHER TABLES.

The Publishers beg to announce that this work, having been long out of print, has been entirely re-arranged, and the original Tables have been merged into a Treatise, entitled

A MANUAL of HYDROLOGY.—

This book contains:—

Division I.—Hydraulic and other Tables, with descriptive matter and many new Tables, the whole placed in a concise form.

Division II.—On Rivers and Flow; on percolation of water; on wells and springs. On the flow in sewers, and water supply, with description of the floods of many considerable rivers, with other characteristics appertaining to their hydraulic conditions.

Division III.—On Tides, Tidal Rivers, Estuaries; containing the strictest details of the conditions assigned by the tides under the varied states of the land, and of those places where the tidal wave vanishes, also showing the effect of improvements in many of the tidal rivers of this country. Explained by tidal diagrams, sections of rivers, conidal lines, plates elucidating channel tides, &c. &c.

Division IV. On Rainfall and Evaporation. On testing the best experiments on evaporation in various climates, Tables of rainfall under every variety of elevation, period, and locality. These Tables include all parts of the British Isles, France, Germany, Italy, Russia, North America, Australia, and India.

The work consists of 400 pages, and there are 20 large plates.

Will be issued in the 1st of April, price 2*l.* 2*s.*

WATERLOW & SONS, 49, Parliament street, Westminster;
24, Birchin-lane; and London Wall, London.

Now published, price 1*l.* 1*s.* to Subscribers, the First Part to

WELBY PUGIN'S ENGLISH and FOREIGN SKETCHES, Photographed from the Originals. Each part contains 12 Plates. The Work to be completed in 20 numbers.

MESSRS. AYLING & CO. 493, New Oxford-street, London.

The WELBY PUGIN COLLECTION, consisting of upwards of 800 Original Sketches by that Eminent Artist, Low open at 5, CONDUIT-STREET Regent-street. Admission 1*s.*

Just published, Part I. containing Five Plates, imp. 4to. price 5*s.*

MODERN ARCHITECTURE: ECCLESIASTICAL, CIVIL, and DOMESTIC. Illustrated by Views and Plans of Gothic and Classic Buildings executed since 1850.

By JAMES MURRAY, F.R.I.B.A.

This work will consist of Lithographic Views and Plans of Churches, Town Halls, Exchanges, Warehouses, Schools, Villas, Street Houses, &c. &c. and will be completed in Twelve Parts. Published Monthly.

Subscribers' names to be sent to the Author at 5, Warwick-green South, Coventry.

Second edition, demy 8vo. 10*s.* 6*d.*

A HOUSE for the SUBURBS; Socially and Architecturally Sketched.

By THOMAS MORRIS.

WITH ILLUSTRATIVE DESIGNS.

SUMMARY.—Progress, a motto—Elements of Transition—Road, Rail, and Stream—Sites Soils, and Scenery—Economy of Space and Price of Land—Ancient Habitations and Modern Houses—Pictorial Treatment—Aspect—Materials—Sanitary Safeguards—Culinary Conveniences—Solar Greenness—Home Farm, &c.

London: SIMPKIN, MARSHALL, & CO.

THE QUARTERLY REVIEW,

No. CCXXII.

Is published this day.

CONTENTS.

I. DORSET.
II. HYMNOLOGY.
III. TURKEY, ITS STATE AND PROSPECTS.
IV. TRAINING OF THE CLERGY.
V. THORNBURY'S LIFE OF TURNER, R.A.
VI. THE EASTERN ARCHIPELAGO.
VII. LAST DAYS OF PITT.
VIII. IRON SHIPS AND IRON FORTS.

JOHN MURRAY, Albemarle-street.

NEW LITERARY PAPER.

On Saturday, May 3rd, will appear the first number (32 pp. 4to) of

THE PARTHENON: A Weekly Journal of Literature, Science, and Art. Price 3*d.* Stamped 4*d*

Edited by C. W. GOODWIN, Esq. Author of the Mosaic Cosmogony &c.

Assisted in the Essays and Reviews

The PARTHENON will contain—Reviews and Notices of New Works, English and Foreign.—Original Articles upon subjects of general and social interest.—Foreign Correspondence, from various parts of the world.—Extracts from Foreign Journals of Literature and Art.—Articles upon Scientific Subjects.—Full Reports of the Weekly Meetings of the Learned Societies.—Critical Notices of Art, Music, and the Drama.—Obituary Records of Distinguished Men.—Miscellaneous Notes on current topics of interest.

N. B. The PARTHENON will be published every Friday afternoon in time for the Evening Post, so as to ensure its circulation throughout the country on Saturday.

May be had of all Booksellers.

OFFICE—7, BURLEIGH-STREET, STRAND, W.C.

KELLY'S PRACTICAL BUILDERS' PRICE-BOOK; or, Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an abstract of the New Building Act for regulating the Construction of Buildings. Revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by Steel Engravings and numerous Woodcuts. Royal 8vo. price 8*s.* neatly bound.

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL; and may be had of all Booksellers.

Of whom may be had, New Editions in Quarto, of the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET-MAKING, Revised by TREDGOLD: being a new and complete System of Lines, for the Use of Workmen; founded on Geometrical and Mechanical Principles. Ten Parts at 3*s.* or in boards, 30*s.*; containing upwards of 120 Steel Plates, and numerous Woodcut Diagrams.

2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING (revised by TREDGOLD), both plain and ornamental; containing a new and complete System of Lines for Stone Cutting, for the Use of Workmen; the Formation of Mortars, Cements, Concrete, to which is added a variety of new designs for Mural Tablets, Tombs, Gravestones for Cemeteries, &c. &c.; and a description of the various materials employed. Ten Parts at 3*s.* or in boards, 30*s.*; containing upwards of Ninety Steel Plates and Numerous Woodcuts.

3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the FIVE ORDERS of ARCHITECTURE; containing plain and simple Rules for Drawing and Executing them in the purest style; including an historical Description of Gothic Architecture. Illustrated by upwards of One Hundred Steel Engravings, executed by Artists of first-rate talent, including numerous Diagrams, &c. Twelve parts at 3*s.*; or in boards, 36*s.*

4. DESIGNS for COTTAGE and VILLA ARCHITECTURE; containing Plans, Elevations, Sections, Perspective Views, and Details, for the Erection of Cottages and Villas. By S. H. BROOKS, Architect. Beautifully engraved on steel, with Direction for Building, and the estimated Cost of each Edifice. Twelve parts at 3*s.*; or in boards, 36*s.*

5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views and Details of Churches, Chapels, Schools, Almshouses, Gas Works, Markets, and other buildings for public purposes. By S. H. BROOKS, Architect. Beautifully engraved on steel. Ten Parts, at 3*s.* or 32*s.* boards.

6. THE HOUSE DECORATOR and PAINTER'S GUIDE: containing a series of Designs for Decorating Apartments with taste, and suited to the various styles of Architecture. By H. W. and A. ARROWSMITH, House Decorators to her Majesty. Ten Parts, at 3*s.*; or in boards, 30*s.*

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION: containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the Origin of Colour, the Laws of Harmonious Colouring, the Manufacture of Pigments, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by actual Specimens of Hand Brush Graining and Marbling. Ten Parts, at 3*s.*; or in boards, 30*s.*

THE ENGINEERS' and MECHANICS' ENCYCLOPÆDIA, a new and enlarged edition, comprehending Practical Illustrations of the Machinery and Processes employed in every description of Manufacture of the British Empire. Illustrated by upwards of 2,000 Wood Engravings. By LUKE HERBERT, Civil Engineer, &c. The rapid progress of Mechanical Sciences has developed many of the important facts since the first publication, in 1825, of the Encyclopædia. The inventions and discoveries recently made have engaged the sedulous attention of the Editor; for, as the value of each was tested by experiment, a description was accordingly prepared. By the selection of new articles, and care in the revision of old ones, this edition has now become systematically enriched; so that it may be received as fully and faithfully expressing "the existing state of Engineering and Mechanism, adapted to the wants of Practical Men." In two large 8vo volumes, cloth lettered, price 30*s.*

Sixth Edition, price 3*s.* 6*d.*; or post free for 42 stamps.

LAND SURVEYING, 200 Diagrams and Plans.

By JOHN QUESTED.

By the Short and Easy Rules comprised in this volume of 120 pages, aided by the numerous illustrations, a practical knowledge of the Art of Land Surveying will readily be obtained.

RELFE, BROTHERS, 130, Alder-gate street, London.

ENLARGEMENT of the ILLUSTRATED TIMES.—On and after MAY 3 the ILLUSTRATED TIMES will be ENLARGED and otherwise materially improved. The Number published on that date will form the commencement of a New Series and will contain numerous beautiful Engravings relative to the Opening Ceremony of the International Exhibition, with various Illustrations of interesting public events. Price 3*d.*; free by post, 4 stamps.—Office, 2, Catherine-street, Strand.

KEAN TESTIMONIAL.

ILLUSTRATED INTERNATIONAL EXHIBITION CATALOGUE.

THE ART-JOURNAL for MAY (price 2*s.* 6*d.*), contains the second portion of the Illustrated Catalogue of the International Exhibition. The exhibited specimens included in the division given with this number are engravings from the works in jewelery, gold and silver, porcelain, lace, stained glass, Medieval metal, mosaic pavement, floorcloth, cabinet furniture, iron (comprising drinking fountains, lamps, stoves, fenders, &c. &c.). The present portion of the Catalogue contains a faithfully copied representation of the Kean Testimonial. In the part is also comprised various interesting articles on the Exhibition, more especially that portion relating to the Fine Arts; notices of the various exhibitions now open, and an article on "John Cross," by James Dafforne, illustrated with Engravings copied from his best works.

The Line Engravings are, "The First Sunbeam," from the picture by T. Faed, A.R.A., engraved by Lumb Stocks, A.R.A.; and "Apollo and Daphne in the Vale of Tempe," engraved by E. Brandard, after J. M. W. Turner.

*** The Catalogue commenced in the APRIL number. Intending subscribers should order early, to secure good impressions of the engravings.

JAMES S. VIRTUE, 26, Ivy-lane; and International Bazaar, opposite the Exhibition.

New Edition, in 1 vol. 12mo. limp cloth, pp. 140, with 103 Illustrations,

PRINCIPLES of CONSTRUCTION in ARCHES, PIERS, BUTTRESSES, &c. Useful to the Practical Builder.

By WILLIAM BLAND, Esq.

Being Vol. III. of WEALE'S RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy-lane, and 294, City-road.

Second Edition, in 1 vol. 12mo. limp cloth, price 2*s.* 6*d.*

OUTLINES of the HISTORY of GREECE.

By W. D. HAMILTON, and S. LEVIEN, M.A.

Forming Vols. V and VI. of WEALE'S EDUCATIONAL SERIES.

J. S. VIRTUE, 26, Ivy-lane, and 294, City-road.

Fourth Edition, in 1 vol. 12mo. limp cloth, with Illustrations, price 3*s.* 6*d.*

A RUDIMENTARY TREATISE on CLOCKS, WATCHES, and BELLS, with a full Account of the Westminster Clock and Bells.

By E. B. DENISON, M.A. Q.C.

Forming Vols. LXVII. and LXVIII. of WEALE'S RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy-lane, and 294, City-road.

THE PRACTICAL MECHANICS' JOURNAL, RECORD of the INTERNATIONAL EXHIBITION of 1862. In Twelve Monthly Parts, price 2*s* each, forming supplemental parts to the above Journal; or binding with Preface and Index as a separate and highly-illustrated work, in large 4to. complete in December next. Part I. is now ready. It contains an Historical and Critical Account of the Construction of every Exhibition Building of importance from 1797 up to that of the current year. A detailed account for the first time in English is given of the structure of the Great French Buildings of 1855; and a very complete Account, with Critical Notices, of the Construction of the Great Building of 1862; with illustrations of all important parts, taken direct from the working drawings, with which the Editor has been favoured by Captain Fowke, R.E. the Architect of the Building. This Part also contains a complete resumé of the classification and localisation in the building of the objects of the forthcoming Exhibition.

Proprietor's Office (Patent Office), 47, Lincoln's-inn-fields.

LONGMAN & CO. Publishers, Ludgate-hill.

WATER-COLOUR PAINTING, by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, invaluable for student, teacher, amateur, or the drawing-room table. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
	B B B B ditto ditto.

M medium.

Sold by all the principal Stationers in town or country.

The Builder.

VOL. XX.—No. 1004.



The New Court, South Kensington Museum.

WE are disposed to think the new courts which have been erected at the South Kensington Museum, under the superintendence of Capt. Fowke, will take the public by surprise. One, the North Court, was opened on Wednesday last, and is represented by our engraving.* The South Court, more ornamental in character, will be opened, it is expected, in June, with a very remarkable exhibition of works on loan from numerous collections. Our engraving does not convey a complete idea of the extent of the North Court. It measures 109 feet 6 inches one way, and 108 feet 6 inches the other, exclusive of a corridor, 25 feet wide, on the east and west side, communicating with the court by an arcade, and affording space for the exhibition of works best seen in a low light. The court is covered by means of iron girders and glass, supported by iron columns against the walls, so that the whole area is unimpeded. The height to the under side of the girders is 34 feet; to the top of the girders, 45 feet; and in the centre, where the roof rises higher, 57 feet. The roof admits of ventilation in various parts. A large subway in the court contains gas-pipes, warming apparatus, and cold-air ducts. The authorities claim for this court no other title than that of a glass case; and a very spacious and excellent glass case it is. We must confess, however, to great regret, that in a building with the destination this has, erected under the auspices of the Government Department of Art, the production of beauty was not also to some extent aimed at. The roof, effective and strong as it may be, is ugly beyond permission. Of the South Courts, we are glad to say, we shall have less reason to complain in this respect.

The walls of the newly-opened court are coloured sage green, with a frieze of lilac under the roof. The court is chiefly occupied by art-objects purchased from the Campana, Soulages, and other Italian collections, together with a large number of objects gathered by Mr. Henry Cole, Mr. J. C. Robinson, and others, during the last three years in Italy. It has been admirably arranged by Mr. Robinson. The collection may be called marvellous, and is in some respects unequalled in the world; as, for example, under the head of Italian sculpture and carving, of the fourteenth, fifteenth, and sixteenth centuries. These works had been too much neglected, the exquisite productions of antique art being deemed, and rightly too, most worthy of unqualified praise and continuous study. Nevertheless, the great works of the sculptors of the fifteenth century—induced rather by religious feeling, observation of nature, and knowledge of character than by study of the antique—have a value of their own, and must be looked to by those who could carry modern sculpture, where we would have it, into the homes and hearts of the people. To this day, none of the great Continental museums have any systematic collections of Renaissance sculpture. Even in Florence, only a few marbles,—of great value and importance, it is true,—and a more numerous, but still inadequate collection of bronzes, are to be found dispersed amidst the vast galleries of the Uffizj; whilst in our own country, till very recently, the art-student might have sought in vain for any examples of Italian sculpture. During the last few years, however, every effort has been made to secure for this museum such works of Mediæval sculpture as were to be obtained, especially in Italy; and it is not too much to say that a very considerable proportion of the specimens, which had been accumulating in the hands of dealers and private possessors for a long time previously, has now passed into this collection. Mr. Robinson is about to publish a descriptive catalogue of these works, which will take the shape of an illustrated Essay on Italian Sculpture of the Middle Ages and period of the revival of art. To this we shall direct our readers' attention when it appears; meanwhile we may avail ourselves of a few passages from it. Speaking of the twofold aspect under which sculpture is represented in this museum, viz., as a "fine art," and also, if we may so phrase it, as a decorative art or industry,—in other words, of sculpture or ornamental carving; he says,—

"It is not more certain than unfortunate, that in our times an imaginary, but practically very decided, line of distinction has been drawn betwixt these two aspects. The idea has gradually grown up, especially in this country, that it is scarcely the business of an artist-sculptor to concern himself with anything but the human figure; and as one result of this short-sighted view, when any architectural or ornamental accessories are required, an unfortunate want of power is too often manifested; whilst, on the other hand, no ornamentist sculptors worthy of the name are likely to arise from amongst the modellers for plasterers, the wood and stone carvers, and other skilled artisans, to whom ornamental sculpture has been virtually abandoned. Beginning as mere workmen, and accustomed from the first to underrate their occupations, it is almost impossible for such persons to raise themselves to the level of artists. In former times, on the contrary, the sculptor nearly always was more or less a practical artisan and an architect; whilst architects, by special profession, were as usually skilled in the art of sculpture. Habitually accustomed to design and superintend the erection of edifices, they often executed the decorative details with their own hands, or modelled them in clay or stucco, to be worked out by their pupils and assistants. Nor was this all: it was no uncommon thing for the very furniture even, the chairs, *cassoni*, beds, &c., of an Italian palace to be designed by the sculptor architect or '*protomastro*,' who also may have carved the bust of the master of the house, the bas-relief picture for his private devotions, and, finally, his tomb in the family chapel, gorgeous with the richest arabesques, allegorical figures, armorial devices, &c., and the solemn effigy of the defunct; all of which various works were carried out with equal carefulness and love. It never occurred to the artist of the revival to think architectural ornamentation beneath his dignity; on the contrary, the greatest sculptors have left us specimens of their genius in this branch,—Desiderio, Rossellino, Benedetto da Rovezzano, Cellini; surely where these great artists have so gladly trod no modern craftsman need disdain to follow. The present collection, therefore, will comprise all such works as a Mediæval sculptor may have been called upon to execute; and one good result, which it is hoped will ensue from it, will be an elevation of the *status* of ornamental sculpture in general."

To illustrate the art in the widest and most comprehensive manner, is then the ultimate aim. It is obvious that antique sculpture, the monuments of which can scarcely be said now to exist anywhere *in situ*, lends itself naturally to a limited and well-defined mode of illustration; and, indeed, statues, busts, bas-reliefs, &c., were much more commonly executed as independent works of art than has been the case in after-times. A larger proportion, perhaps, of the monuments of antique art were of a secular or domestic nature than those of the Middle Ages, during which the most constant and powerful protector of art was the Church. Works of art of the former classes are, moreover, usually of manageable size, and complete in themselves; whereas ecclesiastical sculptures are nearly always of a fixed structural character, generally forming component parts of buildings or large monuments, such as tombs, altars, pulpits, doorways, &c., and it is essential to the complete understanding of such portions of monuments of the like nature, as have found their way into collections, that their relative place in the general design should be shown by drawings, photographs, engravings, casts, &c., of the complete works, or at least of similar ones, still in their original situations.

The purchase, in 1854, of the "Gherardini Collection" of original models by great Italian artists, may be considered as the foundation of the sculpture series hereafter described. This collection, consisting of thirty specimens, was the property of a member of the Gherardini family of Florence, who had recently inherited it, together with a collection of ancient drawings, from an aged priest, in whose possession both models and drawings had long remained entirely unknown. The discovery of them, for such it may be termed, excited great interest in Florence; and the owner having been furnished with documents from the leading artists of the academy of that city, attesting the merit and authenticity of the objects, at once endeavoured to dispose of both collections, offering them, in the first instance, to the Austrian and French governments.

During succeeding years, additional specimens of sculpture were gradually obtained. In 1859-60, many acquisitions were made in Italy; and, finally, the purchase of the Gigli-Campana Collection brought the series to its present state.

We shall not attempt anything like a detailed account of the collection before us, but must confine our notes to a few. Jacopo della Quercia, Ghiberti, Donatello, Desiderio, Antonio Rossellino, are well represented. Of Luca della Robbia and his school there are many remarkable works, fresh as if they had but just now left the oven. Of Italian wall fountains and chimney-pieces there are many; of the latter, one ascribed to Donatello (5,896), but much more like, we think with Mr. Robinson, the work of Desiderio, displays wonderful delicacy of execution. The design is simple: two jambs or vertical pilasters, surmounted by massive console brackets, support a bold cornice of several members, which crowns the work; beneath the cornice is a frieze of the depth of the consoles, and under this again the usual moulded architrave, which is continued down parallel with the jambs. The pilasters are sculptured with a string of bunches of natural foliage and fruit in low relief, springing from vases at the bottom, as in the architrave of the gates of Ghiberti. The consoles which crown the piers are richly moulded and carved with foliated work; and on the front of each, resting on the lower volute or scroll, is an *amorino* in full relief of small life-size; the one on the right is a boy standing or riding on a siren, and the opposite one a girl similarly placed on a dolphin. The *torso* of the latter figure is exquisitely draped with a thin stuff which clings close to the form, and is admirably arranged in elegant flying folds around it. The frieze is decorated in the centre with a group of two flying *amorini* in high relief, holding betwixt them a myrtle wreath, which incloses the shield or *stemma* of the family for whom the work was executed. On each side are life-sized busts in alto-relievo, respectively of a young man and a young lady, evidently portraits; they are each framed or inserted into a fluted shell, flanked with birds' wings and tied with floating ribbon scrolls. The various architectural mouldings are enriched with the most delicately carved leaf-work, strings of pearls, &c.

In our view is seen the Cantoria, or singing gallery of the church of Santa Maria Novella, Florence, the work of Baccio d'Agnolo, about the year 1500. This has been built in to form part of the building, but would have looked better if it had been made distinct. The work under and above it does not sufficiently accord with the gallery.

This cantoria is an elaborate architectural structure, forming an oblong rectangular projecting balcony, supported on four massive brackets or trusses, and crowned by a bold cornice. The front is divided into three square sunk panels by upright pilasters, four in number, in each of which is a pendent string of trophies of arms and arabesques. A panel, similar to those in front, fills each end of the gallery. The decoration of these panels consists of large shields of the shape usually called "*a testa di cavallo*," surrounded with finely-executed wreaths of foliage, arabesques,

* See p. 315.

foliated scroll-work, &c. The devices on them are the various arms or *impresi* of the Florentine republic, viz. (on the shield at the end, left hand), a bend, with the motto "Libertas" cut in relief (in front, the first on the left), a richly foliated Florentine *giglio* or fleur-de-lys; (in centre) a St. George's cross; (on the right) a spread-eagle standing on a dragon; and (in the end compartment on the right) a device of three flowering lily-branches tied together by a label-scroll. The brackets are ornamented with large acanthus-leaves and beautiful arabesque scroll-work, whilst a system of elaborately-carved mouldings surrounds them in the upper part, at their juncture with the body of the gallery. The under side of the cantoria, betwixt the brackets, is ornamented with sunk moulded coffers, each containing a large rosette carved in very high relief, and the lining of the wall, at the back, is filled in with three circular medallions, in the same marble as the rest of the work, detached on a ground of black stone, or *pietra paragona*. The medallion in the centre bears a cherub's face surrounded with flaming rays, and each of the two side ones contains the monogram "O P A," which is that of the *opera*, or *operai di Santa Maria del Fiore*, the "board of works" of the ancient republic; indicating that the gallery was executed by the orders and at the cost of the State.

In the opposite wall has been inserted the remarkable circular medallion, relievo, by Luca della Robbia, well known by visitors of the Museum. This medallion was originally let into the exterior face of a wall, at a considerable height from the ground; and, although it has been exposed to the action of the atmosphere, probably for upwards of 400 years, it is almost as perfect as when it first left the ovens of the great Florentine ceramic sculptor. Mr. Robinson tells us that the edifice from which it was taken only a few years ago is in the immediate vicinity of Florence, and was latterly known as the Villa Pantiatici-Ximenes. A comparison of this medallion with those now *in situ* on the exterior of the church of Or San Michele at Florence, and which are undoubtedly by Luca himself, leaves no question that this is also his work. The sharp and decisive execution, the fine quality and brilliant colours of the enamel glazes, which especially distinguish all the earlier works of this nature, are seen here in their greatest perfection. The border or garland of natural foliage and fruit, a style of decoration so peculiarly Florentine, and which was probably first brought into vogue by Lorenzo Ghiberti, is in this specimen of great beauty. The rich clusters of mingled leaves and fruit are grouped together with exquisite taste, whilst the spirit and beauty of the modelling, the truth to nature, and the variety of the tints of the enamel colours, which imitate the exact tone of the green leaves and the rich fruit of each shrub, are, considering the difficult nature of the process and the limited scale of pigments at the disposal of the artist, truly surprising, and fully justify the simple yet emphatic eulogium of Vasari, expressed in reference to the similar borders at Or San Michele, "that they appeared to be rather natural fruit and leaves than imitations in enamelled terra-cotta."

The arms and emblems, which fill the circle, are those of the celebrated and unfortunate King René of Anjou; and it is very likely that the work was executed some time before or about the year 1453, in honour of René, either by the city of Florence or some one of his Florentine partisans. In the centre of the circle is a shield with elaborate blazon, the crest over a royal helmet, a fleur-de-lys, or, flanked by two dragons' wings, gules and argent, with a mantle of ermine; beneath the shield is a golden crescent with a collar or label, inscribed "*Los en croissant*" (honour increasing); this motto, in the Provençal language, and the symbol which accompanies it, are the insignia of the Order of the Crescent, founded or restored by René about the year 1448. On each side of the shield is a brazier or chafing-dish vomiting forth flames, whilst linked in the handles of these braziers, suspended betwixt them and forming a festoon beneath the shield, is a large label scroll, bearing the motto, "*Dardant desir.*" Finally, in the upper part of the field above the crest are the initials "I. R." in ornamental characters, in relief, indicating the names "Isabelle" and "René." The *impresa* or device of the two flaming braziers, with its accompanying motto, was adopted by René on his marriage with his first wife, Isabelle de Lorraine.

Amongst the recent acquisitions we must point out a fresco, or tempera, picture in three compartments, representing the Adoration, and ascribed to Pietro Perugino, the master of Raffaelle. He died in 1524. Michelangelo called him a "dunce in art;" but his works, nevertheless, exhibit much grace and delicacy. The picture in question was obtained from Città della Piève, Perugino's birthplace.

Of the wealth of majolica ware, exquisite glass, portraits, busts in terra-cotta, and other similar objects of beauty, we may not now stop to speak. Suffice it to say that there is here a rich treat as well for those who would study as for those who would simply indulge.

THE ART-UNION OF LONDON GENERAL MEETING.

THE annual general meeting of this corporation was held on Tuesday last, in the new Adelphi Theatre, by permission of Mr. Benjamin Webster, and was brilliantly attended.

The Right Hon. Lord Monteagle, president, having taken the chair,

Mr. Godwin, F.R.S., read the following

REPORT.

The subscription of the Art-Union of London for the present year, the twenty-sixth of its establishment, "to promote the knowledge and love of the fine arts and their general advancement," amounts to the sum of 9,864*l.* 15*s.* The amount subscribed since its foundation is 289,028*l.* But for the great commercial stagnation in many provincial towns, as asserted by our local honorary secretaries, the disturbance of our relationships with America, and some pressing claims on public sympathy, the subscriptions for the year would have been larger. The engraving distributed to all the subscribers, from Mr. F. Goodall's picture, "Raising the Maypole," has been received with very general favour, as well by the subscribers as by the public press of the country.

It will be remembered that the Council offered a premium of 100 guineas for the best series of designs in outline illustrative of "The Idylls of the King," and awarded it to a set by Mr. Paolo Priolo. These designs have been engraved by the artist, and, formed into a volume, will be presented to each subscriber of the ensuing year. Of these illustrations six are appropriated to the patient loving "Enid;" Enid, with the

——"meek blue eyes,
The truest eyes that ever answer'd heaven;"

four to evil "Vivien" and witless Merlin; four to,—

"Elaine the fair, Elaine the loveable,
Elaine the lily maid of Astolat;"

and two to sorrowing Guinevere. They give form to all the characters in the story of the "blameless king" Arthur and "his Table Round;"—a story through which the poet says to us, in words the world will not willingly let die:—

"O purblind race of miserable men,
How many among us at this very hour
Do forge a life-long trouble for ourselves,
By taking true for false, or false for true;
Here, thro' the feeble twilight of this world
Groping, how many, until we pass and reach
That other, where we see as we are seen."

In addition to this volume of illustrations, every subscriber will receive, for each guinea paid, an Engraving commenced by Mr. Shenton, and completed by Mr. C. H. Jeens, from the charming little picture by Mr. Dicksee, called "A Labour of Love."

Mr. E. Radclyffe has been commissioned to execute for the Association a volume of etchings from the works of the late David Cox, an artist whose drawings are most rightly estimated by those best qualified to judge of works of art. The etchings convey very satisfactorily the largeness, vigour, and other characteristics of the master. A certain number of the volumes will form part of the present distribution.

In accordance with a statement in their last Report, the Council offered a certain number of premiums for drawings and models by pupils of the schools in connection with the Government Science and Art Department. The Council urged especially in their prospectus the importance of the study of the human and animal forms. Fifty works were submitted in response, and these were exhibited with the prizes of the year in the galleries of the Society of British Artists. Professor Donaldson, Professor Bell, Professor Westmacott, Mr. Troughton, and the hon. secs., were appointed a committee to examine them, and they reported with great regret that the expectations of the Council had not been realized, and that in too many instances the efforts were feeble. Some few, however, of the designs submitted, were very good, and the Council awarded 10*l.* to Mr. M. R. Elden, of the Stoke School of Art, for a majolica plateau showing much boldness of conception and freedom of handling; 5*l.* each to Mr. A. J. Elwes, of the School of Art, South Kensington, and Miss C. Phillott, of the Female School of Art, Queen-square, for drawings of animals from life; and 5*l.* to Mr. Frederick Jenks, of the Birmingham School of Art, for a design for a dish. Mr. Elden's design for a majolica plateau is being carried out by Messrs. Wedgwood. The result will form part of the distribution of a future year.

The gentlemen appointed to examine these works said in their report,—

"Your committee have had in view the original purpose for which the Art-Union was established, viz., 'to promote the knowledge and love of the fine arts, and their general advancement in the British empire, by a wide diffusion of the works of native artists, and to elevate art and encourage its professors, by creating an increased demand for their works and an improved taste on the part of the public.'

The committee have called to mind the numerous efforts which the Council have made during a period of twenty-five years to fulfil its mission. In various departments of the fine arts their aim has been to create a love and taste for their study and production, uninfluenced by any personal motive, whether of rivalry, reputation, or profit. The attention of the Council has long been directed to one branch of their duties as specially worthy of consideration, namely, the application of the principles of high art to objects of common use or ornament in which all classes may take pleasure. The collections in the British Museum, not to speak of those of Naples, Rome, Paris, and Germany, show how intimately high art may be allied with the commonest purposes of life, and how intention, thought, and grace may be embodied, so as to give general pleasure and produce refinement.

There is no reason why our manufactures may not arrive at the same excellence, in an artistic point of view, as is shown in older works. Is not the whole sphere of nature as open to us as to the ancients, demanding to be studied with equally high aspirations and with clear comprehensions? Is our national history to be read in vain? Are our poets, our traditions, to be overlooked? Why should not these be brought into play, and made to keep alive in our minds an admiration and reverence for excellence and beauty, by being transferred to the art productions of our manufactories? This, however, is not to be effected by puny efforts, but by high aims, and by constant laborious study; by a careful avoidance of meretricious ornament, and a disregard of the praise of the ignorant, whose conceptions of excellence do not go beyond the most commonplace and inferior representations of nature and art.

The superiority of the French in many branches has made itself felt, not only in composition, form, and execution, but in lowness of price; and thus their productions have been of great material benefit to them, even in a commercial point of view. It has long been the desire of the Art-Union to contribute to the formation in this country of a class of art manufactures of the highest character. With all the mechanical contrivances so abundant in Great Britain, the feeling for the beautiful ought to keep pace with the progress of science. But although much has been done during late years, yet very much is still wanting to enable us to equal the works of the past schools of Italy, and the past and present schools of our neighbours. There is still a wide field open, as witness the vast difference in the various types of Italian, French, and German taste."

Looking further back, ancient pottery has a dignity and importance scarcely to be over-stated. The vases of the Greeks and Etruscans, beautifully simple, and perfect in form, are moreover inexhaustible storehouses of illustrations of the mythology, literature, thoughts, and customs of those nations. Even the Roman lamps afford many remarkable and valuable illustrations of the history, manners, and doings of the people amongst whom they were made. The brooches, book-covers, and metal-work of the Middle Ages; the drinking-glasses and ewers of an old Venetian; the carved bellows and painted plates of a Florentine dame,—exhibit an amount of invention, grace, and skill, that makes them objects of delight for succeeding centuries, valued beyond price and carefully treasured.

If the common things of to-day were beautiful, as they might be; if the eyes of the multitude were schooled as to excellence of form, harmony of colour, and fitness for purpose, they would not tolerate a public statue that was imperfect; they would give no praise to pictures without thought and good intention,—to daubs incongruous and crude.

In connexion with these views as to common things, views often urged by the Council, Mr. John Leighton has designed for the association, a commemorative tazza, or card-dish, to be executed in porcelain. It includes a head of the lamented Prince Consort in the centre, with three groups around it, representing the Prince distributing rewards to students in art, science, and literature. Serapbs bear tablets with views of the first Exhibition Building, the Palace of Westminster, and of Osborne. The arms of England, Ireland, and Scotland, and quotations from some of the Prince's speeches, are also introduced. The design is being carried out by Mr. Copeland, and examples will be allotted to-day. It is right to say that these works are not costly.

Mention having been made of his Royal Highness the late Prince Consort, the Council cannot refrain from joining in the general expression of unfeigned lament for the loss the nation, as well as our revered Queen, has sustained. The Prince had devoted much of his time and great ability to the advancement of the arts in this country, especially in connexion with manufactures, and will be held in grateful memory by the nation to the latest ages. The people are seeking to erect a worthy monument in his honour. We may humbly express a hope that this will be made an aid in the advancement of the arts he loved so well, and a noble record of the position they have at this time attained amongst us. The Queen has more and more endeared herself to her loving people by those utterances with reference to her great bereavement which have reached them.

To diversify the objects for prizes the Council have commissioned Mr. E. W. Wyon and Mr. Robert Jefferson to execute two bas-reliefs from Milton, which will be produced in fictile ivory, and distributed. It was sought to make the characteristic of one of these *Grace*, and of the other *Power*, carrying which out, Mr. Wyon has illustrated the lines,—

"Now the bright morning Star, day's harbinger,
Comes dancing from the East and brings with her
The flowery May, who from her green lap throws
The yellow cowslip and the pale primrose:"

while Mr. Jefferson has embodied the lines,—

——"Him the almighty power
Hurled headlong flaming from the etherial sky,
With hideous ruin and combustion down to bottomless perdition."—*Paradise Lost*, I. 45.

In addition to these, bronzes of "Caractacus," by Mr. Foley, R.A., will be distributed. Silver medals, by Mr. Wiener, commemorative of the late Sir Charles Barry, R.A., will also form part of the distribution. Other medals are in preparation, in continuation of our series.

It may be useful to reiterate that arrangements are made by which various works prepared for the Society may be obtained by subscribers in lieu of prints, if desired, by extra payment.

Vacancies in the Council have been made by the retirement of the Rev. E. Coleridge, J. A. Hallett, esq., and M. Milnes, esq., M.P.; and these vacancies have been filled by the election of Charles Mayhew, esq., John Henderson, esq., and M. Digby Wyatt, esq. James Hopgood, esq., has been elected honorary solicitor.

The following is a statement of receipts and disbursements:—

Total amount received	£9,864 15 0
Expended for printing report, list, &c., advertising, salaries, &c., including reserve of 2½ per cent.....	2,840 19 0
Engraving, printing, and paper of the plate "Raising the Maypole"	3,757 6 0
For the purchase of prizes of all descriptions	3,266 10 0
	£9,864 15 0

The accounts have been audited as usual by two members of the general body of subscribers (J. C. Smith, esq., and W. P. Moore, esq.), and by three members of the Finance Committee.

The reserve fund has reached the sum of £10,591.

The sum of 3,266*l.* 10*s.* has been set apart for prizes under the following arrangements, viz., for works to be selected by the prizeholders themselves:—

30	works at	£10 each.
22	,, ...	15 ,,
17	,, ...	20 ,,
12	,, ...	25 ,,
6	,, ...	35 ,,
6	,, ...	40 ,,
4	,, ...	50 ,,
2	,, ...	100 ,,
1	,, ...	200 ,,
100		

and 4 Bronzes, "Caractacus."
30 Silver Medals of Sir C. Barry.
15 Pairs of bas-reliefs in fictile ivory.
60 Commemorative Tazzas.
300 Sets of Etchings after David Cox.
200 Porcelain Busts of "Apollo."

making in all 709 prizes.

The mode of allotting the etchings and busts will be that pursued on the last occasion, slightly modified, with a view to producing a more equable distribution of them. The picture prizes, bronzes of "Caractacus," medals, and bas-reliefs and tazzas, will be drawn from the wheel as heretofore. Two cardinal numbers will then be drawn from the wheel, and every thirty-second name in the list, reckoning both forwards and backwards from the first of the two, will be entitled to one of the sets of etchings; while every forty-seventh name, reckoned in the same way from the second number, will be entitled to an "Apollo" bust, in order as the names stand, with this proviso only, that if any name so determined have already gained a prize to-day, the other prize will pass to the next succeeding name.

The Council desire to make widely known that the original marble by Mr. Calder Marshall, R.A., "The Dancing Girl Reposing," which was the result of a competition proposed by the Association some years ago, and now valued at the sum of 700*l.*, will be the chief prize, and a noble one, in the distribution of 1863. The statue is at present part of the International Exhibition, together with a stand displaying the various bronzes, parian statuettes, medals, and works in iron, that have been issued by the Association. The wonderful Exposition of the Works of Art and Industry of all Nations, which was but a proposition at the date of our last report, is now a reality, and within a few hours will be opened for examination. In respect of art it may be safely assumed that it will far excel any collection ever before presented to the world. The comparative youth of the British school, not more than a hundred years old, commencing with Hogarth and Reynolds, and including Gainsborough, Lawrence, Hilton, Wilkie, Etty, and Turner, will be obvious.

In the province of art manufacture we shall see how far we have benefited by the lessons of 1851, and the operations of our schools of art throughout the country, and find a fresh point of departure,—fresh excellencies and successes to emulate. These are battles in which all may be victors. That England may not only "hold her own" in the contest, but continue to labour earnestly and wisely in the course that insures success, must be the wish of every lover of his country.

As somewhat in connexion with these national interchanges of thoughts and processes, your Council would here refer to an invitation which they received at the close of last year from the city of Antwerp to attend by representatives an Artistic Congress there to be held. Professor Donaldson, Edmund Antrobus, esq., and one of the hon. secretaries, were so good as to undertake the office. The fêtes and sittings occupied nearly a week; 700 artists from Germany, France, England, and elsewhere, received princely hospitality during the whole time. Not simply the corporation and the artists of Antwerp, but the whole population participated in offering homage to the arts. Houses were thrown open, corporate entertainments given, and abroad was seen suspended,—"Welcome all to Rubens's land." Not welcome to Antwerp, but to the land of the remarkable artist whose genius has given Antwerp glory.

Much is required to make the truly great painter. Such, therefore, come but seldom. Their works teach, delight, and mould succeeding generations; and they themselves deserve some share of the honour with which they endow their country.—

"Great is the glory, for the strife is hard."

Every artist must exercise an influence on his age. The question, shall that influence be good or bad, rests with himself, but is materially affected by the tastes of the day and the artistic condition of the public. It has been justly urged that the masses should not regulate art, but art the masses. Nevertheless, we know well how one reacts upon the other. To make the masses lovers of art and judges of art is our especial province. The elevation of the mind should be the principal aim of the arts. Painting should give us pictures that let us into the life of things; join the seen with the unseen; feed with lofty thoughts:—

"Subservient still to moral purposes,
Auxiliar to divine."—*Wordsworth*, "Excursion."

And sculpture "supply," as Bacon says, "the natural imperfection of things," which seems to him, upon the whole, "the object and intention of all the arts." To obtain artists capable of producing such works, and to lead them to do so, we must have an instructed public to demand and appreciate them. Any expenditure in this direction of education is a wise one; and we may feel assured that whatever aid we give to the fine arts, the fine arts will return to the country. They contribute to elevate as well as to enrich a state.

Professor Westmacott had great pleasure in proposing the adoption of the report. It ably illustrated the objects and progress of the Institution. He congratulated the subscribers on their favourable position, and begged to observe that the object of the Society was not so much to encourage artists immediatey as to improve the education of the people in art. The great question of the day was education, and he looked upon art as a great aid to education. After six-and-twenty years they had an opportunity of judging whether the taste of the people had been improved by the encouragement given to art, and the endeavours to educate the people in a knowledge of art; and he believed he might say with confidence it had. He then referred to the early history of the Society, and the crude manner in which the prizes were selected by some of the prize-holders, and the exertions which had been made to improve the taste of the people by the models and other works of art prepared for the Council for distribution amongst the subscribers, in addition to the prizes which they were allowed to select from the public exhibition. He observed very strongly on the evils resulting from the interposition of the dealer between the artist and the public, and then impressed upon the subscribers the necessity of exercising discretion in the selection of prizes, so as to encourage artists to work up to a high standard rather than to mere popular taste, concluding by moving the adoption of the report.

Mr. Hurlstone, president of the Society of British Artists, seconded the motion.

Mr. Hersee had to propose an amendment. He had been sixteen years a member, and had only spoken once before, and that was fourteen years ago. Before they were generous in the distribution of their funds they ought to be just. There were two gentlemen—Mr. Godwin and Mr. Pocock, the honorary secretaries—who had worked for them for years without reward beyond votes of thanks. He was unacquainted with either of these gentlemen, and had never mentioned his proposed resolution to any person; but in this Exhibition year of 1862 they should give them some *souvenir* of the appreciation of their services. He, therefore, proposed that 150*l.* be voted to present a testimonial to Mr. Godwin, and a like sum to Mr. Pocock, in such form as should be determined upon by the Council, and also that the two gentlemen named would next year allow their portraits to be presented with the annual report.

On the suggestion of the chairman, the amendment was withdrawn until the vote of thanks to the secretaries was proposed.

Professor Donaldson moved a vote of thanks, in terms which would not become these pages, to the hon. secretaries, for their exertions, and suggested that the amendment of Mr. Hersee might be appended to his resolution by way of rider.

Mr. Hersee seconded the motion, adding to it as a rider the resolution he had originally proposed.

Mr. Pocock expressed a hope that the amendment might not be seconded. They were acting under a charter, and they could not divert any portion of their funds. He and his colleague were amply repaid by the votes of thanks of the subscribers.

Ultimately the matter was left to a committee of the subscribers to arrange: and the vote of thanks was passed.

Mr. Godwin, in replying, referred to some current topics; alluded in strong terms of commendation to Mr. Maclise's noble mural painting, "The Meeting of Wellington and Blucher," and to Mr. Frith's "Railway Station." He acknowledged warmly the services of their assistant-secretary, Mr. T. S. Watson; and moved a vote of thanks to Mr. Benjamin Webster for his kindness in again granting the use of his theatre for this meeting; and to Mr. W. Smith for his active co-operation.

Mr. Webster acknowledged the vote with a few earnest sentences.

Scrutineers were then appointed, and Miss Medhurst and Miss Croudace having consented to officiate at the wheels as little Goddesses of Fortune, the drawing proceeded. A vote of thanks to them and to Lord Monteagle, as chairman, closed the proceedings.

The following is a list of the principal prizeholders:—

200*l.*—Summers, J., 25, Moss-street, Liverpool.

100*l.*—Woodman, Jos., Northampton-place, Old Kent-road; Chantrey, Lady, per Rev. J. Cooper.

50*l.*—Bone, W., Arlington-street; Martin, J. K., Sheerness; Murrill, M., Jerer; Smith, J. C., Bank of England.

40*l.*—Bonner, Gen., Great Cumberland-street; Collier, Dr., Fitzroy-square; Dyer, E., Trowbridge; Gowland, G., Clapton; Jennings, W., White's Club; Macmillan, J., Danes Inn.

35*l.*—Bonner, C. F., Spalding; Briceno, D., La Guayra; Palmer, H. D., Yarmouth; Willans, J. W., St. Mary's-road; Welch, A., Durban; Younghusband, J. T., St. John's-wood.

25*l.*—Barnes, A., Lichfield; Borckenstein, H., Moorgate-street; Corbett, F., Walworth; Hill, Miss C., Hawkstone; Powell, S., High Harrogate; Macartney, H. J., Nassau; Questal, P., Dalston; Ramage, G., Dover-place; Robertson, W., Ballarat; Simpson, J., Henri-tta-street; Thomas, J., Linlithgow; Twose, T., Halstead.

20*l.*—Anderson, E., Mortlake; Bodley, T., Upper Harley-street; Crossley, F., Halifax; Fraser, H., Glasgow; Hayes, T., Boughton; Harness, Rev. W., Hyde Park-terrace; Humpherys, J., Shrewsbury; Hall, A., Leghorn; Hitchcock, W. H., London-road; Hope-Vere, Hon. Miss, Park-lane; Jackson, J., Derby; Longstaff, D., Pontefract; Marriott, J., Coventry; McKinrie, Melbourne; Persall, Rev. E. H., Sheepy; Rees, John, University-street; Risley, J., Seymour-place.

15*l.*—Barlow, A., Rochdale; Barton, R. H., Chorley; Clark, J., Lilford-road; Charlewood, R., Farringdon; Edwards, E., Marlborough; Farrant, E. C., Isle of Man; Forrest, C., Lofthouse; Fletcher, J. R., New Burlington-street; Ferrer, F., Thurlow-place; Guest, E. P., Brentwood; Green, J., Presteign; Howard, E. G., Clitheroe; Hegginbottom, W., Ashton-court; Lacon, W. H., Oswestry; Millward, C., Liverpool; Murray, Dr., Dumfries, Roboh, P. F., Smyrna; Talbot, H., Hong Kong; Tayleur, Miss H., Market-Drayton; Thonman, E. H., Stratford; Thompson, W., Hunsley; Wright, E., Clapham-road.

Entitled each to select a Work of Art of the value of Ten Pounds.—Atwell, D. L., Swallow-street; Busby, C. S., Chesterfield; Coggswell, J. C., St. John, N.B.; Cross, E. H., Avenue Villa; Clark, R. P., Banker-hill; Deare, J., Liverpool; Ford, W. J., Basingstoke; Hamilton, R., Foley, Longton; Jeffrey, W., Great Russell-street; Jones, J., Preston; Ludolf, H., Headingley; Murck, J., Mableton-place; Owden, J., Belfast; Pack, T. H., Maidstone; Perez, A. J., Cadiz; Roose, F. D., Corn-street; Saunderson, J., Canonbury; Shaw, S. B., Boston, U.S.; Shipman, L., Northampton; Swainston, W. R., Old Jewry; Saunders, Mrs., Flanch; Shackleford, W. C., Cheltenham; Steedman, R. B., W. Maling; Tenant, Mrs., Bow; Thomas, J., Birmingham; Wadham, W., Adelaide; Weymouth, N. E., Borough; Wylde, A., Port Elizabeth; Webber, C. Exmouth; Wright, Maj. C., J. U. S. Club.

Entitled each to a bronze Statuette of "Caractacus."—Corderoy, J., Foley; Gibbara, F., Alexandria; Hopkins, F., Croydon; Price, Rev. W., Christchurch, Oxford.

Entitled each to a silver Medal commemorative of Sir C. Barry, R.A.—Adams, Geo., Hurst-green; Alexander, F., Kentish Town; Bainbridge, Miss, Manchester; Bladon, J. F., Regent-street; Bodenham, B., Kington; Brown, A. Paisley; Clark, C. C., Twickenham; Clinch, R. J., St. John, N.B.; Dewhurst, E., Bradford; Eager, Geo., St. Ann's-lane; Eugster, E., Manila; Fenning, R. R., Woburn-place; Harris, J., Bacup; Higginbottom, J., Foley; Howard, Messrs. Smith & Rider, Kerr, Mrs., Dunfermline; Lynn Society of Arts; Marshall, E., Walsall; Murray, Major, Army and Navy Club; Moinet, J., Edinburgh; Owen, C. W., Oswetry; Peto, Sir S. M., Great George-street; Proud, J., Bishop Auckland; Reid, J., Kensington; Roberts, D., Northampton-place; Robinson, Mrs., Colefield; Robinson, A., Stratford; Sultzer, J., Norwich; Simmons, W. C., Royston; Tye, Mrs., Exeter.

Entitled each to a pair of Bas reliefs in fictile ivory.—Airey, A., Geelong; Beckwith, H., Leeds; Begbie, G. C., Coleman-street; Boston, J., Cradley Heath, Calcott, J., Shrewsbury; Edgar, P. M., Hartlepool; Gwynn, J. E. A., Essex-street; Hopkins, T., Montague-street; Johnstone, Geo., Redburn; Maidment, Elir., Camberwell; M'Owen, R. G., Liverpool; Midgeley, T., Halifax; Ruston, W., Chatteris; Stacey, S. L., High Holborn; Weston, W., Lombard-street.

Entitled each to a Tazza commemorative of H. R. H. the late Prince Consort.—Abbott, J. W. P., Boston, U.S.; Allen, F. T., Bath; Ayrey, A., Glenorchy; Bennett, J., Banbury; Berkley, C. R., 6, South-square; Best, A., High-street, Bloomsbury; Bootof, J. C., Pretermaritzberg; Bradbury, T., 11, Castle-street; Burton, H. M., 9, Hawley-place; Caw, J., St. Thomas; Child, W., Warboys; Cole, H., 5, Tavistock-square; Colman, J. J., Norwich; Combs, W. A., Upper Phillimore-gardens; Cook, W., 33, Charlewood-street; Couchman, T. B., Henley-Arden; D'Almaine, H., Abingdon; D'Aulan, Countess, Leghorn; Farley, Mrs., Plymouth; Fell, A., Spencer House, Putney; Fletcher, R., 10, Winsley-street; Fuller, J., St. John; George, J. S., Nassau; Glover, A., Longton; Greatrex, Mrs., Eccleshall; Griffin, W., 36, Leadenhall-street; Guarracino, G., Constantinople; Hall, Mrs., Huddersfield; Halsted, C. F., Chichester; Hammerton, J. H., Millbank-street; Handley, J., Bury; Hobson, S., Turnham-green; Holland, W. T., Llanelly; Hutt, J., 44, Moorgate-street; Kershaw, W., 29, Walcot-terace; Laxer, J., Liverpool; Mailor, J., Hardwick Limeworks; Longton; Greatrex, Mrs., Eccleshall; Griffin, W., 36, Leadenhall-street; Guarracino, G., Constantinople; Hall, Mrs., Huddersfield; Halsted, C. F., Chichester; Hammerton, J. H., Millbank-street; Handley, J., Bury; Hobson, S., Turnham-green; Holland, W. T., Llanelly; Hutt, J., 44, Moorgate-street; Kershaw, W., 29, Walcot-terace; Laxer, J., Liverpool; Mailor, J., Hardwick Limeworks; Miller, J. N., Bishop's Stortford; Mills, G., Alvaston; Mitchell, A., Manchester; Price, Mrs. A., Burford; Pryce, T., Batavia; Simpson, Z., Diss; Smallwood, M., Scarborough; Spiller, J., 9, Little Compton-street; Stewart, Rev. E., Sharpshott; Suermondt, W., Batavia; Swift, R. L., Oporto; Taubman, J. S. G., Douglas; Taylor, F., Old Burlington-street; Thompson, T., 77, Tachbrook-street; Todd, Miss M. J., Townsend, H., Hinckley; Vacher, T. B., Notting-hill; Warner, T., Cirencester; Watson, W. W., Glasgow; Watherstone, Miss, Peckham; Willoughby de Broke, Lord; Wilson, C., Dunfermline; Wright, E. L., Melbourne.

THE OLD AND NEW WATER-COLOUR SOCIETIES.

WATER-COLOUR PAINTING is so closely identified with English art, that just now, when it would be most desirable that our foreign neighbours should be assisted in forming a just estimation of our real position in the rank of civilized nations, all such opportunities of attracting their attention as our public exhibitions afford should be made the most of; and as, however much our continental friends may differ in their acceptation of our pretension to *æsthetics* in the abstract, they universally allow us a supremacy in the perfection our artists have attained in water-colours; the opening of "The Old and New Societies" has additional interest lent to it by the desire of all who, possessed of a proper share of national pride, would wish to have such opinions corroborated.

Both societies opened their galleries for private inspection last Saturday, and to the public at large on the following Monday. "The Old" have very opportunely considerably enlarged their premises, and so improved them, that, in lieu of the dark confined space they have long endured, they have now an admirably-lighted and well-decorated room, thoroughly adapted to their present requirements. The new gallery is 68 feet long; width, 31 feet; and the height to the top of the cornice, 24 feet; with 8 feet 8 inches above to top of skylight. The architect was Mr. Charles Freeman; and Messrs. Holland & Co. did the work. The collection of drawings by the members, taken as a whole, is quite up to their usual standard of excellence: although, with regard to size, they, with few exceptions, have evinced less attempt than usual to create a sensation. Commencing with the Senior Society we would call attention to the gem of the collection; for, even where there are so many gems, Mr. F. W. Burton's (320) "Yelitza" is so marvellously beyond comparison with anything present, that it absorbs the attention at once, and asserts incontrovertibly the all-sufficiency of the painter's art; and the possibility of producing something that must be pronounced perfect in its way, beyond the reach even of question. Mr. Burton's other contributions—"The Wife of Hassan Aga "(280) and (312) "A German Interior," admirable as they are for brilliant colour and accurate drawing, are less wonderful when compared with it. The latter—a little German girl intently occupied with her slate—is charming for its simple unaffected grace and expression, as well as for the management of reflected light.

Mr. Frederick Tayler, although he is represented in half a dozen drawings, more or less characteristic of him, does not hold his customary prominent position. (125) "Highland Sport," (140) "Fern-Gatherers in the Lledr Valley, North Wales;" and, in fact, all are too like what he has done before and better. Neither is Mr. John Gilbert adequately upheld in (19) "The Rhine Wine," or (37) "Don Quixote at Home." Clever as they are, and remarkable for the power and ease with which he overcomes all difficulties; they are unusually black and heavy.

(25) "Ba'albek," by Mr. Carl Haag, is a large careful drawing, introducing the glorious ruins in a well-studied Eastern landscape; but in colour it is rather forced and artificial, to its detriment. In (134) "The Remains of the Temples of Ba'albek," under a sunset effect, he is still more amenable to the same remark.

(43) "Pieruccio, the Florentine Prophet," by F. Smallfield, is an elaborated imaginary portrait, very well drawn and finished. This, with a head of St. George (206), we prefer to a solemn-looking affectation, entitled (202) "St. Francis Preaching amongst the Birds."

(48) "Specimens from the Mountains of North Wales," Alfred D. Fripp, are not favourable specimens, and we are very glad to forget them in looking at an admirable (254) "Dorsetshire Shepherd Boy," by the same, which is a thoroughly masterly production — indeed, one of the most perfectly beautiful drawings in the collection.

(64) "In Harmony" is one of many graceful productions exhibited by Mr. J. J. Jenkins, the assiduous secretary of the society. (281) "The Gipsy Encampment" may also be mentioned.

(133) "A Passing Train" has suggested to Mr. Topham a very pretty notion of paraphrasing Shakespeare's "Seven Ages," and he has seldom been more successful in clearly expounding his subject. This, with the popularity that such a subject bespeaks, renders it a leading feature, and induces a wish that there were more instances where the ability had been combined with the performance, and that there were more than this one beautiful drawing on this scale. Indeed, it is to be regretted that there are so few of those larger and more imposing compositions that have so often afforded astonishment at the resources of the water-colour artist, enabling him to challenge comparison with effects supposed to be only attainable in oil-painting, whilst demonstrating to the greatest extent those special beauties belonging to water-colour alone. A very fair inference is provided by the works of Mr. H. B. Willis that there may be advantages on the side of water-colour that he has wisely availed himself of; for, with due appreciation of his successes in oil, he was never before so impressively conspicuous as in (181) "Early Morning—a Scene in Sussex, with Cattle," which is as remarkable for its natural representation as for the refined taste and feeling invested in its treatment; and his (220) "Sunset in Harvest Time," and (253) "A Ploughing Scene in Sussex," are evidence that his observation of nature has not been confined to the study of one of its phases only, but that, with a comprehension of their variety, he has equal aptitude for expressing them all.

Mr. Birket Foster's drawings display all that wonderful skill and delicate manipulation that his exquisite book-illustrations lead one to expect, with qualities of colour that are not always inseparable from knowledge of effect, as his (91) "Lock," with its subdued evening light, and the sparkling freshness of (292) "On the Shore, Bonchurch, Isle of Wight," with its charming group of rustic children dancing, in defiance of the rising tide, will sufficiently prove; and, if further proof were needed, any of the three or four choice little bits,—for instance (257), "The Little Nurse," and (263) "Water Lilies,"—are equally well calculated to show that the most minute finish and clever execution are quite compatible with the preservation of breadth and richness of general expression.

It would be supererogatory to do more than mention that Mr. W. Hunt has contributed six proofs of his wonderful faculty of imitation, and that the objects reflected are the usual nests with eggs, plums and apples, May-blossoms and Christmas holly-berries, with a dead pigeon that absolutely suggests a hope that the room may be kept cool enough to admit of its remaining there to the close of the season! And little need is there to chronicle the success of the landscape-painters, where success was certain; but it may be well to mention a few instances,—that Mr. E. Duncan's (72) "Seaweed Gathering, Guernsey," is a powerful exponent of his proficiency in workmanship, and how far it depends upon innate and cultivated feeling to render interesting any subject; that Mr. G. Dodgson imbues with as much poetry and charm of effect his realities of Thames scenery to the same extent as his former taste for the more ideal creations admitted, when Watteau-like figures and garden-terraces constituted his materials (275), (284), and (306); that the Thames is equally administrative to Mr. George Fripp's good purpose, although he has found a more congenial theme in (316) "Loch Callatee, near Braemar, Aberdeenshire,"—a lovely drawing.

Mr. Davidson always appears to depict what he sees with singular and exact fidelity, and is to be found this year in unusual strength: (122) "At Pandy Mill, North Wales," (143) "Fall in the Autumn, Windsor Park," and (198) "Early Spring—Atop of the Hill," form in themselves faithful renderings of nature varied by the different seasons, and constitute a fair selection from his eight or nine equal specimens. (132) "Emancipation Oak, Holwood, Kent," is the very reverse in treatment to these; but, nevertheless, is a bold and powerful drawing, by David Cox, jun.

But little remains to be said that has not been re-and-reiterated of such established favourities as Messrs. J. D. Harding, Callow, Gastineau, Richardson, F. O. Finch, and other old members, who have been the means of raising water-colour art to its present elevation, although they have never been more eloquent in their respective specialities and appeals to admiration than in the present Exhibition. Mr. Holland, too, has been so long recognized as one who has made many of us more intimate with the beauties of Venice than several visits, unaided by his interpretations, would have left us, that any comment on his masterly adaptations and transcripts would be but platitude. On this occasion Mr. E. Goodall deserves some share of acknowledgment for *his* very elaborate and successful view of "Venice" (65). We have barely space left to express our admiration of Mr. Read's richly-coloured and artistically-treated (210) "Interior of the Marienkirche, Lubeck," wherein so much calls for commendation. Apart from its claims as a picture, the detail has been most carefully wrought and considered, and less sacrificed to effect than is too habitually the case.

Of the New Society we shall have something to say next week, prefacing with the remark that the collection is of very gratifying excellence.

GUIDES TO THE INTERNATIONAL EXHIBITION.

A GOOD example has been set by the Dean and Chapter of Westminster Abbey, who have determined on the appointment of two guides, whose duty it will be to act as interpreters to the foreign visitors to the abbey during the time the International Exhibition remains open. If persons of intelligence are appointed to fill this office, their services will be valuable; and similar arrangements might be usefully made at the Tower, St. Paul's Cathedral, and the British Museum. In the last of these buildings the placing of interpreters in each of the departments would be a boon to a large number of visitors from abroad who will throng to this great establishment during the approaching summer. In this case it would not be necessary for the guides to be intrusive; but, if distinguished by some particular badge, they would be eagerly sought, and be the means of imparting much valuable information.

It has been suggested that it would be a general convenience if boards of printed information, in French, German, and English, were placed in conspicuous situations, in such places as the Exhibition building, the British Museum, Westminster Abbey, St. Paul's, the Guildhall, Zoological Gardens, and other important places considered to be the most remarkable sights of the metropolis. On those boards there should be a list of the London "Lions;" the distance which each is from that particular point; and the manner, time, and charge of admission. Those places which are nearest should follow in succession. The use of such lists is evident, for information arranged in this way is not likely to find space in the Guide-books.

Hands, painted in some bright colour, indicating the direction of the routes to the Exhibition building, put up in the principal thoroughfares, would also be serviceable. These might be placed at a small cost on some of the lamp-posts.

At the cab-stands the distance from each to the Exhibition, and exact fare for two persons, or the difference of a larger number, from those points, should be set up.

ST. GEORGE'S CHURCH, BENENDEN, KENT.

THE inhabitants of Benenden assembled together on Easter Sunday, in their parish church, for the first time after its thorough restoration and reseating.

The edifice consists of a chancel and chancel aisles, a nave and side aisles, and a tower at the west end. The date of the building of the church, judging from the tracery of the old windows, appears to have been about the end of the fourteenth or the beginning of the fifteenth century. In the year 1672 the church was struck by lightning, and the whole of it was burnt down, except the walls of the aisles and parts of the aisle roofs. It was soon afterwards rebuilt, but in a most debased style, except perhaps the tower, which was not completed until 1715. Part of the new work was in imitation of Gothic, while the new arcade separating the nave from the aisles had Ionic columns and pilasters, and semicircular arches with Italian mouldings; and over the nave was a segmental plastered ceiling upon wooden ribs, with tiebeams across.

These have been replaced by octagonal piers in the nave, and arches of a corresponding style to the windows of the original church, and an open-timbered roof resting upon carved corbels, representing for the most part English foliage. The chancel aisles have two bays, the pillars of which are clustered, and have capitals carved like the corbels in the nave. In the chancel are placed oak seats for the choir; and in the north aisle is placed the organ, a new instrument of considerable power, for which a subscription, amounting to 400*l.*, has been raised in the parish.

The roof over the chancel is panelled with wood; which, with the moulded ribs and cornices, is enriched with painted decoration. The floors are paved with Minton's tiles, more varied in colour in the chancel, to harmonize with a reredos painted upon slate, and an east window filled with stained

glass, by Wailes. The new seats are arranged so as to accommodate 480 adults and 80 children.

The font, executed in Caen stone, with appropriately carved panels, is placed near one of the entrances to the church, and was presented by the vicar.

The external effect and character of the building has been preserved as much as possible. The tower, the porches, and much of the outer walls, have been maintained; but on the north side it was found necessary to rebuild the whole space between the ancient turret staircase leading to the roofs, and the porch.

The entrance-porches on the north and south sides have each of them a parvise, approached by staircases and doorways from the inside of the church; and there exist a small door and steps in the south aisle, which probably led up to a rood-loft as well as to the lead flats over the roofs. It may be mentioned, as a matter of archæological interest, that an altar-slab was found under the paving in one of the side aisles of the chancel, which has been preserved. It has five crosses chiselled upon the upper surface,—one at each angle, and one in the centre. The restoration has been carried out by Messrs. J. & C. P'Anson, under the direction of Mr. D. Brandon; the entire cost of the work, amounting to nearly 4,000*l.*, having been defrayed by Mr. Gathorne Hardy, M.P.

ARCHITECTURE OF PALESTINE FROM THE EARLIEST TIMES TO THE CRUSADES.*

PERMIT me to offer you my heartfelt thanks for the favour you confer upon me, in allowing me to present myself before you to address your honourable society. This is not the first instance of courteous hospitality which I have received since I have been in England, though it is the first time that I have undertaken to treat of my present subject—the Architecture of Palestine from the earliest ages to the Crusades. I have made many investigations, and gone very fully into the study; and, as I have never hesitated to impart my discoveries to others, they have sometimes been made use of without acknowledgment. Such has been the case in France. But this evening, in the presence of your distinguished society, and in the country of a great people, among whom I am sure my claims will be duly recognized; I have great pleasure in imparting the information which I possess, and which I hope to communicate more fully in England. I have already been amply rewarded for the eight years of toil which I underwent in Palestine; and I trust also to meet with friendly encouragement in the publication of my forthcoming work, entitled "Jerusalem Explored."

The limited time allotted for this lecture compels me to restrict my observations within the briefest space possible. Hence, I plead guilty, in anticipation, to the charge which I fear may be brought against me, of dryness and want of minuteness of details in my descriptions. I wish it to be understood, however, that I shall be glad to offer any information or explanation to those who will apply to me; and that I shall gratefully accept any criticisms or observations which may be made to me. It now only remains for me to solicit your indulgent attention while I address you.

M. le Conte de Vogüe, of Paris, thus writes, in the introduction to his work upon the Churches of the Holy Land:—"Setting aside the ancient monuments—with which I was sufficiently well acquainted, through my first visit to Jerusalem, of 24 days' duration, and with regard to which but little remains to be said—I have occupied myself in the search after monuments of the Middle Ages." This is more than I can say after a residence of eight years in Palestine; and, more particularly, in Jerusalem. I am compelled to own that much still remains for investigation and study in the monuments of antiquity; while those of the Middle Ages are well known; greatly owing, it must be confessed, to the labours of M. de Vogüe, who has rendered true service to science, although he has fallen into the error of ascribing all church architecture to the period of the Crusades. I shall reply to this in due time, and will now proceed to speak of the Jewish works, both before Solomon and during his reign and that of Herod. Thence, I shall come to Constantine, Justinian, and the Saracens, in order to reach the period of the Crusades.

* Paper by Signor Pierotti, architect to the Pasha of Jerusalem, read before the Royal Institute of British Architects, by the Rev. George Williams, April 28th, as elsewhere mentioned.

Before the Reign of Solomon.

The condition of the country of Canaan previously to the conquest of Joshua was not that of barbarism. It was certainly, to some extent, a state of civilization. Arts, trade, industry, and commerce were already considerably developed. We are not left ignorant that the country possessed "great and goodly cities," and "houses full of all good things." (Deut. vi. 10, 11.) But how are we to investigate the remains of its edifices? How ascertain their style of architecture? Certainly it is a study not unattended with difficulty. When the chosen people entered the promised land, they had come from Egypt, where art, trade, and luxury flourished. In the wilderness Moses found artists of sufficient ability to construct the tabernacle. It may, therefore, be inferred that they introduced their knowledge into Palestine; but where are the monuments in proof? We well know that the Hebrew people neglected everything else in favour of agriculture, the knowledge of God, and the endeavour to make Him known to others. Such was their indifference to aught else that they did not even possess artisans capable of sharpening their implements of husbandry, of which they always made use in war; and for this they were obliged to have recourse to the Philistines. If they were wanting then in the most necessary handicraft, how was it possible that they should employ themselves in erecting architectural monuments and transmitting them to posterity? We read that David and Solomon were obliged to apply to Hiram, king of Tyre, for artists and labourers to execute their magnificent works. It must be confessed that the want of monuments of this first epoch renders all research into the architecture of ancient Judea exceedingly difficult. The people whose name it bears has not even transmitted to us any historical notices on that subject. I believe that, during the frequent excursions which I made into the country, I came across the remains of walls and arches of that date. The localities in which I discovered them and their construction, I shall place before you, both by means of verbal description and by drawings.

Ephrath.

In the year 1729 before Christ, "Rachel was buried in the way to Ephrath." (Gen. xxxv. 19). Six hundred and thirty-four years afterwards, Samuel said to Saul, "When thou art departed from me to-day, then thou shalt find two men by Rachel's sepulchre in the border of Benjamin at Zelzah." (1 Sam. x. 2.) Upon the road leading from Jerusalem to Bethlehem, the monument of Jacob's wife is still to be seen. To the east of this monument, at a distance of 400 feet, a very ancient wall is found. This I believe to have been that of Zelzah. The wall appears to be of Pelasgian construction. It is composed of large blocks of stone, measuring from 3 to 8 cubic feet each. The stones are of the greatest solidity at the base, and diminish in proportion as the vertical rows rise in height. These stones are formed into broad, flat polygons, and united together without cement, but with some degree of precision, by means of small stones employed to fill up the interstices resulting from their irregular conformation. The thickness of the walls at the foundation is 6 feet; above ground, 5 feet: its present length extends to about 208 feet. Above the foundation are five rows of stone of unequal height, averaging from 8 to 9 feet. This relic of the past has been much mutilated by Arab Vandalism, and portions of it used for the formation of fences.

That a city must formerly have existed on this spot is proved by vestiges of other walls; by an aqueduct excavated in the rock and covered with large flat polygonal flags; by the fact that the surrounding soil abounds with hewn stones, with cisterns dug out of the rock, and with ruinous sepulchres which serve as places of shelter for shepherds and their flocks. This wall, of which no author has made particular mention, has some resemblance to the walls of Mantinœa, which I visited in Greece, in 1851. I have met with no similar construction in any other part of Palestine.

Deir-el-Benat.

To the south of Bethlehem, and within an hour's distance, lies the Valley of Deir-el-Benat, which joins that of Etham, above the Arab village now called Urtas. Upon ascending this valley for about a quarter of an hour, the traveller sees some ancient ruins, which I take to be those of Bath-rabbim of the Song of Solomon vii. 4. An irregularly-shaped space of ground, measuring 52,000 square feet, is surrounded by a wall 5 feet in thickness, and of unequal height, varying from 12 feet to 24 feet. On the east it runs up to the mountain: to the west it faces the torrent. On the latter side is a gate, 8 feet wide and 16 feet high, with jambs formed of several stones, supporting a round-headed arch without the aid of a key-stone, which arch is composed, like the side posts, of stones worked in rustication. The entire wall is built of masses of rock roughly squared, in combination with others of polygonal shape, but all more or less showing traces of rustication. The size of the stones in general is from 2 to 4 cubic feet. The spaces left in the wall are filled up with small stones; and the cement, which is not observable in the exterior, is plainly perceptible in some parts of the interior of the wall. An examination of the cement convinced me that it was applied subsequently to the original construction. Within the space surrounded by this wall I discovered the rock hewn in such a manner as to form different apartments, but no internal construction remains. I, however, collected a number of small cubes of stones, which may be found in a small portion of the ground. They measure three or four lines each in surface, and form a mosaic, though without design. The gate is inclosed by a strong Arab wall. I endeavoured to get it opened; but the Arabs, who foolishly pretend to call themselves the owners of the place, forbade my entrance. Nevertheless, I succeeded, without the aid of baksheesh, in forming an aperture sufficiently large to enable me to see that the gate opened into a vast court, roughly hewn out of the rock; and that from it were two openings leading into other chambers. The walls bear the impress of the ages which they have seen pass away, but are still firmly rooted in their original spot. The same class of wall is found at Lower Beth-Horon. As Solomon erected buildings in that locality, it might be thought by some that these were of his construction; but this is not the case. Such do exist; so that it is easy to compare them, and observe that the one are much more ancient than the other.

The Sepulchral Valley of the Jews at Jerusalem.

In close proximity with the sepulchres of the Jews, on the north, lies a valley, which must be traversed to reach Neby Samuil, the ancient Ramah, the dwelling-place of the prophet Samuel. A short distance from the valley, eastward, are found portions of a wall, composed of large rectangular stones, roughly put together, without cement, mortice, or iron. Among them exists a doorway, 6 feet wide and 12 feet high, the side-posts of which are each composed of a single stone, and support a monolith architrave, 3 feet high, resting upon them without cement. It bears a resemblance, on a very small scale, to the door of the Treasury of Atreus, at Mycenæ. Of such constructions no trace is found after the period of Solomon. Throughout the whole of Palestine nothing is to be seen so ancient as those I have just described, and which I believe to be anterior to Solomon.

The works transmitted to us by the patriarchs are necropolises, hewn out of the rock to serve for receptacles for the dead, as at Hebron; monuments erected over graves, like those of Rachel, at Ephratha, and Joseph, at Sichem, formed of simple stones and without inscription; mausoleums, like that of Absalom, at Jerusalem; the level surfaces used as threshing-floors, as at Ramah and Gibeah; and, finally, the vast reservoirs, as on the way to Hebron. In all these works, perseverance and strength to overcome the resistance of the stone are plainly apparent; but the taste and genius of art are totally wanting.

Sepulchre of Samuel, in Ramah.

It will not be out of place here to describe the construction of the Sepulchre of Samuel, in Ramah, which I have minutely examined. In ancient Ramah, now a village called in Arabic Neby Samuil, exists a mosque, which was formerly a church, built by the Crusaders. The walls of this building are far from corresponding with the magnificence of its foundations, formed of enormous blocks of stone, which, though defaced, still show traces of careful and elaborate rustication. On the south-west side of this building stands another of the same period. This contains, or rather covers, the rock in which is the prophet's sepulchre. By a door, formed of iron grating, opened for me by the dervish in charge, I entered a chamber cut in the rock. In the centre of this chamber is an enormous sarcophagus, which I recognized at a glance as a specimen of Moslem architecture, and which is the same that is exhibited with so much pretension and mystery through a hole traversing the entire thickness of the rock, to persons not permitted to set foot

upon the rock overlying the tomb of the prophet, but who are obliged to be content with remaining in the upper room, where there is another sarcophagus of wood. This sight did not, however, suffice for me. Upon examining the court, I perceived an opening 10 inches in diameter, running through the rock and communicating with a lower chamber, which was utterly dark. Besides that, I saw a passage railed off with iron bars; and inferred, from the rusty state of the gate, that the dervish himself never ventured to visit the old prophet, whom the Mussulmans declare to be still alive. All my endeavours to induce my guide to open this gate were fruitless. Though he persisted in seeking to compel me to retire, I accomplished my investigations, as well as I could, without him. By means of lighted paper thrown down the hole to which I have alluded, I discovered the existence, in the centre of the cavern, of a sarcophagus of whitish stone, of rectangular form at its base, surmounted by a triangular prism, without ornament or inscription. The walls of the sepulchral chamber were smooth, like those of the one in which I was. The smoothness retained the appearance of having been produced by a machine furnished with iron points, and which acted with a rotatory motion. I made the same observation from the horizontal grating, and perceived that the steps were cut in the rock itself. It is under the sarcophagus that the tomb, cut vertically in the rock, must be sought. In my examination I was favoured by fortune, or rather by the humidity of the place itself. Had it not been for this, the lighted paper which I employed would have ignited the petitions addressed to the prophet, and I should have been subjected to the wrath, not only of the custodian, but of the whole village.

From the Period of Solomon to Herod.

During the times of David and Solomon luxury increased among the Jews. The arts and industry greatly improved under the influence of Phœnician artists and craftsmen, who came to Judea in large numbers, and afforded the Hebrews the opportunity of learning their arts. Of the works accomplished by David we have no indications or trace remaining. No doubt can be entertained that he furnished the means and planned the localities, and that his ideas were carried into execution by Solomon. The latter was not occupied, like the former, in fighting against enemies and founding new institutions; and, therefore, was at liberty to devote his wisdom and energy to the augmentation of the splendour of his kingdom by the erection of stupendous buildings, by commercial enterprize, and by the encouragement of luxury little in keeping with the constitution of the country. But of all his great works, what remains have we? The Scriptures inform us: Nebuchadnezzar converted them into a heap of ruins by fire; employed men to raze the walls and fortifications; and carried the people into captivity. In the reign of Cyrus, fifty-two years afterwards and 536 years before Jesus Christ, the exiles returned to their native land; rebuilt Jerusalem and the Temple of the Lord, which did not equal the first in splendour; in consequence of which Herod substituted for it one far grander. The whole of the long period which elapsed between Solomon and Herod is utterly unproductive of monumental remains. We have certainly not a building, perhaps not even a capital, of the time. Of the latter, however, I speak doubtfully. The capital of the monolith found under the mosque of Aksa is at present the subject of serious study and investigation, with a view to assigning it to the Solomonic or Herodian epoch. In Jerusalem and Palestine in general, we have only blocks of worked stones, walls, reservoirs, and aqueducts of the period in question to discuss; and of these I will now proceed to speak.

The existing walls of Jerusalem, especially on the east, mark the various epochs at which they were built. At their base I recognise the work of Solomon's period; higher up, some portions of the walls as rebuilt after the captivity. Other parts show the refined workmanship of the Herodian age, while Roman and Saracenic work is not rare. The character of the Solomonic walls, as alluded to by Flavius Josephus (book xv. chap. 31, 3), I recognised, on examining the stones forming the foundation of the actual walls of Jerusalem, on the east, on which side I made deep excavations, in order to satisfy myself of the fact. The large stones composing the foundations vary in length, and are squared with some degree of exactitude. They have a smooth border round the rustication, about 2½ inches wide. The rustication itself projects about 3 inches. The stones are joined together by means of mortices cut in the stones, or by cubical clamps of lead and iron, but no sort of cement is apparent. Above the foundation, stones are seen in relief; hence, those portions of the wall in which the courses of vertical and horizontal stones are uniform and well joined, I call Solomonic; but where the construction is irregular, and the external surface of the stones shows the mortices for the tenons, or for the clamp, I assign them to the epoch subsequent to the captivity. At that period the walls were rebuilt in the greatest haste to resist the attacks of an enemy who might appear at any moment, as we find from the Book of Nehemiah. Hence the inequality in their construction, and the laying of the stones face downwards.

The rustication, then, I attribute to Solomon, who undoubtedly employed it in a rough state in the foundations, as is clearly apparent; and also in the building of the towers; and, more finely executed in the construction of the rest of the wall of the enclosure. The reason why so few remains of external walls of Solomon's time are to be seen may be found in the devastations of fire, Vandalism, successive repairs, and the new conformation given to the stones during the period of Herod and Justinian. This I shall presently point out, and show that Herod himself employed rustication in some parts of his fortifications.

Speaking of the working of the stones of which the Temple was built, Josephus remarks that *they were polished and joined together in such a way that it was impossible to discover the joins.* Of this no vestige remains in Jerusalem. Time, fire, and man have never spared the eternal city, and we are compelled to turn elsewhere for other relics which evidence science and genius.

Solomon's Reservoirs in Etham.

To the south of Bethlehem, and at an hour's distance from it, upon the west side of the road which leads to Hebron, stands a ruined Mediæval castle. This ruin looks as if it stood sentinel over three large reservoirs, which are not only, without doubt, the grandest work existing in Palestine; but are also, indubitably, of high antiquity, and may safely be assigned to the Solomonic era, in accordance with tradition. It is remarkable that neither the Bible nor Josephus directly describes them. The latter, however, in his "Antiquities" (viii., 7, 3), mentions a city called Etham, where was erected the summer palace of Solomon, of which the rabbis give so glowing a description. It is probably this palace which is referred to in Ecclesiastes iii. 4, 5, 6. Of the magnificent grounds nothing remains but some land under excellent cultivation by Mr. Meshullam. This spot, which is situate to the east of the reservoirs, and in the northern continuation of the valley, retains the name of the *enclosed garden* (Can., 4, 12), in honour of Solomon. At various times, among others in May, 1861, Meshullam, in digging the ground for cultivation, has met with the remains of ancient walls, reservoirs, and aqueducts, cut in the rock.

The three great basins are situate in the valley of Etham, which runs down from west to east with a very steep slope. They are fed by the rain-water that flows down from the two sides of the mountains, and from a fountain situate to the west of the castle, in a direct line to its northern side, at a distance of about 450 feet. I state this because the entrance to the fountain, which is circular in form, is hidden by stones, and difficult to find. Solomon probably alludes to this very fountain in his song (iv., 12), and it is still called the *Sealed Fountain*. All the three reservoirs are cut out of the solid rock. In some parts they still retain a cement so hard that twenty-nine centuries have been unable to exercise any destructive force upon it. It seems perfectly clear that the primary object of the construction of these reservoirs was the supply of Jerusalem with water, as Mount Moriah is at the present time supplied, in consequence of restorations directed by myself. It is a subject of great regret that the repairs which have several times been executed are never suffered to continue long undisturbed, because the shepherds, Fellahs, or peasants, and Bedouins, continually destroy portions of the conduit, in order to procure the water for their own private wants; and it is difficult in an Arab country to maintain a proper watch over a circuitous line of about 15,000 yards. However solemnly the guardians may promise to fulfil the duties which they undertake, they are easily induced to slumber under the influence of the god, Baksheesh.

The first reservoir to the west is 393 feet long: its average breadth is 225 feet, and its average depth 30 feet. The second, distant about 158 feet from the first, is 432 feet long, its width 225 feet, and average depth 42 feet. At a distance from this of 186 feet is the last, 477 feet long, 213 feet in average width, and in average depth 58 feet. All three, unitedly, occupy a square superficies of 179,541 feet, and 12,089,450 cubic feet of the rock from which they are formed. What conqueror or ruler of Palestine could execute so stupendous a work? It must be allowed that the glory of having effected it is due alone to Solomon's genius. But it is not only in the construction of these water-receptacles that hydraulic knowledge and science are apparent. More especially are they displayed in the vast ramifications of the conduits which convey the water from great distances and various quarters; in the formation of various water towers; in the contrivance for filtration; in the manner with which the water is introduced without the least waste; and, finally, in the mode of its conveyance through the conduits to Jerusalem. I am sorry to be prevented by the pressure of time from entering into all these details; but I must not pass over the principal without more special mention. The others may be learned from a paper which it is my intention to print before long.

Let us return to the *Sealed Fountain*, enter it by the opening, and descend a sufficiently incommodious passage for about 14 feet. At the extremity we come to a rectangular chamber 18 feet long, 10 feet wide, and 20 feet high, whose lateral walls are formed of large Solomonic stones. At the base they are rusticated, and on the upper surface smooth. The vault is a round arch, constructed of large stones, laid in horizontal courses; nor does the key-stone show. No cement is used in the construction. In the middle of the western wall is another aperture, which leads to a small cavern where a stream issues out of the rock. At the western corners are two other openings in which springs are seen dripping from the rock. These three fountains deliver themselves into the rectangular chamber, in the middle of which is a reservoir to receive them. In this basin they are filtered previously to passing into the large conduit, which commences at the eastern wall. The conduit is cut in the rock for a great distance; but the upper part, as it approaches the old castle, is covered with large flat slabs. It is 3 feet wide and 4½ feet high. The waters of this conduit fall a distance of 20 feet at the north-west corner of the upper reservoir, where they are caught in a basin. From thence one part of the water is turned into the first pool, while another portion is conveyed by the aqueduct, which runs parallel with the reservoirs to the point at which the waters of the reservoirs enter the *water tower*, whence they proceed, by the conduit, to Jerusalem.

When the reservoirs are so full that they can receive no more water, to avoid waste the water is received in the basin near the castle, where there is a third aperture leading into a subterranean chamber. Here it unites with the other water, forms a new stream, and all flows together through a subterranean conduit dug in the rock, to supply the water-tower from whence the conduit for Jerusalem runs. From the same point proceeds another conduit, which passes southward, at a distance of 600 feet from the third reservoir. This, in case of great abundance of water, could be directed into the valley for irrigation. The whole system of aqueducts has ceased to be of use because the streams are not abundant; indeed, alone they would be quite inadequate to feed such vast receptacles. During the eight years of my stay, it was only once,—in 1860,—that I saw the three reservoirs full. At other times, it is the second only that has water, and not always that. The whole length of the conduit running to Jerusalem is covered with large stones. In some parts, it is constructed of masonry; in others, formed in the rock; and, in a few small portions, it consists of terra-cotta tubes, of which I believe it to have been entirely formed originally. I must beg to be excused, on the ground of want of time, if I enter into no further details in connexion with this interesting topic.

Mosque of Abraham, at Hebron.

In Hebron, as every one is aware, is the Cave of Machpelah, purchased by Abraham, and appropriated by him as a sepulchre for himself and his descendants. This cave is surrounded by a wall of the highest antiquity; but the precise date of its origin has not been stated by any writer. I have no hesitation in following the Arab chroniclers of the sixth and seventh centuries, as well as the traditions of the country, and declaring it to be of the Solomonic, and not of the Herodian, age. At the time of Josephus ("Wars of the Jews," book 4, ix. 11), the monuments of the patriarchs,

in beautiful marble and of elegant construction, were still seen. Now, had they been erected by Herod, the historian would not have omitted to describe them, when he speaks of other important works executed by the same sovereign, since he wrote not very long after the period, and was ever ready to magnify the monumental works of the Hebrews. We may reasonably infer that he does not describe it as Solomon's, because the fact was perfectly well known in his time; as Eusebius and Jerome, for the same reason, are silent about it when they name Abraham's sepulchre. Some have fancifully attributed it to St. Helen, but it would appear that they have overlooked the assertion of Pelgrim, of Bordeaux, who visited Hebron in 333, and describes this surrounding wall as constructed of stones of enormous size. Antoninus, the martyr, in the sixth century, makes like mention of it, but does not say that it was the work of the Byzantine empress.

The north and south sides of the wall are 198 feet long: their width, from east to west, is 112 feet. The height of the ancient work is 48 feet. The walls are ornamented with buttresses of the uniform width of 4 feet, except at the corners, where it is double. All project 8 inches from the plain surface of the work. They are not ornamented with capitals, but support a cornice in high relief, composed of two fillets and a cyma reversa, and were evidently added subsequently to the formation of the wall, for the express purpose of separating the old and the new. The latter, of Arab construction, it is easy to see was built only to conceal the inclosure from view. The whole wall is formed of regular courses of enormous stones, perfectly squared and rusticated, five lines projecting in relief, and which diminish in size in proportion to their elevation; each row receding five lines from the row immediately below. There are masses, and not a few, which measure 10 feet in length and 5 feet in height. This external form is maintained in the interior, but without the buttresses. The thickness of the walls is 7½ feet at the base, and 6½ feet above. As far as I had the opportunity of examining, two stones appear, in general, to form the thickness; while in some cases a single one occupies the whole thickness. No cement is used in uniting the stones. The little which is apparent on the exterior has been placed there by the Arabs, as they themselves say, to prevent the rain from penetrating to the interior. Should any one offer objections to my opinion, I shall be greatly obliged, and shall avail myself of them on my return to Hebron to renew my researches and studies.

Epoch of Herod.

Herod struggled all his life long to secure the title of *the Great;* yet he was nothing more than the magnificent slave of the Romans, who allowed him fetters of gold. But from the country and posterity he well deserves the epithet "great," in consideration of the sumptuous monuments erected by him. Little does it matter to us, in our examinations, that they were proofs of his servility or his ambition. Let us proceed to examine them. Some masses of ruins, some trunks of columns, walls, solid foundations, sepulchres built or embellished, and the basements of towers, but no one entire edifice, nor any ornamented one. It is undeniable that Palestine is a sepulchre of edifices, as of individuals.

In Jerusalem we find, belonging to this glorious epoch, some portions of the wall surrounding Moriah, on the eastern and western sides; the entire plan of the construction of the Phazaelus; some few remnants of the solid masonry of the Tower of Psephinus; the remains of two others which flank the North Gate; the existing substasement of the Damascus Gate, which I discovered in March, 1861; finally, the embellishments added to the sepulchres of the Valley of Jehosaphat, to the north and south. Of all these mention has been made by those who have written upon Jerusalem down to the present time. Little, therefore, remains for me to say; and I will be as brief as possible. I accept the opinion of Mr. Williams that it is the Appic Tower which remains on the west of the Castle of David, and that of Phazaelus on the east. The latter preserves the architectural type of a Herodian tower, as described by Josephus (book v. 4, 2). It is based upon the rock, which rises 5 feet above the level of the ground, and is covered with masonry of large rusticated stones. Here I observe that Herod, in his fortifications, made use of the Solomonic level, as I could plainly perceive in Herodium, Cesarea, and other places. The Jewish wall rises 38 feet 6 inches above the side of the fosse. Each course of stones recedes by five lines from the base upwards. I would, however, remark that in the interior it is 11 feet thick, relatively to the upper level of the east trench, which is 14 feet deep, and measures 40 cubits on each side, reckoning the cubit at about 18 inches. It is, then, the same Tower of Phazael described by the historian, who tells us that Titus ("Wars of the Jews," 7, 11) would have it preserved to show the kind of towers that fortified the city which he had taken by his armies. Some may object that Josephus mentions a cistern, and this is not to be found. But would it be possible to preserve it, in accordance with the system of fortification in use in the Middle Ages? I think not. I meet with nothing in opposition to the idea that the cistern was destroyed in order to gain a clear space of about 20 cubic feet, which would be valuable when soldiers required to be lodged there. It is unnecessary to draw attention to the other towers which flank the Damascus Gate, and which I discovered by means of excavations. With the exception that they are of smaller dimensions, they differ in no respect from those already described. I may, however, say that the gate which I discovered, and which I call the North Gate (Josephus, "Wars of the Jews," 5, 42), is 12 feet wide, and 26 feet high, with a round arch. The stones composing the jambs and the arch are of large dimensions; and this discovery is not so important in an architectural point of view as on account of the ancient city walls of Herod's time. It is one of the most interesting points in support of my opinion, that the walls on the north did not extend beyond the present walls. Not to dwell for ever upon the subject of walls, I will avoid going farther into the matter here; but I will remark that the ancient portions on the eastern side of Moriah, like those at the Jews' Waiting-place, appear to me to bear the Herodian character. I am far from adopting the opinion of M. de Saulcy, member of the Institute of France, who believes them to be Solomonic. Their construction shows great perfection, on account of the beauty of the materials employed, the regularity of their arrangement, and the vertical joints which rest upon the middle of the corresponding stones in the lower and upper courses; nothing of which is seen nearly so admirably executed in the walls styled Solomonic. In the latter, artistic genius just developing itself is observable: in the former, genius seems to have attained its full growth.

The Golden Gate, to the east of Moriah, is judged to be Herodian from its ornaments; but I am not of that opinion. I know that the Temple and its walls were destroyed by the Romans; and it seems to me impossible that this gate, with its ornamentation, should have escaped the devastation. Its jambs are formed of stones square and not levelled. They of themselves, therefore, furnish proof of having been mortised in the old wall. The ornamented arches are cased with Roman masonry. How then is it possible to suppose them Herodian? Those who take this view do so because the lintels and architraves of the doors are formed of enormous blocks. It is true that this material is Herodian, and this has led to the erroneous induction. I believe that these blocks are remaining portions of the ancient Eastern Gate; and that to them the more recent construction has been applied, formed upon the same plan as the ancient gate. I think so because the foundation walls have been discovered, and because it is said, in the Mishna, that the Eastern Gate was 40 cubits long and 20 wide, and these are exactly its dimensions.

We will now visit the sepulchres in the neighbourhood of Jerusalem. I unhesitatingly confess that I believe the ornamentation of all of them to be of later date than their original construction, and am of opinion that it was added during the Herodian period. I might maintain that the Sepulchres of the Kings were formed by order of that great sovereign for himself and his descendants; but what proofs have we in support of this idea? I hope M. de Saulcy will not hear me, since he attributes them to the era of the kings of Judah, to which epoch it was necessary that he should trace them, when he was pleased to characterize the sarcophagus taken from them as that of David, in order that he might deposit it in triumph at the Louvre, in Paris. By parity of reasoning, I have met with the sarcophagi of Solomon and Rehoboam, one of which is, in fact, broken into fragments, while the other serves as a receptacle for water in the Hall of Justice at Jerusalem.

Let us now examine some of the sepulchres in detail. That of Absalom is a cubical monolith, measuring 21 feet on each side. Ionic columns support an entablature ornamented with Doric triglyphs and pateras. Above this frieze is an Egyptian cornice, at which point the monolith ceases. The whole of the upper part is in masonry. It is composed of a square dado, surmounted by a cylinder, which is terminated by a torus, representing an enormous twisted cable: the whole is completed by a kind of pyramid, of curved conical form, finished with a bouquet of palm-leaves. The total height of the monument is 52 feet. It exhibits, therefore, a mixture of the Greek and Egyptian styles.

Herod was of Idumean origin, it will be remembered. In Idumea are some monuments which recall Absalom's to mind. At the north-west corner of the vestibule, cut in the rock which surrounds the Tomb of Absalom, is a rich pediment, ornamented with acroters and foliage. That of the Jews, to the north of Jerusalem, is of the same description.

The outer portico of the sepulchre of St. James is supported by two columns and two demi-pilasters of the Doric order, connected by an architrave, above which is a Doric fascia, ornamented with triglyphs, and surmounted by a cornice. In the Haceldema, to the south of the city, a facsimile of this is seen. The sepulchre of Zachariah is a monolith, each of the sides of which measures 18 feet in width. It is ornamented with two columns in the centre, and two half-columns inserted in a pilaster at the angles. Above is a simple architrave, surmounted by an Egyptian cornice, like that of the sepulchre of Absalom. The whole is surmounted by a quadrangular equilateral pyramid. The total height of the monument is 19 feet. It is to be observed that the eastern side still shows the rough-hewn work, and on the north it is not completely finished.

To visit the Sepulchres of the Kings a court must be entered by a door excavated in the rock, ornamented by a simple fillet in relief. This is underground up to the commencement of the arch. At the extremity of the court is a vestibule, formerly adorned in the interior with two columns, which have been destroyed, partly by an earthquake, partly by violence. Above the vestibule is a fascia in sculpture. The centre of the fascia is ornamented with a bunch of grapes, now sadly mutilated. On the right and left of this is a triple palm, a wreath of olive-leaves and triglyphs, and alternated with patera three times repeated. Above these is a garland of leaves and fruits, which droops at right angles from each side of the aperture of the vestibule. Above the line of the triglyphs is a cornice in a very ruined condition. Can this ornamentation have been executed at the period of the kings of Judah? I believe not; but, if I err, I am open to conviction. Would that we could find something more satisfactory in Samaria, Cesaria, Antipatris, Herodium, Phazael, and at Castle Cypron; but, excepting some columns, a few ruinous capitals, and immense accumulations of stones, nothing can be discovered of the great Herodian constructions. I therefore turn to a more recent epoch.

Period of Constantine.

When the accession of Constantine the Great to the throne had secured the triumph of the Cross, Palestine witnessed a vast architectural movement, and a number of churches were erected in localities rendered celebrated by the evangelical mission of Our Saviour (and which had been moistened with His blood). From this cause, in the fourth century, Jerusalem attracted the special attention of the Christian monarch and his pious mother; and here was erected a basilica which silver, art, and precious materials combined to render worthy of their piety and magnificence. I will first describe the Basilica of the Resurrection, and then proceed to other monuments, the work of the first Byzantine emperor. It will, I think, be interesting to my hearers if I give some description of the Sepulchre of Christ, over which Constantine erected the Temple. I cannot stop to consider all the objections brought against the authenticity of the tomb, but will merely observe that the tomb exists, and that I have seen it. In the neighbourhood of the city, particularly on the north and east, tombs cut in the rocks may still be seen. Many are in a ruinous condition, others are more perfect. They are composed of two divisions: the vestibule and the sepulchral chamber; the latter closed by means of a stone of elliptic form. The Evangelist St. Matthew (xxvii. 60) describes an occurrence which may be witnessed in the present day in the same locality:—"And Joseph laid the body in his own new tomb, which he had hewn out in the rock; and he rolled a great stone to the door of the sepulchre, and departed."

Christ's sepulchre, as at present existing, is divided into two compartments; the vestibule, in which the guard of soldiers was placed, and the

✠

tomb itself, which has a small door of the same construction as those of the Sepulchres of the Kings and of Saint Pelagia on the Mount of Ascension. The religious Greeks, Armenians, and Latins assert that the whole monument of the present sepulchre is rock, beneath the marble facing. I could not discover this, nor do I believe it. Even if it withstood the destruction which befell the city under Titus, and the occurrences of Hadrian's time, we know from history that it was greatly mutilated by Chosroes II. in 614, and by Hakem, caliph of Egypt, in 1010. But I am quite certain, beyond all doubt, that I saw and touched the rock in the pavement, which rises at the distance of 21 feet to the west of the sepulchre and in the sepulchre itself, by the longitudinal cutting which is here exhibited. It is essential to remark that all the sepulchres of antiquity are of the same length and breadth,—the former 6 feet, the latter 2½; and in this respect the sepulchre of Christ forms no exception to others. The disputes would never have arisen if Constantine had not been guilty of the religious Vandalism of separating the sepulchre from the rock on the western side, in order to inclose the sepulchre within the temple, and the further barbarism of adapting the sepulchre to the temple, and not the temple to the sepulchre.

The present Church of the Resurrection retains none of the elements of the grandeur of Constantine. They disappeared when the invasions of the Persians and Saracens covered Palestine with ruins. The successive repairs to which such portions as escaped have since been subjected, have deprived the structure of the characteristics of the fourth century, with the exception of the north wall and the walls and pilasters of the great cupola, which are primitive. The Crusaders, who found the sanctuaries separated, reunited them; and it is their work which is now seen. From their time to the present, no change of importance has taken place. On the 12th October, 1808, a part of the rotunda and the Calvary, also a portion of the south wall towards the west, were destroyed by fire. The absurd and unintelligent repairs of the Greeks in many points completed the devastations begun by the flames; and numbers of interesting details of Gothic or Byzantine art disappeared, thanks to the degenerate sons of Constantine the Great. The precious marbles which ornamented the Basilica of Constantine were taken by the Mussulmans in the seventh century to adorn their mosques, especially Koubbet-es-Sakharah. Hence, among the ruins recently removed from the eastern side of the sepulchre, shafts of columns have been found formed of beautiful marble and granite, with capitals in form precisely like the gilded capitals of the mosque. It cannot be supposed, because these precious relics are found there, that the remains of the mosque, which was never destroyed from the period of its erection, had been carried and placed round the sepulchre and in the vicinity of the south. I am, therefore, compelled to conclude that it is not in the Temple of the Resurrection, but elsewhere, that we must seek the elements of the period of Constantine.

Let us now turn to Bethlehem. The Basilica of the Nativity at Bethlehem was begun by St. Helena, and terminated by her son Constantine, between the years 327 and 333 of the Christian era. Some authors have attributed the erection of this monument to Justinian; but a very cursory inspection will suffice to prove that it presents none of the characteristics of the architecture of the sixth century, and that this opinion must consequently be erroneous. It is the oldest and best authenticated monument of Christian art in Palestine. The eye embraces five naves at a single glance. The centre nave is larger than both the two together on either side of it. They are of great length, and formed by four rows of Corinthian monolithic columns, and are composed with eleven intercolumniations. The transept is as wide as the centre nave. The north and south extremities terminate each in a semicircular apse, with a radius of 14 feet. These apses project beyond the exterior walls of the building. On the east, on the side of the transept, separated by a wall formed by the Greeks, the five naves reappear, and form the choir of the church. The centre nave is composed of two intercolumniations and a semicircular apse, equal with those which terminate the transepts. The two which succeed, right and left, are terminated by a straight wall, which commences at the choir. Owing to this arrangement of the lower sides of the basilica, the upper portion of the cross is symmetrical in relation to its lateral arms. The width of the great centre nave is 30 feet; the first lateral nave, 12 feet; the second, 10 feet; so that the total width of the five naves is 74 feet, while the entire length of the centre nave is 180 feet.

The monolithic columns forming the divisions of the naves are 17 feet 3 lines in height: their capitals are Corinthian; that is to say, the proportions only slightly differ from the proportions demanded by the rules generally observed in the time of the Roman empire. In fact, the column is short relatively to the diameter of the base, which measures 2 feet 6 lines. Besides this, it presents no very distinctive characteristics, but shows signs of the decadence, reposing as it does upon a plinth which measures 3 feet 2 lines on each side. This want of proportion has been supposed, by some, to have been owing to the inability of the calcareous bed from which the columns were derived to produce monoliths of greater height; but as the quarries still exist, and I have carefully examined them, I cannot admit the explanation; but rather opine that it is simply the result of the decadence of art. As I have already stated, the diameter of the base of the column is 2 feet 6 lines; the height of the shaft, comprising the base and capital, is 17 feet 3 lines; and, consequently, the latter is short in proportion to the former. Further, the base has no very decided character. It rests upon a rectangular plinth, measuring 3 feet 2 lines on each side. I may further add, that the total number of entire columns is forty-six, of half columns eighteen, and that the latter are inserted in the pilasters on the wall, where the rows of columns terminate. In the abacus, all these are ornamented with crosses in relief. In the lateral naves (side aisles ?) architraves support the [framing of the] roof. In the central naves, the walls, which are 30 feet high, are also supported by the architraves on which rests the great *armatura* of the roof. The roof is not vaulted, but composed entirely of wood. In the upper part the walls contain circular-headed windows corresponding with each space between the lower columns. The spaces between the windows, and all the rest of the surface of the walls, in the twelfth century, were ornamented with mosaic work. The present roof dates from the seventeenth century, and the Greeks alone claim the right to repair it. I conclude then this is the only complete work of Constantine which remains to us after the lapse of 1,529 years. This alone has survived every destructive influence, and maintained its ancient characteristics. It is a very striking specimen of Roman genius. The venerable aspect of the edifice, the harmony of its combinations, and its original conception, all arouse admiration. It is indisputable that the general plan of the church produces an impression of beauty, not only from its dimensions and the simplicity of its outlines, but because it is the embodiment of an intelligent phase of religious architecture, and thus cannot fail to satisfy the taste and please the eye.

Other remains of the period of Constantine and of his mother Helena are met with in many parts of Palestine, but they consist simply of walls, heaps of stones, shafts of columns, and mutilated capitals. I shall, therefore, pass them over without special mention. The buildings erected subsequently to Constantine are mere cemeteries of stones, mutilated by Mussulman fanaticism.

Epoch of Justinian.

The Emperor Justinian, no less ardent than his predecessors in erecting religious edifices, did not forget the Holy Land, but there raised a great number of such structures. All, however, which remain standing as mementoes of him are the Basilica of Saint Mary, at Jerusalem, now converted into the Mosque El-Aksa; the tower called Justinian's, at Bethlehem; and the ruins of the Church of St. George, at Lydda, the ancient Diospolis. In other parts of Palestine, other religious monuments were erected by this emperor, but their localities are only indicated by heaps of ruins. The details have vanished, either from the effects of fire or violence, chiefly through Mohammedan fanaticism. The Aksa shows its Christian origin, and Procopius has left us a detailed account of its construction (De A. Edif. Justin. 5, 6). It has in front of it a portico with a vaulted roof, corresponding with the seven naves of the church. The central arch is much larger than those on either side. The exterior and interior present very pointed arches. The whole building exhibits the well-known plan of a primitive Christian basilica. The centre nave is supported by six large columns of *breccia rossa* of Palestine, with ordinary Corinthian capitals, somewhat disfigured by incongruous details and ornament. These columns support pointed arches, above which are two rows of windows. The first two lateral naves are supported by square piers: the other four are much lower, of a totally different construction, and appear to have been added at a much later date. In this particular, I fully agree with the Rev. Geo. Williams in his "Holy City," that the mosque was enlarged on the east and west sides by El-Makdi, in 775, 785.

In its present state, the length is not in due proportion with the width; while in its primitive condition the proportions were exact, and the basilica was in the form of a cross. On the south the church is terminated by a transverse nave, separated from the grand longitudinal nave by pointed arches, surmounted at the intersection of the cross by a cupola supported by four piers, each ornamented with two columns of verd antique supporting Corinthian capitals. The cupola is a dome contracted at the base, which admirably sets off its form. It is decorated with modern paintings quite unworthy of the edifice, and with mosaics which date from Selim I. and Solyman the Magnificent. The choir was demolished by the Arabs, after having been injured by an earthquake, and is now replaced by a simple Arab wall, against which stands the Mihrab, ornamented with beautiful small porphyry columns. In the transverse arm of the cross the choicest marbles are employed for the light columns, which sustain capitals of various and extravagant forms, dating no doubt from the remotest Jewish antiquity, and by no means corresponding with the elevation of the columns. The roof of the mosque is supported by a framing of wood. Such is the result of my observations upon the Mosque El-Aksa, which the want of time prevents me from describing in fuller detail.

The Tower of Justinian, at Bethlehem, built for the defence of the Temple of the Nativity, merits some notice. It is square, and measures 97 feet on each side: its height is 122 feet. The walls, which are 22 feet thick, are solid, and built with large blocks, which diminish with each course of stone. The Greeks, who are the possessors of the tower, in the thickness of the walls have made several chambers, which are used for the reception of pilgrims. The largest of these chambers is capable of containing forty persons. I have mentioned this edifice to show that a complete work of Justinian's era exists at Bethlehem, and that, as far as masonry is concerned, it will bear comparison with that employed by Constantine in the Basilica of the Nativity. In the latter, the good Roman style is seen; in the tower, the decadence. The Church of Saint George, at Lydda, the ancient Diospolis, was erected by Justinian. Of this splendid edifice nothing at present remains but a portion of the walls and the eastern choir, with some magnificent pilasters and capitals. On the south side is a large pointed arch, supported by large columns, mortised in the piers, and surmounted by Corinthian capitals. A great part of the church still remaining has been converted into a mosque by the Mussulmans. The design which I exhibit will show the date of this monument better than any description.

Epoch of the Arabs.

I do not think it necessary to translate the description of the Mosque of Omar, seeing that it has already been translated for the Mount Moriah. The whole platform is formed of the rock, which is clearly seen on going into the dwellings of the Dervishes and the guardians; as well as in some oratories and in the cisterns, especially the two on the north of the Great Mosque.

Coubbet-es-Sakhrah,—the Dome of the Rock.

Its plan is simple: two concentric octagonal aisles surround the circular central part, which supports a Pointed dome. The form of the dome serves alone to characterize the building. The many descriptions given of its interior prevent me from repeating it; and I shall only remark that its doorways and windows are of Pointed style; that the sixteen columns standing in the inner octagon aisles are of equal height, and have the same capitals, but rest on unequal bases which exhibit very much the characteristics of the period of decadence to which the building belongs; that the twelve columns, which are to be found between the four piers supporting the tympanum of the dome, have a diameter different from the sixteen first met with, as well as different proportions of shaft, capital, and base; and that all these columns support arches slightly Pointed. The vaulting of the dome is of wood, covered with Arabic gilding. The tympanum and spandrels of the arches are inlaid with elegant mosaics, which date from the time of the sultan Selim I. All this induces me to believe, according to history, that the mosque was erected by Abd-el-

Melik Merwan, in the year 68 of the Hegira, and that its columns of precious marbles, and various origin, have been taken by the Mussulmans from the Basilica erected by Constantine over the Sepulchre of Jesus Christ. Constantine alone is well known to have enriched the religious edifices of the Christians with marbles; and history reproduces but too many examples of the spoliation of these buildings by the Mussulmans to decorate their mosques.

THE PALACE OF ART AND INDUSTRY.

"THE International Exhibition is open." A Royal Duke and many trumpets proclaimed it so on Thursday the 1st of May, when the sun shone, the building was crowded, and everything went as smoothly as could be expected. All the arrangements are in a gloriously incomplete state at present, but we may even now hail the "giant aisles," with the poet-laureate, as:—

> "Rich in model and design;
> Harvest-tool and husbandry,
> Loom and wheel and engin'ry,
> Secrets of the sullen mine,
> Steel and gold, and corn and wine,
> Fabric rough, or Fairy fine,
> Sunny tokens of the Line,
> Polar marvels, and a feast
> Of wonder, out of West and East,
> And shapes and hues of Part divine!
> All of beauty, all of use,
> That one fair planet can produce,
> Brought from under every star,
> Blown from over every main,
> And mixt, as life is mixt with pain,
> The works of peace with works of war."

It is difficult for those who knew the site (on the next page is a sketch we made of it not very long ago), to believe in what they see; and when all is completed, as it will be in a short time, the difficulty of doing so will be greater. We shall endeavour hereafter, patiently and quietly to distil from this wonderful collection what may be specially interesting and beneficial to our readers. On the present occasion we confine ourselves to that portion of the collection which is in the most complete state.

The Fine Art Department of the Exhibition is divided into five classes,—Architecture, Class 37; Paintings in Oil and Water Colours, and Drawings, 38; Art-Designs for Manufactures, 38A; Sculpture, Models, Die-Sinking, and Intaglios, 39; and Etchings and Engravings, 40. These fill the galleries which occupy the three main fronts of the brick-built portion of the entire plan of the Exhibition structures, on the first floor; some works of sculpture being also placed below stairs; and the architectural drawings and art-designs of the British Division running into one of the open galleries of the internal iron-constructed portion of the plan. It is in the two parallel galleries, the Eastern, of the North-East transept, that the drawings and designs last named, will be found, together with models of various kinds, and the engravings and other works of their class. The foreign architects' designs and drawings, following the classification adopted throughout the Exhibition, are in the western half, or foreign division of the building, the works of the Classes (37 to 40) of each country, being kept together, and distinct from those of the other countries. The whole range of galleries should therefore be visited with a view to any comparison of architecture at home and abroad, so far as that can be made from drawings. The foreign division, however, in the Class 37, is but weak in presentation of architecture as it is: indeed, for the French School, there are not thirty architects' names in the catalogue; and scarcely two of these are attached to drawings of modern works. A slight idea may be gained of the great works of Paris under some of their aspects, from certain plans, with which we ourselves were previously acquainted, that will be found in a different department, or on the ground floor; where may also be discovered a model of part of the breakwater at Marseilles, and other evidence, notwithstanding the incompleteness of the French Court, of the importance of the collective work of architecture and engineering, which is in progress throughout the Empire; but of architecture, the art, and the late achievements of architects in Paris, or any part of France, not a particle of information can be said to be given by drawings. Mr. Normand sends two (31 and 32) of Prince Napoleon's House, a work which is a clever piece of imitation; Mr. Viollet-le-Duc, who is also an exhibitor, here represents learning and structural contrivance, rather than French architectural practice and living taste; and Mr. Ruprich-Robert shows nothing of what he has executed in Paris (unless through the medium of Mr. Daly's specimens from his valuable publication), sending only (13) "two sheets" of the "Abbey of Hambye, Département of La Manche." Not another of the talented artists who are daily adding to the magnificence of the French capital, and whose names may be said to be wholly unknown to their professional brethren in England, has sent a scrap of paper or a line. If the French Commissioners tried to present a picture of French art, it is certain that the failure of the *representation* as for architecture, is complete: nay, the painting and sculpture must not be estimated from the exhibition; for, whilst the range of the British Division in painting has included the works of Reynolds and Hogarth, and in sculpture (though inadequately represented) those of Bacon and Flaxman, the French paintings are all recently-executed works, or almost exclusively those of living men; and of the admirable sculpture of the last century there does not appear to be an example. Of the works of the painter, Ary Scheffer, we can find but one; though there were several at the Manchester Exhibition. But if the view of Venice by Ziem (135), contributed by the Comte de Morny, be one that we have seen in the private gallery of the president of the Corps Législatif, it will be found to bear comparison with some of the works of Turner. To represent adequately the works of French artists, even living men, a large selection from the contents of the public galleries, and the mural paintings in churches and palaces by such artists as Flandrin, Signol, and Hesse, would need to be sent over. As to architecture, we speak plainly, and to do justice to the men of France, themselves. Always, our foreign brethren seem even less inclined than English architects, to contribute drawings of their executed designs to an exhibition. They have contented themselves with the publication of plans and elevations; which, till the recent publication above referred to, were edited and engraved in a style which conveys positively the opposite of facts of form and appearance.

The French architectural drawings have been hung since this notice was written, at the beginning of the week. With them are now included engravings of architectural subjects, a department somewhat neglected in the British Division. As regards the class of Art-Designs for Manufactures, it does not, judging from the catalogue, appear to have received any attention at all in the foreign division of the Fine-Art Department. We have had little better opportunity for judging of any of the architectural works of the other foreign schools; but the Exhibition includes several illustrated architectural books. Some of the drawings of the "German School," including Prussia, Saxony, Saxe-Coburg Gotha, Hamburg, and Hesse-Darmstadt, and of the "Austrian School," are probably by this time on the walls. Together, they are about 120 in number, but do not seem more practically useful than those of the French school. There is also a large model, in the nave, of the New Exchange, Berlin, by J. Hitzig, with capitals of the interior columns in zinc, electro-coppered, and other details (Nos. 537 to 543). The Dutch, Swedish, Norwegian, and Danish Schools, have no architecture, so far as our early proof copy of the catalogue may be taken as guide. The Russian School of the art fills about three lines in the same printed authority; but one of the numbers (1624) comprises "sixty-eight designs," by the same architect, Lewis Bonstad. Of the "Belgian School," we have found nothing. In the Spanish collection there is a design and a model. In the Swiss Gallery and Court there are two or three designs for jewellery and embroidery. The "Italian School" includes about 130 drawings from Florence, Genoa, and Naples, and six models. Amongst the designs appear to be several deserving notice, and amongst the drawings are six contributed by the king of Italy, representing the Royal Palace at Caserta (2242-58). The "Roman School" which is separate, comprises but two numbers under the head "Architecture"; though in Class 40, there are some engravings of architectural subjects. These two Italian Schools are strongest in their "sculpture, models, die-sinking and intaglios," to which in the Roman School are added Cameos and Mosaics. The "Modern Greek School" displays about thirty works of sculpture and wood-carving, and five paintings; and Brazil, the United States, Portugal, and Turkey, at present offer nothing under "Architecture" in the Fine-Art Department.

The British Division in Class 38, Paintings and Drawings, with the galleries at the South Kensington Museum hard by, and others which will be open, will be a noble protest of the worth of the British School, and will no doubt lead to better appreciation of our country by foreigners. The French section of the Foreign Division will have the reciprocal effect with our own artists; it has however aimed at less than the British Division, and has rather stopped short of justice to its art.

The Class "Architecture" of the British Division, comprises 580 subjects of "designs," as numbered in the catalogue, and twenty-five models. A small number of the 580 are drawings of old examples, entire buildings or details of ornament, which have been included with a view to comparison with the studies which it was supposed would form the staple of the foreign contributions to the Exhibition, and to show that careful delineation of models was not neglected by English architects. The general character of the "Class," however, is a much nearer approach than has been recently evidenced, to the presentation of architecture as it is practised with us. That the evidence does not go far enough, must not be considered the fault of the committee, or those who managed the hanging. It would be easy to point out defects and omissions. It is, indeed, a duty to express our regret that the executors or representatives of Sir Charles Barry, who have contributed some of his "Original Sketches made in the East, A.D. 1818-19" (Nos. 1936 and 1941-2), his "Entrance Front of Bridgewater House" (1934), his "Highclere Castle, Hants" (1939), and his several recent designs for the Government Offices and Thames Embankment, Westminster (1935, 1937, and 1938), have sent only an old elevation of the "River Façade" (1,940) of the Westminster Palace, and no illustrations of the halls and staircases, and other portions external and internal, which form the most meritorious and the truly artist-work of that noble building. Also there is no representation of the staircase of the Reform Club. Conceding the difficulties, in omission of contributions by authors of many deserving works, and those for the hanging in galleries which we are obliged to consider as ill-adapted for architectural drawings, we must regret that in the works actually displayed, foreign architects will have some reason to think that we English are wholly under the delusion that nothing more than pointed arches, coloured brickwork, and Minton's tiles, are needed to make good architecture; the fact being that the *art* is missed in most of these popular whimsies,—whilst even that, as apparent to any one who knows anything of Continental practice, good work of architecture is procurable without them. On such ground we may regret that drawings like those of Mr. Currey's "Peninsular and Oriental Steam Navigation Company's Offices, Leadenhall-street" (1528), and Mr. Knowles's "Exterior of the Grosvenor Hotel" (1507), could not be placed where they might be examined. We do not expect that the opinion will be taken by those who have not a similar duty to our own in visiting an exhibition of architectural drawings; but we say, that for the main objects of the display, one-third of the wall-space in these architectural galleries is used to no purpose beyond justifying titles in the catalogue.

The 580 numbers really comprise a considerably greater number of subjects. Several architects have included in the same drawing very many views, as of churches and schools, chiefly actual buildings from their designs. The family likeness in these must be got rid of; or the revulsion setting in, which is passing off everything as good that is simply queer or only new, will bring about even worse results than it exhibits in competition drawings and on the walls in Conduit-street. Art requires novelty; but the thing is not art if there be only novelty, or if that be regarded most and first.

Works by the same author are hung together, with few exceptions; but, as much as was possible, the Gothic works have been kept on one side of the principal gallery, and those of a different character opposite them. As might be expected, nearly all the drawings have been seen before: the majority of them have been spoken of in our notices of different exhibitions in Conduit-street, and at the Royal Academy; and very many of the subjects have appeared in our recent volumes in the form of engravings.

The principle of selection as to authors of works in this class (37), differs from that adopted in each of the other classes of the Fine Art Department, British Division. Deceased architects' works are not shown, with exceptions, one of which we have mentioned. Another exception is that of the late Mr. Carpenter. The system in each division and class should have been exactly explained. The catalogue has been prepared under many difficulties, especially in the Foreign Division. But some of the

defects are such that the matter to which we are about to refer would have been better omitted. There is a preface to each of the heads "British School of Oil Painting," "British School of Water Colour Painting," "Architecture," "Engraving," "Sculpture," and "Foreign Schools of Oil Painting," signed with the initials of the name of Mr. Francis Turner Palgrave, author of a "Handbook of Fine Arts in the International Exhibition of 1862," "sold in the Building." Each preface, which seems to aim at teaching all the visitor should know prior to an inspection of the works, fills from two to six pages, "Architecture" in the British Division having five. What the French art-critics like Mr. Theophile Gautier, when they arrive amongst us, and who find readers for a hundred *feuilletons* on an exhibition such as that of last year in the building in the Champs Elysées, the publication continuing even after the exhibition is closed;—what these gentlemen will think of the English writer's page and a half, we dare not anticipate; any more than what the Italians, whose art, according to our own account of the Florence Exhibition, is so much looking up, will say about the no word at all. Five pages, or even one and a half, may indeed be turned to useful purpose: but in proportion to the restriction of the space, so is the requirement for the most competent hand; which we incline to think for French painting, would be that of a Frenchman. As regards the Architectural preface, the publication of it is an impertinence to those who have had the management of Class 37 of the British Division, and who heard of the thing only after it was in print. We are informed that the superintendents of other classes, tried and able men, remained similarly in ignorance of what was being done for them. To fill five pages as a guide to the public in architectural taste, is beyond the calibre of any one who does not give the greater portion of his thought to architecture, or who is not familiar with practice. We go further; and, whether the remark apply to English architects, or to Mr. Palgrave's omission in the Foreign Division of the catalogue, we say no one will have a chance of writing what is correct and useful, unless he be acquainted with foreign architectural practice. Knowledge of and by England and France, by each country of the other, is the right course to the correction of error in architecture and art-criticism, as in everything else. But not dwelling upon this point, important though we consider it, a really useful popular guide in architecture must not be the work of one whose chief qualifications (we speak without any intention of offending) seem derived from having read up the writings of Mr. Ruskin. We are really almost driven to despair of any future in our art, when we read much of the criticism in reviews and newspapers that is thus inspired. Mr. Palgrave is absolutely wrong in half-a-dozen most important assertions. He is wrong in saying that there were but two genuine styles, Greek and Gothic: there were rather a dozen. One of them was the Byzantine, which he ought to have kept distinct from the Italian Romanesque: another was the Saracenic, which it is so very convenient to certain writers not to mention at all. It is equally convenient not to take note of the succession of styles in France, in which Italian architecture was used with such effect. He is wrong by not knowing that the men of the so-called Revival were artists, and not copyists of the Roman works; he knows nothing of what the so-called



The Site of the International Exhibition, not long ago.

Italian architecture was or is; and he is wrong in supposing that the "frozen formality" of later Palladian, and the monotony of Gower-street, was the result of a *style* as he regards it. The same poverty and sameness might have come from the Gothic: indeed, they did. To "take up the thread," dropped or not, again and again be it said, is impossible: this is not done even by those who talk that way, and are regarded as Gothic architects. The respective merits of what existed at different epochs, form fair subject of debate; but not even the Louis Quinze is the "copy of a copied architecture." Had the work of this preface been put into the hands of the superintendent of the class, Mr. Waring, or of his coadjutor in the Crystal Palace Handbooks, Mr. Wyatt, or almost any other member of the committee, something would doubtless have appeared which would have helped the progress of public taste, in place of the five pages which will be met by a general protest of the rudely-treated committee, and the body of exhibitors they represent.

We postpone any detailed notice of the works of this class to future numbers, when we shall have better opportunity for treating the Exhibition generally.

JURIES FOR INTERNATIONAL EXHIBITION.

The following are the Jurors in classes which more immediately interest our readers:—

Class V.—Railway Plant, including Locomotive Engines and Carriages.

Wm. Baker, C.E, London, engineer to London and North-Western Railway Company.

G. P. Bidder, C.E., London, late president of the Institution of Civil Engineers.

Flachat, France, consulting railway engineer.

James Kitson, Leeds, mayor of Leeds, manufacturer of locomotive engines.

Krüger, Zollverein, director of royal machine factories, Dirscham.

J. E. McConnell, Wolverton, late locomotive superintendent of the London and North-Western Railway Company.

F. Spitaels, Belgium.

Arch. Sturrock, Doncaster, locomotive engineer, Great Northern Railway.

Duke of Sutherland, chairman, London.

Colonel Yolland, R.E., F.R.S., London, inspector of railways.

Class VIII.—Machinery in General.

L. R. Bodmer, Switzerland, consulting engineer.

Chevalier de Burg, Austria, imperial councillor; president of the Society of Arts and Manufactures at Vienna.

Earl of Caithness, London.

M. Chevalier, chairman, France, senator, member of the Institute.

J. Hawkshaw, F.R.S., F.G.S., London, president of the Institution of Civil Engineers.

J. Hick, C.E., Bolton, civil engineer.

J. M. da Ponte Horta, Portugal, professor of mathematics at the Polytechnic of Lisbon.

W. M. Neilson, C.E., Glasgow, civil engineer.

John Penn, C.E., London, mechanical engineer.

Du Pré, Belgium, honorary chief engineer of bridges and roads.

W. Macquorn Rankine, Glasgow, professor of mechanics in the University of Glasgow.

F. B. Taylor, United States, mechanical engineer and designer.

H. Thomas, Zollverein, manufacturer, Berlin.

Class X.—Civil Engineering, Architectural, and Building Contrivances.

Section A.—Civil Engineering and Building Contrivances.

Delesse, France, engineer to the Imperial Corps of Mines; professor to the Normal School; president of the Geological Society.

J. Kelk, London, contractor.

Koch, Zollverein, government and architectural councillor, Berlin.

Leclerc, Belgium, inspector of agriculture and engineer of bridges and roads.

Maurice Loehr, Austria, imperial councillor of the Board of Trade and Public Works.

C. Manby, C.E., London, hon. sec. to the Institution of Civil Engineers.

Thos. Page, London, civil engineer.

Sir J. Rennie, F.R.S., F.G.S., London, civil engineer.

Marquis of Salisbury, K.G., chairman, London.

Cesare Valerio, Italy, member of the Italian Parliament.

Section B.—Sanitary Improvements and Constructions.

Neil Arnott, M.D., F.R.S., London, author of works on heating and ventilation, &c.

J. W. Bazalgette, C.E., London, engineer to Metropolitan Board of Works.

Bommart, France, manufacturer; general inspector in the Imperial Corps of Bridges and Roads.

Sir J. Olliffe, M.D., London, physician to British Embassy, Paris.

R. Angus Smith, M.D., F.R.S., Manchester,

J. Sutherland, M.D., London, inspector of burial-grounds.

Section C.—Objects shown for Architectural Beauty.

Stavros, Dilberoglue, Greece.

T. L. Donaldson, Ph. D., London, professor of architecture, University College.

Theo. Jordan, Russia, member of the Imperial Academy of Fine Arts.

A. L. J. Meier, N. Germany, architect.

Geo. Gilbert Scott, R.A., London, architect.

Syd. Smirke, R.A., London, architect.

W. Tite, M.P., F.R.S., London, president Royal Society of British Architects.

E. Trélat, France, professor to the Conservatory of Arts and Manufactures.

Class XXX.—Furniture and Upholstery, including Paper-hangings and Papier Mache.

Section A.—Furniture and Upholstery.

Dr. Beeg, chairman, Zollverein, principal of the School of Industry and Commerce, Fürth.

Lord De l'Isle, London.

Demanet, Belgium, member of the Department of Fine Arts of the Royal Academy, Belgium.

Count Demetrio Finocchietti, Italy, vice-governor of the royal palaces at Florence.

Wm. Holland, London, upholsterer.

John Jackson, London, carton pierre manufacturer.

M. Markert, Austria, manufacturer, Vienna.

L. Piglheim, N. Germany, cabinet-maker.

J. H. Pollen, Rome.

Du Sommerard, France, director of the Museum of Cluny.

Sir C. Trevelyan, K.C.B., India.

Digby Wyatt, F.S.A., London, vice-president, Royal Institute of British Architects.

Section B.—Paper-hangings and General Decoration.

Lord Ashburton, F.R.S., London, president of the Royal Geographical Society.

Marquis F. A. Gattinara de Breme, Italy, master of the ceremonies; director-general of the Royal Albertine Academy; senator, &c.

J. G. Crace, London, decorator.

Jos. Forguignon, N. Germany, upholsterer.

A. J. Beresford Hope, M.A., London.

Owen Jones, London, architect.

Mérimée, France, senator; member of the Institute.

Class XXXIV.—Glass.

Section A.—Stained Glass, and Glass used for Decoration.

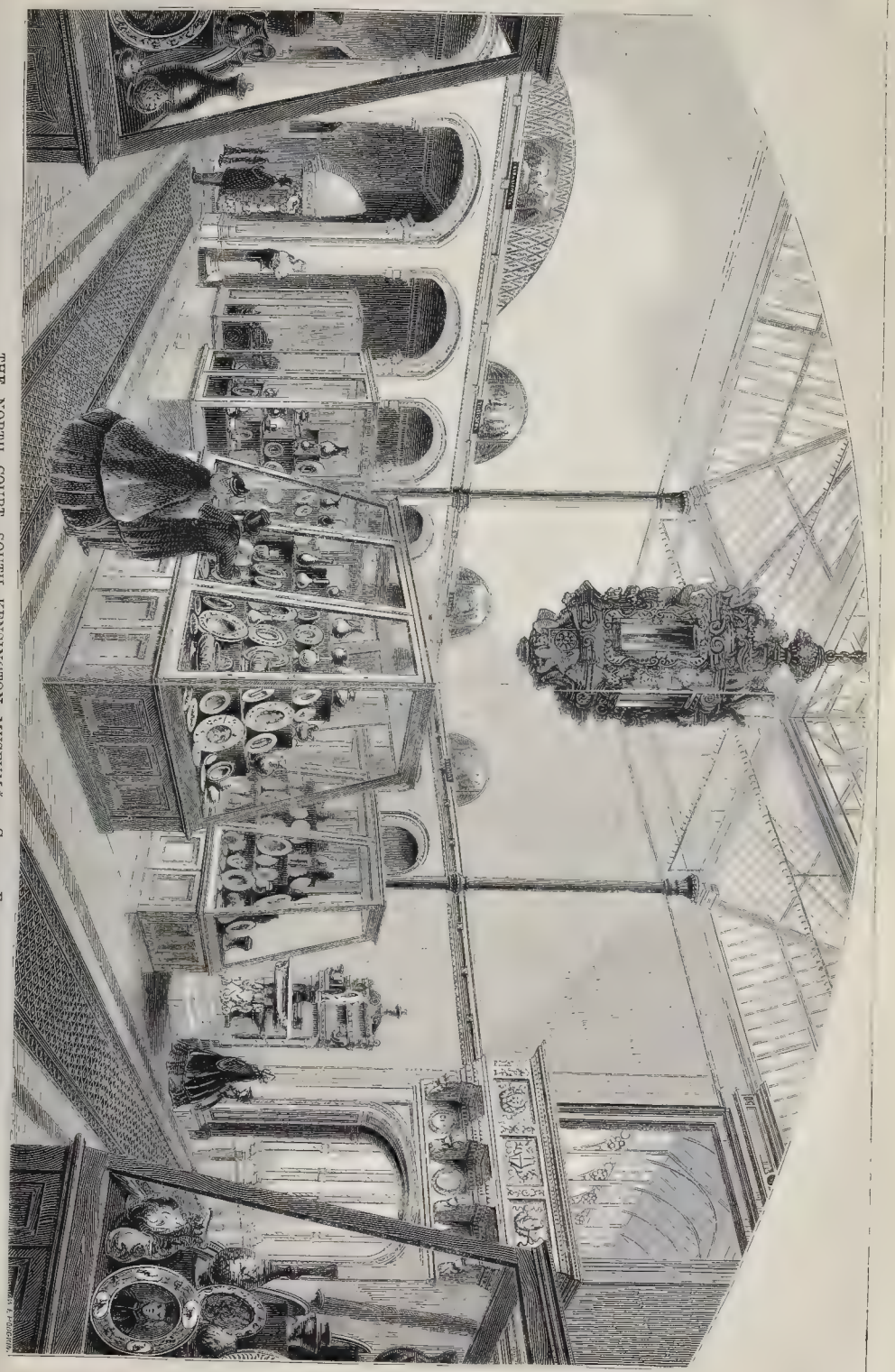
J. R. Clayton, London, glass-stainer.

W. Dyce, R.A., London.

Sir Philip De M. Grey Egerton, M.P., F.R.S., London.

J. R. Herbert, R.A., London.

E. Péligoz, France, member of the Institute; professor at the Conservatory of Arts and Manufactures, and at the Central School of Arts and Manufactures.



THE NORTH COURT, SOUTH KENSINGTON MUSEUM.*—Captain Fowke, Architect.

[* See p. 303.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE MEDALS.

THE ordinary meeting of members was held on Monday evening last, at the House, in Conduit-street.

The chair was occupied by the President, Mr. Tite, M.P.

Several donations were announced, including "Statistical Notes, and various Papers, Plans, &c., of the Progress of Victoria, from 1835 to 1860." These were forwarded by the Department of Public Works at Melbourne.

Thanks having been voted to the donors,

The President observed that a portion of the business of the evening was of a very gratifying description, because it afforded them an opportunity of presenting the medals given by the Institute, or at its recommendation, to those who had studied and distinguished themselves in the art in which they were all so much interested. The first and most important duty which devolved upon him, as president, was naturally the presentation of the Royal medal. He need scarcely say how much they were gratified at being able to record the fact that it had been the good fortune of the Institute to present this medal for a considerable period. Her gracious Majesty had been the patroness of the Institute ever since the commencement of her reign; but it was not until the year 1848 that the valuable testimonial to be awarded that evening had been given in recognition of the services of the architectural profession. In the year 1848 the first royal medal was placed at the disposal of the Institute; and he thought he was justified in saying that the list of recipients showed that they were not unmindful of the trust which the Sovereign had confided to them. The fact that the first medal was given to their friend, Professor Cockerell, as the most eminent British architect they knew of, was a proof of the estimation in which her Majesty's gift was held. In the interval that had elapsed since the first medal was awarded, the council had resolved to present it alternately to a foreigner. They were at liberty to present it to any English or foreign architect, or to any distinguished writer upon architecture; and he thought the council had done well to avail themselves of her Majesty's gracious permission; and that, as they had delighted to honour Professor Cockerell in the first instance, as an English architect whose talents eminently entitled him to the distinction; they had shown their wisdom in admitting the merits of Signor Canina. They all, no doubt, remembered his visit to England, and the unhappy incident which terminated his life on his return to Rome. With regard to the immediate business of the evening, he had to announce that the council had recommended, and that her Majesty had graciously acquiesced in it, that the gold medal should be given to Professor the Rev. R. Willis, Jacksonian Professor at Cambridge. He felt it to be a matter of considerable difficulty and delicacy to speak of a man's merits in his presence. To do so would be un-English, and contrary to the precedents of the Institute; but notwithstanding this drawback, he thought he might be justified in saying a few words in relation to their friend Professor Willis. That gentleman was not a professional architect; neither was he the author of a work on architecture, but of very many able and well-known works. He (the President) had in his own library many of those works; among which he might mention one which he had read more than once with great pleasure, and which he found was dated so far back as the year 1835. It was entitled "Remarks on Architecture in the Middle Ages, particularly in Italy." He was sure all who heard him would agree with him that although the work in question had been published so long ago as 1835, it had lost none of its value or interest in the present day. It especially referred, among other subjects, to the undeserved neglect of Italian Gothic, and the influence of locality in each stage of Middle Age architecture. No one who had studied this subject could, he thought, fail to appreciate the influence of locality in the buildings raised at various successive periods in the Middle Ages. Mr. Willis also came before them with the strong claim that he was Jacksonian Professor of Natural and Experimental Philosophy in the University of Cambridge. At the sister University of Oxford there was no such professorship; and Cambridge had the advantage not only of having such a professor, but the credit of having appointed such a professor as Mr. Willis. As a writer and student of architecture, Mr. Willis had not slavishly adhered to one particular view, but was entirely catholic in his treatment of art. He had written upon a great many subjects connected with architecture, and he had done a great deal for art. His essays upon our English cathedrals, especially upon that at Canterbury, were most valuable for the knowledge and industry which they displayed. In presenting the royal medal he was sure he was justified in saying, on the part of the institution, that it was much obliged to Professor Willis for the many contributions which he had supplied to their "Transactions," and for the service which he had done to science and art. The medal which he had now the pleasure of presenting to that gentleman was honourably earned, and was most worthily bestowed. He hoped, in handing the medal to Professor Willis, that health and strength would be given to him to continue his useful and honourable labours, and that the Institute might often have the pleasure of seeing him among their members.

Professor Willis, in returning thanks, said he felt himself very much in a similar difficulty to that of which the President had spoken. In the kind speech which he had made, and in which he had very much exaggerated his (Professor Willis's) claim to the high honour which had been done him that evening, he had referred to the delicacy of speaking favourably of a person in the presence of that person. In like manner, in returning thanks for the unmerited distinction which had been conferred upon him he felt that he was bound, although unwillingly, to say something about himself. The testimonial just presented to him from a body of professional gentlemen, including the foremost practitioners of the age, was the highest honour which he had ever received. In referring to the works on architecture which he had published, he would only mention one, which was dearer to him than others; namely, that which had in some sort contributed to any little reputation which he had acquired; and which had been published and most liberally illustrated in the Transactions of the Institute. In conclusion, he begged to say he could never forget the great honour that had been conferred on him that evening, or the handsome manner in which his humble services in the cause of art had been recognized.

The President then presented the remaining prizes in the following order:—

The Silver Medal of the Institute, and five guineas, with some strong remarks of approbation, to Mr. F. R. Wilson, Associate, for his drawings of the Restoration of Brinkbourne Abbey.

Professor Cockerell's prize to Mr. Davis, and the second prize to Mr. R. P. Spiers, Associate.

The first student's prize for the best design for a dispensary in a manufacturing town, to Mr. R. H. Carpenter; and the second prize, for sketches, to Mr. S. Fry.

A present of books, in lieu of the Soane Medallion, to Mr. H. M. Milum; and

The President's prize of ten guineas, to Mr. H. S. Legg, Associate.

The President, in presenting the various prizes, addressed a few words of congratulation and encouragement to each of the successful candidates.

The Rev. Mr. Williams then read (on behalf of Signor Pierotti) a paper on Jewish and Roman Architecture in Palestine, from the Earliest Period to the Time of the Crusades, which will be found on another page.

At the conclusion—

Mr. Fergusson, having been called upon by the president, said that he found some difficulty in commenting upon the paper just read, as it contained little of which eastern travellers were not already in possession; and especially as Signor Pierotti had not expressed any new opinions, or presented any new data upon which discussion could be raised. If he had confined himself to his own subterranean researches in Jerusalem, the subject opened up so much that was new and interesting that it could not fail to attract the attention of all who had devoted themselves to Eastern Archæology. He had not, for instance, expressed any opinion as to who had built the Golden Gateway. He said that it was not Herod, and that it was not Justinian; but if Constantine were the builder, the gateway could not have belonged to the Temple, as it was well known that Constantine never rebuilt any portion of it. With regard to the Holy Sepulchre, Signor Pierotti said that no portion of it was of the time of Constantine: neither had he alluded to the Aksa, which it was admitted stood upon the site of the Temple of the Jews. If this were so, there was an end to the theory that Justinian built his church on the area on which the Temple once stood, which had been purposely defiled and neglected, to show the abhorrence in which it was held by the people. The paper of M. Pierotti contained a valuable *résumé*; but it did not contain any new information or data which could lead to greater uniformity of opinion among Eastern travellers who had devoted their time to the elucidation of those interesting subjects. He (Mr. Fergusson), however, thought that the Institute owed Signor Pierotti a debt of gratitude, not for what he had done that evening, but for what he had accomplished during his eight years of exploration in Jerusalem. These labours had entitled him to the thanks of all true archæologists; and he was sure that they would hail with pleasure the publication of his forthcoming work. He begged to propose that the thanks of the Institute be accorded to Signor Pierotti for his valuable labours in the cause of Archæology in the city of Jerusalem.

The Rev. Dr. Williams seconded the vote of thanks; and observed that he was surprised to hear Mr. Fergusson say that Signor Pierotti had produced nothing new; for the Tomb of Samuel and the Pools of Solomon were undoubtedly new. Signor Pierotti had inquired whether he could introduce the latter subject into his paper, as being more of an engineering than an architectural one; and he (Mr. Williams) had told him that he thought he would be fully justified in doing so. He would not enter into any controversial subject with Mr. Fergusson, as he feared their sentiments on the subject of Jerusalem did not at all agree; but he thought the latter gentleman had said with justice that great credit was due to Signor Pierotti for having, during his residence in Jerusalem, ascertained something certain to go upon; for hitherto we had been groping in the dark. Signor Pierotti had, as it were, sifted the dust of ages; and there was little doubt but that, when his work was published, it would lead to very important results. At present we did not know the value of his discoveries, because we did not see our way to his deductions; but he hoped that, when his promised book was published, they would be able to come to greater accord upon the interesting subjects to which it related. As things stood at present, Mr. Fergusson had been confirmed in his views, and he (Mr. Williams) had been confirmed in his. He trusted, however, that, when more tangible materials were placed within their reach, some trustworthy results might be arrived at, in the truth of which they could all concur.

The President observed that, in his opinion, they were much indebted to Signor Pierotti, not only for his paper, but also for his drawings, which were of very great value, and by far the most complete which he had ever seen. A good many of the subjects treated by Signor Pierotti had been admirably drawn by Mr. Barry many years ago. A remarkable feature in the masonry was, that the courses were set one within the other so as to give great solidity and uniformity to the work. This, however, was not peculiar to the Jewish mason, as the same thing might be seen in the walls of Perugio and other Roman works. A great deal of the value of Signor Pierotti's drawing was to be traced to the minuteness of the detail; and he was sure that, when his new work was completed, it would serve to make them all better acquainted with the interesting locality to which it referred.

Mr. Wigley said that Signor Pierotti had given them something like a notion of the architectural work of the Holy Land. The first impression of the Eastern traveller was that there were at Jerusalem many objects deeply interesting for their associations and their antiquity, but that they were not attractive in an architectural sense. This, however, was not correct, as there were many art features in connexion with the buildings of Jerusalem well worthy of notice. The Holy Land was an important country in the time of the Jews, in that of the Romans, and during the Middle Ages. With regard to there not being any novelty in Signor Pierotti's paper, as stated by Mr. Fergusson, he did not agree with that gentleman, because he thought there was a great deal that was new;—for instance, the wall close to Rachel's tomb, which was alone sufficient to entitle the labours of Signor Pierotti to high distinction. The description of Samuel's tomb was also new to us, as no ancient or modern writer had ever written upon it. With regard to Hebron, too, it was a most interesting portion of the subject. That, however, which he (Mr. Wigley) would like to call into question was the several periods of Jewish masonry; for he did not entirely agree with Signor Pierotti in attaching so much importance as he did to rustication and other matters. With respect to the Golden Gate, Signor

Pierotti seemed to think it was of the Justinian period; but he (Mr. Wigley) inclined to the opinion that it was of the Eastern Roman Colonial style, and in the time of Herod. It was, he thought, a complete piece of work of the time of Herod, and that it was in its original place; for in Justinian's time there could have been no occasion for the construction of such a gate in such a place.

Professor Donaldson was of opinion that the Golden Gate did not date from any very remote period, but that it was executed in what might be termed the Colonial period of Roman art. He based this opinion upon an examination of the details, which did not appear to him to harmonize with the best periods of civilized art. Even in the time of the Antonines, such degraded details were not to be found. He therefore felt convinced that the gate was built centuries after the time of Herod. With regard to Signor Pierotti's account of the Tomb of Samuel, he believed that something more would be necessary than looking through a hole of 10 inches in diameter, by the aid of lighted paper, in order to judge of the construction of a funereal chamber. When he had himself visited the ancient tombs of Egypt, he found it extremely difficult, even by the aid of the tapers carried by his attendants, to form an opinion with regard to the architectural construction of the funereal chambers. He was of opinion that many of the buildings at Jerusalem were to be traced to a more recent period of construction than that which Signor Pierotti had assigned to them. It should, however, be remembered that great difficulties lay in the way of the Eastern traveller. Although he could not agree with Signor Pierotti in some of his details; and although he felt bound to warn the student of architecture against assigning too high an antiquity to the architectural fragments that had been discovered; he was quite willing to give him credit for the great learning and industry which he had brought to bear on the subject.

The vote of thanks was then put, and carried *nem. con.*

THE ARCHITECTURAL ASSOCIATION.

The ordinary meeting of members was held on Friday (the 25th ult.), at the house, in Conduit-street. The chair was taken by Mr. Blashill, one of the vice-presidents.

Mr. Goodman read a paper upon "Leadwork."

At the conclusion,

The Chairman having expressed his approbation of the knowledge and industry which Mr. Goodman had brought to bear upon the subject, referred to the abundant use of lead in connection with the ornamental work of ancient churches in France and Italy; and especially called attention to the ornamental cresting of Notre Dame at Paris, which was 3 or 4 feet in height. When it was remembered with what ease lead could be applied to the ornamentation of roofs, spires, &c.; and the enduring nature of the material; it seemed strange that it was not more generally used in our own day. Even the simplest toothing carried along the ridge of a pointed roof imparted a light and graceful appearance to the whole structure. With regard to lead cisterns, it appeared somewhat singular that they continued to be used in preference to slate or stone, although it was well known that they impregnated the water to an extent dangerous to health. Indeed, the purer and freer the water was from organic matter the sooner did it absorb the obnoxious properties of lead. With regard to galvanized iron, the gates manufactured by Barnard & Co., of Norwich, now in the Great Exhibition, were of galvanized iron, with a subsequent coating of paint.

Some short discussion ensued on this subject, in the course of which it was stated that some of the old cisterns put up in houses on the Rigby and other estates in the west-central district, in the early part of the reign of Queen Anne, had become so decomposed as to crumble into powder by the pressure of the hand. It was also remarked that modern builders, in replacing them, seemed, for some reason or other, to prefer to the slate cistern, the use of new lead cisterns, in wooden cases, bound together in the best manner with galvanized iron or copper rods.

The Chairman said, he supposed that as wood and lead were the materials with which builders were most familiar, they adhered to their use rather from habit than anything else.

A vote of thanks was passed to Mr. Goodman for his paper.

It was announced that the lending library in connection with the Association is now open, and that the honorary curator will be in attendance every Friday evening, from half-past seven until eight o'clock, to give out and receive books.

THE INTERNATIONAL BAZAAR, SOUTH KENSINGTON.

In Exhibition-road, nearly opposite to what we will call the Palace of Art, Mr. C. J. Freake, who owns much of the property in its neighbourhood, has erected a temporary wooden building of striking size, for the purposes of a Bazaar. When we say that it is 400 feet long; 100 feet wide, with large galleries; 59 feet in height; and was constructed in thirty days; it will be considered a remarkable piece of rapid construction. It was decorated by Delessert & Co., of Paris, where the spandrels and so forth were painted on paper, ready to be put up. Five hundred flags hanging from the roof, and otherwise disposed, give a novel and gay appearance to the interior. A frontispiece at the entrance is boldly painted in a *very* French style. Mr. John Deane has been aiding Mr. Freake in the arrangements; and we understand that a considerable portion of the Bazaar is already let. Amongst the contents, not wholly arranged when we visited the building, we may mention a graceful piece of painting, entitled "The Immortality of Renown," by Mr. Baccani, a very promising artist.

THE ALBERT MEMORIALS.

Proposed Metropolitan Memorials.—Many suggestions still continue to be made on the subject of the central memorial, and of other metropolitan memorials of the Prince. "Judex," in the *Times*, proposes that a statue of the Prince be erected in St. Paul's Cathedral; and that on the pedestal an inscription of the circumspice order be cut, pointing attention to the windows as a memorial in stained glass dedicated to his memory. The statue, remarks "Judex," should be the work of the best sculptor of the day, and the best position for it chosen; and each window should be the work of a separate artist. A letter, signed "J. W. Walrond," also appears in the *Times*, suggesting that the form of the central monument should be Mediæval.

"'In the Eleanor Cross,' he remarks, 'we find a dignity, beauty, and grace growing out of the architect's and the sculptor's skill, for they should always work together; statues, and even sculptured groups, being unsatisfactory and fragmentary unless combined with and united by architecture.

What can be finer or more complete in itself than an octagonal flight of steps leading to groups of statues canopied in niches, tier above tier, surmounted by a lofty spire of solid stonework?

Pray let me urge the attention of the committee to this, the finest of all isolated monuments, suggesting to them that the best way of carrying out her Majesty's wish, to obtain the opinion of the foremost architects of the day, will be by offering prizes for the second and third best designs. The adoption of the best would be prize enough, with the understanding that the execution of the statuary would be intrusted to the most eminent sculptors of the day.'"

The cross was a suggestion of the *London Review*, as a preferable form for a huge monolith in memory of a Christian than that of a mere Pagan obelisk. The sort of temple referred to would just be one form of our own suggestion in the *Builder*. Indeed the temple, with its sculptural adjuncts, appears to be now adopted in more quarters than one. The Rev. J. A. Emerton, D.D., proposes a magnificent Temple of Peace to be erected from funds subscribed, at the rate of 6d. each, by say 10,000,000 visitors to the International Exhibition; and as a kind of international monument to the great founder of this root of international brotherhood; one of whose names, observes the reverend doctor, was Emanuel, which signifies the Prince of Peace, of whom he was so eminent a type. The International Temple of Peace, Dr. Emerton suggests, might "comprise within its walls an international museum, a school of science and art, and afford the means of banding together the lovers of peace of all the nations of the earth, and prove a common centre to which everything calculated to promote peace may tend, and from which the best means of effecting it may be ever issuing." The cost of this memorial he estimates at 250,000*l.*; at least he calculates on raising that sum by the means suggested. These proposals are made in a printed letter to Lord Granville.* The author, by the way, makes one or two mistakes to which we may briefly refer. He is wrong in supposing that it was the Mansion-House Committee who decided on having an obelisk; and that her Majesty only sanctioned the decision. He is also mistaken in naming the Art Union as the adopter of the plan of promoting subscriptions from the people at large: it was the Society of Arts, not the Art Union.

The utilitarian idea still continues to be insisted on, both for London and the provinces;—as in the erection of model cottages in various parts of London, and elsewhere; the formation of institutes, hospitals, almshouses, clock turrets, church spires, and an endless multiplicity of useful objects and purposes, all excellent and desirable in their way, as even the Farnham "Albert Pump" would be; and most of them urged as precisely what Prince Albert himself would have wished, could he have been consulted; while more fitting suggestions, such as statues, have actually been objected to (with the *useful* end in view), on the absurd ground that the Prince once refused to assent to a statue of himself being erected, because he thought no subject ought to have a statue erected to him,—*while he lived*,—a most material qualification; which, in fact, implied, on the contrary, an approval of the idea of erecting a statue to him after his death. As regards *utility*, it seems to be imagined that any project, however ridiculous or incongruous, is justifiable and recommendable if it only be useful. A set of people *want* this or that; and forthwith they tack on to their *real* requirement a *false pretence* of erecting it *to the memory* of a popular Prince.

It will not be supposed by any considerate person that we object to the erection of model cottages, or any other useful building; but there is a proper time and place for all things.

Stamford.—The Corporation Committee for promoting a memorial of the Prince have held several meetings; and a deputation waited upon the Marquis of Exeter, on the 17th ult., for the purpose of ascertaining his lordship's views on the subject of a local memorial: his lordship expressed himself favourable to the proposal; and promised to subscribe 50*l.*, providing 200*l.* were raised in Stamford and the neighbourhood, towards the erection of a statue of his late Royal Highness. The committee have decided upon the site of the old market-cross, in Broad-street, at the top of Ironmonger-street, as a suitable place for erecting the statue; which is to be of Portland stone, inclosed with iron railings, and is estimated to cost about 300*l.* A house-to-house call for subscriptions will shortly be made; and it is expected that a ladies' committee will be formed to co-operate in the undertaking.

The Suffolk Memorial.—A public meeting has been held in the Town Hall, Bury St. Edmund's, for the purpose of bringing the proposed "Royal Albert Middle-Class School and College" more prominently under the notice of the inhabitants of the western division of the county. The chair was occupied by the Marquis of Bristol; and the meeting, though naturally not so large as that held in Ipswich when the college may be said to have been set on foot, was very numerously and influentially attended, and appropriate resolutions in favour of the object in view were passed.

The Surrey Memorial.—A public meeting has been held in the Town-hall, Guildford, in support of the proposed county hospital. One of the resolutions passed was to the effect, that "this meeting accept with thanks the munificent gift of the Earl of Onslow of a site for the proposed hospital; and that a subscription be immediately opened for the purpose of raising the necessary funds for the building." Lord Lovaine, in moving this resolution, expressed his belief that the first cost of the building, as it had been sketched out, need not exceed 6,000*l.* The subscriptions announced amounted to 2,455*l.*

Memorial Windows.—Steps are being taken at Malvern, to erect a memorial of the Prince, in the form of a stained-glass window in the Abbey Church. The position selected for the window is at the east end of the north chapel. Messrs. Clayton & Bell are the artists. The subscription list is said to be in a gratifying state; and it has been suggested that, as the Prince was emphatically a friend to the poor, it would be well if means were taken to interest the poor in the memorial.——The window for the east end of All Saints' Church, Derby, is also to be prepared by Messrs. Clayton & Bell. Other windows, as memorials of the Prince Consort, are to be erected at Nottingham, Lincoln, Coventry, and other places.

Chelsea Literary and Scientific Institution.—A *soirée* was held in the Vestry Hall to celebrate the first anniversary of this institution, on Friday, the 25th of April. There was an agreeable concert first, and then a quadrille band put all in motion.

* A Second Letter to the Right Hon. Earl Granville, President of the Council, on the Memorial to His Royal Highness, Albert, Prince Consort. By the Rev. J. A. Emerton, D.D. London: Longmans & Co. 1862.

ON LEADWORK.*

THE subject of this paper first suggested itself as in proper sequence to the valuable contributions on stonework, joiners' work, and metalwork, that have been given during the course of the session; for, although leadwork comes of course under the general title of Mr. Skidmore's paper, I had erroneously, as it appeared, imagined that he would have confined himself to the treatment of iron—the metal by which he has achieved a lasting reputation, and initiated us into the mysteries of the forge and the vice. Those of us who were fortunate enough to be present at the delivery of his lecture will understand how much that was then propounded applied to all metal ornament, and especially to gold, as worked according to his theory; and in an equal or greater degree to lead as illustrated by his experiments. I think we shall do well to take up the study of leadwork first; and, when we have well understood the legitimate treatment of the one, we shall be better prepared to design in other and more precious materials.

And first, we must inquire a little into the history of this much-abused material, and trace it from its birth through the various processes of manufacture by which it is moulded to the wants and wishes of mankind. I have nothing new to tell you on this subject; but I dare say you will bear with me for a few minutes while I revive your recollections, before we pass on from its history to its application. You will remember that lead exists only in one ore, called the sulphuret, which occurs in veins of varying thickness in the primary or transition districts, but most abundantly in the mountain limestone between St. Abb's Head and the Irish Sea. It is also found plentifully in Derbyshire, Shropshire, Devonshire, Cornwall, the Isle of Man, Denbighshire, Flintshire, and some parts of Ireland.

The oldest mines are in Derbyshire, and the richest are those in North Wales, which yield fully one-fourth of all the lead in the kingdom.

The average annual produce is about 50,000 tons, worth about 1,000,000*l.*, at the rate of 20*l.* per ton.

To extract the lead from the ore, the sulphur is driven off as acids, and the metal is oxidated by the action of a powerful heat. A part of the sulphuric acid combines with the metal and forms sulphate of lead, to reduce which quicklime and coal are added during the process; the lime combining with the sulphuric acid; and the carbon of the coal abstracting the oxygen of the metallic oxide.

The metal, being reduced, is collected in vessels, from which it is cast into large ingots, termed pigs, and is ready for commerce.

At this stage lead may be either rolled, or, as it is more generally termed, milled, or cast, or drawn. If rolled, a pig is passed through the rollers some 200 or 300 times, during which process a length of 6 or 7 feet will be increased to 400 by a breadth of 7 feet. If cast, it is run on to a table, and levelled off. It is difficult to insure a good casting if the lead is required to be under 6 lb. to the foot, as holes are apt to occur, which, hardly perceptible to the eye, may cause great damage if subject to the filtration of water; the only possible advantage in cast lead being that the purity of the metal is thereby insured. In thin castings, a linen cloth is stretched on an appropriate table over a woollen one, and levelled off, as before. In gauging the thickness of sheet-lead, it may be useful to remember that 5-lb. lead is one-twelfth of an inch thick, 10-lb. lead one-sixth of an inch thick, and 60-lb. lead an inch thick; but the intermediate variations are too slight to be determined, except by the weight.

Pipes are either drawn in lengths of 20 or 30 feet, or the melted lead is forced through a hydrostatic pipe-press, and drawn out in an endless coil.

The use of sheet-lead in buildings is of very early date. I suppose its application to roofs in Norman work was universal. The lead used was thicker than we consider needful,—running sometimes as high as 12 or 13 lb. to the foot. The lead taken down from the church at Braunston, in North Hants, weighed 13lb. to the foot. The sheets were about 2 feet between the rolls, and the joints were formed by "seams,"—that is, the overlapping of the edges of the lead without the use of a roll. This practice continued to a late date, and may be seen in houses and churches of the last century. I met with a curious application of this method of jointing leadwork in an account of some excavations that took place in the City. A pipe made of sheet-lead, doubled round, was discovered at a considerable depth, about 3 inches in the clear diameter; and of this section the end joints butted together, and a solid casting enveloped them. The top joint was formed with a seam, in the method which I have described. I cannot form any estimate of the date. Rolls offer greater security to the extreme edges of the lead; and, as they are particularly unpleasant things to tread upon, do not get so much knocked about with the feet. If the slope of the roof is great, the sheets are secured to the rolls with lead-headed nails, and the head covered with a soldered dot, to prevent the wet entering.

The size of a sheet of lead is 6 feet wide by about 16 feet long. This is cut in half longitudinally, and in lengths suited to the roof; 4½ inches being allowed on each side for the lap over the roll.

We now come to the ridge: and here lead becomes of the greatest value: in fact it seems the most natural form for sheet-lead to assume; clinging, as it were, by its own weight, to either side of the roof, and only waiting for the hand of man to give it an artistic finish. How shall we set about it? We have a series of rafters halved together or butting against a ridge, and boarded at the back. Upright irons, split and forked to the proper angle, were secured to each pair of rafters of the required length: over this was slipped the lead ridge; the holes being previously made for the uprights; and the casting, cast in two halves, was then applied and soldered together.

The example given is from De la Querrier's work in the British Museum, and is a beautiful illustration of what may be done in this way. Observe, too, the satisfactory effect produced by the serrated edge. Let us analyze this a little, and see why the eye allows this line to be right: partly, I think, because the lead is economically distributed for effect,—that is, it shows as many lines and as much surface as possible consistent with the work it performs; partly, I think, because it suggests, if it does not really assist (as Garbett asserts) the downward flow of the rain-water; partly because the continuous unsecured edges of a sheet are peculiarly liable to be caught and displaced by the wind; and lastly, because it softened off the longitudinal lines of the cresting, and with its gentle undulations arrests the eye just where it is wanted.

In discontinuous ridges, that is, where the kingpost is carried up and treated ornamentally, a bar of iron traverses the whole length of the ridge, and is covered with lead: this forms a strong bar to the cresting, and is itself sometimes crested. In slate roofs, strips of lead were soldered on to the lower edge of the lead ridge where the edge was left plain; and, passing under the slates, secured the ridge from accidental disturbance. You will find two examples given in Mr. Burges's account of leadwork, the only one published that enters at all into the details of this branch of metal-work as practised in the Mediæval times, and to which I am indebted for a considerable portion of my information. In De la Querrier's work will be found an account of a beautiful lead cresting at the Hôtel de Ville de Paris, and the Cathedral of Chalons-sur-Marne.

The Palais de Justice, at Rouen, still retains its cresting, though partly mutilated in 1794. Rheims, Amiens, and Noyon cathedrals; and, above all, Cologne; are, according to his account, remarkable for this lead cresting. The cresting of the choir at Rouen Cathedral terminated in an equestrian statue of St. George, which was pulled down in the second year of the Republic for the purpose of making shot: the lead itself was totally destroyed by fire in 1822. Some crests of a later date imitate balconies. I speak for myself, when I say that no ironwork looks as satisfactory in execution as it does on the drawing: it always has more or less of a starved look, and the design generally seems impoverished. Nothing is so bad a background for ironwork as the sky. I was noticing this only the other day when I passed through Bedfordbury, and looked at the iron cresting on the new schools there. I could not but help wishing that our talented president had worked out something original in lead. I can the more freely criticise this building, as it has been the subject of the prize medal conferred by the Society for the Promotion of the Fine Arts.

We have but few specimens of ornamental leadwork in England: the only example, and that of doubtful antiquity, in which a lead cresting occurs is that at Exeter. The example is useful in showing how the rolls may be made to finish under the lead ridge. A ridge terminating in the very same outline occurs in the Bayeux tapestry (1066), on the Castle of Mont St. Michael, or, as it is there called, "ad Montem Michaelis.' The gilded stars that are often seen on perpendicular roofs, especially over the altars, and which form such a favourite feature in the French finials, are usually formed of lead. In the absence of English examples we must go to our French authority again for a description of the "girouette," or *epi*, for we have no English term equivalent, except perhaps hip-knob, which, unfortunately for our purpose, is rarely covered with lead.

The French word *epi* is used in the parish records of S. Laurent de Rouen as early as 1470; and, being derived from *spina*, has a spiky and appropriate sound: it appears that they were indicative of the rank of the proprietor; so that a pennon ranked for a knight, and a banner for a knight banneret, and so forth. Cocks were often employed for the termination of these girouettes, as with us.

The most remarkable examples occur on the Chapel of the Virgin, at Evreux; another on the Church of the Madelaine, at Verneuil; another on the Tourelle aux Pastorales, at Rouen; and others on the Hôtel du Bourg. This latter partakes of the faults of the building to which it belongs—excess of elaboration; but we may gain a few hints from it with profit. The terminal ornament is very graceful, and is frequently adopted in modern ironwork: the nest-like enrichments through which the stem passes are legitimate developments of sheet-lead ornament, cut into foliated forms, and then bent round a centre; care being taken that no part should hold water.

With the Renaissance style the girouette partook of the universal pride and luxury. Fable, allegory, mythology, social life, and religion, were all pressed into the service, and furnished subjects. There is a terra-cotta specimen of this date given in Caumont's "Abecedaire," in which a pelican forms the principal feature. Another, representing a bird roosting, may be noticed in a girouette at Chalons-sur-Marne. You will remark the difference of treatment between the fourteenth and sixteenth century birds; the earlier example being wonderfully abstemious in ornament, and the terminal quite flat, to serve as a vane; the other overcharged with foliage and masks, of which latter there are no less than 32; and useless as a weather-cock. I often wonder that birds are not more frequently introduced as terminal ornaments to gables. I have seen pigeons perch themselves on the verge of a tilted gable, conscious that they were the right thing for the place; and I have always acquiesced in their opinion. Mr. Boust, the French architect, with whom I have the honour to be acquainted, has used a similar girouette to a dove-house near Levarot. The Hôtel Dieu at Beaune contains some very fine specimens of the girouette. You will find some illustrations of them given in Mr. Clutton's work: he says the effect of the epi would be valueless if it were not backed by the high-pitched roof of the main building. I do not quite agree with him there. Were a background always necessary for these ornaments, lofty crestings would at once be inadmissible, and the finial which so invariably terminates the cone of the apse would be the greatest offender of all.

Another method of treating leadwork, which I shall do little more than allude to, is the surface-decoration of sheet-lead, either with gold or paint, or by the process of tinning described by Mr. Burges. In the first place, I do not quite understand his description of the process; and, in the second place, I look upon this art as supplemental only to the proper understanding of plumbers' work; which, at present, is confined to the most unenlightened class of mechanics. To some extent, indeed, there seems to be a rational argument for its adoption; as may be inferred from the following remarks, taken from De la Querrière.

The leadwork of the pinnacles of Notre Dame de Chalons-sur-Marne still exhibits traces of ornament and a figure of St. Sebastian, which are not bossed out, as some persons believe, but which have been painted and gilt, though time has caused all the gilding to disappear. Where the metal has not been covered from the air by gilding or paint, the thickness has been diminished by oxidation. Mr. Clutton says, the roof of the palace at Blois is covered with Angers slate; and the lead flushings upon the ridges of the main roofs, and those of the dormer windows, were historiated with the arms of France and Brittany, and with the badges of the Cordelière and porcupine. The drawing found in the archive of S. Vincent, at Rouen, is interesting, as showing the way in which this method of enrich-

* By Mr. T. W. Goodman, as elsewhere mentioned.

ment was intended to be carried out on a crested ridge.

One of the most remarkable properties of lead is its fusibility; and we might, therefore, naturally expect to find some indication of this fact having been taken advantage of by our Mediæval artists; and yet, with few exceptions, this is not the case. It is a little curious that the few exceptions apply principally to fonts and coffins. Whether there is anything symbolical in this connexion with the two termini of life is not evident. The Glossary gives an account of lead fonts to be found at Brookland, Dorchester, Warborough, Wareham, Walmsford, Churton, Childrey, Clewer, Long Willenham, &c. The stone font at Ashover, in Derbyshire, is ornamented with leaden figures of the Apostles. Examples are likewise to be seen on the Continent, as at Bourg, and the leaden font in the Museum at Rouen. I once made a drawing of a font in Shelden Church, near Birmingham, the exterior of which, as well as the interior, is lined with lead, carefully bossed round the tracery;—a painful instance of perverted ingenuity.

Among the most remarkable coffins are those found under the effigies of knights in the Temple Church.

Lead has been used for purposes of sepulture from a very early age; the older and more usual custom being to use sheet-lead, and work it up into the form desired. It appears that the Romans seldom or never used solder in the construction of their coffins; for what reason I cannot say. I found a description of a Roman coffin in the "Archæologia;" I think discovered at Newport, in Monmouthshire. The stone coffin lay in a trench, well packed on either side with charcoal. The inside was lined with lead, and iron bars supported the lead cover. The lead remained entire, but the iron had disappeared. But to return to the subject of cast lead: What are the objections to its use? First, the difficulty of securing and maintaining good edges and true planes; then its expense; then its weight; and lastly, the objection that applies to all cast work—the substitution of a mechanical process for a work of art. To geometrical forms such as the suns and stars on the girouettes or roof timbers, the objection does not apply; and I should only be too glad to see a few more of them introduced.

The use of lead for eaves, gutters, and down pipes is fast going out of date; but I do not see why we should not specify ornamental heads to be made in this material, especially in small works where the expense of pattern, for a purposely made cast iron head, would go some way towards paying for a little touch of the artist. That down pipes may be treated artistically, whether in lead or cast iron, no one can doubt. The new schools in Endell-street, and the house in Bridge-street, Blackfriars, have each some points of originality to commend them. The accompanying sketch shows a spout-head from Guildford, some 150 years old I suppose.

Having thus come round again to a more utilitarian aspect of the subject, I will briefly refer to the important question of lead pipes and cisterns, and their liability to impregnate the water which passes through them with noxious matter. You may remember that a lead pipe at Tunbridge, a quarter of a mile in length, used for the conveyance of water, had to be taken up and iron substituted. In this case the water was exceedingly pure, and the impregnation was attributed to the solvent powers of carbonic acid gas.

Ammonia exists in the purest water; so that purity alone is no guarantee for its safe transit through leaden pipes, but rather the reverse, as we shall find. Neutral salts are beneficial, because they retard the corrosive action by forming an impermeable deposit. The purest water that we can obtain is by distillation; and yet it has been noticed that the leaden lids of cisterns, on the under side of which distilled drops of water accumulate, are liable to rapid corrosion and final destruction, while the leaden cisterns themselves do not suffer. This must arise principally from the action of ammonia in the distilled water.

Great care should be taken that no decayed animal or vegetable matter is suffered to accumulate at the bottom of lead cisterns, as it may decompose the salts of lead and dissolve the coating by acetous fermentation.

Christison, in his treatise on Medical Jurisprudence, suggests that rain or snow water for culinary purposes should not be collected from leaden roofs, nor preserved nor conveyed in lead; and that the same rule applies to springs of unusual purity, where the saline impregnation is small,—that is, does not exceed $\frac{1}{10000}$th part of the water; that spring-water, which contains $\frac{1}{10000}$th part, may be safely conveyed if the salts be sulphates; that lead pipes cannot safely be used where the water contains $\frac{1}{4000}$th part, if the salts be muriates; that spring-water, even though it contains a large portion of salts, should not be kept a long time in contact with lead; and that cisterns should not be covered with lids of this metal.

I may mention, by the way, that the plan is sometimes adopted of giving lead cisterns a thin coat of Roman cement. It readily adheres, is perfectly insoluble, and forms artificially what neutral salts do chemically—an impermeable deposit.

The last branch of ornamental leadwork, perhaps the most familiar to us all, as it combines the ornamental and useful, is the plan of glazing in patterns. To me there are few records of antiquity more interesting than the apparently frail relics whose spider-like rays are hung to catch the first beams of the rising sun, and so impress them into the service of the church, whether by saintly legend or Bible song; and yet, though so frail—for what is weaker than lead, or more easily fractured than glass?—there are abundant remains for us to study; and, if imitation be anywhere pardonable, for us to copy. The most interesting specimens I have met with are at Mantes, Beauvais, St. Etienne at Caen, Chalons-sur-Marne, Louviers, and Bayeux. There are comparatively few in Italy, but I may call your attention to one at S. Fortunato Todi. I need not use illustrations to this part of my subject, for I suppose most of those I have mentioned are published in some shape or other. Take, for example, that splendid work of Cahier and Martin, "Monographie de Bourges," and you will see what wonderful examples of thoughtful and patient design we have in this one branch of ornamental leadwork.

In bringing these few remarks to a conclusion, I must express my regret that I have not been able to give practical illustration to my remarks by actual examples. We have seen in two recent papers how much may be rendered intelligible by reference to models and specimens; and I am sure that we can adopt no better plan, if called on to design any ornament in which foliated outlines are introduced, than to practise on a piece of thin sheet-lead, and model it for ourselves. Perhaps in time we may even rival Mr. Skidmore's golden-plated acanthus.

FOREIGN WORKMEN.

A BLUE-BOOK has recently been published containing information which might be usefully read by those interested in the welfare of persons connected with commerce and manufactures. The volume referred to consists of reports of her Majesty's secretaries of embassy and legation on the mercantile conditions, &c., of the countries in which they reside. Amongst the vast mass of information which fills this bulky volume, there are accounts of the condition of various classes of workmen; and particular note is made of the inducements offered by employers to those engaged in their service to adopt saving habits, and make preparation for old age, sickness, or death. Many of the plans are not in correspondence with our English ideas on this subject; but there are valuable hints to be found in this department of the volume. There are also interesting accounts of the extent, &c., of foreign branches of industry; which are useful in enabling us to compare other arrangements with our own; and in some instances might enable us, by the discovery of certain points of weakness, to be eventually able to gather strength. As a specimen of the nature of this part of the report, we will make a few notes from the account of his district by Mr. J. H. Burnley, her Majesty's secretary of legation at Berne, on the state of the Swiss silk factories. In connexion with this trade we learn that more hands are often employed outside than inside the factory. One has 333 employed in the factory, and 370 outside: another has 500 outside, and only 52 inside. The wages are from 30c. (3d.) up to 4f. (3s. 4d.)

According to statistics published in 1855, on the large silk-weaving establishments of this neighbourhood, it appears that the whole number of the hands employed, including foremen, amount to 32,862, and the wages paid away to 8,291,406 francs. Besides other particulars, it is reported that every factory has its sick-relief fund and a savings-bank for the workpeople. The principles upon which the first are managed vary in different manufactories. In one, every hand over nineteen years of age has to pay an entrance-fee of six francs; and under nineteen, three francs. A fortnightly continuation of thirty cents, if above nineteen, and fifteen cents. if under, is exacted from him. Should he die, his funeral expenses are paid by the mill-owner. Each factory has generally a savings-bank: some are conducted on the voluntary and others on the compulsory principle, according to the will of the mill-owner. A deduction is made from the workman's pay semi-annually, and deposited in his name in the bank, as an encouragement to induce him to economise. The mill-owner adds, out of his own pocket, 10 per cent. on the sum deposited. When the workman wishes to draw out his money he must give fourteen days' notice.

When the system is voluntary, the workman is invited to deposit what he likes of his wages; and as an inducement to do so, the mill-owner engages to add from his own funds at the end of the year 20 per cent. on the sum deposited, the whole to be at interest at 5 per cent.

This book shows us that, while we have much reason to regret certain conditions of the British workman, there are states abroad where they are much worse. Take, for instance, Ghent, that once prosperous city. In his report of this place, Mr. Herries says that the ill-paid and ill-used working men there are paid one-third the amount of wages paid in Manchester. Here most of the manufactories are protected in the old fashion. The old style of machinery has also been kept; and, in order to meet the competition with those who have resorted to better arrangements, the manufacturers can only sustain themselves by exacting a maximum of work for a minimum of wages; and thus the work-people are reduced to a deplorable condition, both physically and morally. "Enter the city of Ghent," says this authority, "formerly so renowned for the vigour and intelligence of its artisans, and you will be grieved at the appearance of the decrepid and sickly population that comes out of the mills. Examine the workmen, and you will hardly find one in ten that can read: this *protected industry* has literally devoured the flesh and intellect of the operative, whom it forces to work until he can work no more. Beginning at nine and ten years of age, he has, in exchange for his labour, only given him the minimum quantity of potatoes, bread, beer, and gin, that is necessary for bare existence." We recommend this collection of reports to the consideration of those who are interested in our manufacturing, commercial, and social progress.

THE THAMES EMBANKMENT.

A REPORT which has been made to the First Commissioner of Works shows that the estimated expenditure to carry into effect the provisions of the Thames Embankment Bill, including compensation and all other expenses, is 1,500,000*l.* The estimated cost of the street to the Mansion House is 500,000*l.*; of the other approaches, 80,000*l.*; of the low-level sewer within the embankment, 30,000*l.* The length of the embankment will be 2,235 yards; of the street from the embankment to the Mansion House, 1,007 yards; of the other approaches from the Strand and Whitehall, nine in number, 1,529 yards in all.

No doubt a street from near Blackfriars Bridge, which would form a junction with Cannon-street, would be a means of relieving the crowded traffic of Ludgate-hill, St. Paul's-churchyard, and especially Cheapside: it becomes, however, a question for consideration if this improvement should be carried out at the charge of the corporation, or by the coal-tax, which is levied over the wide area of the metropolis.

The right keeping of the Thames, the prevention of further encroachments, the advantage of a spacious roadway along the margin of the river, and the beautifying of the shores of Father Thames, are certainly matters of metropolitan, and, as many think, of national, importance: we therefore regret the half-measures which are put before the Parliament.

From Westminster to the east of the Temple Gardens, it is proposed to make the embankment solid; but from that point to Blackfriars Bridge, the space which is within the City boundaries is to have a roadway supported upon arches. Between Westminster and the Temple, the wharfs, creeks, and docks are to be done away with, and no seeming chance will be left for the formation of mud-banks; and it would be a matter for much regret if the consideration of some expense, or the interests of a large and prosperous company, should be the cause, by the use of half-measures, of interfering with the effectual completion of a necessary improvement.

Sooner or later, the complete embankment, along both sides, throughout the whole of the

metropolis, and to some distance east and west, must be completed; and the carrying out from time to time of parts of an imperfect scheme will be a sure matter for future regret, and entail a vast amount of extra cost.

When we think of the population at present in Westminster, the continual increase of the western parts of Lambeth, of Hammersmith, Chelsea, Belgravia, parts of Brompton, &c., to the residents of which places a good roadway along the northern side of the river would be so desirable, it is evident that there must on no account be any important difference in the level,—there should be a certain height above the high-water mark throughout, not even for the purpose of accommodating the gas-works, or Billingsgate market. As regards the last-named place, even if the embankment were completed, or a roadway carried along in front of the present market, there might be somewhat similar accommodation for the fishing-boats as at the present time. Now it is necessary for the goods to be brought from the boats to market by means of porters, in trucks, hampers, &c., and the only difference would be in the increased space to be travelled over. There might, however, be established, both here and at the Custom-House, properly constructed tramways, which need not particularly interfere with the general traffic, and would afford facilities.

There must always be a chief part of the fish brought for the use of London landed at Billingsgate; but lately there have been immense quantities carried by railway, from the north and other parts; and often Tower-hill and Thames-street may be seen crowded with waggons, heavily laden with various kinds of fish, and it is said that the supply in this way will be materially increased. The confusion caused by these arrivals is extraordinary · at most times the crowding in Thames-street is bad enough, but on those occasions the thoroughfare seems to be in a perfect state of congestion. A roadway along the river here would prevent much of this confusion. A large part of the goods which are stored in the warehouses, both on the north and south sides of Thames-street, are brought in waggons from the docks and railway stations, therefore the extension of carriage accommodation between London Bridge and the Tower is most desirable.

PUBLIC BUILDINGS: PROPOSED FOREIGN OFFICE.

IN the House of Commons, on Monday last, in reply to Mr. Ayrton as to the sum of 200,000*l.* named as the cost of the proposed Foreign Office,

Mr. Cowper said the estimate of 200,000*l.* was made by Mr. Scott, the architect, deliberately, and upon his responsibility. The estimate which would be most satisfactory to the Government and to the House would be that for which contractors would tender to complete the work. Mr. Scott was now preparing working drawings and specifications; and, in order to secure the completion of the work for a certain sum, he intended to make a definite contract, which should give to the architect no power of making alterations which might increase the expense. The design according to which the building would be erected was that which was exhibited last year; and the stone to be used would be Portland stone,—the material of which St. Paul's Cathedral and many other of our public buildings were constructed.

Sir M. Peto said that, if the stone employed were really similar to that of which St. Paul's was built, there would be no reason to complain of it; but he reminded the right hon. gentleman that the stone used in the erection of that cathedral was obtained from a particular quarry, and was much harder than that which was got from other parts of the island of Portland; and pointed out that, if only the ordinary and common Portland stone were used, it would probably be found, as it had been found before, of a most unsatisfactory character.

Colonel French held that, as the style of the building was to be Grecian, the point raised by the hon. member was not of so great importance as it would have been had the style been Mediæval, as there were only round columns to be worked instead of statues and armorial bearings. Seeing how well Somerset House and St. Paul's Cathedral had stood, there ought to be little difficulty in selecting the proper stone.

Sir M. Peto explained that his remarks had reference not to the difficulty of obtaining suitable stone, but to the necessity of making a careful selection; in which operation the first expense was always the most reproductive.

Mr. Whalley asked the right hon. gentleman whether he had taken into consideration the opinions of the commission of scientific gentlemen appointed to investigate the qualities of stone fitted for the Foreign Office.

Mr. Cowper said it had been thought better to divide the contracts, and to intrust the foundation to one contractor and the superstructure to another. The difficulties in the way of laying the foundations were great: it was necessary to sink to a depth of 18 feet in order to get a solid basis; and this portion of the work would, therefore, cost about 20,000*l.* Matters were nearly ready for entering into a contract with regard to the superstructure; and the sum proposed to be voted was as much as was likely to be required in the course of the financial year. With regard to the stone, he though they had so much light thrown on this subject by the report of the commission, which was then on the table, that it was not probable they would fall into the same mistakes as had been made on former occasions. It was quite clear that no stone ought to be used which would be affected by the sulphurous exhalations from the atmosphere of London. Portland stone had stood the effects of this atmosphere; and it would be the duty of the architect of the new Foreign Office to take care that the best sort of stone for this purpose was taken out of the Portland quarry. There might be other stones, such as sandstone, which would have great advantages as respected durability; but the labour required in cutting them would greatly enhance the cost of the building.

On Tuesday, Mr. B. Cochrane moved that an humble address be presented to her Majesty, praying that she would be graciously pleased to issue a commission to inquire into the state of the public buildings erected by Parliamentary grants within the last twenty years, and also of the houses rented for the public service; and to inquire whether, by adopting more comprehensive plans of building, greater public convenience, greater economy, and unity of design, might not be attained. The question of which he had given notice was one of great importance; and latterly, questions connected with the improvements of the metropolis had attracted much attention. He rejoiced that he was able to introduce the subject without reflecting on the management or conduct of the First Commissioner of Works, or that of his predecessors in office; every one of whom, he was sure, had done his best for the improvement of the metropolis. What he complained of was the viciousness of the system.

Mr. Cowper gave a striking *exposé* with reference to many of our public buildings.

The Chancellor of the Exchequer fully admitted the insufficiency of the modes of control and the errors with respect to the history of important public buildings; but thought the proposition was not definite, or likely to produce good results. The appointment of the commission would make a sinecure of the office of his right hon. friend (Mr. Cowper), who, until it had reported, might, if he could obtain leave of absence, travel abroad and improve his mind. The Government had made up their minds on this question, and were prepared to make certain proposals. The question of the law courts had made some progress, in the opinions which had been elicited. Government would soon bring under the consideration of the House plans affecting two public buildings, and involving questions of great public interest: one would relate to the enlargement and arrangement of the museum building of Kensington, and the other to the transfer of a large portion of the British Museum to Finsbury. Were these matters to remain in abeyance until the commission could report, which it could not do for some years? Then there was the Foreign-Office question; which, he presumed, had got out of the range of such a commission; but the question of the consolidation of the Admiralty, the National Gallery, and the disposal of the site of Burlington House, must remain in suspense for some years; for years it must be before a commission could report upon those entangled and complicated questions. When they had got the report of the commission, it would be too weak an organ to deal with such difficulties, and its authority would be insufficient to solve them. The management of public works must be carried on in the regular constitutional method to which we were accustomed, in the habitual relations between the executive Government and the House.

The motion was lost by 49 to 116.

ARCHITECTURAL ASSOCIATION PRIZES.—We are asked to say that the prize for the second-best design for a town mansion was awarded to Mr. Aaron Walters, not Mr. A. Walcott, as stated.

THE NEW BRITISH CHURCH, NAPLES.

THE committee appointed to build the Protestant church invited twelve architects to supply them with designs. They have adopted that furnished by Messrs. Thomas Smith & Son, Bloomsbury-square; and which is to be forthwith carried into execution under their superintendence. The design is in the English Gothic style of the Geometric period; and consists of nave, north and south aisles, transepts, and chancel with hexagonal apse: there is also an organ-gallery over the vestry, and a carriage porch at the west end. Accommodation is provided for 700 adults on the ground-floor. These architects are now building the church at Nice, which is nearly finished.

HOW MODERN ARCHITECTS ARE ESTEEMED.

WE find the inclosed in a respectable daily paper:—

"Sir,—The great and real merit of an obelisk as the memorial of the late Prince Consort was its exclusion of all attempts at design by architects of the day. This great advantage now seems to be lost, though I would express an earnest hope that so obvious a reflection may still influence the minds of the committee.

Surely the only possible course to take now is to select some one of the purest existing models of classical antiquity, or of Mediæval architecture, and reproduce it without alteration, or with as little as is practicable. *E.g.*, take the Temple at Nismes.

ZETA."

What next? It is difficult to discover whether there be some very subtle irony, or mere stupidity, in the composition.

STAINED GLASS.

St. Michael's, Lewes.—Another painted window has been placed in the north-eastern side of the chancel of this church, presented by Mr. R. Hollond, of Stanmore Hall, Middlesex, nephew of the rector. The window is in two divisions. That on the north represents our Saviour as a child, with His Virgin Mother: the other division represents the Crucifixion. The artist is Mr. Clutterbuck, of Stratford. By this offering, and the presentation of a stained window on the north-eastern side of the church by the rector, the chancel is now filled with coloured windows. The centre of that presented by the Rev. F. Teed is of plain glass, on which is inscribed the letters "I. H. S.," and a representation of a cup with a branch of the vine, surrounded with a border. On the south side of the church there only remains one window of the old white glass.

Ford Church (*Northumberland*).—Two memorial windows, by Mr. Wailes, of Newcastle, have just been erected in the parish church of Ford, in memory of the Rev. Delaval Knight, M.A., formerly curate of the parish. The subjects represented are St. John the Evangelist, with a priest catechising below; and St. Paul embarking for Miletus, with angel and scroll below. The former (says the *Gateshead Observer*) has been erected by his brothers and sister; the latter by a few of his fellow priests,—his more immediate friends.

CHURCH-BUILDING NEWS.

Bolton.—The corner-stone of the new Congregational Church, St. George's-road, Bolton, was laid in the afternoon of Good Friday, by Mr. Barnes, M.P. for that borough. The building comprises both church and schools. It is in the Middle Pointed Gothic style, and has a tower and spire 120 feet high at the north-east corner. The church will accommodate 1,200 persons, exclusive of free sittings. The cost will be between 6,000*l.* and 7,000*l.* Mr. Oliver and Mr. Lamb are the joint architects; and Mr. Marsden is the builder.

Lincoln.—In addition to the various improvements which have recently been effected in the church of Saint Botolph, a painted east window has just been introduced. The donors are the Revs. A. and F. Sutton. The subject of the centre light is "The Salvator Mundi," with the Apostles Saint Peter and Saint Paul on the right and left. The canopy and borders are an adaptation from an ancient fragment in the church of Harpley, Norfolk. The stonework is the gift of Mr. John Foster, of Lincoln. To perfect the interior of the church, further improvements are required: an unsightly ceiling should be removed, and new side windows substituted for those which are out of repair.

Martham (*Yarmouth*).—The restoration of the parish church has now been completed, with the exception of two or three windows in the tower. The whole of the roofs are new; those to the

nave and chancel being of the hammer-beam type, with carved figures of angels bearing musical instruments, &c. It is said that 6,000 cubic feet of English oak and wainscot have been used in the restoration, and thirty tons of milled lead on oak boarding cover the whole. The seats in the nave are free. Those on the north are for men; those on the south for women. The seats in the aisles are appropriated to parishioners. The church will now accommodate from 500 to 600 persons. All the windows are new mullioned and traceried where necessary, and every window re-glazed. The aisle floors are laid with Peake's Staffordshire tiles, on concrete. The chancel is new, and is built in the Flamboyant style. The screen is iron, and is surmounted by seven candlesticks. The east window, which was erected at a cost of about 300*l.*, is filled with painted glass by Messrs. Hardman, of Birmingham. The centre light has the "Ascension;" the other four lights having each two subjects taken from the life of our Saviour. The north and south windows of the chancel are filled with green cathedral glass. The floor is paved with Minton's tiles. There are various other restorations; and the total cost will not be much less than 8,000*l.* The tower is not yet fully restored, but this will probably be effected by the parish.

Romsey.—Lee Episcopal Chapel, which Lord Palmerston has built for the convenience of the inhabitants of that part of his estate lying farthest from Romsey, has been opened for divine worship. The chapel is built on a portion of land formerly belonging to the Lee-House estate, which was purchased by Lord Palmerston some few years since. The edifice is in the Norman style, and consists of a nave, chancel, and vestry. The internal dimensions of the nave are 44 feet by 23 feet; chancel, 13 feet 6 inches by 8 feet; and vestry, 9 feet by 6 feet, built principally in brickwork in bands of red and white. Plain buttresses divide the north and south elevations into four bays. The chancel and vestry are apsidal in form, the vestry projecting beyond the north wall, and occupying the first bay from the east end. The entrance is by a porch on the south side near the west end. The roof is open-timbered, stained, and varnished, carried by curved ribs springing from Portland stone corbels, and is covered by red and black tiles ornamentally laid. The seats are open benches of ornamental design, stained and varnished. The chapel is heated by one of Gurney's hot-air stoves. A bell turret, rising to the height of 36 feet, crowns the west gable. The works have been executed by Mr. William Gambling, of Southhampton: the architect was Professor Donaldson; and Mr. Kinder, clerk of the works.

Winchester.—The necessary works for taking down and rebuilding the tower of the college chapel, under the superintendence of Mr. Field, architect, and his clerk of works, Mr. Jarvis, have been commenced.

Leek.—A new Congregational chapel and schools, with vestries, class-rooms, &c., is about to be erected in Leek, at an estimated cost of 3,000*l.*, from the designs of Mr. Sugden, Leek, architect.

Tamworth.—The chancel recently added to the church at Wigginton, near Tamworth, has been consecrated. The chancel is 30 feet long, with an aisle for the organ and vestry on the north side. There are five new traceried windows. The east window is a triplet, with three circles in the head. In the church the high pews and the gallery at the west end have been removed, and replaced by new open benches with solid ends. A porch at the west entrance has been built. The whole work has been executed by Mr. Charles Clarson, of Tamworth, from the designs and under the superintendence of Mr. Joyce, architect, Burton-on-Trent. The chancel is the gift of one lady in the parish.

Clifton (Bristol).—The foundation-stone of a new Wesleyan chapel has been laid at Clifton, on a piece of ground adjoining the Fine Arts' Academy, Queen's-road. The building is in the Gothic style of fourteenth century. The plan is a parallelogram, 85 feet long by 40 feet wide, including front lobby; and there will be a gallery at the western end. A lobby under the gallery extends the entire width of the chapel, and is entered from the outside by a recessed doorway, under a canopied gablet in front, and through a porch on the south side. A turret on the north side contains the entrance and staircase to the gallery. The chapel is lighted by three traceried windows in the west end, and by two-light windows on each side: there will also be a circular window in the gable of the east end. The roof will be open to the rafters, in a single span; the trusses being arched, and bearing on freestone shafts, with carved capitals and bases, which will rest on carved corbels. The ridge of roof will be surmounted by a light ornamental timber spire, covered with zinc, and containing provision for the escape of foul air. There is a large room, to be used for tea meetings, &c., below the chapel floor. This room will be of the entire area of the chapel, and 15 feet high. There will be a vestry, 31 feet by 17 feet, on the same floor, and two smaller vestries on the chapel floor. The chapel will accommodate about 700 persons. The building will be faced with freestone, with band courses of red or grey stone. The architects are Messrs. Fosters & Wood, of Bristol.

Leominster.—The new church at Downton has been consecrated. It has been erected on the confines of the park, about half a mile from Downton Castle, Herefordshire, at the expense of Mr. A. R. B. Knight, and is in the Lancet style of twelfth century. The material employed for the walls,—namely, local stone of rather a dull drab colour, dressed with white Grinshill freestone,—gave the artist no advantage by contrast of colour. Internally, the church is 76 feet long, of which 24 feet is chancel. The nave is 20½ feet in width; the chancel, 17 feet. The north aisle of the nave is 32 feet by 11 feet. The chancel aisle (north), 14 feet by 12 feet. The tower at the north-west angle is 18 to 20 feet square. The windows throughout the church are filled with stained glass, by Messrs. Lavers & Burraud, of London. That in the chancel windows depicts leading events in the life of our Lord; namely, the Annunciation, the Nativity, the Presentation, the Last Supper, the Crucifixion, the Resurrection, and the Majesty. The west window contains subjects relating to the Sacrifice of Noah, the Passage of the Red Sea, the Baptism in Jordan, and the Entombment of our Saviour. In the circular light is St. Peter baptising Cornelius. On the north and east of the founder's pew are figures of St. Giles (to whom the church is dedicated), Solomon, and Ezra, and the Dedication of the Temple by Solomon. The choir windows contain figures of David, Miriam, and St. Cecilia; and on the north and south of the chancel are representations of St. Peter and St. Paul. All the other windows have subjects and diapers with rich floriated borders. The oak roof of the chancel is partially decorated in gold; the panels of the groin bearing pictorial angels on gold ground, bearing instruments of praise, were by Lavers & Burraud. The remaining decoration will be completed by the firm of Dawson & Sheppard, of Shrewsbury. The church was designed and the works carried out by Mr. S. P. Smith, of Shrewsbury, seconded by Mr. C. Bather, general manager, and Mr. Bowdler, as clerk of the works.

ON THE IMPROVEMENTS ABOUT YORK MINSTER.

A CORRESPONDENT writes as follows:—Approving, as every person of taste must, many of the recent improvements about York Minster, yet there are things done and contemplated which cannot be approved.

A notice was taken in the *Builder* of the bad effect produced by the placing of thick glass over the beautiful window known as "the five sisters;" but it is intended to cover the great east window also with glass, thus rendering nugatory the pulling down the houses of Dr. Belcombe and Mr. Hay, to let in a glorious flood of light, so that it was a perfect heaven on earth to see the effect in the Lady Chapel behind the high altar. The only thing likely to prevent this piece of barbarism is the fact, that I believe the mullions of the great east window are so thin that they will not admit of grooves being cut for placing the additional glass in, as was the case when it was attempted at the west window, called the Armorial Window. The pretext for covering the windows with glass is to make the Minster warm (for I treat as absurd the preservation of the ancient glass after it has stood the storms of so many centuries); but I have been in the cathedral since the new stoves were put up, which are a great improvement, and two ladies fainted from the heat. But one of the most absurd so-called improvements is the removal of the railings from the south side of the cathedral, to inclose the space of ground at the east end of the Minster; thus rendering it impossible, notwithstanding the pulling down the houses of Dr. Belcombe and Mr. Hay, to get a view from top to base of the east end of York Minster; including, as it does, the largest glazed window in the world; for though there is a larger at Howden, on the river Ouse, near York, yet it is in a state of ruin.

The new bridge at Lendel Ferry is progressing under the superintendence of Mr. Page. With regard to Little Blake-street, there ought to have been a square in front of the Minster, and a central railway station, the trains conducted along the new bridge to it. There are two millions of people travelling between Scotland and London in twelve months: I will allow one million to go to London by way of Lancaster, and one million by way of York. Could this multitude have been landed in the city of York, what a great deal of good they would have done. Loudon, in his "Encyclopædia of Cottage and Villa Architecture," states that water forced up a column, with a reservoir at top, can be made available for half the height of the column. Now, on Severn's-hill, in the neighbourhood of the city of York, a column might have been erected, and the water forced up by the York Waterworks Company: this being, by leaden pipes, conveyed in drains underground, and under the river Ouse, at Lendel Ferry, the citizens of York would have had a fountain in the centre of the square equal to any of the fountains before St. Peter's, in Rome. The expense would have been about 50,000*l.* to buy the property between Little Blake-street and Stonegate: the money might have been raised by a limited liability company. The square would have included the Assembly Rooms, the Subscription Library, the News Room, the Theatre, and the new Catholic chapel, bishop's house, and priest's house. This, considering the great advantage to the city of York of a central station for railway passengers, would have been better than disfiguring the ancient windows of our venerable cathedral with additional glass, which puts one in mind of what the poet says about

> "Windows that exclude the light,
> And passages that lead to nothing."

STATE OF THE CROSS, HEREFORD.

ALLOW me, if you please, to call your attention; and, through the *Builder*, that of the Archæological Institute; and, I may add, of the inhabitants of Hereford, to the present state of the cross or pulpit, in the gardens of the Blackfriars Hospital, in that city. This beautiful relic of antiquity, with which you are no doubt acquainted, is fast going to decay. Some of the stones in the buttresses, and a stone in one in particular, are very much decayed; and a very slight touch would, if time itself does not do it, reduce the whole to a ruin. The destruction of this cross would be much to be lamented; and I hope, by your aid, that attention may be directed to it before it is too late. O. S.

MUSIC AND THE STAGE.

Her Majesty's Theatre.—Mr. J. H. Mapleson,—well known to the public for his spirited management of Italian Opera, last year, at the Lyceum Theatre,—opened Her Majesty's Theatre for the season of 1862 on Saturday, the 26th of April. The opera was the "Ballo in Maschera," Madame Titiens and Signor Giuglini singing the principal parts. Two new singers, Madlle. Dorio and Signor Giraldoni, made successful first appearances; and the whole opera was satisfactorily performed. Mr. Hargrave Jennings, long known in literary circles as the secretary to Mr. Lumley, has undertaken the charge of secretaryship to the new management.

Royal Italian Opera, Covent Garden.—Variety has been the order of the day in the Royal Italian Opera House; variety, too, of no small value. "La Favorita" and the "Prophète" have followed "Guillaume Tell," and now comes "Dinorah," with Madame Miolan-Carvalho and Signor Gardoni in the principal parts. Mdlle. Caillag, in the "Prophète" (with Tamberlik), has increased her reputation both as singer and actress; and, though she has yet something to do before she can take the highest place in her profession, is on the road to obtain it. In the opera of "Dinorah," on Monday evening, Madame Miolan-Carvalho distinguished herself most honourably. Whether considered with reference to singing or acting, her performance left nothing to be desired. The reappearance of Signor Gardoni was the signal for a hearty welcome, in which all took part.

The Princess's.—Although, unfortunately for the management, "The Golden Daggers" is not likely to hold the stage very long, it would be unjust to Mr. Telbin and the other scenic artists not to give great praise to the very cleverly-arranged scene wherein a "Thieves' Kitchen" descends, and the houses in the street above take its place on the stage; and to the very effectively built-up and painted View on the

Thames, with which the play concludes. Mr. Fechter, Mr. Jordan, and Mr. Widdicomb, play very judiciously and well; but, unluckily, there is not a character in the piece for whom the audience can care a jot (scoundrels all); and the plot is so misty that nothing can be made of it.

SEWERAGE OF BUXTON.

SIR,—There are certain remarks on the sewerage of Buxton published in the *Builder* of the 26th April, under the signature of "Investigator." I think, in common fairness, such a letter ought to have been vouched for by the writer's name. That the remarks are not friendly, is evident; and I state also that they are not correct in any one particular where censure is implied. The sewers remain, with their arrangements, as facts to be investigated on the ground. The figures spoken to by Investigator are in possession of the local board: I therefore assume that Investigator is a resident or visitor in Buxton. If so, he ought, in common fairness, to have stated that five per cent. covered engineer's charges of all sorts,—personal, travelling, and office expenses of self and assistants. The resident or clerk of works was paid by the board. No extra of any sort was charged, and no complaint as to charges ever reached me in any form from the board; nor as to the defects alluded to by Investigator, and of which I am ignorant. Some person compared certain critics to certain flies, which choose unsound parts to blow upon. The Buxton main sewers are as complete as I knew how to plan and make them.

ROBERT RAWLINSON.

PATENTS CONNECTED WITH BUILDING.

APPARATUS FOR LIGHTING.—*J. E. M. de Pradon & L. G. Lecoq*, Paris. Dated 5th July, 1861.—The essentially new principle of this improved apparatus, which is more especially applicable to lighting the stage and house of theatres, is based on the application of the luminous rays sent back by direct and indirect interior reflection into capacities of the shape of pipes, allowing to conduct to the exterior the odours and deleterious gases resulting from the employment of gas, and its combustion, in buildings and places in which it is essential that the deleterious gases of combustion should be expelled into the open air. And the invention consists in the employment of a pipe or conduit on which the gas-burners are mounted; the whole being inclosed in a reflector, the interior of which will reflect the luminous rays and throw them on a polished or unpolished glass. Screens of various colours are placed at will in such a manner that the lighting can be obtained in the tone required.

WET GAS METERS.—*W. Livesey*, Park-village East, Middlesex. Dated 29th June, 1861.—This invention has for its object to connect the meter direct to the iron service-pipes, without the use of lead or other flexible pipes or soldered joints; to regulate the opening and closing of the inlet and outlet pipes simultaneously; to ascertain the level of the water inside the meter without putting the meter out of action; to prevent the oscillation of the lights from any sudden increase or irregularity in the pressure; to prevent any injurious effect upon the registration from the meter being tilted or placed out of its level; and to simplify the index. The invention cannot be described without reference to the drawings.

FIRE-PROOF BUILDINGS.—*H. C. Hill*, Staleybridge, Lancashire. Dated 17th August, 1861.—This invention consists in making the beams, girders, columns, and other parts employed in the construction of buildings, hollow, for the purpose of containing water or other liquid; and in connecting these beams, girders, columns, and other parts, so that the water or other liquid with which they are filled may circulate therein or be renewed when required. By this means, in case of fire in the building, the main supports can never become so hot as to be injured or weakened by the results of heat.

Books Received.

VARIORUM.

"A Treatise on the Law of Public Health and Local Government of Towns, &c., with the Statutes. By W. C. Glen, Esq., Barrister-at-Law. Second edition. Knight & Co. 1862." This second edition of Mr. Glen's very useful compendium of the law of health contains the alterations made of late by the Legislature, and the decisions of the law courts on the Public Health and Local Government Acts, as well as the Nuisances Removal Act: the work is, therefore, in many respects new; and it embraces everything in the law aspect of sanitary matters, and contains much information that it is important architects, contractors, and local boards of health, as well as landlords and tenants, should be in possession of.——"Handbook of Economic Literature; being a Descriptive Catalogue of the Library of the Twickenham Economic Museum. Part 1st: Domestic and Sanitary Economy. Printed for T. Twining, esq., by C. Whiting, Beaufort House, Strand. 1862." We have repeatedly spoken of what may be called the Model Economic Museum of Mr. Twining, of Twickenham, which affords an excellent example of what may be done by others towards the formation of instructive museum collections relating to the economical aspects of working-class life. The present instalment of Mr. Twining's Handbook contains a brief digest of the contents of each treatise or book in the library of the Museum, as well as the title, size, and number of pages, &c., of the book itself. The Museum and Library are open on Wednesdays and Saturdays from two till five, by tickets obtainable from Mr. Twining, Perryn House, Twickenham, S.W.; or care of Mr. Le Neve Foster, Society of Arts, Adelphi, W.C.——"The Law of Trade Marks. By E. Lloyd, esq., of Lincoln's Inn, Barrister-at-Law. Draper, Carey Street, London. 1862." The most part of this little treatise is a reprint from the "Solicitors' Journal" of 1861-2. The subject is important, and the law is not sufficiently definite; so that suggestions for its amendment such as are embodied in this pamphlet merit consideration. The author gives some account of the history and development of the law of trade marks in the decisions of the courts of law and equity; with remarks on the bills brought before Parliament during last session and the present.

Miscellanea.

SOUTH KENSINGTON MUSEUM.—During Easter week, ending 26th April, the visitors numbered 39,018.

TENDERS FOR HOTEL AT ROCHESTER BRIDGE. The following tenders have been received for the erection of the large hotel about to be built by Mr. Budden on the vacant piece of land belonging to the bridge wardens, on the Strood side of Rochester-bridge: — Spicer, 1,990*l.*; Wilkins, 1,950*l.*; Hall, 1,925*l.*; Stump, 1,900*l.*; Foord & Sons, 1,706*l.*; Naylar, 1,685*l.*; Anscombe (Maidstone), 1,617*l.*

THE PHOTOGRAPHIC SOCIETY OF LONDON.—The annual *soirée* of this Society, held at King's College, Strand, reflected much credit on those to whose management it was entrusted; and a word of praise is certainly due to Dr. Diamond, the secretary, for the pains he appeared to take in giving information to those who desired to increase their knowledge as well as to gratify their eyes. The attendance was sufficiently numerous to show that the patrons as well as disciples of the art are more than ever desirous of testifying their appreciation of this modern branch of the fine arts. The large room of the college was abundantly and tastefully decorated with photographic works in every style of this still-improving art. "Colouring" was displayed to a comparatively small degree. The leading features of the exhibition were reproductions from well-known pictures and statuary, studies from nature, and enlargement of *cartes de visite*.

BUILDING WORKS IN THE BOROUGH OF LIVERPOOL.—The twenty-fourth annual report of Mr. William Rishton, the building surveyor, to the local Health Committee has been printed. From this report it appears that, although the number of dwelling-houses erected in 1861 is somewhat below the average of the six years 1855-60, it greatly exceeds that of the six years 1849-54; being, for the last year, 1,250 against 1,600,—the average in the previous six years, and 765 the average in the six years prior thereto. The great majority of the premises are of a better class than those erected in 1860. The number of houses built in that year producing a rental less than £12 per annum was 161; whilst in the past twelve months there were only 45 of this class built. In 1861 only 109 premises were constructed with separate cellar dwellings, against 192 in 1860; and though there was an increase last year of 81 terrace houses, some of these were of a greatly improved character. In new dwelling-houses the middens have been disallowed, and in 185 cases of houses previously built, cesspools have been abolished, and water-closets provided. The new erections in the borough of a large character other than dwellings have been nearly equal to those of 1860, except in the instance of warehouses, which were 19 in 1861, against 32 in 1860. Notwithstanding the reduction in the number of erections in 1861, the amount expended on old and new buildings is nearly £14,000 more for 1861 than for 1860, which was a period of very large expenditure.

THE FEMALE SCHOOL OF ART.—The committee have found it expedient to postpone the intended meeting at the Mansion House until the 17th June, at 2 o'clock.

DRINKING-FOUNTAIN MOVEMENT. — The intended new fountain for Oswestry, which is being presented to the town by Mr. H. B. B. Wynn, of Llanforda, is, as regards the laying down of the pipes, now complete. The supply of water is obtained from a spring at Swan-hill, on the Porkington estate, by permission of Mrs. Gore. The masonry work, which is by Mr. John Vaughan, is ready to be fixed up. There will be three basins, one to face each street; three dog-troughs underneath; and a cross on the top, to denote the place on which it stands. The design is that of Mr. Wigginham, of London.——In Peterhead a drinking-fountain is proposed as a memorial of the late Prince Consort.

CHARING-CROSS RAILWAY.—Operations have been commenced by the contractors for the construction of the railway by the side of the north-west wing of St. Thomas's Hospital, adjacent to the London-bridge terminus. Workmen are engaged in digging the foundations for the bridge which is to carry the line over High-street, Southwark, and also on the other side of the road in Wellington-street, where an extensive block of buildings abutting on the church of St. Sepulchre and the Borough-market are being demolished to effect a junction with the portion of the line passing through Southwark to the Blackfriars-road. The iron pillars filled with granite on which the Hungerford-bridge is to rest are well-nigh completed, and a considerable portion of them already connected together by the ironwork for the bridge.

THE STONE CIRCLES NEAR SHAP (WESTMORELAND).—At a recent meeting of the Society of Antiquaries of Scotland, held in Edinburgh, a paper by Mr. Simpson, the vicar of Shap, was read, in which he gave the results of many careful and minute excavations of stone circles and cairns in the neighbourhood of Shap. Sometimes there is one circle within another; and at times the monument consists of three concentric circles, the innermost one being paved with small stones. A digging in several of these circles brought to light deposits of burned matter. Cairns, or "raises," were sometimes surrounded by circles of upright stones: they frequently are found to contain cists with urns and human bones. Mr. Simpson was clearly of opinion that, whatever other end the circles may have served, they were used as monuments of the dead. Mr. Stuart added some facts tending to show the analogous results which had attended diggings in Scottish circles of stones. In one, consisting of two concentric circles on the estate of Bognie, in Aberdeenshire, the result showed traces of pavement, under which layers of bones in a pulverised state and burned matter appeared. An urn was found in the centre of the innermost circle.

FALL OF A PORTICO.—At Brodsworth Hall, Crowle, on Wednesday before last, a fatal accident occurred to John Hall, a stonemason. The deceased was foreman of the masons employed at Brodsworth Hall, the seat of Mr. Thellusson. The hall is being rebuilt by Messrs. Longmire & Burge, contractors, from plans drawn by Mr. Wilkinson, of London, architect. The deceased had superintended the stonework generally, and under his direction the portico had been erected. It was built of stone from the Brodsworth quarries; and the supports of the portico, inserted in the wall, and extending therefrom about 12 inches, were of the same stone. On Tuesday night he directed their removal; as, in his opinion, the cement was sufficiently set. One or two props were removed, but the bulk of the supports were left up until Wednesday morning. At six o'clock the men were engaged in displacing them, and at seven had all but completed their work, when the stone supports in the wall snapped off, and the portico fell upon the deceased, who was crushed to death. In reference to the cause of the accident, the *Doncaster Gazette* says, "Although the architect or the contractors do not appear to have been aware of the quality of the stone, it is clear that it was not sufficiently strong to be placed in such a position, and hence the accident. It must, however, be stated that others had their doubts of the proper character of the work; and no later than Monday last, Mr. E. B. Denison, Q.C., inspected the building, and finding from inquiry there was no iron rib or girder to support the stone, pointed out the defective nature of the plan, and the certainty that this part of the portico would give way immediately upon removing the timber by which it was shored up." The coroner's jury returned a verdict of accidental death.

THE NEW EXHIBITION OF WATER COLOURS IN MANCHESTER.—The exhibition of water colours at the Royal Institution is open to the public. Between 700 and 800 pictures have been contributed.

THE LAMBETH TRAMWAY.—At a public meeting of the supporters of Mr. Train's street railway in Lambeth, Mr. Frederick Doulton in the chair; the chairman, in opening the proceedings, said his sympathies had always been in favour of this tramway. He had heard that in the Court of Queen's Bench Mr. Train had been convicted, and the vestrymen released from their indictment. The vestry would, however, support Mr. Train throughout. The tramway was a great convenience to hundreds of thousands. Mr. Franklin stated that 596,789 persons during the month of March had passed over the tramway. The receipts during that period amounted to 4,455*l.* 6s. 5d. The number of season tickets taken was 6,963. The meeting passed a resolution protesting against the decision of the jury, and pledging itself to use every constitutional means to vindicate the authority of our local governments. It was also resolved to petition Parliament, praying for the legalization of street railways.

EFFERTZ'S MACHINERY FOR MAKING BRICKS AND TILES.—This machine is the invention of Peter Effertz, of Manchester, and is for producing perforated, solid, and paving bricks, gutter tiles, roofing tiles, cornice tiles, pantiles, drain-pipes, and other similar articles. The clay is fed into the machine through a hopper, mixed by a combination of screws passed through a grate, to be cleansed from stones and other objectionable matters, modelled or moulded by pressure to the desired shape, and received as an endless band by a rolling-table in front of the machine. This rolling-table is provided with a self-acting cutter, put in motion by the band of clay emerging from the machine, and cutting the said band into any length desired at right angles to the surface, or at an angle proportionate with the velocity. The necessary pressure is exerted through a combination of screws requiring less power than any other now in use. The machine consists of two main parts or divisions: first, the press for mixing, cleansing, and shaping the clay; secondly, the self-acting cutting-table, on which the band of clay emerging from the mould is cut. The *Engineer* of 25th ult. gives diagrams of the details, with particulars of the mode of working.

THE PRINCE OF WALES'S VISIT TO THE TOMB OF ABRAHAM AT HEBRON.—The Prince of Wales, in course of his travels in the Holy Land, has been allowed (the first Christian for the last 600 years) to visit what the Mahometans venerate as the most holy place in all Palestine; and an exceedingly interesting account of the visit (probably by Canon Stanley, who accompanies the Prince) has been sent from Palestine to the *Times* newspaper. The details of the place, now for the first time we may say deliberately authenticated, contain little more than might be gleaned from the accounts of early pilgrims and the stolen visits of western authors, who went in the disguise of Mahometans; but the description now given enables us to understand these accounts better, and to supply deficiencies. The writer, in course of his long letter, says:—"We passed (without our shoes) through an open court into the mosque. With regard to the building itself, two points at once became apparent. First, that it had been originally a Byzantine church. To any one acquainted with the Cathedral of St. Sophia, at Constantinople, and with the monastic churches of Mount Athos, this is evident from the double narthex or portico, and from the four pillars of the nave. Secondly, that it had been converted at a much later period into a mosque. This is indicated by the pointed arches, and by the truncation of the apse. This building occupies (to speak roughly) about one-third of the platform. I proceed to describe its relation to the sepulchres of the patriarchs. It is the innermost of the outer porticoes which contain the two first. In the recess on the right is the alleged tomb of Abraham, on the left that of Sarah, each guarded by silver gates. The shrine containing the tomb of Sarah we were requested not to enter, as being that of a woman. The shrine of Abraham, after a momentary hesitation and with a prayer offered to the patriarch for permission to enter, was thrown open. The chamber is cased in marble. The tomb consists of a coffin-like structure, like most Moslem tombs, built up of plastered stone or marble, and hung with carpets—green, embroidered with gold." We print a paper elsewhere which bears upon the subject.

THE AMERICAN LAKE COPPER.—In 1846 the copper mines of Lake Superior yielded only 160*l.* worth of copper. Last year they yielded copper worth 600,000*l.*

BURSTING OF A RESERVOIR NEAR ROCHDALE. The work of years at the new reservoir of the Oldham waterworks has been spoilt by the giving way of the embankment. The cause of the catastrophe is not known. In the night the lower part of one side of the embankment gave way, forcing up the superficial soil of the adjacent fields to a considerable height. The pecuniary loss will be little short of 8,000*l.*, although no damage has been done to person or other property. Had the catastrophe not occurred till after the receptacle had been filled, Milnrow would have witnessed a flood equal to that of Holmfirth.

PREVENTION OF ROTTING IN WOOD.—To prevent posts and piles from rotting, the following coating has been recommended in *Herepath's Journal*. Besides being economical, it is said to be impermeable to water, and nearly as hard as stone:—Take 50 parts of resin, 40 parts of finely powdered chalk, 300 parts or less of fine white sharp sand, 4 parts of linseed oil, 1 part of sulphuric acid, and 1 part of native oxide of copper. First heat the resin, chalk, sand, and oil in an iron boiler; then add the oxide, and with care the acid: stir the composition carefully, and apply the coating while still hot. If it be not liquid enough, add a little more oil.

PASSION AND DEATH.—TWO policemen, according to a contemporary, lately entered the house of a woman residing at Plymouth, and remonstrated with her on account of her drain-pipe being choked, causing annoyance to passers-by; whereupon she poured out upon them a volley of oaths and curses, in the midst of which she fell down dead. Now, while disclaiming all sympathy with those who glibly talk of "judgments" for this, that, or the other misconduct; the obvious comment on such a case as this is, that probably the death of this poor wrong-headed woman was owing, in the first place, to ill health, which she had brought upon herself by neglect of a sanitary law of nature, and which disabled her from withstanding the excitement into which she allowed herself to be betrayed.

THE WINDSOR DRAINAGE.—At last meeting of the Local Board of Health a discussion took place in reference to the bill of Mr. Roe, C.E., amounting to 57*l.*, for his inspection of the drainage of Windsor, his report, and general professional advice. A brief conversation took place, in the course of which surprise was expressed at the amount of the bill; not that it was too high, assuming that Mr. Roe paid the borough a strictly professional visit, but that it was understood that, as Mr. Roe was the designer and contractor of the drainage, and took a great interest in the discussion then going on respecting its condition, he was ready to inspect them, if not gratuitously, at a very low charge. The clerk stated that the meeting in question had agreed to seek Mr. Roe's advice, before Mr. Batcheldor stated that he had received a private communication from Mr. Roe. Ultimately it was agreed that the further consideration of the question be adjourned.

SEWAGE OF TOWNS.—The Parliamentary Committee appointed to consider the best means of utilising the sewage of towns and cities, and applying it to agricultural purposes, met again on Thursday; Dr. Brady in the chair. The other members present were Mr. Paget, Mr. Gregson, Sir F. Smith, Mr. Caird, Mr. Gore Langton, Col. Fane, Mr. Du Cane, and Mr. Ayrton. Mr. Blackburn, who has visited various parts of the country, and examined the sewage, stated that on his farm in Cardiganshire 2,000 tons of sewage produced 40*l.* an acre in Italian ryegrass. By means of pipes the sewage did not cost him more than three-farthings per ton for conveyance of from a quarter to half a mile. By water-carts it would cost about 3½d. per ton. Liquid manure produced a greater effect than guano. It was very valuable for root crops. No other manure could compete with sewage for the production of grass. Mr. Fenton, engineer of the local board at Croydon (formerly of Chelmsford), said the system of drainage at that place was by pipes. It was strained, and the solid matter was taken out of the tanks. The liquid manure had been applied most advantageously to a farm of 240 acres. After paying all expenses it left a clear profit of 1*l.* per acre. The solid matter, amounting to about 100 tons per month, was sold at 1s. 6d. per ton. In some cases he believed sewage would be worth 20*l.* per acre. He considered pipes better than open sewers for conveying the sewage to the land; but when it arrived at the land it was better to use open watercourses than pipes for distributing it. The committee then adjourned to the 5th May.

TENDERS.

For six houses and stabling on Vauxhall Gardens estate, for Mr. J. Taylor. Mr. Mumford, architect. Quantities supplied:—

Dover & Co.	£2,249 0 0
Partridge	2,147 0 0
Ackworth	2,100 0 0
Sharpinton & Co.	1,999 0 0
Rankin	1,999 0 0

For building Manor-Park Lodge, Blackheath. Mr. N. Mumford, architect:—

Chamberlain	£365 0 0
Pond	359 0 0
Dover	307 0 0
Partridge & Cutch	297 0 0
Greenwood	297 0 0
Clayton	293 0 0
Wilson	282 0 0
Lonergan	245 0 0

For alterations and repairs to a portion of west wing of Wimpole Hall, for the Right Hon. the Earl of Hardwicke. The clerk of the works, architect.—

Thoday & Clayton	£950 0 0

For two villas at Tottenham. Mr. J. W. Couchman, architect:—

Ashby & Sons	£2,966 0 0
Myers & Sons	2,917 0 0
Dove Brothers	2,770 0 0
Parry & Jackson	2,680 0 0

For house and stables at Streatham, for Mr. F. Fuller. Mr. R. W. Drew, architect. Quantities supplied by Mr. J. A. Bunker:—

Williamson	£3,200 0 0
Pritchard & Sheldon	2,970 0 0
Downs	2,965 0 0
Child & Son	2,897 0 0
Carter	2,845 0 0
Turner & Sons	2,795 0 0
Trollope & Sons	2,743 0 0
Deacon	2,670 0 0

For house at Penge, for Mr. Jas. Covell. Mr. Henry Jarvis, architect:—

Bottom & Co.	£969 0 0
Crawley	915 0 0
Marsland & Son	880 0 0
Pugh & Wallis	875 0 0
Glenn	830 0 0
Tarrant	789 0 0
Kent (accepted)	775 0 0

For new Congregational Chapel, West Derby-road, Liverpool. Messrs. Poulton & Woodman, architects, Reading:—

Tomkinson	£4,033 0 0
Yates	3,845 0 0
Nicholson & Co.	3,839 0 0
Haigh	3,795 0 0
Roberts	3,730 0 0
Mullin	3,618 0 0
Bateman	3,525 0 0
Burroughs	3,407 0 0
Nelson (accepted)	3,362 0 0

For completing Tower Villa, Anerley-grove. Mr. Withers, architect:—

Scott	£658 0 0
Pritchard & Son	654 0 0
Macey	620 0 0
Jackson & Shaw	594 0 0
Tracey & Co.	570 0 0
Patman & Fotheringham	556 0 0
Sharpington & Cole	555 0 0

For building brass foundry, Drury-lane. Messrs. Smith & Williams, architects:—

Macey	£844 0 0
Prichard & Son	789 0 0
Walton	757 0 0
Maeers	663 0 0

For Jews' almshouses, North-street, Whitechapel Messrs. Tillott & Chamberlain, architects—

Piper & Wheeler	£2,243 0 0
Macey	2,238 0 0
Myers	2,232 0 0
Ashby & Horner	2,222 0 0
Ashby & Sons	2,205 0 0
Hill, Keddell, & Co.	2,200 0 0
Lawrence & Sons	2,148 0 0
Cannon	2,136 0 0

For additions, &c., to a house at Clapham Common. Mr. T'Anson, architect:—

Macey	1,129 0 0
Norley	996 0 0
Gammon	973 0 0
Rider	945 0 0
Maclacan	798 0 0

For the carcass of a church in the Maidstone-road, Chatham. Mr. Hy. Clutton, architect. Quantities supplied by Mr. Crocker:—

Sutton & Vaughan	£2,169 0 0
Stump	1,847 0 0
Naylar	1,837 0 0
Anscomb	1,810 0 0
Spicer	1,695 0 0

For new warehouses, for Messrs. Margetti & Co. Messrs. Wales & Sparks, architects:—

Jacobs	£8,495 0 0
Brown & Robinson	8,310 0 0
Ryder	8,200 0 0
Axford	8,150 0 0
Hack	7,997 0 0
Conder	7,999 0 0
Hill, Keddell, & Robinson	7,748 0 0
Myers	7,438 0 0

For St. Anne's Church, Brighton:—

Fabian	£5,230	0	0
Backhurst	5,225	0	0
Cheesman	4,956	0	0
Ellis	4,643	0	0
Jackson & Shaw	4,600	0	0
Sawyer	4,585	0	0
Kane	4,502	0	0
Chinnock	4,349	0	0

For rectory, &c., Ashurst, near Tunbridge Wells:—

Bedstone	£2,389	0	0
Wells	1,919	0	0
Gorham	1,711	0	0
Sawyer	1,585	0	0
Elliott	1,575	0	0

For the new church of St. John, Ipswich-road, Colchester. Mr. A. W. Blomfield, architect. Quantities not supplied:

Grimes	£1,754	2	10
Crowe	1,720	0	0
Shepherd	1,388	6	0

For the erection of a parsonage-house at Fawley, near Wantage, in the county of Berks. Messrs. Jno. Money & Son, architects:—

Adey & Son	£1,359	0	0
Messenger	1,250	0	0
Haines	1,195	10	0

For building new imbecile wards at the workhouse, Bancroft-road, Mile-end-road. Mr. William Bobson, architect:—

	Building.			Fittings.		
Saunders & Field	£2,770	0	0	£87	0	0
Messrs. Fortescue	2,360	0	0	50	0	0
Messrs. Bond	2,031	16	0	32	0	0
Partridge & Co.	1,997	0	0	73	0	0
Beeton	1,995	0	0	57	0	0
Messrs. Ford	1,995	0	0	87	0	0
Hill & Co.	1,985	0	0	50	0	0
Sawyer	1,974	0	0	50	0	0
Patman	1,889	0	0	40	0	0
Macers	1,886	0	0	35	0	0
Hart	1,839	0	0	54	0	0
Ennor	1,823	0	0	65	0	0
Ashton & Co.	1,795	0	0	65	0	0
Wood, Brothers	1,778	0	0	42	0	0
Brown	1,692	0	0	38	10	0

TO CORRESPONDENTS.

Lynn News.—J. F. F. (has gateway been erected?).—Miss G.—G. G.—C. B.—A. B.—Ipswich Surveyorship (our correspondent has not read the paragraph correctly).—W. S. H.—C. B.—R. M.—W S. R. (we cannot give addresses).—Albert the Good.—S. B.—M. E. H.—J. T.—T. S.—C. H.—E. S. (must look to books).—G. R.—E. B. & R.—T. N. D.—T. R.—R. M. L.—W. B.—D. & Son.—A. N.—W. S.—G. B.—R. G.—H. S. P.—H. F. (we are forced to decline giving an opinion).

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE.—Every description of Architectural Drawings prepared, and Perspectives Outlined or Coloured, by Mr. T. T. MARDON, Jun.; Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c. 7, John-street, Bedford-row, W.C. Office hours, Ten to Four.

TO MARBLE MASONS AND POLISHERS.

AT the Westminster Marble Works there will be next month VACANCIES for a few extra hands. WANTED, also, a few Young Men as IMPROVERS in various branches of the trade.—Westminster Marble Works, Earl-street, Horseferry-road, Westminster.

A CIVIL ENGINEER, SURVEYOR, and LAND AGENT, of established practice in the country, will take a PUPIL for three years, and fully instruct him in all branches of the profession; also can board, &c. with him.—Apply to ATCHLEY & CO. Engineering Publishers, 106, Great Russell-street, London, W.C.

BOROUGH of IPSWICH. — The Local Board are desirous of receiving APPLICATIONS for the OFFICE of SURVEYOR and INSPECTOR of NUISANCES, under the Public Health Act, 1848, and the Local Government Act, 1858. The emolument will be a salary of 200l. a year. He will be required to devote his whole time to his duties, to reside within a convenient distance from the office of the Local Board, and he will be subject to removal on three months' notice. Any further information that may be required as to the duties may be obtained at the Office of the Local Board, in Princes-street, where all applications, accompanied by testimonials, are to be sent, on or before WEDNESDAY, the 14th day of MAY next.
Ipswich, 16th April, 1862.

CITY of MANCHESTER — Township of Cheetham.—The Committee of the Council of Manchester, acting for the Township of Cheetham, are prepared to receive APPLICATIONS for the SITUATION of SURVEYOR for such township, at a salary of 130l. per annum. Applications, inclosing testimonials, to be addressed to the Chairman of the Committee, and delivered at the Town Hall, Manchester, on or before WEDNESDAY, the 7th day of MAY next.—By order, JOSEPH HERON, Town Clerk.

GENTLEMEN desirous of extending the business of FIRE and LIFE ASSURANCE may be appointed AGENTS, either publicly recognized or private, by addressing letters to "No. 1,150," City of Glasgow Bank, Argyle-street, Glasgow.

TO SAW SHARPENERS.

CONSTANT EMPLOYMENT for a First-class hand. A person who understands the general repairs of the machinery of a saw mill preferred — Apply, by letter only, stating wages, to Mr. CHARLES BAKER, Steam Saw-Mills, Maidstone. — References required.

SMITH WANTED, used to Builders' Work. Must be competent to superintend every description of builders' smithing work — Address, with references, stating wages required, to W. T. Office of "The Builder."

TO MASONS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 20th of MAY next, at TWELVE o'clock precisely, to ELECT a FOREMAN for their STONE-YARD, in Worship street, Finsbury. Wages will be 36s. a week, together with a good House to live in, free of rent and taxes Candidates must be not less than 25 nor more than 38 years of age, and will have to attend before a Committee for examination as to their fitness for the office. A good practical mason is the class of person required.—Applications and testimonials must be sent in, addressed to the undersigned, on or before the 15th MAY next.
JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, 30th April, 1862.

WANTED, in a Builder's and Contractor's Office, a thoroughly efficient MANAGER.—Address, stating age, where last engaged, and salary required, to C. C. Office of "The Builder." A liberal salary will be given.

WANTED, an experienced PLUMBER for a CONSTANCY. One who has been accustomed to the general trade preferred, stating wages and reference.—Apply to Mr. W. HOLLAND, Decorator, Warwick.

WANTED, a JUNIOR ASSISTANT or IMPROVER in the office of an architect.—Address, G. BIDLAKE, Wolverhampton, stating references and salary required.

WANTED, in a Permanent Situation, a thoroughly practical and experienced BUILDER'S FOREMAN, to take the management of a carpenter and joiner's business. Apply, stating salary required, age, references, and other particulars, to Q R. Post-office, Newcastle-on-Tyne.

TO CLERKS OF WORKS.

WANTED, a First-rate CLERK of WORKS, to superintend large works in the country. Salary 3l 3s per week. None need apply unless they have had great experience, and can furnish satisfactory testimonials as to ability.—Address, Messrs. HOOKER and WHEELER, Architects, Brenchley, Kent.

TO CATHOLICS.

WANTED immediately for a Laundry, a STEADY MIDDLE-AGED MAN, who can make himself generally useful; undertake the management of a horse and garden; must not object to take the linen home in a barrow. Wages 17s per week. Must have an unexceptionable character Letters post paid. — Address, H. M. Mrs. RAINSFORD, 84, Great James-street, Lisson-grove, N.W.

WANTED, a good PAINTER and GLAZIER. One acquainted with lead-light work and plumbing preferred.—Address, H. C. Twyman's Coffee house, 2, Water-lane, Blackfriars, E.C.

WANTED, in an Architect's Office, in London, a JUNIOR ASSISTANT, as Improver. A small salary would be given.—Address, X. Y. Z. 72, New Bond-street, W.

WANTED, a LAD who can read and write well, as an APPRENTICE to a Carpenter and Builder. Apply at 3, Phœnix-yard, Cavendish-square.

TO ARCHITECTS' ASSISTANTS.

WANTED, by an Architect in the Country, an ASSISTANT well up in Gothic detail, who can take the management of an office, take out quantities, measure up, and price artificers' work. One who has a knowledge of land surveying and levelling preferred.—Apply to ARCHITECT, Dorset County Chronicle and Somersetshire Gazette Office, Dorchester.

TO BUILDERS' FOREMEN.

WANTED, an experienced Man, well versed in carpentering, to TAKE CHARGE of a JOB.—Apply by letter, stating wages required, with references, to Y. Z. 15, Telegraph-street, City, E.C.

TO TIMBER MERCHANTS.

WANTED, by a respectable, middle-aged Man, a SITUATION as FOREMAN, in or out of the yard, or as woodreefe to a gentleman. First-class reference as to ability, sobriety, &c.—Address, E. SANDY, Battle-hill, Sussex.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a respectable Man, aged 30, a RE-ENGAGEMENT as TIME-KEEPER, CLERK, or UNDER-FOREMAN. Three years and a half with late employers. Satisfactory references can be given.—Address, W G 21, Craven-terrace, Craven hill, Bayswater, W.

WANTED, by a Young Man, who writes a good hand, a SITUATION as CLERK or BOOK-KEEPER. Good accountant. Testimonials excellent.—Address, L. M. Post-office, Bere Regis, Blandford, Dorset.

TO PLUMBERS AND BUILDERS.

WANTED, by a Young Man, a SITUATION as PLUMBER. Has no objection to Glazing and Painting.—Address, W. LAWRENCE, 5, Winton-place, Blackheath-road, Greenwich.

WANTED, by a Young Man, aged 21, a SITUATION, either in a Builder's or Surveyor's Office. Is thoroughly up in accounts, and can take knowledge of drawing, surveying, and land surveying, will be a valuable acquisition in either of the aforementioned capacities. Unexceptionable references — Apply to R. L. W. Manaccan, Helstone, Cornwall.

TO JOINERS AND BUILDERS.

WANTED, by a Young Man, aged 22, a SITUATION as IMPROVER in the above.—Address, E. B. 12, Church-terrace, Kentish-town, N.W.

TO BUILDERS AND CONTRACTORS.

WANTED, a RE-ENGAGEMENT as FOREMAN of CARPENTERS. Last employed by a large London Firm. Age 30. Town or country.—Address, T. T. 35, Trafalgar-street, Walworth-road.

TO ARCHITECTS AND SURVEYORS.

WANTED, for a Youth aged 17, a SITUATION in an Office of first-rate practice. No wages for first six months, the object being improvement. Has a good knowledge of drawing.—Apply to Mr. W. BOOTH, Auctioneer, &c. Abbey-road, St. John's Wood.

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, who is a thorough practical man, and used to heavy work of all descriptions, a SITUATION as GENERAL SUPERINTENDENT or AGENT.—Address, F. W. care of Mr. Smith, News Agent, Hungerford-street.

WANTED, by a practical Man, a SITUATION as BELL-HANGER, GAS-FITTER, and SMITH. Good references. Address, A. B. No. 1, Cockerell's buildings, Bartholomew-close.

WANTED, a SITUATION, by a practical and experienced paperhanger, who can be well recommended from the firm in whose employ he had been for a period over seven years.—Apply, post-paid, to G. L. at Mr. Snow's, No. 43, Frith-street, Soho, W.

TO MASTER PAINTERS OR BUILDERS.

WANTED, by a Young Man, aged 21, EMPLOYMENT as PAINTER, &c. Has been six years at the trade, and can have good recommendations from his last employers, who have now nothing to do. Wages low if for a constancy.—Apply to J. H. No. 22, Stebbington-street, Oakley-square, N.W.

WANTED, a constant SITUATION, by a first-class Plumber and Gasfitter. Has no objection to make himself generally useful.—Address, H. R. 4, North Cottages, Green-street, Marlborough-road, Chelsea.

TO BUILDERS, PLUMBERS, DECORATORS, &c.

WANTED, by the Advertiser, aged 26, a RE-ENGAGEMENT as CLERK and ASSISTANT to the above, either in town or country. Having a general knowledge of the building trades, would make himself generally useful. Most satisfactory references, &c.—Address, A. B. at Mr. Shaw's, Baker, 7, Coburg-place, Kennington lane, S.

TO STONE MASONS.

WANTED, by a respectable Man, a SITUATION as FOREMAN in a YARD, or to Manage a Business. Is well used to cemetery work, and is a first-rate letter-cutter. Terms moderate. Good reference.—Address, J. P. BROADHURST, Littlemore, Oxford.

TIMBER TRADE.

WANTED, by the Advertiser, aged 31, a SITUATION as MANAGER or TRAVELLER. Has been more than twenty years in the trade, and thoroughly understands it. Would prefer the country —Address, R. K. care of Mrs. Horwood, 36, Ludgate-street, St Paul's.

TO ARCHITECTS AND BUILDERS.

WANTED, by the Advertiser, an ENGAGEMENT as CLERK of WORKS or ASSISTANT in an Office. Sixteen years' experience. Reference to London architects.—Address, R. S. Kennett's Library, 14, York-street, Covent Garden.

WANTED, a RE-ENGAGEMENT as FOREMAN of CARPENTERS, or to take charge of works. Can give first-rate character, if required. No objection to the country. Address, A. Z. 77, Caledonian road, N.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by an Energetic and Persevering Young Man, a SITUATION as TIME or STORE KEEPER, or Inspector. The highest references as to character and ability Address C. R. 7, Barnes-place, Mile end-road, near Mile end gate, London.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, a SITUATION as General and Estimating CLERK; is thoroughly conversant with the duties of an office; can take out quantities, measure up work, &c. Is a carpenter and joiner by trade, and can take charge of work if required. First-class references.—Address, A. B. 3, William-street, New North-road, Islington, N.

TO BUILDERS AND PLUMBERS.

WANTED to APPRENTICE a Strong Lad to the PLUMBING TRADE, out-door. Aged 16.—Address, R. R. 4, Lisson-street, Marylebone-road, N.W.

MANAGER OF BRICK AND TILE WORKS.

WANTED, by a respectable Man of twenty years' experience, a SITUATION as above. Is accustomed to the trade, plain and ornamental, in all its branches, including machinery; thoroughly understands burning, and is a good book-keeper. Most satisfactory reference can be given.—Address, H. C. Royal Standard Inn, Upwey, Dorchester, Dorset.

TO BUILDERS, &c.

WANTED, a SITUATION, by a Young Man, well acquainted with office duties, and the business generally; can get out plans, measure up work, &c. Good references. Address, B. W. 65, Hatfield-street, Stamford-street, S.

TO STONE CARVERS AND BUILDERS.

WANTED, by a respectable, intelligent Young Man, who has served a seven years' apprenticeship to a carver, IMPROVEMENT in the above line. Has a taste for the trade. Is a good Old English letter-cutter.—Address, H. M. Mrs. Sanger's, No. 8, Culver-street, Salisbury.

WANTED, a PERMANENT SITUATION, by a JOINER, who has no objection to town or country. Good reference given. — Address, G. T. Post-office, Swindon, Wilts.

TO PLUMBERS AND BUILDERS.

WANTED, by a thoroughly good and steady workman, Aged 37, a SITUATION as PLUMBER. Can fill up time with gas fitting, glazing, and painting. Could manage a branch business, if required.—Address, W. W. Mr. Harvey's, 32, Grange-street, St. John's-road, Hoxton

TO ARCHITECTS AND SURVEYORS.

WANTED, by the Advertiser, who has had eight years' experience in the profession, a RE-ENGAGEMENT as ASSISTANT.—Address, M. K. Post-office, New Cross Gate, S.E.

TO JOBBING MASTERS.

WANTED, by a Bricklayer, to take PIECE-WORK, either to find materials or not. Good references.—Address to S. A., Office of "The Builder."

TO BUILDERS AND PLUMBERS.

WANTED, a SITUATION by an experienced PLUMBER.—Address, J. H. 39, Lillington-street, Pimlico, S.W.

WANTED, a SITUATION, as CLERK in the Office of a BUILDER, PLUMBER, &c. in any capacity where I can make myself useful to my employer. Age 27. Can be well recommended.—Apply, E. BROWNING, 8, St. George's-road, New Kent-road, Borough

TO BUILDERS, &c.

WANTED, by the Advertiser, a RE-ENGAGEMENT, as CLERK of WORKS. Many years' experience in building works, in town and country. First-class references as to character and ability. — Address, A. Z. Post-office, Stoke Newington.

WANTED, by a Young Man, aged 21, a SITUATION, as CLERK, in a Surveyor's or Builder's Office.—Address, G. G. 7, Bury-street, Brompton, S.W.

TO BUILDERS AND PLUMBERS.

WANTED, a constant SITUATION, as first-class PLUMBER and GASFITTER. Can fill up his time painting and glazing. Good references if required.—Address, A. B. 34, Clarendon-street, Camberwell New-road.

WANTED, by a Bricklayer, a RE-ENGAGEMENT as FOREMAN, or piece-work. Good references.—Address to N. D., No. 7, Hacker street, Wall-street, Chelsea.

WANTED, a Constant SITUATION as JOURNEYMAN in the Painting and Glazing department; is a good jobbing plumber; can write well, and grain; and can have a first-rate character. Country preferred.—Apply by letter, X. Y. Z. Post office, Thame, Oxon.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a rapid designer and perspective draughtsman, and a good colourist, wishes for a RE-ENGAGEMENT as ASSISTANT in an Architect's office, or would be happy to render assistance at his own residence in the preparation of competition and other drawings. Terms moderate.—Address, M. A. Post-office, 33, Lamb's Conduit-street, W.C.

TO BUILDERS AND CONTRACTORS.

THE Advertiser WANTS a SITUATION as FOREMAN of BRICKLAYERS, or by the rod or foot. Any class of buildings he will take by measurement. Well acquainted with brick, stone, and rubble work, or ornamental brickwork, having carried out first-class buildings. Unexceptionable references.—Address, A. H. No. 2, Bridport-street, Blandford-square.

TO ARCHITECTS, ENGINEERS, AND SEWER CONTRACTORS.

THE Advertiser is desirous of a RE-ENGAGEMENT as CLERK of WORKS, or to take the charge of any important works for a builder. Has had great experience in the building trade in all its branches; good, if required, testimonials can be given.—Address, X. Y. 97, Balthouse-road, Barrow-in-Furness.

TO SURVEYORS AND OTHERS.

THE Advertiser, who is quick at squaring dimensions, abstracting, billing, &c. and a good draughtsman, also can land-survey and level, is open to a RE-ENGAGEMENT. Unexceptionable references from previous employers. Aged 24. Salary moderate.—Address L. L. L. Office of "The Builder."

TO ARCHITECTS, SURVEYORS, and Others.—The parents of a YOUTH in his 16th year are desirous of placing him where he can obtain a thorough knowledge of business, and where attention to morals would be combined with domestic comfort. The country preferred. Unexceptionable references given and required.—Address, Z. care of Messrs. Wheelers, Bankers, Wycombe.

STAIRCASE HAND.—The Advertiser, having had twenty years' experience in the construction of stairs, hand-rails, and all house-fittings, is now prepared to treat with town and country builders for work. He can also introduce machinery, whereby a saving of 30 per cent. will be realised.—Apply to G. B. 12, Church-street, Islington, N.

TO ARCHITECTS.

DISENGAGED, an experienced CLERK of WORKS, versed in Gothic and other styles, used to large works, and measuring, levelling, brickmaking, lime burning, road and sewer work. References first-class. Age 42.—Address, J. NELSON, at Mr Pearson's, opposite Hungerford Bridge, Belvedere-road, Lambeth, London.

TO ARCHITECTS AND SURVEYORS.

AN ASSISTANT, who has had 12 years' experience in London, is desirous of an ENGAGEMENT. He is a good general and perspective draughtsman, and understands surveying, levelling, and the management of house property.—Address, M. Messrs. Jones & Co., 9, Parliament-street, S.W.

TO BRICKLAYERS, BUILDERS, &c.

A YOUNG MAN wants a SITUATION as IMPROVER in the Bricklaying, or will Article himself for one or two years if required. Has been three years with a Jobbing Bricklayer. Has no objection to the country. Wages no object.—Address, H. F. No. 23, Upper Bemerton-street, Caledonian-road, Islington.

TO BUILDERS AND ARCHITECTS.

AN ASSISTANT, having practised in France and Germany, wants a SITUATION.—Address, S. A. 25, Sutherland-street, Pimlico, S.W.

TO ARCHITECTS AND BUILDERS.

A THOROUGHLY experienced and practical Estimator, having a portion of his time disengaged, is open to undertake Quantities and Estimates on moderate terms.—Address, A. B. care of W. Brack, No. 61, Nicholas-lane, Lombard-street, E.C.

TO SURVEYORS AND LAND AGENTS.

A YOUNG MAN desires a RE-ENGAGEMENT with the above. Highest references given.—Address, W. P. care of Mrs. Jacobs, 9, Bond court, Walbrook.

TO CONTRACTORS AND OTHERS.

AN Active, Experienced, Middle-aged Man, who writes a good hand, and is competent to estimate, keep books, take plans, &c., wishes for EMPLOYMENT. Address (private), J. C. 447, West Strand.

TO ARCHITECTS AND SURVEYORS.

A THOROUGHLY Practical Assistant, and generally qualified, desires an ENGAGEMENT, or temporary occupation in the office or at Home, on moderate terms.—Address R. S. 25, Hanover place, Clapham-road, S.

TO ARCHITECTS.

A THOROUGHLY efficient CLERK of WORKS is desirous of a RE-ENGAGEMENT. Seventeen years' experience.—Address, D. R. Office of "The Builder."

TO ARCHITECTS AND BUILDERS

AN ARCHITECTURAL DRAUGHTSMAN wishes to obtain a SITUATION in the Office of an Architect or Builder. Good references can be given. Address, M. R. Mr. Mackey's, Post office, Church-street, Croydon.

TO ARCHITECTS

AN Efficient CLERK of WORKS, of many years' experience on first-class works, is desirous of a RE-ENGAGEMENT, either in town or country. Has first-class testimonials. Address, J. H. T. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

AN ARCHITECTURAL ASSISTANT, of good ability, who is accustomed to make working and other drawings, and to perform the usual duties of an office, desires a RE-ENGAGEMENT. Satisfactory references can be given. Address, L. R., Mr. Rountree's, Chemist, Westbourne Road, Barnsbury Park, N.

A PRACTICAL DRAUGHTSMAN, Constructionist, and Designer, having a good knowledge of ornamental detail, is open to an ENGAGEMENT for office duties, or as CLERK OF WORKS, with or without part of his time devoted to draughting, &c. Address, "FIDE," Office of "The Builder."

TO ARCHITECTS

A GOOD GENERAL ASSISTANT is desirous of meeting with an ENGAGEMENT in town; can prepare finished and detail drawings, is a good colourist, and understands perspective.—Address, C. W. T. Office of "The Builder."

AN Efficient CLERK of WORKS, of long experience, is open to a RE-ENGAGEMENT. References of the highest order.—Address, A. B. 6, Kingsland-road, near Shoreditch Church.

TO BRICKLAYERS AND CONTRACTORS.

A STEADY BRICKLAYER, with 25 years' experience in London and Country, wants a SITUATION as FOREMAN, or to Superintend Works. Is a fair draughtsman, and competent in setting out works. Has had the entire charge of 200 or more men. Or would take Gauge-work or Tuck-pointing by the Piece. London or country.—Address, J. C. B. 6, Milton Cottages, South-road, Wimbledon, Surrey.

TO ARCHITECTS, ENGINEERS, &c

A GENTLEMAN of ten years' experience as CLERK of WORKS under an Architect, wishes a RE-ENGAGEMENT. Is a good draughtsman and surveyor, and has excellent testimonials. Accustomed to large works.—Address, M. M. Hale-road, Hendon, near Hampstead.

A GOOD PRACTICAL DRAUGHTSMAN, well qualified to prepare finished working and perspective drawings, and versed in detail and construction, desires a RE-ENGAGEMENT. Good references. Salary moderate.—Address, K. M. N. Stephen's News Room, 76, Strand, W.C.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers and Assistants, Clerks of Works, &c. Established by Messrs HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Geometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street London. ROBERT M. LATHAM, Secretary.

A CARD.

MESSRS. CORDEROY, Surveyors (late of High-street, Marylebone), have REMOVED their OFFICES to 17, KING WILLIAM STREET, STRAND, LONDON, W.C. Office in Portsmouth—13, Ordnance-row, Portsea.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES SPECIFICATIONS, &c. with the peculiar accuracy and speed so essential to the profession.

Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO. Lithographers, &c. 5, Ave Maria-lane, E.C.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, mines, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	15 "
Strong Silver Lever Watches	6 "
Gentlemen's Gold Compensation Balance Watches	25 "
Do. Silver do.	25 "
Marine Chronometers	25 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.

INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock, may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 39.

JOSEPH FAIRER,

Turret Clockmaker to Her Majesty's War Department, 188, St. George-street East, London.

CLOCK MANUFACTORY.—Established 1740.—THWAITES & REED beg to call the attention of Provincial Watchmakers to their Establishment, the OLDEST in the TRADE, where every description of CLOCK is made in the best possible manner, and at as low a price as first-rate work can be got up for Original inventors of the Spiral Door Springs.

London: 4, Resolven-street, E.C.

POLYTECHNIC.—ATTRACTIVE NOVELTIES. 1. Engagement of George Buckland, Esq. for his New Musical Buffo Entertainment, "Blue Beard," illustrated with Dissolving Views, shadow Pantomime Effects, and concluding. 2.—with an entirely new Scene and splendid illuminated Chromatic Transparent Spectacle. 3.—New and brilliantly illustrated Lecture by Professor J. H. Pepper, on "Colour in General and Coal-Tar Colours in Particular." 4.—New and Magnificent Dioramic Dissolving Views of "London" in the Rain, Anglo-Saxon Scenes, Illustrations, Tales, Stories, and Humorous Effects, with descriptive Lecture by James D. Malcolm, Esq. 5.—New Lecture by J. L. King, Esq. entitled "Curiosities of Science." 6.—New and charming series of Photographic Dissolving Views (by Mr. England) of "Paris as it is." 7.—New Scenes by Mr. J. Matthews, entitled "Foster Out-Fr stered," being an exposé of the Spirit Medium. 8.—The "Merrimac" and "Monitor," the "Warrior" and "La Gloire," illustrated in a splendid series of Dissolving Views. 9.—Re-engagement of the celebrated Brunetti Family for another series of their pop lar Concerts. Open from 12 to 5, and 7 to 10. Admission to the whole, 1s.

TO BUILDERS, CAPITALISTS, and OTHERS.—Required, 1,000l. or 1,200l. additional Capital, for the purpose of carrying on an old established Ready Money BRICKFIELD near Town, for which a liberal per centage and ample security will be given, or half the profits. Or to be Let at a Royalty. Comings in about 400l.—Address, L. L. 3, Talbot-terrace, New-road, Hammersmith.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter from SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT—Second Testimonial.—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

VENTILATION—PURE AIR.



Sheringham's Ventilator for the admission of Pure Air through an

EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d. These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

TARPAULINS, MARQUES, &c. for SALE or HIRE, SCAFFOLD and HEMP ROPE FALLS. H. PIGGOTT, 59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS. SCAFFOLD and HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES. CARY & PRIER, DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING. A STOCK OF THE ABOVE ALWAYS ON HAND. JAMES LYNE HANCOCK, VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON E.C.

GRIFFIN ANTIQUARIAN, a pure, choice, and first-class DRAWING PAPER, of Whatman's manufacture. A new batch of 1860 make is now in fine condition, and ready for delivery. Large sheets, 32 inches by 21 inches, 7s. WINSOR & NEWTON, 38, Rathbone-place, London, and all Stationers and Artists' Colourmen.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICE CATALOGUE of St. Cecilia, Sondamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or removed, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

BRICKS.

BEST KILN-BURNT BRICKS, of superior Common quality, can be supplied by the Million. Also, FINE WHITE AND RED FACING BRICKS. WHITE, RED, BLACK CUTTERS. VARIOUS DESIGNS OF MOULDED BRICKS AND RIDGE TILES. WHITE AND GREY LIME AND GLAZED STONEWARE PIPES. Vessels can load close to the Kiln's mouth, at the East Cowes Park Estate, on the river Medina, Isle of Wight. RICHARD LANGLEY, Agent.

ANCHOR BRICK-MOULD WORKS, HOUNSLOW, W. J. LEACH, Millwright and Manufacturer. Improved MOULDS, STOCKS, and PLATES, with screw stock pegs; also Oak Stocks, the largest stock in England, of which can be had, all made to order Wash, Chalk, Pug-mills, and Pumps, by steam or horse-power. Brickmakers are cautioned against an impostor collecting orders in J. L.'s name, and supplying an inferior mould. A satisfaction Guarantee for Brickfields. Established eleven years.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINE.

Adapted for hand, horse, or steam-power, will make one-third more in quantity of first-class goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order. Licenses to Manufacture granted for certain districts.

For price and particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C. The Machines may be seen at work at Southborough, (about one mile from the station), Kingston-on-Thames.

A NEW BRICK and LIME WHARF, and DRAWDOCK. JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the VICTORIA WHARF, NINE ELMS, S. For the Sale of Building Goods generally. BRICKS, TILES, SLATES, LIME, CEMENT, HAIR, LATHS, PLASTER, SAND, BALLAST, GLAZED DRAIN-PIPES, AND RED GOODS; TERRA-COTTA, SPLAY, JAMB, AND COPING BRICKS; SUFFOLK AND OTHER PAVIORS; STAFFORDSHIRE AND FIRE GOODS; MALMOTTERS, PICKINGS, &c. A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

OLD BRICKS FOR SALE.—Fifty Thousand or more good hard well cleaned BRICKS.—Apply to the Superintendent of the Rise-mill's, 11, Dock street, E.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLYON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

PURE STATUARY MARBLE! and in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS, 363, EUSTON-ROAD, London, N.W.
Prices moderate.
M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 29 and 30, Upper Belgrave-place, Pimlico, S.W.

BLOCK STONE! BLOCK STONE! The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall. Applar. Architects, Builders, and Masons, are requested to call and examine the quality.
SAMUEL TRICKETT has plenty of stones that are good building stones, and require no INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also NOTE, delivered direct from the Quarries to all parts of the Kingdom.
The BEST and CHEAPEST STONE WHARF in LONDON.
Address, SAMUEL TRICKETT, Isle of Dogs, E.
A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders will be executed with promptness and personal attention.

TO ARCHITECTS, BUILDERS, and OTHERS.—MARBLE and STONE COLUMNS TURNED and POLISHED, by improved machinery, at half the usual cost. Fonts chimney pieces, Mural Tablets, Tombs, &c. at the lowest possible prices.—WM. F. WILLIAMS, 316, Euston-road, N.W.

THE PANTECHNICON, QUEEN'S ROAD, BRIGHTON.
FOREIGN MARBLE GALLERIES, contain upwards of Two Hundred MARBLE CHIMNEY-PIECES, consisting of Carved Statuary, Vein, Sicilian, Blanc Fin, Sainte Clair, Rouge Royal, St. Anne's, Black, Jasper, Verd des Alps, and other coloured Marbles, in every variety of design and size, set up for view. Sculptured Marble Monuments, Headstones, &c. erected. An inspection is respectfully solicited by the Proprietors and Importers, JAS. HEAD & SONS.
N.B. Packing-cases lent free of charge.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, to any railway Station.—Apply to JOHN TRASK, Norton, near Minster, Somerset.

BATH! BATH!! BATH!!!
ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons' Work prepared ready for fixing.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

JOHN BAZLEY WHITE & BROTHERS, MARBLE MERCHANTS, MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCRAPES & WOOD! Architects' attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headers, Ledgers, Steps, Landings, &c. cut on the shortest notice. Country orders promptly attended to.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN, 27, MILLBANK STREET, LONDON, S.W.

BELLMAN & IVEY, SCAGLIOLA MARBLE MANUFACTURERS, 14, BUCKINGHAM-STREET, FITZROY-SQUARE, LONDON, W.
Execute, in the most workman-like manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
Exhibited at the Great Exhibition of 1851, and for which a Prize Medal awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION, FIT IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.
Also Manufacturers of Superior and Improved Plaster of Paris.

T. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal Ports for EXPORTATION. Wharf prices and estimates for general contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

FOREST of DEAN STONE.—
Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.)
The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.
That from their "Costy Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Dark hill" Quarries, is decidedly superior to it.
Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,
No. 1, BOLD TERRACE, CHESTER.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited,
Are prepared to Supply their First-class Blue Lias Lime in any quantity and at any place.
SPECIAL CONTRACTS MADE FOR LARGE WORKS.
All communications to be addressed to the Secretary, 2, Winchester-buildings, Great Winchester street, E.C.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 in lieu, &c.; white, red, buff, black, blue grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, lavatories, verandahs, &c.; as also for external decoration, as plinths, friezes string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.; also, the Architectural Pottery Company's patent orange-tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No. 50, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.

KAMPTULICON, or ELASTIC FLOOR-CLOTH, as made by GOUGH & BOYCE, the Original Patentees, and laid exclusively by them at the Houses of Parliament, and numerous other Public Offices. It is especially adapted for churches, museums, public rooms, shops, and passages, being clean, warm, noiseless, dry, and economical.—GOUGH & BOYCE, No. 19, Bush lane, Cannon street, London.—For warded to all parts of the country.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

HUBBUCK'S PATENT WHITE ZINC PAINT.
BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

ENAMELLED STONE CHIMNEY-PIECES,
Of Beautiful Designs, and to Imitate any kind of Marble; far Superior to Enamelled Slate, and considerably Lower in Price,
INVENTED AND MANUFACTURED BY
W. J. ELLISON & CO.,
SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.
Also, MANUFACTURER of WALL-LININGS, composed of Stone Slabs, with a Veneer of Scagliola to Imitate Marble, and Enamelled by Heat.
WARRANTED TO RETAIN ITS POLISH.
Office and Show Room, No. 3. WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.
Manufactory, EAST-ROAD, CITY-ROAD.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

ARMANI AND CO.
IMPORTERS DIRECT FROM THE MINES OF
PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,
SEYSSEL ASPHALTE,
LONDON, AND BY H.M.'S ROYAL LETTERS PATENT, PARIS,
MANUFACTURERS OF
1851. METALLIC LAVA. 1844.
FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.
MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

JOHN DOULTON, BROTHERS, & CO.
LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Publi at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.



REDUCTION IN PRICE

OF

CLARK'S

NEW PATENT REVOLVING SHUTTERS,

FOR

SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be readily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

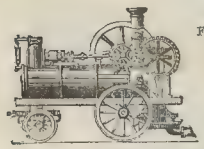
INODOROUS FELT, for lining walls and for clean floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.

N.B. Steam Power, with Workshops, to Let

MORTAR-MILLS,

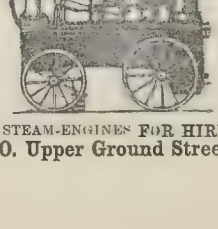
CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

HORTICULTURAL GLASS WAREHOUSE.

THOMAS MILLINGTON,

87, BISHOPSGATE-STREET WITHOUT, E.C

Lists forwarded on application.

PATENT and BRITISH PLATE GLASS.—JAMES HETLEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now in stock. Patent Plate, Sheet, Crown, and Ornamental. Window Glass Warehouse, 45, Soho square, London.

PAINTED GLASS WINDOWS AND MURAL DECORATION.—LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford-street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. METEAM & CO.

30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho square, W. and George-yard, Crown street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

MANCHESTER STAINED-GLASS WORKS.
R. B. EDMUNDSON & SON,
Artists in Stained Glass, Ecclesiastical and domestic of every description, ancient and modern, Illuminated Commandments, &c. by their new process on Plate Glass; Mural and Heraldic Decoration. Monumental Brasses, &c. Designs and estimates on application.—R. B. EDMUNDSON & SON, having had upwards of thirty years' practical experience in the manufacture of every description of glass for ecclesiastical purposes, have most of their glass made to order, and from their own receipts, and which will be found nearer to the old glass than any others at present manufactured. Works—New Wakefield street, Oxford-street, near the Bridge.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

GREATER REDUCTIONS.—Yellow Deals, from 2s. 2d; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 8d.; 1-inch Yellow, from 16s. 3d.; 1 White, from 11s. 6d. Carriage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1763, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage stamps.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

BUFF & DEEP RED FACING BRICKS, Splays, Cutters, Floor-tiles, Garden Edging, &c.—Apply to E. HOOPER, Manufacturer, Southampton; or JOHN DOWNEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.

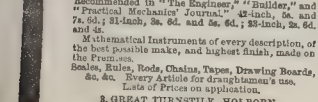
PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sadly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 531, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 27s. 6d. per 1,000.
" Kiln Bricks, at 35s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7s. per 1,000
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. R. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c

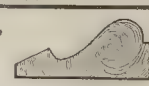


JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH
Near Astley's Theatre.
Respectfully inform the public that their Illustrated Price list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UPON RECEIPT OF ONE POSTAGE STAMP.



MOULDING WORKS.
SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

BUILDERS AND CARPENTERS AND OTHERS
Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE FREE.

Three quarter inch Flooring (well prepared), 11s. 6d. per square.		Laths, 28s. per load.	
Yellow Deals, sound and good	£19 10 0 per 120,	or 6s 3½d. per foot.	
Spruce Deals	16 10 0 "	0 2¾ "	
Yellow Battens, excellent quality	11 10 0 "	0 2 "	
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 "	3 6 "	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅞-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch "	12s. 6d.	12s. 6d.	13s. 6d. "
1-inch "	14s. 6d.	15s. 0d.	16s. 6d. "
1¼-inch "	—	18s. 0d.	19s. 0d. "

Yellow Deals, 3 by 9 £19 10s. per 120.
Yellow Battens £11 10s. "
Spruce Deals £16 10s. "
Pine Planks (Dry), 3 by 11 24l. per 120
Pine Deals do. 3 by 9 19l. 10s. "
⅞-Inch White Matched Lining 13s. per square
J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
9,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—viz.
Sashes and Frames Bargeboarders, Doors, Staircases, Hand rails, and Water closet Fittings, wellseasoned Floorings, Matched Linings, Skirtings and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Arched Window Linings, Glass Show Cases, &c.
Green-houses, Hot-houses, and Conservatories, on the most improved principles
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c:
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by
J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP.

JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.
JEFFS, BROTHERS,
CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN PIPES, RED CHIMNEY-POTS, AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TA'HAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

IMPORTANT to BUILDERS and USERS of PORTLAND CEMENT.
"BENNETT'S INDURATING and QUICKENING SOLUTION for PORTLAND and OTHER CEMENTS," recently patented, obviates, as its name implies, the objections frequently urged against cements, and particularly against Portland cement, of not setting sufficiently quick and hard, and thereby causing delay and expense. In works where rapidity of setting, hardness, and sharpness of outline are desirable, the use of this solution is strongly recommended, and will prove both advantageous and economical. It is sold in stone quart bottles, price 2s. each, with printed directions for use, and can be obtained only of
F. & G. ROSHER,
CEMENT, BRICK, and LIME MERCHANTS (Sole Agents for its sale), at their Wharves, as under.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLDSWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY STONE LIME, CHALK LIME, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS,
SECONDS, BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS and TILES, of every description and size
GLAZED STONEWARE DRAIN PIPES, TRAPS &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

STRINGFIELD and BLYTH,
Sole Consignees of
NELSON'S BLUE LIAS LIME.
Orders addressed to Messrs. S. & B. Bangor Wharf, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, } SOLE
WELLINGTON WHARF, Belvidere-road, } CONSIGNEES.
Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade from
N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise,
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants and Brokers' Orders promptly executed.

GREY STONE LIME,
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

KEENE'S and PARIAN CEMENT for internal uses.—These well-known hard Stuccoes dry quickly and can be painted upon within a few days.
Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.

ROMAN CEMENT made at the above works may be had fresh from the kilns daily,—a great advantage to dealers and sewer contractors, especially in winter time.

PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the lias cements, so much of which is now brought into the market and sold as Portland.

PLASTER OF PARIS, both coarse and fine, of very superior quality and colour.

LIME.—Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the barge or yard, and may be had fresh ground daily, by steam power, for cover-te.

BRICKS from our fields in Kent, by the barge alongside, in the river or canals, or by cart from the above wharf, of good quality and moderate price.

A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain, Pan, and Paving Tiles, Hair, Laths, Chimney-pots, &c. always kept in stock.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.
Agent in Liverpool—JOHN McKENZIE, 42, Seel-street.
Do. do. Manchester—THOMAS OAKDEN.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMENT WORKS,
Northfleet, Kent.
Messrs. ROBINS & CO.
To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14 SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER and CO.
(Contractors to Government),
24 WHARF, HARROW-ROAD, PADDINGTON, W.
Every article manufactured at their own Works and Mines,
Brierley-hill.
FIRE-BRICKS, Lumps, Squares, Tiles and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

JOHNS & CO.'S PATENT PERMANENT
STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT-ROAD,
Office, 5, George-yard, Lombard-street.

PARIAN CEMENT for INSIDE WORK.
With this material houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, PROTT, Nine Elms, London.

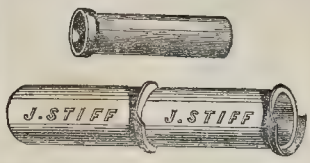
GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

ASPHALTE—GERVASE FOOTTIT,
TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Estd. 1834. TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by steam power, laid down in the best manner, or supplied in any quantity. Information for using forwarded with Material. Post-office orders or reference in London promptly attended to. Estimates given for every kind of the above work.

COLONCEAU and LIMMER ASPHALTE.
ESTABLISHED  1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is extensively used for paving Stables (as shown above), the absence of pores preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Roofs, Footings, Barn Floors, &c. with instructions to lay it down.

PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete,
TWENTY-FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

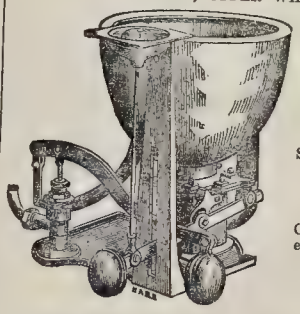


PAN, 4s. 6d.

TRAP, 2s.
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.
May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S, City-road Wharf, City Basin.
Messrs COLES, SHADBOLT, and CO'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A RITCHIE'S, Ravensbourne Wharf, Greenwich.
Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.
WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS
MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.
M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

IMPERIAL POTTERIES, LAMBETH.
JOHN CLIFF & CO.
(Late STEPHEN GREEN & CO.)
GLASS-LINED AND SALT-GLAZED  SANITARY GOODS.
FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

HAYWARD TYLER & CO.
ENGINEERS AND BRASSFOUNDERS,
84 AND 85, UPPER WHITECROSS STREET, LONDON, E.C.

HOWARD'S PATENT
REGULATING VALVE,
MANUFACTURED BY H. T. & CO.
Has been fixed in every situation, and proved to be
THE ONLY EFFICIENT VALVE
FOR
SUPPLYING CLOSETS WITH WATER WITHOUT
THE COMPLICATED ARRANGEMENT OF
CRANKS AND WIRES.
The "Great Eastern" has been fitted with these Closets, and hundreds are now in operation in many large establishments in the metropolis.
H. T. & Co. solicit an inspection at the Manufactory, where they may be seen in operation.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME, obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.
They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.
SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.
Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S., or from the WORKS, near POOLE, DORSET.
Illustrated Lists with full Particulars and Prices may be obtained of
WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.
A GOOD DRAWING-DOCK AND LANDING WHARF.
*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, , Conduit-street, Regent-street, W.

J. TYLOR & SONS,

MANUFACTURERS,

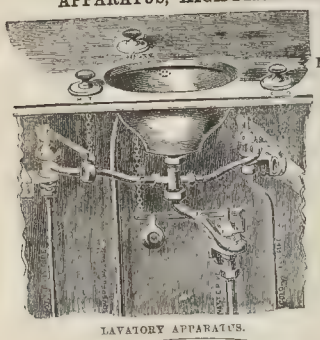
WARWICK LANE, NEWGATE STREET, LONDON.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

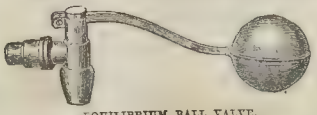
To be seen in action at the Manufactory, WARWICK LANE,

And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent street, London.

ILLUSTRATED CATALOGUES ON APPLICATION.



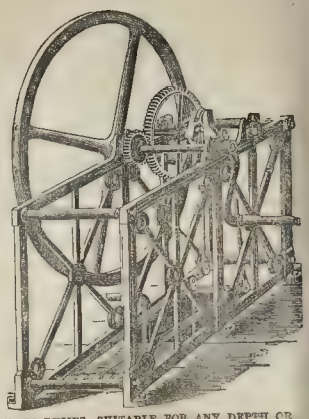
LAVATORY APPARATUS.



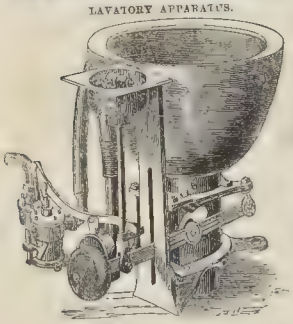
EQUILIBRIUM BALL VALVE.



HIGH-PRESSURE DIAPHRAGM VALVES.



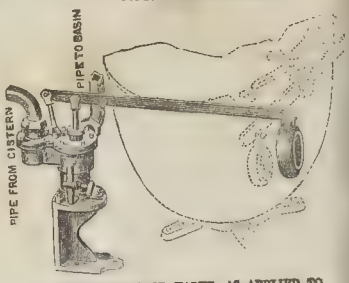
WELL-PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



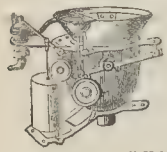
PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

THOMAS LAMBERT & SON,

No. 1. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



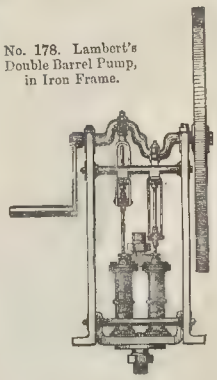
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

HENRY DOULTON & CO.'S



GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

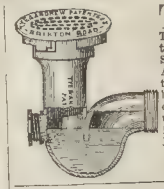
PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—

HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.

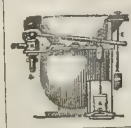
High-Street, Lambeth, London.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.





UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. SOTTEN & SON,

F. G. UNDERHAY

NOW manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves, Gas Meters, &c. on the same premises,

CRAWFORD PASSAGE, CLERKEN-WELL, LONDON, E.C.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the common stoneware description of earthenware.

The objections to the Cheap Closet pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes, and the Pans become DISCOLOURED and UNFIT for USE.

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glare, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shewn that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the

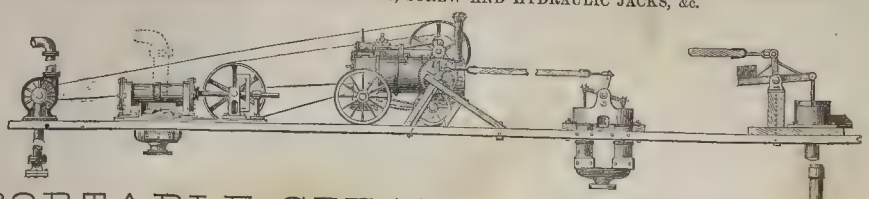
3s. 9d. Enamelled Stoneware Closet and Trap

BENJAMIN FOWLER & CO., WHITEFRIARS ST., FLEET ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

TO BE WORKED BY STEAM, HORSE, OR HAND POWER, FOR TEMPORARY OR PERMANENT USE; ALSO OF SINGLE OR DOUBLE PURCHASE CRABS, PULLEY BLOCKS, SCREW AND HYDRAULIC JACKS, &c.





PORTABLE STEAM ENGINES,

IN GOOD SOUND WORKING ORDER,

WITH or WITHOUT PUMPS, to DISCHARGE a LARGE or SMALL QUANTITY OF WATER FROM ANY DEPTH, ready for delivery to order at a DAY'S NOTICE, or, upon very reasonable terms, ON HIRE.



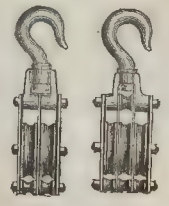
FOWLER'S PULLEY AND SNATCH BLOCKS,

of every size and description. These are strong, well-made blocks, and will be found in all points as good in quality and as low in price as those made by any house in London.

RUBBISH WHEELS OF VARIOUS SIZES.

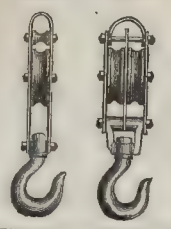
FOWLER'S USEFUL SINGLE, DOUBLE, and TREBLE PURCHASE CRABS.

B. F. & Co. have a variety of Patterns, strong and light, at prices which will meet any requirement.

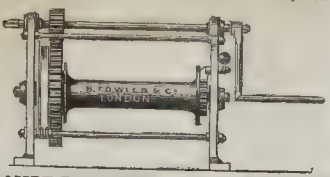


WESTON'S PATENT DIFFERENTIAL BLOCKS,

to lift from half a ton upwards, with chain to suit, at the lowest prices.









A LARGE STOCK IS KEPT READY FOR PROMPT DELIVERY, AND CAN BE INSPECTED AT THE WORKS.

Price Lists of Pumps, &c., forwarded on application.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 85.

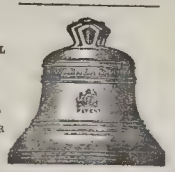
WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.	Fitted for lead,	£ s. d.
2½ in. short	1 ft. 7 in.		1 1 0
2½ „ long	3	gutta percha	1 10 0
3 „ ditto	3	or cast iron	2 4 0
3½ „ ditto	3	flanged pipe,	2 9 0
4 „ ditto	3	as required.	2 16 0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			2 0 0
2½ in. long ditto ditto			2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.

A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

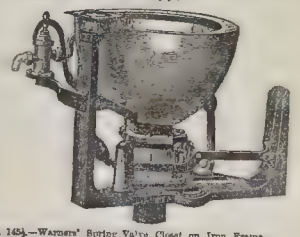
Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 143½.—Warners' Spring Valve Closet on Iron Frame, with vulcanised India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 0
Sunk handle extra 0 3 0
Blue basin, extra 0 1 0



No. 69.



No. 384. No. 383.

WARNERS' HIGH PRESSURE COCKS are made with gland Stuffing-boxes and loose Valves. They can always be made sound after wear, and re-leathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slides and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch. ...	£5 0 0	Larger sizes when required.
3 „	7 5 0	
3½ „	8 0 0	

Fitted to the best Plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4	15 0
3 „	5	15 0



WARNERS' BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from 2l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

J. WARNER & SONS' PRICED ILLUSTRATED CATALOGUE WILL BE FORWARDED POST-FREE ON APPLICATION.



No. 143½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £3 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

The above Prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

TO CONTRACTORS, ENGINEERS, AND OTHERS.—SURPLUS PLANT from Westminster Bridge.

PULLEN, HORNE, & EVERSFIELD are authorised to TREAT by PRIVATE CONTRACT for the SALE of the SURPLUS PLANT no longer required at the works of the new Westminster Bridge, consisting of several capital travelling cranes, about 50 feet span, driving beds, crabs, timber stag, &c. — Further particulars may be obtained on application to PULLEN, HORNE, & EVERSFIELD, 41, Parliament street, Westminster, S.W.

PUTNEY.—BUILDING MATERIALS of the Mansion, Lime Grove Estate.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, near the Railway station, Putney, on MONDAY, MAY 12th and following days, commencing at TWELVE for ONE precisely each day, the valuable MATERIALS and FITTINGS-UP of the MANSION and OFFICES; comprising Sheets of patent glass, of various sizes, large quantity of plain and fancy tiles, 1500 feet of flooring, excellent oak and fir timber in trusses, joists, and girders; oak staircase, 50 squares of York, Portland, pebble, and clinker paving; 400 feet of Portland coping, 20 pairs of plate glass sashes, 60 panelled and other doors, four carved statuary chimney-pieces, several other chimney-pieces and stoves, kitchen-range, iron sheys and laundry fittings, the fittings-up of a brewhouse, copper and 3-gallon copper, brick lined with lead, force-pumps, &c., yard and oak house gates, stable fittings, 30 tons of lead, and other effects. May be viewed on FRIDAY and SATURDAY previous, and had descriptive lots of Messrs. BAXTER, ROSE, & CO. 6, Victoria-street, Westminster; of GEORGE POWNALL, Esq. Architect, 60, Lincoln's-inn-fields; and of PULLEN, HORNE, & EVERSFIELD, 41, Parliament-street, Westminster, and 80, Fore-street, City.

IMPORTANT SALE of OAK TIMBER.—Bedford Purlieus, near Wansford, Northamptonshire.—To NAVY CONTRACTORS, SHIPBUILDERS, CONTRACTORS, BUILDERS, WHEELWRIGHTS, and OTHERS.—To be SOLD by AUCTION, by

MESSRS. RICHARDSON, on THURSDAY, the 15th day of MAY, 1862, at the MERMAID INN, in Wansford, 450 very superior OAK TIMBER TREES, of exceedingly large dimensions, and of undeniable quality, in ninety lots, now standing in Cocker Wood, blazed and numbered with white paint: Catalogues of the above may be had of the Auctioneers, Stamford: Mr. WILSON, Wansford; and at the Place of Sale. Woodmen will be constantly in attendance up to the date of sale to assist parties in view by the same. Bedford Purlieus is adjacent to good roads, and is within a very short distance of railway and water communication to all parts of the kingdom. The sale will commence at ONE o'clock.

Auction Offices, Barn-hill, Stamford, April 22, 1862.

HERTFORD.—First-class Plots of Building Ground, suitable for Villa Residences.

MESSRS. JACKSON & SON have been favoured by the Hon. Baron Dimsdale to offer for SALE by AUCTION, on WEDNESDAY, the 7th of MAY, 1862, at TWO o'clock, at the DIMSDALE ARMS INN, Hertford, TWENTY-THREE PLOTS of BUILDING GROUND, at Waterford, immediately adjoining the borough town of Hertford, in every respect of high class character, and of dimensions (seldom to be met with) suitable to every tastable consumers, and requirements for villa residences, so unceasingly called for in the vicinity. The lots will contain one acre and upwards upon the average each. There are two railway stations at Hertford belonging to the Great Northern and Eastern Counties Railway Companies; and Haileybury College, that desideratum for superior youthful education, at a moderate cost, is within two miles' distance. A superior, grammar-endowed school is in the town, as is also Christ's Hospital. The rural and picturesque scenery commanded from the lots proposed to be sold, may fairly be stated to embrace everything which the most fastidious could desire. Roads and approaches are chiefly made, the locality proverbially indices healthand longevity, and upon the whole it would be difficult to find a more eligible spot.—Particulars, with plans, to be had upon application by post or otherwise of Mr GEORGE JACKSON, Auctioneer and Appraiser, Hitchin and Baldock; Auction Mart, London; at the principal Inns in the neighbourhood; of Messrs. LONGMORE, SWORDER, & LONGMORE, Solicitors, Hertford; and of T. B. MALLAM, Esq. Woodfield Lodge West, Harrow-road, Paddington, W.; and of Messrs. JACKSON & SON, Auctioneers, Land and Estate Agents, Hertford and Ware.

NEWTON BRICKFIELD, GOATHORN, in the Isle of Purbeck, DORSET.—To CONTRACTORS, BUILDERS, BRICKMAKERS, and OTHERS.—TO BE SOLD by AUCTION, on MONDAY, the 12th day of MAY, 1862, by

MR. THOMAS DODSON, on the PREMISES, at Goathorn, the whole of the valuable STOCK, PLANT, &c. of the above Brick and Architectural Block Manufactory, in consequence of discontinuing the business; comprising 4,000 dressed white facing bricks, 30,000 best white fleeing bricks, 50,000 best seconds ditto, 60,000 seconds, 50,000 fire bricks, 1,000 arch ditto, 4,500 plinth bricks, 1,500 8-inch ditto, Gothic and other fittings for cottage windows, a large quantity of red bricks, &c.; one drying shed, 125 feet by 21 feet; one drying shed, 184 feet by 21 feet 6 inches, strongly framed with principals, every 10 feet; both with flues and covering tiles under

Ten Hack Houses, 156 feet long each, with board roofs complete

Sixteen ditto 180 ditto ditto ditto.

The whole of the iron and brick work of four kilns, in good condition; sliding roof over ditto; two pug-mills, with gear; one set of chilton's sliding roof over ditto; two pug-mills, with gear; one set of ditto's sliding roof over ditto; two pug-mills, with gear; one set of ditto's sliding roof over ditto; two pug-mills, with gear; one set of ditto

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XX.—No. 1005. MAY 10, 1862. Price Fourpence.

ILLUSTRATIONS.

Premiated Design for the Proposed Assize Courts, Brussels: Messrs. J. W. Green and L. De Ville, Architects 333
Ground Plan of the Palace of Art and Industry 332

CONTENTS.

The Palace of Art and Industry 325
Our Chief Towns: Coventry 327
An Artist's Gossip on the International Exhibition 328
The Hereford Cathedral Choir-screen and Corona, and the Group of Gas Standards in the Palace of Art 329
The Exhibition of the Royal Academy 330
The New Society of Painters in Water Colours 340
The Rag Collecting Brigade and the London Waifs 331
British Cotton Spinners 341
Proposed Assize Courts, Brussels 332
The New Railway station at Stafford 332
Royal Institute of British Architects 335
British Archæological Association 335
Galleries—Pews—Ceilings: Stewkley Church 335
The Albert Memorials 335
"On the Improvements about York Minster" 339
Halifax 336
Competitions 336
Green Paper-hangings 336
Pontefract Church 336
Church-building News 336
Provincial News 337
School-building News 337
Vaulted Roofs 338
Ecclesiastical Dilapidation Bill 338
Birmingham Free Library Competition 338
Natural Philosophy at Oxford 338
Application of the Assessed Taxes 338
Books received: Practical Mechanic's Journal Record of Great Exhibition (Longman): Variorum 338
Miscellanea 339

ROYAL ACADEMY of ARTS.—The EXHIBITION of the ROYAL ACADEMY is NOW OPEN—Admittance (from EIGHT to SEVEN), One Shilling. Catalogue, One Shilling. JOHN PRESCOTT KNIGHT, R.A. Secretary.

THE NEW SOCIETY of PAINTERS in WATER-COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall-mall, near St. James's Palace. Admission, 1s.; Catalogue, 6d. Season Ticket, 5s. JAMES FAHEY, Secretary.

ROYAL HORTICULTURAL GARDEN, SOUTH KENSINGTON.—ADMISSION during MAY.—Mondays, Tuesdays, Wednesdays (except 21st), and Thursdays, One Shilling; Fridays, Half-a-crown. Saturdays, Five Shillings. Band daily at 3.30.

Wednesday 21st, First Great Show, 7s. 6d., or by Tickets previously purchased, Five Shillings. Next election of Fellows, May 12.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, NOW OPEN, from Nine till Six. Admission 1s. Half-a-crown season tickets admit at all times to the Exhibition to the west gallery containing the entire collection of drawings and sketches by the late A. Welby Pugin, and to all the Lectures. Second Lecture, TUESDAY, MAY 13, at Eight o'clock p.m. The Character and Career of the late A. Welby Pugin, by Professor Kerr.

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

NATIONAL ASSOCIATION for the PROMOTION of SOCIAL SCIENCE, and CONGRES INTERNATIONAL DE BIENFAISANCE.
LONDON MEETING, JUNE 1862.

The SIXTH ANNUAL MEETING of the National Association for the Promotion of the Social Science, in conjunction with the Third Session of the Congrès International de Bienfaisance, will take place in London, from the 5th to the 14th of JUNE.

The Departmental Meetings of the National Association will be held at Guildhall, in the forenoon, and there will be Evening Meetings for the discussion of special subjects in Burlington House. The Session of the Congress will be held in the Forenoon in Burlington House. A series of soirées will be given during the period of the meeting, and it is intended to provide for visits to places and institutions of interest in the objects of the Association.

Members' tickets (price One Guinea each), entitling to the volume of transactions, and Ladies' tickets, price Half a Guinea, will admit to all the meetings of the Association and Congrès, and to the Soirées, &c. Tickets will be issued and every information given on application at the offices for the meeting, at Guildhall, E.C.; and 12, Old Bond-street, W.

As the local expenses have in all former cases been borne by the town in which the Association has met, and as the expenses of London must be still necessarily be considerable, the Finance Committee appeal to the inhabitants of the City and the Metropolis for contributions in aid of the local fund. For every £1 subscribed to this fund subscribers are entitled to a member's ticket and a lady's ticket for the meeting.

Subscriptions will be received by ANDREW EDGAR, Esq. Finance Secretary, at the Office for the London Meeting, 12, Old Bond-street, W.; and at the City Office, Guildhall, E.C.; by Messrs. RANSOM, BOUVERIE, & CO., 1, Pall-mall East, S.W.; the London and Westminster Bank, Lothbury, E.C., Messrs. HEYWOOD, KENNARD, & Co., 4, Lombard-street, E.C.; and by Mr. GEORGE LEDGER, 4, Charlotte-row, Mansion House, E.C.

GEORGE W. HASTINGS, Hon. Gen. Secretary,
and Chairman of Executive Committee.
A. EDGAR, Finance Secretary.
G. WHITLEY, M.D. Foreign Secretary.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION, to procure and issue to subscribing Photographs of subjects strictly illustrative of Architecture and of its subsidiary Arts.—Subscriptions to be paid to Mr. HENRY MOODY, 3, Conduit-Street, Regent street, from whom particulars may be obtained. W. LIGHTLY, Hon. Sec.

PROFESSOR OWEN, Superintendent of the Natural History Departments in the British Museum, will deliver a Course of SIX LECTURES, "On the CHARACTERS, ORGANIZATION, GEOGRAPHICAL DISTRIBUTION, and GEOLOGICAL RELATIONS of BIRDS," in the Theatre of the Museum of Practical Geology, Jermyn-street. The lectures will be delivered on TUESDAYS, DAYS and FRIDAYS, at THREE o'clock, commencing on Wednesday, 14th May. Tickets to be had at the Museum, Jermyn street. Fee for the course, 5s. TRENHAM REEKS, Registrar.

PROFESSOR TYNDALL, F.R.S. commenced a COURSE OF FORTY LECTURES, on Magnetism, Electricity, Heat, Light, &c. on the 5th instant, at the Government School of Mines, Jermyn-street. The Lectures are delivered on every week-day except Saturday. Fee for the Course, £1. TRENHAM REEKS, Registrar.

ARCHITECTURAL ALLIANCE.—The Architectural Institute of Scotland, and the Architectural Associations of Birmingham, Glasgow, London, Liverpool, Manchester, and the "Northern Architectural Association," having provisionally entered into an Alliance for mutual assistance and co-operation, and their aim being to embrace in the Alliance Associations representing every county or district of the United Kingdom, other professional Associations are cordially invited to join. It is proposed to hold a Conference of Delegates in London, on TUESDAY, JULY, 1st, for the purpose of settling the details of the scheme. Meanwhile, the "Outline Scheme," as provisionally agreed to, will be sent to any Association disposed to join, or to any architect wishful to organize a branch association in his locality. All communications to be addressed, for the present, to Mr. J. P. PRITCHETT, Architect, Northgate House, Darlington.

May 6, 1862

COMPETITIONS.

ST. FINBAR'S CATHEDRAL, Cork.—To ARCHITECTS.—It having been resolved to Re-build St. Finbar's Cathedral, ARCHITECTS are invited to furnish DESIGNS for the ERECTION of a NEW CATHEDRAL at a cost not exceeding 15,000*l.* A premium of 100*l.* will be given for the best and most approved plan, and 50*l.* for the second. Plans and designs to be sent to the Hon. Secretaries, Ven. the ARCHDEACON of CORK, Rev. J. N. WOODROFFE, or T. M. USBORNE, Esq., Cork, not later than the 1st day of AUGUST next.—Further information and a plan of the site may be obtained on application to W. C. BENNETT, Esq. Notary Public and Chapter Clerk, 16, South-mall, Cork.

COMPLETION of LEAMINGTON PARISH CHURCH.—To ARCHITECTS.—The Committee are prepared to receive PLANS and ESTIMATES, in Sections, for the Completion of the Parish Church of Leamington. The nave, the chancel, and the north transept being already built, it is intended to proceed to erect the remaining portions of the work in sections. Architects are invited to send in plans and estimates, in sections for erecting the south transept, the vestry, the lantern tower, and the bell tower; which it is intended to build in strict harmony with the architectural style of the portions of the church now erected. Increased accommodation in the church is most desirable. A premium of 20*l.* will be given for the best set of plans and estimates in the opinion of the Committee, which must be sent, sealed and addressed, to Mr. G. ROGERS, New-bold street, Leamington, on or before the 21st of JUNE, 1862, of whom all further particulars may be obtained. By order of the Committee,

Leamington, 1st May, 1862. GEO. ROGERS, Hon. Secretary.

CONTRACTS.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a NEW CHAPEL and VESTRIES on the site of the present Congregational Chapel at Usk, Monmouthshire, may obtain particulars at the Offices of the Architects, Messrs. W. G. HABERSHON & PITE, 20, Bloomsbury square, London, and Park square, Newport, Monmouth; and Belvedere, Tredegarville, Cardiff. The lowest or any Tender will not necessarily be accepted.

HARBOUR DREDGING.—TO CONTRACTORS and others. The Commissioners of the Southampton Port and Harbour are desirous of receiving TENDERS for DREDGING by Steam Dredger, about 15,000 cubic yards of mud and earth around the Royal Pier Pontoon, situate on the eastern side of Southampton Water, and for the erection and maintenance of a Screen or Jetty on the same side of the Water. Plans and particulars may be seen on application to Mr. D. GRIDES, the Commissioners' Surveyor at Southampton, who will also show the site of excavation and place of deposit. Sealed Tenders, addressed to the Commissioners, endorsed "Tenders for Dredging," to be delivered, postage free, at my office, No. 4, Lower Bugle-street, Southampton, on or before MONDAY, 26th inst. No pledge is given to accept the lowest or any Tender. By Order,

WILLIAM FARRAND, Clerk to the Commissioners.

Southampton, May 1st, 1862.

NORWICH BOARD OF HEALTH.—To BRICKLAYERS and OTHERS.—The Paving, Sewerage, Cleansing, and Lighting Committee are prepared to receive TENDERS for CONSTRUCTING and REPAIRING SEWERS, DRAINS, GULLIES, &c., within the corporate district of the above Board, for the Term of Three Years, from the 24th June next. A specification may be seen at the Surveyor's office, 24, Castle-meadow, where every information may be obtained. Tenders addressed to me, and endorsed "Tender for Repairs to sewers, &c.," to be sent in on or before the 26th day of MAY next. The Committee do not bind themselves to accept the lowest or any Tender.

H. B. MILLER, Clerk to the said Board.

Norwich, 1st May, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for WORKS to be executed in RE-COVERING the ROOF, &c. of the ROTUNDA at the Royal Military Repository, Woolwich.

Parties desiring to Tender for these works must leave their names at the Office on or before the 14th day of MAY, 1862, and pay the sum of 10*s.* 6*d.* for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of state does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, April 24, 1862.

WAR DEPARTMENT CONTRACTS.—BUILDERS and such competent persons as are desirous of undertaking the several WORKS and REPAIRS to the Barracks and other Buildings required by the War Department at Penally and Brecon, upon a CONTRACT, for the period from 1st JUNE, 1862, to 31st MARCH, 1864, may be furnished, by payment of 5*s.* 6*d.* with the printed schedules of prices and the conditions of the Contract, with every necessary information respecting the same, on personal application at this Office, between the hours of TEN and FOUR each day (Sundays excepted), until the 15th MAY, 1862; after which date no further issues will be made.

One Contractor only will be accepted for the whole of the trades for each of the above-named stations; but the rates of per centage at which the parties Tender may be disposed for each trade, at their option; but such rates must be shown in the proper place on each of the schedules.

The Tenders will be required to be delivered on or before the 19th day of MAY, 1862, at the War Office, Pall-mall, London, addressed to the Surveyor of Contracts, and endorsed "Tender for Artificers' Work" in the left-hand corner of the envelope.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Pembroke Dock, South Wales,
1st May, 1862.

ARMY CONTRACTS.—Commissariat, South Camp, Aldershot, 1st May, 1862. TENDERS will be received at this Office, until noon, on the 20th instant, from persons who may be willing to enter into CONTRACTS for the SUPPLY of FORAGE, in such quantities as may be required from 1st JULY to the 31st OCTOBER next, for the use of Her Majesty's Land Forces stationed at Aldershot Camp, and within the command.

The Tenders must be properly filled up and signed, and delivered at this Office, under closed envelope (marked on the outside "Tender for Forage"), before noon. In the 20th instant, and no Tender will be noticed unless made on printed forms obtained from this Office.

ALFRED SALWEY, Deputy Commissary General.

TO HOTEL PROPRIETORS, BUILDERS, JOINT-STOCK COMPANIES, and OTHERS.—The Directors of the Charing Cross Railway Company are prepared to receive TENDERS for a SITE, measuring about 150 feet by 60 feet, adapted for the erection of a first-class HOTEL, over their Terminus at Charing-Cross.—Particulars may be had on application to the Secretary of the Charing-Cross Railway Company, at the London-bridge Station, from and after MONDAY, the 21st instant, and sealed Tenders to be sent in to the Secretary, on or before TUESDAY, the 20th day of MAY next. S. SMILES, Secretary.

Railway Terminus, London-bridge, April 10, 1862.

PROPOSED NEW SCHOOLS, VESTRIES, &c. Rawtenstall, Lancashire.—Persons desirous of CONTRACTING for the ERECTION of the above, may see the plans and specifications at the Offices of THOMAS SIMPSON, Architect, Nottingham, from WEDNESDAY, APRIL 30th to MAY 14th, inclusive; and at Rawtenstall, on application to THOS. ROYLE WHITEHEAD, Esq., on and after MONDAY, the 19th day of MAY. Printed quantities will be supplied on application to the Architect. Tenders to be delivered to THOS. ROYLE WHITEHEAD, Esq., Rawtenstall, on or before WEDNESDAY, the 21st day of MAY. The Proprietors do not bind themselves to accept the lowest or any Tender.

CHEAPSIDE.—BUILDING LAND.—To BUILDERS, CAPITALISTS, and OTHERS.—A valuable SITE in Cheapside, of about 60 feet frontage and averaging 45 feet in depth, TO BE LET on Building Lease, for a term of 80 years from Lady-Day, 1863, suitable for the offices, warehouses, or warehouse or business premises. Tenders will be received up to the 20th day of MAY next.—Plans, particulars and conditions of Tender may be seen on or after the 24th instant, on application to the Clerk, Saddlers' Hall, Cheapside, E.C.; or to Mr. F. W. PORTER, Architect, 30, Russell square, W.C. between TEN and FOUR.

TO BUILDERS and OTHERS.—The Burial Board for the parish of Broadwater, in the county of Sussex, hereby give notice, that they are prepared to receive TENDERS for the ERECTION of TWO CHAPELS and SEXTON'S LODGE, and OFFICES, situated in Heene-road, on land at Broadwater, intended to be used as cemetery for the said Broadwater and town of Worthing, together with the necessary walls and other works connected therewith. The plans, drawings, and specifications of the works may be seen, and any further information required may be obtained, on application to the undersigned. Sealed Tenders endorsed, "To the Burial Board for the parish of Broadwater, Tender for Works," to be delivered at the Clerk's office, 35, High-street, Worthing, before FIVE o'clock on the 24th day of MAY next.—The Burial Board do not bind themselves to accept the lowest or any Tender.

W. VERRALL, Clerk to the Burial Board.

Worthing, April 24, 1862.

KNIGHTON, RADNORSHIRE, NATIONAL SCHOOL.—TO ARCHITECTS.—PLANS and SPECIFICATIONS are required on or before the 1st JUNE for the above, comprising Boys', Girls', and Infants' School Rooms, together with Residences for Master and Mistress.—For information as to site and other particulars apply to the Rev. J. R. BROWN, Incumbent of Knighton.

[For remainder of Contracts see next Page.

CONTRACTS.

ISLE of THANET UNION.—To Builders, Contractors, &c.—The Guardians of the above-named Union hereby give notice that on WEDNESDAY, the 21st day of MAY, 1862, they will be required to receive SEALED TENDERS (no later than FIVE o'clock p.m.) for the ERECTION of a NEW INFIRMARY, Fever Wards, Office Buildings, a Chapel, Fence Walls, &c., on about 7 acres of land, with the necessary Workhouse, situate at Minster, near Ramsgate, Isle of Thanet. Plans and specifications of the proposed buildings may be inspected at the Office of Mr. EDWARDS, the Architect, No. 17, Hart-street, Bloomsbury, London, W.C.; or at the Board-room of the Workhouse, on and after the 9th instant, where lithographed copies of the quantities may be obtained on payment of 10s. The Tenders must be addressed to the Chairman of the Board, and be accompanied by the names of two responsible persons, who will join the Contractor in the usual bond for the due and faithful performance of the terms of the contract. They will be opened on THURSDAY, the 22nd of MAY, at the hour when no Tender is accepted will then be informed of the same, and will be required to attend the next meeting of the Board, with his sureties, to execute the aforesaid bond. The Board do not reserve to themselves the right of rejecting the lowest and every other Tender or any part thereof.

Minster, May 6, 1862. EDWARD WOOTTON, Clerk.

TO BUILDERS, &c.—The Committee of Visitors of the Wilts County Lunatic Asylum are prepared to receive TENDERS for the ERECTION of ADDITIONAL BUILDINGS sufficient for the accommodation of about eighty patients. Plans and specifications, with conditions, may be seen at the Asylum, on and after FRIDAY, the 2nd of MAY; and the same form of tender may be had at the Office of Mr. PENSTON, the County Surveyor, at Salisbury. Sealed Tenders, addressed to the Committee, to be sent to the Clerk to the Visitors at the County Asylum, before TEN o'clock in the forenoon of TUESDAY, the 13th day of MAY.

Devizes, April 30th, 1862. ALEN MILES, Clerk to the Visitors.

TO BUILDERS.—Persons disposed to TENDER for the ERECTION of a NEW CATHOLIC CHURCH and PRESBYTERY, to be built in the city of York, may inspect the plans and specifications at the Very Rev. JOSEPH RENDER'S, Precentor's-court, Petergate, York; or at the Office of the Architect, GEORGE GOLDIE, Esq., Gloucester-place, Portman-square, London, from WEDNESDAY, MAY 7th, till SATURDAY, MAY 17th, on which day sealed Tenders are to be forwarded to the Very Rev. JOSEPH RENDER, Precentor's-court, Petergate, York. No pledge is given to accept the lowest or any Tender. Bills of quantities may be obtained on application to THOMAS WILSON, Esq., No. 7, Hanover-square, Sheffield.

April 26th, 1862.

COUNTY of NORFOLK. THORPE ASYLUM.—BUILDERS desirous of CONTRACTING for the ERECTION of MALE and FEMALE INFECTIOUS WARDS at the above Asylum, and also for Building FOUR WORKMEN'S COTTAGES on a piece of land adjoining it, may see the plans and specifications at my Office, Shirehall-yard, Norwich, from MONDAY, the 5th, to SATURDAY, the 24th inst.; and

PAINTERS willing to TENDER for PAINTING the whole of the outside wood and iron work at the said Asylum, may see the specification for it, between the same dates, at the same Offices.

All Tenders are to be sent to F. J. BLAKE, Esq., Treasurer and Clerk to the Committee of Visitors, King-street, Norwich, on or before SATURDAY, the 24th inst. They are to be enclosed separately in sealed envelopes, and endorsed "Tender for Infectious Wards," "Tender for Workmen's Cottages," or "Tender for Painting," as the case may be.

The Visiting Justices do not bind themselves to accept the lowest Tender.

R. M. PHIPSON, Architect,
Norwich, 1st May, 1862. County Surveyor of Norfolk.

CONSERVATIVE LAND SOCIETY.—NORTH GATE and BEACON HILL ESTATES, NEWARK-UPON-TRENT, NOTTINGHAMSHIRE.—TENDERS are invited for the EARLY ERECTION of SEWERAGE and ROAD MAKING on the above Estates. The following rough quantities are here stated in order to guide the persons tendering the extent of the proposed works, but parties tendering will have to take out for themselves the quantities necessary for that purpose.

ON THE NORTH-GATE ESTATE.

30 feet roads, including 6 feet footpath on both sides	775	feet run.
6 feet footpaths, extra	410	"
Stone kerbing to footpaths	1,060	"
Paved and pitched channelling outside of footpaths	1,273	"
15-inch pipe sewer	33	"
12-inch do.	440	"
9 inch do.	480	"
Gulley cesspools, with 6-inch pipe overflow to sewers	6	in number

ON THE BEACON-HILL ESTATE.

45 feet road, including 24 feet footpath on both sides	516	feet run.
24 feet footpaths extra	520	"
Stone-kerbing to footpaths	1,360	"
Paved and pitched channelling outside of footpaths	1,040	"
15-inch pipe sewer	114	"
12-inch ditto	330	"
9-inch ditto	450	"
Gulley-cesspools, with 6-inch pipe overflows to sewers	4	in number

The plans, sections, details, and specification will be seen at the Offices of the Society's Surveyor, Mr. JAMES WATSON, Newark, at the Offices of the Society, Mr. ALFRED ALLEN, Market-place, Newark-upon-Trent, and after MONDAY, the 12th inst. Tenders (which must be sent in on or before SATURDAY, MAY 24th, addressed to the Society's Surveyor, as above, and indorsed "Tender for Works at Newark") are to be delivered at the Offices of the Society, Mr. ALFRED ALLEN, Market-place, Newark-upon-Trent, on or before SATURDAY, MAY 24th, addressed to the Society's Surveyor, as above, and indorsed "Tender for Works at Newark." The Committee do not bind themselves to accept the lowest or any Tender submitted.

GEORGE HOLDEN, Secretary.
24, Norfolk-street, Strand, London, W.C. May 8th, 1862.

TO WHEELWRIGHTS and OTHERS.—The Vestry of the Parish of Barnes, Surrey, will meet at the Parish Offices, Kingston-road, Barnes, on MONDAY, the 19th day of MAY instant, at SIX o'clock in the evening precisely, to receive TENDERS for the SUPPLY of FIVE DUST CARTS, FIVE SLOP CARTS, and TWO MATERIAL CARTS, for seven years, from the 24th day of JUNE next. The carts are to be new, and made according to a specification which may be inspected at this Office on and after MONDAY next, where also forms of Tender may be obtained. The Vestry do not bind themselves to accept the lowest or any Tender.

GEORGE DREW, Clerk.

Vestry Office, Malt's street, Barnes-on-Surrey, 7th MAY, 1862.

TO BUILDERS.—Builders disposed to CONTRACT for building a NORTH AISLE, and making ADDITIONS to the east end of the Par. Church of WESTON, near Bath, may see the drawings and specifications at our offices, after MONDAY next, 12th inst. Tenders, endorsed "Tenders for Works at Weston Church," to be sent in on or before SATURDAY, the 24th inst. The lowest or any Tender will not necessarily be accepted.

MANNERS & GILL, Architects, 1, Fountain-buildings, Bath

TO BUILDERS.—BIRKENHEAD CEMETERY.—The Birkenhead Improvement Commissioners as the Burial Board for that district, are prepared to receive TENDERS for the ERECTION of THREE CHAPELS, REGISTRAR'S HOUSE, GATE LODGES, ENTRANCE and BOUNDARY WALLS, for the CEMETERY at Hayback Hill, Birkenhead. Plans, specification, and form of Tender can be seen at the Commissioners' Offices, 35, Hamilton-square, and after MONDAY, the 19th MAY inst. and further particulars and drawings obtained of the Architects, Messrs. LUCY & LITTLER, Tenders, must be Sealed and Tenders in sealed covers, endorsed "Tender for Cemetery Buildings," and addressed to the Chairman of the Cemetery Committee are to be delivered at the Commissioners' Offices, on or before the 26th inst. The Board will not be bound to accept the lowest or any of the Tenders submitted.

AMBROSE WALN, Clerk of the Commissioners.

Commissioners' Offices, 35, Hamilton-square, Birkenhead, 7th May, 1862.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a VILLA RESIDENCE, STABLING, &c. on the site of Albert Cottage, Nine Mile Ride, near Wokingham, can see all the Tender, specification, and obtain bills of quantities, at my offices, on THURSDAY, MAY 8, and the following days, and on the site, by applying to WILLIAM FARR, on MONDAY, MAY 12, and four following days. The Tenders, sealed up and endorsed "Tender for Residence," to be delivered to me on SATURDAY, MAY 17, not later than FOUR o'clock in the afternoon. The lowest or any other tender will not necessarily be accepted.

Maidstone, May 6, 1862. HENRY BLANDFORD, Architect.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61A, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.

ANCHOR BRICK-MOULD WORKS, HOUNSLOW, W.
J. LEACH, Millwright and Manufacturer. Improved MOULDS, STOCKS and HATTLE, with iron face plates; also Oak Stocks, the largest stock in England, of various sizes, and kept to order. Wash, Pug, Pug, and Roll Pugging, by steam or horse-power. Brickmakers are cautioned against an imposition pretending orders in J. L.'s name, and supplying an inferior mould. A certain Cure for Brickfields. Established eleven years.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINE.
Adapted for hand, horse, or steam power, will make one-third more in quantity of precious goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. It is very easily managed, and will not get out of order.
Licenses to Manufacture granted for certain districts.
For price and particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southbrook, (about one mile from the station), Kingston-on-Thames.

A NEW BRICK and LIME WHARF, 81, DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATH, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM-CUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

BRICKMAKING IMPLEMENTS, consisting of Three Pug-Mills, Wash-Mill, Sheets, Harrows, Barrows; long Galvanized Pump, 6-inch bore; Oat Brisset; also close Kiln Furnace Bars, Doors, &c. sufficient for a four-hole kiln, &c. nearly new. Apply to Mr. DAVID DAVY, Corn Merchant, Stratford, near Bow, Essex E.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.



Illustrated Treatise, Postfree, 2s. 6d.
HEATON, BUTLER, & BAYNE.
Works:—Cardington Street, Hampstead road, London.

HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. MERTAN & CO.
20 and 21, PRINCES STREET, SOHO, LONDON, W.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability, equal rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical best, coloured lenses, &c. &c.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

WANTED, about 200 FEET of SECOND-HAND PLATE GLASS.—Apply by letter to Mr. LETHER-BARROW, 26, Nicholas-lane, E.C. stating sizes and price.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	9 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	25 "
Marine Chronometers	80 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.
INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock, may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 39.
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
158, St. George-street East, London.

CLOCK MANUFACTORY.—Established 1740.—THWAITES & REED beg to call the attention of Provincial Architects to their Establishment, the OLDEST in the TRADE, where every description of CLOCK is made on the best-possible manner, and at as low a price as first-rate work can be got up for Original inventors of the Spiral Door Spring.
London: 4, Rosoman-street, E.C.

A QUANTITY of CAST and WROUGHT IRON ORNAMENTAL RAILING belonging to the Hungerford Suspension Bridge, together with the Wood-work connected with the Roadway. TO BE DISPOSED OF. Offers and Inquiries to be made to Messrs. COCHRANE & CO. foot of Suspension Bridge, Belvedere road. S.

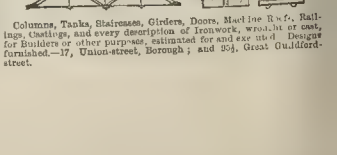
NOTICE TO BUILDERS AND CONTRACTORS.
HENDERSON'S PATENT DERRICK CRANES, sizes from 1 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Coal Winches, all sizes. For further particulars apply to BOWESS & CAMERON, Springfield Iron works, McNeil-street, Glasgow.

TO BRICK, TILE, AND TUBE MANUFACTURERS.
GORE'S IMPROVED JOINTED GAS and WATER TUBES.
T. W. GORE begs to inform Brick, Tile, and Tube Manufacturers, that he is now prepared to grant a limited number of LICENSES for the MANUFACTURE of GAS and WATER TUBES on his improved method of jointing.—Plans, terms of license, &c. may be had on application to T. W. GORE, New Whittington, near Chesterfield.

TO ARCHITECTS, BUILDERS, &c.
HEATING and VENTILATING LARGE PUBLIC BUILDINGS, HOTELS, MANSIONS, &c.—Your inspection of ZIMARA'S MODEL of Improved Patent STOVE and APPARATUS for these purposes, in the Gallery of the Roads Court, International Exhibition, is particularly requested.—A Descriptive Pamphlet and Drawings will be sent, on application to Messrs. TONGUE & BIRKBECK, Patent Agents and Engineers, 34, South-anpton Buildings, Chancery lane, W.C.

FOR SALE by PRIVATE TENDER, a HIGH-PRESSURE HORIZONTAL STEAM-ENGINE 12-inch cylinder 2 ft. 6 in. stroke, 30-inch Cornish boiler, 16 feet 6 in. long, 6 feet 6 in. diameter, one fly-wheel, steam gauge, low-water gauge, complete, fly wheel, 8 feet diameter, turned face for strap, 4 feet diameter, with bolt plate and all connections, the whole nearly new, and complete in every part. The engine and boiler may be seen on application to Mr. WATTS, at the Works of the National Company for Boat Building by Machinery, Limited, at East Greenwich, sealed Tenders to be sent, addressed to the Secretary, at the Office of the Company, 16, Bishopsgate-street Within, on or before the 17th of MAY.
GEORGE GRANT, Secretary.

H. C. COOMBS, IRONFOUNDER, &c. Inventor and Manufacturer of the Patent ROTARY SHOP-Front Wrought-Iron TUBULAR GATES and RAILINGS.



Columns, Tanks, Staircases, Girders, Doors, Machine Rails, Railings, Castings, and every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—17, Union-street, Borough; and 95A, Great Guildford-street.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF **WROUGHT-IRON GIRDERS**

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST-IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.

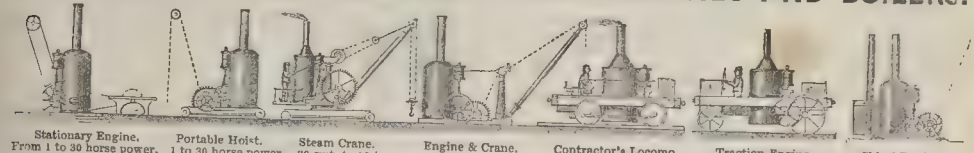


CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane. 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

CRANSTON-HILL ENGINE WORKS, GLASGOW.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

MALLEABLE IRON CASTINGS.

RANSOMES & SIMS, ORWELL WORKS, IPSWICH,
Are prepared to supply, without delay,
MALLEABLE IRON CASTINGS TO PATTERN,
OF THE BEST QUALITY AND AT MODERATE PRICES.

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Axles, Forge and Engine Work
Cast-iron Columns and
STEWART'S PATENT CASE-HARDENED and WATER PIPES.
Office, No. 7, Size-lane, London.

ESTABLISHED 1775.

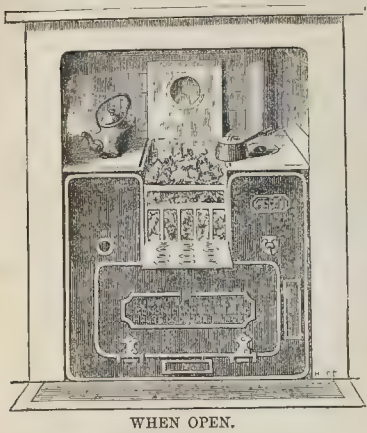
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to its

IMPERIAL PATENT FLAX SASH-LINES,

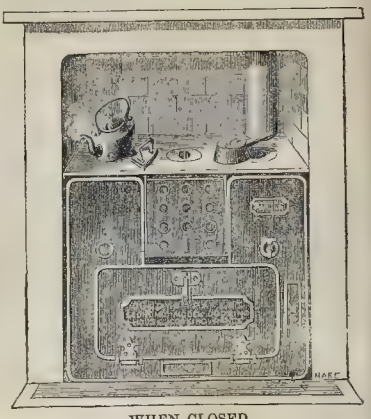
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give such satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of



WHEN CLOSED.

THE MANUFACTURER,

WILLIAM ADDIS, Nos. 6 and 15, LEICESTER-ST. LEICESTER-SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

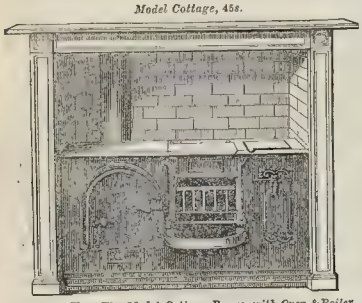
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45s.



Open or Close Fire Model Cottage Range, with Oven & Boiler.

Self-acting, with Bright Wrought Bars.

34 inches	54s.
36 "	56s.
38 "	58s.
42 "	60s

Self acting Cottage, with Oven and Back Boiler.

30 inches	22s.
32 "	24s.
34 "	26s.
36 "	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 40s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	1½ inch.	2 inch.	2½ inch	3 inch.
16s.	14s.	13s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s per cwt.

2 in.	2½ in	3-in.
Cast Rain-water Pipe... 8½.	10d.	1s. per yard.

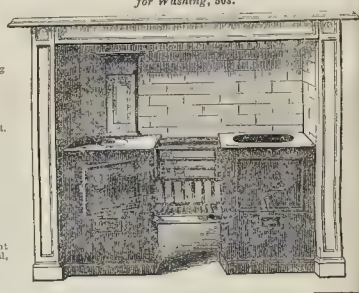
Cast Gutters 4 in. 7d. per yard.

4 in.	4½-in.
O G Cutters, with Clips on.... 10d.	1s. per yard.

2	3	4	5	6
Patent Line. 3s 6d.	4s.	5s.	7s.	9s. per gross.

6 inch Ed Ward Mortise, with best Furniture and Patent Spindles, 2s 9d each. Light Elliptic and Register Metal, 12s 6d per cwt.
Dr Arnett's Ventilators, 4s each
Brick Moulds kept in stock. Any size made to order.

Combined Range with Wrought Galvanized Boiler for Washing, 50s.



CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.



CRABS, BLOCKS, JACKS, MORTAR-MILLS, &c.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.
Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

HAWKINS'S REGISTERED CHAIN.—

This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, rose-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in suitability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one fourth the weight, and when laid down are 30 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr. ALEXANDER YOUNG, 14a, Cannon street, London, E.C.

IMPORTANT TO BUILDERS, SAW-MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS

WILSON'S PATENT LARGE TIMBER SAWING-MACHINERY.

This machinery is adapted to cut up square or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the log are arranged to carry the log past the saw to any extent without stopping for re-adjustment, by which the necessity for transoms is avoided, and they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly.

The speed of cutting may be varied from 10 inches to 10 feet per minute, and yet on account of the increased length of cutting edge, the saw is kept cool.

May be seen in operation, daily, at Messrs. JAMES WILSON & SON'S, Builders, Springfield Saw-Mills, Manningham, Bradford, Yorkshire.—Full particulars may be had on application, by parties desirous of purchasing.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 24, Davies-street, Three Doors from Oxford-street,

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W

THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of WROUGHT IRON TUBE and FITTINGS,
FOR HIGH-PRESSURE-WATER; OR STEAM.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their
BATH APPARATUS,
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.
Illustrated Catalogues to be had of the Manufacturers,
J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

GREAT NORTHERN IRON WORKS,
CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.
The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of
IRON-FOUNDERS AND SMITHS.
CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.
PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.
By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

PFEIL AND STEDALL,
IRON MERCHANTS AND WHOLESALE IRONMONGERS,
5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.

BOND & SCAMMELL (late Thomas Pugh & Co.)
WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE
PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.
SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.
A large Stock of Nails, Screws, Locks, Latches, Hinges, Pulhes, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.
All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

HART & SON,
WYCH-STREET, and COCKSPUR-STREET, LONDON.



WROUGHT-IRON WORK OF EVERY DESCRIPTION.
HINGES, GRILLES, LOCKS, FINGER-PLATES, STANDARDS, CORONÆ, PENDANTS, &c.—CHALICES, FLAGEONS, PATENS, ALMS DISHES, ALMS BOXES, ALTAR RAILS, MONUMENTAL BRASSES, &c. &c.



BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gaseliers, Coronæ, &c. in Brass and Iron, forwarded on receipt of six postage stamps.
Specimens at the Architectural Exhibition, Conduit-street.

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tipped Sheets and Tiles for export.
IRON WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse

TRADE MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—31, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-Iron Tubes

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.
HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different Articles of Bedroom Furniture, sent free by post. HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1825,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

ENAMELLED STONE CHIMNEY-PIECES,

Of Beautiful Designs, and to imitate any kind of Marble; far Superior to Enamelled Slate, and considerably Lower in Price, INVENTED AND MANUFACTURED BY

W. J. ELLISON & CO.,

SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.

Also, MANUFACTURER of WALL-LININGS, composed of Stone Slabs, with a Veneer of Serpentine to Imitate Marble, and Enamelled by Heat. WARRANTED TO RETAIN ITS POLISH.

Office and Show Room, No. 3, WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.
Manufactory, EAST-ROAD, CITY-ROAD.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London Atmosphere.

ADULTERATIONS. Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

Dedicated, by permission, to the Right Hon. Lord Palmerston.

DESIGNS for MONUMENTS, TOMBS, GRAVESTONES, &c. price 16s. complete in one volume.
By JOSEPH B. ROBINSON, Sculptor, Derby.

The Designs in this volume are suitable for either cemetery or churchyard. The book forwarded free to any part of the kingdom for post office order.

STABLE ARCHITECTURE. 2l. 2s.
Medium Folio.
By THOMAS EDWARD KNIGHTLEY, F.R.I.B.A. Architect, 26, Cannon-street, London.

The volume is handsomely printed in the best type, and the plates, twenty-eight in number, are executed chiefly in tinted lithography. "The stable plans of Mr. Knightley are admirable, and afford the most perfect ventilation without a cold current of air."—HOR. AMICAL ROT.

Second edition, demy 8vo. 10s. 6d.

A HOUSE for the SUBURBS; Socially and Architecturally Sketched. By THOMAS MORRIS.
WITH ILLUSTRATIVE DESIGNS.
SUMMARY. Progress, Situation—Elements of Taxation—Road, Rail, and Stream—Sites, Soils, and Society—Economy of Space and Price of Land—Ancient Habitations and Modern Houses—Pictorial Treatment—Artificial Materials—Sanitary Safeguards—Culinary Conveniences—Solar Greenhouse—House Farm, &c.
London: SIMPKIN, MARSHALL, & CO.

Just published, price 2l. 2s.

MANUAL of HYDROLOGY.
By NATHANIEL BEARDMORE, Civil Engineer.
CONTENTS—
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of upwards of 400 pages, and there are 20 large plates.
London: WATERLOW & SONS, 10, Parliament-street; 24, Birchin-lane, and 65 to 68, London-wall. 1862.

Just published, price 1l. 11s 6d.

THE BOOK of FARM BUILDINGS: their Arrangement and Construction.
By HENRY STEPHENS, F.R.S.E.
Author of the "Book of the Farm," &c.
And ROBERT SCOTT BURN, Engineer.
Royal octavo, pp. 502. Illustrated with twenty-eight Engravings on Copper, and 1,017 Engravings on Wood. Half bound.
Uniform with the above.

THE BOOK of the FARM. By HENRY STEPHENS, F.R.S.E. 2 vols. royal 8vo. with Engravings. Price 3l. half-bound.

THE BOOK of FARM IMPLEMENTS and MACHINES. By JAMES SLIGHT and R. SCOTT BURN. Edited by HENRY STEPHENS, F.R.S.E. Royal 8vo. with 575 Engravings. Price 2l. 2s. half-bound.

THE BOOK OF THE GARDEN. By CHARLES M'INTOSH. 2 vols royal 8vo. with 1,255 Engravings. Price 4l. 7s. 6d. half-bound. Each vol. sold separately—viz.: Vol. I. Architectural and Ornamental, price 2l. 10s.; Vol. II. Practical Gardening, price 1l. 17s. 6d.

THE FORESTER. By JAMES BROWN, Wood-Manager to the Earl of Seafield. Third Edition, greatly enlarged, royal 8vo with Numerous Engravings on wood. Price 1l. 10s. half bound.

FARM ACCOUNTS:—A Practical System of Farm Book keeping, being that recommended in the "Book of the Farm." By HENRY STEPHENS, F.R.S.E. Royal 8vo. Price 2s 6d. Also, SEVEN FOLIO ACCOUNT BOOKS, constructed in accordance with the System. Price 22s.
WILLIAM BLACKWOOD & SONS, Edinburgh and London.

THE BUILDER. TO BE DISPOSED OF, from its commencement in December, 1842, up to December, 1856, strongly bound, and suitable for any gentleman's library, being in excellent preservation.—Application to be made to Mr. HARDING, 26, New Broad-street, E.C. where some of the volumes may be seen.

Now ready, imperial 4to, price 3s. 6d.

AN EXHIBITION NUMBER, with SUPPLEMENT, gratis.—EXAMPLES of LONDON and PROVINCIAL ARCHITECTURE of the VICTORIAN AGE; and MONTHLY REVIEW of the WORLD'S ARCHITECTURAL PROGRESS.

CONTENTS:

An Address.
Studies of Modern Architecture, at Home and Abroad. By G. E. Street, Esq.
What is Architecture? By T. Harris, Esq.
Palmo Monumento. Monolithic.
Do Monoliths improve Architecture? By Alphonse Warington.
The Albert Monument.
General Intelligence.
Patents connected with Building.
On some of the Spiritual Significations of Gothic Art. By M. Michelet.
The International Exhibition. By Captain Phillpotts, R.E.
Decoration of the International Exhibition. By J. G. Grace, Esq.
On the Construction of a Sick-Room. By John Gardner, M.D.
Art and Architecture of the Sixteenth Century. By Professor Smirke.
The Restored Tomb of Monoliths.
Thoughts, Practical and Philosophic.
London Streets. &c. &c. &c.
With three full page illustrations, beautifully printed in colours, of the Exhibition, and its interior decorations; also a large print of the Exhibition, printed in colours; and many other illustrations.
London: DARTON & HODGE, 58, Holborn-hill.

NEW LITERARY PAPER.
Now ready, the first number (32 pp. 4to) of

THE PARTHENON: A Weekly Journal of Literature, Science, and Art. Price 3d. Stamped 4d.
Edited by C. W. GOODWIN, Esq. Author of the Mosaic Cosmogony

The PARTHENON contains—Reviews and Notices of New Works, English and Foreign—Original Articles upon subjects of general and special interest—Foreign Correspondence, from various parts of the world—Extracts from Foreign Journals of Literature and Art—Articles upon Scientific Subjects—Full Reports of the Weekly Meetings of the Learned Societies—Critical Notices of Art, Music, and the Drama—Obituary Records of Distinguished Men—Miscellaneous Notes on current Topics of interest.

N.B. The PARTHENON is published every Friday afternoon in time for the Evening Post, so as to ensure its circulation throughout the country on Saturday.

May be had of all Booksellers.
OFFICE—7, BURLEIGH-STREET, STRAND, W.C.

WATER-COLOUR PAINTING, by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, invaluable for student, teacher, amateur, or the drawing room table. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scandalo, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

POLYTECHNIC.—Scientific Lectures by Professor J. H. PEPPER.—New Gorgeous Scenic Optical and Fantastic Fountain Spectacle—Musical Entertainments and Concerts by George Buckland, Esq., and the Brousil Family—Beautiful Dissolving Views, illustrating the Story of Blue Beard—London in Ancient and Modern Times—Paris as it is—The Holy Land—America—The Merchant and Minister, with descriptive Lectures by Messrs. Malcolm and King—Foster out-Fostered, by Mr. J. Matthews. See weekly programme of 8 pages. Open from 12 to 5, and 7 to 10. Admission 1s.

MR. W. S. WOODIN'S CABINET of CURIOSITIES (newly polished and re lined) will be opened at the Polygraphic Hall, King William street, Charing-cross, on Monday evening, May 12th, with new characters, music, songs, and dances. The scenic illustrations and effects, entirely new, painted by and under the direction of Mr. William Callcott. First Morning Performance, May 17.

The Builder.

VOL. XX.—No. 1005.

The Palace of Art and Industry.



N the week elapsed since our last article was written, the progress in arrangement of the International Exhibition has not been what we might have expected; and even the Fine-Art Department remains in an unfinished state. When the whole of the works are numbered, something must be done to remedy some of the defects of the distribution in the Foreign Division; or the works, collectively, will not be so interesting and instructive as they might have proved. There is at present no mark of distinction between pictures of different schools which are placed in the same gallery; some of the French works are amongst those of other schools; the numbering is irregular; and the catalogue, having no index-list of artists' names, and being otherwise defective, affords, for some of the classes, the reverse of any help. We were misled by it in making the collection of drawings by French architects larger than it is; for, a considerable proportion of the few works which are under the head "Architecture" (Class 37) are engravings, and are exhibited with engravers' names attached, rather than the names of the architects of the buildings. Dates of the works in each division of the Fine-Art Department, indeed a chronological list of those of the British School, should be even now supplied; and a short paragraph for each school should state the period which the corresponding section of the works was intended to embrace. The Art-Treasures Exhibition at Manchester, by reason of the care given to arrangement, was in many respects more instructive than that of the department in question of the Exhibition now open.

But if we throw out the Class of "Surgical Instruments and Appliances," and the sub-class which includes cigars, we hardly know what there is in the comprehensive display with which our readers should not be interested. To do justice to the Industrial Department would be impossible with all the space in our pages during years to come. The French reports on the Exhibition of 1851, extended to fourteen or fifteen thick octavo volumes; and on the present occasion, we doubt not, such an amount of labour will be exceeded by our neighbours, as in proportion to the greatly-extended field. Some record may be preserved for us in reports of the International Juries, and in future corrected editions of the Official Catalogues; but all that can be done between this date and October next must, we fear, fall short of the desires of those who are able to perceive that an occasional comparison of the arts and industry of different nations, or a posting-up of what is known, is pregnant with useful results at the present time and for the future. Such results would have been nearer at hand, could the Exhibition have opened in a complete state, instead of under circumstances which, we apprehend, will be recollected to the prejudice, financially, of future undertakings.

Whilst many of the classes are far from complete, and even principal works remain unfinished, it is difficult to attempt a review, or to draw a comparison between the British and Foreign divisions. We may say, however, that having lately given some attention to the state of taste on the Continent, we are surprised at the apparent extent of the advance made in this country. We do not recognize evidence of the beneficial influence of the Department of Art in the building, unless in the planning of the picture-galleries; but we find such evidence in the majority of the "Art-Designs," and in a large number of works in different classes. In Class 30, "Furniture, Paper-hangings, and Decoration," and in Classes 33, 34, and 35, "Works in Precious Metals and their Imitations, and Jewellery," "Glass, for Decorative and Household Purposes," and "Pottery,"—not to mention the Sub-class C, "Objects shown for Architectural Beauty," of the Class 10, which is that of "Civil Engineering, Architectural and Building Contrivances," and a large proportion of the objects in Class 31, "Iron and General Hardware,"—the art-element is, to say the least, in a most hopeful and auspicious position. There is a "Mediæval Court" this year in Class 30, which will be found in the "North Court" of the building, well arranged for the Ecclesiological Society, and containing some admirable specimens of church furniture and sculpture; but the light from Pugin has spread now over a wider area than that to which certain men of the largest capabilities confine their minds, and who produce often what is uncouth, in place of manifesting that they are possessed of the true sense of beauty and the discriminating faculty of *taste*. There might be reason, viewing particular religious belief, in the mimicry of forms of buildings, in reliquaries and other articles of furniture of the Middle Ages; but the like imitation, whether of masonry in decorative painting, or of tiled roofs and lucarnes, in book-cases of modern manufacture, is at variance with principles, those which we have ourselves so long striven to enforce, and those of Gothic architecture itself. What is most obvious in "*Articles de Paris*," which will be strongly represented this year,—albeit not so well as yet, by Barbedienne, of the Boulevard Montmartre, and others, as in their shop-windows,—is the fertility before referred to, of *fancy* in beautiful form, and in combination of materials and colours, which together we call "taste." The French artists need little but that which we have learned from the Gothic, and which our Department of Art is rapidly giving to our own designers; and we want what the French possess, which however may be an attribute of their race, and even of a different anatomical structure that might be expected to be found remarked upon in works such as the "Bridgewater Treatise" of Sir Charles Bell on the Human Hand. We want indeed some of their other advantages, often spoken of, but of which the value in regard to produce of art has never yet been exactly felt. We want their atmosphere, divested of smoke, which allows works of art to be seen, and gratification and education of the eye to go on; and we want, if not vast expenditure upon architectural decoration and public *fêtes*, and in the accumulation of treasures as those of the Campana Museum,—every farthing of which, however, we can see, turns to the commercial advantage of France,—at least a representation of the popular voice that is not for ever crippling or thwarting the plans of the best-disposed governments. How it is that the British nation advances by what, to those who know the French, seems little more than brute force, must be the wonder to any one here, as it is to all who "hail" from across the Channel. Yet Great Britain has advanced, and since 1851.

Not unacquainted with what the French have done even in mechanical engineering, and having read many warnings by competent English writers, we were prepared to expect that our position would be challenged in that class of works in the present Exhibition to be found in the western *annexe*. Yet we are disposed to believe that the evidence is there, quite in favour of this country. The foreign machinery is considered greatly in advance of that shown in 1851; but our own progress has been still greater.

But whether in some departments of industry we have made an advance, or whether in art, and the appreciation of healthful enjoyment from it, we have much to acquire, let every one who can assist, set about the utilization of the opportunity which only will be too short. That any arrangements have been made on the part of the British Government for reporting on the objects in the Exhibition, and leaving records, or commensurate with the arrangements which we doubt not have been made by the French, experience would lead us to doubt. It is beyond the power of any single journal to fill up an omission of the kind, if made. There must be, at a guess, some twenty thousand numbers in the catalogues;* and amongst them are many, occupying each but two lines of printed title, which each would demand a day's attention and whole pages of our type.

We are enabled to reproduce the plans of the building given in the principal catalogue,† which will enable our readers to go at once to any department to which their attention has been directed. They will assist in showing the localities which we have mentioned in the following brief summary of the classes of the Exhibition. The names of the principal courts of the building will be found on the gallery plan. The eastern and western "annexes" are long continuations northward of the transepts; they are one story in height, and of more temporary character in construction than the brick and the iron and glass divisions respectively of the entire arrangement of plan.

It may be useful to remind those who have not yet visited the building, that the whole Exhibition is divided into 36 "classes" of the "Industrial Department," and the five others (Classes 37, 38, 38A, 39, and 40) of the Fine-Art Department, named in our last. As might be expected, several of these classes include objects which would hardly be supposed to belong to them, from the names. The classes are grouped in sections.

Class 1, "Mining, Quarrying, Metallurgy, and Mineral Products," in the South Court, Eastern Annex,—433 numbers in the British Division,—includes not only the maps and sections of the geological survey of the United Kingdom, but Mr. R. W. Mylne's maps of the tertiary and cretaceous districts of France and England, and intervening seas, contoured, with his map of the Environs of London. It is in this class that are found the different kinds of fuel, the ores; the building materials, as stone and marble, some of the specimens worked into ornamental forms; the cements and the slate, and the iron. Large as the collection is, it makes little approach to completeness in such a department as that of Building-stones.

Several of the classes are divided,—the sub-classes, which are sometimes of special interest to architects, not being named in the table of contents.

Class 2, "Chemical Substances and Products, and Pharmaceutical Processes," in the Eastern Annex, South-East Passage (we are just now confining ourselves to the British Division), comprises Sub-Class A, "Chemical Products," which includes pigments, soluble silicates, and compositions for preventing incrustation in steam-boilers, and other substances, and B, "Medical and Pharmaceutical Processes."

Class 3, "Substances used for Food," in the Eastern Annex, East Side, comprises Sub-Class A, "Agricultural Produce;" B, "Drysaltery, Grocery, &c.," which includes specimens illustrating the

* The catalogues are printed by Messrs. Truscott, Son, and Simmons, Cannon-street, City, who under great difficulties have performed their part of the duty satisfactorily.

† See p. 332.

adulteration of food; and C, "Wines, Spirits, Beer, and other Drinks, and Tobacco."

Class 4, "Animal and Vegetable Substances used in Manufactures," in the Eastern Annex, East Side, comprises Sub-Class A, "Oils, Fats, and Wax, and their Products," which includes such things as wax-flowers, railway-grease, a model of soap-works, candlesticks with peculiar glass shades, and anatomized leaves; B, "Other Animal Substances used in Manufactures," including ivory carvings and glue; C, Vegetable Substances used in Manufactures, &c.," which includes fancy woods, india-rubber, gutta-percha, leather-cloth, kamptulicon, asphalted roofing, and cocoa-nut fibre matting; and D, "Perfumery."

The four classes above mentioned form Section 1 of the general exhibition.

Section 2, comprises Classes 5 to 17 inclusive.

Class 5, "Railway Plant, including Locomotive Engines and Carriages," in the Western and Eastern Annexes, displays all that relates to rails, turn-tables, and signals.

Class 6, "Carriages not connected with Rail or Tram Roads," near the South-East Court, includes "Model of a Plan for Prevention of Accidents to Carters," and many ingenious contrivances.

Class 7, "Manufacturing Machines and Tools," in the Western Annex, comprises Sub-class A, "Machinery Employed in Spinning and Weaving;" and B, "Machines and Tools employed in various Manufactures," with lathes, anvils, and hammers, printing-machines, flooring-cramps, lifting-jacks, brickmaking-machines, paging-machines, machine for cutting geometrical forms, artesian-well boring tools, steam-hammers, drilling-machines, and many others.

Class 8, "Machinery in General," Western Annex, includes cranes and lifting-jacks, steam-engines and boilers, turbines, pumps and valves; washing, wringing, and drying machines; traction engines, smoke-consuming fire-bars; self-acting archimedean screw ventilators, hydraulic lifts, wrought-iron tubes, method of removing incrustations from boilers, blowing-machines, leather bands for machinery, furnace-bars, and electric-light machines.

Class 9, "Agricultural and Horticultural Machines and Implements," west side of Eastern Annex, includes model of a pump for irrigation, worked by wind; a field-gate, formed of machine-made duplicate parts; conservatories, and other objects interesting to architects.

Class 10 (already named) is in the South Court and adjoining transept, and comprises, Sub-class A, "Civil Engineering and Building Contrivances;" B, Sanitary Improvements and Constructions;" and C, "Objects shown for Architectural Beauty." To this class, at least, we shall have to return.

Class 11, "Military Engineering, Armour and Accoutrements, Ordnance and Small Arms," in the South Court, comprises Sub-class A, "Clothing and Accoutrements," and B, "Tents and Camp Equipages," both interesting to those who travel; and C, "Arms, Ordnance, &c.," a great centre of of attraction.

Class 12, "Naval Architecture—Ships' Tackle," South Court, comprises Sub-class A, "Ship-Building for purposes of War and Commerce," which includes apparatus for working ships' pumps by water-power, ship-lifts, models showing the progress made in naval architecture, models of ships built on the wave-line principle since 1851, model of the *Warrior*, and the Woodside landing-stage; B, "Boat and Barge Building, and Vessels for Amusement, &c.;" and C, "Ships' Tackle and Rigging."

Class 13, "Philosophical Instruments and Processes depending upon their use," in the Gallery, North Court, includes microscopic drawings of the human breath, astronomical photographs, an ozonometer, spectacles which magnify without glass or any other refractory medium, apparatus for heating green-houses, and illustrations of the decimal and metric system of all nations.

Class 14, is that of "Photographic Apparatus and Photography," and is placed in the Central Tower, and in the Gallery, North Court.

Class 15, comprises "Horological Instruments," in the Gallery, North Court.

Class 16, "Musical Instruments," is in the North Court.

Class 17, "Surgical Instruments and Appliances," is in the Gallery, North Court.

Section 3, appears to comprise the whole of the remaining number of the classes. Class 18, "Cotton," in the Gallery, South; Class 19, "Flax and Hemp," Gallery, South-East Transept; Class 20, "Silk and Velvet," South-East Gallery; Class 21, "Woollen and Worsted, including Mixed Fabrics," South-East Gallery; Class 22, "Carpets," under North-East Gallery, and on Gallery Walls; Class 23, "Woven, Spun, Felted, and Laid Fabrics, as Specimens of Printing or Dyeing," South-East Gallery; Class 24, "Tapestry, Lace and Embroidery," in the same Gallery; Class 25, "Skins, Fur, Feathers, and Hair," Transept South Court; Class 26, "Leather, including Saddlery and Harness," Transept South Court; and Class 27, "Articles of Clothing," South-East Angle, would, several of them, deserve attention, could we hope to finish with works in some of the previously-mentioned classes. Indeed, there are few departments of industry in which we might be so well justified in taking interest as carpet-manufacture,—a branch of manufacture in which the worst principles of design long prevailed; but which we hope is in the way to improvement. Our recollection of textile fabrics, such as belong to other classes just named, extends to a period when designs were universally imported from France. At that time the idea that a Government Department should concern itself with taste as applied to such objects as ginghams and prints, or that *design* had much to do with the market for commodities, would have been pooh-poohed in every manufacturing town in England. None have done more towards correcting this ignorance, and this unsatisfactory position, than the superintendent of the chief collections above named, Mr. G. Wallis. It is probably owing to what has been said and written by him and others, that manufacturers have become alive to their interests, and that we may be now in a position to show face with France. The Silks and Velvets, and the Tapestries, we expect to find much improved. In the Class "Carpets" is included Floor Cloth, a description of manufacture in which the right principles of decorative treatment have yet to be expressed. The Leather class is widely comprehensive, including the material for bookbinding, and that for architectural decorations and covering to furniture. If the difference in durability between many kinds of English and French manufactures be as great as it is in boots, we ought to derive advantage from our superiority.

Class 28, "Paper, Stationery, Printing, and Bookbinding," in the Gallery, North Court, comprises Sub-class A, "Paper, Card and Mill-board," in which we find Mr. Szerelmey's "Arabian Zopissa Waterproof and Paper-boards Processes;" B, "Stationery," including tracing-papers, chemical-ink and other pencils, and apparatus for pointing pencils; C, "Plate, Letter-press, and other modes of Printing," a comprehensive and interesting collection; and D, "Bookbinding."

Class 29, "Educational Works and Appliances," Central Tower, ought to be important and useful when completed. It includes Sub-class A, "Books, Maps, Diagrams, and Globes;" B, "School-fittings and Furniture;" C, "Toys and Games," and D, "Illustrations of Elementary Science."

Class 30, already mentioned as creditable to British industry and art, North Court, comprises Sub-class A, "Furniture and Upholstery," and B, "Paper-hangings and General Decorations."

Class 31, "Iron and General Hardware," South Court, which will require detailed notice, comprises Sub-class A, "Iron Manufactures;" B, "Manufactures in Brass and Copper," and C, "Manufactures in Tin, Lead, Zinc, Pewter, and General Braziery."

Class 32, "Steel Cutlery and Edge Tools," Transept, South Court, comprises Sub-class A, "Steel Manufactures," and B, "Cutlery and Edge Tools."

Class 33, "Works in Precious Metals, and their Imitations, and Jewellery," South Court, Central Division, is worthy of attention for much more than the enormous money value of the Koh-I-Noor, the Devonshire gems, and other jewels. Much of the presentation plate, still, may be designed on false principles; and of what remains, some portion may be due to the employment of French artists; but there is evidence, as in the setting of jewels, of growth of taste for art amongst the public.

Class 34, "Glass, for Decorative and Household Purposes," South Court, Central Division, comprises Sub-Class A, "Stained Glass, and Glass used in Buildings and Decorations," inferior in extent and quality to what might have been expected; and B, "Glass for Household Use and Fancy Purposes."

Class 35, "Pottery," North Court, Central Division, includes earthenware and porcelain articles of all kinds, from sewerage pipes to dessert services. Some of these articles, however, should be looked for in the Class (10) of "Civil Engineering, Architectural, and Building Contrivances." Why should Mr. Gladstone, whose name was connected with the unfortunate proceedings as to the Wellington monument to be erected in St. Paul's, have accepted the chairmanship of the jury for this class? The Chancellor of the Exchequer may have taste and experience in pottery, but he cannot be likely to acquit himself of the duties of his chairmanship without being thought to neglect others. The "system" which we have evidence, has been at work in some other classes, of appointing men as judges because their names will look well in a list, must be got rid of, or we shall make little progress.

Class 36, the last of the Industrial Department, "Toilet Travelling and Miscellaneous Articles" Gallery, North Court, is divided into two Sub-Classes, one (A) for "Dressing Cases and Toilet Articles," and the other (B) for "Trunks and Travelling Apparatus."

The objects exhibited by the Colonial Possessions of Great Britain, and those by Foreign States, are quite apart from the positions in the building above named, which are those for the United Kingdom—the mother-country only. Each British colony, and each foreign state, has in fact its separate exhibition. In each one a classification the same as we have described is observed, but rather in the Official Catalogue than rigidly in the arrangement of the articles. The "Colonial Possessions," with India, exhibiting, are 19 in number, and have their materials and works chiefly in the North-East Transept. Thirteen French Colonies contribute to the French department of the Exhibition.

The foreign states exhibiting, counting those of the Zollverein separately, are no less than fifty-four in number, including three free towns, and the Ionian Islands. Many of these divisions of the Exhibition have been throughout the week in a state which has precluded the possibility of seeing what they contain. We only gather from the catalogue, under Classes 1, 10, 30, 31, 33, 34, and 35, the titles of many articles connected with our special field. We may even now draw attention to the castings and other metal-work for out-of-doors use, exhibited by the French, and to the cheap substitutes for bronze. Many of the latter are open to improvement in design as well as chasing; but the larger works may be suggestive of much adornment of our streets and squares, and at an economical rate, as the others indeed are of the cheap decoration of our apartments.

OUR CHIEF TOWNS: COVENTRY.

"Following the stream of Sherburn, it leads me next to Coventre, still a city of eminent note, yet much short in glory and Riches to what heretofore it hath been, as I shall shew anon."—DUGDALE.

A PAINSTAKING study of the past vicissitudes of some of our principal towns in connexion with their present aspect and condition, affords much suggestive information to those who are interested in our national progress. Like empires, they have risen, flourished, and fallen, to rise, flourish, and fall again; and in tracing the causes of these varied fortunes we may glean clues to more permanent prosperity. Coventry is pre-eminently a city of contrasts; Mediæval grandeur, traces of monastic splendour, side by side with marks of present squalor and modern works of utility and convenience; the whole veiled with the beautiful legend of Lady Godiva. Leofric, earl of Mercia, having imposed very heavy taxes upon the citizens of Coventry, and being much importuned by his lady to remit them, consented to do so on condition that she would ride naked through the city at mid-day. We all know how gracefully, how womanly, and with what self-abnegation the beauteous lady performed the odious task; and we may see in the act with which she thus prefaced the history of the city the source of the taste for pageants, mysteries, and mummeries for which Coventry has been remarkable for centuries, and which, in drawing immense concourses to the place, has materially advanced its fortunes. And in the monastery which her husband founded, and which she enriched with her whole treasure—giving even her gold and silver ornaments to skilful goldsmiths to make into crosses and images of saints for the church—she further insured the Mediæval prosperity of Coventry—showing how much good seed may be sown by one hand. This monastery stood for nearly five hundred years, and throughout that long season was of great advantage to the town, as is evidenced by the decrease in the population which took place after its overthrow. A Coventry worthy, John Hales, represented to the Duke of Somerset in the reign of Edward VI. that there were not then more than 3,000 inhabitants left in the city out of the 15,000 that had lived in it within memory.

From this woeful decay the city gradually arose again. The manufacture of ribbons commenced at the beginning of the sixteenth century; that of cloth caps and bonnets about the same period, as well as that of a blue thread called Coventry true blue. In 1770 the manufacture of watches commenced; and in more recent times the introduction of fringe trimming making, plush and velvet making, silk throwing, brewing, malting, brickmaking in various colours,—red, white, blue, and black,—iron foundries, stocking weaving, the manufacture of shag, thread, coach-lace, pillow-lace, carpets, and funeral feathers, combined with the development of the ribbon trade, restored Coventry to its early prosperity. Nothing tells more truly of the commercial prospects of a place than the census. In 1811, the population was 17,923; in 1821 it was 21,242; in 1851 it was 36,812. But Coventry has scarcely yet risen from a second fall. Trade has been for many months depressed, and great privations have been endured by the working classes; and although public subscriptions and emigration have in some measure relieved present pressure, it will be some time before it ceases to be felt. On the 10th ult. 200 emigrants left for Canada; and the city is yet placarded with exhortations to the distressed weavers to emigrate. Nevertheless, there is a fair prospect of a third revival in its fortunes; for, as we write, the first cotton mill located in this district is rapidly approaching completion, and there is every probability that the introduction of the cotton trade will inaugurate a new era in the annals of the far-famed city.

Mediæval "Coventre" was walled in. The wall was strengthened by twenty-one towers, and possessed seventeen gates. The streets within, as in all walled towns, were narrow. The half-timbered houses, with carved and panelled tracery, bargeboards, and gable and dormer ends, overhung the streets so much, story after story, upon the projecting bracketed beams and rafter ends, as to obscure the light; but they possessed the advantage of open garden grounds in their rear. In the present day the gabled houses remain, rotting, dilapidated, and overcrowded; and the once unenclosed spaces behind them are now, in all cases, packed with ramifications of courts and rows of petty houses and isolated privies and cesspools. Besides the Tudor houses (pictorially quaint, though the rooms in them are too small and too low crowned—being scarcely 6 feet high—for occupation) there are still extant, in more or less preservation of their architectural integrity, many guilds, schools, almshouses, and chantries. St. Mary's Hall and kitchen, used for civic purposes, a grammar-school occupying the choir of a ruined monastic church, the guilds of Corpus Christi, Sheremen and Tayler, and the Trinity, or Bablake, and Bond's Almhouses, being among the most remarkable. So that in certain places we may realize the aspect the city presented to Queen Margaret, when she came, privily, from Kenilworth to see the "pagentes pleyde." These, we know, were enacted on stages erected in the streets, and consisted of such stirring subjects as Domesday, Destruction of Jerusalem, and Hell's Mouth. Among old accounts of the costs of these performances appear the following terrible items:—The devyl's head repaired; paid for ye demons q-ment, making and painting, and dressing the devell's hide. In addition to these entertainments we must make mention of the great fair and feast of Trinity, "with gallows, pillory, timbrell, and assize of bread and beer;" occasional royal visits; less frequent convocations of parliament—the *parliamentum doctorum* and *par'iam ntum diabolum*; trials by mortal combat, such as that between the Dukes of Hereford and Norfolk, at which King Richard II. presided; and cruel decapitations on Gosford-green, before we turn to survey modern Coventry. Edward III., in whose reign the Mediæval prosperity of the city appears to have culminated, gave the inhabitants licence to erect a common conduit 20 feet long and 10 feet broad in any street they preferred for their convenience. And we may picture the city as paved; for Edward I. gave the Coventre men authority twice in his reign to take toll of all vendible commodities brought to "mercate," within stated periods, to defray the expense of paving. Coventry Cross was as famously beautiful as the "three tall spires" that Time has left us.

It would be gratifying to be able to state that the architectural remains of past ages are properly cared for. The churches are in excellent condition, well kept up, and costily restored; but the civic hall, St. Mary's, with the ancient kitchen, is in a disgracefully dirty and neglected state; the crypt under the hall, although paved with encaustic tiles, being used as a depôt for turnips. The conditions of the market, the grammar-school, and the gaol hall, are equally discreditable. On the other hand, credit must be given to the guardians of more modern institutions—the poor-house and the cemetery—who, in the order in which they maintain both these places, set a praiseworthy example to the custodians of the priceless antiquities.

The variety in the colours of the bricks imparts a pleasing impression to modern Coventry; and the circumstance of the weavers occupying the top floor of their houses as loom rooms, aids their general light, agreeable appearance. The foot-paving of the principal streets consists of small cubes, which exhibit the drawback of holding rain at the joints; and the bulk of the town is only pebble-paved. Every new, as well as old, street, has courts leading out of it, with rows of weavers' houses in them, having the usual public double privy and colossal ash-pit to serve the whole row; and the great mass of the people either live in the low, old rooms alluded to as remains of Mediæval Coventry, or are packed together in back-to-back non-ventilated houses, built in these byeways.

Approaching the town from the railway station,—associated in time to come with the poet-laureate's jewelled poem,—

> "I waited for the train at Coventry:
> I hung with grooms and porters on the bridge,
> To watch the three tall spires,"

the effect is that of a real old-English cathedral city. The first object passed without the station tells of the present destitution. It is a tract of allotment gardens belonging to the Marquis of Hertford, many of which are not now under cultivation, because the weaver lessees cannot afford to keep them up. The next striking object is the rear view of a company of tall houses, built in the Mediæval style, bordering one side of an open green. The front view of these town houses shows what can be done by taking the trouble to arrange with care and taste local materials. Red, white, and blue bricks, contrasted with green and blue slates, yield a pleasing result. The character of the architecture borders too near the eccentric: gables and dormers are hipped back, and then continued in gables at the end of the hip; and the false principle of placing large windows in the lower tier, with smaller ones above them, is still more open to criticism. A stone-panelled and frittered Gothic villa at the end of the row detracts from the general good effect of these houses. The triangular green, with its edging of villas set back in gardens, then brings up the route to the narrow-necked entrance into Coventry. Two roads diverge from this point,—Hertford-street and Warwick-lane. The former is a line of shops, from which, opposite the *Coventry Herald* office, rises a heavy-fronted building in the Italian style, which proves to be the Corn Exchange. The street is macadamized, and paved with the small cubes before mentioned. (These are laborious to lay down in the first instance; and in the second they are incapable of retaining a very exact level, so that there are points of depression in which, and in the general jointing, there is water glistening long after a shower.) The alternative road, Warwick-lane, is a miserable street of rag-shops, old clothes-shops, boot and shoe shops, and of low, antique houses, neglected and tumbling down, from which the printing-office of the *Coventry Standard* overlooks a decayed stable, which defiles the pebble pavement with filth. Here we are introduced to the court system at once. A cast-iron oval pattern, with the number of the court upon it (there are as many as thirty courts in some streets), is fixed up over the entry, and this is the only visible sign of residence in them till the narrow entrances are pierced. As nearly the same area of ground that was covered by the houses of the 3,000 inhabitants is now occupied by 30,000, it will be seen how sedulously every corner of garden-ground, orchards, and other vacant spaces must have been built upon. The courts are provided with public privies and monster ash-pits which, when emptied, deal disease around among the occupiers of the crowded confines. In this one street we have an accumulation of the principal sanitary errors, the cesspool system, overcrowding, and bad damp and filth, absorbing pebble paving. The ancient houses present one advantage to the wayfarer. As the rain pours down upon the narrow footways from spoutless eaves and gables, the overhanging roofs of the Tudor houses form a sheltered walk for the passenger. Passing through Greyfriars-lane, a street of similar characteristics in better order, we soon reach the High-street, and thence emerge upon the market-place. This open space, which has a cab-stand in it, has been much modernized, and has the usual complement of good shops and hotels, besides peeps of gabled High-street, and of a steep down-hill street sloping away from it. In contiguity to one side of the market-place, nestling under the shadow of the spire steeple of Trinity Church, and within a short distance of the well-filled graveyard, are several plots of houses, which are packed so closely together that the overhanging roofs make the light in the narrow streets subdued; and out-buildings in the rear prevent a due circulation of air. Priory-row, Bailey-lane, Derby-lane, Broadgate, Butcher-row, and Little Butcher-row, may be particularly cited. In the last-mentioned-row, in the heart of the city, close to the opulent market-place, under the shadow of two magnificent churches, and in the immediate neighbourhood of Priory-row, the butchers congregate, and slaughtering goes on in the public thoroughfare. As we passed, a sheep was slaughtered in this public way. A greasy bucket was held to receive the blood, which in time overflowed and escaped down the steep gutter of the row, in company with paunch stuff and other offal—a most revolting arrangement. The houses, once picturesque and clean, were pleasant residences when few people lived in each of them, and there was plenty of air from gardens in the rear, but, converted into butchers' shops and offices, into slaughter-houses and fishmongers' shops, by ugly cramped additions, and with living rooms excavated below them, they certainly form but a sorry substitute for a meat-market.

Anxious to ascertain whether better provision has been made for the wants of the inhabitants in the general market, we thread Ironmonger-row, and cross Cross-cheaping and the market-place, and gain the Market-street. Here we find what appears to be a dilapidated farm-yard cart-shed, open on all sides,—a mere roof supported by common worn brick pillars. The space thus enclosed is surrounded by rows of lean-to wooden rickety boxes, placarded all over, called "the market sheds,"—as forlorn, tattered, and disreputable a locality as may be conceived. The whole place appears to have been left in possession of the bill-sticker for the last half-century, and the present value, as old material or fire-wood, would scarcely exceed a five-pound note. The removal of these eyesores will yield ample space for a good meat and general market when Coventry recover its tone.

The Smithfield is not far from Butcher-row: it is likewise in the centre of the town. A row of

slaughter-houses, called Palmer's-lane, leads down to it. It is not yet recognized as a principle in the management of towns that the more dirt there is made the more it should be overlooked, and the greater cleanliness practised. Slaughter-houses—where every facility should be given to insure a delicate nicety as regards cleanliness—are most frequently abandoned to chance as hopeless nuisances. This is the case in Coventry. As we passed through pebble-paved Palmer's-lane, where all should have been as clean as a marble slab, we saw in a dark slaughter-house, which had rooms above it, a pig in one corner feeding on the blood and offal of slain cattle, a horse in another, a light cart in a third, and the rest of the room was occupied with the usual paraphernalia of a slaughter-house. Thus this dark, undrained apartment, was a pig-stye, a stable, a cart-shed, and a killing-house at once. The butchers or slaughterers, notwithstanding their concentration in the neighbourhood of Butchers'-row, are distributed all over Coventry. We saw slaughter-houses in various parts, and noted that their number exceeded sixty. The arrangements connected with the feeding of 36,000 Coventry men and women—the Smithfield, slaughter-houses, meat and general markets, are lamentably ill-considered. There are more desirable improvements to point to.

Leaving Smithfield we seek an open space in which is a handsome building containing the public baths and wash-houses, presenting the somewhat dismal though novel arrangement of black bricks and stone facings, Chauntry-terrace—a neat row of houses overlooks this space. We turn into Chauntry-place, thinking of the pictorial times these melodious names recall, to find a district of crowded courts, leading out of primary courts, with great, common, brimfull privies at the ends of the long rows of weavers' houses in them. An air of woe and desolation is apparent, and a sense of heart-stricken trouble strikes the mind. There are notices here and there of emigration, and closed houses with bills upon them, stating that they are to let at reduced rents. More miserable abodes, or worse streets, or life under more unsanitary and disheartening conditions, could not await the emigrant in the least prosperous of our colonies; as we paced this neighbourhood we heartily re-echoed the admonition of the Rev. Canon Drake, to the last emigrants who left Coventry, "Go, and the Lord be with you." Norton-street, with Jessom-street at right angles with it, and the other numerous narrow streets and courts leading out of the old gabled thoroughfares in the Chauntry district, are simply rows of the stereotyped factory-operatives' houses, with the as indelibily stereotyped unsanitary adjuncts. St. Agnes's-lane is, perhaps, in a worse condition than the rest, the houses being older, more decayed, and more crowded, and the courts leading out of it closer together. Against the wall of a rickety house occupied by a chimney-sweeper, there is a pump in constant use by the inhabitants, into whose sink the house drain delivers itself.

Although sewerage has been introduced into Coventry—as we shall tell in a description of the experiments made with the sewage—the cesspool system remains in triumphant possession of a great portion of the town. The inspector of nuisances reports on the 8th inst., that he had served several notices for the cleansing of offensive water-closets, cesspools, and drains; that he had requested the removal of several heaps of manure, and that he had inspected premises which required removal. Thus we see there is a feeble supervision of the public health in some places; but what must we think of the example set to the young in the apathy shown in these matters at the different public schools? Not far from St. Agnes's-lane and Chauntry-place—at the corner of Bishop-street, and facing the main thoroughfares of Burgess and Earl-street—stands a building which appears to be, as it is found to be, the choir of a magnificent church. This is the grammar school, richly endowed with exhibitions and fellowships. At the dissolution the monastic establishment here was broken up, and, when Bishop-street was founded in subsequent years, the nave and bulk of the church were taken down. The choir remains, and is used as the grammar school-house: a splendid Early Decorated tracery window occupies the east end, and the school-room walls are lined with the black oak stalls and misereres. In dismaying contrast to the grandeur and elegance of these Mediæval accessories is the general disregard of the propriety of keeping up these remains and maintaining a corresponding neatness and due cleanliness. The fine old roof has been ceiled over because the quarried windows let in the wind: some of the stalls have been removed to Trinity Church, and those that remain have been denuded of their misereres, which are hung in rows upon the cob-webbed walls like plaster casts. In the absence of a cap and cloak room the boys cast their damp overcoats and caps upon the stalls, giving the room the slovenly air of an old clothes' shop. Further, in this wealthy grammar-school, holding scholastic court in the grand choir of a fallen monastery church, and enriched with a priceless library of scarce books, order and cleanliness are made of small account, the slovenliness most condemnable, perhaps, being that apparent in the privy accommodation, which is disgusting.

From this we traverse Well-street,—a long, narrow route of poor houses, intersected by more of the interminable courts. A great nuisance prevails in this and other parts of Coventry in the absence of spouts to the overhanging eaves. If there are any spouts at all, they must be out of repair, for the rain comes splashing down in cataracts upon the footways, and there is no choice for the wayfarer but to take to the muddy macadam road. The Local Board of Health should improve this state of things. Our climate entails frequent rains upon us; but we can moderate the inconvenience by using proper appliances to keep our houses and streets dry. Up court No. 6, in this part, is the Central Infant School, which building is also used by "the Plymouth bretbren," whose baptizing bath is in the open yard beyond. About a hundred pale infants are kindly taught and watched over here during the working hours of their mothers. As in many of these infant school-houses, the door into the school and the door into the yard are placed exactly opposite to each other in the centre of the building, so that there is a draughty roadway cutting it in two. The building is set back up the court, and the large privy and immense ashpit for the use of the court tenants are against one of the windows. Although this unsanitary arrangement had been recognized by the master, and the window pasted up, we would ask, in the name of the hundred little ones, for the removal of these nuisances. The courts generally out of this street are very bad. In court 8, which has a ramification of courts out of it, the doors of the front houses open into the street: these houses are backed by other houses, so that there is no other ventilation. In one of them a butcher lives, and has pig-sties, and a dark brook runs through this court. Ryley-street is also in a very unsanitary condition,—the road unmade and nearly knee-deep in mud.

Bablake Hospital, for men and boys, is an ancient establishment in this neighbourhood. Half-timbered, with overhanging gables, with traceried, panelled, and carved barge-boards, with wooden tracery to windows which have also overhanging eaves and gables, with a corridor over a cloister, all coloured black,—this quaint old building occupies three sides of a square court, the open fourth side being bounded by the grave-yard of a church. It is so picturesque, though somewhat marred in effect by a few modern additions and alterations, that it is difficult to pass by into considerations of every-day wear and tear again; but we are led to do so by the fact of the original purposes of the hospital being so far perverted as to admit of the master being allowed to take a great number of pupils. For these the school-room proper is too small; hence a long, low, casemented room across the court-yard—some distance off—is made use of as a class-room, and the old twisted banister staircase is used as a play-room. The dormitories are healthy, though from the great number of quarry-glazed casements on three sides it is probable that the occupants of the beds may find them draughty. The "conveniences" here are horrible. A sort of Gothic screen, with arches in it, in the court-yard, leads to a room in which is a filthy ash-box, and seats for eight boys without any division whatever between them,—the whole arrangement being a disgrace to such an establishment. Here we must stop for the present.

AN ARTIST'S GOSSIP ON THE INTERNATIONAL EXHIBITION.

Eleven years ago, England threw down her heavy gauntlet and challenged the world to a contest in the productive arts in every branch of industry. It was bold—perhaps adventurous. But the days of protection and exclusion were past, and England was the first to proclaim it, and boldly to take her chance in the honourable, though perhaps fierce, competition that must necessarily follow in the coming international tournament of art. In the result, both England and her rivals were satisfied: it was the most brilliant international *fête* that the world had ever known; surpassing the expectations of the most sanguine, and effectually silencing the discouraging prophecies of the inevitable horde of grumblers, whose name was, and is, and ever will be, Legion. The year 1851 will remain a marked and brilliant epoch in the history of international intercourse; for the idea was prolific, and the example of England was followed. France took the next lead, being rapidly succeeded by others; and the result has been everywhere marked with good, and with a wide scattering of the true seeds of progress; leading inevitably to those commercial treaties which are fast breaking down the last barriers between nation and nation. The great French treaty of commerce with England—so long hoped for by the really intelligent in both nations, but deemed impracticable—is one of the latest, and certainly the most remarkable, consummations of the new lights that have radiated from the brilliant meeting of the world of art in 1851. The untrammelled exchange of works of art and manufacture has become an established principle; and honest and open rivalry has swept away the jealous system of exclusion of the old and narrow policies which can never reappear.

How the eleven years have flown since that "fifty-one"! It seems but a span; and we have arrived at the second celebration of the great international festival. The sun is as bright,—the lovely profusion of spring is as glorious; but then nature is eternal: while man—— Yes, those eleven years have left gaps never to be refilled. We have come to the new gathering from our May gardens, where the lilac boughs are borne down with their load of fragrant blossom. We have come across May fields—sunny fields—thick with their May flowers; but they cannot obliterate the memory of the missing ones. Eleven years have swept off—how many!—dear and familiar names that belonged to our associations connected with the last gathering! Yet we cannot pause to dream of them. We are impelled forward; but let us tread as lightly and lovingly on these sad memories as on those thick field flowers, and pass on like the October swallow. We cannot stay. The crowd pushes on,—drags us on: it has no time to stay, and sigh, and cavil over the irretrievable. And so, with one look back, we hurry on to the new festival.

Of the building I do not care to say anything. We have had the apologetic special pleading of Lord Granville at the Lord Mayor's banquet:—"The building would have presented a much more imposing appearance had the whole design been carried out."—"It was our poverty, and not our will, that made us build, like the ancient Romans, in brick." It is not the brick, however, but the purpose to which good bricks have been put, that is the grievance. Very fine buildings have been, and will again be, built of brick, or even with brick cased in cement; but if this structure had been built with Carrara marble, it would have been just as ugly as it is now. Does Lord Granville think that it is the material, and not the art, that gives the value to the production? Did it not occur to him, before he made use of that argument, that there are small statues in mere baked clay that are priceless, and big ones in Carrara marble that are worthless?

Next we hear of the arrival of the first freights of art treasures, and industrial triumphs; and one hastens to the region of activity. Cromwell-road has long been classic ground. Once there, we feel we are close on the arena of the coming tourney of the pencil and the chisel, and the loom and the mould, and the kiln and the lathe; and that our rivals are already thick on the ground. The words are not English words that fall so loudly and rapidly on the ear in that now active region: they are French, German, Italian, Spanish—even the accent of the Russian and the Turk. The language of the less loud and demonstrative Englishman is lost; and, among others, the French is the loudest and most energetic of all. The Frenchman fails, with his Parisian French bow, emphatic as it is, to make the pure Cockney understand a single word; and repeats, louder and more emphatically, to make it more intelligible to the cabman or porter innocent of the polite language of the Boulevard des Italiens, as of the niceties of Greek particles. But, though the increased energy does not add to the intelligibility, the attempt to make it do so is not abandoned. And then there are twenty, forty, a hundred Frenchmen at the same game,—to say nothing of the Germans, Italians, Spaniards, and Russians, who are similarly engaged. Verily, it was a Babel—"*Moi qui vient de babil*," as Voltaire said. Then the clash of waggons, case-laden to a fabulous height; and the great derricks

at work lifting down the cases. The sight was truly exciting; and one watched the goings-on for hours. Down came case after case; great masses containing—what? Well, there is a great case marked "Rome," and also marked "*Marbre, fragile*," using the universal French. Surely this must be a statue—from Rome too. How one recollects one's winter in Rome! It is never forgotten—that one winter got over in Rome. How the seeing of that case brings it all back! The Pincio, the Caffé Gréco, the studios. Well, but the case—yes, it must be a statue: it is marked "*haute; tête*" at the top, and "*bas; pied*" at the bottom—truly, yes, a statue; and porters are directed not to turn a marble lady or gentleman upside down,—very proper instruction. But there is another case, and yet another, that one cannot stay to describe.

Pieces of gold work over head—Ah! I see it is the Imperial arms of France—above the portico of the house that has been taken as the headquarters of the French commission. The Emperor takes a personal interest in the affair, and he is right: it is a Solferino that will pay better than the Italian one, even if France should not be quite so victorious. Yet, even as to victory, he will hold his own. He knows that; and we know it too; and honour our vociferating and pugnacious neighbours all the more for that knowledge.

Then comes the interesting distribution of the works of art and manufacture as they arrive; and the inside of the building becomes a scene of continuous interest.

What fine, healthy, stalwart figures are those of the great industrials who are about to display their products for the contest. There can be no doubt but that healthy and successful labour is the fitting task of man: judging from the healthful energy and robust manly aspect of three-fourths of the foreign exhibitors, one is prepared to give one's verdict at once in favour of the result of bourgeois labour, and against the envied position of elegant idleness, or even the fame of the learned but sedentary professors.

What a scene of healthful bustle! There are Mr. Crace's men painting away, and succeeding in beautifying the interior of the building. Let us step aside and look at those great Evangelists in terra-cotta, lying in their great packing cases, as if they were sarcophagi; and from them to that great marble Polyphemus, with his pandean pipe, putting Galatæa to sleep. Is this a new polychrome effect in his drapery, or is it a workman's jacket over his shoulders? And Galatæa—is that a modern treatment of the subject, of pre-Raffaellite invention? Or has she a bonnet on? On closer inspection the jacket proves a real jacket, and the bonnet is a real bonnet;—the jacket belonging evidently to the man who is nailing the green baize round the pedestal; and the bonnet to a neat little Frenchwoman who is sewing some drapery together to do service as a screen at a neighbouring table. Then there is an extremely naked nymph, with another bonnet on, hind part before; and a shawl, too; which last she wants, for her shoulders are not particularly good; and there is a basket of sandwiches on the marble sedges which form her couch; and which, in all probability, she will not want. These are incongruities which one bears with; but that great bronzed-zinc lion, whose head is made a peg for a Basque cap, stuck rather on one side, is too bad.

Day after day, there was amusement and instruction, too, in watching the unpacking; but it was distressing to see the committee blocking up their nave with that nightmare of *soi-disant* trophies,—trophies of cricket-bats and wax-dolls—trophies of wax-candles! Such bungling surely was never seen before. And then came the additional preparation for the official opening. It was a well-conceived idea to have the present state of music presented, at all events, at the opening; the pageant and ceremonial of which affording a fitting opportunity. But just as all was complete, and not before, it was found that they had located their ceremonial where no single note of the giant orchestra could be heard in their reserved seats. All must be re-arranged: the sweat and toil of days, and of nights too, went for nothing. However, this was repaired; but the change gave them less space for their reserved seats.

The rush over the building by the general public to see with their own eyes what the industry of the world had been effecting during eleven years was the next great event; and not even the guinea demanded for admission on the first days could stop them. They poured in as though the expensive sight had been a gratuitous one. There was progress everywhere, in every thing; and the example of that progress was magnificent. The arrangement is another matter; but the works, from those of the highest art to those of lowest mechanism, make themselves seen and felt in spite of it.

The painting galleries were at first the greatest attraction, as was natural. Here it was that the place of England in the contest was most to be feared; but she holds her own. And what an interesting history of the progress of our native art is shown upon those walls! The matchless Hogarths, that go on gaining upon us the more we learn of art. And then come the Reynoldses and the Gainsboroughs, with all the elegance and dignity of Vandyck, though not his manipulative skill, nor quite his colour. And how Lawrence comes out, whom we have of late been prone to criticise. His head of Pius VII. is as fine—pencilling, colouring, and all—as Vandyck's Gevartius. And then the rise of our more recent and living painters;—the finest works of Turner, of Etty, of Newton, of Leslie, of Landseer, of Maclise, of Herbert, of Stanfield, of the Linnels. But we cannot mention all: it had been better, perhaps, in such a glancing survey, to mention none.

The display of the foreign schools of painting is good. The French, in scale, in the monumental grandeur of treatment, are above us; and their best smaller works have also a stamp of greatness about them that marks the school. That exquisite work of Ingres—the girl pouring water from a vase, held in classic fashion upon her shoulder—combines all the purity of sculpture with all the charm of painting. But I must name no more: my paper is full; and yet those strikingly-painted scenes in Flemish history, in the Belgian gallery, cannot be passed in utter silence. That last act of the eventful drama of the brilliant Egmont, and the brave and honest Horn, at once rivet the attention; and what a head is that of Alva, looking at his bloody work—unforgiving, unregretting; and what a telling figure is that of the veteran burgomaster, too, who sheds a tear of sympathy that will not be repressed, and that yet, as he knows, may prove his own death-warrant. Swedish and Danish masterpieces there are, and Italian too. Italy at last reasserts her old supremacy in art; but of all her works, that charming landscape, with its wide sunny details and poetic conception, true, yet sweetly ideal, the work of the gifted Massimo Azelio, more strongly arrests us; yet it is, perhaps, what we know of the gifted painter, orator, statesman, poet, that gives it half its charm. And of the rest of the Exhibition—my paper is full—yet what of the sculpture? Why, it is so scattered that it takes hours, days, to hunt it out, except in that little nucleus in the Roman court, where two works by an Anglo-Saxon hand, the "Cleopatra" and the "Lybian Sibyl," come out strongly. Gibson's tinted marbles, too, are easily found; but, though good, are not triumphant: the flesh tints are too dark, as against white draperies; and the eyes look hard beneath the faintly delicate tinting of the hair. But I must not pause even at the spirited bronze group of "The Knife-fighters," the only work that at all replaces in bronze statuary "The Amazon" of 1851. Prince Oscar stood long before this work of his countryman the other day; proud, no doubt, of the honourable place it at once assures to Swedish art. The Crown Prince of Prussia has also been a constant visitor, and has shown the interest he takes in the event by presents of exquisite specimens of Berlin porcelain to members of the managing committee.

Among the gold and silver works, what fascinating achievements those Titanic shields, on one of which our young countryman, Armisted, makes good his ground against rivals. And then, talking of rivals, there is a rival to the Koh-i-noor. Coster, of Amsterdam, exhibits a brilliant, set in the centre of a star of almost matchless diamonds; and this luminous star is cunningly poised upon an invisible spring, moved almost inappreciably by every footfall, but enough to make it flash forth such gleams of refracted light as fairly dazzle with their brilliance. The host of things that tempt the eye in every direction must all be left for a few final words on a piece of goldsmith's work, which, taken as a whole, is, perhaps, the grandest ever executed. It forms the centre, the very core, of the French court, and of M. Christophle's magnificent display. Its form is that of a centre table-piece, executed for the brilliant civic banquets that have rendered the Parisian Hôtel de Ville so celebrated. The ornament is several feet in length—perhaps 12, at a guess: the base is formed of a rich gold bordering, inclosing a flat mirror which represents the river Seine: upon its surface is a magnificent galley, with gold and silver wrought in a truly stately and exquisite fashion. In the centre stand four grand silver figures, nearly two feet high, whose metallic tintings are more successful than the marble tintings of Gibson. The silver of the draperies glistens with a delicate green; and the other tones give further variety. Aided by golden fringes and ornaments, these four figures support a shield, in itself a marvel of design; upon which is borne, in true Merovingian fashion, the impersonation of the city of Paris, wearing her mural crown, and seated in an antique chair of noble design. The figures grouping at the prow and stern of the galley are very fine; and the nymphs and river deities that float on the mirror, propitiating the course of the richly-freighted galley, are, some of them, of very exquisite design; while the execution of the whole is almost faultless. It is, perhaps, on the whole, the grandest piece of *orfèvrerie* ever produced.

THE HEREFORD CATHEDRAL CHOIR-SCREEN AND CORONA, AND THE GROUP OF GAS STANDARDS IN THE PALACE OF ART.

METAL-WORK is in the ascendant. For a while metal architecture and the Paxton style appeared to be interchangeable terms; and, as that style seemed exhausted by its first effort, the Crystal Palace, metal architecture very naturally seemed to fall into a kind of abeyance. Then South Kensington arose and flourished: but it was not possible for the wildest enthusiasm to discover in the historic Boilers a renaissance of metal architecture. In due time the era of the second of the English Great International Exhibitions drew near, and again anticipations of a second palace of iron and glass became rife. But, when the time had actually come, Paxton was not invoked, and Fowke has made no sign. The original Crystal Palace, indeed, has of late derived (unintentionally, no doubt) from the new creation, by way of contrast, quite as much of fame as in the first instance it secured through the original conception of Sir Joseph Paxton. The Crystal Palace, however, at the best can do but very little more for metal architecture than it did eleven years ago; and we must turn our eyes away from the pleasant hills of Sydenham, when we now seek for fresh and far more artistic expressions of architectural metal-work.

What we may fail to find in the Great Exhibition building itself we have no difficulty in discovering amidst the vast gathering of infinitely diversified objects beneath its roof. As would naturally be expected, the examples of metal-work that England has produced and sent to the Great Exhibition are very many in number, and they comprehend almost every possible object that may with advantage be formed from any metal or any combination of metals, as well architectural forms as novel appliances for defence against weapons equally without precedent even eleven years since.

The most remarkable architectural work in metal is the new choir screen for Hereford Cathedral, executed from the designs of Mr. G. G. Scott, by Mr. Skidmore, of Coventry. Only incidentally intended to take a place in the Great Exhibition, this screen was produced expressly with a view to the functions it would be required to discharge, and to the associations with which it would have to harmonise in Hereford Cathedral. It appears to great disadvantage, accordingly, anywhere except in a cathedral, and more particularly where it has just been placed for a temporary sojourn. Visitors to the Palace of Art ought to be informed, when they may chance to notice a certain degree of incompleteness in some of the details, that the designs for this screen were not placed in Mr. Smidmore's hands until the month of January in this present year had considerably advanced.

Encouraged by the experiment of Ely, last year, a choir-screen in metal-work was designed by Mr. Scott, and produced by Mr. Skidmore, to take a part in the restorations of Lichfield Cathedral. So satisfactory was the Lichfield screen, that the speedy appearance of its Hereford successor, by the same architect and the same metal-worker, is simply an instance of the ordinary working of cause and effect. Both screens are thoroughly Gothic in their feeling, and perfectly architectural in their character. It follows, almost as a matter of course, that the Lichfield and Hereford screens have some features that are common to both; but, taken as a whole, each one is impressed with an individuality of its own. The Hereford screen is of considerably larger dimensions than the corresponding work at Lichfield; but notwithstanding the largeness of their scale, the details are worked out with the greatest refinement and delicacy.

The composition consists of a range of five large arches, the central arch being the most important

of the series and forming the passage-way for transit through the screen. This central arch has a pedimental canopy rising to a considerable height above it and terminating in an acute angle. The other four arches, two on either side of the centre, support a frieze and cornice; the ormer of brass that is worked into union with the arch-heads; and the latter of copper foliage which curls over beneath a horizontal parapet that at present is without either ridge-cresting or pinnacles. These last-named members, however, appear in the original design, and it is probable that they will be added before the screen is considered to have been completed. Each of the five arches of the arcade is divided into two sub-arches, and thus the screen may be said to be formed of a double arcade. Both the primary and the secondary arches are traceried and cusped, and have their spandrels also filled in with tracery. All this detail is in iron, and a faithful conception of its true character may be formed from our entitling it iron architectural filigree. The curves of the arches are of polished brass, being formed into broad flat fillets which are enriched with jewels and various stones, and also with broad masses of vitreous mosaic. Equal portions of this mosaic and of the jewelled brass-work are arranged in alternation both throughout the arch-heads of the arcade, the frieze, and the straight sides of the canopy. The primary arches are carried by clusters of shafts, and the secondary by single shafts. The principal shafts are of iron, banded midway of their height, and below the banding are covered with brass, and above they have their iron cylinders encircled with rich open-work. The smaller shafts are all of brass. The lower compartments of all the arches are filled in with grilles, executed entirely in iron. The capitals are all of copper, cut from the sheet and beaten (in accordance with the mediæval practice) with the hammer point. These capitals have evidently been executed with a view to exemplify the theory advanced by Mr. Skidmore relative to the metallic origin of the greatest works of ancient architecture. The floral adornments and the foliage of these capitals have all been studied with care. The copper retains its darkly natural line, whether in the capitals themselves, or in the corbels that rise from several of them to support statues, or in the cornice of the inner featherings of the central canopy, or in many other details of the composition. The iron has been painted in the colours that nature has given for the consistent colouring of iron in the oxides of the metal itself, the greens being the sole exceptions to this rule. With this colouring a little gilding has been cautiously associated. The central canopy is crocketed with bunches of leaves and flowers. It incloses a large pointed vesica-panel, above which is a circular panel of smaller size, and the whole is surmounted by an ample and massive cross of brass, comparatively plain in its outline, but polished and adorned with gems. The space inclosed within this canopy, and also the arch-head below it, are filled with traceries, the sides of the canopy being lined with copper foliage that springs directly from the brass of the mosaic work.

In front of the vesica-panel, supported by a corbel (not very successful, by the way) that rises from the capital of the central shaft of the entire composition, is a statue of the Saviour, which appears as he may be supposed to have appeared immediately after his resurrection. The flowers and foliage that are near his person are representations of passion and everlasting flowers. Two groups, each formed of two figures representing angels, winged, and as in the act as well as in the attitude of adoration, stand on either side of the central statue, towards which, with uplifted faces, they are earnestly looking. Two other statues, also of angels, stand at either extremity of the screen, where they play on instruments of music as representatives of a celestial choir. All these statues are corbelled out from above the abaci of the capitals below them, their corbels being enriched with foliage and flowers; and the figures themselves, like their companion works at Lichfield, are all them executed in copper in its native colour.

In addition to its choir-screen, Hereford Cathedral will possess, suspended within the enclosure of the choir, a large gas corona, which now hangs at the Great Exhibiton, a little to the north of the screen. Four gas standards of great size, all of them in brass, complete the group, of which the Hereford screen is the principal member. The standards are destined ultimately to stand in the cathedrals of Hereford, Lichfield, Norwich, and Calcutta.

The corona is conical in its general contour, and is banded to form four tiers of traceried panel-work within divergent arches, and it has a group of seven radiating standards for clusters of gas-jets, that project boldly beyond the outermost circle of the cone. The lowest and largest circle of the corona is also studded in like manner with triple gas-jets; and, both in this circle and in the seven standards, pieces of bright and transparent crysolite are freely interspersed amidst the jets and the foliage. These fine works cannot fail to produce a considerable impression, and it may reasonably be expected that they will lead to further results of importance to the best interests of modern architecture.

In offering our commendation, we would not forget the workmen, by means of whose skilled labour these works have been effected.

THE EXHIBITION OF THE ROYAL ACADEMY.

Although so many of the best-known members of the Academy have apparently depended upon effectually reasserting their claim to the position awarded them, and have preferred to be judged by the world at large, upon the merits of what they have done rather than of what they are now doing, and others are exhibiting separately, the good character of their annual exhibition is amply sustained; certainly as much by the excellence of those of their body who have been faithful to the occasion, as by the competence of the artists not yet so immediately connected with them, who have been selected as most capable of fulfilling the trust of supporting it. Unfortunately for many, this selection extends over too wide a range with reference to space at disposal. No wonder that "*On dit*" is christened infamously when such reports are attributed to that source of information as, that 1,200 works of art were of necessity returned to their authors for want of room! And judging by the general excellence of the collection, whilst it testifies to the sound judgment and impartiality of those who made it, it may reasonably be concluded that it might have been augmented without any deterioration in its character.

We are overdone with exhibitions this week, and must confine ourselves at present to noting half a dozen of the leading pictures. Mr. P. F. Poole, R.A., has never been more strikingly represented than in his "Trial of a Sorceress—the Ordeal by Water" (17), never more remarkable for that latitude he allows to the full employment of his feeling for colour, whereby he is enabled to hold in check any objection that may be taken to the subject he may select as being best adapted for its conveyance, or to his shortcomings with respect to relative proportion and drawing. The story is built upon a very old foundation, and apart from its technical qualities the picture will create little interest; the treatment is thoroughly appropriate, however, if not novel, and the whole effect weird-like and poetical. (73) A Toy-seller." W. Mulready, R.A, is an astonishing evidence, that although a long professional career has been devoted to miniature elaboration in perfecting small compositions, and that the same power that distinguishes them when applied to works on a larger scale scarcely ever suffices to attain a similar success, how thoroughly competent this artist is to draw on any scale. Most of the high qualities that are remarkable in those inimitable performances are present in this; but perhaps the fact of its being too closely a magnified copy accounts for its want of solidity and roundness, and an approach to flatness, which a desire for extreme breadth may have begotten. "The Negro," however, is a perfect study. Mr. Cope, R.A., has been very happy in his mode of propounding his picture proverbs (109 and 110), "Mothers," for whilst they are beautiful examples of his art, they teach a lesson and enforce a moral. Another charming emblem of maternity is to be found in Mr. J. N. Paton's (7) "Lullaby," very highly wrought and refined.

Mr. A. Elmore has found enough in very simple materials to produce a very telling work, depending, again, entirely upon the painter's resources. The "Invention of the Combing-machine" (135) will bear favourable comparison with the well-known "Invention of the Stocking-loom." The principal figure, a girl combing her hair, reflected in a looking-glass, is a masterpiece of execution, and an exquisite type of natural grace besides.

(198) "The Ransom," by J. E. Millais, has many fine passages of expression,—the girl's face to wit,—and shows his extraordinary faculty of imitating the objects he depicts, though in a less degree than has distinguished former emanations, but with so much more of the theatrical element pervading it than usual with him, it will not fully satisfy the more exacting of his admirers. (269) "Trust Me," is more likely to meet with general approval; for the extremely unaffected, yet fully-expressed sentiment expressed, raises this picture high above the ordinary level. With quite opposite attributes the embodiment of the "Parable of the woman seeking for a piece of money," is equally conducive to enhancing his reputation.

Perhaps the most extraordinary specimen of painting, *as* painting, is presented by Mr. J. Phillip's "Water Drinkers" (207), so gorgeous, yet so subdued—so sparkling, and yet so broad and magnificently rich that it creates wonder. No study, however close the application, could have achieved such a combination of delicious hues, that suggests the accidental heaping of flower upon flower, giving and taking extra splendour from contrasts and reflections. Mr. Phillip stands alone as a colourist, as one possessed of a genius as rare as it is entrancing, so subtle in its influence that those who might be supposed to share the gift in his absence, only strengthen his superior claims upon comparison.

We shall return to the collection, and especially to the architectural works, which, on this occasion, are but 92 in number.

THE NEW SOCIETY OF PAINTERS IN WATER COLOURS.

In resuming our notice of the Water-Colour Exhibitions, with more immediate reference to the junior society, it may again be observed that there are fewer instances of individual distinctiveness than usual on the part of the members; that the attractiveness of the exhibition, in fact, is very much more comprised in the average excellence of the collection than attributable to striking and exceptional successes; and that in those few cases where the effort has been made to produce a leading picture it has only imperfectly succeeded. Under these circumstances Mr. Corbould's absence is severely felt and much to be deplored; and Mr. L. Haghe, though in great force, is less superbly pre-eminent than he often is. (90) "Arnold of Brescia defending his Opinions in a Consistory at Rome," solemn and earnest in expression, lacks that depth and richness of colour, with other technical qualities, that have characterized his works. (193) "Salle d'Armes at Bruges," a very luminous interior of most simple architectural pretension, shows more of his usual qualities; but the composition is somewhat marred by the figures of the two fencers being too small as compared with the lookers-on. He is much more readily recognised, however, in a small Flemish interior (212), "The Toilet," noticeable for its admirable effect and completeness.

Mr. Warren's speciality is illustrated in (48) "The Parting Gift on a First Desert Journey—a Mother's sainted Amulet;"—a night scene, embracing Nubian figures, camels, and accessories, invested with all that truth and force that will impress the spectator in spite of a want of idealization as regards female loveliness. The drawing is replete with the peculiarities of the artist, and therefore a favourable specimen *sui generis*.

Mr. Absolon is equally loyal to his first affection: his numerous contributions, clever, clear, and bright as they are, lose their interest in some measure from want of variety in character: (39), "The Courtship of Gainsborough" has only the claim of prettiness to recommend it; and (220), "Olivia,', from Tennyson's "Talking Oak," is even less like nature, though it be prettier still, with its artificial colouring, and adjuncts of enchanted appearances, only adapted to fairy-tale illustration. In some of his smaller drawings this failing is less perceptible; and (110), "Toute Seule," conveying as it does a pathetic sentiment without affectation, is infinitely more agreeable. Mannerism is the prevailing fault of Mr. Tidey also; but his error, by the way, has the opposite tendency to Mr. Absolon's; for in his case the chromatic scale appears to be some unruly element to be tamed and held in subjection by very tyrannous control indeed. The depressed, washy lines of his large, ambitious attempt (231), "The Last of the Abencerages," from the French of Chateaubriand, have diluted to the faintest flavour any taste that might have been gratified by such a subject, had it been the object of a more imaginative and gorgeous treatment. "The Keeper's Daughter" (24), and "The Thorny Path," are much pleasanter examples of what can be done with little else but neutral tints beyond those used in painting the heads. How possible it is to perfect insipidity, even in connexion

with the most lavish use of violent contrasts and positive colour, (173) "The Happy Days of Mary Queen of Scots, Fontainebleau, 1558," of Mr. A. Bouvier, will assist in demonstrating; and for proof that considerable appreciation and clever adoption of some of the best capabilities of the art do not in themselves compensate for the neglect of other equally or even more important qualities, the dashing, off-hand sketches of Mrs. E. Murray are a competent source; for instance, in "The Belle of the Market,—Seville" (250), the claim to consideration some of these advantages instigate is nearly negatived by the want of careful drawing and refinement that so obviously detract from it. (82) "Garibaldi in Sicily," wherein Mr. Carl Werner represents the illustrious general in bivouac with his principal followers, amidst the ruins of a Norman church near Marsala, is, amongst others, a contribution that materially assists the general excellence of the collection. (113) "The Library of an Old Castle in Germany," and (215) "The Armoury of the Wartburg, near Eisenach, Germany," are even more admirable in completeness as works of art.

Mr. E. H. Wehnert has wasted much power and great pains upon his large drawing (10), "Falstaff's first Visit at Ford's House;" and it is to be regretted that he has not been more happy in the selection of a congenial theme to evoke the many higher qualities that former productions have made him eminent for.

The great strength of the society undoubtedly exists in the proficiency of its landscape delineators; and amongst these Mr. Edmund Warren is even singular for the consummation of imitation and forcible expression, in addition to a rare exhibition of the light-and-shadow arrangements he so delights to repeat; perhaps a little too often confining his scope to dark arcades of grand forest trees intertwining their branches and foliage so as to defy the sunshine to permeate beyond a glint or two, introduced apparently just for the sake of illuminating some of the wonderfully real-looking ferns luxuriating in elaborate and intricate perfection; and to show how well they are drawn. He has taken his admirers out in the open fields in order to intimate that he by no means intends to rest content for ever in those self-same shades, cool and delicious though they be. (54) "An English Homestead," a lovely bit of purely English scenery; (118) a Hayfield steeped in sunlight, where "rarely smells the new-mown hay;" (294) "The Farmer's Boy in the Fields;" and (305) "The Barley Field," will amply justify the conviction that it was simply from choice or force of habit that the walk out was not taken before.

Mr. Bennett is just as national in his transcripts, and as true to nature in his manner of expressing them, as Mr. Warren; more by broad indication, indeed, than literal representation, but always keeping to truth.

It will be sufficient to mention that each of the members is satisfactorily represented; and, in some cases, to greater advantage than usual, this year; that Messrs. Penley, Vacher, and Rowbotham are to be seen in their full strength; that Mr. Fahey is amongst those who appear to have exceeded themselves, giving a very masterly rendering of "Windsor Castle and Park," and again in a view of "Grütly, on the Bay of Uri" (189), memorable of William Tell; that Messrs. McKewan, Robins, Whymper, D'Egville, Prout, and Reed, are as specially deserving of admiration for their assistance to uphold the character of their gallery as most of their brother-members; that Mr. Mole's aptitude for refining every-day life was never more happily displayed than in "Near Home" (211); and that Mr. Harrison Weir's "Partridges" (239), and Mrs. Duffield's "Flowers" (251), although she is so closely followed by Mrs. Harris in (261) "Peonies," must all be recognised as concomitant assistance to a successful end.

THE RAG COLLECTING BRIGADE AND THE LONDON WAIFS.

A few mornings since, in the City-road, we met with a jaunty little carriage, painted red, and in size and construction similar to the vehicles used by London bakers for the conveyance of bread to their customers. On the sides were inscribed,—"The Rag-Collecting Branch of the Ragged School Union;" and accompanying it were two lads, healthy and cleanly in appearance, dressed in strong close-fitting garments, and wearing stout shoes and leggings; presenting, on the whole, a comfortable appearance. We were told that the business of the boys who attended the brightly-coloured vehicle was to wander, at early and stated hours, throughout the streets of the metropolis, and gather up such matters as had been thrown away and could be turned to useful account.

It would surprise many to see the estimates which have been made of the value of the various articles which, by careful and industrious search, might be gathered in the thoroughfares of the metropolis. Those who have made it a business to collect rags, bones, &c., in the streets, have mostly been broken-down and dissipated men and women, who neither made the most of their opportunities, nor availed themselves of the best market for their gatherings. On several occasions, however, we have had reason to wonder at the miscellaneous nature of the waifs and strays which these persons have brought together: there were rags of many hues, mostly muddy and dusty, but which, notwithstanding, could be used by the paper-maker: there were scraps of iron, with heel-plates of shoes, horse-shoes, nails, cart chains, pieces of wire, and many other fragments both of this metal and of brass: there were old boots and shoes, which, although seemingly useless, were still marketable, and used in the mysterious amendments and transmogrifications of these articles: there were linings, bands, and other portions of "shocking bad hats;" broken glass, card-board, sweepings from drapers' and other shops; fragments of coal, coke, wood; and various other odds and ends far too numerous to mention. All of these fragments can with profit be gathered up from the thoroughfares; and, with proper management, would afford an honest living to a number of otherwise neglected youths: there is great need to take advantage of all such opportunities; affording, as they do, the means of enabling many a lad who has, by circumstances which he could not well prevent, fallen into a seemingly hopeless condition, to rise to a position of comfort and usefulness. We were glad, therefore, to notice the commencement of what promises to become a valuable institution; and also to learn that, so far, the experiment has been successful, and is likely to afford honest and useful employment for the large number of boys and youths who would gladly work, but who are hopelessly placed in the darkest of the London shadows. The society in connexion with the Ragged School Union who have this commendable object in view will meet, we hope, with the encouragement of the public. The Earl of Shaftesbury is the chairman: the treasurer is Mr. Henry E. Gurney; and the managers are a committee of merchants. A depôt has been established in Albion-place, London-wall, Moorgate.

Throughout many of the poorer districts of London the rag-shops and marine-store dealers are, in too many instances, a means of encouraging theft and dishonesty; not only amongst those who are driven to this course by hunger and distress, but even in such cases as those of servants and others in better conditions of life: the police of the metropolis well know the extent of this evil. If, therefore, a mode of collecting what is called the waste of this vast city can be found which will be the means of providing remuneration for destitute boys, and also prevent to some extent the mischief complained of; the advantage is evident. The collectors are now greatly extending, and are likely still further to spread throughout the metropolis; and if, in the commencement, assisted with funds which are needed to promote the movement; there can be no doubt that the employment of destitute lads in this office, and the opening of depôts in various localities, will be followed in other large towns, and the plan become an institution of even national importance, in a reformatory and preventive sense. In three weeks, by only three trucks, there were collected upwards of two tons of materials, principally rags and paper; the trucks always returning full, and the demand for their services being so great that ultimate success seems hopeful. It is said that when ten trucks can be started the concern will pay commercially.

There are various ways by which the brigade may be assisted; and the attention of the managers of schools and others is invited to the desirability of inducing the children to store rags, &c. (which this committee would purchase), as an important item of social economy. Besides the various articles which are usually disposed of in the rag-shops, it is proposed to collect old clothes, which might be repaired and sold cheaply to the poor. The City and other missionaries, the ragged-school teachers, and others, could well appreciate the benefit which this would confer on many deserving but struggling families. While, for a time, help, both by subscriptions and materials, would be of essential advantage; it would, we think, be well eventually to establish a tariff of prices which would enable the undertaking to stand permanently as one affording pecuniary profit: for this, in the end, will lead to its most extensive usefulness. At present all necessary particulars will be given, and contributions received, by the chairman and the treasurer, and by the secretary of the Ragged School Union, Exeter Hall.

BRITISH COTTON-SPINNERS.

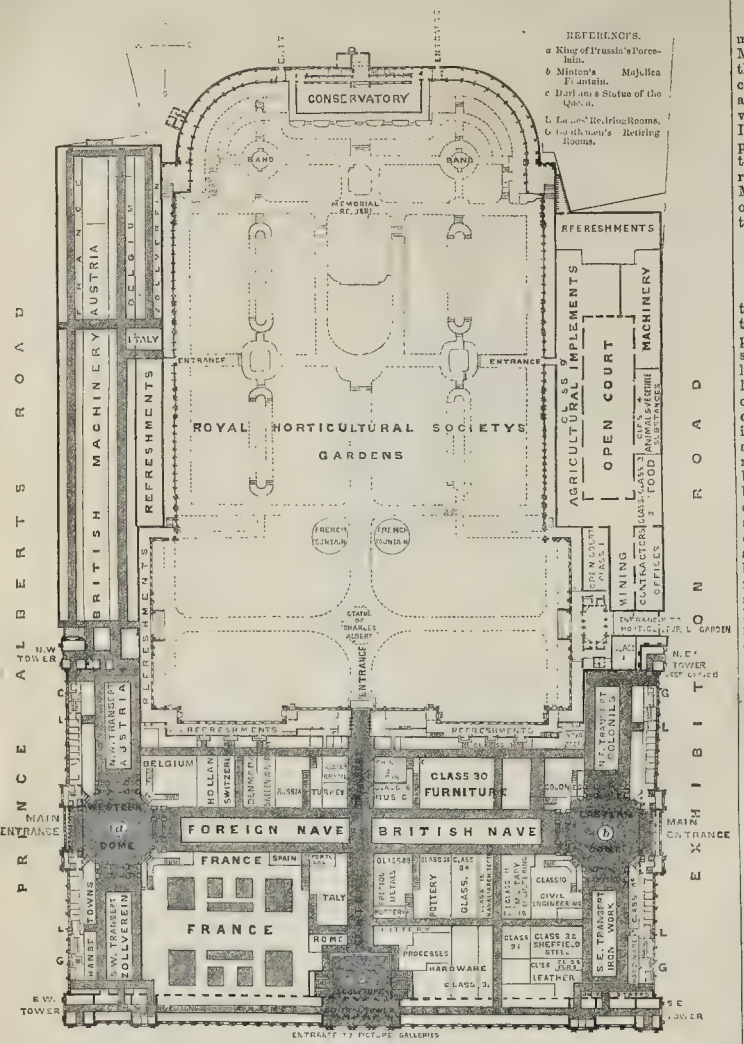
Great distress, in a dark and ominous manner, is threatening the industrious population, not only of the Lancashire district, but also of those other neighbourhoods which are dependent on the cotton supply for the means of providing their daily food; and in this instance the evil does not arise from any fault of either the British employers or their operatives. There have been no strikes or disputes at home; but a great civil war, the effects or endurance of which it is not easy just now to foretell, has, by stopping to an immense extent the importation of the raw material, either thrown thousands of industrious cotton-spinners entirely out of employment, or materially lessened the amount of their earnings. From trustworthy reports, we learn that, in Lancashire, Cheshire, and the districts engaged in the spinning and weaving of cotton, in a number of mills—1,678—usually employing 350,000 operatives, only 497 mills are working full time, giving employment to 92,000 operatives: 903 mills are working short time, varying from two days to five days in the week; while 278 mills, usually employing 58,000 hands, are entirely stopped. Taking this amount of labour, on the average that there is only work to the extent of three days and a half for each of the 350,000 hands,—and there is great reason to fear that this is but a faint foreshadowing of far greater distress which is to come,—it seems probable that in three or four months hence the average employment throughout those manufacturing districts will not be more than two days a week: in fact, two-thirds of the operatives directly engaged in the manufacturing districts are likely to be entirely without employment. When it is considered that the numbers above given are but a small minority of those who depend on this branch of industry for their support,—there being children and various classes of other persons who are not directly engaged in the cotton mills,—the need of some national and well-organized means of assistance is evident. One way and another, there is probably more than one-fifteenth of the population of these islands depending on the cotton manufacture for their daily bread; and most short-sighted now seems to have been the policy which has caused us to depend upon any foreign country for the supply of a material so very important; particularly when it is known that it can be provided by sufficient energy and encouragement from our own colonies as well as from various other quarters.

Even supposing the troubles in America should soon cease, or we succeed in getting a sufficient cotton supply from other parts, there must in the meanwhile be a sad extent of hunger and suffering which calls for assistance. We are not slow to relieve distress in whatever part of the world it may happen; and trust that sufficient consideration will be given in the time of difficulty to those engaged in this extensive department of British industry. The men and women of Lancashire are not ready to make complaint; and hard will be the distress which forces them to apply for parish relief, or to ask in other ways for help. The above figures, however, show—and they are in several ways corroborated by other particulars—that a vast number of families must be even now reduced to great poverty and the want of the necessaries of life.

A local committee has been organized for the purpose of endeavouring to relieve what we trust is only temporary distress; and the Lord Mayor of London, with his usual kindness, has expressed his readiness to become the recipient of contributions: we have hope, therefore, that ere long there will be substantial evidence of the feeling of the public on this matter.

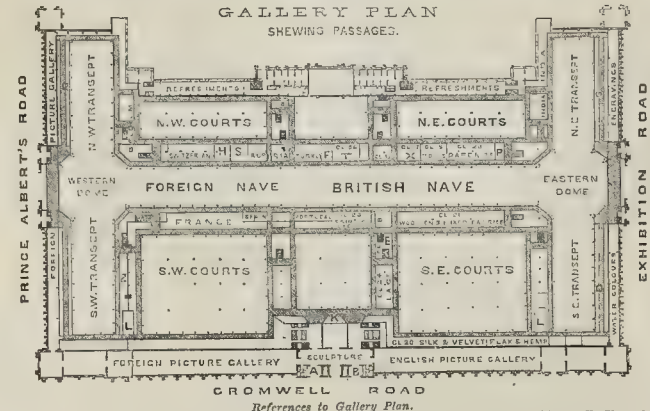
Her Majesty's Theatre.—The sisters Marchisio, who have appeared twice in "Semiramide," have achieved a great and deserved success. Report had spoken warmly of their doings on the Italian stage abroad, and in this instance had certainly not overstated the truth. Mdlle. Trebelli, who made her first appearance on Tuesday evening last as the page in "Lucrezia Borgia," promises to be of value in such parts. The opera, as a whole, was admirably given.

GROUND PLAN OF THE PALACE OF ART AND INDUSTRY.*



GALLERY PLAN

SHEWING PASSAGES.



References to Gallery Plan.

A. To Class 29—Educational. B. To Class 14—Photographic. C. Architecture. D. Class 27—Clothing. E. Class 18—Cotton. F. Ecuador. H. Holland. K. Stained Glass. P. Class 28—Printing. R. Austria. S. Sweden and Norway. T. Class 36—Dressing-cases. X. Class 17—Surgical Instruments. Z. Zollverein. L. Ladies Retiring Rooms.

* See p. 335.

PROPOSED ASSIZE COURTS, BRUSSELS.

IN the English architectural department of the International Exhibition, Messrs. Green and De Ville exhibit their design for the proposed assize courts, in Brussels, to which the authorities awarded a premium. A view of this design we have engraved. In an early number we shall give a plan of the structure, as a useful study, together with some particulars of the remarkably shabby manner in which Messrs. Green and De Ville, and the other *successful* competitors, were treated.

THE NEW RAILWAY STATION AT STAFFORD.

WE have not found an opportunity till now to mention the completion of the new station which had long been in progress at Stafford. It is of considerable size, and has cost, we believe, something over 20,000*l*. The length of the platform is 740 feet; only 540 feet of which, however, is covered in. The main block of building on the up-line consists of a booking and telegraph office, flanked by dining, refreshment, and waiting rooms. The booking-office, an apartment 50 feet broad, is furnished with the semi-circular screen common to such places; and which, with a slight partition, will effectually divide the first from the second and third class passengers. A broad arched doorway forms the communication between this apartment and the platform. To the left is a large dining-room and refreshment-room; while to the right run in succession the first and second class waiting-rooms for ladies and gentlemen respectively. Above the refreshment-rooms are the offices of the goods superintendent for the district; while above the waiting-rooms are those of the permanent-way manager. The platforms, which are paved with Staffordshire quarries, are covered in with the usual iron and glass roofing, which extends over the nearer line of rails, and will consequently shelter the passengers while alighting. Flights of steps on each side of the booking-office lead to the crossing-bridge, which is lighter in character than these huge galleries usually are. On the down-line the central apartment is a first-class refreshment-room, 50 feet in length; faced at either end by a small office, which, with its projecting window, serves to break the monotony of the long length of building. At the further end of the first-class is a second-class refreshment-room, 43 feet in length: before this the book-stall will be placed. For some time the enormous increase of traffic at the old station has rendered it totally inadequate for the accommodation of the public. Whether or not the directors have now rather overdone it we will not say. The buildings were designed by the London and North-Western Railway Company's architect, and erected by Mr. Parnell, contractor, of Rugby. Black bricks are extensively used in the facing, and even now give a gloomy aspect;—a great mistake, as it appears to us, in a country where everything too soon becomes of that colour.

A FRONTAL.—Gothic terminology leads sometimes to mistakes amongst the uninitiated. It is reported that one of the gentlemen who was engaged in collecting the materials for the Mediæval Court, at the Exhibition, wrote to a cathedral dignitary asking him to send his frontal, as it was so handsome. The very rev. gentleman is said to have been sorely puzzled by the missive, and to have at last construed it into a request for his photograph.



PREMIATED DESIGN FOR THE PROPOSED ASSIZE COURTS, BRUSSELS.—MESSRS. J. W. GREEN & L. DE VILLE, ARCHITECTS.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At the annual general meeting held May 5th; Mr. Tite, M.P., president, in the chair; the following were elected office-bearers for the ensuing year:—

President—Mr. Tite, M.P.

Vice-presidents—Messrs. G. G. Scott, R.A., A. Ashpitel, and O. Jones.

Honorary secretaries—Messrs. J. P. Seddon and C. F. Hayward.

Honorary secretary for foreign correspondence—Mr. F. C. Penrose.

Ordinary members of council—Messrs. E. M. Barry, J. Fergusson, R. Kerr, W. Slater, G. E. Street, J. B. Waring, W. Burges, T. H. Lewis, Wyatt Papworth, and J. L. Pearson.

Treasurer—Sir W. R. Farquhar, bart.

Honorary solicitor—Mr. Frederick Ouvry, F.S.A.

Auditors—Mr. Wm. White, fellow; and Mr. Wm. Lightly, associate.

Mr. Bell and Mr. Lewis retired as hon. secretaries, but Mr. Lewis, it will be seen, was elected on the council.

The report and balance-sheets were read and adopted. Thanks were voted to retiring officers and others.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

At the last meeting, held April 23rd, amongst numerous exhibitions, Mr. Gunston laid before the meeting a curious collection of figures, professed to have been recently discovered by navvies in the vicinity of the Priory of St. John of Jerusalem, at Clerkenwell. No doubt was entertained as to their deceptive character. They consist of crowned monarchs, clothed in ecclesiastical vestments; knights, in various kinds of armour; archbishops, bishops, abbots, subdeacons, deacons, priests, and acolytes, with mitres, croziers, &c.; nuns and laymen, in strange forms and attitudes; heads of processional staves; incense-cups, pateras, ewers, besides a quantity of triangular and circular plaques, with loops, rude devices, &c. They are composed of a mixture of old and new lead, steeped in acid and dirt; and many are broken and pierced, so as to give them an appearance of antiquity. In every instance they have been cast in different moulds, and vary in height from 6 to 24 inches, weighing, separately, from 8 oz. to 6 lb. An amusing conversation took place respecting them, and some curious particulars were stated in regard to their fabrication.

Mr. Syer Cuming read a description of a shrine in the possession of the Bishop of Ely, which was again exhibited. It is a very beautiful object, of gilt brass, about 7 inches in height, and 3¼ inches wide at the base. It is set with jewels, and has within a representation of St. George and the Dragon. It is of the earliest part of the fifteenth century, and will be engraved for the journal. Mr. Cuming also read a curious paper on "Effigies of St. George," which will also be printed in the journal. The subject received much elucidation from the remarks of Mr. Planché, the Rev. Mr. Hartshorne, Mr. R. Phillips, and others.

GALLERIES—PEWS—CEILINGS.

STEWKLEY CHURCH.

I FIND that my letter in your pages has excited a good deal of attention. Many of your readers will, I have no doubt, be glad to learn that the plan of altering the fabric of this venerable church is not to be carried out: the west end will not be pulled down, nor any part of the walls disturbed. The outer roof will be restored to its original pitch, as shown by the weather-moulding on the tower: the *donkey-boxes* will be abolished, and replaced by fixed open seats: chairs are not to be introduced: the gallery is to be endured, and made the best of. All my suggestions, in short, are to be acted upon; whether by a singular coincidence only, and whether I was misinformed or not, is quite immaterial; and I do not wish to inquire further. I am now quite willing to subscribe to the fund for doing all that the excellent vicar at present proposes to do; and I hope others will do the same. I believe that these real improvements will tend to preserve the fabric from alteration for generations to come.

Since my former letter was written I have heard another argument against the use of galleries in churches which requires notice,—that "a gallery spoils the internal proportions of the church." This is true in some instances, but by no means always: in general the eye passes freely above and below the gallery to the outer wall; and in that case it does not affect the proportions of the building: we see at once that it is merely a piece of furniture, and no part of the construction: we therefore see the real proportions independently of the gallery. Other arguments I have heard; the answer to which is, that the abuse of a thing is no fair argument against its proper use.

I have also heard a good deal on the subject of *open*-timber roofs, but nothing to make me change my opinion. The architects who are up in arms on this subject overlook the distinction between a Norman or Romanesque building and a Gothic one. The massive walls of the Norman style were intended to carry heavy roofs, with massive tie-beams very near together, and having great vertical weight, but no side-thrust: the Gothic building was intended to have an open roof, each pair of principals in which has the same side-thrust as an arch, and requires buttresses to carry this thrust down to the ground. An open-timber roof without buttresses is very apt to push out the top of the walls, and it is often dangerous to put such a roof on old walls.

I have also been asked whether a rood-loft can properly be called a gallery, and whether it was ever intended to hold people. I answer that it decidedly is a gallery, for whatever purpose it was intended. I am quite aware that it was the *pulpitum* in a Mediæval church, and succeeded to the *ambones* in the early Roman churches. It was the place from which the Epistle and Gospel were read to the people assembled in the nave, who were not admitted into the choir, or place for the chorus.

But this does not affect the question: all I have to contend for is, that when a Mediæval architect wanted a gallery, he built one without scruple, and made it an ornamental feature; and that modern architects might do the same if they pleased and gave sufficient attention to the matter. There are several examples remaining in England of western galleries which have formed part of the original design of the church; as at Worstead, in Norfolk, of which I gave an engraving in my edition of Rickman's work several years since. All I contend for is, that galleries are not necessarily wrong, nor necessarily an evil: they very frequently are; but they need not be so; and in large towns they are almost indispensable. In the *Gentleman's Magazine* for March, 1862, is an engraving, from a drawing by Mr. C. A. Buckler, of the church of the thirteenth century built for the Dominicans, or Preaching Friars, at Ghent; which appears to me admirably calculated for a town church; leaving the largest possible space free to hear the preacher; while, at the same time, between the buttresses, there is a convenient place for galleries and family pews, without offending the eye or being in the way; and, as buttresses of this great projection would naturally have arches through them, the people placed between them would be able to see and hear. The main construction of the roof over so wide a span might fairly, and with advantage, be of iron; and, this being concealed by a wooden ceiling, would be no eyesore.

Another inquiry has been made of me, which I find myself almost compelled to answer, though I would always rather avoid anything like personal controversy;—whether I approve of the semi-circular ceilings with tie-beams, which are common in French village churches of the sixteenth century, and which some architects are now busily trying to introduce into England, because they fancy they see great advantages in them. It is difficult to say that there is any positive objection to them: I can only say that I dislike them extremely; and that I have heard many of the French clergy complain of them bitterly as ugly detestable things, which they are straining every nerve to get rid of. I consider our old English timber roofs infinitely superior to any that France has to show; but on any mere matter of taste every one has a right to hold his own opinion. The French clergy say that these hideous ceilings always remind them of the half of a wine-cask tied together: in England I fear the idea of the inside of a beer-barrel would suggest itself naturally to many minds; and this would not tend to reverence or devotion. If there is any particular advantage or convenience in the semicircular form of which I am not aware, it appears to me that the cradle-roofs or ceilings of Devonshire and Somerset afford a much better idea than the French ones; and the old English canted ceiling, with ribs at the joints and bosses at the intersections, affords a good, convenient, and inexpensive ceiling. Another point to which attention should be called is, that a ceiling, or inner roof of some kind, is indispensable in our climate. I am, indeed, often told by young architects that the old open-timber roofs, which we all admire so much and so justly, had no ceilings; but I believe this is a mistake, excepting in Norfolk and Suffolk, where the roof was covered with thatch, which answered the purpose of keeping out the extremes of heat and cold. There were thatched roofs to churches in other parts of the country also; and in some instances the thatch may have been removed, and a covering of tiles or slates substituted, without considering the consequences; but in the generality of our old timber roofs there was an inner roof or boarded ceiling, with an interval of a foot or two, if not more, between that and the outer roof. I have examined very many old timber roofs, and hardly remember an exception to this. Of the practical evils attending the modern fashion of making the roofs open to the rafters and the ridge I have heard many bitter complaints. I have heard of an instance in which one of these new-fashioned roofs had been put on to an old church three or four years ago; and many of the parishioners are driven out of the church by the cold. In the winter of 1860-61, I was told that the thermometer stood below the freezing-point during service, in spite of the hot-water pipes, in which the water had been kept hot all the night before. The present mania for throwing open western doors and destroying southern porches will also have the effect of sending many elderly and sickly people to their graves before their time, or else of compelling them to stay at home instead of going to church. A good south porch, and keeping all the other doors locked in the winter, make more difference to the comfort of a church than any stove does. How often do we hear of the wind blowing right up the church from the west door to the altar, "enough to blow people's heads off."

I have been reminded that I ought to have mentioned the fine painted ceiling in St. Alban's Abbey as well as that in Peterborough Cathedral; and I believe my friend is right: the actual painting is of the fifteenth century, but it is only carrying out the idea of the twelfth. It is quite clear to me that a flat painted ceiling was the usual and the appropriate internal covering of our Norman churches. JOHN HENRY PARKER.

THE ALBERT MEMORIALS.

Ware.—A public meeting has been held in the town-hall here, to promote the collection of minor subscriptions towards the central memorial. Mr. M. H. Gosselin was called to the chair, and the Rev. J. W. Blakesley moved the first resolution,—"That it is desirable that an organization be formed for the purpose of inviting every householder in this parish to contribute to the national memorial to the Prince Consort; and that no subscription be received from any one house exceeding the sum of 10s." The resolution was unanimously passed, and a committee appointed to carry out the object in view; Mr. Blakesley being requested to act as secretary.

Salford.—At a recent meeting of the Working Men's Committee, it was stated that, up to the present time, 40*l.* only had been subscribed by the working classes through that committee. The committee came to the unanimous resolution, in consequence of the depressed state of trade, to suspend for the present their efforts to obtain subscriptions. It was remarked that the industrious population of this district entertain a high appreciation of the estimable qualities of the deceased Prince; and, in reference to a national memorial, it appeared to be a general feeling that it was their duty, when times improved, to afford all the aid they could to their own local memorial.

Doncaster.—A local memorial is proposed in the *Doncaster Gazette*.

Hull.—The borough of Hull has determined to erect a memorial of the Prince. It is to consist of a statue, and will be placed in the "Pearson Park," the public recreation ground presented to the inhabitants by the mayor. In the same park it is also intended to erect a statue of her Majesty.

The Scottish National Memorial.—At a meeting of the central sub-committee, held in Edinburgh, the Duke of Buccleuch stated that he had received a communication from Lieutenant-General the Hon. Charles Grey, intimating that, as far as the Queen has any voice in the matter, the Scottish national memorial should be erected in Edinburgh or its immediate neighbourhood. The amount of contributions already intimated to the committee was reported to be 5,910*l.* 16s. 3½d.; and it is anticipated that, as soon as the country meetings on the 30th of April have been reported, the amount will be greatly increased.

Aberdeen.—At a meeting of the subscribers to the memorial at Aberdeen, the Lord Provost stated that the subscriptions already intimated amounted in round numbers to the sum of 2,500*l.*; and, when the whole lists were given in, it would be 3,000*l.* This sum, the committee were advised, would be sufficient to secure the erection of the proposed bronze statue in Aberdeen. Resolutions were then moved by the Earl of Aberdeen, to the effect that the memorial should be a colossal statue in bronze, in Aberdeen; and appointing a committee with full power to secure the artist and determine the site. A committee was named for that purpose.

"ON THE IMPROVEMENTS ABOUT YORK MINSTER."

IN the account under this title in the last number of the *Builder* the printer made Severus's Hill Severn's Hill. It is one of three large hills raised by the army of the Emperor Severus to mark the spot where his funeral rites were performed. After the body of the emperor was consumed in the flames, his ashes were collected, and with sweet odours put into a porphyrite urn. This was carried to Rome and deposited in the Capitol, in the monument of the Antonines. I may remark, *en passant*, that a controversy, whether Severus or Hadrian built the famous Roman wall in Northumberland, has been determined in favour of Severus, as proved by the following extract from the account of the meeting of the Archæological Institute in Carlisle, in July, 1859, which I quote from the *Gentleman's Magazine* for September of that year:—"On arriving at the gate leading down to Combe Craig [near the Roman station of Burdoswald], a few of the party, headed by Dr. Bruce, proceeded to view some inscriptions there, while the rest of the party went onwards. Those on the upper part of the quarry are not decipherable, but the one beneath was easily read, as follows: 'Faustino et Rufo, Consulibus.' These were the names of consuls who lived about 210; and much of the stone of the Roman wall was obtained from this quarry. The lower inscription was discovered only about a month ago, by Mr. Johnston, surgeon, Brampton, whilst searching for ferns. This discovery is important as giving a positive date, and proving that the stone wall was built by Severus, and not by Hadrian." In conclusion, it may be mentioned that since the sanitary drainage in the neighbourhood of York Minster, the cracks in the centre tower have increased; the foundations of York being generally on a fine sand. A beautiful effect is produced by the Welsh slate placed in the louvres of the north and south towers (after the last fires) of the Minster; for, when the wind blows through the towers, it sounds like an Æolian harp in the still hour of night.

HALIFAX.

New Town Hall.—The works at the new Town Hall, designed by the late Sir C. Barry, are in an advanced state. The decorations of the tower are being slowly developed. The bell-chamber is being proceeded with. In workshops near, men are engaged in chiselling from the stone blocks the sculptures which are to adorn the central part of the tower. These will consist of lions, colossal guardian angels, and colossal figures of Europe, Asia, Africa, and America. These sculptured figures, in common with the ornamental portions of the building generally, are from the hands of the late Mr. Thomas, whose sudden removal by death we adverted to a week or two since. The models of Europe, Africa, and America are finished, but that of Asia was untouched when Mr. Thomas died. The dying artist, it seems, asked his friend, Mr. Maclise, the painter, to superintend the modelling of it.

Water Works.—The plans for carrying out Castle Carr scheme are now in course of preparation at the borough engineer's office. The work will be carried out upon the original plans of Mr. Bateman. The large reservoir will cover an acreage more than double that of Ogden. There will also be supply reservoirs at Dean Head and lower down the stream. When finished, the whole water-works scheme will be completed at a cost of 240,000*l.* The districts of Sowerby Bridge and Elland are taking energetic steps in their opposition to the Halifax Corporation Bill, 1862. The point for which they contend is to get a clause introduced by which the two districts in question may be relieved from the clause which binds them, before they can take steps to procure an independent water supply for themselves, to apply to Halifax; and, if the town is willing to supply them, then they are prevented from getting a supply from any other source. The terms proposed by the corporation (4½d. per 1,000 gallons) were considered too high.

Monumental.—A monument has been erected in the Halifax General Cemetery to the memory of the late Mr. William Corke, jun., of Halifax, who died at Kurrachee, in India. The monument is in the Gothic style, carved, of Ringby stone, and 17 feet high. It has four large panels; and on the front one is the inscription. The design was adapted and furnished by Mr. S. B. Cordingley, the manager of the cemetery, and has been executed and erected by him.

Crossley's Almshouses.—Mr. Joseph Crossley is about to erect a number of almshouses in this town. The place on which the buildings will stand is in Swire's-road, near Arden House. Workmen are engaged in digging out the foundations. The plans for the dwellings have been drawn by Messrs. R. Ives & Son, architects, of this town. In all there will be twenty-one distinct dwellings, occupying a total frontage of 330 feet, and with wings at each end. The style of architecture is the Decorated Gothic. In front of the suite of buildings there will be a raised terrace.

COMPETITIONS.

Staffordshire Lunatic Asylum. — A "competitor" draws our attention to the fact, that "the plans from Mr. Moffat, architect," for a pauper lunatic asylum for Staffordshire, are spoken of by the chairman of the committee as if they were the only ones received in reply to advertisement; and our correspondent is anxious to know what is being done in the matter; as, although the drawings were only to be delivered on or before the 2nd, and the quarter sessions were not to be held till the 7th, giving three clear days only, Sunday excepted, for the inspection and selection of the design from perhaps thirty or forty others,—and in Mr. Moffat's case, indeed, only two days, as the chairman of the committee stated they could not get his design till the 3rd;—nevertheless, the whole matter is spoken of as if it were already settled. Our correspondent, however, has received no notice as to the decision, nor as to his drawings; and he hopes some other of our correspondents will be able to shed a little farther light on the subject.

Sheffield.—The building committee of the proposed Methodist New Connexion College, Sheffield, after having invited architects from London, Liverpool, Leeds, Sheffield, Plymouth, Bolton, and Hanley, to submit plans in competition, have selected those by Mr. William Hill, of Leeds. The second premium of 20*l.* was awarded to Mr. Flockton, of Sheffield, and the third premium of 10*l.* to Mr. Scrivener, of Hanley. We understand that the works are to be immediately proceeded with under Mr. Hill's superintendence.

Frome Schools; Somerset. — The committee have awarded the premium of 30 guineas to Mr. William J. Willcox, of the firm of Willcox & Laddo, of Millman-street, London, and steps will be taken immediately to carry out his design. There were eighteen competitors.

GREEN PAPER-HANGINGS.

DURING the short period of two months four children died under precisely the same circumstances: there was extreme general prostration, besides inflammation of the mucous membrane and soreness of the throat. In the first three instances it was supposed that the deaths were the result of diphtheria. We have not had an opportunity of inspecting the place, but it was reported that the house was well conditioned, and not likely to produce a disease of this description. Dr. Horton, who was called in to visit the child Anne Amelia Turner, aged three years, the last who died, deposed to the general symptoms under which the child laboured, and for which he said he could not account. These were the symptoms above noted. He then observed the green paper on the wall, and perceived a marked connection between the symptoms and those likely to arise from arsenical poisoning. At first the mother said the deaths could not be attributed to this, for the paper had not been picked by the children. Dr. Horton, however, ordered the paper to be torn down, and in doing so the mother became ill, and complained of nausea. He found, on a *post-mortem* examination of the deceased child, that the stomach presented streaks of inflammation, the intestines being also inflamed: the other organs were healthy: he found no disease that could in any way account for death. This gentleman expressed his firm conviction that the child died from chronic poisoning by arsenic taken into the system in minute quantities; and Dr. Letheby, who had received the stomach and viscera of the deceased, and also a portion of green paper, having examined the latter, found that it contained arsenic loosely adherent in the proportion of three grains to one square foot. There was no glaze, and it could be very easily rubbed off. He examined the viscera, and could find no arsenic; but said that Dr. Horton having found that as the *post-mortem* examination did not show any distinct symptoms of disease, that he should ascribe the deaths to arsenical poisoning; and, owing to the poisoning being gradual, it was possible that the trace might be wanting, though the effect would be fatal. In answer to a question by the foreman of the jury, Dr. Letheby said, that the children not sleeping in the room would not make much difference: "I have known two children die from arsenical poisoning imbibed while playing for a few hours daily in their father's library." The most surprising thing in connection with this painful matter is, that after the coroner had with great care summed up at length, the jury, after a short consultation, returned a verdict of "Died from natural causes." The coroner strongly dissented from this verdict, as, we believe, will most other persons; for the medical evidence proved that there was no disease to account for the death. Eventually a juror said, "Oh, we are willing to admit that the use of green paper is objectionable."

PONTELAND CHURCH.

THIS is an ancient cruciform edifice, on the banks of the river Pont, in Northumberland. Ponteland was formerly a place of considerable importance, and the church was then collegiate. In 1244, Alexander, king of Scotland, entered England with an army of 1,000 armed horsemen, equipped in armour of iron net-work, and 100,000 foot; and penetrated as far as Ponteland, where his soldiers confessed themselves, and prepared to die in defence of their king's cause. Henry III. advanced with 5,000 horsemen and a large body of foot from Newcastle, intending to give them battle; but, by the negotiations of Richard, earl of Cornwall; the archbishop of York; and, as some accounts add, the prior of Tynemouth; a treaty of peace was entered into; and four nobles and four prelates swore on the soul of the Scottish king to see it observed. The church retains much of the architecture of this period, and is hence exceedingly interesting. Owing, however, to the ferruginous quality of the stone used in its construction, the mullions of the windows, jambs, and other exposed parts are much decayed; and, in addition to this natural decay, a flat ceiling, inserted in later days, has destroyed the original pictorial effect. The chancel is the property of Merton College, the authorities of which have ordered a thorough restoration to be immediately commenced. Mr. F. R. Wilson, architect, Alnwick, has been appointed by Mr. J. A. Wilson, solicitor and receiver to Merton College, to effect the necessary works.

Ponteland has a very remote antiquity. Camden believed that it was the Roman *Pons Ælii*; and, although modern antiquaries have proclaimed Newcastle to be the true *Pons Ælii*, Ponteland must still be allowed to have been a Roman station. The lower part of the tower of the church is Norman, and there are portions of the structure showing Early-English additions.

CHURCH-BUILDING NEWS.

Stevenage.—A new church or chapel of ease has been consecrated at Stevenage. The structure is chiefly of flint, with red brick and Bath stone in the buttresses, windows, and bell-turret at the west end. The chancel arch is built of alternate layers of brick and stone. The edifice contains about 220 sittings, besides those in the chancel. They are all free. The entire cost of the erection will be about 1,200*l.*

Stapleford Abbotts.—The church of Stapleford, being in a most dilapidated condition, has been recently taken down and rebuilt, and is now open for public worship. The church has been made larger than the old building, to provide additional accommodation; but with this exception has been built, as far as possible, after the original design. The roofs are waggon-headed and open: that of the chancel is boarded and panelled. The windows have been copied from an old window, and from mutilated fragments found in the old walls, when pulled down. The chantry chapel, built by a former proprietor of Albyns, has been newly roofed and otherwise repaired; and the tower, a

brick building erected about 50 years since, has been united to the church internally by a large archway or tower arch, cut through the west wall of nave; and the space thus obtained is seated with chairs. A vestry has been erected at the north-east angle of the chancel. Externally the walls are faced with Kentish ragstone, the doors, windows, &c., being of Bath stone. The roofs are covered with chocolate-coloured Staffordshire tiles. In the old chancel gable was a curious imitation in oak of a wheel window, formed of moulded mullions and transoms, bearing a resemblance to the east window of the International Exhibition. The only fragment of stained glass of an early date remaining was a figure of St. Edmund crowned, holding in his right hand the gold ring. The cost of the works to the church will be about 2,000*l.*: they have been executed by Mr. Joseph Samuel Hammond, of Romford, builder, under the superintendence of Mr. Thomas Jeckyll, of Norwich and London.

Langton.—The chief stone of a chapel of ease, now being erected in this hamlet, has been laid. The site is on the Green. It will be built in the Early English style, from a design by Mr. Scott, architect. The building will be cruciform, and erected with the sandstone of the neighbourhood, from the quarry of Mr. Charles Powell, a Surrey magistrate, resident in the parish. It is intended to accommodate about 170 persons. The funds are being raised by voluntary subscriptions. The estimated cost, exclusive of the furniture of the church, is 1,535*l.*, of which something over 1,000*l.* have been raised. The builder is Mr. H. Constable, of Penhurst.

Norton Malreward.—The church here has been reopened by the Bishop of Bath and Wells, after undergoing almost complete renovation. It has been restored in the Perpendicular style, harmonizing with the existing tower. The church is entered through the tower. It has a nave, chancel, transept, south aisle, and vestry, and will accommodate 180 persons; free-sittings, 120. The south aisle is an addition. The transept and south aisle are divided from the nave and chancel by arches of freestone, supported on columns of polished Aberdeen granite. The ancient chancel arch (which is Norman) remains, but has been repaired. The timbers of the roofs, exposed to view, are stained and varnished. The seats are all open, and are built of red deal, stained and varnished. The contract was taken by Mr. Robert Wilkins, of Bristol; and the whole of the works have been designed and carried out under the superintendence of Mr. James Wilson, of Bath, architect. The cost of the structure has amounted to 1,379*l.*, towards which there has been subscribed 1,216*l.*

Ken.—The church of the village of Ken, near Bristol, has been reopened. The architects were Messrs. Fosters & Wood, of Bristol. The contractor was Mr. T. Hartree, of Clevedon. The woodwork was undertaken by Mr. J. Bennett, of Limekiln-dock; and Mr. Bell, in company with Mr. Gay, both of Bristol, supplied the glass. The sub-contractor for the wood-carving was Mr. Shipp, and for the stone-carving Mr. Duval. The appearance of the edifice scarcely differs in external design from the original building, if we except the addition of a vestry on the south side to correspond with the north porch, the only public entrance to the building. The church, except the tower, has been entirely rebuilt, it having been found necessary, notwithstanding a contrary opinion which originally prevailed in the parish, to pull down even the walls of the ancient edifice. The walls have been faced internally with the yellow magnesia limestone from Clevedon, the gift of Sir A. H. Elton, bart., with columnettes of red sandstone, the gift of Sir Wm. Miles, bart. The church will accommodate 140,—an addition of 23. The chancel is ornamented with carved oaken bosses, which have been cut from some wood supposed to be 500 years old, from Keynsham Church, which edifice is now undergoing restoration at the hands of Mr. Bennett. The total cost of the work will probably amount to 900*l.*

Uffculme (*Devon*).—The foundation-stone of a new Congregational chapel here was laid on Good Friday, by Mr. H. O. Wills, of Bristol. The building, consisting of a nave, with north-east porch and hall-turret, with chancel-like projection at the east end forming a vestry, will accommodate 150 persons. The design, an adaptation of French Gothic of the thirteenth century, was by Mr. George Bidlake, of Wolverhampton, architect; under whose superintendence the works are being carried out.

Pool Quay (*Welshpool*).—A new church has been consecrated at Pool Quay by the Bishop of St. Asaph. The church is built of stone procured from the quarries of Sweeney mountain, the property of Sir Baldwin Leighton, bart., who permitted the architect, Mr. Pountney Smith, to obtain the material free of all charge for royalty. In style, the building is Early English, the nave and chancel covering an area of about 92 feet by 26 feet. In addition to this, there is a north aisle to the nave and chancel, and a south aisle to the chancel, vestry, and a double-bay south porch. Accommodation is provided for 300. At the west end of the nave, surmounting, but in no way depending upon, the roof, is a belfry, of timber. The church internally is ceiled with wood-groin. The church is to be called the Church of St. John the Evangelist, and has been erected at the sole expense of the Earl of Powis.

Brecon.—The chancel and transepts of the Priory Church have been restored by Mr. Scott, architect. The builders employed were Messrs. James & Price, of Cardiff. The cost of restoring the chancel has been borne by the Marquis Camden, at an estimated amount of about 2,000*l.*; the restoration of the transepts, at a cost (in round numbers) of 2,500*l.*, being the result of public subscription obtained by the vicar and a local committee. The stone which has been used in the restoration has been obtained from the quarries in the Priory grounds; which, many centuries ago, furnished the original materials for the edifice. The stone is of the old red sandstone formation; very durable, and of a pleasing colour, in which grey and purple shades alternate.

Liverpool.—The foundation-stone of a Welsh Methodist chapel has been laid in Croston-street, at the Kirkdale end of Great Homer-street. The chapel will be in the Italian style, and is estimated to cost 2,000*l.*, inclusive of land. It will accommodate 550. Mr. C. O. Ellison is the architect, and the builder is Mr. John Jones.

St. Helen's.—The new Roman Catholic Church of Holy Cross, St. Helen's, the foundation-stone of which was laid in May, 1860, has been opened. The edifice occupies a rather commanding position on the Hardshaw estate, at the junction of Hall and Cotham streets. It has been built at the expense of the order of Jesuits, a number of whom are stationed at St. Helen's. The church, which is in the Gothic style, has been erected from the designs of Mr. J. S. Scoles, of London, architect; Mr. J. Middlehurst, of St. Helen's, being the builder. In its present unfinished state, and independent of the cost of the furniture and other appointments, as well as of some of the stained-glass windows, upwards of 10,000*l.* have been expended upon it. It is to have a detached tower and spire. The edifice is built entirely of stone, and the ground-plan consists of nave and aisles, north porch, transept, Lady chapel, chancel, sacristy, and robing-rooms. The roofs are high-pitched. Of the interior, a feature is the great length of the nave, which is separated from the aisles by seven pointed and moulded arches on each side, these resting on octagonal pillars with moulded capitals. The nave is fitted throughout with open benches. The windows of the clerestory, together with those at the western end, are filled with cathedral-tinted glass. Those in the aisle walls, fourteen in number, are of three lights with trefoil heads, surmounted with feathered tracery of varied design; and the whole are filled with glass stained in grisaille, with foliated borders, in the style of the fourteenth century. They were supplied by Messrs. Pilkington, of St. Helen's. The transepts have windows both in the side walls and at each end. The former are for the most part filled with stained glass: the latter are of five lights, and are also filled with stained glass. The subject represented in the larger one in the south transept is "The Finding of the Cross;" and here also is a memorial window depicting "The Transfiguration." These windows were also furnished and executed by Messrs. Pilkington. The principal window in the north transept, designed by Mr. Thomas Unsworth, of London, and executed and supplied by Messrs. Clayton and Bell, of London, is descriptive of some of the principal events in the life of Our Saviour. In the Lady chapel is a two-light window containing figures of the Virgin Mary and Joseph, and a rose window also of stained glass. That at the western end, furnished by Messrs. Clayton and Bell, is a wheel window, of large size: each compartment contains the head of a saint, encircled with a wreath. The high altar is Caen stone, and was designed by the architect, and executed by Mr. Sterling, of Liverpool. The interior dimensions of the church are—Length, 164 feet; width of nave and aisles, 60 feet; length of transept, 90 feet; height from floor to ceiling, 41 feet. Accommodation is provided for 1,500 worshippers.

PROVINCIAL NEWS.

Windsor.—The contract for the new almshouse which is to be erected in Victoria-street, adjoining the Infirmary, has been entered into. Eight tenders were received, and that of Mr. Snowball, of Slough, was accepted at 3,298*l.* Mr. Holden's, according to the *Express*, was 16*l.* lower; but, for some reason, it was withdrawn. The erection will form three sides of a square; and the frontage towards Victoria-street will extend 170 feet. The plan comprises forty-four rooms for thirty-two occupants. Mr. Edgington is the architect.

Wantage.—A corn exchange is to be erected here.

Penzance.—The Queen's Hotel, at Mount's Bay, according to the *Cornish Telegraph*, has been opened. It is of unworked granite, and has 100 feet of frontage, with 100 feet in depth, and is 60 feet in height. The dressings are of Lamorna granite. The front is four stories high, and the back six stories.

Cardiff.—A building, containing two large swimming-baths, a Turkish bath, private baths, and a gymnasium, has been erected and opened at Cardiff, on plans provided by the corporation architect, Mr. T. Waring. The builders were Messrs. Webb & Son.

Knaresborough.—The foundation-stone of the new Town Hall has been laid at Knaresborough. The site is that of the late Town Hall, in the Market-place, with an extension towards the Court House. Messrs. Child & Son, of Leeds, are the architects.

SCHOOL-BUILDING NEWS.

Wargrave (*near Reading*).—The memorial stone of new schools has been laid at Wargrave. The structure is to cost altogether 2,050*l.* Mr. Ferrey, of London, architect, furnished the design. The site being elevated and conspicuous, it was necessary to make each of the four sides of the building to a certain extent ornamental. The length of frontage is upwards of 110 feet: the wings will stand 10 feet forward from the centre portion: the right wing will consist of a large class-room, and a board-room for the Piggott trustees, but which may be available for other purposes. The left wing will have in front the infant school, 20 feet by 18 feet, and the master's house at the back. The centre of the building will consist of boys' and girls' schools, which can be thrown into one apartment 70 feet long. The roof will be open. A turret will rise from the central roof. Besides two large windows in front, these school-rooms will be lighted by two dormer windows at the back. The whole is being built of flint and white stone, after the style of the church. The contractor is Mr. Owthwaite, of Henley.

Ashby-de-la-Zouch (*Leicestershire*).—The trustees of the Ashby-de-la-Zouch Bluecoat School have at length determined to remove the school from the close unhealthy place where it has been so long held, into a more suitable locality; and have decided upon the erection of a school-room, with master's house attached, in the centre of the green, on the site now occupied by the old prison buildings. Mr. Salisbury, architect, Ashby, has been requested to furnish the committee with a design of the proposed buildings.

Kingsley and Whiston.—The trustees of the endowed schools at Kingsley and Whiston are about to erect new school buildings at both these places. In the former case the buildings comprise boys', girls', and infant schools, with class-rooms and master's and mistress's residences, with separate play-grounds and conveniences to each school. In the latter place an infant school and mistress's house only will be erected. Mr. Sugden, of Leek, is the architect employed by the trustees.

Bloxwich.—The new National Schools here have been opened. The building contains schools for boys, girls, and infants; the two former being T shaped; fitted up to accommodate 160 boys and 150 girls; and each 18 feet wide, with open-timbered roofs, measuring in height up to the point of the ridges 26 feet. The infants' schools, standing in the centre of the building, form a parallelogram, 36 feet by 21 feet, and 29 feet high. At the end of the range of schools stands a residence for the schoolmaster. The whole frontage is 160 feet. The work is erected with bricks and Bath stone, in the architecture of the fourteenth century. The central gable over the entrance to the infants' school is surmounted by a turret. The cost of the schools, with boundary walls, fittings, &c., amounted to about 2,000*l.* The architect was Mr. James Cranston, of Bir-

mingham; and the builder, Mr. Isaac Highway, of Walsall.

Ashton.—The foundation-stone of the Ashton parish church Sunday schools has been laid with Masonic honours. The building, which is being carried out from the designs of Messrs. Hayley & Son, of Manchester, architects, consists of a girls' school-room, 67 feet long by 30 feet wide, with a class-room, 13 feet by 20 feet; a school-room for boys, 63 feet long by 32 feet wide, with a class-room, 18 feet by 14 feet; and an infants' school-room, 63 feet long by 32 feet wide, with a class-room of the same size and arrangement as that connected with the boys' school-room. Separate entrances and lavatories are provided for each school. The walls are all of red brick, relieved with blue bands. The arches over the doors and windows are composed of blue and red brick, in patterns; and the gables are finished with projecting courses of purposely-made bricks. The mullions, sills, copings, chimney-caps, &c., are of Saddleworth stone; and the chimney-pieces in the school and class rooms are also of stone of appropriate design. An ornamental bell turret, of an octagonal form or plan, rises above the principal roof. It is covered with coloured slates, cut to a pattern, and is surmounted by a wrought-iron finial. All the woodwork throughout the building is stained and varnished. The roofs are covered with Velinheli slates, and finished with ornamental ridge tiles. The contract for the works has been undertaken by Mr. Joseph Robinson, jun., of Hyde. The clerk of the works is Mr. John Littlewood, of Ashton.

Hunslet.—St. Jude's Church New Schools have been opened. The edifice was designed by Messrs. Perkin & Backhouse, of Leeds. The style of architecture is Gothic. The principal schools are intended to accommodate 450 scholars. The erection of the schools, and the site near St. Jude's Church on which they stand, have cost 2,000*l.*

VAULTED ROOFS.

ALLOW me to express my opinion, through your valuable paper, to all who are interested in architecture in this country, on a subject which is of great importance both for its utility and for its æsthetic principle,—that is, on vaulted roofs and ceilings; or, rather, on their more general adoption; as I suppose that the principle of the structure is well understood by all professional people. But how little in this country vaulted roofs and ceilings are used! How so? when vaulted ceilings of bricks or of stone are the only imaginable preventive against the spread of fire. What economy might be effected by the corresponding saving in insurance! How much greater stability to all public buildings, added to the advantages of greater loftiness, of improved acoustics, of greater susceptibility of decoration, and not admitting so easy a transmission of noises and voices from one room to another, above or below! If wooden roofs were replaced by material vaulted ceilings, you could then have elegant and useful terraces on the tops of houses. Look at the Roman buildings of ancient and modern times. Where would they be, and what, if the arch or vault had not crowned them, to be left, as it were, the best and most permanent productions yet of civilized knowledge and art? I, for one, cannot dissociate the idea of want of civilization where I find the vaulted covering little in use, where it might advantageously be substituted for wood, and that especially in public buildings. I fear for London that, if ever the New Zealander stand upon one of the London bridges, and look at her ruins, he would discern little beyond upright walls, and of no great solidity. However, that reflection regards, perhaps, other principles than that of utility; which is the one I wish principally to insist upon; and which seems to me so obvious in these inflammatory times, so to speak, that I need not here say more in praise of vaulted ceilings. C. E.

ECCLESIASTICAL DILAPIDATION BILL.

ON the 2nd inst., this Bill was read a second time, and referred to a select committee.

Lord St. Leonards objected to the Bill in certain parts, especially that of appointing a staff of surveyors all over the kingdom, who would not be slow to find out dilapidation for their own sakes. He thought that the cost of dilapidation arising from fire, flood, and tempest ought to be spread over a number of years, and not placed upon the shoulders of the occupying clergyman.

The Bishop of London said, as it was desirable to ascertain the opinions of the great body of the clergy on the matter, he had at the end of last session introduced, *pro formâ*, a Bill on this subject. About 400 clergymen had expressed their feelings on the matter. Many public meetings had done the same; and from their representations it appeared that, although they did not approve of so stringent a measure as that of last session; yet they thought some measure was necessary to remedy existing evils. Incoming incumbents and outgoing incumbents were seriously affected by the existing state of things. He was prepared to show that, from the uncertainty of the present state of the law, incumbents desirous of fulfilling their duty were unable to do so. As to the number of surveyors, it was proposed by the Bill to limit them, and to place them under such restrictions as to do away with existing anomalies. The estimates of the surveyor of the incoming incumbent and the outgoing incumbent often differed so widely as from 200*l.* to 1,000*l.* It was proposed by the present Bill to have only one surveyor for each archdeaconry. There were good parsonage houses maintained at an expense of 75,000*l.* per annum; and it was a feasible calculation to say that those houses represented 10,000,000*l.* of property. It was most important to the church to have a resident ministry; and, therefore, it was most desirable that all impediments to so necessary an arrangement should be removed. To this end it was necessary that needful repairs of dilapidations should be made in a manner that would not involve litigation. There should be a quinquennial survey; and every incumbent putting himself under this new arrangement would save himself from much expense and inconvenience.

The Bishop of Lincoln said the object of the Bill mainly was to provide that the surveyor or surveyors of the diocese should be the party or parties to act in estimating the necessary repairs to the churches in such diocese. There was only one case in which power was given by the Bill to make it compulsory on the incumbent to repair the church; and that was a power vested in the archdeacon of the diocese. It was certainly right, in his opinion, in cases wherein dilapidation occurred, whether caused by wilful neglect or thoughtless extravagance, that they should be repaired.

BIRMINGHAM FREE LIBRARY COMPETITION.

SIR,—As the statements contained in the letter of Mr. E. M. Barry, which appeared in the *Builder* of the 26th ult., are not in accordance with the facts; and might, if uncontradicted, be prejudicial to the competition which the Free-Libraries Committee have invited; I beg to request you will insert in your ensuing number the following observations in reply.

In 1855 the council of the Birmingham and Midland Institute commenced the erection of a suitable building for the accommodation of their body in accordance with designs prepared by Mr. E. M. Barry. A portion of the building having been erected, the council of the Institute were, through exhaustion of their funds, compelled to suspend the further progress of the works, and ultimately to abandon their intention of completing the building. Five years afterwards the corporation of the borough, being in quest of a site for their proposed Free Libraries, the land unbuilt upon adjoining the Institute was offered for that purpose by the council of the Institute, upon condition (in order to avoid incongruity of design) that the Library should be erected in uniformity with their building. The town council did not accept the transfer of the land until plans had been obtained and an estimate of the cost of the building had been laid before them. These plans were prepared by Mr. Barry; and the total cost (exclusive of cellars) was estimated by him to be 10,800*l.* The town council, being satisfied with the extent of the accommodation and the cost, accepted the transfer of the land.

Mr. Barry's charges "for attending upon the Libraries' committee; for two sets of designs prepared in accordance with instructions received; and a further set of drawings prepared for the purpose of being submitted to the town council; and his travelling expenses," amounting to 45*l.*, were paid by the corporation; and the terms upon which he undertook to superintend the erection of the buildings were arranged.

Builders were invited by advertisement to compete; and on the tenders being opened the lowest was found to be 17,900*l.*, exclusive of cellars. Mr. Barry was then requested by the Free-Libraries committee to report in detail the cost of the erection of certain portions of the building, and what alterations might be made to effect a reduction in the cost; whereupon Mr. Barry attended the committee; admitted there was a mistake in his estimate; and expressed his willingness to abandon all professional charges in the event of the town council refusing to vote the additional sum required to carry out his plan. Several modifications for reducing the cost of the building were suggested by that gentleman. On the 11th of November last, Mr. Barry addressed a letter to the committee, in which he stated, that, provided the gallery of art and cellars were omitted, and certain alterations suggested by him adopted, the remainder of the building might be erected for 12,250*l.* This sum being still considerably in excess of the amount of his original estimate for the whole building, the committee again applied to Mr. Barry to revise his designs so as to obtain a further reduction, if possible, in the cost of the buildings; and also to report, if by any rearrangement of the plans altogether, the requisite accommodation could be afforded for the amount of his estimate; to which Mr. Barry replied that "he could make no alteration or arrangement which would effect a greater saving in the cost than as before detailed."

As the alterations and omissions proposed by Mr. Barry involved the abandonment of a most important feature of the scheme approved by the council, it became the duty of the libraries' committee to bring the whole subject before the town council, and to ask for further instructions; which they did in a report presented at a meeting held on the 4th day of March last; when the council, deeming it desirable to make an effort to obtain the erection of the whole building for the sum already voted for that purpose, invited architects to forward new plans, specifications, and estimates.

Mr. Barry states that he offered to prepare new plans to suit the financial exigencies of the case. So far from this being the fact, it will be observed that Mr. Barry positively assured the committee that he could make no alteration or arrangement which would effect a greater saving in the cost than he had already made.

The plan accompanying the instructions to architects is simply one of the site; indicating the position of the adjoining buildings; and is not, as Mr. Barry states, copied from a block plan of his. The council has no plans of Mr. Barry's in its possession: the whole of his drawings, specifications, and estimates were returned to him, at his own request, in March last; although, as will be seen, the sum of 45*l.* was paid by the council for such plan.

With regard to Mr. Barry's intimation that he has placed himself in the hands of his solicitor, I would state, for the assurance of architects, that the council have taken no steps in the matter of this competition unadvisedly. THOMAS STANDBRIDGE, Town Clerk.

Birmingham.

NATURAL PHILOSOPHY AT OXFORD.

SIR,—The President of the Royal Institute of British Architects, in his address on the 28th ult., in speaking of Professor Willis as the Professor of Natural and Experimental Philosophy at Cambridge, said, "At the sister University of Oxford there was no such Professorship." The inclosed cutting from the *Times* of May 5th, shows that Oxford has two professorships on these subjects. The lectures are regularly given, and are always well attended. The President will doubtless be glad to know that Oxford is not behind its sister university in this respect. Oxford takes precedence, moreover, in the date of the foundation of its Professorship in 1611, whereas Cambridge dates from 1783. R. J. S.

APPLICATION OF THE ASSESSED TAXES.

SIR,—On the 3rd of August, last year, you were so good as to print a suggestion of mine under the head of Improvement and Taxation.

Therein I urged that the assessed taxes, not being extended to Ireland, are clearly applicable in justice to local purposes; and that on the share paid by the metropolitan districts (486,270*l.* for the year 1860) 10,000,000*l.* might be borrowed and applied to street improvement: 10,000,000*l.* is a magnificent sum of money, and should be applied to a magnificent purpose.

I am neither an architect nor engineer; but suppose that a street from the Bank to Oxford Circus or Edgware-road could be made for this money worthy of the name of "Victoria and Albert-street."

In the provinces the assessed taxes would be applicable to all sorts of cases;—in aid of the poor-rates in Lancashire; as a fund for the abolition of turnpikes in the country, &c.

The many unfair charges, such as the Irish constabulary, about 750,000*l.* per annum, borne by the Consolidated Fund, will make the claim of local authorities to the produce of local imposts still stronger.

G. W. FIELD.

Books Received.

The Practical Mechanic's Journal Record of the Great Exhibition, 1862. Longman & Co., London.

THIS work, notwithstanding its awkward title, has begun well. Part I. contains a fully-illustrated account of the building, and of preceding structures for the purpose of exhibitions. This is complete in itself, and will be found a good two-shillings' worth. The names of the announced contributors give promise that the work will be a valuable record of the contents of our Palace of Art and Industry. It is to be regretted that the poet laureate's lines, with which the first part concludes, contains the misprint—

"And shapes and lines of *Part* divine,"

instead of "*art* divine." The story of this misprint, which has been repeated in all versions, is said to be that the copy the *Times* managed to obtain had been marked for music, and that a large P had been placed before "art," meaning *piano*. The word, thus altered, had still a sense; so in it went; to the infinite disgust, doubtless, of Mr. Tennyson.

VARIORUM.

"Manual of Hydrology. By Nathaniel Beardmore, C.E. London: Waterlow & Sons. 1862." The Hydraulic Tables by Mr. Beardmore, published in 1850, and again in 1851 in an enlarged form, have constituted the basis of this far more elaborate and complete treatise, which contains many hydraulic tables and much practical information as to rivers and the flow of water, springs, wells and percolation, tides, estuaries and tidal rivers, rainfall and evaporation. Being strictly designed to form a practical manual for every-day use, theory is not entered on at any length; but on this very account the work is all the more valuable, since we have already several good treatises on the theory, but no such work as this on the practice, of hydrology.——"The Church-Builder; quarterly journal of Church extension in England and Wales. London: Rivingtons. No. 2. April, 1862." This is the second issue of a little threepenny quarterly, already noticed in our pages. It is published in connection with the Incorporated Society for Promoting the Enlargement, Building, and Repairing of Churches and Chapels in England and Wales; and is very well adapted to excite an interest in ecclesiastical architecture amongst those who have not the advantage of regularly perusing the *Builder*. Each number is illustrated with engravings.——"The Study of Steam and the Marine Engine, for Young Sea Officers. By S. M. Saxby, R.N. London: Longman & Co. 1862." The author of this volume is the principal instructor of naval engineers in H.M. steam reserve; and is therefore a reliable

authority on such a subject as the study of the marine engine. The treatise is intended for young officers in the merchant navy as well as in the royal navy, and professes to give a complete initiation into the knowledge of principles and their application to practice. The work appears to be well adapted to its purpose.——"A Military System of Gymnastic Exercises, for the use of Instructors. By Archibald Maclaren. Adjutant General's Office, Horse Guards. Printed under the superintendence of H.M. Stationery Office, and sold by Parker & Co, Clowes & Son, &c. 1862." This volume has been approved by the Commander-in-Chief, and it is to be adopted at all the stations where the means of carrying it out may be provided. It is a work of importance as regards the muscular development and health of the soldier; and in these volunteering days it is likely to be of still more general utility. The instructions comprise many invigorating exercises in walking, running, leaping, vaulting, and other physical efforts.

Miscellanea.

"ABOUT LONDON."—Mr. Mark Lemon has resumed his interesting and instructive Lecture "About London" at the Gallery of Illustration in Regent-street. Mr. Lemon has added a great amount of humorous anecdote and illustration; and, by judicious compression, has even improved it since the first repetition.

LIVERPOOL ARCHITECTURAL SOCIETY. — An ordinary meeting of the members of this society was held in the Royal Institution, Colquitt-street, on Wednesday evening, the 30th ult. Mr. J. M. Hay presided. Donations to the society were announced. The paper for the evening was by Mr. E. A. Heffer, and entitled, "A Short Account of the Life and Works of the late Mr. John Thomas, Sculptor, Architect, and Designer."

THE LABOUR QUESTION.—The masons at Devonport Hospital have been on strike. They want to leave work at half-past five instead of six, for five days, and on Saturdays at four o'clock instead of five; but the same rate of wages to be continued. The strike has extended to the men employed in three firms in this neighbourhood:—Messrs. Jenkins & Hallett, Devonport; Mr. Roach, of Plymouth, and Messrs. Hubbard, Brothers, Stonehouse; and besides the masons, some hundreds of men—consisting of excavators, masons' labourers, quarrymen, bargemen, cartmen, and others—have been without work.——The strike at Dundee, for "nine hours' work for nine hours' pay," continues, although about twelve employers are working ten hours as formerly. Two have acceded to the demand of the operatives. Some of these latter have combined to work as partners of a company.

HUNTER'S STONE PLANING AND SQUARING MACHINE.—This patented machine has been set to work in the Messrs. Munro's foundry, Dickfield-street, Arbroath; and parties of master builders, quarriers, and others, from all parts of Scotland, according to the *Dundee Warder*, were present to witness the capabilities of the machine. The stones dressed in their presence were one from the quarry of Rosemill, extremely hard and tough, and abounding in yelks; notwithstanding which the machine did its work in a perfect manner, although it tried its mettle, at about 4 inches per minute. The other stones were of a softer caste, from Glasgow, Edinburgh, and the Brax quarries, and were neatly dressed, the Glasgow stone more specially, at about 6 inches per minute. The machine is wholly self-acting, and the gouge chisels are about 6 inches in length, of the best cast steel. The machine altogether occupies about 25 feet by 12 feet of space. During the operations (continues the *Warder*) a beautiful specimen of ridge-stone dressing was exhibited, the production of a machine likewise held under patent by the same gentleman. The stones dressed by the machine more immediately under notice were all of ashlar work; but it was stated that the machine could dress hanging steps with bottle and fillet mouldings, and back filleted rivets and corners, &c. The machine and engine are portable, so as to be easily removed from one job to another; and masons will soon become as handy from weavers and hecklers now are, by the introduction of steam and mechanical power. After the trial of the machine was over, the master builders of Dundee, who were present, met together, and were so highly pleased with its performance, that they unanimously resolved to form a joint-stock company, for the purpose of purchasing at least one machine to be used by the Dundee builders.

PRIZES OF THE INSTITUTE OF ARCHITECTS.—The name of the recipient of prize of books in lieu of the Soane medallion should be given as C. G. M. *Mileham*, not Milum.

ENAMELLED SLATE FOR THE EMPRESS OF THE FRENCH.—The Empress Eugenie having ordered samples of enamelled slate to be submitted to her, Mr. Magnus, of the Pimlico Slate Works, the inventor and patentee, has received her personal instructions to line the walls of two dining-rooms with enamelled slate, to represent various choice and costly marbles.

PROJECTED IMPROVEMENTS BY LONDON AND BRIGHTON RAILWAY COMPANY.—At a meeting of the London, Brighton, and South-Coast Railway Company, resolutions of a formal character have been passed to enable the company to enlarge their stations at London-bridge and the Bricklayers' Arms; to carry on a steamboat traffic, and to raise 350,000*l*; to connect the Brighton railway with the London, Chatham, and Dover railway by a junction at Brixton, and to carry out various other works.

AN INVENTORS' INSTITUTE.—A preliminary meeting of inventors and others interested in patent property has been held at 26, Great George-street, Westminster; and an association, to be called the "Inventors' Institute," formed for the following objects, viz.;—To unite and organize the influence of inventors and patentees; to facilitate the progress of science in connection with inventions; to obtain a simple and efficient administration of the patent law; and, generally, to protect the rights and promote the interests of inventors. The annual subscription is to be one guinea; life terms, ten guineas. A provisional committee has been appointed, of which Mr. Robt. Richardson, C.E., of 26, Great George-street, Westminster, was elected the chairman. A public meeting will be held shortly to further the interests of the institute.

THE ROYAL SOCIETY.—The president of the Royal Society, General Sabine, R.A., held his first *conversazione* for the season at Burlington House, on Saturday evening last. There was a large attendance of distinguished visitors. Amongst the objects visited was the series of relics from one of the lake villages of Switzerland. In the time known to geologists as the "stone period," there were numerous villages on the margin of the Swiss lakes built on piles over the water, as is still the practice in the present day in some islands of the Indian archipelago; and within the past four or five years antiquaries and ethnologists have fished up from the mud, where they have been buried for ages, specimens of the pots and pans, the utensils, weapons, and food of the ancient lake villages. The specimens in question were found at Wangen, on the Lake of Constance. In the course of the evening Professor Tyndall exhibited a few experiments on electric spectra in the great hall, illustrative of some of the most striking phenomena of spectrum analysis.

FALL OF A RAILWAY BRIDGE AT HARROGATE.—A large stone bridge on the new line of railway now in course of construction through Harrogate by the Great Northern Railway Company has fallen without a moment's warning; causing serious, if not fatal, injuries to workmen engaged upon and beneath it. The bridge consisted of three arches, the central arch having a span of 40 feet, whilst the one on either side is for foot passengers only. The bridge has been built to enable a landowner to open a carriage road from High to Low Harrogate through his estate. The buttresses are of stone, and the arches of red brick, cemented together. Ballast and other trains had passed over the bridge without any indication of its giving way; and though, in the opinion of many persons, the crown of the arch looked too flat, there was no apprehension of an accident. The workmen had commenced removing the centres or supports beneath the arches, and at least one ballast train passed over the bridge without any appearance of giving way. Just as the last prop was being removed, an engine, tender, and train of empty waggons arrived at the bridge and proceeded to cross it. The engine and tender crossed in safety, when the whole arch, without the slightest warning, fell in, leaving two empty trucks standing upon the permanent rails. At the time a dozen men were working under the arch, and several were employed on the top of it. Those upon the bridge were sadly injured. The cause of the accident is variously given. By some it is attributed to the crown of the arch being too flat; by others, to the removal of the supports before the cement was set hard; and by others, to the foundation of the buttresses being insufficient and insecure. To Mr. M'Cormick, the contractor for the Railway Company, the loss will be considerable.

CHRIST CHURCH, CLAPHAM.—On the 6th inst. the church for the newly-formed district of Christ Church, Clapham, was consecrated by the Bishop of Winchester. The church is built upon a site presented fourteen years ago by the late Mr. J. Lucas, of Tooting. The architect is Mr. Ferrey. The plan of the church consists of a chancel 34 feet long, nave, north and south aisles 80 feet long together, with two very handsome porches. The tower and spire have yet to be built. The edifice has cost 4,700*l*. It is in the Geometrical style, and is built of Kentish ragstone, with Bath stone dressings. The choir seats in the chancel are of oak, and also the screen on the south side. The floor is raised by five steps, with tiling laid down by Messrs. Simpson.

METROPOLITAN SOUTHERN OUTFALL SEWER.—On Monday, at the invitation of Mr. W. Webster, the contractor for carrying out that portion of the Metropolitan Main Drainage from Deptford to the outfall at Erith, the members of the Greenwich District Board of Works and about 500 inhabitants of the locality inspected the line of sewer previous to its being handed over to the Metropolitan Board. At a luncheon in the sewer, the chair was occupied by Mr. Bristow, M.P., who observed that the thanks of the people of that district were due to Mr. Webster for having carried out this great work with so little interference with the traffic and the trading interests; and, as an inhabitant of that town, he was pleased to bear testimony to the generally quiet and orderly conduct of the large number of artisans and labourers who had been employed on the works. The numerous attendance on that occasion to do honour to Mr. Webster was only another proof that in this country a man in any situation of life, even although his work was out of sight and under ground, had only to perform his duty to win the respect and esteem of his fellow-men. Mr. Webster, in responding, thanked the inhabitants of Greenwich for their expressions of kindness; and observed that he trusted, ere long, they would receive the inestimable blessing of good drainage, which had never before existed in the district. A testimonial was presented to him.

MICA IN DECORATION. — An endeavour is being made to apply mica, previously coloured or metallized, to the decoration of churches, rooms, shops, frames, and other ornamental and useful purposes. The mica preserves the gilding, silvering, or colouring from deterioration, and from its transparency the articles so treated preserve all their brilliancy. Mr. Murray, of Paris, the patentee, states that he thus prepares and applies the mica:—It is first cut to the desired thickness with an ivory or steel knife; and is then coated with a thin layer of isinglass diluted in water; and the gold or other surface is applied; after which it is allowed to dry (any article, gilt, silvered, or coloured by the known process, may be covered with a thin sheet of mica by glueing). He then takes a pattern of copper, with a design cut out on it, and places it on the reverse side of the mica; and with a small brush removes any superfluous parts; the required design thus remaining on the parts which have not been brushed. He then applies colours, either one or more times, as considered necessary, and afterwards coats the whole with a solution of liquid glue diluted in spirits of wine, which is applied for the purpose of rendering the mica pliable. When this is effected the mica is applied to the frame or other object, which is coated with glue or other adhesive material, which is allowed to become comparatively dry. Mr. Murray then applies the mica with the design on it to the frame or other object, when it is allowed to dry for about three hours, after which all superfluous parts are removed, and the external surface of the mica made smooth. In order to make the junctions of several pieces of mica imperceptible, he first glues them together with Venetian glue, and then applies a hot iron to the parts where the mica is joined together, when the parts will be completely united. The value of mica depends upon the size of the sheets and their transparency; the clear, ruby-tinged being the finest, and the cloudy grey the least valuable. Talc resembles mica, but is brittle and crumbling. As regards the protection of decorations, it remains to be seen what such a patent is worth; considering that a good many years since the late Miss Wallace obtained a patent for effecting the very same object by means of glass. Mica itself is a kind of glass; being a silicate of potash, or identical, in chemical nature, with water glass. Many of the decorative works done by Miss Wallace were beautiful; and the brilliancy of some of them, as the writer of this has seen, continues undiminished, though many years have passed since they were done.

South Kensington Museum.—During the week ending 3rd May, the visitors have been 26,816 in number.

To the Employers of Painters in London. At a public meeting, called by the Amalgamated Association on behalf of the painters of London, a memorial was unanimously agreed to, praying that the employers will grant the boon of paying the same rate of wages to their painters as to the other skilled workmen, viz., 5s. 6d. for the working day. This memorial was to be sent to all the employers on the 5th inst.

A New Lathe.—A new lathe has been recently patented by Messrs. W. Muir & Co., of the Britannia Works, Strangeways. By an ingenious adaptation of two treadles, with alternate action, as much power is obtained for turning metals as with steam power of the same capacity. We believe that this is an entirely new feat in mechanics,—to obtain, without steam, as great a result, in cases in which power is required, as is accomplished by steam. Such a lathe will be of incalculable service on board vessels, and in those colonies—such as India—where labour is cheap. The lathe will be shown at the International Exhibition.—*Manchester Guardian.*

Drainage of Waterloo-with-Sea-forth.—Since the establishment of the local board of health, and the appointment of a surveyor Mr. Alfred (Taylor, C.E.), in 1856, a complete system of drainage for this place has been carried out, comprising 8,023 lineal yards of brick sewers, and 3,496 lineal yards of pipe drains: 10,885 lineal yards of roads have also been formed, paved, and completed; and 1,037 lineal yards of iron outlet-pipe on the shore; making, in total length of drainage, upwards of seven miles; in length of roads, upwards of six miles, paved and channelled. Previous to the constitution of the board, cesspools had become an intolerable nuisance; but now there is hardly a cesspool in the district.

Harbours of Refuge.—A Parliamentary return, in reference to the total estimated cost of the works—sums already voted, sums estimated for the year 1862-63, and balance necessary for completion—shows that the total estimate for Dover is 650,000*l.*; the total amount of votes, 499,000*l.*; the vote required for 1862-63, 50,000*l.*; and the subsequent votes required to complete the works, 101,000*l.* The total estimate for Alderney is 1,300,000*l.*; total amount of votes, 937,000*l.*; vote required for 1862-63, 90,000*l.*; and subsequent votes required to complete the works, 273,000*l.* The total estimate for Portland is 1,047,125*l.*; total amount of votes, 973,000*l.*; vote required for 1862-63, 10,000*l.*; and subsequent votes required to complete the works, 64,125*l.*

The Brighton Drainage.—A number of gentlemen interested in the prosperity of Brighton recently met at the Town Hall, on the invitation of Mr. Somers Clarke, to consider an offer made through him to the town, by a gentleman whose name did not transpire, but on whose part Mr. Clarke pledged himself that, in accepting the offer, the meeting should incur no pecuniary responsibility. The offer was, to engage the services of two engineers, Mr. John Robertson McLean and Mr. John Wright (formerly town surveyor of Brighton), with a view to their preparing and submitting to the authorities a plan by which the drainage of the town into the sea in front of the town should be obviated; Mr. Clarke adding that Mr. McLean and Mr. Wright had already been communicated with, and had expressed no doubt of their ability to submit better plans than any yet suggested. The offer was accepted.

Jerusalem.—According to the *Jewish Chronicle*, the foundation of the inner wall of Jerusalem (referred to in Lam. ii. 8, under the name of rampart, and also Isaiah xxii. 11, where the two walls are spoken of) has lately been discovered. As far as it is laid bare, it consists of very large stones, and the solid masonry is just the same as that of the western wall of the Temple. It is about four yards distant from the present wall. The spot was visited by many Europeans, among whom are mentioned the Austrian and French consuls, as also by Dr. Rosen, the Prussian consul, distinguished for his topographical knowledge of the Holy City; and they all agreed in pronouncing this remnant of hoary antiquity the foundation of the "rampart." It was discovered while digging to lay the foundation for a new building—the "Abode of Peace," erecting for the Jewish poor, at the expense of a deceased benefactor. On the same plot of ground was also discovered a very large and equally ancient cistern, 36 yards long by 9½ wide and 14 deep.

Memorial.—The committee of the Fortescue Memorial have determined on devoting one moiety of the subscriptions to a new wing of the North Devon Infirmary, and the other moiety to a statue at Exeter.

Railway Returns.—The traffic receipts of railways in the United Kingdom amounted for the week ending the 19th of April, on 10,145 miles, to 518,484*l.*; and for the corresponding week of last year on 9,911 miles to 520,985*l.*; showing an increase of 234 miles, and a decrease of 2,501*l.*

Artesian Well, Doncaster.—Mr. Bennett has commenced his operations in a field near the Doncaster Gasworks, with the view to bore for water. He is a practical contractor, and is confident that a sufficient supply of water will be found.

Early Crypt, Antwerp.—Continental journals speak of an interesting discovery recently made in Antwerp, of the crypt in the ancient church in which St. Walburgius resided during his stay in that city in the seventh century. The church was destroyed by the Normans shortly after, the crypt alone escaping. It was well preserved; has lost nothing of its original character, it is said; and gives a very exact idea of the mode of construction at the period when Christianity commenced taking root in the north of Europe. Measures have been taken for the ulterior preservation of the monument.

Wisbech. — Mr. Watson's mansion is now rapidly approaching completion. We learn from the local *Chronicle*, that the house is Italian in style, with a portico over the principal entrance. Surrounding the house on three sides is a terrace of terra-cotta, ornamented with vases of the same material, manufactured for the purpose by Mr. Blashfield, of Stamford. The designs were prepared by Mr. W. Adams, architect, and the work carried out by Mr. Stimpson, of Lynn. The interior of the house is not yet finished, painters and decorators being still employed in putting a finishing touch to the rooms. Ample dimensions are assigned to the different apartments, and the hall is laid with encaustic tiles. On the left is the library: on the right the dining and drawing-rooms; and at the east end is the breakfast-room.

St. Thomas's Hospital.—It is stated that the Charing-cross Railway Company made the following propositions:—That the hospital should pay 18,000*l.* a year; and, in addition, rates, taxes, and repairs; to be liable for three years to this rent; but, on the other hand, the railway company were to be at liberty to put an end to the engagement at any time, at six months' notice. They also asked the hospital to pay their own expenses of the arbitration; which, roughly taken, might be 7,000*l.* or 8,000*l.* more; and for which the railway company is liable. These terms were at once rejected; and the committee proceeded to consider various propositions for a temporary hospital. It appears that the governors are in treaty with the Company of Fishmongers for the use of seven acres of land at Walworth for a temporary hospital.

Discovery of London Fires.—Mr. Frederick Hodges, of Lambeth, the distiller, is having a fire observatory constructed on his premises in Church-street, Lambeth, for the purpose of giving the locality of any distant fire, and thereby saving the time of Mr. Hodges' firemen, and of the London brigade. The observatory has been designed and constructed by the engineers to the distillery (Messrs. Charles B. King & Co., of Westminster). It consists of a wrought-iron mash, 18 inches in diameter at the bottom and 12 inches at the top, which will be surmounted by a vane and ball; whilst at a distance of 5 feet from the top will be erected a platform-stage, to which access will be made by a chair slung up by pulley blocks, and worked by the person ascending. An elevation of 100 feet will thus be obtained.

The Yarborough Memorial. — At a recent meeting of the subscribers to the fund for placing a memorial window in Lincoln Cathedral to the memory of the late Earl of Yarborough, it was unanimously resolved, "that the honorary secretaries be requested to send circulars to each subscriber to the window, stating that as the Earl of Yarborough wishes to place a memorial window in the cathedral to the memory of his late father, the subscriptions for that purpose will be at the disposal of the several subscribers. In the event of any subscriptions not being reclaimed by the 1st of June, they will be transferred to the fund for the portrait of the late earl, to be placed in the Grand Jury Room, at Lincoln; and if the fund should be found larger than is required, then the balance will be transferred to the projected general memorial to the late Earl of Yarborough." Upwards of 600*l.* have been obtained for the Yarborough memorial.

Romsey.—A lecture, in connexion with an exhibition at Romsey, was delivered by the Hon. and Rev. C. A. Harris, on the recently-discovered lake villages in Switzerland, of which we have already given an account in the *Builder*. The Rev. J. L. Petit also read a paper on the "Architecture of Romsey Abbey."

Noxious Vapours.—The Earl of Derby, in the House of Lords last week, gave notice that he would move for the appointment of a select committee to inquire into the results of the action of noxious vapours in connection with manufacturing processes, and into the state of the law relating thereto.

TENDERS.

For new premises for Messrs. Hyam, Nos. 66 and 67 Oxford-street. Mr. Horace Jones, architect. Quantities by Mr. Reddall, and Messrs. Wright & Gould:—

Holland & Hannen	£10,329 0 0
Lucas, Brothers	10,240 0 0
Myers & Son	10,210 0 0
Lawrence & Sons	9,970 0 0
I'Anson	9,730 0 0
Brass	9,395 0 0
Pritchard	9,180 0 0

For the erection of four houses, High Cross, Tottenham, for Mr. Keasley. Mr. J. H. Rowley, architect:—

Rivett	£1,593 0 0
Humphreys & Son	1,190 0 0
Clarke	1,169 0 0
Cushing	1,152 0 0
Barker	1,150 0 0
Chapman (accepted)	1,115 0 0

For Christ Church, East Sheen, Surrey. Mr. A. W. Blomfield, architect. Quantities by Mr. J. A. Bunker:—

Bird	£4,787 0 0
Goodall	4,700 0 0
Nicholson & Sons	4,555 0 0
Long	4,389 0 0
Turner & Sons	4,359 0 0
Myers & Sons	4,305 0 0
Child & Son	4,185 0 0
Chinnock, Brothers	3,991 5 0
Carter	3,845 0 0

For rebuilding Little Compton Church, Gloucestershire. Mr. E. G. Bruton, architect:—

Compton	£1,330 0 0
Denner	1,050 0 0
Bartlett	1,040 0 0
Selby	1,031 0 0
Young & Co.	1,025 0 0
Clarke	950 0 0
Cowley	941 0 0

For small villa, at Dorking. Messrs. Poulton & Woodman, architects, Reading:—

Sheppard	£1,770 0 0
Biggs	1,760 0 0
Matthews	1,750 0 0
Woodroffe	1,745 0 0
Perry	1,623 0 0
Lynn & Dudley	1,560 0 0
Shearburn	1,560 0 0
Hamblin	1,519 10 4

For building new offices and board-room, for the Board of Works, for the Limehouse district, in White Horse-street, Commercial-road. Mr. Charles Dauch, architect. Quantities supplied:—

Henric	£6,298 0 0
Hedges	6,220 0 0
Hill & Co.	5,910 0 0
Wood, Brothers	5,853 0 0
Hall	5,800 0 0
Brown	5,790 0 0
Enmor	5,589 0 0
Myers	5,529 0 0
James & Ashton	5,531 0 0
Hart	5,333 0 0
Hitch	5,287 0 0
Curtis	5,220 0 0
Perry & Judson	5,194 0 0
Jacobs (accepted)	5,172 0 0
Sawyer	4,980 0 0

For alterations and additions to Marlborough Chapel, Old Kent-road:—

Thompson	£1,733 0 0
Lawrence & Sons	1,532 0 0
Perry & Dudson	1,494 0 0
Wills	1,479 0 0
Downs	1,436 0 0
Child & Son	1,399 0 0
Coolman	1,394 0 0
Colls & Co.	1,385 0 0
Hill & Son	1,377 0 0
Dove	1,360 0 0
Sawyer	1,350 0 0
Mann	1,300 6 0
Sharpington & Cole	1,297 0 0

For the execution of the works in connexion with the proposed enlargement of the County Lunatic Asylum at Prestwich. Mr. Charles Holt, architect, Bolton. Lithographed quantities supplied —

	Main Block.	Laundry.	Total.
	£. s.	£. s.	£. s.
Brammall	14,400 0	1,600 0	16,000 0
Gutteridge	14,875 0	1,500 0	15,375 0
Farrell	13,679 0	1,668 0	15,347 0
Coop	13,440 0	1,582 10	15,022 10
Gilbert & Sharp	13,400 0	1,590 0	14,990 0
Skinner	13,285 0	1,630 0	14,915 0
Metcalf & Waterson	13,263 0	1,543 0	14,806 0
Thompson	12,978 0	1,532 0	14,510 0
Greenup & Co.	13,100 0	1,300 0	14,400 0
Fulcroft	12,252 0	1,446 0	13,698 0
Hodgson (accepted)	12,349 4	1,180 11	13,529 15

For a pair of semi-detached villas, in Fitzroy-road, Regent's-park, for Captain Burgess. Mr. R. C. Greatorex, architect :—
Tavener (accepted)..... £2,459 0 0

TO CORRESPONDENTS.

Dr. B.—C. W.—Messrs. H.—H. B.—J. L.—R. M. P. (many thanks).—I. O. (reached us too late).—T. J.—T. D.—B. N. (there is no such work).—J. R.—F. R.—W. W.—F. M.—D.—J. R. (in such cases it is not unusual for each party to pay half the expense).—Mr. L.—J. C.—V. E. M.—H. C. & Co.—Messrs. K.—R. R.—Dr. D.—B. W.—C. B.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and NOT to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES :—
13, PENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

A CIVIL ENGINEER, SURVEYOR, and LAND AGENT, of established practice in the country, will take a PUPIL for three years, and fully instruct him in all branches of the profession; also can board, &c. with him.—Apply to ATCHLEY & CO., Engineering Publishers, 106, Great Russell street, London, W.C.

A YOUTH WANTED, as CLERK, in the Office of a Civil Engineer and Surveyor.—Apply, stating qualifications and salary expected, to J. L. Pembury Lodge, Dalston-lane, N.E.—A VACANCY for a PUPIL.

CANVASSERS WANTED.—Several YOUNG MEN, in Town and Country, possessing a good address, wanted to canvas for shares in a novel and most worthy enterprise. Ten per cent paid upon every share obtained. Unexceptional references given and required.—Address, by letter, X. Y. Z. Office of "The Builder," York Street, Covent Garden, London, W.C.

FIRE and LIFE INSURANCE.—AGENTS WANTED (by an established Company), both for London and suburbs, as well as the provinces. Liberal commission allowed.—Apply, by letter, to A. F. care of Mr. Foss, stationer, 7, Pope's Head-alley, Cornhill.

GENTLEMEN desirous of extending the business of FIRE and LIFE ASSURANCE may be appointed AGENTS, either publicly recognized or private, by addressing letters "No. 1,150," City of Glasgow Bank, Argyle-street, Glasgow

SEWERS OFFICE, GUILDHALL, 8th May, 1862.—FOREMAN of the CITY STONE-YARD.—Candidates for this Office must send in their applications in their own handwriting, and their testimonials (which must be the originals), to me, at Guildhall, before FRIDAY next, 16th MAY, on which day, at ONE o'clock precisely, they must attend the Committee for examination.
JOSEPH DAW, Principal Clerk.

TO MASONS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 20th of MAY next, at TWELVE o'clock precisely, to ELECT a FOREMAN for their STONE-YARD, Worship-street, Finsbury. Wages will be 36s. a week, together with a good House to live in, free of rent and taxes. Candidates must be not less than 25 nor more than 38 years of age, and will have to attend before a Committee for examination as to their fitness for the office. A good practical mason is the class of person required. Applications and testimonials must be sent in, addressed to the undersigned, on or before the 15th MAY next.
JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, 30th April, 1862.

TO ARCHITECTS' ASSISTANTS.—WANTED, an experienced ASSISTANT, in an Architect's office at the West-end. Must have a good knowledge of construction, accustomed to making out working and finished drawings, with a taste for design, chiefly in the Italian style, and also capable of drawing out specifications. Are not under twenty-six years. Address, stating recent engagements, and terms required, to T. S., 147, Regent-street, W.

TO CLERKS OF WORKS.
THE Managers of the Central London District School desire to appoint a CLERK OF WORKS, to superintend some works at their school premises at Hanwell, Middlesex, salary 25s. a week. Applications to be sent to the undersigned before the 17th instant, and candidates must attend the managers at their Board Room, 10, Basinghall-street, on MONDAY, the 19th inst. Half-past THREE o'clock.
SAMUEL HEATH, Jun. Clerk to the Managers.
Basinghall-street, E.C.

WANTED, on long Engagement, in Dublin, a Building Surveyor's first-class ASSISTANT, fully competent to take out quantities, and the Principal's place in his absence. Apply, with references, and stating age and salary required, to J. M. 7 Lower Mount-Street, Dublin

WANTED, a GOOD SURVEYOR and DRAUGHTSMAN, who has had experience in town surveys. It is well as painted with levelling and buildings, &c. Application to be made to the Surveyor to the Local Board, Buford, Notts, stating with whom last engaged, amount of salary required, age of applicant, and whether married or single. No one need apply who is not fully competent.

WANTED, an IMPROVER, of three or four years' experience in the Office of an ARCHITECT.—Apply (stating references and salary expected) to J. ROSS, Architect, Islington.

WANTED, immediately, a thoroughly competent Man to SUPERINTEND the ERECTION of RAILWAY STATIONS and other Buildings, and able to set out and measure up the Works, &c.—Address, *F.* 7, Delahay-street, Westminster, S.W.

WANTED, a competent Person to WORK a CURVILINEAR SAW.—Apply at Peerless Saw-mills, Old-street, Old-street road

WANTED, a SITUATION as PLUMBER, GLAZIER, and PAINTER if required.—Address, R. B. 47 Cross-street, Edgware-road.

TO JOINERS AND BUILDERS.
WANTED, by a respectable Young Man, a SITUATION as IMPROVER in the above trade, for one or two years if required.—Address, G. B. 14, Ford street, Old Ford-road, Bow.—None but principals treated with.

TO ARCHITECTS AND OTHERS.
WANTED, by the Advertiser, a RE-ENGAGEMENT. He is a good perspective and general draughtsman, thoroughly understands quantity taking and estimating, and possesses sound practical knowledge. Has been engaged for several years with a builder of extensive practice.—Address, E. W. Post-office, Leytonstone, N.E

TO BUILDERS AND CONTRACTORS.
WANTED, by a Young Man who has been three years and a half in an Architect's Office, a SITUATION as JUNIOR CLERK in a Builder's or Contractor's Office. Can take plans, prepare and copy drawings, is a fair colourist, and has a knowledge of quantities.—Address, A. J. 16, Upper North place, Gray's Inn-road, W.C.

TO MASTER GRAINERS.
WANTED, to ARTICLE a YOUTH, for four years. Age 14. Has been working in the trade for more than two years, and has a good knowledge thereof.—Address, F. A. 4, Great William-street, Caledonian-road, N.

TO BUILDERS, PLUMBERS, AND OTHERS.
WANTED, a SITUATION, by a good practical Zinc-worker and Gas-fitter. Ten years' recommendation. Country preferred.—Address, A. B. Margit's Coffee-house, 49, Exmouth-street, Clerkenwell.

TO ARCHITECTS.
WANTED, by the Advertiser, a RE-ENGAGEMENT in the Office of an Architect. Is a first-rate draughtsman, and well up in detail and construction.—Address, F. H. Office of "The Builder"

TO BUILDERS.
WANTED by a Carpenter and Joiner, a RE-ENGAGEMENT as a SHOP FOREMAN. Undeniable references.—Address, Y. Z. Post-office, Queen's-terrace, St. John's Wood, N.W.

TO BUILDERS AND OTHERS.
WANTED, by a Practical Man, a SITUATION as CLERK of WORKS, or GENERAL FOREMAN. Understands builder's work in all its branches; can prepare working and finished drawings, and measure up work; would make himself useful in office, if required.—Address, BETA, 28, St. Paul's-terrace, Camden-town.

TO TIMBER MERCHANTS AND ENGINEERS.
WANTED, by a Young Man, a SITUATION as SAW-SHARPENER, or PORTABLE ENGINE-DRIVER, or Circular Sawyer. Has been accustomed to the above for 12 years, and can have 12 years' character from the country.—Address, J. C. No. 1, Weston-street, Somers Town.

TO BUILDERS.
WANTED, by a First-class STAIRCASE HAND, STAIRS and RAILS of any description, having had fifteen years' experience in the above. Good Reference given.—Address, C. K. 15, Mexican-terrace, Caledonian-road.

TO ARCHITECTS AND SURVEYORS.
WANTED, a SITUATION, by a Young Man, aged 22, who has some knowledge of the above branches, and also of the house and estate agency business. A premium would be given; and a small salary, sufficient to defray travelling expenses, &c. would be required.—Address, A. Z. 47, Downshire-hill, Hampstead, N.W.

TO ARCHITECTS, &c.
WANTED by the Advertiser, a RE-ENGAGEMENT as CLERK OF WORKS. Many years' experience in superintending building of the first class in town and country. Good reference as to character and ability.—Address, A. Z Post-office, Stoke Newington.

TO BUILDERS, &c.
WANTED by an Experienced Plumber, a Constant SITUATION. No objection to take piece-work. Address W. N. 81, East-street, Manchester-square, Marylebone.

TO BUILDERS, &c.
WANTED, a SITUATION, by a Young Man, where he can make himself generally useful. Is conversant with the usual office duties, can set out plans, measure up work, &c. Six years with last employer.—Address, B. W. 63, Hatfield-street, Stamford street, S

To Builders and Contractors
WANTED, SITUATION as FOREMAN; a Joiner by trade, and understands every branch of building, measuring, and estimating, working and management of machinery; has had the charge of extensive jobs in both town and country. Address J. Foreman, General Post Office, till called for.

TO BUILDERS.
WANTED by a Practical Mason, well versed in Gothic work, a RE-ENGAGEMENT as WORKING JOURNEYMAN or Piece work. Good references can be given.—Address, G. C. No. 9, Goldsmith's-place, Kilburn, N.W.

TO CARPENTERS AND BUILDERS.
WANTED to APPRENTICE a Respectable Strong LAD, aged fifteen, to the above trade.—Address, stating terms, G. W. 1, Hall-place, Old Church-street, Paddington-green.

TO BUILDERS AND PLUMBERS.
WANTED, a constant SITUATION, by a PLUMBER and GASFITTER. Can fill up his time with glazing and painting. Good reference if required.—Address, A. P. V. Office of "The Builder"

TO SAW-MILL PROPRIETORS, BUILDERS, &c.
WANTED, a SITUATION as WORKING FOREMAN, to superintend or direct the working of a mill, or work a sawing, planing, or moulding machine; make irons for the same, or sharpen saws; attend the engines, or anything required, having filled the same for several years past. Excellent references and testimonials as to qualification, character, &c.—Address, W. J. H. 11, Glasgow-terrace, Lupus-street, Pimlico.

TO BUILDERS AND CONTRACTORS.
WANTED, a RE-ENGAGEMENT, by a Builder's Clerk. Is a thorough bookkeeper. Good reference, Town or country.—Address, A. E. W. 48, Milton-street, Dorset-square, N.W.

TO STONE CARVERS AND BUILDERS.
WANTED, by a respectable, intelligent Young Man, who has served seven years' apprenticeship to a Carver, IMPROVEMENT in the above line. Has a taste for the trade. Is a good old English letter cutter.—Address, H. M. Mrs. Sanger's, 8, Culver-street, Salisbury.

TO ARCHITECTS AND BUILDERS.
THE Advertiser is desirous of obtaining EMPLOYMENT in Copying Plans, Specifications, Elevations, &c.—Address, BETA, care of Mrs. Logan, Stationer, No. 63, Tottenham-avenue, Camden-road Villas, N.W.

TO LANDOWNERS, PUBLIC COMPANIES, OR OTHERS.
THE Advertiser, a thorough Practical Builder, is open to an ENGAGEMENT; well versed in all the duties connected with building, can take the entire management of any description of work; good practical draughtsman and designer, well versed in Lines, able to direct any branch, and set out their work, however elaborate or complicated in design. No objection to the country. Age 40.—Address, G. T. 32, Belgrave-road, St. John's-wood.

TO ARCHITECTS AND SURVEYORS.
THE Advertiser, a rapid designer and perspective draughtsman, and a good colourist, is desirous of a RE-ENGAGEMENT as ASSISTANT in an architect's office, or would be happy to render assistance at his own residence in the preparation of competition and other drawings.—Address, SURVEYOR, 3, Paynton-terrace, East-India road, Limehouse.

CLERK of WORKS.—WANTED, by the Advertiser, a SITUATION as CLERK or WORKS. Has been in an architect's and surveyor's office for six years, and had great experience in building. First class references. Terms moderate. No objection to the country.—Address, A. Z. care of Mr. Maltby, 73, Coleman street, E.C.

TO ARCHITECTS.
A THOROUGHLY efficient CLERK of WORKS is desirous of a RE-ENGAGEMENT. Seventeen years' experience.—Address, D. R. Office of "The Builder."

TO BUILDERS.
A YOUNG MAN wishes for IMPROVEMENT in the Carpentering and Joining. Has served seven years.—Address, Z. MASSEY, 11, Union-street, Borough.

TO ARCHITECTS.
A PRACTICAL CLERK of WORKS, of several years' experience, with good references, is desirous of a RE-ENGAGEMENT, either in town or country.—Address, A No. 8, Queen's-road, Norland square, Notting hill, W.

AS CLERK and BOOK-KEEPER.—The Advertiser, aged 26, has had many years' experience in the Building Trade. A rapid writer, correct accountant, active, sober, and honest. Well educated. Good references.—Address, F. A. No. 7, Grove place, Lisson-grove, N.W.

A YOUNG MAN, aged 27, wishes to obtain a SITUATION in an Architect's or Surveyor's Office. Is well educated, understands geometry, mensuration, &c. and is a correct writer and draughtsman. Is a Joiner by trade. Salary moderate.—Address, G. TURNER, Post office, Broadway, Hammersmith

A MECHANIC in the Building Trade is in want of a COMMISSION to SELL any kind of Building Materials in and about London. The Stone Line preferred.—Address, A. Y. Office of "The Builder."

TO BUILDERS.
A YOUNG MAN is in want of IMPROVEMENT in a Joiner's Shop, and willing to make himself useful. Bench-work preferred. Wages 24s. per week. Address B. B. 22, Foley-street, Portland-place, London, W.

A YOUNG MAN, having served his time to the plumbing, painting, and glazing business, is desirous of obtaining a PERMANENT SITUATION.—Address, W. W. care of Mr. Adams, Eaton Ford, St. Neots.

TO ARCHITECTS AND SURVEYORS.
A DRAUGHTSMAN, accustomed to quantities and the duties of an office, desires an ENGAGEMENT (temporary or otherwise), in town or country, to prepare details, working and detail drawings, specifications, taking out quantities, &c. &c.—Address, A. B. 49, Prospect-place, St. George's-road, Southwark, London, S.

TO ARCHITECTS AND SURVEYORS.
A YOUNG GENTLEMAN, aged 19, is desirous of an ENGAGEMENT. He has served three years' articles with an eminent member of the profession. Terms moderate. Address, A. Y. Z. 14, Upper Stamford street, S.

TO ARCHITECTS.
AN Efficient CLERK of WORKS is desirous of a RE-ENGAGEMENT. Has first-class testimonials. No objection to the country.—Address, J. H. T. Office of "The Builder."

TO CONTRACTORS AND OTHERS.
AN active experienced CLERK, accustomed to estimating, keeping books, taking plans, &c. is desirous of obtaining EMPLOYMENT.—Address, post-paid, private, to J. C. 447, West Strand.

A STEADY and energetic Man, many years a BUILDER'S FOREMAN, WANTS a RE-ENGAGEMENT. A Carpenter by trade. Good testimonials.—Address, W. B, Mr. Holmes, 32, Hampstead-road, N.W.

TO CARPENTERS AND BUILDERS.
A RESPECTABLE Young Man wishes for a SITUATION as IMPROVER, in the above line. Address, A. C. 50, Sewardstone-road East, Victoria Park.

TO CARPENTERS AND BUILDERS.
A YOUNG MAN, a Carpenter, who has just completed his apprenticeship, wants IMPROVEMENT. Wages moderate.—Address, R. V. 6, Crozier street, Palace road, Lambeth.

A DRAUGHTSMAN who has been for some time as Improver with an Architect of eminence in the City, wishes for a SITUATION as ASSISTANT. He is fully competent to prepare working and detail drawings, and is a good colourist.—Address, F. H. R. Mr. Clarke's, 32, St. James's street, S.W

TO ARCHITECTS.
A YOUNG GENTLEMAN, who has served his time with an eminent London architect, by whom he can be well recommended, is desirous of obtaining EMPLOYMENT, as ARCHITECT'S ASSISTANT, or as CLERK of the WORKS.—Address, A. Z Richard's Library, Queen's terrace, Camden road Villas, N.

A GOOD DRAUGHTSMAN (Architectural and Engineering) desires an ENGAGEMENT. Age 23.—Address, B. Z. Office of "The Builder"

TO CARPENTERS AND BUILDERS.
A YOUNG MAN is in want of a SITUATION as IMPROVER at the BENCH, in or near London. Age, 21.—Address, J. DOKE, 7, Wellington-street, Camden-town.

A YOUNG MAN, a Civil Engineer and Architect's Assistant, who can make himself generally useful in office duties, is in want of a SITUATION.—Address, O. F. care of Mr. J. FORTUNE St. James's-road Bainhill, Lancashire.

DESIGNS, PERSPECTIVES, ZINCOGRAPHS, &c. Terms, 12s. 6d. per day.—Add. ess, ZETA, Office of "The Builder."

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter. Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawing Boards, Squares, &c. For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents, their cost, and the mode of procedure to be adopted, obtained gratis by the General Patent Company, limited), 71, Fleet street London. ROBERT M. LATHAM, Secretary.

A CARD.

MESSRS. CORDEROY, Surveyors (late of High street, Marylebone), have REMOVED their OFFICES to 17, KING WILLIAM STREET, STRAND, LONDON, W.C.
Office in Portsmouth-rd, Ordnance row, Portsea.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the Kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to QUANTITY-GRAPH BILLS of QUANTITIES SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.
Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.
Lithographers, &c. 5, Ave Maria-lane, E.C.

CRYSTAL PALACE (close to).—Valuable BUILDING SITES TO BE LET or SOLD, within a few minutes' walk of Sydenham Station, fronting a handsome roadway of considerable width. The rapid increase in the neighbourhood is quite inadequate to the demand, the position being undoubtedly one of the most favourite and convenient in the vicinity of town; its healthful salubrity, proximity to society, proximity to the Crystal Palace and Park, facility of access to the City and West-end, will always insure to the locality a high rank in popular estimation, and remunerative returns to any capitalist. Sewers made; gas laid on. For terms and plans apply to Messrs EDWIN FOX & BOUSFIELD, Agents for the estate, 41, Coleman street, City.

BELSIZE PARK, HAMPSTEAD. — To BUILDERS and OTHERS.—LAND TO BE LET, for Building, with roads and sewers all complete. For further particulars, apply on the estate, at Mr. TIDEY's Office, 20, Belsize-park.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land will be approached by an entrance-lodge, ornamented, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

MANOR of DULWICH. ALLEYN'S COLLEGE ESTATE.—The Governors of Alleyn's College are prepared to LET a PORTION of the ESTATE in Plots for Building Purposes. — Plans may be seen and particulars obtained from CHARLES BARRY, Esq. College Surveyor, at 27, Sackville street, Piccadilly.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive Manufacturing Premises, known as TREDEGAR WORKS, Bow Machine shop, 61 ft. by 30 ft.; two ranges of workshops, 74 ft. by 25 feet; steam engine, boilers, forge, sheds, stabling, counting-houses, and all other conveniences suitable for a large factory.—For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill

OFFICES in the CITY.—TO BE LET, by PUBLIC TENDER, by the Worshipful Company of Pewterers, on lease, for twenty-one years, determinable at the end of the first seven or fourteen years, at the option of either party, lately erected and most substantially built Premises, known as No. 17, Lime-street, in the City of London, and which is specially suitable for offices — Full particulars and cards to view can be obtained on application to Messrs. ELLIS & SON, of the Pewterers' Hall, E.C.; or of the Clerk of the above Company, Mr. W DADLEY, of No. 1, Anchor-terrace, Bridge street, Southwark, to whom sealed Tenders are to be sent on or before the 20th day of MAY, 1862.—The Pewterers' Company will not bind itself to accept the highest or any Tender.

SALE of ST. THOMAS'S HOSPITAL PROPERTY, LONDON BRIDGE.—The Directors of the Charing-cross Railway Company are prepared to receive PROPOSALS for the PURCHASE of the LAND and BUILDINGS of St. Thomas's Hospital, London Bridge, of which an area of nearly four acres, excepting only the small portion of garden at the north-west corner, will be required for the works of the Railway. Possession will be given to the purchaser in the 1st of August next.—Particulars may be obtained on application to Mr. HENRY TODD, Solicitor, No. 16, Parliament-street; and Proposals to be addressed to the Secretary.
By order, S. SMILES, Secretary.
Charing-cross Railway Offices, London Bridge, 30th April, 1862

MANUFACTURING WATERSIDE PREMISES on the THAMES.—TO BE SOLD or LET on LEASE, the extensive PREMISES lately occupied as the Distillery at Brentford, occupying a site of about four acres, having a considerable frontage next the Thames, a plentiful supply of pure spring water, and well placed for land or water carriage, being but a short remove from the Brentford Docks, and immediately contiguous to the lines of railway; these are upon very spacious and substantial buildings, and a good dwelling house, with large garden, the whole presenting advantages for any large manufacturing establishment.—For further particulars apply to SIR. P. B. HOUK, Esq. Solicitor, 7, Lincoln's Inn fields, W.C.; or to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

UPPER THAMES-STREET; St. Bartholomew's Hospital.—To BUILDERS and OTHERS.—TO BE LET, on a Building Lease, for 70 years, from Michaelmas, 1862, the whole of a FREEHOLD ESTATE belonging to this Hospital, comprising the premises Nos 148, 149, 150, and 151, Upper Thames street, with a frontage of 98 feet towards Thames-street, and 79 feet towards Suffolk-lane.—For further particulars, apply at Mr. HARDWICK'S Offices, No. 1, Henrietta-street, Cavendish-square. TENDERS are to be sealed up, and delivered at the Clerk's Office, within the Hospital, on TUESDAY, the 13th day of MAY, at a QUARTER before ELEVEN precisely. WILLIAM WILBY, Clerk.
St. Bartholomew's Hospital, May, 1862.

BUILDING LAND, situate between Reigate and Dorking, in the parish of Betchworth, TO BE LET upon long LEASES, in plots of various sizes, suitable for the erection of a good class of private residences. — For particulars, apply to Messrs. CLUTTON, 9, Whitehall-place, Westminster; or Messrs. NASH, Reigate

BUILDING LAND TO LET, on long leases, in most cases direct from the freeholder, at HIGHBURY-CANONBURY, NORWOOD close to the Lower Norwood Station, at CROYDON (very near West Croydon Station), at the VAUXHALL GARDENS ESTATE, at DENMARK-HILL, &c. and some CARCASSES, at BOW Ground-rents moderate. The usual proportion of the cost of the houses erected would be advanced, and in some cases the freehold might be purchased.—For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

SAW-MILLS, TIMBER-YARD, and valuable WHARFAGE on the THAMES, near the Docks.—TO BE SOLD or LET, FREEHOLD WATERSIDE PREMISES, fitted up with 40-Horse Double Cylinder Steam Engine by Hall; Two Cornish Boilers Sawing and Planing Machinery and Driving Gear Offices, Foreman's House, Stabling, and other requisites.—For particulars and to view, apply to Messrs. BROWN & ROBERTS, 22, Throgmorton-street, Bank

WANTED, a HOUSE and SHOP, with Plate glass Front, and commanding position in a good locality in town or country, suitable for and where a chemist is wanted. Communications not replied to within a week from date of letter to be considered declined.—Apply by letter to N. D. Messrs. Creswick & Co's. 12, Great Portland-street, W.

TO SPECULATING BUILDERS and OTHERS.—LAND, close to the Royal Dockyard, Deptford, TO BE LET, on LEASE, suitable for building five-roomed cottages that would readily let for 6s. a week.—Apply to Mr JOHN WIMBLE, 2, Walbrook; or to Mr. J. A. BONE, 57, Leadenhall street.

TO CAPITALISTS and BUILDERS.—TO BE LET, in perpetuity, in large or small plots, and at low rates, the BELMONT, SYDENHAM, and GLENMACHAN ESTATE, Ireland. The estate is of more than 700 acres in extent, and is situate within two miles of Belfast, on the borders of Belfast Lough. The main roads are made, there is a stone quarry, and large quantities of lime, with in the estate. Bricks, stone, and sand may be had at low prices. A church and a large number of first class villas have already been erected, and more are readily Close to the estate there are two stations on the Belfast and Ballymena Branch of the County Down Railway, which runs along the western boundary of the estate. The vicinity of the estate to Belfast, the picturesque views of Lough Belfast sea and of the surrounding country, with many natural advantages, render this estate particularly eligible for the erection of first class villas, for which there is a large demand.—Plans may be seen, and particulars obtained of THOMAS RD. CLURE, Esq., Belmont, Belfast, Ireland; and of Messrs. HOVENDEN & HEATH, Surveyors, 4, Broad street Buildings, London, E.C.

CARCASSES FOR SALE, NINE-ELMS-TERRACE, VAUXHALL.—SIX CARCASSES of SIX-ROOMED HOUSES FOR SALE, together or separately. The entire purchase-money may be left on mortgage.—For particulars, inquire of A. B. FREND, Esq., Architect, 44, Bedford-row, W.C.

OLD MATERIALS.—TO BE SOLD by TENDER, THREE OLD HOUSES.—For further particulars apply to Messrs. LANDER & BEDELLS, 4, Great James-street, Bedford-row, W.C.

WATERSIDE PREMISES.—TO BE SOLD, the LEASE of an extensive WHARF, with river frontage. Inquire at Western Wharf, Abingdon street, Westminster

CHAMBERS TO BE LET.—No. 26, Bedford-row, Gray's-inn.—Inquire of the House-keeper.

GUILDHALL, 30th April, 1862. — The Committee for Letting the City's Lands will meet at Guildhall, on WEDNESDAY, the 14th of MAY next, at ONE o'clock precisely, to receive PROPOSALS for a Lease of a House, No. 5, Old Jewry-street, in the city of London. Plans of the property may be seen and forms of Tender obtained, upon application at the Architect's Offices, Guildhall. FERDINAND BRAND, Comptroller.

TO BE LET on BUILDING LEASES, with advances, if required, a few choice PLOTS, being portions of a valuable Frontage to the High Road, within five minutes' walk of a first class station, and half an hour of town from London Bridge, Waterloo, or Victoria Terminus.—For further particulars, apply to Mr. C. LAWS, Architect, 1, Walbrook-buildings, City.

PREMISES for a BUILDER, or other Parties requiring space, in HENRIETTA STREET, Cavendish square. TWO SPACIOUS LOFTS, STABLING, YARD, PUMP-WATER, and with immediate possession, TO BE LET, on LEASE; 180 guineas, and 50l. premium.—Inquire on the Premi-se.

ALDERSHOTT.—North Camp.—TO BE SOLD or LET, on building leases, about THIRTY ACRES of FREEHOLD LAND, situate about one mile from the station on the South-Eastern Railway, and one mile and a half from the North Camp, also having extensive frontage on the road from Farnham to Farnborough. From its healthy soil and situation, and the immense tract of open country immediately surrounding it, this plot would be admirably suited for a training school or other public institution.—For further particulars, apply to Mr. E. A. BROADBENT, 29, Old Broad-street, E.C.

FREEHOLD LAND TO BE LET, on a Building Lease, the land to be enclosed, situate on the west side of Stamford-hill, beyond the Cemetery, containing a frontage of 240 feet, and 210 feet deep. For particulars inquire of Mr WILLIAM RUDALL, Architect, No. 14, Liverpool-street, City; or of Messrs. ASHBY, No. 24, Bishopsgate street.

CITY-ROAD. — ST. BARTHOLOMEW'S HOSPITAL.—To BUILDERS and OTHERS. — TO BE LET, on a BUILDING LEASE, for sixty-one years, from Midsummer, 1862, the GROUND now forming the Forecourt to the Mansion called the Windsor Castle public-house, Windsor terrace, City-road, having a frontage towards the City road of 127 feet, and a depth of 220 feet.—For further particulars, apply at Mr. HARDWICK'S Office, 1, Henrietta-street, Cavendish-square.—Tenders are to be sealed up and delivered at the Clerk's Office, within the Hospital, on TUESDAY, the 13th of MAY instant, at a QUARTER before ELEVEN o'clock precisely.
WILLIAM WILBY, Clerk.
St. Bartholomew's Hospital. May, 1862.

TO BUILDERS and OTHERS.—BUILDING LAND TO BE LET, at Kennington Grove, Honry-street, Upper Kennington-lane, at moderate ground rents Persons building can be supplied with materials if required.—Apply to J BENDY, 62, Vauxhall walk, S.

VALUABLE BUILDING LAND, opposite the Queen's Hotel, Upper Norwood, TO BE LET by TENDER.—For particulars apply to Messrs. HUNT & STEPHENSON, 4, Parliament-street, S.W. Tenders to be delivered on the 2nd of JUNE.

BUILDING GROUND, HOLLOWAY. TO BE LET on BUILDING LEASES, for Eighty years, a PLOT of GROUND on the north side of Park road, Holloway, adjoining the City Prison, and a PLOT of GROUND on the south side of the same road, and on the north side of Camden-road, Holloway. Plans of the ground may be seen, and further particulars obtained, upon application at the Architect's Office, Guildhall.
FERDINAND BRAND, Comptroller.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation; CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.



SOLID PARQUET FLOORS.
ARROW-SMITH'S PATENTED,
From 1s. per foot, in various woods, inch thick, grooved, tongued, and keyed together, not veneered
For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.
SHOW ROOMS, 80, New Bond-street, W.

VENTILATION—PURE AIR.



Sheringham's Ventilator for the admission of Pure Air through an EXTERNAL WALL.
With single pulley, from 6s. each; with leading pulley, from 6s 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 12 and 113, Union street, Borough, London; and of all respectable Ironmongers, Builders, &c.

TARPAULINS, MARQUES, &c. for SALE or HIRE,
SCAFFOLD and HEMP-ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD and HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

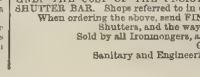
INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON E.C.

TO ANTIQUARIANS and ARCHITECTS. All the FINE OLD CARVINGS of BOWYER HOUSE, CAMBERWELL, DESIGNED by INIGO JONES, carved in oak, cedar, mahogany, &c. with the panellings belonging to each room, also the Doors, Windows, and Chimney-pieces, are now for immediate sale.
THE FINE OLD STAIRCASE in oak, and two finely CARVED MARBLE CHIMNEY-PIECES, one in statuary, and the other in veined marble, MAY BE PURCHASED SEPARATELY, or with the above.
Each room, being complete in itself, may be had separately, or the whole may be disposed of as an entirety.
Every information given upon application to Mr. PIERCE, 5, Jermyn-street, Regent-street.
See account of Bowyer House in "Notes and Queries," part 60.

HUTHNANCE'S PATENT ECONOMIC LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS,
Is strongly recommended to public notice, as being the most efficient and economical arrangement for the purpose of drying linen, clothes, bedding, &c.; specially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c. &c.; as, in a sanitary point of view, it is invaluable, the DRYING-ROOM being raised by its use to a very high temperature, whilst the IRONING ROOM is kept AGREEABLY COOL and WELL VENTILATED.
The economy of fuel is extraordinary, as, in a small union, it caused a saving of seven tons of coals in four months, whilst for simplicity of arrangement and cleanliness in use it cannot be surpassed.
No BLACKS or SOOT can enter the drying-room.
This arrangement has been carried out in numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS.
Testimonials and illustrated particulars forwarded upon application to Mr PIERCE, SOLE PROPRIETOR and MANUFACTURER, 5, JERMYN STREET, REGENT STREET.
A large model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited,
Are prepared to Supply their First-class Blue Lias Lime in any quantity and at any place.
SPECIAL CONTRACTS MADE FOR LARGE WORKS.
All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

NO SHUTTER BARS.

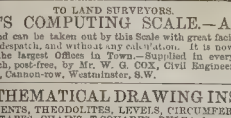


JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every rubbish-tract in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

TELEGRAPHS.
REID BROTHERS, 12, Wharf-road, City-road, near the Gutta-percha Works,
Telegraph Contractors to the following Telegraph Companies:—
THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.
Are now prepared to give estimates and execute contracts for firms and private companies, in town and country. Gentlemen's private houses fitted up with simple and efficient telegraphs, on the most economical terms. All communications addressed to the above will meet with immediate attention.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

TO LAND SURVEYORS.
COX'S COMPUTING SCALE.—Areas of Land can be taken out by this Scale with great facility, accuracy, and despatch, and without any calculation. It is now in use in some of the largest Offices in Town.—Supplied in every scale at 3s. 6d. each, post-free, by Mr. W. G. COX, Civil Engineer and Surveyor, 13A, Cannon-row, Westminster, S.W.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS CALES, TAPES, CHAINS, T-SQUARES, RULES, &c.

JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON
FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY;
TIMBER, WINE, and SPIRIT WARRANTS.
BANKRUPTS' and INSOLVENTS' CASES CONDUCTED.
Balance-sheets Prepared, and Meetings of Creditors Convened.
Mr. RICHARD CROSS-LEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

ACCIDENTS ARE UNAVOIDABLE.
Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100l. to 1,000l. insuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
2,817 have been paid by the Company as COMPENSATION for 58 Fatal Cases, and 5 041 Cases of Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
E. J. Cornhill, E.C. WILLIAM J. VIAN, Secretary

THE BRIGHTON HOTEL COMPANY (Limited).
Capital £100,000, in 10,000 Shares of £10 each,
With power to increase to £500,000
Deposit, 10s. per Share on Application, and £1 10s. on Allotment, payable
Chairman—George Frederick Anderson, Esq., Nottingham-place, York gate, Regent's Park.
Directors—Edmund Burke, Esq. (John Russell & Co.), 69, Upper Thames-street, and Manchester
Charles Stratford Dendy, Esq. (late Esq. Merryvale Athenæum, Warwick-square, and Oxford and Cambridge Club.
Thomas Hughes Jackson, Esq. (Hills & Underwood), 25, Easterhead, E. C.
Thomas T. King, Esq. (John King & Co.), Queen-street, Cheapside.
Sir Henry Lance, Esq., The Hollowood, Dorking, Director of the London and South African Bank.
Henry J. Law, Esq., 2, Bedford-square.
William Stanley Masters, M.D., Brighton.
Charles Robinson, Esq. (Robinson & Cottam), 7, Parliament-street, and Pimlico.
Samuel Smee, Esq. F.R.S. Finsbury-circus.
Solicitors—Messrs. John Whichcord, Esq. F.S.A. Walbrook.
Bankers—Messrs. Wickens and Bruton, 4, Tokenhouse-yard, Bank.
The City Bank, Threadneedle-street
Brighton—Messrs. Hall, Lloyd, and Bevan, Brighton.
Consulting Engineer—Messrs. Sir R. W. Carden and Son, Royal Exchange-buildings
Secretary.—Mr. Thomas Heaps.
Offices—36, Cannon Street, London Bridge, E.C.
ABRIDGED PROSPECTUS.
The Directors, after lengthened negotiations, having purchased of her Majesty's Government the valuable freehold land in the Marine-road, Brighton, known as the Battery House and premises, the same being now in possession thereof, will forthwith proceed with the erection of the proposed hotel on the above-named site.
Further particulars and prospectuses can be obtained on application to the Brokers or Secretary.

BRIGHTON HOTEL COMPANY (Limited).—The Directors intend to proceed with the erection of the Hotel with all possible expedition, and will ALLOT the remaining SHARES to applicants. If no allotment by inside will be returned in full forthwith.

BRIGHTON HOTEL COMPANY (Limited).—TENDERS for EXCAVATING and BUILDING FOUNDATIONS of the Company's HOTEL, at Brighton, are required, and the same must be delivered sealed, under cover, addressed to the Secretary, at the Company's offices, 36, Cannon street, London, by before TUESDAY, the 20th instant. The plans and specification can be inspected at the offices of JOHN WHICHCORD, Esq., No. 16, Walbrook, London, E.C. on and after the 15th instant.

SIXTY MARBLE CHIMNEY-PIECES
TO BE SOLD, in consequence of Monsieur Beernaert, of the Belgian and Westminster Marble Works, Millbank-street, Westminster, having discontinued his Show-rooms in London. The above Chimney pieces consist of Carved Statuary, Bold Rouge Royal, Black Irresistible, and Veined Statuary, Bold Rouge Royal, Black Irresistible and Gold, Black and Gold, Sienna, Veined, &c. The above will be sold at a great sacrifice—in fact, no reasonable offers will be refused.—Apply to Mr. PILTON, Westminster Marble Works, Earl-street, Horseferry-road, S.W.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29, 30, and 31, Warwick-street, W.
EDWARDS, BROTHERS, & BURKE, PROPRIETORS.
The largest and most superior Stock of Chimney pieces in Europe on view at the above-named Establishment
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

TO MARBLE MASONS and BUILDERS
TO BE SOLD cheap, AT ONE HALF THE USUAL WHARF PRICES, a quantity of STATUARY MARBLE in slabs, 1 and 1 inch, with one Slab of 2½ inch. Also Sienna, in Slabs from 1 to 2 inch. Boogie Inlaid inch and 1½ inch. Irish Green, 9 Scabs, and of Fossil 20 Slabs.
Also a choice selection of elegant CHIMNEY PIECES in various coloured Marbles some richly carved in Statuary, Black and Gold, Gingoite Black, Veined &c.
May be seen, and particulars obtained, upon application to Mr. PIERCE, 5, Jermyn street, Regent street.

STONE STAIRCASE for a Mansion or Public Building.
To be DISPOSED OF, at less than one third the cost, a capital Portland STONE STAIRCASE, of the richest description, consisting of seventy solid stone steps, 5 feet 3 inches long, well moulded nosings, finished in the best manner, and very little used. Price 90l.
Also the WROUGHT IRON SCROLL-WORK and other part of the solid mahogany HAND RAIL, about 80 feet. Price 25l. 10s.
Also a choice selection of elegant CHIMNEY PIECES, in various coloured marbles, some richly carved, in STATUARY, BLACK and GOLD BLACK, VEINED, &c.
May be seen, and particulars obtained of Mr PIERCE, at No. 5, JERMYN-STREET, Regent-street.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—3, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to forward estimates, and execute in the best manner any work intrusted to them.
All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. A New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

BLOCK STONE! BLOCK STONE!
The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the WARRAN STONE WHARF, Millwall Poplar. Architects, Builders, and Masons, are requested to call and examine the quality.
SAMUEL TRICKETT has plenty of stones that are good building stones, and remarkable INDURATION, yet they are uniform in colour and good tint. Parties would do well to see his Stock; also NOTE delivered from his Quarries to all parts of the Kingdom.
The BEST and CHEAPEST STONE WHARF in LONDON.
Address, SAMUEL TRICKETT, Isle of Dogs, E.
A large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREBELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
DOG RUNNERS OF SUPERIOR QUALITY.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Chimney-stead, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, can be shipped in railway trucks, and delivered, free from duty, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

TO ARCHITECTS, BUILDERS, and OTHERS.—MARBLE and STONE COLUMNS TURNED and POLISHED by improved machinery, at half the usual cost. Fonts Chimney pieces, Mural Tablets, Tombs, &c. at the lowest possible prices.—WM. F. WILLIAMS, 316, Euston road, N.W.

THE PANTECHNICON, QUEEN'S ROAD, BRIGHTON.
FOREIGN MARBLE GALLERIES, contain upwards of Two Hundred MARBLE CHIMNEY-PIECES, consisting of Carved Statuary, Vein, Sienna, Blanc Pie, Blanc Clair, Rouge Royal, St. Ann's, Black, Jasper, Verd des Alps, and other coloured Marbles, in every variety of design and size, set up for view. Sculptured Marble Monuments, Headstones, &c. erected. An inspection is respectfully solicited by the Proprietors and Importers, GEO. HEAD & SONS.
N.B. Packing cases lent free of charge.

BATH! BATH!! BATH!!!
ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near BATH.
CHIPPENHAM WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons' Work prepared ready for fixing.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

JOHN BAZLEY WHITE & BROTHERS,
MARBLE MERCHANTS,
MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

MARKET WHARF, REGENT'S PARK BASIN—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Ragpot Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. FINDER SIMPSON & SONS, 32, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a part of oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water works and for the lining and restoration of churches. When used as such no work it is not necessary to place it bed wise. It works freely with a tooth saw, and is wrought at a cheaper rate than any stone in the kingdom.

FOREST of DEAN STONE.—
Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.)
The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, and for every purpose to which stone is applied.
That known as "Rocky Knoll" Quarry, is unrivalled in quality to the "Yorkstone," "Park Spring" Stone, but that from their "Brick-hill" and "Dark-hill" Quarries, is decidedly superior to it.
Prices named on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE
YELLOW MAGNESIAN or ROLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also, Bangor and Chester flags, delivered at any station in quantities of not less than five tons.—Prices forwarded, and estimates given on application.—Address,
No. 1, BOLD TERRACE, CHESTER.

POLISHED GRANITE WORKS,
ABERDEEN—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship. Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 48, Euston road, N.W.

HY. GEORGE & COMPANY,
CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen steps always in Stock, and a large assortment of Sawn Slabs in Parkspring, Harehill, &c. &c.
Grindstones, Flags, Sills, Copings, Landings, Paving, and all descriptions of Yorkstone Stock. Cross-cut steps shipped direct from the Quarries.
Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE SILICIOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decoration executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes.
For estimates and priced illustrations and specimens of stone, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster, or Patent Stone Works, Ipswich.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862
By Her Majesty's Royal Letters Patent.
F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON, Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,
And for the most eminent Members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been extensively and DEMANDED THE PRIZE, for being the best and cheapest article for roofing; and also used for the slates at the Royal Architectural Society's House, in Hanover square. Its advantages are lightness, warmth, durability, and economy. It is unrivalled as a non-conductor of heat and sound. The Felt can be cut any length, by 36 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples with Illustrations as to its uses and the manner of applying it, with TESTIMONIALS, some of the most eminent personages, Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent in fuel is effected. The TRADE are respectfully requested to send for orders DIRECT to the FACTORY, as the same will be executed with a good article, and on the most reasonable terms. The Companies Works where the above roofing is made are F. McNEILL & Co.'s Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOT, CURRAGH, SHORNCLIFFE, and GOLDHAWK, upwards of three Millions of Feet. A Liberal Discount allowed to the Trade.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from **2s.** per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from **3s.** per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

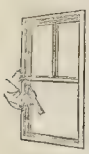
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

J. GURMAN,



Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.



Send stamped envelope for Prospectus and Sectional Drawings.

Windows may also be seen at the Kensington and Conduit-street, Museums, London.

BRICK-MAKING BY STEAM POWER.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,

(Each producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS, London.	S.-E. RAILWAY COMPANY, Folkestone.
" BRASSEY & CO. London.	Mr. GEORGE FURNESS, London.
" BAKER & SON, Isle of Wight.	Messrs. HENRY LEE & SON, Isle of Wight.
" ROBT. SHARPE & SONS, London.	Messrs. WEBSTER, VARNEY, & CO. Burham.

FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works; at the Great Exhibition, South Kensington; or at their Show Rooms, Upper Montague-street, Montague-square; or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.

ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

CARSON'S

ORIGINAL ANTI-CORROSION PAINT.

Patronised by

THE BRITISH GOVERNMENT,	H.R.H. THE PRINCE CONSORT,	RAILWAY AND CANAL COMPANIES
THE FRENCH GOVERNMENT,	MOST OF THE NOBILITY & GENTRY,	THE PRINCIPAL COLLIERIES,
THE RUSSIAN GOVERNMENT,	THE DOCK COMPANIES,	MILL OWNERS, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also

IRON ROOFING, BRIDGES, HURDLING,

AND EVERY DESCRIPTION OF IRON WORK;

FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone. The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.

OIL, TURPENTINE, AND BRUSHES.

Prices, Patterns, and Testimonials sent upon application to

WALTER CARSON AND SONS,

(SUCCESSORS TO THE INVENTORS,)

9, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.

CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It not only removes Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable, such as purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c. as well as by use in the bath for promoting and maintaining personal purity.—Obtainable of all Chemists and Perfumers, in Bottles at 1s. 2s. or 4s. each; or per Gallon, 16s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE. Wholesale of the Patentee, Battersea, Surrey, S.W.

T. KENT'S PAINTING-BRUSH MANUFACTORY

Is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.

A'so Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES

are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

GRAINERS and the TRADE SUPPLIED

with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS, 30, LONDON WALL, E.C.

Where also may be obtained their

CELEBRATED PAINTS for EVERY DESCRIPTION of WOOD, Together with all kinds of Colours and Varnishes, Warranted of the purest quality and at the lowest prices. Agents for Kershaw's Graining Machines.

TO BUILDERS, HOUSE-PAINTERS, and DECORATORS.—PATENT EXTRACT of LETHICIUM.—For Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. in a few minutes, and for Cleaning and Restoring Old Paint. Success guaranteed. Price 5s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London. — Messrs. NARRIAKE & Co. 11, St. Andrew's-hill, Doctor's-commons, London, E.C.—N.B. Cheap patented Brushes for laying on the Extract, and removing the old paint, 2s. per pair.

GENUINE WHITE LEAD, branded and

warranted from the Manufacturers, 30s. per cwt; Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon; Turps, 5s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon. Hamilton's and Kent's Graners', Painters', and Plasterers' Brushes, to be had at D. J. FORTER'S White Lead and Colour Warehouse, Nos. 1 and 2, Pratt street, Camden Town, N.W.

COLOURS and VARNISHES at

REDUCED PRICES.—Genuine White Lead, 30s per cwt. Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 2d.; Turpentine, 8s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices

IMPORTANT to BUILDERS and

PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon.
Turpentine, 8s. 4d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARDS' Colour and Varnish Warehouse, 30, Upper Ebury-street, and 45, Colesbill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES

(C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.

PAINTING BRUSH MAKERS,

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

And of their Agents,

SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

PATENT GRAINING APPARATUS.—

TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared),	11s. 6d. per square.	Laths,	28s. per load.
Yellow Deals, sound and good	£9 10 0 per 120,	or	0s. 3½d. per foot.
Spruce Deals	16 10 0 „		0 2½ „
Yellow Battens, excellent quality	11 10 0 „		0 2 „
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 „		3 6 „
Seasoned Mahogany, Plank and Board, 6d. per foot.	A very large Stock, ready sawn and seasoned.		

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1¼-inch „	—	18s. 0d.	19s. 0d. „

Yellow Deals, 3 by 9 ..... £9 10s. per 120.
Yellow Battens ..... £11 10s. „
Spruce Deals ..... £16 10s. „

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. „
⅜-Inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
20,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
30,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
25,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER. & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

0, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON,

begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first class goods at the lowest possible scale of prices—for cash

Sash es and Frames, Boxing Shutters, Doors Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Wrought Iron Fittings, Glass Show Cases, &c

Green-houses, Hot-houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



GREATER REDUCTIONS.—

Yellow Deals, from 3s. 3d.; Spruce, from 2s. 8d.; Pine Planks, from 2s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of

PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to

inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,

20,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, and BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT

combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and all other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.
Agent in Liverpool—JOHN MCKENZIE, 49, Seel-street.
Do. do. Manchester—THOMAS OAKDEN.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMENT WORKS,

Northfleet, Kent.
Messrs. ROBINS & CO.

To whom the Prize Medal was awarded in 1851, with much pleasure announce that they have completed the enlargement of their works in order to meet the great increasing demand for their cement, and are now prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works.

PATENT PORTLAND and ROMAN CEMENT,

AND PLASTER OF PARIS WORKS,
FRINDSBURY, on the MEDWAY, KENT, and
CANAL ROAD, KINGSLAND ROAD, N.
MESSRS. FREEN & CO.

Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER of PARIS, in any quantity, fresh from the kilns. Orders addressed to their LONDON WORKS, Canal road, Kingsland, N. will meet with prompt attention

PORTLAND CEMENT.

GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N.

GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT

STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard street.

PARIAN CEMENT for INSIDE WORK.

With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

DURABILITY of GUTTA PERCHA

TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company may have pleasure in giving publicity to the following letter from SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Penuant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Panelled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order

Post-office Orders payable at Vauxhall or Edgeware-road.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS:
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c,
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast to be Yard or Barge, and Building Materials generally
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TA'HAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above in lump or ground, packed in bags, into waggons, at the Holywell station of the London and Holyhead Railway, or on board vessels at Greenfield Wharf Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parc's Mine Works, Holywell, Flintshire
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference

IMPORTANT to BUILDERS and USERS of PORTLAND CEMENT.
"BENNETT'S INDURATING and QUICKENING SOLUTION for PORTLAND and OTHER CEMENTS," recently patented, obviates, as its name implies, the defects frequently found attached to cements, and particularly against Portland cement, of its setting sufficiently quick to work well, and thereby causing delay and expense. In works where rapidity in setting, hardness, and sharpness of outline are desirable, the use of this solution is strongly recommended, and will prevent all disagreeable and expensive results. It is sold in stone quart bottles, price 2s each, with printed directions for use, and can be obtained only of
F. & G. ROSHER,
CEMENT, BRICK, and LIME MERCHANTS (Sole Agents for its sale), at their Wharves, as under.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Wherein can be obtained, of the best quality:—
GREYSTONE CHALK, FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS
BLACK Bells and BLACK GLAZED HEADERS
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, the BEST IN USE
PLAIN AND ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Lining of Baths, Larders, Dairies Shops, Kitchen Ranges, &c
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS
Goods forwarded per Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS, By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNERS.
The usual commission allowed to merchants of the trade from the monthly price lists.
N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety Plain Rolled, Capped, and Panelled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise,
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

GREY STONE LIME
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars Fleet-street, E.C. Sand from above or below Bridge, delivered by the yard or per barge. Bricks and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms. PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

KEENE'S and PARIAN CEMENT for internal uses.—These well known hard Stuccoes dry quickly and can be painted up with in a few days
Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank street, Westminster.

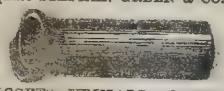
ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

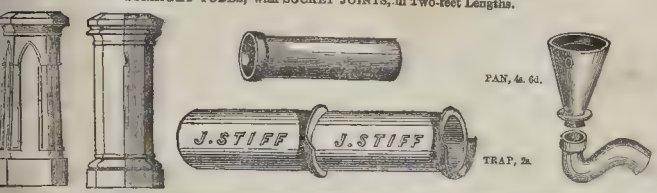
M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

IMPERIAL POTTERIES, LAMBETH.
JOHN CLIFF & CO.
(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED  SANITARY GOODS.

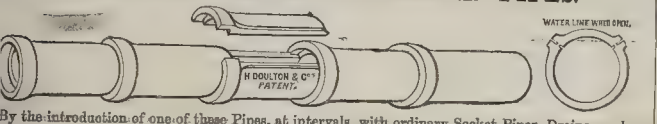
FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

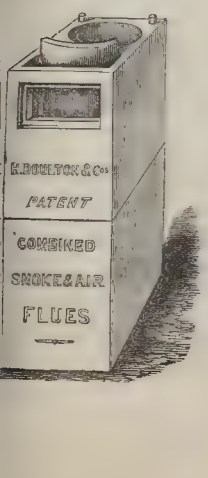


HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.
May be had also at the following Wharfs, viz.:—
Messrs. GLAUDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & COS. City-road Wharf, City Basin
Messrs COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenw..h.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. GEORGE ALLEN'S, Denver's Wharf, Chelsea.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed.
The Cover, being fired in one piece with the Pipe, fits perfectly.
There are no imperfect joints, or complication of parts.
Manufactured by HENRY DOULTON & CO. LAMBETH.
MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.



HENRY DOULTON AND CO.'S
PATENT COMBINED SMOKE AND AIR FLUES.

BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

The air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

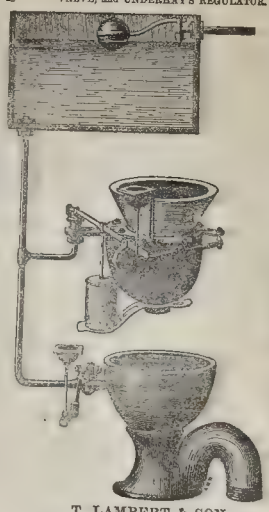
Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

Manufactured in terra cotta for smoke-flues equal to 12 in. 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

Small models will be forwarded to architects on application to
Henry Doulton & Co. High-street, Lambeth.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY-FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

FERGUSLIE FIRE CLAY WORKS
PAISLEY.



PATENT GLAZED SEWER-PIPES, according to Jenning's Patent and the GLAZED SEWER-PIPES with SOCKET JOINTS. Also all articles made of Fire Clay. The Sewer-Pipes are in sizes from 2 inches up to 24 inches bore, and are of the most superior quality. Prices very moderate. The establisher, from the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be.
ROBERT BROWN.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA COTTA
An illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 51 Wharf, Macclesfield-street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 681, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 17s. 6d. per 1,000.
" 8-inch Pavings, at 37s. 6d. per 1,000.
" Kiln Bricks, at 35s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7?s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

CROGGON and COMPANY,
Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, PAVEMENT, SHEATHING, and INODOROUS FELT,
For Damp Walls and Lining Iron Houses
2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

SALES BY AUCTION.

PUTNEY.—BUILDING MATERIALS of the Mansion, Lime Grove Estate.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, near the Railway station, Putney, on MONDAY, MAY 12th and following day, at TWELVE for ONE precisely, each day, the valuable MATERIALS and FITTINGS-UP of the MANSION and OFFICES; comprising 30,000 capital bricks, 8 squares of slates, large quantity of plain and pan tiles, 150 squares of flooring, excellent oak and fir timber, roofs, joists, and girders; oak staircase, 50 squares of York, Portland, pebble, and clinker paving; 400 feet of Portland coping, 20 pairs of plate-glass sashes, 90 panelled and other doors, four carved stanley chimney-pieces, several other chimney-pieces and stoves, kitchen-range, four coppers and laundry fittings, the fittings-up of a brew-house, about 80 cwt. of lead, copper, &c. back lined with lead, force-pumps, &c.; yard and coach-house gates, stable fittings, 30 tons of lead, and other effects. — May be viewed, and catalogues had of Messrs. BAXTER, ROSE, & CO. 6, Victoria-street, Westminster; of GEORGE POWNALL, Esq. Architect, 60, Lincoln's-inn fields; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

GREENWICH HOSPITAL.—Materials of Buildings and Boundary Wall adjoining the School.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Greenwich Hospital to SELL by AUCTION, on the PREMISES, near the school buildings, on MONDAY, MAY 19th, at ELEVEN for TWELVE, the MATERIALS and FITTINGS-UP of a School-room, Lavatories, and other Buildings; also the Boundary-wall and Iron Railing next the Woolwich-road; comprising about 200 000 sound stock bricks, lead gutters, ridges, cisterns and pipes, sound timber in roofs, slates and slating-boards, slate fittings of urinals; iron screen, 25 feet long by 4 feet 6 inches; glazed sashes and doors, 12,000 feet of stone coping, 250 feet of iron railing, large quantity of York and granite paving, copper, sundry lots of waste materials, and other effects.—May be viewed on Saturday previous, and catalogues had at Mr. HARDWICK'S Office, 21, Cavendish-square; at the Office of the Inspector of Works, Greenwich Hospital; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City, E.C.

19, MILLBANK-STREET.—To SCULPTORS, MASONS, BUILDERS and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Mr. John Udny, Agent for Count N. Lazzoni & Son, to SELL by AUCTION, at the MARBLE WHARF, 19, Millbank-street, Westminster, in the course of the present month, a large assortment of MARBLE, in block and slab; comprising statuary, veined, Sicilian, dove, and other coloured varieties; also two Sicilian Monuments, Marble Fountain, Mortars, Chimney-pieces, &c.

40, Parliament street, Westminster, and 80, Fore-street, E.C.

IMPORTANT SALE of OAK TIMBER.—Bedford Purlieus, near Wansford, Northamptonshire.—TO NAVY CONTRACTORS, SHIPBUILDERS, CONTRACTORS, BUILDERS, WHEELWRIGHTS, and OTHERS. To be SOLD by AUCTION, by

MESSRS. RICHARDSON, on THURSDAY, the 15th day of MAY, 1862, at the MERMAID INN, in Wansford, 129 very superior OAK TIMBER TREES, of exceedingly large dimensions, and of unusable quality, in 5 lots, now standing in Cocker Wood, blazed and numbered with white paint. Catalogues of the above may be had of the Auctioneers, Stamford; of Mr. WILDE, Solicitor, Peterborough; and at the Place of Sale. Woodmen will be constantly in attendance up to the date of sale to assist parties viewing the same. Rail or Purlieus road, and to good roads, and is within a very short distance of railway and water communication for any parts of the kingdom. The sale will commence at ONE o'clock.

Auction Offices, Barn-hall, Stamford, April 22, 1862.

Valuable Brick and Mine Plant, Machinery, and Lease, at West Bromwich, close to the Albion Station, and adjoining the Birmingham Canal.—To be SOLD by AUCTION, by

FALLOWS & SMITH, at the HEN and CHICKENS HOTEL, in New-street, Birmingham, on MONDAY, MAY the 19th, 1862, at FIVE o'clock in the afternoon, subject to conditions then to be produced, the very valuable LEASE of the BRICK MINE, situate and now being worked by Mr. Edward Goodall and held under Messrs. Williams, at a surface rent of 12*l.* and a royalty or two shillings per thousand, for twenty-one years, from 29th December, 1859, during which the first seven or Exploration Years. Also, the costly ERECTIONS on the land: comprising house, offices, stables, smiths' shops, stores, &c.; Engine-house, Pug-mill House, large Drying Sheds, and Kilns, built on the most modern principle, Black Hole, Railway to Canal, &c. with the very valuable MACHINERY comprising two 4-horse power high pressure steam-engines and boilers, all on heating and pulling clay to make bricks by machines, three pipe machines, expensive pug-mill and winding apparatus, and all other machinery for a perfect and complete brick yard, now in full and profitable operation. This is one of the best in South Staffordshire, and upwards of 20,000 have been expended on the buildings and machinery. Lots in such opportunity seldom presented to any one wishing to enter into business to realize a fortune in a short time.—Further particulars of Messrs. WEST & KING, Solicitors, 3, Charlotte-row, Mansion-house, London; or the Auctioneers, Temple-row, Birmingham.

East Ham, Essex, six miles and three quarters from the General Post-office.—Building Accommodation and Market-garden Ground.—For SALE by AUCTION, by

MESSRS. COBB, at the MART, London, on the 23rd day of MAY, 1862, at TWELVE o'clock, in Four Lots, FORTY NINE ACRES (valuable BUILDING and MARKET-GARDEN GROUND, with the FARM HOUSE and PREMISES, situate near East Ham and the Victoria Docks, about midway between the Plaistow and East Ham Railway Stations, having extensive frontages to the Romford and other roads, forming most eligible properties for accommodation and building purposes. The whole has a substratum of excellent gravel, easily to be worked by railway, roads, and river. Plans may be had at Michelmas next. Particulars, with plans and conditions of sale, may be had at the Mart; of Messrs. H. and G. LAKE & KENDALL, Solicitors, No. 10, New-square, Lincoln's-inn; and of Messrs. COBB, Surveyors and Land Agents, 26, Lincoln's-inn-fields, and Rochester, Kent.

NEAR STRATFORD, ESSEX.—Valuable Building and Accommodation Land, &c. for SALE by AUCTION, by

MESSRS. COBB, at the MART, London, on FRIDAY, MAY 23, 1862, at TWELVE o'clock, TEN LOTS of valuable FREEHOLD BUILDING LAND, situate at Stratford New Town, within the FARM HOUSE and PREMISES, late of the Stratford Railway Station and works, eligible for the erection of small houses, for which there is here a great demand; a piece of accommodation pasture land, containing 3a. 3r. 37p., adjoining the Eastern Counties Railway, near to the station, in the occupation of Mr. Shipston, but possession can be had at Michaelmas next; and a piece of meadow land, near Temple Mills, containing 2a. 2r. 1p., let to Mr. Meekin (with other land), at the apportioned rent of 30*l.* per annum, for seven years, from Michaelmas, 1862, next.—Particulars, with plans and conditions of sale, may be had at the Mart; the Castle and Essex Arms, Stratford; of Messrs. H. & G. LAKE & KENDALL, Solicitors, No. 10, New-square, Lincoln's-inn; and of Messrs. COBB, Surveyors and Land Agents, 26, Lincoln's-inn-fields, and Rochester, Kent.

KENT.—ROCHESTER.—To Barge Owners and Others.

MR. R. KIDWELL has received instructions to SELL by Auction, on TUESDAY, MAY 20th, 1862, at TWO for THREE o'clock in the afternoon, near the BATHS, Rochester, the following well-known SAILING BARGES, in three lots. Lot 1.—All that well-known Sailing-Barge the ANN, a Powder Lighter, in excellent condition, spirit-sail rigged, and carries about 70 tons. All her standing and running rigging, materials, and findings. Lot 2.—All that well-known Canal Sailing-Barge the CATHERINE, of Rochester, spirit-sail rigged, with a topping-up bowsprit, and carries about 93 tons, with all her standing and running rigging, materials, and findings. Lot 3.—All that well known New Canal Sailing-Barge the AGNES, of Rochester, spirit-sail rigged, with a top ping-up bowsprit, and carries about 100 tons, with all her standing and running rigging, materials and findings. The above craft will lie for inspection near the place of sale four days prior thereto, when particulars and conditions of sale, with an inventory of the materials, &c. may be had at the NEW INN, Maidstone; PRINCE OF ORANGE, Gravesend; BULL INN, Sittingbourne; and of the AUCTIONEER, Star Hill, Rochester.

CHARING CROSS RAILWAY.—Fifteenth Clearance Sale — Building Materials.—Second portion of the Hungerford Market.—To Builders, Contractors, Pavioners, and Others.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, the 16th of MAY, 1862, at ONE o'clock punctually, in lots the second portion of the very valuable and useful MATERIALS of the HUNGERFORD MARKET, consisting of a public-house, two long ranges of shops, with cellarage under the whole, and a range of stabling, comprising capital stock brickwork, Bangor slating, sound timber in roofs and floors, good flooring-boards, panelled and other doors, skylights, lead in pipes and gutters, a very large slate cistern, iron girders, a number of granite columns with caps and bases, quantity of granite and York paving, granite pitching, York landings, large turret bell and wheel, iron cranes, and a variety of useful fixtures and fittings up.—May be viewed the day previous to sale, and catalogues had of Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C., and West Molesey, Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices in the London bridge Terminus.

ADDISCOMBE, Croydon, Surrey. — Three substantial Freehold Family Residences and eligible Building Land.

MR. WHITTINGHAM is instructed TO SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on MONDAY, MAY the 12th, at TWELVE for ONE o'clock, in lots, the FIRST PORTION of the ADDISCOMBE COLLEGE ESTATE, lately the property of the Hon. East-India Company; consisting of two semi-detached substantial family residences in Addiscombe-road, and a convenient family residence in St. James's-road; also a PORTION of the eligible FREEHOLD BUILDING LAND between the Addiscombe and St. James's roads, situate within a few minutes' walk of the Croydon Railway Stations. Nine-tenths of the purchase-money may remain on mortgage or contract, at 5 per cent. to be paid in nine years, by equal half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained of Messrs. RUSSELL & DAVIES, Solicitors, 29, Coleman-street, London, E.C.; of the AUCTIONEER, 14, Moorgate-street, London, E.C. for whom cards to view may be obtained); on the estate; and at the place of sale.

Wanstead, Essex.—Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the George Inn, Wanstead, on TUESDAY, May 20, at Six for Seven, the remaining PORTION of the TYLNEY HALL ESTATE, consisting of 33 lots of Freehold Land, lying on the London-road, and also in the rear lane, within ten minutes' walk of the Snaresbrook Station on the Loughton Railway. Particulars, plans, and conditions of sale may be obtained of the Auctioneer, 14, Moorgate street, London, E.C.; at the Eagle, Snaresbrook; and at the place of sale.

BARNET, HERTS.—Two Pairs of Model Cottages and Building Land, in lots.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on THURSDAY, MAY 22, at TWELVE for ONE, TWO PAIRS of COTTAGES, erected after the model of the Central Cottage Improvement Society, close to the Barnet railway station; also eligible Building Land close to the station. The Metropolitan Railway, now being completed to Farringdon-street, is expected to be opened this year, and will give direct communication with the City. Nine-tenths of the purchase-money may remain on mortgage or contract, at 5 per cent. to be paid in nine years by instalments.—Particulars, plans, and conditions of sale may be obtained of Messrs. RUSSELL & DAVIES, No. 29, Coleman-street, London; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the place of sale.

TOTTENHAM, MIDDLESEX.—THREE SHOPS AND SEVERAL BUILDING LOTS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, on THURSDAY, MAY 22, at TWELVE for ONE, THREE SHOPS, No. 1, Tottenham High-street; and several lots of Building Land, in Chestnut and Somerset roads.—Particulars may be obtained of the Auctioneer, 14, Moorgate street, London, E.C.; and at the place of sale.

NEW MALDEN, Surrey.—TWO VILLA RESIDENCES and BUILDING LOTS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on THURSDAY, MAY 22, at TWELVE for ONE o'clock, TWO substantial semi-detached VILLA RESIDENCES, and fifteen lots of BUILDING LAND, situate close to the New Malden Station, on the London and South Western Railway, about two miles from the town of Kingston. A portion of the purchase money may remain on mortgage or contract, and to be paid by instalments.—Particulars, plans, and conditions of sale may be obtained about ten days before the sale, at the Inns in the neighbourhood; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the place of sale.

THE STATE PAPER OFFICE, ST. JAMES'S PARK.

MESSRS. GLASIER & SON are favoured with instructions from the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, on the Premises, on FRIDAY, MAY 16, 1862, and following day, at TWELVE for ONE, the VALUABLE BUILDING MATERIALS of the State Paper Office, St. James's Park: comprising about 10,000 cubic feet of very superior Portland stone in plain ashlar work, rusticated ditto architraves, cornices, coping, &c.; 1,000 feet of 6-inch Portland landings, 30 moulded Portland steps 4 feet 6 inches long, 100 plain ditto 5 feet 6 inches long; about 21,000 feet of York paving, about 600,000 capital stock bricks; upwards of 100 squares of excellent 1-inch and 1¼-inch battens and moulded deals, 20 panel doors, 52 pair of sashes and frames, wainscotting, sound timber in roofs, floors, &c.; useful cast-iron girders, wrought iron railings; about 15 tons of lead, kibbes, range, copings, cisterns, two cement statuary and Sienna marble chimney pieces and others, fixtures and fittings.—May be viewed day prior and mornings of sale, and catalogues had at the Office of Works, 12, Whitehall-place; of JAMES TOMS, Esq. 7, Whitehall yard; on the premises; at GARRAWAY'S; and of the Auctioneers, 41, Charing-cross, S.W.

BUCKINGHAMSHIRE.—Freehold Building and Accommodation Land, near the Town of Uxbridge, extending to near 41 Acres.

MR. H. MORTEN has instructions from the Trustees under the Will of the late Mr. John Lovett, to SELL by AUCTION, at the PUBLIC ROOMS, UXBRIDGE, on THURSDAY, MAY 22nd, 1862, at TWO for THREE o'clock, in lots, six acres of VALUABLE FREEHOLD MEADOW LAND, suitable for building purposes (having a gravelled road running through the entire length thereof, the frontages extending to near 2,000 feet, with carriage entrance from the turnpike road). Also Two Houses and large Barn. This portion of the property will be sold in one lot, should the bidding not reach the reserved price the Land will be put up in Building Plots, immediately after other lots. Twelve Acres of Freehold Meadow Land, the property of Mrs. Pemble, in the occupation of tenant from year to year, will be offered in three lots. Twenty Acres of Freehold Grazing Land, in the occupation of Mr. Phillips Powell, tenant from year to year, will be offered in one lot. The whole of this property is in the Parish of Denham, on the west side of the turnpike-road, about 200 yards after passing over the County Bridge, from the Town of Uxbridge.—Particulars, with conditions and plans annexed, may be obtained of Messrs. WOODBRIDGE & SONS, Solicitors, Uxbridge; at the Estates Gazette Office, 200, Fleet-street, E.C.; and at the Offices of the Auctioneer, London street, and Corn Exchange, Uxbridge, Middlesex.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 21st day of MAY, 1862, at ONE o'clock precisely. Lunch at Half-past Twelve o'clock. For account of Importers

7,500 Spruce Deals, and 1 Battens
7,000 Quebec Pine Deals
6,000 St. Petersburg Red Deals
Good quota Red Deals, Battens, and Boards
175 Gothenburg Whitewood Deals
150 Memel Redwood Deals
600 Loads Quebec Yellow Pine
25 Loads Quebec Red Pine
50 Loads Quebec Oak
400 Loads Danzig Red Timber
50 Loads Danzig Oak
50 Loads St. John Pine Timber
50 Loads Miramichi Hard Pine Timber
400 Loads Swedish Timber
1,000 Memel Pipe Staves
5m 4 to 6-inch } Fresh Christiania Spars, daily expected per
100 4-inch } "Sophie," from Christiania
150 Rickers
30 Fathoms Dane & St. Petersburg Hemlock Lathwood
5,000 Foreign Boards
50,000 Palings
50 Fathoms Firewood

* With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, May 6th, 1862.

TO BUILDERS AND OTHERS.

MESSRS. PARGUS will offer for SALE by Public AUCTION, at the COMMERCIAL SALE ROOM, BRISTOL, on THURSDAY, the 15th day of MAY, 1862, at ONE for TWO o'clock, unless previously disposed of by Private Contract, in ONE or more Lots as will be then produced, all these extensive and commodious PREMISES, consisting of TIMBER YARDS, WORKSHOPS, and OFFICES, situate in Barr's-street, Bristol, lately occupied many years by the late Mr. Samuel Bolton, Builder; also a SHOP and PREMISES, being No. 7 in Barr's-street, and a DWELLING HOUSE and GARDEN, being No. 3, St. James's-square, both adjoining. The premises comprise excellent steam Engine and other machinery ready for immediate use by builders and carpenters business, which, together with the other Fixtures and Stock in trade, may be taken at a valuation by the purchaser, who would have an opportunity, rarely to be met with, of succeeding to an established connexion. Immediate possession of all the premises, except No. 7, Barr's-street, may be had if required. A portion of the purchase money may, if desired, remain on mortgage. For further particulars apply to the Auctioneers, No. 4, Clare-street, or to Messrs DAVIS & TEY, Shannon-court, Bristol.

NEAR THE CRYSTAL PALACE.—TO BUILDERS AND OTHERS.—UNFINISHED DETACHED RESIDENCE; ALSO A CARCASS.

MR. C. WARTON is directed to SELL by AUCTION, at the MART, on FRIDAY, MAY 16, at TWELVE, in Two Lots.—Lot 1, a substantial brick and timber built detached unfinished RESIDENCE, situate in Anerley-grove, planned for six bedrooms, drawing and dining rooms, hall, breakfast room, kitchen, scullery, larder, &c.; standing on a plot, 60 feet frontage by a similar depth, requiring only a moderate outlay to finish and let for 80*l.* per annum, holden for 99 years, at 12*l.* 12*s.* per annum. Lot 2, a half Carcase of a similar residence, nearly opposite, held by agreement for lease, for 99 years, at 12*l.* per annum, at 1*l.* 4*s.* May be seen upon application to Mr. HIGGS, at Tower Villa, contiguous; and particulars had of him, and at the Paxton Arms; of Messrs. C. HOLT & SON, Solicitors, 19, Guilford-street; at the Mart; and of Mr. C. WARTON, 7, Union-court, Old Broad-street.

HASTINGS.—Freehold Estate of about 30 acres, within half-a-mile of Hastings, on the old London road, commanding beautiful views of the surrounding scenery, in lots of 100 and three acres each, land-tax redeemed.

MESSRS. FOSTER are directed by the Trustees of the late John Symmons, Esq. TO SELL by AUCTION, at the CASTLE HOTEL, Hastings, on SATURDAY, MAY 31, at ONE for TWO precisely, a valuable FREEHOLD ESTATE, in the parish of Hastings, Sussex, half a mile from the town, on the line of the old London road, near to the spot where the Fairlight-road branches off from it. The whole Estate will be put up to Sale in one lot, but if a purchaser should not present himself, the property then will be put up in a number of lots materially varying in two to three acres each. The situation is singularly beautiful, the lands boldly undulating, and the lots arranged, taking advantage of the natural beauty of the county, so that each lot will form a desirable detached and compact property, and will be found most eligible for the erection of residences. Placed in a most romantic and picturesque neighbourhood, it is believed this Estate presents all the great points looked for in building sites: extensive and varied scenery, undulating lands, excellent soil, stone for building, healthful climate, and good water. This property, and also the estates of the Countess of Waldegrave.—Lots of the plans are in the press, and will be ready twenty days before the sale, and may be had at the CASTLE HOTEL, Hastings; of Mr. T. M. RICKMAN, Architect and Surveyor, 23, King-street, Bedford-square, London; of Messrs. REECE, WILKINS, & BLYTH, 10, St. Swithin's-lane, London; and of Messrs. FOSTER, 54, Pall-Mall.

TO BUILDERS and TIMBER MERCHANTS.—TO BE DISPOSED OF, an old established COUNTRY BUSINESS of a BUILDER and TIMBER MERCHANT, offering an excellent opportunity to any one possessed of moderate capital, as the connexion is highly respectable. Premises commodious, and rent moderate. Situate sixty miles from London, with direct railway and canal communication. For further particulars apply to Mr. GEORGE BENNETT, Auctioneer and Estate Agent, Buckingham.

BRICKFIELD, KILN, DRYING-SHEDS, &c.—TO BE DISPOSED OF, a very Compact CONCERN, fitted with steam engine and machinery of the most approved description. The clay is very superior, and unlimited, and produces first class red bricks, tiles, pipes, and other kiln-burnt goods, for all which there is a good demand in the locality. A practical acquaintance with the business is unnecessary, as arrangements can be made with the present manager of the works, who is usually engaged as foreman. For particulars, apply to Messrs. EDWARDS & JAMES, 18, King-street, Cheapside, E.C.

TO MASONS and OTHERS.—TO BE DISPOSED OF, with immediate possession, the old established BUSINESS of STONE and MARBLE MASON, lately carried on by Mr. Malcholm, at Maldon, Essex. Coming in, including the stock-in-trade, implements, cart, trucks, &c. about 100*l.* The premises can be had at a low rent, consisting of yard, garden, comfortable house, sheds, &c. and with or without a substantially brick-built and slated granary, of three floors, about 84 feet long, 24 feet wide, and are situated on the bank of the river, and near the Railway station.—Apply to J. CLUCK, Esq. Solicitor, Maldon; or JAS. H. WRAY, Mason, Chelmsford.

TO STONE and MARBLE MASONS.—TO BE DISPOSED OF, the STOCK-IN-TRADE and GOODWILL of a MARBLE and CHIMNEY-PIECE BUSINESS, in the neighbourhood of Leamington. There are polishing tables and sawing machinery on the premises, which are conveniently situated by the side of the Great Western and London and North Western Railways. No objection to a partner with capital.—Apply to JAMES CRAMP, 23, Warwick-street, Leamington.

TO BUILDERS AND CONTRACTORS.—TO BE SOLD, a great bargain, the nearly new GRANITE STONE ASHLING of the TWO PUBLIC HOUSES now being pulled down in Hungerford market, adjoining the Suspension Bridge.—Inquire of T. JOYCE, on the premises; or of Messrs. CLOAKE & SON, Great Dover-street, Borough.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No 1, York street in the Parish of St. Paul, Covent-garden both in the County of Middlesex.—Saturday, May 10, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XX.—No. 1006. MAY 17, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

The Palace of Art and Industry. View looking West 337
Egyptian Toys 350

CONTENTS.

The Palace of Art and Industry 341
Architecture at the Royal Academy 342
An Artist's Gossip on the International Exhibition 343
Memorials of Architects 345
On the Life of Welby Pugin 345
Customary Charges of Architects 347
The Reclamation of Land from Seas and Estuaries: Institution of Civil Engineers 347
Plaster Decorations, Railway Terminus Hotel, London Bridge 348
The Social Science Congress 348
Proposed Albert Memorials 348
Closure Orders, Liverpool Architectural Society 349
Egyptian Toys 350
The Government Grant for Art-Education 353
The English School of Painting 353
The Dalhousie Institute Competition, Calcutta 354
Local Museums 354
Stewkley Church 354
The Architectural Association 355
The Glasgow Association of Scotland 355
Leicester Fountain in the Regent's Park 355
Provincial News 355
School Building News 356
Church Building News 356
Competitions 356
Badly Built Houses 357
Birmingham Free Library Competition 357
Books received: Bradley on Geometrical Drawing (Chapman & Hall); Timber-merchants' and Builders' Guides; Jerrold on Industrial Exhibitions (Kent & Co.) 357
Miscellanea 357

ARTISTS' BENEVOLENT FUND, for the Relief of their Widows and Orphans. Established 1810. Incorporated by Royal Charter 1827.

Patron—Her Most Gracious Majesty the QUEEN.

The ANNIVERSARY DINNER will take place in Freemasons'-hall, on Saturday, the 31st May, 1862

The Right Hon. Lord ASHBURTON, President, in the chair.

Tickets (1l. 1s.) may be obtained of the Board of Stewards: Charles J. Richmond, Esq., Hon. Secretary, Augustus C. Thiselton, Secretary, No. 16 A, Great Queen-street, Lincoln's-inn-fields; and at the Freemasons' Tavern.

Donations and annual subscriptions forwarded to the Secretary will be duly announced at the Anniversary Dinner previous to the list of contributors being published.

Since the formation of the Fund the sum of £3 894 7s 3d has been distributed among the widows and orphans of British artists: 52 widows have during the year 1861 received annuities amounting to £771. 10s. and 16 orphans the sum of £31. 0s.

ROYAL HORTICULTURAL SOCIETY'S FIRST GREAT SHOW, Wednesday, May 21, at South Kensington. Open at One o'clock. Bands commence at Four o'clock. Admission, 7s. 6d. each, or by tickets previously purchased, 5s. each, at the Garden, and of the principal Librarians, Music-sellers, &c. Should the weather be wet, visitors can pass under cover from the Exhibition or Garden entrances to the Show.

THE NEW SOCIETY of PAINTERS in WATER COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall-mall, near St. James's Palace. Admission, 1s.; Catalogue, 6d. Season Ticket, 5s. JAMES FAHEY, Secretary.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.—SESSION, 1862.—On TUESDAY next, at EIGHT p.m. precisely, a LECTURE will be delivered, in the Theatre, "On Ecclesiastical Architecture in Georgia and Armenia," by the Rev. GEORGE WILLIAMS, B.D.

A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Secretary.

(13, Stratford-place, W. of whom cards may be had by letter)

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent street, NOW OPEN, from Nine till Six. Admission 1s. Half-crown season tickets admit at all times to the Exhibition to the west gallery containing the entire collection of drawings and sketches by the late A. Welby Pugin, and to all the lectures. Third Lecture, TUESDAY, May 20, at Eight o'clock p.m. On Pagan Architecture," by W. BURGES, Esq.

JAMES FERGUSSON, F.R.A.S.
JAMES EDMESTON, F.R.I.B.A. } Hon. Secs.

ARCHITECTURAL ALLIANCE.—The Architectural Institute of Scotland, and the Architectural Association of Birmingham, Glasgow, London, Liverpool, Manchester, and the "Northern Architectural Association," having provisionally entered into an Alliance for mutual assistance and co-operation, and their aim being to embrace in the Alliance Associations representing every county or district of the United Kingdom, other professional associations are cordially invited to join. It is proposed to hold a Conference of Delegates in London, on TUESDAY, JULY, 1st, for the purpose of settling the details of the scheme. Meanwhile, the "Outline Scheme," as provisionally agreed to, will be sent to any Association disposed to join, or to any architect wishful to organize a branch Association in his locality. All communications to be addressed, for the present, to Mr. J. P. PRITCHETT, Architect, Northgate House, Darlington.

May 6, 1862.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION, to procure and issue to subscribers Photographs of subjects strictly illustrative of Architecture and of its subsidiary Arts.—Subscriptions to be paid to Mr. HENRY MOODY, 9, Conduit-Street, Regent-street, from whom particulars may be obtained.

W. LIGHTLY, Hon. Sec.

ARCHITECTURAL PUBLICATION SOCIETY.—The Annual General Meeting will be held at 9, Conduit street, Hanover-square, on the EVENING of MONDAY, MAY 26th. The chair will be taken by WILLIAM TITE, Esq. M.P. &c. at Half-past Eight p.m. precisely.

ARTHUR CATES, Hon. Sec.

COMPETITIONS.

COMPLETION of LEAMINGTON PARISH CHURCH.—To ARCHITECTS.—The Committee are prepared to receive PLANS and ESTIMATES, in Sections, for the Completion of the Parish Church of Leamington. The nave, the chancel, and the north transept being already built, it is intended to proceed to erect the remaining portions of the work in sections. Architects are invited to send in plans and estimates, in sections, for erecting the south transept, the vestry, the lantern tower, and the bell tower; which it is intended to build in strict harmony with the architectural style of those portions of the church now erected. Increased accommodation in the church is most desirable. A premium of 20l. will be given for the best set of plans and estimates in the opinion of the Committee, which must be sent, sealed and under motto, to Mr. G. ROGERS, Newbold street, Leamington, on or before the 21st of JUNE, 1862, of whom all further particulars may be obtained.—By order of the Committee,

Leamington, 1st May, 1862. GEO. ROGERS, Hon. Secretary.

NEW WORKHOUSE FOR CARLISLE UNION.—TO ARCHITECTS and BUILDERS.—The Guardians of this Union hereby offer a PREMIUM of FIFTY POUNDS, to be paid for the set of Plans approved by them, and the Poor Law Board, for a New Workhouse, capable of accommodating 300 adult inmates, and designed in such a manner as to allow of enlargement, without interfering with the uniformity of the external appearance. The site for the erection of the said workhouse, is situated at Tuesehill, on the east side of Carlisle. All plans to be sent to me sealed, on or before the 23rd of JUNE next. Further particulars may be obtained on application at my office, 7, Fratery-court.

G. MOUNSEY, Clerk to the Union.

8th May, 1862.

LEAMINGTON CHURCH COMPETITION.—Shortly will be published, ELEVATIONS, PLANS, &c. of the CHURCH, from actual measurement, with various memoranda that may be required by Competitors.—Apply to Mr. F. T. DOLLMAN, 10, Buckingham-street, Adelphi, W.C.

CONTRACTS.

PERSONS desirous of CONTRACTING for the REPAIRS and RE-SEATING of the Parish Church of Bringhurst, in the County of Leicester, may see the Plans and Specifications by applying to Mr. SAMUEL WARTON, Bringhurst, on and after Monday the 19th inst. Tenders to be delivered at the Office of the Architect, EWAN CHRISTIAN, Esq. 8a, Whitehall place, London, S.W. on or before May 31st next. The Committee do not bind themselves to accept the lowest tender.

TO BUILDERS.—TO BE LET, the WHOLE of the WORKS required in the ERECTION of PUBLIC BATHS, proposed to be built in St. Mary's Place, Bury.—Plans and specifications may be seen, and printed copies of the quantities obtained, at my office, 2, Haymarket-street, Bury, on and after Monday the 19th of MAY. Tenders to be delivered not later than TUESDAY, the 3rd of JUNE, endorsed "Tender for Public Baths."—The Commissioners do not bind themselves to accept the lowest or any Tender.

JAMES MAXWELL, Architect.

TO ENGINEERS.—The Improvement Commissioners of the town of Bury are prepared to receive TENDERS for the FITTING-UP the proposed PUBLIC BATHS with all the necessary apparatus required in heating the same.—Plans and specification may be seen, and printed copies of the quantities obtained, by application to the office of the undersigned, on and after WEDNESDAY, the 21st day of MAY.—Tenders to be sent in not later than TUESDAY, the 3rd day of JUNE, but the Commissioners do not bind themselves to accept the lowest or any Tender.

2, Haymarket-street, Bury. JAMES MAXWELL, Architect.

PARISH OF SAINT MARY ABBOTT'S, KENSINGTON, IN THE COUNTY OF MIDDLESEX.—TO BUILDERS, PAINTERS, and OTHERS.—TENDERS are invited by the Vestry of the said Parish for sundry REPAIRS and PAINTERS' WORK proposed to be done to the Vestry Hall, High street, Kensington. Specification of Works may be seen, and all particulars obtained on application to Mr. JAMES BROADBRIDGE, Surveyor, at his office, Vestry Hall aforesaid, between the hours of TEN and FOUR o'clock daily. Tenders to be sealed and endorsed "Tender for Repairs," and to be delivered at my office, by or before FOUR o'clock in the afternoon of FRIDAY, the 6th of JUNE, 1862 when the Works, Buildings, and Country Committee of the said Vestry will take the matter into consideration. The Works are to be carried out in the month of August next. The Vestry do not bind themselves to accept the lowest or any Tender. By order,

REUBEN GREEN, Clerk of the Vestry

Clerk's Department, Vestry Hall, Kensington, May 14, 1862.

TO BUILDERS.—Parties wishing to TENDER for the ERECTION of a CATHOLIC CHAPEL and HOUSE, at Littlehampton, may see the plans from MAY 14th to JUNE 2nd, and obtain all the necessary information, by applying to Mr. ANDREW PEARSON, at Arundel Castle; or Mr. M. E. HADFIELD, Architect, Sheffield.

CONTRACTS.

COAST GUARD CONTRACT.—Notice to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at HAYLING BRIDGE, near Havant, in the county of Hants, may inspect the Drawings and specification at the COAST GUARD STATION, Hayling Bridge; or at the Office, between the hours of TEN and FOUR, from TUESDAY, the 20th instant, to SATURDAY, the 31st instant, now next ensuing, and both inclusive (Sunday excepted).

Tenders to be sent to the Office not later than TWELVE o'clock at NOON of the 2nd day of JUNE, under seal, and directed to the COMMODORE COMPTROLLER GENERAL of COAST GUARD, and endorsed "Tender for Hayling Bridge Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 13th day of May, 1862, at the

Admiralty Coast Guard Office,
12, Spring gardens, London, S.W.

WAR DEPARTMENT CONTRACT.—To BUILDERS and CONTRACTORS.—TENDERS are required for PAINTING, EXTERNALLY, the CAVALRY BARRACKS, Aldershot, in the county of Hants.

Parties desirous of Tendering for this work may obtain copies of the specification, conditions of contract, and forms of Tender, at this office, up to WEDNESDAY, the 28th instant.

The Tenders to be addressed, under cover, to the Director of Contracts, War Office, Pall-mall, London, S.W. endorsed in the left hand corner, "Tender for Painting at Aldershot," and delivered NEW by 4 o'clock p.m. on MONDAY, 2nd JUNE proximo.

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Aldershot, May 12, 1862.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required for RENEWING the SLATING and LEAD GUTTERS of the Soldiers' Barracks, Eight Wing, Royal Artillery Barracks, Woolwich, by the 30th June next.

Parties desiring to Tender for the execution of these works must leave their names at this Office on or before the 26th day of JUNE, 1862, and pay the sum of 7s. 6d. for the Building Prices, which sum will be refunded to the unsuccessful competitors on their returning the schedules.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, May 12, 1862.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a NEW CHAPEL and VESTRIES on the site of the present Wesleyan Chapel, Great Queen Street, Long Acre, may obtain particulars at the Offices of the Architects, Messrs. W. G. HABERSHON & PITE, 38, Bloomsbury square, London, and Park square, Newport, Monmouth; and Belvedere, Tredegarville, Cardiff. The lowest or any Tender will not necessarily be accepted.

TO HOTEL PROPRIETORS, BUILDERS, JOINT-STOCK COMPANIES, and OTHERS.—The Directors of the Charing Cross Railway Company are prepared to receive TENDERS for a SITE, measuring about 150 feet by 60 feet, adapted for the erection of a first-class HOTEL, over their terminus at Charing Cross.—Public notice was held on application to the Secretary of the Charing Cross Railway Company, at the Latter's Cottage Station, from and after MONDAY, the 21st instant, and sealed Tenders to be sent in to the Secretary, on or before TUESDAY, the 24th day of MAY next.

S. SMILES, Secretary.

Railway Terminus, London-bridge, April 16, 1862.

ISLE of THANET UNION.—To Builders, Contractors, &c.—The Guardians of the above-named Union hereby give notice that on WEDNESDAY, the 21st day of MAY, at 2 the will be prepared to receive sealed TENDERS (not later than FIVE o'clock p.m.) for the ERECTION of a NEW INFIRMARY, Fever Wards, Office Buildings, a Chapel, Fence Walls, &c. in connection with the present Workhouse, situate at Minster, near Ramsgate, Thanet, Kent. Plans and specifications of the proposed works may be inspected at the Office of Mr. EDWARDS, the Warden of the Workhouse, on and after the 9th inst. at which place the required forms of Tender may be obtained on payment of 5s. The Tenders are not to be addressed to the Chairman of the Board, but to be compounded by the name of two responsible persons, who will enter into the Contractor in the usual bond for the due and faithful performance of the terms of his contract. They will be opened on THURSDAY, the 22nd of MAY, and the person whose Tender is accepted will then be informed of the same, and will be required to attend at the next meeting of the Board, with his sureties, to execute the agreement bond. The Guardians reserve to themselves the right of rejecting the lowest and every other Tender.—By order of the Board,

Minster, May 3, 1862. EDWARD WOOTTON, Clerk.

COUNTY of NORFOLK.—THORPE ASYLUM.—BUILDERS desirous of CONTRACTING for the ERECTION of MALE and FEMALE INFECTIOUS WARDS at the above Asylum, and also for Building FOUR WORKMEN'S COTTAGES and Pair of Lodges thereat, may see the plans and specifications at my Office, King's Arms-street, Norwich, from MONDAY, the 5th, to SATURDAY, the 24th inst., and

Parties willing to TENDER for PAINTING the whole of the outside wood and ironwork of the said Asylum, may see the specification for the latter at the same dates, at the same Office.

All Tenders are to be sent to F. J. BLAKE, Esq., Treasurer and Clerk to the Committee of Visitors, King's-street, Norwich, on or before SATURDAY, the 24th inst. They are to be sealed and separately endorsed, one, "Tender for Infectious Wards," "Tender for Workmen's Cottages," and "Tender for Painting," as the case may be."

The Visiting Justices do not bind themselves to accept the lowest Tender.

E. M. PHIPSON, Architect,
Norwich, 1st May, 1862. County Surveyor of Norfolk.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO BUILDERS.—NEW WAREHOUSES at WIGAN.—The Directors of the London and North-Western Railway invite TENDERS for the CONSTRUCTION of NEW WAREHOUSES at WIGAN.—Plans, specifications, and particulars may be seen in application to the Company's Engineer, at Lancaster, on and after the 26th instant.
May 14th, 1862.

TO BUILDERS.—BIRKENHEAD CEMETERY.—The Birkenhead Improvement Commissioners, as the Burial Board for their district, are prepared to receive TENDERS for the ERECTION of THREE CHAPELS, REGISTRAR'S HOUSE, GATE LODGE, ENTRANCE and BOUNDARY WALLS, for the CEMETERY at Hayfield Hill, Birkenhead. Plans, specification, and form of Tender can be seen at the Commissioners' Offices, 55, Hamilton-square, on and after MONDAY, the 12th MAY next, and further particulars obtained of the Architects, Messrs. LUCY & LITTLER, Tenancies, near Birkenhead. Tenders in sealed covers, endorsed "Tender for Cemetery Buildings," and addressed to the Chairman of the Cemetery Committee, are to be delivered at the Commissioners' Offices, on or before the 26th inst. The Board will not be bound to accept the lowest or any of the Tenders.—By order,
AMBROSE WALN, Clerk of the Commissioners.
Commissioners' Offices, 55, Hamilton-square, Birkenhead,
7th May, 1862

BOROUGH OF NOTTINGHAM.—To CONTRACTORS.—The Highway Committee of the Council of this Borough are prepared to receive TENDERS from competent Contractors for the Construction and carrying out of a LOW LEVEL RIVER LEEN CULVERT, and INTERCEPTING SEWER, from the Cork Hole to Finkhill street, near the Waterworks Weir. Plans and specifications may be seen, and forms of Tender obtained on and after MAY 16th, at my offices, where tenders will be received up to TWELVE o'clock, noon, on MONDAY, May 26th. Security will be required for the due performance of the contract, but no pledge is given that the lowest or any Tender will be accepted.—By order,
Public Offices, M. O. TARBOTTON, C.E.
St. Peter's Church Side, Nottingham, Corporation Surveyor.
May 8th, 1862.

GREAT GRIMSBY LOCAL BOARD of HEALTH.—To DRAIN PIPE MANUFACTURERS, STONE MERCHANTS, MASONS, and EXCAVATORS.—WORKS of DRAINAGE and STREET IMPROVEMENTS, 1862.—TENDERS are invited by the Corporation of the Borough of Grimsby, in the county of Lincoln, as Local Board of Health of the said borough, for the EXECUTION of the following WORKS, viz.:—
CONTRACT, No. 1. WORKS of DRAINAGE.—For the formation of 4,000 yards lineal of glazed pipe-drains, from 8 to 18 inches diameter, with outfall sluice, penstock, and other appliances
CONTRACT, No. 2. WORKS of STREET IMPROVEMENT: comprising about 1,300 yards super of Yorkshire stone flagging, and 14,500 yards lineal of curbing to footways; 17,850 yards lineal of flagging, and dwarf curbing to channels, and 425 yards super of pitching to crossings
Plans, sections, and specifications of these works, with the conditions of contract and forms of Tender, may now be seen and obtained, on payment for the same, at the Office of Mr. JOSEPH MAUGHAN, Surveyor to the Local Board of Health, in Haven-street, Grimsby, during business hours, until SATURDAY, the 31st of MAY instant, on which day Tenders for either or both of the Contracts must be delivered at the Office of the Clerk, to the said Local Board, before FOUR o'clock in the afternoon. Neither the lowest nor any other Tenders submitted, will necessarily be accepted.—By order,
W. GRANGE, Clerk to the Great Grimsby Local Board
Grimsby, May 13, 1862. of Health

METROPOLITAN BOARD of WORKS.—MAIN DRAINAGE of METROPOLIS SOUTHERN OUTFALL WORKS, CROSSNESS.—To BUILDERS, CONTRACTORS, and Others.—The Metropolitan Board of Works hereby give NOTICE that they will meet at the Office of the Board, Spring gardens, on FRIDAY, the 4th day of JULY next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of ENGINE-HOUSES, a Boiler-House, Chimney, Pump-casks, Coalsheds, Dwelling-houses, Wharf-Wall, Sewers, and other Works in connexion therewith, at Crossness, in the parish of Erith, in the county of Kent.
Parties desiring to obtain Tenders, may, upon payment of 21s., obtain plans, sections, specification, Form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring gardens, between the hours of NINE a.m. and FOUR p.m. or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 3rd JULY next. Half the amount will be refunded to each of the unsuccessful parties who return the drawings within one week after the day appointed for opening the Tenders.
The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office, before FOUR o'clock, on THURSDAY, the 3rd day of JULY next; and no Tender will be received after that hour.
The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders.
The Board do not bind themselves to accept the lowest, or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.
JOHN POLLARD, Clerk of the Board.
Spring-gardens, S W. 8th May, 1862.

TO BUILDERS, &c.—NEW CHURCH, Sittingbourne, Kent.—Persons desirous of CONTRACTING for the ERECTION of the above, can see the plans and specifications at my office, after WEDNESDAY next, the 21st instant. Tenders are to be delivered to Mr. T. SMITH, Rose-place, Sittingbourne, on or before TWO p.m. on SATURDAY, the 31st of MAY next. The lowest Tender will not necessarily be accepted.
JOHN WIMBLE, Architect.
2, Walbrook, Mansion House, E.C.

TO BUILDERS.—The Trustees of John Addey's Charity, Deptford, will meet at the Committee Room, in the School House, Church-street, Deptford, on MONDAY, the 2nd day of JUNE next, at SEVEN o'clock in the evening precisely, to receive TENDERS from parties willing to contract with them for making ALTERATIONS in and erecting ADDITIONS to the School House. Plans and specifications may be seen, and further particulars obtained on application to Mr. ROSSENDALE, Esq. Architect, No. 5, Kent-terrace, Upper-road, Deptford, by whom the quantities will be taken out at the expense of the contractor. The trustees do not hold themselves to accept the lowest or any Tender, and any Tender which shall be accepted shall be deemed to have been so accepted subject to the approval of the Charity Commissioners for England and Wales. All Tenders to be in writing, signed by the person tendering, and delivered, sealed, at the office of Mr. W. SANDOM, Solicitor, Sladeplace, Deptford, previous to the hour of meeting; and the persons tendering, or some one on their behalf, must attend the meeting.
5th May, 1862 W. SANDOM, Clerk to the Trustees

BUILDERS and CONTRACTORS desirous of TENDERING for the ERECTION of a PAIR of SEMI-DETACHED VILLAS at Eltham, Kent, can see the plans and specifications at the Office of Mr. T. CHESTER HAWORTH, Surveyor, Eltham, S.E. Tenders to be given before FOUR p.m. FRIDAY, 23rd MAY, 1862.—The lowest or any Tender not necessarily accepted

TO ROAD CONTRACTORS.—CONTRACTS required for MAKING ROAD and DRAINS at Finchley.—Plans and specification may be seen at the Office of Mr. V. PRANCE, Solicitor, 37, New Bridge street, Blackfriars.

TO BUILDERS and CONTRACTORS.—Persons willing to submit TENDERS for BUILDING a PARSONAGE HOUSE at Hornsey, at Aberayron, Cardiganshire, are informed that the drawings and specifications will be for inspection at the FEATHERS HOTEL, Aberayron, from MONDAY, 19th MAY, until SATURDAY, 31st inst., further information may be obtained from the Architect, Mr. R. J. WITHERS, 31, Doughty-street, London, W.C. Sealed Tenders, on forms to be supplied, to be delivered to the Architect, on or before MONDAY, 2nd JUNE. The lowest or any Tender will not be necessarily accepted.
H. MORGAN, Vicar of Hendywyn.
5, Alban-square, Aberayron, May 7th 1862.

TO BUILDERS.—NEW CONGREGATIONAL CHAPEL and SCHOOLS, PLYMOUTH.—Drawings and specification may be seen at Morley Chapel School-rooms, Plymouth, on and after TUESDAY, the 27th instant. Tenders to be delivered not later than EIGHT o'clock p.m. on MONDAY, 2nd JUNE. Applications for bills of quantities to be received per post by the undersigned not later than SATURDAY, the 24th instant.
PAULL & AYLIFFE, Architects.
Burnley, Lancashire, May 3, 1862

TO BUILDERS. — Builders desirous of CONTRACTING for the ERECTION of a New MALT OFFICE, with Barley and Malt Stores, for the London and Colonial Company, at Burton-on-Trent, may see the plans and specification, at my Office, from FRIDAY, the 16th, to FRIDAY, the 23rd instant. Tenders to be sent to me, by TWELVE o'clock on SATURDAY, the 24th instant, sealed, and endorsed, "Tender for Malt Office"
ROBERT GRACE, Architect.
Burton-on Trent, May 13th, 1862.

TO BUILDERS.—Parish of Cropredy, near Banbury, Oxon. Persons desirous of TENDERING for the RENOVATION and ENLARGEMENT of ALL SAINTS' CHURCH, in the Hamlet of Great Bourton, may see the plans and specifications at my Offices, from the 17th to the 24th of this month; and at No. 8, High-street, Banbury, from the 26th of this month to the 2nd of JUNE. Sealed Tenders to be sent in by or before NOON, on the 3rd JUNE, to the Rev. the Vicar of Cropredy. The Committee do not pledge themselves to accept the lowest or any Tender.
WILLIAM WHITE, Architect.
30, Wimpole-street, London, W.

NEW RECTORY HOUSE, Chalvington, near Hurst Green, Sussex.—Persons desirous of TENDERING for the above Works, are requested to furnish me with their names and addresses on or before WEDNESDAY next, the 21st inst. Bills of quantities, and particulars, will be forwarded to approved builders. The lowest or any Tender will not necessarily be accepted.
JAMES G. SMITHER, Architect.
Falcon-court, 32, Fleet-street, E.C. May 15th, 1862.

TO BUILDERS. — Persons desirous of CONTRACTING for the REPAIRING and PARTLY REBUILDING the VESTRY-HOUSE and OFFICES at Footscray, in the county of Kent, may inspect the drawings and specifications at the Rectory, at Footscray, after the 17th of MAY.—Tenders to be delivered on or before the 26th of MAY, addressed to the Rev. C. BUCH, Footscray Rectory, S.E.—The lowest or any Tender not necessarily accepted.—Nearest station, St. Mary Cray.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of TWO PAIRS of MODEL COTTAGES, and for certain alterations to the Estate Office, at Belvedere, Erith, Kent, for Sir Culling E. Eardley, Bart. may obtain particulars of same by application to the Architects, Messrs. WILLIAM G. HABERSHON & PITE, 38, Bloomsbury-square. Tenders to be delivered to the Architects on SATURDAY, the 24th inst. at TWELVE o'clock precisely. The lowest or any Tender will not necessarily be accepted.

H. G. COOMBS, IRONFOUNDER, &c. Inventor and Manufacturer of the Patent ROTARY SHOP, Patent Wrought-iron TUBULAR GATES and RAILINGS



Columns, Tanks, Staircases, Girders, Doors, Machine Roofs, Railings, Castings, and every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—17, Union street, Borough; and 95½, Great Guildford-street.

IMPORTANT TO BUILDERS SAW-MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS
WILSON'S PATENT LARGE TIMBER SAWING-MACHINERY.
This machinery is adapted to cut up square or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the log are moved by a carry-bar, and the saws are in motion, reversed, or stopped instantly.
The speed of cutting may be varied from 10 inches to 10 feet per minute, and yet on account of the increased length of cutting edge, the saw is kept cool.
May be seen in operation, daily, at Messrs JAMES WILSON & SON'S, Builders, Symonfield Saw Mills, Manningham, Bradford, Yorkshire.—Full particulars may be had on application, by parties desirous of purchasing

SKAIFE & COMPANY, Manufacturers of PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tinned Sheets and Tiles for export.
IRON WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse

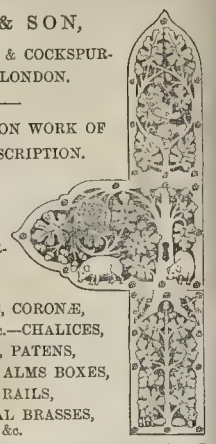
IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS
CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS.
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at moderate prices.
MESSRS. HERBERT, MODELLERS, 242, EUSTON ROAD, ST. PANCRAS.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock in Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired. 6s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

TO CONTRACTORS, BUILDERS, SAW-MILL PROPRIETORS, and OTHERS.—TO BE SOLD, a bargain, a 8-Horse power High-pressure HORIZONTAL STEAM-ENGINE, with a 20-feet Cornish Boiler, heating apparatus, and all the necessary steam-pipes and connexions ready for fixing. Both are quite new, and by the same maker.—For further particulars and to view the same apply to AMIES & BARFORD, Queen-street Iron Works, Peterborough.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

HART & SON,
WYCH-STREET, & COCKSPUR-STREET, LONDON.
WROUGHT-IRON WORK OF EVERY DESCRIPTION.



HINGES, GRILLES, LOCKS, FINGER-PLATES, STANDARDS, CORONÆ, PENDANTS, &c.—CHALICES, FLAGEONS, PATENS, ALMS DISHES, ALMS BOXES, ALTAR RAILS, MONUMENTAL BRASSES, &c. &c.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street. Working Drawings and Estimates furnished.

HEATING BY  HOT WATER.
JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be efficiently warmed by Hot Water. JOHN WEEKS & CO. can give numerous references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street, London, E.C.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 65, Princes street, Leicester-square, London, and SUCH ONLY are WARRANTED

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

WANTED, Second-hand, a Large Handsome PAIR of IRON FOLDING-GATES.—Apply, by letter, stating size and price, to G. COTTON, 1, Wenlock-place, Shaftesbury-street, Hoxton.

TO BUILDERS AND OTHERS.
A SECOND-HAND MOULDING MACHINE TO BE SOLD A BARGAIN.
Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W.


TRADE MARK.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

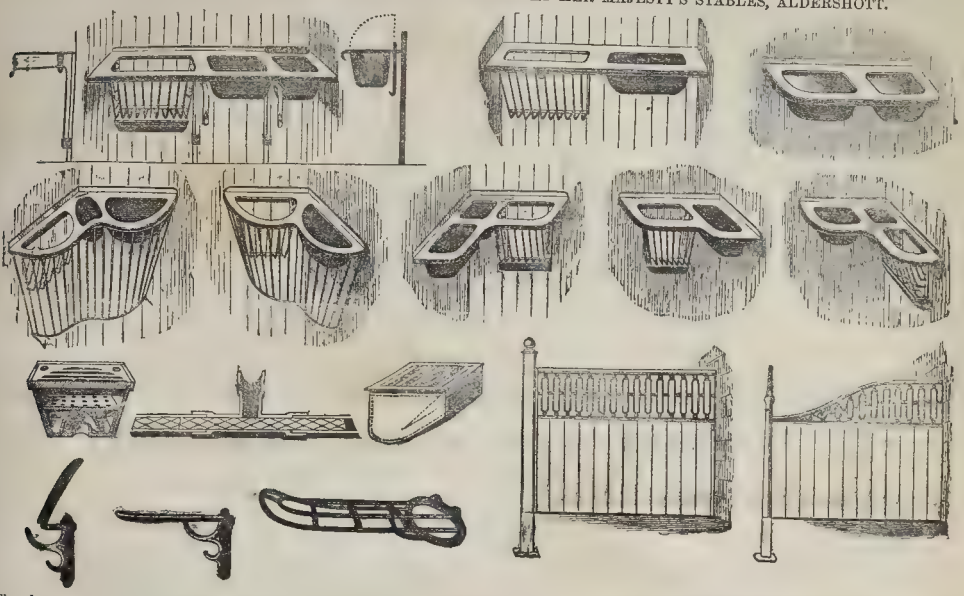
COTTAM & COMPY. 2, WINSLEY STREET, OXFORD STREET, LONDON W.

COTTAM'S PATENTED AND REGISTERED

STABLE AND HARNESS-ROOM FITTINGS.

ORIGINAL INVENTORS OF THE UNDER-FEEDING PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, AS ONE FIXTURE.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM arranged for inspection in full-sized Stalls, Loose Boxes, &c. a portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

Knightley's Patent Stable Floor.

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to

COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—Winsley Street is the Street opposite the Pantheon.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive light of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call pecial attention to the beautiful and varied productions in ART BRONZES and METAL WORK, dapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c ow on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 9½, Davies-street, Three Doors from Oxford-street,

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 16, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

FIRE-PROOF CONSTRUCTION.—FOX & BARRETT'S PATENT.

This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling-house and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

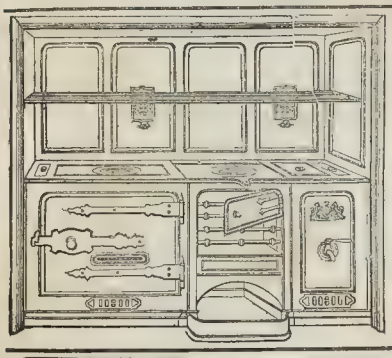
VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES
TOMB RAILING.

VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

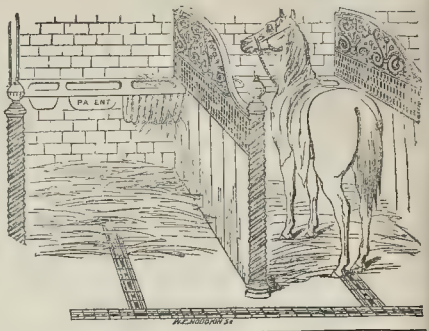
CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

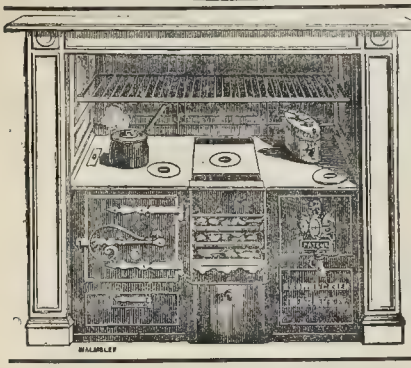
PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.

A LARGE STOCK
OF OTHER
CASTINGS KEPT





BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10s.

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges.

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen alone are employed.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke-curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat,—viz. that reflected from the upper or concave surface,—to be projected parallel with the floor, instead of directly to the ceiling, as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction, thus thoroughly warming the lower Atmosphere and floor of the apartment. Also, by the introduction of a central door, which is intended to be kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black on the top, and obviates any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18s. 6d.

BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.
F. THOMAS, Agent.

ILLUSTRATED PROSPECTUSES POST FREE.

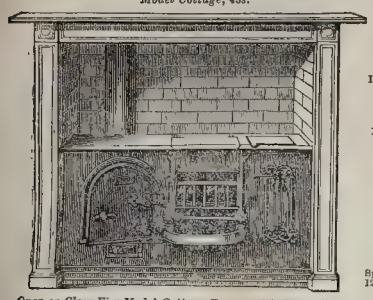
CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

TRADE MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45s.



Open or Close Fire Model Cottage Range, with Oven & Boiler.

Self-acting, with Bright Wrought Bars.
34 inches ..... 54s.
36 „ ..... 56s.
38 „ ..... 58s.
42 „ ..... 60s.

Self-acting Cottage, with Oven and Back Boiler.
30 inches ..... 22s.
32 „ ..... 24s.
34 „ ..... 26s.
36 „ ..... 28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 46s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	1½-inch.	2 inch.	2½-inch.	3-inch.
14s.	14s	13s.	12s	11s. 6d per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 13s. per cwt.

	2-in.	2½-in.	3-in.
Cast Rain-water Pipe....	8d.	10d.	1s. per yard.

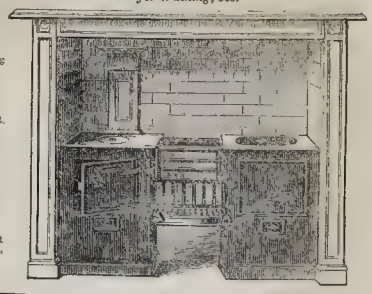
Cast Gutters, 4-in. 7d. per yard.

	4 in.	4½-in.
O G Cutters, with Clips on....	10d.	1s. per yard.

	2	3	4	5	6
Patent Line..	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 12s. 6d. per cwt.
Dr. Arnott's Ventilators, 4s. each.
Brick Moulds kept in stock. Any size made to order.

Combined Range with Wrought Galvanized Boiler for Washing, 50s.



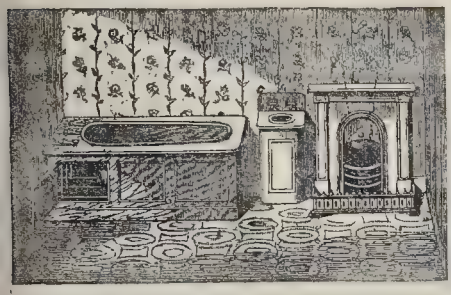
GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

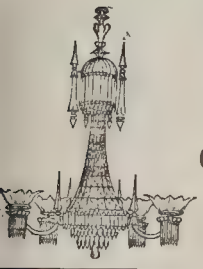
THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of **WROUGHT IRON TUBE and FITTINGS,**
FOR HIGH-PRESSURE-WATER; OR STEAM.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.



THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF
MEDIÆVAL AND OTHER GAS-FITTINGS,
CRYSTAL, BRASS, & ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY.
WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

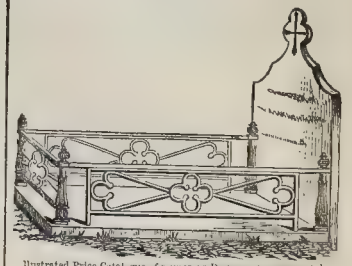
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

IRON RAILINGS for ENCLOSING

TOMBS and GRAVES.
COMMUNION RAILINGS, SCREENS, GATES, &c.

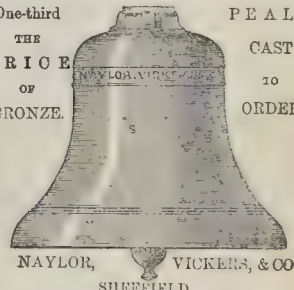


Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY STREET, OXFORD STREET,
LONDON, W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.
CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent Add in Ventilator.



It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of Three-pence; and deserving of special attention, because of its safety, beautifulness, durability, and extreme simplicity.
Full particulars will be sent on application to the Inventors and Makers,
MUSGRAVE, BROTHERS,
Ann-street Iron Works, Belfast.

ROGERS' PATENT OUTLET for RAIN-WATER BUTTS and CISTERNS, which being placed inside the cask or cistern, cannot get out of order, and is quite free from the effects of frost, &c. Price, complete, ¾-inch, 10s.; 1-inch, 12s.—Drawings and full particulars, on application to the patentee,
G. ROGERS, HIGH STREET, STAINES.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
HOENIX FOUNDRY AND ENGINEERING WORKS, DERBY.

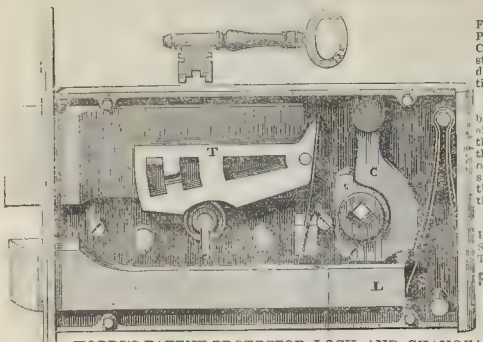
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, S, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

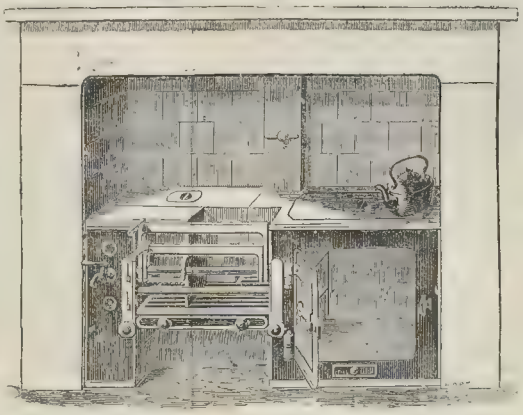
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

CLAYTON, SHUTTLEWORTH, & CO.

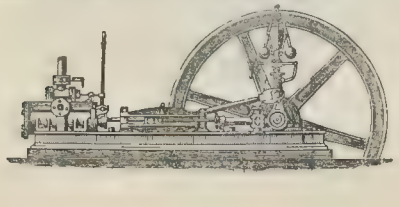
ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,

STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,

AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF

HORIZONTAL AND VERTICAL STEAM-ENGINES,

From 2 to 30-horse power and upwards.

PORTABLE ENGINES, CRAB WINCHES, &c.

SEVERAL ALWAYS READY FOR DELIVERY.

Price List forwarded on application.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

RAIN-PIPES, &c.—F. A. TIDDEMAN & CO. St. Anne's Wharf, Earl-street, City, near Blackfriars-bridge, Keep a large Stock of Rain Pipes, Heads, Shoes, Elbows, &c. Half-round and O-G Gutters, Socket Pipes for Water or Gas, Flange Pipe, Hot Water Pipes and Connections, Sash Weights, and other Castings; Iron-work for Bakers' Ovens of every description, fitted complete, to be had in Sets or in Parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful Crane.

HUTHNANCE'S PATENT ECONOMIC LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS,

Is strongly recommended to public notice, as being the most efficient and economical arrangement for the purpose of drying linen, clothes, bedding, &c.; specially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c. &c.; as in a sanitary point of view, it is invaluable, the DRYING-ROOM being raised by its use to a very high temperature, whilst the IRONING-ROOM is kept AGREEABLY COOL and WELL VENTILATED.

The economy of fuel is extraordinary, as, in a small union, it caused a saving of seven tons of coals in four months, whilst for simplicity of arrangement and cleanliness in use it cannot be surpassed.

No BLACKS or SOOT can enter the drying room.

The above Apparatus has been fitted up in numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS.

Testimonials and illustrated particulars forwarded, upon application to Mr. PIERCE, SOLE PROPRIETOR and MANUFACTURER, 5, JERMYN STREET, REGENT STREET.

A large Model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

POWIS, JAMES, & CO.

ENGINEERS AND MACHINISTS,

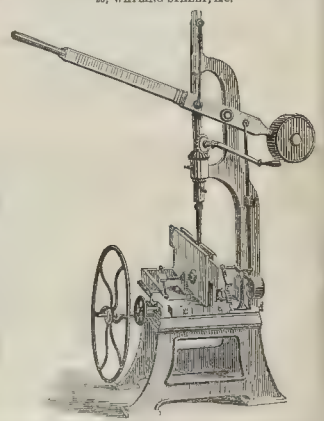
VICTORIA WORKS, BLACKFRIARS-ROAD, LONDON,

Having taken additional premises at 98 Blackfriars road, known as the Surrey Iron Works, have added Portable Engines to their Sawing and Wood-cutting Machinery business. Contractors, colonists, merchants, and shippers will find these engines fitted with the same care exactness which has gained for the firm so respectable a position as Machinists and Tool Makers.

Specimen Machines and Engines can be seen at the Works, at the Machinery Department, Crystal Palace, Sydenham; and in class 7, section 2, stand 217, International Exhibition, South Kensington.

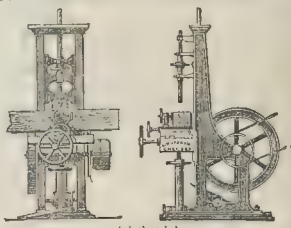
Engines, &c. on hire, with or without the option of purchase.

ALL LETTERS MUST BE ADDRESSED TO THE OFFICE, 26, WATLING-STREET, E.C.



Patent Combination Machine for Mortising, Tenon-cutting and Boring (The only patent in the United Kingdom for one machine to do the three kinds of work)

S. WORSSAM & CO.'S PATENT IMPROVED POWER MORTISING MACHINE.



(¼-inch scale.)

Combines many improvements not to be found in any other mortising machine. A single machine, worked by a man, with a boy to assist it, requiring the staff, will do as much work as two [illegible] or as four hand-machines.—For priced Illustrated Circulars, with full particulars apply at the Works, 34, King's road, Chelsea, S.W.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.



CRABS, BLOCKS, JACKS, MORTAR-MILLS, &c.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)



NUT



PLATE.

WHOLESALE IRONMONGERS,
18, KING STREET, SNOW HILL, LONDON.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

"*" Illustrations and particulars sent upon application.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.

Iron roofs erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Berkley-street, Birmingham, and Limehouse, London.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

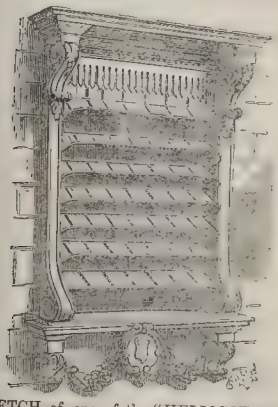
OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For prices, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.



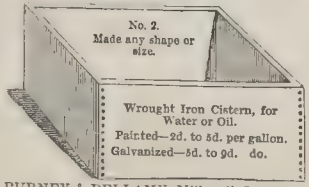
SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.

These Blinds give a highly decorative finish to a room or front, whether fitted up in ornamental frames or without one. In the latter case the top boxes only are required, which form but a small projection, and the raised work need not be more than about 2 inches, and less to suit wings or any other requirement. Prices moderate. A liberal discount to Builders and the Trade.

R. LOWTHER & CO. 31, Regent-street,
(One door below the Piccadilly Circus),
VENETIAN AND ALL OTHER BLINDS WHOLESALE.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON SHEETS,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPES, &c. All kept in stock
Also, Galvanized Water and Gas Tubing, stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Tacks, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CAST BODIES, &c.



BURNEY & BELLAMY, Mill-wall, Lon.

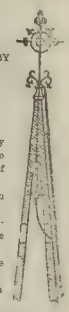
NOTICE TO BUILDERS AND CONTRACTORS.

HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen work. at the Manufactory, Makers of Portland Cranes from 3 cwt. upwards; Self-acting Brakes, Double and Single Power Coal Winches, all sizes.—For further particulars apply to BOWDEN & CAMERON, Springfield Iron Works, McNeil-street, Glasgow.

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast Iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

PROTECTION FROM LIGHTNING.





LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples complete, for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d. per foot.
Half-inch diameter	1s. 6d. "
Five-eighths-inch diameter	2s. 0d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" Gateshead-on-Tyne.
" 27, Dale street, Manchester.
" 86, Anchor-street, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

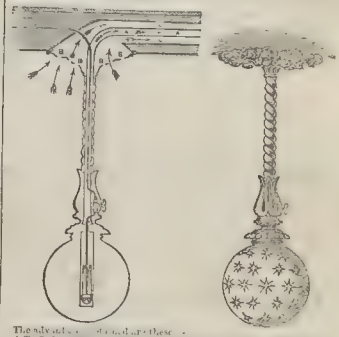
TELEGRAPHS.

REID BROTHERS, 12, Wharf-road, City road, near the Gutta-percha Works.

Telegraph Contractors to the following Telegraph Companies:—
THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.

Are now prepared to give estimates and execute contracts for firms and private companies, in town and country. Gentlemen's private houses fitted up with simple and efficient telegraphs, on the most economical terms. All communications addressed to the above will meet with immediate attention.

RICKET'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and effectual ventilation.



The advantages of this Burner are—
A TOTAL PREVENTION OF ALL PRODUCTS OF COMBUSTION
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Roy Makers, Ironmongers, Merchants, Factors, &c. Wholesale House, in Town and Country.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect incrustability; and being non-conductors, are not affected by frost like the leaded pipes. They are proved to resist a Pressure of 220 lbs. on the square inch, being 15 to 16 feet head of water, and can be tested to a much greater strength if required. They are only one-fourth the weight, and when laid down are 30 per cent. cheaper than iron pipes. They are made in seven feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction. Further particulars and Testimonials, and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr. ALEXANDER YOUNG, 144a, Cannon street, London, E.C.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, on an IMPROVED PATENT.
GENERAL IRON FOUNDERS GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3, PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
13, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1730)

GREAT EXHIBITION, LONDON, 1851.

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Purchasers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

EXPOSITION UNIVERSELLE, PARIS, 1855.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

ENAMELLED STONE CHIMNEY-PIECES,

Of Beautiful Designs, and to Imitate any kind of Marble; far Superior to Enamelled Slate, and considerably Lower in Price, INVENTED AND MANUFACTURED BY

W. J. ELLISON & CO.,

SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.

Also, MANUFACTURER of WALL LININGS, composed of Stone Slabs with a Veneer of Scagliola to Imitate Marble, and Enamelled by Heat WARRANTED TO RETAIN ITS POLISH.

Office and Show Room, No. 3. WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.

Manufactory, EAST-ROAD, CITY-ROAD.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three quality, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

HUNTER'S TRIGONOMETRY IN GLEIG'S SCHOOL SERIES.
Now ready, in 12mo. price 1s. and KEY, 9d.

ELEMENTS OF PLANE TRIGONOMETRY, for the use of Beginners; with numerous Problems, Exercises and Tables. (Forming part of the new "School Series," edited by the Rev. G. R. GLEIG, M.A. Chaplain-General to H.M. Forces.)

By the Rev J. HUNTER, M.A. Author of various approved School-Books, of which a List may be had on application to the Publishers.

THIS Treatise, although rudimentary, does not confine the pupil's attention merely to those parts of the subject which are generally comprehended with facility, but is designed to obviate, by careful Explanations and Preparatory Disciplines, the difficulties usually attending the study of the higher Treatises. Its copious Tables of Natural Sines, &c. include the pupil to work all the Exercises without the usual necessity and expense of a separate book of reference for those numbers.—The KEY, on the same plan as the Author's KEY to the "Elements of Mensuration," in the same Series, contains full demonstrative Solutions of all the Exercises appended to the several chapters of the Treatise.

London: LONGMAN, GREEN, LONGMAN, and ROBERTS.

Now published, price 1l. 1s. to Subscribers, the First Part to

WELBY PUGIN'S ENGLISH and FOREIGN SKETCHES, Photographed from the Originals. Each part contains 12 Plates. The Work to be completed in 20 numbers.

Messrs AYLING & CO. 493, New Oxford-street, London.

The WELBY PUGIN COLLECTION, consisting of upwards of 800 original Sketches by that Eminent Artist, now on sale at 9, CONDUIT-STREET, Regent-street. Admission, 1s.

WATER-COLOUR PAINTING, by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, invaluable for student, teacher, amateur, or the drawing-room table. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn fields, W.C.

New Edition, in 1 vol. 12mo limp cloth, pp. 140, with 103 Illustrations,

PRINCIPLES of CONSTRUCTION in ARCHES, PIERS, BUTTRESSES, &c. Useful to the Practical Builder

By WILLIAM BLAND, Esq.

Being Vol. III. of WEALE'S RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy lane, and 294, City-road

Second Edition, in 1 vol. 12mo. limp cloth, price 2s 6d.

OUTLINES of the HISTORY of GREECE.

By W. D. HAMILTON, and E. LEVIEN, M.A.

Forming Vols. V. and VI. of WEALE'S EDUCATIONAL SERIES

J. S. VIRTUE, 26, Ivy-lane, and 294, City-road.

Fourth Edition, in 1 vol. 12mo limp cloth, with Illustrations, price 3s. 6d

A RUDIMENTARY TREATISE on CLOCKS, WATCHES, and BELLS, with a full Account of the Westminster Clock and Bells.

By E. B. DENISON, M.A. Q.C.

Forming Vols. LXVII. and LXVIII of WEALE'S RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy lane, and 294, City-road.

Forwarded free on receipt of Thirty Postage Stamps.

ARCHITECTURAL BOTANY: setting forth the General Distribution of Foliage, Flowers, Fruit, &c. with Twenty Original Designs, for Decorating Cornices, Spandrils, Crosses, Corbels, Capitals, Bosses, Panels, &c

By W. P. P. GRIFFITH, F.S.A.

London: 16, Guildford-street, W.C.

Just published, price 2l 2s.

MANUAL of HYDROLOGY.

By NATHANIEL BEARDMORE, Civil Engineer.

CONTENTS—

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 to 68, London-wall. 1862.

KEAN TESTIMONIAL.

ILLUSTRATED INTERNATIONAL EXHIBITION CATALOGUE.

THE ART-JOURNAL for MAY (price 2s. 6d.) contains the second portion of the Illustrated Catalogue of the International Exhibition. The exhibited specimens included in the division, given with this number are engravings from works in jewellery, gold and silver, porcelain, lace, stained glass, Mediæval metal, mosaic pavement, floorcloth, cabinet furniture, iron (comprising grates, fenderation, lamps, stoves, fenders, &c. &c.). The present portion of the catalogue contains a faithfully copied representation of the Kean Testimonial. In the part is also compiled various interesting articles on the Exhibition, more especially that portion relating to the Fine Arts; notices of the various exhibitions now open, and an article on "John Cross," by James Dafforne, illustrated with engravings copied from his best works.

The Line Engravings are, "The First Sunbeam," from the picture by T. Faed, A.R.A. engraved by Lumb Stocks, A.R.A.; and "Apollo and Daphne in the Vale of Tempe," engraved by E. Brandard, after J. M. W. Turner

*** The Catalogue commenced in the April number. Intending subscribers should order early, to secure good impressions of the engravings.

JAMES S. VIRTUE, 26, Ivy lane, and International Bazaar, opposite the Exhibition.

The Builder.

VOL. XX.—No. 1006.

The Palace of Art and Industry.



INTON'S Majolica Fountain, of which we early gave an engraving, at last is growing into completeness; and when finished, it will be the finest work of its kind yet produced. In the view from under the eastern dome, looking westward, which we now give,* the fountain occupies the foreground; and beyond are seen Mr. Earp's stone drinking fountain; the obelisk of Cheesewring granite, designed by Mr. Bell; and several of the "trophies." In the obelisk *entasis* is introduced, without, however, as it appears to us, any very decided advantage. In the obelisk further down, erected by Mr. Nicholson, for

r. William Sim, of granite from that gen-
eman's quarry in Wigtonshire, Scotland, the
itasis is carried to a ridiculous extent. The
ject of entasis is to correct certain visual
terference with straight lines, not to give the
ject a swell midway, in imitation of a nine-
n. The incised and gilt decoration of this
belisk, which was designed by Messrs. Thompson,
chitects, Glasgow, is very satisfactory. Several
the "trophies" have been removed to the area
the dome, whereon there are now being raised
o statues and groups. Even now, however,
e nave is cumbered. The right arrangement,
it seems to us, would have been to have placed
ttues and groups, properly varied as to height,
wn the *centre* of the nave, leaving a broad way
wn on each side; while some of the best of the
n gates might have formed screens across, in
e or two places, without intercepting the view.
Certain sections of the Foreign Division of the
hibition, as well as the nave, are still in pro-
s of arrangement; and the sculpture in the
itish Division, and some of the objects in the
sses of the Industrial Department, are not out
the hands of workmen. In two or three
's, however, the whole may be complete. The
noval of many of the bulky objects from the
re, to which we have alluded, will be advan-
eous for more than the effect of the building:
less studious portion of the visitors may con-
gate where there will be space, and the
asses" will be readily found by those interested
the objects displayed in "courts" and gal-
es that will be comparatively free for persons
ing pursuits of a special character.

* See p. 351.

The classification given in our last number, however, does not go far to assist us towards compiling the record of inventions and improvements, which our readers, at least those at a distance, may look for; moreover, each of the five or six "classes" which might be deemed the most important from an architect's point of view, would require a more minute sub-classification than that which has been adopted. For example, if we take up the subject of tiled-pavements in Class 10, we might be expected to have seen the specimens shown by Messrs. Minton, Hollins, & Co., which are in Class 35; and so on for cements, or gas-lighting, and for heating-appsratus, pumps, and many other contrivances. Indeed, two, or perhaps more, distinct systems of classification might be adopted for the educational result from reviewing such an Exhibition as that now open; whereof, one classification would be based on the uses of the articles, and another on the materials and trades. The latter system would seem to have been preferred in 1851, and repeated now; and perhaps this was thought to involve the least trouble where so many difficulties had to be surmounted. The actual system, however, has not prevented articles even which are made of similar materials, as they are adapted to the same use, being displayed in different "classes"; and articles which should be found apart, being brought into the space obtained by an exhibitor in a single "class." The inducement therefore to attempting to correct the defects of the Exhibition as a lesson of art or industry, is very strong. But we fear that our readers must not look to us for any approach to the body of information which we have just alluded to as possible to be given, rather on the occasion of a similar exhibition than now. The other day we found a most interesting model of an iron bridge at the northern extremity of the machinery *annex*; photographs and models of works of the building-contrivances class are in the British colonial, and, no doubt are, in the sections of the Foreign Division; and were we to attempt to complete notices of any "class" by naming everything even in that class, we should not satisfy our readers as to the general matter of the Exhibition. In "classes" most important to us, the arrangement is such that it is difficult to find numbers that we want; or having stumbled upon some novelty in appearance, the probability is that explanation of every kind is lacking, whether on the part of inventors or the Commissioners. The French have just published their catalogue, which sells for a shilling; and a comparison of it, for arrangement and information, with the British "Official" or the "Official Illustrated" catalogue,—the latter of which will cost thirteen shillings, and will not include the Colonies and the Foreign Division; whilst some of its parts already issued give little more information than is to be found in the unillustrated volume,—will not redound to the credit of the British Commissioners. The Austrian catalogue, in English, also may be named as containing information concerning the products, industry, and intellectual condition of the country, necessary to complement the Austrian division of the Exhibition. Some of the colonies even, are producing catalogues which will be most valuable and instructive as records. Those of the Canadian collection deserve to be especially mentioned. There is a "Descriptive Catalogue of Economic Minerals of Canada," by Sir W. E. Logan, F.R.S., Director of the Geological Survey, and Commissioner in London; and one "of a Collection of the Crystalline Rocks of Canada," by T. Sterry Hunt, F.R.S. Of these two, the former has the following headings,—"Metals and their Ores," "Minerals applicable to Chemical Manufactures," "Refractory Minerals," "Minerals applicable to common and decorative Construction," "Grinding and Polishing Minerals," "Mineral Manures," "Mineral Paints," "Minerals applicable to the Fine Arts," "Minerals applicable to Jewellery," and "Miscellaneous Minerals." If time suffice for only a glance at the admirably arranged collection, and the geological maps, we can go home and get an excellent notion of the geology of the country, and of the available building materials, as marble, freestone, slate, and bricks; and we may find that Canada can supply lithographic stone, and white marbles which would deserve the attention of sculptors. The symmetrical arrangement of the French Court really facilitates observation of its contents severally, and helps to the appreciation of the whole; whilst classes of the British Division are bewildering from the crowding of the objects, and the classification or want of it, and from the general absence of teaching and of particular explanation. In the building itself, the "Central Transept" is not clearly marked, as it is made to appear in the published plan which we printed last week. Deserving exhibitors must therefore not complain if they find their inventions passed by in the slight notices which we are able to give of the classes; and our readers must be prepared to find the distribution of objects in the building reflected in our pages.

We look now to "Class 10" of the Exhibition,—"Civil Engineering, Architectural, and Building Contrivances." It is divided, but not on any principle that we can discover in arrangement of the objects, into three sub-classes, namely, A, "Civil Engineering and Building Contrivances," and B, "Sanitary Improvements and Constructions," which are under the galleries at the south-western angle of the eastern dome, and adjoining in the south court; and C, "Objects shown for Architectural Beauty," on the opposite side of the South-Eastern Transept," which last division contains works that might have found place with those in the Mediæval Court of the Class 30, "Furniture." Amongst the beautiful order of works, none deserve more attention than some already referred to, of those which are classed in the first (A) division. Mr. George Maw, of Broseley, has arranged a most interesting "court," with a "collective series of architectural productions, illustrating the clay manufactures of the Shropshire Coal Field," acting on behalf of his own firm and Messrs. W. B. Simpson & Sons, Messrs. J. & E. Burton, G. Davis & Co., R. Evans, W. Exley, G. W. Lewis, and Doughty, Mrs. Thorn, and the Coalbrookdale and Madeley Wood Companies. The productions of the Benthall Works, which are chiefly from the designs of Mr. M. Digby Wyatt, hold the most prominent place. The divisions of the series comprise "Roofing Materials," which include tiles, common and ornamental; unglazed, glazed, and enamelled; plain-tiles and pan-tiles; roof-crestings, plain and flanged, and with fixed and loose ornaments; ventilating roof-crest tiles; hip and gutter tiles, and flanged hip crestings; "Paving Materials," including Illustrations of the Revival of Pictorial Mosaic, consisting of a pavement, the subject "Apollo and the Four Seasons," which is equal to anything that could be produced, but does not reconcile us to the pictorial treatment of flooring; a facsimile head from the pavement at Bignor, and various works in *tesseræ*, geometrical mosaic, and tiles, plain and encaustic, and their combinations; Moresque mosaics and majolica tiles for wall-linings, some of which may be fixed by ornamental brass-headed nails, without cement; "Draining Materials," "Fire-bricks, Furnace Materials and Stove Fittings," "Bricks and Materials used in the Construction of Walls," "Accessories to the Decoration of Buildings," and other articles, including the chimneypiece we lately published, and pillars and square shafts effectively treated in colour, and with ornamented capitals; and "Raw Materials" illustrated by a section of the Shropshire Coal Field, and specimens some of which show the relative shrinkages of the clays. It should be recollected that there are other, and perhaps higher, aims in architecture, than demonstrating the serviceableness and scope of any one material: in other words, interests

and feelings of manufacturers, and the taste of architects, are not what should lead to the same conclusions; but the geometrical mosaic is doing excellent service in the decoration of houses; and some of the credit for the obvious future of popular taste will be due to manufacturers and to those whom they have called to their assistance.

The Architectural Pottery Company of Poole, Dorset, exhibit their mosaic and glazed tiles and bricks, but not to greater advantage than on many occasions in the Gallery in Conduit-street. The Italian and other roofing tiles; bricks, red, green, black and white; and ornamental ridging, of Mr. R. Brown, of Surbiton, are well known; as are also the articles sold by Messrs. J. & W. Eastwood, of Lambeth. The collection of clay manufactures is too large for complete enumeration. The class includes articles which, like some of those (excellent of their kind) manufactured by Messrs. John Cliff & Company, of Lambeth, might have come appropriately into the "Pottery" class; and the clay retorts for gas-making, which, with fire-bricks, drain-pipes, and chimney-pots, are exhibited by Messrs. Joseph Cliff & Sons, of Wortley, near Leeds. It would be of little service to give the numbers in the catalogue. The invert-blocks of the last-named firm are provided with longitudinal tubular channels, with which lateral openings communicate, to take the land drainage. The productions of the Brownhills Blue Metallic Tileries and Fire-brick Works, Messrs. Garrett Brothers, late H. & R. Haywood, are well known as consisting of drain-pipes, fluc-linings as used in London at Buckingham Palace, and Bridgewater House, and the houses of Mr. H. T. Hope; the Duke of Buccleuch, Whitehall; and Mr. R. S. Holford, Dorchester House; roofing tiles and ridges, plain and ornamental; and paving tiles. They also include Clarke's ventilating ridges; alcove fern bricks for placing in recesses of conservatory walls, or for the formation of hexagonal columns or fountains for the growth of ferns and lycopodiums (Dr. Watson's patent); white glazed bricks; wall diapering; and circular shafts in red terra-cotta as used in the church in Baldwin's Gardens, Gray's-Inn-lane. Equally well known are the terro-metallic bricks and tiles of Mr. T. Peake, of Stoke-upon-Trent. Messrs. Henry Doulton & Co. exhibit a good selection from their articles for sewerage and other purposes. Amongst them are sections of sewers built of hollow blocks. Information respecting the application of this method of construction and the cost as compared with brick-sewers should have been given. We are compelled to indorse the expression of regret, in another quarter, that prices of articles are not generally supplied by the British exhibitors. In the same class are the facing-bricks and tiles of Mr. W. Basford, of Burslem; the sewer-tubes, fire-bricks, and retorts, of Mr. E. Brooke, of the Field House Fire-Clay Works, Huddersfield; the ornamental tiles of Mr. J. G. Colla; the retorts and bricks of Messrs. Joseph Cowen & Co., of Newcastle-on-Tyne, and the similar articles of Messrs. Fisher, Brothers, & Co., Stourbridge; and the building-blocks, facing and fire bricks of Messrs. Fayle & Co.; the ornamental bricks and tiles of Messrs. R. & N. Norman, of Burgess Hill, Sussex; the glazed stoneware sewerage pipes, fire-bricks, and terra-cotta of Messrs. Gibbs & Canning, Tamworth; and the roofing and paving tiles of Mr. W. Jones, of Newcastle, Staffordshire.

Classed with the "Sanitary Improvements," &c., we find Mr. E. B. Beaumont's "Sanitary Tubes," which are made from three inches to four feet in diameter, and are tested, when required, to bear a pressure of 200 lb. to the square inch. They are made at Darfield Pottery, Barnsley. Sewage pipes are also exhibited by the Bourne Valley Pottery Company.

In the same class (10) are shown several kinds of cement and artificial stone. Messrs. Knight, Bevan & Sturge, of Northfleet, exhibit a block of Portland cement weighing five tons; besides, in the open court of the Eastern Annex, two blocks, one of them of eight tons, composed of nine parts of shingle and two parts of cement, as adapted for the construction of breakwaters. Messrs. Lee, Son, & Smith, exhibit Portland and Scott's cement, and Scott's plaster. Several of the exhibitors we have named, appear to have been much restricted in space. Mr. J. C. Part's Martin's cement, which obtained a medal in 1851, is said to involve a saving of 45 per cent. in cost of the material, whilst that it can be painted upon within 24 hours of its application. It is favourably known to all our readers. Mr. W. J. Taylor shows how Portland cement may be coloured in the mixing, mouldings and panels being varied, as well as contrasted with a differently coloured ground; but the colours are not very brilliant in the model. Messrs. Bellman & Ivey's scagliola; the artificial stone from Farnham; that from the company employing Ransome's process; and that from Messrs. F. & G. Rosher, we can merely name.

Amongst the exhibitors of galvanized metals are Messrs. Morewood & Co., who say that their materials are more durable than zinc. They may be applied in the form of tiles, which are 3 feet by 2 feet, and are curled at the edges to finish as rolls, and are stiffened by transverse grooves. They are also made in sheets of 500 feet and upwards in length: thus they can be laid with great expedition by any labourer who can use a hammer; whilst considering that boarding is not required, the cost, say the patentees, is less than asphalted felt. Amongst the other productions of the same manufacturers, are welded-iron water and gas tubes. Messrs. Tupper & Co. also are exhibitors of "galvanized iron manufactures connected with buildings and architecture." Messrs. H. Vavasseur & Co., likewise exhibitors, used the galvanized corrugated iron (No. 16 gauge, with a 10-inch flute) in covering the Amsterdam station on the Dutch-Rhenish Railway, and (No. 20, with 5-inch flute) in the construction of the Palace of Industry, Amsterdam. They have also used the material in Portsmouth Dockyard. Mr. John Walker displays articles belonging to the same branch of manufacture. Messrs. S. C. Hemming & Co. show "samples" of what they have done in iron building and roofing, but chiefly through the aid of drawings, which are placed too high up. The interior of their iron church may deserve attention both by those who think that iron may be so prominently "exhibited," to use a doctor's phrase, in substantial work and Gothic architecture, and by those who find the dimensions of stone nave piers telling against further copyism of the Mediæval plan. At least, as we have sometimes said, temporary churches are useful to the question just referred to, of plan; because, in them, uses of the building are regarded without the disturbing influence of precedent. However, we are not now about to go into questions of art. Messrs. F. Morton & Co., of Liverpool, exhibit a variety of articles, including galvanized corrugated iron roofs, and patented improvements in railway fences and telegraph-poles. Their wire-cable fences, with tapered oval iron posts, are fitted with winding straining pillars, by which 400 to 500 yards of fence may be kept perfectly tight and rigid; indeed, the pillars are called "self-acting." With galvanized corrugated iron Messrs. Morton & Co. can cover an area of 100 feet square (plates and uprights only, furnished them) in five spans, for 370*l*. They can provide and erect an iron cottage with five rooms and entrance-porch for 120*l*.

For zinc roofing, the Vieille Montagne Company, and their manufacturing agents, Messrs. F. Braby & Co., are exhibitors. The "Italian-formed corrugated zinc" which is simply a formation of the sheets with rolls at close distances, is used for the verandah of the Horticultural Society's conservatory, and on the refreshment-rooms of the Exhibition. We may observe that zinc is now constantly employed in Paris, for buildings much larger in scale, and more substantial in construction, than the London houses.

Besides Mr. Ransome's indurated stone, there are several specimens of materials to which preservative processes have been employed. The difficulty, obvious to any practical architect, which attends us in a notice of this kind, and which we know not how the jurors will grapple with, of course is not wanting in regarding these specimens. In the instance of the creosoted woods shown by Mr. J. Bethell, however, the evidence is clear and satisfactory. In the case of piles 14 inches square, used at Grimsby, half the substance is found to be eaten away by the sea-worms, in ten years or less, where the pile had not been creosoted; whilst the creosoted pile, after exposure for the same time, is shown to be in the original state. The collection of specimens includes sections from railway sleepers after twenty-one years' constant use; the wood being scarcely injured. Mr. Szerelmey applies his "Arabian Zopissa, and granitic preserving and indurating compositions," to a great variety of materials, claiming to be able to prevent decay of every kind.

Mr. George Jennings, who is always busy about something useful, is a contributor of many of his mechanical and building contrivances. His works are better seen in the retiring-rooms of the building than in Class X., where indeed some of his best inventions were not to be found when we looked for them. His closet-apparatus on the same principle as the "tip-up" lavatory basin, and his cheap stoneware basins for school use, deserve attention. — Chantrell and Dutch's closet, combining slate-cistern, basin and trap, and flushing apparatus, is a simple and ingenious contrivance to be had at a moderate rate.

Amongst a variety of articles shown by Messrs. George Smith & Co., of Glasgow, is a "dry deodorizing commode," adapted for the use of sawdust, or fine ashes, in place of water. We should not depend upon it for a whole house; though we understand it to have been so applied. Amongst the other things exhibited by the same firm, the "patent Egyptian Bath" is ingenious and convenient. The water flows in, as spray, from a pipe encircling the bath at the top; and by a simple contrivance a vapour-bath may be had.

Of several important mechanical contrivances, and models of railway-bridges, we must speak in a future article.

We are glad to observe that the ignorant and injurious absurdities of the Commissioners' own critic, F. T. P., to which we have already pointed, are receiving just that sort of attention which they deserve. The Commissioners have been doing their best for some time past to turn their friends to foes, and they are beginning to succeed.

ARCHITECTURE AT THE ROYAL ACADEMY.

The architectural collection is small, comprising ninety-two drawings only; but the designs are for the most part well set forth, and thus commend themselves more immediately to the popular eye than would otherwise be the case. They occupy part of the south room, immediately at the top of the stairs. The most prominent work is (875) "Design for the new Bridge at Blackfriars, approved by the Bridge Committee," T. Page, a drawing of very large size. It displays three fine arches, and for effect would depend mainly on a large amount of sculpture shown as surmounting the massive and somewhat clumsy piers that separate the arches. We should be well contented to have a bridge thus adorned, and certainly incline to three spans in preference to five. Next the last in prominence comes the "Halifax Town-hall" (882), now in course of erection from the designs of the late Sir Charles Barry; with some modifications by E. M. Barry, A., who exhibits it. Since we published an engraving of the design it has been to some extent elaborated, especially in respect of sculpture. On some of this the late Mr. John Thomas was engaged at the time of his death. Mr. Barry also exhibits (893) "Barbon

Park Lodge," a substantial shooting-box on the mountain side in Westmoreland, with substantial granite basement. Mr. Scott, R.A., sends "Design for the proposed new covered Market, about to be erected in the Borough of Preston, Lancashire" (883), comprising iron columns, semi-circular arches, and open roof. The capitals of the (banded) columns, with a block of entablature above each from which the arches spring, are not very pleasing in the drawing, but may be more effective in execution. Mr. Street exhibits a view of the interior of his excellent work, "St. James's the Less, Westminster" (878); Captain Fowke, exterior view of the "Industrial Museum, Scotland" (892), now in progress of execution; Mr. Godwin, "View of the Bailiff's House and Stables, Stanley Farm, Somersetshire" (865) (similar in style—plain Gothic—to that of some other farms before exhibited by him); and Mr. M. D. Wyatt sends a view of the "Monument erected to the Memory of the late J. M. Rendel" (854); "The Mount, Norwood" (861), and "Façade of 24 and 25, Grafton-street, Dublin" (900), being a first attempt at a revival of some of the characteristics of ancient Irish architecture. The main lines, semi-circular arches, &c., become those of an ordinary Italian design; and the interlacings common to early buildings in Ireland form a very agreeable ornamentation, open to artistical modification and advance. Mr. T. H. Wyatt exhibits "Interior of the new Garrison Chapel, Building at Woolwich" (848), wanting in ecclesiastical character: it is of light construction, lofty and novel. The same architect sends "St. Katharine's Church, lately built for the Marchioness of Ailesbury, in Memory of her Mother, the Countess of Pembroke" (868). It is Lombardic in style, a congener with Wilton Church, built for a lamented member of the same family. Amongst other churches exhibited will be found "Christ Church, Pentonville" (843), E. P. Brock (with gables over the aisle windows and their attendant difficulties); a "Church in Auborne, Lincolnshire" (851), J. H. Hakewill; "Sutton Church, Kent," A. Ashpitel (plain Norman in style); "The Church of St. Charles Borromeo, in Marylebone" (851), T. J. Willson; "St. Wilford's Roman Catholic Church, York" (855), (Geometric in style), G. Goldie; "St. Leonard's, Scarborough" (864), J. L. Pearson, an excellent work; and two or three others.

Let us go back, however, to note separately a few of the designs we have passed over in this summary. (831) "Pompeii," F. P. Cockerell, is an elegant restoration of the Street of Tombs. (833) "Woodcote, Warwick," a mansion in a plain version of the Elizabethan style, now erecting under the direction of J. Gibson. (834) "Design for Embanking the Thames within the Metropolis," C. Henman, jun., commended in our pages on a former occasion. The plan provides in the buildings to be erected suites of apartments for professional men and others, and accommodation for the industrial classes. Mr. Newton's "Study relative to the (same) Embankment Question," is shown in two drawings, 89 and 90. The erection of a row of buildings in the water on the Surrey side, cutting off and leaving the superfluous width of water in the shape of docks, has never seemed to us a desirable solution of the question. (841) "In Memoriam," S. Lewin, has probably the same object in view as (842) "Suggested Design for a National Memorial to the late Prince Consort," F. T. Bellhouse: the former is of the Eleanor-Cross kind; the latter a pillar, apparently well considered, but placed much too high for understanding. If we may judge from the present position of matters, there will soon be an opportunity, for those who desire it, to submit their designs for a memorial with this worthy end in view, and so still further to increase the difficulties of a matter which up to this time has not been very well managed. (853) "Proposed Memorial to the late Prince Consort for Newport Church, Isle of Wight," F. Mew, consists of an appropriate carved framework, enclosing two of the aisle windows, with a canopied tablet, properly inscribed, between them. (859) "Memorial to William Tyndale, proposed to be erected on Nibley Knoll, Gloucestershire," S. S. Teulon, is a plain Campanile with an inscribed tablet under a canopy on the face of the lowest story. (866) "First prize design for covering in the Merchants' area at the Royal Exchange with glass roof and ornamental ceiling," F. Sang, if carried out would render the area what we desire to see it, a noble apartment. It is to be hoped, at any rate, that the damaging proposition to cover it in with a railway shed roof at the level of the first order had been abandoned. (867) "The Water-tower and Engineer's residence, Elvetham Park, as proposed," S. S. Teulon, a red-brick building with high roof, is very picturesque and effective. (869) "Mansion in the old English style, now erecting," H. E. Kendall, junr., has the fault of looking too much like an assemblage of smaller villas, half-timbered, such as Mr. Kendall has often built. He has some better specimens of his skill in the Palace of Art. (873) "Suggestion for relieving the present crowded state of the metropolis," T. Naden, involves, seemingly, suspended carriage-ways. (876) "Design for the Palais de Justice at Brussels, 1861," R. Kerr, is in two orders, with high roof; and includes a lofty dome, with two steeples, which naturally recalls St. Paul's, though the details may be altogether different. Nearly every drawing exhibited deserves mention on some ground or other; but we have only space to add that 912 shews as well the column by Salter and Perron, chosen in competition as a monument to Sir Humphrey Davy, as the tower which, at the suggestion of the donor of the site, has been decided on for erection at Penzance. There can be no doubt of its superiority for the purpose.

Our notices of the general collection we must leave till next week.

AN ARTIST'S GOSSIP ON THE INTERNATIONAL EXHIBITION.

WHY were the French so behindhand at last? Here is a Frenchman's explanation. I fell in with him yesterday morning on my road to Brompton—a stout, bustling, burly, little gentleman, who, after inquiring his way, introduced himself as an *exposant*. He admitted, however, that he had hitherto exhibited nothing, and had, at present, nothing to exhibit, stating, at the same time, that he was far in advance of a multitude of other *exposants*, — and, with true Parisian volubility, going on to inform me that the fact of his being now before so many others, arose from his having been a fortnight or three weeks behind them in sending off his merchandise! At this point of his narration, he abruptly ceased, and wheeling suddenly in front of me, so as to prevent any further progress, forced from me an immediate demand for an explanation of the seeming paradox. "*Voyez vous, monseiur,*" he recommenced, "*Je vais vous donner le mot de l'enigme.*" Some time ago the French were more forward than the English, as you know,—their goods were arriving by ship loads at several English ports so fast, and the completion of the building was so slow, that orders were sent down to all ports where French goods were arriving, directing that the cases should be stowed away in the local Custom-houses, and not sent on to London till the building was more nearly ready to receive them. In this way the piles of enormous packing-cases rose rapidly in mighty masses, up to the very rafters of the warehouses, insomuch, said my loquacious friend, that those cases which arrived *last*, had to be given out *first;* while the first arrived, which lay buried at the bottom of the vast pile, had to await the slow removal of the whole of the upper strata. The *exposants*, who had been in such good time, awaited the tardy deliverance of their goods, with grumblings long and loud, at the detestable *contretemps* that had befallen them; while my friend laughed loud and heartily at his own good luck in being among the very last to start his goods from Paris.

The five-shilling visitors will not see my instructive friend's display, nor a number of other displays, which will be all in good time for the shilling days, when they will be seen without dust, and without risk of tumbling over rugged planks, or box-lids full of dangerous nails; or getting a leg through one of the numberless holes in the floor, caused by the too sudden deposition of heavy cases, and which have not yet all been mended.

Even when the Emperor arrives, it is to be feared that he will find the great French Court still imperfect in its final arrangements, though so much has been done within the last week. It is said that "rooms" at the house of the French Commission, in Cromwell-road, have been fitted up for his reception, in order that he may be on the spot each day during his stay, in order to stimulate by his presence the efforts of French exhibitors to do their utmost. He will not, however, reside in Cromwell-road; but preparations for providing an imperial lunch there each morning have, it is said, been already made. Additional specimens of Sevres ware will, it is thought, be forwarded to the scene of contest, when it is seen by the nominal chief of the imperial manufactory that its pre-eminence is threatened by the rivalry of the private establishments of English manufacturers. The imperial glance will be better satisfied by the appearance of the magnificent piece of Gobelin tapestry, after Titian's famous "Assumption of the Virgin," at Venice, which is perhaps the finest specimen ever produced.

The contradictory impressions, both of the press and the public, concerning the foreign pictures, are very amusing. The true understanding of art is, in fact, as much a thing to be learnt as the understanding of a language, either by growing up to it, or gaining the knowledge by intellectual industry afterwards. The British public understands the productions of its own painters; it has grown up to them; but it always abused, for a time, every new style, even in the native school, that it has not grown up to; and so, how can we expect our good public to appreciate at once the high merits of the French school, which is so very different in character to almost all that has been set up in England as a standard of excellence. It is not a single scamper to Paris, and a hasty scramble through the *salons* of the Luxembourg, that can make even an English connoisseur acquainted with the true characteristics of the French school, or capable of appreciating its high qualities. An Englishman must have regularly visited the biennial *salons* of the Louvre for years, and have been long an *habitué* of the *ateliers* of the great French artists, before he can appreciate a school of art so different from our own, especially in the larger works. The French public is not, perhaps, more naturally intelligent in art matters than the English; but then it has grown up to the appreciation of its own school.

There is a large picture at Brompton, not of the very highest class of French art, but which may serve to illustrate the kind of monumental treatment so highly esteemed in the French school, and so much neglected in ours. It is intended to represent the triumph of knowledge. The great, of all ages and countries, whose gifts and labours have been tardily but surely acknowledged by their posterity, stand on a raised estrade, or dais, which places them above the reach of the ignorance, violence, and hypocrisy by which they have all been persecuted, and which are represented in two powerfully-designed groups, placed with a fine architectural feeling of design in the foreground. Ignorance, with misery—its inevitable companion—are represented by haggard, envious figures, clutching vainly at the steps of the dais, as though to drag from their pedestals those whom, in their ignorance, they hate for their superiority. The other group symbolizes violence (another result of ignorance), only tempered by hypocrisy; its true character never really softened, though sometimes wearing the deceitful mask of pretended kindness. This is a kind of picture which the English visitor of exhibitions always passes rapidly by, but which always arrests the attention of the French. The battle pieces will, however, attract even English visitors by their wonderful spirit and realisation of execution, in spite of their devotion to purely domestic subjects; while M. Gerome's wonderful rendering of the arena of a Roman amphitheatre at the moment when, after a wholesale human butchery, the customary "*Ave Cæsar imperator! morituri te salutant*" is being pronounced, will at once rivet the attention of the idlest gazers, of whatever nation. It is one of those remarkable realizations—one of those happy guesses at truth which are the result of long and careful study. It appears so true, that one might fancy it a photograph taken on the spot, while an imperial Cæsar was in the very act of bowing acknowledgment for the dreadful salutation, rather than a work of pure imagination, the production of the pencil of a poetic painter in his Parisian atelier. Troyon's "Oxen going to the Plough" will be admired by all who have been won over to that class of French art by the persuasive pencil of Mademoiselle Rosa Bonheur. The highly-wrought and ever-charming little pictures of Meissonier,—costly gems of art,—cannot fail to please English critics; for, though their key of colour is much lower than that of the English school, there is a completeness—a thoroughness of art about them that at once compensates and satisfies all, while no eccentricity or extravagance raises any dormant prejudice. "A Martyr of the Reign of Diocletian"—so well known by an exquisite engraving—is the picture among the works of Delaroche that will attract most attention. The colour is fine as well as the drawing, and the conception of the sweetly-resigned drowning girl is almost the perfection of art. The figure floats down the deep, dark stream at night; the deed has been literally a deed of darkness; but a silvery nimbus, as described in the legend, floats mysteriously over the head of the martyr, and is seen by the ruffian executioners, whose forms are dimly shown at the top of the high bank, and who are evidently

about to fly in abject terror from the scene of their dreadful work. The heavenly calm of the young martyr to her faith, the face and bosom alone remaining above the dark water, while the rest of the sinking figure is dimly seen beneath the eddying ripple, are so touching in their masterly treatment, that one wishes that Mr. Millais could have seen this picture before he painted his drowning Ophelia; and speaking of Mr. Millais, reminds us that in the Belgian gallery there are pictures by H. Leys, which show pre-Raffaellism upon a scale not yet attempted in England. His great pictures of the Institution of the Order of the Golden Fleece, the edict establishing the Inquisition in Flanders, and four others, are laborious imitations of the bad drawing, false perspective, piled-up grouping, hideous female faces, and knock-kneed shanks, in particoloured hose, that one finds in the inferior illuminations of the MS. chronicles of the fifteenth century; and yet the reproduction of this dead phase of art—the galvanizing into a grotesque new life of the struggles of Mediæval art—is so powerfully executed; the depth and richness of tone is so attractive for its own sake, the sentiment so striking, that one cannot but devoutly wish that such evident talent may not be always destined to walk backwards. And when one knows that Mr. H. Leys must often see such works as those of his countryman Gallait, especially such as "The last Moments of Egmont," and "The last Honours paid to the Remains of the Count Egmont and Horne," of that artist, one cannot believe that he will persevere in his present wilful system of clever retrogression.

On casually looking over the statuary distributed about the nave and transept, one cannot but be struck by a peculiar kind of, perhaps unconscious, plagiarism that is just now prevailing among a certain class of sculptors. Mr. Hiram Power, in his "California," reproduces his own "Greek Slave;" and in his fine bust of "Proserpine" he not only issues a new edition of the head of the "Greek Slave," but copies also the sedges from which the well-known antique bust in the British Museum emerges, as from a natural drapery: the only change being that he adopts the acanthus-leaf instead of the sedge. The "Boy with a Bird's-nest," in the Roman Court, is but a variation of a well-known figure that has been a favourite in plaster-casts of all sizes for years; and then Mr. Ives's charming "Pandora" would not have had that peculiar slimness of figure, and that small and somewhat hard Grecian head, but for the popularity of Power's first popular work.

There is a "Diana" so evidently inspired by Jean Gougon's celebrated "Diane de Poitiers," that, although the position is entirely different, the close relationship is seen in a moment. There is a large group, representing a scene in the Deluge, very sharp and spirited, though only in plaster—but then it is not original: the whole idea is but a free translation of Girodet's famous picture. Among Austrian specimens of sculpture, Kaeschsmann's group of "Jason and the Dragon" is glaringly like several things by Canova; while Leopold Kiesling's corresponding group is almost an absolute reproduction of Canova's "Mars and Venus" under other names.

After the lapse of a whole fortnight, what has been the conclusion arrived at with regard to Gibson-tinted sculpture? That it is "caviare" to the multitude seems pretty certain. The experiment has been too timid; the Mediæval system of statue painting was much more successful. I remember a "S. Francis" in some Italian church—I cannot recollect where without my old note-book—in which the effect of the colouring was most impressive. The brow and eyelids were overhanging: a skilful device of the sculptor, no doubt, to throw a soft shadow over the deep violet-toned eyes, that looked down with such benignant, pitying languor upon kneeling devotees, that always made his shrine a favourite spot in that old church. The statue was lighted only from a small window in the domed roof, the corroded glass of which only admitted subdued rays—just light enough to cast an air of mystery about the sculptured saint that was most impressive. Arrangements of this kind must not be deemed the mere tricks of art: they are among its more essential ingredients. In the case of a single picture or statue of the highest class of art, painted for some high purpose, the light by which it is seen is almost as important as the forms and colours of the object itself. In the Pagan temples of antiquity this principle was thoroughly understood; and in the chief cella, or, as we should say, chapel, only a soft dim light was admitted. It was in such a chapel that Phidias's famous statue was placed—within the temple erected among the deepest shade of the sacred wood. The limbs of this famous statue were of ivory, which appeared to represent the tone and texture of the finest skin; the drapery, falling across the knees, was of gold, as were the hair and beard—which did not appear unnatural, as it was the custom to wear powdered gold leaf in the hair on certain sacred festivals. The eyes were composed of gems; and, in the subdued light in which the work was seen, Strabo tells us that it seemed to realize the actually *præsens numen*. Phidias afterwards recommended simple marble as a more durable material, when about to execute his second greatest work; but the Athenians preferred the more attractive and life-like warmth of the ivory. The effect produced by a statue composed of different materials in this manner was no doubt highly impressive, when placed in a fitting light, and at a proper distance from the eye of the spectator. Distance, and a certain amount of dimness in the light, are, in fact, absolutely required for a certain class of human works of art imitating or symbolizing the higher forms of nature. For it must be recollected that the works of the chisel and the paint-brush are not like works of nature, that display greater beauties the more their structure is exposed, even under the powers of the microscope; but are, on the contrary, full of inevitable defects, which a veiled light and a certain well-calculated distance are required to conceal. It is to be hoped that the good people of Tournai have placed their magnificent picture of the "Last Honours paid to Horne and Egmont," painted for them by Gallait, in such a position; for in their fine old Town Hall there must be many such. And so, after this digression, we return to Gibson's statues, of which the tinting is either too much or too little. The tone of the hair is too feeble to support the violet of the eye, which consequently appears, as I said before, too dark, and slightly staring. Had the drapery been of a rich, but not too strong violet, enriched with gold, it would have relieved and aided both the eye and flesh tones. To the "Amor" and the other statues in the Gibson pavilion similar remarks will apply. Had their distance been greater, the tinting bolder, and the light a prepared one, the effect might have been beautiful. Other attempts at showing, not colour, but different textures, in marble statuary have been attempted in some statues in the Exhibition. In these necklaces and other ornaments are polished,—the flesh being left to exhibit the smooth but unpolished grain of the marble. This has not a good effect, as the ornaments so treated look as though stuck on.

In the pretty electrotype reproduction of Mallet's beautiful statue, "La Primavera della Vita," the flesh is silver, while the hair and draperies are gold; the silver Cupids having golden wings, and the general effect being both rich and beautiful. The drapery of some other silver figures, exhibited by M. Christophle, is tinted by means of a transparent enamel, which produces the most happy effect in conjunction with the natural tones of the gold and silver, with which it is made to play a part.

While speaking of artificially-coloured metal-work, one cannot omit remarking upon the appropriate adoption of the deep tones of blue, purple, and ruddy brown, in the iron screen for Hereford Cathedral,—those tones being all formed of chemical preparations from iron itself, and all of them hues which iron might assume naturally, under particular conditions. Even the green, by means of which the other tones are sparingly heightened, finds the excuse for its use in the bronze portions of the screen,—a preparation of copper yielding the very tone required. This is a genuine application of science to art.

Among the most tasteful examples of arrangement in the whole Exhibition, the manner in which some of our colonial products are displayed may be cited. In the Australian department, an architectural entrance is formed by bales of wool built into a great arch, supported by square columns, produced with the same unusual materials. Pretty devices, too, are formed with such unpromising materials as hemp and flax; and polished sections of native woods are arranged in very suggestive ways, showing what effects might be produced by their judicious use in all kinds of decorative work, large or small. And then the gorgeous butterflies of British Guiana are so temptingly displayed, that new colonists might be tempted out for the mere pleasure of capturing such exquisite creatures, especially if of an entomological turn.

How slowly the great majolica fountain rises! If it does not get on better with its *work*, it will never begin to *play*, as a punster might say. But there is, perhaps, a very sad cause for the seeming delay. Mr. Thomas, its designer, the regretted sculptor, has not lived to see his design realized. The hurry and anxiety connected with that great undertaking, and with other works which he intended to exhibit, may have contributed to the sad event. If it be so, he is not the only victim of our great decennial challenges to the world in art. A similar example has occurred elsewhere. The ambition of a village clockmaker, known to me, determined him to make an immortal name in horology in our Great Exhibition; and he has just fallen a victim to a task which overtaxed his physical powers. In 1851 he had nearly completed a clock, which did not only mark the time in various novel and ingenious ways, but marked also the change of the moon, the time of the sun's rising and setting, and even the state of the temperature. It was nearly finished within the prescribed time, but its thorough completion was impossible. He wished to exhibit it in its partially unfinished state, but the Commissioners refused to receive an incomplete work. The disappointment was more than his already overtaxed wits could bear, and he was carried to a lunatic asylum, where he remained till the Exhibition was over and forgotten. About two years ago he came out again, restored; but, unfortunately for him, there was another exhibition coming on. This time, surely, the great clock might be finished. His progress was great. Month after month the work grew towards greater completeness than he had ever hoped. The time drew near; success seemed certain; when a crushing stroke of apoplexy stopped both the clock in the workshop and the clock of life in the poor overwrought frame at the same blow. Then there was poor Collins, the well-remembered optician of the Polytechnic Institution. He had determined, on the occasion of the present Exhibition, to exhibit the physioscope,—the well-known instrument of his own invention,—on a gigantic scale. The great tube was complete; two of the immense lenses perfect; but one morning, after a sleepless night, during which he had, no doubt, planned some important improvement, as he was hurrying to his workshop, he staggered, fell forward, was caught in the arms of a workman, and his worldly trials, which had been sad and many, were over. I saw the great tube of the projected instrument only the other day,—a sad monument of blighted expectations and unrequited labour.

But the crowd passes on: it cannot stop for those who faint and fall by the way; and neither the work of the village clock-maker, nor the giant physioscope of the poor optician, is missed in the brilliant show through which we have been rambling. It is in verity a magnificent assemblage of the results of man's genius and power, and full of encouragement for the future, in every light in which it can possibly be contemplated, There are those who have cavilled about the desirability of another Exhibition; but its results will at once prove the worthlessness of all such timid views. Then there are those who, allowing themselves to become angry with the shortcomings in the management, recklessly condemn the Exhibition itself, and the very principle of such exhibitions; which is something like breaking the windows of the parish church, because some pragmatical young curate has made himself odious by incapacity and conceit. No; the Exhibition will be a great success, even though there had been ten times the amount of mismanagement that has really occurred. That it is also a source of deep interest to other nations, as well as England, we may gather from the presence of a whole tribe of foreign reporters, pencil and note-book in hand, rapidly framing reports, which are forwarded by every post to their respective countries. There is the Russian reporter; there, a distinguished *littérateur* from Belgium, charged with the pleasant task of a daily feuilleton for Brussels; there, a group of men of letters from Paris, and among them may be distinguished at a glance the fine intelligent face of Theophile Gautier—sparkling with the very quintessence of light Parisian banter, alternating with bitter incisive wit, as the occasion may require. But he should leave alone English quotations, even when he copies them from such large print as that on the fascia of the great domes,—his version of that inscription sent to the *Moniteur* is a perfect marvel of absurdity. And there is Mr. Assolant, too, the correspondent of the *Courrier de la Dimanche*, whose ignorant impertinences on London and the English in his recent reports have conferred upon him the sobriquet of Mr. *Insolent*.

Others will recount all the wonders of gold work and silver work, of lace work, silk work, and cotton work, of iron work and zinc work, and of manufactures in bronze, and stone, and rare woods; and also of marvellous machinery, with its still more marvellous results. I am only a rambling general spectator, chatting over general impressions.

MEMORIALS OF ARCHITECTS.

PERMIT me, through the medium of your extensively circulated pages, to call attention to the state of a few of the memorial stones to deceased architects, which has lately been pressed upon my attention. I do so in the hope that some of the descendants, or others, that have been interested in the eminent personages, either in their lifetime or after their death, may be actuated by their feelings of esteem to give the records that little attention which may conduce to their preservation for future generations.

James Gibbs.—Died 1754.

The memorial of this well-known architect exists as a tablet, of a small size, placed inside, and on the north wall, of Marylebone Chapel. A few shillings would renew the polish of the marble and the painting of the lettering, the top line of which is scarcely readable. The trustees of the Radcliffe Library, at Oxford, to whom he left his library, drawings, &c.; and who appear, by their present, lately made, of a cast of the bust of Gibbs to the Royal Institute of British Architects, to esteem the architect of their noble edifice; might surely take this task upon their hands.

Joseph Bonomi.—Died 1808.

To effect a restoration here, an "Old Mortality" is wanted. The headstone in the Marylebone Cemetery, on the south side of Paddington-street, is not far from the entrance-gate, and close to the newly-erected railings. The weather has acted upon the stone; almost entirely obliterating the centre portion; but the upper part is just discernible; the oil of the paint in the lettering having apparently preserved the stone; giving the large letters the appearance of standing slightly in relief. From the length of the inscription, which is preserved in Lysons's "Environs of London," Supp. vol., the lower part of it must be covered by the soil. The sons, it records, had something to do with the erection of this memorial: will they renew the inscription?

George Dance (the elder).—Died 1768.

Until I found out this tombstone, and some other records, it was not known when he died. It is a large black stone, lying on the south side of the church of St. Luke's, Old-street. The inscription, though cut as long since as 1788, is still very legible, but requires attention in some parts where the stone has become worn.

Henry Fliteroft.—Died 1769.

To his memory there are both a flat stone and a tablet, close to each other, near the tower of Teddington Church. I have not seen them; but a friend who kindly copied the inscriptions for me last year, one in Latin, the other in English, stated that they were indistinct. I believe there is no descendant living.

James Gandon.—Died 1823.

To him there is no monument in the chapel at Drumcondra, near Dublin, where he was buried. Indeed that city is a sufficient one! But there is not even a tablet! nothing but the flat stone, recording the place of burial of his friend, Francis Grose, in whose grave Gandon was buried. Is there not one of the native architects of his adopted country to inscribe, at least, "Here lies Gandon"? There is room on the stone for that, and for more.

WYATT PAPWORTH.

ON THE LIFE OF WELBY PUGIN.*

IT is an evident fact, but scarcely a truism, that any man who in these days would be a reformer of art must bring to the effort an extraordinary power of mind; and it seems to me that this power may be spoken of as of three kinds—the power of logic, the power of design, the power of enthusiasm; muscular intellect, magical imagination, electric passion; the head of the man, his hand, his heart. For the sake of illustration let me cite, as men whose fame is familiar to us, of our own day, and of our own province, Ruskin, Barry, Pugin. Ruskin, the subtle thinker, the exquisite poet, not without the ability of design—far from it; not without fervid zeal—far, indeed, from that,—but, beyond all, the keen critic, stern teacher of the abstract. Barry, the graceful master of the pencil; the clear-headed, nimble-fingered, unimpassioned worker, working steadily in silence, and winning the day, without a word of philosophy, without a flutter of emotion. Pugin, the visionary dreamer, a man of most laborious hand, of refined and fertile fancy, of solid intellectual strength; but a wrestler wrestling fitfully in heat and rage, and losing the day—the more the pity—his philosophy in tatters, and his passion a wreck. And if you require me to suggest who shall be called the greatest of the three, I must ask Barry and Pugin to divide my suffrage—the one the sailer with the stream, the other the sailer against the stream. It is no disparagement to the sailer *above* the stream if, in the judgment of practical minds, he must here give place to practical men.

I cannot, perhaps, set forth my views of Pugin in a single sentence better than this. He was a genuine reformer of art; no mean office. He combined in his own person all the three species of reforming energy;—no usual thing; and he combined them in no usual force. Passion of the most passionate on earth reigned within him supreme. His artistic ability was of the highest order of his day—the very highest. As for logical skill,—even of this he had enough for his mission, and, what is more singular, he had not too much.

He died but ten years ago; he lived but forty years. To some of us, when we look back reflectively, it would almost seem as if he had died a century since, and lived a century: so much seed did he sow; so much fruit has it produced.

I have thus, I think, made sufficiently clear my purpose for to-night. I am to speak of Welby Pugin, not as an odd fish, not as a crazy fanatic, not as a lost and wasted light, not as a defeated foe; but as a giant in his day, of whose stature the vocation which we represent may fairly and for many a year be proud: a man of genius—of such strange genius as to appear rather the ideal of some old romance than the living compeer of yesterday.

The life of Welby Pugin was of three chapters: his youth, his manhood, his eclipse. It will be interesting to make one chapter more, that we may understand his origin,—the origin, that is to say, of his career,—that which brought about his mission, and brought him forward to meet it. To sketch these four chapters of the history of the art-reformer can scarcely fail to prove instructive and stimulative to earnest minds. On the other hand, to follow the journey of the man,—to mark his uneasy footsteps, his persistent but fallacious purpose, his ultimate disappointment and despair,—may encourage most of us to be well pleased that we are not men of genius.

I.—THE CHAPTER OF ORIGIN.

Welby Pugin, born in 1812, had begun by 1827 to be an acknowledged artist. The first question, therefore, is this,—What was the state of things into which in 1827 this destined reformer came? The second question follows,—What was he, how prepared, who came as he did into this state of things to be a reformer?

At the close of the last century, the condition of English architecture was this. The practice of the Classic style had degenerated into a certain imbecile frippery that cannot be denied, and need not be described,—mere tatters of Cinque-centist design patched together in lath and plaster, casing and cradling, hollow iron, and sanded wood. The practice of a certain Mediæval style had recently come in as a new fashion, and upon the selfsame easy principles. Horace Walpole's Strawberry Hill, Batty Langley's five orders of Gothic architecture, James Wyatt's ecclesiastical restorations, and the Carlton House conservatory "in imitation of a cathedral," are fair samples of the works which were with difficulty accomplished, and with unanimity admired: the same imbecile frippery, the same tatters of design tacked together, in the same lath and plaster, casing and cradling, hollow iron, and sanded wood.

During the first quarter of the new century, matters improved to some extent. The close of the war set Englishmen all upon their travels; and the popularity of the pure Greek school, which had been acquiring influence gradually for sixty years, chiefly under Stuart and Revett, was raised to the utmost by the exertions of many well-known and esteemed writers, some of whom are still with us in honourable age. At the same time, in Gothic, John Britton felt emboldened to commence his celebrated illustrations of the English Cathedrals (in 1816); following the issue of his "Antiquities," begun in 1806, which followed again the publication of Carter's "Delineations," commenced in 1795. Nevertheless, in both styles, although the delineation of ancient examples, and the art of imitating them, consequently, in new designs, was vastly improving, it must not be supposed that the throne of the counterfeit had in any material degree been shaken. In metropolitan buildings, sham Doric porticoes of painted compo hid flimsy fronts of no one knew what; whilst neat baronial dwellings in the country affected to keep the villages in awe by sham cannon peeping out of embrazures of wood.

In these circumstances there came into some note in London the elder Pugin. He was a French refugee; and had been for many years employed as an office draughtsman by Mr. Nash, the then great king of all this compo architecture, when at length, being about the age of fifty, he married, and in course of a little time established himself in independent business as a professed architectural author and designer, as we may call it, to the trade, with an office and half a dozen pupils,—ruled by his lady with a rod of iron.

The taste of the elder Pugin was altogether Gothic; and his first publication, which appeared in 1821, was entitled "Specimens of Gothic Architecture,"—a work even yet well known. Britton's "Antiquities" had been before the public for a good many years; and his "Cathedrals" had been for five years in course of publication. Pugin may be said, therefore, to have merely followed the lead of others; but his engravings were so good and serviceable, that his work had a decided success, and his name became well known. In 1826 he published another similar work, on the "Antiquities of Normandy." Britton being here associated with him, success still attended his efforts; and he afterwards published other similar works. But we have now arrived at the period when his son, the proper subject of this sketch, began to attract attention, as himself an artist of note, in 1827, as has been said, at the age of fifteen.

Meanwhile, the Eclectic school of practice had come fully into public authority, and Greek and Gothic were recognized as the two great sister styles of architecture, which never could become rivals. To remind you of the buildings which were being erected at or about that time, I may mention Wyatville's Windsor Castle, Soane's Bank of England, Wilkins's University College, Smirke's Post Office; Mr. Cockerell's earlier works, such as St. George's Chapel; Mr. Tite's Scotch Church; Mr. Poynter's St. Katherine's, Regent's Park; Nash's Haggerstone Church, and Barry's churches at Brighton and the north of London.

The condition of architecture at the time of Welby Pugin's youth will thus be pretty clearly understood. The state of stupor of twenty years before had so far changed, that leading practitioners were displaying considerable refinement of design, chiefly in Greek, partly in Gothic; and, although it must not be disguised that inferior men were daily exhibiting all the imbecility of style and imposture of construction which had characterized the preceding age, yet the art, as a whole, was manifestly coming towards that stage of amendment when Reform stept in.

The train of circumstances which had produced the character of young Welby Pugin may also be tolerably clear. In the best Gothic school in London, an only son of the clever, earnest, and hardworking master, and the equally clever and most indomitable mistress, had grown up, clever, studious, and indomitable, to nearly man's estate. He had been clever from the cradle; from early boyhood he had been a draughtsman as if by intuition; and it may as well be at once confessed that it was very early seen that he was to be a wilful, wayward, passionate, and indeed eccentric man. This was precisely the person to become a reformer.

Of the other reformer of the day it is not within our present province to say much; but, to give due effect to the mission of Pugin, we must not forget that Barry was his contemporary. For the reform of architecture was destined to take not one direction only, but two; and up to the present moment, great as have been the results of Pugin's leadership in Gothic, those of Barry's leadership in Italian have also been very great. Of these two famous men, Barry carried a funeral light in St. Augustine's when he who was so strangely his comrade, and never his rival, was laid sadly in an almost neglected grave; and when we buried Barry in honour beneath the ancestral roof of Westminster, bigot as Pugin was, if he had lived he would have been there.

* Read by Professor Kerr at the Architectural Exhibition, 13th May.

II.—The Chapter of Youth.

At fifteen, old Pugin's skilful and enthusiastic boy, finding the regular work of his father's office a bore, was picked up by a fashionable silversmith, to be turned into money in the designing of fashionable Gothic plate. I always pity a manufacturer's artist. I picture the ready fancy and the skilful hand continually kept under a cloud by the decrees of the counting-house. Before long it was worth while—it paid, that is to say—for Messrs. Rundell & Bridge to boast of this and that goblet and dish, as the design of young Mr. Pugin; but, I dare say, there was otherwise little, if any, departure from the time-honoured custom whereby the individuality of the artist is swallowed up in "the well-known reputation of the firm." No doubt there are art-manufacturers listening to me now; they are honourably esteemed and encouraged here, and long may it be so; let me be excused by them for what I now say; but there is a maxim which I would fain urge upon them as a manly principle—and a principle that will pay, I am sure, however improbably, because it is a manly one, and ought to pay. Pity your poor artist, and give him at least the credit of his work; boast of his name, if you please, but do not boast of his work and call it yours; take the money, but let him have the fame.

Pugin was soon picked up again, however. This time it was an upholsterer who got hold of him; and his work was to design Gothic furniture for Windsor Castle. Out of this engagement nothing particular arose, accept, quite accidentally, his first grand whim. He was of the age of fifteen, remember, for it was only June, 1827.

Whims are the incentive efforts of genius. There are some people who never get beyond this whimsical stage; perhaps they are to be geniuses in another world; but there are others who get through it early. Pugin was one of these last; he went quickly over the ground; but the whimsicality was stupendous. So now comes whim the first.

At the upholsterer's he met the son of a scene-painter of Covent-Garden Theatre. He had never been in a theatre in his life; the only theatre to which his Puritanical mother took him was the chapel of the fanatical Edward Irving, the apostle of the Unknown Tongues. "Terribly long sermons," he would say; an hour and a half at a time, and he couldn't understand a word of it. Now, however, he went behind the scenes at Covent Garden, and at once understood all about that. Gothic scenery was fashionable. He made a rush at the subject; studied the processes of painting and machinery, and for some time, as a mere boy, was the great Gothic designer of such things. Not content with this, he cut to pieces the attic story of his old father's house in Great Russell-street, formed it into a theatre of his own, and there revelled in designing (to use the words of Mr. Ferrey) "the most exquisite scenery, with fountains, tricks, traps, drop-scenes, wings, soffites, billy scenes, flats, open flats, and every magic change of which stage mechanism is capable." Suffice it to say that he rode his hobby very hard over this pleasant landscape for about two years without drawing rein; then suddenly throwing it on its haunches, with the unceremonious kick of genius, he dismissed it for another whim.

His new passion was the sea. Whether the ocean is a Gothic element in these days, when everything is matter of opinion, might be a question for debate; but Pugin loved it to his dying day. "There is nothing worth living for," he would say, "but Gothic architecture and a boat!" A sort of Garibaldi in art, he took the command of a smack, and then of a schooner, and went into trade. At length old Neptune—perceiving, perhaps, that one more foolish young rover was ripe for a lesson—cast him lamentably upon Scottish rocks, and left him half-drowned and half-starved to seek a friend where he might. He made his melancholy way to Edinburgh; went courageously to one of the principal architects, and introduced himself and his misadventure. Gillespie Graham clothed and fed his erratic professional brother joyfully, put a purse in his pocket, and sent him home to London, with a dose of sound Caledonian counsel, and a keepsake whereby to remember it—the good man's silver compasses. All this produced satisfactory results. On his arrival in London the repentant sailor took earnestly to art. Six years afterwards one of the most striking designs for the Palace of Westminster (some said it was the best of all) was Pugin's work in Gillespie Graham's name. In Herbert's portrait, after many years more, Pugin holds in his hand the venerable silver compasses.

The date of this not unfortunate shipwreck was 1830; and the ruined commander had reached the age of eighteen. He now took to art, I have said; he took to it, however, still whimsically.

Whim the next was an architectural whim,—the establishment of a factory for Gothic carving. He took large premises at Covent Garden; engaged carvers, and undertook the supply of ornamental work for architects, in all quarters of the country; making, of course, his own designs of detail, as he alone, even at eighteen, could make them. It seems a hard thing to say, but we are scarcely surprised to be told, that within a few months the speculation proved a total failure.

The idea seems ridiculously natural, but one might fairly say that, amongst all these whims, it is a wonder he had not married. Well, he had married. "I had married," he would tell you, "twice before I had shaved once." It was a short courtship; the young wife came from the scene-painting connection; she was taken home to old Mr. Pugin's house in Great Russell-street; the parents much disapproved the match, but they did not dare to thwart their wayward son. The poor girl, however, proved an affectionate companion; and when she died, within the year, the boy-husband's heart seemed broken. The desolate youth, in his infinite depression, looked back upon his past life. To smile at his hyperbole would be sacrilege. He was not twenty: he looked back over six years: there had been crowded into those six years—even his stern mother said so—"a whole lifetime of woe." Whim after whim: he resolved to seek out for her burial some pleasant place after the pleasantness of his own odd fancy. He took her to Christchurch, in Hampshire, because it was a pleasant place. Three weeks after her death he laid her in the vault, with unusual ceremonial, at eight o'clock at night. Perhaps it was a comfort, perhaps an embarrassment: she had left behind her the sad legacy of a new-born daughter.

Whim after whim; he was not yet twenty, and we lose their reckoning. He now resolved to build himself a model house. It would seem that he had cherished this whim for some time, young as he was. He would build in the Mediæval manner, of course: not in the manner which Nash and Wyatt followed, but in what that manner ought to be. He fixed upon a piece of ground near Christchurch, where he had so lately buried his young wife. All was speedily in readiness except one thing—the money.

We all know how inflexible a thing this is; how the money will always have its own way; how it is of no use to coerce it, or to coax it, or to propose any sort of compromise to it; how nothing will weigh with it for a moment but mean mechanical considerations, vulgar reckonings, callous unimaginative arithmetic. It has been the great enemy of poetic and impassioned minds from Tubal Cain till now, and has behaved towards them in a shameful and remorseless way. Young Pugin was positively stopped short on the very threshold of his project by this ill-conditioned adversary. His indignation and disgust may be more readily imagined, as the phrase goes, than described. An application was made to the old gentleman in Great Russell-street to become surety for his son. The drawings, no doubt, were ready; the cost counted; the building staked out; but old Mr. Pugin was seventy. He declined the investment. And, what is more discreditable still to human nature, there is not a soul in this room who does not consider him to have done quite right.

However, in the same year, 1832, old Mr. Pugin died, in December; and early in the year following died his widow. All that we have to remark about them here is, that they seem to have been buried quietly and without a whim, at Islington, under the control of Mrs. Pugin's sister, who had long dwelt there. Mrs. Pugin, in her youth, had been the belle of Islington, although her beauty was of the severe order. An eccentric gentleman once said to her, "Madam, how exceedingly like you are—to the devil!" And she accepted the remark as a compliment.

III.—The Chapter of Manhood.

The year 1833 saw Welby Pugin, at the age of 21, an orphan, a widower, a father; one who had seen ups and downs in the world; one who had had his projects, and had some of them still.

He was a slovenly, ordinarily-looking person; impatient, dogmatic, and whimsical; sailor-like in dress and habits, with a redeeming dislike, however, of beer and tobacco, and a still more redeeming brightness of enthusiasm in his eye. In all his ups and downs his memory had never ceased to accumulate its stores of Gothic art, and his rare right hand had not forgot its cunning. He now began in earnest the battle of life. It will be seen that his ardour, although all unabated, and still like no one else's ardour, was now the steady purpose of manhood, and no longer the caprice of a boy.

He at once married again. The new connection was still somewhat hastily and enthusiastically formed; but the lady was one who proved worthy of his respect, and competent to influence him for good throughout the best part of his life.

He went to reside at Salisbury, and became as nearly as possible a man of business,—a practising architect. At first he passed a good deal of his time in Gothic sketching and study, making a tour, indeed, of the English cathedrals for this purpose. He everywhere found restorations, repairs, re-arrangements, in the manner which we described a little time ago. He disapproved of them. He expressed himself vehemently about them. "I rushed to the cathedral; but, horror! dismay! the villain Wyatt had been there! All that is vile, cunning, and rascally is included in the term Wyatt!" Again,—"The church is in dreadful repair—fall it must; and all that is to be hoped is, that in its fall it may annihilate those whose duty it was to have restored it." Again,—"The church was improved and beautified about thirty years ago by the late Mr. Wyatt. Yes—this monster of architectural depravity, this pest of cathedral architecture, has been here;—need I say more? The man, I am sorry to say, who executes the repairs of the building was a pupil of the wretch himself, and has imbibed all the vicious propensities of his accursed tutor." We can only say, that this was, at the worst, very sound criticism, and at the best very rough language. Sound criticism and rough language were to be his through life.

Soon after his settlement at Salisbury, a relative died, bequeathing him a considerable legacy. What was he to do now? There is a logical certainty about some people's most odd doings—a method in their madness—which enables us to guess to a nicety what they are to do next. Pugin's aunt left him money, and the question is, What was he to do with it? Money?—why, money was the identical thing which stopped him short in the matter of his house. He would build his house with it, of course! He selected a suitable site in the neighbourhood of Salisbury, bought it, and forthwith erected his long-contemplated Gothic dwelling. It was what may be called a plain fifteenth-century square brick house, of three stories, with a high-pitched and crested hip roof; and there were two attached turrets,—one constituting a small porch below, and a belfry at the summit.

The elevations were altogether unsymmetrical, and, I think, more in the simple, ungarnished, and unaffected spirit of Mediæval domestic work than any other modern design of the kind I know. The high road in front of the site being some feet above the ground within, and the lowermost story being therefore formed as a basement of kitchen offices, the entrance-door was reached on the first-floor level by the not inappropriate but needless means of a small drawbridge. The rooms are generally described as having been quaint and uncomfortable; but there was nothing in it to mark as yet the peculiar mission of the man, except, perhaps, the domestic chapel, and the hagioscope by which the occupants of the bedchamber story might listen to the service at early morning.

The plan generally is pronounced to have been more modern in its principles than ancient. The decoration, fittings, and furniture, were of course in Mediæval style, the design of the owner's hand.

Meanwhile, he had brought out several books illustrative of Gothic art. During the years 1835 and 1836, he published no less than four volumes of designs, in so many various departments of his favourite style, namely: first, his "Gothic Furniture," and succeeding this, his "Iron Work," "Gold and Silver Work," and "Ancient Timber Work." Although the knowledge of what we call Mediæval principles has vastly progressed since that time, no one who examines those early works can wonder that they attracted great attention, became the accepted authorities on their subjects, and established the reputation of their author as the leader of the new-fashioned Gothic style of ornamental art.*

South Kensington Museum.—During the week ending 10th May, the visitors have been 14,135 in number.

* To be continued.

CUSTOMARY CHARGES OF ARCHITECTS.

AT a meeting of the Royal Institute of British Architects, held at the house in Conduit-street on the 12th instant, Mr. Owen Jones, V.P., in the chair; it was resolved that the following outline of charges, as being those now usually and properly made, should be issued :—

"New Buildings, &c.

The usual remuneration for an architect's services, except as hereinafter mentioned, is a commission of 5 per cent. on the total cost of the works executed from his designs; besides which, all travelling and other incidental expenses incurred by the architect are paid by the employer; who is also chargeable, under certain conditions, as hereafter mentioned, for time occupied in travelling.

But for all works in which the art required is of a high kind, and the expenditure mainly for skilled labour and not for materials,—*e.g.*, in designs for the furniture and fittings of buildings, for their decoration with painting or mosaic, for their sculpture, for stained glass, and other like works,—the architect's charge is not made by way of commission on the cost; nor does it depend upon the time employed in making the design; but is regulated by special circumstances, and varies according to the skill and artistic power of the architect.

A commission of 2½ per cent. is to be charged upon such works as sculpture, stained glass, and others of a similar nature, for which the architect does not give the design, but arranges with the artists or with the tradesmen, and directs the work generally.

In works under 500*l.* in amount, 5 per cent. is not fairly to be considered as remunerative; and in such cases it is just to the employer as well as to the architect to charge by time or by a scale, varying from 10 per cent. for works under 100*l.*, to 5 per cent. on amounts above 500*l.*

The commission is reckoned upon the total cost of the works, valued as if executed entirely by labour and of new materials provided by the builder.

The commission is to be charged upon the whole value of the work executed, with the addition of 2½ per cent. upon any omissions.

This is exclusive of the charge for measuring extras and omissions.

The architect is entitled during the progress of the building to payment on account at the rate of 5 per cent. on the instalments paid to the builder, or otherwise to half the commission, on the signing of the contract, and the remainder by instalments as above.

Travelling.

All travelling expenses are to be charged extra. These rules suppose the work to be executed within an easy distance of the architect's office; but if the work is executed at a considerable or inconvenient distance from it, an allowance beyond the 5 per cent. ought to be made for the *time* occupied in travelling, in addition to the actual expenses.

Extra Services.

The per-centage does not cover professional services in connection with negotiations for site, arrangements respecting party-walls, or right of lights, nor services incidental to arrangements consequent upon the failure of builders whilst carrying out work; but all such services are charged for in addition, the basis for charge being the time employed.

Alterations in Design.

Supposing that the employer, after having agreed to a design, and had the drawings prepared, should have material alterations made, an extra charge may be made according to the time occupied.

If the architect should have drawn out the design complete, with plans, elevations, sections, and specification, ready for estimate, the charge is half the usual commission above named.

If the architect should have, in addition, procured tenders in accordance with the instruction of his employer, the charge is half per cent. extra to the above.

Alterations of Buildings.

For works in the alteration of premises, the remuneration may be increased according to the time, skill, and trouble involved.

Duties of the Architect.

All of the following requirements for buildings are included in the ordinary charge of 5 per cent. :—

Preliminary sketches.

Working drawings and specifications sufficient for an estimate and contract.

Detailed drawings and instructions for execution.

General superintendence of works (exclusive of clerk of works).

Examining and passing the accounts (exclusive of measuring and making out extras and omissions).

No additional remuneration is due for making such a rough estimate as may be obtained, for instance, by cubing out the contents. If a detailed estimate be framed, additional remuneration is due from the employer.

An architect is bound, under the 5 per cent. charge, to provide one set of drawings and one set of tracings, with duplicate specification; it being understood that the architect is paid for the use only of the drawings and specification, and that they remain the property of the architect.

Estates.

The charge for taking a plan of an estate, laying it out, and arranging for building upon it, should be regulated by the time, skill, and trouble involved.

For actually letting the several plots (in ordinary cases) a sum not exceeding a whole year's ground-rent may be charged.

For inspecting the buildings during their progress (so far as may be necessary to ensure the conditions being fulfilled), and finally certifying for lease, the charge should be a per-centage not exceeding half per cent. up to 5,000*l.*, and above that by special arrangement.

All the above fees to be exclusive of travelling expenses, and time occupied in travelling, as before mentioned.

The charge for the above does not include the commission for preparing specification, directing, superintending, and certifying the proper formation of roads, fences, and other works executed at the cost of the employer, nor for putting the plans on the leases.

Valuations.

The following definite charges are recognised for valuation of property :—

The charge throughout is 1 per cent. on the first 1,000*l.* and half per cent. on the remainder up to 10,000*l.* Below 1,000*l.* and beyond 10,000*l.* by special arrangement. These charges do not include travelling expenses, nor attendance before juries, arbitrators, &c.

Per Day.

The charge per day which may be made by architects depends upon their professional position; but the minimum charge is three guineas per day.

Dilapidations.

The charge for estimating dilapidations is 5 per cent. on the estimate, and in no case less than 2*l.* 2s.

Quantities.

It is not desirable than an architect should supply to builders quantities on which to form tenders for executing his design; but in case of such being done, it should be with the concurrence of the employer, and the architect should be paid by him and not by the builder."

THE RECLAMATION OF LAND FROM SEAS AND ESTUARIES.

INSTITUTION OF CIVIL ENGINEERS.

AT the meetings on April 29th and May 6th, Mr. Hawkshaw, president, in the chair, various papers on the above subject were read.

The first was "On the Sea Dykes of Slesvig and Holstein, and Reclamation of Land from the Sea," by Mr. John Paton. In this the construction of the dykes was described in detail; historical records being given of the earliest forms, including the "Hallig," remnants of large tracts of land, which were shown to be of great antiquity. It was considered that the preservation of the Hallig and of the islands was of vital importance to the whole of the marshes; the full force of the sea being broken on them before reaching the main land. Details of the various forms of dykes were given. Generally, in Slesvig, a slope of 3 to 1 was used on the seaward side, to a height of 10 to 12 feet above the ordinary level of the water. There was then a cess, or bench, of 10, 12, or 15 to 1, according to circumstances; the section being entirely dependent on the position, the extent of the foreland, its height above the ordinary flood level, and its exposure to the direct action of the waves and wind. The variations in the rise of the water on different parts of the coast had a considerable influence on the height of the dykes; and it was shown that a high level of the crown was not always desirable; the banks on the island of Pellworm being instanced as illustrations. The application of the curved stone facing for defending the dykes appeared only to be justified under peculiar circumstances, and by the want of straw and the scarcity of labour in the time of danger; as it was thought to prevent the natural rising of the ground, and to cause a depression at the foot of the facing, besides being very expensive. The materials for and the mode of formation of the dykes, and the various plans of protection adopted, were then treated of. Above the ordinary flood level, grass plots, covered or uncovered with straw matting, were shown to be of much importance; while in exposed places, where every ordinary tide reached the dykes, the sea-slopes were sometimes covered with straw matting, stitched down in a peculiar manner; or they were pitched with stone, or protected with fascine or hurdle works. These and other methods had all been adopted with uniform advantage, under the circumstances in which they had been employed; particularly that of protecting the slopes with twisted straw-bands. It was stated that there was no feature in connection with the dykes of greater importance than the projecting works, or groynes.

In conclusion, the author reviewed the general advantages of these works in England, Holland, and Denmark, and the results which had already been accomplished, as well as those which still remain to be achieved. He considered the true test of successful engineering enterprises to be, not so much the perfection of the gigantic works which had been raised up as monuments of skill, but rather the benefits they conferred upon the world. Judged by this standard, it was contended that no other engineering works were of more paramount importance than reclamations from the sea. It was observed that the country, which was originally a trackless waste, now consisted of some of the richest land in Europe; furnishing, together with the kingdom of Denmark, corn to England to an extent only surpassed by two other great states of the world; besides vast numbers of cattle, sheep, and horses. These results were then compared with what had been accomplished in the Lincolnshire fens and in Holland, and it was remarked that the three marsh countries were capable of affording a larger supply of grain than was now imported from America, Russia, and Prussia combined. Indeed, independently of other great inclosure works, it was estimated that the annual revenue of those countries was at least eight millions sterling; a sum equivalent to more than the net passenger receipts of all the railways in the United Kingdom. There were still upwards of 600,000 acres of land in England and Ireland, worth from 20*l.* to 60*l.* per acre, which might yet be reclaimed; and if similar districts in other countries were added to this calculation, the magnitude of the results could scarcely be overrated. It was remarkable that, notwithstanding the many advantages attending reclamation works, which could now be effected at a less expenditure than formerly, by the judicious application of steam-power, such enterprises were still regarded with suspicion and distrust, although they afforded the means of the soundest and most profitable application of capital.

The second paper read was "On Reclaiming Land from Seas and Estuaries," by Mr. James Oldham.

In practical operations on the Humber, endeavours were in the first instance made to secure a thoroughly uniform surface to the land to be inclosed. Thus, a year or two before embanking, the ground was drained by "gripping," so as to let off the whole of the standing pools, and allow the depressions to silt up. The permanent drainage of the land was provided for by a sluice, the size and the level of the cill of which were determined by the rise and fall of the tide, and by the extent of land to be drained. With regard to the sectional form and area of the bank itself, where the outer face was exposed to a heavily rolling sea, the slope should be gradual; and if the soil to be used in its construction was light, then the bank must have a wide base, and there should be a puddle wall in the centre to prevent leakage. If a slip took place in a tidal embankment, fascines or fagots should not be employed, as they were liable to act as conductors for the water.

In illustration of these remarks, the works of the last embankment, for inclosing 700 acres of new accretion, at Sunk Island, were described. They were commenced in April, 1850, and were completed in the December following, the tide having been excluded by the 1st of July; and

they were executed under the direction of the author as engineer; Mr. G. C. Pauling being the contractor. The total length of embankment was 6,067 yards. That portion which had to encounter the storms of the Humber was 3,943 yards in length; its greatest height being 8 feet 10 inches, width at the base 61 feet, and at the top 4 feet. The outer face had a slope of 5 to 1, and the inner of 1½ to 1. The remaining portion of the embankment was 2,124 yards in length; had an average height of 6 feet 3 inches, though in one part it was 7 feet 6 inches high; was 32 feet wide at the base, and 3 feet at the top. The outer face had a slope of 3 to 1, and the inner of 1 to 1. In making the embankments, the material removed in forming the drains round the inside of the inclosure was employed: where this was not sufficient, the contractor was permitted to excavate from the foreshore, provided the cutting did not exceed 4 feet 6 inches in depth, and did not approach within 6 feet of the bottom of the outer slope. Channels were cut to allow the water which accummulated in these pits to run off after every tide; and within four years these pits were silted up by tidal deposit alone. The banks were raised at once to the height of ordinary spring tides; the natural creeks being left open. These were then filled up simultaneously, and the whole of the banks brought to a uniform level, to the full height required. The first bank cost 10s. 6d., and the second 4s. 6d. per lineal yard; or at the rate of 5½d. and 4½d. per cubic yard on the average respectively. The banks were perfectly watertight from the first, and the greatest settlement in any part was not more than 15 inches.

Details were then given of the self-acting draining sluice, or clough, which was provided with tidal doors, and had been erected at a cost of 380*l*. It appeared that the foundation consisted of timber piles, and that the superstructure was composed of brickwork with stone copings. The hollow quoins, the framing of the gates, and the top cills were of English oak; the bottom cills being of elm timber. A door, capable of being raised or lowered by machinery, was provided, to admit of the outfall, which was liable to be silted up in dry seasons, being occasionally scoured; and this door could be used, in very dry seasons, for admitting a quantity of tidal water to fill the fence ditches.

The third paper read was "On Reclaiming Land from Seas and Estuaries," by Mr. J. H. Muller (of the Hague).

After contending that the effect of reclaiming or draining land was to remove the cause of malaria, or ague; and not, as had been erroneously asserted, to produce it; the author proceeded to point out that, in designing such works, the object should be to inclose the largest area, with the least length of bank, and the smallest average cross section. These points were regulated by the direction of the sea-bank, to which attention was next called. It was sometimes recommended that the sea-bank should be, as nearly as possible, parallel with the current, and at an angle to the prevailing winds. But experience seemed to show that, where creeks did not interfere, a different system was preferable; and that one side should be boldly exposed to the full force of the gales; and that the current should be allowed to act upon it almost at right angles; if, at the same time, that one side would shelter or protect the other two sides. By this arrangement a less extent of bank required supervision during gales, and it also presented advantages during construction. The line of the embankment should, if practicable, cross creeks at right angles, and at the same level; and, in all cases, care must be taken to secure the bottoms of the creeks by aprons, to prevent them from becoming deeper.

The extent of land to be reclaimed at any one time was then considered; and it was argued that large areas were the least expensive in the end; for, if a small area was selected at first, some portion of the original sea-banks would be useless when an increase became desirable.

Breaches in banks were attributable either to a small percolation of water underneath the seat, or to the defence or protection of the slope being insufficient. Frequently it was not possible to obtain clay in sufficient quantities to form a puddle wall in the centre of the bank; and, if the force of the wave was strong enough to break through stone and wood, clay would not be able to resist it. Sometimes, at extraordinary high tides, a breach would occur above the cess; but this rarely happened; and the time during which danger could arise was so short that the evil might be remedied before the next returning high tide. When the water rose above the top of the bank, the back unprotected slope was liable to be damaged, and thus to lead to a breach. This might be averted by driving stakes into the top of the bank, and placing planks, supported by clay or other materials, behind them.

The materials employed for the defence of slopes were of three different kinds,—clay and grass flags, wood, and stone. When banks were constructed on salt marshes, the body consisted of clay taken from the adjoining excavations. In this case it was advisable, after trimming the slopes, to sow coarse and meadow grass and clover seeds, and to protect the whole with a crammat. The crammat, which cost 3d. or 4d. per square yard, was composed of a layer of clean barley straw, about 2 inches thick, evenly laid, and fastened to the clay by straw bands, or strands; sixty to ninety stitches being made per superficial yard. In two or three years the bank was so consolidated that the mat did not require renewal. When these banks were on a lower level than the salt marsh, a protection of clay and grass was insufficient. In such cases a layer of clay, protected by stone, at a slope of 4 or 6 to 1, was employed in England, but without a cess, or bench. This afforded the requisite strength; but it was expensive; and, as usually constructed, it needed much repair.

A description was given of the protection by fascine work. This consisted of layers of fagots, 5 or 6 inches in thickness, placed in a direction up and down the slope of the bank, the thick ends overlapping the thin ends of the lower rows. These were fastened down by stakes, which were left 8 inches above the fagots, and were connected together by means of willow binders, or "wattles," something like hurdle-work. When the proper sort of wood was obtained, this protection would endure from five to seven years, and was quite able to resist the action of the tide. The strength of this kind of protection might be increased by increasing the number of the stakes and binders, or by filling in with stone, firmly wedged between the rows of stakes. The stone defence, as commonly constructed by the Dutch, on islands exposed to the ocean, was formed thus:—When the slope was trimmed, a layer of clay, 12 inches to 18 inches in thickness, was spread over it, covered sometimes with a crammat. Over this bricks, in one or two courses, were laid; and then from 6 inches to 12 inches of brickbats, on which stones from 12 inches to 18 inches in depth were set. This work, though very durable, was costly, and hence should only be adopted where security rendered it necessary; as, for instance, for banks near to low-water mark.

PLASTER DECORATIONS, RAILWAY TERMINUS HOTEL, LONDON BRIDGE.

AMONGST the larger structures that have been erected in the metropolis within the last few years, may be enumerated our railway hotels, upon which large sums have been expended. We have already given accounts of several. Some of these buildings display a large amount of ornate architectural detail externally; and internally are fitted up with great splendour; at the same time combining every modern convenience and luxury. Ranking with the more notable of them is that indicated above, which is about to be opened. The various works connected with it have been carried out to a successful issue, in a remarkably short space of time, by Messrs. Lucas, Brothers, from the designs of Mr. Henry Currey, architect; Mr. Harris, his chief assistant, having acted as clerk of works, and Mr. Daniel Steele as general manager on the part of the contractors.

On a former occasion we gave illustrations of the edifice, and then described its general arrangements. It rests with us now briefly to notice the most imposing feature of the interior, which consists of a suite of apartments on the second floor, comprising a coffee-room, 66 feet by 30 feet; a library, 28 feet by 23 feet; and a ladies' coffee-room, 30 feet square; all of which have an uniform height of 18 feet.

The ceiling and upper portion of the walls of the first of these apartments display a profuse combination of decorative plaster work in high relief in the Renaissance style, worked with an amount of vigour and artistic feeling that deserves high commendation. The whole of this, as well as the carvings of the exterior, has been executed by Mr. James Tolmie, Belvidere-road, Lambeth.

The ceiling of the coffee-room is divided into five general compartments, by means of beams supported by cantilevers, arranged in pairs under them: the latter are decorated in front by festoons of fruit and flowers, which combine them. The compartments are subdivided into three panels each, the larger one being in the centre, and having a pendant.

These panels are filled with moulded work and foliage, separated from each other by bands, the plainness of which is relieved by the insertion of bold, effective flowers, in a hollow.

The walls below the lower line of the cornice are embellished with a series of foliated arches, supported by pilasters having enriched capitals; the enrichment being carried across the piers between them. The soffits of the arches are also ornamented, together with their spandrils; and, at each end of the room, heads, of the four seasons, are tastefully introduced in their centres, surrounded by shields and scroll-work, surmounted by eagles.

At present the decorations of this room are all in one colour; but hereafter the polychromatic artist will doubtless be instructed to exercise his art upon them, and so bring out some of the ornaments with extra good effect.

The doors and other wood-fittings are of mahogany.

The library and ladies' coffee-room coincide in character with that which we have described.

Mr. Mitchell, of Walton-street, Brompton, has supplied the chimney-pieces, which are of statuary and coloured marble. The rooms are certainly very creditable to Mr. Currey.

THE SOCIAL SCIENCE CONGRESS.

OUR readers are aware that the Congress of the Social Science Association is to be held in London in June next. A *conversazione* will be given by the Association on the evening of the 7th of that month, in the Palace of Westminster. The entrance will be by Westminster Hall. Visitors will be received, probably, by the President and Council of the Association in St. Stephen's porch, and will pass into St. Stephen's Hall, and so to the corridors and Houses of Parliament, illuminated for the occasion. It may be expected that this meeting, which will give many foreign visitors an opportunity to see the Palace of the Legislature under agreeable circumstances, will be a striking feature in the week's proceedings. The judges have arranged their sittings so that all the courts at Guildhall will be available for the different sections during the week. Some evening meetings will be held in Burlington House. Lord Brougham will, we believe, be the President of the Congress.

PROPOSED ALBERT MEMORIALS.

The National Memorial.—The Queen's committee, acting probably on a passage in General Grey's last letter, have referred the consideration of the question as to the National Memorial to a committee of architects, consisting of Mr. P. C. Hardwick, Mr. James Pennethorne, Mr. G. G. Scott, Professor Smirke, Mr. Tite, M.P., and Professor Donaldson. They held their first meeting on Thursday last, in the Board-room of the Fine Arts Commission in the Palace of Westminster. The whole matter, it will be evident, is exactly where it was when it was, with somewhat too great haste, we are forced to think, taken out of the hands of the committee appointed for the purpose by the public meeting called and presided over by the Lord Mayor. The fear we have is lest this complication of references should result in confusion. Our desire, however, is to assist by every possible means in obtaining a successful result: not to raise difficulties.

Provincial.—It has been resolved, at Yarmouth, to obtain subscriptions towards the central memorial; although an inclination to prefer a local memorial has also been shown.——At Rochester, a drinking-fountain, as a memorial of the Prince, is being erected. The site is one given by Government, in the Military-road. The front will have a large medallion likeness of the Prince, and his arms will ornament the sides. The fountain will be from a design by Mr. Street.——At Hastings, thirty to forty plans have been received in competition for the premium offered for a design of the local Albert memorial clock-tower. It is intended to exhibit these designs publicly in the Market Hall.——At a meeting of the Bridgwater Town Council, the Property Committee submitted plans for the erection of a Town-hall, to commemorate the Prince Consort. It was proposed to erect two halls on the site of the existing law courts, at a cost of upwards of 5,000*l*. The money, it was suggested, should be raised by the sale of the old corporation property, and by borrowing the remainder on security. The plans and report of the committee were ordered to be referred to a committee appointed by the town to carry out the memorial, previous to their being submitted to the public at large.

CLOSING ADDRESS, LIVERPOOL ARCHITECTURAL SOCIETY.

AT a meeting of this society, held on the 7th, the retiring President, Mr. J. M. Hay, made the following address:*—

In closing the business of the fourteenth session of this society, I shall not, at this late hour of the evening, occupy your time or weary your patience by any lengthy address. I have first of all to thank you for the honour you have twice conferred in electing me to this chair, and I shall ever look back with grateful remembrance on the uniform kindness you have shown, and the assistance you have afforded me in the discharge of the duties of this office. When I compare the sanguine hopes with which I entered the presidency with the feeble results which have followed, I regret that so little has been accomplished. But so it is with even our highest aspirations, for, as Pugin says, "An architect is ever dreaming of very fine things, and erecting very poor ones." The close of the session is one of those periods in our society's history, one of those milestones in our progress when we naturally and instinctively pause to count the distance we have come, or mark the progress we have made; and although fourteen years is a short period, yet, in that period, a most marked change has taken place in the architectural aspect of Liverpool. We have no wish to ascribe all, or even the greater portion of the merit of the change, to the influence exerted by this society; yet all must admit that it has exerted an influence; and were it no more than the friendly feeling it has engendered and fostered amongst the members of our profession, in place of coolness, indifference, or jealousy, it is entitled to our respect and support; but when I turn to the many excellent papers which have been read, and the interesting discussions excited thereby, I refer to an agency which I believe must have been beneficial to the profession at large, and the public generally through the medium of our published reports, as it must have been in an eminent degree, or still greater degree, I think, to the authors of those papers themselves.

To select a subject out of the comprehensive field of inquiry embraced by our scientific art, and do it justice in an essay or paper, is to bring our whole range of knowledge, our experience, our critical powers into full play, and is an intellectual exercise of great value. Loose and floating thoughts are laid hold of, matured, reduced to order, and indelibly impressed on the mind. The fountain whence our literary entertainments emanate has shown no symptom of becoming exhausted, for the papers which have been contributed during the session have been fully up to the usual standard of excellence in interest and importance, and bear ample testimony to the critical and literary powers of their authors.

The formation of a good architectural and artistical library was one of the objects aimed at when this society was established; but this has been in a great measure, if not entirely, superseded by that of the Free Library, which, thanks to the indefatigable exertions of the worthy chairman of the Library Committee, is already, and promises to be still more so, one of the best selected libraries for architectural works in the kingdom. From an occasional reference I have myself made to the varied and valuable contents of this department of the library, I am convinced that no greater boon has been granted to the profession in Liverpool in the present age. When we consider the expensive character of architectural books, it would be utterly impossible for this society to collect any library worthy of the name without imposing a heavy tax upon the members. There is, however, a subject closely allied to this which is quite competent for the society to undertake, and which has been under the consideration of your council—I mean the establishment of an art-museum, to consist of casts of architectural remains, examples of the various styles, carved and moulded works, capitals, bases, cornices, shafts, in stone, wood, metal, or other materials, models of buildings or construction, photographs and lithographs—a museum of reference to the architectural practitioner or the young student, and connected with this the establishment of a modelling and drawing class. I am sure that, with regard to the education of art-workmen, such a museum would be invaluable; and there are many gentlemen who would willingly become donors of, or subscribers to, prizes having for their object the encouragement of this branch of decorative art. Mr. Stirling, in a paper recently read by him, brought under your notice the advantages of a museum of this kind, and generously offered to superintend the modelling class as soon as it was organized. An upper room, at an annual rent, has been obtained in this building for the purpose, and we trust that you will give it that support and encouragement it deserves.

It was a subject of regret to your council that the prize offered for competition at the commencement of the session was not responded to by the student-members, but I hope that these competitions will be again resumed at the opening of the next; for we must not overlook the supplemental nature of the education received here by the students to that they obtain in the various offices where they are serving their articles; and these competitions are justly considered by the council and elder members of the profession as valuable and more immediate and direct means to that end. It cannot be too often impressed on the student the necessity of diligently employing every moment of his time in acquiring a knowledge of his profession, in all its branches, before his mind becomes engrossed with the cares and anxieties of business, when he will find the opportunities and leisure for study very much curtailed.

On referring to the preliminary meeting, called together for the purpose of organizing this society, I find that out of the list of professional gentlemen composing the committee five have since passed away from amongst us, the last being that of my late lamented brother. Closely as my brother William and I have been associated with him in his professional career for nearly twenty years, it would not become me to dwell upon his architectural ability further than to say that, along with a first-rate practical knowledge, he was well acquainted with architecture as an art. Educated chiefly as a surveyor in the city of Edinburgh, he had early imbibed a strong partiality for the classic styles; and so early had he become imbued with a love for architecture, that in 1834 he was employed to design a monument in his native town on the banks of the Tweed, to the memory of Sir Charles Majoribanks, the member for Berwickshire. Shortly after this he obtained an engagement in Liverpool, where he arrived just at the time when Gothic architecture was beginning to enlist the sympathies of a small but increasing section of the profession. Gradually his classic leanings gave way as he watched the progress of the new style, and his mind was thrown back upon the study of Mediæval examples. In examining some of his designs, made during his first seven or eight years' residence here, it is curious to note the gradual release from classic feeling and the approximation to true Gothic taste. Many of these were competitions, and, perhaps not unfortunately for his subsequent success, failures. A few unsuccessful attempts of this kind are salutary lessons to the youthful aspirant—they brace the mind and soften the heart, and are usually more beneficial in tempering the character than uniform success. Since then his name has been connected with numerous ecclesiastical and other buildings throughout the kingdom, to many of which a high meed of praise has been awarded. He was a man endowed with good natural powers and a clear and ready judgment, and possessed an indomitable perseverance and energy of purpose. He was cut off in the very prime of manhood, when his experience and judgment were at their best, although for some twelve months or more previous to his death the fatal disease which carried him off had evidently but insidiously been operating over his whole system. This brief tribute to the memory of one who evinced a deep interest in the welfare of this society, took a prominent part in its proceedings, and who not very long ago occupied this chair, though it cannot be deemed a digression in your president's valedictory address, may seem somewhat egotistical from me. I am sure, however, that you will fully appreciate and sympathise with the feelings which forbid me to let the occasion pass without some allusion to his too early removal from amongst us.

The architectural aspect of our streets is improving. Our public buildings and palatial piles of offices are gradually becoming the true and consistent exponents of the wealth and commercial greatness of the town; and no one can view with indifference the desire of our municipal government to open up new lines of communication, and to widen and improve the present overcrowded thoroughfares. That the execution of such projects will be costly is true; but not more true than that their accomplishment will be vastly more expensive if delayed till it becomes an absolute necessity. I am glad to find that greater attention is being every day paid by architects, both Gothic and Classic, to the sculptural departments of design. This is progress; for sculpture, whatever it is on its own account, is certainly an important auxiliary branch of architecture, and her mission is not fulfilled unless developed to the utmost in the embellishment of architecture. Sculpture, as well as painting, were created, or at least chiefly exist, for the adornment of architecture, which may justly be considered as the mother or elder art; and without the calls she has from time to time made upon them, the great master-pieces of painting and sculpture, the frescoes and arabesques of Angelo, Raphael, Da Vinci, and Correggio, would probably never have had an existence. Both sculpture and painting have ever, indeed, yielded their grandest effects in combination with architecture. In the greatest styles the world ever saw—the Egyptian, the Assyrian, the Greek, the Byzantine, the Gothic and Italian of the Cinque-cento period—the union of the three arts was at its highest pitch; and the greatest works of painting and sculpture were produced as architectural embellishments. Michelangelo, Raffaelle, and Correggio, were wall and ceiling painters to their contemporaries. Painting, sculpture, and architecture, are indeed three branches of our art which, divided, are comparatively weak and meaningless, but united appear in their full strength, and yield their sublimest tones, "their grand consummate harmony." It is evident that the architects of the great styles I have referred to thus considered them, and made them foster and adorn each other, and this they may ever do. While architecture inspires the sculptor, sculpture may be regarded as the interpreter of architecture, to which it imparts more vivid and distinct expression. There was a time when the chief architects knew more about sculpture than architecture, and were greater sculptors than they were architects. I refer to the great period ushered in by the revival of art in Italy before alluded to. These great artists, I know, have been cried out against as having too much subjected architecture to the requirements of sculpture; and, indeed, it is true that they introduced and gave currency to many flagrant abuses, both in composition and detail, but it is also true that they greatly advanced architectural design by their masterly application of sculpture and painting to its enrichment, and by the thoroughly indissoluble combination of the three arts in many a successful and glorious conception. In their hands architecture regained much of what she had lost in the hands of the ancient Romans—if not all the purity and delicacy and finish of the Greeks, at least nearly all of the completeness, and much of the refinement of form, which had given place, in the hands of the Roman conquerors of the world, to luxuriance and richness, as more in harmony with the sentiments and character of that magnificent people. The greatest event of the present year is the International Exhibition, which was inaugurated last week with all the pomp and splendour that rank, intellect, and wealth could confer. That marvellous collection of the art and industrial products of every nation and of every clime is now open to the world. It forms, at it were, a mighty volume, on whose pages are inscribed instruction for every class and condition of men, from the philosopher and artist down to the humblest mechanic. Even the mere holiday-seeker, who listlessly walks through its galleries with the eyes of his mind half-closed, will carry home with him some vague impression of the might and majesty of intellectual power. But to the earnest, thoughtful soul, the results of such an Exhibition will be incalculable. It is a grand competitive contest on a universal scale, where the laudable ambition of nations and individuals conspires to the welfare and happiness of the whole human family. It is the development of the grand principles of free trade into the higher phase of the free interchange of thought, tending towards the perfection of every product of art and ingenuity. I am glad to know that our own art is so well represented in this Exhibition, and that the models and designs sustain in so high a degree the architectural reputation of our countrymen.

Closely associated with the present Exhibition and that of 1851 is the name of the late Prince Consort,—a name rendered illustrious by its association with some of the most gigantic projects that have ever been set on foot in this country for

---

* Mr. W. H. Picton, the secretary, read the report of the council, which showed that the number of members then on the books was 177; that the amount of subscriptions during the year was 99l. 14s. 9d.; the balance in hand, 16l. 6s. 9d. Mr. W. H. Weightman was elected president for the ensuing year, and Messrs. Goodall and Culpin vice-presidents. A motion was carried that delegates be sent to London to attend a meeting of architects there, to be held to consider the desirability of forming a society, to be called "The Architectural Alliance." Mr. Stubbs, Mr. Weightman, and Mr. J. M. Hay, were elected the delegates.



EGYPTIAN TOYS.

the intellectual, artistic, or commercial interests of this community. As instances it is sufficient to say, that to his indefatigable exertions the former and present Exhibitions owe their existence. For his untimely and premature decease a whole nation mourns. His memory is hallowed in the bosom of every individual in her Majestp's dominions. In every town the means of the wealthy and the mite of the poor are asked towards the commemoration of his name and virtues amongst us. They will not, I am persuaded, be asked in vain. On such an occasion I cannot help feeling some anxiety as to the form and mode in which our own town will respond to this instinctive and national appeal. I say *will* respond, for I trust that the confirmation of a resolution passed ten years ago for an equestrian statue on one of the pedestals of St. George's Hall, but which, in the interim, has been lost sight of, is not a final settlement of this matter. If I rightly understand the feelings of my townsmen, neither the erection of such a statue, nor the devotion of 700*l.* or 800*l.* to the establishment of a Prince Albert scholarship, will be deemed a sufficient tribute to such a man as Prince Albert from the wealthiest corporation in England and first commercial city in the world.

The town of Liverpool possesses many things of which her citizens are justly proud. She is the proud owner of the finest docks in existence. She has two music-halls; that of the Philharmonic unsurpassed by anything of the kind in the kingdom. Her Free Library and Museum are monuments of individual beneficence. But she has no home for the fine arts, painting, and sculpture. Manchester, Dublin, Edinburgh, Bristol,—all have such institutions. We have none. It is our great desideratum, which, if not supplied now, may not be supplied for many years. Prince Albert was a man so associated in our minds with the popularisation of art, that never did a finer opportunity present itself of, while erecting a monument to his memory, at the same time advancing the interests of art, to which he was devoted. I would have it erected in a central position, and called the Albert Institute of Fine Arts, with galleries for the reception or permanent abode of works of sculpture and painting, and for the accommodation of the annual exhibitions, with the addition of a theatre or hall for the delivery of lectures on art and kindred subjects.

Were this subject taken up by influential men, whom I could name, I am convinced that no project for the benefit of the community would be responded to with greater spirit or liberality. Without alluding to the annual present of the Society of Fine Arts, there are private collections of works of art in this town known only to the few, which, I am informed, would be left to the town, did she possess a gallery worthy to receive them.

Let me again impress on the mind of the student, at the breaking up of the session, the necessity of regarding the instruction he gains here as only one subordinate and elementary means of raising himself into the dignity of an architect. No teaching is complete, or, indeed, of any avail, until the pupil becomes his own teacher, and receives instruction actively rather than passively. Every true architect, strange as it may sound in your ears, though he may have passed a dozen apprenticeships, and been educated by royal or imperial chartered academies, is in reality self-taught, because he cannot become an architect but by *thought*, which no external appliance is in itself sufficient to create. It is your own thought that must render all instruction vital, convert all material into intellectual chyle or blood, for the nourishment of the mind and imagination. Without thought it is all a dead letter, and of no value. It is thought on the part of the architect that lies at the root of the greatness of Greek and Mediævalist. Were Government to endow this society with a rich income, and appoint the most eminent professors to lecture weekly to you from this chair, the secret of its strength must still be in the activity of your own minds. Art will not come at the call of a legislature, nor repeat in England her history in Greece. Earnest thought and diligent practice are what is necessary to bring out the hidden might of architecture and of its professors. It is this that will drive you to make proper use of every means and appliance rightly to employ the elements and principles of Greek, Roman, and Mediæval remains. It will lead you to look to the remains of the past in a spirit of metaphysical induction rather than of that literal and physical imitation which has strewed the land with mere copies of ancient examples. You have every motive for exertion. Every consideration to inspire emulation and ambition may be drawn from your situation and prospects. Architecture is sometimes called the grandest of the arts, and when it has duly drawn upon the resources still possessed in the kindred arts of design she is clearly entitled to the epithet. Certainly there are no detached works of the painter or sculptor can call up such emotions of the sublime as many architectural works which could be named—the Temple of Carnac; the Parthenon and Erectheum; the Mosque of St. Sophia; the cathedrals of Germany, Spain, France, England, Italy; the Alhambra; the Indian tombs and palaces; St. Peter's; St. Paul's. But the Gothic cathedrals alone are sufficient to cite as evidence of the power of architecture to produce the sublime beyond any other art of man. The towering pillars and arcades forming and supporting the long-drawn aisle and fretted vault, symbolising at once eternity and immensity; the ever-recurring, ever-varying vista and expanse; light imposed upon and heightening and brightening light; shade deepening shade; richness increasing richness, fill the mind with an awe and amazement that few of the works of the Creator could increase. Let us not suppose that architecture is effete; that she died in giving birth to these prodigies; that it cannot grow with the age, and yield obedience to the requirements that new circumstances create. There are no requirements possible in the whole range of public or domestic life which architecture cannot adapt itself to, or, rather, form itself upon. There are principles in architecture of eternal obligation, which cannot be laid aside without loss of significance and beauty. But he who thoroughly understands the principles of architecture, and has any adequate measure of inventive power, will be able ever to apply them to new embodiments that new wants and occasions call into existence, making submission to their dictates a further opportunity of ringing the changes upon the beautiful and true.

EGYPTIAN TOYS.

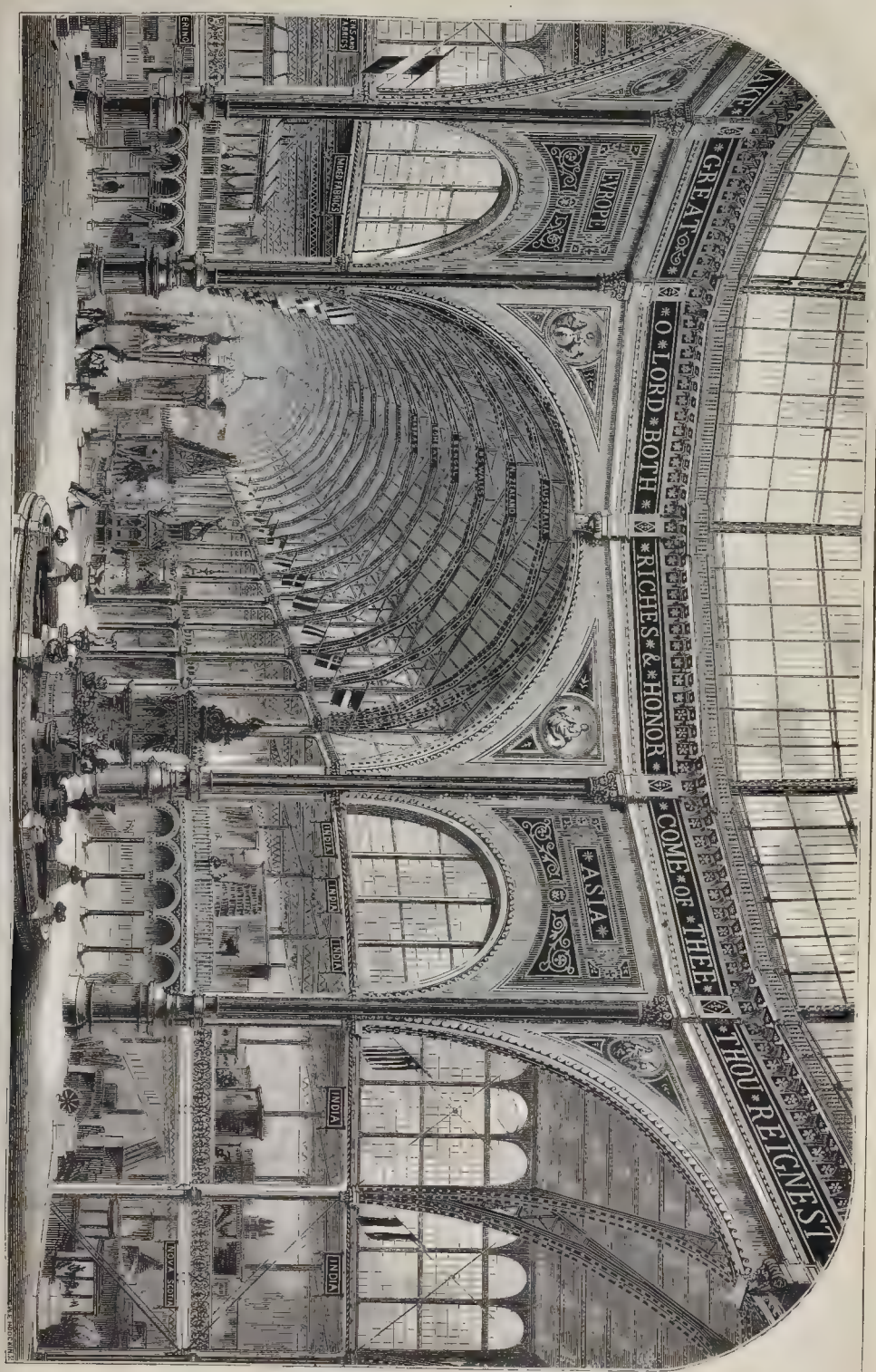
Three or four thousand years ago, probably, the little simple objects here shown were the favourite playthings of some small children of an ancient Egyptian; and it is remarkable that, notwithstanding the lapse of so many ages, these trifles may still be seen amongst the choice treasures of the British Museum, in a tolerable state of preservation. When viewing those relics of an age so remote, one scarcely fails to reflect that in all likelihood—when those toys were prized possessions of some young Egyptian boy or girl—the power of the Jews was in its infancy, and that since the days when these were fashioned mighty people have risen and declined; great buildings have been reared and fallen into ruin and decay; nations have moved from barbarism to high conditions of civilization.

It is curious to compare these seemingly trifling objects of antiquity—to wander in our national collection, and thoughtfully note the rings, the beads, brooches, and other personal decorations of the ladies of Egypt, Nineveh, Babylon, the famed places of Ancient Greece, of the once mighty and glorious empire of Rome—we may then turn with advantage to similar matters which have been the fashion in our own land: tracing them from very rude conditions to the rich, costly, and beautiful works of the Middle Ages; we may then glance, by way of comparison and contrast, at ornaments used at the present day by those on whom the dawn of civilization has scarcely shone. Changed by conditions, guided by their skill in art, and by the possession of materials which are accounted the representatives of wealth, the nations of the world in the days of their power have produced choicer works than can be found amongst the Sandwich Islanders, or amongst the ice-bound dwellers of the far north. In all these conditions, however varied by time or situation, we find the natural instincts of our nature the same: the crown of feathers of the American chiefs; the peculiar head-coverings of the Pharaohs, the kings of Nineveh and the Jews; the garlands of laurel, which in time were changed by the Roman conquerors and governors for circlets of gold, and the crowns of monarchs in our own day, are all expressive of the same feeling.

The wooden dolls and other toys which are sketched at the head of this brief article serve to show the unchanging peculiarities of mankind; for, although thousands of years have made the world older since they were used, the dolls would be amusing to very young ladies in the reign of Queen Victoria. Infancy does not always like the most refined shape of playthings. In the nursery we have seen the most beautiful of dolls, with red rosy cheeks and lips and blue eyes, gay with satin and ribbons, thrown to one side for a black or, perhaps, headless doll, disorderly and shabby.

That "there are few things new under the sun," is shown by the Egyptian antiquities at the bottom of the second sketch. Here is the hand-ball, covered with leather, and filled in exactly the same way as the balls which are now to be bought in the Lowther Arcade and elsewhere; and there are marbles, the delight of the boys, of different hues.

The artificial lemon and other fruit, the egg of porcelain or glazed pottery, the little perfume-box, and glass beads, are still common enough,—and so the world runs on; perhaps in a circle,


GREAT
O LORD BOTH
RICHES & HONOR
COME OF THEE
THOU REIGNEST
EUROPE
ASIA
INDIA
INDIA
IND

THE GOVERNMENT GRANT FOR ART EDUCATION.

IN 1847, the sum advanced by the Government for the schools which were proposed to be established for the improvement of artistic skill, particularly as it applies to art manufactures, was 8,000*l.* The working of those schools was found to be successful; and since then, the amount for these purposes has increased until the sum required this year is 116,000*l.* It is shown that, for this outlay, art schools have been established in the manufacturing and other important districts, in which there are 91,000 regular pupils. Besides the established teachers, there are a number of art missionaries and drawing-masters, who are employed throughout the country attending to classes in the national schools, &c. The charge for this attendance to each school is very small.

We all know the great necessity which exists for improvement in the taste of our buyers and our art manufactures; and in the present state of foreign competition,—when, each year, by the facilities of communication between one country and another, our own works are brought into contrast with those of other nations,—this is a matter on which our continued prosperity, to a main extent, depends; therefore, although the sum is considerable, it should not be grumbled at. A large part of this expenditure is to be attributed to the carriage and cost of packing-cases, which are sent to all parts of the country with models, drawings, sketches, &c., for the instruction of the pupils in the schools, &c. There has also been an increase of 250*l.* in the prizes given for proficiency in science. This has been rendered necessary by the increase in the number of both schools and scholars. A sum of 1,250*l.* has been expended for photographs, the value of which, in conveying representations of works of art which are not easily carried, is evident.

An attempt was made to reduce this grant; but the original sum was ultimately voted by a large majority.

THE ENGLISH SCHOOL OF PAINTING.

AT a recent meeting of the Society for the Encouragement of the Fine Arts, a paper on this subject was read by Mr. Henry Ottley; in the course of which, after pointing to the picture-gallery in the International Exhibition, he said,—

That art, albeit in its first instincts often a matter of inspiration, is not altogether of spontaneous growth, nor intended for selfish isolation in its exercise; that, on the contrary, it is a divine calling, calculated and designed more than any other as a medium for bringing into friendly and improving association noble suggestions and creative genius of the whole brotherhood engaged in the one common field; and that the most excellent works of the principal schools, and of the principal masters of those schools, have been thus produced after the greatest amount of interchanged experience with other schools and masters,—is a fact fully established by the whole progress of the renaissance of art in Italy—the mother of modern art—as well as in the Netherlands, in France, in Spain, in Germany, in England itself, and wherever else the fame and influence of Italian art were acknowledged, and so long as the tendency towards that school predominated. After Italian art experienced its rapid decline, and its supremacy began to give way in proportion, the great original schools of Flanders and Holland, with Rubens and Rembrandt at their head, began to exercise a direct influence upon the arts of other nations; and thus, during a period of upwards of two centuries, the schools of Italy and of the Netherlands were recognized as the two universities of art throughout Europe.

These considerations it is most important to bear in mind when reviewing the history of art, as tending to supply the pedigree and account for the traditions of the art of various nations. Their application would be inexhaustible in suggestions of interest; but it would occupy too much time to go into such a study through all its ramifications. It may suffice, therefore, to point to one or two leading facts,—how art in France took Italian art, already at its zenith, and in the very point of its decline, for its model, and wasted its resources in ambitious efforts on tame religious and cold Classic subjects; and, after passing through the phase of heroic exaggeration in David and de la Roche, began to take refuge in a laboured imitation of the miniature domestic subjects of the Dutch school;—how art in England took its first suggestions from the great living masters of the Flemish and Dutch schools, and became less ambitious, but more genuine and truthful, than the sister art of France;—how, in after years, towards the end of the last century, the Netherlands being closed against English travellers, Italian travel, and the importation of Italian paintings, changed its direction, and produced an historic school, in which the manner and suggestions of Italian and Netherlandish art were strangely blended,—a hybrid product, which, being little consonant with national feeling and national requirements, was but of short and unprofitable duration;—and how, lastly, in landscape and domestic story-telling subjects, our art finds useful, honourable, and remunerative employment, ministering to the tastes and fancies of all conditions of men. And to conclude with one other instance, we see how Germany, the last to throw off her barbaric, untutored, indigenous art, at the beginning of the present century, flew to Rome, and endeavoured to transplant to her cold northern clime, and amidst her unimpulsive speculative philosophy, the types of the devotional art of Italy in her days of most absorbing religious fervency; and how this ill-advised attempt to resuscitate the art of an age and feeling which was passed away had been repudiated by the artists of Northern Germany, who established the school of Dusseldorff, with nature—the nature of external creation as well as of domestic life—for its field.

We have stated that amongst the early schools of art the interchange of expressions and suggestions was very apparent, and attended by mutually beneficial results: we have shown that the old schools of Italy and the Netherlands, thus brought to perfection, became the parent sources from which the principles of the more recent European schools were mostly derived. But here the story of the tradition of art, and the mutual relationship of the schools of art, unfortunately comes to an end. When the primal vigour of the Italian and Netherlandish schools had given way—when their fructifying streams were stopped; and, above all, when the grand religious and historic themes of the former were no longer the staple subjects of the painter's art—the Art-family, losing its common head, and losing every day more and more the ties between its members, became scattered over the face of the earth; every one acting with distinct and independent purpose, without interchange of sympathy, counsel, or experiences. The state of things during this time—namely, dating from the close of the last century—is forcibly and practically put by Dr. Waagen. Speaking of this period (which he puts as the date of the commencement of "original painting in England"), he says,—"The original schools of the whole of the modern times of Italy, the Netherlands, and Germany, and their branches in France and Spain, had long lost their peculiar character; and in their stead there had succeeded, all over Europe, a manufacture of cold, monotonous, spiritless pictures, founded on the general rules and precepts of art, which were communicated in the various celebrated academies. The demands of religion, the broad foundations on which, in other schools, historical painting had gradually grown up from its infancy to vigorous maturity, no longer existed. The highest branch of art was now only occasionally in request for the decorations of palaces and other public buildings: all other demands on living artists were confined to portraits. Even the traditions of the technical part of painting, which had been conscientiously handed down in the old schools of living art as the most indispensable fundamental condition even of the highest performances, had been gradually forgotten, as of inferior importance, amid those dead rules of pure taste and ideal beauty of form." This, in other words, clearly indicates a state of universal anarchy, in the midst of which the practitioner of art appropriated what he fancied, or what first came to hand, of the resources and traditions of art, and applied it after his own fashion, without regard to what had been done before him or what was being done by his neighbours,—thus, as it were, beginning the art anew, each in his particular case. How true what Dr. Waagen says as to the loss of the very technic conditions of painting is, will be acknowledged by all who recollect Reynolds's perpetually experimentalising in vehicles, the uncertainty as to Titian and other great colourists' mode of painting,—uncertainty vainly attempted to be resolved by the dissection of some of their pictures; and, alas! by too many tawdry, yet heavy and opaque, canvasses which load the walls of contemporary exhibitions.

This is a long exordium *àpropos* of the picture-gallery of the International Exhibition; and I may, perhaps, be asked what purpose I had in making it. Simply this;—to show that in the severance of art-interests and art-experiences which has occurred since the decadence of the great early schools has been our weakness; and, that in the association of artist with artist, of school with school,—in short, in a union of resource,—will be the strength of future art. It is on this account that I hail this international gathering of art, and hope it will be but the commencement of a co-operation and universality of purpose and action amongst artists, as boundless as the spirit of art itself.

But the immediate purpose before us this evening is with painting and painters in England, from 1760 to the present time; in fact, our art pretensions as a nation, having particular reference to the display made in the International Exhibition. Let us hope that the effect of that display will be to qualify the sentence passed against us a hundred years ago by the Abbé du Bos, Montesquieu, and Winckelman, and which was greedily accepted throughout Europe, and hitherto has remained on record, without question or appeal,—namely, that from "a certain character of heaviness and want of fancy," which those amiable persons deduce from "physical causes," the English people are not capable of cultivating the fine arts with success. Alas! how little hitherto have nations known of one another, except through the agency of war and diplomatic artifice! how little of one another's achievements in the arts of peace! Down to the time of the great International Exhibition at Paris, in 1855, there were but three names of English artists which might be said to enjoy common renown amongst our French neighbours,—Reynolds, Landseer, and Martin; and Dr. Waagen, in his work on "Art and Artists in England," originally published in 1855, already referred to, acknowledges to having made his first acquaintance with the artists of the English school through the medium of the few pictures in the Angerstein and Beaumont collections, which formed the nucleus of our National Gallery. He tells us:—"I come at length to the English school. Of its most eminent names the gallery possesses some of the most celebrated works. As I have hitherto known hardly anything of these masters except from engravings, the sight of their pictures was particularly interesting to me. I was thereby induced to form an idea of the peculiarities of the English school of painting, and its relation to other schools, of which I give you some particulars;" and then, upon the evidence of some dozen or so specimens of Hogarth, Reynolds, West, Wilson, Gainsborough, and Wilkie, he pronounces his estimate of the "peculiarities" and pretensions of our school of painting; overlooking Northcote, Opie, Fuseli, Haydon, Hilton, Mortimer, Etty, Crome, Constable, Nasmyth, Lawrence, and a host of others, who have each contributed their pabulum to the general fund; but whom, perhaps, he had never heard of as "masters" of the English school. Of Turner, in another part of his work, he speaks as "this spirited painter, who is so great a favourite with the English;" and then goes on to make small account of his celebrated sea-piece in the Bridgewater Gallery painted in emulation of Van der Velde, as "a successful piece of scene painting;" remarking that "the great crowd of amateurs, who ask nothing more of art, will always far prefer Turner's pictures;" and, in another place, he again makes passing mention of Mr. Ruskin's idol in these terms:—"I made a point of looking for the landscapes of the favourite painter Turner, who is known throughout Europe by his numerous, often very clever, compositions for annuals and other books, where they appear in beautiful steel engravings;" and then gives him another set down; declaring that on looking at the Ehrenbreitstein, and the Burning of the Houses of Parliament, he could scarcely trust his eyes; discovering in them "such a looseness of treatment, such a total want of truth, as I have never before met with." Who shall decide when doctors disagree? Let us accept, at any rate, as an advantageous and happy event, any arrangement which shall bring general opinion to bear upon questions of this kind, and to afford opportunities of comparison between the most esteemed performances of the several contemporary schools.

It has been a fancy with some persons to place Hogarth as the founder of the English school of painting. But this was a mistake: Hogarth presented one of those rare instances of superior genius which attained the highest pinnacle of excellence and renown without aid or instruction from any one; and, as he was entirely self-created and self-taught, so he had no pupils and left no followers,—saving, perhaps, slightly and indirectly, in the caricatures of Gilroy and Bunberry. The true founder of the English school was un-

doubtedly Reynolds, without homage of Michelangelo and practical imitation of Rembrandt, in whose mystic chiaroscuro he sought to conceal his whose want of drawing. This style was directly followed by Northcote, Opie, and others; but with less transparency in their gloom, and no improvement upon his unhappy mixture of pigments and vehicles, which often resulted in fearful chasms and accumulating *débris*, as of the lava of Vesuvius in their works, as it did in so many of his also. Reynolds was very secret and mysterious in the experiments he tried with these vehicles—perhaps, fortunately so—though his conduct here is strongly illustrative of the illiberal spirit which characterized the great founder of our school. And, in further illustration of this tendency, I may mention the anecdote of the way in which he received an application from a young student, who was about to compete for the Academy prize medal, and brought several designs he had made for the purpose, in the hope of obtaining the president's opinion as to which was the best in point of sentiment and most descriptive of the story represented. Reynolds's reply was,—"You may choose whichever you please: it will turn out precisely the same: you are to recollect that your picture is to be judged of by painters only. It will be the manual execution of the work, and that alone, which will engross the attention of artists; and the degree of merit displayed in that part of the art is what will determine them in their election of the candidate for the prize." Such was the idea of the province of the teacher in art—to instruct and to encourage—entertained by the first president of the Royal Academy!

THE DALHOUSIE INSTITUTE COMPETITION, CALCUTTA.

THE first premium (300*l.*) has been awarded to Mr. C. G. Wray, of Calcutta, architect.

The Institute is intended to be built on a site adjoining Government House, and will cost 25,000*l.*, which sum has been collected principally from funds raised for the erection of a memorial to the late Lord Dalhousie. The large hall is to be used as a concert and public-meeting room, and will accommodate one thousand persons seated. It is also to be appropriated to the reception of statues and other memorials of distinguished men. On either side of it are lecture-rooms, lavatories, and an extensive library. The design, externally, may be described as a Corinthian prostyle temple, octastylos; with a lower building, Ionic, on each side. The two outer columns on each side in the portico are close together, and the tympanum is filled with sculpture. Three statues take the place of acroteria on the pediment.

The great hall has single Corinthian columns, with antæ projecting from the wall on each side at intervals, and a vaulted ceiling, panelled, with lunettes on each side, above the entablature of the order. A recess at one end will receive an organ.

LOCAL MUSEUMS.

IN the last number of M. de Caumont's *Bulletin Monumental* we have an important notice of a new Imperial Museum of Celtic and Gallo-Roman antiquities which is being formed at St. Germain by order of the Emperor. M. de Caumont, as Director of the Society for the Conservation of Monuments, had the spirit to write direct to the Emperor, to protest against the local museums, which are numerous and important in France, being robbed of their treasures to enrich this new Imperial Museum; and to suggest that, instead of this, plaster casts should be taken of all objects of interest, and coloured exactly after the originals. To this letter the Emperor immediately sent a courteous reply; promising that this suggestion should be acted upon. Our readers may be aware that the Emperor is also forming a museum of Mediæval arms and armour in the castle of Pierrefont, in the forest of Compéigne,—a building of the fifteenth century, which is being restored for the purpose, under the able direction of M. Viollet-le-Duc. These are in addition to the large collections at the Louvre, the Hôtel de Cluny, and others in Paris. It is a remarkable proof how much England is behind her neighbours, that at the very time that France is forming these historical museums for the glory of France, the trustees of the British Museum entirely neglect the national antiquities of Britain; and an active party in the University of Oxford is endeavouring to abolish the Historical Museum of Elias Ashmole, the oldest collection of antiquities in existence; and wishes to decline receiving a chronological series of plaster casts of Mediæval antiquities, on the ground that photography has superseded them and made them useless; as if the French did not know the value of photography as well as we do. It is invaluable for many purposes, but it cannot do everything: it cannot show the depth of hollows in undercutting, often the most important feature for telling the age of a moulding or an ornament, and by them of a building.

The importance of Historical Museums is not sufficiently appreciated in England. There is no doubt in the minds of those who have paid attention to the subject, that tangible objects are the greatest possible aids to the mind and the memory; and that a chronological series of tangible objects of each successive period of history would be of the greatest service to students.

STEWKLEY CHURCH.

As the architect intrusted with the restoration of this interesting church, will you allow me to say a few words in reference to a letter from Mr. Parker, in the last number of the *Builder*?

It is perfectly true that, being applied to for plans for the enlargement of the church, to meet the want of accommodation for the poor, I consented to undertake the work. It is one of a very distinct class of Romanesque churches, consisting of nave, central tower, and chancel, *but without transepts*. Iffley, Kempsford, and Castle Rising churches are examples of the same type. If the church was to be enlarged (and about this *I* had no option, having in vain suggested a second church, which was at once found to be impossible), obviously the enlargement ought to be one which should as little as possible affect the most marked characteristic of the plan. The addition of a transept, or of an aisle to the nave, would unquestionably have completely altered it; and neither of them was to be thought of. I fell back, therefore, on the lengthening of the nave, only making it a condition with my client that, if the interesting and most valuable west front were to be rebuilt, it should not be done by contract, but by workmen employed by me, under the direction of one of my clerks of the works, and in the most cautious manner.

Every stone was to be arranged in its proper order, under shelter, and re-erected in its old place again; and no scraping or re-dressing of the stonework was to be allowed.

The question is, no doubt, a very important one, whether such work is allowable or possible. Of the latter I feel no doubt. I believe that one of our finest sculptured doorways — that of Higham Ferrers Church—was taken down and rebuilt in Archbishop Laud's time, and has in no degree lost thereby any of its former interest and value. So, too, I have seen, in some of the French restorations of recent years, old work taken down and reconstructed, without any damage to the work in any way. If I mistake not, the west front of Laon Cathedral is an example of this; unless, since its re-construction, it has been scraped and re-dressed in the popular fashion; in which case, of course, its interest has been to a great extent destroyed, though not by rebuilding.

In the case of Stewkley Church, I believe I could have guaranteed the replacing of every carved stone throughout the west front in its old position, and without any alteration of its colour or surface, and so that no one should have known whether or not it had been rebuilt.

But ought this to be allowed? Honestly I think it ought. It may, indeed, be argued that the lengthening of the nave would *destroy* its proportions: unquestionably it would *alter* them; but so, in spite of Mr. Parker, does the erection or retention of a western gallery; and, since the nave of Stewkley Church is very short, I do not believe that any one who knows the proportions of the naves of Kempsford and Castle Rising churches would doubt that at any rate it would not be spoilt, or its interest in any way destroyed, by being altered to something like their much more impressive size and shape.

We all know perfectly well how our ancestors would have dealt with such a question. They certainly would not have allowed anything in the building to stand in the way of the greatest good of the people who were to use the church; and would probably have dealt with the church at Stewkley in a way by very far less conservative than mine.

However, Mr. Parker well knows how extremely glad I was not to have to alter the fabric at all. I told him myself that I would infinitely rather not have to do so; because, among other reasons, I knew how easy it would be to misrepresent the kind of work I was doing, and to class it with those destructive works of church restoration which I suspect I deplore even more than Mr. Parker does; and of which he will in vain attempt to find an instance carried out under my direction. It is no secret that many of our larger churches have been, or are in course of being, restored in a mode which involves at least as complete an alteration of the character of the old work as would have been effected if I had proposed not only to rebuild one wall of Stewkley Church, stone for stone, but to re-work and clean and scrape every old stone in it. Yet we hear no protests from Mr. Parker about such works as these; and in some the promoters have, I believe, had the advantage of his counsel and advice.

I yield to no one in my conviction of the extreme importance of preserving our old monuments, and rescuing them from anything like "destructive" restoration. I have restored so many churches that it seems hardly needful to say this; for all those who have consulted me know well how anxious I am at all times to preserve every feature and fragment of antiquity with the most jealous care.

I am sorry to take up your space with personal matter; but Mr. Parker's letter demands some explanation at my hands, for he seems to insinuate that he has been giving advice on a variety of points connected with my work; and that, "*by a singular coincidence*," they have all been adopted. The lengthening of the nave has been abandoned in deference to the wish of the bishop of the diocese, and to the representations of various antiquaries; and not, I believe, specially of Mr. Parker; but in every other respect my plans remain as at first drawn; and I cannot conceive what he means by the list of his suggestions which he says I have "adopted," when mine were made without any knowledge of his views months before he troubled himself about the church.

It is possible that he refers to a letter which I hear that he printed first of all in a magazine of small circulation, and afterwards on a slip for distribution. But, as I do not often see that magazine, and as Mr. Parker, though he sent his letter in all directions, to my brother architects and others, never sent a copy to me, to whom naturally it might have been first of all sent; I only knew by hearsay what his suggestions were.

I am informed, too, that this industriously distributed letter was sent to many people after Mr. Parker must have known that all intention of touching the west front had been abandoned; and I can only suppose that such marked want of ordinary courtesy to myself was only the legitimate carrying out of the implied suggestion which he made to my client,—that the work should be taken out of my hands in order that it might be intrusted to those of some other architect. It so happens that my client is perfectly satisfied that nothing is further from my intention than in any way to alter the architectural character of the building of which he is the guardian. He seems to think, too, that, as regards details, I am, on the whole, as likely to know what is right as Mr. Parker; which, to change the case, is what Mr. Parker would probably feel if I were to profess to know all about the detail of his own special business.

I might say much on the remainder of Mr. Parker's letter; but, perhaps, it is not worth while. The world will hardly pardon galleries because he is unable to see that they affect the proportions of the buildings in which they are erected; nor will it admire flat ceilings because he is satisfied our Romanesque churches always had them; nor the "family pew" system because he thinks the fourteenth-century Dominican church at Ghent would admit of its introduction. Still less would the world be disposed to acquiesce in his decisions, if it was known upon what a very singular ignorance of facts some of his statements are based. I commend to the notice of your professional readers the statement about the double ceilings in the "generality of our old timber roofs," "with an interval *of a foot or two, if not more*, between the ceiling and the outer roofs;" to which arrangement, among the roofs Mr. Parker has examined, he "*hardly remembers an exception*." It is difficult to conceive a short sentence which could show more completely Mr. Parker's thorough ignorance, not only of the facts as regards our old timber roofs, but even of the principles which rule their construction: but it is probable that Mr. Parker cannot conveniently clamber about in old roofs as we younger architects have to do, notebook and rule in hand; and has been misled, by some one exceptional case, into a sweeping general assertion, which bears its confutation on its very face. The criticism he offers upon the thirteenth-century

type of roof, which he fancies is one of the sixteenth century, is mainly curious as an example of his reasoning; for, having denounced it, he proceeds to recommend double roofs, of which it is the simplest and best form for universal adoption, in place of our old open roofs. One word more as to Mr. Parker's defence of galleries. I suppose no architect of any sense would any more shrink from making a gallery on the ground that he could not make it look well, than he would from any other work. The question of "authority" or "no authority" is quite beside the matter, and fit for a discussion of twenty years ago rather than for one of to-day. The English school of Gothic architects has, at any rate, shown of late years a determination to prove that Gothic architecture is applicable to every possible purpose. This no one can deny; and the objection so universally felt to galleries is not an architectural objection, or Mr. Parker may be sure it would never have become so universal. It is strange, indeed, that when he has no hesitation about calling pews "donkey-boxes," he should be unable to see how completely he admits of and invites any amount of abuse of erections which no one in his senses can say are less objectionable. If calling pews ugly names settles the question as regards their fitness for churches, some one else has only to coin a similarly ugly name for galleries, to place them in the same category.

I have, I hope, said nothing in this letter of which Mr. Parker can fairly complain. He has, indeed, laid himself open to a much more severe reply; but I am sincerely anxious, if we must have controversies, to see them conducted fairly, openly, and in a friendly fashion. I am sure that Mr. Parker must some day feel that there are two modes of pressing his views, of which the more courteous is likely generally to be the more successful; and whilst I admit that he is perfectly entitled to do his best to save any old building from any chance of mutilation; yet in future let me beg him in all friendliness to try to do so without unkind or angry feelings; and without attempting, behind his back, to deprive an architect of his work, because they do not agree in matters of detail, which it is impossible that an amateur should have studied with the same minuteness or care in the midst of his other work as the architect. I am sure, in conclusion, the Vicar of Stewkley will be as glad as I am to hear that Mr. Parker proposes to subscribe liberally to the work, which I can assure him will be from beginning to end purely conservative.

GEORGE EDMUND STREET.

THE ARCHITECTURAL ASSOCIATION.

THE usual meeting of members was held on Friday evening (9th instant), at the House in Conduit-street.

The chair was taken by Mr. Blashill, V.P.

The following gentlemen were, on ballot, elected members of the Association:—Mr. John E. Goodchild, 22, Remington-street, City-road; Mr. H. J. Shepherd, 5, Princes-street, Chelsea; Mr. George Patrick, 18, Gloucester-villas, Loughborough-road, Brixton; Mr. T. Barker, 29, Offord-road, Barnsbury-park; Mr. John R. Gower, 7, Sydney-terrace.

Mr. A. Allom was to have read a paper, but was precluded by unavoidable circumstances.

A circular from the Northern Architectural Association was received with reference to the scheme for an alliance among all the Architectural Associations, and stating that the first meeting would be held on July 1st, also asking that a deputy might be sent to represent the Association.

The letter was referred to the committee.

The Chairman, in calling attention to the circumstance that no official report had yet been laid upon the table from the judges of the prizes recently awarded, observed that the designs for a town mansion emanated from very youthful students. The designs for tiles were extremely good, and the judges were very much pleased with them. One design, contributed by Mr. Moseley, to which the judges did not award any prize, was sent in in two colours; and there was some division of opinion among the judges as to whether the author ought not to have had a prize. In the matter of designs for ornamental tiles, it was desirable that as few colours as possible should be used, on account of the expense. The drawings of Mr. Wimbridge, to which the judges had awarded a prize, were extremely good, and very creditable to the talent and application of that gentleman. With regard to wall decorations, there were but three competitors—a circumstance which was to be accounted for by the fact that as yet the subject was comparatively unknown. The Chairman, in continuation, stated that he had brought some engravings with him of a drawing which he had himself made some years ago, of a sepulchral slab from Mannsell Gunnage, Herefordshire, covered with foliage of a very beautiful effect. He referred to this slab in order to express an opinion as to the desirability of studying foliage, flowers, &c., from nature.

A conversation on the subject of drawing leaves, flowers, &c., from nature ensued, in which Mr. R. O. Harris, Mr. Spiers, Mr. Lewes, and other gentlemen took part.

Ultimately a vote of thanks was passed to Mr. Blashill.

THE GAS MOVEMENT IN SCOTLAND.

THE movement which the *Builder* originated some years since, and which has been so successful in England, and so advantageous to both the public and the gas companies, is now spreading with rapidity through Scotland. In no less than forty-five cities and towns, according to the *Glasgow Morning Journal*, the price of gas has already been reduced, at an immediate saving to the community of fully 40,000*l.* a year; and, we will venture to anticipate, at a future profit to the companies themselves of a still larger sum. The following list of reductions is given by the paper just named:—

	Price reduced From		To
	s. d.		s. d.
Airdrie	5 10	....	5 0
Aberdeen	6 8	....	5 10
Ayr	6 8	....	5 10
Alexandria	8 4	....	7 6
Auchtermuchty	9 2	....	8 4
Arbroath	6 3	....	5 5
Bathgate	8 4	....	7 6
Bonhill	8 4	....	7 6
Broughty Ferry	6 8	....	5 10
Blairgowrie	8 4	....	6 8
Coatbridge	6 8	....	5 3
Carluke	8 6	....	5 10
Cupar Angus	9 6	....	7 6
Dunfermline	8 5	....	4 7
Denny	7 6	....	5 0
Dumbarton	6 8	....	5 3
Dunbar	9 2	....	8 4
Dundee	5 5	....	4 10
Edinburgh and Leith	5 5	....	4 10
Elgin	7 6	....	7 0
Forfar	7 6	....	5 10
Glasgow	5 0	....	4 7
Greenock	5 0	....	4 7
Galashiels	7 6	....	6 5½
Helensburgh	9 0	....	8 0
Jedburgh	9 0	....	6 8
Kirkcaldy	5 2	....	4 4½
Kilmarnock	6 8	....	5 10
Kirriemuir	8 4	....	6 8
Lanark	7 6	....	5 0
Manchester	5 0	....	4 0
Maryhill	6 8	....	5 10
Moffat	10 0	....	8 4
Montrose	5 10	....	5 5
Musselburgh	5 10	....	5 0
Portobello	5 10	....	5 0
Paisley	5 0	....	4 7
Perth	7 6	....	4 2
Rothesay	5 10	....	5 0
Strathaven	8 4	....	6 8
Stirling	6 0	....	5 0
St. Andrew's	5 10	....	5 0
Wishaw	7 6	....	5 10

DRINKING FOUNTAIN IN THE REGENT'S PARK.

UNDER the direction of the First Commissioner of her Majesty's Public Works (the Hon. W. Cowper), a drinking-fountain has been erected in the Regent's Park, from the design of Professor Westmacott, R.A. It was executed by Mr. J. Sherwood Westmacott. The structure consists of a tazza of black enamelled slate, 7 feet in diameter, resting on two steps of Portland stone, of which the lower is 11 feet square. On the tazza are two swans in electrotype, from whose bills the water is projected. Above these is a red granite column and base, surmounted by a female figure carrying water-vases, also in electrotype. This latter and the swans were electrotyped from the sculptor's models by Messrs. Elkington & Co. The tazza was executed by Mr. Magnus, of Pimlico.

The entire height of the fountain is about 14 feet.

PROVINCIAL NEWS.

Colchester.—The erection of the new cavalry barracks at Colchester, for which a considerable amount was appropriated by Parliamentary grant early in the present session, has now been fairly commenced by Messrs. Lucas Brothers, the contractors for the works. The walls are to be built of red brick, of the uniform thickness of 18 inches. The buildings will comprise all the requisite officers' quarters, constructed in the form of a quadrangle, with a frontage of 150 feet. The mess establishment will occupy the centre. The entire ground-floor will be appropriated to the use of servants, while the first and second floors will be divided into sitting and bed-rooms for the officers, each of spacious dimensions and well ventilated. The soldiers' quarters are formed in blocks, each capable of accommodating seventy-two men; and in close proximity, in six large blocks, will be formed the officers' and troop stables, fitted up and arranged with the modern improvements. Some notion may be formed of the extent of these barracks from the fact that upwards of 7,000,000 bricks will be used in their construction.

Bury St. Edmund's.—In reference to a contract for bricks, the Surveyor to the Local Paving Commission stated, at a recent meeting of the Commission, that Mr. Durrant refused to sign the contract for supplying 200,000 bricks at 28s. per 1,000, in consequence of their thickness being increased ¼ inch, unless he was paid 2s. per 1,000 extra. A long discussion ensued, from which it appeared that it was resolved to purchase of Mr. Durrant 200,000 bricks of a pattern produced by the Surveyor; but in consequence of a suggestion made by Mr. Darkin, at the meeting, that the bricks should be ¼ inch thicker, the Surveyor ordered Mr. Sparke to make the contract for the extra thickness; but, on its being presented to Mr. Durrant, he refused to sign it unless 2s. were added to the price. Mr. Creed complained of the irregular conduct of the Surveyor in deviating from the terms of the tender accepted by the Commissioners; and moved that the original contract be adhered to, leaving Mr. Croft and Mr. Durrant to settle between themselves as to the bricks; which, it appeared, were being made of the larger size. Mr. Darkin said his suggestion was made at the meeting of the Board. He considered the thicker brick would be preferable; and as 900 of these would go as far as 1,000 of the smaller size, they would be worth 3s. per 1,000 more than the others, whereas Mr. Durrant only asked for 2s. Mr. Croft thought Mr. Durrant would be sufficiently paid by 1s. additional. Mr. Gedge said that, as it was for the advantage of the Commissioners, he would move, as an amendment, that the larger bricks be taken at the price of 30s. Eventually, Mr. Gedge's amendment was carried by 9 to 3.

Hastings.—The Hastings and St. Leonard's Hotel, which has a frontage to the sea and another to Harold-place, is now fast drawing towards completion. It is five stories high, and has a frontage of 135 feet to the Esplanade, and 190 feet to Harold-place. The cost, it is stated, will NOT fall much short of 50,000*l.*, including the furnishing. The principal entrance faces the Esplanade, while there are two more visitors' entrances, one a "drive" leading from Harold-place to Robertson-street, and the other at the end of the Crescent. There is a grand "well-hole" staircase erected in the centre, for the use of visitors to the hotel; likewise five other staircases; two of which are also made of stone, and for the use of visitors; the remainder being constructed for the servants. There are 250 rooms altogether.

Basingstoke.—The new decorations at Elvitham Hall, Hants, the seat of Lord Calthorpe, are now approaching completion. The architect is Mr. Teulon. The exterior of the edifice has been almost entirely rebuilt. The decorations are by Messrs. Harland & Fisher, of London. The walls of the great hall are covered with an inlaid species of fresco painting, in a peculiar diaper pattern, as far as the corbels that support the timbers of the ceiling; and thence to the under part of the ceiling itself, a continuous frieze of shields is arranged in a genealogical series; the brilliant colouring of the heraldry contrasting with the more sober tints of the walls. The ceiling of the hall is painted (likewise in fresco) in an ornamental design of conventional flowers and foliage, and is further enriched by subjects from the death of King Arthur in the centres, and in medallions round these by portraits of his Queen and more famous knights; the whole painted in flat tints. A long corridor leads to the grand staircase, the whole of the walls of both of which have been treated in the same manner as those of the hall. The ceiling of the principal corridor is painted in a geometric arrangement of bright colours, and the staircase ceiling is decorated by a gilt central sun, round which are arranged in medallion the Signs of the Zodiac, the Four Seasons, and Day and Night, all in fresco. There is a large amount of ceiling and other decorations throughout the mansion.

Liverpool.—The Watch Committee of the corporation having voted 4,500*l.* for the erection of baths in Everton, in place of 4,000*l.* as previously voted, whereas the plans slightly exceeded that

amount, Mr. Beloe stated that the difference between the highest and lowest tender was only 300*l*. Messrs. Holme & Nicol's tender was then accepted, and the general proceedings were confirmed.

SCHOOL BUILDING NEWS.

Quarndon.—New schools and teachers' residence have been recently completed in this village, from the designs of Messrs. Wilson & Thompson, Derby, architects. The old school-house had long been found inadequate and unsuitable in many respects for a village school, and Lord Scarsdale determined to erect schools and teachers' residence at the upper end of the village, facing the road. The buildings are in the Gothic style: the group consists of boys' and girls' schools, and residence for master and mistress. The schools have separate entrances or porches in front, with cloak and bonnet room at back. A large six-light window is placed between the gables, and a trefoil ventilation opening over. The gable of the boys' school is surmounted by a stone bell-turret. The material with which the buildings are constructed is brick, made on his lordship's estate, and stone dressings from the Chevin quarry of Mr. Barton. The roofs are covered with tiles, with bands of ornamental tiles introduced, and finished with an ornamental ridge cresting. The buildings have been erected by Mr. Edward Thompson, of Derby.

CHURCH-BUILDING NEWS.

Sheffield.—The foundation stone has been laid of a chapel about to be erected at Broomhill by the members of the Methodist New Connexion churches of this town. The site comprises about one-third of an acre, nearly opposite the "Mount," so long the residence of Montgomery, the poet. It is proposed to spend about 3,200*l*. in the building, of which about 2,000*l*. have already been raised. The edifice will comprise on the ground floor a room for day and Sabbath schools, 54 feet 7 inches by 46 feet 3 inches; a class-room, 20 feet by 14 feet; a second class-room, 11 feet by 14 feet, and a closet for teaching apparatus. The chapel, which will extend over the school, class-rooms, &c., and will have galleries entirely round, will contain accommodation for from 600 to 700 persons; the pews to be of more than usual width, to meet the requirements of present fashions. The building will be erected of smooth-faced stone, in the Italian style, with open portico. Mr. Flockton is the architect, and Alderman Mycock the contractor.

Ripon.—The Roman Catholic new church at Ripon has been opened. The architect was Mr. Hansom, who has used stone of different colours for the purpose of adding to the effect of the architecture, which is a kind of Lombardo-Early Decorated. The church is 104 feet long inside, by 38 feet 7 inches wide. The aisles are 10 feet wide. The windows are mostly lancet lights, with trefoil heads, but in the west gable are two larger lights, divided with a mullion; and a wheel window in the gable. The presbytery, which is considerably higher than the nave, has Cologne-like lights, divided by a single mullion. The roof of the presbytery is pyramidal, and on the west side is affixed a bell-cot. The lights of the clerestory are circular, with quatrefoil and sexafoil cusps. The pillars dividing the centre from the side aisles are clustered shafts; but the capitals, which will be foliated, are yet in the rough. The altar and the reredos are from a design by Mr. Pugin. It is carved, and the pillars are of coloured marble. The stained-glass window over the Virgin's altar is the work of Mr. Barnett, of Newcastle-on-Tyne, and is the gift of the Sparrow family, of Ripon. In it is the representation of the Virgin and Child, St. Anne, St. Augustine, and St. Lawrence. In the top light is figured the Assumption of the Virgin. The masonry, as regards the manner of laying the courses of stone, is copied from Markenfield Hall, an ancient manor-house about three miles south of Ripon.

Snaith.—The foundation-stone of a new church has been laid at Carlton, near Snaith. The old fabric had fallen to decay, and the new structure will be built upon its site, at the sole cost of Lady Beaumont. Messrs. J. B. and W. Atkinson, of York, are the architects. The edifice is to be in the geometric style. The nave will be 73 feet in length by 25 feet 8 inches in breadth; the chancel 24 feet by 18 feet; and there will be a north transept 16 feet by 15 feet. At the south-west angle of the nave will be erected a tower 55 feet in height, surmounted by a spire 49 feet high; making the height from the ground to the stone finial of the spire 104 feet. The porch will be on the south side of the church, adjoining the town, and the vestry on the opposite side near to the transept. The east window will be of four lights, and the west window will contain five lights, with tracery. The roof will be open-timbered, stained and varnished, and covered in lines with blue and green Welsh slates. The walls of the church will be faced with Bradford sets, and Ancaster stone will be employed for the dressings. The east and west gables will be surmounted with a cross, and the lower part of the tower will be used as a baptistery, which will be entered under arches opening into the church and porch. The entire cost of the building will be about 3,000*l*. The various works in connection with the building of the church have been let to the following tradesmen, namely:—Masonry and brickwork, Mr. R. Elliot, Goole; carpenters' and joiners' work, Messrs. G. and J. Walker, York; painting, Mr. J. Swinnerton, Leeds; plumber and glazier, Mr. T. Raper, Snaith; slating, Mr. B. Baines, York; plastering, Mr. S. Richardson, Goole.

York.—Some time ago plans were deposited with the Local Board of Health for the erection of a new Roman Catholic church and presbytery, upon the site in Little Blake-street, now occupied by the Roman Catholic church of St. Wilfrid, in this city. These plans, which showed that the buttresses of the tower of the new church and the walls of the presbytery would come up to the extreme boundary of the present line of wall, were approved of by the committee; but, subsequently to their being passed, the Very Rev. Provost Render, fearing that, if the erection were made upon the site as settled, the view of a portion of the west end of the minster would be interfered with, again submitted the plans to Mr. Goldie, of London, architect; with directions, if possible, to set back the buildings. The plans were shortly returned with the alterations made in them which had been required; and it was then seen that, by lessening the size of the sanctuary and other portions of the church, the architect was enabled to set back the buttresses of the tower and walls of the presbytery about 3 feet; so as to afford an opportunity of presenting an unobstructed view of the north-west tower of the cathedral. These new plans were accordingly submitted to the Board of Health, by whom they were approved. Tenders for the erection of the edifice, according to our authority, the *York Herald*, will shortly be advertised for; and arrangements are being made for the pulling down of the present chapel, presbytery, and adjoining house. The church itself is to be in the Gothic style, having the south-west front towards Blake-street. In this front is to be a carved door-way, with windows above, in the Decorated style, surmounted by an oriel window. Over the south-west corner of the church will ascend a tower to the height of 140 feet. The internal arrangements of the edifice will consist of a nave and two aisles, with a large apsidal sanctuary; having a Lady-chapel on the north-west side, and a large vestry on the north-east. There will be an organ-gallery over the west front, and the aisles will be lighted by clerestory windows. The boundary of the wall, which at present incloses the chapel and vacant ground; the presbytery, and the house adjoining; it is intended shall be skirted by rails, from which, as before stated, the buttress of the new tower will stand nearly a yard backwards at its base; whilst, as it ascends and narrows in dimensions, the view up the street will become still further cleared.

Aberford.—The offer of 1,500*l*. from Mr. and Mrs. Gascoigne, the owners of Parlington, to enlarge Aberford Church, after a design by Mr. A. Salvin, being accepted by the people, and followed up by several other donations, the work was taken in hand forthwith. It was requisite to enlarge the area; and accordingly north and south aisles were thrown out, prolonged into chancel aisles on either side, with a vestry on the north; giving sittings for 600, and rendering necessary a clean sweep of the ancient fabric, except the tower. The east end was rebuilt by Mrs. Gascoigne within the last thirty years. Mr. Salvin's design was in the Early Decorated style, and has been worked out by Messrs. Backhouse & Marshall, of Seacroft, and the woodwork by Messrs. Atkinson, of Aberford and Leeds; Mr. Ockley, clerk of the works, as Mr. Salvin's representative. The walls are built of Bramham Moor stone; the window-mullions and internal arches and pillars of stone from the Sturdy Bank quarries, near Harewood. The building is covered in with Westmoreland slates. The windows are all decorated with corbels of an ecclesiastical character; and in one instance an attempt has been made to reproduce the features of the late Samuel Hicks, the village blacksmith of Micklefield, whose bones (as the inhabitants of Aberford are proud to boast) lie beneath the window on the south side, which has been erected to his memory by admirers of his benevolent character. The nave is lighted by sixteen clerestory trefoil windows; the north aisle by four two-light windows; while the south aisle has a lesser number, because there are two doors on that side of the building. The roof is an open one, and of light appearance, the timber being stained and varnished. There are several windows of stained glass; one by Messrs. Ward & Hughes, of London, at the east of the south aisle. It is a three-light composition, representing "The Agony in the Garden," "The Crowning with Thorns," and "It is finished;" these subjects being surmounted by trefoils filled with floriated designs. It is given by Col. Markham, of Becca, as a memorial of his father. In the south chancel aisle a window, by Mr. Wailes, of Newcastle, representing the raising of Jairus's daughter, and bringing little children to Christ, erected by Mrs. Markham, senior, who has also given a quarried window, by Wailes, in the north chancel aisle. The window next to the door in the south aisle is a memorial, also by Wailes, containing two views of the acts of "The Good Samaritan." A window, by O'Connor, of London, has been placed at the west end of the south aisle. The window, being immediately over the font, represents the Passage of the Red Sea—the type of baptism,—and the Baptism of our Lord by St. John, in Mediæval design. There is a window, not visible from the body of the church, in the south wall of the chancel. The stone-work of this window, which was in the chancel of the old church, was considered by Mr. Salvin to be worthy a place in the new fabric. It is filled by Wailes with glass representing the life of St. Richard, a king of the West Saxons, A.D. 720, in whose name it is supposed the church is dedicated. On the left of the altar there is a Saxon light, into which coloured glass, by Wailes, has now been introduced by Mrs. Markham, senior. The total expense of rebuilding the church has been about 3,000*l*.

Sunderland.—The new Synagogue, which has been erected in Moor-street, has been consecrated. The building was designed and carried out under the superintendence of Mr. John Tillman, architect, by Mr. Thomas Younger, jun., builder, both of this town. The contract price for the building was 772*l*. 7*s*., and the total cost has been about 789*l*. The edifice is in the Italian style of architecture, carried out with brick and stone. The entrance, which is from the west, is by a large sliding door into a vestibule, on each side of which a staircase leads up to the ladies' galleries; and under one of the staircases is a lavatory, for the washing of hands before entering the synagogue. The entrance from the vestibule is by two large swing doors, and immediately facing the entrance in the east wall is the Ark or Holy of Holies, which consists of a recess constructed in the wall and in which the Pentateuchs are kept. The recess has two folding doors, and is also draped with blue velvet hung with orange fringes. Opposite to the ark is the altar, or reading desk, which is covered with scarlet cloth, bearing a Hebrew inscription. The ground floor is occupied with open benches, and will seat about 160. The gallery is to seat about 100 ladies. A coned cornice runs round the Synagogue, and into it all the ventilators are inserted. The whole of the wood-work is painted and grained wainscot. The building is 14 yards by 16½ yards on the outside, and 39 feet 6 inches by 36 feet on the inside, the ceiling being 25 feet 6 inches from the floor. On the outside a parapet wall is carried all round the building.

COMPETITIONS.

Sunday Schools, Hyde-road, Manchester.—Several architects having been requested to furnish designs, those by Mr. J. Medland Taylor, of Manchester, were chosen for adoption; and the building is to be commenced immediately. There is on the lowest story a day-schoolroom, 16 feet high and about 57 feet square. Above this is the large Sunday-school, with class-rooms on each side; and over these last are other class-rooms, with a gallery all round, projecting before them.

Bury, Lancashire.—The committee for the erection of a church at Stand-lane, near Bury, Lancashire, having invited designs from several architects, have just selected for adoption that prepared by Mr. J. Medland Taylor, of Manchester. The church is cruciform in plan, and comprises nave, north and south aisles, north and south

transepts, chancel, with apsidal east end, and central tower and spire. The chief entrance is by a western narthex, or porch, with a lean-to roof, finishing under the west window of nave. The style adopted is Early Decorated.

BADLY-BUILT HOUSES.

THE attention of the editor of the *Builder* is respectfully called to the infamous materials and brickwork of houses now running up not a hundred miles from Neville-terrace, Hornsey-road. As many of these houses have plate-glass parlour-windows, and look well, when finished, to the unskilled eyes of poor bank clerks, widows, and retired tradesmen; pray warn them against being defrauded of their money by

"THE DUFFING BUILDER."

P.S. Do impress upon house-buyers the necessity of employing a surveyor to examine and view before purchase. Read the specious advertisement, "conveniently and handsomely fitted up;" no mention of being well built and good drainage. The rent asked and obtained would pay for sound, honest-built houses. Pray expose the vile system again. See also the garden-walls of Mildmay-road estate, which are sinking and falling down through made soil.

BIRMINGHAM FREE LIBRARY COMPETITION.

SIR,—For obvious reasons I must decline to enter into any controversy at the present moment with those who have instructed Mr. Standbridge to reply to my letter.

Hereafter I shall have an opportunity of explaining very differently what he calls "the facts of the case," as well as the figures he quotes.

Without discussing Mr. Standbridge's lengthened apology, which, if read with care, goes far to prove my case, I must, notwithstanding, re-assert in the most literal and emphatic manner my former statements, every one of which I am prepared to prove at the right time and in the proper way.

Inasmuch, however, as the payment to me of 45*l.* has been introduced into this controversy, with which it has nothing to do, I may state that it was for two sets of preliminary designs made more than a year since, and prepared in accordance with special instructions before my estimate was made, and that a portion of the 5*l.* was for travelling expenses connected with these services.

I may also repeat that I have been throughout ready to prepare new plans to meet the exigencies of the case, and that such readiness is not incon-istent, as Mr. Standbridge seems to suppose, with my statement that I could propose no mere alteration or re-arrangement of the design then under consideration, to effect a greater saving than I had already made

In writing to you at all it was far from my wish to drag your readers into anything resembling a personal controversy, and I am not responsible for the introduction of topics bearing this character; I thought it right, however, that the profession should understand what it was that lurked under the guise of an open competition, and that it was seriously proposed by a municipal body to complete a building half finished by me, and "*in accordance with my elevation,*" and on a plan which, I repeat, has been *copied from one of mine*, inasmuch as it shows arrangements which do not exist except upon my drawings.

EDWARD M. BARRY.

[With this the correspondence in our pages may end.]

Books Received.

Elements of Geometrical Drawing; Practical Geometry, Plane and Solid; including both Orthographic and Perspective Projection. By THOMAS BRADLEY. In two parts. London: Chapman & Hall, 193, Piccadilly.

MR. BRADLEY, who is professor of geometrical drawing at King's College, London, has executed this work for the Committee of Council on Education. Being intended as a text-book for those who require a knowledge of practical geometry to make the drawings required in various arts, it is compiled to embrace as great a variety of graphical constructions as could be comprised within the prescribed limits. The first part contains all the elementary problems of plane and solid geometry, including the principles of perspective, or "radial" projection; the second, an extension of the subjects, with the method of representing curved surfaces by their generators, and the irregular surface of natural ground by "contours" employed in topographical drawings. It also contains examples from various arts of construction, to serve as copies for beginners.

Mr. Bradley has executed his task well, and has produced a book which exhausts the subject, and will be found of essential service in all educational establishments.

The plates, sixty in number, are well engraved by J. W. Lowry, from original drawings.

Timber Merchants' and Builders' Guides.

ONE seldom sees Old Hoppus in the printing-press now-a-days; unless it be a stray leaf or two which appear as an old friend with a new face. There is no want, however, of timber merchants' guides in one form or other; and we happen at present to have occasion to notice three such of recent issue;—namely, "Timber Merchants' and Builders' Guide." By W. Bennett. London: printed by A. Boot, 10, Dockhead, 1862; "The Timber Merchants', Builders', and Stone Masons' Calculator." London: printed by Mead & Powell, 101, Whitechapel, 1861; and "The Timber Merchant's Pocket Companion." By C. Gane, Wisbeach, author of the "Calculator," 500 pages 12mo. Which of these is the most correct it may be hard to say, as all of them probably are strictly accurate; and we must leave our business readers to choose for themselves, by inspecting the "solid contents."

The History of Industrial Exhibitions, from their Origin to the Close of the Great International Exhibition of 1862. By BLANCHARD JERROLD. London: Kent & Co. Part 1, May, 1862.

THIS well-timed serial will consist of twenty two-shilling parts, illustrated with photographs, lithographs, and woodcuts. The present part may be said to be merely introductory, although it contains, besides an introductory chapter, several others,—on the Origin of Industrial Exhibitions; National Exhibitions of Industry under Napoleon, &c.; but sufficient appears to show the scope of the work, and give promise of an able and interesting volume.

Miscellanea.

PARTITIONING OF THE BRITISH MUSEUM DEPOSITS.—The Chancellor of the Exchequer in the Commons has brought in a bill to enable the trustees of the British Museum to remove portions of their collections. The object of the bill is to enable the trustees to remove certain of their collections to South Kensington. The bill also contains provisions with regard to certain outlying parts of collections not strictly contained in these collections themselves.

FALL OF BUILDING, SHEERNESS WATERWORKS. The south side of the building now in course of erection behind Trinity Church, as a water tower, has fallen. The foundations have for some time been giving way, and on Thursday, in last week, the crash came at about three o'clock in the morning. On the previous day the sinking was so rapid that the workmen were withdrawn. At first the cost of its re-erection was estimated at from 3,000*l.* to 4,000*l.*, but the *South Eastern Gazette* understands that Mr. Burns has estimated the expense at less than 1,500*l.*

NATIONAL PORTRAIT GALLERY.—The fifth annual report of the trustees has been issued. In the course of the past year they have received three donations; and her Majesty has announced her intention to add to this collection a portrait of the Prince Consort. Fifteen purchases have been made—at what prices is not stated. They comprise Cromwell, John Duke of Marlborough, Wesley, Goldsmith, Arkwright, Byron, Jeffrey, and others. The visitors, in 1859, 5,305, and in 1860, 6,392, were 10,907 in 1861. They urgently appeal to the Government for more accommodation; and they express confidence that, with an increase of open days, the number of visitors would be very largely augmented.

PROPOSED RESTORATION OF THE BATH THEATRE. A public meeting has been held at Bath, as to the desirability of rebuilding the theatre, recently destroyed by fire. The mayor (Mr. Fuller), presided. Upwards of 1,500 persons were present, amongst whom were several members of the corporation, and other influential inhabitants of Bath. The mayor read letters from Messrs. R. A. Kinglake, Charles Kean, William Tite, M.P., and Jerom Murch, expressing their desire to aid in any well-devised scheme of restoration, and speaking of the benefits conferred upon society, and the noble lessons taught, through the means of the drama. It was unanimously resolved, "That it is highly important and most essential to the best interests of the city of Bath, that a new theatre be erected as soon as possible on the site of the late theatre, provided advantageous terms can be made for the purchase of the same, and if not, in some other suitable locality;" and a provisional committee was then appointed, and it was agreed that the plans prepared by Mr. C. E. Davis should be approved. The design will somewhat alter and increase the accommodation, but the general arrangements of the stage the architect leaves to be restored, with slight alteration, according to the design by which the former theatre was built.

GREAT FIRE IN HOLLAND.—Tidings from the manufacturing town of Enschede announce the total destruction of that town by fire. Fifteen manufactories, four churches, and the town hall, besides the dwellings of all the inhabitants—about ten thousand—have been burned to the ground. Everything is destroyed, or being destroyed, without any means at hand for saving the little property which the flames may not yet have reached. Even some of the fire engines were burnt. Several lives also have been lost. The disaster was caused by lightning. Provisions are being got for the inhabitants from the surrounding districts. The distress is heartrending. By last accounts the town was one sheet of flame. It is time towns were fireproof.

"A SOCIAL BRIDGE."—Sir: I was very much gratified by reading your account of Social Bridges. You mentioned the Bible Society, City Missionary Society, Ragged School, Temperance Society, and other bridges; but I think you forgot one bridge which you have omitted,—I mean the Strangers' Friend Society's bridge. The foundation was laid in the year '85 and has been walked over from that time till now, and there are 388 visitors walking over that bridge and relieving the poor and distressed at their own habitations. Dear sir, this bridge has been standing for seventy years, and is now being walked over by the hardworking, industrious, and sympathising neighbours and visitors of the Strangers' Friend Society. I trust you will pardon me thus intruding on your valuable time, having been a walker over this bridge forty-six years.—E. M.

CRYSTAL PALACES AND COVERED STREETS FOR INVALIDS.—A correspondent, Mr. Francis Barham, of Bath, suggests the formation of sanitariums, on the Crystal Palace principle, for invalids, and also arcaded streets, for a similar purpose. The formation of winter gardens for invalids, on this principle, however; as well as the covering of streets with glass; were long since suggested in the *Builder* and other journals; and are not new, as our correspondent supposes. The suggestions are not the less good and important on that account, however; and we willingly revive the idea; although, as regards the Crystal Palace principle, metropolitan invalids, of course, can resort to the Sydenham structure itself, in winter, and in wet weather, if they obtain dwellings in the vicinity. What our correspondent suggests, however, is a complete establishment for invalids, with medical attendance, &c.; and this, we suppose, he also contemplates in his suggestion of arcaded streets.

BURSTING OF A SLUICE NEAR LYNN.—The Denver Sluice, about ten miles from Lynn, has burst, and the whole district of the Middle Level, the drainage of which was one of the greatest engineering exploits of modern times, is in danger of being again submerged. The existence of a hole against the eastern door of the sluice had been known for more than three weeks, but the authorities, placing implicit reliance on the stability of the work, leisurely applied for tenders to repair the damage, and took no immediate precautions. The hole, however, seriously increased in size, and puddling was tried, but the opening continued to deepen at the rate of about 16 inches an hour; and at last great masses of earth caved in, and in less than two hours there was a breach 20 or 30 feet wide round the end of the sluice, and a hole 10 feet deep under the first pair of doors. The most strenuous efforts were then made to fill it up with earth and straw; but the tide began to rise, and its first impetus smashed in the wing next the Cut. This obstacle removed, the tidal waters rushed up with increased violence, and a few minutes afterwards the two arches fell, crushing the iron doors, with a report like that of a cannon, and smashing great barges almost like bandboxes. The strongest fears were entertained that a high spring-tide would burst the banks of the river, and lay thousands of acres of the most fertile land in the Fens under water; and accordingly further and more energetic measures were taken, and the matter given into the hands of Mr. Hawkshaw, C.E., with unrestricted power to proceed as he might think best in so serious an accident. It was estimated that an outlay of at least 30,000*l.* would be required to repair the damage then done. The ruined sluice was erected about fifteen years since by Mr. Brogden, of Manchester; but it is stated that various alterations have been made in it since it left the contractor's hands, and that it had probably suffered in consequence. Since this paragraph was written, bridges have been destroyed, tracts of land flooded, and a vast increase of damage done to property.

HOLY CROSS CHAPEL, KNARESBOROUGH.—The foundation of the Chapel of the Holy Cross, belonging to the Friars of the order of the Holy Trinity, has been discovered. The building was probably cruciform; and what would appear to be the north transept is already bared: the towers or turrets are placed at the angles. The ornamental work in the mouldings scattered about show the building to have been of fine workmanship: the tooth ornament is conspicuous.

ABATEMENT OF NOXIOUS VAPOURS.—The Earl of Derby moved, on the 9th inst., as he had intimated, in the House of Lords, for the appointment of a select committee to inquire into the injury resulting from noxious vapours evolved in certain manufacturing processes, and into the state of the law relating thereto. His lordship dwelt more particularly on the evil influence of such vapours on trees and growing crops. Lord Ravensworth proposed that the word "offensive" should be added to "noxious;" but Lord Granville suggested that the addition might occasion some difficulty in pursuing the inquiry. Lord Derby did not object to the word, but thought the word noxious sufficient. The motion as originally proposed was then agreed to.

HARBOURS OF REFUGE.—The annual return, showing the progress of works and harbours of refuge, has been issued. At Dover, where 500,000*l.* have been laid out, and a vote of 50,000*l.* is to be taken this year, to be followed by 100,000*l.* more in future years, the length of the pier founded is now 1,573 feet; and 1,390 feet have been completed to the quay level. The South Eastern Railway is now carried on to the pier. At Alderney, 1,220 yards of sea wall, and 1,226 of harbour wall of the western breakwater are complete except the coping; and the promenade wall is ready for the coping for a length of 1,217 yards from the shore. The base of the breakwater extends 1,636 yards from the shore. From 500 to 700 men are kept employed at this work; for which there have been voted 937,000*l.*; the total estimate being 1,300,000*l.* Of the breakwater at Portland, which is to shelter 2,130 acres of the bay, the centre of the north head is 8,512 feet from the shore, and the depth of water 9¼ fathoms at low water of spring tides. During the heavy gales of February and March many vessels took refuge within this harbour. The votes already passed for the works at Portland amount to 973,000*l.* The total estimate exceeds 1,000,000*l.* Upwards of 5,000,000 tons of rough stone have been deposited since the commencement.

THE PROPOSED CONCENTRATION OF THE LAW COURTS.—The *Times* having published a leading article in which it speaks of the "Romantic generosity" of the Society of Lincoln's Inn in offering, "at its own expense and upon its own land, to build, at a cost of 100,000*l.*, two courts" to replace the present shameful "vaults of justice;" a correspondent, X. Y. Z., assures the *Times* that this generosity resembles very closely the charity which "begins at home;" and he says, "What the Society has really done is this: it has offered to build, on its own land, two courts for the two Vice-Chancellors, with suitable chambers, *on condition that a sum of* 4,000*l. per annum*, charged by Act of Parliament on the income of what is popularly, but erroneously, called 'the Suitors' Fund,' *be secured to it in perpetuity*; such annual sum being interest at the rate of 4 per cent. on the sum of 100,000*l.*; which it is assumed will be the cost of erecting the courts, *and of compensating the Society for the value of the site on which it is proposed to erect them.*" In reference to the advice of the *Times* that the open space of Lincoln's-Inn Fields should be taken, the same correspondent, while objecting, as we have so often done, on sanitary grounds, points out that the offer of the proprietors to "give" 3½ or 4 acres, provided Government carry out certain extensive improvements, would *not* be any saving compared with the Carey-street site; but that in truth such a *gift* would cost more than that site.——A deputation from the Society for Promoting the Amendment of the Law have waited upon the Chancellor of the Exchequer to endeavour to induce the Government to take up again the Bill for the concentration of the law courts, which met with an adverse vote on the motion for its second reading. Mr. Hastings stated the objects of the deputation, and urged the Government not to be influenced by the benchers of Lincoln's-inn in their decision. With regard to any extra expense which might be incurred in the erection of the building, it was suggested that it could be met by a small tax on the issue of writs. The Chancellor promised to consult his colleagues on the matter. On no account should the open area of Lincoln's Inn-fields be covered.

RAILWAY RETURNS.—The traffic returns of railways in the United Kingdom, published for the week ending the 3rd of May, amounted, on 10,165 miles, to 529,860*l.*; and for the corresponding week of 1861, on 9,936 miles, to 531,450*l.*; showing an increase of 229 miles, and a decrease of 1,590*l.*, in the receipts.

A BOON TO THE POLICE.—The many complaints which have appeared in the journals, first in our own, and also in the pages of *Punch*, of the hat worn by the metropolitan police, have at last had some effect; and the hard, heavy, ill-fitting, and head-ache inducing article hitherto in use is, it is said, to be superseded by one of a considerably lighter and more useful description.

THE BRICKMAKERS' STRIKE.—The brickmakers about North Hyde, Southall, Botwell, and Drayton have all struck, and a considerable degree of consternation is felt in consequence. Many of the men, it seems, are willing to go to work at the price offered, but they are restrained by the threats and intimidations of others more refractory. The proprietors of the brickfields applied recently for forty-six warrants against the moulders, and these warrants were placed in the hands of the police.

BUILDING ACCIDENT.—At Belfast, according to the *Newsletter*, an accident has occurred to three workmen employed on the Duncairn Presbyterian Church, Antrim-road. The men were employed in removing the scaffolding from the spire of the newly-built church; and, while standing on one of the planks, it slipped from its position, and precipitated them a distance of 40 feet to the ground. None of the men were killed on the spot; and, indeed, two of them were taken up but slightly injured. The other man, however, was seriously hurt.

PRINCE OF WALES THEATRE, LIVERPOOL.—This little theatre, conducted entirely on the vaudeville principle of the metropolis, has undergone of late extensive alterations and improvement. The old Clayton Hall, which, more on account of its convenient situation than any intrinsic merit, in the occasional and miscellaneous entertainments given within its walls, was always to some extent a favourite place of resort with the Liverpool public. But until the time of Mr. A. Henderson it was never adapted to theatrical performances, with the exception of a few amateur performances by the Liverpool "Literary and Dramatic," and "Garrick" Societies. The theatre during Passion Week was entirely redecorated, being painted in white and gold. The gallery has been enlarged, and made capable of holding 700 people, a new and commodious entrance to the boxes provided by a separate entrance. The theatre is capable of containing 1,500 occupants.

SANITARY EXPERIMENT ON A DEAD WIFE.—A curious communication from a florist at Camberwell to the secretary of the Irish Amelioration [Peat Charcoal] Society is given in the *Bury Post*. It is as follows:—"Sir, On the 4th of July my wife died just as the hot weather set in. As soon as the coffin came, one thing that I forgot was, I did not put charcoal peat in first, which nearly spoiled my experiment; but I covered her all over with 4 inches thick with it. The experiment answered famously; and in case of cholera, &c., peat charcoal cannot be too much used; and all undertakers ought to insist on its use. I have tried mice, rats, fish, &c., but never before had the humane body tried in it. This experiment must be [cannot be?] too well known. July 16, 1852. P.S.—This was our agreement whoever happened to die first." As we do not think this highly sanitary and scientific florist's "experiment" even yet "too well known," we give him the benefit of our columns in disseminating it amongst the benedicts, "just as the hot weather sets in;" and we hope it will answer famously; and that they will keep cool as a cucumber, or a Camberwell florist; and not risk the spoiling of the experiment by neglecting, in the midst of their sorrow, as he did, to imbed the humane body first of all on a soft layer of the sanitary material.

TENDERS

For an ornamental Cottage at Whitchurch, Oxon, for Captain Fowler. Mr. Joseph Morris, architect. Quantities supplied:—

Wheeler & Sons	£400	0	0
Briant	365	16	0

For alterations to the "Pritchard's Arms," Hackney-road, for Mr. Robotham. Mr. W. J. Green, architect.

Patrick & Sons	£970	0	0
Langmead	750	0	0
Langtree	664	0	0
Rankin (accepted)	530	0	0

For a Baker's shop at North Warnborough, Hants, for Mr. J. Lodge. Mr. Joseph Morris, architect:—

Hellis (accepted)	£309	0	0

For additions to St. Matthew's School, Camberwell. Mr. G. Low, architect:—

Smith	£414	0	0
Waker	408	0	0
Colls	403	0	0

For Manor Park, Blackheath, Kent. Mr. J. H. Blake, architect. Quantities by Mr. C. Fuster:—

Holland	£2,560	0	0
Bond	2,436	0	0
Bartram	2,352	0	0
Greenwood	2,310	0	0
Todd	2,300	0	0
Wilson	2,295	0	0
Todd	2,114	0	0
Smith	2,050	0	0
Sawyer (no Smith or Paper-hanger)	2,000	0	0
Goram	1,900	0	0

For the erection of a Town Quay or landing-place for the Mayor and Corporation of the City of Rochester. Mr. Henry Andrews, surveyor. Quantities supplied:—

Williams	£2990	0	0
J. J. Bennett	2698	0	0
W. & H. Spencelegh	2007	2	8
F. Spicer	1995	0	0
W. Webster	1982	0	0
W. H. Ball (accepted)	1950	0	0

For house in Birkdale Park, Southport, for Mr. Heginbottom. Mr. J. Medland Taylor, architect:—

Neill	£2072	0	0
Haigh & Co.	1969	0	0
Statham	1920	0	0
Penk	1898	0	0
Metcalf & Waterson	1675	0	0

For new Wesleyan chapel in the Studley-road. Mr. W. W. Jenkins, architect. Quantities by Messrs. Lansdown:—

Browne & Robinson	£3538	0	0
Wardle & Baker	3390	0	0
Stone	33.8	0	0
Walker	3189	0	0
Thompson	3075	0	0
Chinnock (accepted)	3040	0	0

For Methodist Free Church, Holt. Mr. Jeckyll, Norwich, architect. The quantities were given:—

Munford & Jackson	£2368	0	0
Darken	2228	10	0
Bartram	2147	3	4
Whiting	1800	0	0
Skipper (accepte)	1706	0	0

For a new 45 quarter malt office, Lincoln, for Mr. Nesbitt. Mr. Goddard, architect:—

Jackson	£1420	0	0
Smith	1347	0	0
Kirk	1322	0	0
Tretwell	1223	0	0
Calvert (accepted)	1078	10	0

For three lodges at Hartsholme Hall, Lincoln, for Joseph Shuttleworth, Esq. Mr. Goddard, architect:—

Young	1185	0	0
Reeve	745	0	0
Fox	708	0	0
Jackson (accepted)	640	0	0

For two granaries, Old Gravel-lane, Wapping. Mr. C. Ainslie, architect. Quantities supplied by Mr. F. G. Widdowes:—

Dale	£2955	0	0
Condor	2540	0	0
Ennor	2489	0	0
Johnstone	2398	0	0

Offices for Limehouse District.—Mr. J. W. Sawyer says his tender was 5980*l.* instead of 4980*l.* We printed the amount as it came to us, "on authority."

TO CORRESPONDENTS.

W. H.—C. G. W.—J. F. F. (declined with thanks)—C. G. W. Calcutta (not due as when building has been commenced). I. B. Jun. (shall appear first opportunity).—A. J. B.—J. L.—J. M.—W. B.—I. & M.—Dr. F. L.—L. J.—S. S. Jun.—G. G.—R. K.—Veritas.—W. B. (the charge is too general and too sweeping. Who are the "Inspectors?")—J. D. P. (declined with thanks).—R. M. P.—G. W.—H. & E.—M. & M.—W. B. C. & Co.—One of the duped (sends no name).—E. S. (we cannot look back to settle such questions).—T. S. S.—W. L. P. M.—Lord S.—C. A. L.—D. W. (we know of no solution for removing whitewash from church-walls).

Erratum.—Messrs. Clayton & Bell wish to state that they did not execute the stained glass windows in the Roman Catholic church of Holy Cross, St. Helen's, attributed to them.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than FIVE *o'clock, p.m., on Thursday.*

ADVERTISEMENTS.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilias, Sesquialtras, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

KENT. Valuable Freehold Coppice Wood Lands, near Sittingbourne, with immediate possession, containing a considerable quantity of excellent Brick earth.

MESSRS. DANIEL SMITH, SON, and OAKLEY have received instructions to offer for SALE by AUCTION, at the MART, near the Bank of England, on TUESDAY, JUNE 10th (instead of May 27th, as previously advertised), at TWELVE, valuable FREEHOLD WOOD LANDS, with the timber and underwood growing thereon, situate in the several parishes of Bobbing, Borden, Newington, and Stockbury, containing 422a. 1r. 38p., in the following lots:—Lot 1. That part of Chestnut Wood lying north-east of the Key-street road, containing 20a. 1r. 25p. of chestnut plantation, the whole being in the parish of Bobbing. Lot 2. Another portion of Chestnut Wood, adjoining the turnpike road from Sittingbourne to Chatham, and bounded on one side for nearly a mile by the turnpike road from Sittingbourne to Maidstone, and containing 128a. 3r. 24p., with wonderfully hoppy soil and premises, and in the several parishes of Bobbing, Borden, and Newington. Lot 3. A small piece of Arable Land, containing 2½ acres, and 156 acres of Chestnut Wood, adjoining the turnpike road from Sittingbourne to Maidstone, running in a southerly direction, and containing together 158a. 2r. 13p., in the parishes of Borden and Newington. Lot 4. Another portion of Chestnut Wood, running from the turnpike road, nearly up to Head-street, and containing 93a. 3r. 33p., in the parishes of Borden, Newington, and Stockbury. The principal portion of this land is on a level, and may be profitably converted into arable. The soil in these four lots contains valuable brick-earth. Lot 5. Cookham Wood, in the parish of Newington, containing 7a. 2r. 8p. Lot 6. Maiden Wood, in the parish of Newington, containing 5a. 3r. 14p. Lot 7. Stony Rocks Wood, in the parish of Newington, containing 4a. 1r. 31p. Lot 8. Tanner's Rough Wood, in the parish of Newington, containing 3a. 0r. 18p. The four last lots adjoin or are approached from the turnpike road leading from Sittingbourne to Maidstone.—Plans and particulars may be obtained of Messrs. BENHAM, DAWSON, and THORNHILL, Solicitors, Newgate-street, London's Inn, W.C.; of I. P. EVANS, Esq., Grif, Nuneaton; of Mr. SUMMERFIELD, Land Agent, Maidstone; at the Sun Hotel, Sittingbourne; at the Bull Inn, Sittingbourne; of WILLIAM GOODHEW, Woodvale, Chestnut-street (who will show the Lots); and of Messrs. DANIEL SMITH, SON, and OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

Valuable Freehold Farm and Wood Lands, situate at Bodsham, Kent, within five miles of Chatham and Maidstone, and three miles of the Rainham Station on the London, Chatham, and Dover Railway.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to offer for SALE by AUCTION, at the MART, near the Bank of England, on TUESDAY, JUNE 10th (instead of May 27th, as previously advertised), at TWELVE, a valuable FREEHOLD compact ESTATE, comprising 33a. 3r. 3p. of arable, pasture, and wood land, all in a ring fence.—Lot 1 will consist of 14a. 3r. 33p. of farm lands, in a good state of cultivation, let to a yearly tenant at a low rent, together with 13a. 1r. 24p. of wood land, making in all 27a. 3r. 17p., forming a sound investment, and presenting at the same time enjoyable sporting advantages. Chapelfield Wood, containing 5a. 2r. 10p., at the back of the Bell Public-house at Bodsham, 3a. 3r. 3p. Head Wood, containing 2a. 0r. 19p. of wood land, adjoining the high road from Bredhurst to Rainham. Lot 4. Chilley Lands, containing 2a. 1r. 37p. of arable land, adjoining the Railroad from Rainham to Sittingbourne.—Plans and particulars may be obtained of Messrs. Bennett, Dowson, and Thornhill, Solicitors, 2, New-square, Lincoln's-inn, W.C.; of I. P. Evans, Esq., Grif, Nuneaton; of Mr. Summerfield, Land Agent, Maidstone; at the Bull Inn, Sittingbourne; of WILLIAM GOODHEW, Chestnut-street (who will show the Lots); and of Messrs. Daniel Smith, Son, & Oakley, Land Agents and Surveyors, No. 10, Waterloo-place, Pall-mall, S.W.

GREENWICH HOSPITAL.—Materials of Buildings and Boundary-wall adjoining the School.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Greenwich Hospital to SELL by AUCTION, on the PREMISES, near the school buildings, on MONDAY, MAY 19th, at ELEVEN o'clock, and TUESDAY, MAY 20th, at TWELVE, the MATERIALS and FITTINGS UP of a School room, Lavatories, and other buildings, also the Boundary-wall and Iron Rails next the Woolwich road; comprising about 2,000,000 sound stock bricks, landgutters, ridges, cisterns and pipes, excellent timber in roofs, slates and slating, deal & other fittings of urinals; iron screen; glazed sashes and doors; 90 feet of stone coping, 260 feet of iron railing, a quantity of York and other paving, copper, sundry loose materials, and other effects. May be viewed on Saturday previous, and catalogues had at Mr. HARWICK'S Office, No. 21, Cavendish-square. The Office of the Inspector of Works, Greenwich Hospital, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 80, Fore street, City, E.C.

MILLBANK STREET. TO SCULPTORS, MASONS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Mr. John Philp, Agent for COUNT N. LAZZARI & Co., to SELL by AUCTION, at the MARBLE WHARF, 19, Millbank-street, Westminster, on WEDNESDAY, MAY 21st, at TWELVE, a large assortment of MARBLE in blocks and slabs, viz., 70 blocks of statuary, 20 of vein, 80 of Sicilian, 3 of black and gold, 2 of yellow Sienna, and 1 of dove. Also about 500 feet of Portland and Bastard statuary slabs, 1 marble fountain, 2 monuments, 1 lot of serpentine, garden vases, lavatories, &c. May be viewed three days previous, and catalogues had on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 80, Fore street, City.—N.B. Approaches for all four and six months.

OLD PORTLAND and BRAMLEY-FALL STONE FROM WESTMINSTER BRIDGE.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL the remainder of the STONE from old Westminster Bridge, the quantity (with broken stone) to be very upwards of 1,000 tons, by quarried at 10s. per ton, by applying to PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, or 80, Fore street, E.C.

TO CONTRACTORS, ENGINEERS, & OTHERS.

PULLEN, HORNE, & EVERSFIELD are authorized by the Commissioners of her Majesty's Works and Public Buildings to SELL the PLANT no longer required at the works of the New Westminster Bridge, consisting of several capital travelling cranes, pile engines, and mud keys, double and single purchase crabs, pitching-bells, shivers, presses and apparatus; fir and elm piles, staging, &c. To be viewed and catalogues had on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, or 80, Fore street, E.C.

A Site of Land opposite Mr. C. B. Dean's, Lark Hall Tavern, Lark Hall-lane, Clapham-road, London.

TO Carpenters, Cabinet Makers, and Timber Buyers. Extensive Sale of Rickwood.

LAURENCE & SON beg to announce that they have been favoured with instructions to SELL by AUCTION, at the above premises, on TUESDAY, MAY 20, 1862 (and following day if required), a large Consignment of very superior Sawn and Unsawn RED DEALS and BATTENS; 2 by 3, 3 by 3, and 4 by 4 inch RED DEAL QUARTERING; 1½ inch and 2 inch RED BANKS and JOISTS; many thousands of feet of excellent Red Deal Prepared Flooring Boards; Tongued and Grooved 4 and 1 inch Red Deal Boards; various Boardings, Scantlings, &c., together with an immense Stock of SLATE and TILE LATH. The whole will be arranged in lots, and may be viewed two days prior to sale, and catalogues had; and of Messrs. LAURENCE & SON, Auctioneers, Valuers, and Timber Brokers, 3, Queen's-circus, opposite the Queen's Hotel, and Clarence-place, Chelsea-bridge.

MESSRS. J. EREW & LEREW will SELL by AUCTION, on the PREMISES, Chelsea-terrace, Caledonian-road, on MONDAY, MAY 19, at TWELVE for ONE, 5,000 PLANKS, DEALS, and BATTENS; 100 ditto, sawn; 120 dozens of prepared flooring, 2,000 feet quartering, 100 feet arris rafters, 1,000 feet deal boards, 10 squares feather edge and 10 squares of match boards; ing battens, panelled doors, sawn mouldings, 1,000 feet of 1 and one & a half inch moulded doors, patent chaff-cutting machine, and materials.—Auction Office, 2, Cardington-street, Hampstead-road.

TUESDAY NEXT, MAY 20, AT ONE FOR TWO PRECISELY, BY MR. EDWIN WHITE, at 12, HOLBORN-BARS, and 1, CASTLE-STREET, Holborn, 3,500 Pieces of PAPER HANGINGS, for Genuine SALE; 100 British and Foreign Chimneypieces, in light and dark marbles; 1,000 feet of Gilt Fender Moulding; 6 Watercloseets, and 3 first-class Fireproof Safes.—View, Catalogues Monday, and Morning of Sale.

East Ham, Essex, six miles and three-quarters from the General Post-office.—Building Accommodation and Market-garden Ground.—For SALE by AUCTION, by

MESSRS. COBB, at the MART, London, on the 23rd day of MAY, 1862, at TWELVE o'clock, in Four Lots, FORTY NINE ACRES of valuable BUILDING and MARKET-GARDEN GROUND, with FARM HOUSE and PREMISES, situate near East Ham and the Victoria Docks, and at a short distance from the Plaistow and East Ham Railway Stations, having extensive frontages to the Barking and other roads, forming most eligible properties for accommodation and building purposes. The whole has a substratum of excellent gravel, easily to be worked by railway, roads, and river. Possession can be had at Michaelmas next.—Particulars, with plans and conditions of sale, may be had at the Auction Mart; of Messrs. H. and G. LAKE & KENDALL, Solicitors, No. 10, New-square, Lincoln's-inn; and of Messrs. COBB, Surveyors and Land Agents, 26, Lincoln's-inn-fields, and Rochester, Kent.

NEAR STRATFORD, ESSEX.—Valuable Building and Accommodation Ground Leases for SALE by AUCTION, by

MESSRS. COBB, at the MART, London, on FRIDAY, MAY 23, 1862, at TWELVE o'clock, TEN LOTS of valuable FREEHOLD BUILDING LAND, situate at Stratford New Town, within a few minutes' walk of the Stratford Railway Station and works, eligible for the erection of small houses, for which there is here a great demand; a piece of accommodation pasture land, containing 1a. 1r. 30p. abutting on the Eastern Counties Railway, near to the station; in the parish of Stowe.—Of Mr. Smith's Agent, possession can be had at Michaelmas next; and a close of meadow land, near Temple Mills, containing 10a. 0r. 5p. let to Mr. Machin (with other land), at the apportioned rent of 30l. per annum. For seven years, from Michaelmas, 1862, next.—Particulars, with plans and conditions of sale, may be had at the Mart; the Castle and Essex Arms, Stratford; of Messrs. H. & G. LAKE & KENDALL, Solicitors, No. 10, New-square, Lincoln's-inn; and of Messrs. COBB, Surveyors and Land Agents, 26, Lincoln's-inn-fields, and Rochester, Kent.

The Ashley Park Estate, Walton-on-Thames, Surrey, including the fine old Mansion and Park and a charming Cottage Orné on the border of the park, also valuable Building Land, of a most beautiful dry sand and gravelly soil, with frontages to the main road, extending from the railway station to the village of Walton; the estate comprising altogether about 300 acres; only 40 minutes' journey from the metropolis.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are favoured with instructions to SELL by AUCTION, at the MART, on FRIDAY, JUNE 13, the above highly important and very valuable FREEHOLD ESTATE, which will be divided into four lots (unless an acceptable offer for the whole be previously made). The first lot to comprise the fine old Mansion, with the offices, stabling, gardens, pleasure grounds, and beautifully timbered ancient park, farmery, bailiff's house, lodges, &c., altogether about 110 acres in a ring fence, situated in the west side by the Oatlands Park estate. Lots 2 and 3, about 120 acres of very eligible Building Land, possessing extensive frontages to the main roads, ornamented by beautiful plantations and trees from 30 to 50 years' growth, and having about the ground in sites for gentlemen's villas, which are much sought for in this locality. Lot 4. a beautiful old Cottage Orné, known as Ashley Cottage, situate on the northern margin of the park, with offices, gardens, and meadow land, comprising nearly nine acres, within a few minutes' walk of the village of Walton and close to the Oatlands drive, on the high ridge of land overlooking that beautiful part of the river Thames opposite to Hall-ford and Shepperton, so well known to readers of sporting literature. Printed particulars and plans may be had at the Oatlands Park Hotel; of Messrs. NICHOLL, URNETT, & NEWMAN, Solicitors, 15, Carey-street, Lincoln's-inn; and at the Office of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville-row, W. and Change-alley, E.C.

BOX-HILL, one mile from Dorking.—Eleven Acres of very valuable Building Land, with frontages to the high road leading from Leatherhead to Dorking, and to the new road to the Burford Bridge Station, and there enjoying the finest views of the Box-hill, Burford Bridge, and Box-hill Station, and their celebrated seats, Box-hill presenting a bold and beautiful background, with the Druid's Grove crowning the knoll, and forming the boundary of a portion of the said property.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT will SELL by AUCTION, at the MART, on FRIDAY, JUNE 13th, at Twelve, in one lot, Eleven Acres of valuable BUILDING LAND, of which one-half is pasture or coppice, and the remainder freehold, free from tithe and land-tax, and situate at the foot of one of the most beautiful slopes of Box-hill, a few minutes' walk from the station on the Reading and Reigate line, and one mile from Dorking, and within four miles of Leatherhead, where a branch line from the South-Western Railway affords additional access to the metropolis. The land for sale, viewed as a site for the erection of gentlemen's residences presents attractions much contrasted, the situation is remarkable for the purity of the air, the salubrity of the spot generally, which, with an abundant supply of pure spring water; there are charming rides and walks in all directions, and the neighbourhood abounds with gentlemen's seats, and ranks the best society in the county of Surrey. The land adjoins the residence and grounds of Dr. Gordon on both sides, and abuts on the road thereof; and can be viewed daily, and printed particulars had at the Burford Bridge Hotel; of Messrs. DAVID WILLIAM PEARCE, Esq., solicitor, No. 21, Broad-street-buildings, E.C.; of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville-row, Regent-street, W.; and 19, Change-alley, E.C.

WALTON and WEYBRIDGE.—The Dairy Farm and other Lands, formerly part of Oatlands Park, a portion abutting upon the Oatlands Drive, and presenting beautiful Sites for Gentlemen's Residences of a class similar to the many elegant Villas and Grounds which already occupy the rising ridges of this locality between Walton and Weybridge; the whole freehold, and land-tax redeemed.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT beg to notify that they have received instructions from the Devisees in Trust under the Will of the late Robert Wheatley Lumley, esq. to SELL by AUCTION, at the MART, on FRIDAY, JUNE 13, in five lots, the above very valuable FREEHOLD ESTATE, which commences close the village of Walton, and possesses a considerable extent of frontage in the west side of the high road leading from Walton to Weybridge, and in the two hamlets of Hersham and Oatlands, and for the whole distance of nearly a mile and a half to the Walton Station, and two miles from the Weybridge Station, on the South-Western Railway. This frontage forms a ridge of high land of gravelly soil, commanding beautiful parts of the Thames opposite to Hall-ford and Shepperton, and the lower Berrylen in the vale between, with a gentle, and pleasantly situated ascent to the Oatlands Park Hotel and Drive, and the Oatlands Park mansion and buildings, and a portion of the large piece of ornamental water called Broadwater Lake; the whole comprising about 115 acres of pasture and park lands and plots may be had 14 days prior to the sale at Messrs. NICHOLL, BURNETT, and NEWMAN, Solicitors, 18, Carey-street, Lincoln's-inn; at the Oatlands-park Hotel; and of Messrs. RUSHWORTH, JARVIS, and ABBOTT, Saville-row, Regent-street, and 19, Change-alley, E.C.

TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

THOMAS ROBERTS & CO. will SELL by AUCTION, without reserve, at GARRAWAY'S COFFEE-HOUSE, Change-alley, Cornhill, on THURSDAY the 29th MAY, at SIX o'clock precisely, by order of the Importers, WITHOUT RESERVE, 1st, LOGS HONDURAS MAHOGANY, sound and serviceable, Northern Mould of first-rate quality, lately landed at the East India Dock Wharf, Wapping, from the Dockyard, per Margaret, from Belize. Also 2d, LOGS CUBA MAHOGANY, and 3d, Rafts BALSA. Catalogues may be had of T. ROBERTS & Co., Brokers, 19, Old Broad-street, E.C.

LANGLEY, on the Great Western Line, within twenty miles of London.

MR. A. RICHARDS has received instructions from Mr. H. Dodd to SELL by AUCTION, the WEEK after NEXT, about FOUR MILLIONS of excellent BRICKS, which will be sold in kilns, and a portion sorted. The bricks are of the very best quality, and include about 300,000 superior malms, consisting of cutters, well-rubbed seconds, shire, and hard paviours' pennies, samples of which, and catalogues, will appear next week.

BINFIELD, near Bracknell, Berks.—To Builders, Farmers, and Others

MR. W. BOOTH will SELL by AUCTION, at the back of the WATERHOUSE (as above), on THURSDAY, MAY 22nd, 1862, at TWELVE for ONE o'clock, without reserve, the timber, chiefly in Wrought and Cut Nails, and General Ironmongery, Farming Implements, White Lead, Dry Colours, and Ground Paints, a BROWN MARE, PHAETON and HARNESS, and GENERAL BUILDER'S MATERIALS and USEFUL EFFECTS. On view the morning of sale. Catalogues at the Inns in the neighbourhood, by post for a stamp, and at the Office of the Auctioneer, 66½, Snowhill, City, E.C. London.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE.—Every description of Architectural Drawings prepared, an Perspectives Outlined or Coloured, by
MR. T. T. MARDON, Jun.;
Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c.
7, John-street, Bedford-row, W.C. Office hours, Ten to Four.

GENTLEMEN desirous of extending the business of FIRE and LIFE ASSURANCE may be appointed AGENTS, either publicly recognised or private, by addressing letters to "No. 1,176," City of Glasgow Bank, Argyle street, Glasgow.

WANTED, a GOOD SURVEYOR and DRAUGHTSMAN, who has had experience in town surveys, and is well versed with levelling and drainage, &c.—Application to be made to the Surveyor to the Local Board, Basford, Notts, stating with whom last engaged, amount of salary required, age of applicant, and whether married or single. No one need apply who is not fully competent.

TO ARCHITECTS' ASSISTANTS.

WANTED immediately, a thoroughly competent experienced ASSISTANT. He must have a taste for design, and be well versed in detail and construction.—Address, H. Mr. Carrs, Church street, Deptford, S.E stating age, salary, and full particulars.

TO ARCHITECTS' ASSISTANTS.

WANTED, an experienced ASSISTANT in an ARCHITECT'S Office near London. Must have a perfect knowledge of construction, and accustomed to make out working and finished drawings also to prepare specifications, estimate dilapidations, and make out quantities.—Address, stating age, recent engagements, and salary required, to ALPHA, 42, Chancery-lane, W.C.

TO ASSISTANTS.

WANTED, an ASSISTANT, competent to TAKE CHARGE of an ARCHITECT'S OFFICE. One accustomed to general London practice preferred. If properly qualified, the engagement may be permanent. Address, stating age and salary required, W. M. Office of "The Builder."

WANTED, in an Architect's Office, a competent DRAUGHTSMAN.—Address, X. Y. Robson's Library, 64, Edgware road, W.

WANTED, in a Builder's Office, a CLERK, as Book-keeper, &c. One with a previous knowledge of the trade will be preferred.—Apply, by letter only, with terms and references, to A. B. Mr. Neely's, Stationer, 1, George-street, Mansion House, E.C.

WANTED, in a Business Office, the OCCASIONAL SERVICES of an ESTIMATING CLERK. He will be required to take out quantities, and be fully competent to state the value of all builders' works.—Apply by letter, post-paid, stating terms and when disengaged, to A. A. Office of "The Builder."

WANTED, a SHOP FOREMAN of JOINERS, principally Jobbing Work. Wages 5s. per day.—Address, stating age, references, &c. C. D. care of Mr. Key, Bookseller, Stationer, and News Agent, 33, Westbourne-place, Paddington, W.

TO ARCHITECTURAL DRAUGHTSMEN.

WANTED, in an Architect's Office in the country, a DRAUGHTSMAN who is competent to make fair and working drawings, and understands the general routine of an office.—Address, stating terms, to H. B. Post-office, St. Ives, Hunts.

WANTED, a WOOD-CARVER, experienced in the Gothic and other Architectural styles. For a suitable person it will be a constancy.—Address, stating age and reference, to ARTHUR HAYBALL, Wood-carver, &c. Sheffield.

WANTED, in the Country, a Man to Work a CIRCULAR SAW-BENCH. Must understand Joiner's work, and if open for an engagement apply to Mr. BACKHURST, Builder, Eastbourne, Sussex.

WANTED, a good active WORKING FOREMAN of BRICKLAYERS and TWELVE MEN. Two years' constant work.—Apply to G. ROACH, Contractor, 4, Cobourg-place, Plymouth.

WANTED, by the Advertiser, an ENGAGEMENT in the Office of an Architect or Builder in the country. Has been six years in Architects' offices in London. Unexceptionable references can be given.—Address, F. B. 16, High-street, Colchester.

WANTED, by a Practical MAN, a RE-ENGAGEMENT to take charge of a Building. First-class reference.—Carpenter by trade.—Address, H. G. 32, Park-road, Kennington park.

WANTED, a SITUATION as FOREMAN of PAINTERS, by a thoroughly practical man.—Address, W. S. T. 79, Princes-road, Lambeth.

TO PLUMBERS, BUILDERS, &c.

WANTED, a SITUATION, by a Young Man just out of his time, as an IMPROVER at the Plumbing. No objection to do all sorts of work pertaining to the trade. Has been four years in the above line. Town or country.—Address, A. B. 30, North-street, Manchester square, Marylebone, W.

TO BUILDERS, MASTER PAINTERS, &c.

WANTED, by a Practical Man, aged 30, an ENGAGEMENT as FOREMAN of PAINTERS. Six years with present employer.—Address, A. B. care of Mr. Simpson, Colour Merchant, Edgware road.

TO MASTER PLUMBERS.

WANTED, to APPRENTICE a Youth, aged 16, as IN-DOOR to the Plumbing and Gas-fitting. Has been brought up in the business. A premium will be given.—Address, Y. Z. care of Mr. Stainford, Railway station, Richmond, Surrey, S.W.

TO TIMBER MERCHANTS, STEAM SAW-MILL PROPRIETORS, BUILDERS, &c.

WANTED, by the Advertiser, aged 28, a permanent APPOINTMENT. Has a thorough knowledge of the Timber and sawing trades. Is thoroughly conversant with Building Lines, having been for six years in an office where the above businesses are combined. Satisfactory references.—Address, D. B. Post-office, Hull.

WANTED, by the Advertiser, a SITUATION. Is a first-class painter and paperhanger. No objection to the country.—Address, A. B. 42, Paradise-street, Lambeth.

TO BUILDERS AND PLUMBERS.

WANTED, by the Advertiser, a SITUATION. Is a good Plumber, and would not object to fill up his time in painting and glazing. No objection to town or country.—Address, R. M. No. 13, Windmill street, Finsbury.

WANTED, by the Advertiser, a RE-ENGAGEMENT, either in an Architect's or Surveyor's Office. Is a good draughtsman, understands perspective, &c. and can assist in taking out quantities. Address, W. 15, Bookman street, New North-road.

TO MASTER PLUMBERS AND BUILDERS.

WANTED, by a good Plumber, a constant SITUATION. Can fill up a portion of his time with Painting and Glazing if required, and has no objection to the country. Good references.—Address, B. P. A. Office of "The Builder."

TO BUILDERS OR GENTLEMEN BUILDING.

WANTED, by a Carpenter and Joiner, FIXING PIECEWORK, or Working Foreman in a Building. Town or country.—Address, T. W. No. 15, Dean-street, South-street, Islington, N.

TO BUILDERS AND OTHERS

WANTED, by a respectable Person, competent to measure works, prepare estimates, keep books, &c. EMPLOYMENT for the above or for any work Terms moderate. Apply by letter, prepaid, to ALPHA, care of Mr. Miller, Stationer, 6, Bridge-road, Lambeth, S.

TO PLUMBERS, PAINTERS, AND GLAZIERS.

WANTED, by a Youth aged 19, a SITUATION in the above trade as IMPROVER for two years. Has had four years' practice.—Address, G. H. 26, Robert-street, Grosvenor-square, W.

WANTED, to APPRENTICE, IN-DOOR, an active respectable Youth, aged 17½ years, to some business connected with the Building Trade. The country preferred. A moderate premium will be given.—Address, with particulars, to care of Messrs Fassnidge, Uxbridge.

TO VENEER SAW MILL PROPRIETORS.

WANTED, by a Practical Hand of long experience, a SITUATION in the above Branch, as SAWYER or MANAGER. Is perfectly acquainted in all its details.—Address, A. B 14, Rheidel-terrace, St. Peter's-street, Islington.

WANTED, by a Tradesman, age 45, with limited income, having given up business a SITUATION in a surveyor's or builder's office, as TIME-KEEPER, or to take charge of a timber-yard, or any public or private works in the building trade, where trust and confidence is required. Address, A. B Mr. Warren's, News-agent Office, 18, London-street, Fitzroy-square.

WANTED, by an experienced Man, a SITUATION as FOREMAN of PAINTERS, or the care of work.—Address, J. W 14, Hemsworth street, Hoxton

TO BUILDERS, CONTRACTORS, AND OTHERS

AN CLERK OR TIMEKEEPER.

WANTED, by a Respectable Young Man, aged 20, a RE-ENGAGEMENT as above, or in any other capacity of trust. 3½ years with late employer. Satisfactory references can be given Address, A. B. 1, Brock-street, Gloucester place, Hyde Park Gardens, W.

TO PLUMBERS AND BUILDERS.

WANTED, a SITUATION, by a practical PLUMBER who thoroughly understands his business in all its branches, and is willing to fill up his time with painting or glazing Town or country. Reference, if required.—Address, T. T. No. 20, St. John-street-road, Clerkenwell, E.C.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a Bricklayer, a RE-ENGAGEMENT as FOREMAN Is well up in setting out work, is used to piece work of any description, or to take work of a yoking master, and find materials. Good references.—Address, A. A. Office of "The Builder."

WANTED, a SITUATION as CLERK, STOREKEEPER, or in any other capacity where he could make himself generally useful. Age 27. Has been in a Bank and Fire office, is a Pensioner from the Royal Navy. Good Writer Apply H. N. 8, St George's-road, New Kent-road, Borough

WANTED, Employment by a steady Man, a good Jobbing Hand at Carpentering and Cabinet Work. Constant employment. Wages 24s. per week.—Address, C. Y. No. 15, Vineyard-gardens, Northampton-road, E.C.

WANTED, by a Young Gentleman, four years at the profession, a SITUATION as JUNIOR ASSISTANT in the Office of an Architect. Gothic preferred.—Address, K. E. O. Office of "The Builder."

TO SURVEYORS, ENGINEERS, &c.

WANTED by a Young Man, aged 28, a SITUATION as ASSISTANT to a LAND SURVEYOR or ENGINEER. Has had nine years' experience as a Surveyor (and Office Lead), both in England and India. No objection to go abroad. Salary not so much an object. Good testimonials.—Address, A. B. Post-office, Stanwix, Carlisle.

TO ARCHITECTS, &c

THE Advertiser is open to an ENGAGEMENT as CLERK of WORKS, or ASSISTANT Can take the management of an office, if required. Sixteen years' experience Reference to London architects.—Address, R. B. Mr. Kennett, 14, York-street, Covent Garden, London

TO ARCHITECTS, ENGINEERS, AND SEWER CONTRACTORS.

THE ADVERTISER is desirous of an ENGAGEMENT as CLERK of WORKS, or to take the charge of any important works for a Builder; has had great experience in the Building trade in all its branches.—Address, H. Y. 27, Station-road, Barrow-in-Furness, Ulverstone.

TO ARCHITECTS AND SURVEYORS

THE Advertiser, a rapid designer and perspective draughtsman, and a good colourist, is desirous of a RE ENGAGEMENT as Assistant in an Architect's Office, or would be happy to render assistance at his own residence in the preparation of competition and other drawings.—Address, M. A. Post Office, Lower Brunswick terrace, Barnsbury, N.

TO BUILDERS.

SIXTY POUNDS would be given to a respectable Carpenter or Builder who would receive a Youth, fifteen years old, as an INDOOR APPRENTICE for five years, to teach him the above trade, in all its branches. Respectable references required.—Address, R. S. care of Mr. Smith, Chemist, South, ampton street, Camberwell, S

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, writing specifications, measuring, and valuing Builder's accounts, disputed or otherwise. Satisfactory references to Architects and Builders.—Address, X. Y. Z. 20, Charlotte-street, Portland-place.

HANDRAILS and STAIRS. An ENGAGEMENT WANTED in the above line, by a thoroughly practical Staircase Hand.—Address, T. S. 13, Claremont-terrace, Prince of Wales's Road, Kentish-town, N.W

GRAINER and MARBLER.—An experienced first-class hand desires employment. Is also competent to undertake the management of works, estimates and accounts. The best references.—Address, W. W. Mr. Cook, Stationer, 3, Desborough-place, Harrow-road, Paddington.

BUILDER and CONTRACTOR'S CLERK. SITUATION WANTED by an energetic Young Man, age 28, has held a respectable situation many years on a large building estate, is an efficient book-keeper and correspondent, can measure, assist with plans, &c. Highest references.—Address, J. A. Mrs. Barham's, 20, Holly-mount, Hampstead, N.W.

TO PARENTS AND GUARDIANS.

AN ARCHITECT, Civil Engineer, and Surveyor, who is Borough Surveyor, and Surveyor to the Corporation in an extensive district on the Coast, has a VACANCY in his Office for a Pupil.—Can reside with the Principal, if desired.—For particulars as to premium, term of engagement, &c. address BOROUGH SURVEYOR, Hastings, Sussex.

TO HOUSE DECORATORS.

AN ARTIST in the above Profession solicits a SHORT ENGAGEMENT.—Address, A. W. M. 70, Charlotte-street, Fitzroy-square, W.

TO ARCHITECTS, &c.

A YOUNG GENTLEMAN, having just served with an eminent London architect, wishes an ENGAGEMENT either in town or country Terms moderate.—Address, M, office of "The Builder."

TO BRICKLAYERS AND CONTRACTORS.

A STEADY BRICKLAYER, with 25 years' experience in London and country, wants a SITUATION as FOREMAN, or to superintend Works. Is a fair draughtsman, and competent in setting out works Has had the entire charge of 200 or more men. Or would take Gauge-work or Tuck pointing by the Piece. London or country.—Address, J. C. B. 6, Milton Cottages, South-road, Wimbledon, Surrey.

TO PLUMBERS AND BUILDERS.

A PLUMBER wishes for a SITUATION. Can fill up time at Gas-fitting and Zinc-work.—Address, A. Z. 8, William-street, Caledonian-road, Islington.

TO ARCHITECTS.

A NEAT DRAUGHTSMAN wishes an ENGAGEMENT. Competent to ink finished contract, and working drawings, perspectives, &c. and a good colourist, of ten years' experience. Age 26.—Address, A. H. Y. 6, Chapter-road, Walworth, S.

TO ARCHITECTS AND SURVEYORS.

A NEAT and Expeditious Draughtsman, in his 27th year, requires a RE-ENGAGEMENT, either temporary or permanent. Salary very moderate. Good reference.—Address, T. S. care of Mrs. Downs, 15, Essex-street, St. Peter's, Islington, N.

TO ARCHITECTS, ENGINEERS, OR SURVEYORS.

A RESPECTABLE YOUNG MAN, who is a good and useful draughtsman and colourist, will be glad to render TEMPORARY ASSISTANCE in the preparation of Architectural Drawings (finished in pencil or in black), also tracing or duplicates of Engineering, Drawings, or Surveys. Good references if required. Terms moderate.—Address, T. C. 22, Harwood-street, Hampstead-road, N.W.

TO ARCHITECTS AND ENGINEERS.

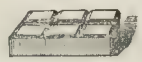
A FIRST-CLASS CLERK OF WORKS is DISENGAGED, with the highest references to London Firms.—Address, "BUILDER," Messrs. Vacher & Sons, 29, Parliament street, Westminster, S.W.

TO ARCHITECTS, ENGINEERS, &c.

A GENTLEMAN of ten years' experience as CLERK of WORKS under architects, desires a RE-ENGAGEMENT. Is a good draughtsman and surveyor, and has excellent testimonials. Accustomed to large works.—Address M. M. 2, Hall-road, Haddow-to, Birmingham

A YOUNG MAN, who has served several years with a first-class surveyor, desires a SITUATION. Salary may be fixed after a month's trial. Unexceptionable references for character and capabilities. No objection against travelling Address, C. W. HARTLEY, Little Horton, Bradford.

POLONCEAU and LIMMER ASPHALTE.



ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is made solely from Seyssel Rock, is known all over the Continent, and prevents the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footpaths, Basements, &c with instructions to lay it down.

C. H. T. BIKKER, 110, Bradford-street, Birmingham, ARTIST in ECCLESIASTICAL DECORATIONS, HOUSE and CHURCH DECORATOR Wall painting, drawing in all its branches in the three styles of the twelfth, thirteenth, and fourteenth centuries Every description of embellishment, writing, labelling, and Gothic decorations; also Egyptian, Roman, and Grecian decorations executed fully and correctly in accordance with the several styles. Experienced artists sent to any part of the United Kingdom Architects' designs carried out by experienced decorators, or drawings furnished if required. Specimens may be seen fully carried out at the above address.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE

Price Lists on application.

GEORGE ELL,

EUSTON WORKS. 366 and 368, EUSTON-ROAD, N.W.

TARPAULINS, MARQUES, &c. for SALE or HIRE, SCAFFOLD and HEMP-ROPE FALLS.

H. PIGGOTT,

39, Bishopsgate street Without, E.C Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS. SCAFFOLD and HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES.

CARY & PRIER,

DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING,

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

POLYTECHNIC.—JAPAN.—Wilson's Grand Panorama, painted in oil by Japanese artists, on 9,000 feet of canvas, and showing with scrupulous fidelity the Costumes, Temples, Streets, Bridges, Scenery, and Rivers of the Japanese Empire. This unique and curious Panorama was painted secretly by native artists, who would, if discovered, have incurred the penalty of death, and it will be exhibited daily (commencing on Thursday, the 22nd May) at 1.30 and 3.30, by Scientific Lectures, by Professor J. H. PEPPER—New Gorgeous Scenic Optical and Prismatic Fountain Spectacle—Musical Entertainments and Concert by George Buckland, Esq. and the Russell Family — Beautiful Dissolving Views, illustrating London in Ancient and Modern Times—Paris as it is—The Holy Land America The Merrimac and Monitor See weekly programme of 8 pages. Open from 12 to 5, and 7 to 10. Admission 1s

SURVEYING, LEVELLING, and CIVIL ENGINEERING, PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, and LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications; Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras The Terms include the whole of the Above with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford st. Russell sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building Terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.

Specimens of Working Terms, Scale of Charges will be forwarded on application to ROBERT W SPRAGUE & CO Lithographers, &c. 5, Ave Maria-lane, E.C.

THE SCARBORO' PIER PROMENADE AND IMPROVEMENT COMPANY (LIMITED).

At a PUBLIC MEETING, held in the Great Hall of the Rock Gardens, Scarboro', on Easter Tuesday, J. B. BAKER, Esq. in the chair,

It was moved by F. WALLIS, Esq. seconded by J. KIRBY, Esq. and carried unanimously :—

1. Resolved that the contemplated New Promenade Pier from the North Cliff, the Library, the Refectory, the Baths, the Great Globe, and the future Tunnel connecting both shores will be of vast advantage to Scarboro', by doubling its attractions, increasing its visitors, lowering its rates, and adding to the permanent institutions of its inhabitants.

It was moved by the CHAIRMAN, and carried by acclamation, without one Pistol being heard when the negative was proposed.

2.—Resolved, that it is the unanimous opinion of this meeting, that Scarboro' is deeply indebted to the public spirit and professional talent of Mr. Councillor Fairbank, Member of the Institute of Civil Engineers (now of 52, King William street, London), for his unceasing zeal in during the last twelve years to provide great and valuable improvements for the town and its vicinity

JOSEPH BROGDEN BAKER, Chairman.

It was moved by W. S. NORTHGATE, Esq. Consulting Manager of the Company, seconded by EDWARD SMITH, Esq and carried by acclamation

3.—Resolved, that the thanks of this meeting are eminently due to the public spirit which has greatly patronized and encouraged the projected improvements, and to the Chairman, for his courteous and efficient conduct in the chair

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 30s per cwt.; Linseed Oil, 3s. 2d. per gallon; Boiled Oil, 3s. 2d.; Turpentine, 5s. 8d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon.—Cash at F. LANGTON'S Colour Warehouse, 141 and 144, White-rose street, St Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

TO BUILDERS, HOUSE PAINTERS, and DECORATORS.—PATENT EXTRACT of LETHICIUM.—For Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. in a few minutes, and for Cleaning and Restoring Old Paint. Success guaranteed. Price 5s. a gallon, in cases containing from one to ten gallons, and two dozen twelve miles from London.—Messrs. NARNIARE & Co. 11, St. Andrew's-hill, Doctor's-commons, London, E.C.—N.B. Cheap patented Brushes for laying on the Extract, and removing the old paint, 2s. per pair.

GENUINE WHITE LEAD, branded and warranted from the Manufacturers, 30s. per cwt; Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon; Turps, 3s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon. Hamilton's and Kent's Graniers', Painters', and Plasterers' Brushes, to be had at D. J. PORTER'S White Lead and Colour Warehouse, Nos. 1 and 2, Pratt street, Camden Town, N.W.

RAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for mixing every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES
(C. A. Watkins's Patent), warranted secure, best bristles, and superior manufacture, at moderate prices. Varnish Brushes, Sash Tools, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 20s. per cwt.
Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon.
Turpentine, 5s. 4d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Rosary-street, and 45, Colebill-street, Finsbury, E.C.
Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of all various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 2s.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand secure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for TAYLOR'S Stains may be had at the Factory, 4a, James-street, Bedford-street; also Manufacturer of Improved Knotting and Decorators' Varnishes.

BROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
Also Manufacturers of the Patent India-rubber Knife-boards, COCOA-NUT and COCOA-NUT FIBRE DOOR MATS, MATTING, &c.
KENT, and CROWDEN & GARROD, are stamped on the Brushes.

SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHESTER, of Chittlehampton, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the whole."
H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford street, S.

PURE STATUARY MARBLE! and in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS,
383, EUSTON-ROAD, London, N.W.
Prices moderate.
M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their orders carried out with great care and exactness. Established 1821.

EXTY MARBLE CHIMNEY-PIECES TO BE SOLD, in consequence of Monsieur Beernaert, of the Italian and Westminster Marble Works, Millbank-street, Westminster, having discontinued his Show-rooms in London. The above Chimney Pieces consist of Carved Statuary, Bold Rouge Royal, Black and Gold, &c. &c. The above will be sold at a great sacrifice—in fact, no reasonable offer will be refused.—Apply to Mr. PILTON, Westminster Marble Works, Earl-street, Horseferry-road, S.W.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—21, ST. JAMES'S-STREET, LONDON, S.W.
The Works having been suspended for a considerable time in consequence of the death of her late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work entrusted to them
All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the First Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
The many imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. A new illustrated Catalogue of which can be had at the Pimlico Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

BLOCK STONE! BLOCK STONE! The LARGEST and BEST SELECTED STOCK of BLOCK STONE, of all kinds, is at the VICTORIA STONE WHARF, Millwall. Architects, Builders, and Masons, are requested to call and see the quality.
SAMUEL TRICKETT has plenty of stones that are good building stone, and requires no INDURATION, yet they are uniform in colour and good that. Parties would do well to see his Stock; also NOTE. Red direct from the Quarries to all parts of the Kingdom.
The BEST and CHEAPEST STONE-WHARF in LONDON.
Address, SAMUEL TRICKETT, Isle of Dogs, E.
Large quantity of Sawn Headstones for Sale. A Quantity of Grindstones for Exportation.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TEATHAM, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL DESIGNS supplied, and ARTISTIC DESIGNS suitable to the materials supplied on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOW-ROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the most possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W

TO ARCHITECTS, BUILDERS, and OTHERS.—MARBLE and STONE COLUMNS TURNED and POLISHED by improved machinery, at half the usual cost. Fonts Columns, Vases, Mural Tablets, Tombs, &c. at the lowest possible prices.—WM. F. WILLIAMS, 316, Euston-road, N.W.

THE PANTECHNICON, QUEEN'S ROAD, BRIGHTON.
FOREIGN MARBLE GALLERIES, containing upwards of Two Hundred MARBLE CHIMNEY PIECES, consisting of Carved Statuary, Vein, Sicilian, Rance Fin, Blanc Clair, Rouge Royal, St. Anne's, Black, Jasper, Verd des Alps, and other coloured Marbles, in every variety of design and size, set up for view. Sculptured Marble Monuments, Headstones, &c. erected. An inspection is respectfully solicited by the Proprietors and Importers, GEO. READ & SONS.
N.B. Packing cases lent free of charge.

BATH! BATH!! BATH!!! ROBERT STRONG,
STONE MERCHANT and QUARRY OWNER, BOX HILL, near CHIPPENHAM, WILTS, supplies
BOX HILL GROUND STONE, OF THE BEST QUALITY.
Masons' Work prepared ready for fixing.
AGENT IN LONDON:
SAMUEL TRICKETT, ISLE OF DOGS, E.
and JERUSALEM COFFEE-HOUSE, E.C.

JOHN BAZLEY WHITE & BROTHERS, MARBLE MERCHANTS,
MILLBANK-STREET, WESTMINSTER.
Marble of all kinds, and of best quality, in Block and Slab.
Marble Mortars, &c.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 20, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

VALE of WARDOUR FREE STONE, TISBURY QUARRIES, WILTSHIRE.—Geologically this stone is identical with the Portland Oolites; the beds vary in texture, the upper being a stiff roach, of which large blocks are readily obtained, and is suitable for heavy works, such as bed stones for engines, girders, machinery, &c. or for waterworks. The under beds produce a stone of the texture, which is well adapted for carving, moulding, tracery, balusters, plinths, cornices, copings, sills, ashlar, and for building purposes generally, also for tombs, gravestones, chimney-pieces, slate-heaving, hearth slabs, troughs, &c. Numerous buildings of considerable antiquity attest the durability and texture of the stone of this district. Amongst these may be cited Salisbury Cathedral, Tisbury Church, the Poultry Cross at Salisbury, Wilton Abbey, &c. A stock of these materials is always on hand at the Quarries, and may be seen at Messrs. POOLE & SON, Marble and Stone Works, Great Smith-street, Westminster, S.W. and in the Museum of Practical Geology, Jermyn-street, No. 28 and 29, Cane's London, and any quantity may be obtained of Messrs. KNIGHT & SON, Datchet Wharf, Mile-end, London, or direct from the Tisbury Quarries. Orders for worked stone carefully executed at the Quarries.—Samples forwarded, and any other information may be obtained of Mr. T. P. LILLY, Gillingham, Dorset.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay of the stone is arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

BELLMAN & IVEY,
SCAGLIOLA MARBLE MANUFACTURERS,
14, BUCKINGHAM-STREET, FITZROY-SQUARE,
LONDON, W.
Execute, in the most workman like manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION,
IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.
Also Manufacturers of Superior and Improved Plaster of Paris.

FOREST of DEAN STONE.—Messrs. HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PENNANT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.
That from their "Goaty Knoll" Quarry is similar in quality to the Yorkshire "Park Spring" Stone, but that from their "Brick-hill" and "Dark-hill" Quarries, is decidedly superior to it.
Prices quoted on application, delivered on board vessel or rail, at Lydney, with cost of transit to any port or railway station in the United Kingdom.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN HASK, Norton, near Ilminster, Somerset.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,
No. 1, BOLD TERRACE, CHESTER.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

ANCHOR BRICK-MOULD WORKS, HOUNSLOW, W.
J. LEACH, Millwright and Manufacturer. Improved MOULDS, STOCKS, and PLATES, with screw stock pegs; also Oak Stocks, the largest Stock in England, of various sizes, all made to order. Wash, Chalk, Pug-mills, and Pumps, by steam or horse power. Brickmakers are cautioned against an impostor collecting orders in J. L.'s name, and supplying an inferior mould. A Perfection Grease for Brickfields. Established eleven years.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINE.
Adapted for hand, horse, or steam-power, will make one-third more in quantity of finished goods, in solid and hollow bricks, tiles, pipes, &c. than any other machine of the same cost and working expenses. They are easily managed, and will not get out of order.
Licences to Manufacture granted for certain districts.
For prices and particulars, apply to BUNNETT AND CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on Thames

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Horsleydown Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing room Clocks
Ladies' Gold Foreign Watches ..... 8 Guineas.
Gentlemen's do. do. ..... 10 "
Ladies' or Gentlemen's Gold English Lever Watches .... 18 "
Strong Silver Lever Watches ..... 8 "
Gentlemen's Gold Compensation Balance Watches ..... 40 "
Do. do. Silver do. do. ..... 25 "
Marine Chronometers. ..... 20 "
Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London made Fine Gold Adventurer Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 74 and 75, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London

THE VILLAGE CLOCK—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school
INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock, may be seen in action and striking, with all and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 10, No. 9
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

CLOCK MANUFACTORY.—Established 1740.—THWAITES & REED beg to call the attention of Provincial Watchmakers to their Establishment, the OLDEST in the TRADE, where every description of CLOCK is made in the best possible manner, and at as low a price as first-rate work can be got up for. Original inventors of the Spiral Door Springs.
London: 4, Rosoman-street, E.C.

TO PAINTERS, PLUMBERS, and GLAZIERS.—A BUSINESS in the above line TO BE DISPOSED OF. Any person seeking a business will find this a most advantageous opportunity.—Apply to Mr. BIRDSEY, St. Michael's House, St. Michael's alley, Cornhill.

TO BUILDERS, &c.—An Old established BUSINESS in Central London TO BE DISPOSED OF.—Terms and rent of premises moderate.—Apply to L. E. B. Office of "The Builder."

VENTILATION—PURE AIR

EXTERNAL WALL.

With single pulley, from 6s. each, with leading pulley, from 6s. 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.
Testimonials from Architects, Bankers, &c. of their security and durability forwarded.
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.
Agent for the Crystal Glass Pillars and Sash Bars.



J. GURMAN,
Inventor and Patentee of a New SASH POCKET and Fittings,
for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows.
They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.
Send stamped envelope for Prospectus and Sectional Drawings.
Windows may also be seen at the Kensington and Conduit-street, Museums, London.



MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.

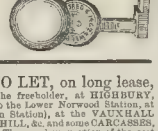


PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.



PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.





Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-Lists, 12s.—Nos. 55 and 55, High Holborn.

TO BUILDERS.—TO BE SOLD by private contract, one of GOUGH'S PATENT PORTABLE ENGINES, together with the Stone sawing machinery, which can be seen at work at Welbeck Abbey Works; also several cranes, double-purchase cranks, and a new stone drag, calculated to carry twenty tons.—Address C. C. & A. DENNETT, Welbeck Abbey Offices, Notts.

E. LEY'S HOT-WATER, STEAM, and HOT-AIR WORKS, opposite the Eagle Tavern, City Road, London, Manufacturer of the various descriptions of HOT-WATER APPARATUS, for heating Horticultural Works, Churches, and other public buildings, Mansions, Offices, Baths, &c. on the most scientific principles. Manufacturers requiring artificial heat, fitted up with effective and economical apparatus, on a contract through Letters to the Trade. Builders or tenants building their own to obtain on here the lowest contracted for, or by the day, on the most reasonable terms. Every description of Kitchen Cooking Apparatus. Old work taken down and re-modelled.—N.B. A very superior WATER-WHEEL and PUMPS FOR SALE, a bargain, the property of a nobleman.

FITZMAURICE OIL and COAL GAS WORKS.—For SALE, the RETORTS, CONDENSERS, PURIFIERS, &c. erected at Newsam. Abbey by the above Company within the last nine months for 9 lights. For particulars, apply to JOHN ANDREWS, Gasmaker, Newstead Abbey, Mansfield.

LOCOMOTIVE STEAM-ENGINE, second-hand, TO BE SOLD, with Tubular Boiler, Three Cylinders, 140 lbs. pressure. Weight, 8 tons, 17 cwt.—To be seen on application to Mr. TILBURY, No. 26,161, at the Pantechnicon, Belgrave-square.—This Engine was first used as a Traction-engine on a Tram-road.

RAILS, Temporary, Flat-bottom, 42 lb. to the yard, second-hand, in good condition and convenient lengths, about 60 tons FOR SALE.—Apply to MATTHEW T. SHAW, 64, Cannon-street, London Bridge, E.C.

TO BE SOLD, a CAST-IRON ORNAMENTAL SPIRAL STAIRCASE, with hand rail, balusters, steps, newel, &c complete. Height 15 feet 9 inches; twenty-eight steps; diameter of well 6 feet; rise of steps 6¾ inches: in good repair. May be seen at No. 15, West-street.—For further particulars apply to Mr. R. E. BURSTALL, Builder, Castle-street, Long-Acre, W.C.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

TO BUILDERS.—FREEHOLD BUILDING LAND for SALE at WINCHMORE HILL, with frontage to good roads, in a high and dry situation. Land tax redeemed. A portion of the purchase may remain.—Apply to C. W. EPPY, Esq. 21, Lincoln's-inn-fields.

BUILDING LAND TO LET, on long lease, in most cases direct from the freeholder, at HIGHBURY, CANONBURY, NORWOOD (close to the Lower Norwood Station, at CROYDON (very near West Croydon Station), at the VAUXHALL GARDENS ESTATE, at DENMARK HILL, &c. and some CARCASSES at BOW. Ground-rents moderate. The usual proportion of the cost (the houses erected would be advances), and in some cases the freehold, might be purchased.—For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad street, E.C.

TYSSEN-AMHURST ESTATE.—LAND TO BE LET for BUILDING, in different parts of CLAPTON, HACKNEY, and KINGSLAND.—For plans and particulars apply to Mr. CHESTER CHESTON, Architect and Surveyor, at the Offices, Church-street, Hackney, N.E. near the Railway Station.

BELVEDERE, near Erith, Kent, S.E.—TO BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES near London.—This beautiful Park is to be thrown open for building at the new year, 1863. Probably no district in the east of London has equal natural advantages. The beauty of the river and land scenery is well known. The soil is dry and healthy, the water pure and abundant. There are stations of the North Kent Railway at Erith and at Belvedere. The former, near to the east end of the Park; the latter, within four minutes' walk of the west end of the Park, on the Dartford and Lesnes Heath portion of the estate. By the end of 1862, it is expected that there will be complete railway communication to Charing Cross. Picardy, close to the Belvedere Station and Lesnes Heath (close to the Belvedere Church and Schools) are already (within two years) nearly covered with buildings, viz. villas of different classes, from 25l. to 70l. a-year, and shops of various descriptions; some plots, however, may still be had there. Some sites in the park are just let, and it is intended to grant leases of other similar plots for ninety-nine years, for erecting villas of a superior description. Plots will be laid out contiguous to four principal roads running through the park. These are the Park road, leading from the Belvedere station to Brook-street; the Avenue-road and the Tower-road, each leading from the public Erith-road at different points to the Tower; and the Valley road, leading from the Erith lodge to the archway in the park. The ground rents are very moderate.—Applications for terms and for other particulars may be addressed to Messrs. WM. G. HABERSHON & PITE, Architects, 28, Bloomsbury-square, W.C. Mr STICKLAND, Lessees Heath, will show the ground to persons applying. The mansion will also be let on lease after April, 1863, for an hotel or public school, or other public institution.—For particulars apply to Messrs. NORTON & HOGGART, Old Broad-street E.C.

EXTENSIVE MANUFACTURING PREMISES, WHITECHAPEL.—TO BE LET or SOLD, together or separately, the extensive and important range of PREMISES recently occupied as the WHITECHAPEL DISTILLERY, with 1st Leasehold Premises. The Building, many of which are of great extent, are most substantially erected, principally in 1845, and are very conveniently arranged for almost any manufacturing purpose. There are three distinct gateway entrances, and the Buildings on all sides are surrounded with paved yards. The total area covered is about two acres, and the whole of the premises of land which may be had if required. There is an Artesian well, which affords a constant and unlimited supply of pure water.—Further particulars and cards to view may be had of Messrs TENNANT and DARLEY, Solicitors, Raymond's Buildings, Gray's Inn; and of Messrs FULLER and HORSEY, Billiter-street, E.C. where plans of the property may be seen.

REQUIRED, within an easy distance (two miles) of the Camden Road Station, a PLOT of LAND, suitable for the erection of a Villa Residence.—Apply by letter only, stating all particulars, to B. A. 8, New Bridge-street, Blackfriars, E.C.

TO BUILDERS. — First-class BUILDING SITES TO LET, at Beckenham, Putney, Fulham, Wandsworth, Brockley hill, Croydon, Windsworth, Shepherd's-bush, Finchley-common, Low ground-rents. Roads and sewers made, with the use of plans. 70 per cent. advances made to respectable builders.—Further particulars apply at Mr. A. C. HOOK'S Offices, 13 A, Great George street, Westminster, S.W.

TO BUILDERS AND OTHERS.
TO BE LET, several PLOTS of BUILDING LAND, situate on the best part of St. Ke Newington. Bricks may be had on the estate, and advances if required.—Apply on the Estate, to Mr. RODDA, Bouverie road, Church-street, Stoke Newington.

SURREY HILLS, between Croydon and Godstone.—Beautiful FREEHOLD BUILDING SITES TO BE SOLD or LET, in plots of from five to 50 acres, at prices, it is believed, lower than are quoted for any land possessing equal advantages within a like distance of London. There are two railway stations on the estate, affording means of access both to the City and the West-ends, and the locality offers the especial advantages of a dry, pure, and bracing air (rendering the district proverbial for health), good and abundant soil, and an abundance of excellent spring water, and a highly respectable neighbourhood.—Particulars and plans of Messrs DEBENHAM & TEWSON, Estate Agents, No. 80, Cheapside.

TO BUILDERS and OTHERS.—TO BE LET, on a building lease, the FREEHOLD PREMISES, No 19 GREAT PRESCOTT-STREET, GOODMAN'S-FIELDS.—Apply to C. J. GRAHAM, Esq. 3, Flowden-buildings, Temple, E.C.

CITY OF LONDON.—EASTCHEAP.—TWO HOUSES, SHOPS, and PREMISES.—The Trustees of the Whitechapel Charity Estates are prepared to receive TENDERS for a LEASE or LEASES of Nos. 28 and 29, Eastcheap, at the corner of Philpot-lane, in the city of London. The Funders may be either for a term of twenty one years, from Lady-day, 1863, with the usual covenants to repair, &c. or for a building lease or leases, for a term not exceeding sixty-five years from the before-mentioned date. The draft of the proposed lease, &c. can be inspected at my office. Tenders for a building lease or leases will be received subject to the approval of the Charity Commissioners. Tenders, sealed, and endorsed "Tenders for Premises in Eastcheap," must be left with me, on or before the 17th of JUNE next. Further particulars can be obtained of me; or Mr. G. E. SIMMONDS, Surveyor, of No. 7, Great Alie-street, Whitechapel. The Trustees do not bind themselves to accept the highest or any Tender.
S. S. MITCHELL, Clerk and Solicitor to the Trustees.
Vestry Clerk's Office, 5, Great Prescott-street, Whitechapel.

STOCKTON and DARLINGTON RAILWAY COMPANY.—REFRESHMENT-ROOMS TO LET.—The Stockton and Darlington Railway Company are prepared to receive APPLICATIONS for the TENANCY of the REFRESHMENT ROOMS attached to the Workman's Institute, Durham-road, Darlington.—Conditions may be seen on application at the Stockton and Darlington Railway Office; or to the Company's Rent Collector, Mr. S. RIMINGTON, Barnardcastle. Applicants, with testimonials, to be sent to the Secretary, on or before the 31st instant. None need apply except those who are well recommended for expertness and completency.
THOS. MAC NAY, Secretary.
Railway Office, Darlington, May 2nd, 1862.

BELSIZE PARK, HAMPSTEAD. — To BUILDERS and OTHERS.—LAND TO BE LET, for Building, with roads and sewers all complete. For further particulars, apply on the estate, at Mr. TIDEY'S Office, 20, Belsize-park.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is divided [illegible] handsomely timbered. It has a substratum of gravel, and commands [illegible] views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive Manufacturing Premises, known as TREDEGAR WORKS, Bow. Machine shop, 61 ft. by 54 ft.; two ranges of workshops, 74 ft. by 2[illegible] feet; steam-engine, boilers, forge, sheds, stabling, counting-house, and other offices, suitable for a large factory.—For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

SALE of ST. THOMAS'S HOSPITAL PROPERTY, LONDON BRIDGE.—The Directors of the Charing cross Railway Company are prepared to receive PROPOSALS for the PURCHASE of the LAND and BUILDINGS of St. Thomas's Hospital, London Bridge, occupying an area of nearly four acres, excepting only the small portion of garden at the north-west corner, which is required for the works of the Railway. Possession can be given to the purchaser in the last of August next.—Particulars may be obtained on application to Mr. HENRY TOOGOOD, Solicitor, No. 16, Parliament-street; and Proposals to be addressed to the Secretary.
By order,
Charing-cross Railway Office, London Bridge, 30th April, 1862.
S. SMILES, Secretary.

BUILDING LAND, situate between Reigate and Dorking, in the parish of Betchworth, TO BE LET upon long LEASES, in plots of such sizes, suitable for the erection of good class of private residences.—For particulars, apply to Messrs. CLUTTON, 9, Whitehall-place, Westminster; or Messrs. NASH, Reigate.

TO SPECULATING BUILDERS and OTHERS.—LAND, close to the Royal Dockyard, Deptford, TO BE LET, on LEASE, for building five-roomed cottages, that would readily let for 8s. a week.—Apply to Mr JOHN WIMBLE, 2, Walbrook; or to Mr. J. A. BONE, 27, Leadenhall street.

CHAMBERS TO BE LET.—No. 26, Bedford-row, Gray's-inn.—Inquire of the Housekeeper.

VALUABLE BUILDING LAND, opposite the Queen's Hotel, Upper Norwood, TO BE LET by TENDER.—Particulars may be had of Messrs HUNT & STEPHENSON, 4, Parliament street, S.W. Tenders to be delivered on the 2nd of JUNE.

BUILDING GROUND, HOLLOWAY. TO BE LET on BUILDING LEASES, for Eighty years, a PLOT of GROUND on the north side of Park-road, Holloway, adjoining the City Prison, and a PLOT of GROUND on the south side of the same road, adjoining Mr. Cubitt's Model Houses, Camden-road, Holloway. Each of the ground may be seen, and for her particulars obtained, upon application at the Architect's Office, Guildhall.
FERDINAND BRAND, Comptroller.

MANUFACTURING WATERSIDE PREMISES on the THAMES.—TO BE SOLD or LET on LEASE, the extensive PREMISES lately occupied as the Distillery at Brentford, occupying a site of about four acres, having a considerable frontage next the Thames, a plentiful supply of pure spring water, and well placed for land or water carriage, being but a short removal from the Brentford Docks, and immediately contiguous to three lines of railway; there are some very spacious and substantial buildings, and a good dwelling house, with large garden, the whole presenting advantages for any large manufacturing establishment.—For further particulars apply to St. P. B. HOOK, Esq. Solicitor, 9, Lincoln's-Inn-fields, W.C.; or to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.



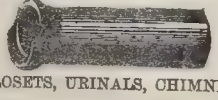
REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.
THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.
Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.
BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

BUNNETT AND CO.
The Original Inventors and Patentees of every recent Improvement,
MANUFACTURE THEIR WELL-KNOWN
SUPERIOR REVOLVING IRON SHUTTERS
OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.
atent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
ving made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
OOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

HAYWARD TYLER & CO.
ENGINEERS AND BRASSFOUNDERS,
84 AND 85, UPPER WHITECROSS STREET, LONDON, E.C.

HOWARD'S PATENT
REGULATING VALVE,
MANUFACTURED BY H. T. & Co.
Has been fixed in every situation, and proved to be
THE ONLY EFFICIENT VALVE
FOR
SUPPLYING CLOSETS WITH WATER WITHOUT
THE COMPLICATED ARRANGEMENT OF
CRANKS AND WIRES.
The "Great Eastern" has been fitted with these Closets, and hundreds are now in operation in many large establishments in the metropolis.
H. T. & Co. solicit an inspection at the Manufactory, where they may be seen in operation.

IMPERIAL POTTERIES, LAMBETH.
JOHN CLIFF & CO.
(Late STEPHEN GREEN & CO.)
GLASS-LINED AND SALT-GLAZED

SANITARY GOODS.
FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

CHEAP, LIGHT, AND DURABLE ROOFING.
ROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It affects a saving of half nber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to ars of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

PATENT and BRITISH PLATE GLASS.
JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho square, London.

PAINTED GLASS WINDOWS AND MURAL DECORATION.
LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford-street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

MARBLE PAPER! MARBLE PAPER!!
The best and cheapest in the trade. Dealers supplied. Patterns sent free to any part of the country. Inclose trade card to
WALKER & SON,
MARBLE PAPER MAKERS,
18, Robert-terrace, King's-road, Chelsea.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.				Laths, 28s. per load.	
Yellow Deals, sound and good	£19	10	0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	16	10	0 ,,	0 2½	,,
Yellow Battens, excellent quality	11	10	0 ,,	0 2	,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 ,,	3 6	,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,
OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¼-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	16s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,
Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
⅝-inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER. & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by
J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.
JEFFS, BROTHERS,
CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash

Sashes and Frames, Bowing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



GREATER REDUCTIONS.—Yellow Deals, from 8s. 9d.; Spruce, from 2s. 8d.; Pine Plank, from 8s. 3d.; Mahogany, 6d.; 3½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; 1 White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

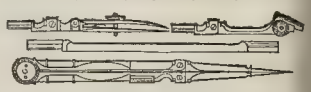
LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 80,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use. Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH
Near Astley's Theatre.
Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

FRONTS OF HOUSES.—To BUILDERS and OTHERS.—GREENE and CO.'S PORTLAND CEMENT WASH is a superior Colouring, which does not vegetate or wash off, and is equal to Oil Paint in appearance and durability. In casks of 1 cwt. for 10s.—Factory, 22, Norfolk-street, Islington.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard Whitehall; and at the Works.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost; and does not vegetate in damp situations. An Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.
Agent in Liverpool—JOHN MCKENZIE, 49, Seel-street.
Do. do. Manchester—THOMAS OAKDEN.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
34, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
DAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
PEART'S PERFORATED BRICKS.
ROSELEY TILES.
BLUE LIAS LIME, from the Aberaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
DOPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
HARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE PAVIORS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE STEPS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING BRICKS, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Finiaked Ridge Tiles of different pitch, and Grooved Ridge, as well. Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Flooring, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
TUNNALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, and WASHED BRICKS.
YORKSHIRE STONE PAVING, Sinks, Steps, Sills, Steps, Sawn Slabs, &c.

Large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES

COWLEY AND KENT BRICKS, AND PLASTERERS'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.

RED DRAIN-PIPES, RED CHIMNEY-POTS, AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.

" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.

SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.

SCOTT'S PATENT PLASTER.

GREY STONE LIME, of very superior quality. CHALK LIME.

Shipping orders promptly executed.

STRINGFIELD and BLYTH,
SOLE CONSIGNERS OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TAYLHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywel. Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Lime Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

KEENE'S and PARIAN CEMENT for internal uses.—These well-known hard Stuccoes dry quickly, and can be painted upon within a few days.
Made and sold by JOHN BAZLEY WHITE & BROTHERS, Millbank-street, Westminster.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KING'S-LAND BASIN, KING'S-LAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whitest can be obtained of the best quality—
GREY STONE and CHALK FLARE and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Bullnosed and Splayed WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS PAVIORS, SECONDS.
BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE and BUFF; also GARDEN EDGINGS
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS and CLINKERS. DUTCH CLINKERS
Bullnosed, ORNAMENTAL COPING and RIDGE TILES, WITH CRESTS BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, Bathe, Larders, Dairies, Shops, Kitchen Ranges, &c
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS and TILES, of every description and size.
GLAZED STONEWARE BRAIN PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, SOUTH WHARF ROAD, PADDINGTON, W.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tyridale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the monthly price lists.
N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Finiaked Ridge Tiles of different pitch, and Grooved Ridge, as well. Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise,
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Wellington Wharf, Wellington-street, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stock Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited,
Are prepared to Supply their First-class Blue Lias Lime in any quantity and at any place.
SPECIAL CONTRACTS MADE FOR LARGE WORKS.
All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester street, E.C.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard sculptola imitation of marble.—Manufactury, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

J. TYLOR & SONS,

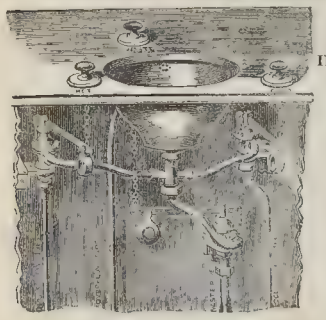
MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.

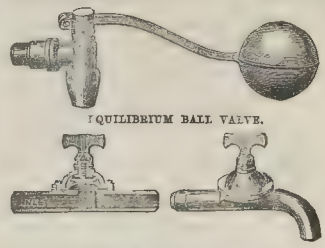
J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

To be seen in action at the Manufactory, WARWICK LANE,
And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, London.

ILLUSTRATED CATALOGUES ON APPLICATION.

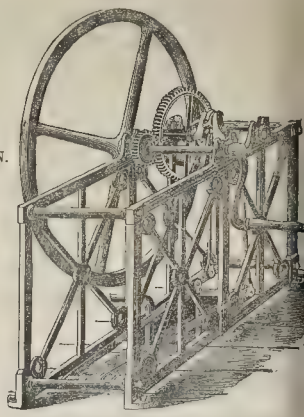


LAVATORY APPARATUS.

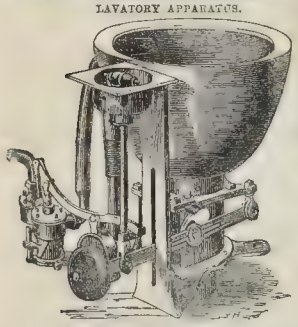


EQUILIBRIUM BALL VALVE.

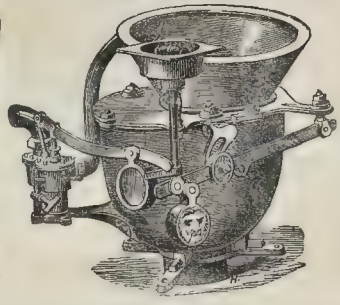
HIGH-PRESSURE DIAPHRAGM VALVES.



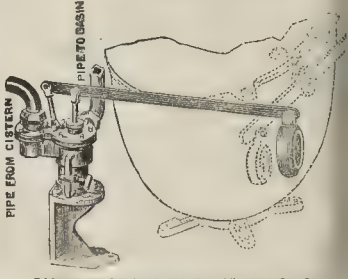
WELL-PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

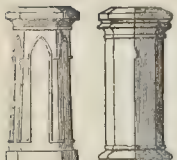
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.

TRAP, 2s.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Lambeth. Dr. Kitchel Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Denver's Wharf, Chelsea.
Mr. LAVERS'S, Bowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

TERRA-COTTA WORKS, BLACK-FRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA COTTA.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET,
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES.
PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tilories," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s 6d per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 26s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7½s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

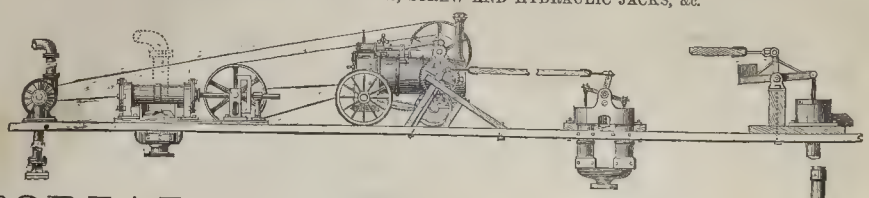
DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart VENTNOR, ISLE of WIGHT—Second Testimonial:—
"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the house that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

ENJAMIN FOWLER & CO., WHITEFRIARS ST., FLEET ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

TO BE WORKED BY STEAM, HORSE, OR HAND POWER, FOR TEMPORARY OR PERMANENT USE; ALSO OF SINGLE OR DOUBLE PURCHASE CRABS, PULLEY BLOCKS, SCREW AND HYDRAULIC JACKS, &c.





PORTABLE STEAM ENGINES,

IN GOOD SOUND WORKING ORDER,

WITH or WITHOUT PUMPS, to DISCHARGE a LARGE or SMALL QUANTITY OF WATER FROM ANY DEPTH, ready for delivery to order at a DAY'S NOTICE, or, upon very reasonable terms, ON HIRE.



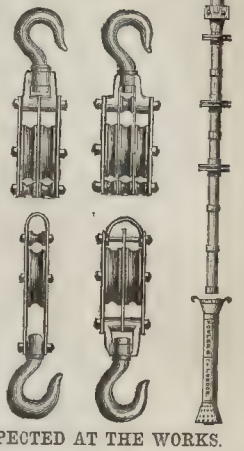
FOWLER'S PULLEY AND SNATCH BLOCKS,

of every size and description. These are strong, well-made blocks, and will be found in all points as good in quality and as low in price as those made by any house in London.

RUBBISH WHEELS OF VARIOUS SIZES.

FOWLER'S USEFUL SINGLE, DOUBLE, and TREBLE PURCHASE CRABS.

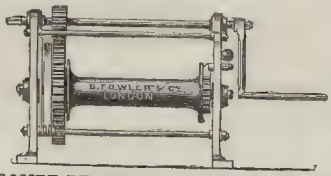
B. F. & Co. have a variety of Patterns, strong and light, at prices which will meet any requirement.



WESTON'S PATENT DIFFERENTIAL BLOCKS,

to lift from half a ton upwards, with chain to suit, at the lowest prices.

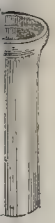






A LARGE STOCK IS KEPT READY FOR PROMPT DELIVERY, AND CAN BE INSPECTED AT THE WORKS.

Price Lists of Pumps, &c., forwarded on application.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—

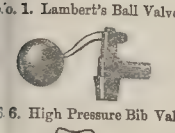
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.
High-Street, Lambeth, London.

THOMAS LAMBERT & SON,



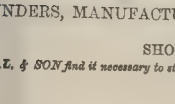
No. 1. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



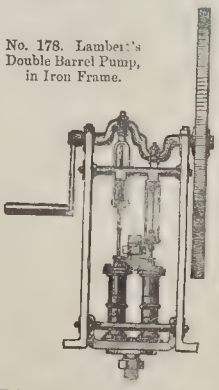
No. 36a. Bath Valves.



High Pressure Stop Valve.



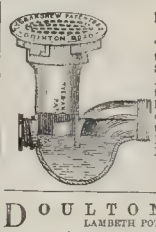
No. 178. Lambert's Double Barrel Pump, in Iron Frame.



NDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET PANS, at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes, and the Pans become DISCOLOURED and UNFIT for USE.

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, as well as that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.

A PAN-CLOSET, BLUE BASIN, SUNK

DISH, and APPARATUS, complete,
TWENTY FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

TO DRAUGHTSMAN AND CIVIL ENGINEERS

H. MORRELL, BLACK LEAD PENCIL

MANUFACTURER, No 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade

H H H H	for drawing on wood.	F F	light and shading.
H H H	for architectural use.	F	for general use.
H H	for engineering.	B	black for shading.
H	for sketching.	B B	ditto ditto.
H B	hard and black for drawing.	B B B	ditto ditto.
M	medium.	B B B B	ditto ditto.

Sold by all the principal Stationers in town or country

SALES BY AUCTION.

Sale of Caen Stone.

MR. JAS. C. VIDLER will SELL by public AUCTION, on THURSDAY, MAY 22, at THREE o'clock precisely, on the STRAND, RYE, 38 BLOCKS of CAEN STONE, about 72 tons. The stone is lying on the quay, opposite the Custom House, Rye.—For particulars and conditions of sale, apply to the Auctioneer, 17, West-street, Rye.

OLD BROAD-STREET.—Highly important FREEHOLD PROPERTY, close to the Stock Exchange, Royal Exchange, Bank of England, and other public buildings, occupying an area of upwards of 1,700 square feet.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE by AUCTION, at the MART, opposite the Bank of England, on FRIDAY, MAY 23rd, at TWELVE o'clock (unless previously disposed of by private contract), the very valuable FREEHOLD PROPERTY, comprising the Site of Nos. 8 and 9, Old Broad-street, with the vacant ground in the rear adjoining the noble building recently erected by the Ocean Marine Insurance Company, abutting upon the Bank of London, and in the open area one of the entrances to the Stock Exchange. It possesses a frontage of 37 feet, extends in extreme depth about 85 feet, occupies an area of 1,700 square feet, and presents to any public company or monied gentleman rarely to be met with of securing a site for offices in one of the very best and most valuable situations in the city of London. May be viewed, and particulars had, twenty-one days prior to the sale of W. TATHAM, Esq., Solicitor, 22, Throgmorton-street; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

WALTHAMSTOW.—Valuable Freehold Dwelling-houses and Shops, and several Plots of Building Land, having important frontages to good roads.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on WEDNESDAY, MAY 28, at TWELVE, in lots, the following valuable FREEHOLD PROPERTIES, pleasantly situate near the church at Walthamstow, Essex, about a mile and a half from the Lea-bridge Station on the Eastern Counties Railway, viz.:—Seven dwelling-houses, Nos. 1 to 6, Clarendon Villas, and Clarendon Cottage, Wingfield-road, Orford-road, let at rentals and together of the annual value of 160. ten dwelling-houses, Nos. 1 to 5, East Avenue, and Nos. 1 to 4, Lansdowne Villas, East Avenue, Orford-road. Nos. 1 to 6, East Avenue, which have convenient stables, are in hand, and the remainder are let at rentals amounting together to 96l. per annum; five dwelling-houses, with shops and business premises, Nos. 1 to 5, Orford-place, Orford-road, in the occupation of respectable tenants, at rentals amounting together to 118l. per annum. Also several plots of Freehold Building Land, eligibly situate, facing the recreation ground in a road leading from East Avenue to the church. —A more descriptive advertisement will shortly appear, when particulars may be had at the Mart, and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

LOWER NORWOOD, SURREY.—Valuable Freehold Residence, for occupation and investment, and several eligible Plots of Freehold Building Land, the whole land-tax redeemed.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on WEDNESDAY, MAY 28, at TWELVE, in lots, FOUR PAIRS of semi-detached FREEHOLD RESIDENCES, most conveniently situate, Nos. 1 to 8, Park Villas, Park-avenue, facing the entrance to Respit-park, near the Talse-hill, Hotel, within eight minutes' walk of the Lower Norwood Station, on the Crystal Palace line, and the Dulwich Station on the Chatham and Dover Railway, now approaching completion. The houses are well finished, and fitted with every convenience. Nos. 1 to 6 inclusive are let to highly respectable tenants at low rentals, amounting together to about 350l. per annum, and present most eligible investments; Nos. 7 and 8 are of the value of 60l. per annum each, and will be sold with possession; also several Plots of very valuable Building Land, in an elevated position adjoining, having frontages of about 70 feet to wide roads, and admirably adapted for the erection of detached and semi-detached villas.—May be viewed by permission of the tenants (by cards only), and particulars had at the Talse-hill Hotel; at the Crown and Sceptre, Brixton-hill; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

BATTERSEA, SURREY.—Valuable Freehold Residences, Cottages, and Garden, having important and extensive Frontages to the River Thames, and a good Road, occupying an area of about three acres, with access to

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on WEDNESDAY, MAY 28, at TWELVE, in one Lot (unless previously disposed of by private contract), a Valuable FREEHOLD PROPERTY, situate on the Road-hill-road, Battersea, close to Old Wandsworth-road, about a mile from the Wandsworth and Clapham Stations on the Crystal Palace and South Western Railways, and only three minutes' walk from the intended station at Battersea; comprising a very convenient residence, known as Grove House, containing accommodation for a moderate-sized family, large productive gardens, with terrace walk on the bank of the river, conservatory, hot and green houses, stabling and offices, and two cottages adjoining, with a frontage to the River Thames of 380 feet, to the Lombard-road, 250 feet, and fronting to the whole nearly three acres. This valuable property, from the great and increasing demand for dwellings for the working population in the immediate neighbourhood, presents an unusually good opportunity as a profitable building scheme. It offers also a most eligible site for the erection of large manufacturing premises, for which there is ample space, irrespective of the house and offices, which, with a portion of the garden, could be reserved for the occupation of a resident partner or manager.—May be viewed by cards only, to be had, with particulars, of Messrs. NORTON, HOGGART, & TRIST, No. 62, Old Broad-street, Royal Exchange. Particulars to be had also at the Spread Eagle Inn, Wandsworth; and at the Mart.

METROPOLITAN IMPROVEMENTS.—SPITALFIELDS.—Very important and valuable Freehold Building Lots, with extensive Frontages to the New-street called Commercial street, leading from Shoreditch to Spitalfields Church, Whitechapel, and the London Docks.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Hon. the Commissioners of her Majesty's Board of Works, to offer for SALE, at the MART, on FRIDAY, the 30th inst., at TWELVE, in Thirteen Lots the following valuable FREEHOLD PROPERTY, viz.:—Lot 1. A plot of building land, having a frontage of 77 feet 6 inches to Commercial-street, adjoining No. 36, Church-row, to Spitalfields Church and Wesleyan chapel, by a frontage depth of 41 feet 4 inches to White's-row, and a frontage depth of 44 feet 7 inches to Dorset-street. Lot 2. A corner plot of building land, having a frontage of 105 feet to Commercial-street and Brown's-lane, by a frontage depth of 33 feet 8 inches to Corbett's-court. Lot 3. A plot of building land adjoining lot 2, having a frontage of 119 feet 6 inches to Commercial-street, and 20 feet to Vine-court. Lot 4. A plot of building land, having a frontage of 116 feet 6 inches to Commercial-street, a frontage depth of 115 feet 4 inches, to Vine-court, and a frontage of 63 feet to Vine-place in the rear. Lot 5. A plot of building land, having a frontage of 43 feet 6 inches to Commercial street, a frontage of 42 feet to Wheeler-street, by a frontage depth of 58 feet to Great Pearl-street. Lot 6. A corner plot of building land, having a frontage of 201 feet 6 inches to Commercial-street and Wheeler-street. Lot 7. A plot of building land adjoining lot 6 and the Church of St. Stephen, having a frontage of 28 feet 6 inches to Commercial-street. Lot 8. A triangular plot of building land, having a frontage of 120 feet to Commercial-street, a frontage of 101 feet 6 inches to Elder-street, and a frontage of 111 feet to Fleur-de-lis street, together with a dwelling house thereon. Lot 9. A plot of building land, having a frontage of 102 feet to Commercial-street, and a frontage of 31 feet to Fleur-de-lis street, together with the buildings thereon. Lot 10. A plot of building land adjoining lot 9, having a frontage of 107 feet to Commercial-street, extending in depth to White Lion-street, to which it has a frontage of 35 feet. Lot 11. A corner plot of building land adjoining lot 10, having a frontage of 108 feet 6 inches to Commercial-street, and a frontage of 112 feet 10 inches to White Lion-street. Lot 12. A plot of building land, having a frontage of 32 feet to Commercial-street, and a frontage of 99 feet 6 inches to White Lion-street. Lot 13. A corner plot of building land adjoining lot 12, having a frontage of 205 feet 6 inches to Commercial-street and Lamb street.—May be viewed, and particulars, with plans, had at the Office of Works, 12, Whitehall-place; of JOHN GARDINER, Esq. 5, Whitehall-place; of J. PENNETHORNE, Esq. 7, Whitehall-yard; at the Mart; and of Messrs NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

Valuable and highly important Freehold Estate, situate at Lower Clapton, Middlesex, comprising two elegant and substantial mansions, in the midst of about 25 acres of beautifully timbered park and lands, adapted for merchants, bankers, or others wishing to reside within an easy distance of all parts of the metropolis, having also the advantage of a first-rate building speculation.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Executors to offer for SALE by AUCTION, in JUNE next (unless previously disposed of by private contract), a very valuable FREEHOLD ESTATE, delightfully situate, close to Hackney Church, at Lower Clapton, Middlesex, only a short walk from the station of the North London Railway, and within three miles of the City; consisting of an elegant and substantial mansion, known as the Hall, for many years in the occupation of the late owner, John S. Berger, esq. approached by a lodge-entrance and carriage-drive from the high London road, and containing every accommodation for a large establishment, with productive gardens, stabling, coach-houses, and other outbuildings. It is placed upon beautiful lawns and pleasure grounds, well laid out, and filled with choice specimens of ancient trees, and park like meadows and fields, which are remarkably fine timber, with lovely walks and drives extending round, and forming altogether a perfectly secluded park. Also another capital and very ornamental residence, called the Rectory, with delightful grounds, gardens, stabling, and offices; an approached from the eastern boundary by a lodge entrance, commanding an extensive view, and containing all the accommodation for a family; a valuable corner plot of building land, having a considerable frontage to the high road, and well adapted for the erection of villas, the whole containing about 25 acres. This very important estate, although most desirable for the occupation of a wealthy gentleman, or any gentleman wishing to secure family mansions, combining all the enjoyments of the country, with the advantage of being within twenty minutes' ride of the city, has also a most valuable and increasing greater value, from its facilities for an extensive building speculation, being close to the church, a short distance from the station, and with free and convenient access to many parts of the metropolis. By a judicious arrangement of the land into plots, and the formation of good road (which may be constructed at comparatively small cost, there being a large quantity of gravel on the estate), many thousand feet of available building frontage will be secured for the erection of detached and semi-detached residences, low so much in respect in the neighbourhood, presenting many of the beautiful timber, and park-like character of the property, or a more extended and profitable scheme might be adopted by laying out the land for the erect on of smaller houses. The soil is principally gravel, the water pure and abundant, and the situation extremely healthy.—Particulars, with plans, may be had shortly of Messrs. WILDE, REES, HUMPHRY, & WILDE, Solicitors, 21, Colbey-hill; at the Mart, and of Messrs NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

PENGE, Surrey.—Very Valuable Freehold Building Land.

MESSRS. NORTON, HOGGART, and TRIST have received instructions to offer for SALE, at the MART, early in JUNE, in lots, very valuable FREEHOLD BUILDING LAND, situate at Penge and Anerley Vale, within a short distance of the Crystal Palace Railway Station. It possesses important frontages to the Palace-road of upwards of 2,200 feet, a considerable portion of which is immediately opposite and overlooking the beautiful gardens of the Crystal Palace; there is also another frontage to the Anerley Vale-road of about 300 feet. The land is admirably adapted for the erection of villa residences, for which there is a great demand in the immediate neighbourhood.—May be viewed, and particulars with plans shortly had of Messrs JOHNSON, FARQUHAR, & LEECH, Solicitors, Moorgate-street; at the MART; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

CHARING CROSS RAILWAY.—Fifteenth Clearance Sale.—Building Materials Second portion of the Hungerford Market. To Builders, Contractors, Parliaments, and Others.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, the day, SATURDAY, MAY 17th, at TEN o'clock punctually, in lots, the second portion of the very valuable and useful MATERIALS of the HUNGERFORD MARKET, consisting of a public-house, two long ranges of shops, with cellarage under the whole, and a range of stabling, comprising upwards of 100 feet in length; slating, sound timber in roofs and floors, good flooring-boards, panelled and other doors, sky lights, lead in pipes and gutters, a very large slate cistern, iron girders, a number of cast-iron columns, a large quantity of granite and York paving, granite pitching, York landings, large turret bell and wheel, iron cramps, and a variety of useful fixtures and fittings-May be viewed two days previous to the sale, and catalogues had of Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornhill, E.C.; and of Mr. Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices in the London-bridge Terminus.

CHARING CROSS RAILWAY. Sixteenth Clearance Sale.—BUILDING MATERIALS.—Third portion of the Hungerford Market.—TO BUILDERS, CONTRACTORS, PAVIORS, and OTHERS

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors, to SELL by AUCTION, on the premises, on THURSDAY, 29th of MAY, 1862, at ONE o'clock punctually, in Lots, the third portion of the very valuable and useful MATERIALS of the Hungerford Market, consisting of the large hall and two ranges of shops on the west side; with cellarage under the whole, comprising capital stock brickwork, flange stone, sound and useful timber in roofs and floors, good flooring-boards, panelled and other doors; skylights; leaden pipes and gutters; capital slate cisterns, iron girders; granite columns with caps and bases, quantity of granite and York paving; York landings, and a great variety of useful fixtures and fittings-up. May be viewed the day previous to the sale, and catalogues had of Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's court, Cornhill, E.C. and West Molesey, Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his offices, in the London Bridge Terminus.

BARK.—230 Tons.—To TANNERS and OAK BARK MERCHANTS.—

New OAK COPPICE BARK, in the following Woods, TO BE SOLD by AUCTION, by

MESSRS. RICHARDSON, on FRIDAY, MAY 23, 1862, at the GEORGE HOTEL, Stamford.

No. 1. About 42 tons of new Bark, in Deacon Wood, 10 miles north-east of Stamford.—To view the same, apply to Mr. JAMES FEATHERSTONE, of Bourn.

No. 2. About 50 tons of new Bark, in Pickworth Newell Wood, 8 miles north of Stamford.—Apply to Mr. JOHN CHRISTIAN, of Great Casterton.

No. 3. About 24 tons of new Bark, in Burghley Park, near Stamford.—Apply to Mr. JAS. SHARPE, Burghley Park.

No. 4. About 9 tons of new Bark, in Easton Vigo Wood, 4 miles south of Stamford.—Apply to Mr. J. SHARPE, Burghley Park.

No. 5. About 14 tons of new Bark, in Collyweston Great Wood, 4 miles south of Stamford.—Apply to Mr. J SHARPE, Burghley Park.

No. 6. About 25 tons of new Bark, in Wakerley Wood, Kitchen Cliffe, 7 miles south of Stamford.—Apply to Mr. J. SHARPE, Burghley Park.

No. 7. About 16 tons of new Bark, in Wakerley Woods, Kitchen Quarter, 8 miles south of Stamford.—Apply to Mr. WM. PEPPER, Wakerley.

No. 8. About 20 tons of new Bark, in Wakerley Spinney, 8 miles south of Stamford.—Apply to Mr. WM. PEPPER, Wakerley.

No. 9. About 50 tons of new Bark, in Easton Hill Side Wood, 2 miles south of Stamford.—Apply to Mr. J. SHARPE, Burghley Park.

Every attention has and will be paid to the Bark until it is sold. The whole is deserving the attention of all parties interested in the tanning and leather trades.—Sale to commence at FOUR o'clock in the afternoon.

N.B. The Agent will be in attendance, and may be consulted on business, one hour prior to the Sale, when all arrears must be paid.

Burghley Park, May, 1862.

SALE.—By order of the Secretary of State for War.

MR. GEORGE SPILLMAN will SELL by PUBLIC AUCTION, at the ROYAL ARSENAL, Woolwich, on MONDAY, the 26th MAY, 1862, at ELEVEN o'clock in the forenoon precisely, the following STORES:—Fans for screw steam-vessels, bunnes, one hundred portions of metal, lead ashes, ac ashes, steel, files, harness, serge cuttings, canvas, resin, great-coats, horse shoes, wheels, hay, wood, and barrels.—May be viewed from TEN to ONE o'clock, and from TWO to FIVE o'clock, on the three working days previous to, and morning of the sale, and catalogues obtained at the War Office, Pall-mall; at the Tower; and Royal Arsenal, Woolwich.

VAUXHALL BRIDGE ROAD, PIMLICO.—To Carpenters, Builders, Contractors, Wheelwrights, and Others.

MR. PEAKE is directed by the Trustee under a Deed of Assignment for the benefit of Creditors, to SELL by AUCTION, on the PREMISES in Regent street, and fronting Vauxhall Bridge road, on THURSDAY, MAY 29, 1862, at TWELVE o'clock, the STOCK IN TRADE, comprising ten loads of Timber, pine planks, yellow, white, and spruce deals and battens; seven thousand feet of oak and American ash, and a variety of stock suitable to the above trades.—May be viewed on the Premises; and the portion of the property at the Saw-mills by permission of the Superintendent, the day previous and morning of sale; catalogues obtained (of RICHARD KINGDON, Esq. Solicitor, Lawrence-Pountney-hill, Cannon-street, City; on the Premises; and at Mr. PEAKE'S Offices, 44, Tooley-street, Southwark.

BARNET, HERTS.—Two Pairs of Model Cottages and Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on THURSDAY, MAY 22, at TWELVE, for ONE or TWO PAIRS of COTTAGES, erected after the model of the Cottage Improvement Society, close to the Barnet railway station, also eligible Building Land close to the station. The Metropolitan Railway now nearly completed to Farringdon-street, is expected to be opened this year, and will give direct communication with the City. Nine-tenths of the purchase-money may remain on mortgage at 5 per cent, to be paid in nine years by instalments.—Particulars, plans, and conditions of sale may be obtained of Messrs. RUSSELL & DAVIES, 59, Coleman-street, E.C.; of the Auctioneer, 14, Moorgate-street, E.C.; and at the place of sale.

BUCKHURST HILL, ESSEX.—FREEHOLD BUILDING and MEADOW LAND, close to the station.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on THURSDAY, MAY 22nd, at TWELVE for ONE o'clock, an ENCLOSURE of MEADOW LAND, containing about eleven acres, several lots of building Land, on Alfred and Albert roads, close to the Buckhurst-hill station, on the Loughton Railway; and two eligible Sites on the main road from London to Loughton, immediately opposite Buckhurst-hill Church. The purchase-money may be left on mortgage by instalments.—Particulars, plans, and conditions of sale may be obtained of Messrs. RUSSELL & DAVIES, No. 59, Coleman-street, London; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the place of sale.

TOTTENHAM, MIDDLESEX, THREE SHOPS and SEVERAL BUILDING LOTS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, on THURSDAY, MAY 22, at TWELVE for ONE, THREE SHOPS, situate No. 1, Albion-High-street; and several lots of Building Land, in Chestnut and Somerset roads.—Particulars may be obtained of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the place of sale.

NEW MALDEN, Surrey TWO VILLA RESIDENCES and BUILDING LOTS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on THURSDAY, MAY 22, at TWELVE for ONE o'clock, TWO substantial semi-detached VILLA RESIDENCES, fifteen lots of BUILDING LAND, situate close to the New Malden Station, on the London and South Western Railway, about two miles from the town of Kingston. A portion of the purchase money may remain on mortgage, or contract at 5 per cent to be paid by instalments. Particulars, plans, and conditions of sale may be obtained three days before the sale, at the Inns in the neighbourhood of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the place of sale.

TUNBRIDGE WELLS.—To BE SOLD, pursuant to a Decree of the High Court of Chancery, made in a Cause Barrett v. Barrett, with the approbation of the Master of the Rolls, in One Lot, by

MR. GEORGE NEWMAN, the Person appointed by the said Judge, at the CASTLE HOTEL, Tunbridge Wells, on FRIDAY, the 23rd day of MAY, at THREE o'clock precisely, A the after on, TWO LEASEHOUSES and SHOP, with the Carpenter's Yard, Shed, and Premises at the back in the Market-street, Tunbridge Wells, now in the occupation of Mr. Smith, with excellent and well-established trade, but estimated rental 70l. per annum. The other House, with the shop, garden, and premises, is let to Mr. Bennett at 30l. per annum. The property is held under a lease, of which fifteen years from the 29th of SEPTEMBER, 1861, are unexpired, at the rent of 70l. per annum, and the usual covenants on the part of the Lessee.—For further particulars and conditions of sale apply to Messrs. COVERDALE, LEE, & COLLYER, 4, Bedford row, London; and of Messrs. STONE, WALL, & SIMPSON, Tunbridge Wells, Kent. GEO. WHITING, Chief Clerk.

Dated this 7th day of MAY, 1862.

KENT.—ROCHESTER.—To Barge Owners and Others.

MR. R. KICKWELL has received instructions to SELL by Auction, on TUESDAY, MAY 20th, at TWO for THREE o'clock in the afternoon, near the BAR Rochester, the following well known SAILING BARGES, in the best condition, and fit for immediate use:—Lot 1.—All that well-known Sailing-Barge the ANN, a Rochester boat, in first-rate condition, sprit-sail rigged, and carries about 75 tons, with all her standing and running rigging, materials, and fittings. Lot 2.—All that well-known Canal Sailing-Barge the CATHERINE, of Rochester, sprit-sail rigged, with a topping bowsprit, and carries about 95 tons, with all her standing and running rigging, materials, and fittings. Lot 3.—All that well known Canal Sailing-Barge the EXPRESS, of Rochester, sprit-sail rigged, with a top ping-up bowsprit, and carries about 100 tons, with all her standing and running rigging, materials and fittings. The above Barges will be seen near the place of sale four weeks prior to the sale, when particulars and conditions of sale, with an inventory of materials, &c., may be had at the NEW INN, Maidstone; PRINCE'S ORANGE, Gravesend; BULL INN, Sittingbourne; and of the AUCTIONEER, Star Hill, Rochester.

AT WARE, HERTS.—To BUILDERS, CONTRACTORS, and OTHERS. To be SOLD by AUCTION, by

SAMUEL J. SURRIDGE, at the SARACEN'S HEAD INN, Ware, on TUESDAY, the 27th MAY, 1862, TWO for THREE o'clock, by direction of the proprietor, in three lots, a VERY eligible well-built FAMILY RESIDENCE, or MANSION, known as "Mardocks," a well-planned and substantial erection, 96 feet by 36 feet, having a portico and slated roof, with parapets, and a handsome entrance hall, with tile mantle, and two parlours, with glass windows, drawing and dining rooms, and kitchen, with marble chimney-pieces, stoves, and fixtures, dressing-room, plate closet, with fine open-tread staircase, and seven bed-rooms, with marble and chimney pieces, stoves, and fixtures, large open cistern-room, with verandah, supported by iron pillars, leading into a footman's room; knife-house, butler's pantry, carpenter's shop; baking oven with copper and oven; pumphouse, with powerful force pump, lead piping to all parts of the premises; dairy, brew-house, with stone paving, and large brewing copper; servants' hall; all of which are covered with slate, with lead gutters and ridges; the large water pipes and heads are also lead; the greenhouse, with stands and shelves, and all the lofty brick walls inclosing and dividing the kitchen gardens, containing about 40 rods of brickwork.

Lot 2.—The detached range of brick, timber, and tiled stabling, barn, fleet-house, loggeries, hudson pits, and the wood fencing to kitchen gardens.

Lot 3.—The brick and tiled coach-house, 24 feet by 24 feet, folding doors, oak floor, pigeon-house, &c. and the gate, stone and brick piers, forming entrance.

The whole of the above to be taken down and cleared by the purchasers on or before the 1st of AUGUST next. Further particulars, with conditions of sale, may be had at the place of sale; of THOMAS COPTCOAT, at the Mardocks (who will show the premises); at the Office of the "Estates Gazette," Fleet-street, London; or, posted free, on application to the Auctioneer, Halstead, Essex.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published at the said OFFICE by the said CHARLES WYMAN, at the Office of "THE BUILDER," York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, May 17, 1862.

The Builder

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

Vol. XX.—No. 1007. MAY 24, 1862. PRICE FOURPENCE.

ILLUSTRATION.

Monument of the Emperor Nicholas I., St. Petersburg: designed by the late Ricard de Montferrand, Architect 371

CONTENTS.

Condition of our Towns: Coventry 361
The Palace of Art and Industry 362
Some Disjointed Notes of the International Exhibition 364
On the Life of Welby Pugin 364
The Exhibition of the Royal Academy 367
"Pagan Art" 368
Vaucher's Woven Hose 368
Fires in the Metropolis 368
On Obelisks and other Monoliths 369
The Horticultural Gardens 370
The Monument of the Emperor Nicholas I. recently erected in St Petersburg: Memorials and Statues 373
Royal Institute of British Architects 374
British Archæological Association 374
Town Sewage 375
The Albert Memorials 375
Competitions 375
Stained Glass 375
Church-building News 375
Provincial News 376
The "Inclosure Office" 376
Monumental 376
West Galleries in Church 376
Mr. Peabody's Gift 377
Books Received: Walford's Men of the Time (Routledge); Mechermantt's Guide to Exhibition (Smith); Variorum 377
Miscellanea 377

BUILDERS' BENEVOLENT INSTITUTION.—THURSDAY NEXT.—An ELECTION of THREE PENSIONERS (2 males and 1 female) will take place on THURSDAY, 29th inst. at the London Tavern. GEORGE PLUCKNETT, Esq., the chair. Polling commences at TWELVE, and closes at THREE o'clock precisely. A. G. HARRIS, Secretary.
23rd May, 1862

THE NEW SOCIETY of PAINTERS in WATER-COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall-mall, near St. James's Palace. Admission, 1s.; Catalogue, 6d. Season Ticket, 5s. JAMES FAHEY Secretary.

ARCHITECTURAL ALLIANCE.—The Architectural Institute of Scotland, and the Architectural Associations of Birmingham, Glasgow, London, Liverpool, Manchester, and the "Northern Architectural Association," having provisionally entered into an Alliance for mutual assistance and co-operation, and their aim being to embrace in the Alliance Associations representing every county or district of the United Kingdom, other Professional Associations are cordially invited to join. It is proposed to hold a Conference of Delegates in London, on TUESDAY, JULY, 1st, for the purpose of settling the details of the scheme. Meanwhile, the "Outline Scheme," as provisionally agreed to, will be sent to any Association disposed to join, or to any architect wishful to organize a branch association in his locality. All communications to be addressed, for the present, to Mr. J. P. PRITCHETT, Architect, Northgate House, Darlington
May 6, 1862

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION, to procure and issue to subscribers Photographs of subjects strictly illustrative of Architecture and of its subsidiary Arts.—Subscriptions to be paid to Mr. HENRY MOODY, 9, Conduit Street, Regent-street, from whom particulars may be obtained. W. LIGHTLY, Hon. Sec.

ARCHITECTURAL PUBLICATION SOCIETY.—The Annual General Meeting will be held at 9, Conduit street, Hanover-square, on the EVENING of MONDAY, MAY 26th. The chair will be taken by WILLIAM TITE, Esq., M.P. &c. at Half-past Eight p.m. precisely. ARTHUR CATES, Hon. Sec.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, NOW OPEN, from Nine till Six. Admission 1s. Half-crown season tickets admit at all times to the Exhibition, to the west gallery containing the entire collection of drawings and sketches by the late A. Welby Pugin, and to all the Lectures. Fourth Lecture, TUESDAY, MAY 27, at Eight o'clock p.m. "On Conventionality in Ornament," by J. P. SEDDON, Esq.
JAMES FERGUSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

ROYAL HORTICULTURAL SOCIETY. OPENING of AMERICAN SHOW, FRIDAY next, MAY 30. Admission, Half-crown. Bands of the 1st Life Guards and Royal Artillery Commence at THREE o'clock. Applications pass under cover from the Exhibition or Garden entrances to the Show.
HORTICULTURAL GARDEN, SOUTH KENSINGTON.—OPEN at NINE o'clock. Admission, during next week, Monday, Tuesday, Wednesday, and Thursday, One Shilling; Friday (American Show), Half-a-crown; Saturday (American Show), Five Shillings. Bands daily.
AMERICAN PLANTS—HORTICULTURAL SOCIETY.—FRIDAY next, and following days.

TO ARCHITECTS.—DRAWINGS for COMPETITION, or otherwise, COLOURED by an experienced Architectural Colourist, on the most reasonable terms.—Address A. D. 6, New North-street, W.C.

COMPETITIONS.

NEW WORKHOUSE FOR CARLISLE UNION.—TO ARCHITECTS and BUILDERS.—The Guardians of this Union hereby offer a PREMIUM of FIFTY POUNDS, to be paid for the set of Plans approved by them and the Poor Law Board, for a New Workhouse, capable of accommodating 300 adult inmates, and designed in such a manner as to allow of enlargement, without interfering with the uniformity of the external appearance. The site for the erection of the said workhouse, is situated at Pusehill, on the east side of Carlisle. All plans to be sent to me sealed, on or before the 23rd of JUNE next. Further particulars may be obtained on application at my office, 7, Friars-court.
G. MOUNSEY, Clerk to the Union.
8th May, 1862

EXETER CITY GAOL.—To ARCHITECTS.—The Town Council of Exeter are desirous to be informed if the present City Gaol and House of Correction can be made available so as to satisfy the requirements of the law, as to the construction of cells and wards of correction; and, also, they invite architects to ascertain if it is practicable that the present City Gaol and House of Correction can be so altered. They offer a premium of £50 for the plan of alterations which shall be considered the best, and if such plan be carried into effect the architect producing it will be employed to superintend the execution of the work at the usual commission, but in that event his premium is to merge in his commission. A premium of £25 will be given for the plan which shall be considered the second best. The Gaol and House of Correction may be examined upon application to the Gaoler, and further particulars obtained from Mr. G. W. CUMMING, Post office Chambers, Surveyor to the Council; or Mr. GIDLEY, the Town Clerk, 15, Bedford-circus, Exeter, to whom the plans are to be sent before the 2nd WEDNESDAY in JUNE.
May 15, 1862.

PLANS for ALMSHOUSES.—It being in contemplation by the SALTERS' COMPANY to ERECT ALMSHOUSES to accommodate Twelve Almswomen and Six Almsmen, on a plot of ground about twenty miles in the country, comprising two acres, and to expend on the buildings and the necessary drainage, not exceeding £5,000. A premium of £50 is offered for the plan which shall be considered the most eligible for the purpose. The successful party will be expected to furnish a proper specification of the requisite works, and the premium will be paid immediately it is ascertained to the satisfaction of the Court of Assistants, that the proposed buildings can be erected for the sum mentioned. A plan of the ground, and statement as to accommodation wanted, can be seen at the Office of the Clerk of the Company, at Salters' Hall, St. Swithin's-lane, at which Office the plans must be delivered on or before TUESDAY, the 3rd day of JUNE, 1862, before TWELVE o'clock at Noon.

CONTRACTS.

HAM COMMON LOCAL BOARD of HEALTH.—SEWERAGE WORKS.—To SEWER-PIPE MANUFACTURERS, CONTRACTORS, and OTHERS.—The Local Board of Health for the District of Ham Common, in the County of Surrey, do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following CONTRACT.—

CONTRACT No. 1.—For providing Earthenware Sewer-pipes, Cast-iron Pipes, and other Materials; excavating for, laying and jointing pipes; constructing tank, Brick, fixing gullies, and other works

Plans, sections, drawings, and specification may be seen, and duplicate forms of Tender, bills of quantities, and schedules for prices, may be obtained on payment of 10s. on application at the Office of JOHN LAWSON, Civil Engineer, 54, Parliament street, Westminster. Sealed Tenders, endorsed, "Tender for Sewerage Works," must be sent to the Office of the Local Board, Ham Common, Surrey (addressed to the Clerk to the Board), on or before FRIDAY, the 13th day of JUNE, 1862. The Local Board do not bind themselves to accept the lowest or any Tender. (Signed) J. B. WINGRAVE, Clerk to the Board.
Ham Common, May 21, 1862.

TO BUILDERS.—TO BE LET, the WHOLE of the WORKS required in the ERECTION of PUBLIC BATHS, proposed to be built in St. Mary's Place, Barry. Plans and specifications may be seen, and printed copies of the quantities obtained, at my Offices, 2, Market-street, Bury, on and after on and after WEDNESDAY, the 21st of MAY. Tenders to be sent in not later than TUESDAY, the 3rd of JUNE, endorsed "Tender for Public Baths." The Commissioners do not bind themselves to accept the lowest or any Tender.
JAMES MAXWELL, Architect.

CHEAPSIDE.—BUILDING LAND.—To BUILDERS, CAPITALISTS, and OTHERS.—A valuable SITE in Cheapside, of about 62 feet in place and averaging 45 feet in depth, TO BE LET on Building Lease, for a term of 80 years from Lady Day, 1863, suitable for the offices of a public company, or for warehouse or business premises. Tenders will be received up to the 24th day of JUNE next.—Plans, particulars and conditions of Tender may be seen on application to the Clerk, Solicitors' Hall, Cheapside, E.C.; or to Mr. F. W. PORTER, Architect, 16, Russell-square, W.C. between TEN and FOUR.

TO BUILDERS.—TENDERS are required on or before the 27th JUNE next, for the ERECTION of a LOCK UP HOUSE and CONSTABLE'S RESIDENCE at Llanelltyd. The plans and specification to be seen at the Office of Mr. W. POUNDEY, County Surveyor, Kerry, Montgomeryshire. The Quarter-sessions Committee do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.—Persons desirous of CONTRACTING for the REPAIRING and PARTLY REBUILDING the RECTORY-HOUSE and OFFICES at Footscray, in the county of Kent, may inspect the drawings and specifications at the Rectory, at Footscray, after the 17th of MAY.—Tenders to be delivered on or before the 24th of MAY, addressed to the Rev C. BIRCH, Footscray Rectory, S.E.—The lowest or any Tender not necessarily accepted.—Nearest station, St. Mary Cray.

CONTRACTS.

COAST GUARD CONTRACT.—Notice to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION at HAYLING BRIDGE, near Havant, in the county of Hants, may inspect the drawings and specification at the COAST GUARD STATION, Hayling Bridge, or at this Office, between the hours of TEN and FOUR, from TUESDAY, the 20th instant, to SATURDAY, the 31st instant, now next ensuing, and both inclusive (Sunday excepted).
Tenders to be sent to this Office not later than TWELVE o'clock at NOON of the 2nd day of JUNE, under seal, and directed to the COMMODORE COMPTROLLER GENERAL of COAST GUARD, and endorsed "Tender for Hayling Bridge Station."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.
Dated this 14th day of May, 1862, at the
Admiralty Coast Guard Office,
12, Spring-gardens London, S.W.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required for RENEWING the SLATING and LEAD GUTTERS of the Sheers, Barracks, Right Wing, Royal Artillery Barracks, Woolwich, by measurement.
Parties desiring to Tender for the execution of these works must leave their names at this Office on or before the 4th day of JUNE, 1862, and pay the sum of 7s. 6d. for the schedule of prices, which sum will be refunded to the unsuccessful competitors on their returning the schedules.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Woolwich, May 19, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS, &c.—TENDERS are required for BUILDING an INFANT SCHOOL and SCHOOL MISTRESSES' QUARTERS, at Warley Barracks Essex
Parties desiring to Tender for these Works must attend personally, or by agent, at the Royal Engineer Office, St. John's-green, on the 27th MAY, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender. A. H. FRERELING, Lt.-Col.
Commanding Royal Engineers, Eastern District.
Royal Engineer Office, Colchester, Essex, May 14, 1862

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the following SERVICE at Chatham, viz.:—IMPROVEMENTS to Soldiers' Casemated BARRACKS, St. Mary's
Parties desiring to Tender for the execution of these works must leave their names at this Office on or before FRIDAY, the 30th day of MAY, 1862, and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Chatham, 20th May, 1862.

GREAT GRIMSBY LOCAL BOARD of HEALTH.—To DRAIN PIPE MANUFACTURERS, STONE MERCHANTS, MASONS, and EXCAVATORS.—WORKS of DRAINAGE and STREET IMPROVEMENTS, 1862.—TENDERS are invited by the Corporation of the Borough of Great Grimsby, in the County of Lincoln, as Local Board of Health of the said Borough, for the EXECUTION of the following WORKS, viz.:—
CONTRACT, No. 1. WORKS of DRAINAGE. For the formation of 1,000 yards lineal of glazed pipe drains, from 8 to 18 inches diameter, with outfall sluice, penstock, and other appliances.
CONTRACT, No. 2. WORKS of STREET IMPROVEMENT: comprising about 1,200 yards super of Yorkshire stone flagging, and 1,150 yards lineal of curbing to flat ways, 1,700 yards super of flagging, and dwarf curbing to channels, and 850 yards super of paving to crossings.
Plans, sections, and specifications of these works, with the conditions of contract and forms of Tender, may now be seen and obtained, on payment for the same, at the Office of Mr. JOSEPH MAUGHAN, Surveyor to the Local Board of Health, in Haven-street, Grimsby, during business hours, until SATURDAY, the 31st of MAY instant, on which day Tenders for either or both of the contracts must be delivered at the Clerk, to the said Local Board, before FOUR o'clock in the afternoon.—Notice.—The Board do not any other Tenders submitted, will necessarily be accepted.—By order,
W. GRANGE, Clerk to the Great Grimsby Local Board of Health.
Grimsby, May 15, 1862.

TO ENGINEERS.—The Improvement Commissioners of the town of Bary are prepared to receive TENDERS for the FITTING UP of the proposed PUBLIC BATHS with all the necessary apparatus required in heating the same. Plans and specifications may be seen, and printed copies of the quantities obtained, by application to the office of the undersigned, on and after WEDNESDAY, the 21st day of MAY.—Tenders to be sent in not later than TUESDAY, the 3rd day of JUNE, but the Commissioners do not bind themselves to accept the lowest or any Tender.
2, Haymarket-street, Bury. JAMES MAXWELL, Architect.

CROYDON UNION.—To BUILDERS.—ERECTION of a New SICK WARD.—The Guardians will, at their meeting to be held on the 3rd day of JUNE next, receive TENDERS for the ERECTION of a New SICK WARD at the Workhouse, Duppas Hill, Croydon.—Plans, with qualifications, may be seen on application to Mr. JOHN BERNEY, Architect, North End, Croydon. The Guardians do not bind themselves to accept the lowest or any Tender. Persons found bearing their tenders will be disqualified, and the party selected will be required to enter into a written contract to secure its fulfilment, and also enter into a bond, with sureties, if required by the Guardians.
ALFRED G. BLAKE, Clerk to the Guardians.
George-street, Croydon, May 20th, 1862.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO BUILDERS, SEWER CONTRACTORS, and OTHERS.—The Vestry of the Parish of Bermondsey, Surrey, will meet at the Parochial Office, Workhouse, Russel-street, on MONDAY, the 2nd day of JUNE next, at SIX o'clock in the evening precisely, to receive TENDERS from persons willing to CONTRACT for the execution of GENERAL WORKS and REPAIRS to the SEWERS, GULLIES, DRAINS, &c., within the Parish, for the term of One Year from the 25th day of June next to the 24th day of June 1863.—Printed forms of Tender may be obtained and the draft contract and bond inspected, on and after Monday, the 26th instant, at the Vestry Office, as Mulliner-street, daily, between TEN and FOUR o'clock. The Vestry do not bind themselves to accept the lowest or any Tender. Persons tendering are required to attend the Board Meeting to explain the Tender if necessary.

GEO. H. DREW, Clerk.

Vestry Office, Mulliner-street, 21st May, 1862.

PARISH of ST. GILES, CAMBERWELL.—To SEWER CONTRACTORS and OTHERS.—The Sewers and Sanitary Committee will, at the next, receive TENDERS for the EXECUTION of SEWERS WORKS, comprising about

950 feet run 3 feet 0 inches by 2 feet 6 inches in Brick Sewer, at Queen's-road, Peckham;

570 feet run, 3 feet by 2 feet, in Grove-lane;

180 " 12 inches Pipe Sewer, in ditto;

in the parish on TUESDAY, JUNE 3rd, at Half past FOUR o'clock precisely, at the VESTRY HALL, Camberwell. Printed forms of Tender will be supplied, and no Tender will be received unless in accordance with the instructions contained in the specifications and conditions, and the parties tendering must be in attendance when the Tenders are opened. The Committee do not bind themselves to accept the lowest or any Tender. Particulars to be obtained on application to Mr J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Well-street, Hill, Camberwell, between the hours of ELEVEN and THREE, on and after MONDAY next.

GEORGE W. MARSDEN, Vestry Clerk.

Vestry Hall, Camberwell, 22nd May, 1862.

TO BUILDERS.—TENDERS are required for the TAKING DOWN of COWBRIDGE CHAPEL, HERTFORD, and the ERECTION of a NEW CONGREGATIONAL CHAPEL and SCHOOLS on the present site. Plans and Specifications may be seen at the old Chapel School-room, and at the office of the Architects, Messrs. T. SMITH & SON, 30, Bloomsbury-square, London, on and after WEDNESDAY, MAY 28th. Tenders to be delivered not later than SIX o'clock p.m., on THURSDAY, JUNE 5th, addressed to the Secretary, Mr A. WENHAM, Port Hill, Hertford.

P.S. The Committee do not bind themselves to accept the lowest or any Tender.

LLANDILO WATER WORKS.—TO CONTRACTORS, IRONFOUNDERS, and PIPE-LAYERS.—The Llandilo Local Board are prepared to receive TENDERS for the following WORKS for supplying the town of Llandilo with water:—1st. The construction of a reservoir, with all works connected therewith. 2nd. For supply of about 14 tons of proving, cast-iron set pipes, bends, and branches. 3rd. For cutting and filling trenches, laying and jointing water-pipes, bends, and branches; also hydrants and sinkings, and constructing the necessary pitched pavements, and other works connected therewith. Plans, sections, and specifications may be seen on application to Mr. GEORGE WILLIAMS, Clerk to the Local Board, Llandilo, of whom may be had the printed forms of Tender and schedules to be filled in. The Tenders must be sent in to the Clerk on or before THURSDAY, the 29th of MAY, 1862. Any further information may be received from Mr. BAGOT, C.E. Llanelly. The Local Board do not pledge themselves to accept any or the lowest Tender.

GEORGE WILLIAMS,
Llandilo, May 12th, 1862. Clerk to the Local Board.

TO PAVIOURS and OTHERS.—The Vestry of the parish of St. Martin-in-the-Fields will meet on THURSDAY, the 5th day of JUNE, at Two o'clock precisely, to receive TENDERS for REPAIRING the FOOTWAYS and CARRIAGE-WAYS of the parish; also, for the SUPPLY of BROKEN GUERNSEY GRANITE from time to time, as required. The Tenders will be for one year or three years, at the option of the Vestry, to commence at Midsummer next. Separate Tenders will be required for each contract. Parties may obtain printed forms of Tenders, by letter, on application to Mr. BURSTALL, Surveyor to the Vestry, at the Vestry Hall, between the hours of TEN and TWELVE; and no other form of Tender will be accepted. Tenders must be delivered, sealed up, at the Vestry Hall, endorsed respectively, "Tender for Paving and Repairing Footways," or "Tender for Paving and Repairing Carriage-ways," or "Tender for Broken Guernsey Granite," before SIX o'clock on the day of meeting. The Contractors will be required to enter into a contract and bond, to be prepared by the Solicitor of the Vestry, for the due performance of the works, with two responsible sureties, for due performance of the contracts. The Vestry do not bind themselves to accept the lowest or any such Tender.

J. DARNELL, Vestry Clerk.

Vestry Hall, St. Martin-in the Fields, May 15, 1862.

TO BUILDERS, &c.—NEW CHURCH, Sittingbourne, Kent.—Persons desirous of CONTRACTING for the ERECTION of the above, can see the plans and specifications at my office, after WEDNESDAY next, the 21st instant. Tenders are to be delivered to Mr. T. SMITH, Rose-place, Sittingbourne, on or before TWO p.m. on SATURDAY, the 31st of MAY next. The lowest Tender will not necessarily be accepted.

JOHN WIMBLE, Architect.

2, Walbrook, Mansion House, E.C.

TO BUILDERS.—The Trustees of John Addey's Charity, Deptford, will meet at the Committee Room, in the School House, Church-street, Deptford, on MONDAY, the 2nd day of JUNE next, at SEVEN o'clock in the evening precisely, to receive TENDERS from persons willing to contract with them for making ALTERATIONS in and erecting ADDITIONS to the School House. Plans and specifications may be seen, and further particulars obtained on application to JOSEPH LIDDIARD, Esq. Architect, No. 5, Kent-terrace, Upper-road, Deptford, by whom the quantities will be taken out at the expense of the contractor. The trustees do not bind themselves to accept the lowest or any Tender, and any Tender which shall be accepted shall be deemed to have been so accepted subject to the approval of the Charity Commissioners for England and Wales. All Tenders to be in writing, signed by the person tendering, and delivered, sealed, at the offices of Mr. W. SANDOM, Solicitor, Sladeplace, Deptford, previous to the hour of meeting; and the persons tendering, or some one on their behalf, must attend the meeting.

8th May, 1862. W. SANDOM, Clerk to the Trustees.

TO BUILDERS.—NEW CONGREGATIONAL CHAPEL and SCHOOLS, PLYMOUTH.—Drawings and specification may be seen at Morley Chapel School rooms, Plymouth, on and after TUESDAY, the 27th instant. Tenders to be delivered not later than EIGHT o'clock p.m. on MONDAY, 2nd JUNE. Applications for bills of quantities to be received per post by the undersigned not later than SATURDAY, the 24th instant.

PAULL & AYLIFFE, Architects.

Burnley, Lancashire, May 5, 1862.

TO BUILDERS.—The Committee of the Gravesend Ragged School are ready to receive TENDERS from persons willing to CONTRACT for the ERECTION of a SCHOOL in New Court, Gravesend. The plans and specifications may be seen at Mr. COOPER'S, Surveyor, Whitehall Street, Gravesend, from the 26th until the 31st MAY instant, between the hours of TEN and FOUR. Tenders to be sent to the undersigned, on or before the 2nd day of JUNE next, endorsed "Tenders for Ragged School." The Committee do not bind themselves to accept the lowest or any Tender.

By order of the Committee,
L. VISSENHIGH, Hon. Sec.

Gravesend, 52, Parrock Street, May 24th, 1862.

FLEET STREET and SALISBURY COURT. The Vintners' Company are prepared to receive TENDERS for a REPAIRING LEASE for 21 years, or for a BUILDING LEASE for a longer term, from CHRISTMAS next, of the PREMISES, No 81, Fleet-street, and Nos 1 and 2, Salisbury court, adjoining. Particulars may be obtained at the Clerk's Office, Vintners' Hall, Upper Thames-street, where Tenders (under seal) are to be delivered on or before the 1st day of JUNE next. The Company do not bind themselves to accept the highest or any Tender.

GEORGE LOMAS, Clerk to the Company.

TO DUST-CONTRACTORS, BRICKMAKERS, FARMERS, and OTHERS.—The Vestry of the Parish of Bermondsey, Surrey, will meet at the Parochial Office, Workhouse, Russel-street, on MONDAY, the 2nd day of JUNE next, at SIX o'clock in the evening precisely, to receive TENDERS from persons willing to PURCHASE all the DUST, ASHES, CLINKERS, GARDEN and other REFUSE, which may be collected from the manufactories, houses, and premises in the said parish from the 25th day of JUNE next to the 24th day of JUNE 1863. The dust and refuse will be delivered at the Vestry, and be delivered in the state in which it is collected to the purchaser, at any place of deposit to be named by him, within three quarters of a mile of the boundary of any part of the parish. The dust and refuse will be required to be paid for monthly, within seven days after the delivery of each monthly account. A deposit equal to 500 loads will be required to be made by the person whose Tender may be accepted at the time the Tender is accepted, such deposit to remain in the hands of the Vestry during the term of the contract, as a security for the due performance thereof, and on the due performance of the contract it is to be returned by the Vestry in part payment of the last monthly instalment. The certificate of the Assistant-Clerk to the Vestry, as to the number of loads delivered, shall be binding on the parties. The Vestry do not bind themselves to accept the highest or any Tender. Forms of Tender may be obtained at the Vestry Office in Maltby-street.

GEO. H. DREW, Clerk.

21st May, 1862.

TO SPECULATING BUILDERS, &c.—TENDERS are required for ERECTING a Pair of Semi-detached VILLAS on the Hillers Estate at Tunnicliff, Kent. The plans and conditions can be seen here after TUESDAY, the 27th instant, where Tenders are to be delivered on or before TWO p.m. of THURSDAY, JUNE 5th next. A preference will be given to parties who will take land adjoining to build upon, and to whom money will be advanced.

JOHN WIMBLE, Architect.

2, Walbrook, Mansion House, E.C.

NEW BANKING HOUSE, BRISTOL.—The Directors of the National Provincial Banking Company are prepared to receive General TENDERS for the ERECTION of the above BUILDING. Builders desirous of Tendering are requested to furnish me with their names and addresses by or before MONDAY, JUNE 2nd, after which Bills of Quantities will be forwarded to approved Parties.

The lowest or any Tender will not necessarily be accepted.

WM. BRUCE GINGELL, Architect.

37, Corn Street, Bristol, 21st May, 1862.

CONSERVATIVE LAND SOCIETY.—TUNBRIDGE WELLS ESTATE.—No. 2.—WEST KENT.—TENDERS are invited for the execution of SEWERAGE and ROAD-MAKING on the above Estate.

The following rough quantities are here stated in order to indicate approximately the extent of the proposed works; but parties tendering will have to take out for themselves the quantities necessary for their purpose.

25 feet roads, including 5 feet footpath on both sides	1290 feet run.	
24 feet footpaths, extra	613	"
Stone kerbing to footpaths	2765	"
12-inch pipe sewer	893	"
Ditto do	743	"
6-inch junction eyes on sewers, for allotments, drains, and gullys	74 in number.	
Gulley openings, including 6-inch pipes	9	"
overflows to sewers	9	"

The plan, sections, details, and specification, will be seen at the offices of the Society's Surveyor, Mr. JAMES WILSON, 33, Norfolk-street, Strand, London, W.C.; also at the Offices of Mr. JAMES RICHARDSON, Estate Agent, 1, Wilton Place, Tunbridge-Wells, on and after WEDNESDAY, MAY 28th. Tenders to be sent in on or before SATURDAY, JUNE 7th, addressed to the Society's Surveyor, as above, and endorsed "Tender for Works at Tunbridge Wells." The Committee do not bind themselves to accept the lowest, or any Tender submitted.

33, Norfolk street, Strand, London, W.C. May 22, 1862.

TO DUST CONTRACTORS.—PARISH of CHELSEA.—The Vestry of the Parish of Chelsea will meet at the Vestry Hall, King's-road, Chelsea, on TUESDAY, the 3rd day of JUNE next, at THREE o'clock in the afternoon, to consider Tenders from persons willing to contract according to the terms and conditions of a Specification (a printed copy of which may be had on application to the Vestry Clerk) for COLLECTING and REMOVING the DUST, ASHES, FILTH, and REFUSE from the houses and other places within one or the other, or both of the two divisions of the said Parish, during the period commencing from the acceptance of the Tender, and ending the 29th day of September, 1863. The draft of a contract to be entered into for carrying out the terms of the Specification is now lying at the Vestry Hall, where the person whose Tender may be accepted will appear personally on the day the Tenders are opened, and one-fourth of the sum offered is to be paid on the acceptance of the Tender, and the remaining three-fourths at the end of each and every month in the said draft contract. The costs, charges, and expences of and incidental to the preparation and completion of the contract to be paid by the Contractor on the execution of the same. Sealed Tenders, signed by the proposed Contractor, with the names and descriptions of two sufficient Sureties for the performance of the contract, are to be left at the said office, by or before TWELVE o'clock on the said 3rd day of JUNE, but no Tender will be received or accepted unless made on one of the printed forms as to be obtained at the said office. The Vestry do not bind themselves to accept any Tender.

By order,
CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, Chelsea, May, 1862.

BOARD of WORKS for the LIMEHOUSE DISTRICT. JOBBING CONTRACT for SEWERS WORK.—Notice is hereby given, that the Board are prepared to receive TENDERS from persons willing to CONTRACT for the JOBBING WORKS and REPAIRS to the SEWERS, DRAINS, &c. under the jurisdiction of the Board, for the year ending 24th JUNE, 1863. Forms of particulars may be known, and printed conditions and schedules of works, and forms of Tender obtained by parties intending to tender for the works, upon application at the Office of the Board, upon payment of 10s. which will be returned to each person sending in a Tender. Tenders sealed up and endorsed "Tender for Jobbing Works to Sewers, &c." must be delivered at the said Office, not later than FOUR o'clock, on the 9th day of JUNE, 1862. The Board will not be bound to accept the lowest or any Tender. Each Tender must contain a 10l. bank note as evidence that the same is bona fide, which will be returned to the parties tendering. By order,

THOS. W. RATCLIFF, Clerk to the Board.

Dean Colet House, White Horse street, Commercial-road, E. 22nd May, 1862.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for BROKEN GUERNSEY GRANITE.—Notice is hereby given, that the Board is prepared to receive TENDERS from persons willing to CONTRACT for the SUPPLY of the best and hardest BROKEN GUERNSEY GRANITE, to be delivered, according to the conditions of the Contract, free of all expenses, on the roads and streets of the said district. Further particulars may be known, and printed forms of Tender obtained, upon application at the Offices of the Board, Whitehorse-street, Commercial-road East. Tenders, sealed up and endorsed "Tender for Guernsey Granite," must be delivered at the said Office not later than FOUR o'clock, on the 9th day of JUNE, 1862. The Board will not be bound to accept the lowest or any Tender. Each Tender must contain a 10l. bank note as evidence that the same is bona fide, which will be returned to the parties sending in Tenders. By order,

THOMAS W. RATCLIFF, Clerk of the Board.

Dean Colet House, White Horse street, Commercial-road, E. 22nd May, 1862.

NATIONAL and BLUE COAT SCHOOL.—BASINGSTOKE.—Persons desirous of TENDERING for TAKING DOWN and REBUILDING RESIDENCES for the Master and Matrons, with class rooms for the above schools, may inspect the plans and specifications for the same at the Office of WM. CHALLIS, Esq. Clerk to the Trustees, in Basingstoke; or at our Offices, in Newbury, on and after 2nd JUNE.—Tenders to be sent to WM. CHALLIS, Esq. endorsed "Tender for Works at Blue Coat School," on or before the 16th JUNE. The lowest or any Tender will not necessarily be accepted.

JOHN NEWEY & SON, Architects,
34, Northbrook-street, Newbury.

RIPON CATHEDRAL.—TENDERS are required for the RE ROOFING and GROINING of the CHOIR, and the RESTORATION of the NORTH-WEST TOWER. The plans, specification and conditions of contract may be seen at the Office of Mr. CLARK, Clerk of the Works, Kirkgate, Ripon, on and after WEDNESDAY, MAY 21st instant, and any further particulars may be obtained of Mr. G. G. SCOTT, Architect, 20, Spring-gardens, London. Tenders to be delivered before TWELVE o'clock on THURSDAY, the 5th of JUNE, addressed to SAMUEL WISE, Esq. Solicitor, Ripon, endorsed, "Tenders for Restoration." The Cathedral Repair Committee do not pledge themselves to accept the lowest or any Tender.

FENCHURCH STREET.—The Vintners' Company are prepared to receive TENDERS for a BUILDING LEASE, from MIDSUMMER next, of the PREMISES, No. 85, Fenchurch-street. Particulars may be obtained at the Clerk's Office, Vintners' Hall, Upper Thames-street, where Tenders (under seal) are to be delivered on or before the 12th day of JUNE next. The Company do not bind themselves to accept the highest or any Tender.

GEORGE LOMAS, Clerk to the Company.

METROPOLITAN BOARD of WORKS. MAIN DRAINAGE of METROPOLIS, SOUTHERN OUTFALL WORKS, CROSSNESS.—To BUILDERS, CONTRACTORS, and Others.—The Metropolitan Board of Works hereby give NOTICE that they will meet at the Office of the Board, Spring-gardens, on FRIDAY, the 4th day of JULY next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of ENGINE-HOUSES, a Boiler-house, Chimney, Filth-hoists, Coolsheds, Dwelling-rooms, Workshops, and several other Works in connection therewith, at Crossness, in the parish of Erith, in the county of Kent.

Parties desiring to submit Tenders, may, upon payment of 21s. obtain plans, sections, specification, form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring gardens, between the hours of NINE a.m. and FOUR p.m. on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 3rd JULY next. Half the amount will be refunded to such of the unsuccessful parties who admit the drawings within one week after the day appointed for opening the Tenders.

The Tenders are to be addressed to the Clerk of the Board, and must be delivered at his Office, before TWELVE o'clock, on THURSDAY, the 3rd day of JULY next; and no Tender will be received after that hour.

The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders.

The Board do not bind themselves to accept the lowest, or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, S.W. 8th May, 1862.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-sq.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established 1848, by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical, and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms—Four Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 72, Fleet-street London.

ROBERT M. LATHAM, Secretary.

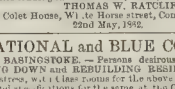
TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize an addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES, SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.

Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.

Lithographers, &c. 5, Ave Maria-lane, E.C.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an

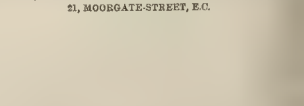


EXTERNAL WALL.

With single pulley, from 6s each; with leading pulley, from 6s 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is shut up, which tends to maintain a constant supply of fresh Air to meet required. HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

H. G. COOMBS, IRONFOUNDER, &c. Inventor and Manufacturer of the Patent ROTARY SHOP, Patent Wrought-iron TUBULAR GATES and RAILINGS.



Columns, Tanks, Staircases, Girders, Doors, Machine Roofs, Railings, Castings, and every description of Ironwork, wrought or cast, for Builders' other purposes, estimated for and executed. Designs furnished.—17, Union-street, Borough; and 95½, Great Guildford-street.

TO MACHINISTS and OTHERS.—WANTED to PURCHASE, a NEW MACHINE to CUT CHAFF by HORSE POWER. Address, stating particulars of price including fitting), to J. CULVERHOUSE, Purfleet Wharf, Camden Town, N.W.

IRON BUILDINGS and IRON ROOFING. SAMUEL C. HEMMING & CO. 21, MOORGATE-STREET, E.C.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

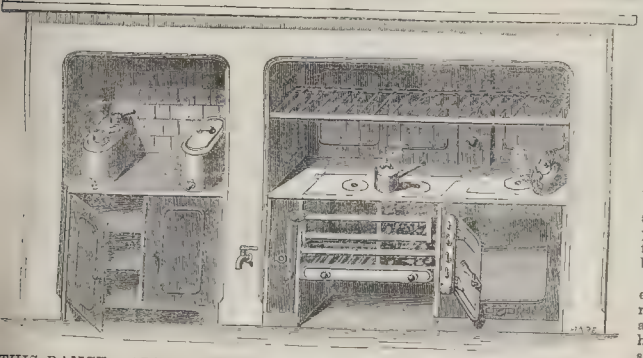
ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

Nos. 6 and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON

RAILWAY BRIDGE BUILDER.

RAILWAY STATION ROOFING

Manufactured in WROUGHT and CAST IRON, and Erected.

TANKS in WROUGHT and CAST IRON.

Wrought Iron Doors, Boiler and General Smiths' Work.

EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,

SHEETS, BARS, L and T IRON.

Bond Hoop Iron from Stock.

CRANE CHAIN AND CABLE MAKER.

CONTRACTORS' PLANT, RAILS,

WROUGHT AND CAST WHEELS AND AXLES.

WAGGON IRONWORK, PEDESTALS, &c.

AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

THE RICHEST ASSORTMENT OF CHIMNEY-PIECES

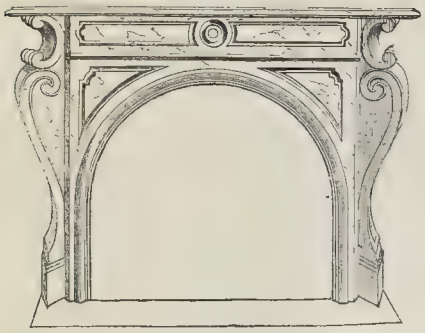
IS AT

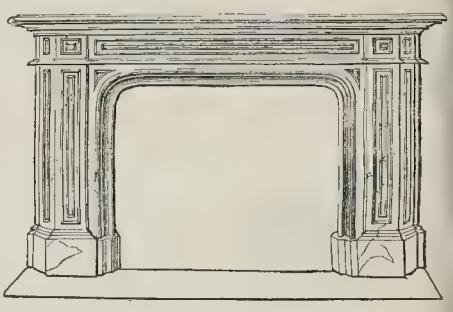
WILLIAM S. BURTON'S.

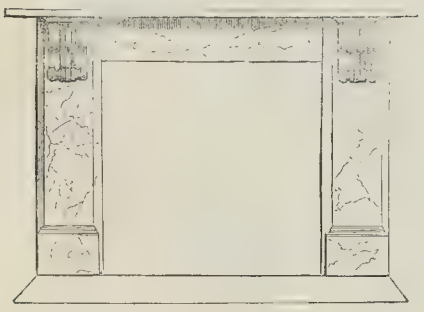
It embraces the following Foreign and English Marbles:—Italian Statuary, Brocatelle d'Italie, Brocatelle d'Espagne, Brocatelle Brune, Griotte d'Italie, Jaune Fleuri, Vert Antique, St. Remis, Black and Gold, Black, Rouge Royale, Vein, &c. &c.; and it includes the undermentioned styles: Renaissance, Louis XIV., Louis XV., Pompadour, Louis XVI., Moderne, à Balustres, &c. &c. Most of the designs are new; while several, from their rich and exquisite sculpture, are veritable works of art. A complete assortment of Enamelled Slate Chimney-pieces is also on show, including many elegant designs. The Prices range from 1*l.* 8*s.* to 100*l.*

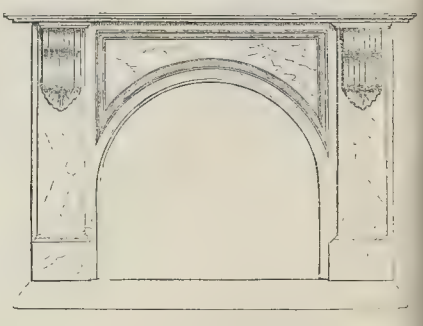












WILLIAM S. BURTON'S

GENERAL FURNISHING IRONMONGERY CATALOGUE

MAY BE HAD GRATIS, AND FREE BY POST.

It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro Plate, Nickel Silver and Britannia Metal Goods, Dish Covers, Hot-Water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays, Urns, and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed-room Cabinet Furniture, &c. with Lists of Prices and Plans of the TWENTY LARGE SHOW-ROOMS at

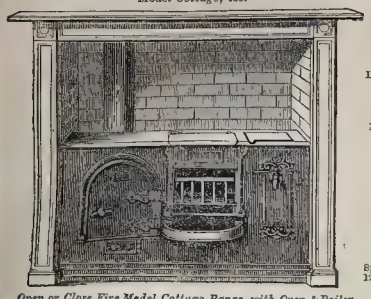
39, OXFORD-STREET, W; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE; and 1, NEWMAN-MEWS, LONDON.

ESTABLISHED 1820.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45s.



Open or Close Fire Model Cottage Range, with Oven & Boiler.

Self-acting, with Bright Wrought Bars.

34 inches ..... 54s.
36 ,, ... 56s.
38 ,, ... 58s.
42 ,, ... 60s.

Self acting Cottage, with Oven and Back Boiler.

30 inches ..... 22s.
32 ,, ... 24s.
34 ,, ... 26s.
36 ,, ... 28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 46s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch. 1½-inch. 2-inch. 2½-inch. 3-inch.
14s. 14s. 13s. 13s. 11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

2-in. 2½-in. 3-in.
Cast Rain-water Pipe....8d. 10d. 1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

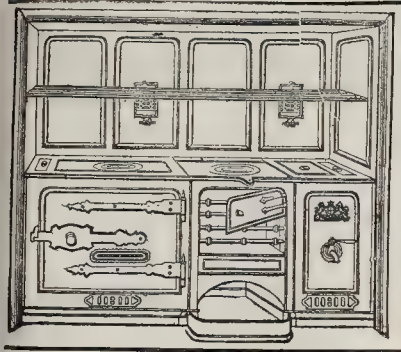
4-in. 6½-in.
O G Cutters, with Clips on.... 10d. 1s. per yard.

2 3 4 5 6
Patent Line..3s. 6d. 4s. 5s. 7s. 9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 12s. 6d. per cwt.
Dr. Arnott's Ventilators, 4s. each.
Brick Moulds kept in stock. Any size made to order.

Combined Range with Wrought Galvanized Boiler for Washing, 50s.

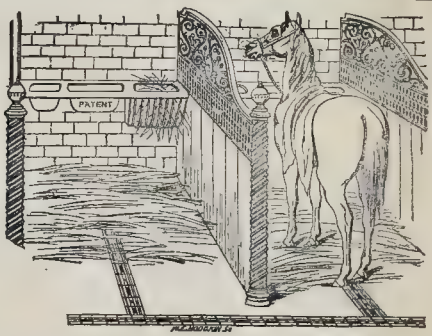




ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.

A LARGE STOCK
OF OTHER
CASTINGS KEPT



MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of **WROUGHT IRON TUBE and FITTINGS,**
FOR HIGH-PRESSURE-WATER; OR STEAM.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR-MILLS, &c.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 114, Fenchurch-street, E.C.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.



LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter ..... 1s. 0d. per foot.
Half-inch diameter ..... 1s. 6d. ,,
Five-eighths-inch diameter ..... 2s. 0d. ,,

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
,, Gateshead-on-Tyne.
,, 97, Dale-street, Manchester.
,, 66, Anderson-quay, Glasgow.
,, 17, South Castle-street, Liverpool
,, Exchange-buildings, Dundee.
,, 7, Frederick-street, Aberdeen.

TELEGRAPHS.

REID BROTHERS, 12, Wharf-road, City-road, near the Gutta-percha Works,
Telegraph Contractors to the following Telegraph Companies:—

THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.

Are now prepared to give estimates and execute contracts for firms and private companies, in town and country. Gentlemen's private houses fitted up with simple and efficient telegraphs, on the most economical terms. All communications addressed to the above will meet with immediate attention.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61A, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.

PFEIL AND STEDALL,
IRON MERCHANTS AND WHOLESALE IRONMONGERS,
5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.

BOND & SCAMMELL (late Thomas Pugh & Co.)
WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE
PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.
SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.
A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.
All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

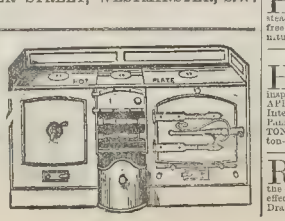
INTERNATIONAL EXHIBITION, CLASS 31 AND 34.
THE NEW CRYSTAL STAR AND SUN LIGHT.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
J. DEFRIES & SONS,
MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY, WORKS—LONDON AND BIRMINGHAM.
Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

FURNESS'
PATENT WOOD-WORKING MACHINES,
FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.
Prices and every information respecting these celebrated and well-known machines can be had on application to
WILLIAM FURNESS,
73, LIME STREET (late of Lawton Street), LIVERPOOL.
The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

DEVAUX'S PURE THICK ROOFING ZINC,
FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS,
And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. EDMESTON, Esq. F.R.I.B.A. by whom a certificate is given.
ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.
Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.
MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.
N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.

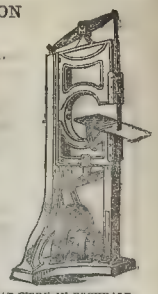
W. HARMER & SON
Beg to inform their Customers and the Trade generally, that having recently Removed into their new Premises, No. 3, HORSEFERRY ROAD (which communicates in the rear with their Warehouse and Workshops in New Peter-street), they have thereby been enabled largely to increase their Stock of BUILDERS' and CABINET-MAKERS' IRONMONGERY, and which they are now selling at a considerably REDUCED LIST of PRICES, in consequence of the depression of trade in the manufacturing districts.
W. HARMER & SON,
IRONMONGERS, SMITHS, IRON AND ZINC MERCHANTS,
Nos. 3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

THE LEAMINGTON PRIZE KITCHENER.



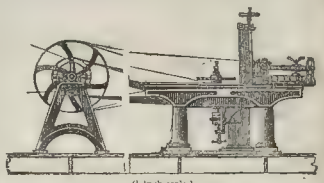
These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.
The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.
A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.
All Goods delivered free within five miles.
BURT AND POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS.
38 and 65, York-street, Westminster.

THOMAS ROBINSON and SON,



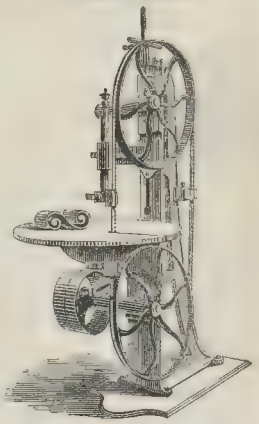
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*
Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE 3, CANNON STREET, E.C.

S. WORSSAM & CO.'S PATENT
IMPROVED TENONING MACHINE.



(¾-inch scale.)
This machine is adapted for working either hard or soft wood, and is fitted with an arrangement for cutting double tenons. It is made in two sizes, the smaller being adapted for builders and joiners' purposes, and the large for railway carriage builders, &c.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

POWIS, JAMES, & CO.
ENGINEERS AND MACHINISTS,
VICTORIA WORKS, BLACKFRIARS-ROAD, LONDON,
Having taken additional premises at 92, Blackfriars-road, known as the Surrey Iron Works, have added Portable Engines to their Sawing and Wood-cutting Machinery business. Contractors, colliers, merchants, and shippers will find these engines fitted with the same care exactness which has gained for the firm so respectable a position as Machinists and Tool Makers.
Specimen Machines and Engines can be seen at the Works, at the Machinery Department, Crystal Palace, Sydenham; and in class 7, section 2, stand 247, International Exhibition, south Kensington.
Engines, &c., on hire, with or without the option of purchase.
ALL LETTERS MUST BE ADDRESSED TO THE OFFICE, 92, WATLING STREET, E.C.



NEW PATENT ENDLESS BAND-SAWING MACHINE (the only patent in the United Kingdom for an improvement in this class of machine).

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding of the Purest and Best Quality. Also Bed-room Furniture complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED
CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court-road, W.

TO ARCHITECTS, BUILDERS, &c.
HEATING and VENTILATING LARGE
PUBLIC BUILDINGS, HOTELS, MANSIONS, &c.—Your inspection of ZIMARA'S MODEL of Improved Patent STOVE and APPARATUS for these purposes, in the Gallery of the Russian Court, International Exhibition, is particularly requested.—A Descriptive Pamphlet and Drawings will be sent, on application, to Messrs TONGUE & BIRKBECK, Patent Agents and Engineers, 34, Southampton-buildings, Chancery-lane, W.C.

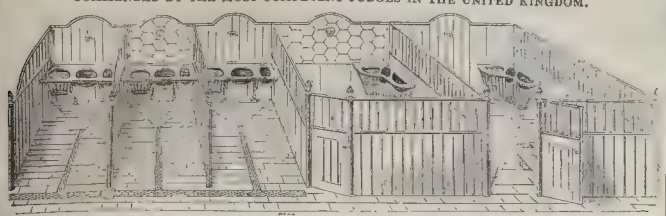
ROGERS' PATENT OUTLET for RAIN-
WATER BUTTS and CISTERNS, which being placed inside the cask or cistern, cannot get out of order, and is quite free from the effects of frost, &c. Price, complete, 2 inch, 10s; 1-inch, 12s.—Drawings and full particulars, on application to the patentee, G. ROGERS, HIGH-STREET, STAINES.

COTTAM & CO. WINSLEY STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation, preventing foulness in the rack, facility in fixing, safety from accident, durability in construction and cleanliness in use.

STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.

COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

KNIGHTLEY'S PATENT STABLE FLOOR.

ILLUSTRATED CATALOGUES FREE, on application to

COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.

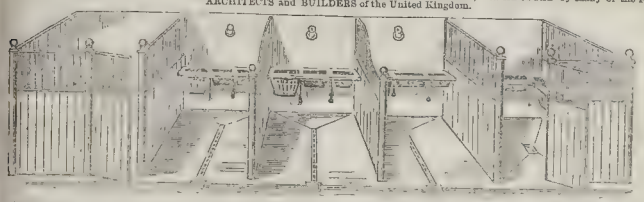
COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.

N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS,

These SUPERIOR-CLASSSTABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four postage stamps.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.

MUSGRAVE'S PATENT IRON COW HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.



At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS received a SILVER MEDAL and two awards of "highly commended," being the only prizes conferred on any competitor in this class.

Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann street Ironworks, Belfast.

CHUBB'S LOCKS,

with all the recent Improvements,

STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.

Complete Lists of Sizes and Prices may be had on Application

CHUBB and SON,

57, ST. PAUL'S CHURCH-YARD, LONDON,

28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated price catalogue, of numerous designs, in various styles (free), on application to

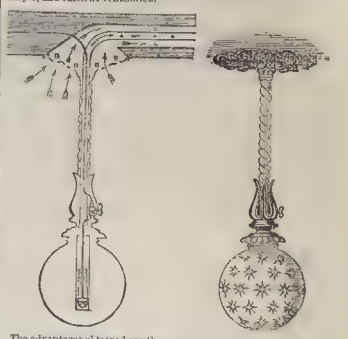
COTTAM & CO. IRON WORKS,

2, WINSLEY-STREET, OXFORD-STREET,

LONDON, W.

RICKET'S & HAMMOND'S VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these:—

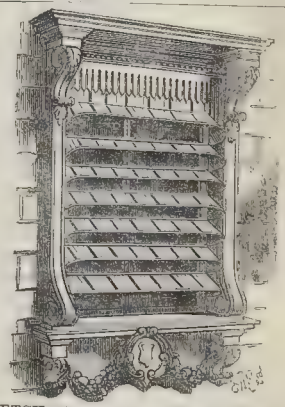
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.



SKETCH of one of the "HELIOSCENES" fitted up for Earl Russell.

These Blinds give a highly decorative finish to a plain front, whether fitted up in ornamental frames or without any. In the latter case top boxes only are required, which need not project beyond the reveal. Where there is no reveal, as in old houses, they would require a frame which need not project more than about 4 inches, and has a simple wings sung down, or any other adjustment. Prices moderate. A liberal discount to Builders and the Trade.

R. LOWTHER & CO. 31, Regent-street,

(One door below the Piccadilly Circus).

VENETIAN AND ALL OTHER BLINDS WHOLESALE.

NOTICE TO BUILDERS AND CONTRACTORS.

HENDERSON'S PATENT DERRICK CRANES,

sizes from 1 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes for Setting Frames, Double and Single Power Crab Winches, Shears, &c. For further particulars apply to BOWSER & CAMPBON, Springfield Iron works, McNeil street, Glasgow.

STAIR AND JACKSON

MANUFACTURERS OF

MEDIÆVAL ART METAL WORK

159 HIGH HOLBORN WC

BOOK of (175) ORIGINAL EXAMPLES

of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gaseliers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.

Specimens at the Architectural Exhibition, Conduit-street.

HEATING BY HOT WATER.



JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.

Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Brides, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to

RANDAL STAP, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

PATENT ASPHALTE CALDRON,

for laying Asphalte Floors. The cheapest and best kind of floor, impervious to wet, and vermin will not touch it. Full particulars sent free, by

WOODS & COCKSEDGE,

IRONFOUNDERS, STOWMARKET.

CAUTION to ARCHITECTS and BUILDERS.

—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanised ditto, for Water; High-pressure Cocks, &c.

Manufacturers of Dr. Arnott's Improved Ventilators.

HULETT & CO. 55, High Holborn.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 24, Davies-street, Three Doors from Oxford-street,

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

TRADE MARK.

CROWN TUBE WORKS,

WEDNESBURY, STAFFORDSHIRE.

Warehouse—81, Upper Ground-street, London, S.

JAMES RUSSELL & SONS,

The Patentees and first Makers of Wrought-iron Tubes.

CAST STEEL BELLS,

One-third PEALS

THE PRICE CAST

OF TO

BRONZE. ORDER.



NAYLOR, VICKERS, & CO.

SHEFFIELD.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,
QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the South Kensington Museum, and at the Architectural Exhibition, Conduit-street, Regent-street.

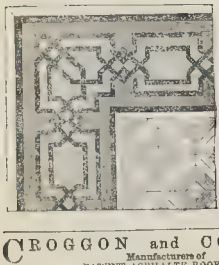
ESTIMATES WILL MEET WITH PROMPT ATTENTION.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

BARTLETT BROTHERS & CO.
DEVONSHIRE WHARF, CAMDEN TOWN, N.W.
Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.
Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,
INTERNATIONAL EXHIBITION, 1862.

ENAMELLED STONE CHIMNEY-PIECES,
Of Beautiful Designs, and to Imitate any kind of Marble; far Superior to Enamelled Slate, and considerably Lower in Price,
INVENTED AND MANUFACTURED BY
W. J. ELLISON & CO.,
SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.
Also, MANUFACTURER of WALL-LININGS, composed of Stone Slabs, with a Veneer of Scagliola to Imitate Marble, and Enamelled by Heat WARRANTED TO RETAIN ITS POLISH.
Office and Show Room, No. 3. WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.
Manufactory, EAST-ROAD, CITY-ROAD.

HUBBUCK'S PATENT WHITE ZINC PAINT.
BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON



SOLID PARQUET FLOORS.
ARROWSMITH'S PATENTED,
From 1s. per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered
For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.
SHOW ROOMS,
50, New Bond-street, W.

CROGGON and COMPANY,
Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,
for Damp Walls and Living Iron Houses
2, DOWGATE-HILL, London; and 2, GORE PLAZZA, Liverpool.

TARPAULINS, MARQUEES, &c.
for SALE or HIRE,
SCAFFOLD and HEMP-ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS,
WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

TIME is MONEY.—All who employ Workmen should send two stamps, and by return of post they will receive Samples of Workmen's Time sheets, and other useful forms, by which men's time is correctly entered, and book keeping facilitated.
MERRITT & HATCHER, Printers, 1, Barge yard, Bucklersbury, E.C.

Just published.
A CATALOGUE of BOOKS, Old and New, including the Publications of John Weale, of 59, High Holborn, London, W.C.; arranged and classed. Price 6d. or seven stamps if by post.

RULES and FORMULÆ for STUDENTS and ENGINEERS. By T. BAKER, C.E. Division I.—Rules and Practical Formulæ for finding the Strain and Breaking-Weight of Wrought-Iron Bridges, as now Used. Division II.—Suggestion also with the Calculations for Carrying a Railway Bridge across the Queen's Ferry on the Frith of Forth, N.B. By C. H. DOWLING, C.E. Two Divisions, complete in 12mo. price 5*s.*

MACHINES and TOOLS MANUFACTURED at the PARAGON WORKS, N.B. By JAMES DUNDAS, Esq., of Dundas Castle. In folio. Twenty-nine Plates, price 21*s.* in cloth boards.

WATER-COLOUR PAINTING, by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, invaluable for student, teacher, amateur, or the drawing-room table. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate street, Lincoln's Inn-fields, W.C.

STABLE ARCHITECTURE. 2*l.* 2*s.*
Medium Folio.
By THOMAS EDWARD KNIGHTLEY, F.R.I.B.A. Architect, 25, Cannon-street, London.
The volume is handsomely printed in the best type, and the plates, twenty-eight in number, are executed chiefly in tinted lithography.
"The stable plans of Mr. Knightley are admirable, and afford the most perfect ventilation without a cold current of air."—Hon. Admiral Rous.

Just published, price 2*l.* 2*s.*
MANUAL of HYDROLOGY.
By NATHANIEL BEARDMORE, Civil Engineer.
CONTAINS
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of upwards of 400 pages, and there are 21 large plates
London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 to 68, London-wall 1862

TO ARCHITECTS AND OTHERS
THE Relative of an Architect, deceased, offers for SALE,
BLORE'S MONUMENTAL REMAINS, Six Parts, Proofs, India Paper
NEALE'S CHURCHES of GREAT BRITAIN, 2 vols. Proofs, India Paper.
BRITTON and PUGIN'S ILLUSTRATIONS of PUBLIC BUILDINGS in LONDON, 2 vols.
PUGIN and LE KEUX'S SPECIMENS of ARCHITECTURAL ANTIQUITIES in NORMANDY.
NICHOLSON'S BUILDER and WORKMAN'S DIRECTOR.
HUNT'S EXAMPLES of TUDOR ARCHITECTURE.
A COMPLETE COPY of "THE BUILDER," from its commencement to the year 1853
The whole of these works are in very good condition.
For particulars, apply by letter, to Z. "Flying Post" Office, Exeter.

POLYTECHNIC.—JAPAN.—Wilson's Grand Panorama, painted in oil by Japanese artists, on 9,000 feet of canvas. The Rising with scrupulous fidelity the Costumes, Temples, Streets, Bridges, Scenery, and Rivers of the Japanese Empire. This unique and curious Panorama was painted secretly by native artists, who would, if discovered, have incurred the penalty of death, and it will be exhibited only at 1.30 and 5.30. Scientific Lectures, by Professor J. H. PEPPER.—New Gorgeous Scenic Optical and Prismatic Fountain Spectacle.—Musical Entertainments and Concerts by George Buckland, Esq. and the Bronsil Family.—Beautiful Dissolving Views, illustrating London in Ancient and Modern Times.—Paris as it is.—The Holy Land.—Animal Locomotion.—The Mysteries of the Monitor. See weekly programme of 8 pages. Open from 12 to 5, and 7 to 10. Admission 1*s.*

The Builder.

VOL. XX.—No. 1007.

Condition of our Towns.—Coventry.



N unwise writer in the *Coventry Standard* has taken umbrage in reference to our recent article on the condition of Coventry.* He would show that visitors to that city should not leave the principal streets, nor suffer their eyes to dwell upon any but the best public buildings. So long as they confine themselves to these limits they are welcome. To visit the byeways, to endeavour to enforce a recognition of the necessity of improving the homes of the poor; of the adoption of modern appliances and stringent sanitary regulations in crowded districts; of the importance of inculcating habits of cleanliness and decency at public schools; or of the archæological gain brought about by keeping Mediæval monuments in due repair,—is (to tell off a few of the adjectives stringed together for our behoof) to be untruthful, blundering, and gross. Seeing that we did this and much more,—for we had the audacity to draw the attention of the *Standard* to the insalubrity of its back-lane quarters,—we are not surprised that we have given offence. But we are sorry. Our aim is to lead to improvement, not to raise ire. As we have said over and over again, give a man a comfortable home and you have a good lever by which to raise him in life. Compel him to live in a dark, ill-smelling, over-crowded, unwholesome court, and we have little right to expect respectability, or cleanliness, or self-culture, or any other good of him. So, despite offence to the few, happily to the very few, we must continue on our way, calling for homes, not lairs, for the honest workers in our land.

The *Standard*, however, must be set right on some points. It states, ungrammatically,—but let that pass,—that our "statements with regard to courts, privies, ash-pits, and back-to-back house-building *is* equally untrue." This sweeping denial of facts that are built up of bricks and mortar, could cannot be cast down with a stroke of the pen, should scarcely have been ventured upon. Would the *Standard* have the public infer that there are no courts, no privies, no ash-pits, no back-to-back houses in Coventry? If so, why the code of bye-laws to which we are referred, with pride, as being "distinctly levelled against all such evils"? If on the other hand, these "evils" are acknowledged, why should we be deemed indecorous for pointing them out with a view to the acceleration of their removal? Again, by a curious course of reasoning, the "accommodation" for the boys at Bablake Hospital is pronounced unexceptionable, because the boys are young, and that provided at another school is worse. Surely this is unwise cavil. Mainly, however, he rests on assertion that "the trustees of the school are infinitely the best judges of the fitness of things:" a pretty argument for an intelligent leader of public opinion to use, and almost a proof that the editor of the paper himself had nothing to do with the foolish course here taken. Further, to our remark that little more than the space once occupied by 3,000 inhabitants is now thronged by 30,000, the objector trumpets forth that the houses occupied by the present population extend over an area three times as large; suppressing the fact that the recent census shows the population to exceed 40,000, a remainder that leaves 10,000 persons to be provided for over the amount we indicated. In this way we might refute every sentence of the lengthy defence of the existing evils and improprieties to which our contemporary has given utterance. We will say nothing of the perversions, the cross-readings, the suppressions, the twisting of statements, to be found in the notice thus taken of our survey of Coventry; but we most seriously deplore that in the general movement towards the amelioration of the domestic accommodation of our skilled and much-enduring artisans, and to the improvement of towns, the writer in the *Standard* should take so much trouble to endeavour to stop the way. We continue our observations, and look to find the *Standard*, on second thoughts, an ally in our well-meant endeavours; not a propper-up of abuses and ignorances. His contemporary, the *Herald*, receives our observations in a better spirit.

Ascending Hill-street, and reaching the summit of a commanding site, we find some elegant villas opposite a fine Roman Catholic church. This building has nave, aisles, chapels, and a commanding spire in the Early-Decorated style. It is remarkable for a novel treatment of the stonework. The random rubble is of red and grey stone, placed promiscuously, with warm grey stone quoins. A very substantial red brick and stone Gothic pastor's house occupies an adjacent corner site, the hue of the brickwork of which contrasts agreeably with the colours of the church; but the schools on the opposite side of the sacred edifice are sadly out of keeping, being but a low, common brick shed-like building. Some cleverly-designed houses are built in this neighbourhood, with encaustic tiles introduced among the woodwork of the bow-windows in bands.

The grave-yard we mentioned as forming the fourth side of Bablake Hospital, belongs to St. John's Church. This faces an open space, and is at the corner of two streets,—a good site. It is a Perpendicular church, with a castellated tower, judiciously restored. A Gothic drinking-fountain stands in the centre of the wide and diverging road before it, the whole forming a charming group. Spon-street is the name of one of the streets that stretch from this point: it is full of small new shops, and low old houses with rooms open to the street; courts innumerable turn out of it, all having the regulation cast-iron oval plate, marked with a numeral or two, over the entry. Court No. 5, which strides out of the street by the side of a butcher's shop, looks particularly unsavoury; but they are all dismal and mysterious-looking: the entries invariably passing through a house as though they only led to a back door.

A second of the roads branching away from St. John's Church is West Orchard, which, notwithstanding its fragrant name, suggestive of apple or cherry trees, is a wretched thoroughfare of lorn, neglected houses, which connects this part with the main artery of Cross Cheaping.

Smithford-street is the third thoroughfare which branches away from the same church: it rises up a hill leading to the market-place, and is lined with busy shops. A shabby building in it passes for the post-office; and opposite this are the Barracks, where, from the yard within, piles of manure steam against the windows of the barrack-rooms. There are many courts here, too, and rooms in cellars below the shops. The Theatre—a poor shabby place—is in one of these courts that is a trifle wider than the average. By the side of a butcher's shop, in a dirty passage, pigs are being killed, and are screaming with all their might as though they would invoke the help of the passer-by. The premises of a baker, paying a high rent, in this street, may be taken as a sample of the peculiarities of the structural economies of Coventry. It is all frontage: cellar, shop, with a stair in it leading to two rooms above; with no back windows or ventilation whatever. The back premises are contrived into second tenements, which are found by penetrating passages by the side of the front shops. None of these passages are invitingly clean, that by the side of the King's Arms Hotel being as unsightly as any.

Cross Cheaping is another main thoroughfare leading to the market-place. A wide running brook, open to view, ripples along one side of the road; the scenery on the banks consists of repulsive rattle-down out-buildings and back gardens. Sewerage is not allowed to defile it; but as it is open, and, therefore, so handy, filth gets thrown into it in quantities, and always will be, until it is covered in. On the opposite side of the street the brook flows under the houses.

The celebrated churches require more especial mention. The interior of Trinity Church is as handsome as the exterior is venerable. The long nave and transepts are seated with costly oak benches with carved bench-ends; there are gorgeous standard lights, by Skidmore; a font, elevated on steps, highly coloured and gilt; and a beautiful open-parapeted pulpit bracketed out from the south-east clustered pier of the tower. The flat panelled roofs are coloured and gilded; the east window is filled with stained glass; rich hangings fall beneath it, and serve as a reredos; and candles, in tall candelabra, burn on the altar. The stonework being warm-tinted and clean adds to the richness of effect. Recourse is had to the expedient of colouring the white window-glass with an ochre tint, to obtain a dim religious light; but the result is undesirable—a dull and distressing appearance is produced. The consequence of this experiment is particularly striking when an attempt is made to decipher the configuration of a picture upon the chancel-arch,—for, although the clerestory windows should throw a good light upon it, the ochre renders it impossible to ascertain the subject. The restorations, generally speaking, and the care taken of the edifice, are highly commendable. The space at the west end of the north aisle is devoted to mortuary monuments, ancient and new. The position for the font is not altogether unobjectionable.

St. Michael's—the church with the tallest of "the three tall spires"—is close by. The spire is literally covered with panelled decoration up to the finial. The interior is equally enriched. It differs in general arrangement from St. Trinity, as there the passage-way is up the centre of the building; and here the passage-ways are on either side of very wide central free seats. Trinity tower is central: St. Michael's is at the west-end; hence in the latter edifice no tower arches block up the view of the east end. Restoration is making from time to time of the external façades of this, and all are nearly now completed: the new work, however, although of good workmanship, contrasts stiffly with the old; for the courses of stone are built too wide for a faithful reproduction of ancient masonry. The tower and spire are both very weather-worn and frittered away—the sandstone having perished considerably. They are propped with shoring and scaffolding within from the pavement. If anything is contemplated in the way of restoration here—and we see that a blocked-up west door is being opened out—the utmost precaution must be used, or the famous spire will share the fate of that of Chichester Cathedral. The church holds from 3,000 to 4,000 persons on the ground-floor, and, with its apsidal east end and double aisles to the nave has an imposing effect. The Perpendicular windows are

* See p. 327, *ante*.

particularly favourable to the display of stained glass, of which there is a great quantity; the most remarkable being that to the memory of Queen Adelaide. The clerestory windows retain a quantity of the ancient glass. The side windows of the apse have been curiously filled with ancient fragments mixed with new mock fragments—with doubtful propriety. Angels' heads and shoulders are attached to legs without the intervention of bodies, and some of the stoutest shoulders are fitted with the smallest legs,—these, with heads of saints (old and new), catharine-wheels in great force, and fragments of inscriptions upside down and downside up, produce a very peculiar kaleidoscopic jumble. There are forty-eight lights filled in this nightmare manner. There are several handsome memorial windows besides that, mentioned, for Queen Adelaide, of which that to the memory of Col. H. T. Hood, who fell in the Crimea, is very artistic, as is that placed to the memory of Major-General Adams. A third window, inserted by the churchwardens and vestry in memory of an individual who bequeathed 1,000*l.* for the repair of the church, is a more clumsy effort. At one side of the church-yard is a most enigmatical erection, with a red-tiled roof,—looking as an ancient Gothic brewhouse may have looked: it contains the peal of bells; the church-tower not being sufficiently safe and strong to admit of the reverberation of the chimes. There is a trophy of bells in the International Exhibition, framed on the same principle.

A new Blue-Coat Girls' School is built close by on part of the ruins of the Priory Church, the remainder of the overthrown structure being treated ornamentally in the grounds. The new school building, raised on arches, is conspicuous for a hipped roof, having a tall louvred bell-turret on the ridge of the school-house; and for a general handsome disposition of the domestic part of the establishment.

The Gaol Hall, facing the west end of the church, is a dismal, low pedimented Grecian structure, at variance with the surrounding air of genuine English antiquity. The lofty, blank, dark brick prison wall casts a gloom around.

At the north-west corner of St. Michael's, and close to the Gaol Hall, is a new Gothic Methodist chapel and dwelling-house for the minister, highly ornamented and gabled, and remarkable for an octagon entrance-tower, with a conical metal roof covered with flying buttresses and weather-vanes. Stone blocks are left for carving,—an ornament which it would be well to be sparing of, as the building is already, perhaps, too highly decorated for the requirements of severe taste. Turning from this attractive and commendable building, we pass St. Mary's Hall just as a man is wheeling out barrowsful of rotten turnips from the crypt. The hall itself is too familiar, by illustrations, to need description. Everybody knows the quaint staircase and casemented gallery leading to the hall; the gallery for the musicians; the open-timber roof; the dais; the oriel; and the famous carved and panelled arm-chair. The reality is not so pleasant as the picture the mind conjures; for everything is dirty and disregarded. Against the tapestried walls of the dais a green-baize-covered platform has been erected for nigger and other performances, upon which are placed light imitation maple-wood bedroom chairs, out of all conformity with the venerable dignity of the hall. The glazing of the windows is in vulgar taste: a bad, dirty light comes in. The kitchen, with its great recess for the grates, is also dirty and neglected. A timely care and tasteful superintendence are much wanted here. The local Board of Health has a yard adjoining, where is formed a depôt for w.c. pipes and various stores and refuse connected with sanitary work. As this has a street frontage facing St. Michael's Church, we are at a loss to imagine why the Board has just entered into a contract to build a hall in a back-lane called the Half-moon-yard. The fact of a petty police-station being there before them is scarcely a satisfactory reason.

High-street takes in its course the varied names of Earl-street, Jordan-well, and Gosford-street. The upper end, or High-street proper, possesses an abundance of good shops and manufactories in the ancient overhanging houses. At Earl-street a change for the worse takes place: the houses are of a poorer kind; at Jordan-well the change is more deplorable; and in Gosford-road more so still. As many as thirty courts run out of this road, in which the houses are all of the same type, only varying as to repair: the miserable common privy and common ashpit in them all. At the end of Gosford-street is a vile open ditch. The furniture-brokers here appear to be doing a good trade, the poor people's necessities being great; and many premises are to let. The Star-yard contains the temporary offices of the local surveyor, and is as dismal, as miserably paved, and out of repair as he rest.

Some of the most startling evidences of the bad sanitary state of the town are to be found in the district bounded by the Cow-lane, Grey Friars'-lane, Little Park-street, Much Park-street, Earl-street, and another fitly-called "Dead-man's-lane." In Grey Friars'-lane, a passage—which, says a notice, is the "back way to the tap"—leads to a plain building called St. Michael's Branch School. At the corner of the entrance is a rank stable, an open privy, and a slush-pit; near the school-door is a detached building in a back garden, roofing in two privies; and contiguous is a tremendous ash and offal pit, forming, it must be admitted, not a very salubrious locality. In Cow-lane we have more schools: a cardboard-like fronted Sunday school (1823), and Baker, Billing, and Crow's charity school (1832). The master's house of this latter establishment is a Grecian cement-fronted building. Entering a dark passage in this house the school is found. It is built of brick, and is light and cheerful. An out-building close to the school, and likely to be taken for a class-room, contains the following accumulation of unhealthy neighbours for a school-room—a stinking stone trough for urinals; two sets of privies, with two seats each; and a great ash-pit at the back of them. A division wall in this pit is arched over to carry on the pit for the use of neighbouring properties, so that the air is tainted with the refuse not only of the schools and master's house, but of the whole neighbourhood.

There are plenty of courts in Cow-lane. In one of them, which is nicely paved, there is a brick-fronted Baptist chapel, 1793. There are four porches in front of it, having upright slate monumental slabs, with gilt inscriptions, railed in. This court is an honourable exception in its condition. No. 3 has a gutter running through it and turning into the lane, besides privies built against the walls of its poor-house-walls. There is a notice in a window of the sale of Bache's celebrated salve, 2d. the half ounce, which is stated to be a cure for all cutaneous diseases. We fear that there would be some need of a cure for many diseases here. Cow-lane leads into Little Park-street—a pebble-paved street—with cubes on one footway—of ribbon factors, with a crinoline factory as a relief, and a firm of "designers, draughtsmen, and card-stampers." Little Park-street Coalyard is the innermost of the two courts of an ancient mansion. Here is held, in a light, cheerful room, "The Coventry Working-man's Self-improvement Association." All honour to it. In Court No. 3, a brick screen with recesses, and a doorway placed between two houses, conceals a privy on either side, and a great pit by the side of each, whose horrible, sloppy contents are soaking into the foundations of the houses. At this point we saw the only sanitary work in the town in course of construction,—sewerage was being formed for the privies; but nothing was to be done for the pits.

Mrs. Bayley's Boys' School, 1733, recently rebuilt, is an entirely blank, low building, with a low roof. Leaning against the walls were a filthy urinal trough, a dark space with six undivided privy-seats, and a covered refuse-pit: all to soak the school-walls with their contents. The room was at a stifling heat, owing to the overcrowding of scholars. No class-room permits of the master quietly instructing a class apart; but the confined space necessitates the use of the harmonium for a desk, and compels the master to scorch his back at the fire as he draws his class around him amidst the din of the rest of the school. This is a tax upon a master's physique which is not conducive either to his own or to his pupils' benefit. The pupils here have shown great aptitude for drawing, which implies as much skill on the part of the instructor. A good band, we learnt, was formed by the boys. The trustees should follow up the endeavours of the master to raise the aspirations of the pupils. The disgusting privies should be removed to a corner of the playground, or, rather, should be changed for waterclosets having drains to them, in a secluded corner; while, in their present place, a class-room should be built that would group effectively with the rest of the building, and give it some movement, of which, when approached from the street, it is utterly deficient. Court 14 is a very worn-out place; No. 13 is equally dilapidated. Court No. 8 is approached up a vile entry by the side of a quaint overhanging timber-and-brick fronted house. Deadman's-lane is another long street of small factory houses, with the doors below opening into the rooms, and with the windows in the rooms above opening into the air, making an odd perspective. Slops run down the gutters; and the rears of all the houses, and the courts out of them, are crowded with privy-hovels, contrasting powerfully with the glorious peace and radiance of the spires seen in peeps among them.

The thoroughfare into which this ill-omened street turns is Much Park-street. It is wider, and has the cube pavement on both sides of the macadam road. There are shops in it, and more ancient houses with projecting eaves. Courts 25 and 26 are particularly noticeable among the rest, for they are approached through falling houses, and the rear ground is higher than the front, allowing of percolations through the tenements. Near these are St. Michael's Mixed Schools,—a large and lofty group of buildings set back on a sloping hill-side. The front is stone, and the treatment Domestic Gothic. Ugly, wide quarry-glazing spoils the effect of them. The privies and pits are on a higher level than the schools; and within a yard of one of the school windows there is a door leading to a pit which is, actually, overflowing.

White Friars'-street branches off with a new row of neat houses on the ground and first floors, and ribbon factories in the attics. The courts are unpaved, and hold privies and pits. Brookville-terrace and Paradise-street are suburban houses, not quite out of the builders' hands. The bow-windows in Paradise-street are suggestive of light, pleasant rooms within. The air begins to get breezy as we continue our route in the direction of the Cemetery and leave the close vicinage of the dense courts behind us. The handsome Poor-house is by the way. A country road, with the Plough Inn in it, brings us to the string of green trees before the Italian lodge and entrance-gates of the Cemetery. We approach an octagon stone prospect-tower, on which a small notice-board is fixed. This informs us that it is the entrance of the Cemetery. But for this notification we might have fallen into error, the place having much more the air of a gentleman's park than of a city of the dead. The general effect is charming, the site having every capability that the most exigent taste could require, and Sir Joseph Paxton having availed himself of them most skilfully. Embanked terraces with parapeted walls; cypresses, cedars, yew-trees, here and there; every description of flowering shrub growing luxuriantly in dell, plantations, and on

rockeries; rows of fine tall trees; and a rookery are among the accessories. We have said that the lodge is in the Ornate Italian style: the Episcopalian chapel is a little Norman church, with no stint of ornament, having a porch, nave, chancel, and altar: the Dissenters' chapel is a Grecian temple,—a puzzling arrangement for future topographers and antiquaries. The designs of the tombs and monuments are exceedingly creditable; and costly metalwork is freely used as a decoration and guard to many of the tombs.

After lingering in the graceful Cemetery, we turn to inspect the sanitary outworks and experimental depôt. Passing the end of the long avenue of trees that leads down to the vicar's cosy house on the opposite side of the river, and keeping the London road, we presently pass under the North-Western (Birmingham) Railway, and find the bye-road in which the depôt is situate. It will be seen, from our frequent mention of them, that Coventry is punctured with some thousands of horrible pits of privy soil and ash, and offal refuse, which are thickest in the most crowded localities. They are generally emptied at night when they get full, but are not under the control of the Board of Health until they overflow, or otherwise trangress the outward signs of decency. The sewage at the disposal of the Board is only that smaller quantity collected by sewerage from the waterclosets of the better classes of houses. This with the town scavenage is the material we are going to see made into a marketable commodity. The sewage is first discharged into large covered tanks, in which the solid matter settles down to the bottom. The liquid matter is passed through filtering-beds, and then poured forth in a cataract into the river Sherburn. Notwithstanding the filtering process, the liquid is so highly impregnated with dye water and other chemical qualities, that it retains a dark, repulsive colour, which is communicated to the water in the river. The Board has been threatened with actions for damage by the proprietors along the river's edge, on account of this discoloration of the water. The liquid part of the manure, therefore, is of no profit: on the contrary, it is a nuisance. When one tank is full of the solid matter it is pumped up by means of a hand-windlass into a long wooden trough, and thence conveyed to an open reservoir, formed of earth embankments. When this has settled down a little, and the air has removed more of the moisture, the dry town-scavenage is thrown into it. The two soils are then well mixed together till they attain a stiff consistency.

In this stage it is sold to farmers for 2s. per ton, at the depôt. Owing to the site of this manufactory being on the outskirts of one end of the town, instead of being accessible to farmers on both sides of Coventry, it is chiefly made use of by those whose farms lie on the same side. Indeed, on sanitary grounds it is well that this is so, as the soil would otherwise be carried through the whole length of the town once more. But this unlimited sale has an effect upon the profits of the experiment. The wet mud scrapings are not brought here, as they would be useless: they are used to fill up large holes, and level building sites about the town. This source of profit is therefore cut off for five or six months of the year. The dry scavenage possesses the disadvantage of containing shop-sweepings, which fly about the depôt and make much litter. The London system of sorting is not carried out: metals, bones, rags, paper, are all incorporated with the mass. Crockery is picked out, though, to mend the roads with; and old boots, of which a great quantity come to the depôt, are also considered as not convertible to manure, and put aside. The experiment must not be considered a failure; but the process requires development yet. There should be no waste whatever. Professor Way and Mr. Austin have made investigations of the result; and further experiments in perchloride of iron were to be made, a great number of barrels having been sent down for the purpose. But, as if to place every stumbling-block in the way of the utilization of town sewage, the perchloride ate away the hoops of the barrels, and fifteen of them burst in the transit. Three men only were at work performing the different processes, and only one farmer's waggon waited for manure. If the whole sewage of the town were collected, a much larger and brisker trade would, of course, be carried on, and a greater profit made by the Board.

While Coventry thus contributes to the discovery of a profitable mode of using sewage, she is not backward in more artistic efforts. The School of Design prospers. Among the prize drawings now exhibiting in the South Kensington Museum, are five pretty designs for watch dials, the prize for which was awarded to Thomas Player, of the Coventry School of Art.

The equestrian statue of the Countess Godiva, lately standing in the centre of the nave of the International Exhibition, near the eastern dome, and now in a northern court, will bring Coventry, its gabled houses, its quaint charities, its glorious legend, to many men's minds during the present season. May they think of the crowded courts as well, and be led to aid the poor weavers to help themselves!

THE PALACE OF ART AND INDUSTRY.

PURSUING our notice of those inventions and contrivances which are found in Class 10, we now add memoranda of some of the sanitary appliances not hitherto named.

Mr. J. W. Bazalgette has placed in this class the drawings and specifications for the main drainage of London which have been prepared up to the present time, that is, inclusive of nearly everything connected with the intercepting sewers, outfalls, reservoirs, and pumping-engines, to complete the system, of which the works are already very far advanced. The documents will well repay long and careful examination. This we have already given in divers articles, with the exception of the last finished specification and set of drawings which we hope to look at shortly. A full-sized *fac-simile* of a portion of the invert of one of the principal sewers is, we have reason to say, a fair specimen of the manner in which the work is executed. Those who take interest in this subject of London sewerage, should examine Messrs. J. Burton, Sons, & Waller's model, which shows different forms of pen-stocks, flushing-gates, and tidal-flaps, in position, and shows also Mr. Haywood's arrangement of charcoal-trays for disinfecting the escaping gases in the gullies. Mr. Lovegrove exhibits several drawings showing the defects which still exist even in improved sewer and drain construction, as in the matter of bell-traps. The trap which he proposes to substitute contains a valve, to act on the same principle as an ordinary tide-flap. Thus there is double protection; and the forms of trap, with water as interposing medium, are not trusted to. Objections to one of these forms, the common one for sinks, Messrs. Tye & Andrews prevent by making the grate unremoveable, and substituting the dip or elbow form of water-holder for the bell-trap. A screw boss on the elbow portion allows the opportunity of cleaning out, should that be necessary, or even of attaching a force-pump. Mr. F. Gotto's "self-discharging effluvia-trap" is also shown.

The question of water-supply now, is at least as important for London as that of sewerage. There are contrivances in Class 10 sufficient to show that there will be less difficulty with the mechanism of the service, than there is in the selection of sources. Immediately important are several different forms of filtering apparatus. Mr. Thomas Spencer, who was the discoverer of electro-metallurgy in this country, exhibits one of them, the Magnetic Purifying Filter—as the only one known to science that effects a chemical purification. He says:—"Already, some of our greatest scientific authorities have pronounced that, 'with the magnetic filter, impure water is impossible.'" Even sewer water "is instantaneously rendered by these filters pure, colourless, and tasteless." The discovery is, that magnetic oxide of iron, loadstone, is nature's chief agent of purification, and that any stratum containing iron also contains a small per centage of this oxide; and that where the oxide most abounds, —say, in the Malvern district,—water is purest. The oxide attracts oxygen; the molecules of that gas become polarized, or ozone: the latter attracts the carbon of moist organic matter; and carbonic acid results. The oxide is formed by Mr. Spencer by conversion of the ordinary ores.

The "Silicated Carbon Filter Company" exhibit their filters of Dahlke's patent, which are formed of a combination of carbon with silica, as existing in the Torbane Hill mineral, which is represented as immensely more effective than mere carbon, both as an oxidizer and a promoter of chemical combination generally; carbon, indeed, acting mainly by absorption, or not chemically, being subject to saturation, and absorbing the carbonic acid. Instead of taking away the gas, the silicated carbon causes production of it, whilst nitrogenous products become changed. These filters have been adopted by the Metropolitan Free Drinking Fountains Association. They are represented as removing the poisonous salts of lead, and to retain their properties undiminished.

Heating contrivances are exhibited in Class 10 by Mr. A. M. Perkins, Mr. S. E. Rosser, and others. The first named of these is so well known, that it need not be here described. Mr. Perkins is able to produce testimonials from the directors of the County Fire Office and Mr. Bunning, whereby it appears that rate of insurance is not increased. We certainly retain recollection of circumstances investigated at Manchester, when it was proved that pipes on this system might become hot enough to lead to danger. In fact, insurance companies felt seriously interested. We do not find these facts referred to by Mr. Perkins. Mr. Rosser's low-temperature air-warmer, high-temperature stove or desiccator, and radiating hot-water stove, are shown, with his flanged hot-water pipes and other apparatus, as well as with drawings of the system of heating and ventilation at Guy's Hospital and St. Augustine's Prison, Canterbury, and of the details of drying-closets and desiccating-rooms at various buildings, all which may be usefully studied. Mr. Woodcock, exhibits the hot-water battery for green-houses of the London Warming and Ventilating Company, the "Gurney stove," and a ventilating fresh-air grate which ejects the warmed air into the room by apertures concealed by ornament bordering the aperture. Many inventions of this character will be found in the adjoining, or Hardware Class.

In the classes we are noticing, Mr. McKinnell's Concentric Ventilator is exhibited and is explained by models. The explanation of its system is fortified by an extract from Professor Nichol's "Cyclopædia of the Physical Sciences." The working depends upon the self-action of an ingressing and an egressing current in concentric tubes fixed at one spot in the ceiling of a room. It is recommended by schoolmasters, by the Glasgow Professor of Civil Engineering, by Dr. Farr, and by the Commission on Barracks and Hospitals; whilst the principle has had an article, "Diaphragm Ventilator," given to it in the Dictionary of the Architectural Publication Society. The question of disturbance in the action, by wind, and by the door and window-openings of a room, does not seem to have had sufficient attention. A model hermetically sealed except at the ventilator, and placed not in the open air and under all kinds of weather, is hardly yet *experimentum cruris*. The inventor's ideas, however, will fructify. The form of the ingress opening, to spread the air over the ceiling, is most important.

There are several inventions for shutters and window-fastenings, and for the exclusion of draught or the admission of fresh air: but models are so much huddled together, that it is difficult to do justice to any of them. Mr. W. H. Elkin's arrangement which admits of the sashes being turned inside out, and of replacing sash-lines without removing the beads, deserves trial. Mr. P. E. Chappuis' reflectors for use in dark places, as well as in artificial lighting, have been applied with advantage in some parts of the building. Messrs. Bunnett & Co.'s revolving iron shutters are well known. With them are exhibited sashes in various forms. Messrs. S. Hood & Son also exhibit iron sashes and casements, besides a cast-iron staircase "which can be made of any radius without strings or plates." The staircase exhibited has no newel, but winds round a well-hole space, from floor to apron-piece, without intermediate support. Messrs. Clark & Co. exhibit besides their shutters composed of laths rebated, a new kind which are in one sheet of corrugated steel, without chain, links, or rivets, and will coil in a small space, into which they can be pushed up, or from which they can be drawn down without any other machinery than a long pole with hook. The improvement is applicable to openings of fireplaces. Mr. J. Moore's moveable glass ventilators appear to have been lately used in conservatories. The

contrivance which folds out of sight when the sash is closed, is also shown.

Amongst the forms of chimney-top, serving also for ventilator-caps, we find Kite's, described and illustrated by us many years ago, and now much improved. Our attention has been called to Mr. C. Hagan's Ventilating Chimney Top used by the Office of Works; but we have not found it in the Catalogue.

The "patent water-tight wrought-iron window and frame" of Messrs. Burt & Potts is well contrived for the exclusion of wet both at the sill and sides. But the best form of water-bar is not calculated for the usage to which it must be subjected where the opening is also a way out to a balcony. The French, in their best houses, adopt a more simple contrivance, or in the joiner's work, and one which seems efficient.

There is a noteworthy contrivance for shutters, by Mr. J. Cresswell, of Birmingham, which is suitable for bookcases, as well as for bay-windows. The laths, wood or iron, fold into a box which takes up little space, below the opening. They are drawn up by one cord, and fixed by pulling another; and they descend again, when needed, by their own weight regulated by the cord. If the space can be allowed for them, and the simple mechanical contrivance, in bookcases, they may be better than canvas blinds, as affording security as well as exclusion of dust. Space at the top of the case, however, is less useful for books, than is that lower down. One or other contrivance of the nature of lath-formed shutters should be adopted for all shelves for valuable books, rather than glazed doors, which are troublesome when open.

There are several models of inventions for preventing accidents to hoists from uncontrolled speed, or the rope breaking. Mr. M. Brown-Westhead, of Manchester, has two contrivances of this description, a hoist-governor, and a railway-platform lift. In the first of these, there is a governor similar to that of the steam-engine; and the expansion of the balls from an excessive rate of motion operates on other portions of the machine, and permits certain cams or wedges to be instantly projected against the uprights or guides of the shaft or well-hole, and so arrest the box or cage. If the rope be severed, a small weighted lever falls and catches the box within a few inches. The contrivance has been thoroughly tested in Manchester. Messrs. Dodman and Bellhouse's arrangement is for the prevention of accidents by *breaking* of the rope. By pulling a handle, however, a person in the box may arrest the descent at any time. The action is by two pairs of rollers, each pair mounted eccentrically on a shaft or axle, which turns when breakage or slackening takes place, and brings the rollers in contact with the guide-rods.

SOME DISJOINTED NOTES OF THE INTERNATIONAL EXHIBITION.

Trophy of the Art-Union of London, in the Nave.—The misused term "trophy" may be safely applied to the beautiful collection of works of art set up on the north side of the nave by the Art-Union of London, for it is in truth a token of victories achieved. So far as we have seen, it has received no notice whatever as yet from those who, either officially or otherwise, are setting forth to the public the glorious contents of the Palace of Art; probably because mention of it is altogether omitted in the catalogue and "plan of the main trophies;" and yet we do not hesitate to assert, that, viewed with reference to the modern history of art in England, it is a collection of the highest interest and importance, second to none there. It includes very fine bronzes, after Flaxman, Sir Richard Westmacott, Foley, Armstead, Thornycroft, John Bell, Stephens, and Wyon; some of them commenced at a time when it was with the greatest difficulty any person could be found to undertake the production of them; works in Parian after Gibson (precursors of the artistic statuettes which now fill the shop-windows), Calder Marshall, Foley, Lawlor, and others; small castings in iron, electrotype bas-reliefs, and the only series of artistic medals that is being produced in Great Britain. The council should place the date on their Narcissus, after Gibson, and give a history of their endeavours to encourage medal die-engraving in England.

The late Prince Consort recognized so fully the value of the bronzes that have been steadily produced by the Art Union, year after year; commencing at a time when there were no artistic bronze-workers practising the art in this country; that his Royal Highness sought, and of course obtained, the consent of the council to be supplied with a copy of each at his own cost. We confidently reiterate the assertion that there is no trophy in the building which ought to be viewed with greater interest than this; and express our regret that, through oversight possibly, it has not obtained even record in the catalogue. However, it holds its place in the nave; while others, duly described, have been moved away; and will hold it hereafter in art-history, when that history is properly written.

The Coloured Glass in the Circular Windows of the Nave.—Comment, not very complimentary, is so often made on the coloured glass in the circular windows at the east and west ends of the nave, that it is but fair to Messrs. Hartley & Co. to explain that they are not intended to exhibit artistic skill, but are used merely as a means of showing specimens of coloured glass, manufactured by them for the use of stained glass artists. The importance of the distinction, in any criticism on a window, whether it be exhibited as the result of artistic skill, or as a specimen of material for the use of artists, in which chemistry and manufacturing skill have been applied, will be at once seen; and it is in the latter condition these windows profess to stand. The forms are ugly, and the glass, *as* glass, unequal in merit, but much of it is very good, and very creditable to the Sunderland firm. It is to be regretted, considering the prominence of these windows, that something artistic was not attempted in them; but perhaps it was feared that the large amount of light from the domes would destroy the effect of painted glass in such a situation.

The Works of Defries & Son, talking of glass, will be found in class 34, south of the nave, and include a chandelier of great size, and, in some aspects, much merit. The terminal, surmounted by a Prince of Wales's coronet and plume, is one piece of glass, elaborately cut and supported by eight cut pillars resting on a vase formed of prisms. Between these pillars is a glass tent, composed of cut diamond spangles: the centre tier is also surmounted by eight cut pillars, with spires resting on a base of prisms, from which the upper tier, containing fifty-six lights, springs. This tier of lights is again supported by the same number of columns, and each column is surmounted by four smaller pillars. These columns rest on the main body of the chandelier, from which spring 112 lights. The main body of the chandelier is constructed of prisms, richly cut, 3 feet 6 inches each in length,—a size, we believe, never before attained. Out of the vase, which occupies the centre of the lower column, springs a bouquet of crystal flowers. Viewed as a piece of construction, objection may be taken to the design; but for the workmanship we have only praise. The prismatic mirror exhibited by the same firm is a curious work. It contains 1,500 silvered prisms. It is described as having been manufactured for the new palace of the Sultan, on the Bosphorus. Two of the principal saloons in that palace are the Saloon Mehben and the Saloon Zwhlbech, the walls of which, on the side overlooking the Bosphorus, form segments of a circle. Both these are furnished in the European style, with stoves and lofty mantelpieces; but a great difficulty arose in fitting the curved space over the fireplace with mirrors, as it was impossible to make mirrors of such a form and of the immense size required. It was to overcome this difficulty that Messrs. Defries & Sons designed the prismatic mirror in question. All the prisms join each other at the sides, so as to form almost one piece, and at the ends are dovetailed together, and held into the frame by a peculiar arrangement of copper rods.

Moore & Manby's Iron Samples. — Case No. 234, Class 1, exhibited by Moore & Manby, contains a very great variety of sections of rolled iron, adapted for building purposes, angle, tee, sash, and joist bars, of almost all sizes. Of the latter they show some patent ones, to which iron or wooden floors can be conveniently fastened, and which are made with grooves on sides of web, so that they can be affixed to each other with tie-rods. A gas or water pipe can also be carried through them if desired, without interfering with the general arrangement. They also show some good specimens of manufactured iron made into chains, and proved to a great strain, without breaking; plates and sheets, flanged and bent, hot and cold, all ways of the fibre. Bars broken to show the grain, and tied into double knots, all of which seem to be of excellent quality. Their mode of exhibiting their trade marks will attract attention.

Tyler's Zinc Work.—Case 380, also in Class 1, illustrates various improvements in the manufacture and laying of zinc, as applied to building purposes, whereby the metal is made to last much longer than it does when improperly laid. There are models, showing the method adopted to lay the sheets, 8 feet long by 3 feet wide, to allow of free contraction and expansion, without confining the sheets of zinc with nails or solder; the whole being secured with clips, so that each sheet of zinc can be removed without breakage or injury. The falls of the boarding and gutters are arranged to have a drip at every 8 feet or 16 feet; and the falls are so arranged that no water or sediment can remain on the roof, and will clear away with every storm. Mr. Edmeston's report on the subject of zinc, known to our readers, is bearing good fruit.

ON THE LIFE OF WELBY PUGIN.*

The name which Pugin devised for his house was St. Marie's Grange. A grange, in Mediæval language, was a manor-house, or farm-house of the day, belonging to a monastery. To give this name to the new dwelling was no affectation, as is frequently imagined, but a very appropriate act. He had just at that time professed himself a convert to the Roman Catholic church.

In mentioning this conversion I have touched what is the chief question of Pugin's biography: the key to his character, not only as a man, but as an artist and an art-reformer; and I venture to think, that perhaps no one has, as yet, answered the question so clearly as it might be answered,—not even Mr. Purcell, whose arguments in the appendix to Mr. Ferrey's memoir must certainly be acknowledged to come very close to the mark. Mr. Ferrey, for instance, and others who are artists, seem to lose sight of the religious element of this question. Mr. Purcell, and others who are religionists, can scarcely be expected to introduce effectively the element of art. Both, however, affirm that he was an actual convert of conscience,—a doctrinal convert from one creed to another creed. Others have supposed that, feeling no particular interest in either this or that creed as such, he preferred the Roman Catholic connexion as matter of business. These opinions I hope to show are both alike at variance with the character before us: the further story of his life is the evidence in point. I venture to affirm that he was a man incapable of the mercenary motive, but equally incapable of the doctrinal one. So highly do I estimate his artistic character; so thoroughly was he possessed, as I think, with the one idea therein implied; so exclusively absorbed in its contemplation, that I define his religion to have been simply *Art*,—art-ritual, as it happened,—and, consequently, Roman Catholic ritual. In other words, altogether apart from dogmas, doctrines, and confessions of faith; so essentially were his ideas identified with the mystical charms of artistic ritual, that, in the state of such ritual thirty years ago, he simply tendered his allegiance to that church which possessed the most. And we shall find before the end, that on the self-same principle, when time brought on its unexpected changes, so that there arose another ritual-church—a Protestant one—in rivalry with the old, he knew not which to prefer.

His own explanation confirms this theory to the full; and the simplicity of mind with which he states the question—his obliviousness to all doctrinal points—is most striking. He describes the views with which such services as those of Edward Irving had informed his youth. It was, he says, with such perverted feelings that he first *became a student in Ancient Art*. But the origin, intention, and use of all he beheld was perfectly unintelligible; till, applying himself to *liturgical knowledge*, what a new field was opened! He then discovered the fitness of the edifices for their rites; he saw the cold and heartless character of the reformed service; he read in old chronicles the crimes by which the new religion had been established, and so on: he opposed to all this the Catholic apostolical system of unchanged faith, sacraments, and ceremonies; and the result was, that he gladly surrendered his own fallible judgment, and embraced with heart and soul the faith and discipline of the ancient church.

No better exposition could be wished than this frank and unsophisticated avowal,—frank, because the apologist was no Jesuit; unsophisticated, because he had no pretension, no desire to go beneath the fair and sunny surface on which floated the poetic mysteries of his adoration. "I gained my knowledge of the ancient faith," he says, "beneath the vaults of a Lincoln or a Westminster; and I found it indelibly marked in the venerable piles which cover the face of this land. This period of my life was one of great mental happiness." "An Englishman," he says again, "needs no controversial writings to lead him to the

* See p. 345, *ante*.

faith of his fathers. It is written on the wall, on the window, on the pavement, by the highway. The cross—the emblem of his hope—still surmounts spire and gable, still waves from the mast of the ship and over the palace towers." The symbols of Christian art he boldly pronounced to be of divine origin. Let this one principle be kept in sight, and it will be the key to the whole career of Pugin's adult life. To him art was nothing without religion, religion nothing without art. His notion of the Middle Ages was, that this was their universal rule. How far he was right may be matter of opinion; but, in considering that the rule was allowed no application now, his accuracy cannot be questioned. For my own part, I fervently hope that the rule may never again prevail; but I cannot withhold my tribute of admiration from the man whose mind was filled like his with an idea, however illusory, so poetically grand; and my estimate of Pugin is this,—that I know of no other man in architecture who ever unaffectedly embraced the sentiment.

It soon became widely known that the great Gothic artist, dwelling in his quaint Gothic house at Salisbury, had attached himself enthusiastically to the Gothic church. People who had a little insight into the human heart's odd corners hardly smiled,—certainly did not wonder; it was all so perfectly appropriate, they said, although they could scarcely tell you why. At this time he was only three-and-twenty; but the Catholic connection speedily and effectually gathered round him, and it was understood that he was really getting into extensive practice.

Emboldened by this success, he now issued a new and most novel work. It was published by the author at St. Marie's Grange: the booktrade had declined to concern themselves with it. This was the famous 'Contrasts; or, a Parallel between the Architecture of the Fifteenth and Nineteenth Centuries." It is a book that every one interested in architecture should examine, for both curiosity and profit. The written argument is simple. The Reformation, the author would say, in overthrowing the Mediæval church, overthrew Mediæval art, which was identified with the church. Protestantism had done nothing since but "horrible repairs," to use his own words, "alterations, and demolitions, directed by a tepid and parsimonious clergy, brutal and jobbing parochial authorities, and ignorant and tasteless operatives." Modern Classic edifices were but infamous Pagan caricatures; fitness was the test of sound design; real old Gothic work was the only art that would bear this test; it was Christian art; and it was finally and emphatically Roman Catholic art. Beyond a doubt, to a certain extent, this was correct criticism; and if expressed in a temperate manner, it might have been widely, if not universally, accepted. But it was not temperately expressed; indeed, beyond all precedent the reverse; exaggerated even to such a degree as to lose its very power. The real strength of the the essay, however, lay elsewhere: a long series of most clever etchings formed the "contrasts;" and these certainly produced a sensation. After two or three rather weak and over-shot witticisms of delineation at the commencement, he presents, not always honestly, but always most adroitly, one set after another of sketches in pairs. Each pair is formed, of course, on one hand by some example of Mediæval design carefully selected for its merits, and on the other by a corresponding specimen of modern design chosen with equal care for its demerits: his mode of drawing, moreover, being all in favour of the more picturesque style. The opinion of almost every one was, that these contrasts, although marvellously bold and telling, were in a great measure a failure, through the well-known error of proving too much. That there was great critical truth in them,—much really sound comparison,—the greatest enemies of his conclusions have always admitted; but the celebrated "contrasts," in a word, are a good deal over-contrasted.

Pugin was now no more than four-and-twenty; and the conscious power of genius which he displayed, not in architecture alone but in all kinds alike of Mediæval art, in spite of shortcomings (which tended, by-the-by, all to the side of power), has probably never been equalled in architectural design in the person of so young a man.

His career for the next five years, although full of successful labour, may be summed up in a very few sentences. His abilities in design, universally recognized, procured him a large practice; but his uncompromising adherence to Romanism kept it confined almost exclusively to the connexion of that communion. At length he found Salisbury inconvenient head-quarters for business; sold St. Marie's Grange for the price of the ground; and in 1841 established his home at Chelsea, being then twenty-nine years of age, and at the very height of his success. Just before the beginning of these five years he had assisted Barry and Gillespie Graham upon their designs for the Houses of Parliament; but otherwise his work was independent, and soon plentiful. As regards literary endeavour, the five years which had opened with the publication of the "Contrasts" were to close with the issue of the equally celebrated "True Principles," he having written nothing of any moment in the interval. As for his habits of life, in spite of the vast amount of professional labour which he accomplished (keeping no assistant, but drawing everything with his own hand), he could still spare time for a good deal of eccentric roaming. As when entering upon practice we saw him rushing from cathedral to cathedral, passionately worshipping the old, and heartily cursing the new; so now, when overwhelmed with engagements, we find him cruising in his yacht upon the open sea for days together, and occasionally running down the coasts of France and Holland. The merit of the "True Principles of Pointed or Christian Architecture," as the work was entitled, must be allowed to be superior to those of the "Contrasts." Five years of practical experience in life and business had made an improvement in the author. The book of 1836 was flippant in the extreme; it carried an exuberance of sail, and little ballast. The book of 1841 was less pretentious and more safe. The improvement, however, was not so great as in any ordinary case it ought to have been; Pugin was not by any means to be set down yet in the category of sober men. In spite of his subject being now almost purely abstract, he could not help launching out into occasional philippics as fierce to the full as the fire of his younger days could have made them. In spite of the reminiscences of five years of solid work, he could not refrain from exaggerations as weak as ever.

Pugin had not yet learnt that intelligent debate never condescends to deal with sorry misadventures, failures, and caricatures; but, grappling with an opponent's strongest and proudest, by efforts of still greater strength and greater pride, wrestles upon the highest ground at once. Again, the hasty and rude engravings of this work, badly shaded and even badly drawn, were discreditable to an artist who was held in such wide esteem. Nevertheless, the work was successful, and in that early day of modern Gothic, deserved to be so.

He lays down two indisputable but novel ideas: 1st. That a building ought to comprehend no features whatever except such as are necessary. 2nd. That all ornamentation ought to be formed by mere enrichment of construction. He pointed out that Greek forms of design being based on wooden structures, the artists of that day erred in using them in stone; whilst the first principle of Pointed architecture, on the other hand, is to disguise nothing and compromise nothing. The underlying sentiment of his life, devotion to artistic-ritual, is more fully developed than before. His prayer is that the church may again, as in days of old, cultivate the talents of her children, to the advancement of religion and the welfare of their own souls; for without such results talents are vain, and the greatest efforts of art sink to the level of abomination. He begins with sound philosophy, and ends with what in any other man we should call cant.

Some may feel inclined to ask whether I wish it to be understood that Welby Pugin now sold St. Marie's Grange for a mere song, and went to settle in a common twelve or fourteen roomed house at Chelsea, with two-inch deal ovolo sashes hung in deal-cased frames; and the hall and staircase papered Sienna marble, at twopence a yard, and varnished. It is impossible, you will say, after what we have heard. And so it would be. Pugin sold St. Marie's Grange, at Salisbury, only to build the Grange of St. Augustine's, at Ramsgate. He had tired of the one place, and taken a fancy to the other; but his Mediæval house he had not tired of, and he set to work to revive it forthwith. His stay at Chelsea was but a temporary measure. We are not now, it is true, dealing with the whims of youth; but the settled purposes of manhood are in this remarkable character still as strange, and, in their defiant consistency, still as original as ever.

The establishment which he now began to build may possibly have been at first projected within moderate limits; ultimately it came to include, besides a dwelling-house of much larger size than St. Marie's Grange, a church, schools, and conventual buildings, with complete appurtenances and characteristic detail. He spent in all 15,000*l.*; his operations were spread over ten years; and he left them incomplete after all. So soon, however, as the house was ready, he removed to it from Chelsea; and it was his home till his death.

Now, during these five years, from 1836 to 1841, from the "Contrasts" to the "Principles," what had been the progress of English architecture, and what the value of Welby Pugin therein? The state of professional opinion upon which the "Contrasts" fell in 1836 was through eclecticism, as has been stated. The practical force of that work lay, not in any introduction of Gothic design, or any improvement in classification of style (for all that Pugin knew in these forms had been developed by others and was fully recognized), but in an exaltation of Gothic style to the prejudice of what was considered to be a sister style of equal esteem. The Christian, he argued, could have no fellowship with the Pagan, even in the profile of a moulding. There has been of late years a vast deal of this style of logic spoken and written,—all borrowed plumage from Pugin; at that time he was the only man who hazarded such views, and every one else pronounced him to be a monomaniac. I have the same opinion of him now; but I say that his monomania was so unaffected, so poetic, so exalted, as to lift it up to heaven. To understand the principles then prevalent, take Hosking's Essay on Architecture in the "Encyclopædia Britannica" of date 1832, or the basis upon which the Royal Institute of Architects was established in 1834—1837. There were certain recognized styles of design, of various degrees of merit, but all equally entitled to claim critical authority under the rule of ancient precedent. The Classic styles of Greece and Rome came first. They were of superhuman origin; the only difference between them was, that the Greeks were as gods, the Romans as demigods. These were the grand styles. Italian examples of the Cinquecento period were to be judiciously copied for municipal buildings; and English specimens of the Tudor and Elizabethan for domestic and educational works. For ecclesiastical works the examples of Mediæval England, as classified by Rickman, were to be copied in the same manner as those of other styles. There could be no reason, said the authorities, for ever disturbing this. The great controversy respecting the style to be used in the New Houses of Parliament in 1835-6, was the expression of this condition of opinion: the argument was, on the one hand, that for so grand a work the Greek or Roman style was entitled to the preference; on the other, that for a building of such profound ancestral associations, the style ought rather to be Gothic or Elizabethan. The decision in favour of the latter sentiment was thought to be the triumph of feudal affectation in Parliament over refined Eclecticism in public. It was Pugin who first formally repudiated this happy-family arrangement of the Eclectics; and but for the error of exaggeration, the "Contrasts" would have done it more damage than they did.

There followed almost instantly upon Pugin's declaration the institution of a new doctrine, namely, Architectural Ecclesiasticism; the idea, that is to say, of searching out the mysticism of ancient church art,—that which had been the very foundation of Pugin's mission. Although Pugin would listen to no Ecclesiasticism out of the Romish Church, yet it was chiefly in the English Church, and particularly amongst the clergy, that his teaching struck root. And thus, as at the commencement of the five years which we have in hand, the standard of Ecclesiasticism had been raised against the rule of Eclecticism; the hand which did this being Pugin's alone: at the close of our five years this was the result.

The Camden Society of Cambridge was established for the promotion of Ritualism: the *Ecclesiologist Journal* was set on foot in the same cause. Pre-Raffaellitism and Puseyism we need only name; but all over England, and chiefly under the guidance of the clergy, there were being formed one after another of the local Archæological Societies now so numerous: as part of the same act, church restoration was becoming universally fashionable; and, to end with an anti-climax for the sake of truth, and for the sake of justice to our hero's consistency, a few of the most earnest of his followers were embracing, like himself and for the selfsame reasons, the Romanist faith. Meanwhile the Royal Exchange of London, and St. George's Hall of Liverpool, had been built as further examples of Classic art; and Gothic practice had attained that well-remembered stage of maturity which produced in 1842 the Camberwell Church of Mr. Scott, and shortly afterwards his proud competition church at Hamburg. Now, I do not claim for Welby

Pugin the sole merit of all the progress here involved; but I cannot see why there should be denied to him the credit of having been, amongst many busy workers, at least the first and busiest,—amongst many earnest thinkers the most earnest if not always the most safe,—amongst many enthusiasts the most enthusiastic,—amongst many sublimated fanatics the most sublime. To argue that Pugin was not the leader of our present school of Gothic architects seems to me impossible; and for my own part I only wish his followers had followed him more closely, and kept more at home in England than they have done. I admire Gothic architecture more than I can admire recent specimens. If Pugin had lived till now I cannot help thinking that one of his True Principles would have been this,—that for English work English precedents must be the best; and if he had come to recognize Protestantism, that another would have run thus,—that in Protestant churches the symbols and arrangements of Roman Catholic ritual must be necessarily out of place.

The remainder of the chapter of this great artist's manhood need not take much time to tell. In 1843 he published another book, entitled "An Apology for the Revival of Christian Architecture in England." The character of the book is the same as before: the same style of enthusiastic exaggeration mars its merit. To such a degree does he in fact give way to the old spirit of "contrast," that in presenting, in comparison with a standard Mediæval gateway, the majestic Doric portico of the Euston-square Railway entrance, he draws it in a manner literally that of a common shop-card engraver.

The "Glossary of Ecclesiastical Ornament and Costume," which he published in 1846, elaborately illustrated in chromolithography, is considered to be a very able and indeed learned compilation. It is in that light the only one of his works which is of permanent value as a book of reference. As regards our present view of the author's place in art, we need only remark, that the tendency of the "Glossary" was still, towards the resuscitation of ritual symbolism, and still, in its application, confined to the Roman Catholic church; and that it was deemed at the time to be another successful effort towards the earnest purpose of his life,—in some respects the most successful of all, seeing that the nature of the work kept in check that tendency to exaggeration of argument which was the great fault of his heated enthusiasm. His immediate object was to promote the amendment of art in the vestments, vessels, and furniture of the Romish ritual; but it might safely be said that its ultimate effect was much greater in the Protestant church than in the Catholic.

We have not time to dwell upon a visit that he paid to Italy in 1847; but it may be remarked that his reflections were characteristic as ever. He came home much improved in his style of drawing, much incensed at Pagan churches in Rome, much pleased with Italian Gothic buildings; but not in any degree changed in his opinions or subdued in his enthusiasm. To the end of this chapter of his best days we have to place Pugin in the same relation to his art and his faith with which he set forth upon his career; to assign him still the same transcendental enthusiasm, developed still with the same passionate argument, springing still from the same root of artistic religion, and tending to the same rich and refined exuberance of mystic ritual. Every successive year of life confirmed him in his convictions all the more. That his fanaticism was the fire of real genius his persistency proved; for he withstood all assaults successfully. He could even acknowledge that in his practical work he found it frequently beyond his skill to adhere to his theoretical principles; and he could do this without giving the advantage to his opponents. The fervid and natural eloquence of his writing proves that he was neither vain nor affected, as many men of genius are. In a word, his spirit was in the clouds: his most intimate associates had but little knowledge of his thoughts,—passionate, eccentric, fanatical thoughts that were above them.

It forms a striking episode in his biography, but fortunately demands no particular notice in such an argument as ours, that in 1844 he became once more a widower, at the still early age of thirty-two; that the superior connection which he enjoyed in Romanist society prompted him to seek a fresh alliance where on two occasions his eccentric character caused him to be disappointed; that his irritation on the failure of the second proposal led him to publish a most injudicious pamphlet on the subject, which, however, the advice of a more prudent friend led him him to suppress; that he at length, in 1848, found another consort, now his widow; and that, amongst other oddities, he then issued a dainty Mediæval wedding-card, which, by itself alone, simple as it is, must be pronounced a charming work of genius.

At St. Augustine's Grange, at Ramsgate, Pugin still dwelt in such manner as from his past habits we should expect. From 1841 forward for about ten years, his life was one that will long be a not unpleasant legend of the seaside town. He lived in a quaint Gothic asceticism which one might not irreverently call the habits of a hermit with a large family and an extensive business. In early morning at prayers in his domestic chapel punctually as the bell tolled the Angelus; at prayers again at half-past seven, habited in cassock and surplice; at breakfast for seven minutes, and no more; at mass on feast days at eight; taking the simplest possible dinner of fifteen minutes at one to a moment, still abjuring beer and none the less more noble wine; at work, work, work, between these hasty meals and prayers all day and evening; at Compline at ten; for an hour afterwards at his books; then to bed till six again. Hating, as he alone could hate, with what his biographer calls "an intense and holy horror," all public charities, as unlicensed, uncanonical, unritual, unmystical, "abominations" (to use a word of his own), he set up at this St. Augustine's an odd, independent, self-willed sort of charity, as essentially Gothic, artistic, ritualist, as all else about him. He kept a great stock of clothes, and gave them away to ragged men in suits; he would rush at any instant's notice to the rescue of the shipwrecked sailor, and out in his boat to help some shattered vessel in a gale upon the fatal Goodwins; he would carry on his shoulder, on a Sunday afternoon, such a thing as a load of bedding, and in his hand a bag of provisions, because some rugged shipmate had sprained his leg, and was laid flat on his back like old Bill Barley; he would provide for an entire shipload of poor foreign emigrants driven to port by stress of weather, so that one of them, their elected spokesman, being unable to make himself otherwise understood, could only place his neck under the benefactor's foot for gratitude; and all the while he stuck to Christian art and his boat; played quaint Gothic miracle plays at Christmas and Twelfth-night, and sailed out cheerily, in sunshine or in breeze, to stretch his spirit in a long and bracing run upon the open sea.

IV.—The End.

All through his life, let me repeat again, I have found myself compelled to regard Pugin as a mystical ritualist: his religion ritual, ritual his art; his religion and art therefore the same—a combination of the fanatical zeal of the one with the poetic passion of the other, which has probably never been otherwise met with, at least in the world of the present day, and in the atmosphere of England. It was on account of ritual alone, as I hold, that he chose in his early youth the Romish Church. Now what would be the effect upon his mind if in the course of time the English Church were to begin the earnest encouragement of ritual reform; to do so in obedience to his own teaching; to apply to the task all that wealth, social influence, public spirit, political respectability, which the great Established Church alone commands; to work in the cause with such a will that before he himself had attained the age of forty it had outstepped the Romish ritualism altogether, and left it lagging behind in apathy? And what would be the effect upon his mind if, at the same time, as the meditation of more experienced age and deeper learning became more assured and more profound, the feeling had been forced upon him that his idolized Romish Church was, in respect even of the ritualism for which he had embraced it in his youth, very much of a make-believe after all? And what would be the effect upon him if he had had controversies with infallible divines,—paper wars, bitter personalities, in which he had been ridiculed by the priesthood itself as a fanatical materialist, whose notions were out of date in these days of plain faith and doctrine; when the gaudy bedizenment of cathedrals for the glory of God had given place to the building of numerous rather than costly houses of prayer for the accommodation of practical people?

Whether I am right or not in the suspicion which is implied in these questions; whether better informed persons—his connexions at the time—were right or wrong in their declarations of his true and secret feelings; at all events, it seems to be acknowledged that, about the year 1850, there arose serious misunderstandings between Pugin and his ecclesiastical rulers. The proper submission of his fallible judgment to the infallible authority of the Church began to be considered questionable. Why are our priesthood, he may be imagined to have asked, so apathetic in respect of the venerable mysticism of their holy ritual? The priesthood, would be the answer, are the sole guardians of that matter. But they are dull and inanimate,—dead and cold. In your fallible judgment they may be so; that does not affect the question. And, in fact, the rumour began to spread that Pugin had at length become troublesome with his crotchets, and must be kept in his place. In the Romish Church it is understood that a man is very peremptorily dropped out of confidence, favour, and patronage, when he becomes restive; and we will all agree that, if Welby Pugin began to suspect that he was being so treated, the effect upon himself would not be of a soothing, certainly not of an intimidating character. When he undertook to assist Sir Charles Barry in the finishings and furnishings of the Palace of Westminster, I know not whether his independent practice had begun to fall off or not; but it is understood that, for the last few years of his life, his Roman Catholic connexion in business was not what it used to be, and that his reflections thereon were not of a conciliatory kind.

The year 1851 was very full of incident to Pugin. He took charge of the Mediæval Court of the International Exhibition; and his design and arrangement of the objects were much admired. This, and his employment at second-hand upon the Houses of Parliament, may be called his first public engagements. Hitherto his bigoted faith, his secluded mode of life, and his bitter pugnacity, had made him a sort of public enemy; and the greater his ability the more dangerous his character: but time had cured this; still more than time, the change in public opinion upon his favourite subject had changed his estimation; and, consequently, the author of the "Contrasts," when he became the commissioner of the Exhibition, and the honoured colleague of Barry, was a popular man. The Anglican church critics, who in bygone years had carped and cavilled at his failings all the while that they pored over his teaching, were becoming his open admirers. This may all have had its influence upon his mind. In a word, it is the opinion of many that, if not distinctly contemplating a return to the Protestant Church, he was at least wavering very much in the subordination of his fallible judgment. Upon the purely religious question, however, we may touch but very briefly.

At the very time when he was occupied with the Exhibition court, he brought out two literary works. One was a "Treatise on Chancel Screens and Rood Lofts." In this he openly attacked the Romanist priesthood for their shortcomings in the matter of ritual, and the consequence was much displeasure on their part. They threatened to put his book upon the "Index" of the Pope's expurgation. The second publication was a pamphlet, "An Earnest Address on the Establishment of the English Catholic Hierarchy." The object was to induce the Romish church to meet the famous appointment of prelates, with English titles, by a grand united effort to increase the power and pecuniary resources of the bishops, and of course to promote ritual dignity. An apparently innocent object; but the "Earnest Address" made matters worse than ever. It would seem as if in these two works the despairing enthusiast were giving the church of Rome a last chance for amendment. To quote his stormy paragraphs is what we cannot now do; suffice it to say, that all the vigour with which the "Contrasts" had battered the foe without, was now brought to bear against the foe within. The rapidity with which he delivered his blows was marvellous. It was still early in 1851, when he wrote thus to a friend:—"I am almost distracted; for, in addition to all other labours, I have a most important work on the real cause of the change of religion in the sixteenth century, which will place matters in a totally new light," and so on. This work he did not live to publish; or, rather, its publication was prevented by authority. The title was to be this,—"An Apology for the Separated Church of England since the Reign of the Eighth Henry; written with every feeling of Christian Charity for her Children, and Honour of the glorious Men She continued to produce in evil Times. By A. Welby Pugin, many Years a Catholic-minded Son of the Anglican Church, and still an affectionate and loving Brother and Servant of the true Sons of England's Church." We can gather from the account given of this by Mr. Purcell, that he began at once with the old ritualistic principle,—

the primitive rites, the style, plan, &c., of churches and altars; the form of vestments and ornaments; and that, after pursuing a long and searching argument in that laboured style of conciliation which is more offensive than open scorn, he concludes with invoking his readers "to speak and think with gratitude of the old bridge that has brought us over (the Church of England), and to lend a pious help to restore her time-worn piers." It is alleged by private evidence that he declared, not long after, that "the rest of his life must be one of penitence, to seek forgiveness for the wrongs he had done to the English Church."

It is quite reasonable that those about him should include all this perplexity of opinion amongst the symptoms of the mental aberration which soon supervened. On the other hand, it is open to others to argue that this was but the natural process of development of the great idea of his life, and that the unhinging of his mind was produced by the mighty internal struggle which the derangement of that process occasioned. What might have happened if he had lived in full vigour of intellect for a few years more, we ought perhaps scarcely to inquire. That he would have voluntarily seceded to the Protestant Church I do not believe. That he would have held his peace is no more likely. That private admonition might have led on to public disavowal is possible. He might have then become an aimless broken-hearted man,—as many a great genius had been before him; but he had lived out the term of his mission; his work was done. Amongst the many diverse workers who weave the web of human progress his share was done—honestly done—manfully and well done. Within a little time the dark cloud came over him, as it had come over many another, and will do to the end. It was the oft-told tale of the sudden going down of the sun at noon. The overstrained intellect had broken in pieces. Only one fragment of the once unsullied mirror reflected the light. They calmed his violence by pretending that a church of his was being delayed for want of a drawing. He took the pencil once more in his hand, and drew a clear intelligent design, that the work might wait no longer. There were a few months more of trouble and sorrow, and then there gathered a curious crowd in his Church of St. Augustine, to lay him where the weary are at rest.

Our story is ended: what is its moral? We have followed the history of a great genius,—a very remarkable leader in art—one whose character appears to stand alone in our generation, for the peculiar vigour of its fervid ardour, meditative power, persistent aim; and we reflect that the world is not degenerating yet, but very much the reverse, and that no amount of labour, no amount of success, no amount of fame, seems beyond the attainment of a clear head and a resolute will. But we have also traced the career of the *man*; and our pride in the great wrestler must be dashed with pity for his broken heart at last. He was born out of due time. Five hundred years before, perhaps five hundred years after, might have suited better this impetuous and reckless spirit,—impetuous and reckless beyond the comprehension of a cold and calculating age like ours. We start at the daring with which he seeks to soar above all that is of the earth and earthly; we deplore the unhappy fate which brings him to disappointment and despair; we feel a sense of relief when we see him fairly dead and buried, and his vagaries done: we admire his flight amongst the clouds, but we thank God that we ourselves can only tread the ground.

ROBERT KERR.

THE EXHIBITION OF THE ROYAL ACADEMY.

CONTINUING our notices, it was hardly to be expected that Mr. T. Faed, A., would repeat in any way this year the triumph that his extraordinary "From Dawn to Dark" was the means of securing for him last season; and before the effects of it had subsided, it might have been well advised to have abstained from any such attempt, as it would be no easy matter to dot one path to fame with many such a milestone, each exacting that the distance should be clearly enunciated before being recognized as a landmark at all, and always necessarily in advance of the last, if the course is to be fairly made out and measured. (64) "New Wars to an Old Soldier" will simply corroborate, without increasing the estimation of, its author's power of accomplishment, as it is endowed with a share of that poetical sense of nature in its every-day existence which refines without weakening all his imitations. The beauty of the girl who reads the news to the blind veteran emphatically belongs to her class; whilst the hero himself, so calmly intent upon what he hears, is a most expressively treated study; and for beautiful painting there is little in the present collection to bear comparison with it. The same facility of handling, and the same fascinating arrangements of colour so freely indulged in, though in some cases more allusive and alluring than strictly probable to circumstance, identify (45) "Kate Nickleby," and (283) "A Flower from Paddy's Land," obviously taken from the same model, to the detriment of Dickens's heroine in the former, who has nothing in common in her literal conception to account for the resemblance. Why such a misnomer?

A very masterly sketch of a charming boy (275), Harlad, son of W. Hepworth Dixon, esq., leaves little to be desired, and suggests a likeness.

Mr. J. C. Hook, R.A., is another delineator of Nature as he finds her, with some advantage of Mr. Faed; since, with the same aptitude for refining the most ordinary episodes, he more strictly adheres to probability in their representation. (81) "The Acre by the Sea," one of those unaffected realizations enforcing belief in its truth by the utter absence of anything like adventitious assistance from what is generally understood as "artist's licence," will afford a notable illustration of the distinction; and so would (357) "The Trawlers," or (378) "Sea Air," alike in strict accordance with, and faithful adherence to, the text so ably propounded, both in spirit and letter.

(231) "Laborare est orare" (To labour is to pray) is the title of a large landscape production of Mr. J. R. Herbert, R.A., wherein a number of monks of St. Bernard's Abbey, Leicestershire, are engaged gathering in the harvest of 1861. It is conscientiously painted; and is another instance that those who, from their knowledge and academic proficiency, would, it might be supposed, be justified in rendering subservient to their style what they represented from nature, are the most rigid adherents to simplicity and truth.

Mr. David Roberts, R.A., deserves the acknowledgments of constituent London for his admirably picturesque series of "Views in London, on the River Thames;" and although there can be very little doubt of the capabilities of the material for affording sufficient opportunity to the painter, could he but humour the atmosphere; it is very gratifying to find it in the hands of one so preeminently qualified to undertake its adaptation. (63) "South Elevation of the New Palace of Westminster, from the Old Horse Ferry;" (370) "View from Waterloo Bridge, embracing St. Paul's, Somerset House, and the Temple;" (489) "A Relic of the Past—Embarkation of the Lord Mayor of London at Blackfriars (now abolished), on Lord Mayor's Day;" and (628) "The New Palace of Westminster," are very equal in executive ability; and, comprising as they do many of the qualities that distinguished scenes of distant locality so often connected with Mr. Roberts's previous successes, have the extra interest attached to home associations to ensure for them home appreciation, at least.

Very delicate and lovely is Mr. Leighton's "Odalisque" (120), and most fascinating in her voluptuous languor. The claims this ideal creation has to consideration as a work of art—and it has high recommendations in that respect—atone for the somewhat foreign taste with which the conception is markedly tinctured.

More lovely and more perfect in its completeness is (494) "Sea Echoes," than which it would be difficult to imagine anything more sensuously exquisite of its kind.

Mr. P. H. Calderon is one of the most promising of our rising artists, always to be relied upon for something original and attractive. The steady progress which from year to year his productions always evince has been never more remarkable than in (243) "After the Battle," and again, in (371) "Katherine of Arragon and her Women at Work."

Mrs. Benham Hay more than sustains her high position amongst the lady contributors. (251) "The Reception of the Prodigal Son" is a long step in advance of earlier works, and intimates much matured knowledge, an exalted feeling for her art, and an earnest determination to turn both to the very best account.

Mrs. Hay is not alone in asserting a right to hold rank amongst those in whose works is invested the main character of the Exhibition; for there are productions of the gentler sex that challenge the most impartial judgment; indeed, the nearest approach to legitimate historical painting in the rooms is Mrs. E. M. Ward's most admirably depicted "Scene at the Louvre in 1649—The Despair of Henrietta Maria at the Death of her Husband, Charles I.," which would be justly considered a grand success, emanating from whom it might. As the work of a lady, it is really wonderful; for so much has been said about the restricted opportunities of women,—from inability to devote themselves entirely to one pursuit, when they are expected to be equally accomplished in many. Indeed, so numerous are the calls for employment of time in such phases of occupation as are indivisible from them in the capacity, whether it be of daughter, sister, wife, or mother,—that such extraordinary excellence can seldom reasonably be expected.

Miss R. Solomon's "Fugitive Royalists" (432) is another cognate proof that the ladies must have a natural and peculiar aptitude for overcoming difficulties the profession abounds with, or that they must make very much better use of time than many of their masculine contemporaries.

In commending (259) "Autumn," by W. Gale, the same note of admiration applies to (146) "God's Messenger," for its elaborate finish; and (274) "The Sick Wife," for the tender sentiment, with the efficient means he possesses of thoroughly obtaining the object he aims at, in all cases implying thought. These pictures, from their small size, are less conspicuously seen at first than easily remembered afterwards.

(293) "The Quaker and the Tax-Gatherer," G. B. O'Neill, shows manipulative skill; but the subject is rather imperfectly explained. (170) "Twins" will better exemplify the neat and agreeable manner of this painter in a very pretty picture.

Taking off our hat to Miss E. Osborn, so conspicuously present in her representations of German domestic life,—(399) "Die Erwartung," and (429) "Der Lebensmai," for instance,—and almost deluded into a belief that the flowers of the Misses Mutrie really emit the perfume their dewy freshness promises,—we are reminded that our olfactory nerves were similarly and dissimilarly deceived by the "Roast Pig" (142) of Mr. T. Webster, R.A., so savourily eloquent in emulating the laudation of "Elia" for *the* delicacy of of all delicacies. Surely the finished, manipulative qualities seen in this, rob (397) "Old Eyes and Young Eyes" of half its point; although, as an admirably rendered bit of truth, it can lose nothing, comparatively.

The "Checkmate—next Move" (126) of Mr. J. C. Horsley, A., shows perfect knowledge of the effect of diffused light, with a breadth and picturesque unity resulting that places it amongst the best works of its class; and with (276) "A Hunting Morning," and (325) "Keeping Company," sufficiently represent him in the distinguished position his skill and taste have attained for him.

Mr. H. O'Neil, A., has proved himself so competent to illustrate his own times in circumstances of present as well as lasting national interest, that dereliction would be as much to be deplored in his case, when there are so few apparently likely to succeed in such an undertaking, as it would be advisable, in some less fitted with the necessary requirements to satisfy the opinion of to-day, or to furnish a basis for that of posterity. (337) "Mary Stuart's Farewell to France" has many of the sterling qualities that conduce to render any subject interesting; and there is so much elegance of treatment, as well as vigorous execution, as to divest it of the sentimental prettiness so often constituting the prevailing characteristic in compositions of a like nature.

Mr. A. Solomon's (471) "The Lost Found") affords similar testimony of inherent good taste, in appealing to the sympathies of the spectator. It is a fine line indeed that marks the distinction between the pathetic and the ridiculous when submitted to general observation; but Mr. Solomon has often disposed of any such difficulty by his truthfully expressive mode of relating very affecting incidents,—incidents of constant recurrence, and emotional to all humanity. (372) "The Return of a Pilgrim from Mecca—his Purse-bearer distributing alms to the poor of Cairo," F. Goodall, A., is remarkable for its rich colouring and clever arrangement as a picture; and, although it may be questioned as to its close adherence to the effect upon appearances by an eastern atmosphere, the power and careful study necessary to complete such a production entitle it to the highest consideration.

It would be very unjust even in a mere summary of the pictures that attract and repay close inspection, to pass over (108) "The Sweep" of Mr. F. D. Hardy, without a note of admiration; or (307) "The Eft," and (515) "The First Dip," of Mr. Le Jeune; (355) "Mamma's Birthday," W. C. T. Dobson, A., and "The Picture Book"

(381) by the same; (364) "Bianca," G. F. Watts; (430) "Counsel," J. Stirling; (481) "Love or War," W. O. Williams; (485) "Prince Arthur tending his Keeper," W. J. Grant; and (487) "The Child Jeremiah," S. Solomon; and certainly (502) "A Painter's first Work," M. Stone, calls for something beyond it; and so does (537) "Unaccredited Heroes," F. B. Barwell, though surely a misnamed and disagreeably treated subject. There are good points in (543) "The Widow Hogarth selling her Husband's Engravings," though it is somewhat too rigid in drawing, and cold in colour. "Eliezer offering the Ear-ring and Bracelets to Rebekah," W. C. Thomas (555), is a very clever work. (623) "A Birthday Present," R. Hannah, affords charming contrasts; and (631) "Rescued," W. F. Yeames, is original, and shows promise.

We are obliged to curtail an enumeration of even the more prominent of those pictures that give tone to the collection; and it must be sufficient to say that in Mr. Stanfield's realizations of rock and sea the old perfection is still seen, and we have but to stand on the coast to taste the saltness of the spray and get wet; while if further enthusiasm prompted a plunge into Mr. E. W. Cooke's "Zuyder Zee," we should be drowned, without a doubt, for we can't swim! The fact that Messrs. Creswick, R.A., Lee, R.A., Witherington, R.A., the Linnells (father and sons), the Danbys (T. & J.), head such a list of landscape delineators as only England has produced and is producing, promises that little could be said too much in praise and appreciation. In portraiture, too, its professors may safely rely upon exciting attention by the forcible exhibition that Sir J. Watson Gordon, R.A., Messrs. Grant, R.A., Pickersgill, R.A., J. P. Knight, R.A., G. Richmond, A., Sant, A., and Thorburn, A., have contributed to form, irrespective of assistance such as Messrs. Wells, Sir C. Lindsay, bart., G. F. Watts, Buckner, Weigall, Sandys, Phillips, and others, are so well able to provide.

In the Sculpture Gallery there is very little of the imaginative element prevailing, and nothing to compete with (926) "The Young Briton" being invested by his mother with his father's toque, whilst she relates to him his valiant deeds, by Mr. W. C. Marshall, R.A.; or, in another way, with Mr. Durham's graceful figure of "Europe," one of the series typifying the four quarters of the world, intended to be seated at the angles of the memorial to commemorate the Great Exhibition of 1851,—not 1862, as stated in the catalogue.

"The Young Hunter" (999), and "The Brothers" (1,001), by A. Munro; (1,053) "Penseroso," and (1,038) "Simplicity," by J. Hancock; "Twilight and Night" (1,039), T. Duckett; (1,040) "Miss Edith Crossley," E. A. Foley; and (1,093) "Faith," by J. Lawlor, are among the most noticeable works; but the greatest strength of the talent invested is shared amongst the numerous busts that bespeak a recognition of likeness as well as of first-rate modelling.

"PAGAN ART."

On Tuesday evening last, Mr. Burges delivered a lecture on "Pagan Art," at the Architectural Exhibition, Conduit-street.

The chair was taken by Mr. Seddon.

Mr. Burges commenced by observing that he proposed, first, to sketch what Greek art was; next, what Sir Christopher Wren's art was, or rather, is; and, lastly, to consider what the Mediæval scholar might learn from the study of pure Greek art. Some years ago he had seen the Acropolis. The first impression which it conveyed to his mind was that the builders had deserted the building when half finished; for blocks and fragments of the original stone from which the temples were built were lying all around. The Acropolis was a museum or storehouse of art, the objects of which were not catalogued, because the fame of the artists was spread far and wide among their fellow-citizens, and no curator was required to point out who cast that bronze or who chiselled that statue. Having described the buildings in the neighbourhood of the Parthenon,—the Erectheum, the Temple of Theseus, the Propylea, &c.,—which were so disposed or grouped as to form a theatre scene, wrought out in stone and marble,—Mr. Burges proceeded to describe the Parthenon itself, which, he said, must have been superior to the west end of any Mediæval cathedral. When the temple was in its glory the first thing that struck the eye of the visitor was the statue of Minerva, by Phidias, which, with its pedestal, was 70 feet in height. All the main space of the Acropolis was filled with statues by the most famous Greek sculptors. The great question in connection with the Parthenon which puzzled antiquaries was the manner in which it was lighted, because it was roofed once, and had no windows. Some were of opinion that light was admitted through thin slabs of fine marble in the roof; but this was a theory to which he did not himself subscribe. Others, following the writings of Vitruvius, thought that light was admitted through an aperture in the roof, and that it was covered either with an awning, or with horn, or some other transparent material. Mr. Fergusson, on the contrary, inclined to the opinion that light was admitted by means of dormer windows. Mr. Falkner, however, basing his opinion upon the impression of a contemporaneous coin, was in favour of an open skylight. His (Mr. Burges's) opinion upon the point was, that, however ingenious these speculations might be, antiquaries were as far as ever from a solution of the difficulty. Mr. Fergusson's theory was certainly the most reasonable, and one which he presumed would be generally adopted in our own time, if a Parthenon were to be built; which, however, was by no means probable; regard being had to the fact that, from the best information obtainable on the subject, the cost of the building amounted to a sum equivalent to 700,000*l.* of our money. The ancient Greeks, like sensible men, did not bind themselves down by rules in the disposition of their public buildings. On the contrary, they grouped them in such a manner as to obtain a difference of light and shade, and thus secure an infinite variety of effect. These effects were secured not by rule, but by a correct eye. He was of opinion that the mouldings in their buildings were done with the hand, and not by any geometrical rule. This, he thought, was proved by the fact that no two Greek buildings agreed exactly with each other. The Greeks having constructed their temples (mostly in the Doric order), then turned their attention to the best mode of colouring them, or, rather, ornamenting them with colours. This was effected by a careful polychromy; not, however, after the manner of the model of the pseudo-Greek temple in the International Exhibition, intended to show off Mr. Gibson's coloured statue. The system of polychromy was applied in very bright colours, but in very thin and delicate lines. In the Elgin Marbles, in the British Museum, there were but few remains of colour; possibly owing to the circumstance that the blocks had been boiled down in soap-grease in order to take casts from them; but there were marks of holes in them where bronze bits and ornaments had been inserted. The ivory and gold statue of Minerva, which formerly stood in the Parthenon, had disappeared long ago, although they still showed a piece of ivory in the Museum which, it was alleged, was a fragment of the finger of the goddess. There were, however, copies of the statue which agreed very closely with the description of it as given by ancient writers. There was reason to believe that the ancient Greeks used colour as well as gold in the ornamentation of their statues. The statue of Minerva to which he referred was of wood, veneered over with ivory; and it was well known that the ancients were in the habit of making colossal statues plated with ivory, and that they made provision for regulating the atmosphere so as to prevent the statue from being too dry on the one hand, or too moist on the other. On the subject of tinted statues, he referred to the obscure passage in Pliny which went to show that Phidias very much approved of a delicate transparent varnish, which gave the appearance of life to his figures without destroying the grain of the material of which they were formed. Passing next to Greek coins, Mr. Burges remarked upon their beauty, and upon the artistic manner in which they were designed and executed. The jewelry of gold found in ancient Greek tombs was also of so delicate a description, that one could scarcely imagine that anything so fine and fragile could be produced by human hands: so fine and elaborate was it, that our own jewellers almost despaired of being able to copy it. Of late years, however, imitations of Etruscan jewelry had appeared among us; so that it was now quite possible to gaze at a jeweller's window with some feeling of pleasure. Some very creditable specimens of modern jewelry upon Etruscan models were now to be seen at the International Exhibition. Although no vestige of Greek painting still survived, something might be learned of the strictly architectural manner in which the Greeks treated the human figure, by the contemplation of their vases. Having briefly glanced at some of our public buildings (including the Metropolitan Cathedral), which he said were anything but Greek in their design, Mr. Burges proceeded to point out the strong claims which pure Greek art had upon us. Why, he asked, should we not endeavour to emulate the golden period of art? Why should we not have coloured bronzes and damascenes, with gold and silver? and why should we not polychrome our buildings, and use gold and ivory together? In fact, let us do what they did in the Middle Ages, and not neglect antiquity, but press it into our service.

The Chairman, in moving a vote of thanks to Mr. Burges for his paper, said that this was no question of the battle of the styles; for we could all afford to be catholic in our tastes where art was concerned. Greek art was, in his opinion, the finest and the purest in the world, and far surpassed the Mediæval. He regretted to be obliged to say that our attempts hitherto to construct buildings according to Greek models were very unsuccessful; in fact, they were mere parodies upon Greek art. There was no reason, however, why we should not improve. We had the same means of colouring our buildings as the Greeks had; although the tints might be different from theirs, owing to the difference in our climate. At all events, we had a great deal to learn on the subject; and thanks were eminently due to all who assisted in the development of a better and a purer taste among us.

VAUCHER'S WOVEN HOSE.

Not stockings, good reader, but hose for force-pumps, fire-engines, ships' purposes, or anybody's purpose who has water to convey. It has an advantage — or, rather, we should say, several advantages — over the rivetted leather piping which we know under the title of hose; inasmuch as it is half the price of the leathern convenience, requires much less care to preserve it, and is portable and pliable. At first sight it would seem that it might yield to the great pressure which must sometimes be applied; but when the Manchester Fire Brigade tell us they have used it for more than twelve years, and assert its efficiency, we have nothing to say, beyond expressing the opinion that this woven hose must be very largely used when its good qualities become known.

FIRES IN THE METROPOLIS.

From time to time we have directed attention to the extensive and numerous fires which cause throughout the metropolitan district so much destruction of life and property, and referred to the necessity of a more effective plan for the prevention of such conflagrations. We are glad to hear that at length measures which may lessen this evil are likely to be carried out. A select committee of the House of Commons has inquired into this very important matter, and their report bears out the statements which we have often made respecting the inadequate means which are at present in use for the protection of London from fire. We do not wish to make complaint of the brigade individually, for we believe that a braver or better conducted body of men could not readily be found; but neither in force nor systematic arrangement are they sufficient for the purpose to which their services are devoted. Every one of the witnesses, including the managers of the brigade, admitted that the present staff, engines, and stations, were quite inadequate; and the committee were of the same opinion, and suggested that a fire-brigade be formed under the superintendence of the Commissioners of Police, on a scheme to be approved by the Secretary of State for the Home Department, to form part of the general establishment of the metropolitan police, and that the Acts requiring parishes to maintain engines be repealed; but recommended that the present staff of the fire-brigade might be made available in connection with any new system, and that an account of the expenditure of the new police fire-brigade be annually laid before Parliament, together with the general police accounts, in such a manner that the special cost of the brigade may be ascertained. It is also proposed that the area of the new fire-brigade arrangements be confined within the limits of the jurisdiction of the Metropolitan Board of Works. Other parishes to have the option of being included, provided that they come within the area of the metropolitan police.

With these concentrated arrangements, and with the general introduction of steam fire-engines, and by a careful application of the electric telegraph and the increase of the number of stations, we shall be better able to control the fiery element than we are at present; but in carrying out those measures some needful reform in the water supply must not be overlooked.

ON OBELISKS AND OTHER MONOLITHS.*

At the close of the last year a terrible calamity befell this country, and the nation awoke to the sense of a loss in the death of the Prince Consort, —of one whose high and noble qualities had never been before worthily appreciated, and whose place it would be impossible to supply. We all felt a personal bereavement as of a brother, a parent, a friend; and unrestrained sorrow filled every heart. But in addition to this, there was an earnest sympathy in all the depth of grief, which the widowed wife, the widowed mother, the widowed Queen experienced; for to her, as to us, the blow was sudden, solemn, stupefying. Not that it was a sorrow without consolation and hope; for, the Christian life and the Christian tendencies of the late Prince assured us that he had not lived unconscious of his Redeemer and his God. It was not long ere it was felt that the memory of so good and wise a Prince ought to be consecrated by some memorial of the people's estimate of his worth: and soon, 30,000*l.* were raised for the purpose, as an instalment. The Queen's pleasure was to be ascertained; and she, whose happiness now centred chiefly in the remembrance of the feelings and wishes of him she had lost, immediately suggested that an obelisk would be the most appropriate object, as he himself thought it on some previous occasion a fitting monument to commemorate a great event.

In such a company as this I need not do more than allude to the fact that an obelisk is essentially an architectural feature. How honourable, then, is it for our art, that architecture should be so intimately associated with all the purposes and emotions of life! It erects the fitting temple for worship, the noblest pile for the legislative assemblies of the nation, the palace of the sovereign, the dwelling of the peer and the peasant. It ministers to pleasure in the theatre, and it embodies solemnity and grief in the monument and tomb.

Perhaps I should here pause; for, in one class of erection it seems that the architect is *not* necessary; and *that is*, in the design for an International Exhibition Building. There, his prudent caution would be impertinent; his scientific skill superfluous; and his taste and feeling for harmony, grace, and beauty out of place. We see what other eminently inspired geniuses have effected in that class of building, and we are bewildered with amazement.

In the erection of a commemorative monument there are some peculiar attributes that we should always keep in mind, in order that it may be effective, impressive, and enduring. It should be of a certain size; and here we find an illustration in the Pyramids of Egypt, the Tomb of Mausolus, the Coliseum, the Thermæ of the Ancient Romans, St. Peter's at Rome, Cologne Cathedral. It should be built of enduring materials, as the Pentelic marble of the Parthenon; the granite and basalt of Egyptian art-productions. And they should be precious, to show that a mean economy has not straitened the object within the narrowest limits of expense; that a generous affluence has provided the means. And, above all, the material should be choice of its sort,—the best of the best—choice in colour—choice in texture—choice in its treatment —and choice in execution.

An obelisk unites these qualities, if it out-tops the highest which a Pharaoh or a Ptolemy may have erected at Memphis or Thebes, or a Cæsar may have transported to Constantinople or to Rome; if in rarity it equals the deep tones and crystal lustre of the Sienite of the Nile; and if its proportions be such as to give grace to the outline and harmony to the whole group of its accompaniments.

The Egyptians had these memorials in abundance before their temples, in the courts of their fanes, and in front of their palaces. Kings vied with Pharaohs as to who should put up the loftiest, and record in deepest hieroglyph the triumphs of their reign. They dedicated them to their gods, and valued them so much that Rameses II. lashed the darling son of his love and hopes on the top of one which his architect was about to raise, in order to tax his highest skill and ensure every possible precaution, so that no accident should mar the beauty of the monolith, or cause the slightest fracture in the peerless block.

Much of the dignity of a monument consists, first, in the colossal scale of its size, but much, also, in the colossal character of its construction. The columns of Trajan and Antonine at Rome are of moderate size (we may say) as a whole, and do not exceed our York Column—an humble imitation of the antique. But they are constructed of pure marble: the blocks that form the pedestal weigh fifty tons each.

The frusta of the shafts are 12 feet 2 inches in diameter near the base, and rise 6 feet high, averaging each 696 cubic feet, and weighing about 15 tons. Our Monument of London exceeds them in height and diameter; but it is built in stone, in blocks not rising more than 2 feet each course,—a simple, easy, pigmy, every-day construction. But to extract the huge blocks from the marble quarry for the Trajan or Antonine columns; to transport them to Rome, partly by sea and by the Tiber; to have a scaffold strong enough for such ponderous masses, and machinery of the requisite power to raise them, involve many engineering expedients of the highest order of skill. And when to this we add the marvellously fine series of spiral bas-reliefs which cover the shaft as with a gossamer of beauty traced by the sculptor's chisel, we then acknowledge the impressiveness derived from the scale of the monument, its massive construction, and its artistic embellishments.

The announcement of the subject to which I have ventured to call your attention may have appeared to some inconsistent with such a place as this, and surrounded, as we are, by the more graceful productions of the pencil that hang on these walls; but I thought it would not be altogether irrelevant to attract your notice from the charms of the pictorial representations of works of architecture, as an art, to some of the difficulties of scientific construction which the architect has to overcome, and the skill he must bring to bear, ere he realizes the creations of his fancy. This is but a very sober and unpretending topic, but one not without its interest, as step by step we see the expedients of successive ages, and the superior skill of recent times.

Obelisks are the most simple monuments of Egyptian architecture; and they must be considered the most interesting that antiquity has transmitted to us, whether for the perfection of their execution or for the material which has rendered them so enduring. But above all are they remarkable for their prodigious mass and high antiquity. Imposing testimonials of the glory and power of the Pharaohs who erected them, these monuments reveal to us the arts and civilization of Egypt at an epoch when other people, scattered by chance over the face of the world, were plunged in darkness and barbarity. The most ancient of the most venerated of books, the Pentateuch of Moses, was not then written; Abraham was unborn; but even then the inhabitant of Heliopolis adored his gods in the Temple of the Sun, and read upon the obelisk, still in its place, the name of Aroëris, and that of the king who erected it. At that time reigned Osirtasen, a powerful Pharaoh, whom fifteen royal dynasties had preceded, and who was to be followed by fifteen more, when Alexander the Great came to consult the oracle of Ammon, and to found at Alexandria a new capital to the old empire.

The origin of obelisks is still unknown, but they are supposed to have been principally dedicated to the sun, Aroëris, of whom the hawk was a symbol, on account of the elevation to which this bird extended his flight, and of the faculty which the ancients considered it to have of looking at the sun with a steady gaze. Pliny says "that the Egyptian term for an obelisk conveyed the idea of a sun's ray, which its form was supposed to symbolize." The term obelisk is derived from the Greek term, *obelos*, which meant a spit; a term which the witty Greeks gave them with the view, like all wits in such cases, to cover with an air of ridicule and contempt what they could not lead one to condemn by means of fair argument.

The obelisks were generally of granite,—at least the largest ones,—extracted from the quarries of Syene, and were of one block, called "monolith." They were quadrangular prisms, which diminished upwards till they were nine diameters high; and from that part they rapidly contracted to a point, called a "pyramidion." They were placed on a cubical block, or die, a little larger than the square of the shaft, which sometimes also had steps under it. The die was occasionally engraved with hieroglyphics, and some have Greek inscriptions carved on them. Not much attention was paid to the form of the die, which was sometimes irregular in shape, but it was generally narrower at top than at bottom.

The face of each side of the obelisk was convex; a fact which shows the nice perception for effect which prevailed in the minds of the ancient Egyptians; as thus the light was much softer upon the surface, and the shades even were less crude. The surface was generally covered with hieroglyphics, variously arranged; at one time distributed over the shaft, at others in two or three columns: sometimes they were left quite plain; but they were then unfinished. These hieroglyphics generally consist of the royal titles, names, and surnames of the princes by whom they were erected; the names being contained within what is called a cartouche.

The two obelisks before the Temple of Luxor, one of which has been removed to Paris, were not of the same dimensions; the one one being about 86 feet high to the top pyramidion, and at the base about 9 feet wide: the other, now at Paris, was 7 feet 10 inches less in height, and at the base 8 feet 2 inches. It is supposed that the difference in the height of these two pillars, intended to correspond the one with the other, arose from the difficulty of executing two of exactly the same size without sacrificing a considerable portion of the height of one. In order to render the difference less apparent the architect had placed them on dies or pedestals of different heights; so that the base of the shorter one was raised above that of the other half the difference of the height; and it was placed a little in advance of the other to assist the delusion and augment the apparent scale of the less obelisk, by bringing it nearer to the eye of the spectator.

Pyramidions. — The summit of the Parisian Obelisk was irregular in shape, and left quite rough. There was at bottom a channel and fillet; then a surface setting back, and the granite presenting an uneven face. It was in the same state previous to its being lowered by the French. There must have been something to cover this unsightly appearance. An Arab writer, Mohamed, son of Abdarrahim, says, in a work entitled "Tohfal Allabab," translated by De Lacey, that "one of the obelisks of Pharaoh, which were at Mataria, near Cairo, fell down; and a great quantity of copper was taken from the top." Reference is also made by Kodhai to two obelisks, in the city of Heliopolis, as being extremely wonderful. On their summit are two painted caps in copper. When the Nile overflows, water flows from their summit from beneath the bronze covering, and descends to about the middle of the column (obelisque). this part is green.

And again: "This obelisk is square, formed of a single block, pointed at the top, which is a covering of copper as yellow as gold, above which is the figure of a man sitting in his chair looking at the rising sun." From these paragraphs Monsieur Hittorff is led to conclude that the French Obelisk had originally a bronze capping, gilt, and which hid originally the rough misshapen pyramidion.

The Professor then described drawings of various obelisks existing in Egypt, France, Constantinople, St. Petersburg, &c.

There are some particulars connected with the sizes of the blocks used in construction, and of the monoliths, their transport from the quarries to the place of erection, and also their mode of construction, to which I shall now allude.

The blocks were taken from the quarry on sledges; and in a grotto behind E'Dayr, a Christian village between Antinoë and El Bersheh, is the representation of a colossus, which a number of men are employed in dragging with ropes; a subject doubly interesting from being of the early age of Osirtasen II., and one of the very few paintings which throw any light on the method employed by the Egyptians for moving weights. For it is singular that we find no illustration of the mechanical means of a people who have left so many unquestionable proofs of skill in these matters.

One hundred and seventy-two men, in four rows of forty-three each, pull the ropes attached to the front of the sledge; and a liquid, probably grease, is poured from a vase by a person standing on the pedestal of the statue, in order to facilitate its progress as it slides over the ground, which was probably covered with a bed of planks, though they are not indicated in the painting.

Some of the persons employed in this laborious duty appear to be Egyptians: the others are foreign slaves, who are clad in the costume of their country; and behind arefour rows of men, who, though only twelve in number, may be intended to represent the set which relieved the others when fatigued.

Below are persons carrying vases of the liquid, or, perhaps, water for the use of the workmen, and some implements connected with the transport of the statue, followed by taskmasters with their wands of office. On the knee of the figure stands a man who claps his hands to the measured cadence of a song, to mark the time and ensure their

* Paper read by Professor Donaldson at the Architectural Exhibition, May 6th.

simultaneous draught; for it is evident that, in order that the whole power might be applied at the same instant, a sign of this kind was necessary; and the custom of singing at their work was common to every occupation among the Egyptians, as it now is in this country, in India, and many other places; nor is it found a disadvantage among the modern sailors of Europe when engaged in pulling a rope, or in any other labour which requires a simultaneous effort.

The height of the statue appears to have been about 124 feet, including the pedestal; and it was of limestone, as the colour and the hieroglyphics inform us. It was bound to the sledge by double ropes, which were tightened by means of long pegs inserted between them, and twisted round until completely braced; and, to prevent injury from the friction of the ropes upon the stone, a compress of leather or other substance was introduced at the part where they touched the statue.

It is singular that the position of the ring to which all the ropes were attached for moving the mass was confined to one place at the front of the statue, and did not extend to the back part of the body; but this was owing to the shortness of the body; and when of great length it is probable that ropes were fixed at intervals along the sides, in order to give an opportunity of applying a greater moving power. For this purpose, in blocks of very great length (as the columns at Fateerah, which are about 60 feet long and 8½ feet in diameter), certain pieces of stone were left projecting from the sides like the trunnions of a gun, to which several ropes were attached, each pulled by its own set of men.

Small blocks of stone were sent from the quarries by water to their different places of destination, either in boats or rafts; but those of very large dimensions were dragged by men overland; and the immense weight of some shows that the Egyptians were well acquainted with mechanical powers, and the mode of applying a locomotive force with the most wonderful success.

The obelisks transported from the quarries of Syene, at the first cataracts, in latitude 24°. 5'. 23", to Thebes and Heliopolis, vary in size from 70 feet to 93 feet in length. They are of one single stone; and the largest in Egypt, which is that of the great Temple at Karnak, I calculate to weigh about 297 tons. This was brought about 138 miles from the quarry to where it now stands; and those taken to Heliopolis passed over a space of more than 800 miles. The power, however, to move the mass was the same, whatever might be the distance; and the mechanical skill which transported it five, or even one, would suffice for any number of miles.

In examining the ruins of Western Thebes, and reading the statements of ancient writers regarding the stupendous masses of granite conveyed by this people for several hundred miles, our surprise is greatly increased. We find in the plain of Qoorneh the two colossi of Amunoph III. of a single block each, 47 feet in height, which contain about 11,500 cubic feet, and are made of a stone not known within several days' journey of the place; and at the Memnonium is another, of Rameses II., which, when entire, weighed upwards of 887 tons, and was brought from E'Sooan to Thebes, a distance, as before stated, of 138 miles. This is certainly a surprising weight, and we cannot readily suggest the means adopted for its transport, or its passage of the river. But the monolithic temple, said by Herodotus to have been taken from Elephantine to Buto, in the Delta, was still larger, and far surpassed in weight the pedestal of Peter the Great's statue at St. Petersburg, which is calculated at about 1,200 tons.

He also mentions a monolith at Sais, of which he gives the following account:—"What I admire still more is a monument of a single block of stone, which Amasis transported from the city of Elephantine. Two thousand men (of the class of boatmen) were employed to bring it, and were occupied three years in this arduous task. The exterior length is 21 cubits (31½ feet); the breadth 14 cubits (22 feet); and the height 8 cubits (12 feet); and within, it measures 18 cubits 20 digits (28 feet 3 inches) in length; 12 cubits (18 feet) in breadth; and 5 cubits (7½ feet) in height. It lies near the entrance of the temple, not having been admitted into the building in consequence, as they say, of the engineer, while superintending the operation of dragging it forward, having sighed aloud, as if exhausted with fatigue, and impatient of the time it had occupied; which, being looked upon by Amasis as a bad omen, he forbade its being taken any further. Some, however, state that this was in consequence of a man having been crushed beneath it while moving it with levers."

Herodotus's measurement is given as it lay on the ground. His length is properly its height; and his height the depth, from the front to the back; for, judging from the usual form of these monolithic monuments, it was doubtless like that of the same king at Tel-el-Mai, given in Mr. Burton's "Excerpta," the dimensions of which are 21 feet 9 inches high, 13 feet broad, and 11 feet 7 inches deep; and, internally, 19 feet 3 inches high, 8 feet broad, and 8 feet 3 inches deep.

The weight of the Saite monolith cannot certainly be compared to that of the Colossus of Rameses; but when we calculate the solid contents of the Temple of Latona, at Buto, our astonishment is unbounded, and we are perplexed to account for the means employed to move a mass which, supposing the walls to have been only 6 feet thick (for Herodotus merely gives the external measurement of 40 cubits, or 60 feet in height, breadth, and thickness), must have weighed upwards of 5,000 tons.

The skill of the Egyptians was not confined to the mere moving of immense weights: their wonderful knowledge of mechanism is shown in the erection of obelisks, and in the position of large stones, raised to a considerable height, and adjusted with the utmost precision; sometimes, too, in situations where the space will not admit the introduction of the inclined plane. Some of the most remarkable are the lintels and roofing-stones of the large temples; and the lofty doorway, leading into the grand hall of assembly, at Karnak, is covered with sandstone blocks, 40 feet 10 inches long, and 5 feet 2 inches square.

In one of the quarries at E'Sooan (Syene) is a granite obelisk, which, having been broken in the centre after it was finished, was left in the exact spot where it had been separated from the rock. The depth of the quarry is so small, and the entrance to it so narrow, that it was impossible for them to turn the stone, in order to remove it by that opening: it is, therefore, evident that they must have lifted it out of the hollow in which it had been cut, as was the case with all the other shafts previously hewn in the same quarry. Such instances as these suffice to prove the wonderful mechanical knowledge of the Egyptians; and we may question whether, with the ingenuity and science of the present day, our engineers are capable of raising weights with the same facility as that ancient people.

Pliny says that the first Egyptian king who erected an obelisk was Mitres, who held his court at Heliopolis, the City of the Sun,—the deity to whom they were said to have been dedicated. Many others were raised by different monarchs; and Rameses made one 99 feet in height, "on which he employed 20,000 workmen." And, fearing lest the engineer should not take sufficient care to proportion the power of the machinery to the weight he had to raise, he ordered his own son, as I have already said, to be bound to the apex, more effectually to guarantee the safety of the monument.

The same writer describes a method of transporting obelisks from the quarries down the river, by lashing two flat-bottomed boats together, side by side, which were admitted into a trench, cut from the Nile to the place where the stone lay, laden with a quantity of ballast exactly equal to the weight of the obelisk; which, so soon as they had been introduced beneath the transverse block, was all taken out; and, the boats rising as they were lightened, bore away the obelisk in lieu of their previous burden. But we are uncertain if this method was adopted by the Egyptians; and though he mentions it as the invention of one Phœnix, he fails to inform us at what period he lived.

Mr. Donaldson then described the modes employed for erecting the obelisk in the Piazza of St. Peter's, the Alexandrine column in St. Petersburg, and the Luxor obelisk in Paris.

THE HORTICULTURAL GARDENS.

The Flower-show in the gardens of the Royal Horticultural Society, on Wednesday last, was marred somewhat by showery weather, but must nevertheless be regarded as a success. The competition included orchids, greenhouse azaleas, rhododendrons, roses, Cape heaths, pelargoniums, cinerarias, and tulips; newly introduced plants that have received special recognition from the Floral Committee during the years 1859, 1860, and 1861; seedling florists' flowers and hybrids; groups of plants, showing effective arrangement for decorating a small conservatory (an excellent item); Lady Dorothy Nevill's prizes for the best arrangement of cut flowers for drawing-room decoration (not very satisfactorily responded to); and an exhibition of horticultural implements, comprising heating apparatus, improvements in ventilation, and garden machines. Although not the most showy part of the exhibition, this is not the least important. While no stinted thanks are due to those by whose means our country is enriched by the introduction of new plants, surely those also who, by the discovery of mechanical contrivances, enable us to cultivate the plants we already possess with greater success are entitled to no less a share of our interest and gratitude.

Many of the individual plants exhibited, especially roses and azaleas, were exquisite; and the aspect of the principal tent, as a whole, was superb. Some of the new plants shown deserve more consideration than we are able to give them, and so they would if the names chosen were a trifle simpler. The Anœctochilus Nevilleana, for example, and the Nephelephyllum cordifolium Blume, standing side by side, are long names for small things;—almost as bad as the better-known Antirrhinum caryophylloides, or the Guiterezia gymnospermoides.

The waterworks have now been tried, and found to work well. Some jets have been placed in the small basins between the canals, for the purpose of enlivening this part of the garden. The cascades pour out in a continuous stream a sheet of water 40 feet in breadth, and about 2½ inches deep.

From the official statement we learn that the water is pumped up from the artesian well by the small engine in the back part of the conservatory, which draws about 100 gallons in a minute, and pours it into the system of pipes or arteries by which all the basins and canals are connected together. When they are full, the Appold pump is set in motion. One condition of its doing its duty is that these pipes and canals are full of water, as it has to set it in circulation; and, of course, unless they are full, that cannot be done. One great aorta leads down to the reservoir, on the base of the memorial of the Exhibition of 1851, on each side of which there is a broad low arch, within which the water pours from the reservoir, forming four falls, one facing each quarter of the compass, north, east, west, and south. Issuing thus, under and within the archway, it is received by a basin which communicates with all these falls, and conducts the water to the front, where it pours itself in a fine sheet into a second large cup or basin, over the lip of which it falls in a still larger sheet into the great basin itself. The water in it flows over into pipes on each side, which may be likened to the arteries leading to the limbs in the body, and which lead to the small basins between the canals. After receiving an addition there from the jets (which are worked separately and independently by the small engine), it overflows into a reservoir behind each basin, from which it again flows into a pipe, which empties itself by a cascade into the canals. At the other end of these it overflows into another reservoir, whence it is conducted in pipes back to a great culvert, the position of which may be known by a broad iron plate in the walk facing the memorial on the south side of Mr. Nesfield's circular composition of gravel beds in front of the great basin. This large culvert, up which a man might walk, and which, to continue the comparison of circulation, may be likened to the *vena cava*, receives all the water on its return from the four canals, and is drawn up by the Appold pump. By this means the whole of the garden waterworks are set in motion at once; and 5,000 gallons are passed through the pump every minute.

Baron Marochetti's statue of Charles Albert is now in its place, and the sculptor communicates the following information regarding it:—"The monument was inaugurated in Turin in July last year. It was paid by public subscription and the Government. The upper part is executed in red granite from Baveno, on the Lago Maggiore; the grey and lower part is executed in granite from Penryn, in Cornwall, from Messrs. Freeman's quarry. The whole of the pedestal is polished, except the steps. The king, Charles Albert, is on horseback, starting for the Italian crusade. On the four sides of the pedestal are allegorical statues, of Faith holding the crown of thorns, the Statute, Justice, and Jurisprudence. On the base are four bas-reliefs, representing the Passage of the Ticino, the Battle of Goïto, the Abdication of Charles Albert in favour of his son Victor Emmanuel, and his Death at Oporto. On the four corners of the pedestal are four statues of Piedmontese soldiers—of artillery, cavalry, infantry, and Bersaglieri." It did not enforce from us much admiration, but then,—it was raining hard. We may see it under better circumstances another day.

The American show will be opened on the 30th instant.



MONUMENT OF THE EMPEROR NICHOLAS I., ST. PETERSBURG.
DESIGNED BY THE LATE RICARD DE MONTFERRAND, ARCHITECT.

THE MONUMENT OF THE EMPEROR NICHOLAS I. RECENTLY ERECTED IN ST. PETERSBURG.

MEMORIALS AND STATUES.

The question of right principles of design for memorials of individuals the most eminent,—the several questions rather, of nature of the testimonial and realization of the idea of the *monument*, and all those which relate to the art-treatment of "public statues,"—must shortly claim elucidation at our hands, or a re-statement of views that long since we put forth. Pending the interval of the accomplishment of our duty, progress in the division last referred to, of the subject, will be induced by the publication that we make this week, of one of the most recently-achieved examples of the form of memorial on the Continent, which is commonly, and with a sort of logic which is productive of bad result, with us called *statue*. Seldom, indeed, do we find the intention which is that expressed by the term *monument*, along with the perception of the principles of collective art, which we have claimed as common with perception of what is architecture, and as perhaps best to be acquired through medium of an architect's education properly conducted,—pursued and made apparent with the success that characterizes the work which is now, probably for the first time, brought to the notice of British artists. The monument is that at St. Petersburg, just completed, of the Emperor Nicholas, which is due so far as the main design, to an architect, and as regards the general execution and details to sculptors, individuals of different professions nominally, but who appear in this instance to have co-operated to produce the work which might appear that of one artist,—architect capable of moulding the figure, and feeling that *sculpture* should be predominant in such a monument, and a representation of the deceased be the end and key-note, or sculptor practised in the details of architectural mouldings and ornament, and conversant with the æsthetics of our art and the principles of grouping and composition.

The design was made by the now celebrated architect Ricard de Montferrand, the architect of the cathedral of St. Isaac and the Alexander column. The equestrian statue was the production of the Baron Klodt, the artist of the four equestrian groups which are placed at the ends of the Anitschkow bridge, St. Petersburg. The allegorical figures, *rilievi*, and decorations of the monument are by other hands. We conceive the whole memorial to be as useful in questions of the special art of the sculptor—including the point constantly misunderstood in bronze statues, that of the right treatment of material,—as it is with what we say is the larger art-question of the monument.

The Emperor Nicholas died on the 2nd of March, 1855. On the 2nd of May of the following year, the present Emperor gave his approbation to the Montferrand's design. The work stands in the centre of the square in front of the cathedral of St. Isaac. The view was taken prior to the absolute completion of the monument, an iron railing having to be added. Whether this railing would improve the effect of the base, or not, would depend on the design. Our readers are aware that we are not desirous to see the London practice of surrounding the bases of monuments, statues or buildings, by railing, continued; since there are the strongest æsthetic objections to it. But when a pedestal has been intelligently designed for an enclosing railing, the question is whether the latter is not necessary to the effective grouping. In the case of the statue of George III., in Cockspur-street, the removal of the railing, which was bad enough, allows the ugliness and nakedness of the pedestal, and the consequent defect of the monument, to be quite apparent.

"The monument of the Emperor Nicholas," says Mr. Théophile Gautier, to whom we shall be largely indebted for the description which follows, "is conceived in quite another idea to that of Peter the Great. In this last, the personage is everything; all the interest is forcibly concentrated upon him; the history of his reign is written in an abstract fashion upon his physiognomy, in his bearing, in his gesture, in his horse that prances, in the abrupt block that he fascalades. It is a *synthesis*, that statue; the man and the sovereign are fused together in it. The monument of Nicholas I., on the contrary, is a *résumé*, an exposed summary of the acts and life of the Emperor. Bas-reliefs, relating to historical facts; warlike trophies; emblematic figures; group and interpose on the flanks of the monument, which finally is crowned by the statue—cause and effect, commencement and end."*

The plan of this monument of the Emperor Nicholas approaches the form of an ellipse; the proportion between the major and minor axes being as eleven to ten. The main part of the bulk may be regarded as made up of six horizontal zones of differing materials and contours. Three steps of red granite of Finland form the base, broken by four blocks each supporting a bronze candelabrum. The ornamentation of the candelabra is composed of eagles, with festoons, scrolls, and acanthus leaves. On the steps is a double surbase in grey granite of Serdabol, the upper division being panelled, the filling of the compartments or coffers raised and facet-cut. On this last is the pedestal or inferior division of the double pedestal properly speaking. Its lower portion is in porphry of Schokane, of deep amaranth colour. Forming part of it are four minor or engaged pedestals, upon the die of each of which is the cipher of the deceased Emperor, surmounted by a crown, and enveloped with foliated ornament; and the whole has a fluted plinth and base mouldings, and a bold cornice. The spaces between the engaged pedestals or projections are filled by four *rilievi* in bronze, commemorative of events in the reign of the Emperor. The first subject in order, that on the anterior face of the monument, or towards the cathedral, relates to the event of the year 1825, when the young sovereign, by a commanding bearing and self-possession, appeased a formidable revolt. The Emperor in full uniform, standing on steps of the Winter Palace, extends his hand with an irresistible gesture over the armed crowd of officers and soldiers, who prostrate themselves demanding his pardon. The second subject which is to the right of the preceding, commemorates the celebrated episode of the cholera of 1831. The populace of the capital, excited by the spectacle of the ravages of the disease, assembled on the Sennaïa or hay-market, and gave themselves up to serious excesses; whilst the police feared to act. The Emperor was not at St. Petersburg; but, being informed of the posture of affairs, he set out with a single *aide-de-camp*, and arrived on the scene in a little travelling-carriage with post-horses. He raised his tall and imposing stature, on the front of the *calèche*, and with a terrible voice, ordered the whole crowd, which had uncovered on seeing him, to fall on their knees and demand pardon of God for having offended their Emperor in doubting of him. The *rilievo* represents this scene. The third subject represents the Emperor at the moment when in the midst of the General Assembly of the Council of the Empire, he confirmed the code of laws (Swod-Zokonow) and decorated Count Sperowsky, author of the code, with the order of St. Andrew. The fourth, and last, *rilievo*, represents the inauguration of the railway, from St. Petersburg to Moscow. The Emperor, in the midst of a group of officers and engineers collected at the bottom of a valley, examines the boldly-constructed lattice-bridge of the Volga. The three first of these works were executed by Romazanow; and the last is by Salemann. They were produced from the models, by the galvano-plastic process. They are in high-relief as to the figures, and with a representation of the buildings in the distance and actual scene of the occurrence; and are characterized by great beauty and delicacy.

The upper portion of the pedestal, or pedestal proper of the statue, is of white marble with bronze ornaments, and comprises about half the height of the whole pedestal. The cornice which forms the *zocle* for the statue, like every other arrangement of mouldings in this monument, is admirably designed. Four allegorical figures are attached to the upper pedestal, and carried by the projections of the base. They are sedent and female figures, with countenances recalling those of members of the imperial family; and are intended to personify the virtues which make reigns of sovereigns great. At the right, in looking at the face of the statue, is Force with the warrior's buskin, lance and buckler, seated upon a lion, and crowned with oak and laurel leaves. Further on, on the same side of the spectator, is Faith, with the Gospel and the Cross. Passing round the monument, the next figure represents Wisdom, showing to all the mirror of Truth. Again at the front, left side, is Justice holding the scales in the left hand, and resting the right on the sword. The sword Mr. Gautier appears to think, should not have been introduced, since punishment by death does not exist in Russia. Each angle or projection in the lower pedestal, bearing the sedent figure, is carried up by voluted or scroll buttresses, filling the space between the back of the figure and the cornice, and enriched with bold acanthus-leaf ornament. The four noble figures, with ornaments of the same part of the pedestal immediately to be mentioned, were modelled by Salemann. The spaces between the allegorical figures, corresponding with the *rilievi* in the lower pedestal already described, are filled three of the spaces with panels charged with trophies, and the other space at the front with the inscription. Below the panels and inscription is a festoon. The trophies are composed of ancient Russian weapons and armour in one panel, of Circassian in another, and of modern cuirasses, casques, drums, lances, and standards, in the third. The inscription, put into our Roman letters, is "Nicolaiou I Imperatorou Vserossiskomou" (or to Nicholas I., Emperor of all the Russias), and the date "1859," that of the completion and inauguration of the statue. The Russian eagle is placed above the inscription, and covering the cornice.

Baron Klodt deserves praise which has been awarded to him, for his treatment of the points of the horse, as well as for that of a figure in modern costume, subject to be contrasted with the work of Falconet, at some steps distance, and already referred to, which last work is usually regarded as an excellent example of the Classic form of treatment. The writer in the "Trésors d'Art," further alludes to the action of the horse, and to the support on the hind legs only as a marvel of equilibrium. If we remember rightly, when the Wellington statue was first placed on the arch at Hyde-Park Corner, exception being taken to a supposed excessive thickness of the legs, it was answered that such thickness was necessary for strength. It happens that there is now in the north-west tower of the International Exhibition Building (part of the space appropriated to the Austrian Division) a photograph of the Chevalier de Fernkorn's monument of the Archduke Charles of Austria, which was erected in 1859 at Vienna. As shown by a cast of the horse's head, it is a colossal work; and though as a monument it is inferior to or at least less important decoratively considered, than the work which we publish an engraving of, the fire and spirit in the horse is remarkable, whilst the support is on the hind legs as in the example at St. Petersburg. Besides the works at St. Petersburg, the statue of Peter the Great being one, there is an example of the same treatment of attitude in the equestrian statue in the Place des Victoires, at Paris. Any admiration of the sculptor's constructive skill however leaves the question of art to be considered; and on that question we might have difficulty in approving of the chosen attitude. The Emperor, one of the best horsemen of his time, wears the uniform of colonel of the regiment of horse-guards, with cuirass, boots and spurs, and the ribbon of the order of St. Andrew, and on his head the helmet with the double-headed eagle, as he would appear when reviewing troops. The left hand holds the reins, the right hangs vertically. "The expression of the countenance," says Mr. Gautier, "is in harmony with the bearing of the sovereign; it is calm and serene; and the natural regularity of the features gives to it something antique and majestic."

What we are most anxious to call to the attention of our readers, as illustrating and corroborating all that we have urged on the subject, is not

* "Trésors d'Art de la Russie Ancienne et Moderne," published under the patronage of the Emperor Alexander II. This large and costly work will consist, when complete, of 200 photographs, by Mr. Richebourg, and descriptive matter, the latter of more than ordinary value to architect-readers, by Mr. Gautier. For the production of the work, the literary man and the photographer visited the country in company; and though the photographs are, whether from difficulties of the climate or whatever reasons, inferior to many others by the same hand, they are indispensable to the knowledge of Russian art. The numerous representations of the interiors of buildings or apartments, a branch of photography to which Mr. Richebourg had given special attention, are interesting and important in numerous questions heliographical and of perspective. Amongst the photographs of the cathedral of St. Isaac, is a view of the dome internally, or as seen from the pavement, which view was obtained from a reflection, and not directly, as when the image can be received as ordinarily, on a perpendicular plane. The one defect of the publication, the "Trésors d'Art," &c., is the great and quite unnecessary bulk of the book or "album" itself. The page might have been half or one-third the size, with no reduction of the photographs; and the value of the work for reference, would have been doubled or trebled. The cost, much of it absorbed in paper, is 100 francs the *livraison*, consisting of twelve photographs and twenty-four pages of text. The class of works issued by Mr. Gide, the publisher of the work in question, or some of the works one to the French Government, would be known in better proportion to their deserts, if money were less *wasted* in their mere form of publication.

merely the realization of the memorial idea, of the architectonic grouping, the spreading base, and the cared-for accessories, as candelabra, for which the London substitutes are common street lamp-posts, not the management of the mouldings and architectural ornaments, and the beauty and richness of the whole, but the treatment of the metal-work. The very tassels, and frippery, so to speak, of military costume, are exhibited and made to help the right effect in the treatment of bronze, like the joints of armour or the embroidery of a surcoat in much of the Italian and French Renaissance sculpture of the same material. The principle at least, which is the exact opposite of that adopted in the statue of Sir Henry Havelock, and in the copyism of marble sculpture as exemplified by the fact of the bronze statue of Dalton at Manchester, which one of our most eminent men unwisely permitted himself to be directed to reproduce from the marble of Chantrey, is the correct one; and that principle pervades the whole monument at St. Petersburg. In that work, also, whilst the pedestal is part of the original design, and not supplied, a mere block from the mason, to a sculptor who had never directions or an idea beyond the portion, chief portion be it allowed, of a monument, the "statue,"—the combination and interpenetartion of the different materials is well managed: so that on all accounts, the statue is not one black mass, and the support another, distinct, of dirty white. As regards colour of the bronze in the St. Petersburg monument, we have no information. Our readers know that we attach importance to the question of component parts of bronze, as belonging to the subject in which we take so much interest. We commend the "reasons why" of the beauty of the St. Petersburg monument, to the notice of the Manchester town-clerk who lately, on a discussion of the question of the local memorial of Prince Albert, expressed his disinclination to a *bronze* statue, from recent experience of that form of monument.

The casting of the statue was not completed without accidents. The first attempt was a failure. The Emperor Alexander indemnified the sculptor for the loss, and furnished means to recommence the operation, which then succeeded. The weight of the statue is 416,000 kilogrammes not comprising the internal braces, which are prolonged into the pedestal.

The total height of the monument from the footway, where the railing is or will be, is 15 *mètres*. The statue, exclusive of the bronze plinth, is 5 *mètres* 68 *centimètres*. The execution of the work of the pedestals, in very small blocks, demanded great care.

The work was commenced in the autumn of 1856; and the first stone was laid in January 1857. The lower steps were placed during the latter year; and the year following was taken up in preparing the stone, which was very hard to cut and chisel, and in completing the pedestal with the accessories which had been during the time prepared. The statue was fixed in its place on the 23rd of May, 1859.

The ceremony of consecration and inauguration took place on the 16th July, 1859 (28th July, New Style). After a solemn Te Deum, chanted by the clergy at the door of the cathedral, the Emperor and the Imperial family occupying an *estrade* in front of the portico, the immense crowd of troops and spectators knelt down and recited prayers for the Emperor deceased. The Imperial *cortége* then repaired to the foot of the statue, the Empress and the Grand-Duchess being under a tent close at hand, and the troops defiled past, as it were reviewed by the Emperor reigning and the Emperor deceased.

We regard the monument as presenting an *ensemble* which is highly satisfactory. The architect has been happily inspired from the monument of Frederic the Great, at Berlin; but his taste has imparted ingenious modifications; whilst the richness and variety of the materials employed have added a new element of grandeur and sumptuousness. The favourable result is helped by the fact of the sufficiency of the site and *emplaçement*; a point on which we have often insisted. In a large *place*, where are situated the cathedral, the palace of the Grand-Duchess Marie Nicolaievna, and the symmetrical hôtels of the Minister and the Ministry of the Domains, the monument of the Emperor Nicholas is completely disengaged; and on every side a sufficient distance may be retreated to, to realize the general effect, whilst seeing the figure of the horseman detach itself from the sky,—advantages rarely to be found in modern towns.

Whilst on this subject of monuments and equestrian statues, we may mention that the monument of Dom Pedro I.—a work even more remarkable for the accessories of the pedestal, than the monument above noticed—has just been placed in its position at Rio Janeiro. It is by the French sculptor, Louis Rochet. We spoke of it in our notice of the exhibition of paintings and sculpture, last year, in the Palais de l'Industrie.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE ordinary meeting of members was held on Monday evening last, at the House in Conduit-street.

The chair was taken by Mr. Ashpitel, V.P.

The minutes of the last meeting having been read and confirmed, Mr. John Henry Parker, of Oxford, was unanimously elected an honorary member of the Institute.

The Chairman observed that, as Mr. Parker had been elected one of their members, he wished to remark that, in consequence of the death of a relative, Mr. Parker had given up all ideas of business for the future, and intended to devote the remainder of his life to the practical illustration of architecture and archæology, for the study of which ample time and means would be at his disposal.

Mr. Penrose, hon. sec. for foreign correspondence, announced a number of donations from foreign correspondents, including the second volume of the "Scientific Mission to India and High Asia," by Hermann Adolph & Robert de Schlagentweit.

A vote of thanks was passed to the donors.

Mr. William Simpson then read a paper "On the Architecture of India." (This we shall print hereafter.)

At the conclusion,

Mr. D. Wyatt observed, that the subject to which Mr. Simpson had invited their attention was one of very great interest to the student of Indian architecture. It would, he thought, be found upon inquiry that the more ancient the sculpture of India was, the better it was. The earlier works were purer than those of later date, for they exhibited, both in composition and drapery, the outline of Classic art. Without dwelling at length upon the subject, he would invite architects to study the monuments which were contained in the museum belonging to the Secretary of State and Council for India, and which included many curious and elaborate descriptions, representing almost all the periods and many of the localities of India. In the library of the Secretary of State were also many important drawings and studies of antiquity, which would well repay a visit. The Mackenzie, the Balfour, and other collections were most interesting, and replete with materials to reward the industry of the artist and architect. It was, he considered, most creditable to Mr. Simpson as an artist, to have laboured with so much industry and ability in the interesting field to which he had devoted his time; and he was sure that all who had had the privilege of hearing his paper would feel indebted to him for it.

Mr. Fergusson, in proposing that the thanks of the meeting be awarded to Mr. Simpson, observed, that he did so with great pleasure, as he had never heard a more gratifying paper read. He could state from personal experience that there was not a single building explained or sketched by Mr. Simpson which was not faithfully described, as he (Mr. Fergusson) had himself either seen or drawn every one of them. He quite agreed with Mr. Wyatt that Mr. Simpson was entitled to much credit for the enthusiastic manner in which he had entered upon the subject, and for the admirable way in which he had acquitted himself in its regard; and he only regretted that it was not the intention of that gentleman to publish an architectural work, instead of a drawing-room book.

Mr. C. H. Hayward said it was but due to Mr. Simpson to say that he had also extended his researches to the wooden architecture to be found among the mountains of the Himalaya; and that the paper which he had read that evening contained a reference to only a small portion of his studies.

Mr. Penrose seconded the vote of thanks to Mr. Simpson.

The Chairman said that, as the subject to which Mr. Hayward referred was one of great interest, namely, the ancient wooden architecture of India, perhaps Mr. Simpson could upon a future occasion favour the Institute with a paper on it. It would, he feared, be too late this session, as the remaining evenings were occupied; but he had no doubt the Institute would be happy to have another paper next session.

Mr. Simpson expressed his willingness to comply with the suggestion of the chairman, and to place what little information he had gathered at the disposal of the Institute, because he considered it a pity that so little was known of the architecture of India. There were, no doubt, some materials for study at the East-India Museum, but who went to see them there?

In reply to a question from Mr. Papworth,

Mr. Fergusson observed that there was not a single stone building in India of a date antecedent to the time of Alexander the Great. All the early stone buildings were copies of the wooden buildings which had previously existed in the country, and all the ornamentation was Greek. This continued down to the period of Christianity, when the Greek style died out, and was replaced by Hindoo.

Mr. Burnell said that, in his opinion, one question had been somewhat neglected in discussions on this subject, and that was the history of the religions of India. They were all, no doubt, aware that forms of faith were most potent in exciting an influence on the forms of art. They had heard that evening of Buddhism as the pristine religion of India: that, however, was not so, as Buddhism was but a reformative movement among the Brahmins. It was suppressed after a time, and the religion of Brahminism again obtained supremacy over the minds of the people. Buddhism was comparatively a modern religion;* and, this being the case, the coincidence between ornaments of Indian and Helenic origin being found in combination would not occasion surprise. The point to which he wished to call attention was that, while we were studying art, we ought also to study the peculiar phases of the religion of the people; for, until we had worked out the one, we could not understand the other.

The Chairman inquired whether there had been no stone construction in the Temple of Nineveh.

Mr. Fergusson repeated that no stone buildings were found anterior to the epoch of Alexander the Great, and that the stone structures which then followed were copies of wooden buildings. With reference to the observation which had fallen from Mr. Burnell as to the impossibility of understanding the phases of Indian architecture unless in connexion with the history of the Indian religions, he might be allowed to say that the student could trace the rise of architecture everywhere in India. The worship of Bramah was a domestic and unceremonial worship, which did not require temples; while Buddhism, which followed it, required temples. The consequence was, that temples and monasteries were built of wood, which continued until the time of Alexander the Great, when the Greeks began to influence Indian thought. Indian architecture then began; and a great quantity of Buddhist temples were then erected.

The Chairman then put the vote of thanks, which was carried unanimously.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

AT a meeting on May 14th, Mr. Turner exhibited some antiquities recovered from the Thames, opposite the Carron Wharf, Upper Thames Street. They consisted of a knife-haft of bone, representing a lady of the time of Henry IV.: on her left hand she supported a hawk, an emblem indicative of rank as early as the 12th century; a gourd-shaped bottle of brown earth, of the 15th century; a drinking pot; a circular dish of delft ware; fragments of a polychromic galley tile; boars' tusks, &c. Mr. T. Wright, F.S.A., exhibited the drawing of a stone jug, cut in solid sandstone, found at Moor Grange, near to Kirkstall Abbey. It measures 8 inches in height and 9 in width.

A paper by the Rev. Prebendary Scarth, on

* That the Buddhism of India, founded by Sakya, was later than Brahminism, is evidenced by the fact that Sakya was himself the son of an eminent Brahmin; but there is reason to believe that Sakya's Buddhism was a revival no less than a reformation. This idea has been urged ere now; but there is one reason in its favour which we have not seen adduced by anyone. The great end of Buddhism, as every one now knows, is the mystical state of annihilation, or destruction, called, variously, nirvana, nirwan, nirvritti, &c. Now, in the earliest sacred records of the Brahmins, which speak of the conquest of India by the Aryan forefathers at a time when even Brahminism was not yet developed, there is a specific allusion to the native Indian god or "goddess of destruction" called "Nirriti," whose dread attributes struck terror to the hearts of even the conquering "white-visaged friends of Indra." The idea that the pristine religion of India was a species of Buddhism, therefore, is thus strongly countenanced by the sacred records of the Brahmins themselves, although they maintain the priority of their own religion. The Buddhism of Sakya, in truth, appears to have been a temporary *revival* of the *native* religion of India, long after that religion had been suppressed by the conquerors and superseded by their Brahminical religion, which finally became again triumphant when the Buddhists were at last expelled.—Ed.

Roman Inscriptions found at Bath, was read, in continuation of a former communication.

Lord Boston laid before the meeting a shoe-horn of the 16th century, and a leathern bottle in the shape of a pistol. The latter was referred for particular examination to be laid before the next meeting. The former is an interesting object: Mr. Cuming described it as belonging to the time of Elizabeth, and it had been obtained by his lordship from the effects of a convent sold at Brussels a few years since. It is formed of fine ox-horn, and measures 19½ inches in length, the black tip being hollowed out to hang upon a hook, and is surrounded by 4 rings. The white convex surface is divided into 3 panels, having engraved illustrations of SPES, CARITAS, and FIDES, with a date of 1595. The engraving has been most carefully executed and rubbed over with a black pigment.

Mr. Cuming read a paper illustrated by a profusion of examples of the Norman Fermail—brooch or buckle.

TOWN SEWAGE.

AT a meeting of the select committee of the House of Commons appointed to inquire into the best means of utilizing the sewage of the cities and towns of England, with a view to the reduction of local taxation and the benefit of agriculture, Mr. J. Brady in the chair; Mr. Mechi said in his evidence;—That he had applied sewage manure to lands with the best results, in the proportion of 1,000 tons to an acre. He diluted sixty gallons of sewage manure with forty gallons of well water, and he believed great mischief was done by putting the manure on the land too strong. The cost would be one penny a ton without any reference to the expenses, except those incurred on the farm. If the London sewage were put on in large quantities it would probably cause a nuisance. A friend of his had given an increase of from 30s. to 5l. per acre on his rental for 300 acres of land, at Croydon, because it had been irrigated by the sewage of that town. He considered a human being in manurial value equal to a sheep; and, taking the whole of England, it would be equal to two sheep per acre per annum. He believed the sewage from the population of London would manure a very large area; but in the proportion he had mentioned it would not pay: a larger quantity of it would pay. He estimated the value of the sewage of London at two millions and upwards; and he formed that estimate on uncering principles, bearing relation to the kind and quantity of food consumed. Other manurial substances were derived from slaughter-houses, gas-works, and hide and skin works; and, taking all these into consideration, he could not value the sewage of London at less than two millions per annum. He would give twopence per ton for London sewage on ordinary days, if placed on his farm. He could not get as much sewage manure as he wanted. He would apply it chiefly to grass-land as a source of profit. The average produce of grass-land throughout the kingdom might be taken as five tons of green grass per acre, and one ton and a quarter of hay per acre. He would apply London sewage in the proportion of 2,000 tons per acre, which would cost 17l. 15s., and would yield an increase of twenty-four tons of grass per acre or six tons of hay.

THE ALBERT MEMORIALS.

Oxford.—A public meeting, presided over by the mayor, has just been held, to consider the propriety of raising a public memorial in honour of the late Prince Consort. The meeting was well attended, and a resolution in favour of having a memorial in Oxford was carried. The question as to what the memorial should consist of was next discussed; and among the various propositions were a fountain, a new wing to the Radcliffe Infirmary, and Model Lodging Houses. The new wing to the Infirmary found so much favour that the other proposals were withdrawn, and a unanimous vote passed for the new wing, which is to be called the Albert wing. The mayor stated that a statue of the Prince Consort would be given by the citizens to be placed in the new University Museum.

Leeds.—The town council have passed a unanimous resolution to the effect, "that the mayor, having informed the council that in submitting the proposed arrangement of the statue of his late Royal Highness the Prince Consort for the approval of her Majesty, he had stated that the vestibule of the town-hall would be exclusively appropriated for all time to the statues of her Majesty Queen Victoria and the late Prince Consort; and having further reported that her Majesty 'most entirely approved thereof; and that no arrangement could be more gratifying to the Queen;' it is resolved, that in the opinion of this council, and in order to perpetuate the remembrance of her Majesty's and the late Prince Consort's most gracious visit to this borough, it is undesirable ever hereafter to place any other statues than those of her Majesty and the late Prince Consort in the vestibule of the town-hall."

Balmoral.—At a meeting of the tenants on the Royal estates, held at Abergeldie lately, it was finally resolved to erect a granite obelisk as a memorial of the Prince. The place of erection was left to the decision of the Queen; and she has, we understand, decided upon a little wooded "knowe," or knoll, to the south-west of the castle, and near the road. Various designs for the monument were submitted for the approval of her Majesty; the one she has chosen being, it is said, by Mr. Beeton, a resident at Balmoral; and as it has already been contracted for, the work will be proceeded with immediately.

Hastings and St. Leonards.—The committee have selected the following designs from nearly fifty: they will be submitted to the subscribers:—1. A Gothic tower (by Mr. Stirling, Liverpool), of Bath and York stone; height, to top of spire, 65 feet. 2. An Italian design (by Mr. Vale, of Liverpool), of stone and brick. 3. The favourite tower before chosen from the local designs; by "J'Espere," of Hastings. They were placed on view at the town-hall for a week.

COMPETITIONS.

Warehousemen and Clerks' Schools. — The attention of a correspondent having been called to a brief notice of the above competition in our impression of the 26th ult., we are requested to add to our former notice by saying, that the first premium of one hundred guineas was awarded to Mr. John G. Bland, of Birmingham, architect; the second, of fifty guineas, to Mr. Pedley, architect; and the third, of twenty-five guineas, to Mr. John Barnett, architect (both of London). The committee called in the assistance of Mr. Hardwick, as consulting architect; and submitted the designs to Messrs. Gardener & Bell, for approximate estimates of the cost of carrying out the works. We must add, that the gentleman who sent us the previous *partial* information might have been more ingenuous.

Carlisle Workhouse.—At the fortnightly meeting of the local guardians it was explained that the Workhouse Committee, thinking the premium of 25*l.* for the best design, as resolved on by the Board, too small, had decided to increase it to 50*l.*, and postpone the time for sending in the designs to 23rd June. The committee, as will have been seen, have already advertised in our columns for plans on these conditions. The Board, after considerable opposition and discussion, approved of what the committee had done.

Stockton Blue-coat Schools. — About twenty designs were submitted in reply to the advertisement for these schools; and the design of Messrs. Pritchett & Son, Darlington, has been selected, and is to be carried out by them at a cost of about 2,000*l.*

Goole, Yorkshire. — The designs of Mr. R. Clarke, architect, Nottingham, have been chosen for bank, first-class shops, and dwelling-houses. He has received instructions to prepare the necessary working plans for the contract, and to superintend the works.

STAINED GLASS.

Gorleston Church.—The new east window in the chancel of St. Andrew's (Gorleston) Church, Suffolk, is of the Early Decorated period, corresponding in style and general character with the remains of the window in the south chancel aisle. It is of four lights, with tracery of two orders, cusped and moulded, with hood-moulding round the arch. The window is filled with cathedral glass in quarries. The whole was completed at the expense of Mr. W. E. Bell. It is to be hoped that the north and south transept windows, which are now in a wretched state, will soon be restored.

Gloucester Cathedral.—The restoration of the great choir window of this cathedral has at length been completed. The ancient glass has been cleaned and replaced, and where any of the broken fragments of the window had become moved, they have been re-arranged. The figures which cover the window are memorials of the kings, queens, abbots, and other persons who were benefactors to the edifice, and are forty-nine in number. The work of restoration was done by Messrs. Hughes & Co.; and the cost of it, as well as that of replacing the stonework throughout, will be defrayed by the Dean and Chapter.

Chester Cathedral. — The two windows recently erected in the nave, in memory of the late Canon Slade, have just received the addition of the inscription, which is disposed on two brasses, one being placed under each window. The inscription is as follows:—"In memory of the Rev. James Slade, M.A., canon of this cathedral from A.D. 1817 to A.D. 1860. These windows were erected by those who admired his character and benefited by his labours."

Church of Divine Unity, Gateshead.—At a meeting of the congregation of this church, Mr. Joseph Clephan in the chair, it has been resolved (says the local *Observer*) to insert a stained-glass window in the church, in memory of the Rev. George Harris; and in celebration also of the bicentenary of the Act of Uniformity, which caused the retirement from the Church of England of the two earliest pastors of the congregation, the Rev. William Durant and the Rev. Richard Gilpin. The names of all the departed ministers will be inserted in the window in chronological succession; and Mr. Wailes will be requested to prepare a design for the approval of the congregation. A committee was appointed to carry out the resolution, and a subscription list was at once opened.

CHURCH-BUILDING NEWS.

Lowestoft.—The foundation-stone of a new Wesleyan chapel has been laid here. The edifice is in the Italian style, from a design by Mr. J. L. Clemence, architect. Its cost, with the site, will be over 3,000*l.*, and it will seat 1,200 persons. The old chapel will remain for school and class rooms, &c.

Colchester.—The tenders for the new church of St. John, to be erected on the Ipswich-road, were as follows:—Mr. Grimes, 1,756*l.*; Mr. Crowe, 1,720*l.*; and Mr. C. Shepherd, 1,558*l.* The lowest has been accepted. The structure will be in the Early English style, composed of red bricks and grey stock bands. The outer arches of the windows will be of red and black bricks; the inner of red and yellow malms, with red notched bricks at the foot. The building will be surmounted by a bell-turret at the west end, with spire of shingled oak, supported by slate columns. The chancel arch will be composed of serpentine marble columns standing upon stone bases. The length of the nave will be 48 feet by 21 feet broad, and the chancel 21 feet 4 inches by 17 feet. The architect is Mr. A. W. Blomfield.

Oxford.—The church of Saints Philip and James has been consecrated. The plan of the edifice consists of a nave with aisles, two transepts, chancel, and a vestry on the west side of the north transept. The whole of the floor space is tiled and arranged for moveable seats. The columns of the arcades, which divide the nave from the aisles, are seen to rest with their bases upon the floor, and do not appear to be lost, as is frequently the case, in the wood fittings. From the floor on either side of the nave rise short polished granite columns, with capitals, to be hereafter carved; forming, on each side, four bays. These support a clerestory divided into six bays. The aisles are lighted by lancet windows in groups of two and three, having marble columns. The nave walls are buttressed by arches thrown from the aisle walls. The nave walls of the easternmost bay diminish considerably towards the east end; being contracted sufficiently to meet the walls of the tower, which rises from the junction of the nave and transepts. The nave is covered with a boarded waggon-head roof, having beams from plate to plate, and king-posts in the centre. The whole of this work has been decorated in colours. The chancel is groined in stone, has a dwarf stone wall-screen separating it from the nave, and has a semi-circular apsidal end which is faced with encaustic tiles up to the window-cills from the floor. The transepts are divided from the choir by oak screens. The seats for the congregation are upright flag-seated chairs. The works have been conducted throughout under the superintendence of Mr. Street, the diocesan architect; and have been executed by Mr. Joseph Castle, of Oxford, builder. The decoration in the roof has been completed by Mr. Haynes, of this city. Mr. Mellor has been clerk of the works. At present there is no stained glass, and no apparatus provided for heating or lighting the church. The total cost, exclusive of the land, which was given by the President and Fellows of St. John's College, has been about 7,000*l.* The tower is left with a hipped blue slated roof: there are no boundary walls or entrance gates; and nearly the whole of the carving has yet to be executed.

Guildford.—The "Church of the Blessed Virgin Mary," at Guildford, having need of extensive reparations, it has been resolved, after a careful survey of the building, to take measures for placing it in a state of complete repair, and restoring it, as far as is practicable, to its original condition. The estimated expense of various alterations and repairs in the nave of the church, including the reseating and reflooring the interior, rebuilding the south wall, restoring the windows in the north and south aisles, and re-covering the roof, is approximately stated by the architect at 1,520*l.*; while the restoration of the eastern portion of the church, which is also contemplated; and will be proceeded with, should sufficient funds be raised to effect it, will involve a further outlay of at least 1,000*l.* The committee have therefore appealed to all interested in the preservation of this relic of ecclesiastical antiquity (founded, as is supposed, upwards of seven centuries since), to aid in a work which has now become necessary, and which the parishioners trust, with such aid, to carry into effect. They had already (on March 18th) raised in the parish the sum of 849*l.* 10s. 6d. Subscriptions will be received at the West Surrey Bank, and Messrs. Haydon & Co.'s, at Guildford; or at Messrs. Williams, Deacon, & Co.'s, and Sir C. Price & Co.'s, London.

Berwick St. John.—The new church recently erected in this parish has been consecrated. The contract for the new building was taken by Mr. Miles, of Shaftesbury, for 2,000*l.*; but it is believed that the expenditure will exceed this amount. The architect was Mr. Woodyer, of Graffham; the clerk of the works being Mr. Redfern, of Berwick St. John. The original cruciform shape of the old church has been adhered to, and many of its ancient features have been preserved. The font has been executed in Painswick stone by Messrs. Osmond, of Salisbury; and the pulpit by Mrs. Gilbert, of Salisbury.

Worcester.—The plans for St. Martin's district church, to be erected at Shrub hill, close to the West Midland district, have been prepared by Mr. W. J. Hopkins, architect to the Diocesan Church Building Society, and adopted by the committee. The edifice will be in the Decorated style, having a chancel, with apsidal east end; north and south transepts, each with an eastern aisle opening into the chancel,—the aisle of the north transept being appropriated for a vestry and organ chamber; a nave, divided into four bays, with a two-light window to each, and between each window externally a buttress; south aisle to the nave; no galleries; a deeply recessed pointed arch in the western wall inclosing a rose window; the roof steeply pitched, and to consist (notwithstanding so many remonstrances from all quarters) of as much of the fine old timber of the Guesten Hall roof as may be sound enough for the purpose (about one-half of which, it is stated by a local paper, will be available, the carvings being as sharp and good as though cut but recently, instead of four centuries ago). At the intersection of the nave and transept roofs there will be a bell turret. There will be accommodation for about 850 persons; and all the sittings will be free, except 200 to be appropriated, as at present intended. The total length of the building is 140 feet. The tower is a campanile, detached from the church, with the western end of which it will communicate by means of a cloister. The top of the spire will be 180 feet from the ground. In reference to the projected destruction of the Guesten Hall at the cathedral, we may here state that, at a recent meeting of the Worcester council, Mr. Bozward brought forward a motion on this subject. He remarked that antiquities of the kind ought to be preserved, especially as the Guesten Hall was the most interesting piece of architecture in the city, the cathedral alone excepted; and he read a memorial to the Dean and Chapter, praying that the remains of the Priory and Guesten Hall be allowed to stand, and preserved as one of the links of the past. He moved the adoption of the memorial, which was numerously and respectably signed. After some conversation, the memorial was adopted by the council.

Taunton.—Orders have been given to Mr. Boulton, of Worcester (says the local *Courier*), for the figures to be placed in the eleven niches in St. Mary's Tower. The cost is estimated at 160*l.*, of which sum about 120*l.* have been promised.

Ross.—Three builders only responded to a request by the committee of the church fund for tenders for re-pewing the church. Each contractor was requested to state the amount for seats if made of pitch pine, and what if made of deal. The result was as follows:—Mr. Jones: of pitch pine, 1,078*l.*; of deal, 1,028*l.* Pearson & Son: of pitch pine, 1,034*l.*; of deal, 940*l.* Mr. W. Deeley: of pitch pine, 985*l.*; of deal, 867*l.* Mr. Deeley's estimate being the lowest in amount was accepted, and the works will be shortly commenced.

Thornbury.—The nave of Rockhampton Church, near Thornbury, has undergone a restoration, from plans, and under the superintendence, of Mr. F. Kempson, of Hereford, architect.

Cardiff.—St. Hilary's Church has been reopened. The restoration is due to Mrs. Traherne, of St. Hilary, as a memorial to her late husband, the Rev. John Montgomery Traherne. Mr. Traherne had, before his death, prepared drawings of the restoration. The *Cardiff Guardian* states that two of the windows,—the east and west in the Edmondes aisle, which are at present temporarily filled with common glazing,—are to be filled by costly stained glass, from the designs of Mrs. Traherne herself. The restoration has been carried out from the plans and under the superintendence of Mr. Scott; and the builders employed were Messrs. James & Price, of Cardiff. The chancel-window and the porch are new (designed by Mr. Scott). All the old walls were retained, but underpinned and drained. The arcade beeween the aisle and the nave, which was formerly very much out of the perpendicular, was forced up into its place without taking down. The west window of the Edmondes aisle was taken down and replaced. A new window has been placed in the east end of the aisle. This window replaces an old one, which had been blocked up. It was, previous to the restoration, a disputed point whether a window had existed in this gable. The late Rev. Mr. Traherne, says the paper already alluded to, always maintained that such window had existed, and was on this point contradicted by a professional opinion; but, when the plastering was removed, evident traces and some remains of a window were found, of the size and form of the window which now occupies the place, and probably of a similar design. The roof is of timber, and all the woodwork is pitch pine, and varnished, without any paint or stain. The whole of the walls have been pointed outside, including the tower; and all the dressed stonework inside has had the whitewash removed from it by the application of an acid, and pointed. The carving was done by workmen who came from London for the purpose. During the restoration the remains of an old rood-loft were brought into sight, consisting of a doorway and some steps of the stairs. These remains were preserved, although they form a rather unsightly object near the pulpit.

PROVINCIAL NEWS.

Ross.—For some years past this town has been rising in popularity as a place of fashionable resort and residence. Previous to the formation of a Freehold Land Society about twelve years ago, it was difficult to obtain a site for building, but through its instrumentality that obstacle to an extension of the town has been removed. A large number of houses have consequently been erected; but the demand, according to the *Cheltenham Free Press*, far exceeds the supply, especially for villa residences, and those in existence command high rentals. A gentleman residing in Cheltenham (the founder of the Ross Freehold Land Society) has had plans and specifications for the erection of a pair of villas superior to anything yet erected, which he wished to have built on a very favourite site adjoining the town, but which all the local builders (says the paper just named) have declined on the ground (which is a true one) that they have already too many contracts in hand.

Newcastle-upon-Tyne.—The New-road Baths and Wash-houses have been enlarged and reopened. The old building, of which the present is an extension, was opened on the 18th of September, 1848, it having been erected at a cost of 1,700*l.*, the value of the ground being 270*l.*, making a total cost of 1,970*l.* The present extension was agreed for by tender to Mr. James Gibson, for 1,346*l.*, on the 6th of August, 1861, the contract for the engineering department being let at the same time to Messrs. Dixon Brothers for 1,473*l.*; the plans and specifications for the whole having been supplied by Mr. T. Bryson, the town surveyor. To the original area of 267 square yards, upon which the old building was erected, have been added 769 square yards for the purpose of the present enlargement and improvement. There are separate baths (first and second class) for males and females, provided with independent entrances. Besides the single baths, there is a large tepid plunge-bath. In the washhouse there are now a sufficient number of stalls to accommodate thirty-seven persons at one time with water, hot and cold, and all other appliances, besides wringing-machines, drying-closets, and mangles on improved principles, one of them having a roller heated by steam.

Scarborough.—The Scarborough Pier and Improvement Company is being well supported, and the proposed public works in Scarborough are likely to be speedily commenced. Scarborough has increased 50 per cent. from 1851 to 1861.

THE "INCLOSURE OFFICE."

A CORRESPONDENT writes,—"Have any of your readers ever heard of 'The Inclosure Office'?

"It is not an institution of Central Australia, or the backwoods of Canada: on the contrary, it is a most comfortable Government establishment in the royal neighbourhood of St. James's.

"Amongst the jumble of no-duties connected with the office in question is a highly-paid amusement called 'Inspection of Buildings;' the only qualifications necessary for which are, a sufficient knowledge of the English language to find one's way about the country, and a supreme ignorance of everything in and about a building. The *pay* is three guineas per day, and liberal travelling expenses." The writer then goes on to charge certain of the inspectors with entire ignorance of the knowledge they ought to possess; and gives instances of injurious results from their reports and delays. The charges, however, are too sweeping for us to print. We allude to the matter in order that others may afford us the result of their experience of the "Inspectors."

MONUMENTAL.

LORD JOHN MANNERS has had erected a monument in Rowsley Church, near Haddon Hall, in memory of his wife, who died in 1854. In style it resembles the Middle-pointed Gothic, and has upon it the figures of a female and child, enveloped in drapery, in a recumbent position, with angel figures at the head. These sculptures, with the carved capitals, panels, &c., are of white statuary, the columns of russet marble, and the other portions of Darley Dale stone. The monument is placed in the centre of a mortuary chapel, the floor of which is inlaid with marble mosaics, displaying the circle and the cross. The whole has been designed and executed under the superintendance of Mr. A. Salvin, Jun. The principal figure was executed by Mr. Calder Marshall, R.A., and the other sculptural and architectural parts of the monument by Mr. J. Forsyth, of London. The inlaid floor was done by Mr. A. Tomlinson, of Bakewell. The whole of the materials used are from Derbyshire.——The 4th of June has been fixed upon for the inauguration of the memorial statue of the late Mr. Joseph Sturge, at Five Ways. The pedestal is now complete, and the central and subordinate figures are placed.——The inauguration of the statue erected to the memory of Ary Scheffer, at Dordrecht (Holland), his native town, has just taken place. The statue, which is said to be a good likeness, is the work of Mr. Mezara, a Parisian sculptor, who refused any remuneration for it. The cast was by Messrs. Eck and Durand, of Paris. It is eight feet high, and stands on a pedestal of the same height.

WEST GALLERIES IN CHURCH.

I MUST protest against Mr. Parker asserting that there is a west gallery in Worstead Church, Norfolk. The little restorations which have been done from time to time at this church, during the last twelve years, have been intrusted to my charge. I therefore know the building well.

The erection which Mr. Parker calls a gallery is merely a floor, about twelve feet square, in the tower: such floors are very common in this, and I believe in many other districts: Causton, Norfolk; St. Gregory's, Norwich; St. Mary at Elms, Ipswich; Claydon, Suffolk; and many more might be mentioned. It was, in all probability, the ringers floor—and is so still in some instances, as at Brandeston, Suffolk—until the appearance of them and their ropes was deemed unsightly, and they were moved up a floor higher. The only approach to such floors (as at Worstead) is by the same small circular stone staircase which leads to the bell-chamber; and there is not, as far as I know, a vestige of a seat in any of them.

The engraving in Rickman, to which Mr. Parker refers, is altogether a delusion and a snare. The screen, so beautifully set forth there, is almost entirely of cast-iron and lead! and is well known to have been executed within the memory of not merely the oldest, but several of the middle-aged inhabitants. It is, in fact, a copy of the screen still extant at the chancel arch, which likewise extends across the north and south aisles, inclosing their eastern bays in the usual manner. The illumination of this screen—done by a very amiable lady—is in keeping with its cast-iron construction. The upper part is a transition from the barber's pole to the oil-and-colour-shop signboard style; whilst the panels below are filled with figures of Faith, Hope, Charity, Justice, Clemency, and various other virtues, in very unvirtuous attire. The window which appears in the engraving is altogether out

of its place, it being higher in reality by many feet. There is, in fact, a large western doorway as high as the floor of the so-called "gallery;" and any one who will take the trouble to refer to plate 21 of "Wicks's Towers," will see at once the error Mr. Parker has made. In short, I should recommend the "gallery" engraving being withdrawn from the next edition of Rickman, as it tends to throw doubt upon Mr. Parker's other illustrations, many of which are undoubtedly very accurate. Mr. Parker has done great and good service to ecclesiastical architecture; and all he says deserves the greatest consideration; but to support his present crotchets he must seek elsewhere than Worstead for his examples.

R. M. PHIPSON.

MR. PEABODY'S GIFT.

SIR,—A letter on the above subject, signed "Quondam," appeared in the *Times* recently; the prominent subject whereof was the laudation of Miss Burdett Coutts's philanthropic and really utilitarian foundation of model dwellings for the industrious classes.

As the designation assumed by the writer of that letter is the same that I have used for twenty years in correspondence with the public press—the *Builder* having inserted many of my articles so signed—it seemeth to me that the assumption by another of my *soubriquet*, or trademark, is unjustifiable.

Coupled with the fact that model lodging-houses—the benignant efforts of our late lamented Prince Consort—the more practical and direct benevolences of Miss Burdett Coutts—public institutions, and metropolitan subjects of interest generally, have been successively the schemes of my remarks, it does appear singular that my nominal and distinctive mark (however indefinite and shadowy it may be) should have been pirated and *filched* from me.

Recalling the fact that very many of my contributions to the *Builder* have been quoted, *in extenso*, in the press at large, I appeal to you, sir, to bestow upon this my plaint the distinction of equal publicity.

Ille ego qui, -

"QUONDAM"

Books Received.

Men of the Time: a Biographical Dictionary of Eminent Living Characters (including Women). A new Edition. By EDWARD WALFORD, M.A. London: Routledge, Warne, & Routledge.

ACCIDENT alone has prevented us from commending to our readers, before now, this greatly improved edition of "Men of the Time." It may indeed be called a new book; for, as the editor says, "not only have about 1,400 additional memoirs been prepared expressly for its pages, but of those which were included in former editions, almost all have been entirely re cast, and the rest more or less revised." It now furnishes a record of the leading facts in the lives of more than 18,000 living characters, who, as statesmen, commanders, authors, or in some other profession, have fairly become, more or less, the property of the public.

Mr. Walford has discharged his duty in a scholarly manner, and with excellent taste, and has produced a volume of much worth. It comprises, of course, notices of architects, engineers, mechanics, painters, and sculptors.

The Popular Guide to the International Exhibition of 1862. By EDWARD MCDERMOTT, Esq. London: W. H. Smith & Son, Strand.

THIS little volume is simply what it professes to be, a sketchy guide through the Palace of Art and Industry, pointing out to visitors the more prominent and important works, with many regrettable omissions, of course; and will be found useful by those who have but a limited time to see the collections.

As we have not yet been able to give any account of the contents of the western annexe, we quote Mr. McDermott's brief description of Class VIII., "*Machinery in General*:"—

"Within this class are included every application of steam, except for the purpose of railways, and for manufacturing tools or processes. At the entrance to the court there is a splendid collection of marine engines; one by Penn & Son, of 600 horse-power, for a frigate now building for the Spanish navy. Close by is a crank shaft of an engine of 1,250 horse-power, building for the *Achilles*, one of our iron-plated frigates. Another pair of engines is by Humphreys & Tennant, of 1,250 horse-power, for the *North Star*; another, by Todd & M'Gregor, of 650 horse-power—the latter, a direct-acting inverted cylinder-engine. Near it is a high-pressure horizontal steam-engine, of 18 horse-power, by Sandys, Vivian, & Co. A model of an engine, with feathering paddle-wheels, by Ravenhill & Co., as used in the Holyhead mail packets, *Hibernian* and *Connaught*, of 750 horse-power. This firm first introduced the double-piston rod; and since 1846 they have fitted forty ships in the British navy with this improved machinery. Mr. Laird, of Birkenhead, shows a 350 horse power horizontal direct-acting engine. There is a fine engine by Mandsley; a high-pressure condensing marine engine, by Morison & Co.; Rennie's condensing engine, with screw propeller; and trunk engines by Fairbairn & Cowan, very compact in its form. Near these are some monster machines, huge in size, and sombre in aspect. They are sugar mills, shown by Messrs. Mirrlees & Tate, of Glasgow. The rollers are nearly three feet in diameter, and the whole apparatus weighs nearly 140 tons for crushing the sugar-cane. Close by, M'Onie, also of Glasgow, shows an immense 30 horse-power steam-engine, with sugar-mill attached. The rollers are 28 inches in diameter, and the whole weighs about 75 tons. Napier & Sons show an excellent centrifugal machine for curing the sugar; a machine for coining, as used in the Mint, which separates the light from the heavy pieces, and throws the light ones aside with faultless and unerring precision. Cane-mills and vacuum pans are also shown by Fawcett, of Preston. Appold's centrifugal pump, exhibited by Easton & Amos, is worked by engines of 60 horse-power, and delivers one hundred tons of water per minute, at a mean elevation of six feet. The pump of Mr. Gwynne will raise a body of water ten feet broad, eight inches high, to a height of twenty-five feet, and thus form a magnificent cascade. In this case, as in the case of the Appold pump, the water passes down into a tank below, and is again pumped up, over and over again, by the machine. Pumps are shown by Mr. R. Godwin, so economical that a 4-inch pipe, with a six-inch stroke, will discharge 1,455 gallons per hour, or only sixteen gallons less than the actual gauge of the cylinder through which the water passes. There is a model of another fine pump by Harvey, of Cornwall. In the original the cylinder is one hundred inches in diameter. It has a stroke of eleven feet, the plunger is fifty inches in diameter. When in full work this monster machine raises one thousand gallons of water one hundred and forty feet high per minute. The original was erected by the East London Water Works Company. Ashton's famous steam-hoist, which rendered such good service in conjunction with the building, finds an honourable and worthy place by the side of the steam-engine by which it was worked. Its main feature consists of two grooved cones, or barrels, upon which the rope is wound, without any danger of its surging or riding over. The machine was worked by a portable engine of 8 horse-power; and as the rope was wound upon it the column or girder required to be raised was hoisted to its position. An iron column, which would take fifteen men a quarter of an hour to raise fifty feet, was lifted by the hoist to that height in two minutes. Machines for lifting or moving heavy weights are shown by various exhibitors. There is a portable steam crab and crane, by Taylor & Co., of Birkenhead. Derrick cranes by Mr. Cameron, and a hydraulic crane by Sir W. G. Armstrong & Co. A large blowing apparatus for the Lilleshall Company, described by the manufacturer as 'self supporting,' and capable of blowing a blast furnace. Centrifugal fans, shown by Lloyd, are sufficient for furnaces which melt four or five tons of iron per day, and will deliver five hundred cubic feet of air per minute. They are employed in ventilating the Exhibition building. A hydraulic press, shown by Peel & Co., has a cylinder twelve inches in diameter, capable of exerting a pressure of three hundred and forty tons, water being at the pressure of three tons to the square inch. A large portable locomotive is shown by Ransom & Sims, double cylinder, of 20 horse-power. Bray's engine, which conveyed many of the heaviest loads to the Exhibition, some of them upwards of 40 tons, is in the Eastern Annexe. There is an immense variety of miscellaneous machines in this class. Of machines for making ice by steam, one, by Siebe, will convert two hundred and sixty-nine gallons of water into blocks of solid ice in a marvellously short space of time. Water-meters, india-rubber pump, valves, a small steam-engine made of glass, showing the piston and valves, and their arrangement. A rotatory engine, by the Earl of Orkney, leather bands, taps and valves of all sorts; block-cutting machines, and a number of fire engines, by Merryweather, Shand, & Mason, and one for military purposes, by Captain Fowke. Among the foreign machines is one for making sugar, from Belgium; a fine marine screw engine of 400 horse-power, and another of 200 horse-power, from France; a model of the plan for the distribution of water in the city of Paris; a steam-engine of 60 horse-power, with a monster fly-wheel twenty-three feet in diameter; pumps and turbines, ice-making machines, from France; a monster bell, weighing fifteen tons, of cast steel, and a gigantic distilling apparatus from Berlin; a blowing machine from Belgium; looms from Austria; railway carriages from Belgium and Prussia, and a magnificent semi-state carriage from Berlin."

VARIORUM.

London and its Environs: a Practical Guide to the Metropolis and its Vicinity: Illustrated. Edinburgh: A. & C. Black, 1862.—Chambers's Handy Guide to London, with useful information as to the International Exhibition, &c. Illustrated. London and Edinburgh: W. & R. Chambers, 1862.—London Cab-Fares (for the pocket); containing 30,520 references, aud including the authorized fares to and from the International Exhibition. London: Houlston & Wright.—The International Exhibition is already producing its crop of mentorial publications. The most extended of those at present under notice is that of Messrs. Black. The Guide of Messrs. Chambers' is certainly more handy; being less bulky for the pocket of the visitor, but does not contain so much matter,—probably quite enough, however, to be perused on the spot by those for whom it is intended. It is, besides, a well digested, as well as concise and judicious collection of statistical, descriptive, historical, and other topographical facts, prepared by Mr. G. Dodd, the author of "Food of London." Both books are pretty well illustrated with maps and other engravings. The cab-fare *volume* is a *very* small one, but contains many references, and is said to be published "by special permission of the Commissioners of Police."

——"An Historical Memoir on Northumberland. By W. S. Gibson, esq., M.A., Barrister. London: Longman & Co. 1862."—This is a partly-re-written and enlarged re-issue of the "Memoir of Northumberland" some time since published, and noticed by us. It is now intended to form one of a series of short popular county histories by various authors.——"A Manual of Botanic Terms. By M. C. Cooke. London: Hardwicke." Mr. Cooke (of the Twickenham Economic Museum) is the author of a cognate little "Manual of Structural Botany," also issued by Mr. Hardwicke, and already noticed by us. The present is a somewhat larger work, and contains numerous and interesting engravings of botanical forms of the most varied description. The manual is in alphabetical order, and possesses advantages for general readers, the terms being written in their Anglicised forms, under which they are commonly employed, and the derivations recovered from the mysticism of a Greek alphabet.——"Second Annual Report of the Society for the Acclimatization of Animals, Birds, Fishes, Insects, and Vegetables, within the United Kingdom. 1862. Offices, 3, Duke-street, Adelphi, London." We are glad to observe, from this report, that the new Acclimatization Society, in which all naturalists and enlightened agriculturists must feel a special interest, is rapidly making way; and we hope ere long to see it ranking with the Zoological Society as a well-established, prosperous, and extensive association. It has already forty-one influential patrons, twenty-four life-members, and forty-eight annual subscribers, and counts its balance at the bankers by hundreds. About 150*l.* are shortly to be expended in the introduction of Chinese sheep to this country. The Colonial Secretary, the Duke of Newcastle, has distributed to the governors of all our colonies copies of the first annual report of the society; and many other influential persons are lending a willing and active hand in the promotion of the interests of a society destined, we doubt not, and that, too, ere long, to be of great value and importance to the country, and its wide-spread colonies throughout the world.——"The Book of Days" in connection with the Calendar, part 4, which is now being published by the Messrs. Chambers, sustains its interest. It relates chiefly to the notabilities of February.——The current monthly number of "Chambers's Journal" is a good one. It contains a startling tale, in three parts, called "The Witness," very well told.——"On the Egyptian Obelisks in Rome, and Monoliths as Ornaments of great Cities," is a reprint, in pamphlet form, probably at the instance of Mr. John Bell, of a paper read by the Rev. R. Burgess at the Royal Institute of British Architects in 1858; together with remarks on the application of the Eutasis to the Obelisk, by Mr. John Bell. The object of reproducing these is said to be to show the unbiased opinions of various members of the Institute upon the propriety or inconsistency of erecting monolith obelisks in modern cities.——"Fever among the Rich; the Cause and its Remedy;" by N. Rigby, bricklayer (McKewan & Co., London-wall), points out in a few pages the necessity for preventing any communication between cisterns used for domestic purposes and those in connection with water-closets; and that the greatest care should be taken to prevent the escape of foul air from pipes, &c., if so connected. ——"The Railway Traveller's Handy Book" (London: Lockwood & Co.) consists of hints, suggestions, and advice, before the journey, on the journey, and after the journey. The class must be small now, we should think, who need the bulk of the advice here tendered.

Miscellanea.

DONCASTER CORPORATION GAS WORKS.—Last week the monster gasholder—117 feet in diameter—was filled with gas for the first time, and, we are told, rose out of its tank steadily, proving perfectly gas-tight. It was designed by Mr. Josiah Forster Fairbank, member of the Institute of Civil Engineers.

INDURATING STONE.—Messrs. Coombe & Wright, of Blackfriars, have patented an invention which consists in saturating bricks, tiles, slabs, artificial stones and marbles, or such portions of them as are exposed to the action of the atmosphere, with hydro-fluo-silicic acid and silicate of potash. The invention is alike applicable to limestones and sandstones. The claim is for using silicate of potash, in combination of hydro-fluo-silicic acid or hydro-fluoric acid.

IRON-CASED FRIGATES.—Messrs. Westwood, Baillie, Campbell, & Co., of Poplar, have just manufactured five hydraulic armour-plate bending machines, having their patent traversing gear, for her Majesty's dockyards. These machines (each weighing about 40 tons) are capable of bending and twisting armour plates, 5 feet wide, up to 7 or 8 inches thick, and of any length, to any shape, required for iron-cased frigates: these operations, being performed upon the armour plates while *cold*, effect a great saving of time and fuel. The machines are useful also for effectually bending or straightening keel bars and large shafts.

"INDURATING AND QUICKENING SOLUTION" FOR CEMENTS.—Bennett's patent indurating and quickening solution for Portland and other cements is said to set cement under water in fifteen minutes, if required; hardening the cement when set as well as bringing out castings with sharper outline than usual; improving the colour, and reviving dead cement. Its use with Portland cement is specially recommended.

CRYSTAL PALACE.—The great flower-show of the season here will be held on (this) Saturday, 24th May. From the number of entries already received it promises to be the most complete exhibition of flowers which has yet been held at the Crystal Palace. Additional interest is excited on this occasion from the announcement that the great roof over the Handel orchestra, which has been many months in preparation for the festival in June next, will be completed before the day of the flower-show.

"WATERLOO-WITH-SEAFORTH DRAINAGE."—Will you allow me to say, with reference to the above paragraph in the *Builder* of the 10th, that it was in May, 1858, that the sewerage works were first commenced in this district under the superintendence of the then surveyor, Mr. W. A. Richardson, and Mr. James Newlands, C.E., acting as consulting engineer? My appointment did not take place until the autumn of 1860. You will oblige by inserting this, as an act of justice to the above-named gentlemen.

ALFRED TAYLOR, C.E.

THE MIDDLE LEVEL INUNDATIONS.—The original breach in the banks of the Middle Level has grown wider daily, and all the efforts made to stop the inroads of the sea have been unavailing. Pleasure-boats have been sailing on the flooded lands. The first dam attempted, by 500 men for nine days, has been washed away; including nearly thirty barges sunk while loaded with mud, and one of which afterwards destroyed a bridge. Preparations were therefore made for the construction of another dam; and meantime bags of earth are being thrown into the main breach. It is estimated that no less than 40,000 of these have been sacrificed. Other breaches have been made by the tides. A meeting was held on Monday last at the Lynn Guildhall, comprising representatives of the sewers and the various commissions through which the Middle Level runs. It is said that it was resolved to apply at once to the Home Secretary for the interference of the Government. The Mayor of Lynn has made a similar request in his official capacity. Sir John Rennie and other engineers have inspected the breaches. There were nearly 30,000 acres of land, tenanted by 200 farmers, inundated at the end of last week; and the damage sustained by one gentleman, Mr. E. Fellowes, M.P., the chairman of the Middle Level Commission, has been estimated at 30,000*l*. From 10,000*l*. to 15,000*l*. have already been expended in the hitherto vain endeavour to arrest the still increasing damage. The danger was not met as it should have been in the first instance.

THE BEAUCHAMP ALMSHOUSES, NEWLAND.—Progress is being made in the establishment of the charity for which the late Earl Beauchamp provided 60,000*l*. Although the arrangements connected with the almshouses are still before the Court of Chancery, the plans for the buildings, including a church and chaplain's house, have been adopted, and workmen have commenced digging for the foundations. Mr. Hardwick, of London, is the architect; and Mr. O. Estcourt, of Gloucester, the contractor and builder. The scheme under which the charity is founded was prepared by the Court of Chancery: it comprises accommodation for eight single men, eight single women, and eight married couples. There is to be a chapel, which will be the parish church of Newland, and the ancient church will be removed. At present the workmen have only commenced the foundation of the chaplain's house, which is detached from the almshouses and church. The latter buildings will probably not be commenced till July. The chaplain's house will be built with brick, Bath stone dressings, &c., with oak ornamental barges to gables; the style, Domesticated Gothic. The almshouses will be in the same style and material; and built to accommodate, besides the inmates above named, a matron, porters, &c., and all necessary out-offices. The church will be in the Early Decorated style, with chancel, chancel aisle, nave, and bell-turret. The walls will be in range-work of Bath stone, with dressings of the same material. The church will be attached to the almshouses, and connected with the chaplain's house by a cloister. No part of the old church will be used in building the new one. The cost of the whole of the buildings will be between 15,000*l*. and 16,000*l*.

TENDERS.

For a pair of villa residences at Hammersmith, for Mr. J. Saunders. Mr. William Paice, architect. Quantities supplied:—

Hill	£962	0	0
Booth	888	18	4
Clark	799	0	0
Sharpington & Cole	777	0	0
Bottom & Co.	769	0	0
Fish	744	0	0
Foster	729	0	0
Styles (accepted)	722	0	0

For pulling down and rebuilding the Ogle Mews Ragged School, Ogle-street, St. Marylebone. Mr. Griffiths, architect:—

Minty	£1,770	0	0
Little	1,089	0	0
Bennister	950	0	0
Macers	943	0	0
George	937	0	0
Partridge	932	0	0
Fowler	927	0	0
Ebbage	909	0	0
Knapp & Son	865	0	0
Richards	793	0	0
Munro	770	0	0

For new buildings, 3, South-place, Knightsbridge, for Sir A. C. Sterling, C.B. Mr. Henry Clutton, architect. Quantities by Mr. Crocker:—

Mansfield & Sons	£4,750	0	0
Myers & Son	4,412	0	0
I'Anson	4,400	0	0
Macey	4,316	0	0

For repairs, No. 8, Bedford-square, for Mr. Maynard. Messrs. Tress & Chambers, architects:—

Baldwin	£307	0	0
Hawtrey & Son	299	10	0
Shaw	200	0	0!!

TO CORRESPONDENTS.

Staining Brickwork.—A subscriber says, "Will some of your correspondents be kind enough to inform me, through the medium of your paper, of a colouring for staining brickwork that will stand the weather; brimstone and red, similar to some of the London warehouses; and of a mortar for tuck pointing?"

R. W.—W. P (We are quite willing to have "Cleopatra's Needle" here, but *not* as a memorial to the Prince Consort. The nineteenth century must raise its own memorial).—W. B.—T. H.—C. C.—J. G. B.—One of the duped (gives no proof).—J. W. T.—R. C. P.—H. de M.—J. R. S.—W. E. M.—E. E. M. Madras (We shall be glad to hear from him as proposed)—A. D.—An Artisan—C. H—Subscriber (Apply to Weale, Holborn).—F. R.—R. H. L.—J. G. E.—H. B. (We do not desire to carry the matter further).—R. C.—J. C. H.—B. & G.—The Devil's Own.—F. H. G.—Mr. C.—A. A.—C. J. T.—J. W. B

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

TO PARENTS AND GUARDIANS.
A DESIGNER and DRAUGHTSMAN of good practice has a VACANCY for a Youth whom he wishes to have Articled for a period of two years, or more if required. Outline, ornamental, mechanical, and detail drawing constantly practised.—For particulars apply personally or by letter to Mr. EMERY, 111, London-wall, City, E.C.—N.B. WANTED, an experienced DRAUGHTSMAN, or one as IMPROVER.

GATE KEEPER AND A SMITH.—WANTED, a strong active man to reside and take care of a factory, book men's time, &c. A married man without family; wife to look after single men. Apply by letter, stating age, and how last employed.—A JOBBING SMITH and GAS-FITTER WANTED.—Address, F. K. Office of "The Builder."

WANTED in a Builder's and Decorator's Office, a YOUTH, from 16 to 20 years of age, and one who has some knowledge of the business and accounts would be preferred. Address, stating salary required and full particulars, prepaid, J. M. N. Office of "The Builder."

TO ARCHITECTS & OTHERS.
WANTED, a PARTY capable of supplying FIRST-CLASS DESIGNS for monuments, tomb-stones, memorial tablets, &c. None but parties capable of supplying good designs need apply.—Address by letter, E. A. Office of "The Builder."

TO JOINERS.
WANTED, several first-class BENCH HANDS accustomed to mahogany and wainscot work.—Address, The Shop Foreman, Messrs. J. Wood & Son, Worcester; stating where and how long employed in last situation.

TO ARCHITECTS' ASSISTANTS.
WANTED immediately, a thoroughly competent experienced ASSISTANT. He must have a taste for design, and be well versed in detail and construction.—Address, H. care of Mr Carr, Church street, Deptford, S E stating age, salary, and full particulars.

WANTED, in a Builder's Office, a YOUTH, sixteen or seventeen years of age. One who has seen the routine of time-keeping and simple book-keeping will be preferred. Liberal wages given.—Address, W. W. 1, Hawley-place, Kentish Town.

WANTED, immediately, an Experienced ARCHITECTURAL DRAUGHTSMAN.—Application to be made to Mr. JOHN KIRK, Architect, John-William street, Huddersfield, stating salary and reference.

WANTED, a respectable well-educated YOUNG MAN, in a commercial town in one of the Midland Counties, who thoroughly understands the general routine of an Auctioneer's and General Agency Office, and who has a perfect knowledge of surveying and preparing plans of estates. Security will be required. None need apply who cannot give unexceptionable references.—Apply, by letter only, stating amount of salary required, to Messrs. TYLER & CO. Accountants, No. 13, Gresham-street, London, E.C.

TO ARCHITECTS' ASSISTANTS.
WANTED, in an Architect's Office, an ASSISTANT, well experienced in detail and finished drawings, with a taste for design, accustomed to making out specifications and directing works.—Address, stating full particulars of former engagements, age, and salary required, to M. M. No. 9, Conduit-street, Regent-street.

TO BUILDERS, &c.
WANTED, by a thoroughly Practical Man, a RE-ENGAGEMENT as SHOP FOREMAN of JOINERS, or to Take Charge of a Building. First-class references. No objection to the country.—Address, J. R. Post office, Mount-street, Lambeth.

TO BUILDERS, PLUMBERS, &c.
WANTED, by a good THREE-BRANCH HAND, who is thoroughly acquainted with Jobbing, a constant SITUATION. Has no objection to the country. A good reference if required.—Address, E. NAUNTON, Cambridge Asylum, near Cambridge.

TO ARCHITECTS
WANTED, an ENGAGEMENT, by a Draughtsman accustomed to Gothic Work.—Address, A. B. 28, Berwick-street, Pimlico, S.W.

TO BUILDERS.
WANTED, by an experienced Joiner, a RE-ENGAGEMENT as WORKING SHOP FOREMAN. Town or country. References good. Address, P. W. care of Mr. Mr. Cleaver, 18, Commercial-road, Lambeth.

TO ARCHITECTS AND OTHERS.
WANTED, by the Advertiser, aged 23, a RE-ENGAGEMENT. He is a good perspective and general draughtsman, thoroughly understands quantity taking and estimating, and possesses sound practical knowledge. Has been engaged for several years with a builder of extensive practice.—Address, E. W. Post-office, Leytonstone, N.E.

TO BUILDERS AND CONTRACTORS.
WANTED, by a thoroughly Practical Mason, a SITUATION as FOREMAN, or any Amount of Masonry at a price.—Address, W. R. Post-office, Horseferry-road, Westminster.

WANTED, a SITUATION as CLERK or otherwise, by a Young Man, aged 23. Is a good writer, &c. Salary moderate. Good references.—Address, E. W. 12, Gillingham-street, Eccleston square, S.W.

WANTED, a SITUATION as GENERAL FOREMAN, to a Builder or Contractor, by an energetic man. Has a thorough knowledge of the building trade in all its branches; also measuring, valuing, drawing, &c. First-class references. No objection to a nobleman's or gentleman's estate.—Address, A. B. C. Post-office, Pembridge, Herefordshire.

TO BUILDERS, CONTRACTORS, AND OTHERS.
WANTED, by a respectable Young Man, age thirty, a RE-ENGAGEMENT as CLERK and TIME-KEEPER; or in any capacity where trust and confidence are required. Three and a half years with late employer.—Address, W. G. Craven-terrace, Craven-hill, Bayswater, W.

TO LANDLORDS AND OWNERS OF HOUSE PROPERTY.
WANTED an ENGAGEMENT by a highly respectable man (a tradesman), to take the sole charge of house property, to collect the rents, and conduct the repairs of the same. Highest references and securities can be given.—Address, full particulars, to M. 74, Gray's Inn-lane, London.

TO ARCHITECTS, BUILDERS, AND OTHERS
WANTED, by the Advertiser, aged 24, an ENGAGEMENT for a few hours daily, or three days a week. He is a good draughtsman, understands taking off quantities and estimating, and well versed in builders' accounts, and can furnish the highest references and testimonials. Terms moderate.—Address, L. M. 9 14, York street, Covent Garden, W.C.

TO BUILDERS, MASTER PAINTERS, &c.
WANTED, by a practical Man, aged 30, an ENGAGEMENT as FOREMAN of PAINTERS. Six years' reference. No objection to the country.—Address, A. B. 1., Sherbourne-place, Blandford-square, N.W.

TO ARCHITECTS, SURVEYORS, AND OTHERS.
WANTED, by the Advertiser, aged 24, an ENGAGEMENT for a few hours daily (at own residence preferred). Has had eight years' experience in the profession; is a good draughtsman, and can take out quantities, &c. Would not object to making duplicates.—Address, K. C. L. T. 12, Gillingham-street, Eccleston-square, S.W.

TO PLUMBERS, PAINTERS, AND GLAZIERS.
WANTED, by a respectable Youth, aged 19, a SITUATION in the above Trades as IMPROVER, for two or three years. Has had six years' practice. A good reference given.—Address, C. W. E. Post-office, Chipping Ongar, Essex.

WANTED, a SITUATION as BUILDER'S CLERK. Understands book-keeping, drawing, and has a thorough knowledge of the business.—Address, Y. Z 27a, Offord-road, Barnsbury Park, N.

TO TIMBER MERCHANTS, SAW-MILL PROPRIETORS, AND OTHERS.
WANTED, by a Person who has had great experience in the timber trade, a SITUATION, as FOREMAN or MANAGER. Good references.—Address, J. C. 5, Bridge House-place, Newington-causeway.

TO BUILDERS, CONTRACTORS, &c.
WANTED, by a Practical Man, a RE-ENGAGEMENT, as GENERAL or WORKING FOREMAN, or to take Charge of a Job. Can have first-rate testimonials.—Direct H. I. C., Care of Mr. C. PAGE, Ironmonger, 1, Bridge-street, Lambeth, S

TO BUILDERS AND CONTRACTORS.
WANTED, by a Practical MASON, a situation as FOREMAN, or to TAKE CHARGE of a BUSINESS, is a good Letter Cutter, and understands Measuring and Accounts. First-class testimonials.—Address, W. K. Mr. Wyatt's, Enfield Highway, N.

WANTED, by a Bricklayer, a RE-ENGAGEMENT as FOREMAN. Thoroughly competent to set out work, and to take the entire management of a job. Good reference can be given.—Address, M. A. 66, Dudley-grove, Harrow-road, Paddington.

WANTED, a RE-ENGAGEMENT as SHOP FOREMAN of JOINERS, or as CLERK of WORKS, or to TAKE CHARGE of a JOB. Has been well experienced in either capacity. Sash-factory reference and testimonials.—Address, M. S. 58, Coppice-row, Clerkenwell, E.C.

TO BUILDERS, PLUMBERS, AND PAINTERS.

WANTED by a Young Man, a SITUATION as plumber, painter, and glazier. Good reference.—Address, C. B., No. 40, Leybourne-road, Camden-town.

WANTED, by a Grainer, Painter, and Glazier, a permanent SITUATION; in or near London preferred.—Address, J. B. 23, Hermitage-street, Paddington, W.

TO ARCHITECTS AND ENGINEERS.

WANTED, by a thoroughly practical Man, a SITUATION as CLERK of WORKS. Has had fifteen years' experience. With first-class testimonials.—Address, L. J. at Mr. Kirby's, 37, Lambeth walk.

TO BUILDERS AND PLUMBERS.

WANTED, by a respectable Young Man, a SITUATION as good PLUMBER, and has no objection to fill up his time in painting if required. A good reference can be given if required.—Address (post paid), J. G. 4, Abbey street, Bermondsey church, Southwark.

WANTED by a Sculptor, DESIGNING, MODELLING, and CARVING, in Figures, Busts, and Ornamental Art, for various trades, in the highest style of art.—Address, C.U.P. Office of "The Builder."

WANTED, to APPRENTICE, IN-DOOR an active respectable Youth, aged 17½ years, to some business connected with the Building Trade. The country preferred. A moderate premium will be given.—Address, with particulars, to care of Messrs. Fassnidge, Uxbridge.

TO BUILDERS, DECORATORS, &c.

WANTED a SITUATION by an Oil Grainer, Writer, and Decorator; can take the charge of work, and would do painting, if required, to fill up time.—Address, J. K. 4, Charrington-street, Camden Town, N.W.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a Bricklayer, a RE-ENGAGEMENT as FOREMAN; is well up in setting out work, has no objection to work, or to take piece-work of any description, or could take the entire charge of a small job, &c. Good reference.—Address, N. D. 14, Belvoir-terrace, Vauxhall Bridge-road, Pimlico.

TO BUILDERS AND PLUMBERS.

WANTED, by a good Plumber, a permanent SITUATION. Has no objection to the country. Can fill up time with painting and glazing, if required.—Address, L. N. V. Office of "The Builder."

WANTED, a SITUATION, by a Young Man, who understands working the mortise machine, or could make himself useful at the saw. Wages, 22s. per week.—Address, A. B. 70, Theobald's-road, Bloomsbury.

TO ARCHITECTS, &c.

WANTED, by the Advertiser, a RE-ENGAGEMENT as SUPERINTENDENT of BUILDING WORKS. He has had many years' experience in the same capacity. Town or country. Good reference as to character and ability.—Address, Y. Z. Post-office, Stoke Newington.

TO BUILDERS AND OTHERS.

WANTED, by a Practical Man, a SITUATION as CLERK of WORKS or GENERAL FOREMAN. Understands builder's work in all its branches; can prepare working and finished drawings, and measure up work. Would make himself useful in office, if required.—Address, ALPHA, 28, St. Paul's-terrace, Camden-town.

TO ARCHITECTS.

THE Advertiser, who is a neat and expeditious Draughtsman, requires a SITUATION. Has been used to parallel perspective, detail, and working drawings. Satisfactory references.—Address, A. F. B. Office of "The Builder."

THE Advertiser wishes for a RE-ENGAGEMENT, either in an Architect's or Surveyor's Office. Is a good draughtsman, understands perspective, &c.—Address, W. 15, Bookham-street, New North-road, N.

TO MASTER PLUMBERS AND BUILDERS.

THE Advertiser wishes for a PERMANENCY as PLUMBER. Can make himself generally useful. Has been used to a City shop.—Address, H. S. No. 13, Paradise-street, Rosebury.

TO ARCHITECTS.

THE Advertiser, who is a first-rate and expeditious Draughtsman, and well acquainted with Gothic and Italian, &c., is open to a RE-ENGAGEMENT. Good testimonials.—Address, L. M. N. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a rapid designer and perspective draughtsman, and a good colourist, wishes for a RE-ENGAGEMENT as GENERAL ASSISTANT in an Architect's Office; or would be happy to render assistance at his own residence in the preparation of competition and other drawings.—Address, M. A. 31-office, 33, Lamb's conduit-street, W.C.

TO ARCHITECTS, ENGINEERS, OR SEWER CONTRACTORS.

THE Advertiser is desirous of an ENGAGEMENT, as CLERK of WORKS, or to take the CHARGE of any important WORKS, for a builder. Has had great experience in the foregoing trade in all its branches.—Address, E. G. 3, Shalmore-road, Burrs in Furness, Ulverston.

TO ARCHITECTS, SURVEYORS, OR CONTRACTORS.

THOROUGHLY competent Surveyor having just completed an engagement with an extensive firm, wishes to obtain an ENGAGEMENT as ACTING, ESTIMATING CLERK, MANAGING ASSISTANT, or CLERK of WORKS. Has had great experience, is a good draughtsman and designer; well acquainted with detail, constructive, and taking out quantities, and has a thorough knowledge of the value of work, and the control and management of workmen.—Address Q. P. 7, Weymouth Place, S.E.

TO ENGINEERS, SURVEYORS, &c.

GOOD Mechanical and General Engineering Draughtsman is willing to GIVE his SERVICES (in addition) for a few months at a small salary, his object being to remain with a view to permanent or to an appointment abroad. Apply to E. D. Office of "The Builder."

YOUNG MAN wishes for a SITUATION in London as IMPROVER to the Plumbing.—Address, 5, West Hill, Wandsworth, Surrey.

AN efficient Clerk of Works is desirous of a RE-ENGAGEMENT. Has just completed an engagement with an eminent London Architect, by whom he can be well recommended.—Address, W. K. Post-office, Milverton, Somersetshire.

TO ARCHITECTS AND SURVEYORS.

YOUNG GENTLEMAN having had a good practical experience in the profession, wishes an ENGAGEMENT. Terms moderate.—Address, Y. X. Y. Office of "The Builder."

TO ARCHITECTS.

GOOD General Assistant, who has been accustomed to prepare finished, detail, and other drawings, plans, dilapidations, &c. and is also a good colourist, and understands perspective, would be glad to meet with an ENGAGEMENT, temporary or otherwise, in Town. Good references can be given.—Address, A. B. care of Mr. Hibburd, Stationer, Ludgate-hill, City.

TO ARCHITECTS.

AN ASSISTANT is open to an ENGAGEMENT, temporary or otherwise. Has been accustomed to active superintendence of Building Works at intervals. First-class reference.—Address, A. B. C. Office of "The Builder."

TO BUILDERS AND PLUMBERS.

A PLUMBER, ZINC-WORKER, and GASFITTER, WANTS EMPLOYMENT. Unexceptionable certificates from former employers.—Address, J. G. 3, Tufton-street, S.W.

TO MASTER PLUMBERS AND PAINTERS.

A YOUTH, aged 18, is desirous to BIND himself to the PLUMBING and PAINTING for three years. Has been in the trade four years.—Address, T. S. 34, Chapel street, St. George's in the East.

TO BUILDERS.

AN Experienced JOINER and Good STAIRCASE HAND, age 33, is in want of a JOB at the Bench, at Piecework, or Daywork, or any responsible Situation where a thoroughly practical man is required. Good reference.—Address, J. L. The Garibaldi, Were-street, Ringland road, N.

TO BUILDERS AND CONTRACTORS.

A BUILDER, having placed his son in the office, and parted with his CLERK, could with confidence recommend him to any builder requiring the same. He is well up in taking off quantities, measuring up work, and the general routine of a builder's office.—Address, T. F. 6, Half moon crescent, Islington, N.

TO BUILDERS, SMITHS, &c.

A STEADY MAN wishes for a RE-ENGAGEMENT; he is thoroughly experienced in Hot-Water and Steam Cooking Apparatus in all its branches, and is a good General Smith.—Address, C. H. W. No. 34, Queen Elizabeth-street, Horselydown, Southwark.

TO BUILDERS, HOUSE-AGENTS, &c.

A STEADY MAN WISHES for EMPLOYMENT, or to make himself generally useful, in the Painting, Graining, Writing, Paper hanging, &c.; or will undertake the general Repairs, Contract, or otherwise.—Please to address, by letter to W. B. F. Dorrell, Baker, No. 23, Liquorpond-street, Gray's Inn lane.

TO CARPENTERS AND BUILDERS.

AS IMPROVER, a Young Man, a carpenter, just completed his apprenticeship, WANTS EMPLOYMENT. Wages no object.—Address, W. D. 6, Crozier-street, Pancras-road, Lambeth.

TO ARCHITECTS AND SURVEYORS.

AN ARCHITECTURAL ASSISTANT, who is competent to make working and finished drawings, also to perform the usual duties in an Architect's Office, is seeking a RE ENGAGEMENT. Satisfactory references can be given.—Address, F. B. Office of "The Builder."

TO UPHOLSTERERS, DECORATORS, AND BUILDERS.

A DRAUGHTSMAN and Foreman of Carvers, &c. who has had much varied experience in warerooms and workshops, is open to an ENGAGEMENT. -Address, G. LOCK, 21, Cirencester-place, London, N.W.

TO ARCHITECTS AND SURVEYORS.

AN ASSISTANT requires SKETCHES, WORKING and DETAIL DRAWINGS to make, or QUANTITIES (guaranteed) to take off. Land to Survey, or other professional work. Town or Country, at his own rooms, or otherwise. Address A. B. 49, Prospect Place, St. George's Road, Southwark, London, S.

A GOOD Free-hand DRAUGHTSMAN, accustomed to trace, copy, and enlarge drawings, desires EMPLOYMENT; has been a cabinet-maker, also foreman of carpenters in London, has a fair knowledge of the French language, and is a good ornamental penman.—Address, W. C. E. 50, St. George's-road, New Kent-road, Borough, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas, adapted for the village church or school.

INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock, may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3 248.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

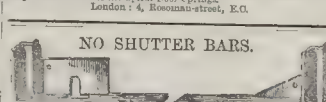
DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the QUEEN and the late PRINCE CONSORT, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to his superior workmanship and elegant design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	13 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do. do.	26 "
Marine Chronometers	35 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts' Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

CLOCK MANUFACTORY.—Established 1740.—THWAITES & REED beg to call the attention of Provincial Watchmakers to their Establishment, the OLDEST in the TRADE, where every description of CLOCK is made in the best possible manner, and on the most moderate terms. Turrets work can be got up for Original inventors of the spiral Dead springs.
London: 4, Rosoman-street, E.C.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shoe referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

COLOURS and VARNISHES at REDUCED PRICES,
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 2d. per gallon; Boiled Oil, 3s. 2d.; Turpentine, 6s. 8d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

TO BUILDERS, HOUSE-PAINTERS, and DECORATORS.—PATENT EXTRACT of LETHICUM.—For Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. in a few minutes, and for Cleaning and Restoring Old Paint. Success guaranteed. Price 5s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London. — Messrs. NAENIARE & Co. 11, St. Andrew's-hill, Doctor's-commons, London, E.C.—N.B. Cheap patented Brushes for laying on the Extract, and removing the old paint, 3s. per pair.

GENUINE WHITE LEAD, branded and warranted from the Manufacturers, 30s. per cwt.; Linseed Oil, 3s. per gallon; Boiled Oil, 3s. 4d. per gallon; Turps, 3s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon. Hamilton's and Kent's Grainers', Painters', and Plasterers' Brushes, to be had at D. J. PORTER'S White Lead and Colour Warehouse, Nos. 1 and 2, Pratt street, Camden Town, N.W.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 3d, High street, Mary-le-bone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

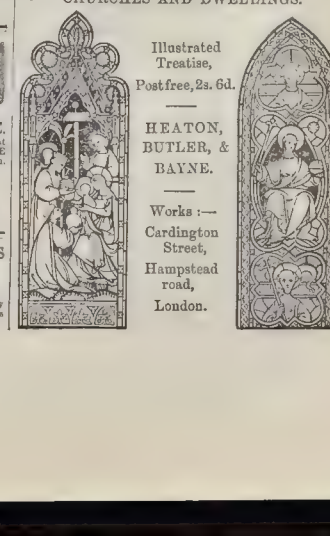
IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 2d. per gallon; Boiled Oil, 3s. 6d. per gallon.
Turpentine, 6s. 8d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and countries, greenhouses, farm cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. A pamphlet with sketches of various designs, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.



Illustrated Treatise,
Postfree, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:—
Cardington Street,
Hampstead road,
London.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate
Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square., W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

TO BUILDERS and TIMBER MERCHANTS.—TO BE DISPOSED OF an old-established COUNTRY BUSINESS of a BUILDER and TIMBER MERCHANT, offering an excellent opportunity to any one possessed of moderate capital, as the connexion is highly respectable. Premises commodious, and rent moderate. Situate sixty miles from London, with direct railway and canal communication.—For further particulars apply to Mr. GEORGE BENNETT, Auctioneer and Estate Agent, Buckingham.—A BRICK, TILE, and LIME YARD, in full work, can be had with the above business, at the option of the purchaser.

BRICKFIELD, KILN, DRYNG-SHEDS, &c.—TO BE DISPOSED OF, a very compact CONCERN, fitted with steam engine at 1 machinery of the most approved description. The clay is very superior, and unlimited, and produces when delivered bricks, tiles, pipes, and other kinds of goods, for all which there is a good demand in the locality. A practical acquaintance with the business is unnecessary, as arrangements can be made with the present Manager of the Works on favourable and moderate terms.—For further particulars apply to Messrs. EDWARDS & JAMES, 18, King-street, Cheapside, E.C.

BUILDING BUSINESS FOR SALE.—Has been established many years, situate in the best part of the West End, with good House and large Workshops attached. Goodwill, Stock in Trade, with Lease of Premises, 350l.—Address, V. Office of "The Builder."

BRICKMAKING BY STEAM POWER.—INTERNATIONAL EXHIBITION, Class 7 B, Eastern Annexe. Messrs. BRADLEY and CRAVEN, of WAKEFIELD (COMMON FOUNDRY, Wakefield, Yorkshire, are exhibiting one of their well known BRICK MACHINES as above. They regret, from the Royal Commissioners not having allotted them sufficient space, they cannot exhibit one of their improved Dry Clay Machines as well.
The following testimonial from the well known firm of Messrs Peto & Betts is one of many other practical proofs of their utility.
"9, Great George street, Westminster, April 7, 1862
Gentlemen,—I have pleasure in giving you the result of twelve months' experience in working your Brick Machines at my Artificial Stone Pottery. Previous to becoming acquainted with your machine, I had worked for years several of the best machines of the day, I have, therefore, had considerable experience in mechanical brickmaking and the results I can pleased to testify to the value of your machine as being the only one that at present in this country will make a brick by one operation direct from the clay pit without preparation, and at the same time with economy. I have had the machine working throughout the past year, both summer and winter, and at the machine requires no water to be put into the clay, we can model the bricks direct to the kiln. The machine will make readily from 6,000 to 10,000 bricks per day, and can be set to give the very satisfaction from a velocity sufficient to the work. Our Dry Clay Machine and Mill is now working for me at the Sydenham Hunt, yielding very superior bricks from a most refractory material, at the rate of 12,000 per day. I shall be happy to submit your friends to my works to see them in operation on receipt of an introduction from you. I am, gentlemen, your obedient servant.
To Messrs. Bradley & Craven, Wakefield. E. L. BETTS."
Illustrated catalogues and every information contested with brick machinery on application as above.

ANCHOR BRICK-MOULD WORKS, ROUNSLOW, W.
J. LEACH, Millwright and Manufacturer, Improved MOULDS, STOCKS, and PLATES, with screw stock pegs; also Oak Stocks, the largest stock at England; 1½ inches 2½ inch made to order Welsh Chalk, Pug-mills, soft mills, by steam or horse power Brickmakers are cautious against all pirate firms collecting orders in J. L.'s name, and supplying an inferior mould. Anti-friction Grease for Brickfields Established eleven years.

BRICKS for SALE.—A large quantity of STOCKS, PLACE, ROUGH STOCKS, CUTTERS, and FACING BRICKS, to be DISPOSED OF, in large or small lots. For price and further particulars, apply at Mr. MOXON'S Offices, Market Deeping, Lincolnshire.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines
Price, including royalty, 75l.
Licenses to Manufacture granted for certain districts
For particulars apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston, on the 11 inst.; and also in action, at the International Exhibition, Class 8, No. 1,961.

A NEW BRICK and LIME WHARF, and DRAWDOCK,
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

A LARGE PLOT of VACANT GROUND, in the centre of a village, thirteen miles from London, and close to a railway station, TO BE SOLD or LET. A house and shop (in which was carried on an old-established grocery business) formerly occupied the site, but have been recently destroyed by fire.—Messrs. DEBENHAM & TEWSON, 80, Cheapside.

TO BUILDERS.—TO BE LET or SOLD, extensive PREMISES, for many years occupied in the business. They cover an area of two acres, and are situate within thirteen miles of London, and close to a railway station.—Messrs. DEBENHAM & TEWSON, 80, Cheapside.

TO MARBLE MERCHANTS & OTHERS.—Spacious PREMISES, with or without the plant and stock of superb Imitations of Marble, &c.—TO LET, extensive PREMISES at Chelsea, within one mile of the International Exhibition, comprising a good dwelling-house, spacious show-rooms, workshop, extensive yard occupying about 12,000 square feet, and adapted for this or any description of trade manufacturing where light and space are requisite.—Apply to Messrs. PETER BROAD & PRITCHARD, 28, Poultry, E.C.

ALDERSHOT—North Camp.—TO BE SOLD or LET, on building leases, about THIRTY ACRES of FREEHOLD LAND, situate about one mile from the station on the South-Eastern Railway, and one mile and a half from the North Camp, and having extensive frontage on the road from the camp to Farnborough. From its healthy soil and situation, and the immense tract of open country immediately surrounding it, this plot would be admirably suited for a training school or other public institution.—For further particulars, apply to Mr. E. A. GRUNING, 25, Old Broad-street, E.C.

TO BUILDERS and OTHERS.—Notice is hereby given, that the Trustees of the Rev. Dr. Spurlow's Charity Estate at Hackney have several PLOTS of LAND TO LET, to build on, eligible for villas and other respectable private dwellings. The land will be let direct from the freeholder, and free of land-tax and tithe commutation rent charge. The above estate offers an excellent opportunity to persons desirous of building a residence for themselves. For further particulars apply to Mr. H. DILLON, Surveyor, No. 2, Old Church yard, Hackney, or of Mr. C. H. FULLEY, of Upper Hamerton, and 28, Great Winchester-street, Old Broad-street, City, Solicitor.

TO BUILDERS.—FREEHOLD BUILDING LAND for SALE at WINCHMORE HILL, with frontage to good roads, in a high and dry situation. Land-tax redeemed. A portion of the purchase may remain.—Apply to C. W. EPPY, Esq. 21, Lincoln's-inn fields.

EXTENSIVE MANUFACTURING PREMISES, WHITECHAPEL.—TO BE LET or SOLD, together or separately, the extensive and important range of PREMISES recently occupied as the WHITECHAPEL DISTILLERY, with land adjoining, if required. The Buildings, many of which are of great extent, are most substantially erected, principally in brick, and are very conveniently arranged for almost any manufacturing purpose. There are three distinct gateway entrances, and the Buildings on all sides are surrounded with paved yards. The total area is about three acres, exclusive of six acres of accommodation land which may be had if required. There is an Artesian well, which affords a constant and unlimited supply of pure water.—Further particulars and cards to view may be had of Messrs. TENNANT and DARLEY, Sanders, Raymond's buildings, Gray's Inn; and of Messrs. FULLER and HORSEY, Billiter-street, E.C. where plans of the property may be seen

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is picturesquely undulating, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs BLAKE, Croydon.

TO BUILDERS, CONTRACTORS, and OTHERS TO BE LET, or the LEASE TO BE SOLD, extensive Manufacturing Premises, known as TREDEGAR WORKS, Bow, Machine shop, 61 ft. by 54 ft.; two ranges of workshops, 74 ft. by 25 feet; steam engine, 12-horse power, smithy, planing, moulding houses, and all other conveniences suitable for a large factory.—For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

BUILDING LAND, situate between Reigate and Dorking, in the parish of Betchworth, TO BE LET upon long LEASES, in plots of various sizes, suitable for the erection of a good class of private residences.—For particulars, apply to Messrs. CLUTTON, 9, Whitehall-place, Westminster; or Messrs. NASH, Reigate.

TO SPECULATING BUILDERS and OTHERS.—LAND, close to the Royal Dockyard, Deptford, TO BE LET, on LEASE, suitable for building five-roomed cottages that would readily let for 5s. a week.—Apply to Mr. JOHN WIMBLE, 2, Walbrook; or to Mr. J. A. BONE, 27, Leadenhall street.

VALUABLE BUILDING LAND, opposite the Queen's Hotel, Upper Norwood, TO BE LET by TENDER.—For particulars apply to Messrs. HUNT & STEPHENSON, 4, Parliament-street, S.W. Tenders to be delivered on the 2nd of JUNE.

BUILDING GROUND, HOLLOWAY. TO BE LET on BUILDING LEASES, for Eighty years, a PLOT of GROUND on the north side of Seven Sisters' Park road, Holloway, adjoining the City Prison, and a PLOT of GROUND on the south side of the same road, and to turn both sides of Camden road, Holloway. Plots with goods may be seen, and for further particulars obtained, upon application at the Architect's Office, Guildhall
FERDINAND BRAND, Comptroller.

MANUFACTURING WATERSIDE PREMISES on the THAMES.—TO BE SOLD or LET on LEASE, the extensive PREMISES late occupied as the Distillery at Brentford, occupying a site of about four acres, having a considerable frontage near the Thames, a plentiful supply of pure spring water, and well placed for barge traffic, being but a short removal from the Brentford Docks, and immediately contiguous to three lines of railway; there are some very spacious and substantial buildings, and a good cart building, with large garden, the whole presenting advantages for any large manufacturing establishment.—For further particulars apply to St. P. B. HOOK, Esq. Solicitor, 9, Lincoln's-inn-fields, W.C.; or to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO ARCHITECTS, SURVEYORS, &c. TO BE LET, good BUSINESS PREMISES, suitable for Offices, &c. Rent moderate.—Apply at 36, Warwick-street, Regent street, W.

TWICKENHAM MEADOWS, near Richmond Bridge.—TO BE LET for Building, according to plans to be approved by the Freeholder, and TO BE SOLD such a portion of the purchase money to remain on mortgage at 4 per cent., about TEN ACRES of FREEHOLD GROUND, beautifully situated, well timbered, gravelly soil, and healthy, with large frontage to the Richmond road.—Apply to Mr. BRADLEY, at the Lodge; or Messrs. FEW & CO. 2, Henrietta-street, Covent-garden.

TO BUILDERS, WAREHOUSEMEN, MANUFACTURERS, and OTHERS.—TO BE LET by TENDER, either together or separately, and on Lease for twenty-one years (determinable at the option of lessee at the end of the first seven or fourteen years), the extensive WAREHOUSES, DWELLING HOUSES, and first-rate BUSINESS PREMISES, situate in Fountain-court, Aldermanbury, and Church-passage, Gresham-street, in the best part of the City of London, and covering an area of 9,000 feet. Particulars, plans of the property, and forms of Tender, to be obtained of Messrs. SOLE, TURNER, & TURNER, Solicitors, 68, Aldermanbury; and of THOMAS CHATFIELD CLARKE, Architect, 137, Leadenhall street, London. Tenders to be sent (sealed) to Messrs. SOLE, TURNER, & TURNER, 68, Aldermanbury, London, on or before TWELVE o'clock at noon, on TUESDAY, the 17th day of JUNE next; at which time the Tenders will be opened. The highest, or any Tenders, will not necessarily be accepted.

BUILDING LAND TO LET, on long lease, in most cases direct from the freeholder, at HIGHBURY, CANONBURY, NORWOOD (close to the Lower Norwood Station, at CROYDON (very near West Croydon Station), at the VAUXHALL GARDENS ESTATE, at DENMARK-HILL, &c. and some CARCASSES at BOW. Ground-rents moderate. The usual proportion of the cost of the houses erected would be advanced, and in some cases the freehold might be purchased.—For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

CHAPEL for SALE, near the Regent's-park, East Side.—A CHAPEL, with Fittings, completely pewed to accommodate 900 persons, with lofty schoolrooms underneath, and vaults on two sides of the building. The premises are substantially built, and situated in a good and populous neighbourhood. Can be easily converted for educational purposes, combining lecture-rooms, schools, classrooms, &c.—Further particulars may be had of Mr. TARRING, 26, Bucklersbury, E.C.

FOUR ACRES of FREEHOLD GROUND, King's-road, Peckham, 200 yards from the Station about to be constructed by the London and Brighton Railway Company, three miles only from London Bridge, TO BE LET for Building.—Apply, between TEN and TWELVE, at Bath House, Queen's-road, Peckham.

FITZMAURICE OIL and COAL GAS WORKS.—For SALE, the Retorts, Condensers, Purifiers, &c. &c. erected at Newstead Abbey by the above Company within the last nine months, for Five Hundred Lights.—For further particulars apply to JOHN ANDREWS, Gas-maker, Newstead Abbey, Mansfield, Notts.

BOURNEMOUTH, HANTS.—FOR SALE, a PLOT of freehold BUILDING LAND, admirably situate at the above delightful watering place, being near the sea-side, double frontage 200 feet by 160 feet. Price 120l. Further particulars to B. 74, Gray's Inn-lane, London.

BELGRAVIA.—PLOT of GROUND and the BUILDINGS thereon, in the heart of this Fashionable District, to be sold at a Ground Rent. The Premises, comprising Stabling, Dwelling House, &c., produce a good Income, but are capable of great improvement, and might be easily adapted for business purposes or a Depôt. For further particulars apply to Mr. FRED. GODWIN, Auctioneer and House Agent, No. 3, Halkin Terrace, Belgrave Square.

THE FINEST SITE BETWEEN LONDON and BRIGHTON.—To ARCHITECTS and BUILDERS.—TO BE SOLD.—The KNOWL, being less than half a mile from the Great Junction Station at Redhill, of the Brighton, the Dover, and the Reading with the London Railway, with or without additional Freehold, the land tax redeemed. Also 15 acres of Finely Wooded, Park-like Land, situated in a beautiful Dell, within 200 yards from the same station The prospects are varied, pictures que, and extensive: application to Mr. ALLSOP, 3, Union Court, Old Broad Street, or Redhill.

TO BUILDERS or OTHERS. — FOR SALE, a SMALL PIECE of GROUND, situate at Stratford South Essex, distant from London 3½ miles by Eastern Counties Railway.—Apply to Mr. MADDEN, 54, Clifton-gardens, Maida-vale, London, W.

TO CAPITALISTS and BUILDERS.—TO BE LET, in perpetuity, in large or small plots, and at low rates, the BELMONT, SYDENHAM, and GLEN-MACHAN ESTATE, IRELAND. The estate is of more than 700 acres in extent, and is situate within two miles of Belfast, on the borders of Belfast Lough. The main roads are made; there is an ample quantity and large quantities of brick earth on the estate. Brick, stone, and sand may be had at low prices. A church and a large number of first-class villas have already been erected and have let readily. Close to the estate there are two stations on the Holywood branch of the County Down Railway, which runs along the western boundary of the estate. The vicinity of the estate to Belfast, the picturesque views of the adjacent sea and of Lough Belfast, with many natural advantages, render this estate particularly suitable for the erection of first-class villas, for which there is a large demand. Plans may be seen and particulars obtained of Messrs. HOVENDEN & HEATH, Surveyors, 4, Broad-street-buildings, London, E.C.; and of THOMAS MACLURE, Esq. Belmont, Belfast, Ireland.

TO CARPENTERS, BUILDERS, CABINET MAKERS, and OTHERS.—TO BE LET, a Large and Light WORKSHOP, 85 feet by 22 feet, with 300 yards of Wharf or Station; also two Living ROOMS, suitable for a foreman (if required) in the premises. For particulars, inquire of J. D. Milner-yard, Miller-place, Lower marsh, Lambeth.

TO SLATE and STONE MERCHANTS and OTHERS.—TO LET, half an extensive WHARF, with BUILDINGS.—Apply to Mr. W. PARRY, Evelyn Wharf, Church-street, Deptford.

BUILDING GROUND.—St. Dunstan's Hill, near the Custom House, London.—TO BE LET, with the approbation of the High Court of Chancery, on a Building Lease, or on Building Leases, for the term of 80 years, all those FOUR MESSUAGES or TENEMENTS and DWELLING-HOUSES situate and being Nos. 4, 5, 6, and 8, on the west side of St. Dunstan's Hill, in the Parish of St. Dunstan-in-the-East, in the City of London, possessing a frontage of 80 feet, and an extreme depth of about 74 feet. The property will be let subject to the rights of the tenant of No. 8, who holds, under an agreement to leave on six calendar months' notice from any quarter-day, at the yearly rent of 35l.—It. 1s. 8d. for redeemed land tax, and 2l. 8s. for insurance against fire; and also to the rights of the tenant of No. 6, who holds for the remainder of a term of 21 years, which will expire at Michaelmas, 1865, at the yearly rent of 50l. 4s. for redeemed land tax, and 2l. 16s. for insurance against fire. The tenants of Nos. 4 and 5 has received notices to quit, which has expired, and is only occupying upon sufferance. The premises belong to the Parish of St. Dunstan-in-the-East, in the City of London, and will be let, subject to the approbation of the Court of Chancery, by TENDER on one or more building-lease or leases, with the option of lease or leases, for a term of 80 years, from 24th JUNE, 1862, at a pepper-corn rent for the first year, and at an agreed rent for the remainder of the term. A plan of the ground, and the terms and conditions of the Agreement for a lease or leases to be signed by the lessee or lessees, may be seen at the office of WILLIAM TITE, Esq. M.P. 17, St. Helen's Place, Bishopsgate-street, the Surveyor of the Parish; or at the office of EDWARD BRAKSPEAR, Esq. the Vestry Clerk of the Parish, No. 44, Mark-lane, from the 1st to the 14th day of JUNE, between the hours of Eleven in the forenoon and Four in the afternoon, (except on Saturdays, and then until Two in the afternoon); and the Church Committee of the parish will meet in the Vestry-Room of the Parish Church on THURSDAY, the 19th day of JUNE, 1862, at ONE o'clock in the afternoon precisely, to receive sealed Tenders from parties who may be willing to take the property on a building-lease or building leases for the term aforesaid, and under and subject to the terms and conditions contained in the plans and specification and terms of letting before referred to. Such Tenders to be in the form set out at the foot of the said specification and conditions; and forms thereof may be obtained at the Surveyor's or Vestry-Clerk's offices on application. Such Tenders to be sealed up and delivered at the office of the Vestry Clerk on the said day before the meeting of the Church Committee. The Church Committee will not bind themselves to accept the highest or any Tender, and the parties whose tender shall be accepted will be required to provide two good and sufficient sureties for the due performance of the covenants of the said contract. The parties tendering are requested to attend during the meeting of the Committee, in the Vestry-room, on the said 19th day of JUNE, 1862.

TO BUILDERS.—The attention of Builders and Speculators is directed to a BUILDING ESTATE, rising into importance as a watering-place, about 70 miles from town, having an extensive frontage to the sea, and a railway station within five minutes walk. Several villas have been built and have readily let; more are in demand. Parties with some capital and enterprise would find the speculation a paying one, and will be met in a liberal spirit by the proprietor.—Every information will be given on application to Mr. W. MOXON, Surveyor, 3, St. Martin's-place, Trafalgar-square, London.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.



REDUCTION IN PRICE

OF

CLARK'S

NEW PATENT REVOLVING SHUTTERS,

FOR

SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.



J. GURMAN,

Inventor and Patentee of a New SASH POCKET and Fittings, for Weight and Balance Sashes, for Cleaning, Repairing, or Painting Windows. They can be taken out in a minute and replaced in same time. Old Windows can be altered. Any person allowed to work the Patent, on purchasing the Patent Pocket and other Fittings of the PATENTEE, 4, ONSLOW ROAD, Southampton; or of Mr. G. BRADBURY, 11, GARLICK HILL, Cannon-street, London; where Windows may be seen and information obtained.

Send stamped envelope for Prospectus and Sectional Drawings.

Windows may also be seen at the Kensington and Conduit-street, Museums, London.



SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT

AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,

Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronised by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

and by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House in Hanover square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 23 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully solicited to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER; comprising three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of near One Million Feet. Address Bunhill Row, Finsbury.

HAGAN'S VENTILATING CHIMNEY-TOPS (Protected by Royal Letters Patent, and used by her Majesty's Office of Works and Publ. Buildings) will cure smoky chimneys, whether they are surrounded by higher buildings or in the most exposed situations. They preclude the necessity and save the expense of building tall chimney-shafts, or using long, unsightly tubes or tall-boys. They produce an upward current, and their vertical slays, &c. effectually prevent downward draughts and the emission of smoke from other flues. They cannot get out of order (as all the parts are fixed), and being open at the top, can be swept by the sweep's brush.

First size (for Ordinary Fireplaces)..... 30s.
Second ditto (for Kitchens, &c)..... 35s. } Delivered FREE to any Railway Station in London.
Third ditto (for Large Kitchens)..... 40s.

Manufactured and sold by H. W. GATES, 67, Westminster Bridge-road, Lambeth. Terms—Cash. List of public and other buildings, mansions, &c. where these Chimney-tops have cured smoky chimneys, and where they may be seen in use, sent on application as above, or to the Patentee, CHARLES HAGAN, Office of Works, Tower of London. Class 10, Section A, INTERNATIONAL EXHIBITION

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23 inch, 2s. 6d. and 4s

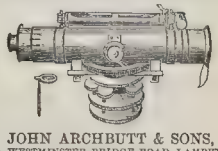
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use. Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.

Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

MR. CHARLES WOODROFFE, of 29, New Bridge-street, Blackfriars, is prepared to ADVANCE MONEY in discount on short notice, on HOUSES in the course of erection, at frequent intervals, as the works proceed, the borrower depositing the writings. No legal expenses.—Apply between Ten and Four.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY; TIMBER, WINE, and SPIRIT WARRANTS. BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Re-sales to be Prepared, and Meetings of Creditors Convened. Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

C. H. T. BIKKER, 110, Bradford-street, and 162, Cheapside, Birmingham, ARTIST in ECCLESIASTICAL DECORATIONS, HOUSE and CHURCH DECORATOR. Wall painting, carving, and gilding in the same style of the twelfth, thirteenth, and fourteenth centuries. Every description of ecclesiastical writing, labelling, and Gothic decorations; also Egyptian, Roman, and Greek decorations tastefully carried out in accordance with the several styles. Experienced artists sent to any part of the United Kingdom. Architects' designs carried out by experienced decorators, or drawings furnished if required. Specimens may be seen fully carried out at the above address.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.
The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.
PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

IMPORTANT TO BUILDERS, SAW-MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS
WILSON'S PATENT LARGE TIMBER SAWING-MACHINERY.
This machinery is adapted to cut up square or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the log are arranged to carry the log past the saw to any extent without stopping for re-adjustment, by which the necessity for transoms is avoided, and they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly.
The speed of cutting may be varied from 10 inches to 10 feet per minute, and yet on account of the increased length of cutting edge, the saw is kept cool.
May be seen in operation, daily, at Messrs. JAMES WILSON & SONS, Builders, Springfield Saw-Mills, Manningham, Bradford, Yorkshire.—Full particulars may be had on application, by parties desirous of purchasing

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanis-d Tipped Sheets and Tiles for export.
IRON WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

A PRIZE MEDAL for SUPERIOR LOCKS
was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Founding, Bells and Gas Fittings, Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, economizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 85, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

HUTHNANCE'S PATENT ECONOMIC LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS.
Is strongly recommended to public notice, as being the most efficient and economical arrangement for the purpose of drying linen, clothes, bedding, &c. ever yet adopted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c. &c.; as, in a sanitary point of view, it is invaluable, the DRYING ROOM being raised by its use to a very high temperature, whilst the IRONING-ROOM is kept AGREEABLY COOL and WELL VENTILATED.
The economy of fuel is extraordinary, as, in a small union, it caused a saving of seven tons of coals in four months, whilst for simplicity of arrangement and cleanliness it is not to be surpassed.
No BLACKS or SOOT can enter the drying-room.
The drying can be carried out in numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS.
Testimonials and illustrated particulars forwarded, upon application to Mr. PIERCE, SOLE PROPRIETOR and MANUFACTURER, 5, JERMYN STREET, REGENT STREET.
A large model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

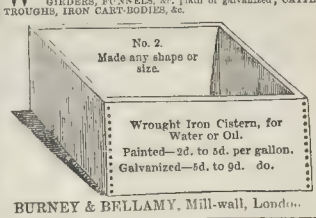
MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also,
BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

NAILS and IRONMONGERY,
from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the
LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham street, London, E.C.

LOCOMOTIVE STEAM-ENGINE, second-hand, TO BE SOLD, with Tubular Boiler, Three Cylinders, 140 lbs. pressure. Weight, 5 to 6, 17 cwt. To be seen at application to Mr. TILBURY, No. 25,181, at the Pantechnicon, Belgrave-square.—This Engine was first used as a Traction-engine on a Tram-road.

TO BUILDERS.—TO BE SOLD by private contract, one of GOUGH'S PATENT PORTABLE ENGINES, together with the Stone-sawing Machinery, which can be seen at work at Welbeck Abbey Works; also several cranes, double-purchase crabs, and a new stone dragg, calculated to carry twenty tons.—Address C. C & A. DENNETT, Welbeck Abbey Offices, Notts.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c., plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fixing up scales, roast-jacks, &c.; manufacturing into boiler-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS F. HAWKINS, 27, Dale-end, Birmingham.

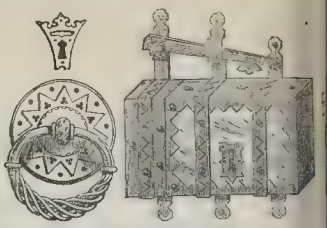
TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern book and Price lists, 12s.—Nos. 55 and 56, High Holborn

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES,
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect incombustibility; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one fourth the weight, and when laid down are 20 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.
Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

HART AND SON,
MEDIÆVAL METAL WORKERS,
53 to 58, WYCH STREET, and 20, COCKSPUR STREET, LONDON.



FONT COVERS, ALMS BOXES, LOCKS, HINGES, HANDLES, BOLTS, TOMB RAILING, &c. &c.
LECTERNS, CORONAS, GAS STANDARDS, MONUMENTAL BRASSES, &c. &c.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit street, W. Drawings and Estimates furnished.

TO BUILDERS AND OTHERS.
A SECOND-HAND MOULDING MACHINE TO BE SOLD a BARGAIN
Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.
TRADE MARK.

IRON CASTINGS, WROUGHT and CAST IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

CIRCULAR SAW BENCH WANTED.—WANTED, a small circular saw bench, to work with a treadle and fly wheel (not by steam power).—Address, A. B. Mr. Sharland's Library, Southampton

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Side-lane, London

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c. KENT IRON WORKS, BRIDGE STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅜ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
½ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.			Laths, 28s. per load.	
Yellow Deals, sound and good	£19	10 0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	15	10 0 „	0 2½ „	
Yellow Battens, excellent quality	11	10 0 „	0 2 „	
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0 0 „	3 6 „	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅜-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
½-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1¼-inch „	—	18s. 0d.	19s. 0d. „
Deals, 3 by 9	£19 10s. per 120.	Pine Planks (Dry), 3 by 11	24l. per 120	
Battens	£11 10s. „	Pine Deals do. 3 by 9	19l. 10s. „	
Deals	£16 10s. „	⅜-inch White Matched Lining	13s. per square	

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

beg to inform their Friends and the Trade generally that, having extended their Premises and increased their machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, of whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

SASH CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK in every description, so that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices for cash.

Sash-work and Frames, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



W. STARR, 12, Castle-street, Oxford-street for many years in the constant habit of executing Staircases and Handrails of every description for the trade, Veneer Handrails, with Invisible Joints, WISHES for a RE-ENGAGEMENT.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8½.; Pine Plank, from 3s. 3d; Mahogany, 6d.; ⅞ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 15s. 9d.; 1-inch Yellow, from 13s. 3d.; ¼ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Battle-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings A large Stock of Dry Flooring at low prices. Southwark Bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 14th, 1862.—In reply to your letter received this morning, with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

JOHN BAZLEY WHITE & BROTHERS,

MILLBANK STREET,
WESTMINSTER.

MANUFACTURERS of ROMAN, PORTLAND, and KEENE'S CEMENTS; PLASTER of PARIS and MASTIC BRICKMAKERS, AND MARBLE MERCHANTS.

J. B. WHITE & BROTHERS' PORTLAND CEMENT, of which they make but one quality, possesses all the advantages of the natural cements, while it greatly excels them in its cementitious properties, is not effected by frost, and does not vegetate in damp situations

An account of comparative experiments on the strength of this and other cements read at the Institute of Civil Engineers, to be obtained at the Makers'.

KEENE'S IMPROVED CEMENT, MANUFACTURED ONLY BY J. B. WHITE & BROTHERS,

For internal use, is superior to all others in hardness, and is, therefore, specially adapted for floors, skirtings, and stucco work in general; while it has the additional advantage of receiving paint in a few hours after its application.

Agent in Liverpool: JOHN MACKENZIE, 46, Beel-street.
Do. in Manchester: THOMAS OAKDEN.

PATENT PORTLAND and ROMAN CEMENT,
AND PLASTER OF PARIS WORKS,
FRINDSBURY, on the MEDWAY, KENT, and
CANAL ROAD, KINGSLAND ROAD, N.

MESSRS. FREEN & CO.

Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER of PARIS, in any quantity, fresh from the kilns.

Orders addressed to their LONDON WORKS, Canal road, Kingsland, N. will meet with prompt attention.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

GREY STONE LIME.

WILLIAM PETERS,

GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER & CO.

(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.

FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONEPAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Sanderide, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited,
Are prepared to supply their First-class Blue Lias Lime in any quantity and at any place.
SPECIAL CONTRACTS MADE FOR LARGE WORKS.
All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

STRINGFIELD and BLYTH, SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH, BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same supplied for the construction of the Liverpool and Birkenhead Dock
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

F. & G. ROSHER, LIME, CEMENT, and BRICK MERCHANTS, LONDON WHARFS—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Wherein can be obtained, of the best quality:—
GROUND LIME and BURNT LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY & KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS PAVIORS, SECONDS BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Walls
Linings, of Baths, Ladders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS,
LUMPS and TILES, of every description and size
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c
RED DRAIN PIPES, TILES, and CHIMNEY POTS
TERRA-COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING in Artificial Stone.
BLUE, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMENT GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY

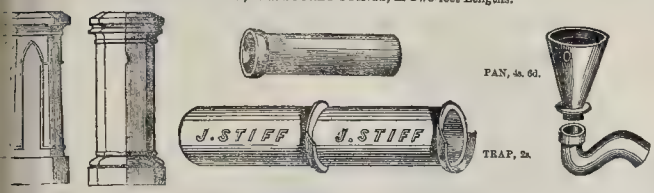
ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

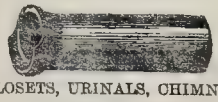
M. B. NEWTON, LONDON AGENT,
HARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.
May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Fedlar's-acre, Lambeth; Deckhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVER'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Pried street, Paddington.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.
JOHN CLIFF & CO.
(Late STEPHEN GREEN & CO.)
GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.
FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

CARSON'S
ORIGINAL ANTI-CORROSION PAINT.
Patronised by
H.M. BRITISH GOVERNMENT, H.M. FRENCH GOVERNMENT, H.I.M. RUSSIAN GOVERNMENT,
H.R.H. THE PRINCE CONSORT, MOST OF THE NOBILITY & GENTRY, THE DOCK COMPANIES,
RAILWAY AND CANAL COMPANIES THE PRINCIPAL COLLIERIES, MILL OWNERS, IRON MASTERS, &c.
It is extensively used at home and abroad for all kinds of
OUT-DOOR WORK,
and has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also
IRON ROOFING, BRIDGES, HURDLING,
AND EVERY DESCRIPTION OF IRON WORK;
FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,
And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone.
This Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as
ANY PERSON CAN LAY IT ON.
The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.
OIL, TURPENTINE, AND BRUSHES.
Prices, Patterns, and Testimonials sent upon application to
WALTER CARSON AND SONS,
(SUCCESSORS TO THE INVENTORS,)
GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.
NO AGENTS THROUGHOUT THE UNITED KINGDOM.

BRICK-MAKING BY STEAM POWER.
HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,
(each producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—
Messrs. PETO & BETTS, London.
" BRASSEY & CO. London.
" BAKER & SON, Isle of Wight.
" ROBT. SHARPE & SONS, London.
S.-E. RAILWAY COMPANY, Folkestone.
Mr. GEORGE FURNESS, London.
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO. Burham.
FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.
The Machines can be inspected at the Works; at the Great Exhibition, South Kensington; or at their Show Rooms, Upper Montague-street, Montague-square; or descriptive catalogues sent free by post, by
HENRY CLAYTON & Co., Patentees, Engineers, &c.
ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete,
TWENTY FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s 6d
PATTEN'S HIGH-PRESSURE and SELF ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

FERGUSLIE FIRE CLAY WORKS
PAISLEY.



PATENT GLAZED SEWER PIPES, according to Jenning's Patent and the GLAZED SEWER PIPES with SOCKET JOINTS. Also all articles made of Fire Clay. The Sewer Pipes are in sizes from 2 inches up to 24 inches bore, and are of the most superior quality. Prices very moderate. The subscriber, from the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be.
ROBERT BROWN.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the most powerful purifying properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable.—As a purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c. as well as by use in the bath for personal and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 1s. 2s or 4s each; or per Gallon, 3s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.
Wholesale of the Patentee, Battersea, Surrey, S.W.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H BLANCHARD & CO Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

BUFF & DEEP RED FACING BRICKS,
Splays, Cutters, Floor tiles, Garden Edgings, &c.—Apply to E. HOOPER, Manufacturer, Southampton; or JOHN DOWNEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.
Architects and Builders requiring superior colour in bricks are respectfully invited to inspect the above.

MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES,
PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Jurors," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 6-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 36s. per 1,000.
" Floor Bricks, 40s per 1,000.
Ridge Tiles, at 7s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their permanable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall passage, conservatory, verandah frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

ACCIDENTS ARE UNAVOIDABLE.
Every one should therefore provide again at them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100l. to 1,000l. assuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
1,243,217 have been paid by this Company as COMPENSATION for 96 Fatal Cases, and 5 041 Cases of Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

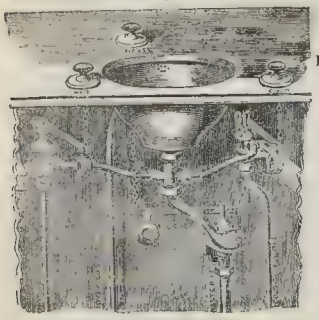
J. TYLOR & SONS,

MANUFACTURERS,

WARWICK LANE, NEWGATE STREET, LONDON.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS, BATH APPARATUS, HIGH-PRESSURE TAPS, VALVES, LAVATORIES, &c.

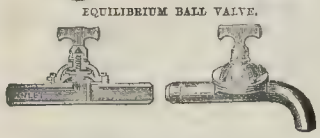
To be seen in action at the Manufactory,
WARWICK LANE,
And at the ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, London.
ILLUSTRATED CATALOGUES ON APPLICATION.



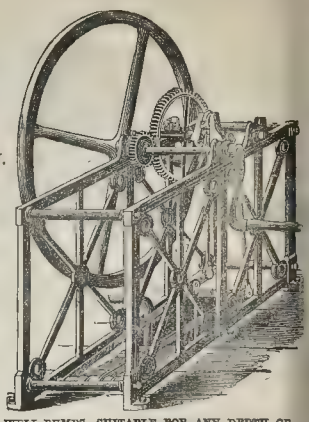
LAVATORY APPARATUS.



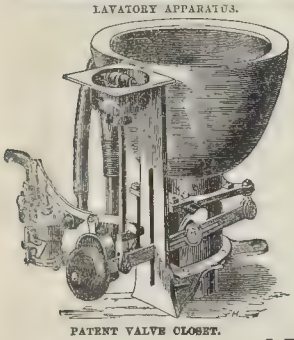
EQUILIBRIUM BALL VALVE.



HIGH-PRESSURE DIAPHRAGM VALVES.



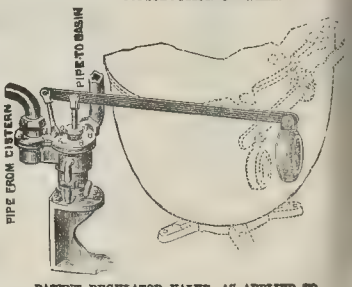
WELL-PUMPS, SUITABLE FOR ANY DEPTH OR CONSTRUCTION OF WELL.



PATENT VALVE CLOSET.



PATENT PAN CLOSET.



PATENT REGULATOR VALVE, AS APPLIED TO AN OLD CLOSET.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.

J. TYLOR & SONS, MANUFACTURERS, WARWICK LANE, NEWGATE STREET, LONDON.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



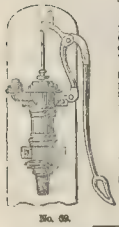
No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead,	1 1 0
2½ „ long	3 3	gutta percha	1 10 0
3 „ ditto	3 6	or cast iron	2 4 0
3½ „ ditto	3 6	flanged pipe,	2 9 0
4 „ ditto	3 6	as required.	3 10 0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			3 0 0
2½ in. long ditto			3 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.



No. 69.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c., is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£5 0 0	Larger sizes when required
3 „	7 5 0	
3½ „	9 0 0	

Fitted to the best Plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4	15	0
3 „	5	15	0



WARNERS' BATHS can be had of either Copper, Zinc, or Galvanized Iron. Prices from 3l. 12s. each. J. W. & SONS also supply all Fittings requisite for the same.

A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384. No. 383.

WARNERS' HIGH PRESSURE COCKS are made with gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re-leathered, with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved Large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

J. WARNER & SONS'

PRICED

ILLUSTRATED CATALOGUE

WILL BE FORWARDED POST-FREE ON APPLICATION.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, as it leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 1454.—Warners' Spring Valve Closet on Iron Frame, with vulcanised India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 0
Sunk handle extra 0 3 0
Blue basin, extra 0 1 0



No. 1483.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £2 0 0
Sunk Handle, extra 0 3 0
Blue Basin, extra 0 1 0

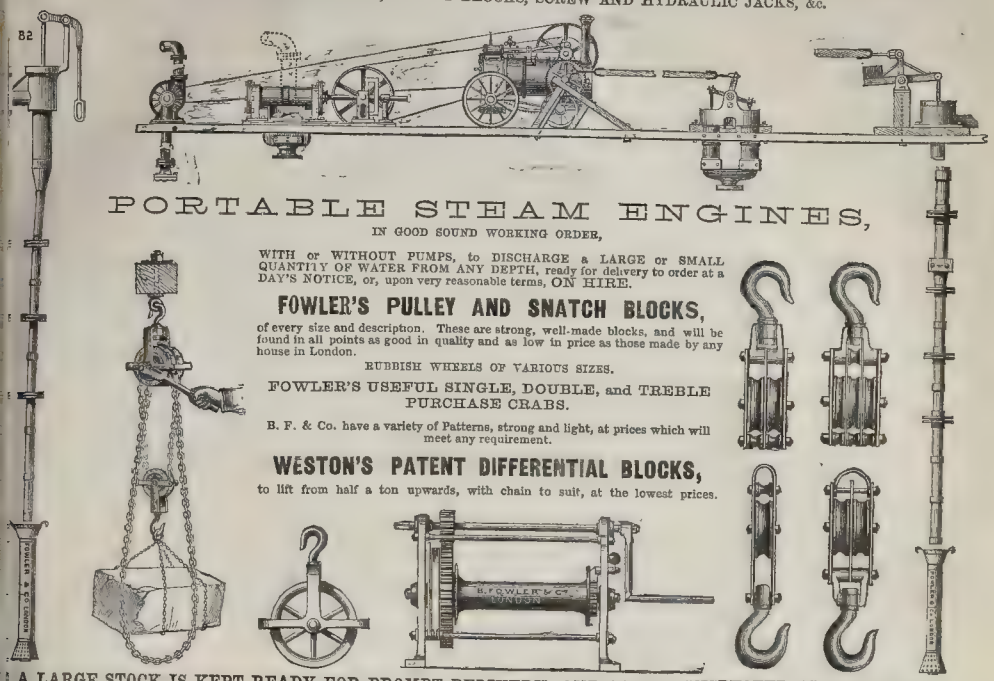
The above Prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BENJAMIN FOWLER & CO., WHITEFRIARS ST., FLEET ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

TO BE WORKED BY STEAM, HORSE, OR HAND POWER, FOR TEMPORARY OR PERMANENT USE; ALSO OF SINGLE OR DOUBLE PURCHASE CRABS, PULLEY BLOCKS, SCREW AND HYDRAULIC JACKS, &c.



PORTABLE STEAM ENGINES,

IN GOOD SOUND WORKING ORDER,

WITH or WITHOUT PUMPS, to DISCHARGE a LARGE or SMALL QUANTITY OF WATER FROM ANY DEPTH, ready for delivery to order at a DAY'S NOTICE, or, upon very reasonable terms, ON HIRE.

FOWLER'S PULLEY AND SNATCH BLOCKS,

of every size and description. These are strong, well-made blocks, and will be found in all points as good in quality and as low in price as those made by any house in London.

RUBBISH WHEELS OF VARIOUS SIZES.

FOWLER'S USEFUL SINGLE, DOUBLE, and TREBLE PURCHASE CRABS.

B. F. & Co. have a variety of Patterns, strong and light, at prices which will meet any requirement.

WESTON'S PATENT DIFFERENTIAL BLOCKS,

to lift from half a ton upwards, with chain to suit, at the lowest prices.

A LARGE STOCK IS KEPT READY FOR PROMPT DELIVERY, AND CAN BE INSPECTED AT THE WORKS.

Price Lists of Pumps, &c., forwarded on application.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL,

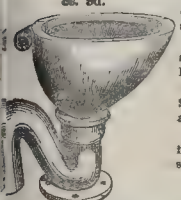
MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

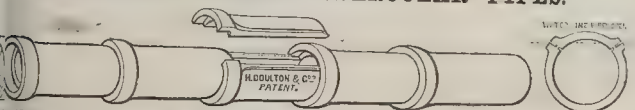
The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed.

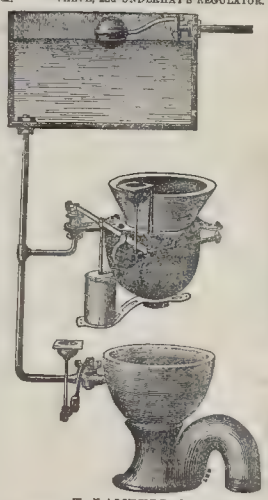
The Cover, being fired in one piece with the Pipe, fits perfectly.

There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

SALES BY AUCTION.

10, MILLBANK STREET.—To SCULPTORS, MASONS, BUILDERS and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Mr John Udny, Agent for Count N. Lazzoni & Son, to SELL by AUCTION, at the MARBLE WHARF, 10, Millbank-street, Westminster, on WEDNESDAY, MAY 28th, at ELEVEN for TWELVE, a large assortment of MARBLE, in block and slab; viz. 70 blocks of statuary, 20 of vein, 30 of Sicilian, 3 of black and gold, 3 of yellow Sienna, and 1 of dove; also about 2,000 feet of vein Sicilian and bastard statuary slabs, 1 marble fountain, 2 monuments, 3 chimney-pieces; garden vases, mortars, &c.—May be viewed three days previous, and catalogues had on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 30, Parliament-street, Westminster, and 80, Fore-street, City.—N.B. Approved bills at four and six months.

TO BUILDERS, CONTRACTORS, AND OTHERS.—2,000,000 Capital STOCK and PLACE BRICKS.—York-road, King's Cross.

PULLEN, HORNE, & EVERSFIELD, are instructed to SELL BY AUCTION, on the ground adjoining the Wesleyan Chapel, Bridge, York-road, Kings Cross, on MONDAY, JUNE 2d, at TWELVE, by order of the Ground, about 2,000,000 excellent NEW BRICKS, sorts 1 and in clamp, in lots suitable for large and small purchasers, comprising best, second, and rough stocks and place.—May be viewed on Friday and Saturday previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 30, Parliament-street, Westminster.

WAPPING WALL.—TO BUILDERS, MASONS, PAVIORS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD, will SELL by AUCTION, on the premises, 74, Wapping-wall, on TUESDAY, JUNE 3rd, at TEN for ELEVEN, by order of the proprietor, to clear the Wharf, in consequence of the lease being disposed of, several thousand feet of York Paving, Slabs and Landings, York Steps, Crib, Stoke, Coping, and sawn Headstones and Landings, New castle and other Grindstones, Blocks of Green Moor, Harehill, Bramley fall Granite and Firestone, Granite Cubes, Pitcher and Curb, worked Granite Drinking Fountain, &c.; also, a double-purchase Crab, two Hoisting Jacks, Hand Truck, Sack Barrow, and other effects. May be viewed three days previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, E.C.

SALE.—By order of the Secretary of State for War.

MR. GEORGE SPILLMAN will SELL by PUBLIC AUCTION, at the ROYAL ARSENAL, Woolwich, on MONDAY, the 26th MAY, 1862, at ELEVEN o'clock in the forenoon precisely, the following STORES:—Pans for screw steam-vessels, two cranes, iron and other metals, lead sales, &c. zinc, shot, fire, harness, serge cuttings, canvas, rope, great-coats, horse-shoes, wheels, hay, wood, and barrels.—May be viewed from TEN to ONE o'clock, and from TWO to FIVE o'clock, on the three working days previous to, and morning of the sale, and catalogues obtained at the War Office, Pall-mall; at the Tower; and Royal Arsenal, Woolwich.

SALE.—By order of the Secretary of State for War.

MR. GEORGE SPILLMAN will SELL by PUBLIC AUCTION, at the ROYAL ARSENAL, Woolwich, on MONDAY, the 26th MAY, 1862, at ELEVEN o'clock in the forenoon precisely, the following STORES:—Pans for screw steam-vessels, two cranes, iron and other metals, lead sales, &c. zinc, shot, fire, harness, serge cuttings, canvas, rope, great-coats, horse-shoes, wheels, hay, wood, and barrels.—May be viewed from TEN to ONE o'clock, and from TWO to FIVE o'clock, on the three working days previous to, and morning of the sale, and catalogues obtained at the War Office, Pall-mall; at the Tower; and Royal Arsenal, Woolwich.

BEWARE, HERTS.—To BUILDERS, CONTRACTORS, and OTHERS.—To be SOLD by AUCTION, by

SAMUEL J. SURRIDGE, at the SARACEN'S HEAD INN, Ware, on TUESDAY, the 27th MAY, 1862, at TWO for THREE o'clock, by direction of the proprietor, in three Lots.

Lot 1.—The large well-built FAMILY RESIDENCE, or MANSION, known as "Mardocks," a well-planned and substantial erection, 56 feet by 36 feet, having a portico and slate roof, with parapets, and contains lofty entrance hall, with noble staircase, and two painted glass windows, drawing and dining rooms, and library, with marble chimney-pieces, stoves, and fixtures; fireproof plate closet, with stout iron door, shelves, slide, and stone floor; kitchen and scullery, with York stone floors, coppers, range, pumps, &c.; good wine, beer, and coal cellars; bedchambers (four with vaulted roofs and fireplaces), five principal and other capital dressing and bed rooms, with marble and slate chimney-pieces, stoves, and fixtures; large open courtyard, with open verandah, supported by cast iron pillars, leading into a footman's bedroom; knife-house, butler's pantry, carpenter's shop; baking office, with copper and oven; pumphouse, with powerful force pump, and lead piping to all parts of the premises; dairy, brew house, with York stone paving, and large brewing copper; servants' hall; all of which are covered with slate, with lead gutters and ridges; the large water-pipes and heaters are also laid to the greenhouse, with stands and flues; and all the lofty brick walls inclosing and dividing the kitchen-gardens, coach-house, and stable yard, and backwork.

Lot 2.—The detached range of brick, timber, and tiled stables, and harness-house, piggeries, melon pits, and the wood, fencing to the kitchen garden.

Lot 3.—The brick and tiled coach-house, 24 feet by 24 feet, with folding doors, oak floor, pigeon-house, &c. and the gate, stone and brick piers, iron-work, entrance.

The whole of the above to be taken down and cleared by the 30th AUGUST next. Further particulars, with conditions of sale, may be had at the place of sale; of THOMAS COPTCOAT, at the Mansion (who will show the premises); at the Office of the "Estates Gazette," 200, Fleet-street, London; or, posted free, on application to the Auctioneer, Ravstead, Essex.

TOOTING.—A very spacious Freehold Residence, equally adapted for a private abode, school, or public institution, and about 14 acres of valuable Building Land.

MESSRS. DEBENHAM & TEWSON are instructed to SELL, at the MART, on WEDNESDAY, JUNE 18th, at TWELVE, in four lots (unless previously disposed of by private treaty), a commodious FREEHOLD RESIDENCE, situate in the village of Tooting, containing large hall, seven and three reception rooms, the requisite domestic offices, and a detached building adapted for a school or assembly room, with dining-hall and lavatories en suite, capital stabling, coach-house, and rooms for men-servants, lawn and shrubberies, productive kitchen-garden, pleasure-ground, plentiful supply of water, and productive kitchen-garden; also three enclosures of pasture land adjoining, offering eligible sites for building, the whole comprising 16 acres. The property is only seven miles from London Bridge, and about a mile from Balham Station. The soil is gravelly, and there is excellent spring water. The extensive accommodation afforded by the house makes it especially suitable for a public institution, or it could be readily converted into two good houses; and the eligibility of the land for building purposes renders it well worthy the attention of the speculator, as a security, or eligible. Particulars and plans may shortly be obtained of Messrs. OLIVERSON, LAVIE, & PEACHEY, Solicitors, Frederick's-place, Old Jewry; and of the Auctioneers, 80, Cheapside.

EGHAM, Surrey.—To Brickmakers, Contractors, and Others.

MESSRS. BUCKLAND & SON have received instructions from the proprietor TO SELL by AUCTION, at the MART, near the Bank of England, on FRIDAY, MAY 30th, 1862, at TWELVE for ONE o'clock, a FIELD of FREEHOLD LAND, containing about 6a. 3r. 18p. of valuable brick earth, let on lease to Messrs Burchett, for a term of ten years from Michaelmas, 1858, at an annual surface-rent of 15l. and a royalty of 1s. 6d. per thousand; minimum quantity 800,000 per annum. TWO FIELDS of valuable FREEHOLD LAND, containing about 9a. 2r. 0p. acres, with a good depth of valuable brick earth, adjoining the estates and Woking-glam Railway and forming a building frontage to the turnpike-road. Also a FREEHOLD HOUSE and GARDEN, well walled-in, situate at Egham Hythe, on the side of the old Staines Bridge, with a river frontage of 107 feet, commanding a fine view of the River Thames, and is very suitable for a gentleman's fishing-box. May be viewed any day previous to the sale. Particulars and conditions may be had of M. H. HORNE, Esq. Solicitor, Staines; of HENRY GRAZEBROOK, Esq. Solicitor, Chertsey; and of Messrs. BUCKLAND & SON, Auctioneers, Land Agents, and Surveyors, Windsor.

ALDERBOURNE, FULMER, NEAR UXBRIDGE, MIDDLESEX.

MESSRS. HERON & SONS have been favoured with instructions from the Rev. H. H. Way, to SELL by AUCTION, at the MART, on THURSDAY, Red-hill, Denham, on FRIDAY, MAY 30th, 1862, at ONE for TWO o'clock, in lots, about 1,500 TIMBER TREES, 700 Elms, and SAPLINGS, comprising—Oak trees and saplings, 1,200 larch, Scotch, and spruce (many large); some ash, acacia, &c. also about 1,500 oak tree tops, elm, and many other stack wood, stakes, and pea sticks; the whole lying on the Alderbourne Estate, in and adjoining good roads, and about three miles from the Great Junction Canal. May be viewed seven days before the sale, and catalogues had at the Hare and Hounds, Red Hill, Denham, Bucks; and of Messrs. HERON & SONS, Auctioneers and Valuers, Uxbridge, Middlesex.

STOCK OF FURNISHING AND BLACK IRONMONGERY AND SHEFFIELD PLATE.

MESSRS. FULLER & HORSEY are instructed by the executors to SELL by AUCTION, on the PREMISES, No. 1, Gracechurch-street, on THURSDAY, JUNE 19, 1862, at ELEVEN o'clock, in lots, without reserve, the STOCK of FURNISHING and BLACK IRONMONGERY and SHEFFIELD PLATE: fourteen sets best plated tea and coffee services, cruet and dinner frames, candlesticks; fish knives and forks, in cases; bronzed urns and kettles; papier maché and japanned goods, trays, caddies, &c.; japanned baths, deed, and cash boxes; moderator and candle lamps, hall lamps, garden and edge tools, cutlery, fifty dozen flies, chisels, augers and plain irons, 200 pair skates, forty sets polished steel fire-irons, tin ware, two self-acting kitchen ranges; builders' ironmongery, locks, latches, hinges, nails, screws, bolts, without reserve; two wrought iron safes, a few lots of household furniture, and other effects.—To be viewed on Wednesday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

EARLY SALE.—To TIMBER MERCHANTS, BUILDERS, PARMERS, and OTHERS.

MESSRS. WHITE & SONS are instructed by the Proprietor (retiring from business) to SELL by AUCTION, on the PREMISES, Epsom-road, Ewell, on THURSDAY next, MAY 29, 1862, at TWELVE o'clock, capital Oak, Ash, Beech, Pear-tree, Poplar, Wych-elm, and Cherry-tree Plank; inch and three-quarter inch dry Elm Boards and Weather Boarding, for Wintering, Ash and Elm Felloes, capital dry Oak Coach and Cart Spokes and Elm Stocks, round Oak and Elm Timber, Foreign Timber, six capital Wrought-iron Gates, useful Building Materials; a strong and light Timber Carriage, on 4 inch wheels, with iron arms; pair Timber Wheels, two strong Builder's Carts, Iron Book Safe and other Effects. All lots well-selected Timbers, all fresh-felled stock, and to be cut with their second call.—Catalogues may now be obtained at the Inns in all the adjacent towns and villages; and at the Offices of the Auctioneers, in Dorking.

LANGLEY near SLOUGH, within Twenty Miles of London, on the Great Western Line.—Four Millions of superior Bricks in kilns, and a portion sorted.

MR. A. RICHARDS will SELL by AUCTION on the PREMISES, LANGLEY BRICKFIELDS, on WEDNESDAY, MAY 28, at TWELVE for ONE, by order of Mr. H. Dodd, about FOUR MILLION BRICKS of the best quality, comprising Two Millions and half of stocks, also grizzels and place; 700,000 excellent malms, consisting of cutters, yellow and pale seconds, smooth and hard paviours' pickings, &c. The eligible Freehold Brickfield, containing nearly Twenty Acres, to be SOLD or LET.—May be viewed, and catalogues obtained of the Foreman at the Field, and of the Auctioneer, Tottenham, Middlesex.

TO BUILDERS, JOINERS, and OTHERS.—For SALE by PUBLIC AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, Cornhill, on THURSDAY the 29th MAY, at SIX o'clock precisely, by order of the Importers, WITHOUT RESERVE, 137 LOGS HONDURAS MAHOGANY, small, sound, figury. Belize Wood, of very superior quality, just landed at the West Wood Wharf, West India Docks, per "A. Dunbar." Catalogues may be had of C. LEADY & Co., Brokers, 19, Old Broad street, E.C.

On MONDAY, MAY 26, at TWELVE for ONE.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-town, 2,000 PLANKS, DEALS, and BATTENS; and 6 tons, nearly 120 squares of prepared flooring, 10,000 feet quartering, 4,000 feet architrave, 10,000 feet wide pine board, 44 squares feather-edge, and 10 squares of inside boards; sliding battens, panelled laths, sawing-machine, 100 fellows feet ex-warehouse cedar, 150 scaffold poles, doors, patent chaff-cutting machine, 10 ladders, and materials.—Auction Offices, 2, Cardington-street, Hampstead-road.

TO TIMBER MERCHANTS, BUILDERS, and OTHERS.—SALE of SURPLUS GOODS of superior quality, by order of the Contractors for Holborn Bars and Viaduct.

THOMAS ROBERTS & CO. have received instructions to SELL by AUCTION, at the SUN HOTEL, Chatham, Kent, on TUESDAY, JUNE 10, commencing at TWELVE o'clock precisely,

5,000 Quebec and North American Spruce and Yellow Pine Deals, &c.
1,000 Lengths Red Pine Timber.
150 ,, Board Yellow Pine Timber.
60 ,, Rock Elm ditto.
30 ,, Oak ditto.
Nearly the whole being entire cargoes.

To be viewed three days only prior to day of Sale; and catalogues had at the Sun Hotel, Chatham; and of the Auctioneers, 9, Billiter-street, London, E.C.

MARBLE CHIMNEY-PIECES of every Description, also enamelled Slate, to be SOLD at 216, MARYLEBONE ROAD, close to the Yorkshire Stingo). BATH STONE BOX CHIMNEY PIECE, with MOULDED CAP and BASE, 7s. FITTED TO ANY OPENING.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29, 30, and 31, Warwick-street, W.
EDWARDS, BROTHERS, & DUFF, PROPRIETORS.
The largest and most superior Stock of Chimney-pieces in Europe on view at the above-named Establishment.
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford street, London, W.
Estimates for every description of Marble Stone and Granite Work.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL
Offices—21, ST. JAMES'S STREET, LONDON, S.W.
The works having been surveyed for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely remodelled the quarry and plant with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Beds for Paving, Hearth, &c. &c.
Grindstones, Steps, Sills, Copings, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE SILICEOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes.
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster or Patent Stone Works, Ipswich.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal of the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-lining, &c. a New Illustrated Catalogue of which can be had at the Finsbury Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREFFELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the material forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

TO ARCHITECTS, BUILDERS, and OTHERS.—MARBLE and STONE COLUMNS TURNED and POLISHED, by improved machinery, and built to any required height. Fonts, Chimney pieces, Metal Tablets, Tanks, &c. at the lowest possible prices.—WM. F. WILLIAMS, 318, Euston-road, N.W.

THE PANTECHNICON, QUEEN'S ROAD, BRIGHTON, FOREIGN MARBLE GALLERIES contain upwards of Two Hundred MARBLE CHIMNEY PIECES, consisting of Carved Statuary, Vein, Sicilian, Blanc Fin, Blanc Clair, Rouge Royal, St. Anne's, Black, Jasper, Verd des Alps, and other choice Marbles, in every variety of design and size, set up for view. Sculptured Marble Monuments, Headstones, &c. erected. An inspection is respectfully solicited by the Proprietors and Importers GEO HEAD & SONS.
N.B. Packing cases lent free of charge.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCALES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see 8 sections at the Office of Messrs. PINDER SIMPSON & SONS, 2, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-ways. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

FOREST of DEAN STONE.—Messrs HEWETT & CO. (successors to T. GRINDELL & CO.) The FOREST of DEAN QUARRIES, COLEFORD, GLOUCESTERSHIRE,
Are prepared to supply any quantity of GRAY and BROWN PERMANENT SANDSTONE, unequalled by any in the world for general purposes, suitable for every purpose to which stone is applied.
That from their "Gooly Knoll" Quarry is similar in quality to the Yorkshire "Red Spring" Stone, and that from their "Brick-hill and "Dark-hill" Quarries, is decidedly superior to it.
Prices quoted on application, delivered on board vessel or rail, free to any seat of transit to any port or railway station in the United Kingdom.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, or put on railway trucks, and delivered, free from Impost, at any railway station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

RED MANSFIELD STONE. WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,
No. 1, BOLD TERRACE, CHESTER.

ROBERT WHITE, SLATE MERCHANT, SHEFFIELD.
ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor Mold Junction and Garston.

POLISHED GRANITE WORKS. ABERDEEN—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship. Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

FIRES. VAUCHER'S PATENT WOVEN HOSE for Fire-engines and Ships' purposes may be had of any length and diameter. Wherever used it has given full satisfaction, and have a plug with a length of hose attached on each floor.—Samples of cordage and hose, of any substance, and all particulars, may be had at the Office, 1, Chapel place, Poultry. Shipping orders prepared for any tropical climate on the shortest notice.

BRYCESON'S ORGAN FACTORY, BROOK STREET, HUSTON ROAD, LONDON, N.W. Established 1796. Apply for PRICED CATALOGUE of St. Cecilia, Sent free, and their Organs usually in Stock. Hints as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or removed, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 4, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, May 24, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XX.—No. 1008. MAY 31, 1862. Price Fourpence.

ILLUSTRATIONS.

St. Peter's, Mancroft, Norwich, as restored.—Mr. R. M. Phipson, Architect 389
Premiated Design for Proposed Law Courts, Brussels. Ground Plan 388

CONTENTS.

An Account of the Tunnel through Mont Cenis 381
Thebes and its Tombs 382
The Palaces of Art and Industry 383
Gossip about the International Exhibition 384
Two Old Bridges of the Thames 386
Westminster Bridge 388
The Westminster Chapter House 388
The Social Science Congress: and the Congrès de Bienfaisance .. 387
Pritchard Memorial, Shropshire 387
On the Igniting Point of Coal Gas 387
The Competition Designs for Proposed Law Courts, Brussels ... 387
On the Architecture of India 390
The Coventry Board of Health and "The Builder" 390
The Flood in the Middle Level 392
The Architectural Association 392
The Architectural Publication Society 392
The Metropolitan Prisons 393
Artificial Stone 393
The Ipswich Surveyorship 393
Inauguration of the Bunyan Memorial 393
Church-building News 393
Building Notes, Ireland 394
The Nuisance of Out-buildings 394
Badly built Houses, and Legal Reform 394
Badly-built Houses 394
The "Inclosure Office" 394
Music and the Stage 394
Books Received: Dodd's "Where do we get it?" &c. (Hogg); Various 394
Miscellanea 395

THE NEW SOCIETY of PAINTERS in WATER COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall-mall, near St. James's Palace. Admission, 1s.; Catalogue, 6d. Season Ticket, 5s. JAMES FAHEY Secretary.

INTERNATIONAL EXHIBITION. Admission for week ending 7th JUNE:—Monday to Thursday, One Shilling; Friday, Half a Crown; Saturday, Five Shillings. Doors are opened at Ten, except on Saturday, when they are opened at Twelve o'clock.

ROYAL HORTICULTURAL GARDEN, South Kensington.—Admission during June:—Mondays, Tuesdays, Wednesdays (except 11th), and Thursdays (except 26th), One Shilling. Fridays, Half a Crown. Saturdays, Five Shillings. Bands daily at 2:30. Wednesday, 11th, Second Grand Show, 7s. 6d.; or by Tickets previously purchased, Five Shillings. Next Election of Fellows, June 6th.

ROYAL HORTICULTURAL SOCIETY. AMERICAN PLANTS, during the month of June.
June 11.—SECOND GREAT SHOW.
June 26.—ROSE SHOW.
July 2.—THIRD GREAT SHOW.
*** During the Season the Inauguration of the Memorial of the Exhibition of 1851 is expected to take place.
September 10.—AUTUMN SHOW.
October 8, 9, and 10.—INTERNATIONAL FRUIT, VEGETABLE, ROOT, CEREAL, AND GOURD SHOW.
Bands will play daily from May to October.
The next Election of Fellows, June 6.

ARCHITECTURAL ALLIANCE. — The Architectural Institute of Scotland, and the Architectural Associations of Birmingham, Glasgow, London, Liverpool, Manchester, and Sheffield, into an Alliance for mutual assistance and co-operation, and their aim being to embrace in the Alliance Associations representing every county or district of the United Kingdom, other professional Associations are cordially invited to join. It is proposed to hold a Conference of Delegates in London, on TUESDAY, JULY, 1st, for the purpose of settling the details of the scheme. Meanwhile, the "Outline Scheme," as previously agreed to, will be sent to any Association proposed to join, or to any architect wishful to organize a branch Association in his locality. All communications to be addressed, for the present, to Mr. J. P. PRITCHETT, Architect, Northgate House, Darlington. May 6, 1862.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION, to procure and issue to subscribers Photographs of subjects strictly illustrative of Architecture and of its subsidiary Arts.—Subscriptions to be paid to Mr. HENRY MOODY, 9, Conduit-Street, Regent-street, from whom particulars may be obtained. W. LIGHLY, Hon. Sec.

NATIONAL ORPHAN HOME, HAM-COMMON, RICHMOND.—Founded 1849.—The ANNUAL FESTIVAL will take place at the LONDON TAVERN, Bishopsgate-street, on WEDNESDAY, JUNE 11, 1862. The Right Hon. W. COWPER, M.P. will preside. Gentlemen willing to become stewards are requested to forward their names to the Secretary, R. W. NEWMAN, Esq. 33, St. Paul's Churchyard, E.C.

ARCHITECTURAL EXHIBITION, 9, Conduit street, Regent street, NOW OPEN, from Nine till Six. Admission 1s. Half-crown season tickets admit at all times to the Exhibition, to the west gallery containing the entire collection of drawings and sketches by the late A. Welby Pugin, and to all the Lectures. Fifth Lecture, TUESDAY, JUNE 3, at Eight o'clock p.m. "On the Truthful in Art," by E. W. EDIS, Esq.
JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, F.R.I.B.A. }

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.—SESSION, 1862.—On TUESDAY next, at EIGHT p.m. precisely, a LECTURE will be delivered, in the Theatre, "On Labourers' Cottages, and their Bearing upon Architecture," by the Rev. THOMAS JAMES, M.A.
A. J. B. BERESFORD HOPE, President.
GEORGE GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Secretary.
(13, Stratford-place, W. of whom cards may be had by letter.)
Mr. Scott's Lecture, originally arranged for Tuesday next, will be delivered on Tuesday, June 17.

SOCIAL SCIENCE ASSOCIATION and CONGRÈS INTERNATIONAL de BIENFAISANCE.—London Meeting, JUNE, 1862.—The SIXTH ANNUAL MEETING of the National Association for the Promotion of Social Science, in conjunction with the Third Session of the Congrès International de Bienfaisance, will take place in London from the 8th to the 14th of JUNE
The Opening Meeting of the Association will be held in Exeter Hall on THURSDAY, JUNE 5th, at 8:30 p.m.
The Departments will meet at Guildhall, on FRIDAY, JUNE 6th, SATURDAY, JUNE 7th, MONDAY, JUNE 9th, and four following days, at 11 a.m. for the reading of papers and discussions. Evening discussions on special subjects will take place at Burlington House on FRIDAY, JUNE 6th, MONDAY, JUNE 9th, and three following evenings, at 8:30 p.m.
The Opening Meeting of the Congrès International de Bienfaisance will be held at Burlington House on MONDAY, JUNE 9th, at 11 a.m. The Congrès will meet at Burlington House, at 11 a.m. on each day during the session.
A General Soirée for the Association and Congrès will be held on SATURDAY EVENING, JUNE 7th, in the Palace at Westminster. The Reformatory and Refuge Union will give a soirée to the members of the Association and Congrès, at the Hanover-square Rooms, on the evening of TUESDAY, the 10th of JUNE.
A Soirée will also be held at Fishmongers' Hall, on THURSDAY, the 12th of JUNE.
Other arrangements for the entertainment of the members are in progress, and will be shortly announced.
Any person (lady or gentleman) becomes a member on payment of one guinea, and receives a ticket of admission to all the Meetings and Soirées.
Every member is also entitled to a Volume of the "Transactions" for the year.
Ladies may join the Association as members as above; or they may obtain, on payment of half-a-guinea, a ticket of admission to the Meetings and Soirées.
Tickets and Programmes may be obtained at the Offices for the Meeting, 13, Old Bond-street, W. and Guildhall, E.C.; and at No. 3, Waterloo-place, S.W.
GEORGE W. HASTINGS, Hon. Gen. Secretary.
A. EDGAR, Finance Secretary.
G. WHITLEY, M.D. Foreign Secretary.

THE METROPOLITAN BUILDING ACT, 1855. Sec. 33.
The Royal Institute of British Architects hereby give notice, that an EXAMINATION of persons desirous of obtaining a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the Rooms of the Institute, No. 9, Conduit-street, Hanover-square, W. on THURSDAY, the 19th day of JUNE, at TEN o'clock in the forenoon.
Persons desirous to be examined must, on or before TUESDAY, the 10th day of JUNE, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.
JOHN P. SEDDON,
CHAS. FOSTER HAYWARD, } Hon. Secs.
Conduit-street, May 29, 1862.

THE NEW CANCER HOSPITAL, BROMPTON.
At a meeting of the Weekly Board of Committee of Management, held on FRIDAY, the 23rd day of MAY, 1862,
It was resolved,—
"That the thanks of this Committee be tendered to the Architects, Messrs. JOHN YOUNG & SON, of No. 35, King-street, Cheapside, for the ability shown by them in the preparation of the drawings and the general arrangement of the building for hospital purposes, the careful supervision of the several works in all their details as regards the new Hospital, as also for the very satisfactory result as to outlay, which, by their management, has been kept within the limits of the original contract."
JOSEPH HANNAH,
Chairman of the Committee.

THE NEW CANCER HOSPITAL, BROMPTON.—At a Meeting of the Weekly Board of Committee of Management, held on FRIDAY, the 23rd day of MAY, 1862,
That the thanks of this Committee be tendered to the Builders, Messrs. LAWRENCE & SONS, of Pitfield Wharf, Waterloo Bridge, Lambeth, for the liberal and workmanlike manner in which their contract has been carried out.
JOSEPH HANNAH,
Chairman of the Committee.

COMPETITIONS.

TO ARCHITECTS, &c. — Plans and estimates for a NEW CHURCH are required for the parish of Bishop Wearmouth. For particulars as to site, &c. apply to EDWIN GRAY, Esq. St. George's-place, Sunderland, to whom also the plans must be sent in on or before WEDNESDAY, JUNE 11.—The Committee do not bind themselves to accept any plan unless approved of.

NEW WORKHOUSE FOR CARLISLE UNION.—TO ARCHITECTS and BUILDERS.—The Guardians of this Union hereby offer a PREMIUM of FIFTY POUNDS, to be paid for the the set of Plans approved by them and the Poor Law Board, for a New Workhouse, capable of accommodating 500 adult inmates, and designed in such a manner as to allow of enlargement, without interfering with the uniformity of the external appearance. The site for the erection of the said workhouse, is situated at Pattelhill, on the east side of Carlisle. All plans to be sent to me sealed, on or before the 23rd of JUNE next. Further particulars may be obtained on application at my office, 7, Friars-court.
G. MOUNSEY, Clerk to the Union.
8th May, 1862.

EXETER CITY GAOL. — To ARCHITECTS.—The Town Council of Exeter are desirous to be informed if the present City Gaol and House of Correction can be made available so as to satisfy the requirements of the law, as to the construction of gaols and houses of correction; and they invite architects to ascertain if it is practicable that the present City Gaol and House of Correction can be so altered. They offer a premium of 30l. for the plan of alterations which shall be considered the best, and if such plan be carried into effect the architect producing it will be employed to superintend the execution of the work at the usual commission, but in that event his premium is to merge in his commission. A premium of 20l. will be given for the plan which shall be considered the second best.—The Gaol and House of Correction may be examined upon application to the Gaoler, and further particulars obtained from Mr. G. W. CUMMING, Post-office Chambers, Surveyor to the Council; or Mr. GIDLEY, the Town Clerk, 15, Bedford-circus, Exeter, to whom the plans are to be sent before the 2nd WEDNESDAY in JUNE.
May 15, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE TO BUILDERS.—TENDERS are required for the ALTERATIONS to the WEST WING of HOUNSLOW BARRACKS, in the county of Middlesex.
Parties desiring to Tender for this Work must leave their names at this office, from 11th to 14th JUNE, 1862, both days inclusive, between the hours of ELEVEN a.m. and THREE p.m. and pay the sum of half-a-guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, London District,
11, James-street, Buckingham Gate, S.W. May 26, 1862.

WAR DEPARTMENT CONTRACT. — NOTICE to BUILDERS.—TENDERS are required for the ERECTION of an additional OFFICERS' QUARTER, at the Hospital, Royal Military College, Sandhurst, Berks.
Parties desiring to Tender for the erection of these Works must leave their names at this Office, on or before the 12th day of JUNE, 1862, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Sandhurst, May 27, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of STAFF-SERGEANTS' QUARTERS at Fleetwood.
Parties desiring to Tender for the erection of these works must leave their names at this Office on or before the 9th proximo, and pay the sum of 10s 6d. each for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineers' Office, 325, Stretford road, Manchester,
May 28, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS and OTHERS.—TENDERS are required for the ERECTION of a new WOODEN PIER, at Fort Victoria, Freshwater, in the Isle of Wight
Parties desiring to Tender for this work must leave their names at the Royal Engineer Office, Hill Lodge, Freshwater, on or before the 10th of JUNE, 1862, and pay the sum of half a guinea for the bills of quantities.
Royal Engineer Office, Portsmouth, May 27, 1862.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required for the following SERVICES at Chatham, viz.:—
1. Erecting Twenty-four New Porches, &c to the Huts, near Brompton Barracks.
2. Laying down a 4-inch Fire Main in the Gun Wharf.
Parties desiring to Tender for the execution of these works must leave their names at this Office on or before FRIDAY, the 6th day of JUNE, 1862, and pay the sum of half-a-guinea for the bills of quantities for each service, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Chatham, 27th May, 1862.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required for RENEWING the SLATING and LEAD GUTTERS of the Soldiers' Barracks, Right Wing, Royal Artillery Barracks, Woolwich, by measurement.
Parties desiring to Tender for the execution of these works must leave their names at this Office on or before the 4th day of JUNE, 1862, and pay the sum of 7s. 6d. for the schedule of Prices, which sum will be refunded to the unsuccessful competitors on their returning the schedules.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Woolwich, May 12, 1862.

CONTRACTS.

TO SEWERS CONTRACTORS.—The Vestry of St. James's, Westminster, will meet at 32 Rockville-street, Pimlico, on WEDNESDAY, the 11th day of JUNE, 1862, at TWELVE o'clock, to receive TENDERS and to enter into a CONTRACT for GENERAL WORKS and REPAIRS to the SEWERS, DRAINS, & other Conveniences, for a Term of Three Years, commencing on the 24th JUNE, 1862. Printed specifications, with schedules of works and forms of Tender per cubic yard, may be obtained at the Vestry Offices, 14, Marshall-street, Golden-square, daily, between TEN and FOUR o'clock, and must be returned, carefully filled in as therein described, sealed and endorsed, "Tender for the General Works, &c." on or before TUESDAY, the 10th of JUNE. The Vestry will not be bound to accept the lowest or any Tender. The security of two responsible householders will be required for the due performance of the Contract, and persons putting in Tenders are expected to be in attendance at the pass-end door of the Vestry Meeting.—By order,

GEORGE BUZZARD, Vestry Clerk.

MAIDSTONE SEWERAGE.—To CONTRACTORS and OTHERS.—Persons willing to CONTRACT with the Corporation of the Maidstone Paving Commissioners for CLEANSING DUE SEWERS of various sizes, in the district of Perrypfields, Maidstone, about 3,500 yards in length, with cesspools, traps, gratings, and other works, are required to send their Tenders for the same at the Office of Messrs. BEALE & HOAR, Maidstone, on or before the 16th day of JUNE, 1862. Plans and a specification of the work may be seen at the Office of Mr. BUCKLE, Maidstone. The Commissioners of Maidstone do not bind themselves to accept the lowest or any Tender.—By order of the Committee,

BEALE & HOAR, Clerks

Maidstone, May 24th, 1862.

VICTORIA HOTEL, SHEFFIELD.—To BUILDERS.—Parties wishing to TENDER for the ERECTION of STABLES at the rear of the Victoria Hotel, at Sheffield, may see the plans and specifications, and obtain all particulars, at the Office of the Architect, Mr. M. E. HADFIELD, Corn Exchange, Sheffield, from THURSDAY, MAY 29th, to SATURDAY, JUNE 7th, 1862, on which day sealed Tenders are to be addressed to the Chairman of the Board of Directors. No pledge to accept the low st or any Tender

TO CONTRACTORS.—Sealed TENDERS will be received by the SECRETARY of the Grand Jury of the County of the Town of Drogheda up to two days next before the Grand Jury Meeting for fixed business at the next assizes, for TAKING DOWN the present BRIDGE over the River Boyne at Drogheda, and BUILDING a NEW CAST-IRON BRIDGE in place thereof, 35 feet span and 45 feet wide, with Stone Abutments, according to the plans and specification prepared by J. NEVILLE, Esq., C.E., County Surveyor, to be seen at his Office, between the hours of TEN and FOUR o'clock, on any day (Sundays excepted) after 1st of JUNE, 1862

HENRY CLINTON, Secretary to the Grand Jury of the County of the Town of Drogheda.

Offices, Fair street, Drogheda,
Dated this 15th May, 1862

TO BUILDERS.—The Trustees of the Blue Coat Schools, Stockton-on-Tees, are prepared to receive TENDERS for the necessary Works required in the ERECTION of SCHOOLS for Six hundred and fifty children, and THREE TEACHERS' HOUSES, at Stockton, aforesaid. The drawings, specifications, and conditions, may be seen at the Town Hall, Stockton-on-Tees, from MONDAY, the 2nd, to WEDNESDAY, the 11th of JUNE next. Tenders, sealed and properly endorsed, to be addressed, on or before WEDNESDAY, the 11th day of JUNE next, to WILLIAM SKINNER, Esq., Chairman. Architects, Messrs. PRITCHETT & SON, Darlington.

Town Hall, Stockton-on-Tees, May 28th, 1862.

SOUTHAMPTON HARBOUR.—To CONTRACTORS and OTHERS.—Notice is hereby given, that the Commissioners of the Portland Harbour are prepared to receive TENDERS from any person or persons willing to CONTRACT for TAKING DOWN and RE-BUILDING a portion of the WATER-GATE, Quay Wall, Timber Piling, &c. Plans and particulars may be seen at the Office of the Surveyor, Mr. GEDDES, Above Bar street; and Tenders to be delivered at my Office, 4, Lower Bugle-street, on or before SATURDAY, the 14th day of JUNE, endorsed, "Tenders for Re-building Quay Wall." No pledge is given to accept the lowest or any Tender—By order of the Commissioners,

WILLIAM FARRAND, Clerk.

Southampton, 26th May, 1862.

TO SEWER CONTRACTORS and OTHERS.—The Board of Works for the Westminster district hereby give notice, that they are prepared to receive TENDERS for the EXECUTION of GENERAL WORKS and REPAIRS to the SEWERS, GULLIES, DRAINS, &c. within the district, under the jurisdiction of the Board, for the term of one year, commencing from Midsummer-day next. Printed conditions of contract, schedules of prices, and forms of Tender, may be obtained upon application at the Offices of the Board, Great Smith-street, Westminster, where sealed Tenders are to be delivered by or before FOUR o'clock, in the afternoon, on WEDNESDAY the 11th day of JUNE next, at which time and places parties tendering, or some authorized agent must be in attendance. No Tender will be received unless made out on one of the printed forms, and strictly in accordance with the conditions. The Board do not pledge themselves to accept the lowest or any Tender.—By order,

W. F. JEBB, Clerk to the Board.

Great Smith-street, Westminster, May 27, 1862

METROPOLIS LOCAL MANAGEMENT ACT (18 and 19 Vict. Cap. 120).—TO SEWER CONTRACTORS, BUILDERS AND OTHERS.—The Board of Works for the Plumstead District are willing to receive TENDERS for the construction of a NEW BRICK SEWER, 3 feet by 2 feet in the clear, and 1,500 feet in length, in Burnt Ash-lane, Lee Green, in the parish of Lee. Every Tender must be made out on one of the printed forms prepared for that purpose, and addressed "Tender for Burnt Ash-lane Sewer," and delivered by or at or before FIVE o'clock, in the afternoon of THURSDAY, the 5th day of JUNE next, at the office of Mr. F. F. THORNE, Surveyor to the Board, at No. 7, Eton-terrace, Lower Park-road, Woolwich, where forms of Tender may be obtained, and the plans, sections, specification, and form of contract may be inspected between the hours of TEN a.m. and FIVE p.m. upon any day after MONDAY, the 26th instant. The Board will not necessarily accept the lowest or any other Tender.—By Order,

CHARLES AUGUSTIN SMITH,

Clerk to the Board of Works, for the Plumstead District.

Old Charlton, May 15th, 1862

TO BUILDERS.—Persons desirous of CONTRACTING for PULLING DOWN the Old, and BUILDING a New RECTORY HOUSE and OFFICES at Borley, in the county of Essex, near Sudbury, Suffolk, may inspect the plans and specification at the old Rectory House. Tenders are to be delivered on the 13th of JUNE, addressed to the Rev. H. HULL, Rectory, Essex, who does not bind himself to accept the lowest or any Tender.

JOHN JOHNSON, Architect

8, Whiting-street, Bury St. Edmunds.

THE GREAT NORTHERN RAILWAY COMPANY. CONTRACT for the ERECTION of PASSENGER and GOODS STATIONS, and other Works, on the Hertford, Luton, and Dunstable Railway.—The Directors are prepared to receive TENDERS for the EXECUTION of the whole or a portion of the above Works. Persons wishing to tender can obtain specification and form of Tender, on and after Tuesday next, at the Office of the Company, at King's Cross Station, where also plans may be seen. Tenders, sealed up and marked "for the cubic Tender for Works on the Hertford, Luton, and Dunstable Railway," must be lodged at this Office before TWELVE o'clock at Noon on FRIDAY, the 6th JUNE next, when parties tendering may be present if they think proper. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

HENRY OAKLEY, Secretary.

King's Cross Station, London, 20th May, 1862

TO BUILDERS and OTHERS.—TENDERS are required, on or before the 8th of JUNE, for the ERECTION of a WOOD ROOF, covered with slates, on a square building, 60 feet by 70 feet.—For particulars, apply at the Phœnix Scrap-Iron Works Millwall, Poplar, London.

REIGATE UNION.—To GASFITTERS and OTHERS.—The Board of Guardians of the Reigate Union will be happy to treat with a competent person for LIGHTING with GAS the New Union Workhouse with NEW GAS FITTINGS and Apparatus complete, which will be ready for the same Works by on TUESDAY the first day of JUNE next, at TEN o'clock, by Mr. WILLIAM MURRELL, Gas Engineer. The Guardians do not bind themselves to accept the lowest or any Tender. G. CARTER MORRISON, Clerk.

Board-room, Redhill, May 26, 1862.

TO CONTRACTORS, BUILDERS, &c.—BERKS AND HANTS EXTENSION RAILWAY.—The Directors of the Berks and Hants Extension Railway are desirous of receiving TENDERS for the ERECTION of STATION BUILDINGS at Great Bedwyn, Savernake Forest, Pewsey, and Perry's Corner. Drawings and specifications will be left at the Company's Offices in Devizes, Wilts, on and after the 9th of JUNE next. Forms of Tender, with any other necessary information, may be had by applying to R. J. WARD, Esq. the Company's Engineer, 6, Victoria-street, Westminster, S.W. Tenders, sealed and endorsed "Tender for Station Buildings," to be left in the hands of the Secretary on or before the 16th of JUNE next. N.B. The Directors do not bind themselves to accept the lowest or any Tender.—By Order,

CHARLES F. HART, Secretary.

Offices of the Company, Devizes,
28th May, 1862.

REDHILL, REIGATE, Surrey.—TO CONTRACTORS AND OTHERS.—CONSTRUCTION of HARE-WOOD ROAD and FOOT PATHS, and General Drainage.—Notice is hereby given that the proprietors of land upon the Linkside estate, abutting upon the above road, are desirous of receiving TENDERS from persons willing to undertake the works. A plan and specification may be seen at the surveyor's office, between the hours of TEN and FOUR. The contractor will be required to enter into a contract, and to find such approved security as the sum of £50, for the faithful performance of the said contract. Sealed Tenders, endorsed "Tender for Constructing Harewood Road, and Drainage," must be delivered free of cost at the surveyor's office, on or before the 13th of JUNE next. The proprietors do not bind themselves to accept the lowest or any Tender. By order of the Proprietors,

THOMAS PAGE, Surveyor

Surveyor's Office, 2, Carlton-terrace,
Redhill, May 30th, 1862.

HAM COMMON LOCAL BOARD of HEALTH.—SEWERAGE WORKS.—To SEWER-PIPE MANUFACTURERS, CONTRACTORS, and OTHERS.—The Local Board of Health for the District of Ham Common, in the County of Surrey, do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following CONTRACT:—

CONTRACT No. 1.—For providing Earthenware Sewer-pipes, Cast-iron Pipes, and other Materials, excavating for, laying and jointing pipes, constructing iron bales, fixing gullies, and other works

Plans, sections, drawings, and specification may be seen, and duplicate forms of Tender, bills of quantities, and schedules for prices, may be obtained on payment of 10s on application at the Office of JOHN LAWSON, Civil Engineer, 31 Parliament-street, Westminster. Sealed Tenders, indorsed, "Tender for Sewerage Works" must be sent to the Office of the Local Board, Ham Common, Surrey (addressed to the Clerk to the Board), on or before FRIDAY, the 6th day of JUNE, 1862 The Local Board do not bind themselves to accept the lowest or any Tender. (Signed) J. H. WINGRAVE, Clerk to the Board.

Ham Common, May 21, 1862.

CHEAPSIDE.—BUILDING LAND.—To BUILDERS, CAPITALISTS, and OTHERS.—A valuable SITE in Cheapside, fronting 66 feet to the new and spacious thoroughfare 40 feet in depth, TO BE LET on Building Lease, for a term of 80 years from Lady-Day, 1863, suitable for the offices of a public company, or for warehouse or business premises. Offers will be received up to the 30th of JUNE next. Plans, particulars and conditions of Tender may be seen on application to the Clerk, Saddlers' Hall, Cheapside, E.C.; or to Mr. F. W. PORTER, Architect, 16, Russell-square, W.C. between TEN and FOUR.

TO BUILDERS.—TENDERS are required on or before the 10th JUNE next, for the ERECTION of a LOCK-UP HOUSE and CONSTABLE'S RESIDENCE at Lisnaddoo. The plans and specification to be seen at the Office of Mr. J. W POUNDEY, County Surveyor, Kerry, Montgomeryshire.—The Constabulary Committee do not bind themselves to accept the lowest or any Tender

TO BUILDERS and OTHERS.—TENDERS are required for ERECTING a Pair of Semi detached VILLAS on the Park Estate, Plumstead, Kent. The plans can be seen, and Tenders to be delivered by me TWO p.m. of FRIDAY, 30th, 1862. A preference will be given to parties who will take land adjoining on building lease. The lowest or any Tender will not necessarily be accepted. JOHN WIMBLE, Architect.

2, Welbrook, E.C.

NEW BANKING HOUSE, BRISTOL.—The Directors of the National Provincial Banking Company are prepared to receive General TENDERS for the ERECTION of the above BUILDING. Builders desirous of tendering are requested to furnish me with their names and addresses by or before MONDAY JUNE 2nd, after which Bills of Quantities will be forwarded to approved Parties.

The lowest or any Tender will not necessarily be accepted.

Wine Street, Bristol, 21st May, 1862. BRUCE GINGELL, Architect.

37, Corn Street, Bristol, 21st May, 1862.

TO DUST CONTRACTORS.—PARISH of CHELSEA.—The Vestry of the Parish of Chelsea will meet at the Vestry Hall, King's-road, Chelsea, on THURSDAY, the 3rd day of JUNE next, at THREE o'clock in the afternoon, to consider Tenders from persons willing to contract according to the terms and conditions of a Specification in printed copy of which may be had on application to the Vestry Clerk) for COLLECTING and REMOVING the DUST, ASHES, FILTH, and RUBBISH from the Dustyards, Houses, and other places in each of the other of both of the two districts of the said Parish, during the years commencing from the acceptance of the Tender, and ending the 29th day of September, 1863. The draft of a contract to be entered into for carrying out the terms of the specification is now lying for inspection at the offices of the Vestry Parish Tenders are to be made upon printed forms to be had at the offices aforesaid and delivered at the said offices, by or before TWELVE o'clock on the said 3rd day of JUNE, but no Tender will be received or accepted unless made out on the printed form and to be shared at the said office. The Vestry do not bind themselves to accept any Tender—By order, CHARLES LAREN, Vestry Clerk

Vestry Hall, King's-road, Chelsea, 21st May, 1862

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for BROKEN GUERNSEY GRANITE.—Notice is hereby given, that the Board will be ready to open TENDERS from persons willing to CONTRACT for the SUPPLY of the best and hardest BROKEN GUERNSEY GRANITE to be delivered, according to the conditions of the Contract, free of all expenses, on the roads and wharfs in and of the said district. Further particulars may be known and printed forms of Tender obtained upon application at the Office of the Board, Whitehorse-street, Commercial-road East. Tenders, sealed up and endorsed "Tender for Guernsey Granite," must be delivered at the said office not later than FOUR o'clock, on the 6th day of JUNE, 1862. Each Tender must contain a 10l. bank note as evidence that the same is a bona fide, which will be returned to the parties sending in Tenders. By order,

THOMAS W. RATCLIFF, Clerk of the Board.

Board Colet House, White Horse-street, Commercial-road, E.
22nd May, 1862

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for the LIMEHOUSE JOBBING CONTRACT for SEWERS WORK.—Notice is hereby given that the Board are prepared to receive TENDERS from persons willing to CONTRACT for the JOBBING WORKS and REPAIRS to the SEWERS, DRAINS, &c. under the jurisdiction of the Board, for Two years, from 24th JUNE, 1862. Further particulars may be known, and printed conditions and schedules of works, and forms of Tender obtained by parties intending to tender for the works, upon application at the Office of the Board, upon payment of 10s. which will be returned to each person sending in a Tender. Tenders sealed up and endorsed "Tender for Jobbing Works to Sewers, &c." must be delivered at the said office, not later than FOUR o'clock, on the 8th day of JUNE, 1862. The Board will not be bound to accept the lowest or any Tender. The security of two responsible persons will be required. No Tender will be received after the time specified, nor unless strictly in accordance with the printed instructions. Each Tender must contain a 10l. bank note, as evidence that the same is a bona fide, which will be returned to the parties tendering.—By order,

THOS. W. RATCLIFF, Clerk to the Board.

Board Colet House, White Horse street,
Commercial road, E. 22nd May, 1862

TO BUILDERS.—The Town Council of Kingston upon-Hull are prepared to receive TENDERS for the ERECTION of the TOWN HALL, on the site of the old building, in Lowgate. Parties desiring to Tender for these works may inspect plans and specifications at the Municipal Institute, George-street, Hull, on and after the 5th of JUNE, from TEN to FIVE o'clock. Sealed Tenders must be addressed to the Town Clerk, Corporation Offices, 3, Scale-lane, Hull, on or before the 31st of JUNE, 1862. The lowest or any Tender will not necessarily be accepted. Bills of quantities may be obtained of the Clerk in charge of the plans, or of the Architect, Mr. CUTHBERT BRODRICK, 2, Park-place, Leeds, and 14, Buckingham-street, Strand, London.—By order,

Hull, May 28th, 1862. ROBERT WELLS, Town Clerk.

METROPOLITAN BOARD of WORKS. MAIN DRAINAGE of METROPOLIS SOUTHERN OUTFALL WORKS, CROSSNESS.—To BUILDERS, CONTRACTORS, and Others. The Metropolitan Board of Works hereby give NOTICE that they will meet at the Office of the Board, Spring-gardens, on FRIDAY, the 4th day of JULY next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of ENGINE-HOUSES, a Boiler-house, Chimney, Filth-pits, Coalsheds, Dwelling-houses, Wharf-Wall, Sewers, and other Works in connexion therewith, at Crossness, in the parish of Erith, in the county of Kent.

Parties desiring to submit Tenders, may, upon payment of 21l. obtain plans, sections, specification, form of Tender, and other particulars on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE and FOUR p.m. or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 3rd JULY next. Half the amount will be refunded to such of the unsuccessful parties who return the drawings within one week after the day appointed for opening the Tenders.

The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office, before FOUR o'clock, on THURSDAY, the 3rd day of JULY next; and no Tender will be received after that hour.

The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders

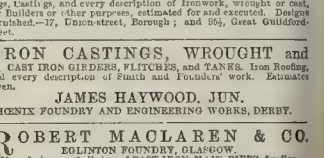
The Board do not bind themselves to accept the lowest, or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, S.W. 8th May, 1862.

ROAD and SEWER CONTRACTORS.—NEW ROADS and DRAINS, Tunbridge Wells Estate.—Conservative Land Society Copy, quantities, specification, plan, and section, may be had on payment of 15s.—GARDNER & CO. 1, Southampton-street, Camberwell.

H. G. COOMBS, IRONFOUNDER, &c. Inventor and Manufacturer of the Patent ROTARY SHOP, Patent Wrought-iron PALISADE GATES and RAILINGS



Columns, Tanks, Staircases, Girders, Doors, Machine Roofs, Railings, Casting, and every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—17, Union-street, Borough; and 55a, Great Guildford-street.

IRON CASTINGS, WROUGHT and CAST IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.

PHŒNIX FOUNDRY and ENGINEERING WORKS, DERBY.

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW. Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT. GENERAL IRON FOUNDERS GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

LOSH, WILSON, & BELL, NEWCASTLE-ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods and STEWART'S PATENT CAST-IRON GAS and WATER PIPES. Office, No. 7, Bise-lane, London

TO BUILDERS.—TO BE SOLD by private contract, one of GOUGH'S PATENT PORTABLE ENGINES, together with the Stone-sawing Machinery, which can be seen at work at Welbeck Abbey Offices, also the several cranes, double-purchase crab, and a new stone dray, which MUST BE DISPOSED OF.—Address C. C. & A. DENNETT, Welbeck Abbey Offices, Notts.

FITZMAURICE OIL and COAL GAS WORKS FOR SALE, the RETORTS, CONDENSERS, PURIFIERS, &c. Price, complete, £1,000, recently erected by the above Company within the last nine months for 3 roughts.—For particulars, apply to JOHN ANDREWS, Gas-maker, New Road Abbey, Maidstone.

METROPOLITAN RAILWAY. — FOR SALE, an 8-horse power high-pressure horizontal ENGINE and BOILER, with double set of working gear complete, capable of lifting two tons; the same has been used for hoisting the excavated from the above contract. Also, a 6 horse power horizontal Engine and Boiler, with single set of winding gear complete. This may now be seen at work at the Portsdown-road, &c.—Apply to SMITH & KNIGHT, 31, South Wharf-road, Paddington.

ROGERS' PATENT OUTLET for RAIN-WATER BUTTS and CISTERNS, which being placed inside the cask or cistern, cannot get out of order, and is quite free from the effects of frost. &c. Price, complete, 2 inch, 10s; 3 inch, 12s.—Drawings and full particulars, on application to the patentee,

G. ROGERS, HIGH STREET, STAINES.

TO IRONMONGERS, BUILDERS, &c. PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators. BULLETT & CO. 85, High Holborn.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

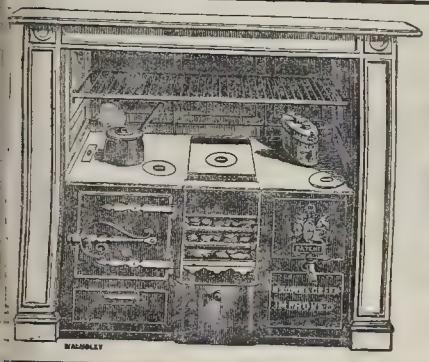
VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES
TOMB RAILING.

VERANDAHS.
IRON SASHES,
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM £4. 10s.

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges.

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen alone are employed.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke-curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat, viz. that reflected from the upper or concave surface,—to be projected parallel with the floor, instead of directly to the ceiling, as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which is intended to be kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black on the top, and obviates any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18s. 6d.

BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.
F. THOMAS, AGENT.

ILLUSTRATED PROSPECTUSES POST FREE.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and Erected.
TANKS in WROUGHT and CAST IRON.
Wrought Iron Doors, Boiler and General Smiths' Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRONWORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

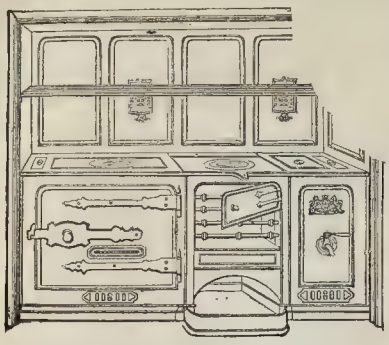
MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

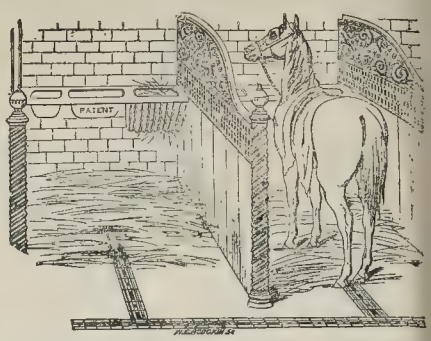
THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of **WROUGHT IRON TUBE and FITTINGS,**
FOR **HIGH-PRESSURE-WATER;** OR STEAM.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Iron-mongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, Chubbs, Cases, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.



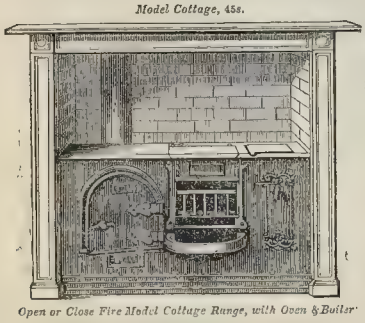
ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45s.



Open or Close Fire Model Cottage Range, with Oven & Boiler

Self-acting, with Bright Wrought Bars.		Self acting Cottage, with Oven and Back Boiler.	
34 inches	54s.	30 inches	22s.
36 ,,	56s.	32 ,,	24s.
38 ,,	58s.	34 ,,	26s.
42 ,,	60s.	36 ,,	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d per inch.
Best ditto, with Fire brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 45s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	¾-inch.	2-inch.	2½-inch.	3-inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½-in.	3-in.
Cast Rain-water Pipe	8d.	10d.	1s. per yard.

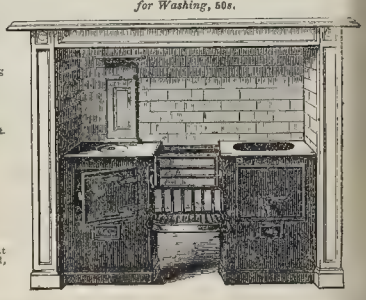
Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½-in.
O G Cutters, with Clips on	10d.	1s. per yard.

	2	3	4	5	6
Patent Line	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 12s 6d. per cwt.
Dr. Arnott's Ventilators, 4s. each.
Brick Moulds kept in stock. Any size made to order.

Combined Range with Wrought Galvanized Boiler for Washing, 50s.



COTTAM'S
PATENT INVENTIONS FOR STABLE REQUISITES,

Awarded a prize at the Paris Exhibition,
Patronized by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the Kingdom.
In use at her Majesty's Stables, Aldershott and Balmoral.

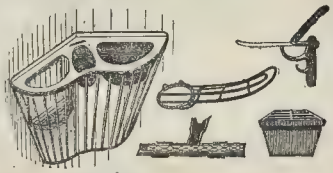


COTTAM & COMPANY, Winsley-street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Water-trough, and Wrought-iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S Patent Noiseless Halter Guide and Collar Rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, is a most essential addition to their fittings; it is never in the way; can be placed and replaced in an instant; while its cheapness, simplicity, and utility in keeping the contents of the troughs clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED



can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT-IRON VENTILATING BRACKET preserves the shape and allows a free admission of air to the under parts of the saddle.

COTTAM'S IMPROVED SURFACE CUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanized, and enamelled. Iron gates, fencing, Hurdles, &c.

KNIGHTLEY'S PATENT STABLE FLOOR.

Illustrated Catalogues and Estimates gratis, upon application to

COTTAM & CO. 2, WINSLEY STREET, Oxford Street, London, W.

WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS-ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.
N.B.—WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.



BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

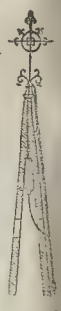
These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.



LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths inch diameter	1s. 0d.	per foot.
Half-inch diameter	1s. 6d.	,,
Five-eighths-inch diameter	2s. 0d.	,,

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by eminent engineers, and scientific men, in all parts of the world.

Offices 130, Strand, London.
,, Gateshead-on-Tyne.
,, 27, Dale-street, Manchester.
,, 68, Anderston-quay, Glasgow.
,, 17, South Castle-street, Liverpool
,, Exchange-buildings, Dundee.
,, 7, Frederick-street, Aberdeen.

TELEGRAPHS.

REID BROTHERS, 12, Wharf-road, City-road, near the Gutta-percha Works,
Telegraph Contractors to the following Telegraph Companies:—
THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.

Are now prepared to give estimates and execute contracts for firms and private companies, in town and country. Gentlemen's private Houses fitted up with simple and efficient telegraphs, on the most economical terms. All communications addressed to the above will meet with immediate attention.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

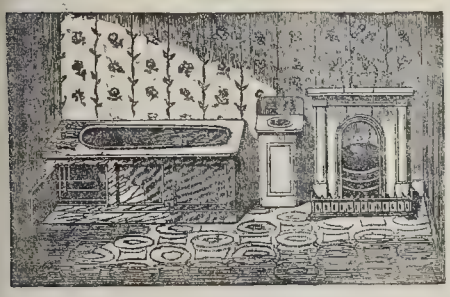
EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET. LONDON.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

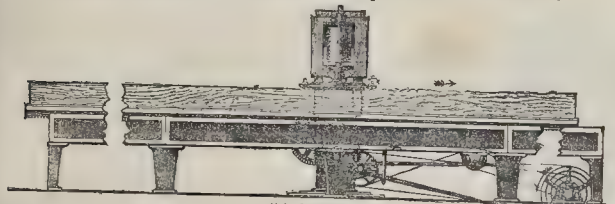
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1, Dean-street, Oxford-street, and Parker's-row, Bermondsey.

S. WORSSAM & CO.'S

PATENT IMPROVED PLANING AND SQUARING-UP MACHINE.



(¼-inch scale.)

This machine is adapted for planing and squaring up scantlings of either hard or soft wood, up to 18 inches wide and 9 inches thick. The cutter disc is furnished with a set of Wilson's Patent Cylindrical Gouges, which will last as long as eight sets of the ordinary gouges without being sharpened.

For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,

STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.

POWIS, JAMES, & CO.

ENGINEERS AND MACHINISTS,

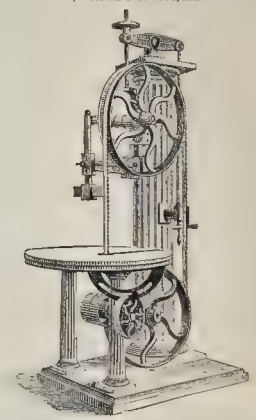
VICTORIA WORKS, BLACKFRIARS-ROAD, LONDON,

Having taken additional premises at 92, Blackfriars-road, known as the Surrey Iron Works, have added Portable Engines to their Sawing and Wood-cutting Machinery business. Contractors, colonists, merchants, and shippers will find these engines fitted with the same care exactness which has gained for the firm so respectable a position as Machinists and Tool Makers.

Specimen Machines and Engines can be seen at the Works, at the Machinery Department, Crystal Palace, Sydenham; and in class 7, section 2, stand 217, International Exhibition, South Kensington.

Engines, &c. on hire, with or without the option of purchase.

ALL LETTERS MUST BE ADDRESSED TO THE OFFICE, 26, WATLING-STREET, E.C.



The ENDLESS BAND-SAWING MACHINE, shown above is the ONLY PATENT in the United Kingdom for an IMPROVEMENT in this class of Machine.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

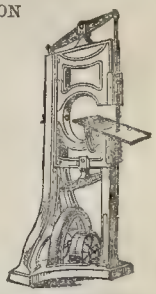
AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*



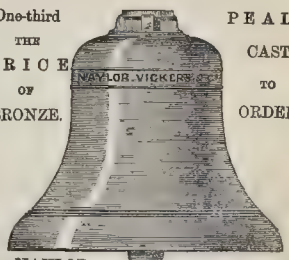
Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.

HEATING BY HOT WATER.

JOHN WEEKS & CO. KING'S ROAD,

Chelsea, HOT WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give unimpeachable references of Churches, Dwelling houses, Warehouses, &c. &c, where they have fixed their Hot water Apparatus.

Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to

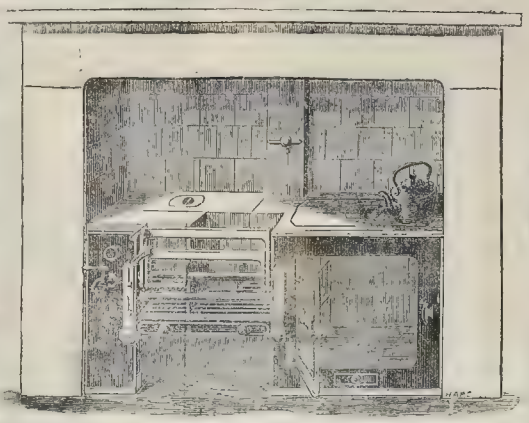
RANDAL STAP, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.



This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.

Iron roofs erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Berkley-street, Birmingham, and Limehouse, London.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

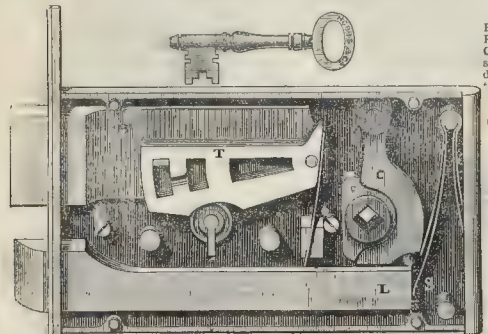
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6107

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, S, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

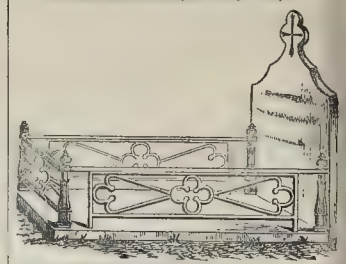
ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

IRON RAILINGS for ENCLOSING TOWNS and GRAVES, COMMUNION RAILINGS, SCREENS, GATES, &c.



Illustrated Price Catalogue of Railings in Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY STREET, OXFORD STREET, LONDON, W.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.

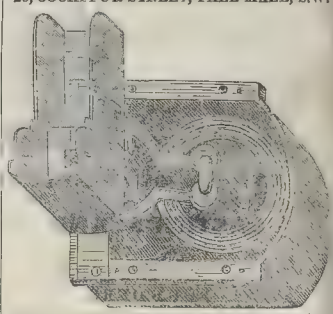


Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W. Drawings and Estimates furnished.

HART & SON,

53 to 58, WYCH STREET, STRAND, W.C., and 20, COCKSPUR STREET, PALL-MALL, S.W.



MANUFACTURERS OF IMPROVED FLOOR-CENTRES, FOR SWING DOORS, BUFFER-SPRINGS, ARNOTT'S & SHERINGHAM'S VENTILATORS, PITT'S & CLARK'S PATENT DOOR FURNITURE,

And every description of General Ironmongery.

FIRE-PROOF CONSTRUCTION.—FOX & BARRETT'S PATENT.

This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,

12, YORK-BUILDINGS, ADELPHI.

TO BUILDERS AND OTHERS.

A SECOND-HAND MOULDING MACHINE TO BE SOLD A BARGAIN.

Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

TRADE MARK.

EDWARD DAVIES,

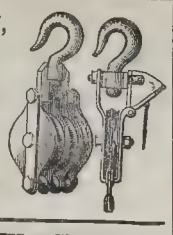
SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



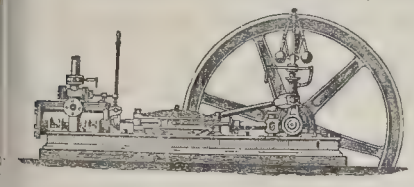
HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR-MILLS, &c.



MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,
OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,
MOREWOOD & CO.,
DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,
AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF
HORIZONTAL AND VERTICAL STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB WINCHES, &c.
SEVERAL ALWAYS READY FOR DELIVERY.
Price List forwarded on application.



PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.





Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.
THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.
BOND & SCAMMELL (late Thomas Pugh & Co.)
WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.



NUT PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.
New and Elegant Designs in glass, china, brass, bronzed, gilt, carved woods, inlaid &c. &c. or to any design.
THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.
A most complete and extensive stock of every description of locks, latches, brass founders', and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.
*** Illustrations and particulars sent upon application.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6d. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.
Testimonials from Architects, Bankers, &c. of their security and durability forwarded.
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.
Agent for the Crystal Glass Pillars and Sash Bars.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell Hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No 19, Blandford street, Manchester-square, running out of Baker-street, Portman square, London, W

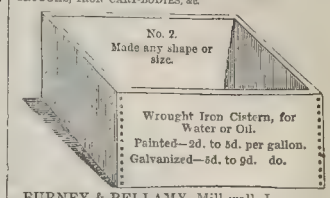
TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.



This Stove is the nearest approach to Warming by Hot Water, and an excellent Adjunct to it.
It will Burn in Churches from Saturday to Monday Evening, without attention during the hours of worship. In halls will burn day and night for weeks with the case. Capable of warm ventilating air for twenty-four hours, at a cost of Three-pence; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.
Full particulars will be sent on application to the Inventors and Makers,
MUSGRAVE, BROTHERS,
Atlas Steel Iron Works, Belfast.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.

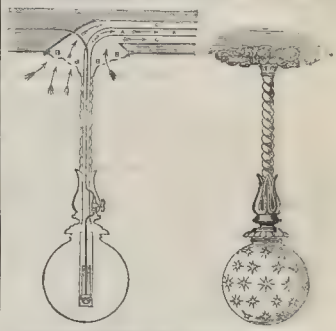


BURNEY & BELLAMY, Mill-wall Iron

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.
These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

RICKET'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. on the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one fourth the weight, and when laid cost 40 per cent. cheaper than iron pipes. They are made in seven feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.
Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr. ALEXANDER YOUNG, 14a, Cannon street, London, E.C.

TRADE  MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—31, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of
SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER-TIGHT WATER BAR; and
SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS,
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL

49, RATHBONE PLACE, W.

GREAT EXHIBITION, LONDON, 1851.

GEORGE JACKSON AND SONS

(Established in 1730)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Cops, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enables them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.

EXPOSITION UNIVERSELLE, PARIS, 1855.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3. PER SQUARE up to 25 feet span Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words, "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with timber or iron framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER-BUILDINGS, WESTMINSTER, S.W.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

Now published, price 1l. 1s. to Subscribers, the First Part to

WELBY PUGIN'S ENGLISH and FOREIGN SKETCHES, Photographed from the Originals. Each part contains 12 Plates. The Work to be completed in 20 numbers.

Messrs. AYLING & CO. 493, New Oxford-street, London.

The WELBY PUGIN COLLECTION, consisting of upwards of 800 Original Sketches by the celebrated Artist, now open at 9, CONDUIT-STREET, Regent street.—Admission, 1s.

WATER-COLOUR PAINTING, by AARON PENLEY, with a full course of CHROMO-LITHOGRAPHIC STUDIES, invaluable for student, teacher, amateur, or the drawing-room table. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate street, Lincoln's Inn-fields, W.C.

ILLUMINATION.—The Best and Cheapest Manuals and Works of authority on the Art. Prospectuses of DAY & SON, Lithographers to the Queen, 6, Gate-street, Lincoln's Inn-fields, W.C.

Just published.

A CATALOGUE of BOOKS, Old and New, including the Publications of John Weale, of 59, High Holborn, London, W.C.; arranged and classed. Price 6d. or seven stamps if by post.

RULES and FORMULÆ for STUDENTS and ENGINEERS. By T. BAKER, C.E. Division I.—Rules and Practical Formulæ for finding the Strain and Breaking-Weight of Wrought-Iron Bridges, sundry Useful Tables; Suggestion also with the Calculations for Carrying a Railway Bridge across the Queen's Ferry on the Frith of Forth, N.B. By C. H. DOWLING, C.E. Two Divisions, complete. In 12mo, price 5s.

MACHINES and TOOLS MANUFACTURED at the PARAGON WORKS, N.B. By JAMES DUNDAS, Esq., of Dundas Castle. In fol.o. Twenty-nine Plates, price 21s. in cloth boards.

Just published, price 2l. 2s.

MANUAL of HYDROLOGY. By NATHANIEL BEARDMORE, Civil Engineer.

CONTENTS—

DIVISION I.—HYDRAULIC AND OTHER TABLES
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament street; 24, Birchin-lane; and 65 to 68, London-wall. 1862.

Sixth Edition, price 6d. with 18 Lithographic Plates,

STAINED WINDOWS by the Improved Transfer Process of Diaphanic, which may be easily performed at small cost.

London: J. BARNARD & SON, 339, Oxford-street.

Just published, price 3s. 8vo. cloth, gilt edges, 207 pages,

INTERNATIONAL EXHIBITION.—RISE and PROGRESS of PAINTING. By EDMUND EDWARD ANTROBUS, F.S.A.

Being a Concise History of Celebrated Painters, arranged under their different Schools; to which is annexed the Painter's Anniversary Calendar.

London: STAUNTON & SON, 9, Strand.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

BOOKS, AUTOGRAPHS, and MUSIC, of the rarest and finest description, during the Great Exhibition, at a considerable reduction. Applications for the new catalogue, now preparing, to be made to C. LONSDALE, 26, Old Bond-street.

TO JOINERS AND BUILDERS.

IRONMONGERY at FIRST COST.—A List of Prices may be had on application to the BRITISH HARDWARE COMPANY, Phœnix Works, Wolverhampton.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Boudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or removed, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents:—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street London.

ROBERT M. LATHAM, Secretary.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organise, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.

Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.
Lithographers, &c. 5, Ave Maria-lane, E.C.

POLYTECHNIC.—WHAT I SAW AT THE INTERNATIONAL EXHIBITION; or, Half-an-Hour's Advice to Intending Visitors, by Professor J. H. PEPPER, F.C.S. A. Inst. C.E. &c. on Tuesdays, Thursdays, and Saturdays, at half-past 12, commencing Tuesday, June 3rd.—Scientific Lectures, by Professor J. H. Pepper—New Gorgeous Scenic Optical and Pneumatic Fountain Spectacle. Musical Entertainments and Concerts by George Buckland, Esq. and the Brousil Family—Beautiful Dissolving Views, illustrating London in Ancient and Modern Times—Paris as it is—The Holy Land—Wilson's Grand Panorama of Japan, daily at 1 30 and 5 30. See weekly programme of 8 pages. Open from 12 to 5, and 7 to 10. Admission 1s.

TO MILLWRIGHTS, BUILDERS, and OTHERS.—TO BE SOLD, in consequence of the death of the proprietor, the GOODWILL, STOCK-IN-TRADE, and TRADE IMPLEMENTS of a MILLWRIGHT, where the business has been carried on upwards of fifty years, seventeen miles from London. The premises consist of a moderate-sized house, large workshops, stabling, and a quantity of building land for trade purposes, and about one acre of fruit and kitchen garden. A lease can be had, if required, at 40l. per annum.—For further particulars, apply to Mr. WILLIAMS, 2, York-terrace, Kingsland, London.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood.	F F Light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

The Builder.

VOL. XX.—No. 1008.

An Account of the Tunnel through Mont Cenis.

WE are glad to be able to place before our readers an account of a work of the highest interest in its present stage, and fraught with advantages in the future. We give it in the words of our correspondent, Mr. W. H. Villiers Sankey:—

A few days ago I directed my way to the station of the railway that leads to Susa, not for the purpose of going *over* the Alps, but with the intention of penetrating *under* them, into the hitherto hidden mysteries of their interior.

Most people in the present day have heard of the great Tunnel which is being made with the object of affording railway communication, complete and uninterrupted, between France and Italy; but very few, indeed, have anything more than an idea, vague and indistinct, that such a project has been in contemplation for some time. I was determined to judge for myself, and to convey to others the information necessary to form a correct judgment on the matter, so that the world might be made acquainted with the true state of the case.

Turin has lately become a place of so much interest that an immense concourse of people now visit it every year, and hardly a day passes but great numbers travel over the railway which connects that city with the small but prettily situate town of Susa, which lies at the foot of the Mont-Cenis pass. Most of them, however, go by the express train by night, and know nothing of the beauties of the lake of Avegliano, or the grand sight which may be had from the Monastery of St. Michele, just above the village of St. Ambrozio: a panoramic view of extreme loveliness, showing the meandering windings of the Dora Riparia river, spread along the bed of the valley like a ribbon of silver far, far below — fantastically wreathing around and connecting together the various picturesque towns and villages spread out, as it were, upon a velvet plain.

From Susa to Bardonèche the country presents scenes of ever-changing beauty,—now rich and cultivated, now wild and sterile,—here English-looking lanes, with hawthorn and lilac, grassy lawns and pretty undulating hills,—there headlong cascades and perennial glaciers, wild moors, perpendicular rocks, and the towering Alps capped with never-melting snow.

At Bardonèche, where the hitherto narrow valley spreads out into a kind of amphitheatre, cultivation seems again to resume its reign; not luxuriant, nor rich, but green, grassy, and genial. The mountains are not steep, but are rather spread out at their bases, and look like great pyramids; they, together with the plain, are divided into patches of different shades of verdure of every conceivable shape. These consist of grass-land, corn, and green crops, and every kind of cultivation in various stages of advancement; some of the plants are only just making their appearance, while others are well on their way towards maturity. I left Susa at about three o'clock in the morning, and arrived at Bardonèche about noon, and found the whole population had turned out into the fields to take advantage of a shower of fertilizing, fine rain; every one was busily engaged in sowing or ploughing. The scene was very singular,—the male portion of the population were guiding small ploughs drawn by picturesque-looking mules in neat harness of very peculiar form; men followed, filling in the newly-made furrows with seed; and women and children brought up the rear, armed with curious-looking hoes, with which they were drawing the earth over the precious deposit.

On the road, which is well kept and good, though extremely narrow, were several groups returning to breakfast, as they had probably been working since the early dawn of day; they carried each the implements they had been using, and many of the men were shouldering the light ploughs, which they had been previously guiding, with a careless, *nonchalant* air. The whole scene had a primitive appearance about it which contrasted curiously with the great town-looking houses, in which the government engineers and many of the work-people engaged in the tunnel have their residences; and the reservoirs, immense water-pipes, and great *ateliers* by means of which the gigantic highway of the very latest civilization is making a rapid progress beneath the loftiest mountains of Europe.

Provided with a letter from the Government engineer, I was afforded every opportunity of getting a complete idea of the whole undertaking, and can now perform the part of cicerone to the reading public at home, whom I am about to conduct over this wonderful *chantier*, in which the charms of nature are combined with the genius of art. The first idea of making a tunnel in the direction now fixed upon for the railway between Piedmont and France was suggested by a person named Medail, an inhabitant of Bardonèche, who, being well acquainted with the country, and knowing the footpath traversed by the mountain populations in their constant communication with the inhabitants of the valley of the Arc, was the first to announce that the pass by the *Col de Frejus* was the least difficult of all roads leading to Savoy.

Acting on this information, the Sardinian Government directed Mr. Mans, the celebrated Belgian engineer, and the Chev. Sismondi, a very eminent geologist, to undertake an examination of that part of the country which lies between Susa and Modana. By their studies they confirmed the opinion of Medail; so they proceeded to draw up plans of operations for the purpose of effecting a railway intercommunication between Piedmont and Savoy.

According to those studies it became evident that the line of railway would have to pass under the Frejus ridge at a depth *of a full English mile below the surface*, and that the length of the tunnel would be somewhere above eight English miles. Shafts were therefore quite out of the question, and it was determined that the tunnel should be worked from its extremities alone: that is to say, that four miles of it or more should be worked from the Piedmontese end, and a like length worked from the end commencing in Savoy.

These conditions, which are imposed by the nature of the work itself, involved two great difficulties: *one, the immense time which it would take to excavate so long a tunnel from only two faces; and the other, the apparent impossibility of ventilating it during the progress of the work.* In order to obviate these difficulties, various plans were suggested. Mr. Colladon, Mr. Bartlett, and others, proposed means which contributed to the invention of the system now adopted.

Taking advantage of these preliminary propositions, Messrs. Grattoni, Sommellier, and Grandis set themselves together to work, in the hopes of being able to solve the problem; and their labours have been so successful that the Government here (after having received the report of a commission of illustrious Sardinian *savans*, who had been appointed to verify the plans proposed by those gentlemen, and to make experiments, for the purpose of testing the value of the method which they had proposed to adopt) empowered them to construct the proposed tunnel in the manner they had suggested.

The arrangement made by Messrs. Grattoni, Sommellier, & Grandis provides for both the difficulties, by one and the same apparatus, which forces the air (driven by intermittent strokes) into large reservoirs, from which it flows uniformly through a tube laid from the *atelier*, where the reservoirs are placed into the interior of the heading. This air, which is forced in by taking advantage of the weight and fall of water, is first used to work the tools for drilling holes in the face of the rock, after which it is allowed to escape into the tunnel; and thus the air is constantly changed, and good ventilation efficiently provided for.

As this hydropneumatic machinery is the principal agent used in the carrying out of the work, it is necessary that our readers should have an idea of the manner in which it acts; and, indeed, it is the first thing that presents itself to the eye after passing the dwelling-houses of the managers and other persons engaged in the various operations.

Well, some thirty or forty yards above the general level of the plain there is a small reservoir, or cistern, of water, filled by a canal that is fed by a supply from a mountain torrent at some great distance away. From the reservoir there are ten principal iron cylinders laid on beds of masonry against the steep slope of the mountain: each of these can be made to receive the water from the reservoir by opening sluices or valves up above: in this case the water rushes down the iron cylinder into the *atelier* where the iron reservoirs for storing the air are placed, one corresponding to each tube that is laid against the side of the mountain.

The way in which the air is forced into the iron reservoirs is as follows:—

Each tube that comes down the side of the mountain, and which is about two feet in diameter, is continued on horizontally some ten or twelve feet below the floor of the *atelier*, after which it is bent and rises up perpendicularly, or, rather, the main tube communicates underneath with a hollow vertical column from 12 feet to 16 feet high, in the top of which there is a valve opening downwards: there is also another valve to separate the sloping part of the tube from the horizontal portion. The whole of the tube, including the sloping part between the water reservoir on the side of the mountain and the floor of the *atelier*, the horizontal part beneath the floor, and the vertical part which rises up in the *atelier* some 12 or 16 feet,—forms altogether a syphon, in which not only the weight of the water acts, but also the momentum of the water descending all the way from the lofty mountain ridge whence it originally proceeds. We may suppose the whole of this syphon filled by water, to begin with. The first operation, then, in working, is to close the valve at the foot of the sloping part, and afterwards to discharge the water in the horizontal and vertical portions of the tube: this being done, the valve at the top of the vertical column falls down and admits the air. The valve at the foot of the sloping tube is then reopened, and the one at the top of the vertical column closed; the water thus rushes in and compresses the air in the shorter end of the syphon to six atmospheres; this water after that is discharged as before, and fresh air admitted; but it should be understood that when the air is compressed in the upper portion of the vertical cylinder it passes away at once by small tubes into the iron reservoir (which is of the shape of a pontoon). Each contains nearly 5,600 cubic feet of air, is about 33 feet long, and nearly 6 feet in diameter. All these operations are effected in much less time than it takes to describe them; and the opening and shutting of the valves of *alimentation* and *discharge* are

effected opportunely, without the intervention of human aid, thanks to the automatic action of a small apparatus, regulated suitably by a column of water.

The air in passing from the upright column into the reservoir loses some of its density, and has only a pressure of 4½ atmospheres. The bottoms of the reservoirs are filled with water, which is displaced as the compressed air enters; this is supplied by two smaller tubes, which descend the side of the mountain between the larger ones, that is, they have five large water tubes on either side of them. These reservoirs are furnished with water-gauges, by which the quantity of air and water in them may be seen and regulated at any time by the mechanical engineer in charge of the works.

The cylinders being always kept sufficiently full according to the judgment of the engineer, the apparatus is constantly in working order; and the operations of boring the holes for blasting in the heading, and a constant supply of fresh air in the tunnel, are a natural consequence. But before proceeding to describe the operations of the boring-machines, and how they are put in motion, I may mention that 7,924 strokes of the machinery per day produce about 51,000 cubic feet of compressed air, which flows away into the cylinders of the boring-machines, and eventually into the tunnel, which it ventilates admirably.

After having examined the details of the primary mechanism, I proceeded to visit the Tunnel, which enters the mountain by a temporary ingress at about half a mile from the *atelier* which contains the air-reservoirs: and here I must own I was immensely gratified and surprised on beholding a magnificent gallery of great length, breadth, and height, extending in a beautiful straight line far into the earth—a dry, lofty, and spacious roadway making its way beneath the regions of everlasting snow. I had no idea that the mighty undertaking had been carried out on so grand a scale, or that it had been so completely successful. I felt proud of the intellect and industry of my fellow-man,—not in subduing nature and triumphing over it by art, as is often said unreflectingly by educated persons who ought to know better, but for making use of the elements which God had placed at his disposal, to aid in carrying out so legitimate and useful an undertaking.

The machinery employed for boring is a combination of two systems,—the one proposed by Professor Colladon, of Geneva; and the other by Mr. Bartlett, who was at that time superintending the contract works on the Victor Emmanuel Railway.

Professor Colladon took out a patent, in 1855, for a means of driving compressed air far into a tunnel, with the object of making it available for boring holes in the rock, and afterwards of using the air, as it escapes and expands, for the purpose of ventilating the tunnel.

Mr. Bartlett took out a patent, in the same year, for an apparatus, to be worked by steam, to bore holes in the rock by machinery; and the system proposed by him, although constantly being modified and improved upon as the work goes on, is the basis of the working appliances now in use boring the holes for blasting the rock in the heading.

Messrs. Sommellier, Grattoni, & Grandis have combined these two systems, and have carried them out practically on a grand scale.

The principle of the machinery for boring is extremely simple. The machinery consists of two essential parts,—one the apparatus for driving the cutting tool into the rock and withdrawing it, so that the blow may be repeated while at the same time it is made to take a whole turn on its axis, now towards the right, and now towards the left; and the other, the machinery for advancing the bed on which the cutting tool rests as the work goes on, so that the auger or borer may constantly advance as the hole is being bored, and may be kept well up to the surface it has to operate upon. Both portions of this machine are worked by means of the compressed air.

The first or cutting part of the machine is a long borer, which in reality is fixed upon a continuation of the piston-rod, working in a cylinder into which the compressed air is admitted fore and aft alternately, so as to drive the piston forward against the rock, and withdraw it by a back and forward motion, while a turning motion is given at the same time. The edge of the borer is in the shape of the letter Z, so that, in turning and returning, the substance of the rock is ground away in the hole, as well as pulverized by impact.

Six of these borers, with the machinery for driving them forwards; six reservoirs containing water, which is forced in a constant jet into the hole while the boring is being performed, so as to facilitate operations and clear away the *débris*; apparatus for lighting by gas, are mounted on a railway-carriage frame, and the whole works in a heading, 11 feet 6 inches by 11 feet. It drives holes in the rock varying from 2 to 3 feet in about twenty minutes. These holes can be bored either horizontally, vertically, or obliquely; as many as eighty are sometimes driven in the face; but they are not all charged with powder, the object in making most of them being merely to facilitate the breaking up of the rock when the powder explodes in the others.

When the holes are bored the machine is drawn back upon the rails to a distance of about 50 yards; great wooden doors are then shut to prevent the blasting from doing an injury to the machinery; and the holes are filled with powder, the English fuse being used to ignite it. The blasting takes place twice in the twenty-four hours; the machine is removed the fifty yards and returned to its place in ten minutes.

It requires a long time to get rid of the foul gases produced by the explosion of the powder: it is found that from one to four hours and a half are necessary to remove the vapours and the *débris*. From this cause not more than about 5 feet of the heading can be done per day on each side, at which rate the tunnel would not be done for ten years; but there are machines being made now which it is calculated will effect a saving in time of 30 per cent.; so that, if nothing unforeseen happen, the whole tunnel can be finished in about six years more; or, if new improvements are successfully introduced, it may be completed even in a less time still; and this will very probably be the case, for there are means of using the machines more expeditiously, and experiments are being made to see how far they can be taken advantage of.

However that may be, the great work is now assured, and it is only a question of time; the machinery is so perfect that everything goes like clockwork; and the great desideratum of making a long tunnel without shafts having been obtained, there need now be no further doubt about the success of such undertakings; and the Lukmanier and St. Gothard Tunnels will, there is no doubt, shortly be commenced.

The sides of the Mont Cenis Tunnel are being lined with the stone excavated in the tunnel itself, nicely worked; while the roof is lined with four rings of brickwork. There are niches and small magazines in the sides at intervals along the line.

I should state that there is a main tube which passes over the ten iron reservoirs, and is in communication with them by means of short pipes; this tube is continued to the far end of the tunnel, and conveys the compressed air to the boring-machines, into which the air enters by means of small pipes of vulcanized india-rubber. This main is supported at intervals by piers of masonry for about seven or eight hundred yards to the present entrance of the tunnel on the Italian side. In the tunnel itself it is fixed against the side wall by holdfasts, as is also a small tube containing the gas.

On the Modana side it was found that it would be too expensive to cut through the rock so as to make a canal for the purpose of bringing the water from a great height; the water is therefore pumped up by means of hydraulic power into a cistern about 86 feet high, which is the fall required to compress the air in the first instance to 6 atmospheres. Everything else is similar on both sides of the mountain. The machinery employed on the Savoy end of the tunnel is exactly the same as what I have described, and all the processes are precisely alike.

The machinery for the whole of this important work was made at the celebrated establishment of Messrs. Cockerell, of Liege; and they deserve the highest credit both for the marks of mind they have impressed on their work, and the beautiful finish and exactness of the details.

The tunnel has vertical walls and a semi-circular roof; the lining is carried about a foot below the roadway, and makes a mitre joint with the rock, so as to convert the substratum into a natural invert. The tunnel itself is 26 feet 3 inches wide in the clear, and its height in the centre is 24 feet 7 inches.

The total length of the heading on the Bardonèche side is 3 530 feet, while that on the Modana side is 2,620 feet; and the length of tunnel taken out to its full dimensions, lined and finished, is about 6,000 lineal feet altogether.

In the headings there are constantly employed at each face thirty men to direct and attend to the working machinery; six men and three boys are kept for the purpose of blasting the rock; and six additional men are occupied, when it is necessary, to remove the *débris* after the blasting has taken place; besides, there are numerous workmen, taking the tunnel out to its full dimensions, lining it, and so on.

The tunnel is at present in one straight line; but, in order to enable the trains to turn into the sharp valley, it will be necessary to have the entrance in a curve. The curved part of the tunnel is now being commenced, and will join the straight part at about 250 yards from its present temporary entrance on the Italian side.

I may mention that the heading is widened on both sides, and the roof taken out by ordinary miners in the usual manner; but in the course of time, machinery will also be used to bore the holes for blasting everywhere, which will greatly expedite the works.

The tunnel will have a continuous gradient, falling from the Modana end towards Italy, at the rate of 1 in 500. It is to be regretted that the approaches are so steep, being on an average 1 in 50 on one side, and 1 in 40 on the other. It would have been far better to have made the tunnel somewhat longer, so as to have avoided a continual source of wear and tear, both of trains and rails, which will be a perpetual charge upon the line.

The height of the tunnel at its entrance near Bardonèche, above the level of the sea, is 4,381 feet.

This immense gallery of magnificent proportions would make the finest exhibition building that could be constructed, and I would propose that, when it is finished, it should be inaugurated with a great International Exhibition. The different objects to be exhibited should be arranged along the centre, leaving the walls and roof free, with two wide passes at either side communicating with each other at intervals. Even although the centre should only be partially occupied, numberless objects of interest could be placed in a length of nearly nine miles; while the magnificent gallery would be an exhibition in itself,—a monument cut in the adamantine frame of the world.

THEBES AND ITS TOMBS.*

IT is a remarkable circumstance that, notwithstanding the multiplicity of Egyptian sepulchral remains in the various European museums, there is a want of authenticated details of the first opening of Egyptian tombs, or of the precise state of matters in such tombs when they were first opened. One of the chief objects which Mr. Rhind had in view in carrying out his researches in Thebes was to discover, if possible, some virgin tomb, if we may so call it,—one which no previous ransacker had ever entered; and he certainly took great pains to realize that object, and was pretty well rewarded too for his labour. First of all he chose places for excavation which, though close beside many other tombs in the rocky city of the Theban dead, would inevitably cost both time and money, as well as require determined perseverance, in their excavation; and so well chosen was one of these spots in these respects, that loads of detritus poured down into the excavation from above almost as fast as the material dug out could be removed. After seven weeks' labour of forty men, however, certain tombs were reached which it was evident, from the contents, had not been opened at least for many centuries. Even these, nevertheless, had not escaped, so far as regarded their original or most ancient contents. First of all a doorway was uncovered in the face of the rock, secured, and carefully built in and plastered with clay, sealed in regular rows with the seal of King Amunoph III. Even this tomb had been entered since the sealing, through an aperture which was soon discovered. The floors of an outer and an inner tomb were found strewn with bones, torn bandages, and fragments of mummies and mummy-boxes. Here some inscribed wooden tablets were found, containing names of princesses of the family of Thothmes III.; yet, strange to say, the tomb was plain, undecorated, and very unlikely to have been a royal tomb. How the tablets came to be where they were Mr. Rhind confesses he has great difficulty in conjecturing; but perhaps the remains altogether had been cleared out of a royal tomb to make way for royal or other successors, and carefully inclosed and sealed up, in Amunoph's time, where they were found.

The result, so far, Mr. Rhind rightly regarded

* "Thebes; its Tombs and their Tenants, Ancient and Present; including a Record of Excavations in the Necropolis. By A. H. Rhind, F.S.A. London: Longman & Co. 1862."

was somewhat vexatious and disheartening. Nevertheless he persevered with his excavations; and at length, after several weeks' additional labour, another built-up doorway was reached; and, notwithstanding certain unpromising signs, it was ascertained that here, at least, there *was* something worth the trouble. First of all, however, let us briefly describe the tomb itself, of which Mr. Rhind gives a section. The rocky hill had been penetrated, by the tomb-constructors, in the first place, horizontally, to a length of 55 feet, by a breadth of 8½ feet, and a height of about 8 feet. From the innermost end, where a massive wooden doorway still stood, a tunnel descended, with a curved sweep, for 70 feet in length; at the farthest end of which there was a perpendicular shaft, pit, or well, 10 feet by 6, and 20 feet in depth, leading down into another elongated chamber, or series of chambers, 56 feet in length, and in height nearly 5 feet; the roofs studded with calcareous and nitrous crystals. Reared above the well was an erection supporting strong beams, over which hung the very rope, of twisted palm fibres, which had lowered to their resting-places the last tenants of the sepulchre beneath.

In the outer and upper chamber was found a remarkable-looking object, unique in its kind so far as regards any discovery ever heard of by Mr. Rhind. He considers it to have been a funeral canopy. It is of wood, and brightly painted, and is in perfect preservation. This, with other antiquities, Mr. Rhind has placed in the Scottish National Museum at Edinburgh. It has the appearance of a shrine or a many-posted bedstead, with a curved roof; and at the head or principal end are three winged discs, one above the other, surmounted by a row of hooded or disced serpent-forms. The whole affair is gay with blue, red, and yellow colours. Near this canopy was found a double statue, in limestone, representing, according to the inscription, an officer of the police of the temple of Amun Ra, at Thebes, and his sister. There were also several viscera-vase-forms of stone not hollowed out.

On the sides of the tunnel were two cells walled up: on opening these a similar confusion was found with that in the sealed tomb already spoken of. The chief remains were discovered in the chambers at the bottom of the pit. There were several wooden coffins and mummies in an entire state; but the principal object was a sarcophagus of granite, which appeared as if filled with bitumen, but was found to contain the mummy of a man, in a gilt mask, and crowned with a chaplet of copper, gilt, with leaves of gold attached to it by pliant stalks. Beside the mummy and in the usual place was found a large ritual papyrus in excellent condition, and said to be philologically highly instructive. It declared the deceased to be Sebau, keeper or guardian of the royal *Khemu*, and in charge of the king's horses. Sebau, it states, was born on the 28th of the month Athyr, in the thirteenth year of the reign of Ptolemy Philopater III., or Dionysos. He died in the twenty-first year of Cæsar (Augustus). Thus he appears to have been born B.C. 68, and to have died B.C. 9. Of the other contents of the tomb we have no space to speak.

Mr. Rhind gives an interesting account of the tombs and excavations generally, both at Thebes and elsewhere in Egypt, including other excavations of his own; and also describes the living human tenants of the tombs.

One chapter is devoted to the theories explanatory of Egyptian sepulture,—a curious but obscure subject. Mr. Rhind, we consider, is right in thinking that a better knowledge of the peculiar religious doctrines of the ancient Egyptians would be requisite to enable us to appreciate those original motives which led to so elaborate and singular, as well as costly, a mode of sepulture as mummification. We are also persuaded that a comparison of the practices of other ancient nations with those of the Egyptians, in respect to the treatment of their dead, would aid greatly in clearing up certain mysteries connected with these practices. The interesting accounts we already have, and yet may have, for example, of those cities of the dead which seem to have covered all the site of the ancient and mystic Chaldea may be of service in this respect. It appears that while myriads of human beings were anciently buried in the Chaldean cities of the dead, not a single vestige of ancient sepulture has ever been found on the site of ancient Assyria, to the east of those sacred rivers, westward of which Chaldea lay; and it has hence been concluded that, in fact, Chaldea was the ancient burial-ground of Assyria; and that the Euphrates, like the Nile, was the highway of the dead. Again, while remains of burial-places *and temples* have been found on the Chaldean site, no vestige of any ancient private dwelling has there been found. Precisely so is it with respect to Thebes; and although there is historical reason to know that Thebes was a vast city of the living as well as of the dead, it is probable that the city of the living lay upon the eastern bank of the river, while we know that its city of the dead lay upon the western bank, just as it was with Assyria and Chaldea; and, although these latter names denoted districts of country, so even was it with Thebes,—a name,—at least the Thebais,—which once included all Egypt, if not Ethiopia also; from both of which the city was said to have derived its strength, and from both of which too, therefore, it also probably derived its dead. As for the process of mummification; for our own part, we are not only persuaded that it was closely connected in its origin with the peculiar religious doctrines of the ancient Egyptians; but we think we can see our way into the precise doctrines and practices which must have led to it. That an idea was at one time entertained amongst them of the possibility of the soul revisiting the body there can be little doubt. Thus, for example, the title of the 89th chapter of the Ritual of the Dead is rendered by De Rougé, "Chapter of reuniting the Soul to its body in *Ker Neter*" (the ordinary place of sojourn of the dead);* and Birch appears to understand this chapter as referring to the soul revisiting the mummy. But the next question is, How did they come to believe this; or, in other words, on what peculiar religious doctrine of the hierophants, or magi, was such a belief founded? The doctrine on which it was originally founded, we have little doubt, was that indicated by Iamblichus in his treatise on Egyptian Mysteries,† where he says that "in the contemplation of blessed visions the soul assumes *another life*, operates in another manner, and justly esteems itself *no longer man: it often exchanges* its own life for the most blessed life of the gods." Now this was a doctrine which not only implied a return of the soul to the body after it had entered "another life," but a *frequent* return; and hence, originally, it could not have well applied to the actually dead; and, in truth, it has been clearly shown in an article on Symbols in the *Builder* of 16th October, 1858, that it originally applied to those oracular *entrancements* during which the body was regarded to be *dead*, and dispossessed of its own soul, while suffused with the divine and oracular afflatus. That this doctrine did not originally apply to those who had died the death of corruption, therefore, there can be no doubt; but that it at length became confounded with such an idea is equally clear from the well-known allusions in the Ritual to the deceased *becoming* Osiris, which obviously meant originally the same thing as the entranced, and beatified, being "no longer man," but having become "the god" who delivered the oracles. It would appear, then, that the careful wrapping up of the dead, embalmed with aromatics, &c., was originally based on the magical doctrines connected with entrancement; and, in all probability, on *certain practices* adopted in reference to the entranced. The very practice of excavating cells in the rocks, which so much resemble those forming the dwelling-places of eastern *ascetics*, probably also originated in the same doctrines; as also their association with the temples, and with those priests of the temples, or colchyti, who had the care or ownership of the cells. Much more might be said in support and illustration of these ideas of the origin of the practice of mummification, were this a fitting place for such a disquisition; but we cannot here pursue such a subject farther; and must conclude by recommending Mr. Rhind's very interesting treatise to the notice of our readers.

* Etudes sur le Rituel—Rev. Archéol., vol. i. N S. p. 85.

† "Iamblichus de Mysteriis Egyptiorum," ed. Gale, pp. 22—27.

THE PALACE OF ART AND INDUSTRY.

ARRANGEMENTS in the International Exhibition building are, we are obliged to confess, less advanced at this time than we anticipated. Any one examining the collection of iron girders shown in the French Court, by Messrs. Dupont & Dreyfus, must beware lest a hole in the floor do not cause an accident, such as that which entailed the loss of one valuable life; and those who are accustomed to dine after the work of the day, had better not think of finding anything to eat at moderate charges, or anything at all on tables below stairs except chairs and litter. The catalogue-publication departments, however, the foreign and colonial at least, appear to be working assiduously: catalogues of the Zollverein and Belgian divisions have now been added to the French and Austrian; and at last, in a Jury Directory, we discover, what we looked for in the Official Catalogues, and in the arrangement of the objects themselves, a "Detailed Classification of Objects sent for Exhibition." This classification, which is that, "with slight modifications," of the Exhibition of 1851, "rearranged so as to suit the more numerous classes and sections of 1862," would not be ours; but it may be made the basis of invaluable reports by the juries; it should be procured by every one desiring to study, and derive real benefit from, the Exhibition; and we only regret that a strange want of thought on the part of those concerned, allowed such a groundwork for any useful notices of objects displayed, to come only lately and accidentally to our hands. Mr. Palgrave's Handbook, for the preparation of which "all necessary facilities" were given, is now no longer sold in the building; but the official Fine Arts Catalogue with the objectionable matter to which we first drew attention, remains; and moreover the commissioners have said that they "arranged with Mr. Palgrave to write the introductory articles," and that "being satisfied with the knowledge and ability shown by him," they were glad to afford the facilities for the Handbook. It seems therefore necessary to point out to the commissioners, that *the* introductory articles, the only articles absolutely necessary, or such as would have informed the public what was the period of art-history and time embraced by each country's display of works, do not exist in the catalogue at all; whilst what is found, on the subject of architecture at least, is calculated to mislead the public, and even to retard progress to that general appreciation of what is valuable in the collective styles and schools,—to wit, *art*, for which the whole profession may be said to be striving. Now that the commissioners have avowed responsibility, which they have sought to disown in the case of the Handbook, it is for the committee who were intrusted by them with the arrangement of the architectural drawings, to say whether they are satisfied with Mr. Palgrave's representation of the present position of architectural art, and his substitute for facts and opinions stated by those conversant with the subject.

However, it is the sense of the value of the particles constituting the unassorted whole which makes expression of regret so often uppermost with us. An educational agent for the mass of promenaders—individuals ever needing to be reminded of the great world of arts which lies without their field of a single trade or calling; an agent for the demonstration of the fact that civilization and progress are not alone Anglo-Saxon or British; the Exhibition is less than it might have been with better arrangement of its contents, but is enough to constitute it at this moment much more and better than an ordinary "sight" of London. He who thinks to see it in a dozen visits, varied with the other attractions of town, may be something like the Turk who spends a season in London or Paris, or, to speak truth, like too many English who have been on the Continent; that is to say, set on his return homewards only blind to the reality and ultimate order of the images, and confirmed in his narrow ideas and prejudices.

Since our notices of some of the objects in Class 10 appeared, we have received communications respecting objects not named by us, or others about which we are thought to have been in error. Omissions are inevitable; for, we have not enough space even for titles. The fire-bricks, gas-retorts, sanitary-tubes, and terra-cotta, of Messrs. Ingham & Sons, of Wortley, we have not seen; though they may be as near to other specimens as are the works, near Leeds, of one firm to those of the other, and may be equally good. As to "Sanitary Tubes," the statement that those of the Darfield Pottery, Barnsley, are made up to 4 feet in diameter, and are tested when required to bear a pressure of 200 lb. to the square inch, is that of the manufacturer. It would have been well to name with other water-purifying agents in our last, Mr. F. H. Danchell's apparatus for filtering and softening, and for testing water. The filters are used generally in the building.

In a different division of this class, we find Mr. H. Barrett's (Fox & Barrett's) system of flooring not shown sufficiently to do justice to its merits; an assertion which might be hazarded of nearly everything in this class. Although the majority of the exhibitors offer printed information supplementing the curt and sometimes ridiculous titles,—such as "coating stone, wood, iron, &c., prevents decay,"—much of it requires substan-

tiating. Results of experience or experiment are too seldom stated. We should have been glad to know something of the cast-iron pipes of Messrs. T. Edington & Sons, of Glasgow, including the great main of the Glasgow Water-supply; and also of the pipes of the Bitumenized Water, Gas, and Drainage Pipe Company, which are inoxidable and one-fourth the weight of iron pipes. In effect, what are the advantages respectively of these two materials and stoneware pipes, iron itself being readily subject to collapse under a moderate weight of earth?

The greater number of the contributions to Class 10, by engineers, are models of iron bridges and viaducts, of which the principle of construction is remarkable for that subserviency of other considerations to one of rapid completion, which is generally of importance to shareholders. In most of these models, one of the forms of lattice-girder, or Captain Warren's diagonally-braced truss, as applied in many cases by Messrs. Kennard, is used, with piers likewise of iron construction. The Beelah Viaduct, Westmoreland, on the South Durham and Lancashire Union Railway, is illustrated in a model exhibited by Messrs. Gilkes, Wilson, & Co., of Middlesbro'-on-Tees. It was designed by Mr. T. Bouch, of Edinburgh. It is 1,000 feet long and 200 feet high in the deepest part of the valley, and was erected in four months. Three years, say the exhibitors, would have been required for the erection of a viaduct of brick or stone. Lieut.-Colonel J. P. Kennedy's "Elements Essential to Railway Success" is an exhibition of models and drawings of different bridges on the Bombay and Baroda Railway, also of iron. Sir John Macneill's bridge over the Boyne has its three main openings spanned by lattice girders at a height of 90 feet from the water,—the span of the centre opening being 264 feet. Each pair of girders, as in works of considerable dimensions, is cross-strutted over the line of railway, or so that the perspective, looking from one of the approaches of the line, somewhat resembles that of a tubular bridge. Messrs. Turner & Gibson, of Dublin, exhibit, besides iron roofs, balance rolling-bridges for railways over water and roads. Messrs. Hawkshaw & W. H. Barlow exhibit a model of the suspension-bridge proposed to be erected at Clifton, in which are to be introduced the chains from Hungerford Bridge. The work now being substituted for Hungerford Bridge will be no improvement to the view on the river, and may serve as a specimen of the little beauty that civil engineers are able to unite with new forms of construction. The Chepstow, and still more, the Saltash Bridge, by the late Mr. Brunel, of which models are shown, are chief examples of this conjunction, in these latter days, of great constructive skill with the very worst art. The centre span of the Chepstow Bridge is 300 feet; and each span of the Saltash Bridge is 455 feet. The system of trussing is analogous in the two cases; the roadway being supported somewhat as in a suspension-bridge, whilst a great collar-beam, between points of suspension of the chains, forms abutment aloft in lieu of prolongation landward, and anchorage to the ground. In the Saltash Bridge the tubes resisting the tension of the suspension-chains are not straight, but they rise in a curve equal in height to the curve downwards of the chains: thus, say the printed particulars (which, considering the interest and importance of all points in the application of the suspension principle, it is well to quote),"the weight of the girders and roadway rests half on the tube, half on the chains, the girders being carried by vertical struts placed at intervals of forty feet, diagonally braced so as to give rigidity, and by intermediate attachments to the suspension-chains." Not less important than the system of trussing is the economy of recently perfected methods of founding the piers of such bridges,—for example, the compressed air system of cylinder-sinking. Models both in the French and the Zollverein Divisions, show that like improvements, and on a vast scale, have been made by foreign engineers, and, it is fair to add also, like offences against good taste. The French, to whose works we may return, are nearly as bad as ourselves when they are not dealing with the arch-form in iron; whilst they seem to be equally able to dispense with scaffolding. Their court for public works of the empire, is now completed. There are 49 different illustrations of works of all kinds, too much crowded together, and some of the most interesting models difficult to be seen; but amongst the number we discover numerous models of iron bridges. In the Bavarian section of the Zollverein, though far away at the end of the Western Annex, is a model, to which we alluded in a former article, of one opening of the railway-bridge across the Rhine, at Mayence, exhibited by Messrs. Klett & Co., of Nuremburg. The Zollverein catalogue gives a view which shows that the whole bridge may compare with the Saltash for ugliness. The principle, called Pauli's System, seems to resemble that suggested in the course of the discussion at the Oxford meeting of the British Association, in the Mechanical section, after the reading of Mr. Barlow's paper on bridges on the suspension and combined girder principle capable of affording requisite strength for passage of railway trains. In this Rhine bridge we see, in each complicated arrangement of bars forming the truss, a descending curve following much the same line as the chain of a suspension-bridge; but riveted to form one piece in itself, or, rather, as part of the whole truss: the combination of rigidity with the catenary; or the substitution of that form of resistance to the tensile part of cross-strain in a girder or truss, for the chain with links, apparently realizing the suggestion of the speaker at Oxford. In the same Annex, and also belonging to the Zollverein Division, will be found a model illustrative of another important bridge of iron construction,—that across the Vistula at Dirschau. It is exhibited by the Berlin Minister of Commerce and Public Works. It is fully described in a volume, which, or a translation from it, should ere this have reached us, but may now come to hand too-late. There is a model, near this of the bridge, of a contrivance of very different sort, namely, one for raising vessels from one water-level to another without a succession of locks. The substitute is a carriage for the vessel, which is wound up an inclined-plane,—an old idea, but one to which objections have been raised, such as that of injury to the framework of the vessel in the transport. The carriage of course is drawn on a line of rails. It descends into water at the foot of the incline, where the vessel steams or sails on to it; the sides of the vessel may be wedged tight, the traction-rope is brought into play, and when the load reaches the top, the carriage again descends an incline into water to set free the vessel. This arrangement is in use at Elbing, on the Oberländische Canal. It is necessary to add that the vessels are flat-bottomed. The rise of the incline is between 60 and 70 Prussian feet. The arrangement has been in action about four years.

A large and interesting model in the British Division, Class 10, shows the course of the Tudela and Bilboa Railway across the chain of the Cantabrian mountains, in the Basque Provinces of Spain, as designed by Mr. C. Vignoles. With the aid of the sections which are hung on the walls, too far from the eye for proper examination, it is not easy to satisfy ourselves of the necessity for the circuit of perhaps ten miles, which the line takes to get back, after a required ascent, to near the original point; but favourable gradients have evidently been regarded as paramount in importance. The manner in which the line, onwards, is carried along the faces of steep cliffs, deserves attentive examination; and the work will give ample scope for ability in direction and skill in construction. Mr. H. Vignoles is the principal resident engineer, and Mr. T. Vignoles Croudace the assistant engineer; and the district engineers are Messrs. H. M. Mathews, and C. Bennison. Messrs. P. Skelton as artist, and Mr. S. Salter as modeller, deserve to be named. Mr. J. Chalmers exhibits a large drawing of his proposed Channel railway, connecting England and France. The project has already received some notice from us. One or other of the published designs for a passage of the Channel by a railway, is very likely we think to be attempted, before many more years have passed; and there will be hardly more serious difficulties in sinking tubes, in ventilating them, and in preserving them by submarine embankment, than once might have been, or were, seen to a tunnel under the Thames or through the Alps, or to the construction of bridges without scaffolding from the ground. Mr. César Daly, always working for union of every sort between the two countries, should be named as one of the pioneers of the idea of a sunk tube. His project will be found in his "*Revue Générale de l'Architecture.*" He incurred both expense and risk in studying the subject at sea, and has ever since regarded the idea as perfectly feasible.

Belonging to the class which includes bridges, should be named several models and photographs of suspension bridges, not all for the passage of railway-trains, which will be found in the British American divisions of the Exhibition, in the North-East Transept. The chief of the works of the class, of course, is a railway-bridge, that of the Niagara,—still not sufficiently appreciated, we think, by British engineers, and having, be it admitted, the defects which are sought to be counteracted by the chains anchoring the under-side of the roadway to the rock. Defects appear even in road-bridges, as disclosed in the photograph of the bridge over the falls of the St. John River, where we read the words, "Walk your horse." The bridges which have been erected on the suspension principle, in great number, in France, frequently bear a similar notification; and their weakness seems to be generally recognized. The defects, however, are not due to the principle. But the Pont Louis Philippe, at the western point of the Isle St. Louis, Paris, is now about being removed, a bridge of stone, and one of a single arch in iron, having been erected, each in a surprisingly short period of time, slightly to the east, over the two channels of the Seine, to supply the place of the suspension-bridge.

GOSSIP ABOUT THE INTERNATIONAL EXHIBITION.

The half-crown days have brought greater numbers to the vast aggregations of art and manufactures in Brompton. Still I have not been impeded in my rambles through the building by the denseness of the crowd—far from it; and it is to be hoped that the shilling days will do something towards further popularizing the great International Exhibition of 1862; which at present has not proved so attractive to the multitude as it ought to have done. The Saturdays would have paid much better as half-crown days; while on Thursdays the price of admission might advantageously have been five shillings. A cheap Saturday (or at all events not a dear one) would have brought many visitors from the country with the usual return-tickets available from Saturday to Monday; while the Saturday half-holiday at all the public offices, and many private establishments, would have yielded thousands of half-crown visitors, who are virtually shut out by the five-shilling charge.

I have watched the gradual progress towards completion of the, so-called, Majolica fountain, and admire the general design. But why are three-fourths of it in stone? The crystal fountain of 1851 was, in all its essential features, wherever conspicuously visible, entirely of glass. The great advantages of majolica over stone or bronze, for a London fountain, consist in the resistance of the glazed surface to the deposition of soot, to the action of oxidation, or to the development of those lower forms of vegetation which destroy the beauty of stonework in moist situations. These advantages are to a great extent neutralized if a large portion of the work is to be simply of stone, which would soon blacken by the deposition of London soot, or become otherwise discoloured by atmospheric action, or greened by vegetation. The work, to be a real novelty, possessing the advantages which glazed earthenware appears to offer, should have been *entirely* of majolica, and not merely a stone fountain with majolica decorations. We have already seen glazed earthenware, in the shape of encaustic tiles, used to form the decorative features of stone or stucco buildings; and the effect is, judging from existing examples, generally very unsatisfactory.

Among the most beautiful objects designed merely for the purpose of ornament, are some vases exhibited by Mr. Barbedienne. Their most novel feature consists in their enamelled ornaments of Byzantine character, such as are found in the richer reliquaries and other decorations of the Greek Church, from about the tenth to the thirteenth century. The patterns are arbitrary, both in form and colour, but of rich, intricate, and sometimes flowing design; the colours being generally blue, purple, red, and green, in some cases relieved sparingly with white, the outlines of the masses of colour being gold. These enamels have the character of inlays, being level with the general surface of the object, and polished like the main material of which it is formed. One remarkable specimen of this work is a vase of the beautiful African alabaster termed onyx marble. It is a long vase, having a broad band of inlay enamel-work, of the richest possible colours, running round it. The execution is faultless, and the design of the enamel-work very characteristic, being in all probability a facsimile of some ancient example, perhaps from the massive metal binding of some precious manuscript. Another specimen of this rich enamel-work is a metal vase, the whole surface of which is covered with a Byzantine arabesque, similar in character to the illuminations found in Greek manuscripts of the eleventh or twelfth century. Both these objects are curiously beautiful; and their execution is so perfect in its finish, that they cannot fail to gratify the

ceye. But then comes the reflection,—Is not this kind of art retrogressive? Is not this accurate and slavish reproduction of old works a trammel calculated to impede the development of original genius in design? I fear it is.

Another symptom of this worship of former phases of art is exhibited to us in the form of some capital steel-work, in accurate reproduction of suits of ancient plate-armour. In the French Court, and in a very conspicuous situation, is an array of Mediæval plate-armour, in the styles of the fourteenth and fifteenth century. The manufacture is one evidently established upon an extensive scale, so that an amateur may order a dozen suits, at per dozen, either in the Crecy, Agincourt, or Bosworth styles—*au choix*. We have, for some time, had manufactories of family portraits,—from the hard realisms of Holbein to the flowing gracefulnesses of Van Dyck, and even to the soft pastels of Latour,—revelling in their Pompadour head-dresses and fluttering draperies. This manufacture one may conceive to be thus carried on:—A few genuine old portraits are collected, as a fundamental stock; copies of which are then made in any number; being slightly varied, and varnished with dirty varnish, to suit the brisk demand of the *nouveaux riches* for old family portraits; which can thus be furnished at a very moderate rate. They have been done, I believe, as low as 20*l.* per dozen—very good things indeed—Wardour-street, or an agent in Holland, furnishing the old carved frames. Now, we have ancient family armour! of several epochs; you have only to choose: shall it be the suit your ancestor, in the direct line, wore at Agincourt? or, shall it be the iron casing worn by the founder of your wife's family, who (imprudent fellow) joined the cause of that wicked Richard, and lost most of the family estates which had been quite recently the spoil of some Lancastrian hero, crushed in those wars of the Roses? Take which you like; but you will get your family suits cheaper by the dozen—with a reasonable discount for cash payment. Mr. Granger, of the International Exhibition, and also of No. 11, Boulevard St. Martin, is the manufacturer of this modern-ancient armour; and its production, as clever workmanship, is irreproachable. It is archæologically correct; and very capital models have evidently been selected for imitation. There is nothing like the look of sham about it: it is real steel, and the effect altogether genuine. Allow me, "gentle reader," to recommend a couple of suits for the hall of your snug Gothic villa at Kingston-upon-Thames.

Much has been said about the pottery and porcelain, comparing the most striking products of the kilns of Minton and Copeland with those of the Imperial establishment at Sèvre. But there are a few matters connected with the subject which have not been dwelt on. For example, of the attempt to re-establish the manufacture of the exquisite Wedgwood ware. It is well known that Wedgwood's successful attempt to copy the celebrated Portland vase first led to the production of that class of work now known as Wedgwood ware; the chief characteristic of which consists in the introduction of graceful designs in low relief, upon a pale-blue or purple ground; the *bassi relievi* themselves being white. Of the first copies of the Portland vase only fifty were executed, for subscribers, at fifty guineas each. These have gradually been getting rarer and more rare, and more and more esteemed—perfect specimens selling readily for something like two hundred guineas; while other specimens of work of that class—in cups, vases, porcelain cameos, and other ornaments—have been sought with equal avidity by collectors. This demand has induced the re-establishment of that style of work; and, consequently, the Wedgwood stand displays some very good specimens, principally copies of the old Flaxman designs; but there are a few original works. Neither the reproductions, however, nor the new designs, are at all equal to the old work. They are made to suit the present low range of prices; and yet, though they are very beautiful, they do not appear to hit the public taste. For the connoisseurs of the fine old specimens they lack the requisite high finish so remarkable in the real works; and for the general public they are too "quiet." The taste has fairly set in for the high colours of majolica and Raffaelle ware, and the elaborate richness of the Palissy style; and so, as I heard from an experienced connoisseur who was buying the modern Wedgwood work pretty freely, the fabrication of the new ware is not likely to be continued, and will therefore, sooner or later, become scarce; and then the lucky purchasers of new Wedgwood will find themselves in possession of rarities scarcely secondary in interest, or perhaps even in value, to the old. I verily believe my friend, a very cautious gentleman, was purchasing by way of investment.

My attention was accidentally called the other day to an entirely new feature in porcelain, introduced by Mr. Chablin, of Paris. This new feature is an incrustation of solid gold or silver ornaments in the enamelled surface of the porcelain. Wreaths, medallions, or groups of flowers are cut out in thin silver, and, after being richly chased, are placed upon the china in the situations intended by the designer; and then, with the silver *appliqués* well secured in their proper places, the china is again packed in usual vessels of fire-clay, and re-submitted to the action of the kiln or furnace. At a precise degree of heat, when the metal and the enamelled surface are both approaching the state when fusion commences, the adjoining surfaces of the metal and enamel blend, and adhesion takes place. A moment more, and actual fusion would ensue. The work must, therefore, be instantaneously withdrawn, or utter destruction would follow. How to ascertain the precise moment is the difficulty. There or thereabouts will not do, as in ordinary cases of china-baking; and to meet this difficulty Mr. Chablin has invented a means of watching the gradual heating of his work while in the furnace. Whether this be effected by means of a long steel tube attached to a small aperture in the side of the covered vessel of fire-clay in which the work is being baked, and through which the operator can look, from outside the furnace, into the interior of the covered vessel itself,—or whether the observation be effected by some other means, is a secret in the keeping of Mr. Chablin, who is moreover protected by his *brevet d'invention*. Whatever may be the precise means employed, the result is a very beautiful novelty. It has a graceful Pompadourist air of *grande-damerie* about it which is very taking. The incrusted devices of silver or gold are re-chased after they come from the furnace, in order to restore the sharpness partially lost in the proximate fusion. The heightening of the effects of porcelain-painting by the introduction of gold has long been a principle sanctioned by the beautiful effects produced. If, then, the use of gold or silver, by means of such mere gilding as, in course of time, will wipe off, be admissible, *a plus forte raison*, the introduction of metallic effects in a more permanent form, and which, moreover, imparts an additional protection and solidity to the china, may be accepted as a legitimate innovation and novelty.

I cannot say as much for a new kind of jewelry, of which specimens are exhibited. I cannot consider as legitimate the mounting of gems in ivory. It is a novelty for the mere sake of novelty, and nothing more. Metal, of some kind, has long been accepted as the only proper setting and protection for gems, the reasons for which are obvious, but would require too much space for recapitulation here. Nevertheless, these aberrations of the jeweller's art will, doubtless, have their fashion. There is a picquant barbaresque something about them that has its fascination. A necklace of squirrel's teeth, with a diamond incrusted in each tooth, had, doubtless, a charming effect upon the bosom of a Peruvian beauty; and why not, therefore, try turquoise and emerald, mounted in elephant's tooth, as a bracelet for the wrist of an Anglo-Saxon lady of fashion?

The greatest failures in the imitative style of ornament are always those pretending to one or other of the oriental manners,—Moresque, Turkish, or Persian. No European, with the exception of Mr. Owen Jones, in his exquisite Alhambraic reminiscences, has at all seized the true spirit of oriental design. Even where slavish reproduction, and nothing more, has been aimed at, something or other—some little unconscious modification—always ruins the true orientalism of character.

Two or three examples could be mentioned open to these strictures in some otherwise beautiful works, especially some vases which may be seen among a mass of works in silver and silver-gilt, displayed in the English Bullion Court. This incorrect and unappreciative treatment of oriental styles reminds me of M. Paul de S. Victor's criticism of Moore's "Lalla Rookh," the oriental scenery of which is open to similar criticism. M. de S. Victor says,—"He makes sham orientalism after an artificial manner of his own, just as perfumers mix up their 'Sultana paste.'" And so it is with pretended imitations of oriental art,—certain conversions are, in fact, practised and accepted in lieu of it.

Some of the large shields executed by Messrs. Elkington, and by Messrs. Hunt, Hancock, and others, should be sought for by amateurs of fine silversmiths' work. Some of these, of mighty size, remind one of the Miltonic Satan's buckler. They are very orbs in size and grandeur; some of which are designed as prizes for the national rifle matches, which will call forth the genius of our artificers in silver and gold to furnish forth emblematic trophies of a high class of art of this form. And what more appropriate than the shield form as a trophy among volunteers, who are a defensive, and not an aggressive force? In some respects the English shields are superior to the great Rhenish shield presented by the cities of the Rhine to our Princess Royal of Prussia, and upon which the most skilful designers, chasers, and modellers of Berlin have been employed.

But people are not only thinking of shields, emblematic of defensive war; crowds assemble, from the opening to the closing of the Exhibition, round the beautifully-finished Armstrong gun. The French talk of an Egyptian steel gun, manufactured at Cairo, which carries a 60-lb. ball 6,200 mètres. It has just been presented to their Emperor by Said Pasha, and is going to be tried immediately at Vincennes. Our Trans-Atlantic brethren, of whom a good sprinkling are generally present, speak of the far more powerful American gun, named the *Lincoln*, and which is calculated to project a spherical ball of 437 pounds weight to an immense distance, with crashing effect. The first ball projected was intended for the *Merrimac*, had not that fearful engine committed suicide in despairing anticipation. One sees in the creation of fearful instruments of destruction of this kind the coming end of the horrors of war. When every *Merrimac* has found its *Lincoln*, and still more hideous engines have found their match; and when thousands must inevitably fall before a single discharge of such weapons as can now be readily imagined possible, though not yet realized; then the old war of force will necessarily give place to wars of reason, and a new era will be inaugurated.

Great regret is expressed that none of the new wines, the names of which are so ostentatiously announced by the growers, are to be tested otherwise than by the names in the catalogue, assisted by the aspect of the nicely-arranged bottles, with their pretty labels. Wines from the Tokay country, at prices varying from 18s. per dozen upwards, appear very tempting, especially just after one has read in the *Kölner Zeitung* that thirteen pipes and nine half-pipes of hock have just realized, at the annual sale at Castle Johannisberg, the sum of 96,000 francs.

French mistakes and misconceptions regarding everything English continue to entertain all visitors to the Exhibition who are on the look-out for amusing blunders. The English catalogue of Mr. Barbedienne's beautiful works of art affords some curious specimens. "*Fire-pieces*," for instance, are not, as one might expect, small Armstrong guns, or explosive machines of any kind. The term "fire-pieces" is, in fact, the French-English for grate furniture; and "*Tweezers-holder, in Greek style*," refers to a pair of tongs of Grecian design. The section of the catalogue devoted to chandeliers, &c., is headed "Luminary." The beautiful Byzantine enamels are described as "*Opaque enamels, put together and smoothed in the antique style*;" and another exhibitor describes a statue produced at one casting, as "made at one spout." This is almost on a par with a new French satire upon the Confederate Government in America, in which the interlocutors are *Sir Jobson*, *Sir Gibson*, and *Sir Boxman*.

The French feuilletonists are still hard at work, some of them dealing out rather hard lines to our Royal Commissioners, and others turning their visit to our International Exhibition into a mere *jeu d'ésprit*. Of this last class some are very amusing. A Mr. Plumet is made to arrive by a trip train from Paris, with his wife and daughter. His visit—for he has been prompt in his attendance—happens on a guinea day; and his innocent surprise at finding the three admissions amount to "*soixante dix huit francs!*" is very droll. Having paid this exorbitant sum, they determine to see all they can for it, and consult together upon the best method of scheming out their day's work. Madame and Mademoiselle Plumet are for first visiting the "textile fabrics," including, of course, the Lyons and Macclesfield silks, and the Chantilly and Honiton laces. But Mr. Plumet is determined not to encourage a taste for "*luxe*" in his wife and daughter, and prefers the machinery. Mademoiselle exclaims that it will not be *tres amusant*; "but," retorts Mr. Plumet, "it will be instructive;" and he of course prevails. The attendant at a new steam printing-press calls the notice of the foreign family to the fact that it prints with unprecedented rapidity upon paper, muslin, wood, or lead. Mr. Plumet caustically remarks that the English jour-

nals are already heavy enough, without printing them upon lead; and, delighted with this telling remark, he takes out, with a flourish, his best cambric handkerchief, which had been carefully put in his breast-pocket by Madame Plumet in honour of the great occasion, and delicately wiped his face after the exertion. "Allow me a moment, sir," says the attendant at the machine,—"allow me your handkerchief for a moment." Mr. Plumet resigns it unsuspiciously. It is whisked through the machine in an instant, and the attendant, with a deferential bow, returns it, spread out, to its owner. "But what is this—what is this in the middle?" exclaims Mr. Plumet. "It is the name and address of the inventor, in three well contrasted types—Egyptian capitals, old English, and small pica." "*Parbleu!*" exclaims M. Plumet, getting very red; "and what is this,—this horrid black patch?" "That, sir, is a large and correct model of the machine itself." "But, sir, let me tell you," exclaims M. Plumet, "that you make very free with other people's property,—*sur ma parole*, sare!" But here Madame Plumet interposes; she fears a serious dispute, and knows that her husband is no *boxeur*. "Tell me," she says, in a persuasive tone, to the attendant,—"assist me to explain to monsieur that this will easily wash out—that a little soap and water——" "Never, madame," replies the attendant, with serious and confident composure; "never, madame: our ink is indelible." But enough of Mr. Plumet.

A fact just heard convinces me that, as I have said above, the Exhibition will become popular with the shilling days; the first symptom being, that 48,000 members of Foresters' clubs belonging to the Midland counties have applied for admission on two consecutive days, if their application can be met on economical terms.

TWO OLD BRIDGES OF THE THAMES.

THERE are two old wooden bridges over the Thames, with a perfect forest of timber piles, picturesque and romantic enough to look upon; but if murderers ever deserved condemnation and destruction, these are two criminals of the first water, and we summon to the bar of justice the bridges of Battersea and Fulham. Too long have they encumbered the earth, or, rather, the water, with their baneful presence. We will try the last criminal first, as being by far the greater delinquent of the two. Before its doom is sealed it may not be amiss to place upon record a short account of its history. Anterior to its existence all communication between the opposite shores of Middlesex and Surrey was carried on by means of a ferry to and from the towns of Fulham and Putney. The building of the bridge has been erroneously attributed to Edward Gibson, Bishop of London; and it most likely he had much to do with it, for he was an active and intelligent man of business, as well as a most enlightened prelate, and would have been Archbishop of Canterbury but for some offence he gave to the minister, Sir Robert Walpole, in respect of the Quaker Bill; he edited two editions of Campden's "Britannia," one in 1695, another in 1722, besides producing other antiquarian and topographical works. But the credit or the discredit of erecting the bridge itself, belongs to a man equally celebrated, in his way, with the bishop. The plan of it was designed by the well-known surgeon and anatomist, Mr. Cheselden, of Chelsea Hospital, and it was considered at that period an additional proof of his great general ability. Phillips, a builder, much employed by George II., executed the work at a cost of 23,000*l*. It was begun in 1729, and finished in the same year; is about 789 feet long, and averages 24 feet wide. The centre and largest opening for the passage of vessels is not more than 30 feet wide; but it is dignified by the name of the "Walpole Lock," in compliment to Sir Robert Walpole, through whose influence the Act of Parliament for building it was obtained. There are only two smaller openings or passages for vessels, about 25 feet wide, and they are called locks, not arches; that would have been a misnomer, for the headings are necessarily flat. The other locks run to about 10 or 15 feet wide only, and are useless, except as so many traps to catch the unwary vessels that are by no means unfrequently entangled in their meshes. There were certain vested rights which had to be provided for on the erection of this structure. The Duchess of Marlborough received 361*l*. 10*s*. for her interest in the ferry, as lady of the manor of Wimbledon. The Bishop of London had 23*l*. for his interest on the Fulham side of the river; besides which he reserved to himself and his successors the privilege of passing toll-free, not only for himself but all succeeding bishops, their families, households, and all persons of whatsoever description employed in the palace or grounds, whether permanently or temporarily; and as the toll is a heavy one, more particularly for carriages and horses, it was a reservation very well worth the while of even a Bishop of London making.

The mode of passing the Cerberus who guards the gates of the bridge is by exclaiming "bishop," and this magic word is the "open sesame" for all who use it. The bishop himself is, of course, sufficiently well known to pass without question.

There is a sum of 62*l*. paid annually out of the bridge revenues to poor watermen, their widows, and children. In addition to this the proprietors had to pay for the purchase of the ferry the sum of 8,000*l*. The sovereign had to pay 100*l*. per annum in lieu of toll over the bridge for himself and household. We should imagine this toll does not now exist; but the troops passing over are charged as other persons would be—the bridge being now private property. The free watermen still ply their boats as a ferry for any passengers who may prefer that mode of passing over the river to that of the bridge; and with the produce from this source, and the letting out of boats for hire, they make a very comfortable livelihood.

One very important feature was overlooked in the construction of this bridge, and which had it been erected with so slight an impediment to navigation as three openings instead of twenty-six, the existing number, it would have been fatal to its utility. The current of the river at this part sets in very strongly towards the Fulham shore; consequently vessels would naturally be carried to this side; to meet this difficulty the bridge should be so constructed as to cut the water in an opposite direction, or up the stream; whereas the very reverse is the case with the present structure: its direction, instead of being up the river, is down it; and this is one great and fertile cause of so much mischief, for vessels are very frequently driven against the piles of the bridge on the Fulham side, when they believed themselves to be in the right direction to pass through the lock they were making for, and do not indeed find out their mistake till it be too late to rectify it; and such is the force of the current that they are fixed immovably to the bridge, till assistance is obtained from the shore to release them, an operation which is frequently attended with much damage to the vessels, sometimes to the bridge itself; and not by any means unfrequently with loss of life. Sometimes the vessels get so hopelessly entangled among the piles of the bridge, that they are unable to free themselves, consequently they cannot rise with the tide, which soon covers them, and the vessels, being at the time most probably heavily laden, sink to the bottom of the river. Again, during the high tides there is not height or headway enough for the steamers to pass under, consequently they are obliged to wait and beat about till the falling of the tide allows them to pass under the bridge. Accidents, indeed, are so numerous that the retention of this inconvenient structure is incompatible with the increased and increasing traffic on the river. The season on the river has now commenced, its opening being usually at Easter, and with it has begun the long chapter of accidents, which will continue till its conclusion. No less than *nine* boats were carried with the full force of the tide against the dangerous piers of this bridge on Easter Monday; one was at a single blow broken in two halves right through the middle, and its occupant precipitated into the water, and but for the accidental presence of a waterman, who was at hand, would have been drowned. Another boat was not so fortunate: one of its crew was by the surge precipitated into the river, and sank to rise no more, among the piers of this bridge. These sort of things are, more or less, an every-day occurrence. The inconvenience to navigation is a crying evil; the traffic on the river has more than trebled during the last twenty years; at the commencement of this period there were only two steamers to Richmond daily, now there are steamers every half hour, besides tugs, winter and summer, with their trains of barges behind them; but the greater difficulty exists in those which have to use sails or oars, and these are by far the greater number. But, alas! this old bridge is not the only evil that beasts the navigation of the river. Th's *Scylla* has a *Charybdis* for about a hundred yards from this bridge another has been constructed by the Chelsea Water-works Company, for the purpose of carrying over their pipes; so that the unlucky vessels which have to shoot these two bridges, a more difficult feat than the celebrated shot at old London Bridge, finds by the time he has got his stern free from the aqueduct, his head is entangled in the meshes of the old bridge. How this second unsightly evil could have been permitted to spring up in the face and eyes of so much difficulty already existing, is a matter of surprise to most; certain it is that it occupies the place where the bridge of traffic should be, excepting that the Fulham end of it should terminate about eighty or ninety feet higher up the river, bringing it in a direct line from the High-street of Putney to nearly opposite the Vicarage of Fulham.

To this it must at last come; and this can only be done, as it seems to us, by an union of the two bridges,—namely, of the water bridge and the bridge of traffic. Be that as it may, we only point out a well-known and intolerable evil, and one that imperatively calls upon those whom it may concern to find a speedy remedy for.

The very serious objections which exist as to the Fulham Bridge apply in the main to that of Battersea, but it must be owned, in a less degree, the obstructions to navigation, in the latter case, being to some extent mitigated by the bridge having more openings in it for the passage of vessels. We believe all the locks of the Battersea structure are available for the passage of craft; so that, taken as a whole, it might be tolerated some little time longer; while the existence of the Fulham Bridge is a nuisance that requires the most prompt attention. Its days should be numbered: there can be but one opinion on this subject.

WESTMINSTER BRIDGE.

AFTER repeated delays,—which, to some luckless individuals, would have brought heavy objurgations, but for the fortunate engineer of Westminster Bridge simply afford the opportunity for fresh volleys of praises and wonder-causing statistics,—the whole width of roadway has been opened to carriage traffic. Pedestrians still pass over the temporary wooden bridge, erected on the north side of the permanent work pending the completion of the footways. These are being paved by Mr. England with 11-inch tiles, made by Mr. Blashfield, laid diamond-wise, within a granite curb. As to the construction,—fully described by us, and illustrated on previous occasions,—we helped to carry the engineer through his difficulty when he had one; but in respect of the appearance of the bridge we cannot fall in with the loud chorus of admiration. It would have been all the better for a little extra height over the crown of the arches, amongst other things; and then the parapet, which is at this time dangerously low, and calls for alteration, might have been formed higher. The width of the bridge is its great merit.

THE WESTMINSTER CHAPTER HOUSE.

YEARS ago we pointed to the disgraceful condition of the Chapter House, Westminster Abbey; and again and again, since then, have described its beauties originally, and urged the desirability of its restoration. A movement is being made with this end in view; but how it may result we are not prepared to say. An influential meeting was held within the building on Saturday last. Lord Ashburton presided, and introduced the subject. Mr. Scott pointed out the features of the building, and the ease with which it might be restored. He said he had been enabled, by the kind assistance of the Government officials who had formerly had charge of the building, and especially of his friend, Mr. Burt, of the Record Office, whom he was happy to see present, to obtain all the information necessary for him to lay before the meeting. He found that the building had been finished in the year 1253, for there were the bills of that date still preserved for purchasing the canvas for filling in the windows for stained glass. At that period this was the first finest specimen of octagonal chapter-houses. That of Lincoln was as large, but was not so good; and that of Salisbury had been built twenty years later. Its size was the same as those of Lincoln and Salisbury, and its proportions had been founded on the strictest mathematical principles. The windows were of stained glass, and the roof was vaulted, with a central column, still remaining, of Purbeck marble. He had spent several months in tracing out the whole of the building, with the kind assistance of those by whom it had until recently been occupied—and here again he would acknowledge the aid he had received from Mr. Burt—and he had been enabled from that investigation to arrive at the conclusion that he thought it possible to restore every portion of the design with the most perfect certainty. The only window which had been really thoroughly de-

stroyed was that over the doorway, which, having been thus shortened, must of necessity have been of a different design. There was no difficulty at all about the others. The decorations with which the walls had been covered were in the most beautiful style of art. The paintings were not quite coeval with the building, being painted in the beginning of the fourteenth century—half a century later than the building itself. There was nothing in this country equal to those that remained, and they were nearly, if not fully, as fine as the Italian paintings of the same period. The first represented Our Lord, as if after the crucifixion, surrounded by angels. The side compartments were entirely composed of groups of angels, there being one large figure in each group, on the feathers of whose wings were inscribed the principal virtues. Those happily remained perfect. Then the floor presented the very finest specimen of encaustic tiles. Happily, the exact sections of the ribs of the vaults were discoverable, so that the whole of the structure and the size of the windows were a matter of certainty, and, though in a mutilated form, there were all the paintings and decorations.

The following resolutions were passed,—Lord Stratford de Redcliffe, Lord Taunton, the Bishop of Oxford, and others taking part in the discussion of them:—

"That this meeting views with regret the ruinous condition of a building so rich in historical interest and in architectural beauty as the Chapter-house at Westminster."

"That this meeting is impressed with the desirableness of bringing the question of the restoration of the Chapter-house under the consideration of her Majesty's Government."

The second resolution at first contained, in addition, "as well as of Parliament and the public generally;" but this was, unwisely, removed.

A committee consisting of the following gentlemen was then appointed "to wait upon the Chancellor of the Exchequer, and otherwise to promote the object of the meeting:"—Duke of Buccleuch, Lord Ashburton, Lord Stratford de Redcliffe, Bishop of Oxford, Lord Taunton, Lord Stanhope, Mr. Monckton Milnes, M.P.; Mr. Akroyd, Mr. Dasent; Mr. Tite, M.P.; Mr. Reeve, Mr. Beresford Hope; Mr. Cochrane, M.P.; Mr. Sala, and the Dean of Westminster.

The Dean of Westminster read the following statement, which was agreed to:—

To the Lords Commissioners of her Majesty's Treasury.

The memorial of the undersigned showeth,—

That the undersigned, residents in and visitors to London, view with great regret the dilapidated and ruinous condition of the Chapter-house of Westminster Abbey, a building which has been for many centuries in the occupation of the Government, and which is alike valuable for its architectural beauty and for the historical interest attaching to it as the habitual place of meeting of the House of Commons during the Plantagenet and early Tudor dynasties.

That your memorialists would further represent to your lordships that the grievous injuries which this building has suffered have been mainly inflicted upon it in the adaptation of it to the custody of public records; and that the records which it formerly contained have now been removed to the new Record-office; while the Chapter house itself has been declared by competent authority to be unfit for the custody of papers, from the risk of fire which it presents.

Your memorialists therefore venture respectfully to suggest that advantage should be taken of the present occasion to forbid the future use of the Chapter-house for objects for which it is peculiarly unfit, and to prepare the way for its future restoration. The mere removal of the incongruous fittings with which the building has been crowded would bring to light many of its ancient and ornamental features.

Your memorialists would further venture to suggest that the restoration of an historical monument of so much beauty and importance is an object for which your lordships might well, in the exercise of your discretion, invite the liberality of Parliament."

Copies of the memorial, which have been already numerously signed, lie for signature at Messrs. Colnaghi's, 13, Pall-mall East; Messrs. Vacher's, 29, Parliament-street; and Messrs. Parker's, 377, Strand.

THE SOCIAL SCIENCE CONGRESS: AND THE CONGRES DE BIENFAISANCE.

The Congress will be opened next week, under the presidency of Lord Brougham. The following is the plan for the meetings:—

Thursday, June 5th — Opening meeting in Exeter Hall, at 8 30 p.m. The President will deliver his address; and other distinguished persons will take part in the proceedings.

June 6th—The Departments will meet in Guildhall, at 11 a.m., for the reading of papers and discussion. Evening discussions at Burlington House, at 8 30 p.m.

June 7th—The Departments will meet in Guildhall, at 11 a.m. *Soirée* at the Palace at Westminster, at 9 p.m.

June 9th—The Departments will meet in Guildhall, at 11 a.m. The *Congrès* will meet in Burlington House, at 11 a.m. The President (Lord Shaftesbury) will deliver his address. Evening discussions at Burlington House, at 8.30 p.m. *Soirée* at the Royal College of Physicians.

June 10th—The Departments will meet in Guildhall, at 11 a.m. Annual meeting of the Ladies' Sanitary Association, in the Public Health Department, at 2 p.m.; the Lord Mayor in the chair. The *Congrès* will meet in Burlington House, at 11 a.m. Evening discussions in Burlington House, at 8.30 p.m. *Soirée* at the Hanover-square Rooms, by the Reformatory and Refuge Union.

June 11th—The Departments will meet in Guildhall, at 11 a.m. The *Congrès* will meet in Burlington House, at 11 a.m. Evening discussions at Burlington House at 8.30 p.m.

June 12th—The Departments will meet in Guildhall at 11 a.m. The *Congrès* will meet in Burlington House, at 11 a.m. Evening discussions at Burlington House, at 8.30 p.m.

June 13th—The Departments will meet in Guildhall, at 11 a.m. The *Congrès* will meet in Burlington House, at 11 a.m. Concluding meeting of the Association in Burlington House, at 8 30 p. m.

June 14th—Dinner for the Association and the *Congrès* at the Crystal Palace, Sydenham.

PRITCHARD MEMORIAL, SHROPSHIRE.

The fund collected at Broseley, Bridgnorth, and the neighbouring parts of Shropshire, amounting to nearly 3,000*l.*, is to be devoted to two distinct objects in memory of the late Mr. Pritchard, high sheriff of the county.

Firstly. In the erection of a memorial church at Jackfield, near Broseley, for which a design by Mr. Blomfield, of London, architect, has been selcted in competition.

Secondly. Designs have also been invited for a memorial building to be erected in the centre of Broseley, over a well and reservoir that have lately been constructed for the purpose of supplying the town with water. The first premium, of 20*l.*, has been awarded to Mr. R. Griffiths, of Bridgnorth, architect. A second premium of 5*l.* was also unanimously awarded to Mr. Wm. Thursfield, of Broseley, accompanied by a vote of thanks from the memorial committee "for the time and attention he has given to the preparation of the admirable set of working drawings for the memorial building."

ON THE IGNITING POINT OF COAL GAS.

In consequence of the recent explosion in Holborn, Dr. Frankland has experimented on this subject, and the results arrived at are thus summed up:—1. Coal gas cannot, even under the most favourable circumstances, be inflamed at a temperature below that necessary to render iron very perceptibly red-hot by daylight in a well-lighted room. But this temperature is considerably below a red heat visible in the open air on a dull day. 2. This high igniting point of coal-gas, under all circumstances, is due in a great measure to the presence of olefiant gas and luminiferous hydrocarbons. 3. The igniting point of explosive mixtures of the gas of coal-mines is far higher than that of similar mixtures of coal-gas; consequently, degrees of heat, which are perfectly safe in coal-mines, may ignite coal-gas; hence, also, the safety-lamp is much less safe in coal-gas than in fire-damp. 4. Explosive mixtures of coal-gas and air may be inflamed by sparks struck from metal or stone. Thus an explosion may arise from the blow of the tool of a workman against iron or stone, from the tramp of a horse upon pavement, &c. 5. Explosive mixtures of coal-gas may also be ignited by a body of a comparatively low temperature, through the medium of a second body, whose igniting point is lower than that of coal-gas. Thus sulphur, or substances containing sulphur, may be inflamed far below visible redness; and the contact of iron below a red heat with very inflammable substances, such as cotton waste, may give rise to flame, which will then, of course, ignite the gaseous mixture.

THE COMPETITION DESIGNS FOR PROPOSED LAW COURTS, BRUSSELS.

In the early part of the year 1860 the Belgian Government, wishing to reunite all the courts of justice in a central position in Brussels, advertised a competition, open to all the world, in order to obtain the designs best adapted to the purpose. There was no limit to the amount to be spent upon the building; and the site was almost equally undetermined; competitors being asked to report or give their opinions on several sites chosen by eminent Belgian engineers. That which seemed to have found most favour with the authorities was the idea of M. Groeters, and was a large area near the Boulevard de Waterloo, approached by a wide street forming a prolongation of the Rue Royale, and being connected with the Hôtel de Ville by means of a long and handsome new street running off in an oblique direction.

The requirements of the Belgian Government were very numerous and very explicit, and consisted of no less than nineteen courts, with their offices and various dependences; and the premiums offered for the three best designs were respectively 480*l.*, 240*l.*, and 120*l.* The designs were to be merely sketches (*avant projets*), and a certain latitude was allowed in order that architects might be unfettered in their ideas. Such designs as did not fulfil the conditions of the programme were to be rejected from the competition; and the premiated designs were to become the property of the Government, who reserved to themselves absolute right over them.

After the Belgian Government had fixed the time for the reception of designs as August 1st, 1860, they extended the time to October 1st, 1860, at the last moment, and actually after designs had left this country for the competition, and without any official notice to competitors out of Belgium of the circumstance.

In answer to their advertisement the Government received a number of designs, twenty-eight of which were admitted to the competition; and a jury was appointed to consider and report on the designs, and on the award of the premiums. The jury reported on the 21st of May, 1861, to the Minister of Justice, "That, of the designs submitted in competition for the proposed Palais de Justice, they considered the best to be as follows:—

1. The design of Mr. Louis Backelmans, of Antwerp.

2. That of Mr. P. Goarerts, of Brussels.

3. That of Messrs. W. J. Green and Louis de Ville, of London.

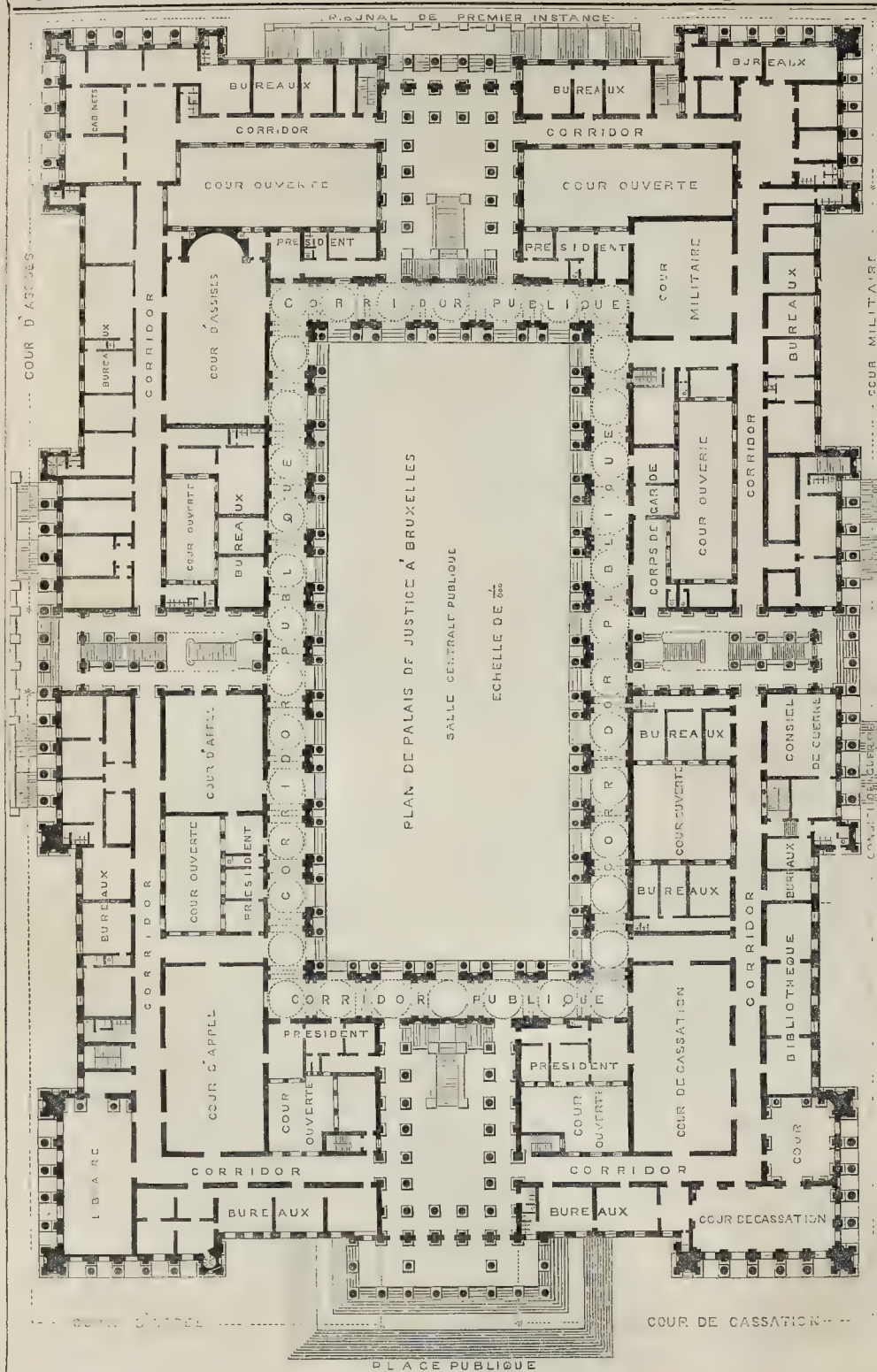
That it is from the fine art point of view that the competition has left most to be desired; that the authors of design No. 21 (Messrs. Green & De Ville) have understood better, perhaps, than any of their competitors the meaning of '*la grande architecture;*' and that 'the monumental character of the façades, and the disposition of the central hall and its four entrances are remarkable.'

That of the twenty-eight designs admitted to the competition there is not one which sufficiently fulfils the conditions (*remplir d'une manière assez complet les conditions*) of the programme; and that, therefore, the jury recommend that the premiums be not awarded.

But that, considering the difficulties of the programme, the labour and study that it has necessitated, the talent of which many of the competitors have given proof, the jury have determined to award pecuniary indemnities of the several amounts of 100*l.* to the author of the first design, and 60*l.* each to the authors of the second and third designs, in the order of merit."

This report was adopted by the Belgian Government; and, although the matter has since been taken up by the Royal Institute of British Architects, no revocation of this unjust decision has yet been come to. That it is unjust, notwithstanding the special pleading of the Belgian Government, is evident. Article 5 of the Conditions says: "Prizes shall be awarded to the three designs which are considered the best *amongst* those which comply with the conditions of the programme." To say that none of the designs complied with the published conditions is an easy assertion that may be made, by an imaginary standard being set up by the judges, in every competition proposed, but will not be received as satisfactory by the public. We fully agree with the architects that "such an attempt at a paltry saving by the reduction of the premiums is a reflection on the honour and dignity of the Belgian Crown, as well as a breach of faith between the government of one nation and the citizens of another."

In a previous number (p. 333) we gave an external view of the Design by Messrs. Green & De Ville: and we now add the plan of the principal floor.



PREMIATED DESIGN FOR PROPOSED LAW COURTS, BRUSSELS.—*Ground Plan.*



ST. PETER'S, MANCROFT, NORWICH.——*As restored: Mr. R. M. Phipson, Architect.*

ST. PETER'S MANCROFT, NORWICH.

NEXT to the cathedral, St. Peter's Mancroft* is the largest and finest ecclesiastical building in Norwich; none of the other thirty-five churches which the city contains approaching it in its lofty and elegant proportions. Like many of the Norfolk churches, it is of the Perpendicular style. The old church was pulled down about the year 1430, and the present edifice was finished and consecrated in 1455.

The plan of the building is cruciform, the transepts being exceedingly small; in fact, little more than chapels; but in height they range with the aisles. There is no chancel arch; the separation between the chancel and the nave being by steps only. The eastern bay of the chancel is raised 4 feet above the level of the nave floor, and is reached by a flight of seven steps, which give a noble appearance to the altar table †. Behind the latter is the original vestry, which is entered by two doors, one on each side the table. The roof of this chamber is a very excellent piece of Perpendicular work; and two circular staircases lead from it up corner turrets at the east end of the chancel. Below the vestry is another apartment of the same size, with a groined roof carrying the floor of the former. At the west end of the church is a very rich Perpendicular flint tower covered with panelling. The stone with which the latter is constructed is much decayed; and it is to be hoped that an effort will be made to repair and reinstate it before it is so far gone that its maintenance and accurate reproduction would be impossible. As this tower stands upon high ground, and nearly in the centre of the city, it is one of the most conspicuous features in the place; and it behoves the good citizens to take more than ordinary care of this, their metropolitan church.

The west door is deeply recessed with rich sculpture in large hollow mouldings. The battlement and pinnacles are gone; or, perhaps, they were never finished. The bottom of the tower forms a porch, with large open arches on the north and south sides. Its roof is groined, and there are some very curious and effectively-sculptured bosses at the intersections of the ribs. A view of the south side of this tower will be found in the second volume of Wickes's "Towers and Spires."

The clerestory has seventeen windows on each side, with good tracery, much of which has been lately restored. The roof of the nave and chancel is an exceedingly good specimen of fifteenth-century work. The wood groining which springs from shafts between the windows is somewhat rare in design, and produces a very elegant and light effect. Seven lofty arches divide the body of the church from the north and south aisles. The total inside length, exclusive of the tower, is 146 feet, and the extreme width 63 feet 7 inches, the nave being 23 feet 11 inches, and the north and south aisles 17 feet 3 inches and 17 feet 6 inches respectively. The height of the nave from the floor to the ridge is 56 feet. The tower is 32 feet square and 99 feet high.

With a shell so beautiful, although somewhat decayed, the whole church was filled until 1850 with high and cumbrous pewing, a very ugly gallery, a "three-decker" pulpit, reading-desk, &c., and a quantity of other woodwork of the Georgian period; to make room for which, the fine piers and other stonework had been much cut about and mutilated. In the year mentioned, the parishioners determined to sweep away the unsightly mass, and collected about 1,000*l.* for the purpose. Designs were advertised for, and those of Mr. R. M. Phipson were selected; but the cost of carrying out the restoration as he proposed amounted to between three and four times the subscribed sum; and much debating ensued as to whether the work should be done in a "plain way" with the money collected; or whether, as strongly urged by the architect, it should be executed in a manner worthy of the church, and piecemeal as funds permitted. The latter course was ultimately adopted; and from that time to this the restoration has been gradually going on; the altar-railing and the encaustic tiling within it having been executed some two or three months since. The whole of the benching is of oak, with elaborately-carved panelled ends, all varied in design. The bench-ends in the chancel have poppy-heads, but in the nave they are square. Some contain emblems, and others arms of persons connected with the parish. The prayer-desk and the upper part of the pulpit are of carved oak; the base of the latter being panelled stonework.

Open screens, not yet fixed, will divide the two eastern bays of the chancel from the chancel aisles; and the whole is paved with Minton's tiles, with the exception of the part within the altar-railing, which is laid with Maw's.

The principal portion of the work has been executed by Mr. Bingham, of Ipswich, under the architect's immediate superintendence. The outlay, up to the present time, has been between 2,000*l.* and 3,000*l.* Much, however, still remains to be done. The reredos shown in the view is at present only on paper. A west gallery, which contains the organ, still blocks up a very fine west arch, opening into the tower, and hides from view a handsome five-light window; and many other minor works require to be done to render the restoration complete. These things, however, will doubtless be gradually effected, and St. Peter's Mancroft will then be one of the handsomest churches of its date that can be found in the eastern counties.

It should be mentioned that there is, in the western bay of the south aisle, a curious Perpendicular baptistery. It consists of a canopy supported by pillars on a raised platform, with room to walk round the font, and has on the upper part an inscription in black letter. It is mutilated, and the architect's intention is that it should be carefully restored. According to Parker, the one at Trunch (Norfolk), and an earlier one at Luton, in Bedfordshire, are the only other examples known in England. We would suggest careful maintenance and repair, and as little new work as possible. The tower contains a very fine peal of ten bells, the weight of the tenor being forty-two hundredweight.

* *Magna Crofta Castelli*, the great croft, or home-field of Norwich Castle, now the Market-place, which St. Peter's adjoins.

† St. Gregory's Norwich; St. Mary's, Worstead; and several other Norfolk churches, have their altar platforms similarly raised.

ON THE ARCHITECTURE OF INDIA.*

I MUST premise that the little attention which I have given to the architecture of India has been given as an artist, and not as an architect, and that the drawings which I have done are the rough materials for pictures, and not mathematically correct drawings done to a scale. I fear there is little that will be found altogether new among them, unless it may be among some of the details which I generally made out to enable me at any future period to enlarge the scale of my pictures; and often I was induced, from the great beauty of some of these ornamental details, to add them to my sketch-book with no other intention than that of preserving some rough remembrance of them. If I have little that is new; still, if I can convey to you but a faint notion of the great beauty of Indian architecture, and lead you, though but slightly, to recognize its high character, I will have done something to satisfy myself; for it may assist in leading others to add to our stock of knowledge concerning it. At present we have not got enough of material to explain everything connected with Indian architecture: more details are wanted by which to compare and trace the styles of the different periods; for the details are like the fossils in the rock,—it is by them that the date of a building is determined and the origin of its style traced. I am sorry that my own time, while in India, did not permit me to do more than I did. It was not for want of will; but the field is so wide, and distances are so great, that often my visits to celebrated spots barely gave me time to make but the roughest sketch, when I could have lingered for days and taken a pleasure in copying the ornaments which have been so lavishly bestowed on nearly every building in India. The great distance between this and India is being every day lessened, and more of our travellers are visiting India now than ever was before: this cannot fail to make the architecture of India better known; and I think that it has only to be known to rank with that of any other style. For myself, after nearly three years' travelling in India, and visiting almost all its celebrated buildings, my opinion—from its variety and its richness, and the great beauty of its ornament—is, that the architecture of India is unsurpassed.

Of all the buildings of India, by far the most interesting is that of the ancient Buddhist Tope, near Bilsah. I think all are agreed that this is the oldest building in India. It is a large round mass of building, now overgrown with grass and bushes. It is surrounded by a curious stone railing, with four gates through it. Colonel Cunninghame has opened this tope, and written a most interesting account of it and the other topes in the neighbourhood, and thrown much light on the period in which it was erected, when the Buddhist religion was the dominant religion of India. Through his book we can see this solitary ruin repeopled with the monks of that ancient faith, in which, as some of the inscriptions describe it, "the land glittered with their yellow robes." According to Cunninghame, this tope is "106 feet in diameter; 42 feet high, springing from a plinth 14 feet high, with a projection 5½ feet from the base of the building, and a slope of 2½ feet. The apex of the dome was flattened into a terrace 34 feet in diameter. The base of the tope is surrounded by a massive colonnade 144½ feet from west to east in its diameter, and 151½ feet from north to south. This inclosure is therefore elliptical. By this arrangement a free passage is obtained round the southern staircase, and a greater breadth at foot of the ascent." He also "concludes that the tope itself was in existence in 443 B.C.; that the massive stone railing was erected in the reign of Asoka, between 260 and 250 B.C.; and that the gateways were erected in the reign of Sri Satakarna, between the years 37 and 19 B.C." The tope itself presents no architectural point worthy of remark; but the railing or colonnade, and the four gates, are certainly the most remarkable things in India. In the Greek, as in the Doric, for instance, we perceive the wooden features of its origin; but the construction is produced in that which is natural to stone: but in this case we have the wooden construction carried out in stone, in which the huge blocks are mortised into each other as if they were logs. The railing is about 10 feet high, and the posts or pillars are mortised into the rails of the tope, which are very heavy blocks of stone, each bridging over two of the pillars; and the cross pieces, which are elliptical in section, are also inserted at both ends into the pillars. In all the sculptures at Bilsah where buildings are represented, this peculiar railing is the most characteristic feature. From this, Colonel Cunninghame names it the "Buddhist railing," and nothing could be more fit by which to express it. On the gates there are numerous sculptures of topes, and they are all surrounded by this railing. Some have got a belt of it half way up the side, and the crown of the erection is always surmounted with this same railing. All the sculptures on the gates are surrounded and fenced with a border of the same, in which it assumes the position of an ornament, in which character it appears in all the oldest rock-cut caves of Buddhist origin; in fact, this ornament is enough in itself to establish the antiquity of a cave in India. In this I have not only described but indicated the origin of what I believe is about the earliest of all ornaments of which we have any remains in that country.

The gateways may be described as two pillars supporting a lintel of stone: mortised in the same manner as the railing on the top of the lintel are blocks supporting in a similar manner another lintel; and above that another set of blocks, and supporting a third lintel; the whole surmounted by emblems of the religion of Buddha. The capitals of these pillars are formed of elephants; and as specimens of art these capitals will stand beside any other of antiquity, either for originality of invention or artistic execution. To support the side projections of the lintels, there are curious brackets formed by female figures and elephants. In some cases where they have given way, you will see in the sketch the mortised holes by which they were held to the building. Each of these gates is covered all over with sculpture of every kind: there are topes with figures worshipping: from these we can make out clearly the true character of these topes: you will see them in my sketch in all cases with an umbrella, and in most cases three umbrellas, with garlands of flowers hanging to them. There are the emblems of Buddha, such as the wheel. There are battles and sieges, where men from houses and battlements are using bows and arrows against their foes, who are similarly armed below. There are great ceremonies represented, and domestic scenes of different kinds; and some of them so very truthful, that you will find the very same scenes going on in any village of India at the present day; showing how stationary the civilization of the East has been. They also show how little change has taken place in costume. I have sketched a figure who has the piece of cloth wrapped round his loins, which you may see all over India at the present day. I have also sketched a boat with a man being rowed along by other two men: in this the two pieces of wood forming the boat are clamped together exactly as you may see them on the Ganges at this moment; showing

* Read by Mr. William Simpson, at the Royal Institute of British Architects, as elsewhere mentioned.

that their "marine architecture" has not changed much for 2,000 years. In these spirit-rapping days, it may be interesting to know what these followers of Buddha thought of the beings of the other world. Into this also we have some insight; for I found what I take to be their idea of an angel: it is a human head and body, with the feet, tail, and wings of a peacock, which is a holy bird in India.* This figure is worshipping at a tope, from which we might infer that they believed there would be topes in the next world as well as this. I believe that these gates would throw more light upon the people of India than all the other buildings of the country put together. Two of these gates have tumbled down, and will soon decay among the rank vegetation of the place. I believe that money spent in bringing these gates to this country would be devoted to an object that would amply repay itself. As the place is a jungle, only the haunt of wild beasts, I cannot see what harm there would be in bringing home the whole four gates, if this could be accomplished. If it could be done, I venture to say that they would rank in value and interest with any ancient sculptures in our collections. The whole of the hill at this place is covered with ruins and fragments of sculpture. I have shown one sketch, an old lichen-covered temple, with a figure of Buddha in it. In this you will see how Buddha is almost always represented. He has a circular piece of ornament round his head, the exact counterpart of the nimbus represented round the saints by the early Christian painters. That sketch also gives a little of the older periods of ornamentation. There are two fragments on the ground, where the affected mannerism in the form of the figures indicates a more modern style. The sculptures on the four gates are perfectly free from this mannerism, which is one of the marked characters of Hindoo art.

There is another tope at Sarnath, near Benares, which dates about the sixth or seventh century. This tope is much higher in proportion to its breadth than the Bilsah Tope. All round its base is a mass of elaborate ornament. In every compartment the design is different, so that it might be looked upon as a kind of pattern-book of the ornament of the period. I believe that good photographs of the ornamental details of this tope would be invaluable; because, if I mistake not, there are no intermediate remains in this part of India between it and the Bilsah tope; on the latter of which, with the exception of the "Buddhist railing" and a small running scroll, there is no ornament: it is all figures and emblems. At Sarnath, on the contrary, there are no figures, but a high development of ornament; and it might be taken as exhibiting the result of 600 years' progress; and, besides indicating what had been accomplished, it would no doubt assist us in giving links by which to trace out the more modern styles.

There is only one other tope in the Punjab which I wish to refer to, but I will speak of it with the architecture of Cashmere.

The next point I will refer to is that of the rock-cut temples of Western India. I did not visit the whole of these; but I saw the most important, such as Elephanta, Karli, Ajunta, and Ellora. I will not attempt to give you a detailed account of these wonderful places: that has been sufficiently done already. The Buddhist caves, which are the oldest, are of two kinds;—the Vihara caves, and the Chaitya caves. The Vihara caves are generally square apartments, with cells all round, in which the monks lived, with a recess at the back, in which a figure of Buddha is placed. From what I saw of the ceremonies of the Buddhist religion in Ladak, where it still exists, I can easily fancy these caves filled with the monks, and the whole place "glittering with their yellow robes." They were ascetics, and begged their food, which they never partook of until after mid-day; and their whole time was employed in prayers and ceremonies prescribed by their creed. It was in this asceticism that these caves had their origin. The Buddhist ascetic lived in the woods and among the rocks like hermits. Some one, no doubt, began to add to the size of his quarters in some hole in the rock; and some spot would, no doubt, acquire a character for superior sanctity; and, becoming celebrated, regular excavations were commenced; and thus we have places like small towns all dug out of the solid rock, and in some instances decorated with almost an excess of figures and ornament. Here, again, we have the wooden features of the style carried out to almost an absurd pitch of imitation. In the Karli cave, beams of real wood are constructed all over the roof, so as to realize the perfect resemblance of the wood temples to which they had been accustomed. And, strange to say, that although this is the oldest of all these caves, being about 1,800 years old, these beams still exist, and are about as perfect as on the day they were first put up. In all the old caves we have the "Buddhist railing" as the principal ornament. It forms a kind of frieze over the outside of the great cave at Karli, besides being introduced in belts once or twice farther down. It goes all round the dagopa in the interior, and is on the tee on the top of the dagopa. I have also shown a slight sketch of the oldest Vihara cave at Ajunta, where you will see that this Buddhist railing is the great feature of the place. But there is another feature of these caves which I must describe, as it will explain a great deal of the architecture of that early period. This is seen in the Chaitya caves, which are the real temples or cathedrals of the Buddhists. You will see in the sketches that there is over the door a large circular opening, which is the only window to the place. This gives us what is supposed to be quite foreign to Indian architecture, namely, the arch; yet it is not an arch in principle: it is only a circular-topped opening; and, in the original manner of the period, had been formed of wood. In the sketches you will see the wooden beams all round the circle represented in the rock. The peculiar form given to the outside of this opening or window gives the origin to a vast mass of the decoration and architectural features of not only the rock-cut caves, but of all the southern architecture of India. It is like the pediment of Classic architecture: it covers all doors and windows, and it is introduced where there are neither doors nor windows. You will find it all over the front of the Karli cave; and it is repeated over the Chaitya cave at Ajunta: there you will see it introduced as an ornamentation along the mouldings: in fact, you will find this horseshoe-like ornament among the old temples all over India; and there is one style (but I have no illustrations of it) which is, if I remember it right, a mass of deeply-cut figures, in which this horseshoe figure is the main feature, repeated all over.

In the sketch of the Chaitya cave at Ajunta you will see that it is most elaborately sculptured, and that there are figures of Buddha of various sizes, both sitting and standing. What is called the *dagopa* in these cases is identical with the round-built Tope of Bilsah: here it is surmounted by the usual three umbrellas, and has got a figure of Buddha himself on the outside. The ribs of the roof of this cave at Ajunta are cut out of the stone in exact imitation of the wooden ones. As this is one of the later caves, you will see that the "Buddhist railing" ornament is superseded by a much more developed style of ornament. The pillars are, I think, very beautiful in design: some were plain, some fluted, and in some the flutes went in a spiral form. I have drawn one of these by itself. You will see it has a bold, massive, bracket-like capital, in which a figure of Buddha sits; and the bracket part of it is filled with figures, in fine bold action. If we had casts here of the capitals of this cave, with that of the elephant capitals of Karli and the Bilsah Tope, I think they would be enough in themselves, from their originality and graphic execution, to place Buddhist art in the very highest rank. My own opinion is that it has more of the spirit of Gothic art about it than any other style I know of. I think I may freely assert that it is less conventional than any other Eastern style. I have drawn on the same sheet as the pillar of this Ajunta cave a small bit of the ornament a little larger, as I think it gives the origin of a large amount of later decoration: it is a small festoon, with a series of square forms all along it which are so like Indian jewelry that I think any one who is acquainted with the way stones are set in that country will at once recognize the resemblance. On the same pillar there are other ornaments which I think have had the same origin; and you can easily imagine, at the period when these temples were formed of wood, how the devotees might in their enthusiasm pin on the pillars, as offerings to God, the ornaments of their persons; and how these ornaments have thus formed the style of the more permanent material in which we find them. I will show you, as I go on, other illustrations of this origin: at present in Ladak jewels are introduced into the architecture of their altars at the present day; and it is the same with the Hindoos: their temples and idols are in some instances covered with jewels. There is one god so rich in jewelry, that jewelers are not admitted into his presence: this custom is owing to his having been "garrotted" by one of that fraternity on a former occasion. All these Buddhist caves were plastered and painted over with a vast variety of subjects, and that too in a marvellously good style of art for that period. I question if better specimens of art could be found in any other part of the world at that time: certainly India has never produced anything like them since. Indian painting is at all times innocent of anything like perspective, or light and shade; but these old Buddhists have left us illustrations that they had some notion of both. The foreshortening of the figure is here common, of which a native artist of the present day has no conception. As the colours in which these caves are painted are in the most cases still bright, it would be important to know what they were composed of. I often saw patches of a bright blue, still in a good state of preservation, and am inclined to think that ultramarine must have been used. I was led to think so from having learned that that was the colour always used in India for decoration and every kind of painting until lately, when it has been superseded by the cheapness of the common French ultramarine. This change only occurred a few years back; and I found one man who used the ultramarine, and made it himself from the lapis lazuli. I also found that the box-painters of Cashmere used ultramarine, which they made themselves from the small fragments got from the lapidaries; but now the French ultramarine has taken its place even in that far-away region. The most of the painters there told me that they had made the ultramarine themselves but a few years back. The fact that it was used at all is to me a strong presumptive evidence that it was used in the painting of these caves, for we know that it was known in the East in the very earliest times.

As the wooden origin of Indian architecture is so apparent, it would be most interesting if we could realize to ourselves the appearance of those wooden structures of that early period. Few of the stone buildings of even much later times remain. Whole cities have sprung into existence, and disappeared in India, since the wooden types of the Buddhist architecture existed. Of their interior appearance we can make out from the rock-cut caves the most minute details; and, had we the same data for their exteriors, a builder of the present day could make out an estimate to a fraction of what they would cost. Although the material is scant, yet I think enough can be found from which to form a very fair idea of their general appearance. The front of the rock-cut caves gives us, at least, one end of these primitive buildings; and, in giving this, it suggests part of the rest of the construction. At Karli, the outer doorposts are given, and the projecting ends of some beams are represented. At the Carpenters' Cave, in the Ellora group, if I remember right, there is the end of a projecting beam shown, and the outside pin to hold it in its place is most faithfully given in the stone; but whatever was awanting, I think, could be found in the sculptures of the Bilsah Tope. I think the minutest details even could be supplied from the ample resources of these sculptures. In Colonel Cunninghame's work there is a house copied from these, and I have slightly enlarged it; and, as it agrees with all our other knowledge, I think it may be accepted as a fair representation of a house of that period. It seems to be a house with three floors. In it you have the Buddhist railing,—not, I think, as an ornament, but as a constructive balcony; and the upper-floor windows are of the horseshoe form of the Chaitya Cave. I should also expect that the end of this house ought to have the same character in the roof. In this drawing from the Bilsah Tope, I think we have the origin of nearly every feature of the Tamul or Southern Indian architecture. I am not well acquainted with the details of southern buildings, but the general character is exactly what this drawing represents, only that they are much more elaborately ornamented. The gateways to the temples of the south will serve to illustrate this. Their upper portion is the same as the highest story. In this Buddhist residence each end has got the *horseshoe* form as a sort of gable, and smaller horseshoes all round, by way of ornament. Then comes a row of low pillars, or pilasters, like the posts forming the supports in the middle story of the drawing; and the almost verandah-like architrave, rounded at the top, as in this old sculpture, is one of the main features of Southern Hindoo building, and it is generally ornamented with the

* The peacock was held sacred by the Romans, too, as the "winged glory," on the back of which the Cæsars were wafted to the gods. It was also Juno's emblem The honour in which the peacock's feather is held in China, too, should not be overlooked. It is there a symbol of high distinction.—ED.

horseshoe pattern. These short pillars and architraves are repeated downwards, according to the size of the building, and you have a rough description of Tamul architecture. A minute study of southern buildings would, no doubt, reflect back again some light on this old Buddhist style.

Of the Brahminical caves at Ellora and Elephanta I have little to say. The Kylas is certainly a marvel of work. It is less known to the western world than the Pyramids; but I think that the Kylas of Ellora is far more wonderful than those mountains of labour on the Nile. I am here speaking of them as mere labour. As works of art, I found little to sympathize with in comparison to the old Buddhist work; yet there is good stuff about them, too. I have shown an elephant carved out of the solid rock in the inclosure of the Kylas: it is full size, and about as perfect a representation of that animal as I have ever seen. I also show the Lanka Cave, which is in the scarp of the rock at the Kylas; and I think it is justly considered about the best of the Brahminical caves for its sculptures, figures, and ornament. There is much that is different in this cave from the usual building styles, and yet a great many of the Southern Hindoo details are to be found.*

* To be continued.

THE COVENTRY BOARD OF HEALTH AND "THE BUILDER."

AT a meeting of the City Council, acting as the Coventry Local Board of Health, Mr H. Soden inquired of the Inspector of Nuisances whether there was any truth in the statements made in the *Builder* in reference to the unsatisfactory state in which many parts of the city were said to be?

The Inspector said he had read the article, and there was much stated that was untrue [of course].

Mr. Bell said he believed, also, that there was a great deal that was too true.

The Mayor was brave enough to assert, that though there was no doubt in the world but that there were filthy places to be found in Coventry; with respect to the bulk of the statements made by the writer in the *Builder*, they were utterly without foundation. We shall see.

Dr. Goate said he could show any member of the Board an inhabited house in Cook-street that was not fit for any human being to live in; and that was only one instance out of a number which could be pointed out. The *Builder* was quite correct in the statement it made with reference to the feeding of pigs in Palmer-lane.

Mr. Hickling said, notwithstanding all the exceptions which might be made to the statements of the writer in the *Builder*, there was some truth in them; and it was the duty of the Board to call upon the Inspector to carefully visit White Friars'-lane and every other place where such nuisances as those complained of existed, and report upon them to the Board.

On the motion of Mr. Soden, the Inspector was ordered to examine all those places mentioned in the *Builder* where nuisances were said to exist, and report upon them at the next meeting of the Board. One good result, at any rate.

THE FLOOD IN THE MIDDLE LEVEL.

THERE is nothing very satisfactory as yet to record, unless it be that the extent of country flooded is now said to have been exaggerated, as well as the amount of loss; but while the *Morning Post* of Saturday last estimates the land covered at 8,000 to 10,000 acres, and the damage at 200,000*l.*; the *Times* of Monday says:—"It is not extreme to say that 80,000 to 100,000 acres are now lying in a perilous situation, completely at the mercy of the skies during the next two months, and with a doubtful prospect for the winter. If one-fifth be pasture, the amount of tenants' capital alone, reckoning arable at 8*l.* per acre, and grass at 16*l.*, is very close upon a million sterling." The *Morning Post* of Tuesday says:—"Fortunately, the promptitude which has been manifested to stop the hole in the east bank, which had been scoured 20 feet deep and 40 feet long, has rendered the effort successful; and happily (for the present at least) averted such a catastrophe as the deluging of the whole of the country on the Downham side of the cut. The coffer-dam is progressing very nicely—all the piles being connected together as fast as they are driven with iron bolts, by an expert diver, who stays at the bottom of the cut for three quarters of an hour at a time. It is felt to be a most unfortunate thing that Mr. Müller is not permitted to go on with the earth-dam, as the piling is liable to be carried away so soon as it is exposed to any force of the tide; and should it give way, there will be no obstacle again to the free course of the spring tides. Within a few yards of the outfall of the middle level sluice, and emptying into the same channel, the river Ouse, is the outfall of two other cuts for the purposes of drainage. These sluices are known by the names of Marshland Fen and Smeeth Sluice, and Marshland Sluice. An inspection the other day disclosed the fact that the former of these, owing to the extensive quantity of water pouring through the drains, was being undermined exactly in the same way as was the middle level sluice. The discovery was no sooner made than workmen were employed to avert this calamity, and piles are being driven, and other means resorted to, to preserve these barriers. If they were unfortunately to be destroyed, the tidal waters would have two other places for ingress, and the deluge would extend to undefined limits. It is to be hoped, however, that the energetic measures adopted by the Marsh Land Commissioners and their engineer, Mr. A. Sanders, C.E., will prevent such a direresult."

Our own correspondents agree in saying that the damage has been much overstated. The coffer-dam now being constructed will, it is hoped, be the means of preventing the ingress of the tidal waters; but, unfortunately, this cannot be completed before another series of spring tides will have occurred, the effect of which is much dreaded. Other outlet sluices into the Ouse, in the immediate neighbourhood, are found to be in a nearly similar state, and measures are being taken to prevent a repetition of the disaster.

The subject of the inundations on the east coast was brought under the notice of the House of Commons by Mr. Bentinck, who asked Mr. Fellowes what had been done. That gentleman entered into a long explanation, the effect of which was that the repairing of the works where they had been broken through by the tide had been confided to Mr. Hawkshaw, to be effected without regard to expense.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday evening, the 23rd inst., at the House in Conduit-street. Mr. Blashill, V.P., occupied the chair.

Mr. Henry L. Florence, of Brixton-place, Brixton-road, was, on ballot, elected a member of the association.

In the absence of Mr. G. B. New, who was to have read a paper on Roofs, Mr. R. P. Spiers read a paper entitled "A Sketching Tour in Normandy in the year 1861."

At the conclusion, the Chairman observed that they were much indebted to Mr. Spiers for having at very short notice read a very interesting paper. He had seen most of the places referred to in the paper; and he could speak to the fidelity with which Mr. Spiers had described them. He ventured to suggest that architectural students, when prosecuting their researches, should make notes as to the best hotels, as regards charges and accommodation.

A vote of thanks was passed to Mr. Spiers for his paper.

THE ARCHITECTURAL PUBLICATION SOCIETY.

THE annual meeting of the members of this Association was held on Monday evening last, at the Rooms of the Royal Institute of British Architects in Conduit-street.

Mr. Ashpitel presided.

Mr. Cates, hon. secretary, read the report of the committee, of which the following is the material portion:—

"The Illustrations to be issued for 1861 have, for a long time, been prepared; and would have been issued prior to this meeting, had not the claims of important matters connected with the International Exhibition diverted the attention of one of the lithographers from his engagements with the Society; thus delaying the completion of the part: nearly all the plates are now printed; and, therefore, the part will soon be ready for distribution.

It will contain the following plates: Farm-Buildings—Fountain—Groined Roof (2)—Half-Timber House—Lych Gate—Metal Work (2)—Mosque—Pavements, coloured (2)—Pavements, in outline (2)—Porch.

The subjects comprised in these fourteen plates have been selected from the portfolios of Messrs. Bowman, R. S. Burn, F. P. Cockerell, J. T. Christopher, G. Goldie, O. Hansard, R. J. Johnson, T. S. Pope, J. P. Sedden, G. Truefitt, and J. W. Walton, who have kindly placed their valuable collections at the disposal of the committee. To all these gentlemen the thanks of the Society are due, but more especially to Mr. Henry Bowman, of Manchester, for the liberal manner in which he has permitted a selection to be made from his important and unrivalled series of measured drawings of the marble pavements of St. Mark's, at Venice: from this valuable source the committee have secured materials for the two coloured plates, and have themselves to express their obligations to Mr. Bowman for his kindness in materially assisting them, not only in the arrangement and reduction of the examples for, but also in superintending the execution of, the plates, so as to secure the proper colours in printing.

These subjects, from their well-known value, have appeared to the committee sufficiently important to warrant them in expending a larger amount than usual, by adding to the twelve plates ordinarily issued, uncoloured impressions of these designs, showing at a glance the key to their formation; and thus being likely to prove serviceable to the designers of similar works.

To the last part issued there was prefixed a list of terms, proposed for insertion in the next part of *letter-press*, and contributions and sugge-tions were invited from their friends who might have notes on the various subjects. The committee hope that the subscribers will evince their interest in the work by communicating any information they may possess; and the labours of the writers will be thus materially assisted, and the 'Dictionary,' at the same time, usefully increased.

A suggestion which lately appeared in one of the architectural journals, that the back stock should be sold at a *reduced* price to provide funds for the completion of the undertaking, has afforded the committee an opportunity of publicly renewing their pledge, that no portion of the works of the society shall be sold under the subscription price; and the continued accession of new subscribers convinces the committee that the course they have taken is approved, and that it is the only one by which the society could be maintained in a sound and satisfactory condition.

The arrangements, which were commenced in 1860, and by which new subscribers were permitted to spread their subscriptions for past years over a considerable period, continue to receive general approval; and it is with much gratification that the announcement is made of *forty-two* members having availed themselves of this arrangement."

"The balance-sheets appended to this report show the receipt and expenditure on the several accounts; and that the balance applicable for completing the issue for 1859 is 207*l.* 18s., and for 1861, 279*l.* 15s. 6d.; the total balance in hand being 577*l.* 8s. 9d.

After a careful review of the position of their work, and of other similar undertakings, the committee are fully convinced that, notwithstanding the delays, they are comparatively but little in arrear; and whilst they fully sympathize with their fellow-subscribers in the anxiety that all must feel to reach the termination of their labour, they entertain a deep conviction that it is their duty, as well as the true interest of the society, to study far more anxiously how to sustain the excellence of the work, than how to hasten it towards an unsatisfactory conclusion."

The Chairman, in moving the adoption of the report, observed that, although the work appeared to be a little in arrear, still they must remember that punctuality could not in all cases be depended upon when the services rendered were altogether gratuitous. In order to ensure accuracy, it was absolutely necessary to give an author full time, unless, indeed, he were to disregard originality, and hash up the *disjecta membra* of other writers. The Great Exhibition had also seriously interfered with the progress of the Dictionary, as it had engrossed all their engravers and printers. He was very glad to find that the committee had resolved not to sell any portion of their stock at less than the subscription prices, because he was persuaded that, by adhering to their original resolution, they would in the end maintain the true value of their publication.

Mr. Burnell seconded the motion for the adoption of the report.

Professor Donaldson said there could be no doubt as to the popularity of the work, as the subscriptions for 1861 had been paid in advance, although but a portion of the work for 1860 had been delivered. At the same time, if they could get on a little quicker, it would be very desirable. The work had been in hand about nine years, and but a fourth of it was completed.

The Chairman said Mr. Digby Wyatt had estimated that nearly one half of the Dictionary was completed. In the case of the "Encyclopædia Britannica," the letter G was half way through the work.

Professor Donaldson suggested that perhaps some of the collateral subjects might be reduced, inasmuch as architects were necessarily obliged to accept a great deal of science as fact. He also suggested that it was quite unnecessary to introduce the names of unknown persons, as clerks of works, &c. He feared that, unless the work was condensed a little, it would not be completed for many years, or at a less cost than twenty guineas.

Mr. Burnell quite agreed in the view taken by Professor Donaldson, but urged that the matter was one entirely for the committee. With reference to scientific articles, architecture was quite as much of a science as an art; and no man could be a good architect who did not make himself acquainted with the general principles of science. With regard to scientific or collateral articles, he had himself contributed one on galvanism, for instance, which he had endeavoured to condense as highly as possible; but which he felt was a subject of great importance in connection with construction. He did not think it would be wise to cut the scientific articles too short; but he was of opinion that the committee should adjudicate upon the matter, upon some definite principle.

Mr. Jennings thought that everything should

be done to make the work popular; and that it should be architectural and not scientific.

Mr. Horace Jones suggested that many scientific articles might be transferred from other books and printed in smaller type.

Some further discussion ensued, after which the motion was put and carried unanimously.

Mr. Burnell then moved, and Professor Donaldson seconded, a resolution, "That the committee be requested to consider and adopt the best mode of condensing the articles connected with the sciences and subjects collateral to architecture, with a view to accelerating the completion of the Dictionary."

The motion having been carried, a series of resolutions were submitted, and agreed to; thanking the committee, honorary treasurer, honorary secretaries (Messrs. Wyatt Papworth, and Arthur Cates), and the other officers of the society, for their services during the past year, and requesting them to continue in their offices.

A vote of thanks was also passed to the local secretaries, to Mr. John Papworth, and to Mr. Hansard, for the zeal and energy which they had exhibited in promoting the interests of the society.

THE METROPOLITAN PRISONS.

SEVERAL of the old prisons which figure in an important way in the pages of the history of London have, even within a comparatively recent period, been disused and demolished. Without enumerating those which have been removed at an older date, we may mention the names of the Marshalsea, the Fleet, and the Giltspur-street Compter, which have been last removed; and soon the celebrated "Bench"—the "Queen's Prison"—will be also among the matters of the past. The state-prison at the Tower has been long unoccupied by traitors or conspirators; and the Serjeant-at-Arms is but seldom called upon to take into custody unruly members of Parliament. The Star-Chamber Court, the Palace Court, and other notorious institutions of the ancient times, have been abolished; and now new and more enlightened laws in connection with the confinement of debtors have caused the Whitecross-street Prison to be almost unoccupied, and rendered the Queen's Prison in Southwark no longer necessary. In consequence, Mr. Waddington has written to the Lord Mayor to say that the Government is of opinion that the prison in Whitecross-street will now be sufficient for the confinement of all the debtors of London and Middlesex, and proposes to bring a bill into Parliament for the abolition of the Queen's Prison, and asks the Lord Mayor what equivalent would be required by the Corporation for the use of a portion of the Whitecross-street premises. We may therefore, ere long, look for the demolition of the "Bench," which has for so many years been known by name familiar; and which is connected with several curious literary, artistic, and other associations.

As regards ventilation and some other sanitary arrangements, the prison in Whitecross-street is far less cared for than any of those appropriated to the use of felons. In changes which may be made this neglect should be carefully remedied.

ARTIFICIAL STONE.

"QUITE a new impulse" must now be given "to the external decoration of buildings," according to Dr. Frankland, F.R.S., in consequence of a discovery made and patented by Mr. Frederick Ransome, of Ipswich, in connexion with his well-known artificial stone, produced from water-glass and lime, with clay. Heretofore this artificial stone, after its formation in a plastic state, required about one month to dry, and another to be kiln-burnt. Now, it seems, the plasticity is superseded by stony hardness, not only without either drying or kiln-burning, but also in an hour or two's time! The moulded or prepared stone requires simply to be dipped into a solution, and the work is done, even when the stone has been one weighing a whole ton weight or more. The solution consists of chloride of calcium; or, as it is more properly called when dissolved in water, muriate of lime. When the moulded matter is dipped into this solution it is very soon saturated with it, and a double decomposition takes place: the lime combines with the silica, forming a silicate of lime, which is one of the two chief cementing materials in all our cements, mortars, and concretes (carbonic acid being the other): the muriatic acid combines with the soda of the water-glass, forming common salt, which is said to be "washed off." How this can be, however, we do not see clearly: it must pervade the whole substance of the new-made stone; and might certainly be rapidly extracted by boiling water, or more slowly by cold water, or by rain *in situ*, leaving the stone more porous than before; but we do not mean to insinuate that hence the new-made stone cannot be a permanent and really stony product. Indeed, Dr. Frankland's experiments with it seem to show that it must at once possess remarkably weather-resisting powers. On this point he says, keeping in view the result of his experiments, "I should scarcely have imagined it possible that an artificial material could in so short a time, and without any application of heat, have attained such weather-resisting powers." It was found, however, as was to be expected, that the stone experimented on *contained* chloride of sodium; so that this salt had not been "washed off;" but it seems to be extractable without injury to the tenacity of the stone, although with an increase of porosity, as Dr. Frankland remarks. Of the general results of his experiments, Dr. Frankland says:—"Whilst they point out the Portland, Whitby, Hare Hill, and Park Springs, as the natural stones best adapted to withstand the influences of town atmospheres, they also indicate that Ransome's patent concrete will be found equal to the best of these in its power of resisting atmospheric degradation; and, if the newness of Ransome's stone (the specimen experimented upon not having been made a fortnight) be taken into consideration, together with the well-known fact that its binding material, silicate of lime, becomes harder and more crystalline by age, I am induced to hope that Mr. Ransome has invented a material which, with the exception of the primary rocks, is better capable of giving permanency to external architectural decorations than any stone hitherto used."

THE IPSWICH SURVEYORSHIP.

THERE were forty-eight applications for the office of surveyor and inspector of nuisances to the local Board of Health, among whom only one belonged to Ipswich, namely, Mr. William Ribbans, who, after a discussion which, in the council, was characterized as a mere farce, was elected by a majority of 18, to 5 for the only other candidate who came forward out of six finally selected by the committee, but who had all been told that, though they were selected for final choice, the committee had determined (in mercy, we presume; considering the foregone hopelessness of their prospects) not to pay any one of them travelling expenses. Thus forty-eight gentlemen, in various parts of the country, have been deliberately befooled by a committee who, while advertising for them as candidates, never had the least intention of giving any of them, excepting one, the slightest chance of election.

INAUGURATION OF THE BUNYAN MEMORIAL.

THE inauguration of the new monument erected by subscription over the grave of John Bunyan, in Bunhill Fields Burial-ground, City-road, took place on Wednesday last, under the auspices of the Earl of Shaftesbury. It is gratifying to us to note the completion of a work which we have so often urged. The length of the tomb is about 7 feet, and the height rather over 4 feet. On the north side is a carved stone panel, on which Christian is represented as starting on his journey, with the burden on his back; while on the south side he is represented as in the act of reaching the cross, and the burden falling from his shoulders. On the top of the tomb is a carved stone effigy of Bunyan, in a reclining posture, with book in hand, his head resting on a pillow. At the east end of the memorial is a slab, formed of a portion of the old tomb, on which are engraved the following words: "John Bunyan, author of 'The Pilgrim's Progress.'—Ob. August 31, 1688, Æ. 60." The slab at the opposite end records the fact of the erection of the work by public subscription, under the presidency of the Earl of Shaftesbury, May, 1862. The profiles of the mouldings and tomb itself are not very satisfactory. There are other graves at Bunhill Fields to which we have before pointed attention as deserving of similar tokens of respect and appreciation.

SOLUBLE GLASS.—Mix ten parts of carbonate of potash, fifteen parts of powdered quartz, and one part of charcoal. Fuse well together. The mass is soluble in four or five parts of boiling water, and the filtered solution, evaporated to dryness, yields a transparent glass permanent in the air.—*Chemical News.*

CHURCH-BUILDING NEWS.

Holt (*Norfolk*).—A Methodist Free Church is about to be built at Holt, from a design by Mr. Jeckyll, of Norwich, in the Pointed style. It is faced with black flints (split). The two vestries, with an orchestra above them, form the front, with a turret about 70 feet high. There is also a gallery at the opposite end of the nave for the school children. The benches are made of red deal, varnished. Accommodation is provided for 400 adults and 100 children. The lowest tender was 1,706*l.*

Hathern (*Leicestershire*).—The church here, erected about the thirteenth century, has of late years been much neglected, the whole of the structure having been allowed to fall into an almost dilapidated condition. Originally this church contained many interesting features of the Decorated period, as one or two windows that have escaped destruction, and the nave arcade, show. From the fragments that have been found there appears to have been an earlier structure. From the very dilapidated condition of the aisle walls, it was found necessary to take them down, as also the clerestory, allowing the nave arcade to remain; and in rebuilding great care has been taken in introducing any new feature that it should be in harmony with the existing structure; and such parts that would permit of it have simply been restored. At the east end of the north aisle a chapel has been erected to the memory of the late rector, the Rev. E. T. Phillips, having a tomb placed externally in the wall under the window. The whole of the interior has been fitted up with benches of pitch pine corresponding in design to an original one found in the church. The pulpit is of stone, having marble columns at each angle, and medallions on each face. The chancel has oak stalls and stone reredos. The floors are laid throughout with tiles in pattern, the chancel having encaustic tiles, the whole made by Whitstone, of Coalville, Leicestershire. The whole of the works have been carried out from the designs and under the superintendence of Mr. Joseph Mitchell, architect; and have been satisfactorily completed by the contractor, Mr. Thomas Garland, of Nottingham.

Willenhall.—A new Baptist chapel and schools have been commenced here. The site chosen is Lichfield-street, where the buildings are being put up by Mr. David Evans, of Wolverhampton, builder, from plans by Mr. Manton, of the same town, architect. The chapel will accommodate 556 persons; the schools 300 pupils; and the cost of the whole will be 1,600*l.*

Cardiff.—The following tenders for the completion of St. Andrew's Church, in Windsor-place, were received: Webb, 2,350*l.*; Stride, 2,160*l.*; D. Jones, 2,495*l.*; W. John & Son, 2,470*l.*; W. Mitchelmore, 2,436*l.*; T. Waller, 2,500*l.*; T. Williams, 2,334*l.*; James & Price (accepted), 2,254*l.* By the terms of agreement entered into with the contractors, the church, which was begun some time ago, is to be completed by the 30th of November next.

Frankby.—The church which has been erected at Frankby, Cheshire, has been consecrated. The cost of the church and parsonage is upwards of 4,000*l.*; and when this is paid off it is contemplated to erect suitable schools. The church, dedicated to St. John the Divine, is in the Early Decorated style of architecture. It consists of a chancel, with organ choir and vestry; a nave, divided from the north aisle by an arcade of three bays; with a south porch. The chancel is 28 feet long by 20 feet wide; the nave, 48 feet by 27 feet; and the north aisle the same length by 14 feet wide. The nave is lighted with double sunk windows on the south side; the aisle with two-light lancet windows on the north. The west gable is pierced with two long single lights, which are intended to be filled with stained glass. The chancel east window has three lights, with stone-work tracery. It is filled with stained glass, in several divisions, each representing a separate subject, and *in memoriam* of Mrs. Anna Selina Congreve, the mother of the incumbent. In the vestry there is a two-light window filled with stained glass, as are the two small south windows in the chancel. The roof is constructed with principals of laminated timber, supporting rafters open to the ridge. The chancel roof is boarded and divided into panels with moulded ribs, all resting upon a moulded and carved cornice. The whole of the chancel is laid with tesselated pavement. Open seats, there being no closed pews, fill the whole of the nave and north aisle: there is accommodation for about 350 persons; and upwards of 150 of the seats are free. Exteriorly at the junction of the nave and chancel is a bell

turret. Right and left on entering the porch, there is a small stained-glass window. The parsonage-house is an example of a modified application of the Early Decorated style. Messrs. W. & J. Hay, of Liverpool, were the architects; Mr. Thomas, of Oxton, was the contractor; and Mr. Jos. Pepper, clerk of the works. The carving throughout the church has been done by Mr. Stirling, of Liverpool.

BUILDING NOTES, IRELAND.

EXTENSIVE wings, about 28 feet wide by 50 feet long, are in course of erection in connection with the Ursuline Convent, Sligo. The new wings will contain school-rooms and dormitories: there will be also a new passage from them to the chapel. Mr. Killgallen is the contractor; Mr. Goldie, architect; the amount of contract, about 2,000*l.*

A new District Model School is in course of erection at Sligo. It occupies about one acre of ground at the west end of the town. The walls externally are built of limestone, and the dressings to the front windows, quoins, strings, &c., are of Mountcharles sandstone from the co. Donegal. The buildings consist of a centre block and two wings. A corridor runs at the rear of the centre buildings, and has doors opening off it to the kitchen apartments on the east, to the yards in the centre, and to the boys' school and class-rooms on the west. The girls' school-room is situate at the north-west angle of the building, and has a class-room opening off it, 18 feet by 16 feet. The centre block of building is occupied by a principal entrance, inspector's office, study for pupil-teachers, and class-rooms. The west wing is occupied by the infant school, and has a small entrance-porch at the west side. The east wing contains master's apartments, including sitting-room, bed-rooms, and private offices. The dimensions of some of the principal apartments are as follows:—Boys' school, 60 feet by 30 feet, and 20 feet high from floor to wall-plate; girls school-room, 35 feet by 21 feet; infant school-room, 30 feet by 20 feet. The entire frontage is 150 feet 7 inches, and depth 125 feet 2 inches. The front is of Italian character: the windows are circular-headed and deeply recessed, with moulded jambs: there is a heavy eave-course round the building supported by cantilever blocks. The contractor is Mr. P. Keighron. Mr. J. H. Owen is the architect; Mr. Edward Brannick, clerk of works. The buildings, when completed, will cost about 7,000*l.*

A new Town Hall is in course of erection at Bandon, co. Cork. It is building out of a fund created for the purpose by the townspeople. The new building will contain a reading-room, 80 feet by 40 feet; library, 30 feet by 18 feet, and suitable closets, &c., &c. There will be a handsome portico in front, of the Grecian-Doric order. The rooms are lighted by circular-headed windows, with dressings of Italian character. The builder is Mr. James Hunter, of Bandon; the architect, Mr. Brash, of Cork; the amount of contract about 1,500*l.*

THE NUISANCE OF OUT-BUILDINGS.

Do use your great circulation to put down an increasing evil and nuisance. I mean the annoyance caused by neighbours building poultry-houses close to dwelling-houses, and open only at the top; the noise ascending utterly preventing sleep after daybreak.

In one case the poultry-house is within six feet of the bed-rooms; and although repeated complaints have been made, yet still the annoyance continues. The remedy, I am told, is by indictment; but few like to do this with a neighbour, as it is sure to produce endless strife.

In cases of illness I have known this annoyance to become quite a serious matter to the invalid. Surely it ought not to be permitted.

To this might be added a minor class of nuisances, such as dogs which bark all night within a few feet of one's house; and stables attached to dwelling-houses, kept only partially clean.

VICTIM.

BADLY BUILT HOUSES AND LEGAL REFORM.

SIR,—The indignation of your correspondent at the abominable materials employed in speculative buildings, and the slight, rapid, and scamping way in which they are put together, is but too well founded; but when the vices of construction have been concealed by fine surfaces of paint and paper, it is too late to employ a surveyor, whose services can only have a full and proper scope while the works are in progress.

The fault of omission in this respect lies, however, less with builders than with a class whose avarice is tending to disturb every social arrangement; and while the surveyor is not employed on account of cost, there is generally a lawyer in the background, who absorbs three times as much money for leases and mortgage fees; the charge for purchases, for loans, and, curiously enough, for *repayments*, passing all ordinary belief. If you can work out some amendment here, it will be a benefit indeed. Perhaps houses built under the ruthless auspices of the present system would be fitly called THE DEVIL'S OWN.

"BADLY BUILT HOUSES."

WITH reference to a letter thus entitled, in a recent number of our journal (357), directing attention to what the writer calls "the infamous materials and brickwork of houses now running up not a hundred miles from Neville-terrace, Hornsey-road," the builder of the houses in Neville-terrace, and in Benjamin road adjoining, comes to the conclusion that the remarks are intended to apply to the houses he is erecting, and requests to be enabled to deny the truth of the statement. The writer says,—

"The estate of which the houses referred to form a part was laid out under the superintendence of an eminent architect. I have a very stringent building agreement and specification (a copy of which last I inclose for your perusal), and the houses are under the constant personal supervision of Mr. Horace Field. The ground-rent of the houses (amounting to 7*s.* per foot frontage) proves that the property is not of that trumpery description your correspondent would have you believe; while the respectable class of tenants, and the fact that I have lately sold these houses to two architects (one for occupation by the purchaser), is, I think, sufficient refutation of your correspondent's assertions.

I have been in business many years, and have executed large works under different architects; and am, I think, able to form an opinion as to the quality of building materials, and can safely affirm that my houses are superior to the generality of houses of the class.

C. J. THOMPSON."

THE "INCLOSURE OFFICE."

SIR,—Allow me to supplement my former letter by a few further remarks, to make the case clearer to your readers, whom I wish to interest in it.

The inspectors of buildings attached to "The Inclosure Office" are employed to inspect works carried out by the various improvement companies, established by Act of Parliament, for the purpose of executing estate works, the cost of which is repaid by way of rent-charge: their duties are therefore far from being unimportant. They have to protect the interests of the landowner, and especially those of his successor, against the possible delinquencies of the companies or their sub-contractors. At the same time the work is of such a class that comparatively few professional men come into contact with them. Most frequently they have to meet some country builder, who does not dare to think that the man who talks much of "reporting to the *Crown*" can possibly be in error; and who, while knowing that his work is right, would, nevertheless, be utterly incapable of offering any resistance to the dictum of such an elevated and glorified authority. And even in cases where stubborn English sense refuses to yield itself up to an unjust decision, the delay and annoyance attending the process of having the decision re-examined is so great, that few have the courage or perseverance to insist upon it. Besides which, it is entirely at the commissioners' option by whom the re-examination shall be made; so that matters may only be made worse by an appeal to an ultimate authority as incapable as that appealed from.

The simple remedy for the whole evil is to appoint only properly-qualified professional men as inspectors of buildings. Surely this is not too much to ask. It would be surprising that the commissioners should ever have offered less, if one was not pretty well accustomed to the vagaries of Government officials. Let the *pay* be three, five, or any other number of guineas per day: the ground of dissatisfaction does not lie there; but first of all let us have the work done by men who are really qualified to do it.

SECTOR.

MUSIC AND THE STAGE.

Her Majesty's Theatre.—The *Cantica* written by Signor Verdi for the opening of the Palace of Art, and which the Commissioners, with very good reason, found themselves forced to decline, was executed at Her Majesty's Theatre with very great success, Madlle. Titiens singing the solos splendidly. It will be heard often enough again. The sisters Marchisio have strengthened their hold on public opinion; and Madlle. Trebelli is successful as *Rosina*. When are we to have "Oberon"?——*The Haymarket.*—A picturesque little ballet, "*La Contrabandista*," for Madame Perea Nena and her *troupe*, is the only novelty, Mr. Sothern maintaining his hold as *Lord Dundreary* in a remarkable manner. There is no mistake about the perfectness of the assumption, and the real fan in it. To make a thousand or more persons laugh wholesomely for 137 nights in succession is a good work, sanitary and social——*The Princess's Theatre.*—Crowds have filled the house during the last week to welcome back Mr. and Mrs. Charles Kean to the scene of previous triumphs. In the "Corsican Brothers," on Wednesday night, Mr. Kean played with increased energy; determined, probably, to assert his supremacy in the part; and he certainly succeeded in doing so. "Hamlet" is to follow.

BUILDERS' BENEVOLENT INSTITUTION.

THE nineteenth election of pensioners on the funds of this institution was held on 29th May, at the London Tavern; Mr. George Plucknett, President, in the chair. The list of candidates contained the names of nine men and four women, from the former of whom two were to be elected, and from the latter, one.

At the present time there are 33 pensioners on the funds, 15 males and 18 females. The amount of the subscriptions and donations for the past twelve months has been 1,326*l.* 0*s.* 6*d.*; annual subscriptions, 841*l.* 8*s.* 6*d.*; and donations, 484*l.* 12*s.*; showing an increase in the annual subscriptions of 33*l.* 8*s.* 6*d.*, and in the donations for the same period, of 111*l.* 5*s.* 6*d.* The investment of stock in the Three per Cent. Consols is 8,332*l.* 11*s.* 4*d.*;—5,985*l.* 6*s.* 9*d.* for the relief fund, and 2,347*l.* 4*s.* 7*d.* for the building fund. By the last report there was a balance at the bankers' of 466*l.* 13*s.* 3*d.*

The Chairman, in opening the proceedings, said that, out of thirteen candidates, it was much to be regretted that the limit of their funds only allowed an election of three; particularly as the candidates were all aged, some paralyzed, and others suffering from various diseases.

The poll was then taken, and Thomas Lawrence, aged sixty-six; Robert P. Day, aged sixty-one; and Sarah Wright, aged sixty-eight, were pronounced duly elected.

The proceedings concluded with a vote of thanks to the chairman and also to the officers of the institution.

Books Received.

Where do we get it? and How is it made? A Familiar Account of the Modes of Supplying our Every-day Wants, Comforts, and Luxuries. By GEORGE DODD, author of "The Food of London," &c. With Illustrations by WILLIAM HARVEY. London: James Hogg & Sons.

THE young and inquiring are always prone to put the questions—Where does it come from? How is it made? In respect to many of those things which most interest both young and old, they will find a good deal of explanatory information in this nicely-got-up volume, in which are treated of, in a simple and understandable way, such subjects as the sources of our food and drink; the materials for clothing; our dwellings and their materials; our supply of fire and light; metals and metal manufactures; minerals and chemicals. Special attention, in the preface, is very properly pointed to the Palace of Art and Industry, as well as to the various special museums at Brompton,—such as the Food Museum, originated by Mr. Twining; the Museum of Animal Products; the Museum of Building Materials; Educational Museum, &c.; and also to the British Museum; Museum of Economic Geology; and the Botanic Museum at Kew; all of which contain objects illustrative of the information here given: and such a work as this must tend to make these popular museums still more interesting and popular than they already are. The work is illustrated by figurative engravings of a kind much above the average.

VARIORUM.

"Annual of Scientific Discovery; or Year-book of Facts in Science and Art for 1862. Edited by D. A. Wells, A.M. Boston: Gould & Lincoln." We have so often given a favourable notice of the American Year-book of Facts, that our opinion of its merits must be well known to our readers; and all we need now say is, that the volume for 1862 is as diligently compiled and as interesting and useful as ever: it contains much matter that must be new even to well-informed English readers. The present volume, we must add, contains more unacknowledged quotations from our pages than has heretofore been the case: nevertheless we do not wish to complain of anything like systematic borrowing without acknowledgment: the *Builder* has been scores of times quoted in the American Year-book of Facts in Science and Art.—— "The Gas Consumer's Manual. By T. L. Marriott and George Glover. London: Kelly & Co. 1862." This little treatise contains the Sales of Gas Act of 1859, and subsequent Acts; with practical observations on the provisions of the Acts, instructions to inspectors, rules for testing meters, &c. Mr. Marriott was the solicitor and parliamentary agent employed in the preparation and passing of the Gas Act of 1859 through Parliament; and Mr. Glover was formerly lecturer on mechanical philosophy at the Royal College of Surgeons, Edinburgh. The manual is evidently

a useful one, which ought to be in the hands of managers of gas companies, meter manufacturers, local authorities, inspectors, and others.——"The Eleventh Annual Report of the Amalgamated Society of Engineers, Machinists, &c. London: printed by J. Kenny, Heathcock-court, 414, Strand. 1862." This report contains details of the expenditure of the Amalgamated Society of Engineers for 1861, together with a summary of expenditure for eleven years, and tables showing the number of deaths, causes thereof, average age at death, &c. Branch reports from all parts of the kingdom, giving details of income and expenditure, are also embodied in the report. The increase in the number of members has not been so great as last year; but nearly two thousand have been added to the society. There are now very nearly twenty-three thousand members. There are 17 more branches than there were at the time of issuing the last report; two of them in the United States. The increase of funds during the past year has amounted to 13,194*l*. The present balance is the largest shown; the total amount being 73,398*l*. 1s. 0½d., or 3*l*. 4s. 2d. per member. The expenditure for 1861 was 42,939*l*., or at the rate of 1*l*. 17s. 6¾d. per member. The number of deaths was 209 men and 116 women; the former at the average age of 36¾, and the latter of 33¼. The cause of death is stated to be mainly consumption. The amount expended in support of the four principal benefits, viz., donation, sick, funeral, and superannuation, was 35,727*l*., or equal to 1*l*. 11s. 3d. per member.

Miscellanea.

THE LOCKE MONUMENT.—Sir,—This, it will no doubt have been observed, is a simple reproduction of the cross in Selby Market-place. Should it not have been so stated in justice to the original designer?—J. G. E.

ROYAL BERKSHIRE HOSPITAL.—The contractors, Messrs. Sharpington and Cole, of London, have completed their contract for the erection of the new wings to this institution; and, according to the *Reading Mercury*, the work has been performed in a manner which has given satisfaction to Mr. Morris, the architect, and the Board of Management. The new works were handed over on the day on which the date of the contract expired. The upper floors have been varnished, so as to do away with the damp arising from the washing of boards.

"PAGAN ART."—The gentleman who presided at the lecture on this subject reported in our last considers his expressions not correctly set forth, (though the Reporter is quite clear on the matter), and says they were in effect as follows:—

"Greek art was, in certain respects, the finest and purest in the world; as, for instance, in the exquisite refinement of its execution, in which it surpassed Mediæval art, because the fervour with which the latter pressed always onward towards its far higher and more spiritual aims left not time to elaborate detail in the same manner. That Greek art was, however, utterly unsuited to modern requirement; that all our attempts to revive it had been complete failures, and it was to be hoped would not be renewed; yet still we might obtain from its glorious remains much that would help us to improve our own art."

KITCHEN BOILER EXPLOSIONS.—The frequency of these explosions in the north of England is a remarkable fact to which we have before now pointed attention. Whether it be from the more frequent use of such boilers in that part of the country, or from some peculiarity in their construction, or in the mode of using them, we do not yet know; but certainly they are often enough used in London, and elsewhere in the south of England, without one hearing so often of serious accidents arising from their use. The occurrence of a dreadful tragedy in Manchester, originating, as alleged, in one of these explosions, induces us again to point attention to the circumstance adverted to. A child had been killed by the explosion of a kitchen boiler at Manchester; and the parents, who had in vain tried beforehand to have the boiler made safe, urged the house-agent, who had been censured by the coroner's jury, to pay them 50*l*. damages. This the agent refused to do; and afterwards he had occasion to distrain on them for rent in arrear, which he is said to have done with rather irritating and unnecessary harshness and severity. The circumstances altogether seem to have preyed upon the ill-regulated minds of the parents of the child who had been killed; and they deliberately murdered, first their own three remaining children, and next the house-agent, whose sons also made a narrow escape from a similar fate; and all through the *fault* of a boiler!

THE DRAINAGE AND PAVING OF ODESSA.—Mr. George Furness, the contractor for the great outfall works at Plaistow in connection with the Metropolitan Railway, has contracted to pave and drain Odessa. The cost is estimated at 800,000*l*. The contract was negotiated by Mr. Bayliss, C.E.

ROYAL SCOTTISH ACADEMY.—The exhibition which has lately closed has been on the whole successful. The day season-ticket holders were nearly 4,000. For the evening exhibition considerably above 1,000 season-tickets were issued During the day more than 18,000 visitors paid for checks, and in the evening about 19,500. Catalogues sold—during the day, 7,913; and in the evening, 2,626; total, 10,539. The sales this year exceed those of last year by nearly 2,000*l*.

THE AGRICULTURAL HALL, ISLINGTON.—At a special general meeting of the shareholders, as to increasing the capital of the company, the secretary read the report of the directors, which stated that the hall is approaching completion. The company have obtained an additional frontage (making in all 45 feet) in the Upper-street. It was part of the understanding with the Islington vestry that a more imposing entrance than that originally designed should be built in Upper-street; and to this purpose a portion of the money designed for the second-class refreshment-rooms will be devoted. The works ordered by the district surveyor; unforeseen difficulties in the foundation and sewers; and other indispensable additions to the original contract, amount altogether to about 3,000*l*. To this must be added the cost of warming, gas, lighting, ventilating, water supply, furniture, and fittings, estimated at between 3,000*l*. and 4,000*l*. Additional capital to the extent of 9,000*l*. was authorized by the meeting, to be raised by the issue of shares.

THE MIDLAND INSTITUTE COMPETITION.—The following, from the *Birmingham Journal*, shows what is thought of the doings of the town council in their own neighbourhood:—"It may be recollected that, in commenting upon the determination of the town council to engage another architect to complete the building of the Institute for a free library, we expressed a doubt if many architects of eminence would enter into the competition to erect a work which another person had designed. This apprehension is justified by the result, so far as concerns the chief members of the profession in Birmingham. At a special meeting of the Architectural Society, held on Wednesday last, it was resolved, 'That this meeting, considering that the dispute between the corporation and Mr. Barry is still pending, is of opinion that it is inexpedient that members of this society should enter into competition for the proposed extension of the Midland Institute.' How far the same considerations of policy may influence strangers, or Birmingham architects who are not members of the society, we have no means of knowing; but we believe we are not wrong in assuming that the chief architects in London and the provinces will imitate the example of their brethren in this town."

THE RESTORATION OF MINSTER CHURCH, ISLE OF THANET.—At the Minster Easter vestry, Mr. W. Rogers, of Sheriff's Court, who has taken the lead in this long-wished-for improvement, produced some plans and drawings which had been prepared for the work. The first was a drawing of the Norman arch in the west end of the tower, restored. This arch, the only one of the same character in the building, has for many years been hidden by a lodge-like projection, many of the parishioners not even knowing of its existence. The principal and only entrance into the edifice is to be through this arch. The east arch of the tower is Saxon. The bases of the pillars are to be restored and hewn; the flooring to be raised five inches, and paved with the best Minton tiles. Amongst other improvements, the organ will be placed near the south transept window, and every fitting of woodwork to be taken down, and none replaced, except carved stalls in the chancel. The cost of the whole will amount to nearly 1,600*l*. All the propositions relating to the church were carried unanimously: the plans and drawings of Mr. W. E. Smith, "architect and builder," of Ramsgate, and the report of Mr. Ashpitel, being generally approved. The works are to be carried out by Mr. Smith, and occasionally superintended by Mr. Ashpitel. The vicar and wardens constitute the building committee. Various other restorations require to be done. The groining of the transepts will entail a cost of 500*l*., besides the estimates and plans produced at the late meeting. On the whole work of restoration, repewing, paving, and groining, a sum of nearly 400*l*. more is wanted.

NONCONFORMITY MEMORIALS.—Above 84,000*l*. have been subscribed to a fund for building the memorial-hall in the metropolis, already alluded to, and erecting new chapels in the provinces, in celebration of the Bicentenary of Nonconformity. Some promoters of the movement are sanguine that even this sum will be doubled during the current year.

EMBANKMENT OF SOUTH SIDE OF THAMES.—In the Commons last week Mr. Doulton asked the First Commissioner of Works whether there was any probability of the commission on the embankment of the south side of the Thames making their report before the prorogation of Parliament; and Mr. Cowper replied that he believed the commission would be prepared to make a report before the conclusion of this session.

INSTITUTION OF CIVIL ENGINEERS, DUBLIN.—At a recent general meeting of this institution, in the Museum Buildings, Trinity College, Mr. C. Hodgson read a communication "On the Manufacture of the Compressed Peat for Fuel in Ireland." He spoke in the beginning of his paper of the extreme importance of utilising the peat bogs of Ireland, which extended over three millions of acres. After some remarks from the president and other gentlemen, Mr. Anderson, of the firm of Courtney, Stephens, & Co., said that the value of this fuel, compared with coal, was as 75 to 100; but as it could be produced at 9s., whereas coal cost 20s., per ton, the advantages of the manufacture would be easily apparent. After some discussion, the meeting adjourned.

A STEAM TRAVELLING CRANE.—Messrs. Ellis, of Salford, have completed a steam travelling crane for the new battery works of the Government at Portsmouth. The crane (their own invention) is capable of lifting 20 tons with a pressure of 40 lbs. It is worked by two small cylinders, with a perpendicular tubular boiler, and has three motions—longitudinal, horizontal, and perpendicular,—with a span of 54 feet. The engineer, who stands in front of the crane, has all its motion under his command, and can double its power with facility. A water tank and pump for supplying the boiler are also connected.

THE BRITISH MUSEUM BILL.—The Chancellor of the Exchequer moved the second reading of this Bill in the Commons last week, when some discussion took place, in which the objects of the Bill were explained and supported by the mover and by Lord Palmerston, who said it was essentially a Bill to provide, for 10,000*l*., what must otherwise cost 50,000*l*.; namely, a site for buildings which must be erected. Sir G. C. Lewis, Mr. Walpole, and others, also supported the Bill; and it was opposed by Mr. Gregory and other speakers; and finally defeated by a majority of 163 to 71 against the Government.

IMPROVEMENTS AT THE SUNDERLAND DOCKS. Mr. Abernethy, C.E., has reported to the Wear Commission as to what he considers requisite to be done in order to ensure the present safety of the docks, and to provide for future extension, avoiding all interruption to the existing traffic of the docks. The cost of the works recommended he estimates as follows:—First pier or breakwater, 25,000*l*.; second cofferdam, jetty, and formation of entrance channel, 21,000*l*.; third entrance lock, 45,000*l*.; fourth dock, formation of quays, and protection of slopes, 94,000*l*.; fifth entrance between docks, bridge, and gates, 15,000*l*.; making, with 10,000*l*. for contingencies, a total of 210,000*l*. The commissioners resolved unanimously to execute the break-water at once; but the execution of the other works has been postponed for future consideration.

COURT OF COMMON COUNCIL.—Several of the proceedings of this court, at the Guildhall, London, last week, require notice. The court accepted the reversion of the splendid album exhibited at present in the Austrian court of the Palace of Art: it is 6 feet wide; 3½ feet high; and weighs 708 lb.: the paper is considered to be very fine, and the binding is both costly and elegant. The freedom of the City in a gold box was next voted to Mr. Peabody for his munificent gift of 150,000*l*. for behoof of the poor of London. Afterwards Mr. Hartridge moved that this court do assent to the proposal of the London, Chatham, and Dover Railway to erect a bridge of five arches or spans across the river Thames near Blackfriars Bridge. There was also a report upon the same subject by the Bridge-house Estates Committee; and both subjects were taken into consideration together, and led to a long and rather warm discussion, as to the number of arches, the embankment, &c.; after which the resolution of Mr. Hartridge was negatived by a majority of 44; the numbers being,—For the reception of the report, 61; for Mr. Hartridge's resolution, 17.

NEW BRIDGE FOR DROGHEDA.—The *Drogheda Argus* states, that the presentment for a new bridge will come before the grand jury at the June assizes. The bridge, as proposed, will be of cast iron, about 45 feet wide, with raised footpaths on each side; parapet about 4½ feet high; one span across the river, resting on solid masonwork: the river will be thus freed from all obstruction, and advantages gained to the scouring power of the Boyne.

A CRYSTAL PALACE AND WINTER GARDEN FOR DUBLIN.—A company has been formed, of which the directors are forty of the most influential and active noblemen and gentlemen in the city of Dublin, with the Duke of Leinster as chairman, and Mr. Benjamin Lee Guinness as vice-chairman. Mr. Guinness, a short time ago, purchased the fields called the Coburg Gardens, at the south side of Stephen's Green, containing about 15 acres. This ground is to be converted into a winter garden, in the centre of which the palace is to be erected at a cost of 50,000*l*. The building is to contain a large concert-hall, also galleries of art and industry, &c.

DRINKING-FOUNTAIN MOVEMENT.—At Hay, according to the *Hereford Times*, the Rev. Mr. Bevan has announced his intention to present the town with two drinking-fountains, on condition that the same be erected in such places as he may select.——A public fountain is in course of erection at the foot of Elvet Bridge, Durham. The structure owes its erection to Mr. John Gowland, a member of the corporation, at whose sole expense it is being put up. It is the first erection of the kind in Durham. ——At Broseley it has been determined that a prize of 20*l*. should be awarded for the best design for a memorial fountain. Several architects, accordingly, sent in plans. Mr. Griffiths's plan found six supporters among the committee, and Mr. W. Thursfield's four: Mr. Griffiths's, therefore, was adopted by a majority of two.

THE POLYTECHNIC.—As there are some Japanese in London, of course our energetic friend Mr. Pepper gives to the public a panorama of Japan. The views, which embrace the principal street, fish-market, and bridge of Yeddo, temples, teahouses, theatres, private residences, the foreign consulates, the residences of the British and American ministers, and the house which Lord Elgin occupied during his stay in the island, extend over 9,000 feet of canvas; and, presuming, as we are assured, that they are faithful delineations of what they profess to represent, enable us to form a pretty accurate notion of the country. In architecture, the Japanese have during the 2,000 or 3,000 years of their social organization scarcely improved upon the most primitive form of roofed hut. The houses have in no case more than one story: even the temples and public buildings do not seem to have reached a higher elevation than some 20 or 30 feet; and the bridges and defences are of the rudest construction.

COSTLY WORKS AT ALDERNEY.—The Government have been very nearly defeated in the House of Commons on the subject of Alderney, one of the Channel islands. In Committee of Supply upon the Harbours of Refuge Vote and Civil Service Estimates, on the first vote, of 150,000*l*., for constructing certain harbours of refuge, Mr. Baxter moved its reduction by 90,000*l*., being the sum asked for Alderney. In 1848 the plan was to cost 620,000*l*.: in 1854 the cost was enlarged to 1,300,000*l*.: in 1857 it had risen to 1,850,000*l*.; and in 1859 it culminated to a grand scheme which would involve an expenditure of 2,000,000*l*. It was entirely a misnomer, he said, to call Alderney a harbour of refuge. In point of fact no vessels took refuge there, excepting French revenue cruisers. He was informed that successive governments had been in possession of a report from the engineer officers to the effect that the best thing that could be done, in the event of a war with France, would be to blow up the works altogether. After some discussion the vote was passed by a majority of 138 to 130.

TENDERS.

For restoration of Grey Friars' Church, Reading. Messrs. Poulton & Woodman, architects:—

Carpenter's and Smith's Work to Roof.

J. & R. Lawrance	£1,190	0	0
Perry	1,098	0	0
H. Cooper	1,094	0	0
Sawyer	1,090	0	0
Matthews	999	0	0
Woodroffe	995	4	0
Strong (exclusive of Smith)	949	0	0
Sheppard (accepted)	899	0	0

For Stonework.

Wheeler (accepted)	£1,890	0	0

For a pair of semi-detached model cottages, at Lyston Court, Herefordshire, for Mr. R. M. Lingwood. Messrs. Elmslie, Franey, & Haddon, architects:—

Pearson & Son	£300	0	0
Watkins (accepted)	270	0	0

For alterations and additions to the White Hart Hotel, Uttoxeter. Mr. R. Scrivener, architect:—

Sheppard	£562	0	9
Mathews	560	0	0

For a detached villa, on Mockbeggars Estate, Reading, for Mrs. M. Jones. Messrs. Cooper & Goulding, architects. Quantities supplied:—

Woodroffe	£738	0	0
Watson	754	0	0
Barnicoat	702	10	0
Norris	692	0	0

For a detached house, with stabling, at Whiteknights, Reading, for Mr. W. J. Barton. Messrs. Cooper & Goulding, architects. Quantities supplied:—

Whiting	£1,175	17	6
Woodroffe	1,082	0	0
Norris	1,049	0	0
Barnicoat	1,034	0	0

For a dwelling-house, in South-street, Reading, for the Wesleyan Committee. Messrs. Cooper & Goulding, architects. Quantities supplied:—

Whiting	£798	0	0
Barnicoat	785	0	0
Watson	775	0	0
Norris	670	0	0

For alterations and additions to British School, Reading, for the Committee. Messrs. Cooper & Goulding, architects. Quantities supplied:—

Norris	£571	0	0
Dunn	511	0	0
Watson	484	0	0

For additions, &c., to the Isle of Thanet Union, Minster, Kent. Mr. Francis Edwards, architect. Quantities supplied:—

Kirk	£4,493	0	0
Newby	4,468	0	0
Smith & Son	4,374	0	0
Chinnock Brothers	4,000	0	0
Sawyer	3,992	0	0
Stiff & Richardson (accepted)	3,747	0	0

For erecting a mansion without the offices, lodges, &c., for Mr. R. F. Wingrove, J.P. Messrs. Guillaume, Parmenter, & Guillaume, architects:—

Scott	£5,267	0	0
Phillips	5,175	0	0
Futcher	4,935	0	0
Stevens	4,897	0	0
Gambling	4,650	0	0
Bull (accepted)	3,983	0	0
Adams	3 785	0	0

For building a shop and residence in the Above Barstreet, Southamptou, for Mr. Andrews, T.C. Messrs. Guillaume, Parmenter, & Guillaume, architects:—

Blackman	£1,592	0	0
Phillips	1,222	0	0
Adams	1,192	0	0
Bailey	1,050	0	0
Bull (accepted)	1,045	0	0
Martin	1,000	0	0
Evans	600	0	0

For erecting two houses, on the Marsh Estate, for Mr. G. Dowman. Messrs. Guillaume, Parmenter, and Guillaume, architects, &c.:—

Jessop	£922	0	0
Stevens	850	0	0
Grimes	839	0	0
Philps	765	0	0
Bull	700	0	0
Scott (accepted)	550	0	0

For alterations at the "Grange," Shirley, for Mr. Hewer. Messrs. Guillaume, Parmenter, & Guillaume, architects:—

Scott (accepted)	£445	0	0

For making "Havelock Road":—

Croft	£104	10	0
Hewett & Beeman	102	0	0
Barnes	97	10	0
Cox (accepted)	95	0	0

For additions and repairs to a public-house at Tongham, near Aldershott, for Mr. William Cave. Messrs. Eggar & Stapley, architects:—

Birch	£400	0	0

For building a public-house, stabling, and coach-houses, at Aldershott, for Mr. Henry Hall. Messrs. Eggar & Stapley, architects:—

Birch	£1,100	0	0

Accepted tenders for restoring the chancel of Ponteland Church, for Merton College. Mr. F. R. Wilson, architect:—

For Mason's Work.

If internal walls are chiselled. If plastered.
Armstrong ..... £123 0 0 .... £94 0 0

For Carpenter's Work.

For roof, &c. For oak stalls.
Healey ..... £97 0 0 .... £47 0 0
Forster 44 10 0

For Slater's Work.

Armstrong	£23	1	0

For Plasterer's Work.

Armstrong	£15	6	0

For the erection of new Sunday school-rooms and classrooms, Haward Chapel, Bedford. Mr. Usher, architect:—

Haynes	£574	0	0
Reynolds & Son	532	0	0
Corby	520	0	0
Norman	490	0	0
Hull	475	4	0
Houghton	462	10	0
Francis & Son (accepted)	442	4	0

For alterations to Rose and Crown Inn, Greenwich Mr. Smith Williams, architect:—

Piper & Wheeler	£2,865	0	0
Sewell	2,810	0	0
Macey	2,798	0	0
Robinson	2,740	0	0
Hill, Keddel, & Co.	2,670	0	0
Maeers	2,599	0	0
Walker	2,461	0	0
Searle	2,197	0	0

For building houses, King-street, Covent-garden. Mr. John Whichcord, architect:—

Tarrant	£2,925	0	0
Axford & Co.	2,905	0	0
Macey	2,895	0	0
Colls & Co.	2,854	0	0
Thompson	2,738	0	0
Jackson & Shaw	2,677	0	0
Turner & Sons	2,538	0	0

For alterations and additions to the Hereford County Gaol. Mr. Wm. Chick, county surveyor, architect:—

Pearson & Son	£2,670	0	0
Welsh	1,562	0	0
Biggleston	1,525	0	0
Ruddle & Thompson (accepted)	1,495	0	0

For the erection of a warehouse, vaults, and offices adjoining, in Cooper's-row, Crutched Friars, E.C., for Mr. Duncan Irvine. Mr. R. Norman Shaw, architect. Quantities supplied by Mr. T. W. Goodman:—

Little	£7,389	0	0
Wells	6,860	0	0
Patman & Fotheringham	6,649	0	0
Coleman	6,549	0	0
Saunders	6,490	0	0
Browne & Robinson	6,488	0	0
I'Anson	6,349	0	0
Myers & Sons (accepted)	6,298	0	0

TO CORRESPONDENTS.

S. & C.—Pottery Co.—R. W.—A Young Builder (matter of private arrangement in each case. If money were left "*as a deposit*," it should be returned).—A. W. B.—J. B. G.—W. H. V. S (thanks. Copies have been sent).—G. B.—R. S. C.—G. M.—L. R.—G. C.—Mr. M.—T. E. B.—W. S.—A Subscriber.—Enquiry (time would fail if we under took to answer such inquiries).—D. H.—E. W. S. (ask the builder to send us some particulars. We shall publish a view).

Portland Cement and Water.—"Will some of your chemical correspondents kindly inform me if there is anything injurious to the water in the common Roman or Portland cement with which rainwater tanks are often cased; and, if there be, can they also inform me if there is any substitute equally cheap and more suitable?—W."

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE.
Every description of Architectural Drawings prepared, and Perspectives Outlined or Coloured, by
Mr. T. T. MARDON, Jun.;
Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c.
7, John-street, Bedford-row, W.C. Office hours, Ten to Four.

AN Architect near London requires an ASSISTANT. He must be an excellent and expeditious draughtsman, ready at design, and thoroughly practised in construction and detail.—Address, stating salary, age, and other particulars, to R. R. Office of "The Builder."

AN ASSISTANT WANTED, in an ARCHITECT'S OFFICE in Town, well experienced in making finished and detail drawings, with a taste for classic design, and used to drawing out specifications and directing works. Aged 26. Salary given, two guineas per week.—Address full particulars of former engagements and references to A. B. 42, Berners-street.

CLERK of WORKS WANTED, immediately, for a house in the North of England. First-rate character and testimonials indispensable.—Apply by letter only to E. M. B. 1, Old Palace-yard, S.W.

CANVASSERS WANTED to obtain SHAREHOLDERS in a New Company (Limited). Remuneration most liberal. Other advantages offered to successful canvassers.—Address, X Y Z Office of "The Builder."

HUNSTANTON BUILDING ASSOCIATION, LIMITED.—WANTED, immediately, a CLERK of the WORKS, to superintend the erection of several houses at Hunstanton, Norfolk. He must be qualified to furnish detailed drawings, measure-up the work, take out quantities, &c.—Application to be made by letter only, accompanied by references, to the undersigned,
King's Lynn, May 27, 1862. HENRY EDWARDS, Secretary.

PATTERN MAKER WANTED, competent to undertake both Bench and Turned Work. One having some Knowledge of carving preferred.—Apply to PEARD & JACKSON, Manufacturers of Medieval Art Metalwork, 159, High Holborn, W.C.

TO ENGINEERS and GAS-FITTERS.—The trustees of Mrs. ANN NEWTON'S CHARITY for placing out Boys belonging to the parish of St. James's, Westminster, APPRENTICES to some respectable trade with a premium of £21, will meet at the Workhouse, in Poland street, Oxford street, on FRIDAY, the 6th day of JUNE next, at SIX o'clock in the Evening precisely, to receive APPLICATIONS for TWO APPRENTICES, one as an Engineer, the other as a Gas-Fitter, for which the youths have expressed a preference.—Any further information required may be obtained daily between Ten and Four o'clock, at the Parochial Office, Poland-street, Oxford-street, where the boys may be seen. Every applicant must attend the Board meeting in person, and bring a card containing his name, address, and business, with two references as to character, &c. None but householders need apply.—By order of the Trustees, GEORGE BUZZARD, Clerk.

WANTED, at once, for a limited period, a skilled DRAUGHTSMAN in Gothic Perspectives.—Address, with terms and reference, A. J. care of Mr. Wright, Stationer, New-street, Birmingham

WANTED, immediately, Two good and rapid ARCHITECTURAL DRAUGHTSMEN.—Apply, with drawings, between Ten and Four, to Mr. C. H. HOWELL, 3, Lancaster-place, Strand.

WANTED, in an Architect's Office, a GENTLEMAN capable of making working drawings in the Gothic style. The situation is more particularly suited to a young man wishing to come to London for improvement. A salary of 8l per month is offered.—Address, C. E. G. Office of "The Builder."

TO GRAINERS.

WANTED, immediately, a First-class GRAINER and WRITER. Constant employment, and London wages given, at MORLEY & CO.'s, Bury St. Edmunds.

TO STONE CARVERS.

WANTED, immediately, Two First-class CARVERS, one used to Early English foliage.—Apply to E. L. BOULTON, 15, Edgar-street, Worcester.

WANTED, in Manchester, ONE or TWO good STONE-CARVERS; also a MONUMENTAL MASON, one that has been accustomed to lettering.—Apply to T. R. WILLIAMS, Sculptor, Lower Moseley-street, Manchester.

WANTED, a JUNIOR CLERK, accustomed to solicit orders from Builders and Architects.—Apply, in writing, to the Roofing Zinc Works, Wood-street, Westminster.

TO JOINERS.

WANTED, at Letton Court, near Hereford, HALF-A-DOZEN good JOINERS None but good men need apply.

WANTED, a competent CLERK of WORKS, to superintend the erection, and get out the detail of a Gothic Mansion. Satisfactory testimonials required.—Apply, immediately, to Mr. HARRISON, Chronicle Office, Ripon.

WANTED, a Young Man, as CLERK in a Builder's Office a few miles from town. Must be a good book-keeper, and understand the usual routine duties.—Address, stating where last employed, age, and salary expected.—Apply personally or by letter, to M. N. No. 108, High-street, Borough, Southwark, between the hours of half-past two and five, on Monday next, the 2nd June.

TO ARCHITECTS AND OTHERS.

WANTED, by the Advertiser, aged 23, a RE-ENGAGEMENT. He is a good perspective and general draughtsman, thoroughly understands quantity taking and estimating, and possesses sound practical knowledge. Has been engaged for several years with a builder of extensive practice.—Address, E. W. Post-office, Leytonstone, N.E.

WANTED, by the Advertiser, who has served his time in the office of a London Architect, a SITUATION. He is a competent draughtsman and colourist, and able to assist in accounts.—Address, H. 2, Hornton-street, Kensington.

WANTED, by an experienced Man, aged 30, a constant SITUATION as PLUMBER, GAS-FITTER, PAINTER, &c.—Address, A. Z. 34, New-street, Horsedown, S.E.

WANTED, by a Practical Man, a SITUATION as IN-DOOR or OUT-DOOR FOREMAN, or to Conduct a Business. Accustomed to building in all its branches.—Address, A. B. Warren's Library, 18, London-street, Tottenham-court-road.

TO ENGINEERS AND ARCHITECTS.

WANTED, by a Practical Mason, a SITUATION to SUPERINTEND the ERECTION of LARGE WORKS, at home or abroad. Speaks French and Hindustani. Has good testimonials.—Address, S. T. 10, St. Thomas-terrace, St. Thomas-street, Borough.

TO BUILDERS.

WANTED, a SITUATION, by an experienced Shop Foreman and Staircase Hand, well versed in Gothic details. Good references can be given. No objection to the country. Address, Q. S. D. care of Mr. Hodgelong, 40, Charing-cross, London.

WANTED, by a thoroughly Practical Man, a SITUATION as FOREMAN BRICKLAYER, or as Sub Contractor. Has been engaged on Public Works. Terms moderate. High testimonials.—Address, ALPHA, care of Mr. Kurr, Baker, Caledonian-terrace, Caledonian-road, London, N.

WANTED, to APPRENTICE a YOUTH in his 16th year, to a Plumber and Glazier. A moderate premium given.—Apply by letter to Mr. J. STOCKER, 9, Phillip's-terrace, Old Barrack yard, Knightsbridge.

TO ARCHITECTS AND SURVEYORS.

WANTED, by a Young Man, a SITUATION as JUNIOR ASSISTANT in one of the above offices, or both, in or near London being preferred. Only a small salary required, his object being improvement. Respectable references can be given.—Address, C. M. care of Marsh & Co. 131, Fleet-street.

TO ARCHITECTS, &c.

WANTED, by a Thoroughly Practical Man, a RE-ENGAGEMENT as CLERK of the WORKS. Has had 20 years' experience. First-class testimonials.—Address, E. W. No. 3, Kingsmead-terrace, Bath.

TO MASTER PLUMBERS AND BUILDERS.

WANTED, by the Advertiser, a constant SITUATION as a good PLUMBER. Can fill up his time in painting and glazing, if required.—Address, P. F. Mr. Hooper's, Chemist, Russell-street, Covent Garden.

TO BUILDERS.

WANTED, by an experienced Man, an ENGAGEMENT to take charge of a Job.—Address, M. A. 78, Great Suffolk-street, Borough.

TO NOBLEMEN, GENTLEMEN, AND OTHERS.

WANTED, by the Advertiser, a Permanent SITUATION on an Estate, or otherwise, as WHEELWRIGHT and CARPENTER. Can make agricultural and brick-field implements, &c.—Address, T. A. Upper North-place, Gray's-inn-road.

TO PLUMBERS AND BUILDERS.

WANTED, by a thoroughly practical PLUMBER and GASFITTER, an ENGAGEMENT in the above. No objection to fill up time with painting and glazing. Good reference if required.—Address, F. K. 15, Bolton-road, Westbourne-grove, W.

TO TIMBER MERCHANTS, SAW-MILL PROPRIETORS, AND OTHERS.

WANTED, by a Person who has had great experience in the timber trade, a SITUATION as FOREMAN or MANAGER. Good references.—Address, J. C. 5, Bridge House-place, Newington-causeway.

TO BUILDERS AND CONTRACTORS.

WANTED, by a thoroughly practical Person, of eighteen years' experience, a SITUATION as SHOP or OUTDOOR FOREMAN. Good staircase hand, and no objection to take work by the piece. Well acquainted with the building business generally. Good draughtsman; can estimate and measure up work, &c. Satisfactory references. No objection to the country.—Address, H. Y. 76, Warwick-square, Pimlico, London.

TO IRONFOUNDERS.

WANTED, a SITUATION as FOREMAN, by one who has had long experience in moulding in all its departments, both in England and Scotland. Nine years' reference as to character and ability.—Address, A. B. 11, Lawson-street, Liverpool.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a BRICKLAYER, with 25 years' experience, a SITUATION as FOREMAN, or Painting Gauge Work, or Brickwork by Piece. Thoroughly competent in setting out work. Town or country.—Address, BRICKLAYER, 6, Milton Cottages, South-road, Wimbledon, Surrey

WANTED a CONSTANT SITUATION, by a First-class PLUMBER, Glazier, Gasfitter, and Painter.—Address, JOHN LANG, 10, Smith-street, Marlborough-road, Chelsea, S.W.

WANTED, a SITUATION as BUILDER'S CLERK. Understands book-keeping, drawing, and has a thorough knowledge of the business.—Address, E. A. Post-office, Hemingford-road, Barnsbury Park, N.

TO ARCHITECTS AND SURVEYORS.

WANTED, by the Advertiser, an ENGAGEMENT in the Office of an Architect or Surveyor, in either town or country. Is capable of making sketches, working drawings, writing specifications, and could assist in taking out quantities. Salary 30s. a week.—Address, M. R. 16, Southampton-street, Fitzroy-square.

TO FURNISHING IRONMONGERS, &c.

WANTED, to APPRENTICE a respectable and intelligent YOUTH, as INDOOR APPRENTICE, to the above trade.—Please address, stating amount of premium, &c to A. B. Post-office, Letterworth.

TO BUILDERS AND DECORATORS.

WANTED, a SITUATION, as FOREMAN of PAINTERS, or to take the entire MANAGEMENT of a BUSINESS. Strict integrity, punctual habits, with long practice in the business, and undisputed reference.—Apply, J. Y. 60, Berners-street, Oxford-street, W.C.

TO MASONS, BUILDERS, &c.

WANTED, by a respectable Young Man, a SITUATION as FOREMAN in a STONE-YARD or MONUMENTAL LETTER CUTTER. Is a good practical mason. Good reference.—Address, J. P. B. Littlemore, Oxford.

TO THE MARBLE AND STONE TRADE.

WANTED, by a Young Man, with a thorough knowledge of the business and a connection in the Midland counties, an ENGAGEMENT as TRAVELLER or MANAGER. First-rate references, and security.—Address, H. B. 117, Lee Bank-road, Birmingham.

TO BUILDERS.

WANTED, by the Advertiser, occasional EMPLOYMENT, in measuring up work, keeping accounts, making drawings, &c.—Address, A. Z. Z. 88, Park-street, Camden Town, N.W

TO BUILDERS, ENGINEERS, &c.

WANTED, by a Young Man, a SITUATION as CLERK, as above. Eighteen months' good reference can be given.—Address, Y. Z. 39, Shoe-lane, E.C.

TO BUILDERS AND CONTRACTORS.

WANTED, PLASTERING, by a Person in the habit of taking piecework. Labourer only. In town or country.—Address, J. L. Office of "The Builder."

TO MASTER BUILDERS AND PLUMBERS.

WANTED, a constant SITUATION, by a PLUMBER. No objection to turn his hand to painting. Good reference if required.—Address, H. T. No. 15, East-street, Manchester-square, Marylebone.

TO BUILDERS AND OTHERS.

WANTED, an ENGAGEMENT, in a Builder's Office, on an estate, or in a factory. Practically acquainted with building. Three years' experience in looking after workmen, time and account keeping, correspondence, &c. Can prepare finished and working drawings and specifications, take off quantities, and square dimensions. Salary moderate Good references given.—Address, A. P. C. Clapton House South, Lower Clapton, London, N.E

THE Advertiser, aged 20, desires a RE-ENGAGEMENT in a Quantity Surveyor's Office. Good character. Salary moderate.—Address, B. F. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a rapid designer and perspective draughtsman, and a good colourist, wishes for a RE-ENGAGEMENT as general assistant in an architect's office; or would be happy to render assistance at his own residence in preparing competition and other drawings.—Address, M. A. Post-office, 35, Lamb's Conduit-street, W.C.

TO PLUMBERS, BUILDERS, AND OTHERS.

THE Advertiser, who thoroughly understands Plumbing, Gas-fitting, Painting, and Glazing, wishes for a PERMANENCY.—Address, E. P. 4, Whitehart-court, Bishopsgate-street Without, E.C.

TO BUILDERS AND PIECE-WORKERS.

THE Advertiser, a Joiner by trade, WANTS a SITUATION as IMPROVER, where he would have an opportunity of becoming master of his trade for a fair remuneration.—Address, A.B. 14, Metcalf-place, Pentonville-road.

TO ARCHITECTS.

THE Advertiser is in want of an ENGAGEMENT. Is conversant with levelling and surveying. Salary moderate.—Address, C. C. Office of "The Builder."

TO PLUMBERS AND BUILDERS.

SITUATION WANTED, by a good Practical PLUMBER, who has no objection to fill up his time at painting and glazing.—Address, J. H. No. 13, Northampton-street, Clerkenwell, E.C.

BUILDER and CONTRACTOR'S CLERK. SITUATION WANTED, by an energetic Young Man, aged 28. Has held a responsible situation many years on a large building estate. Is an efficient book-keeper and correspondent. Can measure, assist with plans, &c. Highest references.—Address, J. A. Mrs. Borham's, 19, Holly Mount, Hampstead, N.W.

TO ARCHITECTS.

A THOROUGHLY efficient CLERK of WORKS is desirous of a RE-ENGAGEMENT. Seventeen years' experience.—Address, R. D. 14, New-street, Covent-garden.

TO CARPENTERS AND JOINERS.

A YOUNG MAN, aged 26, wishes for EMPLOYMENT as IMPROVER at the BENCH. Wages, 3s. 6d per day.—Address, R. S. 75, Waverley-road, Harrow-road, Paddington.

TO ARCHITECTS AND ENGINEERS.

AN Architect in the City, having several days in each week disengaged, will be glad to give any ASSISTANCE, either at his own office or elsewhere, upon moderate terms. Is thoroughly qualified to conduct any business.—Address, A. L. B. No. 41, Watling-street, E.C.

A THOROUGHLY Competent CIVIL ENGINEER'S ASSISTANT is open to an ENGAGEMENT for Office or Field Work. Unexceptionable references will be given, and a moderate remuneration accepted.—Address, H. M. Office of "The Builder."

A MEDICAL GENTLEMAN, of high qualifications, mature age, and great professional experience, being anxious to find a locality where a genteel Practice might be made, would feel greatly obliged by the readers of "The Builder" pointing out any new neighbourhood in course of erection which would afford scope for him. N.B.—The party who points out the most likely place will be handsomely rewarded for their trouble.—Address, with full particulars, to M. D. care of the Post-office, Leigh-street, Burton-crescent, W.C.

TO PARENTS AND GUARDIANS.

AN Architect of good practice in the country has a VACANCY for an ARTICLED PUPIL. Terms, out-door pupil, 75l.; in-door, 150l.—Address, BETA, Office of "The Builder."

TO BUILDERS, ESTATE AGENTS, AND OTHERS.

A THOROUGH PRACTICAL BUILDER'S FOREMAN, a joiner by trade, wishes for a RE-ENGAGEMENT.—Address, post-paid, to A. B at Jessop's Dairy, St. Alban's-place, Edgware road, Paddington, W.

TO QUARRYMASTERS, MANUFACTURERS, &c.

AGENCIES WANTED, by a Gentleman resident in Dublin, and having peculiar facilities for obtaining throughout Ireland orders for approved Stone and other Building Materials.—Address, Mr. L. 17, Lower Gardiner-street, Dublin.

AN Educated Practical Person offers his SERVICES, either occasionally, or as MANAGER, to a SURVEYOR, BUILDER, or SUB CONTRACTOR Thoroughly experienced in building and constructive operations; drawing, details, estimating, and superintending works. Would prefer an engagement in a small but improveable business, with a view to partnership.—Address, SURVEYOR, Office of "The Builder."

TO RAILWAY ENGINEERS.

A CIVIL ENGINEER, of considerable experience, having excellent testimonials, wishes for EMPLOYMENT under an experienced Engineer. "Permanent Way" preferred. A premium would be given.—Address, by letter, X. care of Mr. White, 35, Fleet-street.

TO ARCHITECTS.

A DRAUGHTSMAN, who has been for some time as improver with an architect of eminence in the City, is in want of a SITUATION. He is fully competent to prepare working and detail drawings, and has some knowledge of design. Salary moderate.—Address, R. H. F. Messrs. Reynolds & Sons, No. 29, Vere-street, Lincoln's-inn fields, W.C.

A WORKING FOREMAN of JOINERS wants a RE-ENGAGEMENT, either as Shop Foreman, or to take charge of a job. Town or country. Is thoroughly practical and efficient, having been similarly employed several years. Aged 35. Satisfactory references for ability, honesty, &c.—Address, A. B. 26, Northampton-road, Clerkenwell.

TO ARCHITECTS, ENGINEERS, AND SURVEYORS.

A GOOD DRAUGHTSMAN and COLOURIST will be glad to render TEMPORARY ASSISTANCE in the preparation of Architectural Drawings, finished, working, or detail; also duplicates or tracings of engineering, drawings, surveys, &c. Good references if required. Terms moderate.—Address, T. C. 22, Harwood-street, Hampstead-road, N.W.

TO HOUSE DECORATORS.

A PERSON, who has had great experience in ornament, and every description of pencil work, gilding, &c. has superintended general decorations for many years, can fill up time with writing, graining, or painting, solicits an ENGAGEMENT, not less than twelve months.—Address, LIMNER, 25, Upper Marylebone-street, W.

TO PLUMBERS.

A YOUTH wishes to ARTICLE himself, for two or three years, to the above line. A small premium given. West-end preferred.—Address, 20, Great Carlisle-street, Edgware road.

TO ARCHITECTS, SURVEYORS, OR BUILDERS.

AN ASSISTANT, who has upwards of seven years' experience, is desirous of Engaging himself in an Office of General Practice, in town or country. Can prepare plans and specifications, and take out quantities, understands surveying, &c. and is thoroughly acquainted with the routine of office work.—Address, B. H Post-office, Huntingdon.

TO ARCHITECTS.

AN efficient Clerk of Works is desirous of a RE ENGAGEMENT. Has just completed an engagement with an eminent London Architect, by whom he can be well recommended. Address, W. K. Post-office, Milverton, Somersetshire.

TO BUILDERS, CONTRACTORS, &c.

A YOUNG MAN, aged 24, who has hitherto been employed as an engineering draughtsman, who can level and survey land, and is of good business habits, wishes now to find some EMPLOYMENT under a BUILDER or CONTRACTOR, either in town or country. A small salary only required.—Address, Y. Z. 5, Well-street, Jermyn-street, S.W.

CLERK, TIMEKEEPER, OR COLLECTOR.

A YOUNG MAN, aged 27, is desirous of EMPLOYMENT as above, or in any capacity where active habits are required. Good character of seven years' standing.—G. H. 8, St. George's-road, New Kent-road, Borough.

TO ARCHITECTS OR ENGINEERS.

A CLERK of the WORKS, who has superintended large public jobs for about thirty years, wishes an APPOINTMENT to a large job, however difficult or intricate, and is willing to take all responsibility where difficulties arise.—Address, C. D. Post-office, Grafton-road, Kentish Town, N.W.

AN Active Man, Aged 30, of strictly sober habits, wants EMPLOYMENT as jobbing carpenter and joiner, on an estate or in a good jobbing business, or factory; has been used to all kinds of jobbing work; can make working drawings, and set out work. Wages 24s. if constant.—Address, A. B. Myrtle Cottage, Goswell-terrace, Goswell-road, Clerkenwell.

TO ARCHITECTS.

AN ASSISTANT, who has a good knowledge of Gothic architecture, is desirous of an ENGAGEMENT; or would prepare working and detail drawings at his own chambers. First-class references.—Address, P. Q. Office of "The Builder."

TO BUILDERS AND PLUMBERS.

A YOUNG MAN wants a Permanent SITUATION as PLUMBER, or Three-Branch Hand.—Address, A. B. 8, Church-row, Aldgate, City, N.E.

TO ARCHITECTS.

A WELL-QUALIFIED ASSISTANT, who has been accustomed to prepare finished, detail, and other drawings, take plans, dilapidations, &c.; an assistant in perspective, and a good colourist; seeks an ENGAGEMENT, temporary or otherwise, in town. Good references can be given.—Address, A. B. care of Mr. Hibberd, Stationer, 43, Ludgate-hill, E.C.

FREEHOLD RIVERSIDE PREMISES, near LONDON BRIDGE.—TO BE SOLD, a valuable PROPERTY, comprising landing and storing warehouses, dwelling house and offices, having a frontage of 70 feet to the Thames, and occupying an area of about 10,000 square feet, in immediate contiguity to the proposed terminus of the Charing-cross Extension Railway. Particulars may be obtained of Messrs. WILSON & SCOBLE, Estate Agents, 114, Leadenhall-street, E.C.

TYSSEN-AMHURST ESTATE.—LAND TO BE LET for BUILDING, in different parts of CLAPTON, HACKNEY, and KINGSLAND. For plans and particulars apply to Mr. CHESTER CHESTON, Architect and Surveyor, at the Offices, Church-street, Hackney, N.E. near the Railway Station.

BELVEDERE, near Erith, Kent, S.E.—To BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES for Investment.—This beautiful Park is to be thrown open for building at the new year 1863. Purchasers may then select their own sites from a choice variety. The beauty of the situation and healthiness are well known. The Railways and Roads to the water are all finished. There are stations of the North Kent Railway at Erith and Belvidere. The former is at the entrance of the Park; the latter, within four minutes' walk of the western side of the Park, on the Belvidere Road. Omnibuses will run to the end. By the end of 1863, it is expected that there will be complete railway communication to Charing Cross. Picardy, close to the Belvedere Station and Lessnes Heath (close to the Belvedere Church and Schools) are already (within two years) nearly covered with buildings, the villas of different classes, from £450 to 70l. a-year, and shops of various descriptions; some plots, however, may still be had there. Some sites in the park are just let, and it is intended to grant leases of other similar plots for ninety-nine years, for erecting villas of a superior description. Plots will be laid out contiguous to four principal roads running through the park. These are the Park road, leading from the Belvedere station to Brook-street; the Avenue-road and the Tower-road, each leading from the public Erith-road at different points to the Tower, and the Valley road, leading from the Erith Lodge to the archway in the park. The ground rents are very moderate.—Applications for terms and for plots may be addressed to Messrs. WM. G. HARRISHON & PITE, Architects, 38, Bloomsbury-square, W.C. Mr. NICKLAND, Lessees Heath, will show the ground to persons applying. The manor will also be let on lease after April, 1863, for sporting purposes, or other purposes as at present. For particulars apply to Messrs NORTON & HOGGART, Old Broad-street E.C.

BUILDING LAND TO LET, on long lease, in most eligible direct from the freeholder, at HIGHBURY, CANONBURY, NORWOOD (close to the Lower Norwood Station), and CROYDON (very near West Croydon Station), at the VAUXHALL GARDENS ESTATE, at DENMARK HILL, at Wellington-street, NORTH, at BOW Groundrents on leases for 31 years, the annual proportion of the cost of the unexpected would be obtained, and, in some cases the freehold, about to be purchased. For plans and particulars, apply to JAS. EDMESTON, Esq. Architect and Surveyor, 5, Crown-court, Old Broad-street, E.C.

WANDSWORTH ROAD, near VAUXHALL.—BUILDING LAND TO BE LET on LEASES for Forty Houses, to complete a Street, at 2s. per foot frontage.—Apply to Mr. TAYLOR, No 5, The Lawn, South Lambeth, S.

TO ARCHITECTS and OTHERS.—WANTED, by an enterprising Builder, with ample means, a good SITE for a BUILDING SPECULATION.—Particulars to be addressed to A B, 18, Devereux-court, Temple

WANTED, immediately, BUSINESS PREMISES, with gateway and yard.—Address, H. N. 34, Shoemaker-row, Doctors' Commons, E.C.

UPPER THAMES-STREET. — ST BARTHOLOMEW'S HOSPITAL. — To BUILDERS and OTHERS.—TO BE LET, on a Building Lease, for 70 years, from Michaelmas, 1862, the whole of a FREEHOLD ESTATE belonging to this Hospital, comprising the premises Nos. 148, 149, 150, and 151, Upper Thames-street, with a frontage of 98 feet towards Thames-street, and a depth of 100 feet towards Lake Dock Tidal Basin, and 3 feet in Mr. Harbank's occupation, No. 1, Hare-street, Cannon-street, Plans and particulars may be obtained at the Clerk's Office within the Hospital, on TUESDAY, the 24th day of JUNE, at a quarter before ELEVEN precisely.

WILLIAM WILBY, Clerk

St. Bartholomew's Hospital, May, 1862.

FREEHOLD GROUND.—The SITE of the Houses Nos. 100 and 101, High-street, Borough, TO BE LET on a Building Lease (Materials included), or, the PRESENT HOUSES TO BE LET, for a term of seven or seven and a half years, determinable at the end of the first or fourteen years, at the option of the lessee. The Wardens of the Parish Church of St. Saviour will meet in the VESTRY ROOM, in the Church, on THURSDAY, the 26th of JUNE next, at FOUR o'clock in the afternoon precisely, to receive TENDERS for the SITE of the Houses Nos. 100 and 101 in the High-street, and the small Freehold Premises behind, upon a Building Lease for eight years, from the 24th of JUNE, 1862, for the erection of one house or more, as the parties tendering may wish. The Plot of Land contains a frontage of about 36 feet in the High-street, with a return frontage of about 66 feet, having an entrance from Nag's Head-court, and offering a capability for the erection of very valuable premises. The Lessee, in case of taking the ground on a building lease, will be entitled to the Materials of the present Houses, as will be required to expend in the erection of the Premises a sum of 2,000l., and the Premises to be erected shall be strictly according to plan of building, and materials used, be to the satisfaction of Mr. HABERSHON, the Parish Surveyor. The Wardens are at the same time prepared to receive TENDERS for a LEASE of the Houses Nos. 100 and 101, or they may stand, for a term of twenty-one years from the 24th JUNE next, determinable at the end of the first seven or fourteen years, at the option of the Lessee; and the person whose Tender may be accepted will be required to expend 150l. in substantial repair, under the direction of Mr. HARBERSHON. Persons wishing to send in Tenders must attend with them sealed up at the time and place beforementioned, stating therein, if for a building lease, the amount of ground rent that will be given, and the particulars of the proposed buildings; or, the amount of rent that will be paid for a lease of the premises as they now stand, will an expend here of 150l. in the substantial repairs thereof. The Wardens do not bind themselves to accept any Tender, but the drafts of agreement and lease and the plan can be seen, and further information obtained, at the Office of HERBERT STURMY, Solicitor, Hibernia Chambers,

15th May, 1862. London Bridge, Southwark.

ROTHERHITHE.—To BUILDERS and OTHERS. FREEHOLD PROPERTY, belonging to St. Bartholomew's Hospital, TO BE LET, on a Building Lease, with a frontage of 100 feet to the river, and a plan may be seen at Mr. HARDWICKE'S Office, No. 1, Henrietta street, Cavendish-square, where further particulars may be ascertained.

WILLIAM WILBY, Clerk.

St. Bartholomew's Hospital, May, 1862.

GUILDHALL, LONDON, 27th May, 1862.—The Committee for Letting the Bridge House Estate will meet at GUILDHALL, on FRIDAY, the 13th JUNE next, at TWELVE o'clock precisely, to receive PROPOSALS for a BUILDING LEASE, for eighty years, of a Piece of Ground on the north side of Wellington-street, Deptford. Plans of the property may be seen, and further particulars obtained, upon application at the Architect's Office, Guildhall. FERDINAND BRAND, Comptroller.

GUILDHALL, 27th May, 1862. — The Committee for Letting the City Lands will meet at Guildhall, on WEDNESDAY, the 18th of JUNE next, at ONE o'clock precisely, to receive PROPOSALS for LEASES of a HOUSE, No. 9, Glitspur-street, in the City of London, and a HOUSE, No. 180, Goswell street, in the County of Middlesex. Plans of the property may be seen, and forms of Tender obtained, upon application at the Architect's Office, Guildhall. FERDINAND BRAND, Comptroller.

TO BUILDERS.—Messrs. MOXHAM & WHITAKER are instructed TO LET, on long Leases, a first-class plot of FREEHOLD BUILDING ESTATE situate at the end of Ashley-road, Upper Holloway. Plans of the property may be seen at the Auctioneers' Offices, 5, Cloak-lane, Cannon-street.

TO SLATE and STONE MERCHANTS and OTHERS.—TO LET, with an extensive WHARF, with BILLHOUSES—Apply to Mr. W. PARRY, Bedford Wharf, Commercial-street, Deptford.

TO BE LET, on Building Leases, with Advances, if required, a few choice PLOTS, being portions of a valuable Freehold Estate, on the high road at Muswell Hill, near the church, and within a short distance of the Hornsey Station.—For further particulars, apply to Mr. C. W. HORNE, Land Surveyor, Guildford-street, Russell-square, W.C.

TO BUILDERS.—First-class BUILDING SITES TO LET, at Beckenham, Furner, Feltham, Wetherhige, Barkley-hill, Croydon, Wandsworth, Shepherd's Bush, Parson's-green Lower and best Roads and sewers made, with the use of them. Apply at 17, Lancaster-street, Kennington-lane.—Further particulars apply at Mr. A. C. HOOK'S Offices, 13A, Great George-street, Westminster, S.W

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a splendid situation, contrast, the at one time from the railway stations, from where the metropolis is accessible in half an hour. The land which is appreciated for its picturesque lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive Manufacturing Premises, known as TREDEGAR WORKS, Bow, Machine shop, 61 ft. by 54 ft.; two ranges of workshops, 74 ft. by 25 feet; steam engine, boilers, forge, sheds, stabling, counting-house, and all other conveniences suitable for a large factory.—For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

BUILDING LAND, situate between Reigate and Dorking, in the parish of Betchworth, TO BE LET upon long LEASES, in plots of ten acres and upwards, suitable for the erection of good class of private residences.—For particulars, apply to Messrs. CLUTTON, 9, Whitehall-place, Westminster; or Messrs. NASH, Reigate

TO SPECULATING BUILDERS and OTHERS.—LAND, close to the Royal Dockyard, Deptford, TO BE LET, on LEASE, suitable for building five-roomed cottages that would readily let for 6s. a week.—Apply to Mr JOHN WIMBLE, 2, Walbrook; or to Mr. J. A. BONE, 97, Leadenhall-street.

VALUABLE BUILDING LAND, opposite the Queen's Hotel, Upper Norwood, TO BE LET by TENDER.—For particulars apply to Messrs. HUNT & STEPHENSON, 4, Parliament street, S.W. Tenders to be delivered on the 2nd of JUNE.

BUILDING GROUND, HOLLOWAY. TO BE LET on BUILDING LEASES, for Eighty years, a PLOT of GROUND on the north side of Park road, Holloway, adjoining the City Prison, and a PLOT of GROUND on the south side of the same road, and on the north side of Camden-road, Holloway. Plans of the ground may be seen, and further particulars obtained, upon application at the Architect's Office, Guildhall

FERDINAND BRAND, Comptroller.

CHAPEL for SALE, near the Regent's-park, East Side.—A CHAPEL, with Fittings, completely pewed to accommodate 900 persons, with lofty schoolrooms underneath, and vaults on two sides of the building. The premises are substantially built, and situated in a good and populous neighbourhood. Can be easily converted for educational purposes, combining lecture-rooms, school rooms, class rooms, &c.—Further particulars may be had of Mr. TARRING, 26, Bucklersbury, E.C.

BUILDING GROUND.—St. Dunstan's Hill near the Custom House, London.—TO BE LET, with the approbation of the High Court of Chancery, on a Building Lease, or Building Leases, for the term of 80 years, all those FOUR MESSUAGES or TENEMENTS and DWELLING HOUSES situate and being Nos. 4, 5, 6, and 8, on the west side of St. Dunstan's Hill, in the Parish of St. Dunstan-in-the-East, in the City of London, possessing a frontage of 80 feet, and an extreme depth of about 74 feet. The property will be let subject to the rights of the tenant of No. 8, who holds, by an agreement to leave on six calendar months' notice from any quarter day, at the yearly rent of 35l.—1l. 9s. 9d. for reiserved land tax, and 2l. 5s. for insurance against fire; and also to the rights of the tenant of No. 6, who holds for the remainder of a term of 21 years, which will expire at Midsummer, 1865, at the yearly rent of 87 — 2l. 4s. for reserved land tax, and 2l. 10s. for insurance against fire. The tenant of Nos. 4 and 5 has received notice to quit, which will expire, and is only occupying from sufferance. The property belongs to the Parish of St. Dunstan-in-the-East, in the City of London, and will be let, subject to the approbation of the Court of Chancery, by TENDER of one or more building leases or leases, at the option of the lessee or lessees, for a term of 80 years, from 24th JUNE, 1862, at a pepper corn rent for the first year, and at an agreed rent for the remainder of the term. A plan of the ground, and the various conditions of the agreement for a lease or leases to be signed by the lessee or lessees, may be seen at the office of WILLIAM TITE, Esq. M.P., 17, St. Helen's Place, Bishopsgate-street, the Surveyor of the Parish; at the office of JAMES EDWARD HERMAN, Esq., the Vestry Clerk of the Parish, No. 34, Mark lane, from the 1st to the 14th day of JUNE, between the hours of Eleven in the forenoon and Four in the afternoon, except on Saturdays, and then until Two in the afternoon; and the Church Committee of the parish will meet in the Vestry Room of the Parish Church on THURSDAY, the 26th day of JUNE, 1862, at ONE o'clock in the afternoon precisely, to receive sealed Tenders from parties who may be willing to take the property on a building-lease or building-leases for the term aforesaid, and under and subject to the terms and conditions contained in the plans and specification and terms of letting before referred to. Such Tenders to be in the form set out at the foot of the said specification and conditions; and forms thereof may be obtained at the Surveyor's or Vestry-Clerk's offices on application. Such Tenders to be sealed up and delivered at the office of the Vestry Clerk one clear day before the meeting of the Church Committee. The Church Committee will not bind themselves to accept the highest or any Tender; and the parties whose tender shall be accepted will be required to provide two good and sufficient sureties for the due performance of the covenant's of the said contract. The parties tendering are requested to attend during the meeting of the Committee, in the Vestry-room, on the said 19th day of JUNE, 1862

SIXTY MARBLE CHIMNEY-PIECES TO BE SOLD, in consequence of Monsieur Beermeert, of the Belgian and Westminster Marble Works, 36, Bank street, Westminster, having cleared out his Show-rooms in London. The above Chimney-pieces consist of Carved Statuary, Bold Ronge Royal, Black Trussed, &c. &c. The above will be sold a great sacrifice—in fact, no reasonable offers will be refused.—Apply to Mr. PILTON, Westminster Marble Works, Earl-street, Horseferry road, S.W.

MARBLE CHIMNEY-PIECES of every Description, also enamelled Slate, to be SOLD at 289, MARYLEBONE ROAD (opposite the Yorkshire Stingo) BATH STONE BOX CHIMNEY-PIECE, with MOULDED CAP and BASE, 7s FITTED TO ANY OPENING.

VICTORIA MARBLE WORKS, 36, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

JOHN WREN

Begs to Inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and super or workmanship, at the lowest possible prices.

N.B.—Estimates given. Country mason-work executed with promptness and personal attention.

THE LIZARD SERPENTINE COMPANY, LIMITED.

Works—CARLEON COVE, LIZARD, CORNWALL

Offices—31, ST. JAMES'S-STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to forward estimates, and execute in the best manner any work intrusted to them.

All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Touchy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard tables, Table-tops, Baths, Wall linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 72 and 74, Upper Belgrave-place, Pimlico, S.W

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston road, N.W.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE supplied by

WILLIAM & JOHN FREEMAN,

27, MILLBANK STREET, LONDON, S.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.

SHOW ROOMS, 6, CANNON STREET, E.C.

London Agents—TREGOLLES & TAYLOR

Manager—JAMES J. TRATHAN, Liskeard.

This Granite is selected for the New Westminster Bridge.

DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.

EDGE RUNNERS OF SUPERIOR QUALITY.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

TO ARCHITECTS, BUILDERS, and OTHERS.—MARBLE and STONE COLUMNS TURNED and POLISHED by new machinery, at half the usual cost. Fonts Chimney-pieces, Mural Tablets, Tombs, &c. at the lowest possible prices.—WM. F. WILLIAMS, 316, Euston-road, N.W.

MARKET WHARF, REGENT'S PARK BASIN WEST END DEPÔT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.

Country orders promptly attended to

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone which is of perfect solite, is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as rubble work it is not necessary to place it bed-ways. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.

Cargoes shipped to order from Caen to any port. Contracts taken

Depôt—GRANITE WHARF, East Greenwich.

Office—10, Three Crown-square, Borough.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

RANSOME'S PATENTED SOLUTIONS FOR PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is arrested, or prevented, efflorescency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.

Applications for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

BELLMAN & IVEY, SCAGLIOLA MARBLE MANUFACTURERS, 14, BUCKINGHAM STREET, FITZROY-SQUARE, LONDON, W.

Execute, in the most workmanlike manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including

THE ARCHITECTURAL SCREEN, exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute

PLASTERERS' WORK OF EVERY DESCRIPTION, IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.

Also Manufacturers of Superior and Improved Plaster of Paris.

RED MANSFIELD STONE. WHITE MANSFIELD STONE. YELLOW MANSFIELD OOLITE. MAGNESIAN LIMESTONE. Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any station.

Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of every description from the best quarries in Wales; also Slate and Masons' Materials, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,

No. 1, BOLD TERRACE, CHESTER.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.

SCAFFOLD and HEMP-ROPE FALLS.

H. PIGOTT,

29, Bishopsgate-street Within, E.C. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES.

CARY & PRIER, DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON E.C.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from **2s.** per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from **3s** per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses. BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.



The Registered Crystal Star-Light.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF

MEDIÆVAL AND OTHER GAS-FITTINGS,

CRYSTAL, BRASS, & ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY.

WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

IRON BUILDINGS and IRON ROOFING.
SAMUEL C. HEMMING & CO.
21, MOORGATE-STREET, E.C.

NOTICE TO BUILDERS AND CONTRACTORS.

HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Crab Winches, all sizes.—For further particulars apply to BOWSER & CAMERON, Springfield Iron-works, McNeil-street, Glasgow.

IMPORTANT TO BUILDERS, SAW-MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS

WILSON'S PATENT LARGE ENDLESS BAND SAWING-MACHINERY.

This machinery is adapted to cut up square or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the logs are arranged to carry the log past the saw to any extent without stooping for re-adjustment, by which the necessity for transoms is avoided, and they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly.

The speed of cutting may be varied from 10 inches to 10 feet per minute, and yet on account of the increased length of cutting edge, the saw is kept cool.

May be seen in operation, daily, at Messrs. JAMES WILSON & SON'S, Builders', Springfield Saw Mills, Manningham, Bradford, Yorkshire.—Full particulars may be had on application, by parties desirous of purchasing

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanised Tipped Sheets and Tiles for export.
IRON-WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 85, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

HUTHNANCE'S PATENT ECONOMIC LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS.
Is strongly recommended to public notice, as being the most efficient and economical arrangement for the purpose of drying linen, clothes, bedding, &c., especially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c. &c.; as, in a sanitary point of view, it is invaluable, the DRYING-ROOM being raised by its use to a very high temperature, whilst the IRONING ROOM is kept AGREEABLY COOL and WELL VENTILATED. The economy of fuel is extraordinary, as, in a small union, it caused a saving of seven tons of coals in four months, whilst for simplicity of arrangement and cleanliness in use it cannot be surpassed.
No BLACKS or SOOT can enter the drying-room
This arrangement has been carried out in numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS
Testimonials and illustrated particulars forwarded upon application to Mr. PIERCE, SOLE PROPRIETOR and MANUFACTURER, JERMYN STREET, REGENT STREET.
A large model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street, London, E.C.

MOREWOOD & CO
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

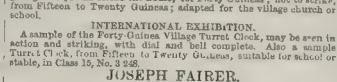
THE VILLAGE CLOCK.—
A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.
INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock, may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3 248.
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
183, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's Do. do.	10 „
Ladies' or Gentlemen's Gold English Lever Watches	18 „
Strong Silver Lever Watches	5 „
Gentlemen's Gold Compensation Balance Watches	40 „
Do. Silver do. do.	25 „
Marine Chronometers	35 „

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

CARTS, LADDERS, BARROWS, &c.—
GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

MR. CHARLES WOODROFFE, of 29, New Bridge-street, Blackfriars, is prepared to ADVANCE MONEY in discount on short notice, on HOUSES in the course of erection, at frequent intervals, as the works proceed, the borrower depositing the writings. No legal expenses.—Apply between Ten and Four.

BENJAMIN EDGINGTON,
2, DUKE-STREET, FOOT of LONDON-BRIDGE S.E.
Manufacturer of Tarpaulins, and Improved Dressed Cloths.
Tarpaulins Let on Hire, Scaffold-cord, Rope, and Blocks of every description. Marquees, Tents, Awnings, Rick-cloths, Sacks, &c.
N.B. The ONLY ESTABLISHMENT is at 2, DUKE STREET, LONDON-BRIDGE, S.E.

READ WIN,
SIGN AND GLASS WRITER,
AND
EMBOSSER ON GLASS,
14, WARWICK-STREET, PIMLICO, S.W. LONDON.

GRAND SURREY DOCKS.—The election to the Office of Clerk of Works having taken place, candidates can receive back their testimonials, on application at the Company's Office, 21, Mincing-lane, Bishopsgate. G. W. HEISCH, Secretary.
May 28, 1862

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



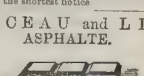
EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD BROTHERS, sole Manufacturers, 117 and 118, Union street, Borough, London; and of all respectable Ironmongers, Builders, &c.

FIRES.—VAUCHER'S PATENT WOVEN HOSE for Fire-engines and Ships' purposes may be had of any length and diameter. All warehouses and large establishments should have a plug with a length of hose attached on each floor.—Samples of double and half double substance, and all particulars, may be had at the Office, 1, Chapel place, Poultry. Shipping orders prepared for tropical climates on the shortest notice.

POLONCEAU and LIMMER ASPHALTE.

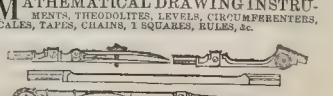
ESTABLISHED 1838



For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

T SQUARES.—W. F. STANLEY,
late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 21-inch, 2s. 6d. and 3s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN,
LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH
Near Astley's Theatre.
Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.				Laths, 28s. per load.	
Yellow Deals, sound and good	£9	10	0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	16	10	0 ,,	0 2½	,,
Yellow Battens, excellent quality	11	10	0 ,,	0 2	,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 ,,	3 6	,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅜-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
½-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	16s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £9 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
⅜-Inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

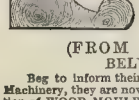
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards ..... } from 11s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
8,000 Yellow Deals ..... from 3s. 3d. each
14,000 Spruce ditto ..... from 2s. 9d. each

5,000 Yellow Battens ..... from 11l. 10s. per 120
50,000 feet Spanish and Honduras Veneer ..... } from 1d. per foot
Maple ditto ..... from 1d. per foot

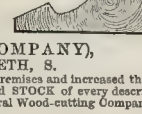
SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.



MOULDING WORKS.

SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, at which he is now prepared to supply the Trade with first class goods at the lowest possible scale of prices—for cash

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Lining, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 3d.; Spruce, from 2s. 8d.; Pine Planks from 8s. 3d.; Mahogany, 6d.; 2¼ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 1s. 2d.; 1-inch Yellow, from 1s. 3d.; 2 White from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

GOOD NEW THATCHING REED, of the best quality, may be had in any quantity, by applying to Mr. STRANGWARD, Ouse Bridge, Downham Market.

TO BUILDERS, HOUSE-PAINTERS, and DECORATORS.—PATENT EXTRACT of LETHICIUM.—Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. in a few minutes, and for Cleaning and Restoring Old Paint. Success guaranteed. Price 8s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London.—Messrs NAENIARE & Co. 11, St. Andrew's-hill, Doctor's-commons, London, E.C.—N.B. Cheap patented Brushes for laying on the Extract, and removing the old paint, 2s. per pair.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W NAYLOR'S Stains may be had at the Factory, 4A, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated
PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
. Also Manufacturers of the Patent India-rubber Knife-boards.
Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

COLOURS and VARNISHES at REDUCED PRICES,
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 2d. per gallon; Boiled Oil, 3s. 2d.; Turpentine, 5s. 8d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at P. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

GENUINE WHITE LEAD, branded and warranted from the Manufacturers, 30s. per cwt; Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s. 8d. per gallon; Turps, 5s. 6d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon. Hamilton's and Keut's Graners', Painters', and Plasterers' Brushes, to be Had at D. J. PORTER'S White Lead and Colour Warehouse, Nos. 1 and 2, Pratt street, Camden Town, N.W.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
20, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machiner.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES (G. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 34, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 2d. per gallon; Boiled Oil, 3s. 6d. per gallon.
Turpentine, 5s. 9d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 20, Upper Ebury-street, and 45, Colesbill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Corbel, and Pinnacled Ridges. Tiles of different Pitch, and Grooved Ridging, with Crest-ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERERS' HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, } SOLE CONSIGNEES.
WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge,

The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled Corbel, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest-ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridges, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime and Ole Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited,
Are prepared to Supply their First-class Blue Lias Lime in any quantity and on any line.
SPECIAL CONTRACTS MADE FOR LARGE WORKS.
All communications to be addressed to the Company, at their Offices, 2, Winchester buildings, Great Winchester street, E.C.

PARIAN CEMENT for INSIDE WORK. With this Material Hard-wall Stucco is finished at about one-fourth the usual time, as Parian Stucco is prepared to be covered within forty-eight hours. A finer quality produces a beautiful and hard stucco finish.—Full particulars, testimonials, &c., FRANCIS, BROTHERS, & POTT, Nine Elms, London.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TAYLHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Dee River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
CLEDS'S WHARF, QUEEN'S ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY STONE, CHALK FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Dutch and Flanders WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Dutch and Flanders ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, Bath, Larders, Dairies, Shops, Kitchen Dresses &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS and TILES, of every Description and Size.
GLAZED STONEWARE DRAIN PIPES, TRAPS &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA-COTTA ORNAMENTAL CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and all other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Lathe, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TAYLHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

JOHN BAZLEY WHITE & BROTHERS,
MILLBANK STREET,
WESTMINSTER.
MANUFACTURERS of ROMAN, PORTLAND, and KEENE'S CEMENTS; PLASTER of PARIS and MASTIC BRICKMAKERS, AND MARBLE MERCHANTS.
J. B. WHITE & BROTHERS' PORTLAND CEMENT, of which they make but one quality, possesses all the advantages of the natural cements while it greatly excels them in its cementitious properties, is not affected by frost and does not vegetate in damp situations.
An account of comparative experiments on the strength of this and other cements, read at the Institute of Civil Engineers, to be obtained at the Makers'.
KEENE'S IMPROVED CEMENT, MANUFACTURED ONLY BY J. B. WHITE & BROTHERS,
For internal use, is superior to all others in hardness, and is, therefore, specially adapted for floors, skirtings, and stucco work in general, while it has the additional advantage of receiving paint in a few hours after its application.
Agent in Liverpool: JOHN MACKENZIE, 46, Seel-street.
Do. in Manchester: THOMAS OAKDEN.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierley Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND SIDCUP FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

PATENT and BRITISH PLATE GLASS.
JAMES RETLEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 39, Soho-square, London.

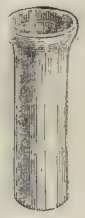
PAINTED GLASS WINDOWS AND MURAL DECORATION
LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford-street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Rough, Fluted, Rough Plate Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

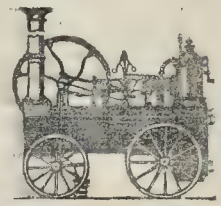
HORTICULTURAL GLASS WAREHOUSE.
THOMAS MILLINGTON,
87, BISHOPSGATE-STREET WITHOUT, E.C.
Lists forwarded on application.



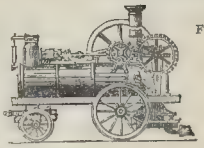
HENRY DOULTON & CO.'S
GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.
Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.
PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.
The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.
HENRY DOULTON & CO.
High-Street, Lambeth, London.

ENCOURAGE COUNTRY MANUFACTURE.
WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS
MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.
M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.
WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.
PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



PORTABLE STEAM PUMPING-ENGINES,
From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GORDE PIAZZA, Liverpool.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

BARTLETT BROTHERS & CO.
DEVONSHIRE WHARF, CAMDEN TOWN, N.W.
Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.
Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,
INTERNATIONAL EXHIBITION, 1862.

ENAMELLED STONE CHIMNEY-PIECES,
Of Beautiful Designs, and to Imitate any kind of Marble; far Superior to Enamelled Slate, and considerably Lower in Price, INVENTED AND MANUFACTURED BY
W. J. ELLISON & CO.,
SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.
Also, MANUFACTURER of WALL-LININGS, composed of Stone Slabs, with a Veneer of Scagliola to Imitate Marble, and Enamelled by Heat. WARRANTED TO RETAIN ITS POLISH.
Office and Show Room, No. 3, WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.
Manufactory, EAST-ROAD, CITY-ROAD.

JAMES STIFF & SONS,

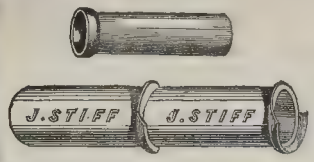
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

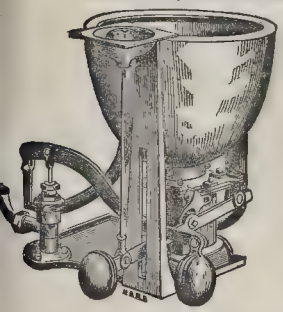
Messrs GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs BLACKMORE & CO'S City-road Wharf, City Basin.
Messrs COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr A RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danvers Wharf, Chelsea.
Mr. LAVERS, Dowgate Wharf, Canal road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

HAYWARD TYLER & CO.

ENGINEERS AND BRASSFOUNDERS,

84 AND 85, UPPER WHITECROSS STREET, LONDON, E.C.



HOWARD'S PATENT

REGULATING VALVE,

MANUFACTURED BY H. T. & CO.

Has been fixed in every situation, and proved to be

THE ONLY EFFICIENT VALVE

FOR

SUPPLYING CLOSETS WITH WATER WITHOUT

THE COMPLICATED ARRANGEMENT OF

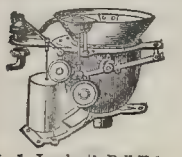
CRANKS AND WIRES.

The "Great Eastern" has been fitted with these Closets, and hundreds are now in operation in many large establishments in the metropolis.

H. T. & Co. solicit an inspection at the Manufactory, where they may be seen in operation.

THOMAS LAMBERT & SON,

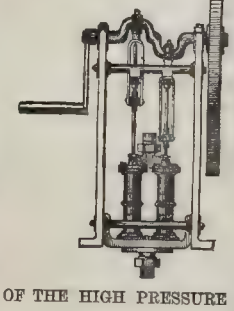
No. 37. Self-Regulating Pan Closet.



No. 36a. Bath Valves.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



High Pressure Stop Valve.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

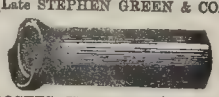
T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.

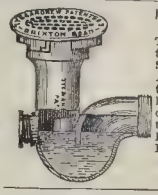


In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes, and the Pans become DISCOLOURED and UNFIT for USE.

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the 3s. 9d. Enamelled Stoneware Closet and Trap.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 37s. 6d. per 1,000.
" Kiln Bricks, at 36s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS, 242, EUSTON ROAD, ST. PANCRAS.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1754, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage stamps.

BUFF & DEEP RED FACING BRICKS, Splays, Cutters, Floor-tiles, Garden Edging, &c.—Apply to E. HOOPER, Manufacturer, Southampton; or JOHN DOWNEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.

Architects and Builders requiring superior colour in bricks are respectfully invited to inspect the above.

MINTON & CO.

HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,

TO 35, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21, Wharf, Macclesfield-street North, City-road Basin, N. Thirdly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and Thirdly, that the "Reports of the Juries," page 681, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tilleries," Tunstall, Staffordshire as the first of the kind in the world.

DURABILITY of GUTTA-PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta-Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

TO BUILDERS, CONTRACTORS, AND OTHERS, —2,000,00 Capital STOCK and PLACE BRICKS,—York-road, King's Cross.

PULLEN, HORNE, & EVERSFIELD, are instructed to SELL BY AUCTION, on the ground adjoining the Viaduct, near the Canal Bridge, York road, Kings Cross, on MONDAY, JUNE 2nd, at TWELVE, to clear the ground, about 2,000,000 excellent NEW BRICKS, sorted and in clamp, in lots suitable for large and small purchasers, comprising best, second, and rough stocks and place. May be viewed on Friday and Saturday previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, Westminster.

WAPPING WALL TO BUILDERS, MASONS, PAVIORS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD, will SELL by AUCTION, on the premises, 74, Wapping-wall, on TUESDAY, JUNE 3rd, at TEN for ELEVEN, by order of the proprietor, to clear the Wharf, in consequence of the lease being disposed of, several thousand feet of York Paving, Slabs and Landings, York Steps, Cills, Sinks, and Copings, sawn Head stones and Landings, New castle and other Grindstones, Blocks of Green Moor, Hazehill, Bramley-fall Granite and Firestone, Granite Cubes, Pitchers and Curb, worked Granite Drinking Fountains, &c.; also, a double-purchase Crab, two Hoisting jacks, Hurl irons, new tackle, and other effects. May be viewed the previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

BUILDING MATERIALS, HARP-LANE, TOWER STREET.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 17th, at TWELVE, the BUILDING MATERIALS of the Offices and Premises known as Bakers' Hall Chambers, Harp-lane, Tower-street; comprising sound brick-work, lead flat, gutters, cisterns and pipes, 10,000 plain tiles, useful timber and flooring-boards, glazed sashes, doors, fittings, stone paving, &c.—May be viewed the day previous. Catalogues had of Messrs. JOHN YOUNG & SON, Architects, 35, King street, Cheapside; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament-street, S.W.

The Ashley Park Estate, Walton-on-Thames, Surrey, including the fine old Mansion and Park and a charming Cottage Ornée on the border of the park, also valuable Building Land, of a most healthful dry sand and gravelly soil, with frontages to the main road, extending from the railway station to the village of Walton; the estate comprising altogether about 300 acres; only 40 minutes' journey from the metropolis.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are favoured with instructions to SELL by AUCTION, at the MART, on FRIDAY, JUNE 13, the above highly important and very valuable FREEHOLD ESTATE, which will be divided into four lots (unless an acceptable offer for the whole be previously made). The first lot to comprise the fine old Mansion, with its offices, stabling, gardens, pleasure grounds, and beautifully-timbered ancient park, farmery, bailiff's house, lodges, &c. altogether about 170 acres in a ring fence, bounded on the west side by the Oatlands Park estate. Lots 2 and 3, about 120 acres of very eligible Building Land, possessing extensive frontages to the main roads, ornamented by beautiful plantations and trees from 30 to 50 years' growth, available in laying out the ground in sites for gentlemen's villas, which are much sought for in this locality. Lot 4, a beautiful old Cottage Ornée, known as Ashley Cottage, situate on the northern margin of the park, with offices, gardens, and meadow land, comprising nearly nine acres, within a few minutes' walk of the village of Walton and close to the Oatlands drive, on the high ridge of land overlooking that beautiful part of the river Thames opposite to Hailford and Shepperton, as well known to anglers and boating gentlemen.—Printed particulars and plans may be had at the Oatlands Park Hotel; of Messrs. NICHOLL, BURNETT, & NEWMAN, Solicitors, 18, Carey-street, Lincoln's-inn; and at the Office of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville-row, W. and Change-alley, E.C.

WALTON and WEYBRIDGE.—The Dairy Farm and other Lands, formerly part of Oatlands-park, a portion abutting upon the Oatlands drive, and presenting beautiful Sites for Gentlemen's Residences of a class similar to the many elegant Villas and Grounds which already occupy nearly the entire frontages of the road between Walton and Weybridge; the whole freehold, and land-tax redeemed.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT beg to notify that they have received instructions from the Executors of the late Mr. Wall of the late Dairy Farm, Oatley Lodge, and to SELL by AUCTION, at the MART, on FRIDAY, JUNE 27, in five lots, the above very valuable PROPERTY, which commences close to the village of Walton, and possesses a considerable extent of frontage on the west side of the main road leading from thence to Weybridge, including the two lodges formerly constituting the northern entrance to Oatlands-park, distant about one and a half mile from the Walton Station, and two miles from the Weybridge Station, on the South-Western Railway. This frontage forms a ridge of high land, gradually sloping and overlooking the beautiful valley of the Thames opposite to Hailsford and Shepperton, and the Dairy Farm lies in the vale between, with a genteel and pleasantly situate brick-built and slated Farm-house (rebuilt in 1859), farm yard, and convenient buildings, and several enclosures of arable, meadow, and wood land, and a portion of the large piece of ornamental water called Broadwater Lake; the whole comprising about 133 acres.—Printed particulars and plans may be had 21 days prior to the sale of Messrs. NICHOLL, BURNETT, and NEWMAN, Solicitors, 18, Carey-street, Lincoln's-inn; of the Oatlands-park Hotel; and of Messrs. RUSHWORTH, JARVIS, and ABBOTT, Saville-row, Regent-street, and 10, Change-alley, E.C.

Valuable Ironmongery, Cameras, Chemicals, Albums, &c.

MR. J. C. STEVENS will SELL by AUCTION, at his GREAT ROOM, 38, King-street, Covent Garden, on TUESDAY, 3rd of JUNE, at HALF-PAST TWELVE, precisely, the remaining portion of STOCK of an old-established firm in the City, removed for convenience of sale; consisting of latches, bolts, Bramah and Barron's patent and other locks, sliding bolt and other hinges, barrel bolts, &c.; a quantity of Chamerman's patent spring hinges, cash-boxes, furniture rings, superior bell-work, comprising cranks, carriages, pulls, &c.; steel mountings for stoves and fenders, rivets, screws, nails, &c.; to which is added a few excellent plated goods, superior camera by Ottewill, with a pair of quick rectilinear lenses, chemicals, photographic, handsome portrait albums, and a variety of miscellaneous articles.—On view the day prior and morning of sale, and catalogues had.

TO BUILDERS with a small capital.—Valuable Freehold Building Land.—COLNEY HATCH, Middlesex (three minutes' walk from station).

MR. W. B. MACLACHLAN will SELL by AUCTION, at the Mart, opposite the Bank of England, on THURSDAY, JUNE 19, at ONE o'clock precisely, about one acre and a half of very eligible FREEHOLD BUILDING LAND, in plots, with a good frontage and great depth. This is a most healthy and matured locality; and the demand for house property is very great. The road and sewer are formed. Particulars at the Auction Mart; of J. F. DE PINNA, Esq. Solicitor, 5, Southampton-street, Bloomsbury; of Mr. BREDE, Architect, Colney-hatch; and of the Auctioneer, 11, Southampton-buildings, Chancery-lane, W.C.

FREEHOLD BUILDING LAND, Cradley and Leigh, near Malvern.—TO BE SOLD, in pursuance of a decree of the High Court of Chancery, made in the cause of Wall *v.* Hall, with the approbation of His Honour Vice-Chancellor Sir Richard Torin Kindersley, by

MESSRS. HOBBS, at the BEAUCHAMP ARMS HOTEL, Great Malvern, on THURSDAY, the 19th day of JUNE, 1862, at THREE o'clock in the afternoon, in nine lots, several PLOTS of valuable FREEHOLD LAND, in the parishes of Leigh and Cradley, and adjoining to Great Malvern, on the high road from Malvern to Bromyard, admirably adapted for building purposes, formerly the estate of William Wall, esq. and Samuel Wall, esq. Printed particulars and plans may be had, gratis, at the Beauchamp Arms Hotel, Great Malvern; Star Hotel, Worcester; and the principal Hotels in the neighbourhood; also of the Auctioneers, at Worcester; and of Messrs. J. W. & W. FLOWER, 17, Gracechurch-street, London; Mr. JAMES BEST, Solicitor, Worcester; Mr. JAMES ALLSUP, Waltham Abbey, Essex; Mr. THOMAS HENRY SMITH, 1, Frederick's-place, Old Jewry, London; Messrs. THOMPSON & DERENHAM, Salters' Hall, St. Swithin's-lane, London; Messrs. WEBB & BUCK, Land Agents, Worcester

Dated 29th May, 1862.

STOCK OF FURNISHING AND BLACK IRONMONGERY AND SHEFFIELD PLATE.

MESSRS. FULLER & HORSEY are instructed by the executors to SELL by AUCTION, on the PREMISES, No. 1, Gracechurch street, on THURSDAY, JUNE 12, 1862, at ELEVEN o'clock, in lots, without reserve, the STOCK of FURNISHING and BLACK IRONMONGERY and SHEFFIELD PLATE: fourteen sets best plated tea and coffee services, cruet and liqueur frames, candlesticks; fish knives and forks, in cases; bronzed urns and kettles; papier-maché and japanned goods, trays, caddies, &c.; japanned baths, deed and cash boxes; moderator and candle lamps, hall lamps, garden and edge tools, cutlery, fifty dozen files, chisels, augers and plain tools, fifty pair skates, forges and polishing steel fire irons, tin ware, two self-acting kitchen ranges; builders' ironmongery, locks, latches, hinges, nails, screws, cabinet brass work; two wrought-iron safes, a few light cart furniture, and other effects.—To be viewed on Wednesday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

The Gwydir, otherwise the Bwich Slate Quarries and Works, near Llanrwst, North Wales.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, JULY 31, at TWELVE, at the AUCTION MART, London, in One Lot (unless an acceptable offer be previously made by private contract), the GWYDIR (otherwise the Bwich) SLATE QUARRIES, situate at Dolwyddelen, in the county of Carnarvon, about nine miles from Llanrwst, about the same distance from the shipping port of Trefriw, on the Conway River, where vessels of 100 tons' burden can load alongside, and about twenty-one miles from the shipping port of Conway, North Wales. The railway from Conway to Llanrwst will be completed in the spring of next year, and will afford additional facility for transit. The quarries are on the slope of the Carnarvon range of mountains; the slate measures from 10 to 12 yards deep from the surface, and has been proved to the depth of about 35 yards. The quality of the slate is uniform, equal in grain to the well-known Bungor slate, and of the original Welsh slate. The whole of the works were formed some years since by the Gwydir Slate Company, and fitted with costly machinery for sawing, planing, and otherwise preparing slate slab, including a powerful two block-sawing machines, nine circular slab-sawing machines, and three self-acting planing machines; the whole, as also a pump in the deep workings of the quarry, are worked by an iron overshot water-wheel, 30 feet diameter, 3 feet 6 inches breast, which is driven by a powerful stream of water flowing from a lake in the mountains about five miles distant, discharging itself into the River Lledr, a tributary of the Conway, which flows past the property; but although large sums of money have been expended in fitting the machinery and in opening the quarry, it may almost be pronounced a virgin quarry, from the comparatively very limited operations hitherto performed, there being up to the present time only four bargains or workings actually formed, and these only partially worked, the yield from which during the past 12 months has been 665 tons of slates; but by a judicious expenditure (now being gradually made) six additional bargains may be at work within the next twelve months, thereby increasing the yield to at the least 400 tons per month, or 4,800 tons per annum. The quarry is well placed for working, being on the slope of the mountain at a very convenient elevation, and with plenty of ground for tip room at the base. A steam-engine, of about 12-horse power, with winding gear, has been erected near the summit, for raising the blocks of slate from the deep workings; tramways also intersect the works. The demand for the slates has been steadily increasing, and there is no difficulty in finding ready markets for all the products on very remunerative terms; the profits under the present disadvantages of heavy standing charges and limited production realising 35 per cent. on the returns. The property occupies a site of 33 acres, 2 roods, and 35 perches, more or less, and under 26 acres the slate formation has been proved to exist. It has a frontage near the high road of about 308 yards, and extends westward into the mountain to a bridle path leading from Dolwyddelen to Capel Curig, about 700 yards. It is held under Lord Willoughby d'Eresby, subject to a small fixed rent and royalties, which amount to about 5 per cent. on the gross returns. The buildings comprise the slab sawing and planing mill, two sawing sheds, stabling, chaff-cutting house, blacksmith's shop, house keeper's cottage, office, and yards, also one corner of an adjoining field, containing about half an acre. The wharf at Trefriw is the property of Lord Willoughby d'Eresby, and the tenants of the quarries are allowed to stack slates on the wharf, and ship them therefrom, at a charge of 2d. per ton. The cost of carting the slates from the works to the wharf is 6s. 6d. per ton; but when the railway is at work, a great saving in this charge may be effected by the construction of a tramway along the valley at the base of the mountains, facilities for which would be readily granted, and from which point the works in almost as advantageous a position as the celebrated quarries belonging to the owners of Penrhyn. Easy terms may be arranged for payment. The works may be seen at any time by the only party who may be obtained of GEORGE HADLEY, Esq 8, Old Jewry; or of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.—Printed particulars may be obtained at the Penrhyn Arms and Castle Hotels, Bangor; the Castle and Erskine Arms Hotels, Conway; the Eagles and Victoria Hotels, Llanrwst; at the Royal Hotel, Chester; at the "Midland Counties Herald" Office, Birmingham; of SAMUEL FISHER, Esq Solicitor, Merchant Taylors' Hall, Threadneedle street, London, E.C.; of GEORGE HADLEY, Esq, Old Jewry Chambers; and of Messrs. FULLER & HORSEY, Billiter street, London, E.C.

TO TIMBER MERCHANTS, CABINET AND PIANOFORTE MAKERS, BUILDERS, CARPENTERS, COACH BUILDERS, and OTHERS.—The remaining well seasoned STOCK of a timber merchant, by order of Messrs. R. T. Newton & SON, who have retired from business, without reserve.

MESSRS. J. J. CLEMMANS & SON have been favoured with instructions to SELL by AUCTION, on the PREMISES, No. 141, Shoreditch street, Finsbury, on TUESDAY, JUNE 3, and THURSDAY, JUNE 5, at TEN for ELEVEN o'clock, the above; comprising mahogany, cedar, walnut, birch, wainscot, and ash, in planks and boards, mahogany, rosewood, maple, and other veneers. A large quantity of dry cut pine, planks, deals and battens, and other effects.—May be viewed on day prior to and morning of sale. Catalogues had on the Premises, and of the Auctioneers, 21, Holywell-row, Finsbury-square, E.C.

N.B. On the following TUESDAY will be SOLD the DRYING SHEDS, RACKS, SAWS, SCREWS, and other effects appertaining to the trade.

CHARING-CROSS RAILWAY.—SEVENTEENTH CLEARANCE SALE.—BUILDING MATERIALS.—TO BUILDERS, CONTRACTORS, AND OTHERS.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on MONDAY, JUNE 2nd, 1862, at ONE o'clock, punctually, in lots, the very valuable BUILDING MATERIALS, including about 400 loads of Nineteen Houses and Shops and Business Premises, situate in York-street, the Borough Market, Counter-street, and a portion of the Almshouses in Park-street; comprising good sound stock brick-work, capital slating, prime timber and flooring boards, glazed shop-fronts, sashes and frames, useful doors, lead gutters and pipes, marble and other chimneypieces, stoves, ranges, and a large mass of other materials and fittings-up.—May be viewed the day prior to sale; and catalogues had of Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, No. 3, Newman's court, Cornhill, E.C.; and West Molesey, Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his offices in the London Bridge Terminus.

Valuable Freehold Farm at West Lands, situate at Bredhurst, Kent, within five miles of Chatham and Maidstone, and three miles of the Rainham Station on the London, Chatham, and Dover Railway.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to offer for SALE by AUCTION, at the MART, near the Bank of England, on TUESDAY, JUNE 10th (instead of May 27th, as previously advertised), at TWELVE, a valuable FREEHOLD compact ESTATE, comprising 238a. 3r. 3p. of arable, pasture, and wood land, in the following lots:—Lot 1, a hill consist of 54a. 3r. 35p. of farm lands, in a good state of cultivation, let to a yearly tenant at a low rent, together with a capital brick-built FARM-HOUSE and BUILDINGS, and 22 acres 2r. 17p. of hop grounds and wood, and occupied by the same tenant as the yearly tenant. Lot 2. Chapel-hill Wood, containing 1a. 2r. 0p., at the back of the Bell Public-house at Bredhurst. Lot 3. Hoad Wood, containing 7a. 1r. 14p. of wood land, adjoining the high road from Bredhurst to Rainham. Lot 4. Chilley Lands, containing 24a. 2r. 27p. arable land, adjoining the highroad from Rainham to Teigh-green.—Plans and particulars may be obtained of Messrs. Bennet, Dawson, and Thornhill, Solicitors, 2, New-square, Lincoln's-inn, W.C.; of J. F. Evans, Esq., Griff, Nuneaton; of Mr. Summerfield, Land Agent, Maidstone; at the Bull Inn, Bittingbourne; at the Sun Hotel, Chatham; at the Auction Mart; and of Messrs. Daniel Smith, Son, & Oakley, Land Agents and Surveyors, No. 10, Waterloo-place, Pall mall, S.W.

KENT.—Valuable Freehold Coppice Wood Lands, near Sittingbourne, with immediate possession, containing a considerable quantity of excellent Brick-earth.

MESSRS. DANIEL SMITH, SON, and OAKLEY have received instructions to offer for SALE by AUCTION, at the MART, near the Bank of England, on TUESDAY, JUNE 10th (instead of May 27th, as previously advertised), at TWELVE, valuable FREEHOLD WOOD LANDS, with the timber and underwood growing thereon, situate in the several parishes of Bobbing, Borden, Newington, and Stockbury, containing together, 42a. 1r. 24p., in the following lots:—Lot 1. That part of Chestnut Wood lying north-east of the Key-street road, containing 20a. 1r. 25p. of chestnut plantation, the whole being in the parish of Bobbing. Lot 2. Another portion of Chestnut Wood, adjoining the turnpike road from Sittingbourne to Chatham, and bounded on one side for nearly a mile by the turnpike road from Sittingbourne to Maidstone, and containing 12a. 3r. 5p., with woodreeve's house and premises, and in the several parishes of Bobbing, Borden, and Newington. Lot 3. A small piece of Arable Land, containing 2a. 2r. 24p. and 16a. 1r. 11p. Lot 4. Another portion of Chestnut Wood, adjoining the turnpike road from Sittingbourne to Maidstone, running in a southerly direction, and containing together 15a. 3r. 13p., in the parishes of Borden and Newington. Lot 4. Another portion of Chestnut Wood, running from the turnpike road, nearly up to Hoad-street, and containing 93a. 3r. 33p., in the parishes of Borden, Newington, and Stockbury. The principal portion of this land is on a level, and may be profitably converted into arable. The soil in these four lots contains valuable brick-earth. Lot 5. Cockham Wood, in the parish of Newington, containing 7a. 3r. 11p. Lot 6. Maiden Wood, in the parish of Newington, containing 8a. 2r. 11p. Lot 7. Stony Rocks Wood, in the parish of Newington, containing 4a. 1r. 32p. Lot 8. Tanner's Rough Wood, in the parish of Newington, containing 3a. 0r. 38p. The four last lots adjoin or are approached from the turnpike road leading from Sittingbourne to Maidstone. Plans and particulars may be obtained of Messrs. BENNETT, LAWSON, and THORNHILL, Solicitors, 2, New-square, Lincoln's-inn, W.C.; of I. P. EVANS, Esq., Griff, Nuneaton; of Mr. SOMERFIELD, Land Agent, Maidstone; at the Sun Hotel, Chatham; at the Bull Inn, Sittingbourne; of WILLIAM GOODHEW, Woodreeve, Chestnut-street (who will show the lots); and of Messrs. DANIEL SMITH, SON, and OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall mall, S.W.

WINCHMORE-HILL WOOD.—OAK TREES, OAK AND LARCH POLES, FAGGOTS, FIREWOOD, &c.

MR. A. RICHARDS will SELL by AUCTION, in the WOOD, on TUESDAY, JUNE 10, at ONE, without reserve, 250 OAK TREES, of good quality. Also 7 elm and beech ditto, 400 oak poles, 500 larch and spruce ditto, 3,000 faggots, 14 stacks of firewood, topwood, &c. The company is requested to meet the Auctioneer at Bourne Hill on the day of sale.—May be viewed three days previous to sale. Catalogues obtained at the Cottage in the Wood; and of the Auctioneer, Tottenham.

TOTTENHAM.—Stock of New Timber and Boards, Vans, Carts, Horses, &c.

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, near the Plough Inn, on THURSDAY, JUNE 5, at ONE, by order of Mr. A. G. Fidler, who is giving up the premises, THE powerful CART HORSES, capital four and two ton spring vans, two brick carts, harness, about 150 deals, a portion out, dry mahogany, oak, and pine plank, quartering, plates, and other timber, benches, chest of tools, iron-bilting, measures, forty coal sacks, &c.—May be viewed the day previous; catalogues obtained on the premises, and of the Auctioneer, Tottenham.

To TIMBER MERCHANTS, BUILDERS, and OTHERS.—SALE of SUPERIOR DEALS, of superior quality, by order of the Contractors for Chatham Dockyard.

THOMAS ROBERTS & CO. have received instructions to SELL by AUCTION, at the SUN HOTEL, Chatham, Kent, on TUESDAY, JUNE 10, commencing at TWELVE o'clock precisely:—

50,000 Quebec and North American Spruce and Yellow Pine Deals, &c.

1,000 Loads Red Pine Timber.
150 „ Board Yellow Pine Timber.
50 „ Ash or Elm ditto.
30 „ Oak ditto
Nearly the whole being entire cargoes.

To be viewed three days and by prior to day of Sale; and catalogues had at the Sun Hotel, Chatham; and of the Auctioneers, 9, Billiter-street, London, E.C.

ABOUT 15,000 OLDBURY BRICKS, Staffordshire, FOR SALE, lying on 16, Grand Junction Wharf, Paddington.—Apply to Mr. NORMAN, on the Wharf.

ANCHOR BRICK-MOULD WORKS, HOUNSLOW, W.

J. LEACH, Millwright and Manufacturer. Improved MOULDS, STOCKS, and PLATES, with screw stock pegs; also Oak Stocks, the best stocks for various sizes, and made to order. Wash, Chalk, Pug mills, and Pumps, by steam or horse power. Brick makers are cautioned against an impostor collecting orders in J. L.'s name, and supplying an inferior article. Anti-friction Grease for Brickfields. Established eleven years.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS TUBE BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty, 75*l.*

Licences to Manufacture granted for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, 21, Queen-street, London, E.C.

The Machine may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,310.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman at Wearfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Bricks, Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALTSTERS, PICKINGS.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

C. H. T. BIKKER, 110, Bradford-street, and 102, Cheapside, Birmingham, ARTIST in ECCLESIASTICAL DECORATIONS, HOUSE and CHURCH DECORATOR. Wall painting, tracing, and gilding in the three styles of the twelfth, thirteenth, and fourteenth centuries. Every description of ecclesiastical writing, labelling, and Gothic decorations; also Egyptian, Roman, and Grecian decorations truthfully carried out in accordance with the several styles. Designs sent to any part of the United Kingdom. Architects' designs carried out by experienced decorators, or drawings furnished if required. Specimens may be seen fully carried out at the above address.

London: Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, May 31, 1862.

The Builder.

AN JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

GOLDING &c.

VOL. XX.—No. 1009. JUNE 7, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Chapel about to be erected; and proposed Inner Court, House of Charity, Greek-street, Soho. Mr. Joseph Clarke, F.S.A., Architect 407

Carved Wood Panels, to which Prizes were awarded by the Council of the Architectural Museum 406

CONTENTS.

The Metropolitan Drainage: South of the Thames 397

Walk and Talk in Rome 398

On the Architecture of India 399

The Social Science Congress 402

Special Exhibition of Art-Objects in the South Kensington Museum 402

The Flood in the Middle Level 402

The International Exhibition of 1862 at the Society of Arts 403

Carved Wood Panels, to which Prizes were awarded by the Council of the Architectural Museum 406

The Chapel of the "House of Charity," Soho 406

Gossip about the International Exhibition 408

Artists' Benevolent Fund 409

British Archæological Association 409

Our Food 409

Smithfield 409

Church-building News 410

Stained Glass 410

School-Building News 410

Provincial News 410

Cottages for the Labouring Poor 411

Art-Union of London Purchases 412

Works in Enamel and Nello at the Archæological Institute 412

The Thames Embankment 412

New Sheriff Court-house, Edinburgh 412

Irish Building Notes 412

West Galleries in Churches: Worstead Church, Norfolk 413

The Architectural Publication Society's Dictionary 413

The Lining of Water-Tanks 413

Architects' Fees 413

Roads and Doings in Kensington 413

Books Received: Nesfield's Specimens of Mediæval Architecture (Day); Patents for Bricks and Tiles 413

Miscellanea 414

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of THREE PENSIONERS (two males and one female) was held 20th ult. at the London Tavern. GEORGE PLUCKNETT, Esq. Treasurer, in the chair.

Successful candidates:—

R. F. Day	2,732	Sarah Wright	1,800
T. Lawrence	3,066		

The others were:—

W. Taylor	1,587	J. Kennedy	96
T. Hammond	1,724	R. Langstaff	91
W. Standfast	349	Mary A. Chirnside	513
J. Nobbs	1,098	Charlotte A. Deacon	367
W. Goodwin	446	Elizabeth Kiford	91

June 6th, 1862.

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS.

Sir Robert Smirke. A. J. B. Beresford Hope, Esq. M.P.

PRESIDENT—Sydney Smirke, Esq. R.A.

TRUSTEES.

Philip Hardwick, Esq. R.A. | Charles R. Cockerell, Esq. R.A.
Geo. Gilbert Scott, Esq. R.A.

TREASURER—William Tite, Esq. F.R.S. M.P.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 62, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

INTERNATIONAL EXHIBITION.

Admission for week ending 14th JUNE:—Monday to Thursday, One Shilling; Friday, Half a Crown; Saturday, Five Shillings. Doors are opened at Ten, except on Saturday, when they are opened at Twelve o'clock.

ARCHITECTURAL ASSOCIATION.—The ANNUAL DINNER will be held at the Whittington Club, Arundel-street, Strand, at SEVEN o'clock precisely, on TUESDAY EVENING, JUNE 10, 1862. Tickets to be had of the Hon. Sec. CHARLES J. ADAMS, 10, Craig's-court, Charing-cross.

HORTICULTURAL GREAT SHOW, WEDNESDAY, JUNE 11. The Garden will not be open till ONE o'clock.

ROYAL HORTICULTURAL SOCIETY'S GREAT SHOW, WEDNESDAY, JUNE 11, at South Kensington. Open at One o'clock. Bands commence at Two o'clock. Admission, 7s. 6d. each; or by tickets previously purchased, 5s. each, at the Garden, and of the principal Librarians, Music-sellers, &c. Visitors can pass under cover from the Exhibition or Garden Entrances to the Show.

EXHIBITION of HORTICULTURAL IMPLEMENTS, GARDEN POTTERY, &c. at the ROYAL HORTICULTURAL SOCIETY'S GREAT SHOW, WEDNESDAY, JUNE 11.

MESSRS. FOWLER and WELLS' LECTURE in EXETER HALL, JUNE 16th to 21st, inclusive, on "Thinkers, Writers, and Speakers; Tact and Talent, Physiognomy, Perfection of Character," &c. Open at Half-past Seven, commence at Eight. Consultation Rooms, 147, Strand. NEW ILLUSTRATED SELF-INSTRUCTOR in Phrenology, Physiology, and Physiognomy. One Hundred Portraits. 2s. post-free.

THE NEW SOCIETY of PAINTERS in WATER-COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall-mall, near St. James's Palace. Admission, 1s.; Catalogue, 6d. Season Ticket, 5s. JAMES FAHEY, Secretary.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, and the collection of DRAWINGS and SKETCHES of the late A. Welby Pugin, WILL CLOSE JUNE 30th. Admission One Shilling

ARCHITECTURAL ALLIANCE.—The Architectural Institute of Scotland, and the Architectural Associations of Birmingham, Glasgow, London, Liverpool, Manchester, and the "Northern Architectural Association," having provisionally entered into an Alliance for mutual assistance and co-operation, and their aim being to embrace in the Alliance Associations representing every county or district of the United Kingdom, other professional Associations are cordially invited to join. It is proposed to hold a Conference of Delegates in London, on TUESDAY, JULY, 1st, for the purpose of settling the details of the scheme. Meanwhile, the "Outline Scheme," as provisionally agreed to, will be sent to any Association disposed to join, or to any architect wishful to organize a branch association in his locality. All communications to be addressed, for the present, to Mr. J. P. FRITCHETT, Architect, Northgate House, Darlington.

May 6, 1862.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION, to procure and issue to subscribers Photographs of subjects strictly illustrative of Architecture and of its subsidiary Arts.—Subscriptions to be paid to Mr. HENRY MOODY, 9, Conduit-Street, Regent-street, from whom particulars may be obtained. W. LIGHTLY, Hon. Sec.

NATIONAL ORPHAN HOME, HAMMERSMITH, COMMON, RICHMOND.—Founded 1849.—The ANNUAL FESTIVAL will take place at the LONDON TAVERN, Bishopsgate-street, on WEDNESDAY, JUNE 11, 1862. The Right Hon. W. COWPER, M.P. will preside. Gentlemen willing to become stewards are requested to forward their names to the Secretary, R. W. NEWMAN, Esq. 68, St. Paul's Churchyard, E.C.

COMPETITIONS.

TO ARCHITECTS and SURVEYORS.—WOODBRIDGE GRAMMAR SCHOOL.—The Local Trustees of the Seckford Charity at Woodbridge (Suffolk) are desirous of obtaining designs, plans, specifications, and estimates for the ERECTION of a NEW SCHOOL HOUSE, and RESIDENCES for the Master, upon a piece of ground situate in Woodbridge, adjoining other land, the property of the Charity. A photograph view of the site, together with a plan of the ground, and printed instructions and particulars, for the guidance of competitors, will be forwarded on application to Mr. J. R. WOOD, Clerk to the Trustees. 20l. will be given for the best design that may be selected, and 10l. for the second best; such designs to become the property of the Trustees. The sum to be expended is not to exceed 2,500l. The designs, plans, specifications, and estimates to be sent to Mr. WOOD'S Office, Church-street, Woodbridge, on or before the 1st day of JULY next.

THE PUBLIC HALL for TUNBRIDGE WELLS.—To ARCHITECTS.—The Provisional Committee of the Tunbridge Wells Public Hall Company (Limited) are desirous of obtaining PLANS, ELEVATIONS, SECTIONS, SPECIFICATIONS, and ESTIMATES for the ERECTION of a PUBLIC HALL, with reading, waiting, committee, and refreshment rooms, cookery, cellarage, &c. on land with 150 feet frontage to a public road, and 200 feet in depth. The hall to seat 800 persons, and the cost of the whole not to exceed 6,000l. 2½ will be given for the set of plans, &c. adopted, provided the architect is not employed; and 5l. for the next approved set.—Further information and a tracing of site may be obtained of the Secretary, Mr. JOHN COLBRAN, Royal Library, High-street, Tunbridge Wells, to whom plans, &c. must be sent, not later than the 20th of JULY next.

June 5th, 1862.

CONTRACTS.

METROPOLITAN BOARD of WORKS. MAIN DRAINAGE of METROPOLIS, SOUTHERN OUTFALL WORKS, CROSSNESS.—To BUILDERS, CONTRACTORS, and Others.—The Metropolitan Board of Works hereby give NOTICE that they will meet at the Office of the Board, Spring-gardens, on FRIDAY, the 4th day of JULY next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of ENGINE-HOUSES, a Boiler-house, Chimney, Filth-hoists, Coalshed, Dwelling-houses, Wharf Wall, Sewers, and other Works in connexion therewith, at Crossness, in the parish of Erith, in the county of Kent.

Parties desiring to submit Tenders, may, upon payment of 2l. obtain plans, sections, specification, form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m. or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 3rd JULY next. Half the sum will be refunded to each of the unsuccessful parties who return the drawings within one week after the day appointed for opening the Tenders.

The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office, before FOUR o'clock, on THURSDAY, the 3rd day of JULY next; and no Tender will be received after that hour.

The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders.

The Board do not bind themselves to accept the lowest, or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, S.W, 8th May, 1862.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION, at Felpham, near Bognor, in the county of Sussex, may inspect the drawings and specifications at the Coast Guard Watch-room, Bognor: or at this Office, between the hours of TEN and FOUR, from MONDAY, the 9th instant, to SATURDAY, the 21st instant, now next ensuing, and both inclusive (Sunday excepted).

Tenders to be sent to this Office, not later than TWELVE o'clock at noon of the 23rd instant, under seal, and directed to the Commodore Controller-General of Coast Guard, and endorsed "Tender for Felpham Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated the 2nd day of June, 1862, at the Admiralty Coast Guard Office, 12, Spring-gardens, London, S.W.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ALTERATIONS to the WEST WING of HOUNSLOW BARRACKS, in the county of Middlesex.

Parties desiring to Tender for this Work must leave their names at this office, from 11th to 14th JUNE, 1862, both days inclusive, between the hours of ELEVEN a.m. and THREE p.m. and pay the sum of half-a-guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District,
11, James-street, Buckingham Gate, S.W. May 28, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of an additional OFFICERS' QUARTER, at the Hospital, Royal Military College, Sandhurst, Berks.

Parties desiring to Tender for the erection of these Works must leave their names at this Office, on or before the 13th day of JUNE, 1862, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sandhurst, May 27, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS and OTHERS.—TENDERS are required for the ERECTION of a new WOODEN PIER, at Fort Victoria, Freshwater, in the Isle of Wight.

Parties desiring to Tender for this work must leave their names at the Royal Engineer Office, Hill Lodge, Freshwater, on or before the 10th of JUNE, 1862, and pay the sum of half-a-guinea for the bills of quantities.

Royal Engineer Office, Portsmouth, May 27, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for BACK ENTRANCE-GATES and BOUNDARY WALL to ground in rear of the Staff College, Sandhurst, Berks.

Parties desiring to Tender for the erection of these works must leave their names at this Office on or before the 20th day of JUNE, 1862, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sandhurst, 3rd June, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for ERECTION of WEST WING of SOLDIERS' BARRACKS and MARRIED SOLDIERS' QUARTERS, Fleetwood.

Parties desirous to Tender for the erection of these works must leave their names at this Office on or before the 16th instant, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, 225, Stretford-road, Manchester,
2nd June, 1862.

MAIDSTONE SEWERAGE.—To CONTRACTORS and OTHERS.—Persons willing to CONTRACT with the Commissioners of the Maidstone Pavements for LAYING IN PIPE SEWERS of various sizes, in the district of Perryfields, Maidstone, about 3,500 yards in length, with cesspools, traps, gratings, and other works, are requested to deliver Tenders for the same at the Office of Messrs. BEALE & HOAR, Maidstone, on or before the 16th day of JUNE, 1862. Plans and a specification of the work may be seen at the Office of Mr. BULMER, Maidstone. The Committee of Commissioners do not bind themselves to accept the lowest or any Tender.—By order of the Committee, BEALE & HOAR, Clerks.

Maidstone, May 24th, 1862.

TO CONTRACTORS.—Sealed TENDERS will be received by the SECRETARY of the Grand Jury of the County of the Town of Drogheda up to two days next before the Grand Jury Meeting for fiscal business at the next assizes, for TAKING DOWN the present BRIDGE over the River Boyne at Drogheda, and BUILDING a NEW CAST-IRON BRIDGE in place thereof, 95 feet span and 45 feet wide, with Stone Abutments, according to the plans and specification prepared by J. NEVILLE, Esq., C.E., County Surveyor, to be be seen at my Office, between the hours of TEN and FOUR o'clock, on any day (Sundays excepted) after 1st of JUNE, 1862.

HENRY CLINTON, Secretary to the Grand Jury of the County of the Town of Drogheda.

Offices, Fair-street, Drogheda,
Dated the 19th May, 1862

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS.—The Trustees of the Blue Coat Schools, Stockton-on-Tees, are prepared to receive TENDERS for the various Works required in the ERECTION of SCHOOLS for Six hundred and fifty children, and THREE TEACHERS' HOUSES, at Stockton, aforesaid. The drawings, specifications, and conditions may be seen at the Town Hall, Stockton-on-Tees, from MONDAY, the 2nd, to WEDNESDAY, the 11th of JUNE next. Tenders, sealed and properly endorsed, to be addressed, on or before WEDNESDAY, the 11th JUNE next, to WILLIAM SKINNER, Esq., Chairman. Architects, Messrs. PRITCHETT & SON, Darlington.

Town Hall, Stockton-on-Tees, May 28th, 1862.

SOUTHAMPTON HARBOUR. — To CONTRACTORS and OTHERS.—Notice is hereby given, that the Commissioners of the Port of Southampton are prepared to receive TENDERS from any Person or Persons willing to CONTRACT for TAKING DOWN and RE-BUILDING a portion of the WATER-GAGE, Quay Wall, Timber Piling, &c.—Plans and particulars may be seen at the Office of the Surveyor, Mr GEDDES, Above Bar street; and Tenders to be delivered at my Office, 3, Lower Bugle-street on or before SATURDAY, the 14th day of JUNE, endorsed, "Tenders for Re-building Quay Wall. No pledge is given to accept the lowest or any Tender.—By order of the Commissioners,

WILLIAM FARRAND, Clerk.

South Hampton, 26th May, 1862

TO BUILDERS.—Persons desirous of CONTRACTING for PULLING DOWN the Old, and BUILDING a NEW RECTORY HOUSE and OFFICES at Bibbey, in the county of Essex, near Sudbury, Suffolk, may inspect the plans and specifications at the old Rectory House. Tenders are to be delivered on the 13th of JUNE, addressed to the Rev. H. BULL, Foxearth, Essex, who does not bind himself to accept the lowest or any Tender.

JOHN JOHNSON, Architect

8, Whiting-street, Bury St. Edmunds.

TO CONTRACTORS, BUILDERS, &c.—BERKS AND HANTS EXTENSION RAILWAY.—The Directors of the Berks and Hants Extension Railway are desirous of receiving TENDERS for the ERECTION of STATION BUILDINGS at Great Bedwyn, Savernake Forest, Pewsey, and Perry's Corner Drawings and specifications will be exhibited at the Company's offices in Devizes, Wilts, on and after the 9th of JUNE next. Forms of Tender, with any other necessary information, may be had by applying to R. J. WARD, Esq., the Company's Engineer, 6, Victoria-street, Westminster, S.W. Tenders, sealed and endorsed "Tender for Station Buildings," to be in the hands of the Secretary on or before the 16th of JUNE next.—N.B. The Directors do not bind themselves to accept the lowest or any Tender—By Order,

CHARLES F. HART, Secretary.

Offices of the Company, Devizes,
28th May, 1862.

CHEAPSIDE.—BUILDING LAND.—To BUILDERS, CAPITALISTS, and OTHERS.—A valuable SITE in Cheapside, of about 60 feet frontage and averaging 45 feet in depth, TO BE LET on Building Lease, for a term of 80 years from Lady Day, 1863, suitable for the offices of a public company, or for warehouse or business premises. Tenders will be received up to 24th day of JUNE next. Plans particulars and conditions of Tender may be seen on application to the Clerk, Saddlers' Hall, Cheapside, E.C.; or to Mr. F. W. FOSTER, Architect, 16, Russell-square, W.C. between TEN and FOUR.

TO BUILDERS. — The Town Council of Kingston-upon-Hull are prepared to receive TENDERS for the ERECTION of the TOWN-HALL, on the site of the old building, in Lowgate. Parties desiring to Tender for these works may inspect plans and specifications at the Mechanics' Institute, Parliament-street, Hull, on and after the 5th of JUNE, from TEN to FIVE o'clock. Sealed Tenders must be addressed to the Town Clerk, Corporation Offices, 9, Scale-lane, Hull, on or before the 21st of JUNE, 1862. The lowest or any Tender will not necessarily be accepted. Bills of quantities may be obtained of the Clerk in charge of the plans, or of the Architect, Mr. CUTHBERT BRODRICK, 3, Park-place, Leeds, and 14, Buckingham-street, Strand, London.—By order,

Hull, May 28th, 1862. ROBERT WELLS, Town Clerk.

THE Directors of the Great Central Gas Company are prepared to receive TENDERS for the TAR manufactured at their Works for the year ending 1st JULY, 1863.—Particulars as to quantity and delivery may be obtained on application to the MANAGER, at the Works, Bow Common-lane. Tenders to be sent in on or before THURSDAY, the 12th of JUNE next.

28, Coleman-street, E.C. 2nd June, 1862.

TO CONTRACTORS. — The Directors of the Cwmarthin Slate Company, Limited, are desirous of receiving TENDERS for the FORMATION of a short TRAMWAY, to join the Festiniog railway, also the removal of a quantity of loose material from the surface of the slate beds of the Cwmarthin Quarry. The works of the tramway comprise all earthwork, bridges, ballasting, rails, sidings, and inclines for the inclined planes. The drawings and specifications, with lists of quantities, may be seen at the Company's Office, Cwmarthin; and at the Office of the Engineers, Messrs NIXON & DENNIS, 3, Victoria-street, Westminster, S.W. on and after the 9th inst. Tenders are to be addressed to "The Directors of the Cwmarthin Slate Company, Limited, 3, Angel-court, Throgmorton-street, E.C. and to be delivered on or before the 23rd JUNE, 1862. The Directors do not bind themselves to accept the lowest or any Tender.

JOSEPH ADKINS, Secretary.

Company's Office, 3, Angel court, E.C. June 2, 1862.

TO BUILDERS.—TENDERS are required for REPAIRING, RE-SEATING, and RESTORING the Parish Church of Bicester, in the county of Oxford. Plans and specifications may be seen at my office on THURSDAY, JUNE 12th, at the Office of C. N. BEAZLEY, Esq. 44, Upper Gower-street, London; or at the house of Mr. CHARLES SHILLINGFORD, Church warden, Bicester. Scale of prices, including lists of forms supplied, to be sent to the Rev. J. W. WATTS, the Vicarage, Bicester, on or before JUNE 26th. Quantities not supplied.

Bicester, June 4th, 1862.

TO PAINTERS.—The Burial Board of the Parish of St. Mary, Newington, Surrey, are prepared to receive TENDERS for PAINTING the inside of the IRON RAILINGS of the Parish Churchyard, at Newington Butts.—Specifications and Forms of Tender may be had upon application to the Recorder.—By order,

JOSEPH BURGESS, Clerk to the Board.

1, Keene's-row, Walworth, S. June 3, 1862.

TO CONTRACTORS and BUILDERS.—YORK TOWN and BLACKWATER GAS COMPANY, Limited. The Directors of the above Company are desirous of receiving TENDERS for the ERECTION of TWO WORKS, and LAYING about TWO MILES of MAINS. Plans and specifications to be seen on application to Mr. WITHERS, Sen. York Town, Blackwater, Hants; or to Mr. HARRIS, Engineer, Great Central Gas Works, Bow Common, London. Sealed, endorsed "Tenders for the Works," to be sent to Mr. WITHERS, Sen. on or before SATURDAY, JUNE 21, 1862.—The Directors do not bind themselves to accept the lowest or any Tender

TO BUILDERS.—PARISH CHURCH of CHEW STOKE.—Builders are hereby invited to submit TENDERS for the ENLARGEMENT and RESTORATION of the PARISH CHURCH of CHEW STOKE, Somerset (seven miles from Bristol). The plans and specifications can be seen (and quantities forwarded) by the Rev. W. F. WALL, at the Vicarage, Chew Stoke, on or after MONDAY, JUNE 9th.—Estimates to be forwarded on or before MONDAY, the 23rd JUNE, 1862. JOHN NORTON, Architect.

4, Old Bond-street, W

TO BUILDERS.—Persons willing to offer a TENDER for RE-BUILDING the CONGREGATIONAL CHAPEL, Lon-wills, Cheshire, may see the drawings and specifications at the Vestry of the present Chapel, on and after MONDAY, the 9th of JUNE.—Sealed Tenders to be delivered to Mr. H. LEWIS, Queen-street, Co'chester, on or before SATURDAY, the 21st of JUNE. The Committee will not bind themselves to accept the lowest Tender. Any further information can be obtained on application to Mr. F. BARNES, Architect, Ipswich.

REPAIRING JOB.—To BUILDERS.—TENDERS required for REPAIRING and PARTLY REBUILDING a HOUSE and SHOP, near Camden Town.—A plan and specification may be seen on application to Mr. FISHER, 38, Newington-causeway. The lowest or any Tender not necessarily accepted. N.B. A ready-money job

TO DECORATORS.—The Directors of the Stamford Exchange are desirous of receiving ESTIMATES for the DECORATION of the EXCHANGE HALL, on or before FRIDAY, the 20th of JUNE next.—For particulars, apply at my Office, between the hours of NINE and SIX

EDWARD BROWNING, Architect, Stamford.

Stamford, June 4th, 1862.

The Directors do not pledge themselves to accept the lowest Tender, or propose any remuneration to those who may be unsuccessful.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of New Wesleyan CHAPEL, SCHOOLS, &c. at Cadoxton, near Cardiff, may obtain further particulars on applying to the Architects, Messrs W. G. HABERSHON & PITE, 38, Bloomsbury-square, London, W.C.; Park-square, Newport; and Belvidere, Tredegarville, Cardiff.—The lowest or any Tender will not necessarily be accepted.

THE BOARD OF WORKS for the FULHAM DISTRICT, Office, Broadway House, Hammersmith, hereby give notice that they are desirous of receiving TENDERS for the SUPPLY of the Best GRAY PIT FLINTS, to be delivered in such quantities and at such times and places within the district during the period of Twelve Months as may from time to time be directed by the Board or their Surveyor. Or the Board will receive Tenders for the supply of such Flints to be delivered also either of the Wharves or Draw docks in the Parishes of Hammersmith and Fulham, in such quantities and at such times for a period of Twelve Months as may be directed. In this case the person tendering must state what time he will allow for the unloading of the barge from the time of notice to the Surveyor of readiness to deliver; the said Flints to be of the best quality, and broken to the satisfaction of the Surveyor; and should they at any time be delivered of a larger size than is approved of by the Surveyor, the same to be broken to the required size by the contractor without extra charge beyond the amount of contract. The Tenders to be sent in on or before TEN o'clock in the forenoon of the 18th of JUNE, 1862, addressed to the Chairman of the Board of Works for the Fulham District, and endorsed "Tender for Flints." The parties contracting will have to find two approved sureties for the due performance of the contract. The Board do not bind themselves to accept the lowest or any Tender

(By order) W. LOVELY, Clerk.

TO BUILDERS.—Persons desirous of CONTRACTING for the REPAIRING and PARTLY REBUILDING the RECTORY HOUSE and OFFICES at FOOTSCRAY, in the county of Kent, may inspect the drawings and specifications at the Rectory, at Footscray after the 9th of JUNE Bills of quantities may be obtained on payment of 10s on application at the Office of JOHN PEOWMAN, Surveyor, Merton-Street Oxford. Tenders to be delivered on or before the 18th of JUNE, addressed to the Rev. C. BIRCH, Footscray Rectory, S.E. The lowest or any Tender not necessarily accepted.—Nearest station, St. Mary Cray.

TO SEWER CONTRACTORS.—The Board of Works for the Fulham District, in the County of Middlesex, hereby give notice, that they will be ready at the Board Meeting, to be held at Broadway House, Hammersmith, on WEDNESDAY, the 18th day of JUNE, at TEN o'clock precisely, to receive sealed TENDERS from parties who may be willing to contract for the laying down, constructing, and completely finishing a certain intended BRICK SEWER of about 1,150 feet in length, and other works connected therewith in the New Road, in the Parish of Hammersmith. Plans, specification, and detail drawings of the works, together with the form of Tender, may, with other particulars, be obtained at Broadway House, Hammersmith, between TEN a.m. and FOUR p.m. on any day previously to such 18th day of JUNE. Sealed Tenders to be addressed to the Chairman of the Board at their Office of Broadway House, on or before WEDNESDAY, the 18th of JUNE, at TEN o'clock; and the party whose Tender may be accepted will be required to enter into a contract and bond with two sufficient sureties for the due performance of the undertaking, such contract and bond to be prepared by the Solicitor to the Board, at the the expense of the contractor. The Board does not pledge itself to accept the lowest or any Tender.—By order,

W. LOVELY, Clerk.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—CONTRACT for WORKS.—The Directors of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the WORKS required to be executed in the WIDENING of the MID-SUSSEX BRANCH RAILWAY for a second line of rails between Ifchfield and Haywards, in the county of Sussex, being a distance of ten miles and twelve chains, or thereabouts. The contract will include the earthworks, viaducts, bridges, culverts, ballasting, permanent way, and all other work necessary for the formation of a double line of way, together with the maintenance thereof for a specified term. Plans, sections, drawings, and specification may be seen, and copies of the quantities obtained, at the Offices of the Company's Engineer, Mr. JACOMB HOOD, No 7, Parliament-street Westminster, S.W. on and after WEDNESDAY, the 4th JUNE, and Tenders are to be delivered at the undersigned before NOON on MONDAY, the 16th JUNE. The Directors will not be bound to accept the lowest or any Tender.

(Signed) FREDK. SLIGHT, Secretary.

London Bridge Terminus, 30th May, 1862.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, sky-lights, verandahs, exhibition and painters' cases, and aquarium ferneries, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate

Photographic, and every description of Glass

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. METTAM & CO.

30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 28, Soho-square, W. and George-yard, Crown-street, Soho, W.

ALFRED BENNETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE either in STOCK SIZES or CUT TO ORDER, at the lowest possible rates.

SPECIAL PRICES for the supply of LARGE QUANTITIES of Glass upon receipt of particulars.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

311, REGENT STREET, W.

(Adjoining the Polytechnic Institution).

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.





Illustrated Treatise, Postfree, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:—Cardington Street, Hampstead road, London.

HORTICULTURAL GLASS WAREHOUSE.

THOMAS MILLINGTON,

87, BISHOPSGATE-STREET WITHOUT, E.C.

Lists forwarded on application.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-Iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

H. G. COOMBS, IRONFOUNDER, &c. Inventor and Manufacturer of the Patent ROTARY SHOP, Patent Wrought-Iron TUBULAR GATES and RAILINGS



Columns, Tanks, Staircases, Girders, Doors, Machine Roofs, Railings, Chattels, and every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—17, Union-street, Borough; and 95½, Great Guildford-street.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.

PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

TO BUILDERS.—TO BE SOLD by private contract, one of GOUGH'S PATENT PORTABLE ENGINES, together with the Stone-sawing machinery, which can be seen at work at Welbeck Abbey Works; also several cranes, double-purchase crabs, and a new stone drug, which MUST BE DISPOSED OF.—Address C. C. & A. DENNETT, Welbeck Abbey Offices, Notts.

FITZMAURICE OIL and COAL GAS WORKS.—FOR SALE, the RETORTS, CONDENSERS, PURIFIERS, &c. erected at Newstead Abbey by the above Company within the last nine months for 400 lights.—For particulars, apply to JOHN ANDREWS, Gasmaker, Newstead Abbey, Mansfield.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Plate-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c. KENT IRON WORKS, BRIDGE STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 63, Charles-street, City-road, E.C. near the Canal Bridge.

E. GOLLOP, SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Riding Spring-hinges, Not-rising Spring-hinges, Double-acting Spring-hinges, Rising and Not-rising Door Back-springs, &c.

Price List and Drawings on application as above.

EIGHT-HORSE HIGH PRESSURE STEAM ENGINE and BOILER; also a Small Vertical Saw Frame. To BE SOLD, a bargain, to make room for more power.—To be seen in application to Mr. T. S. CARLESS, Bank-street, Richmond, Surrey.

SMITH'S BELLOWS and PORTABLE IRON FORGES, of all descriptions, wholesale, retail, and for exportation. The cheapest house in the trade.

WRIGHT & CO. 18, LITTLE ALIE-STREET, WHITECHAPEL, LONDON, E.

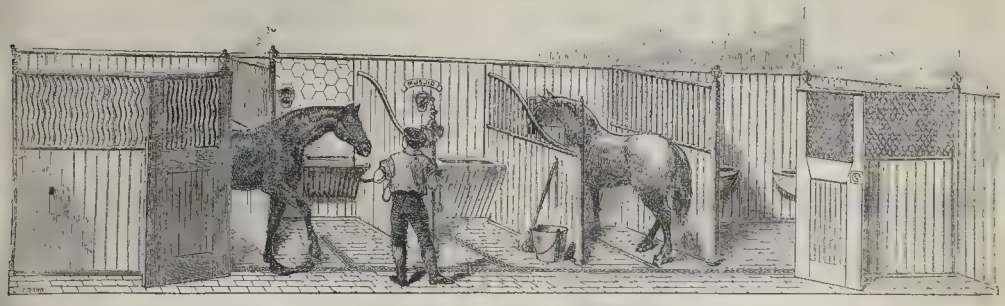
MORTAR MILL, of superior construction, TO BE SOLD Cheap. May be seen at work at

H. GOODWIN'S,

67, GREAT GUILDFORD STREET, BOROUGH.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz. :—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



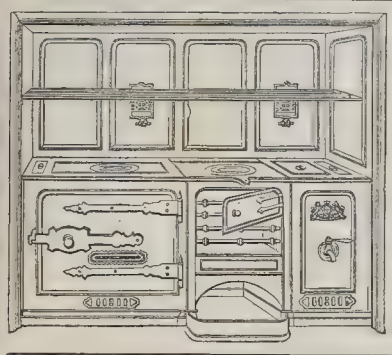
ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



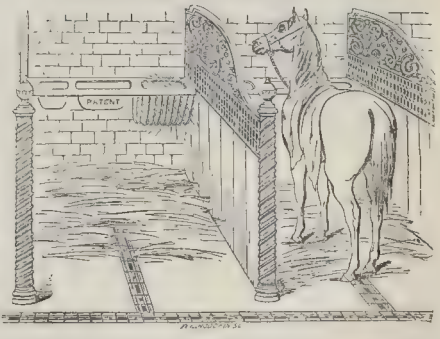
CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT.



GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on *Paper.*

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect incombustibility; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. on the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr. ALEXANDER YOUNG, 144, Cannon street, London, E.C.

THE RICHEST ASSORTMENT OF CHIMNEY-PIECES

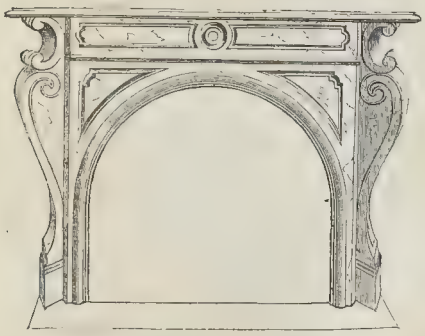
IS AT

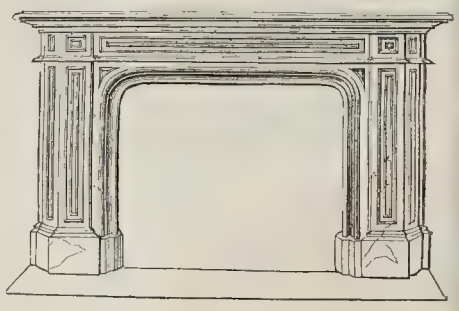
WILLIAM S. BURTON'S.

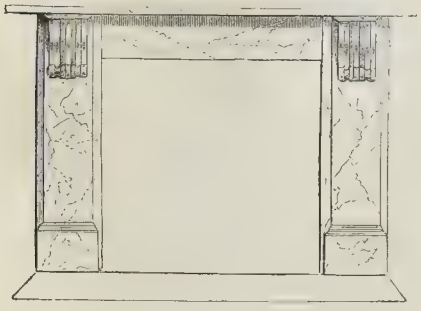
It embraces the following Foreign and English Marbles:—Italian Statuary, Brocatelle d'Italie, Brocatelle d'Espagne, Brocatelle Brune, Griotte d'Italie, Jaune Fleuri, Vert Antique, St. Remis, Black and Gold, Black, Rouge Royale, Vein, &c. &c.; and it includes the undermentioned styles: Renaissance, Louis XIV., Louis XV., Pompadour, Louis XVI., Moderne, à Balustres, &c. &c. Most of the designs are new; while several, from their rich and exquisite sculpture, are veritable works of art. A complete assortment of Enamelled Slate Chimney-pieces is also on show, including many elegant designs. The Prices range from 1*l.* 8s. to 100*l.*













WILLIAM S. BURTON'S

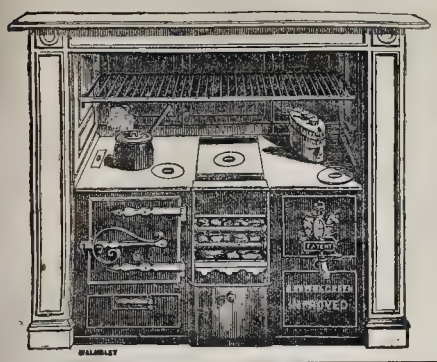
GENERAL FURNISHING IRONMONGERY CATALOGUE

MAY BE HAD GRATIS, AND FREE BY POST.

It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro Plate, Nickel Silver and Britannia Metal Goods, Dish Covers, Hot-Water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays, Urns, and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed-room Cabinet Furniture, &c. with Lists of Prices and Plans of the TWENTY LARGE SHOW-ROOMS at

39, OXFORD-STREET, W; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE; and 1, NEWMAN-MEWS, LONDON.

ESTABLISHED 1820.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10*s.*

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges.

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen alone are employed.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke-curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat,—viz. that reflected from the upper or concave surface,—to be projected parallel with the floor, instead of directly to the ceiling, as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan like direction, thus thoroughly warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which is intended to be kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black on the top, and obviates any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18*s.* 6*d.*

BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.

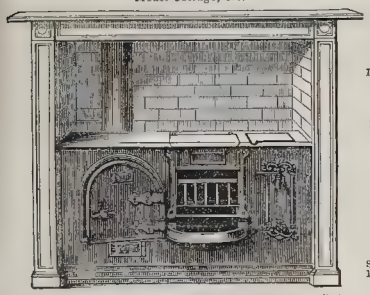
F. THOMAS, AGENT.

ILLUSTRATED PROSPECTUSES POST FREE.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45s.



Open or Close Fire Model Cottage Range, with Oven & Boiler.

Self-acting, with Bright Wrought Bars.

34 inches	54s.
36 ,,	56s.
38 ,,	58s.
42 ,,	60s

Self-acting Cottage, with Oven and Back Boiler.

30 inches	22s.
32 ,,	24s.
34 ,,	26s.
36 ,,	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per in. b.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 40s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	¾ inch.	2 inch.	2½-inch.	3-inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

2-in.	2½-in.	3-in.
Cast Rain-water Pipe... 8d.	10d.	1s. per yard.

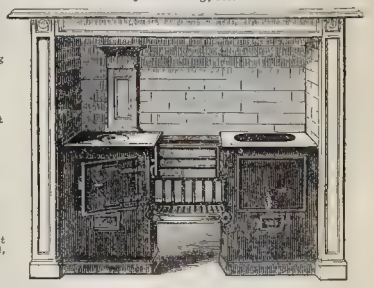
Cast Gutters, 4-in. 7d. per yard.

4-in.	4½-in.
O G Gutters, with Clips on.... 10d.	1s. per yard.

2	3	4	5	6
Patent Line..3s. 6d.	4s.	5s.	7s.	9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 12s 6d per cwt.
Dr. Arnott's Ventilators, 4s each.
Brick Moulds kept in stock. Any size made to order.

Combined Range with Wrought Galvanized Boiler for Washing, 50s.



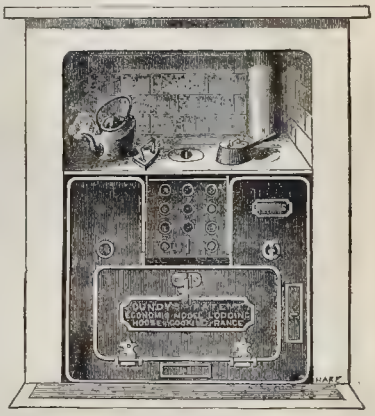
CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIR-CASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of

THE MANUFACTURER,



WHEN CLOSED.

WILLIAM ADDIS, Nos. 6 and 15, LEICESTER-ST. LEICESTER-SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR-MILLS, &c.



HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS P. HAWKINS, 37, Dale-end, Birmingham.

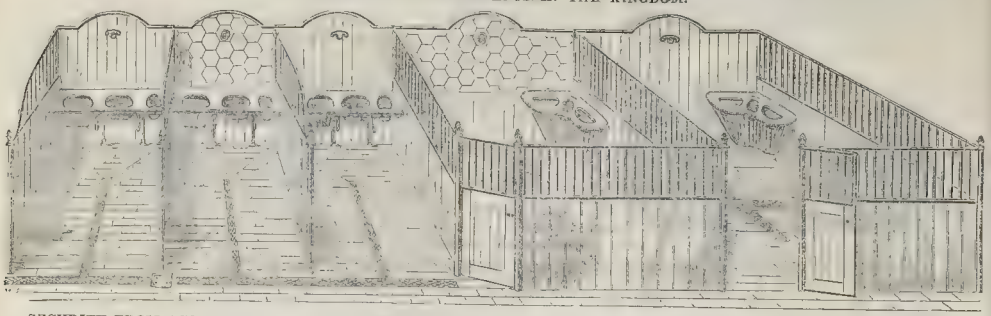
METROPOLITAN RAILWAY. — FOR SALE, an 8-horse power high-pressure horizontal ENGINE and BOILER, with double set of winding apparatus complete, capable of lifting two tons; the same has been used for hoisting the excavation on the above contract. Also, a 6 horse power horizontal Engine and Boiler, with single set of winding apparatus, complete. This may now be seen at work at the Portland road Station.—Apply to SMITH & KNIGHT, 31 Smith Wharf-road, Paddington.

COTTAM AND CO. 2, WINSLEY-STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined. KNIGHTLEY'S PATENT STABLE FLOOR.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.



THE LONDON

WARMING AND VENTILATING COMPANY,

LIMITED,

26, GREAT GEORGE-STREET, Westminster, S.W.

MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known Plans.

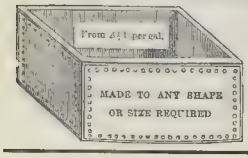


The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL the various offices of the "Department of Science and Art," and at the Architectural Societies' House, 9, Conduit street, Regent-street

Particulars and testimonials forwarded on application.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61A, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

GREEN AND JACKSON

MANUFACTURERS OF

MEDIÆVAL ART METAL WORK

159 HIGH HOLBORN WC

BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Iron Brackets Standards, Gasoliers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.

Specimens at the Architectural Exhibition, Conduit street.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY-STREET, OXFORD-STREET,

LONDON, W.

TO BUILDERS AND OTHERS.

A SECOND-HAND MOULDING MACHINE TO BE SOLD a BARGAIN.

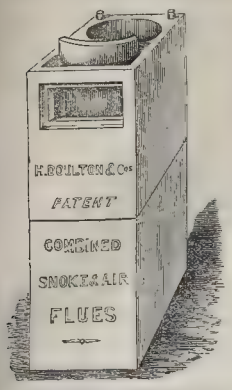
Apply to S. WORSSAM & CO. Engineers, 304, King's-road, Chelsea, S.W.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price lists, 12s. Nos. 55 and 56, High Holborn.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.



HENRY DOULTON AND CO.'S

PATENT COMBINED SMOKE AND AIR FLUES.

BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

Manufactured in terra cotta for smoke-flues equal to 12 in. 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

Small models will be forwarded to architects on application to

Henry Doulton & Co. High-street, Lambeth.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET. LONDON.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of WROUGHT IRON TUBE and FITTINGS,

FOR HIGH-PRESSURE-WATER; OR STEAM.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

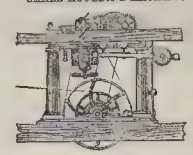
For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

S. WORSSAM & CO.'S PATENT

SMALL MOULDING MACHINE.



(¼-inch scale.)

Will stick single mouldings of any pattern and of any width, not exceeding 6 inches, at rates varying from 12 to 28 feet a minute. It will also make sash-bars, moald sawing, cut-off saws, trough-ing, &c. – For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

POWIS, JAMES, & CO.

ENGINEERS AND MACHINISTS,

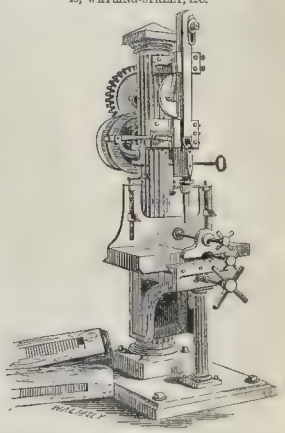
VICTORIA WORKS, BLACKFRIARS-ROAD, LONDON,

Having taken additional premises at 26, Blackfriars road, known as the Surrey Iron Works, have added Portable Engines to their Sawing and Wood cutting Machinery business. Contractors, colonists, merchants, and shippers will find these engines fitted with the same care exactness which has gained for the firm so respectable a position as Machinists &c. Tool Makers.

Specimen Machines and Engines can be seen at the Works, at the Machinery Department, Crystal Palace, Sydenham; and in class 7, section 2, stand 217, International Exhibition, South Kensington.

Engines, &c., on hire, with or without the option of purchase.

ALL LETTERS MUST BE ADDRESSED TO THE OFFICE, 26, WATLING-STREET, E.C.



IMPROVED STEAM POWER MORTISING MACHINE, for Railway Waggon Building, and other heavy work.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles. Price 20*l.*



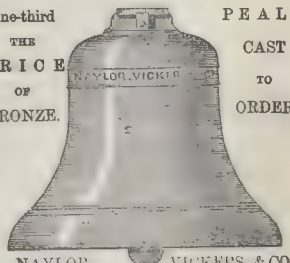
Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.

HULETT & CO. 55, High Holborn.

PFEIL AND STEDALL,
IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

FURNESS'
PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

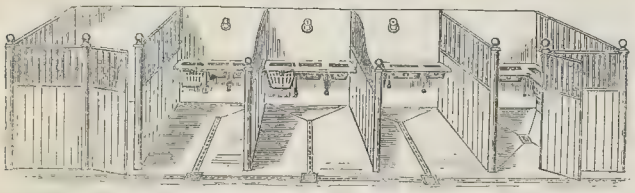
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.

These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.

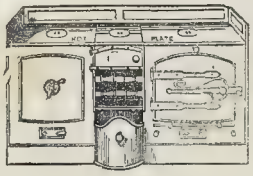


J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four postage stamps.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS.

38 and 55, York-street, Westminster.

DEVAUX'S PURE THICK ROOFING ZINC,

FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS,

And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. EDMESTON, Esq. F.R.I.B.A. by whom a certificate is given.

ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.

Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.

MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.

N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.

W. HARMER & SON

Beg to inform their Customers and the Trade generally, that having recently Removed into their new Premises, No. 3, HORSEFERRY ROAD (which communicates in the rear with their Warehouse and Workshops in New Peter street), they have thereby been enabled largely to increase their Stock of BUILDERS' and CABINET-MAKERS' IRONMONGERY, and which they are now selling at a considerably REDUCED LIST of PRICES, in consequence of the depression of trade in the manufacturing districts.

W. HARMER & SON,

IRONMONGERS, SMITHS, IRON AND ZINC MERCHANTS,

Nos. 3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.

ESTABLISHED 1817.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W. Drawings and Estimates furnished.

J. HARDMAN & Co.

MEDIÆVAL METAL WORKERS

In Silver, Brass, and Wrought Iron;

ENGRAVERS OF

Memorial Brasses, Artists in Stained Glass

ECCLESIASTICAL DECORATORS.

Chalices, Patens, and Flagons
Altar Rails and Standards;
Alms Basins and Boxes;
Corona, Chandeliers, and Branches;
Gas Fittings of every Kind;
Lecterns and Book Desks;
Hinges, Handles, Locks, &c.
Spire Crosses and Vanes.

AN ILLUSTRATED PRICE-LIST, AND ESTIMATES FOR SPECIAL DESIGNS, Furnished on application.

London Offices and Show Rooms,

13 KING WILLIAM ST STRAND LONDON W.C.

HART & SON,

MEDIÆVAL METAL WORKERS,

53 to 58, WYCH STREET, and 20, COCKSPUR STREET, LONDON.



FONT COVERS, ALMS BOXES, LOCKS, HINGES, HANDLES, BOLTS, TOMB RAILING, &c. &c.

LECTERNS, CORONAS, GAS STANDARDS, MONUMENTAL BRASSES, &c. &c.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Sheets, &c.

TRADE MARK.

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

CHUBB'S LOCKS,

with all the recent Improvements.

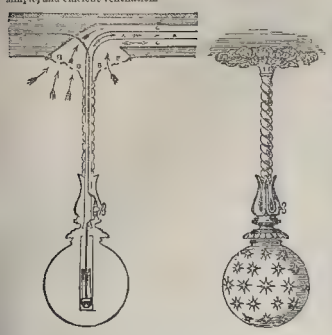
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.

Complete Lists of Sizes and Prices may be had on Application

CHUBB and SON,

57, ST. PAUL'S CHURCH-YARD, LONDON,
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

RICKET'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

TRADE MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

PROTECTION FROM LIGHTNING.

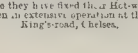


LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.
These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.
Estimates and References furnished on application by letter, or at the Works.
Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.
Vanes, Crosses, and Terminals made to any design.
Designs, to suit any style sent on application.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.
PATENT LIGHTNING CONDUCTORS,
according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.
J. W. GRAY & SON, 114, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:
Three-eighths inch diameter ..... 1s. 0d. per foot.
Half-inch diameter ..... 1s 6d. ,,
Five-eighths inch diameter ..... 2s. 0d. ,,
R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.
Offices—130, Strand, London.
,, Gateshead on Tyne.
,, 27, Dale street, Manchester.
,, 68, Andrew-square, Glasgow.
,, 17, South Castle street, Liverpool
,, Exchange-buildings, Dundee.
,, 7, Frederick street, Aberdeen.

TELEGRAPHS.
REID BROTHERS, 12, Wharf road, City road, near the Gutta-Percha Works,
Telegraph Contractors to the following Telegraph Companies:—
THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.
Are now prepared to give estimates and execute contracts for firms and private companies, in town and country, Gentlemen's private houses fitted up with simple and efficient telegraphs, on the most economical terms. All communications addressed to the above will meet with immediate attention.

HEATING BY  HOT WATER.
JOHN WEEKS & CO. KING'S ROAD,
Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, new and of the most extensive dimensions, can be efficiently warmed by Hot Water. JOHN WEEKS & CO can give innumerable references of Churches, Dwelling Houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

MUSGRAVE'S PATENT STABLE
FITTINGS and HARMLESS LOOSE BOXES
MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIG SERIES.

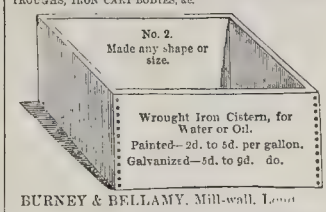


The Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.
At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS received a SILVER MEDAL and TWO awards of "highly commended;" being the only prizes conferred on any competitor in this class.
Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

PATENT ASPHALTE CALDRON,
for laying Asphalte Floors. The cheapest and best kind of floor, impervious to wet, and vermin will not touch it. Full particulars sent free, by
WOODS & COCKSEDGE,
IRONFOUNDERS, STOWMARKET.

TO ARCHITECTS, BUILDERS, &c.
HEATING and VENTILATING LARGE
PUBLIC BUILDINGS, HOTELS, MANSIONS, &c. Your inspection of ZIMARA'S MODEL of Improved PATENT STOVE and APPARATUS for these purposes, in the Gallery of the Russian Court, International Exhibition is particularly requested. A Descriptive Pamphlet and Drawings will be sent, on application to Messrs. TONGUE & BIRKBECK, Patent Agents and Engineers, 31, Southampton-buildings, Chancery-lane, W.C.

WROUGHT-IRON TANKS, CISTERNS,
GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, Lond

DAY and GAS-LIGHT REFLECTOR
MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.
These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH
and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

IRON ROOFING of CORRUGATED IRON,
Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

A PRIZE MEDAL for SUPERIOR LOCKS
was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Iron, Mongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc. Patent Locks of all descriptions, China, Glass, and Wood Furniture of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators 4s.; and the New Registered Venetian Ventilator, so much admired 6s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

IRON BUILDINGS and IRON ROOFING.
SAMUEL C. HEMMING & CO.
21, MOORGATE STREET, E.C.

NOTICE TO BUILDERS AND CONTRACTORS.
HENDERSON'S PATENT DERRICK
CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Crab Winches, all sizes. For further particulars apply to BOWSER & CAMERON, Springfield Ironworks, McNeil street, Glasgow.

IMPORTANT TO BUILDERS, SAW MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS
WILSON'S PATENT LARGE
ENDLESS BAND SAWING-MACHINERY.
This machinery is adapted to cut up square or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the log are arranged to carry the log past the saw to any extent without stopping for re-adjustment, by which the necessity for transoms is avoided, and they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly.
The speed of cutting may be varied from 10 inches to 10 feet per minute, and yet on account of the increased length of cutting edge, the saw is kept cool.
May be seen in operation, daily, at Messrs JAMES WILSON & SON'S, Builders, Springfield Saw-Mills, Manningham, Bradford, Yorkshire.—Full particulars may be had on application, by parties desirous of purchasing.

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, &c. Manufactured Articles, supplied to the Trade. Galvanized Tinned Sheets and Tiles for export.
IRON WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

HUTHNANCE'S PATENT ECONOMIC
LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS,
Is strongly recommended to public notice, as being the most efficient and economical arrangement for the purpose of drying linen, clothes, bedding, &c.; specially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c. &c.; as, in a sanitary point of view, it is invaluable, the DRYING-ROOM being raised to its use to a very high temperature, whilst the IRONING-ROOM is kept AGREEABLY COOL and WELL VENTILATED.
The economy of fuel is extraordinary, as, in a small union, it caused a saving of seven tons of coals in four months, whilst for simplicity of arrangement and cleanliness in use it cannot be surpassed.
No BLACKS or SOOT can enter the drying room.
This arrangement has been carried out in numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS.
Extra details and illustrated pamphlets forwarded, upon application to Mr. PIERCE, SOLE PROPRIETOR and MANUFACTURER, 5, JERMYN STREET, REGENT STREET.
A large model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

NAILS and IRONMONGERY,
from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the
LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham-street, London, E.C.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also,
BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

T SQUARES.—W. F. STANLEY,
late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
8, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
90, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for Sewers, Drains, Water-closets, Slaughter-houses, Sinks, House-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying impure water, sweetening meat, cooks, poultry, and preventing taint in meat, game, fish, &c. as well as for various uses in the bath for promoting and maintaining personal purity. Obtainable of all Retail as Chemists, in Bottles at 1s. 2s. or 4s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.
Wholesale of the Patentee, Battersea, Surrey, S.W.

MONEY.—IMMEDIATE CASH
ADVANCES MADE ON
FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY;
TIMBER, WINE, and SPIRIT WARRANTS.
BANKRUPTS' and INSOLVENTS' CASES CONDUCTED.
Balance-sheets Prepared, and Meetings of Creditors Convened.
Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT,
17, Moorgate-street, Bank, London.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,
QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the Londo atmosphere

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent Whether sold under the name of "Improved Zinc Paint," or at the same or Two or Three shillings no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never be induced to use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

In One Vol. limp Cloth, price 4s.

THE PRACTICE of EMBANKING and SEA-WALLING. By JOHN WIGGINS, F.G.S. Late Assistant Surveyor Forming Part XXXV. of "Weale's Rudimentary Series."

J. S. VIRTUE, 26, City-road, and 294, City-road.

Second Edition.

PROFESSOR RANKINE'S NEW WORK.
A MANUAL OF CIVIL ENGINEERING.

"It far surpasses . . . . . in the . . . . . Land."

"A . . . . . matter" . . . . .

"Unrivalled . . . . . with a masterly hand, every branch of Engineering."—*Mechanics' Magazine*

"A . . . . . from . . . . . every . . . . . Land."

"Brought . . . . . Engineering."—*Glasgow Herald.*

C. GRIFFIN, BOHN, & Co. London.

Just published, Part I. containing Five Plates, imp. 4to. price 5s.

MODERN ARCHITECTURE: ECCLESIASTICAL CIVIL, and DOMESTIC. Illustrated by Views and Plans of Gothic and Classic Buildings, executed since 1850.

By JAMES MURRAY, F.R.I.B.A.

The work will consist of Lithographic Views and Plans of Churches, Town Halls, Banks, Warehouses, Schools, Asylums, Shops, Houses, &c. &c. in which the Principles of Pure Mediæval Art will be applied to Modern Requirements.

Subscribers' names to be sent to the Author at 5, Warwick-place, Spon-green South, Coventry.

SECOND EDITION.

Just published, in 1 vol. 8vo with numerous Illustrations, price 5s.

THE SCHOOL PERSPECTIVE, being a Series of Lessons illustrating the LINEAR PERSPECTIVE, both Theoretical and Practical, especially designed for the use of Schools. By R. DICKSEE, Principal Drawing Master to the City of London School.

London: J. S. VIRTUE, City-road and Ivy-lane.

Now ready, price 1s.; or, 1s. 4d. post-paid,

THE POPULAR GUIDE to the INTERNATIONAL EXHIBITION.
By E. Mc DERMOT, Esq.
With Plans of the Building.

"Must an hour spent over it before the train leaves London, or whilst flying up the line, will save many an hour of dreary wandering through the Building, its courts, and the galleries of the Exhibition itself."—*Illustrated London News.*

"Will save a world of time and trouble in consulting plans and catalogues."—*Observer.*

"Excellent . . . . . Athenæum*

W. SMITH & SON, 183, Strand, & at the Railway Bookstalls; and Parkes-Bros.

Now ready, in 1 vol. imperial 8vo price 15s. cloth,

ISCA SILURUM; or, an Illustrated Catalogue of the Museum of Antiquities at Caerleon; containing the Sculpture of the Two Roman Volumes on Caerleon, with much additional information, and Plates.

By J. E. LEE, F.S.A. F.G.S. Hon. Sec. of the Manchester Archæological Association.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

In 8vo. price 5s. cloth, gilt edges, 6s. by post,

INTERNATIONAL EXHIBITION.—1862.—and PROGRESS of PAINTING.
By EDMUND EDWARD ANTROBUS, F.S.A.

Being a Concise History of Celebrated Painters, arranged under their different Schools; to which is annexed the Painter's Anniversary Calendar.

London: STAUNTON & SON, 9, Strand.

THE PRACTICAL MECHANIC'S JOURNAL, SCIENTIFIC RECORD of the INTERNATIONAL EXHIBITION.—Part I. Mr. Newton's full-size copies of all the Illustrations to the present time, by the Editor and Illustrator, of the Engravings "The Press," "Building of Ships," "Cotton Factory," "Paper Machine," "Bank Note Engraving," "Bank Note Printing," "Weaving," "Power Loom," complete in a Number of Illustrations, with Descriptions of the Principles of Mechanical Philosophy involved in the Construction of the Machines. Part II. now ready, with Ninety Illustrations, price 1s. 6d. Part III. completing the Account of Machinery in the Exhibition, Portable Machines, Water-wheels, Pumps, Steam-engines, Locomotives, Steam-boats, Steam-hammers, Machine-tools, Weaving, Printing, Paper Making, Bank Note Engraving, Coining, Gas Making, Sewing Machines, Lace Machines, Pin Making, Nail Making, Rope Making, Wire Drawing, Cutlery, Files, Saws, Needles, Fish-hooks, Pens, Buttons, Pottery, Glass, Cutting Tools, Lathes, Drills, Planing Machines, Slotting Machines, Screw Cutting Machines, Boring Machines, Shaping Machines, Milling Machines, Punching Machines, Riveting Machines, Hydraulic Machines, Pneumatic Machines, Steam Engines, Locomotives, Steam Boats, Steam Hammers, Machine

The Builder.

VOL. XX.—No. 1009.

The Metropolitan Drainage: South of the Thames.

SOUTH of the river Thames the natural features of the districts differ from those we described in our account of the main drainage of the metropolis north of the river, as existing on the opposite side. In old times the lands along the margin of the water were a series of marshes. They have, however, been reclaimed; and, time by time, churches, houses, manufactories, and other buildings, having been erected upon them, they are now densely populated. The tracts bordering the river are, in some places, six feet below high-water-mark: in those more removed from it the ground rises, and reaches, in points, the comparatively great elevation of 350 feet. This difference of levels materially increases the difficulties of drainage. Sudden storms cause torrents of rain-water to flow down from the high grounds to the low-lying lands; and, as the existing sewers have not the capacity to meet this contingency, the thus diluted sewage floods or overflows into cellars and basements of houses. It is, too, in the low-lying points that the area is most densely populated,—houses being, as yet, but sparingly dotted over the Surrey hills. The storm-waters of these high lands found natural channels down to the river. Some of these we may see on the old maps of Tudor London shown as dyke-like cuttings: the largest skirted Lambeth Palace; two smaller courses, after running through Paris-garden, glided into the Thames opposite the Temple; further eastwards, where Queen Elizabeth's lieges flocked to see the bull-baiting and the bear-baiting, another stream found the same outlet; Battle-bridge strided a rivulet of this kind; and opposite the Tower, through Potter's-fields, a sixth tributary, bordered by rows of trees, mingled its waters with the river. As the ground was built upon, these channels were converted into open sewers; and, although some of them have been covered in, there are portions which at the present day retain their primitive form, notwithstanding the disgusting difference in their contents. The Effra Sewer in the South Lambeth road is a case in point. This has now assumed almost canal-proportions: it runs on one side of the road, from which it is divided by a rude railing, immediately before the houses in Vauxhall-place. Trees are planted at the edge of it, and bridges are thrown across it, by which to gain access to the houses, as when—in the days of Ranelagh, perhaps—it was a tolerably pure stream. But glance into it, and you will see the drains from the houses dribbling into it—some of them being the old wooden drains now out of date; others being pipes with flaps to keep the high-water contents of the sewer out of them, which flaps are here and there torn away, leaving only the hinges hanging; and you will see the sides of it here and there propped with rotten planks. Its heavy tide bears slime and shavings on its breast; and bits of sacking, broken crockery, night soil, and scullery scum, are strewn on its bed. Where it is crossed by a thoroughfare, this unwholesome object is bridged over; but on the other side of the roadway it assumes the same form again. At the junction of New Bridge-street, High-street, Bond-street, and Belmont-place, at the foot of Vauxhall Bridge, it passes under the roadway in this manner, and from the parapet its course may be observed, as, much widened, it sweeps into the Thames. The existing closed sewers possess the same disadvantage as those on the opposite side of the river. They are tide-locked for sixteen hours a day, leaving but four hours each tide for them to void their terrible contents.

There were two objects to be obtained in the new scheme: the purification of the Thames, and the exemption of the low-lying districts from the liability of being flooded by the storm-waters of the higher grounds. To effect both of these it was determined that the vast area—comprising 42 square miles—should be divided into two levels. The upper level sewer was proposed to act as a catch-water, as well as to intercept the sewage of the suburban elevations and to carry both rain and sewage, by gravitation, to Deptford. This arrangement promised to simplify the complications very materially. There only remained the difficulty found on the extreme low level of the districts bordering the river—many, probably most, of the houses having cellars, which necessitate a still lower level for the sewers: this it was resolved to combat by pumping. Both levels were plotted out to meet at Deptford; and the contents of the lower one having been pumped up to the level of the upper one, they were to be conveyed by one sewer to Erith Reach, there to be discharged into the river at stated times. Experiments made by the late Mr. Forster showed that, although an object thrown into the river two hours after high tide was carried eleven miles and three quarters down the stream by the receding waters, the next flood brought it back past the spot at which it was launched, and floated it a mile higher up. So it was recognized as a very important matter to see that the sewage was not, in the new scheme, kept in suspension near enough to London to find its way back to the bridges. Erith Reach was ultimately determined upon as the best outlet. In the main, therefore, the schemes on both sides of the river resemble each other—on both sides the different levels are to meet at a given point, and thence take the same line—but in the details they differ considerably, as will be apparent when the nature of the works now in operation is entered into. We gave full particulars when the works were determined on; but, now they are partly completed, think it desirable to return to them.

The Main High Level Sewer, with an extensive branch running from the south, called the Effra Branch, is intended to be both a drain and an intercepting sewer. At present it is to divert the sewage, and a portion of the rainfall of 19¾ square miles, including the substantial Brixton district, so well covered with merchants' private residences; pleasant Streatham, for ever associated with the memory of Dr. Johnson and the Thrales; leafy Norwood, palatial Sydenham, funereal Nunhead, quaint Dulwich, prim Peckham, Peckham Rye, Lewisham, Denmark-hill, Lee, Kidbrook, Charlton, shrimp-eating and pensioner-haunted Greenwich, fortune-telling Blackheath, engineering Woolwich, and Plumstead; and it is arranged with a capacity that will enable it to extend to Tooting and Battersea Rise at any future time.

The sewer commences, egg-shaped,—within the postal radius of four miles from Charing-cross,—at the Plough, on Clapham Common, and leaving Lavender-hill and Nightingale-lane behind,—endeavouring, perhaps, to solace, perhaps to sweeten and enliven, their ill-named neighbour, Dragmire-lane,—it follows the line of High-street, till it crosses the junction of Bedford-road and Clapham-rise, when it continues its subterreanean route through a district scarcely yet built upon, called successively the New Road and Stockwell Private Road, near the London Alms-houses and the City of London Asylum. Burrowing across Stockwell-green, it next creeps beneath Love-lane, along Park-street and Robert-street, till it arrives in the mansion-dotted region of Brixton. After this it makes its way beneath the Loughborough-road to another district of market-gardens, bordered by rows of houses in Holland-road, Vassall-terrace, Lilford-road, Denmark-street, and Denmark-road, and then crosses Cold Harbour-lane, to make its way beneath a second High-street—this time on Denmark-hill. It will then convey its burthen beneath Love-lane, and below Lovefields, Grove-lane, and Camberwell-grove, till, passing Lyndhurst-road and Victoria-road, Peckham, it runs along Hanover-street, as far as Rye-lane. Then, crossing fields intersected by Cow-lane and Slough-lane, St. Mary's-road and the Cemetery-road, it enters the parish of St. Giles, Camberwell, where it comes up with the Effra Branch, which has been burrowing to meet it from Dulwich. The names of the lanes, fields, and hills in the district traversed by this branch are very curious: there are Red-post-hill, Half-moon-lane, Dog-kennel-lane, Goose-green, and Cut-throat-lane, one after another upon the route. Running side by side the main sewer and the Effra Branch pass beneath the Brighton Railway at New Cross, and leave the county of Surrey to enter that of Kent. Still in company they pass beneath the North Kent line of the South-Eastern Railway, and, curving into the Broadway, Deptford, arrive, through Church-street, at the pumping-station. Here the storm-waters will be provided with an overflow in Deptford Creek; and the sewage brought to the same spot by the low-level sewer will be pumped up. The two levels will then be abandoned, and, starting afresh from the pumping-station, one sewer will convey the sewage through Greenwich, Woolwich, and the Plumstead marshes, to Crossness, in the parish of Erith.

The Low-level Sewer is not yet commenced, but the scheme is elaborated, and the contracts are being entered into. It is, prospectively, to intercept the sewage of an area of twenty-two square miles, extending from regal Richmond and Kew, on the west, to seafaring Bermondsey and Rotherhithe, on the east, and embracing within those limits Mortlake, East Sheen, Barnes, Roehampton, Putney, Wandsworth, Battersea, Vauxhall, Kennington, Camberwell, part of Clapham, besides the densely-streeted regions shadowing the river between the bridges. The route chosen for this sewer does not pierce this latter district: on the contrary, it isolates it; and, taking an irregular but still direct road eastwards, it will intercept all the main sewers that now discharge themselves into the Thames. Like the high level, it will have a branch; this will be called the North or Bermondsey Branch.

Commencing in the High-street, Putney, the sewer takes the direction of Wandsworth, down Wandsworth-lane, past Point-pleasant. The river Wandle has to be dived under, and Bridge-place and Walpole-way to be passed, before the sewer enters upon a long run on the York-road, through a neighbourhood of distilleries, starch factories and silk factories, varied by the Wandsworth Workhouse, the Fishmongers' Almshouses, and the Masonic Girls' Asylum. After crossing Lavender-road and Battersea-creek, it wanders through Battersea-fields, where there are more Love-lanes and more curious names to lanes that are not Love-lanes, and to houses, too,—Sheepgut-lane, Matrimony-place, Lavender-sweep, Pig-hill Path, &c. Keeping Battersea-park between it and the river, the sewer leaves the fields just as they begin to get discoloured with breweries, vitriol factories, and coke works, and enters Priory-road, to run from one end to the other of Lansdowne-road. Thence it winds into Clapham-road, and passing Portland-place, Portland-terrace, Albert-square, and Percy-place, to the north, and Park-road and The Grove to the south, turns into Holland-road. Crossing the Brixton-road, it runs along the length of the Vassall-road, and, keeping Kennington-park (late Kennington-common) and the Surrey Zoological Gardens to the

north, it crosses Camberwell New-road, James-street, Windmill-lane, and Camberwell-road, and takes another long run in the Albany-road. Thence it is turned down St. George's-street, which brings it close upon the Grand Surrey Canal, along the north bank of which it runs as far as the Old Kent-road. It passes under the canal and under two railways—the Brighton and North Kent—before it leaves fields and market-gardens behind to enter Deptford. At the junction of High-street and Giffin-street, Deptford, it receives the Bermondsey branch; and, choosing the route between the gas and vitriol works, near the Greenwich Railway, darts under Deptford Creek, and terminates its length at the pumping-station, on the eastern bank.

The impediments to structural operations found in the nature of the district traversed have been of a very unusual character. In some places the sewer had to be laid down upon a bed of running sand freely agitated by water. In others, volumes of water which appeared to be governed by tidal laws flowed in and out of the works. Heavy rains and floods left the low-lying marshes of little more consistency than lakes—trenches filling with water and banks falling in. The sewer, in one place, fills the whole width of the narrow main street in which it is laid, rendering it necessary to underpin and deepen the foundations of the houses from one end to the other of it. Various contingencies, too, arose, or were found likely to arise, and had to be guarded against. The recent curious and fearful accident on the course of the Middle Level Sewer on the north side of the river, where the damage to the main gas-pipe caused so much disaster, may be referred to as an example of the varied considerations the conduct of the work required. Constant care of property involved further complicities; as claim after claim for compensation for property bought, lands used, accidents to houses, or to life or limb, involved a serious expense.

The works undertaken or completed are five separate contracts: the Southern High Level and south branch of the High Level, or Effra Diversion, by Messrs. Lee & Bowles; the South High Level Extension, by Mr. Pearson; a short section of the Southern Low Level, under the Surrey Consumers' Gas Works; the Deptford Pumping-station, by Messrs. Aird & Son; and the Southern Outfall, by Mr. Webster. The next contract will comprise, as advertised in our columns, the construction of engine-houses, a boiler, chimney, filth-hoists, coal-sheds, dwelling-houses, wharf-walls, sewers, and other similar works, at the final pumping-station at Crossness, in the parish of Erith, in Kent. The Main Low Level will shortly form the subject for a further contract.

We will now trace our way from the proposed station at Crossness, along the line of the Southern Outfall—just completed by Mr. Webster—comprising a total length of 39,200 feet, or nearly seven miles and a half of 11 feet 6 inches barrel, with a fall of 2 feet in a mile. The route lies for the first two miles and a half through the Ordnance-ground, in the Erith and Plumstead Marshes, opposite those bends of the river called Gallion's Reach, and Tripcock or Barking Reach, where the surface dips here and there 15 feet below high-water mark, and, but for artificial means, would be one wide sheet of water. Here, as the tides rose, the works were swamped. It required constant pumping by four 20-horse steam-engines, to enable twelve or fifteen bricklayers to prosecute their task—as much as from ten to twelve thousand gallons of water being raised per minute from the cutting. But the difficulty was overcome, and the work was successfully accomplished. Coming up with, but not crossing, the North Kent Railway, the continuation of the sewer is buried in the Plumstead road, till, at the point where it is crossed by the Burbage road, opposite the Royal Arsenal, it begins to tunnel, through chalk, beneath Woolwich. Woolwich stands so much higher than the marshes around, that the invert of the sewer lies 80 feet below the surface of the town. After a run of 5,000 feet of tunnelling, the sewer emerges again into a cutting at the junction of Albion-street and George-street. The depth of the tunnel has kept all traces of the work out of Woolwich—except those made in the formation of the six shafts with which it is perforated; but in the neighbourhood just mentioned there are many evidences of the carrying on of a large work. Several acres of land close by, forming a contractor's depôt, are covered with plant—steam cranes, railway waggons, buckets, and barrows. In the Albion-road, too—which has shops on one side and the wall of the Dockyard on the other—the pavement and curbs show signs of settlement of earth beneath, and have slipped. All the streets and lanes are dirty; and in Martyr's-passage, particularly, the conviction was pressed upon us that sewerage was not laid down in Woolwich before it was much wanted. The sewer then follows the direction of the Greenwich and Woolwich Lower-road, through the chalky district of Charlton. In this neighbourhood we noted several rows of houses sloping downwards from Paradise-row, below the level of this sewer and of the river, and beyond all hope of drainage: these, for the prevention of fever and ague, should be razed to the ground. So low-lying is this Lower-road that the crown of the sewer is here only spade deep beneath the surface: nevertheless traffic was diverted while the works closed the way. As ditches and other water-courses are intersected, expedients had to be invented to prevent water from filling the cutting. Wooden troughs were frequently used for this purpose: they conducted the waters across the crown of the barrel to the continuation of their original route on the other side of it. When our notes were taken the finishing-strokes to this length were being made. A railway was laid along one edge of the cutting, the waggons on which carried, by sidings, the gravel to a spot purchased, or borrowed, for its reception, as fast as the navigators upturned it. It was raised from the varied depths of the great excavated cutting to the level of the tops of the waggons by sets of steam barrow-hoists, attached to wire-ropes and pulleys, striding across the cutting. The clockwork-like arrangement induced by the regularity of the movements of the steam-engine, with the placing of the men in tiers—those below shovelling, those on the top stage waiting to receive the hoists and tip the barrows—produced a very novel and pleasing aspect of labour. As the required depth and width were gained, the invert of the 11 feet 6 inches barrel was laid down. This was not built in all cases in rims, but was formed of blocks of brickwork and cement cast in moulds, which, when lowered, were easily placed: centres were then thrown over the invert, and the top of the barrel was built in rims four deep. This process was in operation at the different places left between long lengths of barrel that were completed. At these open ends there were steam pumping-engines constantly at work—week-days and Sundays—pumping out the waters which found their way into the finished lengths of barrel. But when these were concluded, there would be no further occasion for this labour. We only mention it to enable the reader to realize the difficulties of the work.

When the sewer arrived at the point where its course lay beneath Angerstein's Wharf railway-bridge, the precautions to ensure the stability of this fabric took the form of an immense invert to the arch of the bridge: within this invert the sewer was laid down. As the road nears Greenwich, perhaps out of compliment to its veteran hospitallers, it assumes the name of Trafalgar-road. Winding through London-street, and past North Pole-lane, the sewer is traced to the gigantic pumping-station on the east bank of Deptford Creek.

These important works, however, we will describe hereafter.

WALK AND TALK IN ROME.*

GREAT and various as are the historic dramas that have passed over the Forum, none can be deemed more momentous to the civilized world than that of which the principal action may be considered here, symbolically centered at least, and represented by the repeated ejection of the altar and statue of Victory from that magnificent Curia Julia, now existing but in three Corinthian columns and their broken architraves, near the north-eastern angle of the Palatine. Baronius (*anno* 356) ascribes that *first* step, signal for the final overthrow of Pagan worship, not to Constantine, but to his son Constantius; and the *second* to the same emperor, after a brief restoration of the statue and its honours by the usurper Magnentius. Though St. Augustine, writing A.D. 405, rejoices in the total overthrow of idols at Rome, we must understand this rather as the abolition of a religious system than the removal of all effigies and symbols connected with it. Honorius deprived the temples of all revenues to support their priesthood and rites; at the same time (A.D. 408) decreeing the destruction of their images and altars; but only a year afterwards, the ransom exacted by Alaric, price of the city's preservation, in 5,000 lb. of gold and 30,000 lb. of silver, and could mainly be supplied, as Baronius describes, "by despoiling the images of the gods of the gold and gems with which they had *lately* been adorned, and melting down certain idols in gold and silver." In 438, Theodosius II. decreed that those heathen temples, yet standing, should be levelled with the ground; but how far from being efficiently enforced was that law appears from the reported condition of the Forum, as of Roman monuments generally, at a distance of centuries from its date. Cassiodorus and Procopius mention the multitude of statues (mostly, no doubt, deities) they had seen still erect; also the celebrated Temple of Janus, still containing its bronze two-headed statue in their time; merely, in fact, a quadrate ædicula, alike of bronze, just large enough for its image, which Canina places near the Arch of Septimius Severus, under the Capitol's south-eastern slope, where it stood, in part at least, if not entire, till the middle of the twelfth century, then called *Templum Fatale*, and mentioned as such in a pontific *Ordo Romanus*, under date 1143.

This reminds us of the mysterious name given, through Mediæval periods, to the whole eastern section of the Forum—*Tria Fata*—first reported by Procopius, in his "Gothic War" (l. 1, c. 25), about the year 537; and to be accounted for only on the supposition that the statues of three sibyls, upon columns behind the *Rostra Veteris* (for which see Pliny), had become popularly regarded as Fates, and perhaps were removed from their original place to some other spot. Thus does Anastasius style the church of S. Adriano (near the Septimian Arch), "*in tribus Fatis.*" After the twofold sacking by Alaric and Genseric (410, 546), the Forum's principal edifices, however despoiled, still remained erect; and on the arrival of Theodoric, A.D. 500, that king repaired to the Curia (then called Senatus), to make an address to the people, promising to maintain for their interests all the ordinances of past emperors;—a pledge afterwards engraved in bronze for exposure near this edifice, probably beside the senatorial Rostra. Before 526, when Pope Felix built SS. Cosmo e Damiano, near the temple now ascribed to the Penates (instead of to Romulus or Remus), no church had yet been erected within this region. S. Adriano, built by Honorius I. about 630, was the next, long to be mistaken for a classic antique, either the "Secretarium" of the Senate, the Temple of Saturn, or that of Hadrian (see the ideas of past centuries, in Montfaucon, "Diarium Italicum"), but now shown to be, in its brick masonry, inferior even to the worst style of the lowest epoch of the Empire. Through force of tradition and association the Forum continued, under Christian pontiffs, the place of assemblage for public affairs, as under consuls and emperors. In 768, after the death of Pope Paul I., Anastasius tells us that the *primicerius* Christopher convoked the primates of the clergy, the officers of the army, and the whole body of priests, soldiers, citizens, "*in tribus Fatis*," for the election of a legitimate successor, the pretensions of an anti-pope having been first put down; and there and then was raised to the chair of St. Peter an ecclesiastic known among popes as Stephen III. The conflagration by the troops of Robert Guiscard, 1084, swept over the entire region, from the Capitol to the Lateran Basilica (some writers say,

* See page 289, *ante*.

over a much wider surface); and the present ruinous state of the Forum must be mainly due to that disastrous catastrophe, which, Nibby concludes, caused the *Roma Antiqua*, generally considered, to disappear; giving place to other aspects and gloomier realities, and initiating the epoch to be called, though not in modern sense, that of *Roma Moderna*. Clearly described is one consequence, in the impassable state, at least for cavalcades and processions, to which the Forum was now reduced; for we find, from the same *Ordo Romanus*, that the Papal *cortége*, on solemn progresses, between the Lateran and the Vatican, used to deviate from the right line, between the two arches and along the Via Sacra; strike off from the Colosseum towards the east (direction of a modern post road), passing through the Forum of Nerva; avoiding that of Trajan (probably on account of like encumbrances among its ruins); and ascend the lower declivity of the Quirinal, near the Torre delle Milizie; thence to descend and enter the line of streets now represented by the Corso.

At later Mediæval periods we must picture to ourselves almost all the classic ruins occupied,—more or less built over, indeed,—by those baronial owners who long divided the city among themselves; "their miserable game of puny war to wage;" and scarce left one remnant of antiquity unscathed. From the Arch of Titus a weight of superincumbent bulwarks, the Castle of the Frangipani, now overlooked the Forum; and that differently-formed arch, dedicated to Janus, at a few minutes' walk hence, was absorbed in another fortress of the same turbulent family: that of Severus had the towers of a building called "De Bratis" (the Latinized name of some other baronial race), besides meaner houses, and (it seems) a church propped up against its sculptured surfaces; and about this time was made that road whose pavement, in large polygonal lava-stones, passing under it, was uncovered by the recent excavations around this arch,—not certainly a construction of antiquity. The column of Phocas was surrounded, perhaps concealed, by other castellated piles: paltry dwellings divided the cella and ærarium of the Temple of Saturn; and on the site of that of Concord rose a parish church, SS. Sergio e Bacco, and to whose clergy Innocent III. granted *one-half* the Arch of Severus, with its contiguous buildings. As to that Temple of Concord, it is probable much of its ruins existed; its name being found in the pontific *Ordo* till 1143; and Nibby supposes it may have been finally destroyed with some baronial castle towering above, among the many fortresses cast down by the senator Brancaleone, in 1257, in order to check the tyrannic discords of those potent families. The Julian Basilica, ere yet buried under ground, is believed to have served as the common quarry for their castellated buildings. The Temple of Saturn, to this day the best preserved, with a portico of eight Ionic columns, of different granites, but a restoration, inferior in style, after a fire, probably in the fourth century,* seems to have been till the fifteenth century in a state far less ruinous than at present; for Poggio Brucciolini, then residing in Rome as secretary to Pope Martin V., tells us in his "De Varietate Fortunæ" (l. 1), that he had seen it, when he first arrived here, almost entire; but that the Romans had, *since* then, levelled to the earth the whole of its cella and a part of its portico—an account indeed somewhat exaggerated, seeing what yet remains of this edifice. The most singular evidence to the strangely fantastic ideas and ignorance of Mediæval Rome respecting her own classic antiquities is found in the "Mirabilia Romæ," compiled as an intended vade-mecum to the tourists of the thirteenth century, by some foreign visitor, and actually published in this city, as deserving of credit, about the year 1471.† Its imaginative author resuscitates the ancient Capitol transformed into nothing less than an enchanted palace; its walls plated with glass and gold; its arx surmounted by a palatial pile, mostly of gold studded with gems, and sustaining on its pinnacles statues of all the provinces in the world, each with a bell hung to the neck; and so contrived, by magic art, that, whenever any province revolted, its corresponding statue turned towards it; and the bell rung to give mysterious warning, that Rome Imperial might be both invulnerable and omniscient! Here stood, he tells us, the *Templum Asyli*, in which Julius Cæsar was murdered by the senate; and here was the *cathedra* of the pagan high priest; like a modified anticipation, in idea, of the Catholic Pontificate! Scarce an edifice on the Forum is designated save by some fantastic title; in several instances contradicted by epigraphs still plainly legible on architrave or attic. Thus the Arch of Severus becomes that of "Julius Cæsar and the Senate;" the Temple of Antoninus and Faustina, that of Minerva; and other temples are enumerated to Mars, Bacchus, Carmenta, Titus, in respect to which we cannot even divine the suggestion, from any extant reality, to the writer's mind; but his patent mistakes regarding ruins, still recognisable by their original inscriptions in cubital letters, lead us to infer that at this period their fronts must have been totally concealed by Mediæval defacements; leaving not even their highest sections visible. Another telling document enables us to picture the conditions of the Forum at a later age, when the epoch of history comparatively modern had succeeded to those considered Mediæval: the account by a contemporary, of the triumphal entrance of Charles V. in 1536,* preserved in the "Possessi dei Sommi Pontifici" ("Story of the Installations of the Supreme Pontiffs at the Lateran"), by Cancellieri. On the 5th of April, after spending the night at the monastery of St. Paul's, the emperor arrived with an escort of 3,500 infantry and 500 horse, surrounded as he rode along by cardinals, prelates, the Roman senate and nobles, Spanish grandees, &c.; some hundreds of pages and squires following. The pope, Paul III., had desired to invest this occasion with all the magnificence possible, and give, in great degree, a new aspect to the principal centres through which that gorgeous retinue passed. There was opened the road between the valley of the Circus Maximus and the Colosseum, between the Palatine and the Cœlian, still presenting one of the finest perspectives in this region of gardens, convents, and classic ruin: then was the Forum connected with the Piazza di Venezia by the steep narrow street (lately, indeed, improved by levelling) known as Salita di Marforis. Three or four churches, including that of SS. Sergio e Bacco, were thrown down, and more than 200 houses swept away, all in that part of the Forum where the edifices of antiquity had been most encumbered; so that we may date from this event the final disappearance of the Mediæval aspects at this celebrated centre. Paul III. had forbidden the exporting of antique sculptures (reviving a law already passed by his predecessors), and appointed a commissary to superintend Rome's ancient monuments and their conservation; but this pontiff did not scruple to despoil the Arch of Titus, the Temple of Antoninus, that of the Sun on the Quirinal, the Column of Trajan, and the Colosseum, for providing marbles and travertine for his family palace, the Farnese, erected during his reign. Paul V., in 1613, removed from the Basilica of Constantine (long mistaken for the Temple of Peace, as first designated by Poggio) the only one still erect of its eight superb columns (in fluted white marble, about 58½ feet high), to support the statue of the Madonna, in front of S. Maria Maggiore, where we now see it, with a capital, restored by Carlo Maderno. Despoiled as it is, the three vast arcades and coppered vaulting of this basilica, built by Maxentius, though dedicated to Constantine,† still presents one of the noblest objects among the series of ruins between the Forum and Colosseum; its actual dilapidation having been caused, it is assumed, by earthquake, probably that of 1349, of which we have the graphic description by Petrarch (Ep. x., l. 11).

Nibby ordered excavations below its level, and found the remains of small chambers, in lateritial brickwork, like that used in the time of Domitian; but no traces of the columnar decoration, supposed to have been on the principal façade, towards the Colosseum, where three portals are still erect. From the sixteenth century this basilica served for a cattle-stall, which base uses were actually continued till 1812: then began the works of the French for disencumbering its area; and, in 1818, excavations were first commenced here under the Papal authorities, directed by Fea: these, soon suspended, were renewed in 1828, when the whole edifice was at last cleared, and a protecting enclosure thrown up, under Nibby's superintendence; the brick piers that stand isolated, restored in order to present the plan of the interior in its integrity; and the soil of a convent garden, planted above the arcade vaulting, swept away.

On the northern and southern side of the Forum, extensive excavations were ordered, in 1547, by Cardinal Alessandro Farnese; and then were dug up several pedestals; the statue of Stilichon, minister and captain under Honorius, having stood on one of these; now either at the Museum of Naples, or in the Farnese Gardens, or the Palatine. In 1568, similar works, around the Pillar of Phocas, resulted in the finding of the fragmentary inscription belonging to the Duilian Column (now restored, and in the Capitoline Museum), and a togaed statue, which Flaminius Vacca converted into a Julius Cæsar. Towards the end of that century, the Forum became the common sheep and cattle field of Rome,—hence its still popular name, Campo Vaccino; and a superb tazza of granite, 20 feet in diameter, served to water those quadrupeds, till at last transferred to a museum in 1817. After the modernization of SS. Cosmo e Damiano, in the seventeenth century, an archæologist named Ugostini excavated on the opposite side, near the church of S. Maria Liberatrice (where Ampère places the Temple of Vesta), and discovered subterranean buildings, not of very early period, so numerous that it might be supposed no public or unencumbered piazza of the city had near there existed. In 1742 was reached, at a depth of 45 palms below the ground, north-west of the Forum, the conduit of the Cloaca Maxima, as described by Ficoroni, present at this discovery. In 1788 other researches on private speculation, that of a German baron, bore fruit in several remains of architecture, granite columns, &c. The intentions of Pius VII. for antiquarian interests, embodied in orders given in 1803, were frustrated by political vicissitudes. Carried first into effect by the French, they led to further undertakings which, between 1811—14, completely disencumbered from modern defacements those monuments on the slope of the Capitol above the Forum, now the most finely-conspicuous grouping of ruins in Rome; also demolished the mean buildings still clustering around the Column of Phocas. In 1817 the restored Government resumed these labours in the same localities, soon rewarded by the uncovering of the ancient Clivus Capitolinus, whose broadly-paved way ascends between the temples of Vespasian and Saturn; subsequently by the disinterment of the substructures and staircase to the Curia Julia, and of several fragments belonging to the Fasti records. Leo XII., in 1827, conceived the worthy idea of reducing the entire region between the Capitol and Colosseum to its original level; and this was in part accomplished under Nibby's superintendence, between 1829—34; relaxed, indeed, after the premature death of that pontiff, though not totally suspended till some years later. For the rest, we have only to record the works that finally uncovered the level and basement, at the same time supplying elucidation to the origin of the column thus made known as that of Phocas, by the enterprising munificence of the beautiful English duchess,* long resident here in this century's earlier years.

Let us add, as a postscript to our present notes, that the researches in the Palatine have led to the discovery of a subterranean ædicula, referred by their director, Signor Rosa, to the republican period. Under the church within the ruins of the Portico of Octavia has been opened a crypt that may be the original place of Christian worship, raised here in the eighth century; a semicircular tribune, with white marble Ionic columns, that seems of very early style, though too little has yet been cleared out for exact appreciation.

---

* Nibby conjectures that Maxentius then rebuilt it, using the materials saved from the flames, with fragments from other edifices. *Senatus Populusque Romanus incendio consumptum restituit*, is still read on its architrave: its granite shafts and intercolumniations are of different measurement: the basements unequal,—some with, some without plinth; the capitals rudely chiselled. A lofty staircase, ascending to this portico, has totally disappeared; and even in the present century "the Temple of Fortune" has been the name given to these ruins.

† Inserted entire by Montfaucon in the "Diarium."

* Owing to the horrific disasters brought on the city by the troops of that very emperor, led by Bourbon in 1527, her condition was then so impoverished that it was with great difficulty such an *éclatant* visit could be provided for; and this narrator tells how hard the task of collecting sufficient mattresses for the beds of the imperial attendants! Many looked on the arrival of Charles with abhorrence; and of one good citizen it is related, that he shut his windows in order not to endure a glimpse of the hollow pageantry.

† As proved by the discovery of a silver medal in 1828, within a mass of fallen masonry,—the head and name of Maxentius on the face; on the reverse that emperor's Temple of Rome, with the epigraph "Conserv. Urb. Suæ." Aurelius Victor mentions the dedication by the senate to Constantine,—*Flavii meritis patres sacravere.*

ON THE ARCHITECTURE OF INDIA.†

IN February of last year I visited all the principal places of Rajpootana, and amongst others the ancient city of Cheetore. Previous to this, from what I had seen at Delhi and Agra, I had formed the opinion that the Mahomedan architecture was far finer than that of the Hindoos; and, from what I had then seen, perhaps it was a correct

* Georgiana, Duchess of Devonshire, who brought out in Rome a splendidly-illustrated edition of Horace.

† By Mr. Simpson. See page 390, *ante*.

conclusion; but my visit to Cheetore completely shook this first impression, and gave me such a high notion of the Hindoo powers, that I now consider it an open question as to which is best. Some might lean to one side, while some might prefer the other, as tastes or, perhaps, accident might lead them; but I would advise no one to give judgment on the comparative merits of Hindoo and Mahommedan architecture till he has seen the vast ruins of Cheetore.

Cheetore is placed on a plateau forming the top of a low hill, and is about three miles long. Within this three miles is one vast mass of ruins, formed of temples, towers, palaces, gates, tanks, fountains, &c. Fragments of sculptured stones are in heaps in every direction. The road leading up to this old fortress is paved with sculptured remains. The walls are composed of old fragments. Temples are built of the remains of still older temples, making a confusion from which it would take a very long time to make out order, and trace the origin and history of all the varied sculptures and designs. Cheetore was the ancient capital of the Rajpoot tribe of Mewar, whose royal family trace their descent to the god Rama. The Rajpoots at one time represented the chivalry of India, and their history is full of the noblest deeds; and no where did those deeds assume a grander form than they did at Cheetore. The defence of that city by the Rajpoots against the invading Mahommedans is a history which any nation might be proud of. The history of this people, and the ruins of Cheetore, point in India to the same law which holds good all over the world;—that greatness in arms and greatness in art go together; that it is only those who can do noble deeds who can produce noble works.

The first building which strikes the visitor when he begins to look around him is the Tower of Victory, built by the Rana Khoombo, in the fifteenth century: it is 122 feet high, and composed of nine stories: it is one vast mass of sculptured details, and contains the whole of the Hindoo mythology. It is carved inside and out. The white dome on the top must be, I think, a Mahommedan addition, or an alteration. I was very much struck with the size and quantity of work on this building; but still I was finding fragments of sculpture among my feet which were far better than those on the tower. This indicated a falling-off from the earlier period; and at last I got a perfect confirmation of this in a smaller tower, said to be built about the year 896, 400 years earlier. This tower is only 75 feet high, and is of Jain origin, being dedicated to Adnath, the first of the twenty-four Jain pontiffs. That it is a Jain building is indicated at once by the full-length figure in reddish stone. My sketch of this beautiful work is very imperfect, the details being only here and there suggested. It was only when I was about to leave that I found out this tower; so my time was of the shortest, or I would have made drawings of a good many of its details, which were of the most perfect work, done with the most remarkable precision of execution. I had seen the most of the forms and designs in other temples about India; but when I looked upon this tower they all seemed but rude blundering copies, of which this might be taken as the original standard of excellence. It is always interesting to determine when any style was at its best. Now I feel that my knowledge of the Northern Hindoo is not sufficient to justify any conclusion. All I can say is, that this piece of ninth-century work is by far the best I have ever seen. This smaller tower has much more variety in its general design than the more modern tower, which is almost a series of repetitions all the way up; but it is in the exquisite details of the ornament that the Jain tower excels. There is one noble ornament composed of elephants in action. I do feel sorry that I had not time to make out a few of these details. One of the most common decorations is that of a diamond within an upright parallelogram: this often forms the ornament of a plinth running all round a building; and, although very simple, the effect of it is particularly good. This diamond within a parallelogram is the simple element of a great deal of the Northern Hindoo decoration, and out of it a great variety of ornament is produced. I give you a couple out of many: in one the diamond becomes a quatre-foil: in the other you have again the quatre-foil; and, in addition, the space between the oblong niches has become a miniature pillar. If you look into some rough details which I have shown of a Jain Temple at Ajmere, you will see it all over them; and you will see that on the square part of the pillars at the base it is repeated round all the faces, one large diamond on each, which, from its size, is made into a very important ornament. You will also see this diamond pattern among the details of the Golden Temple at Benares,—a very modern specimen of Northern Hindoo: here you will find that it is still more enriched than any of the older specimens. Another common ornament of this Northern Hindoo, and one which figures largely at Cheetore, is a kind of half-rosette in a semi-circle, and a string of beads all round below. This is really a very fine, effective ornament, and very rich in its appearance. The beads which surround the semi-circle, I think, have had their origin in some species of jewelry worn at the date when this ornament was begun; for all the figures of that period are sculptured with stripes of beads hanging about them, just like this feature of the ornament. Their shape would suggest that they might be pearls, which is not unlikely in India; and the rosette may have been derived from some jewelled original also. There are varieties of this ornament, as there are of all those in India: in fact, there are a set of types which contain nearly all the ornament of the country; and, if one had these, they could be all easily arranged and classified. I feel certain that, with time, I could have done this; and I think, from what I am showing you, that it would only be a matter of time and so much industry to collect the materials. Of this last ornament I give you a variety. It is a very handsome one: the semi-circle is filled up with an elaborate bit of work, and the string of pearls is wanting, but a notched piece runs along the top. This notched pattern is again repeated in a curious design which I copied at Bilsah: it is a series of zig-zag squares cut deeply, and lines grooved all along, producing a very simple but pleasing effect. There were also many varieties of this, and I think it is one of the oldest ornaments,—I should say, Buddhist, and of wooden origin; for it has the look about it as if it belonged to that period when ornamentation was produced by cutting notches in a piece of wood. There is one other common ornament in the Cheetore buildings; that is, a row of something which always looked like fantastic grinning heads. I have shown a specimen of it; but it is not a good illustration of the thing. There is another ornament given which I copied from a temple near Cheetore. I found it always running round the edge of the door of the temple. What surprised me was that so much of that old ornament should look so very like our very modern work all over Europe,—in fact, being not unlike Louis Quatorze or Rococo work,—and only requires to be introduced into a picture-frame of the present time and gilt over, to look like a production of the western world instead of the far-east. In Cheetore and Ajmere, as well as all over Rajpootana, my eye was always meeting with details which produced a remembrance of something Classic. If you minutely inspect my rough details of the Jain Temple at Ajmere, I think this character may be seen in some of them. Now I read lately that Greek workmen did come to Western India in past times, which is not impossible with the facilities of passage afforded by the Persian Gulf. Could it have happened that fragments of Greek art were thus introduced, and grew into those details as we now find them, just as Louis Quatorze and Rococo grew in the west? I should doubt it myself, but I merely suggest it as a contingency which might have happened. I also show an old gate from Cheetore, with a very beautiful pillared bracket. This bracket I have drawn large to show its details better. You will notice that this gate, like many buildings in Cheetore, is built of older fragments in which some of the ornaments I have been describing are visible. From Oodeypore I show some sketches: one is a very fine bracket: another is a ruined house, showing the bracket capital: this is in the common building of the bazaars. There is also a sketch of the Temple of Juggernath, a fine large building in the northern style; but the large flight of steps and full-sized elephants are, I think, peculiar to Rajpootana, and are very grand in effect. Oodeypore struck me, as I think it does all who have visited it, as being one of the finest cities in the world: this it derives from its position. The city overhangs a lake some miles in extent, on which are one or two islands with summer-palaces on them; the largest of which belongs to the Rana. The palace on this island is very beautiful: marble summer-houses, of elaborate design, are mixed up with gardens, fountains, tanks, and flowers; making the most fairy-like spot the mind could conceive as belonging to the land of the East. The whole is surrounded by fine mountains, which are rendered doubly picturesque by ruins of towers, crumbling walls, and old temples. This place is out of the usual track: few Europeans visit it; so it and its ancient predecessor, Cheetore, are little known in comparison to such places as Delhi or Agra.

The old Jain Temple at Ajmere is another of the most interesting of these specimens of Rajpoot architecture. It is believed by the natives to have been built by some kind of fairies in two nights and a half. Todd thinks it dates as far back as 200 B.C. Where a man like Todd speaks, it would be presumptuous in me to doubt; but I feel a difficulty in believing that it dates so very far back. When the Mahommedans got Ajmere they changed this temple into a mosque, in the same way as they did at old Delhi, by building a large row of pointed arches, which are very elaborately carved: in fact, between ornament and texts from the Koran, there is not a particle of plain space left. The original Jain Temple was a series of domes built on lintels, these lintels again being supported by long pillars. The domes are not constructed on the principle of the arch, but from each course lapping over each other, each course being formed into a circular belt of ornament. The lintels from which the dome rises are in plan an octagon; and you will see the peculiar form of the bracket capital by which these lintels are supported. Also notice how the bracket is carried up to support the first course of the dome, which assumes the sixteen sides, and is so near the circle that the dome rises from it without another break.

I now come to the architecture of Cashmere, that is, to those important remains of Hindoo buildings of which there are a few most interesting specimens; and I think I have exhibited to-night drawings of them all. They are all old, but not so old as I should have expected; ranging from the sixth or seventh century to the eighth or ninth (I am here speaking very roughly about the dates of these buildings); but a little reference to history—for architecture is always linked with history—will explain their date. Buddhism began in India about the fifth century B.C., and was the dominant religion of the country for somewhere about 1,000 years, when the Brahminical faith began to get the ascendency; and by the sixth or seventh century after Christ the religion of Buddha had ceased to exist on the plains of India. The remnants of the Buddhists who did exist adopted a modified faith, somewhere between Buddhism and Brahminism, and which is to be found in India to the present day. This is the doctrine of the Jains. It would seem that there must have been a fierce contest between the Brahmins and the followers of Buddha at that early date. The Buddhists lived in monasteries, as they do in Ladák at this day, and in a style as near as can be to that of the same kind of establishment in Europe; and there must have been some Henry VIII. of the period in India who made a good thing of these institutions, for they also were rich and royally endowed; and the measures used for their suppression must have been of the strongest; for some gentlemen who made explorations at Sarnath, near Benares, found masses of old ruins in a state which nothing but burning could have produced. The principle of "pulling down the nests, and the rooks would fly away," seems to have been strictly adhered to; and this may help to account for the scantiness of Buddhist remains in this part of India; and, be it remembered, that the neighbourhood of Benares was the place where Buddhism originated, and was more or less its head-quarters; and of course there one would expect to find the most ample remains of their work in such a locality. According to Col. Cunninghame's work, it was after the meeting of the third synod, or convocation of Buddhists, at Patna, on the Ganges, about 241 before Christ, that they sent out missionaries for the conversion of the whole "Himalays." Amongst those sent out was Mejyhantiko, whose mission was to Cashmere and Peshawar, where he is said to have ordained 100,000 persons. He was at first opposed by Naga, king of the Aravâlo, or Wuler lake; but he was finally converted, and the "land glittered with the yellow robes:" such is the phrase by which the triumph of the faith is always expressed.

I believe there are Buddhist remains in Cashmere, but it was not my luck to come across any of them; but the dates of these Hindoo remains, agree with the downfall of Buddhism; and they were erected by the Brahminical power on their ascendency, which they held until the conquest of that country by the Mahomedans, who in their turn treated the Hindoos somewhat in the way they had formerly served the Buddhists. They filled the insides of what were to them temples of idolatry with wood: they heaped up trees

on them, and made a grand *auto-de-fé* as a triumph of the faith of the Prophet. Had it not been for this, these temples, from the massive way they were built, would have been as perfect to-day as they were at the first. The stone was capable of a very high polish; and so perfectly had the great temple at Martund been polished, that it is described as having "shone like the sun." Now it is all chipped and fractured in a way which nothing but burning heat could have produced; making the ornamental details very difficult to make out. It is supposed by some that this temple never had a roof, or that it was made of wood. My own impression is, that from the solid substantial style of the building, and from the completeness of this style in all its parts, they would all be finished alike; and that it must have had a high sloping roof, such as you will see in the drawings of the other Cashmere buildings. The only one of these buildings which has not been destroyed by fire is a very small temple at Pa Yetsh. It is said to have been damaged by an earthquake, which has shook the large terminal stone of the roof out of its exact position. The style of all these buildings is very peculiar, quite unlike anything else in India. Instead of being like the architecture of India, your first impression is that it is Gothic. This is from the high pediments and the spire-like roofs and general constructive appearance; but a little closer inspection shows a stilted arch, which is more Saracenic than according to our usual ideas of Gothic. A still closer inspection reveals a mass of mouldings and details which, if not Classic, can leave no doubt on the mind that they have been derived from that source. There is one sketch of some details which I did at Martund, which is a very remarkable illustration of this Greek or Classic character. Were I, in a general company, to throw down that sketch, and say that it was a sketch in Athens; unless it was minutely inspected, the statement would not be likely to be contradicted; and, if the stilted arch with the high pediment over it were covered up, it would require a man well up in architectural details to find out that my statement could not be correct. The column in that sketch which looks so like the Doric has not got the flutes the same. They were a little hollowed out; but so very little, that I think they were intended for flat surfaces. In this I am confirmed by a fragment of a very large pillar in old Srinugger, of which I exhibit a sketch. There the flutes are perfectly flat. This pillar has been surmounted by four female heads and arms, portions of the arms being still visible. It is, I should guess, about 6 or 7 feet in diameter. Old Srinugger has suffered in the same manner as most old cities with a new city growing up beside it. It supplies the place of a quarry. All along the side of the hills you can see where the old city stood; but there is little of it left; but what it was like may perhaps be indicated by that fragment of a pillar and another fragment of a colossal statue, of which only the lower part remains; and occupying a very conspicuous part in the tomb of a departed Mussulman,—I found the capital of a column, of which I show you a sketch, and from it you may form an idea of their power of decoration. I take them to be Brahmah's ducks, which I ought to mention is a favourite ornament of the Hindoos all over India; and, as grapes grow in the valley of Cashmere, I think that is what they are represented as feeding upon. The capitals of the little temple at Pa Yetsh I found were the same as this. The temple called Pandrenton, at Old Srinugger, is in the middle of a tank. The tank is now a mass of duckweed and stuff through which snakes glide about, so I could not get near enough to make out the details. There are two temples at Puttun; and you can see, by comparing them with the figure introduced, the large size of the blocks used to build them; and if you look to the base of the pillars you will see how very Greek they are in form. In a gutter in the village of Puttun I found the capital of a pillar. I also submit a sketch of it. It looks marvellously like the Ionic scroll; but it may only be the turn of the Hindoo bracket a little elongated. I also submit some details of a building which is now "Classic." It is that described by Moore as the last scene of "Lalla Rookh." This is a Mahomedan work, and may date about the time of Akbar, about the middle of the sixteenth century. The pillars are of a beautiful black porphyry, and said to have belonged to a still older Hindoo temple. Here Noormahal is supposed to have sung her song,—

"If there's an elysium on earth it is this! it is this!"

While I was there some enthusiastic admirers of "Lalla Rookh" tried to realize the days of Noormahal, by getting the Shalimar illuminated and all the fountains playing. The best dancing-girls and musicians were hired for the occasion; and where Noormahal sang they performed; and as the east is so stationary in its manners and customs, I suppose this "get up" must have been as like the real event as need be. One thing I can safely say, it did not look like the nineteenth century.

While on the architecture of Cashmere I have one other sketch to allude to, that is, the Manikiala Tope. This is not in Cashmere, but in the Punjaub, near Rawul Pindee, between the Jheelum and the Indus, and within sight of the Pirpanjal range, which separates Cashmere from the plains. This is on the route by which Alexander passed, and not far from where he had the great battle with Porus, at the Jheelum; and here again there are clear remains of Greek art. This tope looks as you approach it like a very gigantic plum-pudding; but as you near it, mouldings and pilasters begin to be visible. The most of the outer facing of stone has tumbled off, and the lower range of pilasters which formed the base of the building are covered up. These are only visible at the spot where I suppose General Ventura opened it; and from this side I have made my very rough sketch. All the capitals of these pilasters are so decayed by time, that it requires close inspection to make out what they have been. But no doubt was left in my mind that they are Greek, of the Corinthian order. I have given drawings of two of them; and if that is not enough there is a hastily-done section of the frieze, which I think establishes the Classic character itself. I did not see any of the other topes in this locality or Peshawur; but details of them would be very valuable, to throw light on this as well as the architecture of Cashmere.

I come now to the last style in which anything worthy of the name of architecture has been produced in India: this is the Mahommedan; and I naturally turn to old Delhi, where the Mussulman manifested his supposed superiority over the Hindoo by eclipsing the temple by a mosque which would surpass the Hindoo work by its size as well as the beauty of its decoration. That the Mussulmans have eclipsed what is left of the Hindoo work at that spot, I think there can be no question; but that they beat every other effort of the Hindoo, my remarks on Cheetore will show you that I am not so certain.

There are rival claims between the Hindoos and Mahommedans about the Kootub Minar; but after I had become acquainted with the details of the Hindoo style, the question seemed very clear. At the time when the Mahommedans built the Kootub, they had not the workmen necessary for such a work; and, of course, employed the men of the country, just as we do at the present day. These men did not know the style of their employers; and what was more natural than that each man should just work as he had been accustomed to? and so we find that these buildings, although Mahommedan in general design, are almost all Hindoo in their decorative details. Even the *bell*, which is so thoroughly Hindoo, is to be found on the Kootub Minar itself. Even the great arch is not built as an arch, but in the only way in which the Hindoo was accustomed to produce such a thing. These Hindoo details do not make Hindoo buildings; they only show how few workmen the Mahommedans brought at first when they could not get an arch constructed, and when they permitted such an idolatrous emblem as the bell to appear on their mosque. The later buildings show more of the Mahommedan style of decoration; and at last, as they increase in the country, we almost find the Hindoo ornamentation disappear; and the next change which took place was the Mussulmans adopting a great many features of the Hindoo construction, ornamenting all with their own beautiful tracery and geometrical fretwork. This lasted till the time of Shah Jehan, when European art first makes its appearance; and from the influence of which the native art got completely ruined; and, as I believe, nothing that was worthy rose to supply its place. You find there a still more wretched history than the history of the revival of Classic art in Europe. It produced the complete extinction of native taste, and the extinction of all endeavours to use that taste for the production of the beautiful, which I believe all possess, and all could manifest. At the present moment architecture is a blank in India; and, if they had the task assigned them of producing a great memorial at the present day, I fear they would be in about as great a fix as ourselves.

My estimation of the best period of Mahommedan architecture in India is about the fourteenth century. About the end of the fourteenth century there was a shah called "Ferooz the Architect"; and in the Poorana Keelá, one of the old Delhis, which is also called "Ferooz-Shah-a-bad," there is an old mosque, which I should call the finest mosque in India; and there is no other specimen of Mahommedan work to compare to this, unless it be some of the old fragments about Old Delhi, one of which is a tomb at the foot of the Kootub Minar, the date of which I do not exactly know, but I think it is older than the mosque, for it has a good deal of Hindoo details on it. The mosque is principally composed of the red stone of which all the buildings of Delhi and Agra are constructed; but it is varied with white and black marble. This building is not so well known as the other sights of Delhi, so a visitor is not so likely to see it; but it has only to be seen, I think, to be appreciated. From this period there is little to notice till you come down to Akbar's time,—a name evidently the greatest that India ever produced, and a man who left his mark on that country more than any other man. From Delhi to Cashmere there are serais, or caravanserais, which he built: from Agra to Ajmere, in Rajpootana, there are remains of his; and the house I slept in, in Ajmere, I was told Akbar built. He had three wives,—a Mahommedan, a Hindoo, and a Christian; and, besides combining the different religions in his domestic arrangements, he formed a sort of eclectic system, combining the good qualities of Mahommedism, Hindooism, and Christianity, as well as other Eastern faiths. But the sectarianism of the time was too much for his good intentions. If the religions of the period, however, could not be combined, we find that the architecture of that period was the point when the Mahommedan had combined with it, to the greatest extent, all the principal constructive features of the Hindoo. And Akbar's palace at Futtehpore Sicri may be taken as the representative building of this period.

I have submitted to you to-night some sketches of Futtehpore Sicri: one is the Hall of Audience: in it is a very beautiful pillar, all over with tracery, with a huge capital formed of a series of Hindoo brackets. On the top Akbar used to sit and administer his affairs. A stone slab serves as a passage to each corner of the building, where sat his four ministers,—one for east, west, north, and south; and they had these districts of Akbar's dominion under their control. You will see that the construction of this building is wholly Hindoo, for there are no arches in it. The roof is of stone, and built in a peculiar way, of which I can give you no other information beyond what is seen in the sketch. All I can say is that the lines there represent slabs of stone. But there is another roof, of which I submit a sketch: it is of the same period, and belongs to Akbar's palace at Agra. In it you will notice that the roof is formed of slabs of stone; and to get support a bracket is introduced more of the character of a flying buttress, if one might try to express it by that name; for I have never seen a thing of the same character out of India, where it is found in wood as well as stone. It is one of the main features of Bombay street architecture of the present day. I submit a drawing from which you will see this. One of the great features of Futtehpore Sicri is the great gate: it is the largest in India, if not the world: it is built of red and buff sandstone, with white and black marble introduced. My drawing is in rather acute perspective to let the front be well seen. I selected the point as being that best for a picture, as it gave me a large wall and some fine Mahommedan capitals to make a good foreground. Within the gate is the tomb of a Mahommedan saint, called Sheikh Saleem Shisty: this is built of white marble; but the main feature of it in an architectural point of view is the peculiar bracket, the tracery in each bracket being different. This is again Mahommedan decoration on Hindoo construction.

The little that remains of Jehangeer, the son and successor of Akbar, is not much, and it is inferior.

The buildings of Shah Jehan, the next emperor, are, of all Indian architecture, in the most perfect state of preservation; but then they are only about 200 years old. They include part of the fort at Agra, the Jumma Musjid and fort at Delhi, the Mottee Musjid at Agra; but the most renowned of all is the Taj Mahal at Agra. This is composed nearly all of white marble, and inlaid with precious stones. It is in this reign that we get the first introduction of European art: it is only to be found in the ornament; and, perhaps, in a tendency in the mouldings to European models. Of course European workmen were not introduced: all that the native workmen had, could only have been the designs of the European archi-

tect to work from. This may account for the bad way in which the ornament is produced; for it was a new style, and not properly understood by the workmen; and I should say in addition that the designs themselves were anything but good; so that the first thing which offends the eye accustomed to good ornamentation is the very bad stuff which is on this much-vaunted building. It is of the most tawdry description. But this applies to every feature of the building, and of all those of the date of Shah Jehan. They show every indication of a fictitious style,—where parts are put up without meaning; where you find that, instead of the production of real beauty, the eye is attempted to be imposed on by pretensions of the lowest kind. European art once introduced, it soon spreads; and we soon find it mixed up with the native, and assuming a character which is, I think, peculiar to India. Lucknow may be taken as the representative specimen of this period; but to call it architecture would be a questionable use of words. If you wanted to produce a caricature of European architecture as it has been since the revival of Classic models, I feel certain that the best efforts would fall far short of the gross caricatures you would already find existing in the metropolis of Oude. As to our efforts in the way of architecture in India, I fear little can be said. We have added the title of the "City of Palaces" to Calcutta; but if the change which is at work at home goes on in our ideas and practice in architecture, I fear the "City of Palaces" will require a new and less high-flown phrase by which to express its real character.

In some of our large stations new churches have been lately built which are a vast improvement on older efforts; and India is now so close to England in point of time, that whatever improvements take place here will soon be indicated there; and I believe that a complete change is taking place for the better among ourselves; and that the day is not far distant when better deeds will be done; and that we will, as a great nation, be able to leave some worthy memorial of our power to the future.

THE SOCIAL SCIENCE CONGRESS.

THE Congress was opened by Lord Brougham, on Thursday evening, in Exeter Hall, with a very remarkable address;—too late, however, for us to do more than allude to it.

The departments commence their work this (Friday) morning. The following is a list of the papers announced in two of the departments—the 4th and the 5th:—

PUBLIC HEALTH.

Friday, June 6.—Address of the President of the Department.

Dr. Letheby.—On the Progress of the Rates of Mortality in the City.

Benjamin Scott.—Ancient Water Conduits and Modern Drinking Fountains of London.

Dr. Waller Lewis. On the Health, past and present, of the Working Classes of the General Post Office.

Saturday, June 7.—Hospitals.

A. E. Durham.—On the Comparative Hygienic Arrangements of the French and English Hospitals.

J. C. Steel, M.D.—Hospital Dietetics.

Dr. Markham.—London Hospital Abuses.

Dr. Tourle.—What are the proper Situations for our Metropolitan Hospitals?

Dr. Miller.—Condition of the Pauper Insane.

Dr. Dobell.—On the Prevention of Disease, and the Mitigation of its Fatality.

Monday, June 9.

George Godwin, F.R.S.—On Overcrowding. Remedial Measures.

Drainage.

Robert Rawlinson.—The Principles of House Drainage and Town Sewerage.

Alderman Mechi.—On the Sewage of Towns as applied to Agricultural Purposes.

W. Spooner Hill.—Report on the Sewers and Sewage of Birmingham.

Tuesday, June 10.—Fever.

Dr. E. Lankester.—On the Generation of Typhoid Fever.

Dr. Lyons.—Fevers.

Two o'clock p.m.—Meeting of the Ladies' Sanitary Association. The Lord Mayor in the chair.

Evening meeting at Burlington House.

Discussion on the Effects of Occupation on Health.

Wednesday, June 11.

G. Milroy, M.D.—On the Health of the Army and Navy compared together.

Arthur Hill Hassall.—Observations on the Employment in the Arts of Scheele's Green or Arsenite of Copper, and other Metallic Pigments.

Mr. Ernest Hart.—The Sale of Poisons, and the Prevention of Accidental Poisoning.

D. Symes Prideaux.—Noxious Vapours.

The late Dr. McWilliam.—The Health of the Mercantile Marine.

Dr. Edward Lymes Thompson.—On the Dangers from Sanitary Defects in places resorted to by Travellers in search of Health.

Thursday, June 12.

Dr. Letheby.—On the Duties of a Medical Officer of Health.

Dr. Grailly Hewitt.—On a Common Cause of Mortality among Children.

Mrs. M. A. Baines.—Excessive Infant Mortality—How can it be Stayed?

A. Bryson.—On Quarantine as a Means of Preventing the Spread of Infectious Diseases.

E. Haughton, M.D.—On the Influence of Amusement on the Public Health.

Friday, June 13.—Ventilation.

Sir Joshua Jebb.—Ventilation.

Dr. Sanderson.—Observations on the Natural Movement of the Air in Public Buildings similar to Hospitals, and the Application of Artificial Means of Ventilation, founded on an Experimental Inquiry into the Ventilation of St. Mary's Ho pital, Paddington.

Dr. Aldis.—Gas, its Effects upon Health, and the Results of Gas Legislation

SOCIAL ECONOMY.

Friday, June 6.—Address of the President.

R. Valpy.—On the Importance of Local Statistics for the Promotion of Social Science.

Condition of the Working Classes, Co-operation, &c.

Henry Roberts, F.S.A.—On the Instruction and Training of the Working Classes in those Domiciliary Habits which conduce to their Physical and Moral Well-being.

Rev. Henry Solly.—On the Relation of Co-operative Success to the Educational and Moral Improvement of the Working Classes.

J. Wilson.—The Liverpool Co-operative Provident Association.

Professor Huber.—Co-operation in Berlin.

G. Holyoake.—On certain Moral Errors which Endanger the Permanence of Co-operative Success.

Mr. De la Fleuriere.—The Population Question in connexion with last Census, in reference to Rate of Wages.

J. Scott.—The Labour Question.

Saturday, June 7.—Condition of the Working Classes (continued).

Henry Roberts, F.S.A.—Measures taken by Employers for Promoting Habits of Prudence and Forethought amongst Building and Engineering Workmen—at the *Times* Newspaper Establishment—by Railway Companies, &c.

J. M. Ludlow.—On the Investigation of Trade Differences.

Godfrey Lushington.—Should Apprenticeship be under Indenture?

F. Harrison.—The Lock-out of the Masons of London, 1861-1862.

H. G. Reid.—Building Trade Disputes in Scotland, 1861, 1862.

Monday, June 9.—Dwellings for the Working Classes. (continued).

Edward Akroyd.—On Improved Dwellings for Workpeople, with a Plan for Building them in connexion with Benefit Building Societies.

Rev. J. B. Robinson.—On the Application of the Principles of Co-operation to the Improvement of the Dwellings of the Labouring Classes, particularly in Agricultural Districts.

T. Fagliardini.—Improved Dwellings for the Industrious Classes.

Dr. W. A. Greenhill.—Hastings Cottage Improvement Society.

Nugent Robinson.—The Necessity that exists in Dublin for the adoption of the Model Lodging-house System.

Evening Discussion.—Dwellings for the Working Classes.

Tuesday, June 10.

J. Macgregor.—Volunteering.

W. Pollard Urquhart.—Condition of the Irish Labourers in the East of London.

Liverpool Committee.—Condition of the Irish Poor in Liverpool.

B. Shaw.—The present Condition and Prospects of the Saturday Half-holiday Question in the Metropolis.

John Hyde.—The Amusements of the Working Classes.

Rev. S. H. Parkes.—Flower-shows for the Poor of London.

B. B. Litchfield.—The Social Economy of a Working Man's College.

Alderman Osborne.—The Establishment of a Free Public Library in Birmingham.

Mr. Fields.—A Library for the City of London.

John James.—Condition of the Factory Operatives at Bradford.

Report.—Bradford in its Educational, Sanitary, Economical, Criminal, and Commercial Aspects.

Wednesday, June 11.—Employment of Women.

Rev. J. S. Howson.—The Official Employment of Women in Works of Charity.

Bessie R. Parkes.—The Progress of Public Opinion on Woman's Work.

Emily Faithfull—Paper on some of the Drawbacks connected with the Present Employment of Women.

Jane Crowe.—Report of the Society for Promoting the Employment of Women.

Maria S. Rye.—Report on Female Emigration.

Florence Hill.—The Emigration of Educated Women examined from a Colonial point of view.

Mrs. Jellicoe.—Woman's Supervision of Woman's Industry.

Miss Corlet.—Some Account of the Dublin Society for the Employment of Educated Women.

Emily Davies.—Medicine as a Profession for Women.

Mary C. Tabor.—On the Condition of Women as affected by the Law.

Evening Meeting.

Miss Twining.—Report of the Workhouse Visiting Society.

Thursday, June 12.—Charity and Relief of the Poor.

Mr. Bromley.—The Society for the Relief of Distress.

R. Warwick.—The Operation of the Poor Laws.

George Austin.—The Chargeability of Poor's Rates. Effects upon the present Saleable Property and Social Condition of the Country.

George Cordwent.—Pauperism and Proposed Remedy.

Captain Beamish.—Observations on Pauperism; and Suggestions to Improve and Assimilate the Poor Law System throughout the United Kingdom.

Friday, June 13.—Taxation and Life Assurance.

T. E. C. Leslie.—The Income Tax.

C. E. Macqueen.—The Theory and Practice of Taxation.

J. Partridge.—Direct Taxation.

R. Martin, M.D.—On the Social Results which would be likely to follow the Total Abolition of Indirect Taxation.

Rev. W. Webster.—The Rise and Fall of Life Assurance Offices, with Suggestions for their Improvement.

F. Mathews.—On a Provident Fund on Self-supporting Principles for Miners.

SPECIAL EXHIBITION OF ART-OBJECTS IN THE SOUTH KENSINGTON MUSEUM.

IT was a good idea to arrange this Exhibition, so that foreigners and visitors from the provinces may have the opportunity of comparing the art-treasures that have been laid up in this country during past centuries with the products of modern skill represented from all parts of the world in the Palace of Industry and Art adjoining.

The collection consists entirely of objects contributed on loan, and includes a very large proportion of the finest works of art of former periods extant in the kingdom. It includes goldsmiths' work, jewels, carvings in ivory, decorative furniture, bronzes, porcelain, and pottery; glass, enamels, ancient illuminations, bookbindings, embroidered vestments, miniatures, &c. It has contributed without reserve many of the choicest art-treasures of the crown; and almost all collectors of importance in Great Britain have sent their most valued specimens. We may have an opportunity to speak further of it; and meanwhile recommend an immediate visit.

COMPETITIONS.

New Church for Marylebone.—Some weeks ago a design by Mr. A. W. Blomfield was chosen, in a limited competition, for a new church, in the district of Christchurch, Marylebone. The church will accommodate 600 adults and 100 children, and will be dedicated in honour of St. Barnabas. It will be built of brick, with Bath stone for windows, and will be extremely plain in all its details. The site, which is inconveniently cramped, and renders the orientation of the church impossible, is in Smith's-buildings, Bell-street, Edgware-road.

Chapel, Norwich.—Invitations were issued to architects to send in designs for school and class rooms, in connexion with the Congregationalist Chapel in the Field, Norwich. Four architects competed. Mr. Joseph James, Birmingham; Messrs. J. S. Benest; T. D. Barry; & Burrows, of Norwich. The committee selected the design of Mr. James for the chapel, and awarded the second premium to the design of Mr. Benest.

THE FLOOD IN THE MIDDLE LEVEL.

THE highest of the past spring tides has taken place without seriously increasing the damage; but the hole at the east bank is not even yet filled up, the back-waters from the breach in the west bank washing away the loose earth as fast as it was put in. Clunch, and earth in sacks, are now resorted to, it appears, with more success. Notwithstanding the insecure state of the banks for miles, the necessary work of puddling has not been resorted to, and a heavy rush of back water, it is feared, would most probably burst this bank, and lay 10,000 more acres of fertile land under water. Several steam pile-driving engines have at last found their way to the works, but nothing was then found for them to do. As to the progress of the coffer-dam, there seems to have been some delay in dropping in the panels to shut off the water, according to the *Morning Post's* correspondent. Unless the greatest promptitude is manifested, the next spring tides will not find the barrier complete.

The repairs to the Marshland and Marshland Smeeth outfall sluices are progressing favourably.

No means of carrying off the back-waters that are constantly coming down from the high lands having been provided, it is almost a matter of certainty that the water on the fens will greatly accumulate; and it is feared that the remedy will (for a time, at least until the necessary machinery can be provided) be worse than the cause of it. The Middle Level Commissioners are busily engaged trying to divert a portion of the drainage.

The plan which the engineers intend to adopt for getting rid of the water, after the dam is completed, is to lift the wat-r over it by means of powerful machinery, which is shortly to be erected.

Between 200 and 300 families, it is supposed, are thrown out of home and livelihood by this disastrous flood.

THE INTERNATIONAL EXHIBITION OF 1862 AT THE SOCIETY OF ARTS.

ON the 29th of May, Mr. William Hawes read a paper on the Exhibition; the Earl Granville in the chair. In the course of it the writer said:—

I will not, this evening, stop to criticise the building, either architecturally or constructively, nor the arrangements of the Commissioners. The loss they sustained in the death of the Prince Consort, whilst greatly increasing their difficulties, stimulated them, I have no doubt, to greater exertions; and I believe, when all the conditions under which the plan of the building was determined upon are fairly considered, and become generally known, as no doubt they will be when the report of the Commissioners to her Majesty is published, we shall find that as much has been done, and done well, as could possibly be expected in the management of an undertaking so various, so complicated, and so novel; but whether this be so or not, even if the building be as inartistic as some assert it to be, the faults, as well as the language in which they have been described will speedily be forgotten, while the great intrinsic merit of the Exhibition,—the good feeling it will promote between manufacturers of all nations,—must leave an indelible mark in the history of every country participating in it; recording an industrial progress in ten years greater in some countries than in others, but in all far beyond anything that has ever before been known in a similar or even in a much longer period; thus giving a fresh impetus and renewed vigour to the industry of the world.

But it is said, in derision, by some, that the International Exhibition is but a great shop. A great shop, indeed, it may be; but if it be a shop, it is one to which all the world is proud to contribute its rarest and its best, as well as its cheapest and most useful works, its highest art, its application of that art and taste to common things, to the luxuries for the rich, and to the necessaries for the poor; each improved by extended competition and by the new ideas artists and manufacturers derive from the examination on one spot of articles produced in all parts of the world; thus securing the best and cheapest article for the consumer; showing producer and consumer where they can buy and sell to the greatest advantage;—results which could not be attained, beneficial as they are to all, if those who incur the great risk and expense of supplying such various and costly manufactures were prohibited from their sale. Can it, then, be otherwise than an honour to any country to devote itself to the periodical opening of a shop,—if it please any one so to call it,—or an International Exhibition, in which all civilized nations are competitors, by which the people from all countries are instructed, and feelings of amity and friendship between all nations are cultivated?

I will now proceed to inquire,—

1st. Whether the International Exhibition of 1862 has realized the expectations of its promoters?

2nd. Are we making the best use of it—nationally, commercially, and socially?

3rd. Is the period of ten years the best for the recurrence of such gatherings?

4th. Do such Exhibitions stimulate the industry of the world, encourage art, and tend to hasten, in the words of our late Royal President, "the accomplishment of that great end to which all history points,—the realisation of the unity of mankind; not a unity which breaks down the limits and levels the peculiar characteristics of the different nations of the earth; but rather a level the result and product of these very national varieties and antagonistic qualities?"

If we can answer these inquiries satisfactorily; if we can show that, since the first International Exhibition, our designs are more simple, our colours purer, and our workmanship better; and that the effect of progress is visible in the increase of our trade all over the world; then the object of the Royal Commissioners, of our Society, of the guarantors, and of the exhibitors, has been abundantly realized.

We shall all admit that the most ready mode of estimating the success of public undertakings is to be found by the examination of the opinions expressed upon them in the daily press. We may not agree in the details of its praise or censure; but we must allow that it rarely fails to reflect, with tolerable accuracy, public opinion in its general and most decided outlines. I need not, then, occupy your time by more than a general reference to the all but unanimous praise by public writers, not in this country only, but in foreign countries, of the magnificence of the articles exhibited; of their superiority over those of 1851 and 1855; and of the absence of inferior commodities, which filled a large space in the Crystal Palace of 1851.

After summarising the results in various classes, he continued,—

We have next to consider whether we are making the best use of the great advantages this wonderful collection of human industry places within our reach.

I think it cannot be disputed that the highest object of an International Exhibition is the collection and dissemination of the most accurate information concerning the arts, manufactures, and commerce of all countries; thus illustrating the political, social, and commercial condition of their people. Another purpose is the collection of specimens of the mineral, animal, and vegetable productions, or of raw materials, from all parts of the world; but this is of secondary importance, as they can always be procured in the ordinary course of business by those interested in any particular branch of trade. But our workmen cannot obtain the information they require by any other means than those afforded by International Exhibitions. A workman may occasionally see a specimen of foreign handicraft, but he has no particulars on which he feels he can rely of its cost or the mode of its production. It may be a specimen only shown to him to depreciate the value of his labour, and by reason of this uncertainty it is sure to excite his jealousy and prejudice against foreign workmen. He cannot know the real position it holds in the country where it has been made, or whether it fairly represents its available mechanical skill. This information he can only acquire by the examination of foreign labour in various stages and forms of manufacture; and where can he obtain such knowledge but at an International Exhibition? To him the comparison of manufactures from all countries, and of many different specimens from each, is invaluable. No Mechanics' Institution can give him such useful knowledge, no teaching in the Department of Science and Art can give him such instruction, as he will derive from a few hours spent in inspecting the work, in its various forms, of his foreign rivals. To the intelligent and skilful workman an International Exhibition is an industrial college, teaching in the most practical manner—educating the eye, the hand, and the taste—stimulating industry and ingenuity—removing prejudices, and, by enlarging the sphere of observation and giving new ideas, making better workmen.

The importance of this inspection is very strongly felt in France, not only, as I shall subsequently show, by the numbers admitted to the Exhibition in 1855, but by the arrangements now being made for the careful examination of every branch of industry at this Exhibition by working men. Independently of clubs to bring over numbers of working men cheaply, there is a special sum appropriated by the Imperial commission to pay the fares of deputies to be elected from the great body of each trade by their fellow-workmen.

Feeling, then, as strongly as I do the invaluable effect which the inspection of this Exhibition must produce on working men, I am led to ask if it can produce results of the same national importance on the upper classes. I think it cannot; nor is it necessary that it should. No doubt it will elevate the estimation of the manufacturer in the minds of many it amuses; surprise and excite wonder by the intrinsic beauty and exquisite workmanship of the articles exhibited, and by the wealth of which it gives such striking evidence; flatter the national vanity to see England's superiority in so many branches of industry; but where, among these classes, can it afford industrial instruction, or stimulate industry, or produce any permanent result calculated to maintain the supremacy of England's manufactures?

But when we turn to the middle and industrious classes we find, besides the pride they feel, in common with all, in the collection of the world's industry, a high appreciation of the great benefits they must derive from the practical instruction they receive at these International Exhibitions. They prove their sincerity by providing the security on which the money is raised for the erection of the building—they supply it when erected with the wonderful collection it contains, and then, by their anxiety to inspect the works of all countries, of their rivals at home and abroad, find a large portion of the funds by which the expenses of management are to be paid.

In 1851, Season Tickets, and 20s. and 5s. admissions, produced	£67,514
The 2s. 6d. admissions	72,447
And the 1s.	221,271
In 1855, the 5fr. admissions produced	£6,735
2 fr. ,, ,,	7,663
1 fr. ,, ,,	83,904
4 sous ,, ,,	17,459

So that the working classes of Paris, at 4 sous each, paid more than the 5 fr. and 2 fr. admissions together; and, besides being visited by more than 2,000,000 of people paying but 4 sous each, the Exhibition was open free on one Sunday before it closed, when a vast number were admitted who would not otherwise have seen it. The numbers then admitted were enormous, but no account was taken of them.

I have drawn this comparison because I conceive it to be true and just, and necessary to illustrate the view I take of the proper mode of making the utmost use of these most valuable of modern institutions. Their object is undoubtedly to disseminate information among the great mass of master manufacturers and men in all countries, to improve their taste and stimulate their industry. Any arrangement which excludes the great body of those for whose benefit such institutions were inaugurated, is inconsistent with the broad principles of universality upon which they are based; such exclusion is in antagonism to the publicity which is demanded now-a-days in every sphere of action. It checks the operation of the principles of free trade, for what is the use of free trade by law, if, when we have the opportunity of teaching our workmen how to compete with their foreign rivals, we refuse to allow them to take advantage of it? Unless this is done, a demand is created for foreign works, and our own producers are prevented from learning how to compete with them. You thereby injure the workman, the dealer, and the merchant.

How, then, do I apply these observations to the present time? I say we open the Exhibition too many days, in proportion, to the rich, and too few to the workmen. We do not give to our workmen the advantages given to the French workmen. I believe in the low tariff to produce good pecuniary results. The penny-postage stamp produces more than the eightpenny or shilling letter. I have greater faith in the realization of a large sum by a low tariff than by a high one. I would not open the Exhibition every day at the lowest rate; but whilst, in the interest of science and of instruction, and I may say of fashion, I would have one day weekly at a comparatively high rate of admission, and other days at one shilling for the general bulk of the visitors, I would devote certain days weekly to still lower rates, and as exclusively as possible to working men. Let them feel that an International Exhibition has a truly national object—that they are to derive benefit from it, and then they will learn to appreciate more thoroughly the sacrifice of time, the labour, mental and bodily, which have been required to bring such collections of industry together, and they will retire from the examination of these triumphs of skill and manufacturing industry better satisfied to contribute towards and to aid the exertions which are being made to improve general education, and to enter more fully into the importance and the utility of the large votes for educational and artistic purposes which every year pass the Legislature.

In the presence of our chairman, I am almost afraid to state all I feel on this part of my subject; but I am sure he will forgive me when I say that I fear that the commissioners are not, as a body, sufficiently reliant on the great principles of political economy, which assure us that the safest and best principles of Government are those which give the greatest happiness and instruction to the greatest number. Look at the large sums we are now annually spending in education, in teaching the principles of science and art. Ought we, then, to neglect an opportunity like this, which can only recur at comparatively long intervals, of advancing the education we have begun, and of showing the practical effect of knowledge and industry, and how to obtain excellence and the rewards which belong to it? If it can be shown that by the proposed arrangements for admission we do give to our intelligent and educated workmen all the advantages this wonderful exhibition of the world's industry is calculated to afford them, and at the same time secure the largest receipts, my argument falls to the ground; but looking to the examples before us—especially that afforded by the French Exhibition of 1855—it appears to me impossible to arrive at that conclusion.

The question of prizes comes naturally under this division of my subject. The arrangements for this year are an improvement upon 1851, as there is only one description of medal to be given, and that for excellence only; so that many may be given in the same class, and much injustice thereby avoided. The balance of opinion appears so strongly in favour of prizes, that we must hope the jurors will distribute them so freely as to secure this acknowledgment to every one whose

✠

articles exhibited give evidence of special merit, whether of invention, workmanship, materials, taste, cheapness, or general applicability to the object in view.

The next question is, what is the right period for the recurrence of such exhibitions? I think I may assume all will agree that their too frequent recurrence would, in fact, render them almost useless for the great purpose they are intended to accomplish, viz., that of marking clearly at intervals the progress of the world's industry. Looking, however, at the decided progress in the past ten years, I think we may safely assume that to be a proper interval between exhibitions. It affords time for new inventions—for working out practically the new ideas of the previous exhibition; and the increase of population, and the change which annually takes place in it, produce so large a number of new exhibitors and visitors as to ensure popularity and support. If, then, we could confine International Exhibitions to England, it would not be difficult to determine the period which should intervene between them, or even were they to be limited to England and France. But such is the value set upon them by other nations, which have contributed very largely to the exhibitions of 1851, 1855, and 1862, that it is impossible, in considering this question, to confine our view to those two countries.

There are thirty-one foreign countries contributing to the Exhibition. There are about 18,000 foreign exhibitors. France supplies between 5,000 and 6,000, the Zollverein above 2,000, Italy 2,700, Austria 4,000, Spain 1,100, Portugal 1,000. Great Britain was represented by just under 1,600, and her colonies by about 1,000; or together, 2,600 exhibitors in Paris in 1855. These being the facts, it appears reasonable that whenever France, the Zollverein, Italy, Austria, Spain, or Portugal desire to hold an International Exhibition, and are prepared to supply proper accommodation for it, so long as we expect them to contribute a full and valuable collection of their art and industry to our exhibitions, we must be prepared to do the same to them.

We have, then, to consider how this difficulty is to be met, for should a decennial period be considered as that most desirable for England and France, that is, an Exhibition in either country, each five years, what should be the period, if Exhibitions are also held in other countries from which as many, or nearly as many contributors have come to us and to Paris as we sent to France, or should we refuse co-operation with them if they desire it?

Before we can decide this question we must inquire how far the governments of these countries would interfere in the management of such exhibitions, and how far each has contributed hitherto and would contribute, were they to be held more frequently, to the expenses incurred by exhibitors in sending their goods to foreign countries.

At present we have three instances from which to draw conclusions. England in 1851; New York in 1853; France in 1855. The Exhibition in 1851 was, as we all know, begun by our society, acting under the advice and direction of our late Royal President, by whom it was soon expanded into an international work. The entire expenditure, paid by the money received from the admissions, amounted to 320,000*l.*, and there was a large surplus besides.

That in 1853, at New York, was a private speculation, and was an entire failure. All we can clearly deduce from this failure is, that something more than a pure mercantile speculation is required to ensure success to an International Exhibition. That in 1855, in Paris, was a great success in every respect but in a pecuniary point of view to the Government.

The cost of the building was little short of 500,000*l.*, and that of the management about the same, both being defrayed by the Government, less the amount of the receipts for admission, which were but 128,000*l.* The experience gained by the Exhibition of 1851, no doubt, induced the French Government to incur this great expense for a permanent building for the greater part of the collection, instead of imitating our light and almost fairy structure. The determination to make the main portion of the building permanent and substantial, led to the large expenditure as compared with ours in 1851, and justifies that incurred by our Royal Commissioners on the buildings for 1862.

The English Government appropriated 50,000*l.* to the expenses of conveying the goods of English exhibitors to a French port, and for the cost of the superintendence in Paris. This sum was placed under the control of a committee presided over by Mr. Cole, and the amount expended, everything included, was only just above 40,000*l.*, 10,000*l.* less than the estimate, a saving caused mainly, I believe, by the French Government taking charge of everything at the port of entry and defraying all the expenses of the carriage to Paris.

The French Government, in 1851 and this year, have paid every expense connected with the transport and exhibition of the goods sent here for exhibition, and the amount so paid in 1851 was about 1,200,000frs., or 48,000*l.*; and I am informed that this sum will not be exceeded this year.

I am unable to state with accuracy the expenses incurred by other nations, but I have reason to believe it is small compared with that spent by England and France; but the principle of each Government bearing the expenses of transit and of exhibition appears to be adopted by all. Unless, then, we are prepared to follow this example in every instance, as we did in 1855, our art and manufactures will either be unrepresented, or will appear under very unequal conditions. We may fairly assume that at a cost of from 40,000*l.* to 50,000*l.* we can secure a proper representation of English art and industry at any Continental Exhibition; but if we be inclined to bear this cost, can we expect that owners of valuable works of art, and the manufacturers of large and expensive machinery, will exhibit the one or the other except on special occasions and at distant intervals? I fear not.

At the close of the paper,—

Mr. Marsh Nelson said it struck him, while listening to the account so ably given them of the mode of classification adopted in the Exhibition, that on any future occasion they should arrange the articles in a different manner. If a classification had been adopted with regard to manufactures and arts, instead of by countries, it would have been more convenient. Take, for example, the article of glass. It was difficult for a person to travel from the British exhibition of glass manufactures to that of Austria, and carry in his eye the different qualities; but if all the glass productions had been arranged together—French, Austrian, and Hungarian—they might easily compare them and judge which was the best. This mode of arrangement was adopted with regard to pictures, and he did not see why it should not be for shawls, laces, and other manufactures. They had all been placed in one gallery, and it was possible to compare one picture with another. But with respect to every other description of art or manufacture, they had to travel from one part of the building to another in order to institute any comparison. Skilful manufacturers were in the habit of erecting warehouses suited to the particular quality of manufactures they had to exhibit. He had been recently much struck, in going through a large private building erected for the display of silks. A particular kind of light was given for their advantageous display, and special colours on the walls. With regard to the arrangement of the pictures, it appeared to him that it would be a great improvement in any future Exhibition if they were arranged chronologically. By that means the artist would be able to see the progress which had been made. The next point which he thought they might discuss with advantage, was the building itself. The gentleman who had given them this able comparative account, had rather slurred over that part of the subject; and, whilst he had spoken of the present Exhibition as being superior in almost all respects to those of 1851 and 1855, the only matter on which he expressed any doubt was with regard to the building. He (Mr. Nelson) would point out a few instances in which he thought errors had been committed in the present building, not with a view of cavilling, or of throwing blame upon anybody, but in order that they might guard against those faults in future. He had taken a sketch of the building, as given in one of the numerous guide-books, and, supposing they entered from the Exhibition-road, there was no protection in the way of a vestibule, or any place where a body of people could be marshalled previous to entering the Exhibition. They came, in the first instance, to one of those enormous domes where the glare of light was excessive, and all after that appeared dull and melancholy in comparison. The great secret of all art in such matters was to keep back the effects they wished to produce till the last moment, rather than to thrust them all at once upon the eye of the observer. On entering, instead of making an ascent, they descended several steps on either side to get to any part of the building; that was not only inconvenient but detracted from its dignity and imposing aspect. They then walked along till they came to what was designated the central transept, when a feeling came over them of the lop-sidedness of the building. What was the cause of that? It was because on the left-hand side they looked up and saw a glass roof with abundance of airiness and light, whilst on the other side there was an exceedingly ugly brick wall. The result was lightness on one side and extreme heaviness on the other. The next point was, that on leaving the French courts, the effect on entering the nave was most depressing, because they had not the same amount of light as they had at the sides; but then it might be said that decoration came to the aid of the architect, because, although they did not see the sky, they had the nearest approach to it in the grey colouring and cheerful decoration of the ribs, rendering them as much like Tunbridge ware as could be conceived. He did not think that was exactly the style of decoration suited for a great national building like this, and that it had better be avoided on future occasions. Upon the plan the central part of the building was called the "central transept." Now, when he paid his first visit he looked for the so-called central transept, and walked from the dome at one end to that at the other end, and he confessed he was not able to discover which was the central transept, till a friend suggested to him where it was, and then he saw nothing but a statue of Moses facing one of Garibaldi. Walking to the Cromwell-road entrance, he found again, instead of a vestibule, there was another red brick wall adorned with carpets, whence, turning right and left, an entrance was gained to the picture-gallery. A more unartistic arrangement he had never seen. They then ascended to the picture-gallery, which in extent, height, and dimensions, was all that could be desired; but it appeared to him that a large gallery was not the proper place for the exhibition of pictures of all classes. The noble lord in the chair had travelled a great deal, and many present had no doubt done the same; but there was one thing which must have struck every one with regard to the picture-galleries abroad, namely, that instead of having one large continuous gallery, there were a number of small rooms in which the cabinet-pictures were exhibited. However good the large gallery might be for the exhibition of gallery pictures, the cabinet works were lost in it. From this gallery they passed into the smaller galleries appropriated to the water-colour pictures. He would say no more of them than to characterize them as unseemly railway sheds, only to be compared to their neighbours, the Brompton Boilers. Passing through these galleries, and proceeding to the western dome, they saw what a mistake it was to make these domes a part of an Exhibition building of that kind. As far as exhibiting objects was concerned, they were unsuitable, because it became positively necessary to shut out a great portion of the light from the domes by awnings. Everything about the domes was wrong, and, taken altogether, he regarded them as most inartistic structures. On the occasion of a paper being read at an early period of the session on the Exhibition of 1862, they were told that they should reserve their opinion of the building until it was opened. They had done so, and not only that, but they had waited to hear the opinions of people from every country in Europe, and he had no hesitation in saying this building was a national disgrace. Let them not imagine for one moment he intended to say anything against the gentleman—able, no doubt, in his own profession—who designed this building. On the contrary, he considered him an ill-used man. He believed he was not anxious to have this work put upon him. The Royal Commissioners were told, as plainly as words could be spoken, that Captain Fowke was not the right man in the right place; but, notwithstanding that, they still persisted in adopting his design for the building.

Mr. Gerstenberg (Commissioner for Ecuador) said the gentleman who had just addressed them had shown that criticism was easier than the practice of art. He had spoken with a fluency which showed that he had well studied the subject; but though the paper read was upon the International Exhibition of 1862, the last speaker had only very lightly touched upon that subject. His remarks had been principally addressed to a criticism of the building, which was only a part, and in his (Mr. Gerstenberg's) opinion not the most important part, of the Exhibition. As one of the Foreign Commissioners he would bear his testimony that the present building, for all practical purposes of an exhibition, was superior to that of 1851 and to that of Paris in 1855, and possessed many advantages which those buildings did not enjoy. One great merit in the present

building, he considered, was, that the entrance was immediate. They had not to pass through long vestibules, as suggested by Mr. Nelson, and in this respect he thought it was an improvement upon some of the public buildings on the Continent. Mr. Nelson had omitted to state one objection which had been generally taken by foreigners with regard to the building itself—that was, that it had no central point; that the duality occasioned by the two domes detracted from the unity of the building; and that there was an absence of the grand effect produced by the central transept in the building of 1851. He, in common with other foreign friends, entertained no doubt, if the present experience had been possessed when the structure was erected, a great many faults which had been mentioned would not have been committed; and undoubtedly they would be avoided in future. But he must say, with respect to the merciless remark that the building was a national disgrace, that if any future building were intrusted to any one individual, he would not be able to satisfy all parties. He would say one word with regard to the great importance and usefulness of such Exhibitions, as shown by the readiness with which everybody was now prepared to offer an invitation to others to witness the secrets of his trade and manufacture, throwing them open to the inspection of the world at large. He recollected some years ago that the manufacture of machinery was carried on under the greatest secresy, and the trade was kept as a profound mystery; but at the present moment they saw that false doctrine exploded. The consequence of the former system was that nobody was able to learn anything of his neighbour, and the development of machinery was very slow; but at the present time there were mechanical inventions from all parts of the world open to the inspection of every one, and this was a matter of the greatest utility.

Mr. G. A. Sala said that, as one of the public, he might be allowed to say a few words on an essentially public question. With regard to the contents of the Exhibition, he had viewed them with satisfaction, wonder, and admiration; but with respect to the building he might, as one who had given some attention to art, say a few words. Mr. Nelson had characterized the building as a national disgrace; he (Mr. Sala) did not consider it a national disgrace, but a national mistake, and for this reason: it would be in their recollection that in 1851, all eminent men as architects and designers were called upon to send in plans for the Great Exhibition; and they all recollected what hideous, monstrous, and abnormal designs were sent in on that occasion, and he remembered how his eyes were horrified by some of those designs. Those designs were mediocre, common-place, every-day things; but it occurred to Sir Joseph Paxton, by what he would term an inspiration of genius, to send in the design of the Crystal Palace of 1851. He repeated, that was an inspiration of genius; and that design threw far into the shade every other architectural plan submitted to the commissioners; but it was due to the architects of the country to state that, whilst the design of Sir Joseph Paxton was a marvellous combination of iron and glass, it was common-place in its form, and, as originally conceived, presented a resemblance to three packing-cases piled one upon the other, until the late Sir Charles Barry added the transept, and that addition made it the beautiful thing it was. As regarded the Exhibition building of 1862, he considered that various errors had been committed. The building was certainly not magnificent; indeed, in his opinion, it might almost be called hideous. The picture-galleries certainly were light, commodious, and spacious; and albeit he agreed that there was a want of smaller adjacent apartments in which the cabinet gems could be displayed with advantage, instead of being lost amongst the mass of larger pictures, he must say the picture galleries of the Exhibition were amongst the grandest and most satisfactory features of that otherwise most unsatisfactory building.

Sir Charles Fox begged to state that, with reference to the transept in the building of 1851, Mr. Sala was in error when he stated it was the design of the late Sir Charles Barry. The merit of the introduction of that transept was entirely due to his late respected partner, Mr. Henderson.

The Chevalier de Schwarz (Chief Commissioner for Austria) said, as one of the foreign commissioners, he begged to express his delight at the progress he had witnessed in the present Exhibition, as compared with that of 1851; he believed he expressed the very general opinion of the exhibitors when he stated that the building was in every way suited for its purpose.

Mr. P. L. Simmonds regretted that on each occasion of a paper having been read upon the International Exhibition, it should have been made the battle-ground with regard to the building. To return to the subject of the contents of the building, which was more important to those who had sent their contributions, he would only speak for a few moments of that portion over which he had had a considerable amount of superintendence—the Colonial department; and he was sure any one who looked upon the progress of those dependencies contrasted with the former occasion, could not but be struck with the immense advances that had been made, not only in manufactures and commerce, but in some of the arts. In 1851 there were but few colonies which took part in the Exhibition. On the present occasion more colonies had taken part than foreign countries; and it was highly creditable to this country that its dependencies had come forward in such a way to show to the world the progress they had made in their manufactures, and in the discovery of those raw materials and other products which were so important to us as a nation. There was another feature which might be pointed to as satisfactory with regard to our colonies, that was the sums of money which each had voted for the expenses of the Exhibition.

The Chairman (Lord Granville) said, although he had the privilege of listening to a great many debates, he had seldom taken a more lively interest in any discussion than in that which had taken place that evening. There was one thing which had more particularly interested him, namely, the suggestions which had been made with regard to the present and future Exhibitions; indeed, most of them could have reference only to the preparations for a future Exhibition. He had had the great honour of being intimately connected with the two great Exhibitions which had taken place in this country, and he might say that some of the happiest recollections of his life were associated with the Exhibition of 1851; and having now, under different circumstances, been connected with the management of that in 1862, he had felt the greatest interest, not wholly unmixed with annoyance and trouble, in the conduct of this Exhibition, though he did not look forward to having much connexion with another Exhibition, even if he were asked to do so. As some of the suggestions made affected him personally, it might not be uninteresting to the meeting if he stated the impressions which occurred to his mind upon hearing them. First of all, he was relieved when the gentleman who had spoken so much on the subject, in expressing his disapprobation of what had been done, never mixed it with one grain of approbation upon any one single point. He believed the British public were so experienced with regard to grievances and grumblings, that when a speech took that form of unmitigated censure, it did not produce so much effect upon their ears, and still less upon their minds, as when it was qualified by a certain amount of really judicious criticism. Looking, however, to the prospect of future exhibitions, he did not think some of the suggestions made were such as he should be inclined to recommend. With regard to the taste in which the building had been designed and carried out, he would not advance his opinions on that subject in the presence of such a meeting as this, least of all in the presence of the gentleman who had addressed them with all the advantages of training as a professional architect; but, with regard to one of his suggestions in particular, he (the chairman) had that English feeling which was in favour of being free and easy in his actions, and he could not conceive a more disagreeable notion than the being "marshalled" with a number of other persons in the vestibule of an exhibition before entering. He did not know what might be the system of military volunteering in the days of the next Exhibition, but he would rather step in at a side entrance than submit to drilling before going in. Then, with regard to architectural unity, it did not appear clear that a building composed of different sections, each designed for a different purpose, could possibly possess any architectural unity or beauty of design. Another point on which it was probable there would be greater unanimity was, as to the arrangement of the articles exhibited. For his own part, he had not the slightest doubt of the superiority of the geographical classification over any other. He believed under any other system the difficulties of the management would be increased a hundred-fold. Nothing had given him greater gratification than to witness the liberal, cordial, and conciliatory feeling which had characterized every foreigner with whom he had been brought into contact since their arrival in this country in connexion with the business of the Exhibition; but he did not believe that human nature was strong enough, if Russians, Frenchmen, Germans, and Italians were mixed up together in the building, each accustomed to do business in different ways, to enable them to go on with that harmonious feeling which had hitherto existed. Although he had travelled a good deal, yet he would say there was something very interesting in finding one's self, when in the Exhibition, suddenly, as it were, in a foreign country—being surrounded by the products of that country—which would not be the case if the articles of each country were distributed in a great many different parts of the building. Mr. Sala, who had spoken very well indeed, and had given them praise and blame in equal proportions, had expressed himself at a loss to understand why the commissioners selected such a building at all; but he thought the beginning of that gentleman's speech furnished the reasons why they did so. He (the chairman) had not forgotten the experience of 1851. He remembered that eminent men were called upon to give plans, the result of which was that none were considered satisfactory. He never should forget the feeling of pleasure with which he first saw the beautiful design of his excellent friend, Sir Joseph Paxton, which seemed to come so opportunely to relieve the difficulties of the moment, and whilst speaking on this matter, he might remark that there was sometimes great advantage arising from vicissitudes. There was a strong feeling in the public mind that the two noble elm-trees in the park should not be cut down—the British public would not hear of such a thing; and hence that which was at first regarded as an obstacle, had, as Sir Charles Fox had stated, originated the idea of a transept which should inclose the trees. In comparing the present building with that of 1851, he believed nine people out of ten associated the latter with the beautiful erection now standing at Sydenham, but that was a very different structure, in a great many respects, to the building of 1851. As it was, however, the commissioners found a plan ready prepared. He might say that the late Prince Consort thought most decidedly that the present building was infinitely better adapted for exhibition purposes than that of 1851, and he (Lord Granville) thought it would have been folly on the part of the commissioners to have rejected that plan. He might add that the design was shown to Sir Joseph Paxton before it was finally settled upon, and he expressed his opinion that it was extremely handsome, and well adapted for the purpose. There had been some changes in the design, which had been adopted from motives of economy. That might be a misfortune, but it was a circumstance to which every one was more or less liable from a want of cash. He would now allude for a moment to the suggestions made in the paper, relative to the admission of the working classes to view the Exhibition at reduced rates of charge. He thought that was a question bearing upon the future, and, as such, was one of considerable importance and interest. It was a subject requiring great consideration. First of all they must know what numbers the shilling admission would bring to the Exhibition, because it would not realize Mr. Hawes's views of the greatest happiness to the greatest number, to stuff the largest number of persons possible within a limited space, which they could not extend; and they must remember, after all, whether the admission were a shilling, or sixpence, or twopence, the admission itself bore a very small proportion to the expense incurred by persons coming up from the country to see the Exhibition; and whilst entirely agreeing with Mr. Hawes, that the persons most likely to benefit from the Exhibition were our intelligent artisans, at the same time it would not be conferring a favour upon that class to cram the building with persons inferior to them, so that they would have great difficulty in seeing the objects that were exhibited.

Mr. Peter Graham said, as knowing the views of a large number of exhibitors, British and foreign, he begged to state that their opinion was that the building was extremely well adapted to its purpose.

The Chairman then proposed a vote of thanks to Mr. Hawes, which was passed.

ARCHITECTURAL ASSOCIATION.—The annual dinner of the association is fixed to take place on Tuesday evening next, the 10th instant.

CARVED WOOD PANELS, TO WHICH PRIZES WERE AWARDED BY THE COUNCIL OF THE ARCHITECTURAL MUSEUM.



CARVED WOOD PANELS,

TO WHICH PRIZES WERE AWARDED BY THE COUNCIL OF THE ARCHITECTURAL MUSEUM.

THE "Illustrated Catalogue of the International Exhibition," which is appearing in the *Art-Journal*, is making very satisfactory progress, and will form a most worthy record of the marvellous collection of works of all classes now in the Palace of Art and Industry. The current number, containing the third part of it, comprises engraved representations of 110 articles, with brief descriptions and an accompanying essay. To give specimens of the engravings we are enabled to transfer to our pages representations of the carved panels, now in the International Exhibition, to which the council of the Architectural Museum awarded prizes in March last, as stated in our pages at the time. The first was designed and executed by Henry Reynolds, of Caledonian-road, Islington; No. 2, by C. J. Herley, of Taunton; No. 3, by John Seymour, of Taunton; No. 4, by E. Dujardin, of Walworth; No. 5, by Alfred Angus, Vauxhall Bridge-road; and No. 6, by H. J. Wicks, of Coles-hill-street, Eaton-square. They are all very admirable specimens of wood-carving, as we have said before.

But for the experience the editor of the *Art-Journal* had gained in connection with the Exhibition of 1851, so promptly-produced and excellent a series of illustrations of the present collection could not have been issued.

THE CHAPEL OF THE "HOUSE OF CHARITY," SOHO.

THE House of Charity, located in Rose-street, Soho, for some years, is about to be removed into new premises, adjoining No. 1, Greek-street, which property was purchased by the council last year from the Board of Works. The house had before been occupied by the old Commissioners of Sewers; and was built by Mr. Beckford, the father of the famous lord mayor. It is a fine house; and in the alterations made by the charity, at an expense of nearly 2,000*l.*, all its decorative features have been preserved. The elaborate plaster ceilings, with the carved chimney-pieces and wainscot panelling, come out quite fresh again. Considerable alterations have been made; and the old members of the Board would now hardly find their way about.

As the commencement of the future buildings to be erected in the large open space next Rose-street, the chapel takes the first place, and is now being carried out under the architect, Mr. Joseph Clarke, F.S.A., by Mr. Conder, who has completed the repairs to the house. Mr. George Mawson acts as clerk of works.

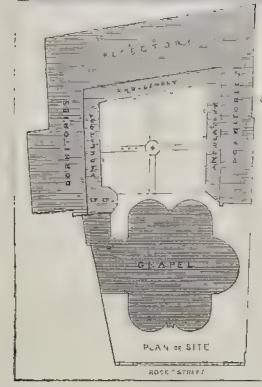
From the constitution of the charity, and the nature of the site as to light, the plan of the chapel is peculiar, having a bema, with four apsidal chapels grouped round, and opening into the choir by arches. Great height is given to the centre of the building, which will have a lofty iron flèche by Skidmore. The roofs are wood, barrelled under with moulded groins. Different kinds of stones will be used both internally and externally; and the building ultimately enriched by a certain amount of colour and carving, as funds permit. Coloured marbles and tiles will also be introduced; parts of the walls inside above the strings will be faced with chalk, as ashlar. Round the chapels and the bema are low stone seats, with the stall or chair for the bishop, as visitor, at the extreme end of the latter. The choir and clergy will have oak stalls set on the paving, with chairs for the council, associates, and inmates.

The chapel will be open to Rose-street, with a low wall in front; and the whole will probably form a striking feature, though very much hidden by surrounding houses. The entrance into the interior quadrangle, and to the chapel, will be through a covered passage at the west end; and ultimately the chapel will form one side of this court, with a covered way round. The new buildings will then comprise a refectory and offices, with dormitories, work-rooms, &c. The walls of the chapel are fast rising, and in the present month some considerable show will be made.

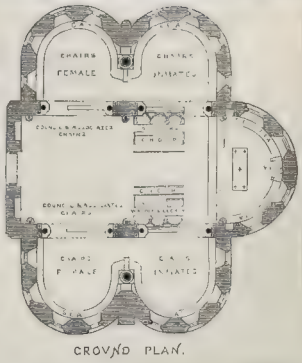


CHAPEL ABOVE TO BE ERECTED
AND PROPOSED INNER COURT
OF
HOUSE OF CHARITY.
GREEK ST. SOHO.

JOSEPH CLARKE, F.S.A. Archt.







SCALE OF GROUND PLAN.

SCALE PLAN OF SITE.

GROUND PLAN.

GOSSIP ABOUT THE INTERNATIONAL EXHIBITION.

THE fierce criticism of our French neighbours is rapidly subsiding. Some of our foreign critics are beginning to treat matters connected with English manners and English exhibitions with a degree of fairness that makes a very agreeable change, while others are becoming absolutely complimentary.

In a recent article signed "Brasseur-Wirtgen," the author proclaims himself a downright admirer of the English school of painting, and actually promises to criticise the works of our leading artists, not only in general terms, but in an *élude approfondie*, as he terms it. He treats himself, however, to a little preliminary grumbling on one or two points, after the following fashion:—The building is a *prison vitrée*,—but, nevertheless, the picture-galleries are, he admits, very well lighted. Then comes the question of the allotment of space. England, he says, with the smallest and most recently-developed school of painting, takes to herself one entire half of the whole space, leaving the other half to be shared by all the rest of the world. But then, in coming to numbers, which he does, in order to compare the London art display of 1862 with that of Paris in 1855, he shows by his figures, quite unconsciously, that Paris did much the same as London in regard to taking the lion's share of the space. In 1855 the number of works of French artists exhibited was 4,200, while those of English artists only numbered 375. In the London display of the present year the case is simply reversed; there being 1,400 English works (including those in water colour), against only 300 French. The total of paintings and drawings of all countries exhibited in 1855 was 5,700, which leaves for all the foreign artists, English included, only 1,500 against the 4,200 works of French artists. In the present year in London, the total number of paintings and drawings exhibited is 3,064, of which 1,400 are English, and 1,664 foreign. So that while our French critic complains, in one page, that the English works occupy rather more than half of the total space, he allows us to prove, in the next, by his own figures, that in the Paris Exhibition the works of French artists occupied nearly three-fourths of the total space allotted to paintings and drawings This forms a very apt illustration of the ancient proverb, which states that those who live in houses of extremely fragile structure should not begin the game of stone-throwing.

It is seen that, if on the present occasion we have taken a very large proportion of the space for the display of works by our own artists, the French had been beforehand with us in carrying out the principle of taking care of No. 1. This, however, is not the pith of the question. What we have to inquire into is, whether a sufficient space was allowed on the present occasion for a satisfactory display of the works of the great foreign schools of painting. To all who are well acquainted with the nature and scale of the greatest works of Continental art, the answer will at once be—No; emphatically, No. For instance, what idea can our public possibly form of the modern German school of painting by the examination of a display from which the works of Bendeman, Schadow, Overbeck, Cornelius, Kaulbach, and Steinle were virtually excluded by stint of space? The greatest works of these celebrated artists, whose fame is European, could find no room in the exceedingly restricted space allotted by us to the foreign schools. And so, after the Great International Exhibition of 1862, our general public will know no more than it did before of those great master-works of the German school which have excited the curiosity and interest of the artists of all countries for the last quarter of a century.

The same remark applies to French art. It is true, we have a few works on a large scale, and some masterpieces in the more domestic style of art; but how can anything like a correct idea be formed of the capacities of the French school from the contemplation of a collection in which no specimens are to be found of Coignet, of Bracassat, of Couture, of Heim, of Schetz, of Eugene Deveria, and half a score of others,—all names of the highest rank in art? It may be said that as large a share of the building has been allotted to pictorial art as could possibly be spared from the spaces necessarily assigned to manufactures. In answer to this, the French critics throw in our teeth the English devotion to solid and abundant "refreshment;" and show that precisely the same amount of space has been allotted to eating-rooms in a corresponding portion of the building, as to the pictures on the side occupied by the art-galleries. This is truly a formidable position to take up. One can scarcely conceive it possible that, in a building erected expressly for the display of every branch of art, as large a space should have been assigned to eating and drinking tables as for the display of painting and sculpture. But so it is; and even this, it is asserted, will not be sufficient.

Sculpture is much worse off than painting: it certainly demanded a vast and distinct gallery for its appropriate display. The rows of pedestals which occupy the central line of the picture-galleries have proved quite insufficient for the accommodation of the statuary which has arrived; and with more accommodation to offer, we should have had a far more abundant and splendid array. As it is, only a small portion of the sculpture is accommodated in the way intended; and the rest has to be dotted about wherever an odd corner can be found. Here a fine statue forms a foreground to a mahogany sideboard, and seems to be thus ranked as furniture-sculpture, with the class of furniture to which it is considered appropriate. Cavalier's "Mother of the Gracchi" stands in front of a background of drain-pipes; and the "Barras" of David d'Angers, in the midst of a grand display of cabinet-work—"*en pleine ébénisterie*," as a French critic has it. This is, certainly, not treating the works of sculpture of the higher classes with great respect. And then, where are the famous medallions of the last-named sculptor? They may be in the building, somewhere or other, but they are not to be easily found. The English do not, however, care much about these little niceties of position and association. The French are much more sensitive—as we see exemplified in the prefectural care bestowed even upon the street architecture of Paris; the prefect of the Seine having just ordered the proprietors of houses in the sixth, seventh, fourteenth, and fifteenth arrondissements to restore and thoroughly cleanse their façades by the 1st of October next. Our shortcomings in matters of this kind, connected with the International Exhibition, will doubtless be severely dealt with in a French serial, just commenced, under the title of "Revue Internationale;" which, moreover, as being illustrated with a profusion of illustrative engravings, threatens to interfere with our official "Illustrated Catalogue," as well as with the well-illustrated catalogue now in progress in the "Art-Journal."

Readers know that guns of the "Armstrong" class were being constructed, not only in America, but even in Egypt by the native workmen of Cairo. We have since seen, by recent news from America, that Confederate guns of this class, used in land batteries, have been more than a match for the steel-clad gun-boats of the Federals. It is said that similar advances in the power of such guns has been achieved also in England, and we have heard of a target, plated with steel of the same strength as the casings of the *Warrior*, having been successfully pierced by a new gun. Why not make an international display of this achievement? A letter to the *Times*, from a writer evidently actuated by a true British spirit in the wish to assert our national pre-eminence in the unfortunately too necessary material of war, recommended that the target so pierced should be exhibited near to the beautiful Armstrong gun, and accompanied, if possible, with the very gun by means of which the heaviest ship armour had thus been proved easily vulnerable. But our Exhibition Commissioners, and our authorities at the War-office and the Admiralty, are not so easily moved as the writer doubtless expected. That the gun and target in question would have become objects of the greatest attraction there can be no doubt; but neither prompt accession to popular demands, nor any promptitude in spontaneous movements in accordance with the feelings of the day, are characteristics of our system of government. It has, however, good qualities of its own, which, perhaps, render such additional characteristics unnecessary.

Among objects more immediately connected with architecture, one is attracted by the capabilities of mosaic, as shown in some fine examples; and also by the elaborate architectural effects produced by materials imitative of stone and marble, and apparently as durable. First, of mosaic. The colossal figure of St. Nicholas is an excellent specimen of modern architectural mosaic, and its rich gold ground, the tesseræ of which are very brilliant, recalls the ancient gold-grounded mosaics of Constantinople before its fall, and of the last few centuries of Imperial Rome, after the establishment of Christianity, when mosaic decoration played so conspicuous a part in the semi-barbaric architecture of the period, both externally and internally; the still perfect specimens of which, many of them on a gigantic scale, never fail to make a deep impression on all thoughtful travellers in Italy. The modern Russian specimen above referred to bears the evident impress of that Byzantine art which was carried to Russia along with the tenets of the Greek Church. This character agrees well with the nature of the process, but does not necessarily belong to it; even when the Oriental, or Mediæval, feature of the gold ground is employed. The modern mosaics of St. Peter's—copies of the finest pictures of the great Italian masters—present to the eye no stiffness of that kind; and indeed, at the distance at which they are placed, many an inattentive spectator might take them for the pictures themselves. The advantage obtained by the laborious process is that, while the paintings might perish by damps, or from other causes, their mosaic counterparts form an integral part of the solid wall itself, and are as durable. The mosaic table in the Roman Court is a beautiful example of the art on a smaller scale; the favourite subject (even among modern Romans), "The Wolf and Twins," which fills the centre compartment, being a most finished performance. The mounting of this fine piece of work, in a meretricious Louis-Quinze sort of style, is not worthy of the work it supports. Speaking of mosaic, one is constrained to notice a bold design for a colossal mosaic, by Mr. Hook. This design was made with the view to try the effect of mosaic, on a large scale, on the walls of the present building, taking it for granted that they were to be considered permanent. It is, indeed, rather extraordinary that, with the existing mechanical facilities already developed, which are well known to artists and architects, mosaics of a monumental character have not ere this become a leading feature in some of the new public buildings that are springing up in every direction. As of analogous character, I should here say a word on the tile pavements of Messrs. Minton & Co., by means of which an effect similar to that of the ancient mosaic floors is produced in a very effective and inexpensive manner, and one which cannot fail to be largely adopted by architects for the floors of public buildings. The effect of repetition of pattern which occurs in the use of mere pattern tiles, even where the patterns alternate, is very fatiguing when applied to a large surface; but the large designs now produced by means of tiles executed for the express purpose of repeating them are not open to this objection. The design exhibited is of Etruscan character, the colours being subdued red, black, ochre, and white, with a few spare touches of green. The set of tiles for producing a design of this kind some 15 or 20 feet square will cost scarcely more than the number of common pattern tiles necessary to cover the same surface.

Among the new materials mentioned above for producing cheaply highly decorative architectural features of a really superior character, I may refer to the *simili-pierre* and *simili-marbre* produced by Messrs. Lippmann & Scheckenburger, of Paris. In these materials, statuary and every architectural feature, even to bare walls, if advisable, may be constructed at a price that makes "palaces for the million" a proximate probability. Messrs. Lippmann & Co. exhibit a portion of a façade composed of semi-detached columns, with all the accompanying features of a highly-decorative architectural composition, the effect of which is solid and stone-like. Till permanently fixed, its parts can be taken to pieces and put into packing-cases, and again erected with the greatest facility. We have had emigrants' houses, planned and temporarily erected in the yards of London builders, which could be taken down, packed in a small space, and exported to Australia for permanent erection; but these were unadorned contrivances of mere carpentering; while, by means of the material and processes of Messrs. Lippmann & Scheckenburger, a veritable palace in *simili-marbre* may be packed up in Paris, and exported to London or America, or any French or English colony, where it may be permanently erected, with indestructible cement, by any ordinary workman furnished with the accompanying plan and elevation, shown on half a sheet of writing-paper.

Another material exhibited for statuary on a large scale, is the Hart-gummi of Mr. H. C. Meyer, of Hamburg. This material, of which the French translation given is *caoutchuc-durcie*, and the English name furnished is *hardened india-rubber*, appears to be capable of very extensive application. It can be produced in various permanent colours, the specimen exhibited being a finely-modelled statue of Armineus, by Engelhart, of Hanover, which is of a fine clay-red, producing the effect of a superior work in terra-cotta, the

lines and finishing touches of which are as sharp as if the direct work of the modelling instead of the casting mould. There are also works in positive terra-cotta, of unusally large dimensions: a series of statues of the Evangelists, in terra-cotta, in the Swedish Court, being very remarkable for their artistic merit as well as for their successful reproduction. Biscuit-ware, too, has been successfully applied to statuary on a large scale, by, I think, Mr. Gille, of Paris, if I am not mistaken in the name. He exhibits a crouching Nymph, nearly life-size,—a scale upon which none of our porcelainists have yet succeeded in producing works of this kind, our Parian statuettes being invariably of small form. Mr. Gille informed me that he had succeeded in the production of a statue 6 feet high, of Palissy, the hero of the early history of porcelain manufacture in France. Mr. Gille has exhibited also some coloured biscuit ware, in a series of *figurines*, the tinting of which is very bold and successful.

There is also some modern Della Robbia ware, by Devers, of Paris, which at once suggests architectural forms suited to its introduction. Whether that introduction be prompt or tardy, may depend upon the energy and talent of our present race of architects; but that glazed decorations of that kind, calculated to resist the destructive effects of our atmosphere, is destined to play a very magnificent *rôle* in our architecture of the future, no reflective artist can doubt for a moment. A series of medallions in this ware, executed for Mr. Holford, though not by any means exhibiting all the capacities of glazed earthenware for architectural purposes, are very striking things, but not equal to some works of the same class by Minton, of which I may speak on another occasion.

Whenever a visitor to the International Exhibition has occasion to look for some object or other in the sections devoted to works in pottery and porcelain, he cannot help being struck, each time afresh, with the magnificent vases of truly gigantic dimensions, from the boldest majolica ware to the most delicate Sèvres, which he finds on every side. Those of the Sèvres works excel in grace of form, and in the high finish of the enamelled paintings, and richness and colour of the gilding. The great vases of the Minton, Copeland, or other English establishments, astonish by the boldness and excellence of their ornaments in relief, in the broad majolica style; while Dresden works excel in the raised modellings of natural flowers, similar to those which formed one of the chief glories of the celebrated old Dresden. There is one giant vase of modern Saxon ware, of pure white, with highly-raised flowers meandering over its entire surface, which is a very magnificent and successful work. One cannot help wondering where these splendid works of the ennobled potter's art are to find their homes. Are they to become prizes in national contests in art, or athletic sports, as were evidently the famous Greek vases at Athens; some of the finest of those still in existence having upon them the Greek word meaning prize, or prizes? or, are they to become the fitting decoration of the public and private galleries of the future, which our growing national prosperity will shortly call into existence, and which are destined to be built with the gold that is so lavishly pouring in from Australia, from California, from British Columbia? However this may be, it is certain that the supply of such beautiful objects, in a country so wealthy as England, will not be long in creating a demand for them.

Much has been said about the mercenary character of the present Exhibition; and there can be no doubt that the arrangements on this score have opened up opportunities to a whole host of exhibitors, who have never had any other object in view than making the present Exhibition a mere medium of advertisement. Unless under very stringent regulations, this was naturally to be expected in the inferior branches of manufacture. But one did not expect to see the mere trading spirit invade the region of the highest branches of the fine arts. Nevertheless it has done so. Here are models of statues, only plaster models, exhibited for the mere purpose of getting orders. M. B—— exhibits several patterns in plaster, in this way, ticketed with the price for which they can be had done in marble; another price for bronze; a lower price for the same thing half-size, and so on. This is really too bad. What should we think of one of our leading painters, if he had exhibited an oil sketch ticketed after this fashion—Mr. P. Q. will execute this subject, size 4 feet by 3, in his best style, for 200*l.*; less highly finished, for 150*l.*; and half-size for one hundred guineas?

ARTISTS' BENEVOLENT FUND.

THE anniversary dinner of this institution, which was established in 1810, took place on Saturday evening, at the Freemasons' Tavern, under the presidency of Mr. George Godwin, in the absence of Lord Ashburton, who was prevented attending by indisposition. There was a numerous company, including Sir Charles Eastlake, Mr. David Roberts, R.A., Mr. Doo, R.A., Mr. Lumb Stocks, Mr. Charles Hill, F.S.A., Mr. Joseph Durham, Mr. Dafforne, Mr. Macnee (of the Royal Scottish Academy), Mr. Gambart, Dr. Diamond, Mr. Harrison Weir, Mr. George Dodd, Mr. Waring, Mr. Thomas Lupton, Lieut.-Colonel Macdonald, Mr. H. G. Bohn, Mr. C. J. Dimond, Hon. Sec., and many others.

The society includes two separate and distinct branches—an annuity fund and a benevolent fund. The Artists' Annuity Fund is raised and wholly supported by the contributions of its members for their own relief in sickness and old age; and 300 artists are members of it at the present time. The Artists' Benevolent Fund, for the relief of the widows and orphans of the members of the annuity fund, is supported by the donations and subscriptions of the patrons of the fine arts and artists, and the annual contributions of the members of the annuity fund.

The Chairman, in proposing "Success to the Society," placed before the company the benefits which it was calculated to confer on the profession, and, in urging the necessity of giving to its operations the largest possible scope, referred to the great improvement which had taken place both in the social *status* and the pecuniary profits of the profession of an artist. In former times it was so unusual an event for a sale to take place at the Royal Academy Exhibitions, that men ran up and down stairs telling everybody they met of the news when a picture was sold: now the results of the annual sales at the exhibitions amounted to many thousands of pounds. But although the artist had a good prospect of disposing of his productions, it happened sometimes that blindness, paralysis, and some other ills to which flesh was heir, rendered him totally unable to pursue his calling. In these cases the annuity fund was a valuable and welcome resource; and the good it had done in past years bore testimony to the need for the society. With regard to the benevolent fund, he stated that since its formation no less a sum than 23,894*l.* had been distributed in relieving the widows and orphans of British artists; fifty-two widows having received annuities during the past year amounting to 777*l.*, and sixteen orphans the sum of 76*l.* Another very gratifying feature of the society mentioned by the chairman was that the expense of working it during the past year fell short of 100*l.*

Sir C. Eastlake, who returned thanks for the Royal Academy, also referred to the prosperous condition of the profession as an additional reason why young members of it should become supporters of the society, without giving way to the notion, in which all men were apt to indulge during the first tide of success, that a reverse of fortune could never happen to them. Colonel Macdonald made an energetic speech in reply to the "Army, Navy, and Volunteers." Mr. Bohn, Mr. D. Roberts, Mr. Durham, and others spoke.

Mr. Charles Hill, in proposing success to the British Institution and other cognate bodies, urged that great advantage would result if artists not so much employed as some in the highest walks of art would turn attention to the decoration of our houses and public buildings.

In the course of the evening subscriptions to the fund were announced amounting to nearly 600*l.*, including a donation of 100 guineas from Her Majesty, and 50 guineas from Lord Ashburton.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

ON May 28th, Mr. T. J. Pettigrew, F.R.S. (who was in the chair), read a letter he had received from Dr. R. R. Madden, in relation to the discovery of a very large number of cromlechs in the vicinity of Algiers. Dr. Madden has laid the particulars before the Royal Irish Academy, and he is now preparing a paper for the association on the African origin of these monuments, connecting them with those of Phœnicia and some adjacent countries, which will be read in the course of the next session.

The Rev. T. Wiltshire transmitted various flint implements discovered at Bridlington, Yorkshire. Many of these were patinated in a way which only a long series of years could effect, and, coupled with their rude fabric, justified their being referred to a remote antiquity.

Mr. Cuming produced two forged specimens of flint arrow-head; and a discussion took place as to their mode of manufacture and the persons by whom they had been executed, in which Mr. T. Wright, Mr. Planché, and the chairman, engaged.

Mr. Cuming made a communication descriptive of ancient fibulæ, Roman, Irish, Scotch, &c., contributed by Mr. W. H. Forman. Upon these also a discussion ensued, and the Irish specimens were referred to a Danish origin.

Mr. C. H. Luxmoore exhibited a curious specimen of razor, of the time of Elizabeth or James I., found at Manor House, Larkhall-lane, Clapham. The handle is of ebony, and decorated with brass studs and circlets.

Mr. Planché read a paper written by the Rev. C. H. Hartshorne, being a continuation of a former communication on the household expenses of Joanna de Valencia, countess of Pembroke in the thirteenth century. A discussion in regard to several items occupied the remainder of the evening.

OUR FOOD.

WE have often before complained that the sale of poultry, fruit, butcher's meat, and other articles in a state unfit for human food, is permitted, and are glad to learn that the matter has been taken up with some degree of vigour by the City authorities. The circumstance, that in the last three months 143,934 lb. of putrid and diseased meat have been seized in the City markets, shows that our statements in connection with this matter have been under instead of over the truth; and we fear that even the above formidable figures fall far short of the quantity of poisonous meat which in various shapes finds its way to the ill-supplied tables of the poor. Within the last few weeks, three persons have been convicted of bringing to Newgate Market various kinds of meat in a condition too loathsome to describe. One of them has been sentenced to six months' imprisonment,—a punishment far too slight for the nature of the offence; for there is, no doubt, a vast amount of sickness to be attributed to this unwholesome supply of food. It is not, however, only in the dead-meat markets in the City that the most careful inspection should be used; but also in the New Cattle Market, where a very large portion of the food of the metropolis is sold which does not find its way into the great City markets. There is, besides, we fear, a considerable quantity of impure meat which is imported in carcases, from various parts, by railway, carriers, &c., and which does not pass through the markets at all, but which is at once conveyed to the dealers in the poorer districts. This shows the necessity that exists, particularly as the hot summer weather is approaching, for the most vigilant inspection by the officers of health, not only in the City, but also in all the slaughter-houses throughout the metropolitan district, and particularly in those markets to which the poor flock for the purpose of purchasing their food.

The police and officers of health want more power for this purpose; yet still these are better situate than they were a few years ago; and we trust that what means they have may be vigorously used for the purpose of stopping the supply of poisonous food.

SMITHFIELD.

ONE of the most extensive excavations which have for several years past been made in the central part of the metropolitan district may now be said to have been actually commenced; and ere long the large area for the new London meat markets will have been opened in parts to a depth of 25 feet and upwards. In the course of this important work an immense quantity of soil, the accumulation of many centuries, will have to be removed, and it is very probable that in doing so objects of antiquarian and historical interest will be brought to light; at any rate the examination of the surface strata will be well worthy of observation.

On such a site as this, a careful look-out should be kept for old-world matters, and some arrangement ought to be made between the City authorities and the contractors for the due care of any objects of interest which may be here found. Where excavations have been made, not only within the City boundary but also in other directions, we have often felt surprise at the carelessness which has been shown. Many things have been destroyed by ignorance or wilfulness on the part of the workmen; and there is a very

bad practice common, of the men concealing pottery, coins, &c. which they may find, and disposing of them for "beer," or other small consideration; and by this means discoveries which, if duly recorded, would be useful in elucidating certain points of the history of the metropolis are rendered useless. In these cases rules should be strictly enforced, that all articles of this description should be delivered by the men to the foreman, or clerk of the works, who should care for them until they can be inspected by competent persons; the finder being rewarded.

CHURCH-BUILDING NEWS.

Swafield.—The parish church of Swafield has been restored. The stonework of all the windows has had the brickwork removed, and has been repaired, and missing tracery inserted. The windows in the belfry are filled with slate tablets, and the others have been newly glazed; those in the chancel with glass of an olive-green hue, with a clear border. The nave roof has been repaired; and a new roof of Memel fir has been placed in the chancel, similar in form to the old roof, but covered with slates in lieu of the pantiles of the old roof. The internal stonework has had the whitewash removed, and the walls have been newly plastered with rough stucco. The floors are laid with peakes of red and blue Staffordshire tiles in patterns, having a border of 9-inch white pavements. The seats are now all open, and are made of pitch pine, the bench ends being framed and having carved tracery panels of varied design. Other restorations have been effected. The woodwork and carving have been executed by Mr. R. Cornish; the stonemason's work by Mr. J. Freeman; the bricklaying, plastering, &c., by Mr. Rasto; and glazing by Mr. William Coe; all of North Walsham.

Normanton.—The parish church of Normanton, near Derby, dedicated to St. Giles, having been taken down and entirely rebuilt, has been opened for divine service. The new structure (says the *Derbyshire Advertiser*) has been erected upon the site of the old one, and contains sittings for 300 persons: it consists of nave and south aisle, chancel and chancel aisle, with vestry: the total length of nave and chancel is 60 feet; width, including south aisle, 36 feet; the south aisle being divided from the nave by stone arches supported on stone columns with moulded caps and bases, with a separate span roof. The arches of chancel and chancel aisle are also of stone, supported on moulded corbels. The sittings throughout are open benches; and these, as well as the roof timbers and other woodwork, are stained and varnished. The chancel is laid with Maw & Co.'s encaustic tiles; those of a bright colour being glazed. The aisles are paved with buff, black, and red quarries in patterns. The pulpit is formed with stone base, alabaster panels, the centre having the monogram "I.H.S.," Derbyshire marble shafts and carved caps at the angles; these being supported on carved corbels. The old tower was to have been retained; but when the remainder of the structure had been removed it was found to be in a dangerous state; consequently it was removed, and the whole edifice is therefore entirely new. The new tower is 15 feet square, and the total height from the ground line to the top of the spire is upwards of 80 feet. It is proposed to clear away the old buildings which at present block out the church from the view in the road, and to make a breast-wall and handsome approach. The style of the church is Early Decorated. It is built with Coxbench stone. The wrought ironwork was executed by Mr. Haslam, and the painting and decorations by Mr. W. Cantrill, of Derby.

Nottingham.—At a meeting of the building committee appointed to select the plans for the proposed new Congregational chapel about to be erected on the site of the present edifice in Castle Gate, the plans and specifications furnished by Mr. R. C. Sutton, architect, were approved and adopted. The new building will be Italian in style. There will be sittings for about 1,400 persons, and the architect states that the cost of construction will not exceed from 4,000*l.* to 4,500*l.*

East Sheen.—Mr. A. W. Blomfield, architect, has just commenced a new church at East Sheen, near Richmond. The church is partly a memorial of Mr. E. Penrhyn. The building will accommodate 500 persons, and is so constructed that a second aisle may be added hereafter. The materials are Bargate stone, from the neighbourhood of Godalming, with Bath-stone dressings. Mr. Carter is the builder. The same architect is also just commencing a new church at East Ham, near Barking. This church is cruciform in plan, with a low central tower. The materials are Kentish rag and Bath stone. The church will be dedicated in honour of St. John the Baptist. Messrs. Turner & Sons are the builders.

Stockport.—Arrangements for proceeding with the new church at Reddish have been finally agreed upon. The site fixed upon is a field bounded on two sides by the main road to the railway station, Gorton, and Manchester, and that to the canal bridge, leading to Heaton Chapel. The cost will be about 1,600*l.* The tender has been obtained by Messrs. J. & J. Longon, builders in that vicinity. The church, which for the present will have no tower, is dedicated to St. Mary.

York.—The contract for the erection of the new Roman Catholic Church in Blake-street, alluded to in our impression of 17th May, has been let to Mr. Ralph Weatherley, of York. Six contractors (says the *York Herald*) tendered; but the whole of their amounts were so high that they were all rejected. The plans were then returned to Mr. Goldie, the architect, for modification; and upon their being sent down again to York with the altered quantities requisite, Mr. Weatherley, of York, and Mr. Simpson, of London, as the two contractors of the six previously mentioned whose tenders were the lowest, were requested to furnish revised tenders. This was done, and the tender of Mr. Weatherley, being something like 400*l.* below that of his metropolitan competitor, was accepted.

Great Smeaton.—The church at Great Smeaton, near Northallerton, has been reopened, having been closed for about three-quarters of a year, undergoing restoration at a cost of about 800*l.* The various works have been carried out by the following tradesmen: — Joiners, G. Smith, Great Smeaton, and J. Foxton, Ripon; plumber and glazier, J. Snowdon, Northallerton; stonemason, &c., J. Metcalf, Northallerton; painting and staining, G. Reed, Middleham. The restoration has been effected from plans by Mr. G. E. Street, of London. The open roof has been slated with green, blue, and red slates alternating, and surmounted on the chancel, nave, and porch with a cross. The nave, paved with blue stone and red tiles at the corners, is provided with open seats of pitch pine, varnished, &c., about 3 feet in height. All the sittings have shelves in front. The chancel, restored entirely at the expense of the rector, the Rev. M. Anderson, jun., is paved with Minton's tiles, and has a domed roof. The stalls are of oak. The east window is of stained glass, being a memorial, presented by Mr. Robert Barry, of Fylingdales, near Whitby.

Bradford.—The Primitive Methodist Chapel, in Manchester-road, has been rebuilt; the old chapel having been accidentally burnt down. The new chapel has been built from a design by Mr. Ogilvie, architect. The liabilities incurred by the re-building amounted to 1,454*l.*

Southport.—The foundation-stone of a new church, at Ecclesfield, Southport, has been laid by Lord Skelmersdale. The church, which is to be dedicated to St. Paul, is situate close to the boundary line, between Birkdale and Southport, and when complete will have cost £4,400. The style of architecture is the Early Decorated. It will consist of a nave, north and south aisles, transepts, and chancel; the last having north aisle as chapel, and south aisle as vestry and organ-loft. The architects are Messrs. Speakman and Charlesworth, of Manchester; and the contract has been let to Messrs. Ellis & Hinchliffe, of Manchester, for £4,390.

Scaleby.—The church here has been re-opened for divine service by the Bishop of Carlisle. Before the present restoration (says the *Carlisle Journal*) the building was damp, dark, unwholesome, and altogether in a most dilapidated condition. The east end has been entirely reconstructed in a style corresponding to the rest of the church; viz., the thirteenth century. The architect employed was Mr. Cory, the county surveyor (who also designed the restoration lately carried out at Bromfield). The porch and vestry are entirely new, and correspond with the rest of the church.

STAINED GLASS.

Eaton Church (near Congleton).—A western window has been placed in this church. The window, which is a memorial one, is by Messrs. Edmondson and Son, of Manchester, and represents the parable of the good Samaritan. Beneath the subject is the inscription, "In memoriam Gibbs Crawfurd Antrobus. Obitt 21st May, 1861." In the upper tracery of the window are foliage and other ornaments, surmounted by the shield of the deceased.

St. John's Church, Yeovil.—Five more stained-glass windows will soon be ready for this church. They are all subject windows. That at the east end is "The Crucifixion;" south transept, given by the family of Mr. F. Greenham, "The Last Supper;" the north bay-window, corresponding with the Ladies' window on the opposite side, "The Transfiguration;" and the two south chancel windows, "Incidents in our Saviour's Life."

St. Mary's, Welshpool.—A new stained-glass window has been placed in the east end of St. Mary's Church, the glass of which is the gift of the Earl of Powis. The stone-work and tracery were paid for by subscription. The window is the work of Mr. Wailes, of Newcastle, who some time ago executed a window for the chancel of the same church. The subjects are taken from the life of Moses, and are as follows:—The Finding of Moses; Moses Keeping the Flock of Jethro; The Burning Bush; First Interview with Pharaoh; Departure from Egypt; Overthrow of Pharaoh and his Host in the Red Sea; Smiting of the Rock at Rephidim; The Brazen Serpent (the pole is surmounted with a miniature figure of the Crucifixion); The Worshipping of the Golden Calf; Moses's Prayer for Victory over the Amalekites; and the closing scene in the life of Moses.

SCHOOL-BUILDING NEWS.

Great Holland (Essex).—A day-school is in course of erection at Great Holland. The materials are red brick and Caen stone; and the style is Early English. Mr. H. W. Hayward, of Colchester, is the architect; and Mr. Robt. Hawkins, of Monks Eleigh, the contractor.

Buckland.—The foundation-stone of a new National School has been laid here. From the plan of the building, designed by Mr. Woolgar, of Guildford, it appears that the new building is to be a red brick structure, in the mixed Gothic style. A house will adjoin the school-room for the school-mistress. It is expected its erection will cost from 600*l.* to 700*l.*, raised by subscriptions. Mr. Carruthers, of Reigate, is the builder.

Haileybury.—A new public school, on the plan of the schools of Marlborough and Rossall, is about to be opened at Haileybury. The Rev. A. G. Butler, brother of the head-master of Harrow, and at present one of the masters of Rugby School, is to be the head-master. The buildings, which, since the breaking up of the East-India College have had soldiers quartered in them for three months, will require extensive alterations and repairs, which are now about to be carried out under the superintendence of Mr. A. W. Blomfield, architect.

Stockton.—It is intended shortly to erect new Blue Coat Schools on the site of the old ones, on Norton-road, in this town, from the designs of Messrs. Pritchett & Sons, of Darlington. They will comprise boys', girls', and infant school-rooms. The infant-school will measure 40 feet by 30 feet, and will accommodate 200 infants; the boys' school, 50 feet by 30 feet, and will accommodate 250 boys; the girls' school, 42 feet by 32 feet, with accommodation for 200 girls. The schools will have class-rooms and large playground attached. The style will be Early Gothic, and the material red brick with freestone dressings. The teachers' houses, of which there will be three, will be built in the same style. The estimated cost is from 1,850*l.* to 2,000*l.*

PROVINCIAL NEWS.

Newbury.—The Corn Exchange here has been completed. It is in the Italian style, having a Bath-stone front, with six Corinthian pilasters, and two ante-pilasters. On each side of the door-way, which is in the centre, are placed large semi-circular-headed windows, over which are inserted medallions, with carved wreaths. The roof is constructed on the laminating rib principle, the large circular ribs being formed of four thicknesses of timber, with boiler-plates in the centre, and the whole bolted together. The spandrels, and space between collar and principal rafters, are fitted in with cast-iron scrolls of an ornamental character. Two-fifths of the roof are covered with Hartley's patent rough-plate-glass; and the remainder is slated, and plastered underneath. Ventilation is provided by means of shutters, which are fixed behind louvre boards, and opened and closed from beneath by means of lines. The dimensions of the building are: 160 feet long, 50 feet wide, and 50 feet high. The principal contractor is Mr. Futcher, of Salisbury. The other contractors are Messrs. Wilder & Sons, of Reading; J. & H. Hopson, and S. Biddis, of Newbury. The works have been carried out under the superintendence of

Mr. J. S. Dodd, of Reading, whose design was selected by the Local Board of Health in public competition.

Wantage.—At a meeting of the inhabitants of Wantage and neighbourhood, held in the Town-hall, to receive plans from architects for converting the lower part of the Town-hall into a Corn exchange, the following plans (says the *Reading Mercury*) were produced and explained by their respective owners: Mr. Rumble's plan was first explained by him. One part was for erecting an addition to the north and south sides of the Town-hall, composed of glass and iron, at a cost of 150*l.*; the other was for remodelling the whole of the building, at a cost of from 900*l.* to 1,000*l.* That of Mr. Brooks, of London, was then taken: it was for a double glass roof at the north and south sides, the floor to be laid with wooden cubes on concrete, at a cost of 300*l.*; another to remodel the present building, at a cost of 800*l.* Mr. Stevenson, of Wantage, proposed a plan for a glass erection on the north and south sides, at a cost of 420*l.* to 470*l.*, if allowed to extend the width 6 feet, or if without the ornamental iron-work as shown, at 380*l.* Mr. Hart, of Wantage, produced a model of his proposed additions, which would cost 150*l.* A committee was formed to ascertain whether sufficient funds can be obtained to rebuild the present Town-hall on a more convenient plan, so as to gain more room for a corn-exchange without encroaching on the present carriage-way. Thanks, adds our authority, are due to the architects, who furnished the plans gratuitously.

Bangor.—The new markets, recently erected from designs by Messrs. Kennedy & Rogers, of Bangor, architects, occupy, exclusive of the pig market, an area of about 6,540 superficial feet within the walls, and are situate on the north side of High-street. This area is divided into three sections, covered by light iron roofs, supported on the external walls, and by rows of iron columns. The height of the building, to the springing of the roofs, is 20 feet, and 29 feet 6 inches to the ridges. The ironwork is painted blue and chocolate. The whole is lighted by the upper half of each side of the roofs being glazed. The markets are entered through three large double iron gates; and between them are shops, which face High-street. A gallery runs along the south side of the inclosure, above the shops, and it is contemplated continuing it all round.

COTTAGES FOR THE LABOURING POOR.

ON Tuesday evening last, the Rev. Canon James delivered a lecture in the theatre of the Kensington Museum, on "Labourers' Cottages, and their bearing upon Architecture. The chair was taken by Mr. A. J. Beresford Hope, the president.

In introducing the lecturer, the President apologised for the unavoidable absence of Mr. G. G. Scott, who was announced to lecture that evening on "The Formation of a National Museum of Architecture, as viewed especially in its connection with the Mediæval Styles."

The Lecturer, in introducing the subject he had chosen, remarked that in an artistic point of view it was so humble that many would consider it hardly came within the province of architecture at all; but in a moral and social point of view it was important and interesting, and had engaged a large share of attention on the part of some of our most eminent men, and in the leading organs of the public press; and certainly in our architectural museum the subject could not be out of place; for if they interested themselves about the taste and skill and general wellbeing of the workman, they ought not to be indifferent to the home in which he lived. He held, with regard to the question of home influence on character, that as was the house so was the man, and as was the man so was the house. He proposed, in dealing with this subject, to confine himself to country and suburban dwellings as opposed to those of the towns. The lodging of the workman in London and the great cities was a subject of great importance; but it was more removed from the sphere of art than the one he had adopted, and was more connected with the general question of street architecture. While the difficulties involved in the latter question seemed almost insuperable, everybody thought he could build a good cottage; nevertheless, of all the plans that were devised for the improvement of the labourers' dwellings, there were few indeed which he really liked; and it not unfrequently happened that the old mud hovel had more of comfort to the eye of the labouring man than the modern building of brick and plaster. There had doubtless been many mistakes in the efforts that had been made to provide proper cottage accommodation for the labouring classes. Some of the worst cottages he knew had been ushered into the world as "model" designs. One would be without a pantry; another with a separate chimney-shaft to almost every grate; another, which gained the prize of the Royal Agricultural Society, had a classical pediment to the gable, and Gothic moulded battens to the pigstye. Until within the last twenty years but little thought had been given to cottage.building, and there had been a lamentable want, in the cottages that were erected, of proper adaptation to the end proposed. The late Duke of Bedford was one of the first who set to work in a really practical spirit, with the intention of solving the problem how to erect for the labourer a suitable cottage which should pay a reasonable interest on the outlay. He took a broad and liberal view of the question; concurring in the maxim that property has its duties as well as its rights. Cottage property was generally known to be a bad investment for money; but that was not the light in which the landlord should look at it; for he who erected improved farmhouses should also build around them cottages of improved construction, and in sufficient number to meet the improving condition of the land. The example of the Duke of Bedford was widely followed; and at the present moment many landlords were following the line he had struck out. The duke's cottages ranged from single dwellings to groups of five or more, meeting almost every requirement of the families by whom they were intended to be occupied; and they also possessed the advantage of being cheap. The matter had also been taken up by the Yorkshire Agricultural Society, who offered prizes for the best designs, and published the results; but of the various societies that had shown an interest in the matter, the palm must be assigned to the Society for Improving the Condition of the Labouring Classes; its publication being the *Labourers' Friend*. Mr. Roberts had done much in disseminating reliable statistics and information in reference to the dwellings of the labouring classes: his last pamphlet, entitled "Essentials of a Healthy Dwelling," being well worthy of perusal.

The rev. lecturer then pointed attention to some diagrams, which he introduced for the purpose of showing the back, front, and side elevations, and the plan of the ground-floor and bedrooms of what, in his opinion, constituted a good double cottage. This plan, he said, was modified from that of Mr. Strickland, as contained in his pamphlet on Cottage Architecture,—a similar arrangement having been adopted by Mr. Roberts, in his late publication, as the best he could recommend; while the latest prizes awarded by the Leeds and Royal Agricultural Societies embodied it in its various features. Such a concurrence of authority almost settled the question as to the best arrangement of a double cottage. The design, he said, represented a pair of cottages for agricultural labourers. To these cottages gardens would be attached; it being very desirable, in the case of country cottages, that the occupier should have a sufficient piece of ground to enable him to pay a remunerative rent. With the ordinary pay of a labourer, 1s. 6d. a week was as much as a man could pay for his cottage; but 4*l.* per annum was a poor return for an expenditure of 120*l.* or 130*l.* on a cottage; consequently it was desirable, on both sides, that there should be with each cottage a certain quantity of land from which the occupier could realize sufficient produce to put him in a position to pay his landlord a fair interest on his outlay. The cottage which the lecturer recommended contained on the ground-floor a large living-room or kitchen, and pantry, and three bed-rooms above, with an out-house for wood and coals. He considered that the kitchen should be the largest room in the house, and should be used as the living-room, there being a washhouse at the back, which might be used in the summer-time as a back-kitchen. It should be remembered that a labourer could only afford to keep one fire burning at a time; and he should have in his kitchen a good kitchen-range, with a boiler on one side of the fire and an oven on the other; and not, what was so common in labourers' cottages, a sham range, which consisted merely of a boiler on one side and a piece of iron made to look like an oven on the other. The kitchen should be the room which the labourer and his family should occupy as their sitting-room. To keep the kitchen so used, it would be necessary that the back-kitchen should be kept within such dimensions as to preclude its being used as a sitting-room; for, if it were large enough to be made a sitting-room, it would be sure to be occupied to the neglect of the larger room, which would be preserved for particular occasions. The rev. lecturer much deprecated the custom that prevailed, not only among the poorer classes, but even a little higher in the social scale, of retaining the best room in the house as the one to be least used and least enjoyed. He thought there was nothing more dismal than to be shown into a fine but what he might term stagnant and unwholesome drawing-room; and he recommended that the largest and best rooms should be used for ordinary purposes. His object was that there should be no "company" rooms in the modern labourers' homes; for where they were found they were sure to involve an untidy and comfortless every-day existence in the wash-house or the scullery. The really tidy housewife and good mother, who took a pride in her home, would prefer such an arrangement, although it might imply a little more labour than the other system; and it was only the slattern who, for the sake of Sunday finery, was content to live all the week in discomfort and dirt. In his plan it was proposed to make the kitchen 14 feet long by 12 feet broad; the scullery 12 feet by 8 feet; and the pantry 7 feet by 6 feet. With the projections caused by the copper, grate, and sink, the actual space of the scullery would be about 8 feet square. The coal or wood house might, with advantage, be made a part of the building, so as to avoid the expense of an outhouse. It would be desirable so to arrange the doors as to avoid a thorough draught. With regard to the bed-rooms, it was now generally acceded that each cottage required three bed-rooms; one for the parents, one for the boys, and the other for the girls. One of the great questions in modern cottage-building had been how to get the bed-rooms of sufficient size over the area marked out for the rooms on the ground-floor; and generally either the bed-rooms were cramped to a most inconvenient size, or the scullery was so much enlarged as to make it used as a living-room. The dimensions of the bed-rooms he proposed were 12 feet by 9 feet; 12 feet by 9 feet 3 inches; and 11 feet 2 inches by 8 feet 2 inches. In the two larger bed-rooms there would be fire-places; but none in the third. The dimensions he had given would allow about 300 feet in round numbers for each floor. The height of the bed-rooms would be 8 feet from the ground-floor: their roof would be slanting. The general arrangements would allow of an outer porch and passage, giving access to the stairs, kitchen, and scullery; and there would be a landing upstairs giving entrance to the three bed-rooms. It might be doubted whether this arrangement of separate entrances, deemed so indispensable in other residences, should be regarded as of much consequence in the labourer's cottage, as the labourer seldom complained that the outer door opened into his living-room, or that the stairs communicated directly with it; but, when a model plan was being sought for, he thought it as well they should get as perfect a plan as possible, and one that should help the labourer to form those habits of order which were sanctioned by classes higher in the social scale. What the labourer did complain of, and that very frequently, was, the extreme thinness of his cottage-walls, and the cold draughts and smoky chimneys by which he was annoyed. He (the lecturer) recommended that proper means should be taken to guard against damp occasioned by thin walls; and as one means of doing this he suggested that walls should be built hollow,—a mode of construction which rendered a 9-inch wall less liable to damp than a solid wall of the same thickness. He would plaster the living and bed rooms inside; and, as an additional means of preventing damp, would paint the walls externally. Having referred to the construction of mud walls as desirable in some cases from their economy, and the facilities they afforded for the erection of buildings in particular localities, the lecturer suggested that the flues in all cottages should be circular, as was the case in our ancient cottage buildings,—a circumstance which probably led to the shafts being called tunnels. This mode of construction had not only proved to have been very effective in preventing smoky chimneys, but it prevented the accumulation of soot which took place in square shafts; and he remarked that it seemed singular that the square chimneys of the present day were swept by circular brushes. He had found in his own experience that the mere addition of 8 feet of circular chimney piping had entirely cured smoky chimneys. With regard to the windows of the cottages, he suggested the desirability of constructing wooden casements, divided transversely into three panes, as less expensive and less liable to injury than ordinary sash windows, and more economical than the old leaden-framed casements. The roof, he recommended, should be constructed of the ordinary

blue slate, which he held to be the cheapest and best material for the purpose. The objection to it was, that it was cold in winter and hot in summer; but this could be easily obviated by having a course of straw or reeds underneath the roof. It was true that insurance companies charged extra where this plan was pursued; but the objection scarcely applied to cottages, which were seldom insured, and in which there was little fear of fire. With regard to the fireplaces, he discountenanced what he termed the modern ventilation "dodges," which were intended to admit the fresh air and get rid of the foul, but the effect of which sometimes was just the reverse of the intention, and generally resulted in a disagreeable mixture of the two. As regarded the staircases, it was desirable that they should be attached to, and not complicated with the main block of the building. As to the architectural plan of the exterior, to which the internal convenience was frequently sacrificed, it was advisable that, in the construction of cottages, the first attention of the architect should be given to such an internal arrangement as would best suit the convenience of the occupants. The lecturer spoke strongly in favour of that simplicity of style which characterized the cottage buildings of the Early English architecture. If he were conducting an architectural studio, he should first put before the student, not a portion of the Parthenon, or of Westminster Abbey, but a well-designed and well-finished cottage; and would so gradually carry him upwards to the consideration of higher subjects.

At the conclusion of the lecture,

The President proposed a vote of thanks to the lecturer; remarking that he had himself built several pairs of cottages on a plan not altogether unlike that which had been recommended by Canon James; in directing attention to which, as combining the suggestions of Mr. Strickland and others who had well considered the subject, he believed the lecturer to be doing a public service. He trusted that, on a future occasion, they might be enabled to induce Mr. James to favour them with a lecture on a subject to which he had only incidentally alluded; namely, the construction of cottage dwellings for the labouring classes in large towns.

ART-UNION OF LONDON PURCHASES.

THE following works have been selected by prizeholders of the year 1862:—

From the Royal Academy.—Bed-time, A. Hughes, 200*l.*; Rotterdam, G. Jones, R.A., 100*l.*; Oh, whistle and I'll come to you, my lad, J. Curnock, 20*l.*; First of October, W. Field, 25*l.* 5*s.*; Antwerp Cathedral, E. S. Cole, 15*l.*; Morning on the Thames, near Goring, W. Carter, 15*l.*; Lyn Dee, near Bethgelart, F. Walton, 10*l.*; Dasbrod-holen, A. Erwood, 10*l.*; Crummock Water, Cumberland, E. A. Pettitt, 10*l.*

From the Society of British Artists.—Carting Timber in the New Forest, W. Shayer, 60*l.*; View from the Fardog Mountains, South Wales, J. Tennant, 40*l.*; The Picture, J. T. Peele, 35*l.*; Bridge on the Camlan, North Wales, A. Barland, 25*l.*; Moving Timber—Winter, G. A. Williams, 25*l.*; Rest by the Way, C. Rossiter, 31*l.* 10*s.*; Weston Village, in the vale of Honiton, Miss Blunden, 20*l.*: Lieder Bridge, J. Syer, 22*l.*; Pike-Fishing, A. F Rolfe, 20*l.*; The Young Ramblers, R. Benedict, 20*l.*; Cottagers, W. Shayer, 20*l.*; Cattle in the Marshes, A. Corbould, 20*l.*; The Shady Path—Bright Summer-time, J. W. Bunney, 10*l.*; The Pentre de Steam, E. A. Pettitt, 10*l.*

From the British Institution.—Morning on the Usk, H. J. Boddington, 50*l.*; The Protracted Return, A. F. Patten, 40*l.*; Leafy Shade, H. Jutsum, 35*l.*; Fruit painted from Nature, Miss E. H. Stannard, 25*l.*; In the Meadows, G. Cole, 25*l.*; Domestic Ducks, J. F. Herring, 25*l.*; Reconnoitering on the Libyan Desert, W. Luker, 15*l.*; Springtime, E. Holmes, 15*l.*; Near Inglewood Common, W. W. Gosling, 15*l.*; Trout-stream, Capel Curig, W. Field, 10*l.*; The First-caught, M. Dessure, 12*l.*; A Bit by the Waterside, W. W. Gosling, 10*l.*

New Water Colour Society.—Salvator Rosa in the Abruzzi, C. Vacher, 100*l.*; Cetara, Gulf of Salerno, C. Vacher, 40*l.*; The Church Pool, Bettws-y-Coed, J. C. Reed, 25*l.*; Xarifa, H. Tidey, 21*l.*; The Road to Mines, H. C. Pidgeon, 31*l.* 10*s.*; The Way across the Brook, D. H. Mckewan, 14*l.* 14*s.*; An Old Border Tower, C. Vacher, 15*l.*; Hornington Church, Wilts, W. Bennett, 11*l.* 11*s.*; On the Beach, Bonchurch, T. L. Rowbotham, 11*l.*

From the Royal Scottish Academy.—The Cottage Home, J. B. Millar, 25*l.*

WORKS IN ENAMEL AND NIELLO AT THE ARCHÆOLOGICAL INSTITUTE.

THERE is a very interesting exhibition of examples illustrative of the arts of enamel and niello at the Archæological Institute, and it will remain open till Saturday, June 14, inclusive. The object of this special exhibition—the only one which it is proposed to form during the present season—is to place before the student and admirer of the arts of the Middle Ages a more extended exemplification of the Mediæval artistic processes selected for this occasion than may have been previously attainable. The collection purports to illustrate the arts, not only in Europe during the Middle Ages, but in countries of the East, where specimens of enamel, and probably of niello, may be found, exemplifying every artistic process known in Europe. It illustrates the varieties of the art of enamel, hitherto very imperfectly known, during the so-called Celtic and the Roman periods. Of the last, a specimen in possession of the Duke of Northumberland, the "Rudge Cup," may be mentioned as unique; the enamelled Roman vase, found in the Bartlow Hills, having unfortunately been destroyed. In comparison with the enamels produced at Limoges, in Germany and in Italy, from an early period, it is interesting to examine the results of similar processes of art from Eastern countries, where they have been practised with admirable skill to the present time. It is needless to point out the special interest of specimens of niello—relics of extreme rarity—from the earliest period to the times of Finiguerra and the origin of calcography.

THE THAMES EMBANKMENT.

ON the 28th ult., the committee, with the Hon. Mr. Cowper in the chair; present—Lord Robert Montagu, Sir W. Jolliffe, Sir J. Paxton, Mr. Urquhart, Lord H. Vane, Colonel Knox, Sir J. V. Shelley, Mr. Ker Seymer, Sir M. Peto, and Mr. Garnett, came to the resolution that, with a view to provide the greatest amount of relief to the most crowded thoroughfares in the vicinity of Westminster Bridge, and also to avoid unnecessary outlay in works and compensation on the part of the public, it was desirable that the roadway on the river embankment should terminate at or near Whitehall-stairs, and thence be diverted towards Parliament-street, in the direction suggested by Mr. Pennethorne. Mr. Burke, Q.C., on behalf of the promoters of the measure, objected to the decision of the committee. It took them by surprise. There had been no plan by Mr. Pennethorne in evidence, and they had had no opportunity of bringing forward rebutting evidence. The committee having overruled the objection, the case of the opposition for the City of London Gas-works Company was opened by Mr. Hope Scott, Mr. Richards, and Mr. Miller. They alleged that the proposed embankment would seriously interfere with their works, and the manufacture of gas, which now amounts to nearly 500,000,000 cubic feet per annum; the quantity of coal brought by lighters alongside and carbonised being upwards of 50,000 tons during the same period. That for these purposes they require all the facilities that the river frontage now affords them; and the proposed embankment will materially interfere with their establishment and trade, upon which a million had been expended. Mr. M'Clean, the engineer for the promoters, was examined to show that they had offered to the City Gas Company two arches under the embankment, 8 feet high, in front of the works, but this had been objected to by the Metropolitan Board of Works, who deemed that arches of 4 feet would be sufficient. At a subsequent meeting, the committee amended the clause proposed, and had added it to the bill. The clause, as amended, is as follows:—"And whereas it is expedient to afford time for the further consideration of the best means of relieving the thoroughfares of the metropolis in connexion with the proposed embankment; therefore, notwithstanding anything herein contained, it shall not be lawful for the board to lay down any roadway on that part of the proposed embankment which is situate between Whitehall Stairs and Westminster Bridge. Provided always that nothing herein contained shall be held to prevent the construction, for the use of the public, of a footway or terrace, of a width of not less than 80 feet, along the river frontage of the last-mentioned portion of the said embankment."

NEW SHERIFF COURT-HOUSE, EDINBURGH.

A SITE for the New Court-House has been obtained on George the Fourth's Bridge, and designs have been prepared by Mr. David Bryce, architect. The larger portion of the ground selected for the buildings is the property of the Faculty of Advocates; and several old tenements on the north side of the Cowgate and on the east side of the bridge have also been secured to obtain the requisite space.

The style of the proposed building is Italian, and the design consists of two stories with slightly elevated wings. The frontage to the bridge is 124 feet long, and the height from the level of the pavement is about 50 feet.

Each wing has an Ionic portico, the north entrance being the public access to the court-rooms, and the south entrance being appropriated to the officials.

The lower story is rusticated with square-headed windows, and ornamented with frieze, cornice, and trusses; and in the upper story, of which the surface is quite plain, the windows are surmounted with circular pediments, and the dados are balustraded.

In the wings the design is carried up by Corinthian columns and pilasters, and the whole is surmounted by the Royal Arms. There is a single window in the upper story in each wing, with angular pediments, corresponding with the series of windows in the body of the structure; and a small window is introduced, giving light to a semi-attic floor in the elevated wing. A balustrade, with pedestals and vases, surmounts the whole west front, and unites the wings of the building together.

On the north side the building is left plain, in anticipation of a junction being effected with the Advocates' Library; but on the south side the general character of the building is preserved.

The east side of the building, where it is more irregular, projects in the centre to a breadth of about 105 feet, and contracts at the ends to about 75 feet.

As to the interior accommodation:—On the first floor, and level with the bridge, there are the apartments of the sheriff's-clerk occupying the front. Those of the procurator fiscal, in the rear to the south, and the criminal court-room in the rear to the north. The court-room is 40 feet by 30 feet, and 25 feet in height.

On the second floor, immediately above the criminal court, is a court-room for the trial of civil cases, raised above this story about 9 or 10 feet: this is owing to the height of the ceiling of the court-room below. The dimensions are the same as those of the criminal court, and there are the requisite auxiliary apartments.

Below the level of the bridge there are a small-court-room for summary trials, apartments for taking precognitions, and for the procurator fiscal's clerks; rooms for officers, and cells for prisoners; and in the front there is a series of fireproof rooms for the sheriff-clerk's records, and which are lighted from sunk-floor windows on the bridge.

IRISH BUILDING NOTES.

THE new Roman Catholic church of St. Michael's, Longford, is in course of completion. We understand it is to be the cathedral church of the diocese. The plan is cruciform, with a semi-circular apse. The nave is 170 feet long, and 40 feet wide; and 55 feet in height from the ground to the crown of the semicircular coffered ceiling. The aisles are 25 feet wide each, and 25 feet high from the floor line to the flat coffered ceiling. There are two vestries situate at the east end of the nave, and opening off the north and south transepts. The entrance porch is 35 feet square, with a tower rising over it to a height of 177 feet from the ground. The style of the building is a mixture of the Ionic and Corinthian orders. The nave is separated from the aisles and transepts by chiselled limestone Ionic columns, supporting an entablature and cornice, from which springs a semicircular ceiling, coffered with mouldings and dividing ribs enriched. The tower, which is in course of erection, is divided into three stages, 15 feet, 18 feet, and 18 feet 6 inches high respectively, and will be covered with a dome 14 feet high, and 22 feet in diameter, surmounted with a cupola 10 feet high, terminating with an iron cross, 4 feet 6 inches high. The lower stage of the tower, which is octagonal in plan, is ornamented with Doric pilasters; the second stage with Ionic columns; and the third with Corinthian consoles. The church is lighted by aisle and clerestory windows, circular-headed. The edifice is built of Cashel limestone, which, when polished, makes a dark marble. Mr. John Bourke is architect; Mr. John Mullins, contractor. The church, when finished, will cost about 65,000*l.*

A new porch and belfry are about to be added to the Convent of Mercy, Sligo. The new porch will project 10 feet, and measure 20 feet in width on the face. The ground floor will have on its front two large circular-headed windows, and on the side a circular-headed entrance door. The second floor will be occupied by two windows, square-headed, with cornice, and small pedimented niche for statue between. The top story will be filled in with a semicircular window resting on a string-course, which divides the story from the one underneath. The whole is crowned by a belfry, which rises to a height

of 17 feet above the roof of the new porch, which will be shedded back to roof of main building. The dressings to doors and windows and belfry are to be of limestone from Ballisodare. The style of the new additions is Italian, and from the designs of Mr. G. Goldie. Messrs. Hunt & Son are the contractors; and amount of contract is about 400*l*.

We understand that the Ecclesiastical Commissioners for Ireland purpose erecting a new church at Glengarriffe, county Kerry. They are at present receiving tenders for its erection.

A new company has been started in Dublin for the purpose of erecting an ornamented building to answer as an exhibition palace for the amusement and instruction of the citizens. We understand that the new building will comprise reading-rooms, refreshment-rooms, gymnasium, &c. The capital of the company is set down at 50,000*l*. His Grace the Duke of Leinster is chairman of the Board of Directors.

WEST GALLERIES IN CHURCHES.

WORSTEAD CHURCH, NORFOLK.

I HAVE only just seen Mr. Phipson's letter, and beg to thank him for the list of examples of western galleries with which he has supplied me. I am only amazed at his talk about my crotchets, and his finding fault with Mr. Mackenzie's drawing. A floor with the front open to the church is, in fact, a gallery; and I do not care to quarrel about a name. It is precisely the arrangement I have so often recommended,—the same as we continually find in Mediæval domestic chapels and hospital chapels. I am no advocate for the hideous modern galleries, or scaffolds, with which so many of our churches are disfigured, and which are either built across windows, or projecting in front of the tower arch, which is previously blocked up behind them. At Stewkley there is no western tower to hold it, and the gallery necessarily is across the western part of the church. I have never denied that it is an evil and an eyesore; but it is a smaller evil than altering the fabric; and it might easily be made much less of an eyesore by taking the hint supplied by the floors in the western towers in Norfolk,—making it a mere platform with an open front, hiding nothing. What I complain of is the reckless and unscrupulous manner in which many architects mutilate the fabrics of our ancient churches.

JOHN HENRY PARKER.

THE ARCHITECTURAL PUBLICATION SOCIETY'S DICTIONARY.

THE "Dictionary" brought out by the Architectural Publication Society was planned upon such a scale that it is scarcely possible for the half, or anything like the half of it to have been reached when the letter G shall have been completed, unless far greater economy as to space, in accordance with the positive interest of the subjects treated of, be now studied. I quite agree with Mr. Donaldson in thinking that the "Dictionary" has been rather injudiciously incumbered with the names of mere nobodies,—persons of whom, beyond their names, nothing is apparently to be ascertained; or, even if it could be ascertained, would it be of the slightest interest.

The published list of articles yet to come does not enable us to judge of the bulk of matter that remains to be printed. Some, perhaps, may be despatched in a few lines, while others may require many pages to bring down information to the present time, especially in the departments of biography and poliography. Nearly all the principal capitals of Europe have yet to come; and such articles as "London," "Paris," "Rome," &c., must, if satisfactorily executed, each of them extend to very considerable length. There are, besides, not a few articles of a different kind, concerning which a great deal might now be said for the very first time; and among them are,—"Picture-gallery," "Plan" (or rather "Planning"), "Polychromy," "Rustication," "Staircase," "Theatre" (with all the latest improvements in scenic apparatus), and "Velam," and Velar ceilings.

I am afraid that the conductors of the "Dictionary"—which, by the bye, might more properly have assumed the title of Encyclopædia—either have miscalculated their advance in the work, or else now intend to contract their original plan. These remarks are not made in invidiousness, or with the slightest intention of depreciating the work. On the contrary, I think it deserves all encouragement, and is one that ought to find a place in every well-appointed library; wherefore I should like to see it taken from "under the bushel," and advertised at a triflingly advanced price to non-subscribers. The hint thus thrown out may, perhaps, be worth some consideration.

A SUBSCRIBER.

THE LINING OF WATER-TANKS.

I HAVE not taken the *Builder* long enough to know if the subject of soft water, and *how to keep it soft*, has been discussed in its pages. All architects can contrive a tank, but very few of them seem to know that rain-water received into a cemented tank, or a tank of brick set in lime or clay, becomes as hard and useless for washing purposes as spring-water itself. A composition called tarras used to be relied on: it was expensive and very easily cracked, and I am told has gone out of fashion, but it kept the water soft; and the object of this letter is to inquire what composition that has the same merit has come up in the place of it. I have two tanks, one cemented and one of uncemented brick set in clay, and the water from both of them keeps us in chapped hands summer and winter, and ruins the clothes it is intended to purify; to say nothing of the extra soap and soda, without which it would not wash them at all. I should be greatly obliged to any correspondent who could point out some mode of lining tanks which does not harden the water; and he will earn the thanks of many, besides myself, who

WASH AT HOME.

ARCHITECTS' FEES.

SIR,—In reading the report of the Royal Institute of Architects, I observe that works under 500*l*. in amount are not fairly to be considered as remunerative at 5 per cent. Is such a suggestion a wise one? Ere you settle fees for professional services, you must be sure they are at such a demand as to empower your fiat to be carried out. Because Dr. Sangrado accepts a no less sum than two hundred guineas for *once* attending to the indigestion of the Marchioness of Downderry, is that a reason starving Apothecary Smallbones should not attend Gammer Jones in her typhus fever for half-a-crown?

On every side you must admit we are not a nation of artists. Look at our farm-houses and mills; our parsonages and houses; our cottages and shops! Admitting their ugliness, you naturally inquire why a professional man of taste is not employed? The reply I will give, fearless of contradiction, is that landlords consider even 5 per cent. a too high fee! I therefore maintain, if you wish to raise your architects' fees in prospect, you must at present give a taste for art; you must put it in the power of the country squire or parson to obtain a good plan and specification for a stipulated sum from an architect; and by degrees you may rest assured taste will progress, and you will have little need to draw out one code of fees to meet every circumstance. The present system of landowners, parsons, and yeomen, is to rush to unprincipled builders, who kidnap architects' labours; or to land agents, or amateurs who go on floundering in their "Carpenter's Gothic." Improve this by placing art in their power, and it will grow and bring forth fruit far more plentifully than the Draconic laws you have passed.

A REGULAR SUBSCRIBER.

ROADS AND DOINGS IN KENSINGTON.

SIR,—The roads to the Exhibition and the state of Kensington parish call for comment. In February last the rulers of that royal and rich district published a report, stating their inability to give any further access to the south-east; and, practically, they have given none. The whole of Bayswater and Notting-hill, on the north, and Kensington itself, from Holland House to Kensington Gore turnpike, have no access through the south side of the High-street, Kensington! It is true there are streets on the south side—six or eight; but they terminate in a *cul-de-sac*, or carriage-traffic is stopped by posts. There are streets from Kensington Church running south to the Exhibition, all so stopped. On the other side of the Exhibition, they have had to appeal to a charitable subscription to widen Brompton-road; and what sort of work has been there accomplished,—or, rather, has not yet been accomplished,—the public press has testified. The nuisance, and *illegal* trespassing, on the public footway, of costermongers' stalls at the upper end, near Albert Gate, has not been interfered with, and remains to narrow the bottle and form its neck. Reverting to the western side, the access to Gloucester-road is stopped up by posts, to protect a supposed turnpike profit created in 1790, when it was a green lane, and the present new streets were gardens! Do the advocates of local management expect that the general public will permit their non-progress—their neglect of the public interest—much longer?

The royal and rich parish of Kensington at this moment tolerates a batch of filthy dens, called "An Irish Colony," in its High-street. It will not build some new dwellings for the poor, or open the bottom of streets, which would ventilate neighbourhoods. At the bottom of Kensington-square are streets with the old-fashioned pumps to some of the houses, and very little water, if any, to wash out the drains; with donkeys, horses, and fowls kept in bits of yards of 6 or 8 feet square, breeding fevers and sickness all round! Yet no inspector of nuisances mitigates the dangers!

NASH.

Books Received.

Specimens of Mediæval Architecture, chiefly selected from Examples of the Twelfth and Thirteenth Centuries in France and Italy. Drawn by W. EDEN NESFIELD, Architect. London: DAY & SON, Gate-street, Lincoln's-inn-fields. 1862.

THE preface says, the volume "simply pretends to be a collection of sketches, made during a professional tour;" and a very capital set of sketches they are; clear, vigorous, and, if we may judge from those instances we can test from personal knowledge, not "cooked" for effect, but truthful. Over much of the same ground the writer worked years ago, finding enjoyment in such work, and pleasure at every step amongst such buildings. These drawings from Amiens, Bayeux, Caen, Chartres, Coutances, St. Lo, Rheims, and elsewhere, bring back the memory of scampers across country, and the little difficulties and discomforts of travel so pleasant to talk about afterwards, but now not to be met with nearer than the country of the Gorilla or the very Far-West.

"Off with you!" we say to our young student-readers, "on the first opportunity: fill your sketch-book and your note-book, and lay up pleasant memories: and, if you make good use of your time, you may ultimately, as Mr. Nesfield has done, add a valuable book to the library of the architect and archæologist; but, even should you do nothing of the sort, you will still find advantage from the training, the change, and the fresh stock of images laid up.

Patents for Inventions: Abridgments of the Specifications relating to Bricks and Tiles. Printed by order of the Commissioners of Patents, 1862.

THIS tidy little blue book contains nearly 300 pages, besides an Introduction, evidently written by an architect, in which the history of bricks and tiles is briefly reviewed. The volume, we should think, must contain abridgments of not far short of 1,000 patents relating to bricks and tiles; and it is an interesting circumstance to note that the very first on the list, dated 1619, is for a tile, pipe, and "paving-stone" making machine, "graunted to John Etherington, shewing that whereas he hath found out 'The arte of making a certain engine to make and cast clay, of alle sorte of earthen pipes for conveyance of water in the earth, and also monions and transomes for windowes, crests for houses, tyles and paving-stones,' his Matie doth hereby graunt unto him sole power, for 21 yeares, to make and use the said engines for the purposes aforesaid, paying yearlie unto his Maties Exchequ^r, xxvj^s viij^d." The next relates to the use of peat for the burning of bricks; and the third, dated 1632, and granted to Thomas Grent, comprises, amongst a variety of inventions, including the "moving of ships without wind," also "a buildinge moulde or stone presse, very requisite for the building of churches or greate houses, by which stone windowes, door cases, chimney pieces, &c., are made more speedily without hewing, cutting, sawing, carveing, or ingraveing, as alsoe bricks and tiles, more beautifull to the eye, and more dureable against foule weather; being as smoothe as glasse on the one side or end, with divers colours and workes, as if they were carved by skillfull handes and curious workmanshippe."

This blue book must henceforth be consulted by every intending patentee in the brick and tile line, to all of whom it is quite indispensable; and if carefully examined it will save many law quarrels and much useless expenditure.

Miscellanea.

ASHFORD.—The tenders for the North-street improvements were five for the bricklayers' and carpenters' work, and five for the plumbers' and painters'. The tender of Mr. John Fowler was accepted for the one, and the tender of Mrs. Richards for the other, these being the lowest.

DISCOVERY OF A TUNNEL IN LIVERPOOL.—While examining an old drain in James's-street, an old tunnel has been found, cut in the solid rock, with a pretty regularly formed roadway at the bottom, and a well-cut channel along its south side to keep it dry. The sides of the tunnel are carefully dressed. Opposite the North and South Wales Bank it is 22 feet deep from the surface of the street to the bottom, 7 feet wide, and 9 feet high, and retains these dimensions for about 80 yards westward. Opposite the bank, which is probably the point of junction of the tunnel with the old castle ditch, provision for a gate apparently is made. At the end of the 80 yards the dimensions of the tunnel diminish to 5 feet wide and about 6½ feet high. It has been traced to the line of the Back Goree, where it appears to turn northwards.

NEW TEMPERANCE HOTEL, BEDFORD.—A new Temperance Hotel is in course of erection, near the coal station and the works of the Messrs. Howard. The accommodation afforded consists of coffee-room, news-room, private sitting-room and bedrooms, hot or cold baths, lavatories, &c. The building will be chiefly of white bricks, with ornamentations of stone and coloured bricks. Over the entrance the following lines, composed, as we are told, by Mr. Usher, who is the architect, will be cut in stone:—

> "Weary traveller, step within;—
> No temptation here to sin:
> Wholesome viands here are sold;
> Baths refreshing, hot and cold;
> Tea and coffee, water clear,
> Lemonade and ginger-beer:
> Books and papers too you'll find,
> To cheer and elevate the mind."

These lines give us reason to hope that Mr. Usher is better as an architect than a poet.

CHAPTER-HOUSES.—The *Parthenon* has an agreeably-written notice of the proposed restoration of the Westminster Chapter-house. In the course of it the writer says,—"The chapter-house of a monastery or cathedral formed the Diocesan or Conventual Parliament House. These council-chambers date back in England as far as the time of Archbishop Cuthbert at Canterbury, who built a circular baptistery behind the eastern apse of the cathedral for the administration of baptism, the burial of departed primates, and the tenure of local assemblies for judicial trials, formerly held in the church. On the Continent the chapter-houses, for the most part, are square or oblong rooms with wooden roofs, and undistinguished by any architectural beauty. In the ninth century the east alley of the cloister was used as a chapter-house; but in the tenth century we meet with a distinct building at Foutenelle. In the eleventh century Edward the Confessor erected a round and vaulted chapter-house at Westminster. It is a remarkable fact that the Benedictines almost invariably built polygonal while the Seculars erected rectangular chapter-houses. The two exceptions to the rule are those of Worcester and Westminster. From the commencement of the thirteenth century we find a polygonal shape adopted; a decagon, as at Hereford, St. Paul's, Bridlington, Lichfield, and Lincoln, and at Worcester, though it is a circle internally; an octagon at Wells, York, Salisbury, and Westminster. At Westminster and Wells, and St. Paul's, it was built over a crypt. The dates and diameters of these various chapter-houses are as follows:—Lincoln, 1186—1203, 60 feet; York, completed about the middle of the fourteenth century, 57 feet; Wells, 1293—1302, 55 by 42 feet; Lichfield, about the year 1240, 44 by 26 feet; Worcester, 1263—1372, 48 feet; Salisbury, 1263—70, 58 feet; Westminster, 1250, 58 feet. Mr. Scott considers that the polygons of Salisbury, Lincoln, and York were, in each case, inscribed in a circle of about 60 feet diameter, measured in the clear of the vaulting-shafts. The date of the commencement of the chamber at Westminster is afforded us by Matthew Paris; and, by a roll, dated 1253, the year before King Henry III., in company with St. Louis, visited the Sainte Chapelle at Paris, then scarcely completed, it is ascertained that the windows were finished at that time." We agree with the writer in considering that a good "opportunity has been lost of bringing the subject before the public in a business-like and practical manner. The whole discussion was vague, and the result unsatisfactory."

SEWAGE OF TOWNS.—The select committee on sewage of towns have agreed to the following first report:—"1. That careful and exact experiments are necessary to elucidate the agricultural value of sewage, and the best mode of applying it. 2. That such experiments have been carried on at Rugby by the commission appointed to inquire into the best mode of distributing the sewage of towns, and applying it to beneficial and profitable use. 3. That it is desirable that these experiments shall be continued during the present year."

RAILWAY TRAFFIC IN ENGLAND AND FRANCE. It is stated as a remarkable fact that, while English railway traffic is experiencing a considerable decline, the receipts of the French systems are advancing at the rate of 20,000*l.* per week. The increase of mileage in England is only some 250 miles, while in France it is about 350 miles; but the odd 100 miles will hardly present an explanation of a variation of traffic to the extent of at least 40,000*l.* per week. It must be remembered, however, that France was behind England in the extension of railways, and may be said to be only now developing its railway traffic as England was doing years ago.

NEWS FROM GUERNSEY.—An alabaster baptismal font has been presented to St. Paul's Chapel by Mr. Hughes. The height of it, when placed upon a marble stand, will be about 3 feet. The shaft represents three pelicans. The basin is surrounded with a border of vine leaves and grapes.——The new drinking fountain at the east end of the town church has been fitted with two granite basins, the work of the Messrs. Bisson, granite sculptors. The bronze central piece has been cast in the island, and the whole of the fittings (except the cups) are of native workmanship. Iron railings, similar in design to those of the church, are fitted on either side of the shaft.——The unfortunate Channel Telegraph-office has been closed.——A bathing dock has been formed in a retired situation at the Terres. A great portion of the material employed, according to the *Comet*, is the stone formerly used in the pavevent of the old south pier promenade. The plan is that of Mr. Le Messurier, the resident engineer of the harbour works.

MONUMENTAL.—The Hon. Arthur Kinnaird, M.P., recently received a numerous and distinguished company at his residence, 2, Pall Mall East, to hear from the Rev. Dr. Merle D'Aubigné, of Geneva, a proposal to celebrate the tercentenary of Calvin's death, by erecting a public memorial in Geneva, towards which all the Evangelical churches of Christendom might unite in contributing. In reply to questions, Mr. Kinnaird said that 10,000*l.* were expected from England; and, as he saw Mr. Thurlow Weed there, he hoped that gentleman would take a message back with him to America, that great exertion would be looked for there. Mr. Weed said he would gladly take the message. A provisional committee was then appointed, including the Earl of Shaftesbury as president.——The Maitland Makgill Crichton Monument at Cupar has just been completed. It stands to the south of the railway station. The pedestal is 19 feet high, and the statue, including the block upon which it immediately rests, is 9 feet, making the whole a height of 28 feet. The figure represents the original as standing in the attitude of addressing an audience. The sculptor was Mr. John Howie, of Edinburgh.

VENTILATION.—Sir,—Till recently, very little attention has been paid to the necessity of pure air for the preservation of our health and strength; and I have heard an architect say that he really understood very little about ventilation, and should be happy to receive any information on the subject. It is a *sine qua non* that air should be admitted from the *lower* part of a room, without creating a draught, and that there should be suitable openings at the upper part. One of the best-ventilated sleeping-rooms I have seen is at the Roman Catholic School in Clarendon-square, St. Pancras. It was done under the instructions of Dr. Arnott, and the plan is extremely simple. There is a sort of wooden trough under the *centre* of the floor, with an opening in the outer walls to admit the air. There are holes in the floor over this trough at about 6 feet apart, with the common brass circular coverings (ventilating slides), which admit more or less air, as required. These, being in the centre of the room, do not cause the least annoyance to the children in the beds; and the physician to the school, Dr. J. H. Browne, who kindly showed me the apartments, informed me that the bedrooms were at all times free from any unpleasant odour or sense of closeness.—T. E. B.

[*** What mode of egress for the vitiated air is provided?]

DISCOVERY OF A MEDIÆVAL KEY.—An ancient key has just been dug up on the site of the once famous Priory of St. Denys, close to the Portswood station of the South-Western Railway. It is a bronze key, about 2 inches long: the stem is solid, and tapers towards the end, the wards forming the letter H. The door-keys found among the ruins of St. Denys, being of iron, are much corroded with rust. Mr. Skelton, the architect, who has purchased the ruins, preserves the relics. The coffins, some years ago, were cleared of the bones and skulls of priors and monks, and used as hogs' troughs by a neighbouring farmer.

LONGEVITY AT EASTBOURNE.—A statement, compiled from the parochial registers, indicative of the longevity of Eastbourne, is given by the *Surrey Standard*, on the authority of a correspondent. From this statement it would appear, that of all the 787 persons who were buried during the ten years preceding the last census at Eastbourne (including infants), 238, or about 30¼ per cent., attained the age of 60; 176, or about 22½ per cent., attained the age of 70; and 79, or about 10 per cent., attained the age of 80. The rapid enlargement of Eastbourne makes it difficult to institute any just comparison between the mortality of this and other places; but it is confidently asserted that, upon an average of years, the deaths have not amounted to fifteen in a thousand, that is to say, not to 1½ per cent. of the population.

THE GREAT FRIENDLY SOCIETIES.—The Manchester Unity of Odd Fellows and the Ancient Order of Foresters have now published their "Directories" for the present year; and it appears from them that the increase of each society in the past two years has been considerable. Thus,—

	Odd Fellows.		*Foresters.*	
	1860.	1862.	1860.	1862.
England	267,394	293,247 —	159,838	195,287
Wales	23,011	23,191 —	5,661	7,426
Scotland	3,277	3,779 —	825	1,036
Ireland	1,013	1,057 —	164	323
Abroad	10,566	13,871 —	2,088	3,861
Total	305,261	335,145 —	168,576	207,933

The number of Odd Fellows' lodges is 3,429, showing an average of ninety-seven members to each; and Foresters' courts, 2,626; average, seventy-nine to each. The saved surplus capital of both societies is estimated at about 2,500,000*l.*; the Savings Banks holding upwards of 70,000*l.*; the remainder being invested in the Public Stocks.

HANDSWORTH BRIDGE CHARITY: MIDDLE SCHOOLS.—The schools erected under the authority of the Court of Chancery by the trustees of the above charity, and situate in Grove-lane, Handsworth, are now completed. The buildings occupy a site purchased at the cost of 1,000*l.*, and consist of a school-room, 65 feet by 30 feet; two class-rooms, each 20 feet by 18 feet; a committee-room of the same dimensions; a lavatory, 20 feet by 16 feet, and a lobby. There is a small gallery looking into the large room. The arrangement of the ground-plan is simple: the school-room occupies the centre, being flanked on the south-west by the two class-rooms, and on the east and north by the entrance-door, committee-room, and lavatory. The end rooms project beyond the line of the main portion of the building, and the returns are relieved by gables and lofty chimneys. The building has been erected from the designs and under the superintendence of Mr. Bidlake, of Wolverhampton, by Mr. Burkitt, of the same town, at a cost, including gas-fittings, desks, lodge-keeper's residence, and boundary walls to the playground, of about 2,300*l.*

ARSENICAL PAPERHANGINGS.—An old correspondent, Mr. A. Dembinsky, analytical chemist, says:—"Your article 'On Green Paperhangings' (p. 336) refers to a similar case of arsenial poisoning as I have had occasion to investigate in different artificial flower manufactories in London, and principally that which occurred in Judd-street, City-road. Since that time I have made it my peculiar study to apply all known antidotes to prevent, to expel, to suspend, to neutralize, and to cure this kind of poisoning; and I can conscientiously recommend for this purpose those antidotes which have been sold and tried by Mr. Duncombe, 15, Grove-lane, Hackney, after they had been submitted to my repeated analytical researches, and accordingly patented. Some paper-hanging and paperstaining manufacturers have insinuated the belief that, if the arsenial green colour is fixed by the usual mordant, they obviate the volatile miasma; which erroneous theory, however, causes a greater and more permanent injury, as the mordant, containing animal matter, is liable to a fermentative putrefaction. The discovery of a beautiful green, made of sulphate of aniline and petric acid, digested in spirit of naphtha, provides a perfect and harmless substitute for the arsenial green colour.

THE NEW BANFFSHIRE ASYLUM.—The plans given in by Messrs. A. & W. Reid, Elgin, for this building, have been selected by the General Board of Lunacy. The Local Lunacy Board have instructed their clerk to get from Messrs. Reid a detailed estimate of the expense of the building, and to forward this, with the plans and specifications, to the General Board for their approval; and, when this was obtained, to advertise for tenders for the execution of the works.

A "BOGHEAD MINERAL" IN AMERICA.—In the neighbourhood of Cairo, on the North-Western Railway of America, the discovery has been made of a so-called "coal," which seems to resemble that of Mr. Gillespie, of Torbanehill, as to which there has been so much litigation. Placed on a plate of hot iron it melts like sealing-wax and runs. It has been termed crystallized mineral oil. By simple fusion some 750 litres of mineral oil are obtained from every ton of the "coal."

THE GLASGOW ASSOCIATION FOR ESTABLISHING LODGING HOUSES.—This Association has just held its annual meeting. The report congratulates the subscribers on the circumstance that, notwithstanding the badness of trade, the Society still holds its own. The total of lodgers in all their houses for the year has been 127,491; and, taking the totals for the three previous years, we find for 1859, 90,696; 1860, 108,870; 1861, 129,651; 1862, 127,491; showing, however, a decrease for this year of 2,160, as compared with the last year. The income, including rents, amounts to 1,892*l.* 6s. 7d. The income from all the homes this year amounts to 1,592*l.* 6s. 7d.; the expenditure, including interest, to 1,585*l.* 16s. The income for the three previous years respectively was—for 1859, 1,187*l.* 11s. 5d.; for 1860, 1,413*l.* 15s. 7d.; and for 1861, 1,589*l.* 11s. 5d. Arrangements have been made by which the inmates are supplied with uncooked provisions by the superintendent. The lodgers avail themselves of it freely.

THE RAILWAY BRIDGE AT KEADBY, ISLE OF AXHOLME.—The erection of the new railway bridge at Keadby (says the *Doncaster Gazette*) was impeded by the removal of some cylinders on the western side of the river by the impetuous tides of a fortnight since; and the first of the second series on the same side, with the outworks, have been driven out of their position by a coal-laden keel. The vessel immediately sank, but fortunately no one sustained injury. A steam-engine is used on the western side in raising the water out of the cylinders; but it springs nearly as fast as it is ejected. The cylinders are already sunk nearly thirty feet below the bed of the river, but as yet no more solid foundation than sand has been reached. Until this has been effected, and the cylinders are filled with concrete, so as to form the permanent pillars, mariners require to use caution and skill in passing through the openings. Several hands are employed in bolting together and sinking the cylinders, as well as masons in preparing the stone for the approaches. Altogether the works are progressing favourably.

STONE, &C., FROM THE FOREST OF DEAN: INTERNATIONAL EXHIBITION.—The Commissioners of her Majesty's Woods and Forests have formed a collection of the coal and iron ore, stone, pottery, &c., from the Forest of Dean, and placed it in the Exhibition, under the management of Mr. Grantham: it is in the eastern annexe. Two large blocks of coals are exhibited by the Park End Coal Company of the Park End high delf and smith coals; a specimen of the rocky coal seam, by Mr. Henry Crawshay; and of the Yorkley seam, by the Bristol and Forest of Dean Coal Company; also a large block, of two and a quarter tons in weight, of black brush iron ore, and of smithy ore, by Mr. Henry Crawshay; and from Wigpool mines, by Mr. William Allaway, several specimens of smithy ore, and some purple ore. Trotter, Thomas, & Co. have sent a Doric column of one stone, 12 feet in height, placed on a pedestal; and Mr. Hall, of Coleford, exhibits a fine stone, of three tons weight, with her Majesty's monogram and crown carved upon it. Mr. Terrett exhibits bricks, pipes, and clay, from his works at Coleford. Some specimens of stone built into a wall, from the eastern side of the Forest, composed of red, silver grey, and grey colours, as a contrast, is also placed in the collection. It fairly represents the large resources of industry which exist in the Forest; and as railway communication has very much improved, and will afford facilities for the transport of the minerals, it is hoped that this exhibition will be the means of their becoming better known, and of their being developed, to the advantage of the labouring population of the district, and the increase of the revenues of the crown.

PREVENTION AND CURE OF THE "PAINTER'S COLIC."—So many deaths arising, annually, from the above disease, I am tempted to ask you to give insertion to the following extremely simple preventive and remedy. Painters, when at work, cannot eat too much *lump sugar*. It neutralizes the poison of the lead. They should allow it to dissolve gradually in the mouth. The hands should be washed in sugared water.—JAS. BRUCE.

VAULTED ROOFS.—I have read with interest the notice taken of "vaulted roofs," May 10th, p. 338, and enter largely into the views there expressed by the writer, "C. E." If he will take the trouble to look back to the *Builder* of the 4th May, 1861, he will see a review, by the editor, of a building in which vaulted roofs are introduced as a fire-proof division between a large surface of stabling below, and workshops above in which is lodged a large quantity of combustible material. In the same journal, of the 24th of August last, he will see the subject practically treated, with reference to the lamentable destruction of property in Tooley-street in June last. I feel assured that this principle of brick or stone arches, without the use of metal, might be carried out with great advantage in warehouses and public buildings from basement to roof.—F. H. G.

ST. THOMAS'S HOSPITAL.—On Tuesday last the adjourned special meeting of the governors was held at the Hospital, London Bridge. The report of the grand committee on the question of securing accommodation until the rebuilding of the Hospital having been read, a long discussion ensued. Resolutions were passed empowering the grand committee to take all necessary measures for securing without delay accommodation for the in-patients and out-patients in such place or places as they may deem suitable; also for the accommodation of the officers and servants, who will be displaced in July; and for the removal of the museum and library, and further authorizing the committee to take the necessary steps to erect such building as may be required for the reception and accommodation of urgent cases, and for dispensary business, at a cost not exceeding 15,000*l.*

ROMAN CATHOLIC SCHOOLS AT GLENLIVAT.—The new schools in connexion with the Roman Catholic Church at Chapeltown, Glenlivat, have been formally opened. The site is close to the old school, and in the immediate vicinity of the chapel. Mr. Todd, of Pitglassie, architect to the Duke of Richmond, prepared the plan of the schools, which was at once accepted; and the successful contractor for the building was Mr. James Cameron. The stones—grey granite—were carted by the farmers in the district from quarries in the neighbouring hills, and inaccessible by roads. The edifice is made according to Government requirement. Above the entrance-porch there is a belfry; and at either end of the house are crosses, cut in stone. It is divided into two school-rooms,—one for girls and the other for boys. Each of them is about 40 feet in length, and 18½ feet in breadth; and the height is about 13 feet to the spring of the ceiling; one side of the rooms being raised to form a gallery. An extensive playground round the school is being inclosed with a stone wall. The cost of the schools is above 300*l.*, almost the whole of which has been subscribed by the congregation.

THE LONDON LABOURERS' DWELLINGS SOCIETY. In their first report, just issued, the managing shareholders say:—"The unusual success that had attended the management and operations of the Hastings Cottage Improvement Society had made many persons anxious to try the same experiment in other towns, and especially in the metropolis, the chief peculiarities with respect to the Hastings Society being—1. The almost total absence of preliminary expenses in the formation of the company, and the economy of its management. 2. The confining its operations in the first instance to the renovation of existing houses, instead of the erection of new ones. 3. The greater amount of personal care and superintendence exercised towards the tenants. Accordingly, when a suitable property was offered in the parish of St. George-in-the-East, some of the shareholders of the Hastings Society determined to become the purchasers." A block of leasehold property was thus purchased in Old Gravel-lane, Calvert-street, and York-place, consisting of twenty-six houses with some other premises. The capital of the society amounts to 3,400*l.*, divided into thirty-four shares of 100*l.* each, all paid up and expended. The rents have been paid with quite as much punctuality as could fairly have been expected, and a balance struck sufficient to pay 5 per cent. The shareholders are satisfied with their progress, which has far exceeded what they expected in the outset.

"COURTENAY *v.* LANDER AND BEDELLS."—We have received a copy of the award in this matter, and are very glad to find that it is wholly in favour of the defendants, and that the Rev. A. L. Courtenay is to pay the costs of both sides. As an entire exoneration of two members of the profession from very damaging charges, this result must give great satisfaction to our readers.

COPYRIGHT IN WORKS OF ART BILL.—The Copyright Bill in Works of Art, introduced by the Government, provides, as amended in committee of the House of Commons, that the author of every painting, drawing, and photograph, executed in the British dominions, shall henceforth have the exclusive right to such production for the term of his life and seven years thereafter. This exclusive right, however, is not to prevent the representation of the same scene or object in other works. The penalty for each infringement is to be a sum not exceeding 10*l.*, and the forfeiture of the pirated copy. Architects are altogether ignored, and their works left for pillage.

ROYAL ASYLUM OF ST. ANN'S SOCIETY.—The council announce that Mr. S. C. Hall, F.S.A., has kindly consented to deliver his lecture on Illustrious Literary Men and Women of the Age, in aid of the funds of this charity, at the Hanover-square Rooms, on this Saturday, at three o'clock. The object is a good one, and we hope many persons will be present. It has been the good fortune of the lecturer to have had personal acquaintance with nearly all the literary celebrities of the epoch; and it cannot but interest readers of the famous books of so many "great men and women of the age," to hear the writers described by one who has known them. We have before now said that it is one of the most interesting lectures ever listened to.

CHICHESTER CATHEDRAL.—The *Brighton Gazette* says:—"On Friday last the restoration committee met at the council-chamber, Chichester, to open tenders for the completion of the work. The following tenders were opened—Mr. Fabian, Brighton, 51,668*l.*; Messrs. Smith & Co., London, 48,657*l.*; Mr. Bushby, Littlehampton, 44,899*l.*; Mr. Thompson, 39,661*l.*; Mr. Beanland, Halifax, 37,846*l.* The tender of Mr. Beanland, the lowest in amount, has been accepted. The contract is divided into five sections, and, we hear, has been made in this manner to suit the amount of subscription.

HANDEL FESTIVAL.—The great full rehearsal at the Crystal Palace, under Mr. Costa, will take place on Saturday, 21st June. The choruses in the first part of the rehearsal will comprise those known as single choruses: the second part (which is expected to commence about two o'clock) will consist of double choruses from "Deborah," "Solomon," and "Israel in Egypt." Several interesting acoustical experiments have lately been made to test the effect of the new roof thrown over the orchestra. These have been attended with marked success. Single voices and instruments have been heard at the extreme end of the central transept with as much distinctness as in a small concert-room. In one instance a conversation was kept up with a little child placed at the back of the orchestra with perfect ease. The great fountains will be played one hour after the conclusion of the rehearsal.

THE STATE OF THE THAMES.—A deputation to present a memorial concerning the regulation and purification of the Thames waters had an interview with Secretary Sir George Grey on Tuesday last, at the Home-office. The deputation consisted of the Duke of Marlborough, Mr. J. H. Langston, M.P., the Mayor of Oxford, Sir Robert Throckmorton, Dr. Arnott, F.R.S., W. Ackworth, Vicar of Plumstead, Dr. Dundas Thomson, F.R.S., Dr. Ackland, F.R.S., and several others. The memorial stated that the area of the Thames and its tributaries may be computed to contain 6,000 square miles, and no systematic provision has as yet been made either for regulating the several branches of the waters in the Thames basin on a common plan, or for deterring the towns on the several parts of it from casting their sewage into the streams; and many towns situate above the metropolis, viz., Richmond, Staines, Windsor, Maidenhead, Henley, Reading, and Oxford, do so cast in the whole or parts of their sewage. The memorialists solicit the Government to issue a commission of inquiry, or to cause full inquiry to be made in such way as they may see fit, into the condition of the Thames and its tributaries (the immediate district of the metropolis being excepted from such inquiry, as already under special jurisdiction); to inquire what defects exist; and to report what remedies can be applied to such defects.

THE ALBERT MEMORIAL FOR HASTINGS AND ST. LEONARDS.—At the meeting on Monday last, the design of Mr. Edward A. Heffer, of St. Bride's-street, Liverpool, for a memorial to the late Prince Albert, was adopted. The memorial will consist of a clock-tower 65 feet high, the design being of the late period of Gothic architecture. The work is estimated to cost not more than 500*l.*, and 350*l.* have already been subscribed.

THE BRIGHTON AND HOVE DRAINAGE.—The surveyor's report on the drainage question, which had come before the Works Committee, was considered at a recent meeting of the town-council. The surveyor's report as to the proposed outfall for the drainage of the Brunswick-square and Terrace district contained the following:—"Looked at in any other light than as a temporary measure, the outfall proposed by the commissioners is open to the objection that it is not sufficiently extended to take the sewage into deep water, and that it will stand up above the line of beach, and be exposed to view. The outfall belonging to the corporation, opposite Western-street, is equally objectionable in these particulars; and it appears to me that the present would be a suitable time, if the two districts can unite, for them to join in a common outfall at the boundary, which should be entirely buried in the beach and extended so far into deep water and the current of the tide, as to effectually disperse and deodorise the sewage." This he believed might be effectually done at a cost of from 3,000*l.* to 4,000*l.* for each district, and the work finished within the present year.

METROPOLITAN RAILWAY.—At the Sheriff's Court, Red Lion-square, on Saturday, before the Hon. Mr. Denman, Q.C., as assessor, and a special jury, a compensation case, which occupied three hours, was tried. Mr. Daniel, the owner of a house, 15, Guildford-place, Bagnigge-wells-road, claimed 401*l.* for the property; and evidence was given that it was worth 423*l.* On the other side evidence was given to show that it was only worth 325*l.*, and that sum had been paid into court by the Metropolitan Railway Company. Mr. Serjeant Parry, with Mr. J. E. Palmer, was for the claimant, and Mr. Lloyd, Q.C., with Mr. Hollway, appeared for the company. After a lengthened investigation, the jury assessed the compensation at 347*l.*, being beyond the offer made by the company. This does not sound like very good management on the part of the company.

EARL GRANVILLE'S FÊTE AT CHISWICK.—On Saturday, the 31st ult., Earl Granville gave an afternoon *fête* at the Duke of Devonshire's villa, at Chiswick. The guests, to the number of 2,000, included many who have taken part in the arrangement of the International Exhibition, the foreign jurors and commissioners, as well as a large proportion of the aristocracy. The invitation was "to meet their Royal Highnesses the Duchess of Cambridge and the Princess Mary of Cambridge, her Royal Highness the Grand Duchess of Mecklenburg-Strelitz, and his Royal Highness the Duke of Cambridge." The house contains, as most of our readers probably know, some excellent pictures, enamels, and other works of art. The royal commissioners, as a body, have issued invitations to meet the same members of the Royal Family, at the South Kensington Museum, on this Friday, the 6th inst.

HASTINGS COTTAGE-IMPROVEMENT SOCIETY.—The tenth half-yearly report of this Society has been issued. It informs the shareholders that the Society has continued to increase during the past six months, though not quite so rapidly as in former years. The number of their houses now amounts to about 137, and the number of their tenants to about 159. The most important part of the operations of the Society during the past half-year has been the completion of four new cottages on the north side of Crown-lane. They are plain, substantial houses, built of brick, containing five rooms each, and constructed on the basis of a plan kindly furnished to the Society by Mr. Henry Roberts. The rent is 6*s.* per week. The Society's capital has increased during the six months from 16,000*l.* to 17,000*l.*, and the number of shareholders from seventy-four to seventy-seven. The average amount of the gross rents received during the past six half-years has been at the annual rate of 10 54 per cent., and the net rents have been at the rate of 6 69 per cent. The Society's average total income has been at the annual rate of 12 34 per cent. on the paid-up capital, and the net income has been at the annual rate of 6 95 per cent., out of which sum the shareholders have received until the present half-year a dividend of 6*l.* per share, clear of income tax (which is paid on the gross rental by the Society), and the remainder has been added to the Reserve Fund, which now amounts to 451*l.* odd.

OXFORD WORKHOUSE.—At a special meeting of the Board of Guardians recently, the report of the Building Committee was considered. The report stated that the Poor Law Board had expressed their sanction of the plans, and requested that they might be returned, in order that the seal might be affixed. There were some additional works not included in the instructions to architects which might have to be executed hereafter. The committee had considered a proposal made by Mr. Alderman Browning, that the quantities be taken out by a person nominated by the Board; but the committee referred this question to the Board. The committee expressed its desire that power be given to insert notices for tenders, approve drafts of contracts, print specifications, open and report on tenders sent, in and appoint a clerk of the works at a proper time, subject to the approval of the Board. The report was adopted; and it was then moved "That the Building Committee be directed to appoint a competent person to take out the quantities for the new workhouse." This, however, was rejected by 16 votes to 3.

ANCIENT BATHS.—On the left bank of the Ranee, near Caulnes, in the department of Côtes du Nord, Brittany, the remains of some ancient baths have been brought to light by workmen engaged in constructing a line of railway between that place and Brest. They have been partly uncovered under the direction of Mr. Bourbier, who superintends some works of the railway in the neighbourhood of Caulnes. A platform of cement, from 30 to 40 centimètres (12 to 15 inches) in thickness, is surrounded by walls of considerable strength, overlaid in the interior by a thick coating of cement. The south wall is pierced by a conduit of peculiar form, leading to another conduit by which water was directed into a channel 60 centimètres in width. This channel unites towards the west with an opening, vaulted with tiles, which extends under the principal platform to the east wall; and at the entrance is a slab of granite. The principal conduit, built of bricks and cement, is connected with small concave cells, lined with cement. Further on are two places, also of Roman cement, walled round, and paved with tiles. Mr Bourbier has discovered a brick 60 centimètres long, 30 wide, and 20 in thickness; sundry fragments of pottery; a mosaic in white marble; and human bones. A brass coin of Antonius Pius, found in a neighbouring field into which the ruins extend, is a sign of Roman occupation.

TENDERS.

For three houses in Commercial-street, Shoreditch. Mr. Cates, architect:—

Heath	£2,244 0 0
Wood	2,187 0 0
Chapman	2,050 0 0
Ashby	1,927 0 0
Maers	1,870 0 0
Acot	1,845 0 0
Henshaw	1,827 0 0
Huggett	1,825 0 0
Watts	1,806 0 0
Kelly	1,800 0 0
Holgate	1,797 0 0
Hovengel	1,795 0 0
Evans	1,792 0 0
Blackman	1,785 0 0
Eanor	1,770 0 0
James & Ashton	1,743 0 0
Raby	1,729 0 0
Norman	1,727 0 0
Sharpington & Cole	1,555 0 0

For the West Kent Infirmary, Maidstone; being for alterations and new wing. Mr. Henry Blandford, architect:—

Grinstead & Bridge	£4,820 0 0
Sutton & Vaughan	3,447 0 0
Anscomb	3,404 0 0
Clements & Wallis	3,386 0 0
Cobb	3,382 0 0
Chambers	3,340 0 0
Naylar (accepted)	3,293 0 0

Messrs. Grinstead & Bridge made an error in casting.

The tender of Mr. James Rivett, of Stratford, has been accepted for the erection of infant school and teacher's residence at Upper Clapton.

For works at Abney Chapel and schools. Mr. John Tarring, architect:—

Woodward	£1,611 0 0
Little	1,589 0 0
Wool	1,577 0 0
Dove (Brothers)	1,497 0 0
Richards	1,479 10 0
Saunders	1,428 18 0

For building a new south aisle to St. Lawrence's Church, and for new schools, at Wormley, Herts. Mr. Joseph Clarke, architect:—

	Church.	Schools
Arnold	£848 0 0	£928 17 6
Barnes	721 0 0	1,121 0 0
Smith	669 0 0	1,080 0 0
Dickinson	655 0 0	1,125 0 0
Hunt	651 0 0	1,075 0 0
Bowley (Brothers)	646 0 0	1,050 0 0
Nichols	(no tender)	890 0 0
Cousins	516 0 0	1,118 0 0

For rebuilding a portion of the tower and spire of North Kilworth Church, Leicestershire. Mr. Joseph Clarke, architect:—

Bromwich	£614 0 0
Bowley (Brothers)	570 0 0
Law	385 0 0
Firn	370 0 0

For new house for the manager of the gas-works at Sherborne, Dorset:—

Croad	£535 0 0
Penny	515 0 0
Down (accepted)	406 0 0
Guppy	389 0 0

For the erection of girls' and boys' new national schools and class-rooms for the district parish of St. Paul, Islington. Messrs. H. & J. D. Mathews, architects. Quantities supplied:—

Fouracres	£1,215 0 0
Rodda	1,150 0 0
Ramsey	1,120 0 0
Fox	990 0 0
Foster	989 0 0
Nash	987 0 0
Hill & Son	945 0 0

The above includes the value of the old materials of the present buildings.

For two houses in St. Thomas's-street, for the Governors of Guy's Hospital. Messrs. Newman & Billing, architects. Quantities supplied by Mr. Enoch:—

M. & T Patrick	£6,468 0 0
Piper & Wheeler	6,247 0 0
Axford & Co.	6,210 0 0
Ashby & Sons	5,942 0 0
Brass & Son	5,893 0 0
J. J. & F. Coleman	5,729 0 0

For alterations and additions to house and schools for the trustees of John Addey's Charity Estate, Deptford, Kent. Mr. Joseph Liddiard, architect:—

Todd	£1,880 0 0
Stone	1,549 0 0
J. & F. Coleman	1,584 0 0
H. & C. Bird	1,565 16 0
Hudson	1,539 0 0
Smith	1,530 0 0
Rudkin	1,525 0 0
George	1,433 0 0
Walker	1,420 0 0
Hunt	1,385 0 0
J. & T. Todd (accepted)	1,375 0 0
Pearson	1,355 10 0

For the erection of stabling, Westbourne-grove West, Bayswater. Mr. Wm. Sim, architect:—

Fish	£470 0 0
Cowland	391 0 0
Cooper	379 0 0

For a detached villa residence, with conservatory, &c., Tunbridge Wells, for Capt. Bingham, R.N. Mr. W. Bond, architect. Quantities supplied by Mr. Chas. M. Strange:—

Grover	£1,592 4 0
Perigoe	1,561 2 0
Mercer & Camfield	1,550 0 0
Messrs. Pink	1,534 0 0
Walker	1,505 5 3
Edwards & Walkling	1,428 8 11

For the restoration of St. Giles's, Cripplegate. Mr. Edw. Woodthorpe, architect. Quantities furnished by Messrs. Welch & Atkinson:—

Brass	£2,583 0 0
Turner & Sons	2,323 0 0
Larke	1,968 0 0
Prince	1,903 0 0

For warehouse, St. Mary Axe. Mr. T. C. Clarke, architect. Quantities furnished by Messrs. Barrett & Jarvis:—

Axford & Co.	£1,720 0 0
Patman & Co.	1,694 0 0
Hill & Co.	1,663 0 0
Ashby & Son	1,588 0 0
Lawrence & Sons	1,580 0 0
Turner & Sons	1,517 0 0
Brown & Robinson	1,515 0 0
Downs	1,460 0 0

Accepted tenders for a new villa at Benwell Park, for Mr. Joseph Carr. Mr. J. E. Watson, architect:—

Masonry & Carpentry.

Gibson	£1,060 0 0

Carpentry.

Downey	£536 0 0

Slating.

Beck	£84 0 0

Plumbing.

Glabohn	£100 0 0

Plastering.

Wilkinson	£156 0 0

Painting and Glazing.

Dawson	£87 10 0

For erecting a lodge at Fortis Green, Muswell Hill, for Mr. H. Smith. Mr. F. G. Widdows, architect:—

Langmead	£450 0 0
Flint	418 0 0
Greenwood	375 0 0
Jeffs	350 0 0
Plowman	333 0 0
James & Ashton	323 10 0

For rebuilding premises, Great Russell-street and corner of Museum-street, for Messrs. Olliff. Mr. Trehearne, architect. Quantities supplied:—

Coles	£2,218 0 0
Smith	2,147 0 0
Walton	2,098 0 0
Howard	1,997 0 0

For house, office-, &c., on the Harrow Lands, Dorking. Mr. F. J. Dibble, architect:—

	If Red Bricks.	If Flints and White Bricks.
Inkpen	£1,913 7 4	£1,986 12 3
Hamblin	1,846 0 0	1,874 0 0
Lynn & Dudley*	1,809 10 0	1,950 0 0

* Accepted. To be built with red bricks.

For pulling down and rebuilding houses and shops in the Haymarket, Norwich. Mr. James S. Benest, architect. Quantities supplied:—

Burrell	£666 12 0

For St. John's Church, Battersea. Mr. E. C. Robins, architect:—

Marsland & Son	£3,250 0 0
Newman & Mann	3,115 0 0
Brass	3,075 0 0
Lathey	2,987 0 0
Nicholson	2,959 0 0
Maeers	2,973 0 0
Dove	2,865 0 0
Tharpington & Cole	2,847 0 0

For the erection of three warehouses in Bow-lane and Watling-street, City, for Mr. Vivian. Tillott & Chamberlain, architects. Quantities supplied:—

Turner & Sons	£3,979 0 0
Lawrence & Sons	3,740 0 0
Fish	3,697 0 0
Piper & Wheeler	3,563 0 0
Wills	3,497 0 0
Brass	3,465 0 0
Cannon	3,393 0 0
Ashby & Sons (accepted)	3,358 0 0

St. John's Church, Colchester.—We are requested to state that the lowest tender for this new edifice was *not* accepted.

TO CORRESPONDENTS.

J. P—Capt. T.—R. B. G.—Tyro (the tables mentioned only require common sense).—G. S.—C. H. D.—J. D. & W.—E. F.—W. M. M.—M. H.—J. H. jun.—An Admirer, in one respect, of Mrs. Gamp.—Dr. B.—H. R.—J. T. W.—C. P. jun.—T. & Sons.—B. M. (we really cannot undertake to price architects' bills).—C. N (does not touch the real question,—the competence of the inspectors).—G. R.—M. & Co.—Messrs. W.—G. R.—J. L.—W. M.—M. B. N.—F. J. M.—B. & G.—S. E. D.—R. H. C.—J. T.—W. S.—Veritas (in type).—Dr. H. C. B. (ditto).

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS

Just published, price 1*l.* 11*s.* 6*d.*

THE BOOK of FARM BUILDINGS: their Arrangement and Construction. By HENRY STEPHENS, F.R.S.E. Author of the "Book of the Farm," &c. And ROBERT SCOTT BURN, Engineer.

Royal octavo, pp. 562, illustrated with twenty-eight Engravings on Copper, and 1,017 Engravings on Wood. Half-bound.

Uniform with the above:

THE BOOK of the FARM. By HENRY STEPHENS, F.R.S.E. 2 vols. royal 8vo. with Engravings. Price 3*l.* half-bound.

THE BOOK of FARM IMPLEMENTS and MACHINES. By JAMES SLIGHT and R. SCOTT BURN. Edited by HENRY STEPHENS, F.R.S.E. Royal 8vo. with 573 Engravings. Price 2*l.* 2*s.* half bound.

THE BOOK OF THE GARDEN. By CHARLES M'INTOSH. 2 vols royal 8vo. with 1,055 Engravings. Price 4*l.* 7*s.* 6*d.* half-bound. Each vol. sold separately—viz.: Vol. I. Architectural and Ornamental, price 2*l.* 10*s.*; Vol. II. Practical Gardening, price 1*l.* 17*s.* 6*d.*

THE FORESTER. By JAMES BROWN, Wood-Manager to the Earl of Seafield. Third Edition, greatly enlarged, royal 8vo. with numerous Engravings on wood. Price 1*l.* 10*s.* half-bound.

FARM ACCOUNTS:—A Practical System of Farm Book-keeping, being that recommended in the "Book of the Farm." By HENRY STEPHENS, F.R.S.E. Royal 8vo. Price 2*s.* 6*d.* Also, SEVEN FOLIO ACCOUNT BOOKS, constructed in accordance with the System. Price 2*s.*

WILLIAM BLACKWOOD & SONS, Edinburgh and London.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

TO ARCHITECTS. — PARTNERSHIP WANTED.—A Gentleman who has been for some time actively engaged in his profession in the south of England and has assisted in and several works of importance, wishes to obtain a PARTNERSHIP in a Firm of well-established respectability. None other need apply. The amount required to be paid hereafter depends on the advantages offered.—Address, A. Z. No. 4, Trafalgar-square, London.

TO ARCHITECTS.—PARTNER WANTED.—An ARCHITECT of long standing in the North, wishes to devolve the weighty part of his business on a PARTNER competent to undertake the same. Communications will be held strictly confidential.—Apply to A. Z. Office of "The Builder."

TO IRONFOUNDERS, &c.

WANTED, a FOREMAN, thoroughly acquainted with Foundry, Smith, and Kitchen Range work.—Apply by letter, stating age, expectations, salary, and references, to BROWN & GREEN, Luton, Bedfordshire.

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, by an Architect in the suburbs of London, a thoroughly competent, experienced ASSISTANT.—Address, stating qualifications, age, salary, &c. T. Mr. Venable, Tobacconist, near the railway station, Greenwich, S.E.

WANTED, a thoroughly practical CLERK of the WORKS, at a salary of two guineas per week.—Address, stating age and experience, to R. M. PHIPSON, Architect, Norwich.

WANTED, a JUNIOR DRAUGHTSMAN and IMPROVER, in an Architect's Office, in the City. A small salary only given.—Address, W. R. Office of "The Builder."

WANTED, a thoroughly experienced BUILDER'S CLERK, fully competent to measure work, take plans, and keep account books generally. The most satisfactory reference as to character, regularity, and ability, will be indispensably required.—Apply by letter, stating age, salary, to J. L. 10, Booth-street, Spitalfields, N.E.

TO STEAM SAWYERS.

WANTED, in a Country Mill, a steady MAN, for a circular-saw bench; one who can work a log frame preferred. Constant employment guaranteed. None but steady and good workmen need apply.—Address, stating wages, &c. R. R. care of Mr. R. F. White, 33, Fleet-street, London.

WANTED, on an Estate in Wiltshire, a CLERK of WORKS, to superintend the Repairs and Buildings on the Estate. A person willing to work himself preferred. He must be capable of measuring and estimating work of all kinds, and keeping accounts. Testimonials will be required of general good character, as well as of professional ability.—Apply by letter, prepaid, stating salary, &c. required, to E. B. ESTCOURT, Esq. Newnton House, Tetbury.

TO ARCHITECTS' ASSISTANTS.

WANTED immediately, a FIRST-CLASS ASSISTANT, thoroughly acquainted with the routine of an architect's office; must be a good draughtsman and colourist; capable of making out detail and working drawings, and well up in construction. He will also be required to take charge of the office during the absence of the principal.—Apply, with testimonials and references, stating age, and salary required, to "Architect," 175, Great Brunswick-street, Dublin.

TO MASTER BUILDERS OR CARPENTERS.

WANTED, to APPRENTICE a LAD, between 14 and 15 years of age, to a CARPENTER. State particulars, with premium required, to A. D. 6, Camberwell-grove.

TO BUILDERS AND PLUMBERS.

WANTED, by a Plumber, a constant SITUATION. Has no objection to turn his hand to painting or glazing. No objection to go on a country job as Plumber.—Address, No. 28A, Manchester-street, Marylebone, W.

WANTED, by the Advertiser, a SITUATION in a Lead, Glass, and Glass Shade Warehouse. Has a knowledge of cutting and packing. Can glaze sashes, keep accounts, and be willing to make himself generally useful. Wages not so much an object as regular employment.—Address, A. 33, Southwark Bridge-road, Borough.

TO BUILDERS AND PLUMBERS.

WANTED, a SITUATION as PLUMBER or THREE BRANCH HAND. Town or country. Good reference if required.—Address, A. C. 4, William-street, Green-street, Bethnal green, N.E.

TO ESTABLISHED BUILDERS OR TIMBER YARD KEEPERS.

WANTED, to place an educated Youth, aged 16, as IN-DOOR APPRENTICE, where he may have opportunity of acquiring a thorough practical business knowledge, with imitation to the office department.—Address, stating premium required, and all particulars, to A. B. 10, St. Paul's-grove, Marquis-road, Canonbury, N.

WANTED, a SITUATION as CLERK of WORKS, or as Foreman of Works, by an experienced person in Church Works. Not less than two guineas wanted per week. The best of testimonials will be given by applying to W. HUNT, Beadon's-buildings, High-street, Taunton, Somerset.

TO BUILDERS

WANTED, by a respectable Young Man, aged 20, a SITUATION in the Office of the above. Can make finished and working drawings, take out quantities, keep accounts, &c. Terms moderate.—Address, Office of "The Builder."

TO JOBBING MASTERS.

WANTED, by a Carpenter and Upholsterer, a RE-ENGAGEMENT as GENERAL JOBBING HAND. Can work at every branch connected with house repairs, bell-hanging, gas fitting, &c. Is a good painter and paper-hanger.—Address, C. F. 4, Church road, Battersea Bridge.

WANTED, a SITUATION as STATIONARY ENGINE DRIVER, and to attend to the Boiler. Good reference can be given.—Address, F. M. 14, Paul street, Finsbury, London.

TO BUILDERS.

WANTED, a SITUATION in a Joiner's Shop, to do the Mortising and Tenoning. Has no objection to go to the bench.—Address, X. Y. Z. 14, Kingsgate-street, Holborn.

TO LAND SURVEYORS.

WANTED to APPRENTICE a Youth for a period of 5 years to a Land and General Surveyor, in a good way of business in a country town. The youth to reside with the family. Apply, by letter, to Messrs. De JERSEY & MICKLEM, Solicitors, 13a, Gresham-street West, London.

TO BUILDERS AND STONEMASONS.

WANTED, by a respectable Young Man from the country, a SITUATION as IMPROVER to the STONEMASONRY. Good reference. Address, C. A. 6, Newcastle-court, Fetter-lane, Holborn.

TO SAW-MILL PROPRIETORS, BUILDERS, AND OTHERS

WANTED, by a Young Man, a SITUATION, as BENCHMAN or SAW-SHARPENER. The country preferred.—Address, J. C. 13, Satchwell-street, Bethnal-green road, N.E.

TO ARCHITECTS AND BUILDERS.

WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK of WORKS, or foreman of outdoor jobs, on a large scale. Can have a first-rate recommendation from last employer, an eleven years' character, as foreman in one of the large firms in London.—Address, M. D. K. 45, Augustus-street, Cumberland-market, Regent's-park.

WANTED, by the Advertiser, who has a good connection in the building trade, a SITUATION as TRAVELLER and COLLECTOR, or as CASHIER or WORKS. Seventeen years' reference to present and former employers.—Address, GILBERT, Post-office, New Brentford, W.

TO PLUMBERS AND BUILDERS.

WANTED, by a Steady Workman, aged 27, a SITUATION as THREE-BRANCH HAND. Is a first-class plumber, and can do gas fitting if required.—Address, S. D. Mr. Wilmet, No. 3, Talbot-court, Gracechurch-street, City.

WANTED, by a Practical CARPENTER and JOINER, a SITUATION as WORKING FOREMAN, or to take charge of a Job. Has a good knowledge of building in all its branches. Unexceptionable references as to character and ability.—Address, prepaid, to P. S. No. 22, Robert-terrace, opposite St. Luke's Church, Chelsea.

TO ARCHITECTS, SURVEYORS, OR CONTRACTORS.

WANTED, an ENGAGEMENT. The Advertiser (professionally educated) is fully qualified for a responsible situation as Manager, Clerk of Works, or Agent. Thoroughly competent in detail and construction, quantities, measuring, valuing, and superintending extensive works and workmen. Would prefer rendering occasional services. — Address, K. P. Office of "The Builder."

WANTED, by a Young ARCHITECT and SURVEYOR, who has been five years in a London Office, a CLERKSHIP, either in town or country. Present salary not so much an object, but no offer will be accepted unless there is a chance of future partnership for which an ample premium can be paid.—Address, B. U. Office of "The Builder."

TO PLUMBERS AND BUILDERS

WANTED, EMPLOYMENT, by a first-class plumber, or three-branch hand.—Address, WM. LLOYD, No. 3, Charlotte-place, Old Church street, Paddington-green.

TO BUILDERS AND ARCHITECTS.

WANTED, by a general FOREMAN of WORKS, or as CLERK of WORKS, a SITUATION. Has and is now superintending very extensive works for his present employers (a London firm). Been with them nearly five years. Is fully capable of undertaking works of any dimensions.—Address, B. T. F. Woodman, Friant-road, Tunbridge Wells.

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, a SITUATION as TIME-KEEPER, Wages and General Clerk. Has had six years' experience in the building trade and thoroughly understands the office routine. Good references. Salary 35*s.* per week.—Address, J. WHITE, 4, Egleton-place, Bromley, Middlesex, E.

TO BUILDERS AND OTHERS.

WANTED, by a respectable Youth, in his 18th year, a SITUATION as JUNIOR CLERK. Has been accustomed to the routine of a builder's office. Satisfactory references can be given.—Address, P. A. Simmons's Library, 1, Moore Park-road, Fulham-road, S.W.

TO BUILDERS AND OTHERS.

WANTED, by a practical man, a RE-ENGAGEMENT as CLERK of WORKS, or GENERAL FOREMAN. Has a good knowledge of Builder's work in all its branches. Can prepare working and finished drawings, measure up work, and assist in the office if required.—Address, M. N. 100, High-street, Camden Town.

TO ENGINEERS AND ARCHITECTS.

WANTED, by a Practical Mason, a SITUATION to SUPERINTEND the ERECTION of LARGE WORKS, at home or abroad. Speaks French and Hindustani. Has good testimonials.—Address, B. T. 10, St. Thomas-terrace, St. Thomas-street, Borough.

TO JOINERS AND BUILDERS.

WANTED, by a Young Man, who has served his time to a Joiner, a SITUATION, as IMPROVER, at the bench or otherwise. Wages no object.—Address, A. C. J. 14, Gough-street, Gray's Inn-road, W.C.

TO ENGINEERS AND SURVEYORS.

WANTED, by the Advertiser, a SITUATION as ASSISTANT to a CIVIL ENGINEER. On a railway preferred.—Address, B. F. F. Post-office, Lamb's Conduit-street, London, W.C.

TO BUILDERS AND PLUMBERS.

WANTED, by a Young Man, aged 29, EMPLOYMENT, as PLUMBER, or THREE BRANCH HAND.—Address, H. B. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, a SITUATION in a BUILDER'S or CONTRACTOR'S OFFICE. He is competent to prepare working and finished Drawings, take out quantities, prepare estimates, measure up work, &c. and to perform all office duties. He has had practical experience in the business. For particulars address, A. B. 1, Weymouth-street, Portland-road, W.

WANTED, by a GRAINER and MARBLER, a Permanent SITUATION in town or country.—Address, H. T 16, New Church street, Edgware-road, N.W.

TO BUILDERS AND OTHERS.

WANTED, by the Advertiser, a JOINER, EMPLOYMENT in a good shop.—Address, E. F. R. 43, Queen street, Camden-town, N.W.

TO TIMBER MERCHANTS, BUILDERS, & OTHERS.

WANTED EMPLOYMENT, by a YOUNG MAN, 26 years of age, who has a thorough knowledge of book-keeping, every branch of timber measuring and mensuration. Has been in the trade several years, and can be highly recommended.—Address, J. B. care of Mr. J. W. Vickers, 2, Cowper's court, Cornhill.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a respectable Young Man, aged 30, a RE-ENGAGEMENT as CLERK and TIMEKEEPER, or in any capacity where trust and confidence are required. Three and a half years with late employers.—Address, W. G. 21, Craven-terrace, Craven Hill, Bayswater, W.

TO PLUMBERS, BUILDERS, &c.

WANTED, a SITUATION, by an Experienced Plumber, Gas, Bath, and Hot-water Apparatus Fitter. Good references if required.—Address, J. H. 39, Lillington-street, Vauxhall Bridge road, Pimlico, S.W.

TO ARCHITECTS.

WANTED, by the Advertiser, a SITUATION as Clerk of Works. Can take out quantities, &c. and has a thorough practical knowledge of the building trade.—Address A. B. 59, Acton-street, Gray's Inn-road, W.C.

WANTED, EMPLOYMENT, by a CARPENTER and JOINER, as CLERK, and FOREMAN, or Charge of a Business. Has a good knowledge of plans, specifications, and accounts.—Address, D. S. W. Mr. Fowler's, Butcher, High street, St. John's Wood, N.W.

WANTED, by a young Gentleman, a SITUATION in the Offices of a Land-Agent, Surveyor, and Auctioneer, having served his articles, and remained with his late masters nearly two years, to obtain a further and more extensive knowledge of changing for further improvement.—Apply to F. 17, Gough-square, Fleet-street, London.

TO BUILDERS AND DECORATORS.

WANTED, a SITUATION as FOREMAN of PAINTERS, or to TAKE the entire MANAGEMENT of a BUSINESS. Punctual habits, ten years' practice, and first-class reference.—Address, A. B. Post-office, Faversham, Kent.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who will be disengaged shortly, desires a RE-ENGAGEMENT. Is capable of making working and detailed drawings, has a fair knowledge of quantities, and thoroughly understands perspective. Moderate salary.—Address, A. C. Care of Mr. James, 12, Newington-place, Kennington, S.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, aged 19, who has been several years in an Architect's Office, and can be well recommended, wishes for a RE-ENGAGEMENT. Address, E. F. care of Mr. Ogg, Post office, Gray's-inn-road.

TO ARCHITECTS, &c.

THE Advertiser is open to an ENGAGEMENT as ASSISTANT in an Office, or as CLERK of WORKS. Could take the management of an Office if required. Sixteen years' first-class references from London and country architects.—Address, Mr. WARD, Office of "The Builder."

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, writing specifications, measuring, and measuring Builders' accounts, disputed or otherwise. Satisfactory references to Architects and Builders.—Address, X. Y. Z. 18, Cardington-street, Hampstead-road, N.W.

CLERKSHIP WANTED, by an energetic Young Man, of good ability, who has had five years' experience, and given great satisfaction. Is a neat draughtsman, and rapid accountant and penman. Highest references.—Address, X. Y. 8, Haverstock-street, City-road, N.

A WORKING FOREMAN of JOINERS wants a RE-ENGAGEMENT, either as Shop Foreman, or to take charge of a Job. Town or country. Is thoroughly practical and efficient, having been similarly employed several years. Aged 35. Satisfactory references for ability, honesty, &c.—Address, A. B. 26, Northampton-road, Clerkenwell.

TO ARCHITECTS.

A THOROUGHLY efficient CLERK of WORKS is desirous of a RE ENGAGEMENT. Seventeen years' experience.—Address, R. D. 14, New-street, Covent-garden.

A CARPENTER and JOINER of good experience wishes to meet with constant EMPLOYMENT in some firm, factory, or institution. Town preferred. Good references if required.—Address, A. B. No. 10, Hatfield street, Stamford-street.

TO SURVEYORS, BUILDERS, AND OTHERS.

A THOROUGHLY Practical BUILDER'S FOREMAN, a Joiner by trade, wishes for a RE-ENGAGEMENT.—Address, prepaid, A. R. Jessop's Dairy, St. Alban's-place, Edgware-road, N.W.

TO MASTER RED POTTERS.

A POTTER in the above Line wants a SITUATION.—Address, M. M. 6, High-street, Vauxhall, London, S.

TO DECORATORS, &c.

A YOUNG MAN, who has been employed in several London Painting rooms, and who has a knowledge of drawing and colouring, in both oil and distemper, wishes for EMPLOYMENT in the above Line.—Address, X. No 6, Princess-street, Edgware-road, N.W.

TO ARCHITECTS AND SURVEYORS.

A RESPECTABLE Young Man, aged 20, is desirous of obtaining a SITUATION in the Office of the above. Can make finished and working drawings, take out quantities, &c. Terms moderate.—Address, C. H 61, Bartholomew close, E.C.

AN experienced ARCHITECTURAL DESIGNER and DRAUGHTSMAN has a few hours morning and evening to spare, and will UNDERTAKE PERSPECTIVE or other DRAWING at 1s. 6d. per hour.—Address, J. GEORGE, 10, Grafton-terrace, Kentish Town.

TO ARCHITECTS AND SURVEYORS.

AN ARCHITECTURAL ASSISTANT, who is a good and expeditious draughtsman, and is competent to make practical and other drawings, and to perform the usual duties required in an office, is SEEKING a RE-ENGAGEMENT.—Address, R. T. Messrs. K. J. Ford & Son, 179, Upper-street, Islington, N.

AN ASSISTANT is desirous of an ENGAGEMENT in a Town Office. Has been used to Italian and Gothic, preparing working drawings, &c.—Address, M. N. 26, Tabernacle-walk, Finsbury, E.C.

TO ARCHITECTS

A NEAT and expeditious DRAUGHTSMAN is open to an ENGAGEMENT. Understands perspective and colouring. Address, H. W. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

AN ASSISTANT, who has had eleven years' experience in the profession, wishes for a RE-ENGAGEMENT. Is a good colourist, and ready at design and perspective drawing.—Address, A. Post-office, Parliament-street, S.W.

TO BUILDERS AND PAINTERS.

A YOUNG MAN is in want of a Permanent SITUATION as GRAINER and GENERAL HAND. A good imitator of marbles, writer, grainer, &c. Town or country.—Address, G. L. 43, Aldenham street West, Euston-square, London.

TO ARCHITECTS, ENGINEERS, AND SURVEYORS.

A GOOD and useful DRAUGHTSMAN and COLOURIST will be happy to render TEMPORARY ASSISTANCE in the Preparation of Architectural Drawings, either Pen and Working, Pencil, also Tracings and duplicates of engineering drawings and surveys. Terms moderate, and good reference if required.—Address, T. C. 22, Harmood-street, Hampstead-road, N.W.

TO BUILDERS, JOINERS, &c.

A STEADY YOUNG MAN wishes for a SITUATION as IMPROVER in the above trade. Has had 2½ years' experience. Bench work preferred. Age 19 years. Good character.—Address, A. S. No 3, Junction-place, Broad street, Paddington, W.

TO MASTER BUILDERS & PAINTERS.

A YOUNG MAN wishes for a SITUATION as GRAINER & PAINTER. Town or country.—Address, J. Mr. Horne's, Bookseller High-road, Lee, Kent.

TO ARCHITECTS AND ENGINEERS.

AN Experienced ASSISTANT will be glad to meet with an ENGAGEMENT in town, temporarily or for a few days per week. Has an extensive connection; and being competent to conduct a business, would be prepared to enter into an arrangement. The strictest confidence may be relied upon.—Address, A. L. 41, Watling-street, E.C.

TO CIVIL ENGINEERS.

A YOUNG ENGINEER, having excellent testimonials, wishes for EMPLOYMENT. Salary not so much the object as practical experience. A premium would be given.—Address, X. care of Mr. White, 33, Fleet-street.

TO ARCHITECTS, SURVEYORS, AND ENGINEERS

A THOROUGHLY Practical and experienced Man, 33 years of age, with first-class testimonials and references, is open to an ENGAGEMENT as CLERK of WORKS or foreman. Address, C. E. Mr. Passey's, 125, Fulham road, Brompton.

TO NOBLEMEN, ESTATE AGENTS, AND BUILDERS.

AN experienced Foreman of Bricklayers, well up in London work, will take the entire MANAGEMENT of an ESTATE, or Superintend, or take a Builder's Work by Measurement. Good references. Town or country.—Address, G. R. Wiles Cottage, Battersea Park South.

TO HOUSE DECORATORS.

A GRAINER, aged 25, is open to ENGAGE, either for a Job, or permanently. Advertiser has a good practical knowledge of painting, paperhanging, &c. and would be useful to take charge of work.—Address, S. G. C. 33, Wardour-street, Oxford-street, London, W.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

ACCIDENTS ARE UNAVOIDABLE.
Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100l. to 1,000l. assuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
102,817l. have been paid by this Company as COMPENSATION for 66 Fatal Cases, and 5,93 Cases of Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

INDIA-RUBBER MILL BANDS,
WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON E.C.

TARPAULINS, MARQUEES, &c.
for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
29, Bishopsgate-street Without, E.C Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS

TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CAREY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

ASPHALTE.—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1834.—TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by steam power, laid down in the best manner, or supplied in any quantity. Information for using forwarded with material. Post office orders or reference in London promptly attended to. Estimates given for every kind of the above work.

CROGGON and COMPANY,
Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, and SHEATHING, and INODOROUS FELT.
For Damp Walls and Lining from Houses
2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

MR. CHARLES WOODROFFE, of 29, New Bridge street, Blackfriars, is prepared to ADVANCE MONEY in discount on short notice, on HOUSES in the course of erection, at frequent intervals, as the works proceed, the borrower depositing the title-deeds. No legal expenses.—Apply between Ten and Four.

BENJAMIN EDGINGTON,
2, DUKE-STREET, FOOT of LONDON-BRIDGE, S.E.
Manufacturer of Tents, Awnings, and Improved Dressed Cloths.
Tarpaulins Let on Hire, Scaffold-cord, Rope, and Blocks of every description. Marquees, Tents, Awnings, Ricks-cloths, Sacks, &c.
N.B. The ONLY ESTABLISHMENT but 2, DUKE STREET, LONDON-BRIDGE, S.E.

VENTILATION—PURE AIR.



Sheringham's Ventilator for the admission of Pure Air through an

EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

TO BUILDERS AND OTHERS.

CAMBRIDGE & CO. LATH RENDERS, near the Jolners' Arms, West Hoxton-road, beg to acquaint the Trade that they can supply them with first-class LATHS at the undermentioned prices, for cash only, on the Premises:—

Single Laths, per Load	2l 8
Lath and a Half	2 2
Double ditto	1 16

Delivered within four miles, 2s. extra.

TO BE SOLD, by PRIVATE CONTRACT, a Temporary WOODEN CHURCH, with pulpit, desk, and sewing. The church is polygonal in form, 42 feet in diameter, contains about 400 persons, and is well lighted and ventilated. It has been erected 4 years, and is in good repair.—The plans of the building can be seen, and all particulars obtained, at the Offices of Messrs BUTCHER, 37, Bedford-row, W.C.

FIRES.—VAUCHER'S PATENT WOVEN HOSE for Fire engines and Shop purposes may be had of any length and diameter. All workhouses and large establishments should have a plug with a length of hose attached on each floor.—Samples of double and half-hose substance, and all particulars, may be had at the Office, 1, Chapel-place, Poultry. Shipping orders prepared for tropical climates on the shortest notice.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have given the most satisfactory evidence of its value in a letter FROM SIR RAYMOND JARVIS, Bart. YENTNOR, ISLE of WIGHT.—Second Testimonial:—March 10th, 1852.—In reply to your letter received this morning respecting the Gutta Percha Tubing for Pump Service, I can state, with much satisfaction, it answers perfectly. Many builders and others have recently examined it, and there is but the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATERS of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

C. H. T. BIKKER, 110, Bradford-street, and 162, Cheapside, Birmingham, ARTIST in ECCLESIASTICAL DECORATIONS, HOUSE and CHURCH DECORATOR, Wall painting, diapering, and gilding in the three styles of the twelfth, thirteenth, and fourteenth centuries. Every description of ecclesiastical writing, labelling, and Gothic decorations; also Egyptian, Roman, and Greek decorations truthfully carried out in accordance with the several styles. Experienced artists sent to any part of the United Kingdom. Architects' designs carried out by experienced decorators, or drawings furnished if required. Specimens may be seen fully carried out at the above address.

POLYTECHNIC.—WHITSUN HOLIDAYS.—HERR SUSMAN will give his remarkable imitations of the Lark, the Nightingale, and other British Birds and Animals.—Reengagement of GEORGE BUCKLAND, Esq. for his Bath Minstrel Entertainments.—Last Two Weeks of the Concerts of the BROUSIL FAMILY.—What I saw at the International Exhibition; or, Half-an-Hour's Advice to Intending Visitors, by Professor J. H. PEPPER, on Tuesdays, Thursdays, and Saturdays, at half past 12 and quarter-past 7.—New Gorgeous Scenic Optical and Dramatic Fountain Spectacle. Beautiful Descriptive Views, illustrating London in Ancient and Modern Times.—Paris as it is. The Holy Land. Wilson's Grand Panorama of Japan, daily at 1.30 and 8.30. See weekly programme of 8 pages. Open from 12 to 5, and 7 to 10. Admission 1s.

BRICKS for SALE.—A large quantity of STOCKS, PLACE, ROUGH STOCKS, CUTTERS, and FACING BRICKS, to be DISPOSED OF, in large or small lots.—For price and further particulars, apply at Mr. MOXON'S Offices, Maison Dieu-road, Dover.

BRICKMAKING BY STEAM POWER.
INTERNATIONAL EXHIBITION, Class 7 D, Eastern Annexe.
Messrs. BRADLEY and CRAVEN,
Of WESTGATE COMMON FOUNDRY, Wakefield, Yorkshire,
Are exhibiting one of their MACHINES as above.
The following testimonial from the well-known firm of Messrs. Pato & Batts, who are working Brick Machines of several makers,—Ainslie, Clayton, & Co. &c. is conclusive as to the practical superiority of Messrs. Bradley and Craven's.

"9, Great George street, Westminster,
April 14th, 1862.

Gentlemen,—I have pleasure in giving you the result of twelve months' experience in working your Brick Machines at my Aylesford Pottery. Fresh acquainted with your machine, I had worked for years several of the best machines of the day; I have, therefore, had considerable experience in mechanical brick making, and the result is, I am pleased to notify to the value of your machine as being the only one that at present in this country will make a brick by one operation direct from the clay-pit without preparation, and at the same time with economy. I have had three of these machines working throughout the past year, both summer and winter, and as the machine requires no water to be mixed with the clay, we can wheel the bricks direct to the kilns. The machines make regularly from 40,000 to 50,000 bricks per day, and continue to give me every satisfaction. I can also bear testimony to the value of your Dry Clay Machine and Mill, now working for me at the Sydenham tunnel, producing very superior bricks from a most refractory material at the rate of 12,000 per day. I shall be happy to admit your friends to any works to see them in operation on receipt of an introduction from you.—I am, gentlemen, your obedient servant,
E. L. BETTS.

To Messrs. Bradley & Craven, Wakefield."

Illustrated catalogues and every information connected with brick machinery on application as above.

ANCHOR BRICK-MOULD WORKS, HOUNSLOW, W.
J. LEACH, Millwright and Manufacturer. Improved MOULDS, STOCKS, and PLATES, with screw stock pegs; also Oak Stocks, the largest stock in England, of various sizes, and made to order. Wash, Chalk, Pug mills, Pumps, 12 steam or horse-power. Brickmakers are cautioned against an impostor collecting orders in J. L.'s name, and supplying an inferior mould. Anti-friction Grease for Brickfields. Established eleven years.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks a day, at two-thirds of the working expenses of other machines.
Price, including royalty, 75l.
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machine may be seen at work at Smallberry-green (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,810.

A NEW BRICK and LIME WHARF, and DRAWDOCK,
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATH, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

TO CEMENT MANUFACTURERS,
BUILDERS, and OTHERS.—TO BE SOLD, with immediate possession, a compact PORTLAND CEMENT WORKS, very conveniently situate on the river Brent, near Brentford, capable of producing about 1500 bushels weekly, and to which the Manufacture of Roman Cement might be added. The premises are held under a lease of which 46 years are unexpired, determinable, by the tenant, at an earlier period. The premises, although peculiarly adapted for Cement Works, would be found very desirable for many other purposes. For particulars apply to Mr. J. F. POMEROY, Morden Wharf, East Greenwich, S.E. A quantity of good Portland Cement for Sale.

TO BRICKLAYERS & BUILDERS.—An excellent old-established jobbing BUSINESS to be SOLD, near Regent's Park. Premises, with dwelling-house, 120 feet deep, full of building materials and scaffolding, on hire, could be profitably added. Good wood and plant 150l.—Apply, Mr. KNAPP, 122, Taunton place, Park road, Regent's Park.

BRICKFIELD, KILN, DRYING-SHEDS, &c.—TO BE DISPOSED OF, a very compact CONCERN, fitted with steam-engine and machinery of the most approved description. The clay is very superior, and unlimited, and produces first-class red bricks, tiles, pipes, and other kiln-burnt goods, for all which there is a good demand in the locality. A practical acquaintance with the business is unnecessary, as arrangements can be made with the present Manager of the Works on unusually advantageous terms. For particulars apply to Messrs. EDWARDS & JAMES, 18, King street, Cheapside, E.C.

TO BUILDERS.—TAVERN and TWO SHOPS near Sloane-street.—Corner GROUND TO BE LET for the above, at 120l. per annum.—Apply Z. Phœnix Booking-office, King William-street, City.

LAND for the ERECTION of FACTORIES, with Canal Frontage if required, TO BE LET on BUILDING LEASE, in plots from a quarter of an acre to three acres, situate within two miles and a half of London Bridge, Surrey side.—For particulars apply to Mr. WILLIAM RUSSELL, Plough-road, Lower-road, Rotherithe.

TO BUILDERS, WAREHOUSEMEN, MANUFACTURERS, and OTHERS.—TO BE LET by TENDER, either together or separately, and on Lease for twenty-one years (determinable at the option of lessee at the end of the first seven or fourteen years), the spacious WAREHOUSES, OFFICES, DWELLING-HOUSES, and first-rate BUSINESS PREMISES, situate in Fountain-court, Aldermanbury, and Church passage, Guildhall, in the best part of the City of London, and covering an area of 6,000 feet.—Particulars, plans of the property, and forms of Tender, to be obtained of Messrs. SOLE, TURNER, & TURNER, Solicitors, 68, Aldermanbury; and of THOMAS CHATFIELD CLARE, Architect, 137, Leadenhall street, London. Tenders to be sent (sealed) to Messrs. SOLE, TURNER, & TURNER, 68, Aldermanbury, London, on or before TWELVE o'clock at noon, on TUESDAY, the 17th day of JUNE next; at which time the Tenders will be opened. The highest, or any Tenders, will not necessarily be accepted.

LAND at HACKNEY, sufficient for the erection of eleven houses, TO BE LET on Building Leases, Term, 75 years, held from the Governors of St. Thomas's Hospital. Money advanced, if required.—Apply to Mr. J. TUCKER, 234, High Holborn, W.C.; or to Mr. HENRY J. PHILLIPS, No. 34, Moorgate-street, E.C.

TO BE LET on BUILDING LEASES, with advances if required, a few choice PLOTS, being portions of a valuable frontage to the high road, within a few minutes' walk of a first-class station, and half an hour from London Bridge, Waterloo, or Victoria Termini; and also part of an important frontage to the high road at Muswell-hill, near the Church, and within a short distance of the Hornsey Station.—Apply to Mr. M. C. W. HORNE, Architect, 13, Guilford-street, W.C.

BUILDING SITE WANTED.—WANTED, within half a mile of Regent-circus, Oxford-street, in a good thoroughfare, a FREEHOLD BUILDING SITE, suitable for the Erection of a Chapel.—Address terms and other particulars to X. Y. Z. care of Mr. Mortimer, 20, Albion-villas, Albion-road, Dalston

BUILDING LAND, TO BE LET, at WANDSWORTH and HOLLOWAY, for the erection of small houses. Money advanced to respectable builders.—Apply to Mr. ARTHUR E. TAYLOR, Architect and Surveyor, 24, Basinghall-street.

TO SLATE and STONE MERCHANTS, and OTHERS.—To LET, HALF an extensive WHARF, with buildings and crane.—Apply to Mr. W. PARRY, Evelyn Wharf, Church-street, Deptford.

TO SPECULATING BUILDERS and OTHERS.—LAND, close to the Royal Dockyard, Deptford, TO BE LET, on LEASE, suitable for building five-roomed cottages that would readily let for 5s. a week.—Apply to Mr. JOHN WIMBLE, 2, Walbrook; or to Mr. J. A. BONE, 27, Leadenhall-street.

TO BUILDERS.—Eligible BUILDING LAND, at St. Mary Cray, Kent, within ten minutes' walk of the Railway Station, TO BE LET on LEASE for ninety-nine years. Two-thirds of the money required for building can be advanced, if wanted.—Apply to Mr. WILLIAM MAY, Solicitor, 2, Adelaide-place, London-bridge.

WANDSWORTH ROAD, near VAUXHALL.—BUILDING LAND TO BE LET on LEASES for Forty Houses, to complete a Street, at 2s. per foot frontage.—Apply to Mr. TAYLOR, No. 5, The Lawn, South Lambeth, S.

ROTHERHITHE.—To BUILDERS and OTHERS.—FREEHOLD PROPERTY, belonging to St. Bartholomew's Hospital, TO BE LET, on a Building Lease, with a frontage of 100 feet to the river.—The plan may be seen at Mr. HARDWICK'S Office, No. 1, Henrietta street, Cavendish-square, where further particulars may be ascertained. WILLIAM WILBY, Clerk.
St. Bartholomew's Hospital, May, 1862.

GUILDHALL, June 3rd, 1862. — The Commissioners for Letting the City's Lands will meet at Guildhall, on WEDNESDAY, the 18th instant, at ONE o'clock precisely, to receive PROPOSALS for LEASES of a HOUSE, No. 9, Giltspur-street, in the City of London, a HOUSE, No. 180, Goswell-street, and four HOUSES, Nos. 6, 7, and 8, in Sycamore-street, situate in Nos. 2 Middle-row, Old-street, in the County of Middlesex. Plans of the property may be seen, and forms of Tender obtained, upon application at the Architect's Office, Guildhall.
FERDINAND BRAND, Comptroller.

GUILDHALL, LONDON, 27th May, 1862.—The Committee for Letting the Bridge House Estate will meet at GUILDHALL, on FRIDAY, the 13th JUNE next, at TWELVE o'clock precisely, to receive PROPOSALS for a BUILDING LEASE, for eighty years, of a Piece of Ground on the north side of Wellington-street, Deptford.—Plans of the property may be seen, and further particulars obtained, upon application at the Architect's Office, Guildhall. FERDINAND BRAND, Comptroller.

BUILDING GROUND.—St. Dunstan's HILL near the Custom House, London.—TO BE LET, with the approbation of the High Court of Chancery, on a Building Lease, or on Building Leases, for the term of 80 years, all those FOUR MESSUAGES or TENEMENTS and DWELLING-HOUSES situate and being Nos. 4, 5, 6, and 8, on the west side of St. Dunstan's Hill, in the Parish of St. Dunstan-in-the-East, in the City of London, possessing a frontage of 80 feet, and an extreme depth of 74 feet. The property will be let subject to the rights of the tenant of No. 8, who holds, under an agreement to leave on six calendar months' notice from any quarter-day, at the yearly rent of £37. 1s. 9d. for redeemed land tax, and 2l. 8s. for insurance against fire; and also to the rights of the tenant of No. 6, who holds for the remainder of a term of 21 years, which will expire at Michaelmas, 1865, at the yearly rent of 55l.—2l. 4s. for redeemed land tax, and 2l. 16s. for insurance against fire. The tenant of Nos. 4 and 5 has received notice to quit, which has expired, and is only occupying upon sufferance. This property belongs to the Parish of St. Dunstan-in-the-East, in the City of London, and will be let, subject to the approbation of the Court of Chancery, by TENDER on one or more building-lease or leases, at the option of the lease or lessees, for a term of 80 years, from 24th JUNE, 1862, at a pepper-corn rent for the first year, and at an agreed rent for the remainder of the term. A plan of the ground, and the terms and conditions of the agreement for a lease or leases to be signed by the lessee or lessees, may be seen at the office of WILLIAM TITE, Esq. M.P. 17, St. Helen's Place, Bishopsgate-street, the surveyor of the Parish; or at the office of JAMES EDWARD SHERARD, Esq. the Vestry-Clerk of the Parish, No. 44, Mark-lane, from the 1st to the 14th day of JUNE, between the hours of Eleven in the forenoon and Four in the afternoon, except on Saturdays, and then until Two in the afternoon; and the Church Committee of the parish will meet in the Vestry-Room of the Parish Church on THURSDAY, the 19th day of JUNE, 1862, at ONE o'clock in the afternoon precisely, to receive sealed Tenders from parties who may be willing to take the property on a building-lease or building-leases of the whole or any part thereof, and under and subject to the terms and conditions contained in the plans and specification and terms of letting before referred to. Such Tenders to be in the form set out at the foot of the said specification and conditions; and forms thereof may be obtained at the Surveyor's or Vestry-Clerk's offices on application. Such Tenders to be sealed up and delivered at the office of the Vestry Clerk one clear day before the meeting of the Church Committee. The Church Committee will not bind themselves to accept the highest or any Tender; and the parties whose tender shall be accepted will be required to provide two good and sufficient sureties for the due performance of the covenants of the said contract. The parties tendering are requested to attend during the meeting of the Committee, in the Vestry-room, on the said 19th day of JUNE, 1862.

UPPER THAMES-STREET. — ST. BARTHOLOMEW'S HOSPITAL. — To BUILDERS and OTHERS.—TO BE LET, on a Building Lease, for 70 years, from Michaelmas, 1862, the whole of a FREEHOLD ESTATE belonging to this Hospital, comprising the premises Nos. 148, 149, 150, and 151, Upper Thames-street, with a frontage of 98 feet towards Thames-street, and 79 feet towards Suffolk Lane.—For further particulars, apply at Mr. Hardwick's Offices, No. 1, Henrietta-street, Cavendish square. Tenders are to be sealed up, and delivered at the Clerk's Office, within the Hospital, on TUESDAY, the 10th day of JUNE, at a quarter before ELEVEN precisely.
WILLIAM WILBY, Clerk.
St. Bartholomew's Hospital, May, 1862.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs BLAKE, Croydon.

BUILDING LAND, situate between Reigate and Dorking, in the parish of Betchworth, TO BE LET upon long LEASES, in plots of various sizes, suitable for the erection of a good class of private residences.—For particulars, apply to Messrs. CLUTTON, 9, Whitehall-place, Westminster; or Messrs. NASH, Reigate.

TO CAPITALISTS, ARCHITECTS, CONTRACTORS, BUILDERS, &c.—GRANITE QUARRIES.—CAPITAL required to assist in carrying out large GRANITE WORKS in Cornwall. Quality and quantity guaranteed. Facilities for working rarely to be met with. Dues low, carriage cheap.—Apply by letter, to J. B. S. Anderton's Hotel, Fleet-street.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29 30, and 31, Warwick-street, W.
EDWARDES, BROTHERS, & BURKE, PROPRIETORS.
The largest and most superior Stock of Chimney-pieces in Europe on view at the above-named Establishment.
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

SIXTY MARBLE CHIMNEY-PIECES TO BE SOLD, in consequence of Monsieur Beernaert, of the Belgian and Westminster Marble Works, Millbank-street, Westminster, having discontinued his Show-rooms in London. The above Chimney-pieces consist of Carved Statuary, Bold Rouge Royal, Black Trussed, &c. &c. The above will be sold at a great sacrifice—in fact, no reasonable offers will be refused.—Apply to Mr. PILTON, Westminster Marble Works, Earl-street, Horseferry-road, S.W.

MARBLE CHIMNEY-PIECES of every Description, also enamelled Slate, to be SOLD at 299, MARYLEBONE ROAD (opposite the Yorkshire Stingo). BATH STONE BOX CHIMNEY-PIECE, with MOULDED CAP and BASE, 7s. FITTED TO ANY OPENING.

VICTORIA MARBLE WORKS, 33, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

TO STONEMASONS, BUILDERS, and OTHERS Between two and three thousand feet of excellent PORTLAND STONE, in various sized blocks, FOR SALE, at 8d. per foot, cubic; also a quantity of Portland steps, 4 feet 6 inches long; may be seen, and further particulars had by applying to L. D. SULIVERS, at the late State Paper-Office, St. James's Park; or of W. CROCKER & SON, Great Dover-road, Borough. Also 500 feet cubic of Bramley Fall, lying at Hungerford Market.

VALE of WARDOUR FREE STONE, TISBURY QUARRIES, WILTSHIRE.—Geologically this stone is identical with the Portland Oolites; the beds vary in texture, the upper being a stiff roach, of which large blocks are readily obtained, and is suitable for heavy works, such as bed stones for engines, girders, machinery, &c. or for waterworks. The under beds produce a stone of fine texture, which is well adapted for carving, mouldings, tracery, balusters, plinths, cornices, copings, sills, ashlar, and for building purposes generally, also for tombs, gravestones, chimney-pieces, steps, paving, hearth-slabs, troughs, &c. Numerous buildings of considerable antiquity attest the durability and texture of the stone of this district. Among others may be cited Salisbury Cathedral, Tisbury Church, the Poultry Cross at Salisbury, Wilton Abbey, &c., erected from Chilmark and other quarries immediately adjacent to those under notice.—Specimens of the stone may be seen at Messrs. FOOLE & SON, Marble and Stone Works, Great Smith-street, Westminster, S.W. and in the Museum of Practical Geology, Jermyn-street, Nos. 311 and 312, Case V, London; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Tisbury Quarries. Orders for worked stone carefully executed on the Quarries.—Samples forwarded, and any other information may be obtained of Mr T. P. LILLY, Gillingham, Dorset

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slabs in Parksparring, Harehill, &c. &c.
Grindstones, Steps, Sills, Coping, Landing, Paving, and all description of Stone Work executed to order; and an extensive stock on hand at reduced prices
Orders and specimens forwarded on application.

RANSOME'S IMPERISHABLE SILICEOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices
Filters and Filtering Slabs for Domestic or Manufacturing purposes
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster or Patent Stone Works, Ipswich.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 97, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Bath Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. FINDER SIMPSON & SONS, 20, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a hand-saw, and is wrought at a cheaper rate than any stone in the kingdom.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

RED MANSFIELD STONE. WHITE MANSFIELD STONE. YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,
No. 1, BOLD TERRACE, CHESTER.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 27s. 6d. per 1,000.
" Kiln Bricks, at 35s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 7s. per 100
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS, 242, EUSTON ROAD, ST. PANCRAS.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1763, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.
An illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

BUFF & DEEP RED FACING BRICKS, Splays, Cutters, Floor-tiles, Garden Edging, &c.—Apply to E. HOOPER, Manufacturer, Southampton; or JOHN DOWNEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.
Architects and Builders requiring superior colour in bricks are respectfully invited to inspect the above.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS, TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 551, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.
THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

BUNNETT AND CO.
The Original Inventors and Patentees of every recent Improvement,
MANUFACTURE THEIR WELL-KNOWN
SUPERIOR REVOLVING IRON SHUTTERS
OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.
Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

BARTLETT BROTHERS & CO.
DEVONSHIRE WHARF, CAMDEN TOWN, N.W.
Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.
Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,
INTERNATIONAL EXHIBITION, 1862.

ENAMELLED STONE CHIMNEY-PIECES,
Of Beautiful Designs, and to Imitate any kind of Marble; far Superior to Enamelled Slate, and considerably Lower in Price,
INVENTED AND MANUFACTURED BY
W. J. ELLISON & CO.,
SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.
Also, MANUFACTURER of WALL-LININGS, composed of Stone Slate, with a Veneer of Scagiola to Imitate Marble, and Enamelled by Heat. WARRANTED TO RETAIN ITS POLISH.
Office and Show Room, No. 3. WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.
Manufactory, EAST-ROAD, CITY-ROAD.

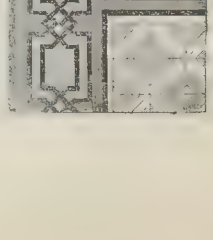
SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—34, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 34, Guilford st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

TO ARCHITECTS and SURVEYORS.—ROBERT W. SPRAGUE & CO. tender their thanks to their Friends and the Profession generally for the kind support received by them, which has enabled them to organize, in addition to their previous Establishment, a large and efficient staff, thoroughly conversant with Building terms, thus qualifying them to LITHOGRAPH BILLS of QUANTITIES SPECIFICATIONS, &c. with the peculiar accuracy and despatch so essential to the profession.
Specimens of Writing and Scale of Charges will be forwarded on application to ROBERT W. SPRAGUE & CO.
Lithographers, &c. 5, Ave Maria-lane, E.C.

DRAWING CLASSES for the Study of Architectural, Mechanical, Perspective, and Ornamental Drawing, conducted by Mr. WILLIAM DAVY, at the London Mechanics' Institution, Southampton Buildings, Holborn, MONDAY and FRIDAY Evenings, from EIGHT to TEN. Members, 3s. 6d.; the Public, 6s. per Quarter. New Quarter now commencing.



SOLID PARQUET FLOORS, ARROWSMITH'S PATENTED,
From 1s. per foot, in varie ty woods, inch thick, grooved, cnguel, and keyed together, not veneered
For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Paneling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.
SHOW ROOMS, 80, New Bond-street, W.

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF

PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL

LONDON, **SEYSSEL ASPHALTE,** PARIS,

AND BY H.M.'S ROYAL LETTERS PATENT,

MANUFACTURERS OF

1851. **METALLIC LAVA.** 1844.

FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

CARSON'S
ORIGINAL ANTI-CORROSION PAINT.

Patronised by

THE BRITISH GOVERNMENT, THE FRENCH GOVERNMENT, THE RUSSIAN GOVERNMENT, H.R.H. THE PRINCE CONSORT, MOST OF THE NOBILITY & GENTRY, THE DOCK COMPANIES, RAILWAY AND CANAL COMPANIES THE PRINCIPAL COLLIERIES, MILL OWNERS, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also

IRON ROOFING, BRIDGES, HURDLING,

AND EVERY DESCRIPTION OF IRON WORK;

FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone.

The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.

OIL, TURPENTINE, AND BRUSHES.

Prices, Patterns, and Testimonials sent upon application to

WALTER CARSON AND SONS,

(SUCCESSORS TO THE INVENTORS,)

9, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

BRICK-MAKING BY STEAM POWER.
HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,

(Each producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS, London.
" BRASSEY & CO. London.
" BAKER & SON, Isle of Wight.
" ROBT. SHARPE & SON, London.
S.-E. RAILWAY COMPANY, Folkestone.
Mr. GEORGE FURNESS, London.
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO. Burham.

FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works; at the Great Exhibition, South Kensington; or at their Show Rooms, Upper Montague-street, Montague-square; or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.

ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's  Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,

Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronised by

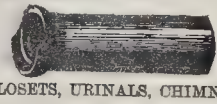
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK,

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slate at the Royal Agricultural Society's House, in Hanover square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, also a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of the town or country DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully required to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and one of the best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE and COLCHESTER (upwards of Three Millions of Feet); also the GREAT EXHIBITION BUILDING of 1862, of near One Million Feet. A Liberal Discount is allowed to the Trade.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED  SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

TO BUILDERS, HOUSE-PAINTERS, and DECORATORS.—PATENT EXTRACT of LETH'CIUM.—For Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. in a few minutes, and for Cleaning and Restoring Oil Paint. Success guaranteed. Price 6s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London.—Messrs. NAENIARE & Co. 11, St. Andrew's-hill, Doctor's-commons, London, E.C.—N.B. Cheap patented Brushes for laying on the Extract, and removing the old paint, 5s. per pair.

T. KENT'S PAINTING-BRUSH MANUFACTORY

Is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.

Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty four years, and may always be depended upon as the best that can be made.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 2d. per gallon; Boiled Oil, 3s. 6d.; Turpentine, 5s. 6d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

GENUINE WHITE LEAD, branded and warranted from the Manufacturers, 30s. per cwt; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 8d. per gallon; Turps, 5s. 6d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon. Hamilton's and Kent's Grainers', Painters', and Plasterers' Brushes, to be had at D. J. PORTER'S White Lead and Colour Warehouse, Nos. 1 and 2, Pratt street, Camden Town, N.W.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

30, LONDON WALL, E.C.

Where also may be obtained their

CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,

Together with all kinds of Colours and Varnishes,

Warranted of the purest quality and at the lowest prices.

Agents for Kershaw's Graining Machines.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.

PAINTING BRUSH MAKERS,

No. 10, GREEK-STREET, SOHO SQUARE, LONDON, W.

And of their Agents,

SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.

Linseed Oil, 3s. 2d. per gallon; Boiled Oil, 3s. 6d. per gallon.

Turpentine, 5s. 9d. per gallon.

Fine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury street, and 45, Coles-hill-street, Pimlico, S.W.

Every article for the Trade at the lowest price.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

Invites attention to the superior workmanship and elegant design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	.....	8 Guineas.
Gentlemen's do. do.	.....	10 "
Ladies' or Gentlemen's Gold English Lever Watches	...	18 "
Strong Silver Lever Watches	.....	5 "
Gentlemen's Gold Compensation Balance Watches	....	40 "
Do. Silver do. do.	.....	25 "
Marine Chronometers	.....	25 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Alberts and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.

INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock, may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 2 248.

JOSEPH FAIRER,

Turret Clockmaker to Her Majesty's War Department,

188, St. George-street East, London.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared),	11s. 6d. per square.	Laths, 28s. per load.
Yellow Deals, sound and good	£19 10 0 per 120,	or 0s. 3¾d. per foot.
Spruce Deals	16 10 0 „	0 2¾ „
Yellow Battens, excellent quality	11 10 0 „	0 2 „
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 „	3 6 „
Seasoned Mahogany, Plank and Board, 6d. per foot.	A very large Stock, ready sawn and seasoned.	

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1¼-inch „	—	18s. 0d.	19s. 0d. „

Yellow Deals, 3 by 9 £19 10s. per 120.
Yellow Battens £11 10s. „
Spruce Deals £16 10s. „

Pine Planks (Dry), 3 by 11 24l. per 120
Pine Deals do. 3 by 9 19l. 10s. „
¾-Inch White Matched Lining 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER. & WEBB),
MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

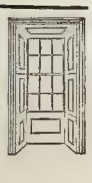
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Planks from 3s. 3d.; Mahogany, 6d.; 2¼ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White from 11s. 6d. Cartage free to any part of town.

T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.

ROMAN CEMENT made at the above works may be had fresh from the kilns daily.—A great advantage to dealers and sewer contractors, especially in winter time.

PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the Lias cements, so much of which is now brought into the market and sold as Portland.

PLASTER OF PARIS, both coarse and fine, of very superior quality and colour.

LIME.—Grey Stone, Chalk, and Blue Lias Lime, well burnt, by the large or part, and may be had fresh ground daily, by steam power, for concrete.

BRICKS from our fields in Kent, by the large alongside, in the river or canals, or by cart from the above wharf, of good quality and moderate price.

A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain Tan, and Paving Tiles, Hair, Laths, Chimney-pots, &c always kept in stock.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PATENT PORTLAND and ROMAN CEMENT,
AND PLASTER OF PARIS WORKS,
FRINDSBURY, on the MEDWAY, KENT, and
CANAL ROAD, KINGSLAND ROAD, N.
MESSRS. FREEN & CO.

Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER of PARIS, in any quantity, fresh from the kilns.

Orders addressed to their LONDON WORKS, Canal-road, Kingsland, N. will meet with prompt attention.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.

FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STOVEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

JOHN BAZLEY WHITE & BROTHERS,
MILLBANK STREET,
WESTMINSTER.
MANUFACTURERS of ROMAN, PORTLAND, and KEENE'S CEMENTS.
PLASTER of PARIS and MASTIC.
BRICKMAKERS AND MARBLE MERCHANTS.

J. B. WHITE & BROTHERS' PORTLAND CEMENT,

of which they make but one quality, possesses all the advantages of the natural cements, while it greatly excels them in its cementitious properties, is not effected by frost, and does not vegetate in damp situations.

An account of comparative experiments on the strength of this and other cements, read at the Institute of Civil Engineers, to be obtained at the Makers'.

KEENE'S IMPROVED CEMENT,
MANUFACTURED ONLY BY J. B. WHITE & BROTHERS,

for internal use, is superior to all others in hardness, and is, therefore, specially adapted for floors, skirtings, and stucco work in general; while it has the additional advantage of receiving paint in a few hours after its application.

Agent in Liverpool: JOHN MACKENZIE, 46, Seel-street.
Do. in Manchester: THOMAS OAKDEN.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)
FIRE BRICK AND TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.
DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.
Manufactured ONLY by J. CUMBERLAND PART,
186, DRURY-LANE, LONDON, and at DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited,
Are prepared to Supply their First-class Blue Lias Lime in any quantity and at any place.
SPECIAL CONTRACTS MADE FOR LARGE WORKS.
All communications to be addressed to the Company, at their Offices, 3, Winchester-buildings, Great Winchester-street, E.C.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the monthly price-lists.
N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY-STONE CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

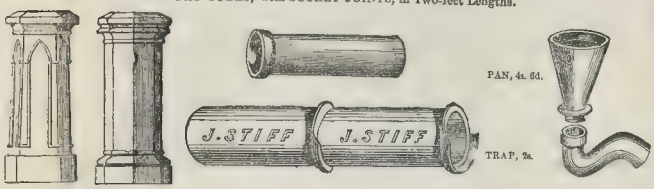
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:
Messrs. GLADDISH'S, Pedlar's acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & COE'S City Road Wharf, City Road.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich.
Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVERS, Dowgate Wharf, Cattle-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON & WATTS,
LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

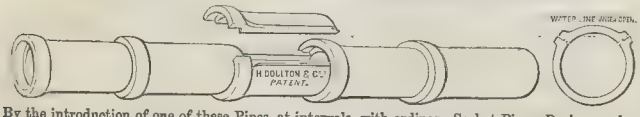
The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed.

The Cover, being fired in one piece with the Pipe, fits perfectly.

There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.

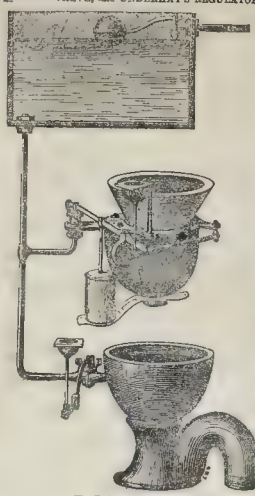
Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 9, Conduit-street, Regent-street, W.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.





UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, of 5000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

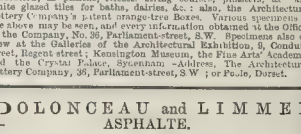
In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves, Gas Meters, &c. on the same premises.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

FERGUSLIE FIRE CLAY WORKS
PAISLEY.



PATENT GLAZED SEWER PIPES, according to Jenning's Patent and the GLAZED SEWER PIPES with SOCKET JOINTS. Also all articles made of Fire Clay. The Sewer-Pipes are in sizes from 3 inches up to 24 inches bore, and are of the most superior quality. Prices very moderate. The subscriber, from the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be.

ROBERT BROWN.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of RALPH'S PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes, string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.; also, the Architectural Pottery Company's patent orange-tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No. 26, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham.—Address, The Architectural pottery Company, 26, Parliament-street, S.W.; or Poole, Dorset.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

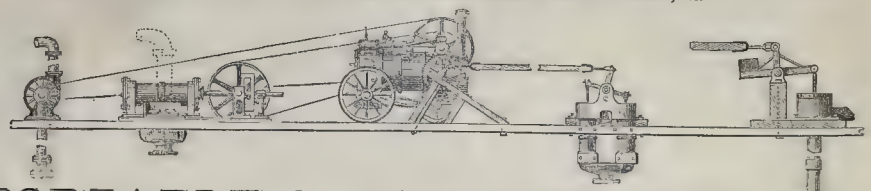
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

BENJAMIN FOWLER & CO., WHITEFRIARS ST., FLEET ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

TO BE WORKED BY STEAM, HORSE, OR HAND POWER, FOR TEMPORARY OR PERMANENT USE; ALSO OF SINGLE OR DOUBLE PURCHASE CRABS, PULLEY BLOCKS, SCREW AND HYDRAULIC JACKS, &c.

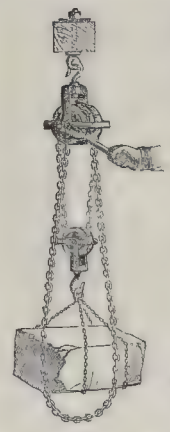




PORTABLE STEAM ENGINES,

IN GOOD SOUND WORKING ORDER,

WITH or WITHOUT PUMPS, to DISCHARGE a LARGE or SMALL QUANTITY OF WATER FROM ANY DEPTH, ready for delivery to order at a DAY'S NOTICE, or, upon very reasonable terms, ON HIRE.



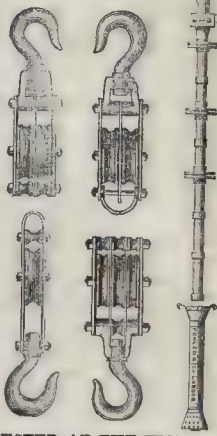
FOWLER'S PULLEY AND SNATCH BLOCKS,

of every size and description. These are strong, well made blocks, and will be found in all points as good in quality and as low in price as those made by any house in London.

RUBBISH WHEELS OF VARIOUS SIZES.

FOWLER'S USEFUL SINGLE, DOUBLE, and TREBLE PURCHASE CRABS.

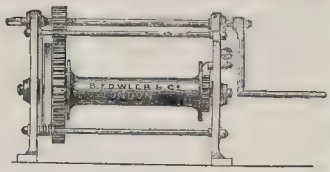
B. F. & Co. have a variety of Patterns, strong and light, at prices which will meet any requirement.



WESTON'S PATENT DIFFERENTIAL BLOCKS,

To lift from half a ton upwards, with chain to suit, at the LOWEST PRICES.







A LARGE STOCK IS KEPT READY FOR PROMPT DELIVERY, AND CAN BE INSPECTED AT THE WORKS.

Price Lists of Pumps, &c., forwarded on application.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



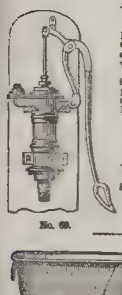
No. 83.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead, gutta percha or cast iron flanged pipe, as required.	1 1 0
2½ „ long	3		1 10 0
3 „ ditto	3		2 4 0
3½ „ ditto	5		2 9 0
4 „ ditto	5		3 16 0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			2 0 0
2½ in. long	ditto	ditto	2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.



No. 69.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

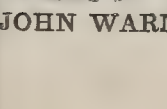
2½ inch	6	0	0
3 „	7	5	0
3½ „	8	0	0

Larger sizes when required.

Fitted to the best Plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	4	15	0
3 „	5	15	0



WARNERS' BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.



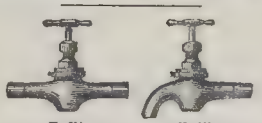
Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384. No. 383.

WARNERS' HIGH PRESSURE COCKS are made with gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re-leathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

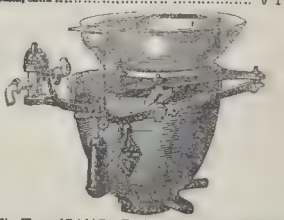
J. WARNER & SONS' PRICED ILLUSTRATED CATALOGUE WILL BE FORWARDED POST-FREE ON APPLICATION.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 1434.—Warners' Spring Valve Closet on Iron Frame, with vulcanised India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 0
Sunk handle extra 0 2 0
Blue basin, extra 0 1 6



No. 1434.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin..... £3 0 0
Sunk Handle, extra 0 2 6
Blue Basin, extra 0 1 0

The above Prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

SALES BY AUCTION.

BUILDING MATERIALS, HARP-LANE, TOWER STREET

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 17th, at TWELVE, the BUILDING MATERIALS of the Offices at Premises known as Bakers' Hall Chambers, Harp-lane, Tower-street; consisting of sound brickwork, head, flat, gutter, cisterns and pipes, 10,000 plain tiles, useful timber and flooring-boards, glazed sashes, doors, stone paving, mahogany desks and counters, office fittings, &c. May be viewed the day previous. Catalogues had of Messrs. JOHN YOUNG & SON, Architects, 38, King-street, Cheapside; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament-street, S.W.

BINFIELD, near BUCKNELL, BERKS, at the WATERHOUSE STORES.—To Builders, Farmers, Dealers, and Others.

MR. W. BOOTH will SELL by AUCTION, as above, on THURSDAY, JUNE 12th, 1862, at TWELVE for ONE o'clock, without reserve, a MISCELLANEOUS STOCK, comprising about 3 tons of wrought, cut, and malleable nails, various sizes; and general ironmongery, white lead, ground and dry colours, farming implements and vessel phaeton, on excellent springs and patent axles. On view the morning of Sale. Catalogues at the Inns in the neighborhood; by post for a stamp; at the Auctioneer's Offices, (63, Snowhill; and on the Premises.—N.B. Other Goods for this and future Sales can be received at any time. Terms on application. Horses and Cattle may be introduced into these Sales, as well as Stock-in-Trade, Household Furniture, &c.

No. 21, Little Albany-street, Regent's Park. To CARPENTERS & others.—By order of the Executors of the late Mr. LANE

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, on MONDAY, JUNE 9th, at TWELVE o'clock, the remaining STOCK, viz., a few planks and deals, cut stuff, 15 doors, benches, scaffold boards, brass and iron work, &c. Auction Offices, Cardington-street, Hampstead-road.

In BANKRUPTCY.—PHŒNIX STONE WORKS, EAST GREENWICH, Plant and Stock (by recent costly well for water carriage

MESSRS. GLASIER & SON will SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 17, at TWELVE for ONE, in lots (by order of the Assignees of William Buckwell, a bankrupt), the valuable PLANT and STOCK of an ARTIFICIAL STONE MANUFACTURER and CONTRACTOR; comprising four cast-iron puddling machines, patent stone slab machine, crushing engine, wash mill, capital turning and boring lathe, engineers' tools, timber for patent kiln, framing, loose machinery, 7 ton traveling crane, trial iron wheeling plates, about 50 tons wrought and cast iron in slabs, rollers, girders, &c. six shear legs, six grindstones, 700 new cement sacks, fittings of smiths' and carpenters' shops, cash at counter timber and useful stuff, ironmongers' stores and useful materials; a large quantity of granitic breccia stone, in slabs, landings, columns, vases, and ornamental items, and the iron steamer Watersprite May be viewed day prior and morning of sale, and catalogues on the premises; at the Crown and Sceptre, East Greenwich; of Messrs. DANGERFIELD & FRASER, Solicitors to the Assignees, 26, Craven street, Charing-cross; and of the Auctioneers, 41, Charing-cross, S.W. The valuable freehold House, Wharf, and Premises, with extensive and first-rate river frontage and two acres of Land will shortly be Sold, unless a suitable offer is previously made by private treaty.

THE VALUABLE BUILDING MATERIALS OF THE CARLTON RIDE AND STABLES.

MESSRS. GLASIER & SON are favoured with instructions from the Commissioners of Her Majesty's Woods, Forests, and Revenues, to SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, JULY 2, at TWELVE for ONE, in lots, the valuable BUILDING MATERIALS and FITTINGS of the Carlton Ride and Stables; comprising upwards of 1,000,000 capital stock bricks, several thousand feet of capital York and Portland stone, in paving, steps, coping, cills, &c.; fittings of stabling for 60 horses, coach house, sheds, doors and fittings, warm-pitching, capital timber in roofs and floors, upwards of 200 square of flooring, several thousand feet of Dutch clinker paving, useful iron in railings, &c.; about 10 tons of lead, fittings, pipes, and linings. May be viewed the day prior, and morning of sale; and catalogues had of JAMES PENNETHORNE, Esq. Whitehall-yard; at the Office of Woods, 1, Whitehall-place; on the Premises; and of the Auctioneers, No. 41, Charing-cross, S.W.

TO BUILDERS with a small capital.—Valuable Freehold Building Land.—COLNEY HATCH, Muddlesex (three minutes' walk from station).

MR. W. B. MACLACHLAN will SELL by AUCTION, at the Mart, opposite the Bank of England, on THURSDAY, JUNE 19, at ONE o'clock precisely, about one acre and a half of very eligible FREEHOLD BUILDING LAND, in lots, with a road frontage and depth. This is a most healthy and matured locality; and the demand for house property is very great. The road and sewer are formed. Particulars at the Auction Mart; of J. P. HOLMES, Esq. Solicitor, 9, Southampton-street, Bloomsbury; of Mr BEEDE, Architect, Colney-hatch; and of the Auctioneer, 11, Southampton-buildings, Chancery-lane, W.C.

Valuable Building Ground, Horley, Surrey.

MR. JOHN LEES has received instructions to SELL by AUCTION, at the Chequers Inn, Horley, Surrey, on WEDNESDAY, 11th JUNE, at TWO o'clock, in Lots, a very complete FREEHOLD PROPERTY, with immediate possession, in a desirable situation, very near to the Horley Railway-station on the London and Brighton Railway, and possessing frontages to the new road called Albert-road, and also the turnpike road leading from London to Brighton, the locality being only one hour's ride from London. The land will be divided into Building Plots of a size suitable for the erection of small Villa Residences, which would be readily let to respectable tenants at good rents, while the plots will confer votes for the Eastern Division of the county of Surrey.—Particulars may be obtained of G. C. MORRISON, Esq. Solicitor, Reigate; at the Inns in the neighbourhood; at the "Estates Gazette" Office, 200, Fleet-street, London; the Place of Sale; and of Mr. JOHN LEES, Estate Agent and Auctioneer, Reigate, Surrey.

REIGATE.—Beautiful site for a Residence laid out with Roads and Walks, and planted with the choicest shrubs and trees.

MR. JOHN LEES is instructed to SELL by AUCTION, at the MART, London, on WEDNESDAY, 25th JUNE, at TWELVE, in one Lot, a very desirable FREEHOLD PROPERTY, comprising upwards of 5 acres of land, occupying an elevated position, sloping to the south-east, and commanding extensive views of the surrounding rich scenery. It is about half a mile from the church and railway station, and three-quarters of an hour's ride from London. The land is laid out from the designs of a landscape-gardener, and disposed in pleasure-grounds and shrubberies, planted with the finest Arabic evergreens, &c. There is also a large kitchen-garden, well stocked, and orchard planted with choice fruit-trees. The property is fenced, and has upwards of 100 yards of wall, and summer-house, and pools of water, supplied by a spring on the estate. The site is now ready for the erection of a residence, which would render it a very complete and desirable property.—Particulars may be obtained of ANTHONY CARR, Esq. Solicitor, 25, Roodslane, Fenchurch-street, London; at the Auction Mart, London; and of Mr. JOHN LEES, Estate Agent and Auctioneer, Reigate, Surrey.

By order of the Sheriff, 11,000 Pieces of Paperhangings.

MR. HALL has received instructions to SELL by AUCTION, in his ROOMS, 4, London-road, on THURSDAY next, at ONE, without reserve, the STOCK-IN-TRADE of a PAPERSTAINER and DECORATOR; comprising a general assortment of paperhangings, in flocks, gilds, marbles, &c. Also several tons of whiteleed, dryers, and effects.—View morning of Sale; and catalogues had at the Rooms, London-road, S.

TO CHAPEL TRUSTEES, BUILDERS, FIXTURE DEALERS, AND OTHERS. FITTINGS OF A LARGE CHAPEL IN THE CITY.

MESSRS. DEBENHAM & TEWSON will SELL by AUCTION, on the PREMISES, Little Carter-lane Chapel, near St. Paul's, on FRIDAY next, JUNE 13, at TWO o'clock, the FITTINGS, in solid panelled oak, of about 70 Pews, magnificent carved oak pulpit, with stairs, &c.; clerk's ditto to correspond, a quantity of deal seating, school desks and forms, a handsome circular pedestal stove, a ditto fitted for gas, and other items.—May be viewed; and catalogues had of the Auctioneers, 80, Cheapside.

STOCK OF FURNISHING AND BLACK IRONMONGERY AND SHEFFIELD PLATE.

MESSRS. FULLER & HORSEY are instructed by the executors to SELL by AUCTION, on the PREMISES, No. 1, Gracechurch-street, on THURSDAY, JUNE 12, 1862, at ELEVEN o'clock, in lots, the valuable STOCK OF FURNISHING and BLACK IRONMONGERY and SHEFFIELD PLATE: fourteen sets best plated tea and coffee services, cruet and liqueur frames, candlesticks; fish knives and forks, in cases; bronzed urns and kettles; papier maché and japanned goods, trays, caddies, &c.; japanned baths, deed, and cash boxes; modernize and candle lamps, hall lamps, garden and siege tools, cutlery, fifty dozen files, chisels, augers and plain irons, 200 pair skates, forty sets polished steel fire-irons, tin ware, two self-acting kitchen ranges; builders' ironmongery, locks, latches, hinges, nails, screws, cabinet brass work; two wrought-iron safes, a few lots of household furniture, and other effects.—To be viewed on Wednesday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

THE DAY FOLLOWING THE VOLUNTEER REVIEW ON DURDHAM DOWN, BRISTOL

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 18th day of JUNE, 1862, at ONE o'clock precisely. Luncheon at Half-past Twelve o'clock. For account of Importers.

10,000 Spruce Deals, Battens, and Ends	}	Daily expected per "Jane," from St. John, N.B.
5,000 Pine ditto ditto		
80 Logs Birch		
13,000 Spruce Deals and Battens		
4,700 Quebec Pine Deals		
6,000 St. Petersburg Redwood Deals		
6,000 Onega Red Deals, Battens, and Boards		
1,500 Gothenburg Wainscot Logs and Deals		
1,500 Memel Redwood Deals		
500 Loads Quebec Yellow Pine		
50 Loads Quebec Red Pine		
50 Loads Quebec Oak		
400 Loads Danzig Red Timber		
50 Loads Danzig Oak		
50 Loads Miramichi and St. John Pine Timber		
400 Loads Swedish Timber		
6,00 Memel Pipe Staves		
15 Masts		
400 4 to 6-inch	}	Fresh Christiania Spars, per "Sophie," from Riekers
20 Christiania		
20 Fathoms Danzig and Heinlock Lathwood		
5,000 Flooring Boards		
50,000 Palings		
4 Fathoms Firewood		
A Quantity of Pine Board and Plank		
With other Goods.		

Catalogues will be issued on the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, June 4th, 1862

WOODHOUSE, WANSTEAD, ESSEX.—Capital Freehold Residence, with Thirty Acres of fine Meadow Land, well timbered, surrounding the House.

MESSRS. ELLIS & SON are directed by the Devisees under the Will of the late Westparth Southgate, to SELL by AUCTION, at GARRAWAY'S, on FRIDAY, JUNE 20th, at TWELVE (unless an acceptable offer be previously made by Private Contract), a valuable FREEHOLD PROPERTY, called Woodhouse, late in the occupation of Henry Wigram, esq. consisting of a capital residence, with accommodation for a large family, suitable stabling, offices, pleasure grounds, and kitchen garden, greenhouses, forcing-houses, and several enclosures of rich meadow land. The property is within a short distance of Stratford, the Forest Gate, and Low Leyton Railway Stations, and is suitable either for a private residence, a public institution, or might be most advantageously laid out as a building estate.—To be viewed by tickets only, to be had of Messrs. ELLIS & SON. Printed particulars may be had of Messrs. BELL, BRODRICK, & BELL, Solicitors, No. 9, Chester Street, Chapside; of F. BLETT, Esq. Architect, No. 36, Essex-street, Strand; at Garraway's; and of Messrs. ELLIS & SON, Auctioneers, Estate and Land Agents, No. 49, Fenchurch street.

GRAVESEND. IMPORTANT SALE.—To Engineers, Iron Founders, Millwrights, Ironmasters, Mr. Gunpowder Makers, Builders, and Others.

MR. JOHN GOULD will SELL by AUCTION, on the PREMISES, Bull-yard, Gravesend, on TUESDAY, the 10th of JUNE, 1862, and following days, at TWELVE o'clock, the whole of the PLANT and STOCK of an IRON-FOUNDER'S BUSINESS, &c.; consisting of moulding-boxes and patterns for castings of every description, powerful cranes, capital 6-horse power horizontal steam-engine, numerous lathes, superior ring steel beam, together with Agricultural Machines of various descriptions; cart-horses, carts, vans, &c.; forge-fittings, tools, and implements; stoves, ranges, a large quantity of bar-iron, and an extensive variety of other useful articles.—May be viewed three days prior to the Sale. Catalogues, 6d. each (returnable to purchasers), may be obtained of Mr. BUTT, 15, High-street; and at the Auctioneer's Office, Farrock-street, Gravesend.

To TIMBER MERCHANTS, BUILDERS, and OTHERS.—SALE of SURPLUS GOODS, of superior quality, by order of the Contractors for Chatham Dockyard.

THOMAS ROBERTS & CO. have received instructions to SELL by AUCTION, at the SUN HOTEL, Chatham, Kent, on TUESDAY, JUNE 10, commencing at TWELVE o'clock precisely:—

50,000 Quebec and North American Spruce and Yellow Pine Deals, &c.

1,500	Loads	Red Pine Timber.
120	,,	Board Yellow Pine Timber.
60	,,	Rock Elm ditto.
30	,,	Oak ditto.
		Nearly the whole being entire cargoes.

To be viewed three days only prior to day of Sale; and catalogues had at the Sun Hotel, Chatham; and of the Auctioneers, 9, Billiter-street, London, E.C.

FREEHOLD BUILDING LAND.—Croyden, Surrey.

MESSRS. WINSTANLEY have received instructions to SELL by AUCTION, at the MART, Bartholomew-lane, on MONDAY, JUNE 16, in TWELVE LOTS of valuable FREEHOLD BUILDING LAND, eligibly situate in St James's-road, and Sydenham-road, Croydon, within a short distance of the station on the London and South Coast Railway, of the proposed station on the Mid-Kent and Addiscombe Railway, in the St. James's-road, and within a few minutes' walk of the town of Croydon. Each lot has a frontage of about 40 feet, by a considerable depth, and the land contains gravel of excellent quality, which is in much demand in this locality. To be viewed. Printed particulars may be obtained of Messrs. DRUMMONDS, ROBINSONS, & TILL, Solicitors; of JOHN BERNEY, Surveyor; and at the Greyhound Inn, Croydon, S.; the Windmill Inn, St. James's-road, near to the property; the Jolly Sailor, South Norwood; at Garraway's, the Place of Sale; and of Messrs. WINSTANLEY, Paternoster-row, E.C.

TO TIMBER-MERCHANTS, CARPENTERS, BUILDERS, AND BUILDING-MATERIAL DEALERS.

MESSRS. J. J. CLEMMANS & SON are directed to SELL by AUCTION, on the PREMISES, No. 101, Paul-street, Finsbury, on THURSDAY, JUNE 13, 1862, at TWELVE o'clock (by order of Messrs. R. T. Newton & Son, Timber Merchants, who have retired from business), the ERECTION OF TIMBER DRYING-SHEDS, stages, racks, veneer-room fittings, running floors, pair of three-throw blocks, and numerous fittings appertaining to the trade, timber, firewood, and effects; a timber cart on springs.—May be viewed on Monday. Catalogues had upon the Premises, and of the Auctioneers, 21, Holywell-row, Finsbury-square, E.C.

IN BANKRUPTCY.—92, UPPER THAMES STREET.—To ZINC and GALVANIZED IRONWORKERS and OTHERS.

MR. MARSH has received instructions from the Assignees of Messrs. Bowley and Lamb to SELL by AUCTION, on the PREMISES, 92, Upper Thames street, on WEDNESDAY, JUNE 11, at ONE o'clock punctually, the STOCK-IN-TRADE of a ZINCWORKER; comprising zinc sheets, perforated zinc cowls, vanes, windguards, rain-water piping, corrugated iron roofing, hip and sponge baths, furnace pans, zinc sash bar, tubing, nails, rivets, patterns, a few fixtures, and other effects. May be viewed the day prior and morning of sale, and catalogues obtained on the premises, and at Mr. MARSH'S offices, 2 Charlotte-row, Mansion-house.

The Ashley Park Estate, Walton-on-Thames, Surrey, including the fine old Mansion and Park and a charming Cottage Ornée on the border of the park, also valuable Building Land, of a most healthful dry sand and gravelly soil, with frontages to the main road, extending from the railway station on the village of Walton; the estate comprising altogether about 300 acres; only 40 minutes' journey from the metropolis.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are favoured with instructions to SELL by AUCTION, at the MART, on FRIDAY, JUNE 13, the above highly important and very valuable FREEHOLD ESTATE, which will be divided into four lots (unless an acceptable offer for the whole be previously made). The first lot to comprise the fine old Mansion, with its offices, stabling, gardens, pleasure grounds, and beautifully-timbered ancient park, farmery, bailiff's house, lodges, &c. altogether about 170 acres in a ring fence, bounded on the west side by the Oatlands Park estate. Lots 2 and 3, about 120 acres of very eligible Building Land, possessing extensive frontages to the main roads, ornamented by beautiful plantations and trees from 30 to 50 years' growth, available in laying out the ground in sites for gentlemen's villas, which are much sought for in this locality. Lot 4, a beautiful old Cottage Ornée, lately Cottage, situate on the northern margin of the park, with offices, gardens, and meadow land, comprising nearly nine acres, within a few minutes' walk of the village of Walton and close to the Oatlands drive, on the high ridge of land overlooking that beautiful part of the river Thames opposite to Halliford and Shepperton, so well known to anglers as floating gentlemen.—Printed particulars, with plans may be had at the Oatlands Park Hotel; of Messrs. NICHOLL, BURNETT, & NEWMAN, Solicitors, 18, Carey-street, Lincoln's-inn; and at the Office of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville-row, W. and Change-alley, E.C.

WALTON and WEYBRIDGE. -The Dairy Farm and other Lands, formerly part of Oatlands-park, a portion abutting upon the Oatlands drive, and presenting beautiful Sites for Gentlemen's Residences of a class similar to the many elegant Villas and Grounds which already occupy nearly the entire frontages of this road between Walton and Weybridge; the whole freehold, and land-tax redeemed.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT beg to notify that they have received instructions from the Devisees in Trust under the will of the late Robert Wheatley Landon, to SELL by AUCTION, at the MART, on FRIDAY, JUNE 27, in five lots, the above very valuable PROPERTY, which commences close to the village of Walton, and possesses a considerable extent of frontage on the west side of the main road leading from thence to Weybridge, including the two lodges formerly constituting the northern entrance to Oatlands-park, distant about one and a half mile from Walton, and two miles from the Weybridge Station, on the South-Western Railway. This frontage forms a ridge of high land of gravelly soil, overlooking the beautiful part of the River Thames opposite to Halliford and Shepperton, and the Hairy Farm lies in the vale between, with a genteel and pleasantly situate brick-built and slated dwelling-house (rebuilt in 1846), farm-yard, and convenient buildings, and several enclosures of arable, meadow, and wood land, and a portion of the large piece of ornamental water called Broadwater Lake; the whole comprising about 153 acres.—Printed particulars and plans may be had 21 days prior to the sale of Messrs. NICHOLL, BURNETT, and NEWMAN, Solicitors, 18, Carey street, Lincoln's-inn; at the Oatlands-park Hotel; and of Messrs. RUSHWORTH, JARVIS, and ABBOTT, Saville-row, Regent-street, and 19, Change alley, E.C.

Highly important Freehold Premises, at the west end of the metropolis, close to Regent street and Oxford-street, occupying an area of about 22,800 square feet, with immediate possession; also the Reversion to a Freehold Residence adjoining.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are honoured with instructions to SELL by AUCTION, at the MART, on FRIDAY, JUNE 27, the very important and highly valuable FREEHOLD PROPERTY, comprising the spacious mansion, offices, and garden, known as Argyll house, the property of the Earl of Aberdeen, situate at the centre of the east side of Argyll-place, Regent-street, assessed to the Queen's taxes, and also an entrance from Marlborough-mews in the rear, and likewise an approach through Queen-street from Oxford-street. The mansion contains a noble suite of apartments on the ground floor, and, with its capital offices, stabling, and other appurtenances, commands extensive accommodation for a large establishment, and is well suited to a foreign ambassador, the nearness to Carlton-terrace and St. James's Palace, and the very central position of the premises, and the large extent of freehold ground (sufficient to be subdivided), renders it considerably more eligible for a public institution, assembly rooms, picture galleries, exhibition, club, bank, insurance office, or a grand hotel, requiring a first-rate quiet situation, close to the two principal thoroughfares of the west end. At the same time will be sold, in a separate lot, the Reversion (after 28 years) of the Freehold House, No. 6, Argyll street adjoining, at present in the occupation of Sir Wm. J. Newton. The property is to be viewed by cards only, which may be obtained, with printed particulars and plans, at the offices of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Savile-row, W. and 19, Change alley, E.C. Printed particulars may also be had at the Mart, and of Messrs. WHITE, BROUGHTON, & WHITE, Solicitors, 12, Great Marlborough-street, W.

SUTTON, SURREY.—Eligible Building Ground.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT will SELL by AUCTION, at the MART, on FRIDAY, JUNE 27, in separate lots, TWO remaining PLOTS of LAND, most delightfully situate at Sutton-hill, on the main road to Morden, and possessing frontages thereto of 143 feet and 150 feet respectively, each plot affording ample room for two pair of semi-detached villas, or two single houses with extensive gardens, the land being about 260 feet in depth. The important village of Sutton is within half-a-mile of the property, which is only ten minutes' walk, and the railway station one mile and a quarter.—Particulars and plans may be had at the principal inns at Sutton, Croydon, Ewell, and Reigate; of CHARLES MORGAN, Esq. 19, Old Jewry-chambers, E.C.; and of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville-row, W. and 19, Change alley, E.C.

TO BUILDERS, PERSONS REPAIRING, AND OTHERS.—Kensall New Town.

MESSRS. F. BALL & SON will SELL by AUCTION, on SATURDAY, JUNE 21th, at TWELVE o'clock, on the PREMISES, adjoining the Gas Works, and near the Portobello Tavern, about 25 lots of capital BUILDING MATERIALS; comprising excellent long joists, large timbers, 50 squares of capital flooring and lining boards, No. 80; York stone and other doors, modern sashes and frames, slate cisterns, plate-glass sashes, 10,000 feet of cast-iron rail, and 1,000 feet of wrought iron, several coats of arms, and other useful effects.—May be viewed and catalogues had on the Premises, and of the AUCTIONEERS, Kennington, S.

WINCHMORE-HILL WOOD.—OAK TREES, OAK and LARCH POLES, FAGGOTS, FIREWOOD, &c.

MR. A. RICHARDS will SELL by AUCTION, in the WOOD, on TUESDAY, JUNE 10, at ONE, 250 OAK TREES, of various dimensions, 350 oak poles, 500 larch and spruce ditto, 2,000 faggots, 14 stacks of firewood, topwood, &c. The company is requested to meet the Auctioneer at Bourne Hill on the day of sale. May be viewed. Catalogues obtained at the Cottage in the Wood; and of the Auctioneer, Tottenham.

PAPERHANGINGS, CHIMNEY-PIECES, &c.—To BUILDERS and OTHERS

MR. EDWIN WHITE will SELL, without reserve, at 12, HOLBORN-BARS, on TUESDAY next, at TWO precisely, 8,500 PIECES of FRENCH and ENGLISH PAPERHANGINGS; 300 stationary, wash, dove, block and other marble chimney-pieces; 1,600 feet gilt room moulding, sixteen water-closets, and two first-class fire proof safes.—View and catalogues, Monday and morning of sale.

TO BUILDERS, SOLICITORS, and OTHERS desirous of submitting Houses, Building Land, or other property to Public Auction.—Messrs. G. & T. CREMER offer the most liberal terms, making no charge whatever, unless actually sold. Auction and Land Offices, 22, Conduit-street, Bond-street, London.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the fields; and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, June 7, 1862.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

G. D. LAING, Sc.

Vol. XX.—No. 1010. JUNE 14, 1862. Price Fourpence.

ILLUSTRATIONS.

Overcrowding and other Sanitary Derangements in 1862.—Healthful Condition of a House in Islington: A Pestilent Suburban Cottage: Sleeping Accommodation for Nine Children: Family Stowage—Nine Sleepers, besides Dog and Cat: "Waking" the Dead and Killing the Living: Murdering the Innocents: a very Sick Room: a Bedroom under the Stairs: a Modern House with Thirty-four Occupants: an Old London House let in Apartments: Healthful Living over Horses, Baker Mews 425

Sculptured Chimney-piece, Alnwick Castle 424

CONTENTS.

The Social Science Congress 417

Gossip about the International Exhibition 419

The Mediæval Court of the Palace of Art and Industry: Ecclesiological Society 420

The Mouldings of Chichester Cathedral, Boxgrove Priory, and Shoreham Collegiate Church 421

The Exhibition Commissioners' Reception: South Kensington .. 422

The National Memorial of the Prince Consort 422

Marble Chimney-piece, Alnwick Castle 422

On Overcrowding in London; and some Remedial Measures 422

What was done by the Greeks, and what is done by the present Classic (?) School 426

The Teaching of the International Exhibition 427

Royal Institute of British Architects: the Question of Colour .. 428

The Arundel Society 429

The Horticultural Society: Sir Wentworth Dilke's Prize 429

Ladies' Sanitary Association 429

The Brighton and Hove Drainage 429

The Middle Level Floods 429

Provincial News 430

Church-building News 430

The Thames Embankment 430

Colour no Sham 431

The Salters' Company's Competition 431

Books received: Adams on Wild Flowers, &c. (Hogg); Variorum 431

Miscellanea 431

SOCIETY of PAINTERS in WATER COLOURS.—The FIFTY-EIGHTH ANNUAL EXHIBITION is NOW OPEN at their Gallery, 5, Pall Mall East (close to the National Gallery), from NINE till SEVEN. Admittance 1s. Catalogue 6d.
JOSEPH J. JENKINS, Secretary.

THE NEW SOCIETY of PAINTERS in WATER-COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall Mall, near St. James's Palace. Admission, 1s.; Catalogue, 6d. Season Ticket, 5s.
JAMES FAHEY, Secretary.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.—SESSION, 1862.—On TUESDAY next, at EIGHT p.m. precisely, a LECTURE will be delivered, in the Theatre, "On the Formation of a National Museum of Architecture, as viewed especially in its connexion with the Mediæval Styles," by G. G. Scott, Esq. R.A. F.S.A.
A. J. B. BERESFORD HOPE, President.
JOSEPH CLARKE, Hon. Secretary.
(13, Stratford-place, W. of whom cards may be had by letter.)

THE METROPOLITAN BUILDING ACT, 1855.—POSTPONEMENT of the EXAMINATION for CERTIFICATES of COMPETENCY.—The Examination will be held at the Rooms of the Royal Institute of British Architects, on THURSDAY, JULY 31st, at TEN o'clock, a.m. instead of on JUNE 19th, as recently advertised. Candidates are requested to forward their applications, in accordance with the usual form, on or before TUESDAY, JULY 22nd.
JOHN P. SEDDON, CHAS. FORSTER HAYWARD, } Hon. Secs.
9, Conduit street, 10th June, 1862

PAINTERS' (otherwise Painter Stainers') COMPANY.—To POOR LAME PAINTERS.—Notice is hereby given, that TWO VACANCIES having occurred in Mr. John Stock's Charity to Poor Lame Painters, being Freemen of the Painters' Company, a COURT will be held on WEDNESDAY, the 2nd JULY next, to ELECT TWO POOR PAINTERS to the said vacancies. Petitions, stating the qualifications requisite for candidates, can be had, gratis, at Painters' Hall, between Eleven and Twelve o'clock daily.—By order of the Court,
F. N. TOMLINS, Clerk.
June 7th, 1862.

ARCHITECTURAL ALLIANCE. — The Architectural Institute of Scotland, and the Architectural Associations of Birmingham, Glasgow, London, Liverpool, Manchester, and the "Northern Architectural Association," having provisionally entered into an Alliance for mutual assistance and co-operation, and their aim being to embrace in the Alliance Associations representing every county or district of the United Kingdom, other professional Associations are cordially invited to join. It is proposed to hold a Conference of Delegates in London, on TUESDAY, JULY, 1st, for the purpose of settling the details of the scheme. Meanwhile, the "Outline Scheme," as provisionally agreed to, will be sent to any Association disposed to join, or to any architect wishful to organize a branch association in his locality. All communications to be addressed, for the present, to Mr. J. P. PRITCHETT, Architect, Northgate House, Darlington.
May 6, 1862.

INTERNATIONAL EXHIBITION. Admission for week ending 21st JUNE:—Monday to Thursday One Shilling; Friday, Half a Crown; Saturday, Five Shillings. Doors are opened at Ten, except on Saturday, when they are opened at Twelve o'clock.

ARCHITECTURAL EXHIBITION, 9, Conduit-street, Regent-street, and the collection of DRAWINGS and SKETCHES of the late A. Welby Pugin, WILL CLOSE JUNE 20th. Admission One Shilling.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION, to procure and issue to subscribers Photographs of subjects strictly illustrative of Architecture and of its subsidiary Arts.—Subscriptions to be paid to Mr. HENRY MOODY, 9, Conduit-Street, Regent-street, from whom particulars may be obtained.
W. LIGHTLY, Hon. Sec.

COMPETITIONS.

MASONIC HALL, DERBY.—PLANS are desired for the ERECTION of the above. Ten guineas will be given for the set of plans most approved of.—Full particulars can be obtained by applying to JAMES B. COULSON, Esq. P. G. S. Crompton-street, Derby.

CONTRACTS.

TO BUILDERS.—TENDERS required for TWO detached HOUSES and STABLES on adjoining plots of ground, situate at Erith, Kent, near the railway station.—For further particulars, specifications, and plans, apply to Mr. HERBERT FORD, Architect, 1, Charlotte-row, Mansion House, E.C. Quantities not supplied.

TO ROAD-MAKERS and CONTRACTORS.—Persons desirous of CONTRACTING for FORMING, MAKING, DRAINING, and COMPLETING ROADS, at Woodside, near Norwood, having a total length of nearly a mile, can see the plan and specification at my Office, on and after this day. Tenders to be sent to me, at or before TWELVE o'clock, on SATURDAY, the 21st inst. The lowest or any Tender not necessarily accepted.
JOHN BERNEY, Architect and Surveyor.
61, North-end, Croydon, June 14, 1862.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—CONTRACT for WORKS.—The Directors of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the WORKS required to be executed in the WIDENING of the MID-SUSSEX BRANCH RAILWAY for a second line of rails between Itchingfield and Harcham, in the county of Sussex, being a distance of ten miles and twelve chains, or thereabouts. The contract will include the earthworks, viaducts, bridges, culverts, ballasting, permanent way, and all other work necessary for the formation of a double line of way, together with the maintenance thereof for a specified term. Plans, sections, drawings, and specifications may be seen, and copies of the quantities obtained, at the Offices of the Company's Engineer, Mr. JACOMB HOOD, No. 7, Parliament-street, Westminster, S.W. and Tenders must be delivered to the undersigned before NOON on MONDAY, the 23rd JUNE. The Directors will not be bound to accept the lowest or any Tender.
(Signed) FREDK. SLIGHT, Secretary.
London Bridge Terminus, 30th May, 1862.

TO PAINTERS and OTHERS.—The Churchwardens of St. Mary's, Southwark, are desirous of obtaining TENDERS for the REPAIRS required to be done to the CHURCH, situate in Clarence-street, Old Kent-road; the specification of which may be seen in the Vestry, on MONDAY, TUESDAY, and WEDNESDAY next, the 16th, 17th, and 18th instant, between the hours of TEN and FOUR. The Tenders, sealed and properly endorsed, are to be sent to Mr. HENRY PHILLIPS, No. 9, Apollo-buildings, South-East-street, Walworth, on MONDAY, the 23rd instant, before FOUR o'clock, after which time no Tenders will be received. No pledge is given to accept the lowest or any Tender.
June 11, 1862.

METROPOLITAN BOARD of WORKS. MAIN DRAINAGE of METROPOLIS, SOUTHERN OUTFALL WORKS, CROSSNESS.—To BUILDERS, CONTRACTORS, and Others.—The Metropolitan Board of Works hereby give NOTICE that they will meet at the Office of the Board, Spring gardens, on FRIDAY, the 4th day of JULY next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of ENGINE-HOUSES, a Boiler-house, Chimney, Filth-hoists, Coalsheds, Dwelling-houses, Wharf-Wall, Sewers, and other Works in connexion therewith, at Crossness, in the parish of Erith, in the county of Kent.
Parties desiring to submit Tenders, may, upon payment of 2l. obtain plans, sections, specification, [form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m. or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 3rd JULY next. Half the amount will be refunded to such of the unsuccessful parties who return the drawings within one week after the day appointed for opening the Tenders.
The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office, before FOUR o'clock, on THURSDAY, the 3rd day of JULY next; and no Tender will be received after that hour.
The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders.
The Board do not bind themselves to accept the lowest, or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.
JOHN POLLARD, Clerk of the Board
Spring-gardens, S.W. 8th May, 1862.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION, at Felpham, near Bognor, in the county of Sussex, may inspect the drawings and specifications at the Coast Guard Watch-room, Bognor; or at this Office, between the hours of TEN and FOUR, from MONDAY, the 9th instant, to SATURDAY, the 21st instant, now next ensuing, and both inclusive (Sunday excepted).
Tenders to be sent to this Office, not later than TWELVE o'clock at noon of the 23rd instant, under seal, and directed to the Commodore Controller General of Coast Guard, and endorsed "Tender for Felpham Station."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.
Dated the 2nd day of June, 1862, at the Admiralty Coast Guard Office, 12, Spring-gardens, London, S.W.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ALTERATIONS to the WEST WING of HOUNSLOW BARRACKS, in the county of Middlesex.
Parties desiring to Tender for this Work must leave their names at this office, from 11th to 14th JUNE, 1862, both days inclusive, between the hours of ELEVEN a.m and THREE p.m. and pay the sum of half-a-guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, London District,
11, James-street, Buckingham Gate, S.W. May 28, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for BACK ENTRANCE-GATES and BOUNDARY WALL to ground in rear of the Staff College, Sandhurst, Berks.
Parties desiring to Tender for the erection of these works must leave their names at this Office on or before the 20th day of JUNE, 1862, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Sandhurst, 3rd June, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a MILITARY STORE and FOREMAN'S QUARTERS at Pembroke Dock.
Parties desiring to Tender for the erection of these works must leave their names at this Office on or before the 18th day of JUNE, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Pembroke Dock, South Wales,
6th June, 1862.

TO BUILDERS.—Persons desirous of CONTRACTING for the REPAIRING and PARTLY REBUILDING the RECTORY HOUSE and OFFICES at FOOTSCRAY, in the county of Kent, may inspect the drawings and specifications at the Rectory, at Footscray, after the 9th of JUNE. Bills of quantities may be obtained on payment of 10s. on application at the Office of JOHN PLOWMAN, Surveyor, Marton-Street, Oxford. Tenders to be delivered on or before the 21st of JUNE, addressed to the Rev. C. BIRCH, Footscray Rectory, S.E. The lowest or any Tender no necessarily accepted.—Nearest station, St. Mary Cray.

CHEAPSIDE.—BUILDING LAND.—To BUILDERS, CAPITALISTS, and OTHERS.—A valuable SITE in Cheapside, of about 69 feet frontage and averaging 40 feet in depth, TO BE LET on Building Lease, for a term of 80 years from Lady-Day, 1863, suitable for the offices of a public company, or for warehouse or business premises. Tenders will be received up to 24th day of JUNE next.—Plans, particulars, and conditions of Tender may be seen on application to the Clerk, Saddlers' Hall, Cheapside, E.C.; or to Mr. F. W. PORTER, Architect, 16, Russell-square, W.C. between TEN and FOUR.

TO BUILDERS.—TENDERS are required for REPAIRING, RE-SEATING, and RESTORING the Parish Church of Bicester, in the county of Oxford. Plans and specifications may be seen on or after THURSDAY, JUNE 12th, at the Office of C. R. BEAZLEY, Esq. 44, Upper Bower-street, London; or at the house of Mr. CHARLES SHILLINGFORD, Churchwarden, Bicester. Sealed Tenders, according to the form supplied, to be sent to the Rev. J. W. WATTS, the Vicarage, Bicester, on or before JUNE 26th. Quantities not supplied.
Bicester, June 4th, 1862.

TO BUILDERS and CONTRACTORS.—The Board of Guardians of the Holbeach Union will, at their Meeting, to be holden on MONDAY, the 23rd day of JUNE instant, be prepared to receive TENDERS from persons willing to CONTRACT for the ERECTION of Two NEW WINGS to the Union Workhouse. The plans and specifications may be seen at a period at the Union Workhouse at Holbeach. The Guardians do not bind themselves to accept the lowest or any Tender.—By order,
E. G. AYLIFF, Clerk to the Guardians.
Holbeach, June 9th, 1862.

TO BUILDERS. PARISH CHURCH of CHEW STOKE.—Builders are hereby invited to submit TENDERS for the ENLARGEMENT and RESTORATION of the PARISH CHURCH of CHEW STOKE, Somerset (seven miles from Bristol). The plans and specifications can be seen upon application to the Rev. W. P. WALE, at the Rectory Hall, on or after MONDAY, JUNE 9th.—Estimates to be forwarded on or before MONDAY, the 23rd JUNE, to
JOHN NORTON, Architect.
24, Old Bond-street, W.

[For remainder of Contracts see next Page.

CONTRACTS.

BIRKENHEAD UNION. To CONTRACTORS and BUILDERS. The Guardians of the Poor of the Birkenhead Union, in the county of Chester, having further considered and arranged the plans and specifications for the REDUCTION and COMPLETION of the new UNION WORKHOUSE, to be built at Higher Tranmere, in the said county, are now in a position to receive TENDERS for the same. Separate and distinct Tenders will be required for the several portions of the building as follows, namely:—

1st. For the erection of the north wing of the main building, including the dining hall, centre building, or master's apartments, board-room, &c with cut offices in the yard, and, &c., but not including the completion of the cellarage under the part of the building;

2nd. For the erection of the south wing of the main building.

3rd. For the erection and completion of the Receiving and Vagrant Wards.

4th For the completion of the cellarage under the main building

Persons desirous of Tendering for the above works are informed that it is the intention of the guardians to erect up the first portion of north wing of the main building, as specified above, before the month of APRIL next. The second, third, and fourth portions of the building to be constructed and completed as soon afterwards as the guardians may determine. The drawings and specifications may be seen and further information obtained at the Office of Mr THOMAS LAYLAND, Architect, 2, Castle-street, Liverpool. Sealed Tenders to be delivered or sent to me, at my Office, 80, Lord-street, Birkenhead, on or before SATURDAY, the 5th day of JULY next. Security will be required from the contractor for the due performance of the contract. The guardians do not bind themselves to accept the lowest or any Tender.—Signed, by order of the Board,

PETER GREGORY, Clerk to the Guardians of the Birkenhead Union.

Birkenhead, May 29, 1862.

BRISTOL LOCAL BOARD of HEALTH.—To BUILDERS, CONTRACTORS, and OTHERS. The Local Board of Health of the City and County of Bristol hereby give Notice that they intend to CONTRACT for Laying down, Constructing, and completely Finishing certain intended BRICK SEWERS, in "The Frome Intercepting Sewer District," within their District, about 5,540 yards in length. Persons wishing to Contract for the same are requested to forward through the post, on or before THURSDAY, the 3rd day of JULY next, by TEN o'clock in the Forenoon, sealed Tenders, addressed to the Committee of the Local Board of Health, 15a, Prince street, Bristol, and endorsed "Tenders for Sewers." Any Tender not sent through the post will be rejected. The plans and specifications of the works to be done may be seen at the Offices of the Local Board of Health; and any further information may be obtained, either on personal application, or by letter, pre paid, addressed to the Surveyor, Mr FREDERICK ASHMEAD, C.E. The party Contracting will be required to give sufficient security, to be approved by the Local Board of Health, for the due performance of the Contract. The Local Board will not hold themselves bound to accept the lowest or any Tender.—By order of the Committee,

JOHN G. HEAVEN, Clerk.

Local Board of Health Offices, 13, Prince street, 5th June, 1862.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a NEW BAPTIST CHAPEL, SCHOOLS, &c. on the site of two houses, Stow Hill, Newport, Monmouthshire, may see the drawings and specification, and obtain copies of the conditions, on applying to the Architects, Messrs W G. HABERSHON & PITE, 8, Bloomsbury square, London; Park square, Newport; and Belvedere, Tredegarville, Cardiff. The lowest or any Tender will not necessarily be accepted.

TO CONTRACTORS, BUILDERS, and CARPENTERS.—Persons desirous of TENDERING for a quantity of OLD OAK, &c. of finest quality, from the ancient Palace of Charles II. at Newmarket, may obtain particulars of Messrs W G. HABERSHON & PITE, Architects, 8, Bloomsbury square, London; Park square, Newport; and Belvedere, Tredegarville, Cardiff. The lowest or any Tender will not necessarily be accepted.

PARISH CHURCH, BICESTER.

Builders desirous of TENDERING for REPAIRING, RESEATING, and RESTORING the PARISH CHURCH of Bicester are informed that the quantities have been taken out, and can be had on application to Mr THOMAS T. GREEN, Surveyor, 9, Conduit-street, Regent-street, London.

ROAD-MAKERS and CONTRACTORS.—Persons desirous of CONTRACTING with the Committee of the Warehousemen and Clerks' Schools, for FORMING and MAKING a NEW ROAD, with proper drainage, &c. 22 chains in length, leading from the Fairy Hatch Turnpike, near Croydon, Surrey, to a piece of land near Beggar's Bush, can see the plans and sections, with specifications, at my Office. Quantities will be supplied. Tenders, endorsed "New Road to Warehousemen and Clerks' Schools," to be sent to Mr H. WHITE, Secretary, 5, Queen-street, Cheapside, at or before TWELVE o'clock on THURSDAY, the 19th inst. The Committee do not bind themselves to accept the lowest or any Tender

Croydon, June, 1862. JOHN BERNEY, Surveyor.

OXFORD INCORPORATION.—TO BUILDERS.—The Guardians of the Poor within the city of Oxford are prepared to receive TENDERS for the ERECTION and COMPLETION of the NEW WORKHOUSE, to be built in the parish of St. Aldate's. The plans, specifications, conditions, and form of Tender, may be seen at the Workhouse, on and after MONDAY, the 9th JUNE, and further information obtained of the Architect, Mr WM FISHER, Headington-hill, Oxford Sealed Tenders to be addressed to Dr ADAMS, the Chairman of the Board, St John's College, Oxford, and sealed, "Tender for Workhouse," and before WEDNESDAY, the 2nd day of JULY next, accompanied by the names of two responsible persons, who will join the Contractor in the usual bond for the due performance of the contract. The Guardians do not bind themselves to accept the lowest or any Tender.—By order of the Board,

H. JACOB, Clerk to the Guardians.

Oxford, June 3rd, 1862.

TO BUILDERS.—The Rugby Burial Board invite TENDERS for Two CEMETERY CHAPELS, LODGE, and BOUNDARIES. The drawings, specification, and conditions may be seen at the Office of the Board, Rugby, between the hours of TEN and FOUR, from MONDAY, the 16th instant. Bills of quantities, or further information, may be obtained of the Architect, Mr GEORGE BIDLAKE, Wolverhampton. Tenders, sealed and endorsed "Tender for Cemetery Buildings," to be addressed to me, at my Office, Rugby, on or before FRIDAY, the 27th day of JUNE. The Contractor will be required to find two responsible sureties for the due execution of his contract. The Board do not bind themselves to accept the lowest Tender. THEODORE M. WRATISLAW, Clerk.

Rugby, 4th June, 1862.

TO CONTRACTORS.—Sealed TENDERS will be received by the SECRETARY of the Grand Jury of the County of the Town of Drogheda up to two days next before the Grand Jury Meeting for business at the next assizes, for TAKING DOWN the present BRIDGE over the River Boyne at Drogheda, and BUILDING a NEW CAST IRON BRIDGE in place thereof, 36 feet span and 45 feet wide, with stone Abutments, according to the plans and specification prepared by J. NEVILLE, Esq., C.E., County Surveyor, to be seen at my Office, between the hours of TEN and FOUR o'clock, on any day (Sundays excepted) after 1st of JUNE, 1862.

HENRY CLINTON, Secretary to the Grand Jury of the County of the Town of Drogheda.

Offices, Fair-street, Drogheda, Dated this 19th May, 1862.

TO BUILDERS. — CONONLEY, near SKIPTON in CRAVEN.—TENDERS are required for the ERECTION of a NEW CHURCH at the above place, the drawings for which may be inspected at the Rev. J. D. WAWN's, Cononley, or at the Office of Mr. F. R. POWNALL, Architect, 15, Gower street, London, from the 26th to the 28th JUNE inclusive. The Tenders must be sent in, in the specified form, on or before the 28th of JUNE inst. The lowest or any Tender not necessarily accepted.—Parties desirous of Tendering must forward their names to the Architect, on or before the 17th JUNE inst. enclosing a post office order for one guinea, payable at Charing-cross, on receipt of which a copy of the quantities will be forwarded.—The guinea duly will be returned on the receipt of a Tender.

TO PAINTERS.—The Burial Board of the Parish of St. Mary, Newington, Surrey, are prepared to receive TENDERS for PAINTING the whole of the IRON RAILINGS of the Parish Churchyard, at Newington Butts. Specifications and forms of Tender to be had upon application at the Vestry House, Deptford.

JOSEPH BURGESS, Clerk to the Board.

1, Keane's-row, Walworth, S. June 6, 1862.

TO BUILDERS and OTHERS.—Persons desirous of TENDERING for the ERECTION of a Range of Semi detached VILLAS and Six COTTAGES, at Bromley, in the county of Kent, can see the plans at my Office, where Tenders, endorsed, are to be delivered on or before TWO p.m. of THURSDAY, JUNE the 26th instant. The lowest or any other Tender for either of the works will not necessarily be accepted.

JOHN WIMBLE, Architect.

2, Walbrook, Mansion House, June 11th, 1862.

OSPRINGE CHURCH, KENT.—To BUILDERS.—Parties desirous of submitting TENDERS for RE ROOFING, and the Performance of other WORKS and RESTORATIONS at the Church of St. Peter and Paul, Ospringe, near Faversham, Kent, may inspect the drawings and specification, and obtain further information, on application at the Vestry, Ospringe, or at the Office of Mr E. L. BLACKBURNE, Architect, on and after MONDAY, the 23rd JUNE inst. The Tenders to be addressed and delivered, sealed up and endorsed, to the Churchwardens, at Ospringe, on MONDAY, the 30th of JUNE The lowest Tender will not necessarily be accepted, and the Churchwardens reserve to themselves the right of rejecting any or the whole of the Tenders, if they see fit.

June 12th, 1862.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of FIVE HOUSES, with Retail Shops, and FOUR SEMI DETACHED VILLAS, at Erdington, near Birmingham, can see the drawings and specification at my Office on and after MONDAY next. Tenders to be delivered, to me on or before WEDNESDAY, the 25th instant The lowest or any Tender will not necessarily be accepted.

JNO R BOTHAM, Architect.

47, Paradise street, Birmingham, June 10th, 1862.

TO ROAD-CONTRACTORS, BRICKMAKERS, AND OTHERS.—TENDERS are required for EXCAVATING FOUNDATIONS for NEW WINGS at the MIDDLESEX HOUSE of CORRECTION at Cold Arm fields, and for removing the earth therefrom. The drawings and specification, and conditions of contract, may be seen at the office of the Architect, F. H. FOWNALL, Esq., 15, Gower street, Bedford-square, and any further information can be obtained there on or after WEDNESDAY, the 18th instant. The Tenders are to be sent in addressed to the Visiting Justices, at the House of Correction Coldbath fields, W.C. by TEN o'clock on the morning of FRIDAY, the 27th of JUNE instant; and the parties Tendering are requested to attend at that place at ONE o'clock precisely, prepared with the names of sufficient sureties for the due performance of the contract. The Visiting Justices do not bind themselves to accept the lowest or any other Tenders

June 12, 1862. JOHN S. SKAIFE, Clerk.

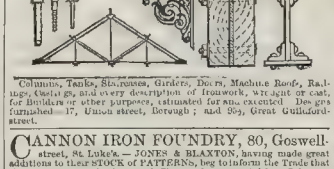
TO BUILDERS.—Persons desirous of TENDERING for the RESTORATION of KING'S CLIFFE CHURCH may see the plans, &c. particulars at my Office, on and after the 18th instant. Sealed Tenders to be sent to the Churchwardens on the 10th JULY, 1862. No pledge is given to accept any Tender. EDWARD BROWNING, Architect.

Stamford, 11th June, 1862.

TO BUILDERS and TIMBER MERCHANTS.—TO BE DISPOSED OF, an old established COUNTRY BUSINESS of a BUILDER and TIMBER MERCHANT, offering an excellent opportunity to any one possessed of moderate capital, as the connexion is highly respectable. Premises commodious, and rent moderate Situate sixty miles from London, with direct railway and canal communication.—For further particulars apply to Mr. GEORGE BENNETT, Auctioneer and Estate Agent, Buckingham.—A BRICK, TILE, and LIME YARD, in full work, can be had with the above business, at the option of the purchaser.

TO CARPENTERS, BUILDERS, BRICKLAYERS, &c.—TO BE SOLD, a Bargain, a capital BUSINESS, in the City, in the above trades. Coming in, about £200. Apply to Messrs. GILES & CO. Auctioneers, 134, Aldersgate street, City.

H. G. COOMBS, IRONFOUNDER, &c. Inventor and Manufacturer of the Patent ROTARY SHOP, Patent Wrought Iron TUBULAR GATES and RAILINGS.



Columns, Tanks, Staircases, Girders, Doors, Machine Roofs, Railings, Castings, and every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—17, Union street, Borough; and 293, Great Guildford-street.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES & BLANTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Hurdles, Tomb Enclosure, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. A large assortment at the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator Complete Pattern-book and Price lists, 12s.—Nos. 55 and 56, High Holborn.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS;

SMITH'S PATENT WEATHER TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes street, Leicester-square, London, and SUCH ONLY are WARRANTED.

THE NEW PATENT NAIL-MAKING MACHINE, producing nails direct from bar iron, is to be seen in operation daily in the Swedish part of the machinery department at the International Exhibition. The advantages of this machine are:—It works from the cheapest form of material, viz the bar, any malleable metal, produces a great quantity at low cost and of exact quality, as the nail always has the fibre of the metal in the direction of the length of the nail, and the nail can be made of a more advantageous shape than in other machines, as, for instance, with grooved sides.—Further information can be had at the Exhibition, from the Inventor, C. GUSTAFSON; or at his residence, 31, Princes-street, Lessex, S.W.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS: Galvanized ditto, for Water; High pressure Tubes, &c. Manufacturers of Dr. Arnott's Improved Ventilators. HULETT & CO. 55, High Holborn.



GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

EDWARD DAVIES, SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

TRADE MARK.

TRADE MARK.

CROWN TUBE WORKS, WEDNESBURY, STAFFORDSHIRE. Warehouse—81, Upper Ground-street, London, S. JAMES RUSSELL & SONS, The Patentees and first Makers of Wrought-iron Tubes.

HEATING BY HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS. Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling houses, Warehouses, &c. &c. where they have fixed their hot water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furnitures, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICES.

14, Stanhope-street, Clare-market, London.

IRON BUILDINGS and IRON ROOFING. SAMUEL C. HEMMING & CO. 21, MOORGATE-STREET, E.C.

NOTICE TO BUILDERS AND CONTRACTORS.

HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes, from 20 cwt. upwards; Setting Frames, Double and Single Power Crab Winches, all sizes.—For further particulars apply to BOWSER & CAMERON, Springfield Ironworks, St. Neot's street, Gibraltar.

IMPORTANT TO BUILDERS SAW-MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS.

WILSON'S PATENT LARGE ENDLESS BAND SAWING MACHINERY.

This machinery is adapted to cut up square or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangements, it will be found invaluable to every sawing use. The tables supporting the log are arranged to carry the log past the saw to any extent without stopping for re-adjustment, by which the necessity for two men in a yard, they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly.

The speed of cutting may be varied from 10 inches to 10 feet per minute, and yet on account of the increased length of cutting edge, the saw is kept cool.

May be seen in operation, daily, at Messrs JAMES WILSON & SONS, Builders, Springfield Saw-Mills, Manningham, Bradford, Yorkshire.—Full particulars may be had on application, by parties desirous of purchasing.

SKAIFE & COMPANY, Manufacturers of PATENT GALVANIZED IRON.

Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized sheets and Tiles for export.

IRON WORK GALVANIZED.

Roofing orders promptly and carefully attended to.

Offices—Commercial-road, Limehouse, London.

Works—Copenhagen Wharf, Limehouse.

TO JOINERS AND BUILDERS.

IRONMONGERY at FIRST COST. A List of Prices may be had on application to the BRITISH HARDWARE COMPANY, Phœnix Works, Wolverhampton.

SIX-HORSE HIGH-PRESSURE ENGINE FOR SALE (nearly new), in consequence of a dissolution of partnership. Also some Shafting.—Apply to Mr. JAMES WEAVER, 45, Howland street, Tottenham court-road, W.

LOSH, WILSON, & BELL, NEWCASTLE ON TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast iron Goods, and STEWART'S PATENT CAST IRON GAS and WATER PIPES. Office, No. 7, Size-lane, London.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame

D. HULETT & CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street, London, E.C.

MOREWOOD & CO. (late Morewood & Rogers), Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON, PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

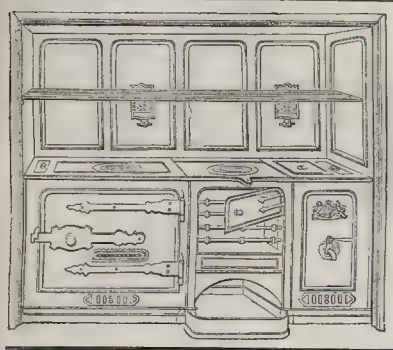
VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES
TOMB RAILING.

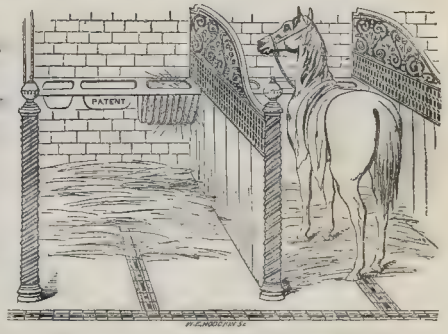
VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT.



TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.
Orders requiring Despatch and Punctuality can be executed in a few days.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.

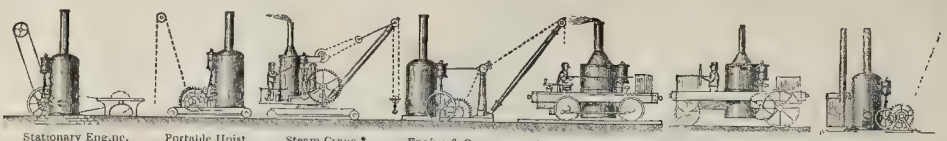


PATENT TILES, GUTTERS, GAS and WATER TUBING, &c.
Iron roofs erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Berkley-street, Birmingham, and Limehouse, London.
LONDON OFFICE—61A, MOORGATE STREET, E.C.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies street, Three Doors from Oxford street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester square, running out of Baker-street, Portman square, London, W

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane.* 30 cwt. to 6 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

* These Cranes were selected by Her Majesty's Commissioners to receive and deposit the heavy machinery in the International Exhibition.

Full particulars and Prices for Delivery in Glasgow or London, on application to

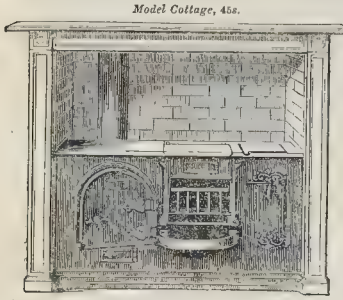
ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

CRANSTON-HILL ENGINE WORKS, GLASGOW.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45s.



Open or Close Fire Model Cottage Range, with Oven & Boiler.

Self acting, with Bright Wrought Bars.

34 inches	54s.
36 ,,	56s.
38 ,,	58s.
42 ,,	60s.

Self acting Cottage, with Oven and Back Boiler

30 inches	22s.
32 ,,	24s.
34 ,,	26s.
36 ,,	28s.

Register Stoves, with Strong Bars, from per inch, 4d
Improved New Pattern Circuit Clock Register, with strong Bars and Trivets, 9d. per inch
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 46s. to 105s. each.

Best Cut Clasp and Rose Nails

1 inch.	¾ inch	2 inch.	2½-inch	3 inch
14s.	14s	14s.	12s	11s. 6d. per cwt

Best Street Cut Floor Brads, 11s per cwt.
Best Cut Lath Nails, 12s per cwt.

2 in.	2½ in.	3-in.
Cast Rain-water Pipe....	8d.	10d.	1s. per yard.

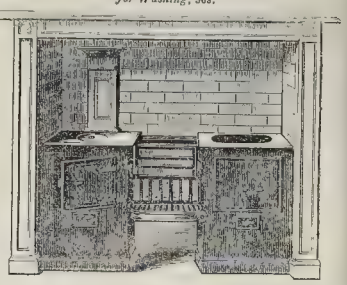
Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on....	10d.	1s. per yard.

2	3	4	5	6	
Patent Line..3s. 6d.	4s.	5s.	7s.	9s.	per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s 9d. each. Light Elliptic and Register Metal, 12s 6d per set
Dr Arnott's Ventilators, 4s each
Brick Moulds kept in stock. Any size made to order.

Combined Range with Wrought Galvanized Boiler for Washing, 50s.

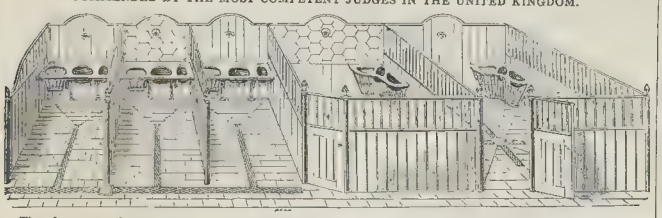


COTTAM & CO. WINSLEY STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



The advantages of these Fittings over others are.—Improvement in shape increased capacity, no projections, free ventilation, preventing foulness in the rack, facility in fixing, safety from accident, durability in construction and cleanliness in use.

STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.

COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

KNIGHTLEY'S PATENT STABLE FLOOR.

ILLUSTRATED CATALOGUES FREE, on application to

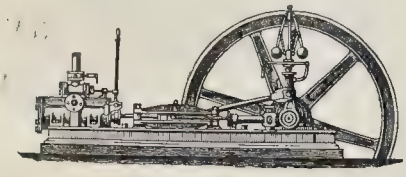
COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.

COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.

N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,

AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF

HORIZONTAL

AND

VERTICAL

STEAM-ENGINES,

From 2 to 30-horse power and upwards.

PORTABLE ENGINES, CRAB WINCHES, &c.

SEVERAL ALWAYS READY FOR DELIVERY.

Price List forwarded on application

GREAT NORTHERN IRON WORKS,

CAMBRIDGE-STREET, ST. PANCRAS, NEAR THE IMPERIAL GAS WORKS.

The Proprietors of the CADOGAN IRON WORKS, CHELSEA, beg to inform their Friends, and also Contractors, Builders, and Others, that they have purchased the above extensive and well-arranged Iron Foundry, where they intend to carry on the business of

IRON-FOUNDERS AND SMITHS.

CASTINGS and IRON-WORK in GENERAL, as cheap as, if not CHEAPER THAN, ANY OTHER LONDON FOUNDRY, executed with celerity and punctuality.

PLANS and ESTIMATES for IRON BUILDINGS of all descriptions, ROOFS, &c.

TELEGRAPHS.

REID BROTHERS, 12, Wharf-road, City-road, near the Gutta-percha Works.

Telegraph Contractors to the following Telegraph Companies:—
THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.

Are now prepared to give estimates and execute contracts for firms and private companies, in town and country. Gentlemen's private houses fitted up with simple and efficient telegraphs, on the most economical terms. All communications addressed to the above will meet with immediate attention.

LIGHTNING CONDUCTORS.

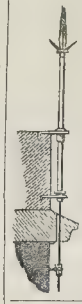
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices

Three-eighths-inch diameter	1s. 6d. per foot.
Half-inch diameter	1s. 6d. ,,
Five-eighths-inch diameter	2s. 6d. ,,

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices	150, Strand, London.
,,	Gateshead-on-Tyne
,,	27, Dale-street, Manchester
,,	68, Anderston-quay, Glasgow.
,,	17, South Castle-street, Liverpool
,,	Exchange Buildings, Dundee
,,	7, Frederick-street, Aberdeen

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY-ROW,

MANCHESTER.



These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

HUTHNANCE'S PATENT ECONOMIC

LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS,

Is strongly recommended to public notice, as being the most efficient and economical arrangement for the purpose of drying linen, clothes, bedding, &c.; specially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c. &c.; as, in a sanitary point of view, it is invaluable, the DRYING-ROOM being raised by its use to a very high temperature, whilst the IRONING-ROOM is kept AGREEABLY COOL and WELL VENTILATED

The economy of fuel is extraordinary, as, in a small house, it caused a saving of seven tons of coals in four months, whilst for simplicity of arrangement and cleanliness in use it cannot be surpassed.

No BLACKS or SOOT can enter the drying-room.

This arrangement has been carried out in numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS.

Testimonials and illustrated particulars forwarded upon application to Mr. PIERCE, SOLE PROPRIETOR and MANUFACTURER, 5, JERMYN STREET, REGENT STREET.

A large model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

CASTINGS, ANY WEIGHT AND QUANTITY,



With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.

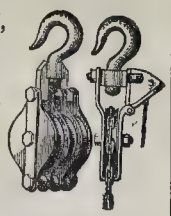
IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

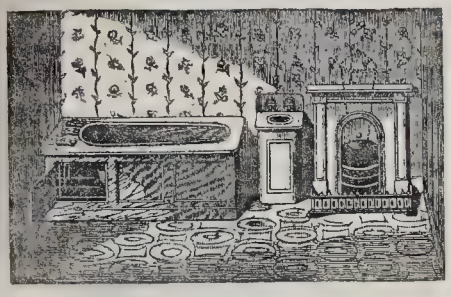
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR-MILLS, &c.



J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.







PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

GOTHIC, DROP, AND OTHER DOOR HANDLES.



PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

MANUFACTURERS, BIRMINGHAM.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.



NUT



PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and particulars sent upon application.



The Registered Crystal Star-Light.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR & SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF

MEDIÆVAL AND OTHER GAS-FITTINGS,

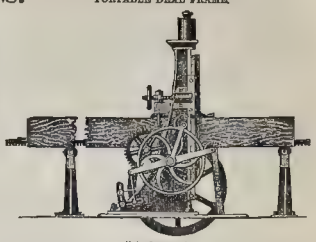
CRYSTAL, BRASS, & ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY.

WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

S. WORSSAM & CO.'S PATENT PORTABLE DEAL FRAME.



(¼-inch Scale.)

This machine is so constructed as to require no foundations for fixing; it can be driven either from an underground or overhead shaft, or from a portable engine, and is peculiarly useful for builders and contractors.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

POWIS, JAMES, & CO.

ENGINEERS AND MACHINISTS,

VICTORIA WORKS, BLACKFRIARS-ROAD, LONDON,

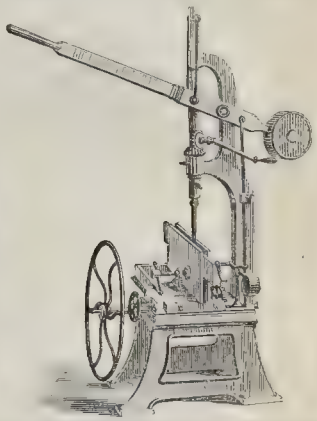
Having taken additional premises at 92, Blackfriars-road, known as the Surrey Iron Works, have added Portable Engines to their Sawing and Wood cutting Machinery business. Contractors, colonists, merchants, and shippers will find these engines fitted with the same care exactness which has gained for the firm so respectable a position as Machinists and Tool Makers.

Specimen Machines and Engines can be seen at the Works, at the Machinery Department, Crystal Palace, Sydenham; and in class 7, section 2, stand 217, International Exhibition, South Kensington.

Engines, &c. on hire, with or without the option of purchase.

ALL LETTERS MUST BE ADDRESSED TO THE OFFICE,

26, WATLING-STREET, E.C.



Patent Combined Machine for Mortising, Tenon cutting and Boring (The only patent in the United Kingdom for one machine to do the three kinds of work.)

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles.

Price 20*l.*



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, 8, CANNON STREET, E.C.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to

RANDAL STAP, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of WROUGHT IRON TUBE and FITTINGS,

FOR **HIGH-PRESSURE-WATER**; OR STEAM.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

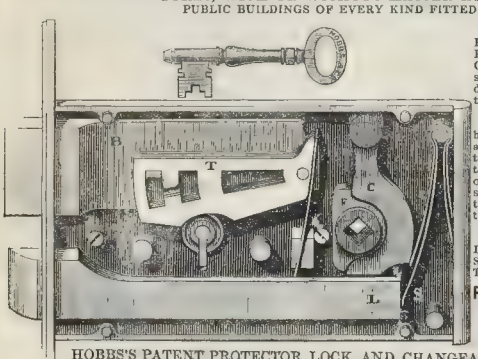
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

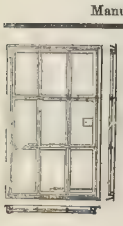
HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

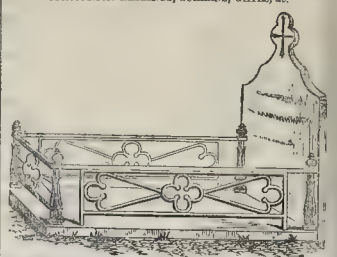
ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.

38 & 65, YORK-STREET, WESTMINSTER.

IRON RAILINGS for ENCLOSING

TOMBS and GRAVES,

COMMUNION RAILINGS, SCREENS, GATES, &c.



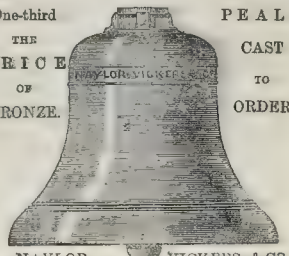
Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY STREET, OXFORD STREET, LONDON, W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE. PEALS CAST TO ORDER.

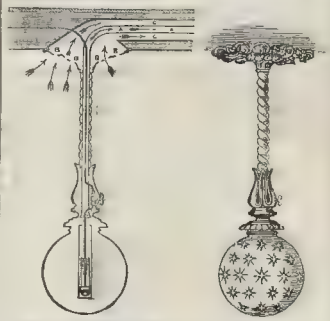


NAYLOR, VICKERS, & CO.

SHEFFIELD.

RICKETT'S & HAMMOND'S VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these —

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three Light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

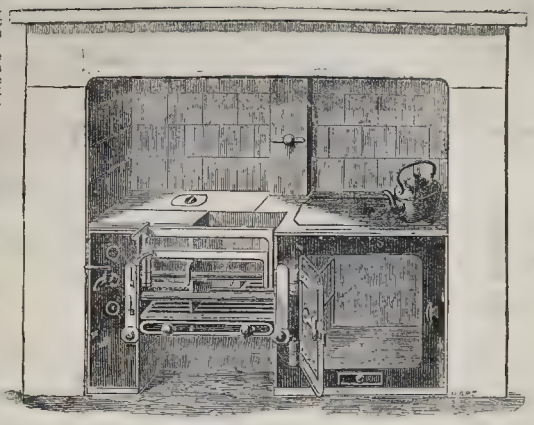
Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,

12, YORK-BUILDINGS, ADELPHI.

METROPOLITAN RAILWAY.—FOR SALE, an 8-horse power high-pressure horizontal ENGINE and BOILER, with double set of winding apparatus complete, capable of lifting two tons; the same has been used for hoisting the excavation on the above contract. Also, a 6-horse power horizontal Engine and Boiler, with single set of winding apparatus, complete. This may now be seen at work at the Portland-road station.—Apply to SMITH & KNIGHT, 31, South Wharf-road, Paddington.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.



This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Check, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

CHUBB'S

WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

OF VARIOUS SIZES, FOR STRONG ROOMS,

AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6d. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1, Dean-street, Oxford-street, and Parker's-row, Bermondsey.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,

STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.

N.B. Steam Power, with Workshops, to Let

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W

Drawings and Estimates furnished.

HART & SON,

MEDIÆVAL METAL WORKERS,

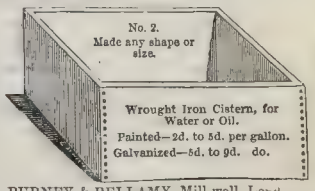
53 to 58, WYCH STREET, and 20, COCKSPUR STREET, LONDON.



FONT COVERS, ALMS BOXES, LOCKS, HINGES, HANDLES, BOLTS, TOMB RAILING, &c. &c.

LECTERNS, CORONAS, GAS STANDARDS, MONUMENTAL BRASSES, &c. &c.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall Lond

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public

N.B.—The usual discount to builders and the trade.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent Aid in Ventilation.



It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of Threepence, and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

Full particulars will be sent on application to the Inventors and Makers,

MUSGRAVE, BROTHERS,

Ann-street Iron Works, Belfast.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS, FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.

PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

MORTAR MILL, of superior construction, TO BE SOLD Cheap. May be seen at work at

H. GOODWIN'S,

67, GREAT GUILDFORD STREET, BOROUGH.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. to the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to

Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL

GREAT EXHIBITION, LONDON, 1851.

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1730)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Cases, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.

EXPOSITION UNIVERSELLE, PARIS, 1855.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

NEW VOLUME BY GUSTAVE AIMARD.
On June 16, now ready, price 2s.

THE QUEEN OF THE SAVANNAH.

London: WARD & LOCK, 158, Fleet-street.

NEW WORK BY AUTHOR OF "WHITEFRIARS."
On June 16, No 29 of SHILLING VOLUME LIBRARY.

CYNTHIA THOROLD.

By the Author of "Which Was, Love or Money," "Whitefriars," &c.

London: WARD & LOCK, 158, Fleet-street.

NEW NOVEL BY MR. ST. JOHN.
On June 16, No. 21 of SHILLING VOLUME LIBRARY.

THE CHAIN OF DESTINY.

A Novel by the Author of "Undercurrents," &c.

London: WARD & LOCK, 158, Fleet-street.

This Day, with numerous Illustrations by Phiz and other popular Artists, price 6d. monthly, Part I. of

TWICE A WEEK

An Illustrated London Journal of Entertaining Literature and Useful Information. Nos. 1 to 12 ready.

Contents of Part I. Price 6d.

Guilty, or Not Guilty. By Mrs. Gordon Smythies.
The Flower-Girl. An Original Tale. Illustrated by Phiz.
International Exhibition. With Illustration of the Opening Ceremonial.
Gallery of Fine Arts, comprising Illustrations from the best Pictures of the best Artists.
Biographies of the Great and Good. With Portraits.
Tales of Smugglers. Illustrated.
Half hours with New Books.
The Family Doctor.
Topics of the Hour, Facetiæ, Varieties, Scientific Facts, Wit and Humour, Voyages, Discoveries, Household Hints and Receipts, Gardening, Statistics, Current Events, &c.

Publishe l every Wednesday and Saturday, price One Halfpenny; Monthly Parts 6d. each. Nos. 1 to 12 now ready.
Office of "Twice a Week," 122, Fleet-street, London.

Now ready, price 1s.; or, 1s. 4d. post-paid.

THE POPULAR GUIDE to the INTERNATIONAL EXHIBITION.

By E. Mc DERMOT, Esq.
With Plans of the Building.
OPINIONS OF THE PRESS.

"Half an hour spent over it before leaving home, or while riding up in the train, will save many an hour of fruitless wandering through the nave, the transepts, the courts, and the galleries of the Exhibition."—*Standard*.

"Will save an infinity of time and trouble in consulting plans and catalogues."—*Times*.

"Useful and compact."—*Athenæum*.

W. SMITH & SON, 186, Strand; and the Railway Bookstalls; and sold by all Booksellers.

Just published, price 2l. 2s.

MANUAL of HYDROLOGY.

By NATHANIEL BEARDMORE, Civil Engineer.

CONTAINS

DIVISION I.—HYDRAULIC AND OTHER TABLES
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES
DIVISION IV.—ON RAINFALL AND EVAPORATION

The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 68, London-wall. 1862.

Now ready, in 1 vol. imperial 8vo. price 15s. cloth,

ISCA SILURUM; or, an Illustrated Catalogue of the Museum of Antiquities at Caerleon: containing the substance of the Two former Volumes on Caerleon, with much additional information, and 52 Plates

By J. E. LEE, F.S.A. F.G.S. Hon. Sec. of the Monmouthshire and Caerleon Antiquarian Association.

London: LONGMAN, GREEN, LONGMAN, & ROBERTS.

Just published, price 3s. 6vo. cloth, gilt edges, 207 pages,

INTERNATIONAL EXHIBITION.—RISE and PROGRESS of PAINTING.

By EDMUND EDWARD ANTROBUS, F.S.A.

Being a Concise History of Celebrated Painters, arranged under their different Schools; to which is annexed the Painter's Anniversary Calendar.

London: STAUNTON & SON, 9, Strand.

Sixth Edition, price 6d. with 18 Lithographic Plates,

STAINED WINDOWS by the Improved Transfer Process of Diaphane, which may be easily performed at small cost.

London: J. BARNARD & SON, 339, Oxford-street.

PHOTOGRAPHIC ART STUDIES AND PORTRAITS TAKEN DAILY BY O. G. REGLANDER, No. 5, HAYMARKET.

TO ARCHITECTS AND SURVEYORS.

DAVIES & GUYER, LITHOGRAPHERS, STATIONERS, and PRINTERS, 2, Grocers' Hall-court, Poultry, E.C. beg to invite the attention of the profession generally to the resources of their establishment, as above, for Lithographing and Copying Bills of Quantities, Specifications, Detail Drawings, &c. &c. Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands, thoroughly conversant with the various building terms, constantly engaged on the premises, they are enabled to guarantee superiority of style, correctness, and expedition. Specimens and Lists of Charges post free.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

NOTICE.—There is no VACATION at MIDSUMMER in the Architect's, Builder's, and Civil Engineer's Drawing Classes. The only Classes where the Pupils have the privilege of Inspecting Buildings in Progress and Measuring up Work from the Carcase.—Prospectuses of the Day and Evening Classes at the Offices, 70, Old-street, E.C.—Mr. T. P. HILL, Architect, June, 1862.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

NORWICH UNION FIRE INSURANCE SOCIETY.

Notice.—MIDSUMMER RENEWALS.

Losses by fire occurring during the fifteen days of grace are made good to the assured.

The business of the Company exceeds 68,000,000l.

The duty paid to Government for the year 1860 was 81,332l. 9s. 9d. and the amount insured on farming stock 9,985,308l.

A bonus of three fifths of the profits periodically made to parties insuring, which have thus from time to time received sums amounting in the aggregate to 476,000l.

The rates of premium are in no case higher than those charged by the other principal offices making no returns to their insurers.

For prospectuses, apply at the Society's Offices, Surrey-street, Norwich, and 6, Crescent, New Bridge-street, Blackfriars, E.C.

POLYTECHNIC.—WHITSUN HOLIDAYS.—HERR SUSMAN will give his remarkable imitations of the Lark, the Nightingale, and other British Birds and Animals.—Re-engagement of GEORGE BUCKLAND, Esq. for his Buffo-Musical Entertainment is—Last Two Weeks of the Concerts of the BROUSIL FAMILY.—What I saw at the International Exhibition; or, Half-an-Hour's Advice to Intending Visitors, by Professor J. H. PEPPER, on Monday, Thursday, and Saturday, at half past 12 and quarter-past 7.—New Gorgeous Scenic Optical and Prismatic Fountain Spectacle—Beautiful Dissolving Views, illustrating London in Ancient and Modern Times—Paris as it is—The Holy Land. Last week of Wilson's Grand Panorama of Japan, daily at 1.30 and 5.30. See weekly programme of 8 pages. Open from 12 to 5, and 7 to 10. Admission 1s.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Semiramore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade

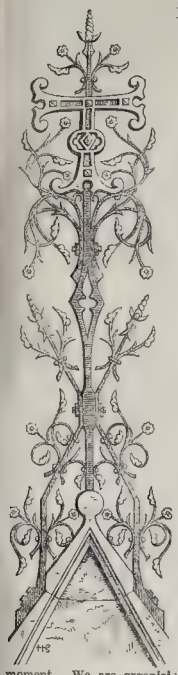
H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

The Builder.

VOL. XX.—No. 1010.

The Social Science Congress.



HE Congress has been very successful. Lord Brougham inaugurated it on Thursday evening (the 5th) with a lengthened address, which has been extensively published. At the same meeting Mr. G. W Hastings introduced a deputation from the *Association Internationale des Sciences Sociales* of Brussels and Mr. Corr Van der Maeren, one of the members of it, addressed the meeting. In the course of his speech he said:—

> As you will observe, the principles which form the bases of our institution are nearly a copy of your own. The promoters had, however, to consider the international character of the new institution: they modified in some measure the division of the sections. Ours are five in number; and one of these, that of art and literature, is an addition to your programme. They consid red that art might and should extend its influence over many branches of social science; not only as a means of establishing a high tone of taste and civilization in society, but also by its applications to various branches of useful knowledge. We have an instance of it at the present moment. We are organizing a system of education through the medium of the fine arts, a specimen of which may be seen at the Exhibition. This application of art to the teaching of history, &c., in schools, by a series of mural paintings, is due to a Belgian artist, Mr. Gerard, to whom our Government has confided its execution in some of our model schools.

On the following morning the various departments began their work in the courts at Guildhall. We cannot attempt to follow them, but content ourselves with a few notes of the proceedings of two of them,—those of Public Health, and Social Economy.

In the first, on Friday, Mr. W. Fairbairn, F.R.S., now Dr. Fairbairn), the president, made an address introducing the subject. He said,—

> Since the commencement of the present century much had been done for the improvement of all classes; and now they were better housed, better fed, and better clothed than at any former period; and what were to their forefathers luxuries had to the present generation become necessaries of life. In water supply much had already been done for large and populous towns, but much had yet to be accomplished in extending its benefits to the smaller towns; and there was probably no gift so great, and none so conducive to health and cleanliness, as a copious and well-regulated supply of pure water. To every person it was a luxury, but to the working man and his family it was one of the greatest boons that could be conferred upon him; and now that every principal town in the kingdom had its waterworks, with a supply ranging from ten to thirty gallons per diem to each person, they might reasonably look forward to greatly-extended comforts in the shape of cleanliness in the houses and persons of the industrial classes. The last twenty years had effected wonders in this respect; and he might instance the extension of water companies not only to the metropolis, but to Liverpool, Manchester, Glasgow, Edinburgh, and all the large towns, which are now supplied with abundance of water of the purest quality, and that at a cheap rate, to almost every house. The metropolis itself was probably worse off than many other towns; but he had recently seen the outline of a gigantic project in preparation by Mr. Bateman, the engineer of the Manchester and Glasgow Loch Katrine Waterworks, to supply London from Wales by the construction of reservoirs and the formation of aqueducts on a scale far beyond anything that ever was before accomplished in ancient or modern times. This scheme was not problematical, as he believed the engineer was prepared to show from actual surveys that 100,000,000 gallons per day could be delivered in London, and works constructed for the conveyance of double that quantity, for a sum not exceeding 7,000,000*l.* To London that would not be a large sum, if they considered the immense benefits it would confer on a population of nearly three millions of souls, and that with a quality of pure soft water which, for washing purposes and other branches of domestic economy, was calculated to effect a saving of 400,000*l.* per annum.

Mr. Benjamin Scott, Chamberlain of the city of London, read a paper on the "Ancient Water Conduits and Modern Drinking Fountains of London," in which he defended the pumps against some of the attacks on them.

Mr. Rawlinson said it would not in the present day do to rely on pumps or conduits for a supply of water, although the water of the Thames above Teddington Lock was becoming more impure every day. He considered our present water supply a disgrace.

Mr. Godwin condemned the inadequate supply of water in courts and alleys, where on Sundays the occupants were often kept for twenty-four hours at a time without a drop of water. He also criticised the arrangement and designs of the metropolitan drinking fountains.

Mr. Bateman, Dr. Lankester, Dr. Holland, and other gentlemen, addressed the department.

Dr. Letheby read a paper on "On the necessary Qualifications of a Medical Officer of Health," in which he enforced the necessity of the person appointed devoting his whole time to his duties; and Dr. Waller Lewis read a paper "On the Health, past and present, of the Working Classes of the General Post Office."

On Saturday, in the same section, Dr. A. E. Durham read a valuable paper "On the Comparative Hygienic Arrangements of the French and English Hospitals." He produced several statistical tables for the purpose of showing that the average general mortality was much greater in the French than in the English hospitals; and, in the first place, that the proportionate mortality in all cases in both countries was greater in the medical than in the surgical cases. In the Parisian hospitals a very much larger number of medical than surgical cases were fatal. The mortality per cent. in the Parisian hospitals was as follows:—Saint Louis, 11.98; Maison de Santé, 12·72; Laribosisière, 15·32; Necker, 15·70; St. Antoine, 16·49; Beaujon, 17·14; Pitié, 17·56; Cochin, 18 17; Hôtel Dieu, 21·64; Clinique, 27 37; Charité, 35 27; Hôpital des Enfants Malades, 18 9. The mortality in the London hospitals, on the other hand, was as follows:—St. Bartholomew's, 10·72; Guy's, 9·4; St. Thomas's, 9 70; King's, 10·73; University, 11·19; St. Mary's, 10·11; Westminster, 9·6; London, 8 4; Charing Cross, 8 3; St. George's, 8·34. He said that all applicants were admitted indiscriminately into the French hospitals; but in the London hospitals only the most urgent and severe cases were selected from multitudes of cases. The consequence was, that in London hospitals they had a much larger proportion of acute diseases and of severe chronic cases approaching their termination; while in the French hospitals there was a much larger proportion of trifling cases which required only a few days' rest or some of those slight operations which were done every day in the out-patients' rooms of the London hospitals. He referred, also, to statistical tables in reference to the amputations for disease, and showed, by comparison, that the rate of mortality from them was much greater in the Parisian than in the London hospitals. Taking a series of years, the results, in the principal hospitals of both capitals, were as follows:—

	London.	Paris.
Deaths	22	176
Cures	103	168

He went at some length into an examination of the arrangements of the hospitals, both as to ventilation and dietary; and in conclusion said he had pointed out very hastily many of the differences in the hygienic arrangements of the hospitals; and he hoped he had said enough to call earnest attention both to the warnings and examples afforded by the present state of the French hospitals.

Mr. Godwin, while acknowledging the value of the paper, as showing the disastrous state of the French hospitals, hoped it would not be put forward in consequence that there was no necessity for making any change in English hospitals. All medical men said that the English hospitals were not what they should be; and it seemed impossible for patients to get well in some of them: they would stand a much better chance of it if they were put under a tent in a field. It would be most disastrous if there were to be no attempts made to improve the condition of the English hospitals. He went into the question of plan.

Mr. Charles Hawkins did not think the rate of mortality so much depended on the construction of the hospital as on the selection of the cases taken; but he perfectly agreed with Mr. Godwin that they should not relax in their exertions to improve the London hospitals.

Lord Talbot de Malahide said, some years ago he had visited the Paris hospitals; but he could not agree with Mr. Durham that the Paris hospitals were better situate than those of London: most of them were in very crowded situations, and particularly the Hôtel Dieu. The extra mortality in some of these hospitals might also be accounted for, in consequence of a large number of very critical cases which were sent from considerable distances, to have the advantage of the excellent medical staff to be found in those particular hospitals. That especially applied to the Hôpital de la Charité.

Dr. Guy defended the double-warded plan, and would not admit the Pavilion plan was superior.

Mr. Rawlinson subsequently said, that when the British army was sent to the Crimea the hospitals there were in a notoriously bad state; for, in the month of March, the burials were at the rate of from fifty to seventy a day; but, within three months from the commencement of the sanitary arrangements, those deaths were reduced to about five per week; which he believed had been arrived at by reducing the numbers in the wards, improving the ventilation, and cleansing the sewers. He then referred to the huts which were sent out to the Crimea, in which fever broke out over the whole of the camp; and so dreadful were its effects, that the mortality in some of the regiments was as great as 70 per cent. There had been no attention whatever paid to a change of air; and in many instances twenty-five men were crowded together in a small space: they lay on the bare boards, and the air became putrid around them; and so fearful was the mortality that some of the regiments lost half the number of their men. The huts were covered with felt; and, although water-tight, they were unfortunately also air-tight; but as soon as some slits were made in the felt, and the air was admitted, the fever began to decline.

Some valuable observations on hospital dietary were made by Dr. Lankester and others.

In the Social Economy section, on Friday, Mr. Monckton Milnes, M.P., who presided, opened the business with an address, in the course of which he observed,—

> "Social progress depended on social economy in the strictest sense of the word,—*i.e.*, the using in the most useful, cheapest, and most practical manner, the various materials of progress given to us. For this use of those materials two things were necessary,—the one that that use should be taught, the other that that use should be learned. The material elements of civilization seemed to be granted by Providence to many nations; but only when combined with the learning of them did they become beneficial to mankind. There were many nations where men had been taught wise and good doctrines. Yet they had not risen to anything like a high Christian standard of civilization, or made any considerable social progress in the higher sense of the word. What was necessary was, that there should not only be wise men and good teachers, but a people sufficiently educated to receive their wise doctrines. Look at the great empire of China, where there had been for many centuries a factitious and injurious civilization up to a certain point of social status, which had remained at a stand-still, and had at last gradually declined, until we saw those enormous masses of mankind in a state of confusion and anarchy such as marked the latter days of the Roman empire. And there were many instances of some civilized nations going on without progress or change for centuries; as the Byzantine empire, whose people, though possessing the advantages of literature and art for 700 or 800 years, were no better at the close than at the commencement; and the cruel domination in Spain, which, after existing so long, has disappeared almost without a trace. These were great lessons of social economy, and should teach us that the permanence of nations and the social conditions of states depended not upon the opini ons and doctrines that

were taught, but on the power of the people to comprehend and act upon those doctrines."

Mr. R. Valpy read a paper showing the importance of local statistics for the promotion of social science; and

Mr. Henry Roberts, F.S.A., followed with a paper on "The Instruction and Training of the Working Classes in those Domiciliary Habits which conduce to their Physical and Moral Well-being."

The Rev. Henry Solly next read a paper on "The Relation of Co-operative Societies to the Educational and Moral Improvement of the Working Classes," in which the author enlarged upon the advantage of co-operative societies in Lancashire, in promoting intellectual efforts on the part of those classes, and effecting that educational progress which mechanics' institutes had wholly failed in carrying out, because of the objection of the working man to go where he thought he was not welcome; or, as they said in Lancashire, "mixing with broad cloth."

Professor Huber read a paper on "Co-operation in Germany." The first three co-operative societies in Germany were founded by M. Schultzer in 1850, in Prussian Saxony; and they commenced with 200 members, and a capital of 2,500 thalers. The principle had been remarkably successful; and now, in 1862, they could reckon 700 co-operative societies in Germany; doing business to the amount of 24,000,000 or 25,000,000 thalers, and numbering in the aggregate 200,000 members. There was besides a central board, or committee for business and advice, with which 200 of the societies were in connexion; which committee now published at Leipsig a paper, which was the organ of the German co-operation, under the title of the *Era of the Future*. The Government did not interfere with these institutions; and he believed the very best help the Government could give them was to let them alone.

On Saturday, in the same section, Mr. Newmarch, F.R.S., presided. Mr. Henry Roberts, F.S.A., read a paper on measures taken by employers for promoting habits of prudence and forethought amongst building and engineering workmen, newspaper establishments, railway companies, &c. The paper gave a historical sketch of the efforts made by employers and others to promote such habits by means of contributions from the wages of the employed; combined with, at the beginning, managerial and pecuniary aid from the employers. In the case of several of the railway companies—the London and North-Western, which adopted the principle as early as 1839, especially—some of the most flourishing of the London joint-stock banks, and the *Times* newspaper, such a system, under various modifications, had been established with complete success. Some of these establishments had benefit societies, embracing the savings banks, life assurance, sick fund, medical relief, and superannuation principles in combination. The writer urged the adoption of such a system upon all proprietors of large establishments, as conducive to the interests both of the employers and the employed.

Mr. J. M. Ludlow followed with a paper "On the Investigations, Trade Differences, and the relative Credit due to the Statements of Employers and Employed." He spoke of the opposite nature of those statements, even on matters of fact as to rate of wages, hours of labour, and other matters which it would be supposed were beyond question. Amongst the most perfectly upright and trustworthy persons of these classes their testimony should not command implicit credence. The testimony of the employer was, from his position and rank in life, always that which was most readily available; and, unfortunately, he believed the employer's testimony was not often explicit; and, if ever candid, it was most so when he refused to be explicit. On the other hand, in spite of educational efforts, the workmen as a rule were still so imperfectly educated that they were incapable of marshalling facts and figures so as to state the strong points of their case clearly; or of seeing the weak points in the case of their opponents. The same causes induced narrow-mindedness and prejudices which it was difficult to remove; and as, from their subordinate position, their statements could not *primâ facie* claim authority, they laboured under an additional disadvantage as compared with the masters, in justifying themselves before the public. After suggesting that the testimony of architects, surveyors, brokers, and others, who were more or less in the position of agents, was not to be depended upon, because they were in the habit of taking their statements from the masters; seldom communicating with the workmen, except to give orders; the writer wound up by observing that the great point was to teach both the employers and the employed that they were alike members of the general social system; and that they had no right by their disputes to inflict injury upon each other, or upon innocent parties.

Mr. Harrison next read a paper "On the Lock-out of the Masons of London in 1861-2," in which he unconditionally defended the course taken by the workmen, and condemned that of the masters, at the same time expressing his conviction that, although the dispute was compromised for the time, the present relations of employer and employed in the building trades in London were fraught with confusion and danger for the future.

Mr. Bosman opened the discussion; and referred to the efforts made to establish the nine hours movement in Scotland, which he thought remarkable; seeing that they only required to be paid at the rate of nine hours a day. It was, however, opposed by the masters, on the ground that the men would, as soon as they established the nine hours' time, insist upon the old weekly payment. The men, however, struck; and it being at a time when the building trade was very busy, the masters had to give in, and the men worked and were paid at the rate of nine hours a day; but at the same time it was questionable how far the men were wise in refusing to work ten hours a day; and, by sacrificing a portion of their wages, consequently curtailing their own comforts. He thought they were wrong, and contrary to common sense, to say, that the man with a wife and family to support should work no more than the single man, who had only to support himself. He believed the ultimate result of the nine hours limit would be prejudicial to the workmen, and inflict suffering upon the emulous and their families. He deprecated any attempt to legislate as between master and men.

A long and interesting discussion followed.

Mr. Newmarch, the chairman, who closed the debate in an able address, reminded the audience that there were two sides to the question. He pointed out that, although workmen might, by combination and strikes, increase their proportion of the fund to be divided between masters and men, they could not by such a course augment, but would probably diminish, the fund itself. Hence would ensue loss to both parties. No good could come of any discussion of the question which did not start with the recognition of labour as a commodity to be bought and sold. The claim of the men would lead to a return to that protection from which civilization had been gradually emancipating the world. Mr. Newmarch spoke with approval of the *Conseils des Prud'hommes* as a useful tribunal for settling trade disputes.

The *soirée* on Saturday was a very brilliant affair. Westminster Hall, the House of Commons, St. Stephen's Hall, and the various lobbies were lighted, and a brilliant throng circulated in them, refreshed by music and more substantial aids. Lord Brougham, Lord Shaftesbury, Mr. Hastings, and two or three members of the council, received the guests as they entered. The effect of Westminster Hall, seen from St. Stephen's Porch, was magnificent in the extreme.

In the department of *Public Health*, on Monday morning, Lord Talbot de Malahide presided.

Mr. Rawlinson, C.E., read the first paper, "On the Principles of House Drainage and Town Sewerage." In treating upon this subject, he said there were many difficulties to overcome in executing works of town sewerage; and one of the most formidable difficulties at present was the outlet and permanent disposal of the sewage, so as not to be a cause of nuisance and injury to streams, rivers, and property. In a short time he believed that fluid sewage would be applied direct to land for agricultural uses, so as to relieve towns and houses from that which caused disease, and give life and fertility to the land. He showed that the first cost for town sewers need not exceed 1*l.* per head of the population for towns at and below 50,000 inhabitants, unless in exceptional cases. Sewers and drains, constructed on proper plans, added to the value of house property more than their cost.

The President confessed that he did not yet see any satisfactory solution of the great difficulties attending the outfall; and called on practical engineers to study that part of the question.

The virtues of charcoal as a disinfectant were expatiated on by Dr. Stenhouse, who described the "charcoal air filter" which had been applied to street sewers with success, during the last three or four years, in West Ham, Worksop, Swansea, Glasgow, and other towns.

Dr. Milroy read a paper, contributed by Mr. Green, of Birmingham, setting forth, among other noticeable facts, that fevers, usually typhoid, often showed themselves in an aggravated form in that district of Birmingham which was most rural, most elevated, and least densely populated. The only solution of this apparent contradiction lay in the fact that the main sewers had not yet reached that part of the town, and that private drains were almost unknown. The local experience of Mr. William Till, borough surveyor of Birmingham, enabled him to furnish details connected with the sewerage of that town, to which increased interest was given by the previous paper. In the general discussion which followed, it was asserted by nearly all the speakers that, in cases where houses in naturally healthy situations were exposed to the ravages of fever, it was found that nuisances or other causes of insalubrity existed in or under the dwelling. In many parts of the country respectable farmhouses proved less healthy than labourers' cottages, because of their proximity to the manure heap; and persons had been known to catch fevers in overcrowded wateringplaces where they had gone to enjoy the natural advantages of a fine coast situation.

Mr. E. Chadwick, adverting to the necessity of sanitary regulations, instanced the case of the town of Ely; where, in consequence of the improvements in drainage, which were carried out under the direction of the late Dr. Peacock, dean of Ely, the deaths had been reduced to one-third; so that it was equal to this happy state of things, that every third year there would be no deaths.

Dr. Badcock condemned the practice of servants being allowed to sleep in the basement of houses, which he considered to be most unwholesome, and ought to be at once given up.

Dr. Markham did not think that there was a sufficient distinction drawn in the case of fevers arising from decomposition of animal and vegetable matter and that which arose from crowded dwellings. That which was called typhoid fever had lately become much known to them on account of recent events; but having, as house-surgeon in Edinburgh, seen cases where hundreds had died of fever, he could say distinctly there was not one case of typhoid fever amongst them, but they had died of typhus fever. Typhoid fever, as he had said, arose from the decomposition of animal and vegetable matter, and typhus fever from overcrowding.

Mr. Rawlinson replied; and remarked that the fashionable district of Belgravia was as flat as a pancake: the sewers were full of deposit; and as to what was called the "trapping of drains," that was a complete mockery, a delusion, and a snare; and, were it not for the escape of exhalations from sewers in the streets, he predicted a fearful and raging epidemic.

A paper was read by Mr. Godwin on "The Evils of Overcrowding." Of this we give a full report elsewhere.

Mr. Chadwick, the incumbent of St. George's, Hanover-square; Dr. Lankester; and several other speakers, earnestly confirmed the truth of the statements made in the paper, and approved the suggested extension of powers of inspection.

In the section of *Social Economy*, Mr. Edward Akroyd opened the proceedings with a paper on "Improved Dwellings for Workpeople;" with a plan for building them in connexion with benefit building societies. It described the efforts made by the writer and his brother in providing superior cottage residences for their workpeople; and the result of their experience that, as an investment, such property would not yield more than 4½ per cent. upon the outlay; which, taking casualties into account, was not sufficient to induce private parties to embark their capital in speculations of this character. The existence of a Benefit Building Society in Halifax induced the Messrs. Akroyd to avail themselves of the machinery of that class of institution; combining with it special advantages which they were enabled to confer in the shape of guarantee of title, uniformity of style, and superintendence of an efficient architect. This experiment is being carried out with complete success. The workpeople, by paying down 40*l.*, in which they are assisted by their employer, and afterwards about 1*s.* a week beyond the rent they would pay under ordinary circumstances for very inferior dwellings, became, in twelve and a half years, the owners of houses which cost 160*l.* each in building; and towards which they contribute, in the shape of extra rent, only 62*l.* 4*s.* 6*d.*, or a total, including the rent, of 200*l.* 7*s.* 2*d.* As an investment, these houses will pay about six per cent. to the proprietors. The Akroydan Building Society contemplates also houses of a superior class, in respect to which the advantages are proportionate. The paper further suggested that in every large town committees of gentlemen should be formed to aid the working classes to help themselves in this way,

and in providing the funds for purchasing the land and defraying the starting expenses, to be repaid subsequently by the weekly payments; and recommended the project especially to the trustees of the Peabody gift.

Dr. W. A. Greenhill read a paper in reference to the progress of certain societies for improving cottage property in Hastings: the general results we have, before now, stated. To the shareholders it was calculated that there would be a return of not less than four per cent. per annum. Other papers followed.

On Tuesday, keeping in the department of *Public Health*,

Dr. Miller read a paper "On some of the Disadvantages which affect the Insane Poor."

Mr. Reynolds expressed his firm conviction that insanity was owing in a great measure to the consumption of tobacco.

Dr. Martin (of Warrington) quite agreed with Mr. Reynolds upon the injurious effects of tobacco.

Dr. Lankester said he felt sure that no medical man would at once come to the conclusion that the moderate use of tobacco was the cause of insanity; and he thought it would be insane in them were they to come to such a decision. He stated, on his professional reputation, that, of all narcotic substances that were used, tobacco was the least injurious.

Dr. Randall said there was no foundation for the statement that tobacco was the cause of insanity; although it might produce indigestion; as it led to diseases of the stomach, and not of the brain.

A paper by W. Buller, M.D., physician to the Royal South Hants Infirmary, "On the Dangers, from Sanitary Defaults, to Travellers in search of Health," was read.

In the *Social Economy* section,

Mr. J. Macgregor read a paper upon the moral, social, and hygienic effects of volunteering; in which he pointed out the moral influence of uniform, arising from the knowledge of the wearer that he attracts public attention; the advantages of drill in promoting social as well as physical results; and the improvement in the general tone and manner of the man from association with others of a different social status.

Mr. Pollard Urquhart, M.P., read a paper upon the condition of the Irish labourers in the East of London; the object of which was to show that, although the homes of Irish labourers in London were more cleanly and in a better condition than he had expected to find them, there was still a necessity for improvement. We should think so.

Mr. B. Shaw read a paper upon the present condition and prospects of the Saturday half-holiday question; in which reference was made to the satisfactory progress of the movement; especially as a consequence of the establishment of the volunteer force; and the opening of national institutions free, and of the Crystal Palace and International Exhibition at one shilling admission, was advocated.

Mr. J. Hyde then read a paper upon the subject of the amusements of the working classes. He stated, that places of public amusement derived their support from the craving of the people for the excitement of vivid and novel sensations; that animal excitements obtained the largest support; and that of intellectual amusements the following order was observed;—First, periodical literature; then the drama; then concerts, negro entertainments and burlesque performances; then panoramas and exhibitions; then lectures and libraries; and, lastly, discussion and other classes. It was necessary to provide better and higher class amusements to meet the wants of the working classes; or vicious and unscrupulous men would supply the deficiency for them, and it was necessary that these amusements should partake something of the form and character of those at present in vogue. He recommended, therefore, the establishment of small garden allotments in the suburbs of all towns for the labouring classes; and that flower, fruit, and vegetable shows should be encouraged amongst them. He recommended also the establishment of bowling-greens, skittle-grounds, quoit-grounds, and cricket clubs, detached from public-houses, and where neither beer nor strong liquors should be introduced. Men were not to be won to temperance by tea-drinking and experience-relating meetings; and he believed more was to be done in the cause in the way he had pointed out than by any other means. With regard to the drama, Colley Cibber once said, that two theatres were as many as London could find performers for or audiences to support; whereas, there were no less than sixteen; besides the vast number of public recitations and readings from plays; affording a mild dose of theatrical representation, which those were willing to attend who would not think of going to see the enactment of stage plays, with the improving adjuncts of scenery and costume. The dramatic form was singularly consistent with our nature; and the only objection was to those plays which had an immoral tendency, or which were vicious or stupid, and often both. The great influence of amusements upon the character of the people, and the great dearth of proper amusements, claimed for this question the best consideration of the congress.

Mr. A. Ryland referred to the success which had attended the establishment of penny lectures and penny classes in connection with working men's institutions in Birmingham, to which all classes went. The experiment of parks had been tried there for the amusement of the people, and with signal success; and they were going to try the experiment of workmen's halls, which he understood to mean gin palaces without the gin.

Lord Brougham said nothing could be more important than the subject under discussion; affecting as it did both the health of the body and the health of the mind; and he was glad to hear that the appreciation of its importance was not confined to the towns.

The Rev. S. H. Parkes read a paper advocating the provision of flower shows for the poor of London, as the means of cheering their lives and inducing habits of care, prudence, and forethought. He suggested that there were many plants which might be successfully cultivated in pots and in city dwellings; and that the gardens in the squares of London should be let for the purpose of such competitive exhibitions as he proposed to establish.

Evening meetings have been held in Burlington House, whereat important questions were discussed with much vigour; but our space will only admit of this mention. At one held on Tuesday evening, when the effects of occupations on health were discussed, the following resolution was passed;—"That, in the opinion of this meeting, the principle of regulating labour already adopted by the Legislature in certain mines and factories should be extended to all other kinds of industrial employments where several persons are employed in the same factory or work-place, with the special purpose of endeavouring, as far as possible, to obviate conditions dangerous to the health or safety of the employed; and that the council of the Association be requested to consider whether it can, with propriety and advantage, represent the importance of the subject to the Legislature."

GOSSIP ABOUT THE INTERNATIONAL EXHIBITION.

FAITHFUL reproductions of some of the grandest works in ceiling-painting that the highest art has ever produced are to be found in the large photographs of the Roman Court. They should be carefully studied by all lovers of art; and more especially should they be examined with the greatest attention by young architects; especially such as have not travelled in Italy and seen the originals: even those who have visited the lesser Palace of the Farnesi at Rome; and, with back-turned head and aching neck, followed the beautiful story of Psyche, which Raffaelle has so exquisitely traced upon the ceiling of its banqueting-hall, will find that their observations made under such circumstances on the spot were far from exhausting the subject; and that the present photographs will reveal to them much of the art and mystery of Raffaelle's rapid and masterly manipulation that they could form no conception of while the works were at so great a distance from the eye. The same may be said of the more recent work of Annibale Carracci, executed for the embellishment of the ceiling of the greater Farnesian Palace. In both cases the plan of the designs can be much better grasped by the eye in the photographs than on the distant surface of the respective ceilings; while, from the accurate nature of reproductions by means of photography, the positive pencilling of the painter can be studied touch by touch.

It is said that Corregio (Antonio Allegri) was the first who attempted, successfully, to represent figures on ceilings as though actually seen from below,—that is, properly foreshortened and otherwise placed in correct perspective in relation to some point of sight from which they would be most advantageously seen by a spectator standing on the floor below. The ceiling-paintings of previous artists were generally painted exactly in the same way as they would have been upon a wall, and had, therefore, precisely the effect of a picture taken from a wall and fixed, face downward, upon a ceiling. Corregio did not, however, carry out the theory, of which he is described as the originator, with a never-varying and always consistent completeness. Sometimes his work appears, like that of older masters, as though transferred from a wall to a ceiling; and in other cases his foreshortening is incorrect and exaggerated. On the whole, however, his works were veritable marvels for the age in which they were executed; and the sudden outbreak from the stiff, angular, and attenuated forms of Mediæval art into the graceful curve, the full, rounded outline, the variety and playful elegance of attitude which Corregio was one of the first of the great artists of the Revival to inaugurate, must have struck contemporary amateurs with wonder. It is to be regretted that in the photographic section of the Italian Court there are no examples from his celebrated frescoes in the Duomo of Parma: at least, they are not to be found. A very fine series of photographic reproductions, the great Parma frescoes, may, however, be seen at the Messrs. Colnaghi's. After a careful examination of these works the critic arrives at the conclusion that the drawing is but too often incorrect; and also that there is a certain smallness of treatment in the composition of the more important groups which is not to be found in the contemporary works of Raffaelle or of Buonarotti. These works of Corregio are, however, in many respects, very like the Raffaelle frescoes at the Farnesina, though generally exhibiting more haste of style in their frequently careless execution.

Among the examples from Raffaelle's ceiling at the Farnesina, splendidly photographed by M. Devizielli, of Rome, several are worthy of particular note. Cupid pointing out Psyche to the Graces, a group occupying one of the spaces between the springings of a series of semi-circular arches, is peculiarly fine; and exhibits the faculty of the painter for filling a compartment of a given form with as much ease as though the shape of the compartment had been dictated by himself instead of resulting from the nature of the structure. It is this faculty of fitting sculptural and pictorial compositions to the places they are intended to occupy, and to the peculiar shape of any special compartment, which forms the true link that is alone capable of blending in a beautiful whole the sister arts of architecture, painting, and sculpture.

There are no photographs from the ceiling of of the Sistini Chapel in the Exhibition, or it would have been instructive to compare the styles of Buonarotti and Raffaelle in their two masterpieces of ceiling-work. One may remark however, from recollection, that Michelangelo generally seeks to impart to his ceilings a more architectural character, by the introduction of conventional ornaments of a sculpturesque description; dividing, as in the Capella Sistina, the coved ceiling into compartments suited to his purpose, by means of painted architectural mouldings and simulative groups of sculptured figures. These decorative divisions, in which it is sought to produce, by painting effects which belong to architecture, and by tones of colour effects which should be produced by shadows of real raised-work, in stone or marble, appears to involve a kind of bad taste, which would be condemned in a modern work of high pretension. But in the hands of the great Florentine the system is carried into execution with such a high and powerful hand, that it defies criticism—as all works of the highest genius do—where secondary productions would be put upon their trial and condemned.

The great ceiling at the Farnese Palace, by Annibale Carracci, is founded upon the style just alluded to, which was adopted by Michelangelo in the ceiling of the Sistini Chapel. A century had passed since the great works of Corregio, Raffaelle, and Michelangelo had been produced; and, though no more flashes of genius had occurred in Italian art like those which inaugurated the epoch of the Revival; yet the Italian school still continued great; and mechanical dexterity, and such excellence as can be achieved by the development of a grammar of art founded on the greatest master-pieces of former periods, had led to the production of works of a high character.

The magnificent photographs, by Mr. Cuccioni, of the great ceiling of the Farnese Palace, which is the master-work of Annibale Carracci, are calculated to impress the student with a very high estimate of that artist's chief work. It is, in fact, seen to much greater advantage, in many respects, when divested of colour; for the fresco colouring of the Carracci school is cold and poor when compared with that of former periods. Still, this work is in every way a grand one; and it will be seen, in the pencilling and bold drawing, which are splendidly reproduced in the photograph, that

Carracci had carefully studied both Raffaelle and Buonarotti. The groups of some of the compartments are very grandly conceived, and as grandly executed; though there is no longer that brilliant individuality of thought, or line, found in the earlier works which had been his models. The largest subject, "The Triumph of Bacchus," is very grand, but bears too evident traces of the school of Raffaelle, especially of the manner of Giulio Romano. The panthers of the car have also the defect of being too small: they do not look up to their work; as the Bacchus is decidedly what in our day would be termed a heavy weight. In another section of the work, "Polyphemus lulling Galatea to sleep with strains from the pipe of Pan," is very capital; as is also the subject of a corresponding compartment, "The Casting of the Rock upon the unfortunate Acis."

A study of the painted mouldings, cornices, and sculptures of this magnificent design for an entirely pictorial ceiling (in so far as decoration is concerned) will enable the architectural student to estimate the value of painted effects of the kind alluded to, by placing them in mental comparison with a work in which the simulative stonework and sculpture should be real, and the painting confined to detached pictures within certain compartments, formed by bronze or stone or marble; or, at any rate, by work in actual relief.

In addition to appropriateness of material, just alluded to, and to the suitableness of effects to the nature of the structural contrivances (which last should always be made evident in a work of true art), there should also be observed, in modern decorative architecture of a high class, an appropriate selection of subjects, even in sculptured ornaments, but more especially in sculpture of a higher class, and in the subjects of the paintings. Not only in public halls, but even in a palatial drawing-room, where detached pictures are made to fit into decorative panel-work, and so become part of the architectural composition, their subjects should be appropriate. In illustration of this principle, a passage may be quoted from a recent work by Mr. Guizot, in which, after giving an account of his reception at Buckingham Palace, he says that in the withdrawing-room, to which the company retired after dinner, there were three portraits which he deemed most incongruously placed, in a drawing-room of the Queen. The first was that of Anne Hyde, first wife of the dethroned King James II. The second was that of the Russian czar, Peter the Great; and the third, that of Fenelon, archbishop of Cambray. No one could explain to Mr. Guizot the meaning of this extraordinary and incongruous selection; but the ingenuity of Mr. Guizot supplied the explanation of the enigma. They were all exactly of a size; and all precisely fitted the panels requiring a picture; and they had no doubt been selected from among a hundred others of the Royal collection by the nicety of fit which they offered to the spaces required to be filled. It is such patchwork as this in matters of art that gives the well-instructed a fair opportunity to laugh at us.

The Archæological Society has been treating its members and the public to the sight of a fine collection of niellos. This branch of decorative art, so conspicuous in Mediæval works of the later periods, is little known to the public; and has attracted but slight notice among our industrial producers of works of a more or less artistic class. This is the more singular, as it possesses advantages for varying the effect of gold and silver work of a very advantageous kind. Having long held this opinion in regard to niello, as a very valuable and very much neglected adjunct to the higher works of the silversmith and goldsmith, I was delighted to find that a young Parisian manufacturer had conceived the same idea; and had successfully introduced niello, in various manners, in the ordinary objects manufactured in gold, silver, plated or gilt ware. There are small vases, sugar-basins, teapots, plates, waiters, egg-cups, and other objects, all more or less enriched with different kinds of niello, with exceedingly good effect. In some, the niello is black, from which the name is derived, as in the old models. The black design, upon a gold or silver ground, produced by the inlay of the black enamel, is, after all, perhaps the most striking; but a white enamel inlay of the same character, and in some cases a gold inlay in the white or in the black, produce modern variations of the old niello work which are very pleasing. Specimens exhibiting all these varieties of work, and many others, are to be seen at a certain angle towards the centre of the French Court. The designs, in a kind of work which the manufacturer evidently intends to make a speciality, are very tasteful, and well suited to the display of a modern adaptation of the art of niello; some of the little inlay pictures, which are as highly finished as woodcuts, being of very pleasing and appropriate character.

Among decorative building-materials my attention was called to the *marmi artificiali, della societa anonima*, at Rome. Of these artificial marbles one or two are remarkably successful imitations of the substances they pretend to represent. These are the Lapis-lazuli and the Serpentino, both of which are very excellent; the rest being inferior to the imitations produced at our own scagliola works. There is a colossal Egyptian lion in the nave, formed of imitative marble of this kind, which has the desirable effect of extreme solidity. There are in the Roman Court some very fine slabs of Oriental alabaster, such as the columns of the famous basilica of St. Paul's were composed of. It is a very beautiful substance, and evidently procurable in large masses.

I suggested in my last "Gossip" that the successful examples of mosaic on a large scale, to be seen in the present International Exhibition, might give rise to its speedy introduction as a decorative feature in both external and internal architecture in this country. In order to show with what exquisite effect it might be introduced in internal decorations of the highest character, attention may be directed to the successful reproductions in mosaic of some of the famous "Madonnas" of Raffaelle, which may now be seen in the Roman Court; and which, for decorative purposes, are fully equal to pictures. Then, why not have pictures? Because the mosaics would be durable as the walls themselves; would be easily kept clean; and, in fact, as presenting a polished surface, would not be liable to harbour dirt.

The raised porcelain pictures, in both high and low relief, from the porcelain works of the Marquis Ginori Lisci, of Doccia, near Florence, form also very available material for decorative architecture. They are of a very distinct style from Della-Robbia ware; and though the specimens shown are perhaps too small and somewhat too crowded with objects for external architecture, yet, for interiors of moderate dimensions, they would form exceedingly ornamental features if properly introduced; while, on a larger scale, and in the shape of subjects more simply treated, they would be available in many ways; and, as a taste for colour increases, some features of the kind will be found absolutely necessary to satisfy the public taste.

It is evident, too, that glass is destined to become one of the substances very commonly employed by the architect; in public, if not in private works; not as a glazier employs it; in which form we have seen it adapted to buildings on a large scale in the celebrated Crystal Palace; but as an architect would use it, or as a decorative artist would use it. For instance, there are, in the Austrian Court, two immense candelabra, composed of glass and metal, all the ornamental part being glass; which are of a purely monumental character, and which would group with the architectural forms of a great hall of suitable character, with fine effect. Some of the columns of such a hall might be of solid tinted glass, cut and ornamented in a style suited to the material, but yet not like decanters. Roofs, too, of solid glass (not glass in framework), might be architecturally constructed, which might either be semi-transparent, or nearly opaque, as desired; and which would at once form a highly-decorative and yet solid roof, that could at the same time be made to admit light to any degree required. A candelabrum by Ostler is, in some respects, superior to the Austrian ones; while a dressing-glass in the Austrian department, in the old Venetian style, both frame and stand entirely of glass, is proof sufficient that with glass of different tints, and a judicious mixture of the transparent and opaque, noble halls might be constructed of glass alone, which should have no smack of the glazier about them, but be of strictly ornamental character; and the decorations of which would never require renovating; the bright surface resisting the lodgment of all disfiguring matter. As to the highly-coloured decoration which might be introduced in an architecture of glass, there are tints in the Bohemian glass ware sufficient to show what exquisite pilasters, panels, and decorative cornices might be designed and executed by an artist thoroughly understanding the capacities of the material.

I have more notes on several other features of internal and external decoration; which, however, to receive due effect, ought to be artistically connected with, and made part of, the architectural structure itself; so as not to appear mere afterthoughts of the upholsterer, but as the necessary completion of the original design. I have, however, no space to allude more particularly to them in the present paper.

I have been very agreeably impeded in my note-taking lounges this week by the vast influx of shilling visitors, who begin to pour in in vast numbers. But the building is capacious; and, except in the nave, it has become plain that even double the present numbers would scarcely produce unpleasant crowding.

THE MEDIÆVAL COURT IN THE PALACE OF ART AND INDUSTRY.

ECCLESIOLOGICAL SOCIETY.

ON the occasion of the approaching anniversary meeting of the Ecclesiological Society, which is to be held in the evening of the 1st of July, in the Lecture Theatre, at South Kensington, the subject of discussion will be the Ecclesiological Aspect of the International Exhibition, and of the Exhibition (on Loan) of Fine Art-works at the South Kensington Museum. It is proposed that members of the Ecclesiological Society and persons interested in its pursuits shall meet at two o'clock on that day, at the South Kensington Museum, to visit the Exhibition of Works of Art on Loan. This will be a good opportunity for those who are interested in such matters to examine the works under good auspices. We may add that ladies will be admitted. Touching the Mediæval Court in the Palace of Art, which will come under discussion, we have already referred to the characteristics of some of the works there. That our readers in the country, and those who propose attending the meeting on the 1st of July, may know what it contains, we postpone the continuation of our more analytical notice of the Exhibition in favour of some descriptive particulars of works in this court. Our readers are already aware that works of the same character are also scattered all over the building. Brought together, their number would astonish. The court, we may say, is on the south side of the English half of the nave, amongst the furniture, and is exceedingly well arranged and kept. Messrs. Morris, Marshall, & Co. exhibit specimens of furniture made by them, said to be adapted for domestic purposes. They comprise a sofa of hard white polished wood, with black rings; an easy-chair of polished walnut, decorated with inlaid work in wax, with cushion; a cabinet decorated with painting illustrative of the life of St. George; a bookcase painted black and gilded, decorated with subjects illustrating the history of an English family between 1815 and 1860. The furniture is unnecessarily rude and ugly. Some hangings of embroidered serge and cotton sent by them are good imitations. The Rev. R. S. Baker exhibits an eagle lectern, carved in oak by himself. The eagle is double the size of life, somewhat clumsy, and stands on a pedestal of four clustered columns with carved caps. The lectern of brass, close to the last, is by the Rev. R. H. Cooke, intended for St. Peter's Church, Clearwell. The desk is of engraved work, with the Agnus Dei in a trefoil, and foliage entwined on the cusps, with the symbols of the Evangelists in the spandrels in coloured cement.

Messrs. Cox & Son exhibit, amongst other things, a reredos of oak (carved by the machine exhibited in Class 7, and left rough): it is in five bays, divided by buttresses and pinnacles, with projecting ogee canopies filled with tracery: also an altar-table of three arches, supported on columns with carved caps. Palm branches are introduced in place of a hood-moulding, and have a fussy effect. They send, too, with many other things, a rail of cleverly wrought and polished iron, illustrating the passion-flower; and a Caen-stone font with ogeed canopies and angels holding scrolls in their hands carved on the circular bowl, which is supported on eight columns of Purbeck, rouge royal, and Galway green marbles, with alabaster bases. The font is surmounted by a cover of Kowri wood, from Taranaki, New Zealand. Mr. J. Forsyth exhibits a bookboard front of the stalls for Chichester Cathedral, designed by Mr. W. Slater. The front is divided in its whole length into three principal divisions by styles, on which are carved, in long narrow panels, varieties of plants mentioned in the Bible. Each of these divisions is subdivided into three, with moulded styles. In the centre of each panel a disc of carving is introduced, alternately conventional and natural, also illustrating Scriptural plants and herbs. There are also exhibited varieties of the bench ends. The carving is elegant, but somewhat tame. Mr. Forsyth also exhibits his monument to the late Earl of Cawdor, in Cheriton

Church, near Pembroke. It is an altar-tomb, the lower portion of which is enriched with trefoil-headed panels, containing the family quarterings, surmounted by a carved cornice. On this rests a recumbent figure of the late earl in stone. He also sends the bookcase, with writing-table, designed by Mr. Norman Shaw, of which we gave an engraving some time ago; and various sculptured figures in stone. Mr. Phillip exhibits cast of an altar-tomb for the late Dr. Mill, designed by Mr. G. G. Scott. The figure is of bronze, and is represented in his doctor's gown, with his hands joined in prayer. At his feet are two figures studying at a desk. The lower part of the tomb is of veined alabaster, with two rows of discs, twenty-six in number, on each, with the sacred monograms X.P.C. and I.H.S. alternately, the spaces being filled in with marble mosaic. The plinth is of red serpentine. The imitative bronzing of the plaster figure is cleverly done. A model of the tomb of the late Marshal and Lady Beresford, at Kilndown, Kent, is exhibited by Sir J. Kirkland and Mr. Beresford Hope. It was designed by the late Mr. R. C. Carpenter, and executed by Mr. Myers. It is oblong in plan, there being two bays at the ends and three on each side. Twelve shafts of marble support the arches and groining, which are of stone. The arches are surmounted by crocketed pediments, the tympana of which are filled in with tracery and carving. Its chief merit is that of good imitation of older work. The altar-tombs underneath the canopy are of marble, with marble mosaic crosses on the upper side. Mr. Keith exhibits a variety of church plate and ornaments, chiefly designed by Mr. Butterfield.

Mr. Redfern has sent, with other things, a cast of his group of sculpture, representing "The Entombment of our Lord," forming one of three subjects to be carved for the memorial erected by the Westropp family, in the south transept of Limerick Cathedral, from the designs of Mr. W. Slater. The other two subjects will be, "The Agony in the Garden," and "The Resurrection." They are inclosed by arches supported on coupled columns, with carved caps, surmounted by crocketed pediments, the spandrels being filled in with carving. It is supported by stone corbels, moulded and carved. Mr. Kimberly exhibits a reredos of white alabaster, designed by Mr. White: it consists of three cusped arches, supported on grey marble shafts, with carved capitals. The arches are filled in with paintings on enamelled slate. In the centre are St. John and St. Mary, on each side of a white marble foliated cross, which stands slightly in front of the arch. Mr. White exhibits some church plate; Mr. R. Brandon, a model of the roof of his church at Knightsbridge. Mr. Norton sends a font of veined alabaster, square in plan, with the angles taken off: it is supported by a central shaft of alabaster, with two small marble shafts at each angle with carved capitals. On each of the panels of the upper parts are carved subjects, representing "The Baptism of our Lord," "Philip and the Eunuch," and "Christ Blessing Little Children." On the small faces are figures of the Evangelists, in niches, with ogeed canopies; also a "Last Supper," intended for the centre of a reredos at Winterbourne Church, Gloucestershire; the statue of Edward III. for the High Cross, Bristol; and the reredos for Bedminster Church, which excited a dangerous controversy some time ago. The reredos for Waltham Abbey, designed by Mr. Burges, and to be executed by Mr. Nicholl, is a superior work. Mr. Teulon exhibits a reredos executed by Mr. Earp, in veined alabaster, inlaid with various marbles. In the centre is the "Last Supper," executed in alabaster. Over this is an inlaid cross. On each side are panels, with cusped heads, in which are carved the "Rose of Sharon" and "Lily of the Valley." Over these are crocketed pediments, supported on marble shafts. Mr. Gambier Parry sends a medallion representing Simeon leaving the Temple. It is painted on common wall plaster, to illustrate the employment of a system of painting suitable to a damp climate. What its powers of endurance may be we have no means of judging. Messrs. Pritchard & Seddon exhibit two organs in oak, inlaid with various woods. The panels painted in one organ, by J. Westlake, represent the Song of the Nativity. In the other is represented the Song of Miriam, by Mr. R. Holmes. The pipes are illuminated with colour. These organs differ from the Scudamore organs by combining the swell with the external pipes. There are also several pieces of furniture made by Mr. Thomas Seddon, including a case of shelves for a library, inlaid and painted with subjects illustrative of the arts, figures of King René and his Queen engaged in the building and decoration of their abode, and singing at its completion. These are well executed by Morris, Marshall & Co. In the top of the case are inlaid the well-known labyrinths of Lucca and Chartres. The tiles for Holmer Church, Hereford, are exhibited, and are made by Mr. Godwin, of Lynwardine, near Hereford. Messrs. Harland & Fisher exhibit a wooden canopy divided into three compartments: the centre is coloured, ecclesiastical in character, of the twelfth century, as a decoration for the ceiling of walls or churches. A gaselier of polished and painted brass; the supply of gas is controlled by a key at the bottom, instead of the usual taps. An altar frontal in crimson silk and cloth of gold, designed by Mr. Burges; and an altar frontal of green silk, ornamented in appliqué. This has the merit of being more effective than embroidery at only a third of the cost. Mr. Burges exhibits specimens of furniture, displaying with some perverseness, as we have before now said, real skill in the path he has chosen. Near these, Mr. O'Connor exhibits a triptych, with a painting in oils representing the Crucifixion of our Lord; on the side panels are angels adoring.

THE MOULDINGS OF CHICHESTER CATHEDRAL, BOXGROVE PRIORY, AND SHOREHAM COLLEGIATE CHURCH.

IN July, 1853, the annual meeting of the Archæological Institute was held at Chichester. On this occasion, Professor Willis read an elaborate paper upon the architecture of the cathedral; the Rev. J. L. Pettit elucidated the architectural history of Boxgrove Priory; and Mr. Edmund Sharpe minutely demonstrated the peculiarities of St. Mary's Church, Shoreham. These three valuable essays, supplemented with additional information, are now published in one volume.* In the course of the nine years that have elapsed since they were read—a delay incurred by a fruitless waiting for a fourth essay—a very material circumstance has happened to the first of the three buildings they illustrate. We allude to the falling of the tower and spire of Chichester Cathedral. An account of this casualty, in strict and acknowledged accordance with the facts as first detailed in the *Builder*, forms the subject of a prefatory notice by Professor Willis. The Vicar of Boxgrove—the Rev. W. Turner—appends to the share of the work by Mr. Pettit some historical remarks and conjectures on the priory and church; and Sir Frederick Madden appends a description of the matrix of the seal of the priory—a relic turned up from the soil by labourers excavating for a line of railway.

The portion of the volume to which we would direct especial attention is a supplemental sketch, by Mr. Sharpe, on the mouldings of the three edifices. We have, at various times, pointed to the great assistance these subsidiary features give in determining the age of a building: Mr. Sharpe fully appreciates their importance, and by comparing the mouldings of the Cathedral, the Priory Church, and St. Mary's, Shoreham, shows the period of the construction of each portion, as well as the relative progress in the details of the mouldings themselves. As a single bone, he contends, furnishes to the comparative anatomist a key to the structure of the perfect animal, so a length of moulding serves as a guide by which to ascertain the style and age of the building of which it formed part.

The more this branch of architecture is inquired into the more important it appears. Grecian mouldings, with their broad sweeps of light, differ as much from those of Gothic buildings in their deep settings of shadows as any other contrasted details we could mention. And in the same degree, although in more harmonious sequence, the progressive Mediæval styles speak in their mouldings. In the earliest Saxon buildings—in the folkstead of Rothgar, the son of Beowulf, for instance, which the Saxon poem tells us was "the first of halls,"—the doorways and window-openings would be nothing more than square-edged apertures. A splay made by the simple process of chamfering off the edges would be the first improvement upon this rude formation. The first decoration of the earliest archways was a single groin-rib, which was at first brought down to the ground on either side; but subsequently supported on cylindrical columns. This is the foundation upon which the pictorially decorative feature of mouldings has arisen. The groin-rib forms the first order; the angle of the doorway the second; additional orders may be added at pleasure, but the manner of arrangement remains the same, be the decoration applied in after-ages ever so intricate.

In the blind-story of the nave of Chichester Cathedral there is an example of one of the earliest steps in the direction of decoration. Here the arches are moulded on the side next to the nave, and left plain on the other. The lowest or soffit order is left rectangular; but on the receding orders on the side mentioned the angles are rounded into rolls, leaving a second rectangle midway. Later in the Norman period the mouldings resolved themselves into a series of bold rolls and square edges. Another early form of moulding, but which is not found in the three edifices under illustration, consists of small detached columns placed in receding spaces, provided by the cutting away of the angle of each order—an arrangement probably suggested by the decorative effect found to be produced by jamb shafts. A third early embellishment to an archway, and much used in the finish to pier arches, consisted of a simple chamfer taken off each edge.

Coeval with the pointed arch is the pointed roll or bowtell; and with this came the deep shadowy hollow, and the plain-faced fillet. In the crossing of Boxgrove Church there are arches of two orders, on which pointed bowtels protrude from the splayed corner of each other. This must be looked upon as a very early introduction of the new form. In Shoreham Church there are examples of the pointed bowtel at the next stage of the development of their use: these are thrown into bolder relief by hollows on either of them; and in other instances, in the same church, intervening chamfered edges present a further enrichment. After the Early English style was fully established we cannot but be impressed with the free, masterly, withal capricious, treatment of the mouldings. Bowtel, roll, fillet, and scroll, undulate in most graceful outlines; here flowing like water, there sharp-edged as quartz. Of these there are examples in the choir, blind-story, and clerestory, at Shoreham; in the repairs of the nave, in the south porch, the bishop's chapel, the north porch, the north and south chapels of Chichester Cathedral; and the recent fall of the tower has brought to the ground an arch-mould which proves that it was the work of the same period.

So clear is the evidence given by mouldings, that by the comparison of an outer arch-mould of the belfry window at Boxgrove with an inner arch-mould of the clerestory of the presbytery at Chichester, Mr. Sharpe establishes the argument that the upper stage of Boxgrove Church was not completed until the works at Chichester were in progress—quite twenty years after the construction of the lower part—as these mouldings are so nearly identical that they may be supposed to have been designed by the same hand, if not worked from the same template. In this way the importance of mouldings as testimony, apart from decoration, must be acknowledged. By the same aid the period of the building of the choir of Boxgrove Church is attributed to that which saw the third set of repairs set on foot after the fire at Chichester Cathedral. Again, the affinity between the mouldings of the north and south chapels of the nave and the west porch, together with the altar-tomb constructed against the south wall of the porch, declares these works to have been coeval. The arches separating the aisles from the north and south chapels of the nave of Chichester, just mentioned, present beautiful specimens of geometric mouldings: as these are characteristic of the period wherever they may be found, we would add that they are marked with deep hollows, with protruding quarter-round boutels, pointed and flanked with sharp fillets, or minute cylindrical rolls, and are so skilfully clustered and grouped, and so delicately treated, that beauty of form must be said to have culminated in the mouldings of this period. Referring again to their testimony concerning the age of buildings, Mr. Sharpe tells us that the period of the Lady Chapel at Chichester is fixed by documentary evidence; but that concerning the age of the prior's house at Boxgrove there is no evidence beyond that given by its stones. The similitude of the mouldings is, however, so precise, that it points indisputably to the conclusion that they were the work of one hand.

* "The Architectural History of Chichester Cathedral, with an Introductory Essay on the Fall of the Tower and Spire. By the Rev. R. Willis, M.A, F.R.S., &c. &c., Jacksonian Professor in the University of Cambridge.

Of Boxgrove Priory. By the Rev. J. L. Pettit, M.A., F.S.A.

And of Shoreham Collegiate Church, together with the Collective Architectural History of the foregoing Buildings, as indicated by their Mouldings. By Edmund Sharpe, M.A., F.R.I.B.A. Chichester: William Hayley Mason, East-street. 1861."

Of the mouldings of the Curvilinear period there is an example in the east end of the south transept, and another in the inner doorway of the west porch, at Chichester; but of the Rectilinear or Perpendicular period there are no examples of consequence in either building. These are, however, sufficiently abundant elsewhere: they are almost too plentiful to enumerate; but the characteristics may be seen well marked in the south choir chapel at Lincoln Cathedral, in a doorway at Louth, on an arch in St. Sepulchre's Church, in the east window at Stapleford, near Cambridge, &c.

There is more to be said respecting mouldings. Observed here in reference to these three buildings, they are found to bring much certain information to bear upon them; and, when examined upon the broader basis of the collective works of the Middle Ages, they will be found to yield a still clearer light. It has been supposed that, in the frequent triplets in which the members are so often grouped, there lurks a mystic meaning. This may very possibly be the case, although the natural effort to bring these minor features into harmonious keeping with other details of the edifices of which they formed part would probably bring about the same result. Thus, in the Lancet period, the bowtels were more frequently simply pointed: it was not till geometrical tracery was in use that the mouldings took the profile of a *fleur-de-lys*. In the same way, mouldings have always assimilated with the rest of the edifice. In examining an ancient building, or any part of its moulded decorations, if we find the angles of the orders of the mouldings rudely shaped into semi-cylindrical rolls, the remaining portions retaining their rectangular form, we may safely conclude that it is of Early Norman construction. If, in addition to the semicircular roll, there be angular chamfered edges on the receding members, we may attribute the date of the building to a later period of the same era. The filleted roll, the pointed bowtel, with various intervening projections and chamfered ridges, proclaim Early English workmanship; and when to these are added the variety known as scroll-moulding, we may assign a later date of, however, the same workmanship. The roll and triple fillet; the roll and fillet projecting from a ridge, both sides of which are undercut in deep hollows; the bowtel filleted, clustered, and isolated: all denote the same age. In work of the Decorated period, the scroll, called in ancient writings "ressant lorymer," is freely used; the roll is treated still more freely, being elongated elliptically, depressed or peaked, clustered or isolated with great *abandonnement*; the undercuttings are deep and cavernous; the fillet is widened; wavy lines are produced by the ogee form in compound arrangement; chamfers are hollowed and sunken; and throughout these various outlines great geometrical precision is observed. These distinctions, although not so visible at a glance, are even more indicative of the age of a building than its more striking features. In later work, this minute veracity and wealth of labour was not used. Hollows became wide and shallow, covering spaces which, in earlier work, would have been filled with groups of mouldings. The more debased the style, the shallower became the hollows of mouldings. Three-quarter-circle beads, or bowtels resembling small shafts, are peculiar to the Perpendicular style; and the double ogee, or double ressant, is another combination frequently appertaining to the Perpendicular period. There is this difference to be seen between the double ogee of the Decorated mouldings and those in Perpendicular work:—the Decorated ogee represents the profile of the half of a roll and fillet; the Perpendicular ogee rather more resembles a semicircular hollow continued in a bowtel. There is another distinction that it is well to bear in mind:—Early English and Decorated mouldings are, for the most part, grouped in rectangular recesses; in the Perpendicular period they were arranged on the chamfer plane, which mode added to the general flat effect of this later work. Bowtels in the centre of double ogees, ogees with bowtels forming one side of shallow hollows, ogees with small beads or fillets at their bases, are also noticeable features in late work.

Mouldings are sometimes of this exceptional value:—In districts which have been through centuries the scene of successive contests, such as the border country on either side of the Tweed, it often happens that the churches, as well as domestic buildings, have been destroyed by fire, or otherwise, over and over again; and, although portions of masonry of the successive rebuildings remain, there is nothing but the mouldings on the bases of columns and in other low-level places, to tell of the dates of the earlier edifices on the same site. In Northumberland and Cumberland particularly, there are churches from which all traces of their style have been demolished, and, but for a few fragments of mouldings, their architectural history would be unknown. The story of these fragments can at present be read by few: but it is to be hoped that works like that before us will make the study more general.

THE EXHIBITION COMMISSIONERS' RECEPTION.

SOUTH KENSINGTON.

SELDOM, if ever, has there occurred in England—perhaps, without exaggeration, we may say in Europe—a more magnificent reception than that which took place at the Kensington Museum on Saturday night last; whether we look upon the vast treasures of art accumulated there from all parts of the world; the royal and eminent persons assembled in such crowds, great either by their rank, ability, or position; the innumerable and brilliantly-lighted rooms; the charming music of the Artillery band, matchless in England, together with that of the Guards; or the excellent arrangements and profuse refreshments liberally provided for so many thousand guests. Such combinations as these could not fail to render this assemblage not only most singularly brilliant; but, we may venture to add, unique. It is not our province to chronicle the fashions that we saw: that is rather the duty of the *Post* or the *Follet*; but we may observe that the many elegant and gorgeous toilets that passed us in review did not go unnoticed as *works of art*; and for this much we can vouch, that they were most artfully and cunningly contrived. Neither shall we give a list of the well-known men of all nations that were there: they were legion; but we will mention, as they were exceptional, our odd-looking guests from Japan, who seem to have a Mediævality that beats our own; and, like their Chinese cousins, they cling to it, *and carry it on their backs*; for, as they dressed 500 years ago—we give not the exact date, it may be 600 or 700—so they dress now. What gas and steam may eventually effect in their *habits* remains to be proved; but we will take up a prophecy, and predict that in a somewhat less period than the above, they will be, what the rest of the world will probably be—all alike. Be this as it may, there they were, with their two swords, shaven crowns, stuffed stomachers—pockets, we imagine they may have been—we marvel what they had got in them,—long petticoats, and slip-shod feet in white slippers with no heels, pretty nearly as big and not far from as ugly as wooden trenchers. How they managed to get up stairs without leaving them behind we know not, but they did—and they *didn't*. They made good use of their oddly-set eyes, like uncut jewels in some queer mounting: these they rolled and peered about at everything and everybody, not forgetting the ladies; and no doubt will go back to Jeddo full of mystification, mistakes, and impossibilities: their bumpy but well developed craniums could not—whose could?—carry away without much confusion such surprising and unexpected novelties as here, for the first time, were spread out before them. So much for the visitors. The New Court came out well. The grouping of the light twisted pillars, seen on entering, was charming, and in excellent harmony with the department of art displayed around and about them. However, we were too confused and dazzled by the brilliant throng around, and the wonderful collection of works of art; and so must content ourselves, for the present, with chronicling the complete success of the reception as a whole.

THE NATIONAL MEMORIAL OF THE PRINCE CONSORT.

THE architects of whom the Queen's committee have sought an opinion as to the best means of giving effect to her Majesty's wishes have sent in a report, the probable pith of which has reached us. The suggestions offered to them for consideration were that the memorial should be in connexion with an institution of arts and science, either as a distinct monument in front of it; inside a hall of the building; or otherwise. The architects regarded these suggestions as pointing to South Kensington Museum; and, considering the doubts which exist as to the permanent extension of the buildings there, think it better to erect the memorial as an independent monument. They give their reasons against an obelisk (as it could not be a monolith), a column, or any erection of that description. With regard to a memorial composed of one or several groups of sculpture, they think if in the open air it must be of bronze, and if in Hyde-park it must be on a large scale. As to position, they think the proper site is to be found by drawing a line from south to north through the centre of the Horticultural Gardens, crossing the Kensington-road; on the north side of which the ground rises sufficiently to Rotten-row to give the elevation required. At that point an extent of nearly 1,200 feet from east to west may be obtained for entrances to the Park, for terraces, fountains, flights of steps or inclines; and a depth of 340 feet. In the centre of this area they would place the memorial itself. If of bronze, this might be a group of statues without a building; or if in marble, with a building to protect them. Further, to carry out the frequently expressed wishes of the Prince, they propose the erection of a noble hall, as a place for art-meetings, or for such assemblies as those now taking place in connexion with social science. This they would build on the south side of the road opposite the memorial, on the vacant ground at the back of the Horticultural Gardens. If the site for the memorial be approved, they would invite the individual efforts of the architect and the sculptor for its realization.

And this, we have reason to believe, is something like what the architects have recommended to the committee.

MARBLE CHIMNEY PIECE, ALNWICK CASTLE.

THE chimney-piece, of which we give a representation on page 424, was designed by Signor Monteroli, and is in one of the principal rooms of Alnwick Castle.

ON OVERCROWDING IN LONDON; AND SOME REMEDIAL MEASURES.*

"OVERCROWDING" means want of pure air; and want of pure air means debility, continued fever, death, widowhood, orphanage, pauperism, and money-loss to the living. It should be needless now to give proof of its deadly doings. The often-told old story of the Calcutta Black-hole should alone have sufficed. The more recent incident in the Military Hospital at Versailles is less known.

For several years in a particular month, being about a week after the arrival of the then king at St. Cloud, there was a murderous epidemic of typhoid fever among the soldiers of the garrison. It never attacked the civil population, nor the officers, even of lowest grade. The cause was simply *overcrowding*. The garrison ordinarily consisted of 400 or 500 men; but when the then king came, the number was increased to 1,200. The men were in consequence closely packed in small rooms, and fever and death came at once amongst them. The non-commissioned officers, better fed and never sleeping more than two in one room, escaped.

In the metropolis, within the last dozen years, great improvements in a sanitary point of view have been effected, legislation and public opinion having been brought to bear on the subject. As regards the particular evil, however, to which I would direct attention, it prevails still to an alarming and dangerous extent, and calls aloud for the application of such remedial measures as may be possible. Tracts have been cleared, new streets formed; hundreds of houses unfit for habitation destroyed; and though these steps must on the whole be viewed as most advantageous, it cannot be doubted that they have had the effect of filling some neighbourhoods more densely than before.

In the once notorious St. Giles's, model lodging-houses, churches, chapels, fine school-rooms, and other useful buildings, have taken the place of former dens, and have altered entirely the aspect of the locality. Even in most of the old houses which remain the conditions are changed. The common lodging-houses, which were formerly sinks of iniquity where any number of persons were allowed to horde indiscriminately in filthy rooms, are now under the eye of the sanitary department of the police, and improved drainage, water-supply, and breathing space are insisted on. Overcrowding still occurs in some of the houses; but we must look elsewhere for the greater part of the population formerly here. Some we may find in Seven Dials, in Great Wylde-street, and in the fearful

* Read at the Social Science Congress, June 9th, by Mr. George Godwin.

keys leading out of Drury-lane: people as evil, and living under conditions as bad in a sanitary point of view, as existed in the worst days of the Rookery." Take, for instance, Lincoln-court, running from Drury-lane to Wylde-street; a place to which public attention was directed not very long ago by the discovery in it of a little child who, entitled to some fortune and position, had been cast into the river of vice flowing there by one who should have been a protector. The rejection, by the way, as to what this child would almost necessarily have become if it had been left to its fate in Lincoln-court, and what it may be with right teaching and under better circumstances, suggests a lesson and illustrates the value of a healthful and well-regulated home. In such a neighbourhood as this it is not easy to learn exactly the number of occupants in a house. There seems to be a fear amongst them of being meddled with, especially if Irish, which leads them to disguise the facts. It is certain, however, that the population of Lincoln-court is proportionally enormous. As far as could be ascertained, every room contains a separate family, if not more, and is thickly occupied.* The inhabitants are of the dangerous classes. Haggard and drunken women, with every trace of womanhood blotted out, are in the pathway; and there are swarms of children, some trained to begging, and others, it may be feared, to worse. In the majority of the houses the rooms are small, and the staircases are narrow and without ventilation. In two of them it was admitted that more than thirty-five persons lived in each; but it would probably be nearer truth to say that each house of eight rooms contains, on an average, including children, forty-five persons; and as there are twenty-one houses, we have here perhaps 945 persons of the worst class pent up to their own destruction and the danger of the public. In one small room I found a man and his wife and six prostitutes, who were set forth as their daughters, but cannot be so. Some scenes here I could not venture to describe.

Evidences of overcrowding turn up from time to time where they are not looked for. It was but the other day that a child was found dead in Brownlow-street; and, on inquiry, it was learnt that the mother, a widow, and six children, slept in one bed, in a small room. The death of the child was attributed to the bed-clothes. In such an atmosphere as a room so occupied must have, the vital power necessarily becomes weak; and to kill is easy.

In a house of respectable appearance outside, I found a hole under the stairs made the sleeping-place for three persons, twenty-one, seventeen, and fourteen years of age. It was intended originally for the reception of coals, is not more than 4 feet deep, and the height, of course, diminishes to nothing as the steps descend. When the door is closed there are only seven small gimlet-holes in the stairs for ventilation. Is it surprising that fevers break out under such circumstances? One is struck, sometimes, with the strange contrivances resorted to to meet the difficulty of want of room. Thus, in a model lodging-house for families, a father, who, with his wife and one child occupies one room, has accommodated six of his nine other children the cross-way on two camp-bedsteads, while three elder girls, one sixteen years old, sleep on a small bedstead near. The room is well ventilated and clean, but the same sort of stowing away is to be found in hundreds of cases under circumstances which render it deadly. In another room in the same building a wooden shelf has been contrived which can be pushed under the bedstead during the day, and drawn out at night to accommodate a pile of children. I have illustrated some of these incidents on page 425: the engravings will speak for themselves.

In a respectable house not far from the last, occupied by steady artisans and others, I found that nine persons slept in one of the rooms (12 feet by 14 feet),—a father, mother, and seven children. Eleven shoemakers worked in the attics; and in each of the other five rooms there was a separate family. I could quote scores of such cases of overcrowding in what would seem to be decent houses, but the repetition might tire. No words, even aided by the pencil, can give a full idea of some of the dens which are occupied by a lower and different class; many born to evil and without the power to rise; others the victims of more recent misfortunes or their own conduct. The world has still an interest in improving their condition: children as yet innocent cry aloud to be rescued from the otherwise inevitable gulf. In some places in the eastern districts, quite recently visited, I have found ten, eleven, and in more cases than one fourteen persons occupying a single room. Nor can any authority interfere even when this occur in a house let in tenements, so long as it be believed that the persons so lodging are members of the same family. The Nuisances Removal Act would seem to give power to remedy such cases, but practically it fails.

Seven hundred cubic feet are shown to be the smallest space, under ordinary arrangements, that will afford one person healthful sleeping-room. In apartments such as I have last described, the occupants have not one-fifth of the required space.

Years ago, in treating of this subject, I illustrated with engravings the contents of the houses in Charlotte's-buildings, Gray's-inn-lane.* The population here continues to be immense; and, although the drainage has been improved, the houses remain as black, as grimy, and as crowded as ever. In some of the dwellings the crowding is even greater. Close by are the houses known as Tyndall's-buildings, which have been made fit for healthful habitation by the Society for Improving the Condition of the Labouring Classes. These are let in apartments at moderate rents, and, nevertheless, are not full. It is most desirable that the real cause of this should be made clear. Formerly the houses there were crowded from the cellars to the attics, as those in Charlotte's-buildings and other places near still are: and now that the conveniences have been increased, the water supply is improved, and other good arrangements have been made, rooms remain unlet. Various reasons may be suggested, but I must not pause to discuss them at any length.

Particular classes of the metropolitan population require peculiar accommodation. The costermongers, for example, who occupy Charlotte's-buildings, the neighbourhood of Leather-lane, and elsewhere, need room for their goods, barrows, and donkey-carts,—much space for small rent; and this is difficult to obtain in London. An attempt to meet their wants was made in the underground part of the Portpool-lane building, but it did not suit them to be separated from their goods; and so they continue where they can herd together as they like.

Hundreds of modern houses, built in decent suburban neighbourhoods as if for one family only, are made to contain several. The neat external appearance of many of them (one I show) gives no suggestion of the dangerously-crowded state of the houses. A section of one in Bemerton-street, Caledonian-road, will be more truthful. The basement below the level of the street contains in the front room an old man and his wife; in the back room, two lodgers; in the parlours, there are a man and his wife and eight children. On the first floor, a man and his wife and infant; two girls, sixteen and eighteen years of age, and occasionally their mother,—all in the front room; and in the small back room, two women, a girl, and the back room make the whole population of the house thirty-four.

In the next house there were thirty-three persons similarly divided. In a street to the westward matters are even worse. The houses, moreover, are altogether unsuited to the use they are put to. Ventilation is not attended to; the drains get out of order, the "traps" are destroyed, and the atmosphere is poison.

In some old houses, in the St. Luke's district for example, the houses being built back to back, there is no current of air. In one house, with staircase in the centre, there were in the four small rooms on each side of it, forty persons in the daytime. How many there may be at night I cannot say. The atmosphere on the staircase was sickening.

The Act for regulating Common Lodging-houses has worked well: fevers have ceased to infest them; and the manners even of those frequenting them, it is said, especially with reference to the provinces, are much improved.

The Act nowhere defines the class of buildings intended to be designated as common lodging-houses, and a very limited application of it was made. I cannot avoid the conviction that its powers should be farther applied: that all houses let in tenements should be registered, inspected, and regulated. It might be desirable to limit the application to houses let to more than two families, but this would be for consideration. Competent inspection and restriction as to the number of occupants in a given space are absolutely necessary. It should be no answer to the requirement of a certain cubical space for each occupier, that the financial resources of the parties would not admit of it. A man is not permitted to poison with prussic acid those who are dependent on him because he is poor; neither should he be allowed on that ground to kill them with bad air, and set up a fever-still for the benefit of his neighbours. "An Englishman's house is his castle" is a good saying, but surely it should not protect the ill-doer. Prejudices should be met as far as might be practicable; and if the duty of inspection were confided to the same department that now attends to common lodging-houses, it might be desirable that the officers employed should wear a distinctive dress, that their business at a man's house should at once be seen. Moreover, they should possess special knowledge, and aptitude. It appears certain that typhoid fevers have been recently destructive of life beyond former experience, and that, too, not so much in the dwellings of the poor as in those of a higher class. It is equally clear to all who have well considered the subject, that these diseases result from the neglect of sanitary law. The parish inspector, the medical officer of health, and the sanitary police, have been at work in the courts and alleys, crowded back slums, and common lodging-houses; and have effected great improvements in many quarters,—lessening the prevalence of disease. It is not too much to say that the inspection by competent persons, armed with certain powers, of the town and suburban dwellings, of all classes, nay of dwellings in the country too, would be productive of the greatest advantage.

It is known that people are made ill and die from preventable causes. Endeavours, then, should surely be made to prevent them. An inquest is held touching deaths that occur through poison, or violence, or accident. We know that thousands of persons die as surely through sanitary ignorance, and neglect, wilful or otherwise, of sanitary laws. If inquiry were made in such cases, great advantages would result. At any rate, the buildings in which deaths have occurred from this known class of diseases, and the circumstances attending the deaths, should be investigated. It is not too much to assert that, in a large proportion of the cases where several members of a family have been swept away by zymotic disease, the proximate cause might be discovered by careful inspection on the part of qualified investigators. The assertion on the part of the occupiers that there is nothing wrong about the house, and that it is perfectly healthy, is worth nothing. Custom blunts perception; and ignorance does not perceive. In a room over a stable in Baker-mews, Portman-square, three children died in less than three months. The briefest examination showed a bedroom without ventilation; a closet ill-placed; and the access of evil odours from below.* With respect to a house wherein some fatal cases of diphtheria had occurred, it was asserted by some who ought to have known better, that there were no obvious reasons why the house should be unhealthy: the neighbourhood was open: the doctor had found no fault. On a personal examination, what was seen? The first sketch will show. An outhouse nearly filled with vegetable refuse; two water-closets in the house left without any but an accidental supply of water, through a disarrangement of the cistern that had not been attended to; an overflow of water from the cistern to saturate the dust-bin and vegetable refuse; and, to make matters still worse, a choked drain (B) which brought the soil back into the yard. Could such blindness be imagined? This is no invention, but a faithful picture. I could give scores of such cases from my own experience.

In a house not far from that last mentioned, the child of working people was carried off in a day and a half by the same disease. I sent a careful inquirer (Mr. Brown), who found that the parents occupied a small room in a house let to lodgers. In the basement, damp and unwholesome, were two families of costermongers, who at night kept fish and other offensive matter in the rooms. Here were dogs, cats, children, and dirt. In one room above them lived a shoemaker, wife, and son; in the back room a large family; and separate families in each of the four rooms above; one of the rooms including also, as is often the case, a number of

* We ought to be able hereafter to obtain from the Registrar-General's Report reliable figures as to the population of peculiar localities.

* "London Shadows: a Glance at the Homes of the Thousands." By George Godwin, F.R.S.

* I have given a sketch of the exterior with letters on it, for the sake of reference; but it would stop the narrative to go minutely into particulars.



SCULPTURED CHIMNEY-PIECE, ALNWICK CASTLE.

rabbits. The atmosphere was offensive. The dust-bin was without cover, and the "closet," necessarily inadequate, was at the foot of the stairs. None need wonder that disease visits such a house. If intelligent inquiry were oftener made, cause and effect would become more widely recognized.

I know of a house in the Old Kent-road, recently pulled down, where cholera, fever, and diphtheria had at different times been visitors, and in which many deaths occurred. Will any one say that power of inspection was not needed in this case? The house looked pleasant, as the second sketch will show; but it was surrounded with a horrid ditch, and had a stagnant pool behind. I give these facts to strengthen the claim for a power of inspection in respect of overcrowding.

Amongst the causes which lead to the evil we are deploring we must not overlook the gradual increase of children; while in the case of the labouring man the income mostly remains the same. The want of providence on the part of such is often commented on with good intentions. But, while admitting that better use might be made of their income in many instances, we must not omit to remember the cost of living in London, especially with a large family of children, and that thousands of these men are regular subscribers to benefit-trade societies and other associations for providing aid in the event of sickness, accident, or death. The sum thus laid by is enormous. As the children increase in number the wife is prevented from adding by her earnings to the income, and many years must elapse before the children can be put to work. To this class, often thus driven to evil lodgings, the occasional inspection of dwellings by authorized competent persons would be an immense advantage,—a saving of money, a saving of life and health! A consideration of their circumstances, moreover, suggests the importance of lessening the cost of wholesome and comfortable lodgings by all practicable means. Machinery, as I have elsewhere on other occasions urged, might be brought to bear in carrying out this view to a greater extent than has yet been attempted. As boats of a particular set of patterns may be built in numbers at an immensely reduced cost, so might houses be cheaply built for the struggling classes. The increased value of land in towns forms necessarily a material item, and seems to necessitate building *high* instead of building *wide*. The ground-rent for two sets of apartments would remain the same for say six sets formed one over another; and while, in the one case, it would be oppressive, or even insurmountable, might in the other offer no difficulty. Houses, moreover, must be built with a view to receiving a number of families, and not, as now, as if for one family only; and those assessments which militate against such arrangements should at once be reconsidered.

It is not alone in sleeping-rooms that overcrowding to a dangerous extent still occurs. Look into the work-rooms in many parts of the metropolis, and you will find them filled to far over danger point. Artificial flower-making, formerly practised mainly by individuals at their own homes, is now a great trade carried on by persons who employ large numbers of women and children, for the most part crammed into small rooms where healthful existence is impossible. In an upper room in Oxford-street, not 10 feet square, I have seen a dozen delicate young women closely shut up, pursuing this occupation; and there, when business is pressing, they remain at times from eight o'clock in the morning till twelve at night. In another house nearly every room is filled in a similar manner. Many of the work-rooms of fashionable milliners are similarly overcrowded, as are those where young girls are engaged in book-stitching. Take, as an example, a house in Fleet-street, looked at not long ago. The passage is narrow; a door in it shuts with a spring; the staircase is confined, and without ventilation; the atmosphere is steamy, and smells of glue; ascending, it is seen that all the doors shut with springs. In the first room looked into forty young women and girls were sorting and stitching books. There was a stove, but no ventilation. Without going further into details, there were more than 200 persons in that house, pent up without provision of that first necessity of life, pure air. Poor creatures so placed are being slowly slain.

Breathing space is at all times necessary, and more especially when sickness or death is in the house. Yet what do we often see? Amongst the London Irish, when death occurs, the neighbours and friends assemble in large numbers to poison one another. I have seen a small unventilated room thronged about the body of a child arrayed in flowers and ribbons, lighted by large candles in massive candlesticks borrowed from the publican. During the time of sickness, too, it is the practice to crowd the room. I have heard of thirteen persons round a sick woman in a small back parlour used as a bedroom: and I sketch a similar scene to make the evil obvious.

In several parts of London, persons employed in making cheap clothing are boxed up in crowds, in a manner that could not be guessed by those who have not made a personal examination. In a small room not large enough for three, twenty-five tailors may be seen. In another, boys and women strive to get a living in a death-giving atmosphere. Shoemakers are often as ill placed. In wretched apartments in an ill-drained house may be found men and boys huddled together without room to breathe; where, as one so placed remarked grimly, while they are drawing the strings of misery they are "closing up" their own lives. Other trades, such as cap and bonnet makers, trimmers, blonde-joiners, &c., to which I have looked with some little care, are forced in many places to do much the same thing. The extent of suffering entailed, and the loss to the community, it would be difficult to calculate. It is not simply a duty and an act of justice on the part of employers to provide wholesome work-places for their people, but advantageous even, pecuniarily, in the long run. These inducements, however, do not prove to be sufficient, and it is time, therefore, that legislation should be tried. Interference is needed for thousands of persons, especially young females,—the debilitated mothers *in posse*, should they live, of our future population.

This is no slight matter of which I am speaking. The evil is sapping the strength of the land; and concerns as well the political economist and the egotist, as the philanthropist and the Christian.

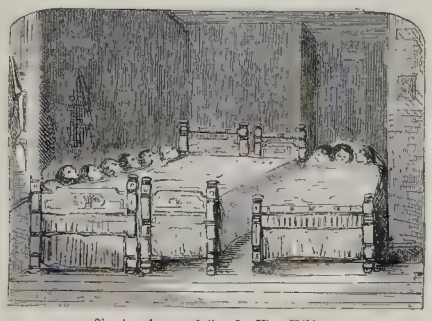
OVERCROWDING, AND OTHER SANITARY DERANGEMENTS, IN 1862.



Healthful Condition of a House in Islington.



A Pestilent Suburban Cottage.



Sleeping Accommodation for Nine Children.



Family Stowage: Nine Sleepers, besides Dog and Cat.



"Waking" the Dead and Killing the Living. *Murdering the Innocents.* *A Very Sick Room.*



A Bedroom under the Stairs.



A Modern House with Thirty-four Occupants.



An Old London House let in Apartments.



Healthful Living over Horses, Baker mews.

WHAT WAS DONE BY THE GREEKS AND WHAT IS DONE BY THE PRESENT CLASSIC (?) SCHOOL.

ARCHITECTURAL JOURNALS have two distinct classes of readers, viz.,—those who read every article right through in the most careful manner, and those who content themselves simply with looking at the engravings and perusing the table of contents given on the first page. It is not my purpose to say which class may be the more numerous; but it must have been impossible for either of them to have missed seeing, at least, the titles of certain papers, which titles, for the most part, run thus,—"The Battle of the Styles;" "Which is it to be, Gothic or Grecian?" "Grecian contrasted with Gothic," &c. Now, of course, nobody in the present day dreams of connecting the architecture of the Middle Ages with the countrymen of Alaric; but to attempt to establish an identity between the work of the time of Pericles and the debased mass of absurdities such as we see in our own St. Paul's, is just as bad: and when we look at the actual works of the writers of the above-mentioned papers with the sensation articles, we do not find one single building of pure Greek architecture among them, for the simple fact is that it is quite unsuited to our climate; and we are therefore presented with buildings which, in their masses, window spaces, roof arrangements, &c., are almost Mediæval, but overlaid with such broken pediments, such swags of flowers, and such foliage and mouldings, that, could an ancient Greek be brought back to this world and behold them, he would indeed open his eyes to their fullest possible extent.

Again, all the members of the Mediæval school —and I am happy to say that it comprises nearly every rising architect — are by the writers of those papers, supposed to be filled with the most deadly detestation and hatred of all Greek art and to wish for its utter destruction; the real fact being quite the reverse, for I believe that there are no more firmer believers in REAL Greek work than the men forming the Mediæval school, and for this very good reason,—the same great principles apply equally to both arts, and to master either of them thoroughly the student must learn certain great truths, which will go far to make him a proficient in the other. The advocates of Pagan art may be divided into two classes, viz.,—1. Those who talk about Phidias, Ictinus, the Parthenon, the Propylæa, &c., and then go and perpetrate the art of Sir Christopher Wren, if art it can be called; and 2. Those who take up Greek art as an antiquarian study, and so identify themselves with it, that anything like a pointed arch or deeply-cut moulding must naturally shock their eye, to say nothing of the comparison they must make between the Elgin marbles and the lifeless sculptures so often seen in our modern work. Now I, for one, sympathize greatly with these latter gentlemen as regards the sculpture, and I hope they will go on elucidating the great principles upon which Phidias and his contemporaries worked; for, depend upon it, the more we all study in that particular school the better artists we shall become.

As I believe that there are some of the rising architects who are so innocent of Pagan work that they have not even drawn out the five orders, I propose, first, to give a very slight sketch of what Greek art really was; secondly, to show what Sir Christopher's Wren's art really is; and, thirdly, to offer a few suggestions as to how the former may be made profitable to the new school of Mediævalists.

Some four years since it was my good fortune to see the Acropolis at Athens with my bodily eyes; and never did I find a greater difference between studying from prints and from the building itself, for those prints I had hitherto seen were either in painfully thin lines or so elaborately shaded that the beautiful gold-coloured columns of the Parthenon looked as if they had been put up the chimney and well blackened. The first impression of the Acropolis is, that its builders have deserted it when half finished, so much are the broken fragments of marble strewn about interspersed with splinters of the natural rock; for the Acropolis is a large rock, something like a fish in shape, and it is only when you have well studied the localities with the aid of trusty books that you begin to appreciate the exceeding beauty of the work. It would appear that this rock was the original Ceeropian city, and that after the Persian war it was devoted entirely to the temples of the gods and to works of art; for anciently, as in the Middle Ages, temples and public places were the repositories for beautiful statues and pictures and not buildings erected for the purpose, which are only open at certain hours, and where you have to buy a catalogue to find out the subject of a picture or statue; for no curator was ever known willingly to put labels containing full particulars on each article.

Anciently, as I have just observed, temples and public places were the museums; the works of art were seen at all hours and at all times; and there was no need of labels, for every gamin could tell you the name of his fellow-citizen who had cast that bronze or chiselled that marble. The Acropolis at Athens was a museum of this description; and the Piazza Publica, at Florence, is another.

Round the base of the Acropolis were sundry public edifices; for instance, the great Dyonisiac Theatre, where the Athenians heard the wondrous works of Æschylus and Aristophanes; the Odeum, or music-hall, built out of the spars of the Persian vessels destroyed at Salamis; the Grotto of Pan; the Aglaurium, &c. On the top ran a wall constructed at various periods, some parts of it bearing out the story told by Thucydides as to how Themistocles amused the Spartans in a diplomatic manner (*i.e.*, told lies that looked like truth), while every soul in Athens laboured at the fortifications; and at the present day we still see parts of the walls into which are built drums of columns and pieces of entablature evidently the ruins of the old Hecatompedon destroyed by the army of Xerxes. Other parts were built by Cimon, the son of Miltiades; and atop of all ran a series of figures representing the Giganto-machia and other myths. It is by no means very clear how these groups of figures were arranged, whether they formed a sort of carved parapet such as we see in the Temple of Nike Apteros, or whether they were like the *clôture du chœur* of a French cathedral. However that may have been, we do know that the wind blew down one of these groups into the Dyonisiac Theatre, and they could not, therefore, have been built into the wall; at the same time it is difficult to make any arrangement by which they could form part of the fortifications, unless we suppose them to have been carved on the front of the battlements. If we look at the coin which shows us the Dyonisiac Theatre, we shall see a number of square niches in the wall just over the theatre. Could these have been the receptacles for the groups forming the Giganto-machia? if so, these niches must have been a "jour"; or how could the group have been blown down? and if a "jour," how about the defences?

But the great attraction of the Acropolis was the Propylæa, or entrances occupying the western end of the hill. These buildings are said to have been preferred by the Athenians themselves to the Parthenon, and with good reason, for they contain infinitely more of the elements of the picturesque, even at the present day; and when perfect and adorned with the many groups of statues, with the delicately-pencilled coloured ornaments and gilding, with the immense flights of steps below, and the statue of Minerva Promachus and the Parthenon rising above; the whole being backed by a clear blue sky; the effect must have rivalled that of the west end of any Mediæval cathedral that was ever built. No wonder Epaminondas told his fellow-citizens that they must uproot the Propylæa from Athens, and plant them in front of the Cadmeian citadels; but here it must be remarked that this beautiful effect depended not so much upon the architecture itself, as upon, first, the situation; second, the grouping; third, the superposition of one edifice or statue over the other; and lastly, upon the painting and sculpture. The same remark to a great degree applies to the west end of our cathedrals, only there the architecture plays a more prominent part, and displays eminently more constructive science; but then this was necessitated by the exigences of the climate and of the material; on the other hand, the cathedral lost in the painting, which the climate forbade, except where defended by deep recesses from the weather; and even in these recesses the polychromy has perished, although we have good evidence that it obtained in the west fronts both at Notre Dame de Paris and at Amiens. Inside the Acropolis, the first object which met the spectator's eye was the colossal bronze statue of Minerva Promachus, made by Phidias from the spoils of Marathon. This statue, with its pedestal, was probably 70 feet high, and, had there not been numbers of life-sized statues in the vicinity, would undoubtedly have dwarfed the building, like the colossi at St. Peter's at Rome. Beyond this again, was the Parthenon on the right hand, and the triple temple of Erectheus Minerva, Polias, and Pandrosus on the left, all the remaining space being filled with *chef-d'œuvres* of the most celebrated Greek sculptors. According to all descriptions, the rock appears to have been cut into terraces, and upon them the statues were placed, on various pedestals suited to the height at which they were to be seen. As to the Parthenon, it is too well known to require any description, more especially as it was built on a regular plan, and had no very great elements of the picturesque about it. The cella was divided into two parts: that to the west contained the treasury, and that to the east the wonderful chryselephantine statue of Minerva. The great question which has perplexed antiquaries is as to how light was obtained; for there are no windows in the walls, and the door, although large, did not admit of sufficient light to do justice to the beautiful statue within. Some antiquaries have supposed that light came through the marble tiles, although this is exceedingly improbable. Others, following the usual reading of Vitruvius, have supposed a hole open to the air existing in the middle of the roof. This is by far the most popular theory; but then the question arises, how was this hole covered? By an awning, say some; or by a skylight of horn, or transparent stone, say others. Again, my friend Mr. Fergusson has invented a most ingenious theory, by which the building could receive light by means of dormer window nearly invisible from the exterior. This would get over many difficulties; but still there are one or two objections, such as what would become of the rain which would fall into these openings.* Mr. Falkener, on the contrary, goes in for an open skylight; but makes the ceiling semi-circular, partly upon the faith of a late Roman coin, and partly on account of the height of the statue. These are certainly enough alternatives to choose from; but I am afraid the solution remains as far off as ever; at all events the antiquaries are still fighting over it with great spirit. Viewing the matter dispassionately, Mr. Fergusson's theory the appears most practical upon the whole, and the one that an architect would most probably follow if he had to build a new Parthenon: a feat, however, none of us are likely to be called upon to accomplish, considering that this edifice, which measures only 288 feet by 101, is computed to have cost about the value of 700,000*l.* of our money. As to the Erectheum, the plan is very complicated; and there are no less than three façades, two of them Ionic, but of different sizes; and one with caryatides, the copies of which are so frightfully out of place in the Church of St. Pancras, an edifice which deserves the most careful study by every architect, inasmuch as it proves how completely unsuited Greek architecture is to our climate. Now in all the buildings on the Acropolis there are two very noticeable things: first, the plans, which by no means come up to what is generally called the simplicity of Greek architecture. The Parthenon, it is true, is not a complex building, but the Erectheum certainly is; and the Propylæa, with the wings which differ from one another are another instance of irregularity. The fact is that the Greeks, like sensible men, did not bind themselves by rules (which, by the way, are made only for incapables), but did whatever they thought right and what looked best. For instance, the only two buildings on the Acropolis which are parallel to each other, are the Parthenon and the Propylæa; but then the former was south of the latter, so that, when you looked at the elevation of the one, you got the perspective of the other. The Temple of Nike Apteros, again, was set at an angle to the southern wing of the Propylæa; and within the walls, the bronze statue of Minerva and the Erectheum are at angles to each other and to everything else. By this means a difference of light and shade was obtained, the sun resting longer on some parts than on others, and so getting an infinite variety of effect. Now, when such things occur in Mediæval buildings, the would-be Classic shrugs up his shoulders, and mutters something about monkish superstition and rule of thumb, totally forgetting that these various effects we have just been admiring at Athens were obtained, not by any rule, but by a correct eye and a cultivated taste. It may seem presumptuous in me to offer an opinion, but I most firmly believe that the beautiful mouldings we so much admire in Greek art were drawn by the hand, and were not the results of geometry, as Mr. Peter Nicholson and others would lead us to believe. Another thing observable is the wonderful manner in which the long lines of the columns, of the pediments, and of the steps, are corrected; for had these been drawn straight, they would, from their length and from perspective causes, have appeared concave. They were, there-

* I see, by the plate illustrating Mr. Fergusson's paper read at the Institute of British Architects, that the rain is carried off through a channel which comes out just above the panathenaic frieze.

fore, made slightly convex, and the consequence is that they look straight. The axes of the columns, again, are slightly bent inwards to the building; and the angle columns are made larger than the others, because in certain views they would have no background. Now these minutiæ are not confined to the Greeks, but are things which become apparent to every architect with his wits about him, and who superintends his building himself. I say, superintends his building himself; for it is only by being on the spot day after day that he can possibly see the want of these subtle corrections; for the modern system of visiting the work once a fortnight is certainly not conducive to this end. A curious instance of the universality of the correction of perspective is to be found in Mr. Falkener's "Dedalus," where, after mentioning that the thighs of the Bacchus formerly on the choragic monument of Thrasyllus are diminished on account of the perspective, he goes on to say that Mr. Digby Wyatt observed the very same thing in the sculptures of the west front of Wells Cathedral; but then, says Mr. Falkener, after quoting Mr. Wyatt, "I am unprepared to adopt the conclusion natural to be drawn from the premises here given, otherwise we should have to attribute to these sculptures an amount of skill and refinement quite incompatible with the state of the arts in the Middle Ages." If Mr. Falkener had only studied the west fronts of Chartres, Notre Dame de Paris, and Rheims, with half the attention he has given to a style which suits neither our religion nor our climate, he would certainly not have made the latter observations; for, as I said before, Mediæval art is quite as perfect as Grecian, and if there are imperfect works in the former there are equally so in the latter: the Phigaleian frieze for instance, where there are sundry sins in the proportions of the extremities; in fact, there is just the difference between it and the work of the Parthenon that one would expect to find between a city and a provincial work. But the Greek having erected his building,—which, by the way, was generally of the Doric order,—next proceeded to colour it. The building was either constructed of marble or stone; if the latter, it was in many instances covered with two coats of cement. At Pæstom the first coat is about a quarter of an inch, and the second about one-eighth of an inch; the latter is lime mixed with a considerable proportion of marble dust, and polished. This plastering is still used in Sicily, and Professor Cavalari gave me the following recipe:—The first coating is three of sand and one of lime; it is laid on ¾-inch thick. The second coating is one of quick lime, and 1-20th of pounded marble; and polished, when it arrives at the consistence of wax, with a hot iron for exterior work and with a cold for interior. It is by no means improbable but that the glare of the marble, or of the plaster, was toned down before the application of the polychromy, and there is some reason to believe that this was effected by the application of saffron and milk. However this may have been there is no doubt but that the monuments of the Acropolis owe their present beautiful golden colour in a great measure to the dust of the plain, for the restorations in the Erectheum are already beginning to be toned down by this means; but, even were this not the case, the system of polychromy was eminently calculated to effect a similar object. Now by polychromy we must not imagine that the edifice was covered over by a thick coating of paint; on the contrary, it was applied in very intense colours, but in comparatively thin lines,—say, for instances, the pediments: the background would be probably blue; the garments of the figures were left white, but all their borders were marked with colour and gold, and the garments themselves covered with minute diapers of colours, while all the accessories would be supplied by gilt bronze. Now the question is, what would be the effect at a distance? And this is a question I can answer from experience; for some little time ago I treated a small alto-relief in this manner; and when I viewed it from some distance, I found these small diapers disappear, and the parts of the alabaster where they had been placed presented a most beautifully delicate tint of the prevailing colour of the diaper. So much for the tympanum. We now come to the metopes, which could hardly have had a blue ground, for it appears that the triglyphs were almost always coloured blue. This would necessitate either a white or gold ground for the metopes. In the latter case the sculpture would be treated very much the same as in the pediment; but in the former a little more colour would be applied in masses, principally on the insides of the garments, so as more effectually to detach them from the ground; always, however, remembering that the great thing was to show off the valuable material, the marble. The rest of the architecture was covered over with minute ornaments, much in the same manner as the draperies; while gilt metal shields and other accessories contributed to the richness of the effect. The next thing was to detach the walls of the cella from the columns. This would appear to have been done by positive colours, for we know from Pliny that representations of sea-fights were painted in this position; and it is just possible that the walls, for some way up at least, might have been treated, like those at Pompeii, with a picture occurring between each column; the post-office at Munich is thus managed, and looks very well indeed. Inside the temple was the ivory and gold statue of Minerva. This, of course, has entirely disappeared, although the guardians still show in the museum of the Acropolis a piece of ivory which they assert to have been found in the Parthenon, and to have formed one of the fingers of the goddess. However this may have been, the ivory is certainly very old; the layers have become detached from each other, and along one side is seen a groove which has formed the pin-hole of some tenon or mortise. There are two ways in which this and similar statues might have been treated: one was, to make the carnations in ivory and the garments in gold; and the other was to make the whole in ivory, reserving the gold for the ornaments, such as the borders and diapers of the garments. The latter, I must confess, appears to me the more feasible, more especially in a colossal statue, where, in the other case, the mass of gold must have overpowered the effect of everything else. There is also very good reason to believe that colour was employed as well as the gold, which, in this case, was not gilding, but beaten ornaments fixed on with nails. The statue itself was made of wood; and the ivory, of course, was only a veneer. A great deal of learning has been expended upon this veneering, some supposing that the ancients had the art of cutting and flattening the ivory, so as to get large sheets of it; others, on the contrary, suppose that they were able to obtain fossil ivory of extinct animals in much larger tusks than we have at present. But, however this may have been, we do know upon the best authority that the ancients did make colossal statues plated with ivory, and that they had a fear of the joints opening is evident by their surrounding the Minerva at Athens with water because the rock was dry, and the Jupiter at Elis, with oil, because the site was damp. If the principal statue in a temple was of marble, it was treated very much as we have seen the statues in the pediments. The only difficulty is about the flesh. There is an obscure passage in Pliny in which mention is made of the *circumlitio* of Nicias who, it appears, was employed upon the statues of Phidias. This, by some people, has been supposed to mean simple polishing; by others a polishing with wax, after colour had been rubbed in; but most probably it simply refers to his skill in executing the pupils of the eyes, the eyebrows, the thin line which marked the eyelid, the lips, and, indeed, the delicate painting which was generally demanded in works of this kind. It is by no means improbable that a delicate transparent varnish was put over all the carnations, so as to give an appearance of life, and yet not to destroy the grain of the marble. I have seen traces of this transparent varnish in only one work, and that a Mediæval one, viz.,—in the tomb of the Queen of Charles Durazzo at Sorento. It is a sarcophagus, supported by four figures. Above is the effigy, and, if I remember rightly, the usual angels drawing curtains. On the sarcophagus are bas-reliefs—on one side the Queen, surrounded by her ladies; and on the other she is in a religious habit, surrounded by nuns. On the former of these the polychromy remains quite fresh, and all the carnations have been covered with a transparent flesh-coloured varnish.

If the statue were of bronze, it was frequently gilt; and nothing is finer than gilding when it has become slightly oxidized by the weather. Again, the Greeks would appear to have had some secret for preserving their metal statues from oxidations; for we read of all sorts of coloured bronze, and particularly of a certain statue of a dying lady, where the metal was so managed that the extremities were paler than the other parts. Now, if we examine the large bronzes in the Museo Bourbonico at Naples, we shall find them to be composed of several parts riveted together, the junctions being concealed by the drapery or bracelets. Here one can easily see how variously-coloured bronzes might be used in the same statue; and the encaustic preparation usually then employed as the medium for painting would doubtless act as a preventive of oxidation; and, indeed, the present encaustic, which is a preparation of wax and gum damma, acts in a similar manner. Again, in the Museo Bourbonico bronzes we find the eyes put in with stones, and the borders of the garments damascened with silver. Again, what is more beautiful than the Greek coinage, more especially the Sicilian series? They are, indeed, veritable works of art, and are supposed to have been executed by the same men who did the wonderful intaglios on sards and other precious stones, which have been so much valued in every age of the world. Another branch of metal-work is the gold jewelry, so frequently found in tombs. Here the work is so delicate that it is difficult to conceive how it could have been executed by human hands; and although our modern jewellers try to copy it, they by no means come up to the original. Imagine an earring made by soldering together gold wires as thin as hairs, or covering a gold bead with the minutest gold dust, so as to make it look frosted. Of late, imitations of this Etruscan jewelry has been introduced amongst us, and the consequence is that one can now occasionally look into a jeweller's shop with some pleasure. Some very fair specimens of it are to be seen at the International Exhibition; but, as a general rule, our jewellers appear to think the perfection of their art is simply to obtain as many large stones as possible, so that the longest purse makes the best artist.

Although we have lost almost every vestige of Greek painting, doubtless many of their compositions are preserved to us in the vases. Let any one examine Sir W. Hamilton's works, or, better still, the originals in our own Museum, and he will then see how much is to be learned from them as to the strictly architectural treatment of the human figure. Here everything is severe to the last degree; but everything is graceful and well drawn, and would, if enlarged and incised in stone, form an excellent pavement for a thirteenth-century building.

Now what of all these things do the advocates of the pseudo-Classic school give us? Do they give us damascened bronzes, or a decent coinage, or painted marble, or gold and ivory statues? or do they polychrome their buildings, and set them at angles to each other, like the Greeks did? On the contrary, they appear to do none of these things; but ask us to put up with debased work,—with broken pediments, coarse mouldings, and hideous swags of foliage, to say nothing of comic Cupids such as we see at St. Paul's. I will not be invidious and mention any of these buildings; but any one who takes his walks abroad, more especially in the City, cannot fail to be struck with them. But if we must have them, why call them Grecian, when they have no one thing in common with the buildings erected by that people? The proper name would doubtless be modern Roman, for in no city are there such hideous examples of it as in the future capital of Italy. It is for these reasons that the Mediæval school protest against modern Pagan art; not against that of ancient Greece, which we admire, and are only too happy to study. Indeed, so similar are some works, that antiquaries have been found to suggest whether the lions at the gate of Mycenæ are not Mediæval; and there is a bas-relief preserved in the Acropolis evidently a relique of the old Hecatompedon, which exactly resembles in style the Chartres sculptures. What we have to do is to appropriate all the processes of the Greek artists: let us make our buildings in the spirit of the architects of the thirteenth century, no matter how plain and severe they may be; put in plenty of material, and they are sure to look dignified. Then to decorate them. Let us, besides polychromy, employ various coloured bronzes; let us damascene them with gold and silver; let us take the clearest pieces of our native alabaster and treat statues made of it as the Greeks treated their marble, viz., with colour and gold. Let us even use gold, ivory, and colour together; in fact, let us do as they did in the Middle Ages:—not neglect antiquity, but press it into our service.

WILLIAM BURGES.

THE TEACHING OF THE INTERNATIONAL EXHIBITION.

To thousands the Exhibition affords an opportunity of enabling them to form an estimate of the comparative merits of the British and other national schools of painting, and which has not, on a similar scale, been before obtainable in the metropolis; and as regards the fine arts, although the collection only embraces a particular and

limited period, it forms a most valuable school of art-teaching. Independently of this, it is satisfactory to note that the comparisons which we have here the means of making enable us to claim for our painters various high qualities. The large scale of this Exhibition enables us more clearly to see how strongly our school of painting is founded on nature. Look, for instance, at the best pictures of Turner, which have not been equalled for truthfulness, poetry of treatment, and the rare combination of light and shade and colour, by the landscape-artists of any time or country. The paintings by Constable, Calcott, and many other Englishmen, which are here to be seen, worthily keep their place against foreign rivals.

In portrait-painting, our power is no less evident; and in many of our pictorial representations of historical events, and in the delineation of the phases of every-day life, the pictures now exhibited show both originality and merit. Originality is a peculiar feature of the English school. See, for instance, in the works of Turner,—with the exception of those paintings which were executed in acknowledged rivalry with Claude de Loraine and Vandervelde,—how distinct are this man's works from those of any other artist. Even the exceptions referred to cannot be said to come under the class of servile imitations; for these display the treatment of a peculiar class of subject in a way in which Turner shows his own excellent qualities.

The marvellous pictures by Hogarth are also distinctly original. They cannot be said to be imitations of either the Dutch, Flemish, or any other school; and are remarkable for their intellectual conception, the philosophy and goodness which they teach, and also for artistic qualities of the very highest order; particularly as regards skilful and careful drawing, admirable composition, and, in many instances, for fine qualities of light, shade, and colour. Hogarth has generally not had sufficient credit for his colouring; and it is worth while to note that excellence and vigour in colouring form a strong point in connexion with the higher departments of English art. A large space might be usefully occupied by critical remarks on the English paintings which the multitude have now the opportunity of examining; but we will not now, on this point, do more than direct attention to the vigorous handling and bold treatment of some of the best works of Sir Joshua Reynolds and several of his contemporaries. An examination of various pictures of more recent date shows that, on the whole, they would be improved by the use of more of the large, broad, and vigorous handling referred to; but, upon the whole, this exhibition of British pictures is very creditable to us, and shows, by the contrast to which they have been submitted, that we cannot be fairly said to be an unartistic people; and we have, besides, claims for consideration in the departments of sculpture, architecture, and eminently so in water-colour painting; in engraving, both on metal and wood; in the practical execution of many art-manufactures;—for instance, in the excellence of the materials of both pottery and glass, and often in the goodness of the design of matters of this description. It is a valued property of this and other similar exhibitions that, as is the case with pictures, &c., we have the opportunity of comparison. For instance, the glass manufacturer may, without the loss of time and cost of long journeys to foreign countries, inspect the best of the world's productions of this description, and great are the advantages of this kind of comparison. There is an impression that in this important manufacture of glass we are in some points deficient; particularly in form; the combination of objects in clusters; &c.; and in the ornamentation by cutting and engraving. We have now the opportunity, and should see about this; and, without prejudice, carefully examine our own and foreign examples. It might also be of advantage to look at the ancient specimens which may be met with in the adjoining museum.

It will be by taking the International Exhibition in detail that its advantages will be made evident to the manufacturer and the workman. Most useful would it be for an engraver on glass from the provinces to trace this department through all the English and foreign courts of the Exhibition: nor would the same study be less useful to the metropolitan artisan.

Similar remarks will apply to pottery: however, as regards both glass and pottery, although there is much yet to be done, we are likely to come much better out of this than in some other artistic comparisons with foreign manufactures.

As regards the general design and detail working of both gold and silver plate, there is clear evidence of great deficiency. We look at many of the ambitious productions in the present Exhibition, and note, in many instances, how faulty they are as regards mental conception; often being inapplicable to the purpose for which they are intended; unproportionate in their parts; and weak and faulty in the execution of the details. Taking chasing and the combination of foliage into consideration; and glancing at the works of the gold and silver smiths of Henry VIII.'s reign, when Holbein often designed for them; the chaste and rich ornamentation of Charles I.'s reign, and the more florid and picturesque working of Charles II.'s time; we see at once the poorness of many of the works which are now set before us.

The success of the Exhibition, both as regards finances and as a means of usefully diffusing scientific knowledge, and causing improvement in art-manufactures, will depend in a chief measure on the multitudes who pay the shillings for admission. It is therefore most desirable that those numbers should be increased to the greatest possible extent. The Queen, in various ways, has set a good example in causing the distribution of tickets of admission to the pupils of the schools of art and to others; many large employers of labour have also been very liberal in this way; and we are glad to learn that the commissioners have, in order to encourage the wholesale distribution of tickets, determined to issue those of a shilling each in packets, which will make it a matter of advantage to purchase them in this way.

Besides the manufactories, and trading and other establishments, it is suggested that a great deal may be done in the disposal of tickets thus amongst the National, British, and other schools of the metropolis. The time for treats and excursions is coming on; and, although anxious to encourage rambles to the green fields and the woods, it may be worth while to consider if it might not be an advantage, in this Exhibition year, to make the treats of the scholars to consist of a visit to the marvellous collection at South Kensington; which, under proper guidance, could not fail of being a matter of present pleasure and future advantage. The expense, in almost every case, could be defrayed with but very little trouble, if it were properly set about.

In connexion with the British and National Schools it has been proposed, that for the purpose of enabling such children as are anxious to do so, to visit the Exhibition, the masters and mistresses should receive subscriptions from the boys and girls of 2d. or 1d. a week. The wholesale price of the tickets would be about 11d. each, a sum which would accumulate in this way, even at the smallest weekly payment, before the close; when the visit might be made under the guidance of the masters, mistresses, and teachers. By this means thousands of children would be able to see this great show of works of art and manufactures, who would not otherwise be enabled to do so. This opportunity would in most cases prove beneficial: to all it would prove a pleasure; and, in certain instances, it would be difficult to appreciate the advantages which might result.

In glancing at the vast crowd which gathered together on the first holiday-day, it was very satisfactory to notice the great attention which was paid by those who were evidently of the working classes to objects which have hitherto been but little noticed by the chief body of the visitors. Men look to their own particular departments, but do not overlook the higher departments of art. The English School of Pictorial Art seemed to be well appreciated; and in passing along there might be heard plain but good criticism.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE QUESTION OF COLOUR.

THE ordinary meeting of the Institute was held on Monday evening, the 2nd instant, at the House, in Conduit-street.

The chair was taken by Mr. Ashpitel, V.P.

Mr. John Henry Parker, of Oxford, attended, and was formally admitted as an honorary member.

The Chairman announced that he had received a letter from the Dean of Westminster (Dr. Trench), requesting that the Institute would take charge of a memorial in favour of the restoration of the Chapter-house at Westminster Abbey. Referring to the annual *conversazione* of the Institute, to be held on the 25th instant, the chairman stated that, as so many societies had just now absorbed attractive works of art, he feared they would not be able to secure the interesting collection which they had last year; still, that the council would be very happy to receive the loan of any appropriate works which might be personally interesting to architects. He hoped that they would all meet in the same cordial spirit as heretofore, and that on some future occasion they would find themselves surrounded with gorgeous works of art similar to those which they had the privilege of enjoying at their last *conversazione*.

Mr. J. W. Papworth then read a paper on "The Æsthetic Principle in Decoration."

At the conclusion,

Mr. White, in proposing a vote of thanks, observed that he had heard the paper, he hoped, with some profit, at the same time he could not follow Mr. Papworth through his application of his principles. Mr. Papworth asked whether we should construct our decoration or decorate our construction, as if the alternative lay between these two; whereas there might be many others equally worthy to be taken into account. There was one point, however, which he had not touched upon; and that was the general desire for colour, as shown by the universal taste of mankind; for they would have colour in the rooms which they inhabited, no matter what might be said to the contrary. There could, he thought, be no doubt as to the propriety of the principle for which the lecturer contended with reference to truthfulness in construction; but he (Mr. White) would have been glad if the reader had explained what truth was; for there were many unpalatable truths which were all the worse for being imitated as such. On the other hand, there were those who contended that everything that was truthful must be beautiful; whereas it was quite the contrary in nature. Those objects which were most beautiful in nature were those which had no utilitarian use in the way of constructive art. Look, for instance, at the petals and the delicate texture of flowers: they had no utilitarian uses; yet still they were among the most beautiful objects of nature.

Mr. Thomson seconded the vote of thanks, and observed that in all polychromy the colour should be an honest colour. The ground at the back of figures might be in positive colours; but if we attempted to paint the figures themselves to resemble life-like forms we would fail. In his opinion the object of the sculptor was not to give his figures the appearance of actual life, but to reproduce the forms of nature.

The Chairman having called upon Mr. J. H. Parker, that gentleman observed that the subject was not one to which he had paid attention, as his chief study had been the history of architecture, and not the æsthetic principle in decoration. Looking at the subject from an historical point of view, however, he should say that the great principle of colour with the ancients was to bring out form. He also believed that the colours selected for that purpose were generally of a quiet or subdued tone.

Mr. Burges inclined to the opinion that a correct judgment in the matter of colour consisted in having what was called "a good eye for colour," and that a good eye was the gift of a good God. This appeared to him to be the most rational conclusion on the subject.

Mr. Morris thought there were many parts of the paper which they had heard read in which they would all concur. They should, he thought, look at architecture in its grandest sense; and if they did so, they would find that fancy colouring was a very subordinate matter indeed. If they studied the works of the ancients they would find that all their durable or permanent decorations were in relief. It seemed to him that Architecture should be regarded as the most dignified of all the arts, and as totally independent of such accessories as painting and sculpture. Depend upon it she could work out her own effects in her own way; and the more her independence was kept in view the grander and more sublime would she appear.

Professor Kerr said that, in his opinion, there was great force in the question, whether we should decorate our construction, or construct our decoration. He should say that we ought to do both. He held that, as yet, we were but in the infancy of the treatment of the subject. All that we could ascertain, even after the study of the Greek and Mediæval types, was, that we were in the infancy of our investigation. To show that we were so, he would take the observation of Mr. Burges, who said that he repudiated all philosophy in the matter, because judgment as to colour was to be traced to a good eye, and a good eye was the gift of a good God, and there was an end of it. Now, he entirely dissented from Mr. Burges, who, to his thinking, had not displayed

n his treatment of the subject that proper logical oint which might be expected of him. Mr. White had said that people would have colour. He (Professor Kerr) was disposed to join issue with Mr. White, and to argue that people of educated taste would not have colour at any price. In his opinion the illustrations derived from the Greeks were of very little value; for there was so much in them capable of misconstruction and of disavowal on our part, that we could derive very little valuable knowledge from them. For his own part he did not much like Mediæval colouring, and he thought that any argument founded on the idea that every one wanted Gothic colouring was not true. He thought that if we copied nature in a servile fashion we would go wrong; but that, if we followed nature, guided at the same time by conventional ideas, we would be doing as much as could be expected of us.

Mr. C. F. Hayward (hon. sec.) observed, that the question was a very broad and important one; and that although there were some persons who asserted that we should have colour, while others asserted that we should not, in his opinion a medium line might be taken; for he held that there were many educated persons who were in favour of colour. On the other hand, there could be no doubt that the uneducated mind liked colour, as illustrated by the predilection in favour of gaudy and meretricious effects. At the same time he might observe, as a practical illustration of the general gravitation of the public mind in the direction of colour, that he had never heard a single person contend that the reproduction of the Alhambra, as presented at the Crystal Palace, was not very beautiful.

Mr. C. Mayhew was of opinion that all persons liked colour more or less, especially ladies. For his own part, he confessed he did not wish to see a room altogether divested of colour: the great desideratum was to avoid bad colour. Colour put in the wrong place offended the eye; while, on the other hand, nothing could be more grateful than judicious colour, even though it were a little of a sham.

The Chairman congratulated the meeting upon the courteous tone of the debate, which was not, he said, characterized by a particle of that acerbity which sometimes marked discussions among those who contended in favour of different canons of taste. Whatever difference of opinion might exist, he was sure that they were all anxious to attain the same end, namely, the vindication of truth. With regard to copying Nature, he did not think we ought to follow her too closely, for there was no column or architrave, or flat or pointed roof, in nature. He apprehended that the chief object to keep in view was propriety; and if the student of architecture would consult the first few chapters of Vitruvius, he would ascertain what in the opinion of that great master were the essential considerations to be kept in view. With regard to polychromy, his own opinion was, that the early Greeks used it very sparingly outside their buildings, but that they used it inside to elevate and enrich.

Mr. John Samuel Phené, of 34, Oakley-street, Chelsea; and Mr. Gore Ouseley Lane, of 4, Dawson-place, Bayswater, were, on ballot, elected Fellows of the Institute.

THE ARUNDEL SOCIETY.

THE thirteenth report of the council of this valuable society shows that, excluding from each the balance in hand on the 1st of January, while the gross receipts of 1860 were 2,719*l.* 1s. 4d., those of 1861 were 2,913*l.* 6s. 10d.; and that, after discharging all expenses of 1861, a balance of 663*l.* 17s. 10d. was carried forward to the now current year, to meet the cost of works in progress, and the ordinary charges of management. The number of its members has risen from 1,200 at this time last year, to more than 1,500 now. The "Occasional Publications" have met with a larger sale than in the previous year; and it may be reasonably expected that receipts under this head will continue to improve; inasmuch as four new subjects have been added to the list of this class during the past year; viz.,—1. A chromo-lithograph from a fresco by Francia, in the desecrated chapel of S. Cecilia at Bologna, representing the burial of S. Cecilia; 2. A chromo-lithograph from a fresco by Andrea del Sarto, "The Madonna del Sacco," in the cloister the Annunziata at Florence. All of these have been executed by Messrs. Storch & Kramer, from coloured drawings by Signor Mariannecci. 3. A volume containing an alphabet of capital letters of the fifteenth and sixteenth centuries, engraved from the Choral Books of S. Marco and the Duomo at Florence, and from the Piccolomini library at Siena, with one letter (attributed to Fra Angelico) coloured in facsimile.

"In compliance with a desire which has often been expressed by some of the original members of the society, that recourse should again be had to line engraving as a mode of representation, the council have engaged Herr Schäffer to engrave another of the series from the frescoes of Fra Angelico in the Vatican. 'The Distribution of Alms by S. Stephen' will therefore form part of the series for 1862, together with the following chromo-lithographs by Messrs Storch & Kramer, in continuation of the series of frescoes in the Brancacci chapel; viz.,—1. 'The Raising of Petronilla,' by Masolino; 2. A Head from this fresco, on the scale of the original; 3 and 4. 'S. Peter delivered from Prison,' and 'S. Peter in Prison visited by S. Paul,' by Filippino Lippi; 5. A Head from the last subject, on the scale of the original.

In order to keep up a supply of materials for future publications, other works have also been put in hand since the last report. Mr. Thomas Longman, one of the earliest members of the society, has kindly lent two careful drawings by Consoni of Rome, from the tapestries after Raffaelle in the Vatican, of which the original cartoons are wanting in the series at Hampton Court, and are believed to be lost. The subjects are—1. 'The Conversion of Saul;' 2. 'The Stoning of St. Stephen.' These are placed in the hands of Mr. Gruner to engrave."

The works given last year were of a very interesting character, and much exceeded in value the amount of the subscription. Mr. Norton continues to act as hon. sec.

THE HORTICULTURAL SOCIETY.

SIR WENTWORTH DILKE'S PRIZE.

THE most interesting feature of the Flower Show at the Horticultural Gardens, on Wednesday last, was unquestionably the exhibition of fruit and flower decorations for the dinner-table, sent in competition for the special prizes offered by Sir Wentworth Dilke. The number was very great, and the majority were indifferently ugly. There were, however, some charming exceptions. The judges, a committee of ladies, awarded the first prize to Mr. W. Thompson, of Notting-hill; the second prize to Mrs. H. Pickering, of Prince's-gate; and the third to Mrs. Walter Fawcett, of Westbourne-street, Hyde-park. We are forced to quarrel altogether with the award: the first should be last, and the last undoubtedly should be first. To say nothing of the circumstance that Mr. Thompson's design was merely a variation of that which gained the chief prize last year, the glass-stands being similar to those shown by Dobson & Pearce in the adjoining building, there was a beauty about Mrs. Fawcett's arrangement which fully entitled it to stand first. Blue and white were the prominent colours of the flowers; water-lilies and their leaves playing a part; and at the foot of the centre thinly drawn out and tapering glass vase (little larger, indeed, than a stem, so as not to obstruct the view of opposite neighbours) were four glass receptacles shaped as nautilus shells. There seemed to be but one opinion in the gardens as to the mistake made in the adjudication.

LADIES' SANITARY ASSOCIATION.

THE annual meeting of this Association (affiliated with the Association for Promotion of Social Science) was held at the Guildhall, on Tuesday last; the Right Hon. the Lord Mayor presiding.

The report for the past year having been read and received,—

The Rev. Mr. Owen moved "That this meeting considers the work undertaken by the Ladies' Sanitary Association as of great importance to the welfare of the labouring classes, and commends the Association to the support of all who take an interest in improving their social condition." He strongly supported this movement, and hoped, as the work was coexistent with the population, that the efforts of the Society would never cease until every wretched hovel was converted into a man's decent home. Mr. Owen's address was admirable.

Dr. Lankester seconded the motion (which was unanimously adopted) in an earnest speech, also excellent.*

Dr. Letheby moved the next resolution:—"That this meeting has heard with the greatest satisfaction the increasing number of local branches of this society, and urges the extension of this agency throughout the United Kingdom." In support of this resolution, he said that, while the average of population throughout England was one individual to two acres, in the city of London the average was 157 persons per statute acre; but in the eastern division of it the number amounted to 266 per acre. Lately he had made an inspection of 2,000 rooms, and he found that they contained 6,000 people, giving an average of three persons to every room. He found in some of them from seven to ten adults, not connected by relationship, but the companions of the day, and who appeared to be totally insensible to the ordinary decencies of life. The result of such a system is that, while the mortality of England averaged 23 in 1,000, the mortality of the city of London was 41 per cent.; and it was a melancholy fact that 25 per cent. of all the children born died before they were a year old; while 10 per cent. of those who were under fifteen years of age also died in the same period.

The motion, having been seconded, was put and agreed to.

Sir H. Verney moved the thanks of the meeting to the Lord Mayor for presiding.

Lord Brougham seconded the motion, which was carried by acclamation.

The Lord Mayor acknowledged the compliment, and the proceedings terminated.

* For some years Dr. Lankester has worked energetically and well for the public, giving his time on all occasions to advance sanitary science and otherwise to serve the cause of humanity. The public may now return the obligation, and ought to do so. Dr. Lankester is a candidate for the office of Coroner for part of Middlesex; he is eminently well qualified for the office, and we sincerely hope he may obtain the appointment.

THE BRIGHTON AND HOVE DRAINAGE.

AT an influential meeting, held in the town-hall; Mr. Somers Clarke in the chair; a report to the committee of the inhabitants, by Messrs. M'Clean and Wright, on a plan of drainage proposed by them, was read; and the following resolutions were unanimously agreed to:—

"That this meeting, impressed with the vast importance of the subject, express their strong approval of the plan of drainage proposed by Mr. M'Clean and Mr. Wright, for conveying the sewage and rain and storm water eastward beyond Rottingdean, in preference to any plan for draining into the sea in front of the town, which they believe would be highly injurious to its best interests; and they emphatically but respectfully urge upon the town council of Brighton, and the commissioners of Brunswick-square, and the other local authorities in Hove, the propriety (after proper investigation) of adopting the proposed plan; which, as reported by the engineers, combines great facilities for execution, with a due regard to expenditure; greatly affected by taking the line of the public roads; and they trust the public authorities will promptly unite their efforts for relieving the town from the mischief and prejudice of being without a good and general system of drainage.

That Mr. M'Clean and Mr. Wright, the engineers, be requested to submit their plan of drainage to the town council, and the commissioners of Brunswick-square and the other authorities of Hove, with the assistance of the committee appointed at the former meeting, who are requested to take the necessary steps for that purpose.

That this meeting cannot separate without expressing their high sense of the liberal offer which has been made to the town from Sir Francis H. Goldsmid, to employ Mr. M'Clean and Mr. Wright to prepare a plan of drainage to obviate carrying the sewage into the sea in front of the town."

The estimate of the works shown on the plans, which extend from near Western-street to the point of outfall beyond Rottingdean, and include six miles of main and intercepting sewers as described, is 30,000*l.* The whole, according to the report, might be completed within twelve months.

THE MIDDLE LEVEL FLOODS.

FURTHER than that extensive preparations were being made for a laborious piece of work, with but slow progress in the meantime, and risk of more damage by new spring tides before the salt-water was fairly shut out, there was little else last week to record. Of course the sea required to be fairly excluded before even a beginning could be made to reduce the lake which still covers so much of the level. The next spring tides were likely to be high ones, and it was of the utmost importance that the coffer-dam should be completed, as the result might prove far more disastrous than ever unless this were done; the banks are so insecure, with the water soaking through them. On Wednesday last, therefore, it was determined to complete the coffer-dam sufficiently to stop the water. The fourth row of panels were dropped on the flood tide, and the tidal waters *were* actually stopped. Of course, the stoppage caused an accumulation of water on the outer or sea side of the dam, on which side alone there were 24 feet of panels above the soil. The "head" of waters was very small, there being a difference of about 7 feet in the height of the water on the two sides of the dam; whilst, from the inside of the dam, the loose earth had been washed away by the force of the scour. The panels were dropped in at about half-past four o'clock; but by half-past five o'clock it became painfully apparent to all that the dam had burst, from the boiling seething waters on the upper side of the dam. It was found necessary to take up three rows of the panels to prevent the dam being carried away. The water then again rushed up the cut, of course, with consider-

able force. The divers afterwards found that one of the panels had been completely shattered, and a number of others doubled up. Two or three of the principal piles were also broken, and the bottom of the cut was scoured to a great depth. For the last few days there had been about 2,000 sacks of earth per day thrown into the drain on the upper sides of the dam, but the diver found that on this side of it they were all washed away. The lower row of panels, it is said, instead of being driven into the soil some 6 feet or 7 feet, were some of them not more than 2½ feet in depth. The greatest alarm is now felt. Several other holes have been discovered: one in particular is scoured about 15 feet lower than the bed of the cut. The tides will be at their highest on (this) Friday morning.

PROVINCIAL NEWS.

Dorking.—A gentleman owning a large amount of property in the town has projected a public hall, and his agent called a meeting of the inhabitants to exhibit the plans. The large hall would be capable of holding about a thousand persons; and there are also to be several rooms which could be used as courts, or for the transaction of any other public business, or for retiring-rooms. In the front are to be two houses with shops, leaving a wide covered entrance in the centre to the public halls and rooms at the back. The site contemplated is adjoining the White Horse, where the frontage is attainable by pulling down a house. To put the project on a practicable footing, it was proposed that Mr. Deverell be requested to state what amount of rent — to be guaranteed — he would accept for the building; which being seconded and carried, the meeting broke up to await his reply.

Nottingham.—It has been decided by the town council (says the local *Guardian*) to construct the subterranean portion of the new street on the new London model,—that is, to form a continuous culvert from end to end, the drainage underlying it, and receptacles being formed along the route for gas and water pipes. This large tunnel is to be constructed at the cost of the owners of property on each side of the street, who will have the option of inclosing and using the half opposite to their several premises, on condition that they allow access, at all proper times, to parties authorized to inspect, alter, or repair the culvert or any of the pipes. The main object is, of course, to obviate the necessity of having recourse to the expensive, obstructive, and often annoying practice of taking up the pavement of the streets.

Liverpool.—The local *Journal* describes a new addition to the street architecture of the town. It consists of business premises, in style the modified Italian, and recently erected in Church-street, at the corner of Williamson-street, to accommodate the growing requirements of a firm of silk mercers and drapers. The design was by Mr. Jonathan Scales, of the firm of Haigh & Co., who were also the builders. The building, which is 67 feet high, has a front to Church-street of 36 feet, and to Williamson-street of 68½ feet, and reminds our authority of some of the better class of shops in Paris and Brussels. The windows of the principal show-room, on the first-floor, are of large dimensions, separated by rusticated pilasters in combination with a panelled entablature and frieze, having enriched cornices, and running the full extent of the building. The second-floor contains windows which are divided into compartments. They are pediment-headed, having panelled pilasters, supported by enrichments. Passing to the third story, the windows are somewhat smaller, though in accordance with the general design of the elevation. These windows have projecting balconies, and are formed in recesses or panels with pilasters, springing from which are elliptical arches, finished with enrichments. In the fourth story are dormer windows, pediment-headed, and finished with panelled cornices. At the angle or junction between the two streets, the building presents a projecting window, which is brought out in a corbel, immediately above the glass in the shop-front, and extends upwards to the third story. By the adoption of the curb form of roof a considerable space has been gained in the higher rooms, and light and ventilation secured. A stone balustrade surmounts the angle, and means are afforded for easy access to the roof of the building. ——The special committee of council on plans and estimates for new public offices recommended the adoption of plans submitted by the surveyor and his report thereon. The plans had been prepared by the surveyor in accordance with a resolution of the committee that it was desirable to concentrate all the public offices in Dale-street, on land recently purchased by the corporation; leaving the mayor, with a secretary and the council chamber, at the Town-hall; and he estimated the cost of erecting the building at 48,500*l.*, exclusive of fitting up and furnishing the several offices. In proposing the confirmation of the proceedings, Mr. Alderman Dover explained that the site of the proposed new building was between Sir Thomas's-buildings, which it was intended to make 17 yards wide, and Crosshall-street, which was 15 yards wide. The block of land, including a moiety of a street in the rear, 10 yards wide, would contain 4,620 square yards. The land occupied by the building, exclusive of areas, was 3,700 yards, the internal portion being one story high, the wings three stories high, and the remainder two stories high—all being cellared. The front to Dale-street and Sir Thomas's-buildings would be of stone, the front to Crosshall-street of white brick with stone dressings, and the back, ordinary brickwork. Some other members of the council expressed disapprobation of the plainness of the external aspect of the proposed edifice. Eventually it was agreed, "That the principle of the plans be approved, and that it be referred to the finance committee to carry them into execution with the least possible delay, submitting the elevation, as finally decided upon, to the council for approval before doing so."——A plan of proposed new approaches to the landing-stage, with alterations in same for facilitating passenger and carriage traffic across the Mersey, and of alterations to the adjoining docks and quays involved thereby, has been prepared by Mr. G. F. Lyster, C.E., engineer to the dock estate. The total cost is estimated at 447,582*l.*

CHURCH BUILDING-NEWS.

Sudbury. — A faculty has been granted for restoring and seating St. Gregory's church. The floor of the edifice is to be completed; the church to be fitted with open benches similar to those already in the church; the west window to be cleared of the brickwork which now fills up part of it, and opened to its original dimensions; and, when opened, to be properly glazed. Other minor works are also to be done.

Uppingham.—The tender of Messrs. Halliday & Cave, of Greetham and Oakham, being the lowest, has been accepted for the new chapel and school here, both of which will be commenced at once. The pulling down and clearing away the old house and premises of the Cross Keys, the site for the new buildings, have already been commenced. The architect is Mr. G. E. Street, of London. The buildings will be in the Decorated style.

Maidenhead.—Touchen-end Church, Bray, to which commodious school-rooms are attached, has been consecrated. This forms the third place of worship provided for the accommodation of the inhabitants of this parish within the past seven years. The buildings are erected upon land presented by Mrs. Newcome, and the church has been erected from a design of Mr. John Turner's, of London, by Mr. Robert Vickery, builder, Bray Wick, with funds supplied chiefly by Mrs. Levett and others. The church is entered through an oaken open-timbered and traceried porch, situate on the north side, toward the west end, and is 52 feet 6 inches long by 21 feet wide, with a chancel of 23 feet by 11 feet, and is calculated to hold 186 persons (144 adults and 42 children). There is a bell-turret over the west gable. The style of the design is Decorated Gothic. The materials used for the walls are red Berkshire brick and Bath stone, with an open-timber roof ceiled between rafters, and tile covering. The sittings, altar table, altar rail, pulpit, reading and lecture desk, are executed in pitch pine. The greater part of the window tracery has been filled in with stained glass of a simple Gresaille pattern. The font, reredos, pulpit, lecture and reading desk, have been executed by Mr. White, of London; the other portion of the fittings by Mr. Mickley, of Bray; the stained glass by Messrs. Laver & Barraud, of London. Attached to the church on the north side is the robing-room, connecting the church with the school and dwelling; forming together the eastern and southern boundaries of a quadrangle. The school is 22 feet long by 18 feet wide, with an open-timbered roof ceiled between the rafters, and calculated to hold 50 pupils.

Marlborough. — On the 22nd ult. a vestry meeting, at St. Peter's Church, was held, to consider the plans and specifications furnished by Mr. Wyatt, the diocesan architect, for the repairing, amending, and re-pewing the church. The plans were produced by the rector, the proposed alterations explained and discussed, and a working committee, consisting of the rector and churchwardens, and a committee of reference, appointed. It was resolved that Mr. Wyatt be requested to furnish plans and specifications, according to his suggestion, for the complete rebuilding of the south arcade, and other necessary repairs and amendments; also that his plans for repewing the church be adopted.

Chapel Ash (Wolverhampton).—The plans of Mr. Bidlake, of Wolverhampton, architect, have been adopted for the Wesleyan chapel about to be erected here. Five architects were invited to send plans. The design is for a building, chiefly of stone, in the Geometric style, with a tower and spire 100 feet high. There is a large window in front; and the lower part of the wall is broken by an arcade, one compartment of which contains a window lighting the vestibule. On each side there is a clerestory, supported in the interior by iron columns. Bricks are employed for some of the arches and bands; blue stone for the shafts of the doorway and arcade; and Bath stone for the cornice of the tower, window dressings, &c. The chapel is 81 feet long and 50 feet wide; and there are galleries at the end and on each side. It is to seat 900 people. There are three vestries at the back, with a yard, &c. The total cost of the building will exceed 3,000*l.*

Brixham. — The foundation-stone of a new church, in connection with the Torbay and Brixham Mission, was laid on 24th ult. The church will be 65 feet in length, 38 feet in width, and will have steeples 50 feet in height. Mr. Phelp is the designer and builder.

Leominster.—The roof of the parish church of Leominster is said to have given way.

Driffield.—A new chapel for the Baptists has been opened here. The edifice has been built from designs by Mr. Haw, of Beverley, architect. It contains a baptistery and galleries, and is lighted with a sun-light. There is a school-room and other out-offices connected with it.

Middlesbro'.—The foundation-stone of a Wesleyan chapel has just been laid here. A Sunday school is also intended to be erected in connexion with the chapel. The sum at present obtained for the new chapel is 2,027*l.* The edifice will be a mixture of various styles of architecture, the Byzantine predominating.

THE THAMES EMBANKMENT.

As we stated last week, the select committee on the Thames Embakment Bill have resolved that "with a view to provide the greatest amount of relief to the most crowded thoroughfares in the vicinity of Westminster Bridge, and also to avoid unnecessary outlay in works and compensation on the part of the public," it was desirable that the roadway on the river embankment should terminate at or near Whitehall-stairs, and thence be diverted towards Parliament-street; and that a clause to this effect has actually been introduced into the bill; authorizing, however, a footway or terrace, 80 feet wide, between Westminster Bridge and Whitehall Stairs.

The pretence of providing "relief to the most crowded thoroughfares" by *not* opening the new public way along an embankment one of whose chief recommendations has always been that the opening of a carriage way along it would so much relieve all the other thoroughfares in its course, is, to say the least of it, singular; and, if the *principle* of such a course were carried out to all its legitimate issues, "the greatest amount of relief, to the most crowded thoroughfares" throughout, would be obtainable by the odd *non sequitur* of not opening any carriage way at all along the embankment; and this, too, would doubtless diminish the outlay in works and compensation.

The real reason, however, appears to be, that the opening of a carriage-way at Whitehall would be highly objectionable to the influential residents there; and, doubtless, it is not an agreeable idea to any Englishman to have his privacy intruded on. In these days of ruthless railway extension through private properties, however, it cannot be expected that the residents of Whitehall are to "stop the way" of the public. They are well entitled, doubtless, as the *Times* remarks, to compensation; and, after all, we may add, might still secure all the seclusion they desire by the erection of garden walls of sufficient height. In other respects, too, their position would be improved; because, while still having from their windows and garden terraces an open view of the river; the disgusting sight of the black mud-banks now exposed at low water would be shut out; as well as the public eye from the steamers; and of course

re residents would have the option of access by rden gates to and from the roadway of the em-nkment itself. It is to be hoped, therefore, at, on second consideration, the Whitehall resi-nts will relax their opposition, and allow the lect committee to retrace their steps. If not, e public appeal must be made to Parliament self on the passing of the Bill into an Act.

COLOUR NO SHAM.

THOUGH I have no desire to write an essay on ue uses and abuses of colour in Art, yet I would in put in a word of truth in defence of a subject hat has recently been treated with unmerited pprobrium.

Colour is no sham: there never was a greater istake than to suppose that it ever was, or could e. In fact, to use a trite truism, there is often othing more *positive* than colour. It is colour hat frequently makes all the difference between ue real and the unreal, the true and the sham, at east to the unaided eye.

Colour itself is never a sham. A sham is that hich pretends to be what it is not: now colour ever does this: it always comes before us for hat it is, and not for what it is not. We may all it *reflected light*, if we choose; but we are onscious that the human eye, and other eyes as ell as our own, were organized in reference to t, and naturally take a delight in it. It is only he diseased eye which shuns colour, and prefers a ull, dead, monotonous uniformity of no colour, to he vital action which the variety in colour pro-uces.

There is, perhaps, no sense which receives and equires a greater amount of education than the ye; none which is more subject to the effect of onstant impressions; none which comes more nder the influence of constitution and climate.

The Persian architect revels in colour: to his ye form without colour would be almost a blank. So also the ancient Egyptian, and the Assyrian, nd to a certain extent the Greek and Roman were fond of colour, but less so than the former. Philosophical reasons might be assigned for this, analogous to those which influence the phenomena of light. Nature delights in colour, and her colouring is always beautiful and harmonious to human eyes.

Whether in the gay plumage of tropical birds, the brilliant pencillings on the petals of flowers, or the exquisite patterns on the surface of shells, in some instances concealed by the epidermis; colour, wherever it occurs, is produced by, and is governed by, the action of light. It is well known that shallow-water shells, as a class, are brighter coloured than those from the deep sea; and that bivalves, which are habitually fixed, or stationary, have the upper valve richly tinted, whilst the lower one is colourless.

Human eyes are influenced by an analogous law. Where there is much light they delight in bright colours: where there is comparatively little light, they have a feeling for tamer tints; and where there are dimness and dullness, as often happens under our own canopy of neutral tint, our sky of grey, or gloom, there human eyes come to be content with little or no colour at all. It is chiefly through a more enlarged sphere of observation and study than our own atmosphere affords that English eyes learn to acquire a relish for colour such as prevails in southern latitudes, and among the cultivators of art in more congenial climes. When, therefore, it is presumed to lay down absolute rules for the application of colour in architecture and sculpture, all that can be inferred from such an attempt at dogmatizing is, that the party who would thus carve out canons of taste for universal approval, have quite mistaken their calling; and, in excluding the sun, have shut themselves out from universal sympathy. The apostles of colour may be held up as mistaken mortals of execrable taste; but they have nature on their side, and need fear nothing from profane scoffers, who would seek to shelter their deficiencies under the cloak of a puerile conventionalism. A larger and less home-spun sphere of education would have enabled them more truly to have appreciated the value of colour; to architecture and sculpture a most important accessory, without which neither would be complete. But not only is Nature a great colourist in matters of art: time is so also. Time takes off the cold raw tone of white marble, and makes it more in harmony with our organs of vision. The principle of colour is a right principle: it is only in the application of it that an artist may err. Had Gibson bedaubed his beautiful Venus with the pink pigment which is sometimes called flesh-colour, instead of toning down the cold marble with that warm wash of water-colour which the result of many trials led him to prefer, the matronly queen of beauty would have stood forth before the eyes of the world an object of disgust rather than one of such exquisite loveliness that only life itself would have been more so. The dogma that two arts are not to be confounded in the same object, as we have lately heard propounded, is simply absurd. It would exclude sculpture from architecture, and music from poetry. But the world is too wise to require this divorce. The remark by Mr. Parker that the Mediæval architects used colour *to bring out form* is perfectly true, and was a happy expression, in few words, of a general principle, which a large induction had confirmed, and of which every one with the faculties of observation and reflection may be convinced. It may be seen in Mediæval art of a different description in the International Exhibition. Castellani's compartment of early Christian and Mediæval jewellery shows the same thing.

H. C. BARLOW, M.D.

THE SALTERS' COMPANY'S COMPETITION.

SIR,—Knowing that you are the enemy of all wrong, I wish to ask you a few questions in reference to the competition of the Salters' Company.

Would it be right if one of the competitors should call (I will not say how many times) on the parties who are supposed to impartially choose the design? and also would it be right for him to see the other designs, and to *know all about them?* Would he not be morally disqualified from competing?

Also, if it is known beforehand who is to have the work, why, in the name of all that is just and good, do the company put themselves to the expense of advertising, and the profession of answering?

I will not mention the name or particulars, in the hope that the gentleman will not succeed *this* time in his praiseworthy endeavours, and that a few words from you will prevent this from becoming another instance of the honest hard-working men of the profession being sacrificed to scheming.

ANTI-JUDAS.

Books Received.

The Wild Flowers, Birds, and Insects of the Month, popularly and poetically described: with numerous Anecdotes; being a Complete Circle of the Seasons. By H. G. ADAMS, author of the "Young Naturalist's Library:" with sixty illustrations. London: James Hogg & Sons.

THIS is a pleasant companion for a rural retreat, and especially for the young of both sexes. It is plentifully besprinkled with carolling snatches of poetry, which ever and anon strike up, like the music of the birds of which it so pleasantly treats, amid the multiplicity of its wild flowers and butterflies. The numerous illustrations are by Coleman, Harvey, and others; and at the close of the volume are practical notes on collecting, preserving, and arranging nests and eggs, insects, and other objects of natural history.

VARIORUM.

"Hardwicke's Shilling Handy-Book of London, 1862. London: R. Hardwicke." This is the handiest of the handy-books which will, doubtless, be so much in request for the next few months; and it is all the better for being a new and ripe edition of an old and established guide. It has got a capital new clue map of London, and is illustrated with views of important edifices, bridges, &c.——"Matters of Taste among Common Things; with a Theory of Taste applicable to them. London: Kent & Co. 1862." New books, the result of grave reflection, are by no means plentiful in this age of fast writing for fast readers; and when a thoughtful book does make its appearance, it ought to be graciously received, whether we agree with it or differ from it. The present work is well calculated to excite speculative thought, and so to exercise the higher faculties of the mind. The author informs us in the preface, that "ten years of employment in an architect's office, together with a lengthened period of attention given to the object of conducting an amateur singing-class, have contributed to test whatever has been known of art-theory to the writer. He has, however, found it convenient on the present occasion to draw illustrations of the principles of taste in as great a measure from without as from within the pale of fine art."——Under the title,—"Remarks on proposed Rules for the Regulation of Architectural Competitions;" a letter has been printed by Mr. Honeyman, jun., architect, addressed to the Glasgow Architectural Society. It appears that, at a recent meeting, a resolution was passed to the effect that no architect should engage in any competition the promoters of which do not bind themselves either to be guided by professional advice in their selection or to pay a certain sum (to be hereafter fixed) to each of the competitors. The writer considers that committees are not likely to consent to such conditions; and proposes that architects should, instead, enter into an agreement "binding themselves to submit to a certain penalty if convicted of violating the conditions of the competition:"—thus, for example, if the cost of the design of the selected competitor be found to be greater than the stipulated sum, he is to pay to the other competitors "a sum of money bearing some definite proportion to the value of the job." It is not likely that any number of architects could be found to enter into such a compact. If made, it would tend chiefly to the advantage of the unscrupulous. Mr. Honeyman is quite right, nevertheless, in saying that serious evils of the present system may be traced to the disregard of the conditions by the architects competing.

Miscellanea.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.—A *conversazione* was held in the Egyptian Hall, at the Mansion House, on Wednesday evening last. The Lord Mayor presided; and many singers of celebrity, chiefly from Her Majesty's Theatre, gave their aid in a concert.

THE "ARCHITECTURAL MUSEUM." — Next Tuesday (17th) Mr. Scott will read a paper "On the Formation of a National Museum of Architecture as viewed especially in its connection with the Mediæval Styles." The subject is so important that we shall hope to find a good attendance.

THE BRITISH INSTITUTION.—The exhibition of "ancient masters" is now open, and includes some capital examples of Murillo, Vandyke, Velasquez, Cuyp, Rembrandt, and others;—further evidence of the art-riches in Britain. Amongst the works of deceased English artists those of Romney come out prominently.

RAILWAY COLLISION.—A serious collision took place on the Chatham and Dover Railway, near to the Chatham station, on Monday last. A very heavy train left Sheerness at nine o'clock, filled with visitors for the Crystal Palace. At Chatham additional carriages were put to it, and it was found necessary to attach another engine. In order that this might be done, the train was backed into Chatham-hill tunnel. While in that position a heavy excursion train from Dover ran into it through some mistake of the signalmen. Above twenty persons were seriously injured, and of course many more must have been severely shaken and unnerved, and may long suffer in health from the shock, though not "seriously injured."

EXPLOSION IN SHOREDITCH.—The inquest on the body of Hannah Smith, killed in Church-street, Shoreditch, by gas explosion, has been held. The coroner, in summing up, said it appeared Messrs. Brassey & Co. were the contractors for the cutting of the sewers; that according to the evidence of more than one witness information had been given to the men employed by the contractors; who, it is stated, knew nothing of the arches being over the gas-mains. The gas company stated that no complaint had ever been made of the main being exposed to danger. The jury would have to consider whether any one was criminally liable; or whether it was a case of accident. The jury, after retiring, returned a verdict that they are of opinion that the deceased came to her death by an explosion of gas; owing to negligence on the part of the contractors of the sewers. Mr. Ballantine said it was highly important that the gas company should receive notice before opening the roads, as they could then point out the places where the mains lay.

SCHOOLS OF ART.—The following statement is drawn up from the report of the examiners on the works sent from the Schools of Art in competition for national medallions in 1862:—

The London Schools.

	Medallions.	Hon. Men.
South Kensington, Male	8	2
,, Female	7	2
Queen's-square, Female	4	0

Provincial Schools.

Birmingham	5	2
Warrington	5	1
Stoke	4	2
Hanley	4	0
Newcastle-on-Tyne	4	0
Macclesfield	3	1
Coventry	3	1
Manchester	3	0
Carlisle, Dublin, Dundee, Glasgow, Limerick, Liverpool, Newcastle, Norwich, Nottingham, Paisley, and Worcester, each	2	0
17 schools, each	1	0

53 schools unsuccessful.

IRON BRIDGE FOR INDIA.—A long iron railway-and-road-bridge for spanning the Jumna near Delhi, is being made by Messrs. Ormerod, Grierson, & Co., St. George's Ironworks, Hulme. It is for the East-India Railway, and is the design of Mr. A. M. Rendel, C.E. The bridge will consist of twelve arches of 205 feet span each, and will be half a mile long. The first span has been completed and tested.

MACHINE FOR CUTTING COAL.—A new coal-cutting machine, worked by compressed air, has been lately tried with success in Yorkshire. The engine-house contains a powerful engine, besides the compressed-air engine. The "pressed air" is conducted in patent bitumenised pipes to a distance of nearly a mile from the bottom of the driving shaft, the pressure being about 50lb. to the inch. The agency is said to be delivered to the cutter almost with the same motive force that it has at the pit-head. The cutter itself is a machine made to run on the tub-carriage way. While the cutter is working a stream of pure atmosphere is discharged at every stroke; and this current of fresh and dry air cannot fail to add considerably to the ventilation. Economy and safety are said to be the chief recommendations of the invention.

ATLANTIC TELEGRAPH.—The amount of assistance which the Government will lend to the company formed to lay a submarine telegraph-cable across the Atlantic has now assumed a definite form. The Government agrees to make a new and more complete survey of the bed of the Atlantic, and will also grant the use of vessels to lay the cable. It appears that the original agreement to pay 14,000*l.* a year to the Telegraph Company so long as the cable is working still exists: and the Government will not, in a pecuniary way, go further than the arrangement. We have still serious misgivings as to the sufficiency of the cable. If we mistake not, it is still intended that gutta percha shall constitute an ingredient in the insulating covering. Recent facts as to the development of heat in the working of such cables increase our misgivings.

BIRMINGHAM EXCHANGE BUILDINGS.—The competitive designs for the Exchange Buildings were opened to public view on Tuesday in last week, at the Athenæum Rooms. On the whole, says the local *Journal*, the designs are fairly creditable, though only a few of them can be pronounced "excellent," some of the competitors having evidently miscalculated their own powers, and others having mistaken the object and character of the proposed buildings. As regards the style of the designs, the debased Italian, once so popular, has almost entirely given way either to a purer variety of classical forms, or to adaptations of Gothic, in which the broad characteristics of Venetian or Lombardic are in some instances happily united with the peculiarities of English Gothic. Two or three of the competitors, indeed, have hit upon a combination which might fairly be called Victorian Gothic. Most of the designs have been prepared in a manner distinctly forbidden by the instructions.

WORKMEN'S HOUSES AT EDINBUEGH.—A report from the Committee on Houses for the Working Classes has been placed on the table of the General Assembly of the Free Church of Scotland. It states that great progress has recently been made in promoting a much sounder public opinion in regard to the social state of the working classes; that the large house-building association, established at Edinburgh, contemplate the erection at once of 200 houses, for sale at a fair price; and that a block of buildings, to consist of forty self-contained houses, has been begun at Stockbridge; eight of them being already finished, and sixteen more in progress. The Assembly, after some discussion of the report, agreed to a resolution adopting the report itself; that ministers of the Church do their utmost to advance the object of the committee as contained in that report; and that the Assembly petition Parliament on the matter of house accommodation for the working classes, and pray that a Royal Commission be appointed to inquire into the extent of the evil.

CEMENT AND RAIN-WATER.—Sir: In reply to one of your correspondents, we beg to state that there is nothing in Roman or Portland cement which could permanently injure rain-water. If the tank were new, the water might be rendered for a short time slightly hard, by the small quantity of free lime which cement usually contains, and which exists at first in a caustic state; but this inconvenience would be only temporary.

J. B. WHITE & SONS.

*** Some of our correspondents assert differently.

PRESERVING TIMBER.—An experiment has been made at Cherbourg, in preserving wood for vessels from being affected with dry rot, by subjecting the timber to a slight carbonization with common inflammable coal-gas. The cost is only about ten cents per square yard of framing and planking, and the result is stated to be completely successful.

ACCIDENTS.—An accident of a singular character has occurred at a baker's shop in the Borough-road, near the Surrey Theatre. A strong north-west wind had set in, and a sudden gust carried away the shop front, the facia, and the whole of wood work. Some children were struck and severely injured.—Another accident occurred about the same time to a painter at work on the front of a house in the Borough. The wind blew him completely off the ladder, and he fell heavily to the ground, being seriously injured by the fall.

ANTIQUARIAN DISCOVERY AT CHESTER.—While digging the foundations for some new houses to be erected in Eaton-road, Mr. Hitchen's workmen discovered a leaden cylinder, which, on being opened, was found to contain burnt human bones. This interesting mortuary receptacle is 7¼ inches in diameter, and 18 inches in height. The bottom is half an inch in thickness. No solder has been used in its construction, the metal having been welded together, and the top closed in by forcing it together from the four sides. The metal is of superior quality; and, notwithstanding the ages it has been in the ground, there is no sign of corrosion about it. The vessel is supposed to be of Roman date.

TENDERS.

For main drainage and outfall works, for the Brunswick Square and Terrace Commissioners, Hove, Brighton. Mr. R. G. Suter, architect. Quantities supplied by Messrs. Batstone & Hunt:—

	Amount.	Credit for Old Materials.
Sawyer	£5,970	£70
Moxon	5,400	40
Williams	5,104	56
Dethick	4,960	56
Hill, Keddell, & Co.	4,110	69
Crockett	4,026	28
Reynolds	4,000	30
Bugbird	3,987	56
Fabian	3,929	77
Cheesman & Co. (accd.)	3,466	77

For additions and alterations to the Hare Tavern, Brick-lane. Mr. Reddall, architect:—

Scott	£524 0 0
Heath	489 0 0

For erecting a pair of semi-detached villas, Tollington Park, Hornsey-road, for Messrs. Scales & Young. Mr. F. G. Widdows, architect:—

Heath	£2,666 0 0
Eaton & Goodwin	2,490 0 0
Flint	2,420 0 0
Carter	2,360 0 0
Eunor	2,346 0 0
Greenwood	2,203 0 0
James & Ashton	1,943 0 0
Wheen	1,857 0 0

For works at the Sherborne Union Workhouse, in erecting new vagrant wards, and altering porter's apartments. Messrs. Haggett & Pocklington, architects:—

Hull & Hellyar	£459 0 0
Guppy	397 0 0
Down	373 10 0
Croad	370 0 0
Penny	364 0 0

For restoring Washingborough Church, Lincoln. Mr. Goddard, architect:—

Young	£650 0 0
Reeve	649 0 0
Ward	610 0 0
Huddlestone (accepted)	598 0 0
Smith	455 0 0

For the erection of a double cottage, upon the estate of Mr. J. F. P. Scrivener, at Sibton, Saxmundham, Suffolk. Mr. N. Pells, architect:—

Dalby	£325 10 0
Whyatt	248 15 0
Artis & Co.	216 0 0
Cole, sen.	199 10 0
Ludbroke	198 10 0
Gibbs & Co.	197 5 0
Godbolt	187 10 0
Cleyton	185 3 8
Greyson	173 0 0
Cole, jun. (accepted)	169 17 6

For additions to Roman Catholic Church, Pembroke Dock. Mr. J. Cooper, architect:—

G. Thomas	£463 0 0
Scurlock	365 0 0
Taylor	351 0 0
T. Thomas	339 10 0
Fitzgerald	289 0 0
Warlow	235 0 0
Bateman	216 0 0

For Mechanics' Institute, Pembroke Dock. Mr. K. W. Ladd, architect:—

Lewis & Lloyd	£755 11 0
Yerward	721 0 0
Jones & Johns	547 0 0
Taylor	545 0 0
Bateman	540 0 0
Jones & Wilkins (accepted)	498 10 0
Warlow	443 0 0

For roads and sewers, to be constructed on the Elgin Gate estate of the Hereford Freehold Land and Building Society. Mr. R. Webster, surveyor. Quantities not supplied:—

	Roads.	Sewers.
Morgan	£415 0 0	£300 0 0
Lee	367 0 0	266 9 0
Coker	335 3 4	223 0 0
Trumper (accd.)	293 0 0	207 0 0

For reconstruction of Bath Markets. Messrs. Hickes & Isaac, architects. Quantities supplied. Accepted tender:—

Stap	£4,978 0 0

For a new rectory-house, at Chalvington, Sussex, for the Rev. Trayton Fuller. Mr. James G. Smither, architect. Quantities supplied:—

Palmer	£1,247 0 0
Davey	1,159 0 0
Donnelly	1,080 0 0
Jones	1,037 0 0
Constable	1,030 0 0
Messrs. Bond	998 0 0
Wardle & Baker	970 0 0

For house and stabling, at Redhill, Surrey, for Capt. E. W. Roberts. Mr. G. Elkington, architect. Quantities supplied by Mr. B. A. C. Herring:—

Hack & Son	£5,158 0 0
Myers & Sons	4,994 0 0
Carruthers	4,500 0 0
Thompson	4,285 0 0
Gammon	4,142 0 0
Browne & Robinson	4,086 0 0
Messrs. Coleman	4,064 0 0
Dale	3,482 0 0

For new chapel, at Pendleton, Manchester, for the Methodist New Connexion. Mr. R. Scrivener, architect. Quantities supplied:—

Neil	£2,862 0 0
Farrell	2,414 0 0
Penk	2,398 0 0
Statham & Son	2,257 0 0
Metcalf & Waterson	2,037 0 0

For building and completely finishing two semi-detached cottages, Eglinton-road, Potteries Estate, Plumstead, Kent, for Mr. Phillip Thomas. Mr. William Gosling, architect:—

Lidbetter	£625 0 0
Sonnex	615 0 0
Greenwood	610 0 0
Smith	565 0 0

For the erection of a pair of houses, in the Upper Richmond-road, Putney, for Miss E. M. Simson. Mr. S. Wood, architect. Quantities not supplied:—

Aries & Sons	£924 0 0
Adamson & Sons	885 0 0
Aries (accepted)	814 10 0

For alterations to South London Music-hall. Mr. Wm. Paice, architect:—

Fish	£829 0 0
Sharpington & Cole	797 0 0
Hart	770 0 0
Colls & Co.	695 0 0
Booth	638 0 0
Bottom & Co.	619 0 0
Forster	603 0 0

For house for Mr. F. Olliver, at Wimbledon. Mr. E. Nash, architect:—

Nicholson & Sons	£1,985 0 0
Walker	1,970 0 0
Colls & Co.	1,937 0 0
King, Burton, & Hepwell	1,930 0 0
Myers	1,872 0 0

TO CORRESPONDENTS.

T. M. R.—S. X.—H. T.—A. C. (we are unable to comply. Three copies of the list reached us)—V. B. J. S. L. R. R. P. (next week. Is he sure as to the weight on columns?).—A Voice from the Workshops (in type).—W. P. (ditto).—C. H. D. (we are very full just now).—J. M. (we know nothing of the plans recommended).—E. & Sons.—K. & R.—W. G.—R. S.—Thomas (we are forced uniformly to decline).—G. E.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

WOODHOUSE, WANSTEAD, ESSEX—Capital Freehold Residence, with Thirty Acres of fine Meadow Land, well timbered, surrounding the House

MESSRS. ELLIS & SON are directed by the Devisees under the Will of the late Westgarth Smith, esq. to SELL by AUCTION, at GARRAWAY'S, on FRIDAY, JUNE 20th, at TWELVE (unless an acceptable offer be previously made by Private Contract), a valuable FREEHOLD PROPERTY, called Woodhouse, late in the occupation of Money Wigram, esq. consisting of a capital residence, with accommodation for a large family, suitable stabling, offices, pleasure grounds, and kitchen gardens, greenhouses, farming houses, and several enclosures of rich meadow land. The property is within a short distance of Stratford, the Forest Gate, and Low Leyton Railway Stations, and is suitable either for a private residence, a public institution, or might be most advantageously laid out as a building estate.—To be viewed by tickets only, to be had of Messrs. ELLIS & SON. Printed particulars may be had of Messrs. BELL, BRODRICK, & BELL, Solicitors, No. 2, Bow Churchyard, Cheapside; of P. LETT, Esq. Architect, No. 36, Essex-street, Strand; at Garraway's; and of Messrs. ELLIS & SON, Auctioneers, Estate and Land Agents, No. 49, Fenchurch-street.

T GARRAWAY'S COFFEE-HOUSE, CORNHILL, on TUESDAY, JUNE 17, at HALF-PAST FIVE (by order of the Importers),
160 Loads Quebec Yellow Pine TIMBER.
155 ditto d tto Red Pine ditto.
27,000 St. John's Spruce DEALS, &c.
2,000 Ash OARS and RAFTERS.
4,000 Virginia STAVES.
MAHOGANY—270 Logs Honduras (Northern wood), of superior quality, fine figure and large dimensions, including the two very large and fine figured logs sent, but arrived too late, for the Great Exhibition, just landed at the East Wood Wharf, West India Docks, ex "Lintin," from Belize.
MAHOGANY..... 114 Logs Cuba.
CEDAR ..... 89 ditto ditto.
LUSTIC ..... 67 tons ditto.
WALNUTWOOD .... 55 Logs Circassian.
ROSEWOOD ..... 156 Planks Rio.
And other Goods.
Catalogues in due time of
THOMAS ROBERTS & CO. Brokers, 9, Billiter-street.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE. Every description of Architectural Drawings prepared, and respectives Outlined or Coloured, by
Mr. T. T. MARDON, Jun.;
Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c.
7, John-street, Bedford-row, W.C. Office hours, Ten to Four.

TO ARCHITECTS.—PARTNER WANTED.—An ARCHITECT of long standing in the North, wishes to devolve the weighty part of his business on a PARTNER competent to undertake the same. Communications will be held strictly confidential.—Apply to A. Z Office of "The Builder."

TO PARENTS AND GUARDIANS.
A CIVIL ENGINEER and SURVEYOR, practising in Newcastle-on-Tyne, has a VACANCY for an ARTICLED PUPIL. Premium required.—Address, C. E. 7, Wardle-terrace, Newcastle-on-Tyne.

TO PARENTS AND GUARDIANS.
A SURVEYOR and LAND AGENT of good practice has a VACANCY for an ARTICLED PUPIL.—Address, A. B. Post-office, Derby.

JUNIOR CLERK or IMPROVER WANTED in the Office of an Architect and District Surveyor. A practical man preferred.—Address, stating age and terms, Z. A. Office of "The Builder."

OFFICE BOY WANTED, by an Architect. Apply, in the first instance, by letter only, in own handwriting, stating age and other particulars, to L. T. C. 14, Bucklersbury, E.C.

WANTED, by a Slate Company in North Wales, a GENERAL MANAGER. He must be fully competent not only to direct and manage the working of the quarry, but also to superintend the accounts and correspondence and general business of the Company. The number of men at present employed is about one hundred. No one need apply who has not already filled a similar situation. Unexceptionable references will be required, and the salary expected must be stated.—Address, H. B. care of Mr. Standish, 11, Portland-street, Circus-road, St. John's wood, N.W.

TO ARCHITECTS' ASSISTANTS.
WANTED immediately, a first-class experienced ASSISTANT. He must especially be a good and expeditious draughtsman and designer, perfect in construction and detail, accustomed to prepare specifications, and to all the usual duties of the office.—Address, stating age, salary, and full particulars, Mr R. Mr. Yeandle's, Tobacconist, near the Rai way Station, Greenwich, S.E.

WANTED for a few weeks, a good practical SURVEYOR, accustomed to town surveys.—Address, stating terms, &c. to Mr. M. O. TARBOTTON, C E. Nottingham.

WANTED, an IMPROVER to the PLUMBING, &c.—Apply at No. 11, The Grove, Hackney.

WANTED, a SHOP FOREMAN, at a Decorator's. Must understand glazing, mixing colours, &c. Good reference required. —Address, C. W. at Mr. Taylor's, bookseller, 33, Great Castle-street, Regent-street, W.

TO PARENTS AND GUARDIANS.
WANTED, an APPRENTICE to the House-decorating and Plumbing. — Apply, by letter, Mr THOMAS BROADBENT, High-street, Highgate, N.

WANTED, a good PLUMBER and GLAZIER, who will not object to make himself useful; also a good PAINTER required, who can take charge of work. Good reference indispensable.—Apply, by letter only, to A. B. Brunswick Cottage, Alma-road, Upper Holloway, N.

TO ARCHITECTS' ASSISTANTS.
WANTED, immediately, in the Office of a Gothic Architect, an ASSISTANT possessing a good general knowledge of the profession, understanding detail and construction generally, as well as perspective. A preference will be given to a member of the English Church.—Address, stating qualifications, age, reference, and salary required, to ARCHITECT, care of Mr. Look, News-agent, Gray's inn road, WC.

TO GLASS CUTTERS AND GLAZIERS.
WANTED, a GLASS CUTTER and GLAZIER for a Retail Shop. One used to the lead and brass work preferred.—Address, stating where last employed, and wages, to A. G. 9, Desborough place, Harrow, N.
Also, TWO GOOD SASH GLAZIERS WANTED

TO IRONFOUNDERS, &c.
WANTED, a FOREMAN, thoroughly acquainted with Foundry, Smith, and Kitchen Range work.—Apply by letter, stating age, capabilities, salary, and references, to BROWN & GREEN, Luton, Bedfordshire.

WANTED, by a young Gentleman, a SITUATION in the Offices of a Land-Agent, Surveyor, and Auctioneer, having served his articles, and remained with his late masters nearly two years, to whom he can refer, and is now desirous of changing for further improvement.—Apply to P. 17, Gough-square, Fleet-street, London.

TO ARCHITECTS.
WANTED, an ENGAGEMENT in an ARCHITECT'S OFFICE. Unexceptional references can be given. The advertiser is competent to prepare working and detail drawings, and thoroughly understands perspective.—Address, X. L. Post-office, Dover.

TO ARCHITECTS.
WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK of WORKS. Is a good draughtsman, capable of preparing detail and working drawings, and well acquainted with the more practical part of his duties. First rate references. Salary moderate.—Apply to W. K. Post-office, Milverton, Somersetshire.

TO PAINTERS AND BUILDERS.
WANTED by a Young Man, aged 21 years, a SITUATION as GRAINER, PAINTER, and GILDER. In town or country.—Address, H. F. Mrs. Humphries, Corsham, Wilts.

WANTED, a SITUATION as CLERK of WORKS, or as Foreman of Works, by an experienced person in Church Works. Not less than two guineas wanted per week. The best of testimonials will be given by applying to W. HUNT, Beadon's-buildings, High-street, Taunton, Somerset.

TO ENGINEERS AND ARCHITECTS.
WANTED, by a Practical Mason, a SITUATION to SUPERINTEND the ERECTION of LARGE WORKS, at home or abroad. Speaks French and Hindustani. Has good testimonials.—Address, S. T. 10, St. Thomas-terrace, St. Thomas-street, Borough.

TO PLUMBERS AND BUILDERS.
WANTED, EMPLOYMENT, by a first-class PLUMBER, or a THREE-BRANCH-HAND. Can do gasfitting. Town or country. Good reference if required.—Address, R. A. 1, Hamilton-street, Camden Town.

TO CARPENTERS AND BUILDERS.
WANTED, by a Young Man, a SITUATION as IMPROVER, to the above. Wages, 24s per week.—Address, B. C. 7, New Park-street, Southwark.

WANTED, by a Young Man, aged 27, a SITUATION as CLERK, &c. Salary not so much an object as employment. Reference from last employers.—Address, G. H. 3, St. George's-road, New Kent-road, Borough.

TO BUILDERS, CONTRACTORS, SAW-MILLS, &c.
WANTED, a SITUATION as ENGINE DRIVER, by a middle-aged Man, who has had a good experience with portable, high, and low pressure engines. Understands pumps, lines, steam gauges, &c. Has no objection to any part of the country. Testimonials first-rate.—Address, Y. Z. No. 6, John-street, Cornwall-road, Lambeth, London.

TO YOUNG ARCHITECTS.
WANTED, by Architect of standing, a very clever ASSISTANT, thoroughly competent in every branch of the profession. A small salary will be given at first, with the understanding of future advancement if found efficient.—Address, F. R. I. B. A. stating terms by the hour, qualifications, &c. care of Messrs. Drosten & Allan, 126, Strand, W.C.

TO ARCHITECTS, &c.
WANTED, an ENGAGEMENT, by an Architectural Draughtsman of eight years' experience, capable of making finished and working drawing, perspective, &c.—Address, S. G. 7, Mount street, Lambeth, S.

TO BUILDERS AND CONTRACTORS.
WANTED, PLASTERING, by a person in the habit of taking piece-work only, in town or country. Address, J. G. Office of "The Builder."

WANTED, by a Young Man, a constant SITUATION as PLUMBER. Has no objection to turn his hand to painting or glazing. Can do plain zinc-work. Good reference can be given. No objection to go into the country.—Address, W. W. 12, West-street, Regent-street.

TO PLUMBERS, BUILDERS, &c.
WANTED, by a first-class Plumber, a SITUATION. Has no objection to the country.—Address, THOMAS RODGERS, 53, Fleming-road, Kennington-park, S.

WANTED, by the Advertiser, a SITUATION as PLUMBER, PAINTER, GLAZIER, &c. Town or country. Can produce satisfactory testimonials as to character, capabilities, &c.—Address, A. Z. 7, Carlton-road, Kentish-town, London, N.W.

TO BUILDERS AND CONTRACTORS.
WANTED, by a Young Man, a SITUATION as ASSISTANT to the above. Can make finished and working drawings, take out quantities, keep accounts, &c. and will make up time at the bench if required.—Address, R. H. D. Office of "The Builder."

TO ARCHITECTS
WANTED, a Temporary ENGAGEMENT, by an Architect's Assistant. Fifteen years' experience, with a good knowledge of detail, construction, and perspective —For further particulars, address, A. Z. 36, Tachbrook-street, Pimlico, London S W.

WANTED, a RE-ENGAGEMENT, by a thoroughly practical FOREMAN of PAINTERS, &c.; or to take the entire charge of a business, in either town, country, or colonies.—Address, stating salary, to A. Z. Mr. Trot's, Tobacconist, College-place, Chelsea, S.W.

TO NOBLEMEN, GENTLEMEN, AND OTHERS.
WANTED, by the Advertiser, a permanent SITUATION as WHEELWRIGHT and CARPENTER, on an estate or otherwise. Can make agricultural and brickfield implements.—Address, T. A. 41, Upper North-place, Gray's Inn-road.

TO ARCHITECTS, SURVEYORS, &c.
WANTED, a SITUATION, either Temporary or otherwise, by a respectable Young Man accustomed to prepare finished, working, and detail drawings, and well acquainted with the duties of an architect's office generally. Good references.—Address, E. B. F. Smith's Reading-rooms, Stanley-terrace, Hampstead-road, N.W.

TO GASFITTERS, &c.
WANTED, a MASTER for a respectable Turnover (in-door) Apprentice to the above, aged 16.—Address, A. C. Esther's Cottage, Acton-street, Kingsland-road, N.E.

TO IRONMONGERS AND BUILDERS.
WANTED, a SITUATION as LOCKSMITH and BELLHANGER, KEY-CUTTER, and GENERAL WORKMAN.—Address, J. C. No. 7, White Hart-court, Bishopsgate-street, London, E.C.

WANTED, by a Young Man, Constant EMPLOYMENT. Carpenter and Joiner by trade, and also an excellent Paperhanger.—Address, B. Y. 15, Beaumont-street, Nottinghill, London.

WANTED, by an Architectural Draughtsman of 15 years' experience, EVENING EMPLOYMENT. Terms moderate.—Address, J. GEORGE, 10, Grafton-terrace, Victoria-road, Kentish-town, N.W

WANTED, for a Permanent ENGAGEMENT in an Architect's Office in the country, an Experienced ASSISTANT.—Address, by letter only, stating ability, salary required, &c. to X. Mr. Thompson, Bookseller, High-street, Islington, N.

TO ARCHITECTS AND BUILDERS.
WANTED, a RE-ENGAGEMENT as CLERK of WORKS or GENERAL FOREMAN, by a thorough practical man. By trade a carpenter. Well acquainted with the building trade generally, can prepare finished and working drawings, set out and measure works, &c.—N B. Good references and testimonials.—Address, A. O. 7, Castle-terrace, Fownall-road, Dalston, N.E.

TO ARCHITECTS.
WANTED, by a thoroughly efficient and Practical Man, a SITUATION as CLERK of WORKS.—Address, A. B. 33, Acton-street, Gray's Inn-road, W. C.

TO ARCHITECTS, &c.
WANTED, a SITUATION as CLERK of WORKS, or otherwise, by a Young Man who can make plans, take out quantities, estimates, &c. and has a thorough practical knowledge of the building business. A small salary would be accepted if part of the duties were in the office.—Address, E. S. 13, St. George's-terrace, Liverpool-road, Islington.

TO BUILDERS AND CONTRACTORS.
WANTED, a RE-ENGAGEMENT, by a BUILDER'S CLERK. Is a thorough book-keeper, &c Good references from last employer.—Address, A. B. C. Miss Stracey's Library, 2, Hanover-place, Regent's Park, N.W.

WANTED, a RE-ENGAGEMENT as SHOP FOREMAN of JOINERS, or to TAKE CHARGE of WORKS, by a thoroughly efficient and practical Man of several years' experience. Has no objection to the country. Good reference from last and previous employers.—Address, C. D 38, Copplce-row, Clerkenwell

TO BUILDERS, DECORATORS, OR CONTRACTORS.
WANTED, a SITUATION as TIME or STORE-KEEPER, CLERK, or ASSISTANT FOREMAN, or in any similar capacity. Advertiser is 30 years of age, brought up in the building trade generally, and has also a practical knowledge of colours and the house decorating branches Excellent penman, accountant, &c. Town or country immaterial.—Address, J. J. M. care of Mr. Turle, 3, South-street, Cadogan-terrace, Chelsea, S W.

TO ARCHITECTS AND SURVEYORS.
THE Advertiser, who is capable of preparing working and detail drawings, specifications, and generally conversant with the duties of an office, is desirous of an ENGAGEMENT. Moderate salary.—Address, R. C. Mr. Sturch's Post-office Newington Butts, S.

TIMBER TRADE.—The Advertiser, aged 40, who has had considerable experience as general clerk both in the wholesale and retail trade, and is a sworn measurer, is open to an ENGAGEMENT in a similar capacity, or as Traveller, or any situation of trust. No objection to town or country. First class references given.—Address, J. HART, 7, North Park-street, Pembroke Dock.

RAILWAY SURVEYING AND ENGINEERING.
THE Advertiser having just completed an engagement on the Edgware, Highgate, and London Line, desires a RE-ENGAGEMENT in any part of Great Britain or Ireland. Surveys made, curves set out, sections taken, and all engineering field work executed with accuracy and despatch. — Address SURVEYOR, 29, Acton-street, Gray's-inn-road, London, W.C.

TO RAILWAY CONTRACTORS, BOROUGH SURVEYORS, AND OTHERS.
THE Advertiser is open to a RE-ENGAGEMENT as CIVIL ENGINEER or SURVEYOR'S ASSISTANT. Understands levelling, surveying, setting out, measuring up work, &c. Excellent references as to character and ability from last employers.—Address, DELTA, Mr. Moss, News-office, Hampstead, N W.

CLERK or TIMEKEEPER, age 35, accustomed to keep men's time, cost-price, delivery, and day books, and the usual routine of office work. Very willing, with unexceptionable references. Salary moderate.—Address, A. B. Mr. Carrington, 46, Howland-street, Tottenham Court-road.

TO ARCHITECTS, &c.
AN efficient CLERK OF WORKS, who is now completing his works under an eminent architect, desires a RE-ENGAGEMENT. Age 35. First-class references. — Address, BLAKE, Austin's Livery Stables, St. George's-place, Knightsbridge, W.

TO BUILDERS AND CARPENTERS, &c.
A YOUTH (son of a Builder), aged 18, wishes for a SITUATION as IMPROVER to CARPENTRY and JOINERY. Has had some experience in the business. Writes a good hand, and will make himself useful.—Address, X. Y. Post-office, Bushey Heath, Herts, N.W.

TO ARCHITECTS AND ENGINEERS.
AN Experienced ASSISTANT will be glad to meet with an ENGAGEMENT in town, temporarily or for a few days per week. Has an extensive connection; and being competent to conduct a business, would be prepared to enter into an arrangement. The strictest confidence may be relied upon.—Address, A. L. 41, Watling-street, E.C.

TO ARCHITECTS AND SURVEYORS, &c.
A YOUNG GENTLEMAN, of business habits, and a good draughtsman, is open to an ENGAGEMENT, in town or country. Is accustomed to the general routine of an office. Speaks French, and writes well.—Address, F. M. Office of "The Builder."

TO ENGINEERS AND SURVEYORS.
A YOUNG ENGINEER, aged 20, who has served his term of five years with a Mechanical Engineer, wishes to IMPROVE himself in a Civil Engineer's or Surveyor's Office. —Address, A. P. London Central News-room, 131, Cheapside.

TO NOBLEMEN, ESTATE OWNERS, AND AGENTS.
A BUILDER, aged 31, who has been in business on own account ten years, is desirous of obtaining a Permanent APPOINTMENT to Superintend the Erection and Repairs of Buildings, Collection of Rents, Keeping Accounts, &c. Excellent references.—Apply by letter, to A. B. Mr Keates', Sutton, Surrey, S.

TO ARCHITECTS, &c.
AN experienced ASSISTANT is open to a RE ENGAGEMENT. Is thoroughly qualified to prepare fair, working, and detail drawings, also perspectives, and possesses a knowledge of taking off quantities. Good references.—Address, X. Y. Office of "The Builder."

TO BUILDERS AND CARPENTERS
A YOUTH, aged 18, wishes to place himself as IMPROVER to a CARPENTER. Has a very good knowledge of the trade.—Address, G. H. 27, Ann-street, Waterloo-road, London, S.

TO ARCHITECTS.
AN Architectural ASSISTANT, who is competent to make finished and working drawings, write specifications, and generally to perform the usual duties of an office, desires a RE-ENGAGEMENT.—Address, A. B. No. 12, King Edward-street, Liverpool-road, N.

AN Architect at the West-end of London has a VACANCY in his Office for a PUPIL, who will be thoroughly instructed in his profession. Premium very moderate.—Address, D. F. Office of "The Builder."

A GOOD ARCHITECTURAL and ENGINEERING DRAUGHTSMAN, WRITER, &c is open to an ENGAGEMENT Address, A. Z. 184, Upper Thames-street, E.C.

TO MASTER BUILDERS AND PLUMBERS.
A YOUNG MAN wishes for a constant SITUATION as an experienced PLUMBER. No objection to turning his hand.—Address, J. C. 1, Walton-street, Marlboro'-road, Chelsea. Country not objected to.

A PRACTICAL Builder's Foreman wants a RE-ENGAGEMENT, either as GENERAL FOREMAN, or to Take Charge of a Job. Good reference from last employer.—Address, C. B. 5, Tarlington-place, Edgware-road, Paddington, W.

TO CONTRACTORS AND BUILDERS.
AS CLERK of WORKS, or GENERAL FOREMAN The Advertiser having been accustomed to superintend large and extensive works, and is, in town and country, is just leaving, and requires an ENGAGEMENT No objection to the country Terms moderate. Has a thorough knowledge of every branch of the trade.—Address, FOREMAN, Post office, Liverpool street, City, E.C.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

POLONCEAU and LIMMER ASPHALTE.



For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TO ARCHITECTS.
A NEST of TEN DRAWERS (double elephant size), containing also 30 pigeon holes and two small cupboards. Also a quantity of strainers, drawing tables, and stool, TO BE SOLD a bargain.—Apply at No. 36, Brunswick-square, W.C. immediately. Together or separate.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
89, Bishopsgate street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

FIRES.—VAUCHER'S PATENT WOVEN HOSE for Fire-engines and Ships' purposes may be had of any length at 2d. per foot. All warehouses and large establishments should have a plug with a length of hose attached on each floor.—Samples of double and half-double substance, and all particulars, may be had at the Office, 1, Chapel-place, Poultry. Shipping orders prepared for tropical climates on the shortest notice.

MR. CHARLES WOODROFFE, of 29, New Bridge-street, Blackfriars, is prepared to ADVANCE MONEY in discount on short notice, on HOUSES in the course of erection, at fit parent intervals, as the works proceed, the borrower depositing the writings. No legal expenses.—Apply between Ten and Four.

MARBLE CHIMNEY-PIECES, STOVE-GRATES, FENDERS, and FIRE-IRONS.
MAPPLEBECK & LOWE, BIRMINGHAM.
MANUFACTURERS OF THE LEAMINGTON KITCHEN RANGE.

SIXTY MARBLE CHIMNEY-PIECES TO BE SOLD, in consequence of Monsieur Boernaert, of the Belgian and Westminster Marble Works, Millbank-street, Westminster, having discontinued his Show-rooms in London. The above Chimney-pieces consist of Carved Statuary, Bold Relief Royal, Black Trussed, &c. &c. The above will be sold at a great sacrifice—in fact, no reasonable offers will be refused.—Apply to Mr PILTON, Westminster Marble Works, East-street, Hereferry road, S.W.

MARBLE CHIMNEY-PIECES of every Description, also enamelled Slate, to be SOLD at 220, MARYLEBONE ROAD (opposite the Yorkshire Stingo). BATH STONE BOX CHIMNEY-PIECE, with MOULDED CAP and BASE, is FITTED TO ANY OPENING.

A. TAGNON, 7, North Mews, Little James-street, Gray's Inn-lane, London, begs to recommend his extensive STOCK of every description of MARBLE CHIMNEY-PIECES and CASES for MARBLE CLOCK-STANDS. Being a large proprietor in Belgium of black, grey, red, &c. marble quarries, he can furnish any quantity in qualities, at most moderate prices Mosaic inlaid work and marble clock-stands repaired and polished. Columns and vases turned and polished for the trade.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
97, MILLBANK STREET, LONDON, S.W.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

BELLMAN & IVEY,
SCAGLIOLA MARBLE MANUFACTURERS,
14, BUCKINGHAM-STREET, FITZROY-SQUARE,
LONDON, W.
Execute, in the most workman-like manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION, IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.
Also Manufacturers of Superior and Improved Plaster of Paris.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
All communications to be addressed to the Secretary, 24, St. James's street, London, S.W.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each slab.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 97, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Blates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Flint, Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 20, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and preservation of churches. When used as ashlar work it is not necessary to place it bed-wise. It may be freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

CAEN and AUBIGNY STONE. POUCARD, BROTHERS, late P. POUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

RED MANSFIELD STONE. WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or MOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

VICTORIA MARBLE WORKS, 28, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Prices forwarded and estimates given on application.—Address,
No. 1, HOLD TERRACE, CHESTER.

WATERSIDE PREMISES TO BE LET, known as Chancellor's Wharf, Hammersmith, with convenient dwelling-house, counting-house, and stable; also a large brick building (on piers), suitable for a barge builder, stone or timber merchant, or a dealer in building materials generally. Rent moderate.—For further particulars apply to Messrs. ROBERTS & ADLARD, Slate Merchants, 12, Potter's-fields, Tooley-street, S.E.; or to Mr. BOND, House and Estate Agent, Dorcas-terrace Hammersmith.

LIME GROVE ESTATE, Putney.—This fine estate, containing altogether about forty acres, and immediately adjacent to the Putney Station, and near to Putney heath, with very extensive frontages on Putney-hill and the Upper Richmond-road, TO BE LET on building leases, either as a whole, or in part.—For particulars, apply to Messrs. BAXTER, ROSE, & Co. 6, Victoria-street, Westminster; Mr. POWNALL, 56, Lincoln's Inn-fields; or Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament street.

LAND for the ERECTION of FACTORIES, with Canal Frontage if required, TO BE LET on BUILDING LEASE, in plots from a quarter of an acre to three acres, situate within two miles and a half of London Bridge, Surrey side.—For particulars apply to Mr. WILLIAM RUSSELL, Plough-road, Lower-road, Rotherhithe.

FREEHOLD RIVERSIDE PREMISES near LONDON BRIDGE.—TO BE SOLD, a valuable PROPERTY comprising landing and storing warehouses, dwelling house and offices, having a frontage of 70 feet to the Thames, and containing an area of about 10,000 square feet, in immediate contiguity to the proposed terminus of the Charing-cross Extension Railway.—Particulars may be obtained of Messrs. WILSON & SCOBLE, Estate Agents, 10, Landenhall street, E.C.

TO CARPENTERS, BUILDERS, and OTHERS FOR SALE, TWO WELL-BUILT CARCASES, in a good situation at Dalston Term, 99 years. Ground rent, 5l. each. Price 120l. Advances if required.—Apply to Mr. CLARKSON, 9, Great St. Helen's, City.

TYSSEN-AMHURST ESTATE.—LAND TO BE LET for BUILDING, in different parts of CLAPTON, HACKNEY, and KINGSLAND. For plans and particulars apply to Mr CHESTER CHESTON, Architect and Surveyor, at the Offices, Church street, Hackney, N.E near the Railway Station.

BELVEDERE, near Erith, Kent, S.E.—TO BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES near London. This beautiful Park is to be first open for building at the new year, 1863. Probably no district to the east of London has equal natural advantages The beauty of the river and land scenery is well known The soil is dry and healthy, the water pure and abundant. There are stations of the North Kent Railway at Erith and at Belvedere. The former is near to the east end of the Park; the latter, within four minutes' walk of the west end of the Park, and the Picardy and Lesaness Heath portions of the estate. By the end of 1862, it is expected that there will be complete railway communication to Charing Cross. Picardy, close to the Belvedere Station and Lesaness Heath (close to the Belvedere Church and Schools) are already (within two years) nearly covered with buildings, viz. villas of different classes, from 20l. to 70l. per annum, and shops of various descriptions; some plots however, may still be had there. Some sites in the park are to be let, and it is intended to grant leases of other similar plots for nineteen, nine years, for erecting villas of a superior description. Plots will be laid out contiguous to four principal roads running through the park. These are the Park-road, leading from the Belvedere station to Brook-street; the Avenue-road and the Tower-road, each leading from the public Erith-road at different points to the Tower and the Valley-road, leading from the Erith Lodge to the archway in the park. The ground rents are very moderate.—Applications for terms and for other particulars may be addressed to Messrs. WM. G. HABERSHON & PITT, Architects, 38, Bloomsbury-square, W.C. Mr. EDWARD, Lesaness Heath, will show the ground to persons applying. The mansion will also be let on lease after April, 1863, for an hotel or public school, or other public institution.—For particulars apply to Messrs. NORTON & HOGGART, Old Broad street, E.C.

TO BUILDERS, WAREHOUSEMEN, MANUFACTURERS, and OTHERS.—TO BE LET by TENDER, either together or separately, and on Lease for twenty-one years (determinable at the option of lessee at the end of the first seven or fourteen years), the spacious WAREHOUSE, OFFICES, DWELLING-HOUSES, and first-rate BUSINESS PREMISES situate in Foundation-court, Aldermanbury, and Church passage, Guildhall, in the best part of the City of London, and covering an area of 6,000 feet.—Particulars, plans of the property, and forms of Tender, to be obtained of Messrs. SOLE, TURNER, & TURNER, solicitors, 88, Aldermanbury; and of THOMAS CHATFIELD CLARKE, Architect, 337, Leadenhall street, London Tenders to be sent (sealed) to Messrs. SOLE, TURNER, & TURNER, 88, Aldermanbury, London, on or before TWELVE o'clock at noon, on TUESDAY, the 17th instant; at which time the Tenders will be opened. The highest or any Tenders, will not necessarily be accepted.

LAND at HACKNEY, sufficient for the erection of eleven houses, TO BE LET on Building Leases Term, 75 years, held from the Governors of St. Thomas's Hospital. Money advanced, if required.—Apply to Mr. J. TUCKER, 234, High Holborn, W.C.; or to Mr. HENRY J. PHILLIPS, No. 34, Moorgate-street, E.C.

TO SPECULATING BUILDERS and OTHERS.—LAND, close to the Royal Dockyard, Deptford, TO BE LET, on LEASE, suitable for building five-roomed cottages that would readily let for 6s. a week.—Apply to Mr. JOHN WIMBLE, 2, Walbrook; or to Mr. J. A. BONE, 37, Leadenhall-street.

WANDSWORTH ROAD, near VAUXHALL.—BUILDING LAND TO BE LET on LEASES for Forty Houses, to complete a Street, at 2s. per foot frontage.—Apply to Mr. TAYLOR, No. 5, The Lawn, South Lambeth, S.

GUILDHALL, LONDON, 27th May, 1862.—The Committee for Letting the Bridge House Estates will meet at GUILDHALL, on FRIDAY, the 13th JUNE next, at TWELVE o'clock precisely, to receive PROPOSALS for a BUILDING LEASE, for eighty years, of a Piece of Ground on the north side of Wellington-street, Deptford.—Plans of the property may be seen, and further particulars obtained, upon application at the Architect's Office, Guildhall. FERDINAND BRAND, Comptroller.

BUILDING GROUND.—St. Dunstan's Hill, near the Custom House, London.—TO BE LET, with the approbation of the High Court of Chancery, on a Building Lease, or a Building Leases, for the term of 80 years, all those FOUR MESSUAGES or TENEMENTS and DWELLING-HOUSES situate and being No. 4, 5, and 6, on the west side of St. Dunstan's Hill, in the Parish of St Dunstan-in-the-East, in the City of London, possessing a frontage of 80 feet, and an extreme depth of about 74 feet. The property will be let subject to the rights of the tenant of No. 3, who holds, under an agreement to leave on six calendar months' notice from any quarter-day, at the yearly rent of 35l. 1l. 9d. for redeemed land tax, and 2l. 8s. for insurance against fire; and also to the rights of the tenant of No. 6, who holds for the remainder of a term of 21 years, which will expire at Michaelmas, 1865, at the yearly rent of 8l. 4s. for redeemed land tax, and 2l. 10s. for insurance against fire. The tenant of Nos. 4 and 5 has received notice to quit, which has expired, and is only occupying upon sufferance. The property belongs to the Parish of St. Dunstan-in-the-East, in the City of London, and will be let, subject to the approbation of the Court of Chancery, by TENDER on one or more building-lease or leases, at the option of the lessee or lessees, for a term of 80 years, from 24th JUNE, 1862, at a pepper corn rent for the first year, and at an agreed rent for the remainder of the term. A plan of the ground, and the terms and conditions of the agreement for a lease or leases to be signed by the lessee or lessees, may be seen at the office of WILLIAM TITE, Esq. M.P., 37, St Helen's Place, Bishopsgate-street, the surveyor of the Estate; or at the office of JAMES EDWARD SHEARMAN, Esq. the Vestry-Clerk of the Parish, No. 44, Mark lane, from the 1st to the 14th day of JUNE, between the hours of Eleven in the forenoon and Four in the afternoon, except on Saturdays, and then until Two in the afternoon; and the Church Committee of the parish will meet in the Vestry-Room of the Parish Church on THURSDAY, the 19th day of JUNE, 1862, at ONE o'clock in the afternoon precisely, to receive sealed Tenders from parties who may be willing to take the property on a building-lease or building-leases for the term aforesaid, and under and subject to the terms and conditions contained in the plans and specification and terms of letting before referred to. Such Tenders to be in the form set out at the foot of the said specification and conditions; and forms thereof may be obtained at the Surveyor's or Vestry-Clerk's offices on application. Such Tenders to be sealed up and delivered at the office of the Vestry Clerk one clear day before the meeting of the Church Committee. The Church Committee will not bind themselves to accept the highest or any Tender; and the parties whose tenders may be accepted will be required to provide two good and sufficient sureties for the due performance of the covenants of the said contract. The parties tendering are requested to attend during the meeting of the Committee, in the Vestry-room, on the said 19th day of JUNE, 1862.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

GLASS WAREHOUSE.

THOMAS MILLINGTON,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED TARIFF.

Small Squares, 15 oz. usually in Stock.

	4ths.	3rds.	2nds.	Best.
In 100 and 200 feet Boxes, per foot in sizes under 1 foot super.	1½d.	1¾d.	2d.	2½d.
Above 1 foot and under 2 feet 6 inches	1½	1¾	2½	3
Above 2 feet 6 inches and under 4 feet	1¾	2	2¾	3½

GLASS FOR ORCHARD HOUSES.

	15oz.	21oz.
20 by 12 } 4ths quality, per foot	1¾d.	2½d.
20 „ 13 }		
20 „ 14 3rds „ „	2¼	2¾
20 „ 15 2nds „ „	2¾	3¾
20 „ 16 Best „ „	3	4

LARGE SIZED CASES FOR CUTTING UP.

	15oz.	21oz.	26oz.
4ths quality, in 200 and 300 feet cases, at per foot	1¾d.	2¾d.	3d.
3rds ditto ditto	2	2¾	3½
2nds ditto ditto	2¾	4¼	4¾
Best ditto ditto	3¾	6¼	7¼

CRYSTAL SHEET GLASS.

	16oz. to 18oz.	30oz.
2nds quality in 200 feet cases, at per foot	5½d.	0s. 11d.
Best ditto ditto	7¼	1 1

GROUND GLASS.

15oz. in 200 feet cases, per foot ..... 3d.
21oz. ditto ditto 4

FLUTED GLASS.

15oz. in 200 feet cases, per foot ..... 3¼d.
21oz. ditto ditto 5¼

COLOURED GLASS.

Ruby, in sheets, per foot ..... 16d.
Green, ditto ditto 10
Blue and purple, orange and yellow, per foot ..... 6d.

MATTED GLASS.

A great variety of patterns, in sheets, per foot ..... 4½d.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead ..... per cwt.
Anti-corrosion Paint .....
Linseed-Oil Putty .....
Fine Oak Varnish ..... per gallon
Fine Carriage Varnish .....
Linseed Oil and Turpentine .....

Milled Sheet Lead, Pipe, &c. at wholesale prices.

HARTLEY'S IMPROVED PATENT ROUGH PLATE.

NOT ACCOUNTABLE FOR BREAKAGE.

TO BUILDERS, CARVERS AND GILDERS, PICTURE-FRAME MAKERS, AND OTHERS.

NET CASH PRICES FOR GLASS OF SUPERIOR QUALITY,

In Cases of 200 feet super. large sizes.

	15 oz.		18 oz.		21 oz.	
Best	£4 3 4	—	£4 11 8	—	£5 0 0	Per Case.
Seconds	2 18 4	—	3 6 8	—	4 3 4	
Super Thirds	2 1 8	—	2 10 10	—	3 6 8	
Thirds	1 13 4	—	1 17 6	—	2 18 4	
Fourths	1 5 0	—	1 9 2	—	2 12 0	

Estimates and Price Lists for every description of Glass forwarded on receipt of particulars.

ROBERT METTAM & CO.

Wholesale British and Foreign Window Glass Warehouse, 30 and 31, Princes-street, Leicester-square. Established, 1793.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred-weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

PAINTED GLASS WINDOWS AND MURAL DECORATION.

LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford-street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesastical and Domestic purposes.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

311, REGENT STREET, W.

(Adjoining the Polytechnic Institution).

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

PATENT and BRITISH PLATE GLASS.

JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho square, London.

CHEAP WINDOW GLASS! CHEAP

WINDOW GLASS! Builders, Plumbers, Painters, Glaziers, and the Trade generally supplied with every description of Window Glass at WHOLESALE PRICES. Sashes glazed. Lists and estimates given at

GRIST'S GLASS WAREHOUSE,

47, Chiswell-street, Finsbury, E.C. opposite Whitbread's Brewery.

BRICKS, TANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
„ 8-inch Pavings, at 57s. 6d. per 1,000.
„ Kiln Bricks, at 38s. per 1,000.
„ Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire street Station, at 26s. per 1,000.

BRICKS of this season's make are now READY FOR SALE at the RANELAGH BRICK WORKS, Fulham-fields, and the SWAN BRICK WORKS, Walham green, S.W. Bright stocks for facings, grey stocks, grizzells, and place, of superior quality, can be delivered to any part of the W. or S.W. districts at very reasonable prices.—J. JOHNSON, Proprietor.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters
Fancy Moulded Bricks of many patterns.
Best hard kiln burnt Common Bricks, in large quantities.
Do. 6 inches
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

ANCHOR BRICK-MOULD WORKS, HOUNSLOW, W.

J. LEACH, Millwright and Manufacturer. Improved MOULDS, STOCKS, and PLATES, with screw stock pegs; also Oak Stocks, the largest stock in England, of various sizes, and made to order. Wash, Chalk, Peg-mills, and Pumps, by steam or horse-power. Brickmakers are cautioned against an Impostor collecting orders in J. L.'s name, and supplying an inferior mould. Anti-friction Grease for Brickfields. Established eleven years.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty, 75l.

Licences to Manufacture granted for certain districts

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,310.

A NEW BRICK and LIME WHARF, and DRAWDOCK,

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM CUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



LONDON WHARF, 64, Bankside, Southwark.

LONDON OFFICES, 76, King William-st. City.

MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

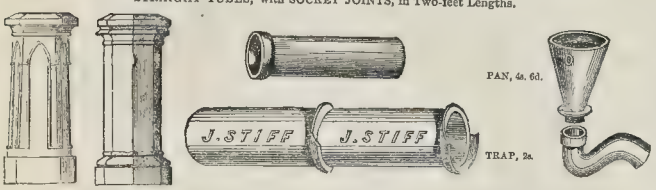
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr LAVERS'S, Dowgate Wharf, Canal road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor —2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles. It is a most effective non-conductor

INODOROUS FELT, for damp walls and damp floors, under carpets and floor cloths Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.
Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.
Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,
INTERNATIONAL EXHIBITION, 1862.

ENAMELLED STONE CHIMNEY-PIECES,

Of Beautiful Designs, and to Imitate any kind of Marble; far Superior to Enamelled Slate, and considerably Lower in Price, INVENTED AND MANUFACTURED BY

W. J. ELLISON & CO.,

SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT.
Also, MANUFACTURER of WALL-LININGS, composed of Stone Slabs, with a Veneer of Scagliola to Imitate Marble, and Enamelled by Heat, WARRANTED TO RETAIN ITS POLISH.
Office and Show Room, No. 3. WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.
Manufactory, EAST-ROAD, CITY-ROAD.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for grinding every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machine.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

KENT'S PAINTING BRUSHES are all stamped G. B KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

COLOURS and VARNISHES at REDUCED PRICES,
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 2d. per gallon; Boiled Oil, 3s. 6d.; Turpentine, 5s. 3d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated
PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

A SUBSTITUTE for PAINT, and at HALF the COST. STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 64, Stamford-street, S.

TO BUILDERS, HOUSE-PAINTERS, and DECORATORS.—PATENT EXTRACT of LETHICIUM.—For Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. in a few minutes, and for Cleaning and Restoring Old Paint. Success guaranteed. Price 5s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London. — Messrs. NAENIARE & Co. 11, St Andrew's-hill, Doctor's-commons, London, E.C.—N.B. Cheap patented Brushes for laying on the Extract, and removing the old paint, 2s. per pair.

IMPORTANT to BUILDERS and PAINTERS Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 2d. per gallon; Boiled Oil, 3s. 6d. per gallon.
Turpentine, 5s. 3d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at SIWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Cotesbill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentleman's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	25 "
Marine Chronometers	25 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.
INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock, may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 16, No. 3 948
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH
Near Astley's Theatre.
Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN.
LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.				Laths, 2s. per load.	
Yellow Deals, sound and good	£19	10	0 per 120,	or 0s. 3½d.	per foot.
Spruce Deals	16	10	0 ,,	0 2½	,,
Yellow Battens, excellent quality	11	10	0 ,,	0 2	,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 ,,	3 6	,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
½-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10s. per 120. | Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Yellow Battens ..... £11 10s. ,, | Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
Spruce Deals..... £16 10s. ,, | ½-inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

1,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
4,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
4,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Work-rooms, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern Shop Fronts Shop and Office Fittings, Air-tight Window Fittings, Glass show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



GREATER REDUCTIONS.—

Yellow Deals, from 3s. 9d.; Spruce, from 2s. 8d.; Pine Planks, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of

PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames. For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to

inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,

36,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

BENJAMIN EDGINGTON,

2, DUKE-STREET, FOOT of LONDON-BRIDGE, S.E.

Manufacturer of Tarpaulins, and Improved Dressed Cloths.

Tarpaulins Let on Hire, Scaffold-cord, Rope, and Blocks of every description. Marquees, Tents, Awnings, Rick-cloths, Sacks, &c.

N.B. The ONLY ESTABLISHMENT in at 2, DUKE STREET, LONDON-BRIDGE, S.E.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. — Orders received at Great Scotland-yard, Whitehall; and at the Works.

GREY STONE LIME.

WILLIAM PETERS,

GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
19, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

STRINGFIELD and BLYTH,

SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND
BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER & CO.

(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N.

GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT

STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Penmant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Drabbing, and Mathematical
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited,
Are prepared to supply their First-class Blue Lias Lime in any quantity and at any place.
SPECIAL CONTRACTS MADE FOR LARGE WORKS.
All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be gauged or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble. — Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLORED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the monthly price-lists.
N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise,
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Wherever can be obtained, of the best quality:—
GREY STONE CHALK, FLARE and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS BLACK BRICKS and BLACK GLAZED HEADERS
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings of Halls, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS.
TERRA-COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTEADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMENT
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY

JOHN BAZLEY WHITE & BROTHERS,
MILLBANK STREET,
WESTMINSTER.
MANUFACTURERS of ROMAN, PORTLAND, and KEENE'S CEMENTS.
PLASTER of PARIS and MASTIC
BRICKMAKERS AND MARBLE MERCHANTS.

J. B. WHITE & BROTHERS' PORTLAND CEMENT,

of which they make but one quality, possesses all the advantages of the natural cements, while it greatly excels them in its cementitious properties, is not affected by frost, and does not vegetate in damp situations.
An account of comparative experiments on the strength of this and other cements, read at the Institute of Civil Engineers, to be obtained at the Bakewell.

KEENE'S IMPROVED CEMENT,
MANUFACTURED ONLY BY J. B. WHITE & BROTHERS,

for internal use, is superior to all others in hardness, and is, therefore, specially adapted for floors, skirtings, and stucco work in general; while it has the additional advantage of receiving paint in a few hours after its application.
Agent in Liverpool: JOHN MACKENZIE, 46, Seel-street.
Do. in Manchester: THOMAS OARDEN.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parr's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

HAYWARD TYLER & CO.

ENGINEERS AND BRASSFOUNDERS,

84 AND 85, UPPER WHITECROSS STREET, LONDON, E.C.



HOWARD'S PATENT

REGULATING VALVE,

MANUFACTURED BY H. T. & Co.

Has been fixed in every situation, and proved to be

THE ONLY EFFICIENT VALVE

FOR

SUPPLYING CLOSETS WITH WATER WITHOUT THE COMPLICATED ARRANGEMENT OF CRANKS AND WIRES.

The "Great Eastern" has been fitted with these Closets, and hundreds are now in operation in many large establishments in the metropolis.

H. T. & Co. solicit an inspection at the Manufactory, where they may be seen in operation.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, **JOSEPH CLIFF & SON.** NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF

SALT-GLAZED SOCKETED DRAIN-PIPES,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers,
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.

PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—

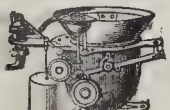
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.

High-Street, Lambeth, London.

THOMAS LAMBERT & SON,

No. 17. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



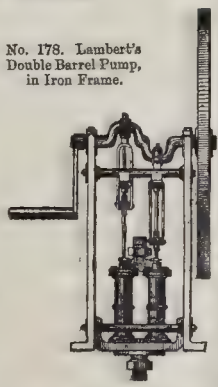
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

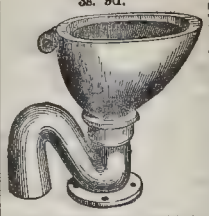
SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON And it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



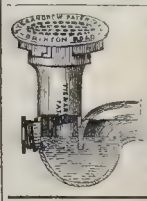
In expectation of a greatly increased sale, D. & W. have determined to introduce the answered pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes, and the Pans become DISCOLOURED and UNFIT for USE.

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the 3s. 9d. Enamelled Stoneware Closet and Trap.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS

CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS, 242, EUSTON ROAD, ST. PANCRAS.

TERRA-COTTA WORKS, BLACK-FRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

BUFF & DEEP RED FACING BRICKS, Splays, Cutters, Floor-tiles, Garden Edging, &c.—Apply to E. HOOPER, Manufacturer, Southampton; or JOHN DOWNEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.
Architects and Builders requiring superior colour in bricks are respectfully invited to inspect the above.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACK FRIARS, TO 50, CONDUIT STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Thorns," Tunstall, Staffordshire as the first of the kind in the world.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT—Second Testimonial:—
"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

CH. T. BIKKER, 110, Bradford-street, Co., and 109, Cheapside, Birmingham, ARTIST in ECCLESIASTICAL DECORATIONS, HOUSE and CHURCH DECORATOR. Wall painting, diapering, and gilding in the three styles of the twelfth, thirteenth, and fourteenth centuries. Every description of ecclesiastical writing, lettering, and Gothic decorations; also Egyptian, Roman, and Grecian decorations truthfully carried out in accordance with the several styles. Experienced artists sent to any part of the United Kingdom. Architects' designs carried out by experienced decorators, or drawings furnished if required. Specimens may be seen fully carried out at the above address.

SALES BY AUCTION.

BUILDING MATERIALS, HARP-LANE, TOWER STREET

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 17th, at TWELVE, the BUILDING MATERIALS of the Offices and Premises known as Bakers' Hall Chambers, Harp-lane, Tower-street; comprising sound brickwork, lead flat, gutters, cisterns and pipes, 10,000 plain tiles, useful timber and floorine-boards, glazed sashes, doors, stone paving, mahogany desks and counters, office fittings, &c. — May be viewed the day previous. Catalogues had of Messrs. JOHN YOUNG & SON, Architects, 26, King street, Cheapside; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament-street, S.W.

KENSINGTON—MATERIALS of a LODGE

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings to SELL by AUCTION, on the PREMISES, near the Turnpike, Kensington, on WEDNESDAY, JUNE 18th, at ELEVEN for TWELVE, the MATERIALS of the GATEKEEPER'S LODGE, comprising capital brickwork, sound timber in roofs and floors, doors, sashes, stoves, range and other fittings, slates, stone paving, iron railing with granite kerb, lead pump cisterns, and other effects.—May be viewed one day previous, and catalogues had at the Office of Her Majesty's Works, &c. 12, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

THE MATERIALS OF THE EAST-INDIA HOUSE. Fourth Portion

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the premises, on WEDNESDAY, JUNE 25th and following day, at TWELVE, in Lots, the FOURTH PORTION of the VALUABLE MATERIALS of the EAST INDIA HOUSE, Leadenhall street, comprising 32 square of slates and slating boards, prime oak and fir timber in rafters, joists, and girders; 150 square of sound oak and other floor-boards, 100 pair glazed sashes, 150 wainscot and other doors, 25 marble chimney-pieces, panelled partitions, stone staircases with iron balusters, 5,000 feet York landings and paving, the west portion of the Portland-stone front, with return end of Leadenhall Skin Market, stone coping, window cills, and stringing; 25 tons of lead, in flats, gutters cisterns, and pipes; sheet-copper covering, 300 feet of ornamental iron railing and gates, iron girders and columns, stoves, ranges, and a variety of useful materials and fittings up.—May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

LONDON, CHATHAM, and DOVER RAILWAY — Metropolitan Extensions. — Seventeenth Clearance Sale. — Building Materials, Britzton

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, in the course of the present month, the excellent BUILDING MATERIALS and FITTINGS of several newly-erected semi-detached residences of a superior description, situate in and near Canterbury road and Gresham road, Brixton Rise.— Further particulars in a few days, when catalogues may be had at Mr. VIGLESS's Offices, 3, Frederick's-place, Old Jewry, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. ; and 40, Parliament-street, S.W.

BUILDING MATERIALS, MINCING LANE, CITY.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 1, at TWELVE, in lots, all the valuable BUILDING MATERIALS of the extensive premises No. 20, Mincing lane, and 1 and 2, Hammond-court, adjoining.—Catalogues in due time, of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. ; and 40, Parliament-street, S.W.

OLD YORK AND PORTLAND STONE AND IRON POSTS, Downing street.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Her Majesty's Works and Public Buildings, to SELL by TENDER, on MONDAY, JUNE 16th, about 50 Wrought and Cast-Iron Posts, Railings, and other York and Portland Stone, and 12 Cast-Iron Posts, lying at the back of the Privy Council Office and in the vacant ground on the south side of Downing street. Tenders to be left at the Office of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street ; and 80, Fore street, E.C.

TO ENGINEERS, CONTRACTORS, and OTHERS. — Travelling Cranes, Pile-engines, and Monkeys, Steam-engines, and other surplus Plant from Westminster Bridge.

PULLEN, HORNE, & EVERSFIELD are authorized by the Commissioners of Her Majesty's Works and Public Buildings, to SELL [by PRIVATE CONTRACT, the surplus PLANT, consisting of several very superior Travelling Cranes, about 20 ft. span, equal to nearly new; Locomotive Boiler, Locomotive Engine, Portable Steam-engine for pile-driving, Saw-bench, Diving-bells, Air-pumps, Divers' Apparatus, Pile-engines and Monkeys, Iron Sheet-piles and Ring Bolts, Punching Crab, &c.—Orders to view may be obtained of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster.

PORTLAND and BRAMLEY-FALL STONE, from Old Westminster Bridge.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of H.M.'s Works and Public Buildings to SELL by PRIVATE CONTRACT the Remainder of this valuable STONE, in large or small quantities.—May be viewed at the Wharf, Pile-road Lambeth, and at the Works, Battersea-fields; and particulars obtained of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster.

In BANKRUPTCY. —PHŒNIX STONE WORKS, EAST GREENWICH, Plant and Stock lying exceedingly well for water carriage

MESSRS. GLASIER & SON will SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 17, at TWELVE for ONE, in lots (by order of the Assignees of William Beckwell, a bankrupt), the valuable PLANT and STOCK of an ARTIFICIAL STONE MANUFACTURER and CONTRACTOR; comprising 6-ton cast-iron puddling machines, patent stone slab mach ine for shaping edge, wash mills, capital turning and boring lathe, engineers' tools, fittings for patent boiler, shafting and loose machinery, 7-ton travelling crane, crab, iron wheeling plates, about 50 tons wrought and cast iron in slabs, rollers, garden, &c. cast sheet legs, six pan stones, 700 new cement sacks, fittings of smiths' and carpenters' shops, sash and door frames and useful stuff, ironmongers' stores and useful materials; a large quantity of granite breccia stone, in slabs, landings, columns, vases, and ornamental items, and the iron steamboat Watersprite May be viewed day prior and morning of sale, and catalogues on the premises; at the Crown and Sceptre, East Greenwich; of Messrs. DANGERFIELD & FRASER, Solicitors to the Assignees, 26, Craven street, Charing-cross; and of the Auctioneers, 8, Charing-cross, S.W. The valuable Freehold House, Wharf, and Premises, with extensive and first rate river frontage and two acres of Land will shortly be Sold, unless a suitable offer is previously made by private treaty.

The valuable BUILDING MATERIALS of the CARLTON RIDE and STABLES, St James's Park.

MESSRS. GLASIER & SON are favoured with instructions from the Honourable Charles Gore, the Commissioner of her Majesty's Woods, in charge of the Land Revenue in England, to SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, JULY 9th, and following days, at TWELVE for ONE, in lots, the valuable BUILDING MATERIALS and FITTINGS of the CARLTON RIDE and STABLES, comprising upwards of 1,000,000 capital stock bricks, several thousand feet of capital York and Portland stone in paving, steps, string course, cills, &c. capital Portland stone entrance, with fluted columns and entablature; 200 square of slating, slating boards, rafters; 20 pair strong framed principals, 32 feet span; 500 square of flooring, boards, and joists; fittings of stabling for sixty horses; large quantity of stone columns; 100,000 Dutch clinkers; 300 ton of granite pitching; York paving, coach-house gates, sashes, doors, and frames; wainscoting, large iron tank, stoves, ranges, coppers, slate cisterns, iron railings, &c.; about ton tons of lead, fixtures, and fittings.—May be viewed the day prior and mornings of sale: and catalogues had of JAMES PENNETHORNE, Esq. Whitehall yard, at the Office of Woods, 1, Whitehall place; on the Premises; and of the Auctioneers, No. 41, Charing cross, S.W.

The Gwydir, otherwise the Bwich Slate Quarries and Works, near Llanrwst, North Wales

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, JULY 31, at TWELVE, at the AUCTION MART, London, in One Lot (unless an acceptable offer be previously made by private contract), the GWYDIR (otherwise the Bwich) SLATE QUARRIES, situate at Dolwyddelen, in the county of Carnarvon, about nine miles from Llanrwst, about twelve miles from the shipping stage or quay at Trefriw, on the Conway River, where vessels of 100 tons' burden can load alongside, and about twenty-one miles from the shipping port of Conway, North Wales. The railway from Conway to Llanrwst will be completed in the spring of next year, and will afford additional facility for transit. The quarries are on the slope of the Eastern range of mountains; the slate formation lies about 10 yards beneath the surface, and has been proved to the depth of about 35 yards. The quality of the slate is undergoing actual operation, and known being a fine slate, and of the grey and blue colour of the Welsh slate. The works were formed some years since by the Gwydir Slate Company, and fitted with costly machinery for sawing, planing, and otherwise preparing slate slab, including two block-sawing machines, nine circular slab-sawing machines, and three self-acting planing machines; the whole, as also a pump in the deep workings of the quarry, are worked by an iron overshot water-wheel, 30 feet diameter, 3 feet 6 inches breast, which is driven by a powerful stream of water flowing from a lake in the mountains about five miles distant, discharging itself into the River Lledr, a tributary of the Conway, which flows past the property; but although large sums of money have been expended in fitting the machinery and in opening the quarry, it may almost be pronounced a virgin quarry, from the comparatively very limited operations hitherto performed, there being up to the present time only four bargains or workings actually opened, and these only partially worked, the yield from which during the past six months has been 665 tons of slates; but by a judicious expenditure (now being gradually made) the formation may be at work within the next twelve months, thereby increasing the yield to at the least 400 tons per month, or 4,800 tons per annum. The quarry is well placed for working, and the slope of the mountain at a very convenient elevation, and with plenty of ground for tip room at the base. A steam-engine, of about 15-horse power, fitted with winding gear, has been erected near the summit, for raising the blocks of slate from the deep workings; tramways also intersect the works. The demand for the slates has been steadily increasing, and there is no difficulty in finding ready markets for all the products on very remunerative terms; the profits under the present disadvantages of heavy standing charges and limited production realising 25 per cent on the returns. The property comprises a site of 35 acres, 2 roods, and 35 perches, more or less, and under 26 acres the slate formation has been proved to exist. It has a frontage next the high road of about 300 yards, and extends westward into the mountain to a bridle path leading from Dolwyddelen to Capel Curig, about 700 yards. It is held under Lord Willoughby d'Eresby, subject to a small fixed rent and royalties, which amount at about 5 per cent on the gross returns. The buildings comprise the slab sawing and planing mill, two sawing sheds, smithy, chaise house, blacksmith's shop, housekeeper's cottage, office, and yards, also one corner of an adjoining field, containing about half an acre. The wharf at Trefriw is the property of Lord Willoughby d'Eresby, and the tenants of the quarries are allowed to stack slates on the wharf, and ship them therefrom, at a charge of 3d. per ton. The cost of carting the slates from the works to the wharf is 6s. 6d. per ton; but when the quarries are in full working, a great saving in this charge may be effected by the construction of a tramway along the valley at the base of the mountains, facilities for which would be readily granted, and which would place these works in almost as advantageous a position as the celebrated quarries belonging to the owner of Penrhyn. Easy terms may be arranged for payment. The works may be seen at any time by cards only, which may be obtained of GEORGE HADLEY, Esq. 8, Old Jewry; or of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.—Printed particulars may be obtained at the Penrhyn Arms; of Mr. Hughes, Banger; the Castle and Erskine Arms Hotels, Conway; the Eagles and Victoria Hotels, Llanrwst; at the Queen's Hotel, Chester; at the "Midland Counties Herald" Office, Birmingham; of SAMUEL FISHER, Esq. Solicitor, Merchant Taylors' Hall, Threadneedle-street, London, E.C.; of GEORGE HADLEY, Esq. 8, Old Jewry-chambers; and of Messrs. FULLER & HORSEY, Billiter street, London, E.C.

MESSRS. WILSON & THOMPSON have received instructions from the Trustees, to SELL by PRIVATE CONTRACT, all that FREEHOLD and eligible BUILDING LAND, containing 3 acres in the manor of Littleover, adjoining the borough of Derby. The land to be sold in allotments to meet the wishes of purchasers. The estate is bounded on the east and west by the two main roads from London to Manchester, Derby town, and is a very short distance from the railway station. The land is particularly adapted for building purposes, and has been laid out accordingly. It is near to Derby, but subject to no rates. The estate is in a populous and increasing neighbourhood. Capitalists would find it a profitable investment.—For particulars and plans, apply at the Office of Messrs. WILSON & THOMPSON, Architects and Surveyors, 12, Corn-Market, Derby.

TO DECORATORS, PAPERHANGERS, BUILDERS, & OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, in Thorney-place, Oakley-square, opposite Camden-street, on MONDAY, JUNE 16th, at TWELVE for ONE, 700 pieces of PAPER-HANGINGS, including flock, metal, satin, and bed-room patterns; ironmongery, wainscoting, 1 fine cart-horse, &c. Auction Offices, 2, Cardington-street, Hampstead-road, N.W.

CAMDEN TOWN. To BUILDERS, CABINETMAKERS, and OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, at the Railway Arches, Camden Station, on MONDAY, JUNE 23, at TWELVE, 1,910 PLANKS, DEALS, and BATTENS, 700 ditto cut in various thicknesses, 115 squares of 1½-inch, 1-inch, ¾-inch, and ½-inch prepared flooring; 7,000 feet quartering, 6,000 feet wide pine boards, 50 squares of feather edge boards, slating battens, pantile laths, doors, scaffolding, &c. May be viewed the Saturday prior to the sale, and catalogues had on the Premises; and of the Auctioneers, 3, Cardington-street, N.W.

TO CONTRACTORS, BUILDERS, CABINET-MAKERS, and OTHERS. The Remaining STOCK of Mr R. Batesbury, retiring from business.

MESSRS. LEREW & LEREW are directed to SELL by AUCTION, on the PREMISES, Gloucester-road, Regent's Park, near Chalk Farm Railway Station, on TUESDAY, JUNE 24, at ELEVEN PRECISELY, 5,000 feet of Mahogany, MAHOGANY, 1,000 feet of birch, quantity of useful timber, 8 benches, 600 pieces of paperhangings, a crab, 4 patent hoists, iron girders and columns, 2 pumps, stove metal, portable forge, ironwork, churchfittings, old materials, 6 carts, 3 trucks, 2 cart-horses, 2 nags, 2 cobs, harness, Stanhope phaeton (nearly new) by Mills, basket-carriage, &c. Auction Offices, 2, Cardington street, Hampstead-road, near the Euston Station.

TUESDAY NEXT, at TWELVE for ONE o'clock precisely.

MR. EDWIN WHITE will SELL, without reserve, on the PREMISES, 1a, Lessada-street, Bridge-road, Twig Folly, and 8, Providence-row, corner of Ford-road, Old Ford-road, the entire STOCK of Mr. PUTT, including 600 feet of useful pine planks, quantity of cut stuff, an excellent 12 horse power steam-engine, an egg-end and a tubular boiler, capital saw-bench and circular saws, shaft and pulleys, bands, portable forge, anvil, bellows, useful bay mare, light spring cart, and numerous other items. On view on Monday and morning of Sale, when catalogues may be had on the Premises; of Messrs. TAYLOR & SQUIRES, Solicitors, 3, South street, Finsbury; and at the Auctioneer's, 12, Holborn-bars, E.C.

CHARING CROSS RAILWAY. — Eighteenth Clearance Sale. Building Materials. To Builders, Contractors, and Others.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, JUNE 20th, 1862, at ELEVEN for TWELVE, punctually, in Lots, the very valuable BUILDING MATERIALS, including FITTINGS UP of TWELVE HOUSES, a CHAPEL, and several WAREHOUSES and SHEDS, situate in Wheeler's-yard, Angel-court, Emanuel-court, Red Cross-street, and Providence-place, Southwark; comprising sound stock brickwork, capital slating, prime timber and flooring boards, sashes and frames, useful doors, lead gutters and pipes, stove ranges, and a variety of useful materials and fittings-up. May be viewed the day prior to sale, and catalogues had of Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, No. 3, Newman-court, Cornhill, E.C., and West Moulsey, Kingston, Surrey; and of Mr EDWARD RYDE, Surveyor to the Company, at his Offices in the London Bridge Terminus.

POTTER'S BAR. 3 Acres of FREEHOLD PASTURE LAND, within five minutes' walk of the Railway Station, offering a beautiful site for a gentleman's residence and estate, or a fine building speculation.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, JULY 1, at TWELVE, about 35 Acres of valuable FREEHOLD LAND, eligibly situate abutting on the road from Hadley's-bar Station to the village. It was purchased some years since by the present owner, especially as a residential estate, and the frontage to the road, which lies high and commands a fine view, has been enclosed by a park fence and planted with trees and evergreens for the purpose of forming pleasure-grounds. The land slopes to the south, and has a stream at its base; and there is a small sheet of water, which may be enlarged and made exceedingly ornamental. There is a gravelly subsoil on a portion of the property. The neighbourhood abounds with gentlemen's estates, and its picturesque scenery and the healthy climate offer great inducements for residence, which will no doubt be still further appreciated when the metropolitan line brings it into direct communication by rail with the City. The property will be offered in one lot, and a piece of about two acres, fenced in and fronting the road, will be offered in a separate lot.—Particulars of Messrs. SHAEN & ROSCOE, Solicitors, 8, Bedford row; and of Messrs DEBENHAM & TEWSON, 80, Cheapside.

On the summit of Forest hill.—Charming Freehold Sites for Villa Residences.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, JULY 1st, at TWELVE, TWO valuable PLOTS of FREEHOLD BUILDING LAND, occupying a delightful position on the summit of Forest-hill, within two minutes' walk of the railway station, commanding most extensive views, and offering by far the choicest sites now available in this deservedly favourite healthy, and readily accessible locality. The land adjoins the grounds of J. G. Lewis, esq. and C. D. Field, esq. Lot 1 has a frontage of 120 feet, by a depth of about 200 feet; and lot 2 has a frontage of 109 feet, by an average depth of 223 feet. The plots now offered for sale are the only unsold sites on the estate.—Particulars of Messrs. PARKER & SON, Solicitors, Lewisham; and of the Auctioneers, 80, Cheapside.

NORTH LONDON RAILWAY. MATERIALS, MACHINERY, and PLANT, of HOMERTON BREWERY, 1,250 GALLON BREWING COPPER, &c.

MESSRS. KENNEDY & BONNY will SELL by AUCTION, on the PREMISES, the BREWERY, Bridge-road, Homerton, on TUESDAY next, JUNE, the 17th, 1862, at TWELVE for ONE o'clock, in lots, the MATERIALS of the extensive RANGE of BUILDINGS; 100,000 stock bricks, tiles; oak and other timbers, York stone, paving, &c. The brewing plant and utensils, a 1,200 gallon copper, malt mill, &c.—May be viewed day previous to sale, and catalogues had at Auctioneer's Offices, Camden Town.

TO BUILDERS with a small capital.—Valuable Freehold Building Land—COLNEY HATCH, Middlesex (three minutes' walk from station).

MR. W. B. MACLACHLAN will SELL by AUCTION, at the Mart, opposite the Bank of England, on THURSDAY, JUNE 19, at ONE o'clock precisely, about one acre and a half of very eligible FREEHOLD BUILDING LAND, in plots, with a road frontage and great depth. This is a most healthy and matured locality; and the demand for house property is very great. The road and sewer are made. Part views at the Auction Mart; of J. F HOLMES, Esq. 80 bis, 8, Southampton street, Bloomsbury; of Mr DEEDS, Architect, Colney-hatch; and of the Auctioneer, 11, Southampton buildings, Chancery lane, W.C.

FREEHOLD BUILDING LAND.—Croydon, Surrey.

MESSRS. WINSTANLEY have received instructions to SELL by AUCTION, at the MART, Bartholomew-close, on MONDAY, JUNE 16th, SIX PLOTS of valuable FREEHOLD BUILDING LAND, eligibly situate in St James's-road, and Sydenham-road, Croydon, within a short distance of the stations of the London and South Coast Railway, of the proposed station on the Mid-Kent and Addiscombe Railway, in the St. James's-road, and within a few minutes' walk of the town of Croydon. Each lot has a frontage of about 40 feet, by a considerable depth, and the land contains gravel of excellent quality, which is in much demand in this locality. To be viewed. Printed particulars may be obtained of Mess. DRUMMONDS, ROBINSON, & TILL, Solicitors; of Mr. JOHN BERNEY, Surveyor; and at the Greyhound Inn, Croydon, S.; the Windmill Inn, near to the property; the Jolly Sailor, South Norwood; and in London, at the Place of Sale; and of Messrs. WINSTANLEY Paternoster row, E.C.

LEYTON, ESSEX.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Devisees under the will of the late Jno Masterman, esq. to offer for SALE by AUCTION, at the MART, on FRIDAY, the 11th JULY, at TWELVE o'clock (unless previously disposed of by private contract), a very valuable FREEHOLD ESTATE, situate within an easy distance of the church and the railway station at Leyton and Lea-bridge, and about six miles from London, in the county of Essex. Lot 1. An exceedingly desirable and substantial family residence (for many years in the occupation of the testator), standing perfectly detached, approached by a drive, and containing every accommodation for a gentleman's establishment, with stabling, offices of every description, excellent garden and pleasure grounds, hothouse, orangery, and green-houses, productive kitchen gardens, rich park like meadows, ornamented with fine timber and surrounded by dry gravelled walks, nearly half a mile in extent, farm-yards, farm buildings, cottage-house, &c.; the whole containing 27a. 3r. 14p. and forming altogether a most desirable property for the occupation of a merchant or banker. Lot 2. A valuable meadow, with cottage and gardens, farm-yard, row-house, stable and shed, situate immediately opposite lot 1, having an important frontage of about 1,225 feet to the high road from London to Cambridge, containing 7a. 3r. 1p. Lots 3, 4, and 5. Three plots of building land, adapted for the erection of villa residences, adjoining lot 2, having extensive frontages to Capworth-street, leading from Leyton to Woodford, and containing together 12a. 3r. 15p.—May be viewed by cards only, and particulars had of Messrs. HUGHES, MASTERMAN, & HUGHES, Solicitors, No. 17, Bucklersbury; and of Messrs. NORTON, HOGGART, & TRIST, 82, Old Broad-street, Royal Exchange

Highly important Freehold Premises, at the west end of the metropolis, close to Regent street and Oxford street, occupying an area of about 22,500 square feet, with immediate possession; also the Reversion to a valuable building adjoining.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are honoured with instructions to SELL by AUCTION, at the MART, on FRIDAY, JUNE 27, the very important and highly valuable FREEHOLD PROPERTY, comprising the spacious mansion, offices, and garden, known as Argyll-house, the property of the Earl of Aberdeen, situate about the centre of the east side of Argyll street, Regent street, and the reversion, after 39 years, of the entire of the ground floor, and, with its capital offices, stabling, and other appurtenances, combines every accommodation for a large establishment, and is well suited to a foreign embassy or the residence of a nobleman or gentleman of wealth; but the very central position of the premises, and the large extent of freehold ground (so difficult to be obtained), renders it considerably more eligible for a public institution, assembly rooms, picture galleries, exhibition, club, bank, insurance office, or a grand hotel, requiring a first-rate quiet situation, close to the two principal thoroughfares of the west-end. At the same time will be sold, in a separate lot, the Reversion (after 38 years) of the Freehold House, No. 6, Argyll-street adjoining, at present in the occupation of Sir Wm. J. Newton. The property can be viewed by cards only, of which may be obtained, with printed particulars and plans, at the offices of Messrs RUSHWORTH, JARVIS, & ABBOTT, Saville-row, W. and 19, Change-alley, E.C. Printed particulars may likewise be had at the Mart; and of Messrs. WHITE, BROUGHTON, & WHITE, Solicitors, 18, Great Marlborough-street, W.

[*For remainder of Auctions see Page* ix.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex. Saturday, June 14, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

COLLINGS &c.

VOL. XX.—No. 1011. JUNE 21, 1862. PRICE FOURPENCE.

ILLUSTRATION.

St. Alban's, Baldwin's-gardens, Gray's Inn-Lane. Mr. Butterfield, Architect 443

CONTENTS.

The Palace of Art and Industry: the Public Works of France .. 433
Iron Architecture: the New Iron Steeple in Brussels 434
The Social Science Congress: Congrès de Bienfaisance 435
From Abroad 435
Bunhill-fields Burial-Ground and its Celebrated Occupants 436
Malta and Alexandria Sub-marine Telegraph Cable: Institution of Civil Engineers 436
"Up the Nile" 437
Strength of Iron in Construction 438
The Royal Institute of British Architects 438
Lincoln Architectural Society: Meeting at Market Rasen 439
Purification of the Upper Thames 439
Irish News 439
Something to be done 439
Birmingham Exchange Buildings Competition 440
On the Formation of a National Museum of Architecture, viewed in connection with its Bearings upon Mediæval Art .. 440
St. Alban's, Baldwin's-gardens, Gray's Inn 442
The Architectural Association 445
The Albert Memorials 445
Statues and Memorials 445
Church-building News 445
School-building News 446
Accident at the Underground Railway 446
Female School of Art and Design 446
Architectural Nobodies 446
Another Cry for a New Style 447
Bath Stone: Failure of Columns 447
A Voice from the Workshops with Reference to Furniture and Decoration in "The Exhibition" 447
Working Men and the International Exhibition 448
"Colour no Sham" 448
Overcrowding in London 448
The Public Baths and Wash-Houses in St. James's, Westminster 448
Books received: Variorum 448
Miscellanea 449

THE NEW SOCIETY of PAINTERS in WATER-COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall-mall, near St. James's Palace. Admission, 1s: Catalogue, 6d. Season Ticket, 5s. JAMES FAHEY, Secretary.

ARCHITECTURAL ASSOCIATION.—By the permission of the Dean, and with the kind concurrence of Mr. Scott, arrangements have been made for a Visit to Westminster Abbey on SATURDAY, the 28th instant. Members are requested to meet in the Cloisters punctually at THREE o'clock, and to bring Note books. A Prize is offered for the best written Account of this Visit.

ARCHITECTURAL ALLIANCE.—The FIRST GENERAL MEETING of the Architectural Alliance, including delegates from the Institute of Scotland, and the Associations of London, Birmingham, Liverpool, Glasgow, Manchester, and the Northern Architectural Association, will be held at the Architectural Union Rooms, 9, Conduit-street, Regent-street, on WEDNESDAY, JULY 2nd, at ELEVEN a.m.

The delegates and friends will afterwards dine together at the St. James's Dining Rooms, at SIX o'clock. Tickets, including wine, 10s. each.

Architects not being delegates, but wishing to be present, may obtain tickets for the meeting, and vouchers for the dinner, on application to any of the delegates, or to Mr. J. P. PRITCHETT, Northgate House, Darlington.

ARCHITECTURAL EXHIBITION, 9, Conduit street, Regent-street, and the collection of DRAWINGS and SKETCHES of the late A. Welby Pugin, WILL CLOSE JUNE 30th. Admission One Shilling.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION, to procure and issue to subscribers Photographs of subjects strictly illustrative of Architecture and of its subsidiary Arts.—Subscriptions to be paid to Mr. HENRY MOODY, 9, Conduit-Street, Regent-street, from whom particulars may be obtained. W. LIGHTLY, Hon. Sec.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—The business of the above Institution will, in future, be carried on at the Arch.tectural Union Company's Offices, Conduit-street, Regent-street, on the First and Third Wednesdays in every month. The first meeting will take place on WEDNESDAY Evening, JULY 2nd next. The chair will be taken at 8 15 p.m.

RICHARD MOWLE, President.
JOHN LUCAS, Secretary.

ECCLESIOLOGICAL SOCIETY.—The TWENTY-THIRD ANNIVERSARY MEETING of the ECCLESIOLOGICAL SOCIETY will be held on TUESDAY, JULY 1st, at EIGHT p.m. in the LECTURE THEATRE of the South Kensington Museum.

The subject of Discussion will be the Ecclesiological Aspect of the International Exhibition, and of the Exhibition (on Loan) of Fine Arts at the South Kensington Museum.

Ladies admitted.

It is suggested that Members of the Ecclesiological Society and persons interested in its pursuits should meet at TWO p.m. on that day at the South Kensington Museum, to visit the Exhibition of Works of Art on Loan.

A. J. B. BERESFORD HOPE, President.
(Rev.) BENJAMIM WEBB, Honorary Secretary.
(Rev.) H. L. JENNER Hon. Secretary for Musical Matters.

ROYAL HORTICULTURAL SOCIETY'S ROSE SHOW, JUNE 26th. In connection with this Show will be held the FOURTH GRAND NATIONAL ROSE SHOW. Doors open at ONE o'clock. Bands commence at THREE o'clock. Tickets, 2s. 6d. each.

INTERNATIONAL EXHIBITION. Admission for the week ending JUNE 28:—Monday to Thursday, One Shilling; Friday and Saturday, Half a Crown. Doors are opened at Ten, except on Saturday, when they are opened at Twelve o'clock.

COMPETITIONS.

REFORMED CHURCH of MONTPELLIER, FRANCE.—DESIGNS for a Protestant Church, to be erected in Montpellier, are invited; and will be received till the 15th of OCTOBER next. The following premiums will be awarded:—To the first design, 2,500 francs; second design, 800 francs; third design, 500 francs.—For particulars and conditions, address, Paris, the Office of "La Revue Générale de l'Architecture, &c." 60, Rue Mon. le Prince; or Montpellier, Mr. CORBIERE, President of the Consistory of the Reformed Church, 7, Rue du Collège.

THE DUBLIN EXHIBITION PALACE and WINTER GARDEN COMPANY (Limited).—Offices, No. 113, Grafton-street, Dublin.—The Directors are prepared to receive DESIGNS and PLANS for the Exhibition Palace and Winter Garden Buildings, proposed to be erected by this Company. The expenditure not to exceed 35 000l. The Directors offer the following premiums for such designs as shall in their opinion be best adapted for the purposes of the Company:—First premium, 150l.; second premium, 75l. The successful designs and plans to become the property of the Company. Maps of the ground and further particulars to be had on application to HENRY PARKINSON, Esq. Secretary, No. 112, Grafton-street, Dublin. Designs and plans to be sent, on or before TWELVE o'clock on FRIDAY, the 1st day of AUGUST, 1862, endorsed, "Plans for Exhibition Palace and Winter Garden," and addressed, under seal with motto or fictitious signature, to the Chairman of the Building Committee, No. 112, Grafton-street, Dublin.

TO ARCHITECTS and SURVEYORS.—PLANS for ALMSHOUSES.—Notice is hereby given to those architects who sent plans for Almshouses to Salters' Hall, on TUESDAY, the 3rd day of JUNE instant, that the plan selected by the Company was one marked "Desiderium"; and that all the other plans will be delivered to the gentlemen who sent them on their application at the Hall; and which they are requested to do forthwith. Dated this 17th day of June, 1862.

EDW. THOMPSON, Clerk of the Salters' Company.
Salters' Hall, St. Swithin's-lane.

EXETER CITY GAOL.—EXTENSION of TIME.—To ARCHITECTS.—The Town Council of Exeter are desirous to be informed if the present City Gaol and House of Correction can be made available so as to satisfy the requirements of the law, as to the construction of gaols and houses of correction; and they invite architects to ascertain if it is practicable that the present City Gaol and House of Correction can be so altered. They offer a premium of 30l. for the plan of alterations which shall be considered the best, and if such plan be carried into effect, the architect producing it will be employed to superintend the execution of the work at the usual commission; but in that event his premium is to merge in his commission. A premium of 20l. will be given for the plan which shall be considered the second best. The Gaol and House of Correction may be examined upon application to the Gaoler, and further particulars obtained from Mr. G. W. CUMMING, Post Office Chambers, Surveyor to the Council; or to Mr. GIDLEY, the Town Clerk, 15, Bedford Circus, Exeter, to whom each plan, with a statement of the probable cost of carrying it into effect, is to be sent before the second MONDAY in AUGUST. Plans of the present gaol, with sections of the main part of the building, and across one of the wards, may be had of the Surveyor to the Council, on and after the 27th inst.

June 12th, 1862.

MASONIC HALL, DERBY.—PLANS are desired for the ERECTION of the above. Ten guineas will be given for the set of plans most approved of.—Full particulars can be obtained by applying to JAMES B. COULSON, Esq. P. G. S. Crompton-street, Derby.

CONTRACTS.

CHEAPSIDE.—BUILDING LAND.—To BUILDERS, CAPITALISTS, and OTHERS.—A valuable SITE in Cheapside, of about 69 feet frontage and averaging 45 feet in depth, TO BE LET on Building Lease, for a term of 80 years from Lady Day, 1863, suitable for the offices of a public company, or for warehouse or business premises. Tenders will be received up to 24th day of JUNE next. Plans, particulars and conditions of Tender may be seen on application to the Clerk, Saddlers' Hall, Cheapside, E.C.; or to Mr. F. W. PORTER, Architect, 16, Russell-square, W.C. between TEN and FOUR.

TO BUILDERS and OTHERS.—Persons desirous of TENDERING for the ERECTION of a Pair of Semi-detached VILLAS and Six COTTAGES, at Bromley, in the county of Kent, can see the plans at my Office, where Tenders, endorsed, are to be delivered on or before TWO p.m. of THURSDAY, JUNE the 26th instant. The lowest or any other Tender for either of the works will not necessarily be accepted.

JOHN WIMBLE, Architect.
2, Walbrook, Mansion House, June 11th, 1862.

TO BUILDERS.—Persons desirous of TENDERING for TWO DETACHED HOUSES and STABLES (both the same plan, and on adjoining plots of ground), situate at Erith, Kent, near the Railway Station, can have a copy of the drawings and specification for four or five days by applying at Mr. H. FORD'S Office, 1, Charlotte-row, Mansion House, E.C. Tenders to be delivered on the 1st JULY.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a WASHING ESTABLISHMENT, at the Hospital, Albany Barracks, Isle of Wight.

Parties desiring to Tender for this work must leave their names at the Royal Engineer Office, Albany Barracks, near Newport, in the Isle of Wight, on or before the 30th JUNE, and pay the sum of half a guinea for the bills of quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender. A. ROSS, Colonel Commandant, Royal Engineer.
Royal Engineer Office, Portsmouth, 10th June, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for CONSTRUCTING a LANDING SHED on the Gun Wharf, Devonport.

Parties desiring to Tender for the erection of these Works must send in their names to this Office, on or before the 30th instant, with the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any other Tender
Royal Engineer Office, Devonport, 16th June, 1862.

TO BUILDERS.—Persons desirous of TENDERING for a NEW CHURCH to be ERECTED near Hampton, Middlesex, can see the drawings, specification, &c. at the Office of the Architect, 50, Welbeck-street, Cavendish-square, London, any day after MONDAY, 23rd JUNE, 1862. The Tenders must be sent in to the Architect not later than JULY 7th, 1862. The lowest or any Tender will not necessarily be accepted.

BRISTOL LOCAL BOARD of HEALTH.—To BUILDERS, CONTRACTORS, and OTHERS.—The Local Board of Health of the City and County of Bristol hereby give Notice that they intend to CONTRACT for Laying down, Constructing, and completely Finishing certain intended BRICK SEWERS, in "The Frome Intercepting Sewer District," within their District, about 5,520 yards in length. Persons wishing to Contract for the same are requested to forward through the post, on or before THURSDAY, the 3rd day of JULY next, by TEN o'clock in the Forenoon, sealed Tenders, addressed to the Committee of the Local Board of Health, 13, Prince-street, Bristol, and endorsed "Tender for Sewers." Any Tender not sent through the post will be rejected. The plans and specifications of the works to be done may be seen at the Offices of the Local Board of Health; and any further information may be obtained, either on personal application, or by letter, pre-paid, addressed to the Surveyor, Mr. FREDERICK ASHMEAD, C.E. The party Contracting will be required to give sufficient security, to be approved by the Local Board of Health, for the due performance of the Contract. The Local Board will not hold themselves bound to accept the lowest or any Tender.—By order of the Committee,

JOHN G. HEAVEN, Clerk.
Local Board of Health Offices, 13, Prince-street, 5th June, 1862.

TO BUILDERS.—The Rugby Burial Board invite TENDERS for Two CEMETERY CHAPELS, LODGE, and BOUNDARIES. The drawings, specification, and conditions may be seen at the Office of the Board, Rugby, between the hours of TEN and FOUR, from MONDAY, the 16th instant. Bills of quantities, or further information, may be obtained of the Architect, Mr. GEORGE BIDLAKE, Wolverhampton. Tenders, sealed and endorsed "Tender for Cemetery Buildings," to be addressed to me, at my Office, Rugby, on or before FRIDAY, the 27th day of JUNE. The Contractor will be required to find two responsible sureties for the due execution of his Contract. The Board do not bind themselves to accept the lowest Tender. THEODORE M. WRATISLAW, Clerk.
Rugby, 4th June, 1862.

TO CONTRACTORS.—Sealed TENDERS will be received by the SECRETARY of the Grand Jury of the County of the Town of Drogheda up to two days next before the Grand Jury Meeting for fiscal business at the next assizes, for TAKING DOWN the present BRIDGE over the River Boyne at Drogheda, and BUILDING a NEW CAST IRON BRIDGE in place thereof, 26 feet span and 45 feet wide, with Stone Abutments, according to the plans and specification prepared by J. NEVILLE, Esq., C.E., County Surveyor, to be be seen at my Office, between the hours of TEN and FOUR o'clock, on any day (Sundays excepted) after 1st of JUNE, 1862.

HENRY CLINTON, Secretary to the Grand Jury of the County of the Town of Drogheda.
Offices, Fair-street, Drogheda,
Dated this 19th May, 1862.

TO ROAD-CONTRACTORS, BRICKMAKERS, AND OTHERS.—TENDERS are required for EXCAVATING FOUNDATIONS for NEW WINGS at the MIDDLESEX HOUSE of CORRECTION at Coldbath-fields, and for removing the earth therefrom. The drawings and specification, and conditions of contract, may be seen at the Office of the Architect, F. H. POWNALL, Esq. 15, Gower-street, Bedford-square; and any further information can be obtained there on or after WEDNESDAY, the 18th instant. The Tenders are to be sent in addressed to the Visiting Justices, at the House of Correction, Coldbath-fields, W.C. by TEN o'clock on the morning of FRIDAY, the 27th of JUNE instant; and the parties Tendering are requested to attend at that place at ONE o'clock precisely, prepared with the names of sufficient sureties for the due performance of the contract. The Visiting Justices do not bind themselves to accept the lowest or any other Tender.
June 12, 1862. JOHN S. SKAIFE, Clerk.

TO BUILDERS.—Persons desirous of TENDERING for the RESTORATION of KING'S CLIFFE CHURCH may see the plans and particulars at my office, on and after the 18th instant. Sealed Tenders to be sent to the Churchwardens on the 10th JULY, 1862. No pledge is given to accept any Tender. EDWARD BROWNING, Architect.
Stamford, 11th June, 1862.

[*For remainder of Contracts see next Page.*

CONTRACTS.

GARSTON and LIVERPOOL RAILWAY.—To IRONMASTERS and OTHERS.—The Garston and Liverpool Railway Company are prepared to receive TENDERS for the SUPPLY and ERECTION of COLUMNS, WROUGHT IRON BEAMS, IRON ROOFING, and other IRON WORK, at their Goods Station at Liverpool. Plans, sections, drawings, and form of contract, may be seen on or after the 14th day of JUNE, at the Office of W. M. BRYDONE, Esq. C.E. 8, Whitehall-place, Westminster, London, from whom specifications (price 10 6d. each), and any other information may be obtained. Sealed Tenders, marked "Tenders for Iron Work," must be in the hands of the undersigned, at the Offices of the Company, Lord-road Station, Manchester, not later than NOON on TUESDAY, the 8th JULY next.—The Committee do not bind themselves to accept the lowest or any Tender.—By order,
EDWARD ROSS, Secretary to the Committee.
Manchester, June 11, 1862.

GARSTON and LIVERPOOL RAILWAY.—To CONTRACTORS and OTHERS.—The Garston and Liverpool Railway Company are prepared to receive TENDERS for the CONSTRUCTION of their GOODS STATION and BUILDINGS at Liverpool.—Plans, sections, drawings, and form of contract may be seen, on or after the 13th of JUNE, at the Office of W. M. BRYDONE, Esq. C.E. 8, Whitehall-place, Westminster, London; from whom specifications (price 10 6d. each) and any other information may be obtained. Sealed Tenders, marked "Tenders for Work," must be in the hands of the undersigned, at the Offices of the Committee, London-road Station, Manchester, not later than noon, on TUESDAY, the 8th JULY next. The Committee do not bind themselves to accept the lowest or any Tender.—By order,
EDWARD ROSS, Secretary to the Committee
Manchester, June 11, 1862.

TO BUILDERS, &c.—The Building Committee of the New Synagogue are prepared to receive TENDERS for the various WORKS required in its ERECTION, on a site of ground at the back of Cambridge-terrace, Dover. The drawings, specifications, and conditions may be inspected at my Office, Esplanade, Dover, where Tenders, properly sealed and endorsed, and addressed to "The Building Committee of the New Synag gue," are to be delivered, on or before WEDNESDAY, the 23rd day of JUNE, 1862. The lowest or any Tender not necessarily accepted.
ROWLAND REES, Architect.
Dover, June 13, 1862

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a VICARAGE HOUSE at Howden, in the county of York, may see the plans and specification on and after MONDAY, the 23rd instant, by application to Mr. ROBERT SUGDEN (not of the Howden Office). Tenders to be sent to the Office of the Architect, EWAN CHRISTIAN, 8a, Whitehall place, London, S.W. on or before JULY 3rd next. The Committee do not bind themselves to accept the lowest Tender.

NOTICE to CONTRACTORS.—RAMSAY HARBOUR, ISLE of MAN.—The Isle of Man Harbour Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a BREAKWATER, 694 feet in length, or thereby, at the Harbour of Ramsay. Plans, sections, specifications, and conditions of the work may be seen on and after the 16th instant, at the offices of the Engineer, JAMES ABERNETHY, Esq. M.I.C.E. 2, Delahay-street, Westminster. Sealed Tenders, endorsed "Tenders for Breakwater," to be delivered to the undersigned on or before the 22d day of JULY next. The Commissioners do not bind themselves to accept the lowest Tender, and further reserve to themselves the power of rejecting all Tenders which they shall consider unsatisfactory.
RICHARD QUIRK, Receiver General.
Douglas, Isle of Man, June 13th, 1862.

NOTICE to CONTRACTORS.—PEEL HARBOUR, ISLE of MAN.—The Isle of Man Harbour Commissioners are prepared to receive Tenders for the CONSTRUCTION of a BREAKWATER, 300 feet in length, or thereby, at the Harbour of Peel. Plans, sections, specifications, and conditions of the work may be seen, on and after the 16th instant, at the Offices of the Engineer, JAMES ABERNETHY, Esq. M.I.C.E. 2, Delahay-street, Westminster. Sealed Tenders, endorsed "Tenders for Breakwater," to be delivered to the undersigned on or before the 5th JULY next. The Commissioners do not bind themselves to accept the lowest Tender, and further reserve to themselves the power of rejecting all Tenders which they shall consider unsatisfactory.
RICHARD QUIRK, Receiver General.
Douglas, Isle of Man, June 13th, 1862.

BIRKENHEAD UNION.—To CONTRACTORS and BUILDERS.—The Guardians of the Poor of the Birkenhead Union, in the county of Chester, having further considered and re-arranged the plans and specifications for the ERECTION and COMPLETION of the new UNION WORKHOUSE, to be built at Higher Tranmere, in the said county, are now in a position to receive TENDERS for the same. Separate and distinct Tenders will be required for the several portions of the building as follows, namely,—

1st. For the erection of the north wing of the main building, including the dining-hall, centre building, or master's apartments, board-room, &c. with out-offices in the yard, bank, &c. but not including the completion of the cellarage under this part of the building.

2nd. For the erection of the south wing of the main building.

3rd. For the erection and completion of the Receiving and Vagrant Wards.

4th. For the completion of the cellarage under the main building.

Persons desirous of Tendering for the above works are informed that it is the intention of the guardians to erect only the first portion or north wing of the main building, as specified above, before the month of APRIL next. The second, third, and fourth portions of the building to be constructed and completed as soon afterwards as the guardians may determine. The drawings and specifications may be seen and further information obtained at the Office of Mr. THOMAS LAYLAND, Architect, 50, Castle-street, Liverpool. Sealed Tenders to be delivered or sent to me, at my Office, 60, Lord-street, Birkenhead, on or before SATURDAY, the 5th day of JULY next. Security will be required from the contractor for the due performance of the contract.—The guardians do not bind themselves to accept the lowest or any Tender.—Signed, by order of the Board,
PETER GREGORY, Clerk to the Guardians of the Birkenhead Union.
Birkenhead, May 29, 1862

TO BUILDERS.—TENDERS are required for ALTERATIONS at the BAPTIST CHAPEL Barns, Suffolk. Plans and specifications may be seen at the Chapel, and Tenders to be sent to the Architect, Mr SALTER, Chilton, Suffolk, on or before TWELVE o'clock on MONDAY, 30th JUNE, 1862. The Committee do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a NEW CONGREGATIONAL CHAPEL, Vestries, Boundary Walls, and Railings, at New-market, may send in their names to the Architects, Messrs. W. G. HABERSHON & PITE, 38, Bloomsbury-square, London, W.C.

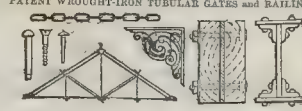
TO BUILDERS.—Parties desirous of CONTRACTING for the BUILDING of a NEW WESLEYAN CHAPEL, situate in the Hinderstone-road, Lowestoft, may obtain plans by commonicating their intention, in writing, to F. W. ORDISH, Esq. Queen-hough.—The Committee of the above Chapel do not pledge themselves to accept the lowest or any Tender.—June 19, 1862.

EDMONTON UNION.—To Builders and Others.—The Board of Guardians will be prepared, at a Meeting to be held at the Board-room at the Union Workhouse at Edmonton, on WEDNESDAY, the 2nd day of JULY next, to receive TENDERS for the ERECTION of FEVER WARDS, and for making certain Additions to the Infirmary at the Union Workhouse aforesaid. Sealed Tenders, endorsed "Tenders for Building Fever Wards," must be delivered at my office, at Edmonton, on or before the 1st of JULY next. The plans and specification may be seen, and all information obtained, at the Offices of Mr. T. E. KNIGHTLEY, Architect, 35, Cannon-street, City.—The Board do not bind themselves to accept the lowest or any Tender, and security will be required to be given for the due performance of the Contract.—By order of the Board,
WILLIAM PULLEY, Clerk to the Guardians.
Edmonton, June 11, 1862.

SITTINGBOURNE CHURCH.—To Builders.—TENDERS are required for the RESTORATION of the South Transept of the above Church. The drawings and specification may be seen on and after the 23rd day of JUNE, by application to the Churchwardens, at Sittingbourne, or to M. SLATER, the Architect, 3, 4, Carlton-chambers, Regent-street, London. Tenders to be sent to the Churchwardens, on or before the 7th day of JULY.—The lowest or any Tender will not necessarily be accepted.
June 16, 1862.

TO RAILWAY CONTRACTORS.—The Directors of the Blyth and Tyne Railway are desirous of receiving TENDERS for the CONSTRUCTION of about SEVEN MILES of RAILWAY, from Backworth to Newcastle. Plans and specification may be seen, and offers obtained, at the Office of Mr J. F. TONE, No 10, Mark's street, Newcastle, on and after TUESDAY, the 17th instant. Tenders are to be delivered at the Company's Offices, not later than SATURDAY, 28th instant.
Newcastle-on-Tyne, 14th June, 1862.

H. G. COOMBS, IRONFOUNDER, &c.
INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.
PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS.

And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—17, Union-street, Borough; and 854, Great Guildford-street.

INTERNATIONAL EXHIBITION.
THIRTY-HORSE HIGH-PRESSURE CONDENSING HORIZONTAL ENGINE Double Cylinder, driving flax machinery in the Western Annexe, FOR SALE, at the close of the Exhibition. She is sister to one erected this spring at Portslade Mill, near Brighton, for Mr. Smith, to whom reference is permitted as to her economy and other excellent qualities.—Apply at the Manufacturer's Stand, in Class 6, for information
BARRETT, EXALL, & ANDREWES, ENGINEERS, READING.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price lists, 12s.—Nos. 35 and 36, High Holborn.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WRATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 89, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanised ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 85, High Holborn.

GALVANIZED IRON and ZINC WORKS.
Galvanised or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanised Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanised. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
TRADE MARK. SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

HEATING BY HOT WATER.
JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

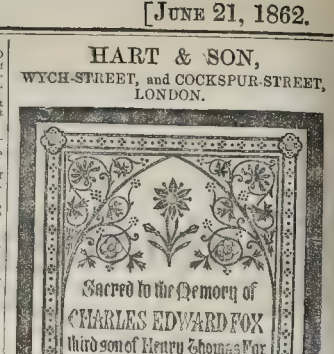
A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, Chloe, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired, 2s. 6d. each
J. H. BOOBYER (late STURCH & BOOBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE
14, Stanhope-street, Clare-market, London.

IRON BUILDINGS and IRON ROOFING.
SAMUEL C. HEMMING & CO.
21, MOORGATE STREET, E.C.

NOTICE TO BUILDERS AND CONTRACTORS.
HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Crab Winches, all sizes.—For further particulars apply to BOWSER & CAMERON, Springfield Ironworks, 5, Nell-street, Glasgow.

IMPORTANT TO BUILDERS, SAW-MILL PROPRIETORS, MACHINE MAKERS, WAGGON BUILDERS, AND OTHERS
WILSON'S PATENT LARGE ENDLESS BAND SAWING-MACHINERY.
This machinery is adapted to cut up square or round timber, to the depth of 4 feet and upwards, and from the simplicity of its arrangements, it will be found admirably suited to general use. The tables supporting the log are arranged to carry the log past the saw in one direction without stopping for re-adjustment; by which the necessity for transoms is avoided, and they are capable of travelling at different speeds in the same or opposite directions, and of being set in motion, reversed, or stopped instantly.
The speed of cutting may be varied from 1 inches to 10 feet per minute, and yet on account of the increased length of cutting edge, the saw is kept cool.
May be seen in operation, daily, at Messrs. JAMES WILSON & SON'S, Builders, &c. Eagle Saw Mills, Manningham, Bradford, Yorkshire. Full particulars may be had on application, by parties desirous of treating.

HART & SON,
WYCH-STREET, and COCKSPUR-STREET, LONDON.



WROUGHT-IRON WORK OF EVERY DESCRIPTION.
HINGES, GRILLES, LOCKS, FINGER-PLATES, STANDARDS, CORONÆ, PENDANTS, &c.—CHALICES, FLAGEONS, PATENS, ALMS DISHES, ALMS BOXES, ALTAR RAILS, MONUMENTAL BRASSES, &c. &c.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W. Drawings and Estimates furnished.

SKAIFE & COMPANY,
Manufacturers of PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tipped Fish-tail Tiles for export.
IRON WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works Copenhagen Wharf, Limehouse.

TO JOINERS AND BUILDERS
IRONMONGERY at FIRST COST.—A List of Prices may be had on application to the BRITISH HARDWARE COMPANY, Phœnix Works, Wolverhampton.

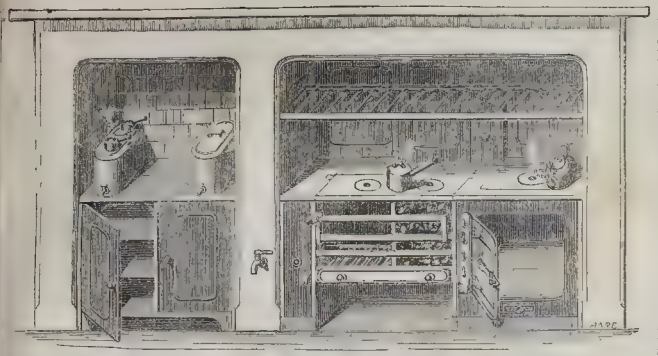
PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. on the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.
Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street,
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman square, London, W.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

Nos. 6 and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



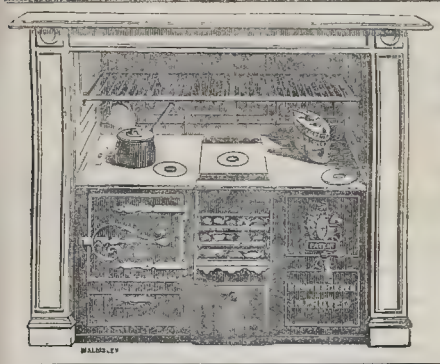
ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10*s.*

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges.

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen sent free of charge.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke-curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat,—viz. that reflected from the upper or concave surface,—to be projected partly with the floor, instead of directly to the ceiling, as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction thus thoroughly warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which is intended to be kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black on the top, and obviates any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18*s.* 6*d.*

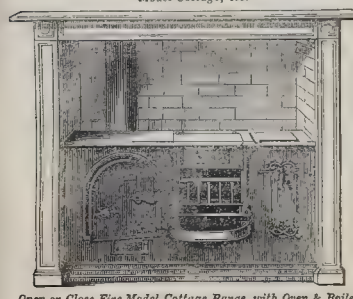
FT BROWN & GREEN'S LONDON WAREHOUSE, **FT**
81, BISHOPSGATE-STREET WITHIN, E.C.
F. THOMAS, AGENT.

ILLUSTRATED PROSPECTUSES POST FREE.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45s.



Open or Close Fire Model Cottage Range, with Oven & Boiler.

Self-acting, with Bright Wrought Bars.

34 inches	54s.
36 "	56s.
38 "	58s.
42 "	60s.

Self acting Cottage, with Oven and Back Boiler

30 Inches	72s.
32 "	24s.
34 "	26s.
36 "	28s.

Register Stoves, with Strong Bars, from per inch, 4d
Improved New Pattern Circular Check Register, with strong Bars and Pivots, 4d. per in.
Best ditto, with Fire brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 45s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	2-inch.	2-inch.	2½-inch.	3-inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt

Best Sheet Cut Floor Brads, 11s per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2 in.	2½ in.	3-in.
Cast Rain-water Pipe	8d.	10d.	1s. per yard.

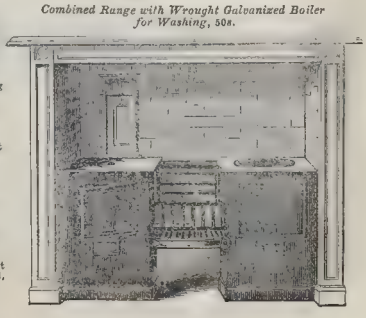
Cast Gutters, 4-in. 7d per yard

	4 in.	4s-in.
O G Gutters, with Clips on	1d.	1s. per yard.

2	3	4	5	6
Patent Line..3s 6d.	4s	5s	7s.	9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s 9d ea h. Light Elopte and Register Metal, 12s 6d per cwt
Dr. Arnott's Ventilators, 4s. each.
Brick Moulds kept in stock. Any size made to order.

Combined Range with Wrought Galvanized Boiler for Washing, 50s.



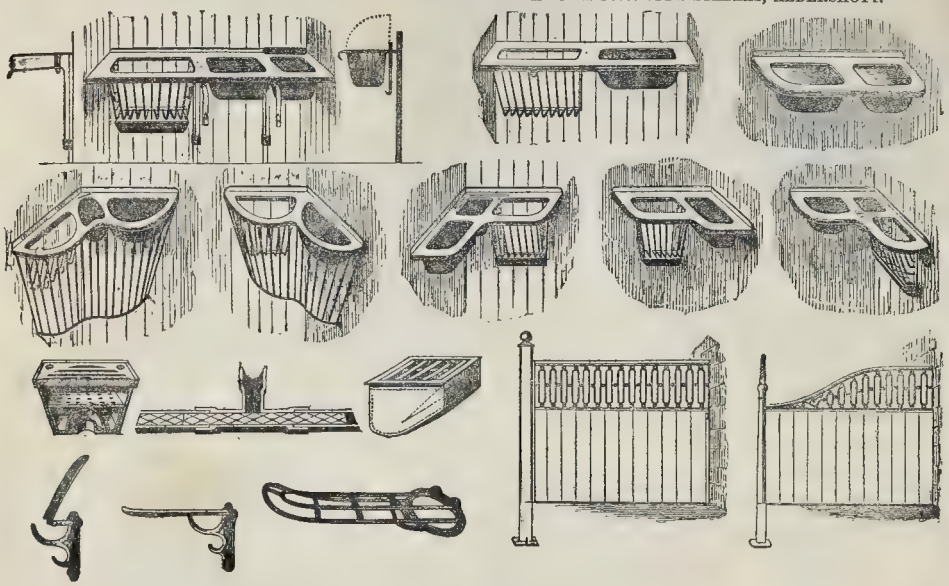
COTTAM & COMPY. 2, WINSLEY STREET, OXFORD STREET, LONDON W.

COTTAM'S PATENTED AND REGISTERED

STABLE AND HARNESS-ROOM FITTINGS.

ORIGINAL INVENTORS OF THE UNDER-FEEDING PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, AS ONE FIXTURE.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM arranged for inspection in full-sized Stalls, Loose Boxes, &c. a portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

Knightley's Patent Stable Floor.

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to

COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—Winsley Street is the Street opposite the Pantheon.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4S. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2S. 6D. PER FOOT

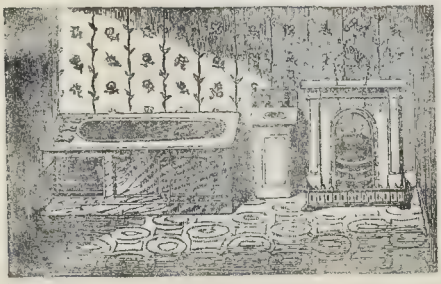
AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET LONDON.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated price catalogue, of numerous designs, in various styles (free), on application to

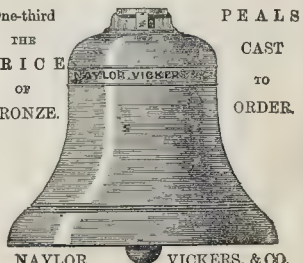
COTTAM & CO. IRON WORKS,

2, WINSLEY-STREET, OXFORD-STREET,

LONDON, W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

W. HARMER & SON,

BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.

WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.

WROUGHT IRON TUBE and FITTINGS for GAS or WATER.

CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.

W. HARMER & SON,

3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.

ESTABLISHED 1817.

CASTINGS, ANY WEIGHT AND QUANTITY,



With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.

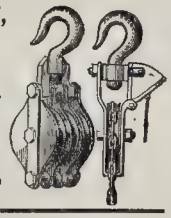
IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



DEVAUX'S PURE THICK ROOFING ZINC,

FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS,

And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. EDMESTON, Esq. F.R.I.BA. by whom a certificate is given.

ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.

Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.

MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.

N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.

These SUPERIOR-CLASSSTABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four postage stamps.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS.

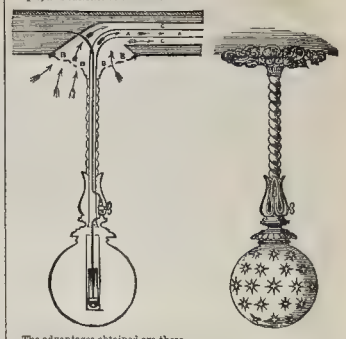
38 and 55, York-street, Westminster.



RICKETT'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—

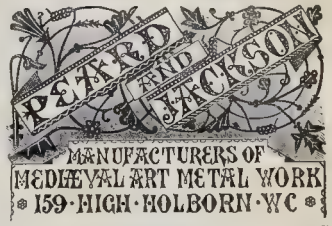
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.



BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gaseliers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.

Specimens at the Architectural Exhibition, Conduit-street.

TELEGRAPHS.

REID BROTHERS, 12, Wharf-road, City-road, near the Gutta-percha Works,

Telegraph Contractors to the following Telegraph Companies:—

THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.

Are now prepared to give estimates and execute contracts for firms and private companies, in town and country. Gentlemen's private houses fitted up with simple and efficient telegraphs, on the most economical terms. All communications addressed to the above will meet with immediate attention.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d.	per foot.
Half-inch diameter	1s. 6d.	,,
Five-eighths-inch diameter	2s. 0d.	,,

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
,, Gateshead-on-Tyne
,, 27, Dale-street, Manchester.
,, 68, Anderston-quay, Glasgow.
,, 17, South Castle-street, Liverpool
,, Exchange-buildings, Dundee.
,, 7, Frederick-street, Aberdeen.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY-ROW,

MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application, by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

TRADE MARK.

CROWN TUBE WORKS,

WEDNESBURY, STAFFORDSHIRE.

Warehouse—81, Upper Ground-street, London, S.

JAMES RUSSELL & SONS,

The Patentees and first Makers of Wrought-Iron Tubes.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61a, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of WROUGHT IRON TUBE and FITTINGS,

FOR **HIGH-PRESSURE-WATER**; OR STEAM.

HAWKINS'S REGISTERED CHAIN.—This newly invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City road, E.C. near the Canal Bridge.

E. GOLLOP, SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising Spring-hinges, Not-rising Spring hinges, Double-acting Spring-hinges, Rising and Not-rising Door Back springs, &c.

Price List and Drawings may be had on application as above.

TO ARCHITECTS, BUILDERS, &c.

HEATING and VENTILATING LARGE PUBLIC BUILDINGS, HOTELS, MANSIONS, &c.—Your inspection of ZIMARA'S MODEL of Improved Patent STOVE and APPARATUS for these purposes, in the Gallery of the Russian Court, International Exhibition, is particularly requested.—A Descriptive Pamphlet and Drawings will be sent, on application to Messrs TONGUE & BIRKBECK, Patent Agents and Engineers, 34, Southampton-buildings, Chancery-lane, W.C.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

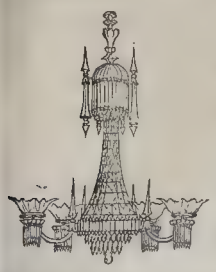
HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

METROPOLITAN RAILWAY.—FOR SALE, an 8-horse power high-pressure horizontal ENGINE and BOILER, with double set of winding apparatus complete, capable of lifting two tons; the same has been used for hoisting the excavation on the above contract. Also, a 6-horse power horizontal Engine and Boiler, with single set of winding apparatus, complete. This may now be seen at work at the Portland-road Station.—Apply to SMITH & KNIGHT, 31, South Wharf-road, Paddington.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c., plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London, E.



INTERNATIONAL EXHIBITION, Class 31 and 34.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
THE NEW CRYSTAL STAR AND SUN LIGHT.
J. DEFRIES & SONS,
ENGINEERS, GAS-FITTERS, AND MANUFACTURERS
Of MEDIÆVAL and every Description of
GAS-FITTINGS, CRYSTAL, BRASS, and ORMOLU
CHANDELIERS, VESTIBULES, &c. &c.
Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other public and private Buildings. HOT-WATER PIPES for heating Conservatories, Warehouses, &c. &c. supplied and fitted on the most Improved and Economical Principles. Public and Private Gas-Works Erected.
Works—London and Birmingham.
Principal Depôt and Show-rooms—147, Houndsditch, City.

FURNESS'
PATENT WOOD-WORKING MACHINES,
FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.
Prices and every information respecting these celebrated and well-known machines can be had on application to
WILLIAM FURNESS,
73, LIME STREET (late of Lawton Street), LIVERPOOL.
The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.
PATENT LIGHTNING CONDUCTORS,
according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if asked for.
J. W. GRAY & SON, 114, Fenchurch-street, E.C.

MUSGRAVE'S PATENT STABLE
FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIG-STIES. These inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.
At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS received a SILVER MEDAL and two awards of "Highly commended;" being the only prizes conferred on any competitor in this class.
Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann street Ironworks, Belfast.

CHUBB'S LOCKS,
with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on Application
CHUBB and SON,
57, ST. PAUL'S CHURCH YARD, LONDON,
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

PATENT ASPHALTE CALDRON,
for laying Asphalte Floors. The cheapest and best kind of floor, impervious to wet, and vermin will not touch it. Full particulars sent free, by
WOODS & COCKSEDGE,
IRONFOUNDERS, STOWMARKET.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rea's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRIDGE-STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application

LOSH, WILSON, & BELL,
NEWCASTLE ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST IRON GAS and WATER PIPES.
Office, No. 7, Side-lane, London.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

NAILS and IRONMONGERY,
from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street, London, E.C.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

TO BE SOLD, a Bargain, as money is wanting, a new SIX-HORSE PORTABLE STEAM ENGINE.—Apply to Mr. KENNARD, 26, Alpha-road, St. John's wood, where it may be seen.

TO BE SOLD, an IRON GEOMETRICAL STAIRCASE.—For price, &c. apply to Messrs. AMIES & BARFORD, or Mr. J. AITKIN, Peterborough.

TO LANDLORDS, OWNERS of PROPERTY, HOUSE AGENTS, and the PUBLIC generally.—WILSON, & CO. Practical Bricklayers and Builders, 2, Ocean street, Stepney.—Estimates given for general repairs. Stoves, ranges, and coppers set. Pointing, tiling, whitewashing. Firework in all its branches. Draining, &c Also task work taken. Terms, ready money only.

HUTHNANCE'S PATENT ECONOMIC LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS.
Is strongly recommended to public notice, as being the most efficient and economical arrangement for the purpose of drying linen, clothes, bedding, &c.; specially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, & &c., as, in a sanitary point of view, it is invaluable, the DRYING ROOM being raised by its use to a very high temperature, whilst the IRONING ROOM is kept AGREEABLY COOL and WELL VENTILATED.
The economy of fuel is extraordinary, as, in a small union, it caused a saving of seven tons of coals in four months, whilst for simplicity of management and cleanliness it cannot be surpassed.
No BLACKS or SOOT can enter the drying room.
This arrangement has been carried out in numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS
Testimonials and illustrated particulars forwarded, upon application, to Mr PIERCE, SOLE PROPRIETOR and MANUFACTURER, 5, JERMYN STREET, REGENT STREET.
A large model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

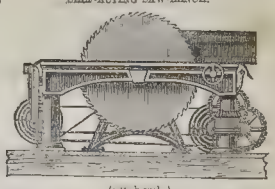
DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.
These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

THOMAS ROBINSON
and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



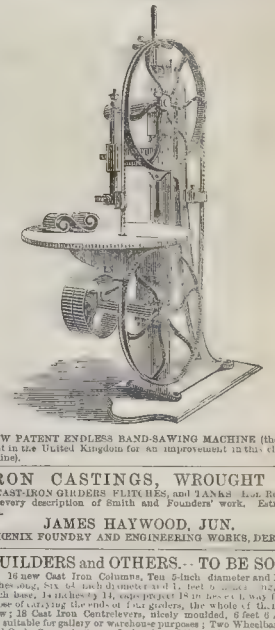
Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.

S. WORSSAM & CO.'S PATENT
SELF-ACTING SAW-BENCH.



(¼ inch scale.)
This Bench will take a Saw up to 42 inches in diameter, and is adapted for splitting deals, breaking down small timber, and all the purposes of an ordinary saw bench. It is fitted with a rope-feed motion for bringing the stuff up to the saw, at rates varying from 30 to 60 feet a minute. For priced illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

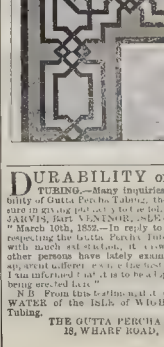
POWIS, JAMES, & CO.
ENGINEERS AND MACHINISTS,
VICTORIA WORKS, BLACKFRIARS ROAD, LONDON,
Having taken additional premises at 92 Blackfriars Road, known as the Surrey Iron Works, have added Portable Engines to their Sawing and Wood-cutting Machinery business. Contractors, colonists, merchants, and shippers will find these engines fitted with the same care exactness which has gained for the firm so respectable a position as Machinists and Tool Makers.
Specimen Machines and Engines can be seen at the Works, at the Machinery Department, Crystal Palace, Sydenham; and in class 7, section 2, stand 217, International Exhibition, South Kensington.
Engines, &c, on hire, with or without the option of purchase.
ALL LETTERS MUST BE ADDRESSED TO THE OFFICE,
26, WATLING-STREET, E.C.



NEW PATENT ENDLESS BAND-SAWING MACHINE (the only patent in the United Kingdom for an improvement in this class of machine).

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS for Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

BUILDERS and OTHERS.—TO BE SOLD, 16 new Cast Iron Columns, Ten 5-inch diameter and 10 feet 2 inches long, six 6½ inch diameter and 11 feet 6 inches long, with 1 inch bore, 14 inches by 14, superior 18 inches by 14, for the purpose of carrying the ends of Flat girders, the whole of them cast hollow; 18 Cast Iron Centrelevers, nicely moulded, 6 feet 6 inches long, suitable for gallery or warehouse purposes; Two Wheelbarrows, a good Crab, Sawyer's Screw Jack, also a Lift, with a crab attached, made on the most complete and simple principle, having a perpendicular shaft 60 feet high with pendent traversable jib, and occupies a superficial space of about 3 feet by 2 feet; most useful for a warehouse.—The whole to be seen at 8, FINSBURY PLACE, E.C.



SOLID PARQUET FLOORS, ARROWSMITH'S PATENTED,
From 1s. per foot, in various woods, inch thick, grooved, tongued, and keyed together, not screwed
For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture-galleries, Planting, Dancing, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.
SHOW ROOMS,
80, New Bond-street, W.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter from ROBERT RAYMOND JARVIS, Esq. Alderman, Lord Mayor of York:
"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference in the first hour's drawing, to several days, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the Isle of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY-ROAD, LONDON.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge. OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,
QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS. Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

ENAMELLED STONE CHIMNEY-PIECES,

Of Beautiful Designs, and to Imitate any kind of Marble; far Superior to Enamelled Slate, and considerably Lower in Price, INVENTED AND MANUFACTURED BY

W. J. ELLISON & CO.,

SON OF THE ORIGINAL PATENTEE FOR IMITATING MARBLES IN CEMENT,

Also, MANUFACTURER of WALL-LININGS, composed of Stone Slabs, with a Veneer of Scagliola to Imitate Marble, and Enamelled by Heat. WARRANTED TO RETAIN ITS POLISH

Office and Show Room, No. 3, WINCKWORTH-PLACE, CITY-ROAD, near the Tollgate.
Manufactory, EAST-ROAD, CITY-ROAD.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,

Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronised by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO'S Manufactories LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER (upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of near One Million Feet. A Liberal Discount allowed to the Trade.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

TO ENGINEERS, MILLWRIGHTS, &c.

Lately published, with new Illustrations, 13th Edition, corrected and improved, to which is added a new Table of Fractional Numbers, 12mo. 5s. cloth,

THE MILLWRIGHT and ENGINEER'S POCKET COMPANION: containing Decimal Arithmetic, Tables of Square and Cube Roots, Practical Geometry and Mensuration, Pumps, Pumping, and Steam-Engines; with Tables of Circumferences, Squares, Cubes, &c.

By WILLIAM TEMPLETON. Revised by S. MAYNARD.

"A more useful addition to the engineer's library cannot well be conceived." *Mechanic's Magazine.*

"The present edition having undergone the careful revision of so competent an editor as Mr. Maynard, is worthy of special recommendation."—*Athenæum.*

"Will be found of great use to those for whom it is designed."—*Builder.*

Also, by the same Author,

TEMPLETON'S ENGINEER'S COMMONPLACE BOOK: consisting of Practical Rules and Tables adapted to Factory and Steam-Engines, &c. Fifth Edition, with several new Illustrations. 12mo. 5s. cloth.

TEMPLETON'S LOCOMOTIVE ENGINE POPULARLY EXPLAINED. Illustrated by new Designs. Second Edition. 12mo. 4s. cloth

London: SIMPKIN, MARSHALL, & CO. Stationers'-hall-court.

In 4to. with 24 Plates of Figures, price 8s cloth,

HANDBOOK of ELEMENTARY DRAWING: with Practical Suggestions on the Formation and Conduct of Drawing Classes in Public Schools. Designed chiefly for the use of Teachers

By ROBERT HALE,

Head Master of the Burnley School of Art, late Teacher of Drawing in Queen's College, and Second Master in the Government School of Design, Belfast

London: LONGMAN, GREEN, LONGMAN, and ROBERTS.

This Day, with numerous Illustrations by Phiz and other popular Artists, price 6d. monthly, Part I. of

TWICE A WEEK.

An Illustrated London Journal of Entertaining Literature and Useful Information. Nos. 1 to 12 ready.

Contents of Part I. Price 6d.

Guilty, or Not Guilty. By Mrs. Gordon Smythies.
The Flower-Girl. An Original Tale. Illustrated by Phiz.
International Exhibition. With Illustration of the Opening Ceremonial.
Gallery of Fine Arts, comprising Illustrations from the best Pictures of the best Artists
Biographies of the Great and Good. With Portraits.
Tales of Smugglers. Illustrated.
Half hours with New Books.
The Family Doctor.
Topics of the Hour, Facetiæ, Varieties, Scientific Facts, Wit and Humour, Voyages, Discoveries, Household Hints and Receipts, Gardening, Statistics, Current Events, &c.

Published every Wednesday and Saturday, price One Halfpenny; Monthly Parts 6d. each. Nos. 1 to 14 now ready.
Office of "Twice a Week," 122, Fleet street, London.

Just published, price 2*l.* 2s.

MANUAL of HYDROLOGY By NATHANIEL BEARDMORE, Civil Engineer.

CONTAINS

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 68, London-wall. 1862.

Just published, price 2s. 8vo. cloth, gilt edges, 207 pages,

INTERNATIONAL EXHIBITION.—RISE and PROGRESS of PAINTING.

By EDMUND EDWARD ANTROBUS, F.S.A.

Being a Concise History of Celebrated Painters, arranged under their different Schools; to which is annexed the Painter's Anniversary Calendar.

London: STAUNTON & SON, 9, Strand.

TO PLUMBERS and GLAZIERS.—TO BE DISPOSED OF, in consequence of the death of the Proprietor, an Old-established BUSINESS, about six miles on the Eastern Counties Railway. Terms moderate.—Apply to Mr. T. MILLINGTON, Lead and Glass Merchant, 87, Bishopsgate-street Within, E.C.

The Builder.

VOL. XX.—No. 1011.

The Palace of Art and Industry: the Public Works of France.

SEEING the magnitude and importance of recent architectural and engineering works in France, and feeling how much the points of detail would be interesting to professional readers, we have lately collected much information, some of which has appeared in publication in the course of our articles on the improvements in Paris. We have taken opportunity to remark that progress and embellishment in France, were not confined to the capital. In fact, having been accustomed to hear that the metropolis of France centralized and absorbed the resources of the country, it has now for us become almost as difficult to accept a statement to such effect, as it might be to take that of the correspondent of one of the French journals who lately showed his ignorance of the importance and influence of the chief towns of England. Whatever was the truth as to London when Cobbett wrote of it as the great "wen," the fact now is that improvement, say that which concerns the field of our journal, as in streets, water-supply, and architecture, has in the last ten or twenty years progressed in proportion to population and number of buildings, more in such towns as Manchester and Liverpool than in London, although to leave ample demand for further works and increased attention. In the case of France, the decorative aspect of buildings of the capital may have been reflected as in the architecture of Lyons; but the existence of initial force, and responsive aid in state funds, is become noticeable as regards every chief town of the country. The financial questions we must still defer entering upon, further than in repeating that, although we cannot lightly value much that has been said in question of the administration, municipal or departmental, and that of the legislature and government, we are sure that some of the objectors to the imperial system take little note of the near prospect, as in improved water-supply of towns, and of the gain which is direct and immediate, from wide and disinfected streets, from houses that internally are on the whole better than those which have been displaced, from squares and gardens in central and populous districts, open to all, and from architecture and decoration, even sanitarily. But, whenever the human machine is alimented in the region of high civilization, its demands are correspondingly great: luxuries, requiring the expenditure of money, become wants; whilst the knowledge which gives the power of satisfying them, grows also: more labour may be demanded of the individual; but the larger return which is needed, comes with greater certitude and benefit. There is a story told of a body of men engaged in a workshop which had been recently ventilated with success, that they complained of the effects, saying their appetites were increased, and that they had to spend more money. The story does not go on to say whether the men discovered soon that they could earn more; but we are inclined to think the conclusion of the case would suggest something to those who never see in an increase of rates for wash-houses or a library, anything beyond the charges on ratepayers. Whether this country and France are following roads to ruin by their expenditure, is not just now what we have to express opinion upon; but, that prosperity may be consistent with high taxation, our country is evidence. An observant Frenchman has remarked to us that the average Englishman requires more for his sustenance and comfort than the average Frenchman, and the Northern American more than the Englishman, as consequence of the *status* of education relatively. Actually, the English workman has fewer intellectual resources than the American citizen, and fewer places of open-air recreation conveniently near to his dwelling, than the artisan of Paris, Rouen, or Amiens. We see, by *Le Siècle* of Sunday last, that in the *arrondissements* of Paris, as well as in *communes* of the provinces, attention is now being given to the establishment of public libraries that puts our metropolis to shame. We hope to see the day when such libraries may be as common as police-stations are now, whilst open during the same hours as public-houses; but for this result it must be held, as rightly it should, important to maintain the rooms, books, and curatorship perfect even in advance of demands. Should but one student, in the first year, resort to a library, the establishment should be maintained complete, the same, if only as the *nucleus* of future good which eventually would come, but which the present apathy of local authorities and ratepayers continually holds at the furthest distance. Affording the resources and amusements would tend to the diminution of drunkenness, and of consequent crime; and saving to the country would compensate for the cost of formation of museums and libraries, and of provision of gardens. As to the individual, we are not sure that higher charges, provided that they secure the healthful habitation, will not be more easily met than the present cost of an inferior dwelling, which entails moreover the cost of illness. Such are the considerations which we would have not forgotten when the public works of France are under estimation with financiers and economists here at home.

But it is tending to become true that the rural districts of France are not neglected for the towns, no less than it is true that the towns are not sacrificed for the capital. The railways, which,—recollect it, oh! our countrymen and legislators!—will ere long become national property, at present connect the extremities and heart of France, but have few "branches"; and the roads on the same plan, leave large districts without such advantages as exist in the numerous, though circuitous, parish-roads and bye-roads of England. This position in France is recognized as an evil; public money is in course of application to remedy it; and we should be surprised neither to learn that results are calculated upon for the extrication of the empire from embarrassments, nor to find eventually that national gain of every kind had actually accrued.

But, to what extent the great works of France are such as are calculated to be remunerative, may perhaps be judged of by the illustrations of them in the International Exhibition, which we are about to notice. These specimens, in the shape of models, maps, and drawings, are of course limited in number; and as we have before remarked, they are crowded into inadequate space. They deserve, however, more study than they are receiving from architects and engineers, notwithstanding that we have repeatedly called attention to their merits. Those who give them the requisite attention may allow that France has the men and the talent needed to produce works of the class in which British engineering skill sometimes claims the supremacy. Such power is due to the maintenance of the admirable machinery of education, of which the École des Ponts et Chaussées, the École Polytechnique, and the Conservatoire des Arts et Métiers, are the principal parts and members. Of modern French art, or Paris decoratively considered, the visitor must, as we have before said, not expect to gain information at the Exhibition. He will find one model, in which may be seen a portion of street-frontage of which the counterpart may be found on the Boulevard de Sebastopol; and, truly, much of the recent Paris architecture is of the same character of detail and order of taste, preferable to what is general in London, though not equal to what the French street architecture should be from antecedents in French study. Moreover, the common architecture of Paris, like that of London, is prejudicially affected by speculative building, though not with the same results; and the materials of a comparison between the English and French art generally, should include works of a class not illustrated at all in the French Division of the Exhibition. In the buildings themselves in the Boulevard de Sebastopol, till they were injured by large sign-boards, the details told with better effect than the London cornices and window-dressings, more skilfully proportioned though may be the stories relatively to one another in our fronts; but, without considering the clearness of the atmosphere through which buildings in Paris are seen, the light-coloured stone has a value which is not to be conceived by those accustomed only to blackened cement and sombre brick, and which is not to be represented in a model. From books which will be shown if asked for, something more perhaps may be learned at the French Court, as of the picturesque architecture of the Bois de Boulogne; whilst the new sewers and the water-mains of Paris may be found marked on plans which can be examined better than those on the walls. Of the metal-work, which is not unimportant in a review of the decorative features of the capital, there are in other parts of the French Division of the Exhibition, specimens, *minus* the gilding, which may show that iron in ornamental forms contributes to the effect of the new squares. Besides iron, lead and zinc will be found worked into ornamental features, as those of roofs, with a manipulation which our artisans seldom exhibit, perhaps because it is seldom demanded of them.

The portion of the French Division of the Exhibition, "Travaux Publics de l'Empire Français," above referred to, has been formed under the direction of the Ministry of Agriculture, Commerce, and Public Works, and with the aid of the Ministry of Marine and the Colonies, and that of the railway-companies and the city of Paris. It has a more general character than the similar division of the French Exhibition of 1855, and it represents many branches of civil engineering. A special volume has been printed referring to the objects exhibited.* The French technical terms will interfere with ready comprehension by otherwise competent persons into whose hands the few disposable copies of the book may fall. At best however, the models and the book would not supply many interesting particulars which we have gathered from the drawings, or which have been kindly furnished to us by Mr. Bommart, Mr. le Baron Baude and others on the part of the French Commission, particulars many of which we must preserve for use at some future time. The objects exhibited, forty-nine numbers as counted in the French Catalogue, are divided into ten sections. The divisions are—1, "Roads and Bridges," including however nothing except what relates to the latter head, and to the "*exploitation*" of the Marcousis quarry of stone for paving; 2, "Hydraulic Service," which seems intended for what belongs to irrigation and land-drainage; 3, "Rivers," including the engineering works for regulating their volume of water; 4, "Canals;" 5, "Maritime Works;" 6, "Light-houses;" 7, "Railways," that is bridges and viaducts;" 8, "Mines," including models of

* "Exposition Universelle à Londres en 1862; Empire Français: Notices sur les Modèles, Cartes, et Dessins relatifs aux Travaux Publics, réunis par les soins du Ministère de l'Agriculture, du Commerce et des Travaux Publics." 8vo. pp. 263. Paris, 1862.

works connected with the "*exploitation*" and supply of mineral waters, as those of Plombières and Bagnères-de-Luchon, and geological maps as of Paris; 9, "Works of the City of Paris," including the principal sewers, the apparatus for the distribution of water, and the artesian well of Passy, and the squares and promenades; and 10, "Different objects not classified in the preceding sections."

There are three bridges unconnected with railways, illustrated by models, drawings, and photographs, and five bridges and viaducts of the other class. The most interesting of these works are those constructed of iron. One of them is the swing-bridge over the Penfeld, between the towns of Brest and Recouvrance, of which a short notice has already appeared in our pages. The clear opening between the abutments of this bridge, omitting for the moment consideration of the two piers which are intermediate, is 174 mètres. The French mètre is 3·2808992 English feet, or over 3 feet 3¼ inches. The space, 174 mètres, divides in the middle; and each half of the bridge reposes upon a circular pier of 10 mètres 60 centimètres, the piers being placed so as to leave a clear central span or opening of about 106 mètres. The iron framework or truss of each half of the bridge in the centre span, takes the most simple form of a cantilever, filled in with diagonal bracing in the soffit and sides, and covered with planking, which is in two thicknesses crossing joint, for the roadway. The height of the truss is 7 mètres 72 centimètres at the piers, and 1 mètre 40 centimètres at the opening of the bridge, or centre of the span. The end next the abutment is weighted as counterpoise. The roadway is 5 mètres in width; and that of the footways is 1 mètre 10 centimètres. To distribute the weight equally upon the rollers, the pier is built of the diameter (namely, 10 mètres 60 centimètres) necessary to divide the circle on plan into four equal parts, the corresponding points in the ironwork above being strengthened by uprights, which are diagonally tied and braced. The arrangement of the rollers is not greatly different from that in railway turn-tables, the movement being effected for each half of the bridge, by manual power (on the roadway,) turning by handspikes two axles and cogged wheels, which work into teeth of a portion of the fixed cylinder below. For turning or planing the surfaces on which the rollers work, a special machine was constructed at a cost equal to 3,000*l*. When the bridge is closed, the meeting edges at the centre line, are mutually supported by screws, and the opposite ends at the abutments by levers. All manœuvres are effected by two men for each half of the bridge, in fifteen minutes at the most. The two halves were constructed on scaffolding placed parallel with the water-way, and in the line of the piers; and the levels having been carefully taken, the halves when brought together were very nearly correspondent. To repair or reinstate the rollers, the bridge can be raised by four hydraulic presses on each pier, placed at points before mentioned, and worked by one pump in the centre. The total weight, about 800,000 kilogrammes, has been raised thus, some centimètres, by eight men in less than ten minutes. Some of the ingenious contrivances to subserve durability in the swing portion of Rochester (road) Bridge, which we described when that work was being completed, we rather think have no counterpart in the bridge at Brest. There are 1,200,000 kilogrammes of iron in the French bridge, of which 340,000 kilogrammes are cast. The kilogramme is 2·204621 pounds avoirdupois. The cost of the whole bridge was 2,118,835 francs 10 centimes, equal to 84,753*l*. 8s. 1d. nearly. The entire work, including masonry, was executed under the sole responsibility of Messrs. Schneider & Co., from working drawings by Mr. Mathieu, and under the immediate control of Messrs. Maitrot de Varennes and Aumaitre, engineers-in-chief "des ponts et chaussées," and Mr. Rousseau, "ingénieur ordinaire" of the same. The original designs were made by Messrs. Cadiat and Oudry.

We regret that the French principle of naming, as far as possible, all persons engaged in the production of a work, was not adopted throughout the Exhibition. As to the English Division, there is a complete falling-off from this principle since 1851. Besides arguments which should have been pressed upon exhibitors, there is the interest and indeed vital importance of the question lately raised, namely, what is the extent to which English manufacturers and decorators are indebted to French designers and hands? A certain well-known firm in London gained a prize at the Exhibition of 1855, for a work which was almost entirely due to Frenchmen employed by them. Recent letters, meant to explain away the first assertion of a newspaper correspondent, only showed that the general assertion was correct.

Other iron-bridges illustrated in the French Court are interesting for the means adopted in their construction, these last being with one exception, not directly observable in the models. Generally, they may be taken as representing two most important steps of progress, the one in the economic construction of deep-seated foundations; the other in the rapid and economic formation of the superstructure and roadway. It is to be regretted that there is no illustration in Class 10 of the British Division, of the compressed-air system of sinking foundations, further than the general model of the Saltash Bridge, and none of the system adopted at Westminster Bridge, and no explanation of the means by which such a viaduct as that over the Beelah referred to by us, could be completed in four months. The ingenious inventions and applications by which the objects are attained in the building of viaducts and bridges in France, can be understood through examination of the books and documents in the court of French Public Works; and they well deserve the attention of British contractors.

There are models and other illustrations in this French Court of portions of two bridges in which the compressed-air system of cylinder-sinking was employed. The bridges are the one over the Rhine at Kehl, and the bridge over the Garonne at Bordeaux, for the junction of the two lines of railway, "d'Orleans," and "du Midi." The *model* of the latter bridge tells nothing more than that the cylinders or piles are but two in number in the place of each pier, and that the spans are considerable for those points of support. We recommend, however, those who are about to be professionally concerned in such works to ask for the drawings, and to take note how the one application of the compressed-air principle differs from that made at Kehl; and how that last differs from the original application at Rochester. Within the last few weeks or days, a railway bridge has been completed at Argenteuil, near Paris, the piers and foundations of which exhibit again a different application. Some information about the construction in that case as well as in the Kehl Bridge, may be obtained in Class 5, in the French division of the Western Annex, from the exhibition by Mr. A. Castor, one of the contractors, some of the mechanical contrivances which he employed, as well as from a work by him describing and showing dredging-machines and other kinds of steam-moved apparatus in large number.* We suppose the work might be called a manufacturer's pattern-book; but it is one containing information, for architects and engineers, of a very useful kind. Though all these bridges, unless that of Argenteuil, have been spoken of at some time or other by us, and that of Kehl has been illustrated, there are points of history, and of the difference between the several applications, which remain for our readers' appreciation.

These points we shall endeavour to set forth in our next article on the French illustrations of Public Works.

* "Appareils à Vapeur employés aux Travaux de Navigation et de Chemins de Fer. Fondations des Ponts sur le Rhin à Kehl, et sur la Seine à Argenteuil, par A. Castor, Chevalier de la Légion d'Honneur et du Lion de Zaehringen (Bade); Entrepreneur de Travaux Publics; Membre de la Société des Ingenieurs Civils et de la Société d'Encouragement pour l'Industrie Nationale. Précédés d'un Rapport sur les Travaux de Fondation du Pont du Rhin présenté à la Société d'Encouragement pour l'Industrie Nationale, par Mr. Baude, Inspecteur Général des Ponts et Chaussées, Membre du Conseil de cette Société. Folio, pl. 20. Paris; E. Lacroix: Londres; Barthès et Lowell. 1862."

IRON ARCHITECTURE.

THE NEW IRON STEEPLE AT BRUSSELS.

Iron may be destined to perform a very leading part in the main features of the architecture of the future. Its modern advent as a building material was modest. It was content to lie concealed in the form of invisible beams. This for a long time was, with few exceptions,* its only architectural function. The railway station, however, brought forth its desirable capacities for forming visible supports where tenuity and strength were required in combination. These functions, in more or less skilful hands, it was made to perform with a greater or less degree of gracefulness. The true architectural artist, gifted with an eye of decorative beauty, made his girders and flying supports play such graceful pranks as they shot forth on their work, that some of the railway roofings almost rivalize with the glorious timber roofs of old. This is saying much; for the decorative Mediæval roof of timber only grew to perfection by the practice of centuries; while the iron roofs of our day sprang into existence (stimulated by opportunity) almost at a single bound, and with scarcely any gradual course of development. Isolated attempts had, it is true, been previously made to utilize iron in the more decorative features of architecture, as by the process of casting the most elaborately decorative character could be imparted to it, after a fashion, with only mechanical labour, after the first model was made. It was with this feeling that long before the time of railway stations, the reproduction of the fallen spire of Rouen Cathedral was attempted in cast-iron work; or, rather, a substitute of somewhat analogous form and character was attempted in that material; and the attempt, as is well known, was a failure. More recently speculators in iron houses have endeavoured to force the new building material into general use, to entire rejection of bricks and mortar, or stone and cement. These iron residences, either of portable or fixed character, excited considerable curiosity and interest for a time; but the immature ideas which governed the use of the new material imparted to the works a crudity of aspect so entirely unattractive to the eye, that iron architecture so inaugurated could not possibly become a success. Iron ships, too, partially failed; and a steel or iron coating over wood threatens to supersede all the methods adopted for constructing vessels entirely of iron. The iron architecture of the railway stations, also, after its first spirt, made no further progress. But more artistic and more matured are now beginning to develop themselves. The iron rail-work, and gate-work, and balcony-work of previous epoches have been studied; and the Hereford screen is a fine sample of what we can do in England, under the new impulse.

Though the example in the present instance only consists of a work which, though unusually important both in scale and solidity, is yet more or less confined to the old rail, or gate character; in Brussels, however, the improved artistic conception of the capacities of iron for architectural purposes has been put to a more severe test in the entirely iron structure of a Gothic steeple, of the most decorative period. A letter from Brussels says "*On place en ce moment les gargouilles au quatre coins de notre collegiate, sur laquelle s'élévera bien-tôt la flèche en fer dont le projet a été adopté.*" This iron steeple, designed in the country of Quentin Matsys, and of those exquisite workers in iron who produced the magnificent balconies, with their intricate wreaths of flowers and fruits, closely copied from nature, and worthy of the skill of Ghiberti himself, which distinguish many of the fine houses in the older streets of Brussels, ought to be something truly remarkable; and, if report speak truly, it will be worthy of the descendants of the great Flemish iron-workers of the sixteenth and preceding centuries.

So much depends upon the workman, whatever the excellent fitness of the material to the purpose, that iron may be made to produce, in build-

* Southwark iron bridge which created so much surprise and controversy in its day, being one of the most remarkable exceptions alluded to.

ging, effects the most vulgar, or the most beautiful. We have seen to what hideous purpose metal can be employed in our boilers at South Kensington. There can be but little doubt that both iron and glass are destined to play very important parts in our architecture of the future; but when iron is made to play such a part, it will not be in the form of mere sheet metal riveted on to a skeleton framework, but in noble plates of iron, artistically wrought; and then the glass, also, will not be merely window glass, except in positions where required for window-like purposes, and in masses, the effect of which we can as yet hardly conceive.

The rarest marble, merely used as a strong and durable building material, would not, when employed in such a manner, possess much advantage in appearance over the coarsest stone; but, when artistically used, and its high qualities brought prominently out by the brain and hand of genius, its superiority becomes at once manifest. Iron and glass, also, have latent excellencies for building purposes as yet undeveloped, which must be artistically revealed, and turned to high artistic account, before their value can be fully appreciated.

THE SOCIAL SCIENCE CONGRESS.

CONGRÈS DE BIENFAISANCE.

THE various departments of the Association pursued their labours in accordance with the programme up to Friday, the 13th; but it is too late now for us to follow them in detail. A few notes must suffice.

On Wednesday, in the *Public Health* section, Mr. Symes Prideaux read a paper "On the Pollution of the Atmosphere by Smoke." The writer of the paper illustrated his views by a model, which he explained while reading, showing that the evil was preventable if proper measures were adopted. The subject led to a discussion, in which it was stated that the washing bill for the metropolis was, at the lowest estimate, five millions per annum; but if the use were general of improved grates and kitchen ranges, such as those on the French and American principle, in which the chimney heat was utilized by being applied horizontally before it was discharged, also by the use of smoke-consuming furnaces, this great washing bill might clearly be reduced one-half, as well as a considerable saving of fuel effected. In Paris, where coal had been 40s. a ton, from the means given for the saving of fuel the cost of warming large establishments was not greater than in London, or even than in Manchester, where fuel was so much cheaper.

Dr. Milroy also read a paper "On the Health of the Army and Navy compared together."

In the *Social Economy* department on that day the ladies had sway, and a number of papers were read by them bearing on the efforts now making to extend the sphere of female exertions.*

In the same section, on the following day,—

Mr. R. Warwick read a paper "On the Operation of the Poor Laws," in which he pointed out the scarcity of dwellings for the labouring classes, and contended that the abolition of the laws of settlement and removal would lead capitalists to erect houses in which the labouring classes could live, not as objects of charity, but with the comforts of an independent house. One of the great evils of the present system was the inequality of the contributions of different parishes to the relief of the poor, and to this cause was to be traced much of the distress and misery that the poor had to suffer. In the parish of St. George's, Hanover-square, the poor-rate in 1832 was 2s. 6d. in the pound, and in St. Anne's, Blackfriars, it was 2s. 8d.; in 1842, the rate in St. George's parish had decreased to 1s. 4d., while that in St. Anne's had increased to 3s. 4d.; and in 1852, the rate in the rich parish had actually fallen to 5d., while the rate in the poor parish had risen to 5s.

In the *Health* department,—

Dr. Thompson, medical officer of Marylebone, president of the Metropolitan Association for Medical Officers of Health, read a paper "On the Proper Source of Water for Domestic Purposes." He said that the usual sources of water for domestic purposes were well waters, agricultural river waters, and pastoral waters. A general idea had prevailed that, for the purposes of drinking, well water was to be preferred to that derived from other sources of supply; and, although sanitary officers had made attempts to inform the poor that it was unwholesome, their efforts were greatly obstructed. He had examined shallow well and other waters for the supply of towns, and he found that they not only contained sewage, but they varied generally in their composition from day to day. It was important to remark that epidemics had particularly prevailed in a fatal manner in those towns where impure well water was extensively employed by the inhabitants, as in certain parts of London, Liverpool, and Glasgow. The fatal results depending on this and collateral unhealthy conditions were especially remarkable in the invasion of the epidemics of cholera, which caused the public mind again to revert to the unwholesome character of well waters, contaminated by sewage, and which were further rendered impure by impregnation from vapours disseminated by escapes from gas-pipes under the pavement of the streets. He condemned in the most unequivocal manner the use of lead cisterns and lead pipes, as they ought never to be used for the conveyance of water for domestic purposes. He recommended the use of pastoral waters, which were entirely free from the pollution of sewage and agricultural impurities. It was becoming essential for the increasing population on the banks of rivers, that the supplies of cities should be derived from the waters referred to, as they were not only free from animal *débris*, but were delivered in cities by the force of gravity, and thus saved a large expenditure for pumping.

A *conversazione* at Fishmongers' Hall (somewhat dreary), a closing dinner at the Crystal Palace, and excursions to Chatham and Reigate, by limited numbers of the members, were included in the proceedings.

At the sittings of the *Congrès*, presided over by Lord Shaftesbury, and in the arrangements of which Mr. Henry Roberts has borne a prominent part, many valuable papers were read and discussed, and when printed will, doubtless, bear fruit. Now that the meetings are over, some will probably think that it would have been better for the *Congrès* if the two bodies had met at different periods of time.

FROM ABROAD.

SOME months ago the rostral columns of the left portion of the Place de la Concorde were removed in order to receive a coating of copper similar to that laid last year, by electrotype, upon the fountains and their figures in the "Place." These columns are to be put in place, and those of the right-hand side are to be submitted to the same operation. The colour given to the above is throughout that of the Florentine bronze, but with a deeper tone than that of the fountains. In all the vert-de-gris is, however, too abundant.

A new method of laying gas-pipes underground has been adopted at the Palais du Corps Législatif, which, if extended to all public buildings and thoroughfares, would be a vast improvement. The water and gas pipes, being generally under the surface, to be conducted from one portion of the building to the other, have been laid down in channels lined with masonry and fitted with movable cast-iron plates; so that in case of repairs to the pipes being needed, or any leakage, &c., the ground will not have to be opened through and filled in all along till the defect is discovered. If this system were adopted in the Boulevarts, there would be no danger of the trees being poisoned at the roots by escapes of gas.

The lower *salles* of the ancient Louvre having been found to be in a damp state, it was proposed to excavate cellars underneath: this important work is in course of execution. The earth extracted is conveyed outside the building through the window which replaces the ancient door of the Museum. A timber bridge, projecting several mètres, protects the walls and forms a block for the carts to butt against when backing for their load.

The orifice made in the square of the Tour Saint Jacques, for the ventilation of the new Théâtre Lyrique, has been fitted with an iron grating to prevent all accidents. This wise precaution should be adopted with respect to the openings on the canal in the Boulevart de la Reine Hortense.

The *Journal de Rouen* says a discovery has been made of which the results may prove of considerable value. It is nothing less than the possibility of replacing cotton by a plant of the most ordinary kind, which grows abundantly, without cultivation, in the fields and gardens.

A piece of stuff woven with the textile matter extracted from this plant will shortly be presented to the public for the appreciation of competent judges. It is added that already the attention of the Emperor of the French has been directed to this discovery. It is to be hoped that it is true, and that there is no undetected deception in the matter.

In the Park of Saint Fargeau, close by the new Chemin de Menilmontant, preliminary works have been commenced for the construction of a reservoir for receiving the waters of the Champagne. These works consist principally in borings and trial-pits, to ascertain on what soil this vast reservoir is to rest. Its walls are to be 5 mètres thick. These soundings are seven in number. After they are completed the works will be carried on definitively. The length of the aqueduct to convey water from the Champagne country will be 254 kil. (157·7 miles).

This aqueduct, after having received the water of the Somme-Soude, between Chalons-sur-Marne and Epernay, is to be directed across the cretaceous plateaux of the Champagne, which it will traverse by a tunnel of 4,405 mètres. It will pass the valley of the Culveq by a syphon of 765 mètres (2,410 feet), and will receive on the other side of the hill the contribution of the Sourdon. From this point it will follow the left bank of the Marne, above the level of the Strasburg Railway. The channels of the streams descending from the hills towards the river will be intercepted by syphons of no very considerable length; but, a little after the entrance of the aqueduct into the department of the Seine-et-Marne, the difficulties begin to increase. Beyond the village of Sacy, the Marne winds round a vast promontory and returns to Ferté-sous-Jonarre, where it receives the Petit-Morin. In order to avoid the length of such a *détour*, and to effect a passage across the valley of the Petit-Morin on one of its narrowest points, the aqueduct passes under the hill by a tunnel 2,200 mètres (7,218·2 feet), and clears the valley by a syphon of 700 mètres (2,296·7 feet).

Next follows the passage in the environs of Meaux, which is effected without touching the beautiful park of Coupvray. From its origin up to this point the aqueduct has always kept the left bank of the Marne: here, however, a syphon bears this supply across the Marne to the right bank, beyond Chalifert, and passes under the Strasburg Railway. The depressed grounds of Villemouble and Rosuy will be traversed by arcades or syphons. Again, the Strasburg and the Mulhouse lines will be crossed, the environs of Noisy-le-Roi passed in tunnel, the fortifications cut through, and at length this new water supply is at its destination in the reservoir of the Parc Saint Fargeau.

The number of passages under ground will be 30; on arcades, 13; in syphons, 11; and there will be 17 bridges in the entire length.

Subterranean Rivers.—Early this year the Abbé Richard discovered the subterranean watercourse of La Recca, which disappears in the mountains a dozen leagues above Trieste, and appears again not far from the sea. The Abbé Richard had pointed out the practicability of driving a horizontal heading into the hill, so as to intercept the water of the subterranean thalweg of La Recca, and make use of it for the supply of the town. This scheme has been corroborated by an analogous project, made by Mr. Jules François, engineer of mines, with respect to that part of the French Alps which touch the Mediterranean.

The most interesting instance which has yet occurred of these phonomena, and one which is at present the theme of the most attentive studies of Mr. Jules François, is that of the Valley of Révest, at the north-east of Toulon. In passing up this valley, which debouches in the "Petite Rade," at the Missiessy quarter, it is observed to pass through successively the trias, lias, jurassic, and cretaceous formations. At the foot of the Montagne de Caumes, in the upper part of the valley, this engineer has been able to study at the bottom of a vertical chasm of 65m. (213 feet 3 inches) in depth, known under the name of the Trou de Ragas, the passage of a subterranean current, which, coming from the north-east, turns obliquely towards the south, follows the general course of

* The proceedings of some of the ladies have not been without objectors even amongst themselves. One accomplished and eminent person, the greater part of whose life has been spent in contributing to the intellectual and moral culture of her own sex, and whose name would command attention if we added it, thus writes to us:—"The 'social' condition of women just now seems to me in such danger from the frequently blind theories of restless women and foolish men, that I wish from my heart I was sufficiently wise to set them right. The law of God and the laws of Nature have marked out our position and our duties; and it has seemed to me a marvellous thing how the Testament law has been ignored in those meetings, which might as well have been held in *Heathendom* for any seeking for the frequently blind theories of restless women and foolish men, that I wish from my heart I was sufficiently wise to set them right. The law of God and the laws of Nature have marked out our position and our duties; and it has seemed to me a marvellous thing how the Testament law has been ignored in those meetings, which might as well have been held in *Heathendom* for any seeking for the light of Christianity to lighten the darkness which has sadly enveloped the *over*-population of womankind. I would give all women the blessing of work, and the power of a trade: I would restore to her a certain branch of medical practice, and qualify her for it; but I would rather see a woman die than forget or scorn the position given her by God—as a *help-mate*, not a master."

the Valley of Révest, to appear above ground in the Missiessy quarter and La Petite Rade. The analysis of the waters of the Valley of Révest, closely allied in their nature to the formations traversed from Ragas to La Petite Rade, has been made by Mr. Fontaine, chief chemist to the French navy. This has confirmed in a striking manner the idea, put forward in 1855 by Mr. François, that the Valley of Révest is the site of an under-current of water, coming from the north-east, descending the ravine of the Cierge, passing by Ragas, and discharging itself into open air at Missiessy and the Petite Rade.

Up to the present day this water is lost for Toulon, as that of the Recca is lost to Trieste; but, very soon led upon the southern slope of Mount Faron, at more than 80m. (26 feet 3 inches) above the level of the sea, it will supply Toulon and all the maritime establishments, furnishing an enormous supply for the speedy extinction of fires, and at the same time fertilizing by irrigation the magnificent tracts of cultivated land encircling the town. Since 1860 the tunnel has been at work, which is to cut the subterranean current of Ragas, and conduct it towards Mount Faron, by an open canal in the flank of the left side of the Valley of the Révest.

BUNHILL FIELDS BURIAL-GROUND AND ITS CELEBRATED OCCUPANTS.

AT length, as we have already noted, the crumbling memorial which covered the grave of John Bunyan, the world-famed author of the "Pilgrim's Progress" and the "Holy War" (the latter book, although less generally read, possessing even higher qualities than the former), has been replaced by a somewhat more imposing and durable monument.

It is satisfactory to note that this comparatively slight testimony of respect has been paid to John Bunyan; but it must be acknowledged that much more remains to be done before we shall have repaid our debt of gratitude to this author. It is even more discreditable to us that the grave of Daniel de Foe, a writer who is little less popular than Bunyan, should be left without any mark at all; and that the monument over the grave of Isaac Watts—whose immortal lines are sung by millions of voices, and are stored in the memory of multitudes of both old and young—is a very unworthy one for its purpose. It seems extraordinary that such neglect should continue to exist in these days; when no party or sectarian feeling prevails respecting the works of such extraordinary men; and when the value of their writings is so universally acknowledged. Several other persons of note lie in the Bunhill-fields Burial-ground; and there seems to be even a probability that all these graves will, ere many years have passed, be desecrated and built upon; for Mr. Morley says that in about four years the lease will have expired; and there is but too great a likelihood that the site will then be appropriated to building purposes.

Many have been pained by the shameful manner in which several of the closed but thickly-crowded metropolitan burial-grounds have been treated. Gravestones and monuments have been overturned, and in some instances sold and removed, whither nobody seems to know. The remains of the more recent dead themselves have been shifted, in spite of the danger to the public health, and the remonstrances of those who are interested.

In connexion with these places—Bunhill-fields not excepted—the ground has been paid for at an enormous price,—more than ten times over; and those who have bought vaults there, or in other ways buried their dead, have done so in the belief that they would be allowed there to rest. In connection with the Bunhill-fields Burial-ground, besides private considerations, the spot which contains the graves of the authors of the "Pilgrim's Progress," "Robinson Crusoe," and "Watts's Hymns," has a national interest; and, although the British public are at times not very readily moved in a direction which they evidently should take, we have very strong hopes, in a case like this, if some vigorous and well-directed means be organized, that funds would be forthcoming to prevent the desecration of this ground.

The members of the committee of which the Earl of Shaftesbury is chairman, and who were associated for the purpose of restoring John Bunyan's tombstone, express a desire to be able to provide a more substantial monument in some part of London to the memory of this writer. Such a body, already organized, might be most useful in aiding such purposes. Taking into consideration the whole circumstances connected with this ground, it seems to be most desirable that a plan should be devised, by which some fitting memorial might be prepared which would be creditable to this enlightened age, and appropriate to the merits and worth of three such men as Bunyan, De Foe, and Watts.

The situation of the Bunhill-fields ground is an excellent one; and, with the careful planting of trees, shrubs, and flowers, it might, in the course of a few years, be made a place of beauty and recreation to thousands who dwell around. Near to the City, and in the way of so many young men and others who are there engaged, no spot could be better adapted for the erection of a library and literary institution; or for day and evening schools. We are told that a large space, which would but little, if at all, interfere with graves, might be found here; and, in connexion with a beautiful and imposing memorial building, which could be devoted to the purposes hinted at, there might be reared statuary monuments of the three authors who, after Shakspeare, may be considered the most generally popular of English writers.

For the purpose of ensuring the preservation of these graves, and founding, in connexion with these names, a valuable institution; we require an active and responsible committee, who will be able to bring the matter prominently and effectively before the public; and there can be no doubt that in such a cause as this the periodical press, throughout the length and the breadth of the land, would with pleasure give its valuable assistance. An appeal from the pulpits of preachers of all denominations who take interest in the raising of such a fund would be the means of adding a goodly sum. The contribution of only 1d. each by about 2,000,000 of children—of day, Sunday, and other schools—would amount to more than 8,000*l.*; and, by additional subscriptions at literary and mechanics' institutions, at meetings held in the provinces, and in the colonies, &c., there would be a sum raised which might, in the way suggested, be most creditably employed.

MALTA AND ALEXANDRIA SUBMARINE TELEGRAPH CABLE.

INSTITUTION OF CIVIL ENGINEERS.

AT the close of the session (Mr. Hawkshaw, president, in the chair), the first paper read was on "The Malta and Alexandria Submarine Telegraph Cable," by Mr. H. C. Forde.

It appeared that in May, 1859, her Majesty's Government determined that a telegraph cable should be laid between Falmouth and Gibraltar; and the late Mr. Lionel Gisborne and the author were appointed joint engineers. Subsequently, and after some progress had been made with the construction of the core and the outer covering, it was proposed to use the cable to join Rangoon and Singapore. This idea was, however, abandoned; and, in January, 1861, it was decided that it should be laid between Malta and Alexandria, an operation which was carried out in the summer of that year; the communication having been successfully completed on the 28th October, 1861.

The recommendations of the late Mr. R. Stephenson and Sir Charles Bright, as to the form and size of the cable to be used between Falmouth and Gibraltar, were then referred to; and it was stated that iron-covered cables, of three sizes, were designed for the varying depths up to 600 fathoms, and for the greater depths, across the Bay of Biscay, a cable covered with twelve steel wires, each enveloped in a hempen strand, laid in a spiral form. The latter was abandoned when the destination of the cable was changed; but the other forms of outer covering were retained, as considerable progress had been made with their manufacture. If it had been known at first that the cable would be laid in comparatively shallow water, a different design would have been adopted. The outer wires were much larger than those of the Atlantic, the Red Sea, and the other Mediterranean cables containing a single conductor; and the conductor was nearly four times the size of the Atlantic cable, and twice that of the Red Sea cable.

The contract for the manufacture of the core was intrusted to the Gutta Percha Company: the contracts for the outer covering, and for laying and maintaining the cable for thirty days after completion, were let to Messrs. Glass, Elliot, & Co. The conditions of the contracts were then given in detail, the main features being that the core and the cable were to be kept continually under water during the manufacture and the laying, and that the electrical tests were to extend from the commencement of the manufacture until thirty days after submersion of the whole line. The different processes involved were next described, and it was stated, that under a pressure of from 600 lb. to 800 lb. the electrical condition of the core improved about 10 per cent. The relative resistance per knot, both as to conduction and insulation, of the Atlantic, the Red Sea, and the Malta-Alexandria cables, was represented by the numbers 1, 4, and 37. It was requisite that great care should be observed in making the joints of the core, of which there were 4,200 in the Malta-Alexandria line, as the slightest imperfection in any one would be attended with danger.

A difficulty having arisen in keeping the cable permanently under water, one portion became exposed to the air, and was allowed to dry. When tested, a loss of insulation with increased resistance in the conductor was observed. An investigation by Dr. W. A. Miller, F.R.S., showed that this deterioration was due to heating, from the effects of oxidation. It was consequently resolved, that the original idea of fitting the two ships with water-tight tanks should be carried out. The way in which this was accomplished, and the manner of coiling the cable on board, were then alluded to. The eye of each coil was fitted with an open framework of timber, by which arrangement a fault was cut out of the centre of a large coil, without its being necessary to uncoil the whole cable, as would have been the case with a solid eye.

Previous to commencing the operation of laying, the route was most carefully surveyed by ships of the royal navy, when it was ascertained that the Admiralty charts were in parts incorrect in latitude, and were deceptive as to the soundings, the general depth and the conformation of the sea bottom being very different from what they were represented to be on the official charts.

Each ship was fitted in the following manner:—A large V sheave, furnished with a small friction band, was suspended above the centre of the hold, and over this the cable was led. The paying-out apparatus, placed on one side of the stern, consisted of three V sheaves, in one vertical plane, and parallel to the centre line of the vessel, each sheave being provided with a friction strap. The cable was passed over these sheaves under three weighted jockey pulleys to the brake drum, round which it took three or four turns; then over a fixed sheave, and under a movable weighted pulley, into the sea over a fixed stern-wheel at the level of the last sheave. The dynamometer employed was similar to that used on the occasion of the successful laying of the Atlantic cable.

The first portion of this line was laid between Malta and Tripoli, the greatest depth being 420 fathoms. The cable was paid out at an average rate of 4·94 knots per hour. The maximum strain to which the heavy shore-end was subjected was 20 cwt., but with the main cable this did not exceed 12 cwt. The estimated slack paid out in the deep water was not quite 5 per cent. No difficulties of any kind occurred, until attempts were made to splice the main cable to the Tripoli shore-end, which had been laid by another ship. Nine unsuccessful attempts were made, owing to bubbles forming under the fresh gutta percha; but, by cutting off a length of 25 fathoms of the shore-end, a perfect junction was effected. The remaining cable on board this ship was laid in the direction of Benghazi, the maximum depth attained being 150 fathoms, the average speed of paying out 5·3 knots per hour, and the greatest strain 9 cwt. The cable next laid was part of the third section, commencing at Alexandria, and extending nearly 300 miles to the westward, towards Benghazi. The roughness and irregularity of the bottom rendered this operation very critical; but by carefully selecting and laying out the route to be pursued, after accurate soundings had been made, and by only paying out in daylight, it was successfully completed. Six days were occupied in laying 128·8 knots of heavy cable and 153·32 knots of main cable, or a total length of 282·12 knots. Thirty-two buoys were laid down to mark the route, and upwards of sixty different courses were run. The maximum depth of water was 102 fathoms: the minimum, for a short length, was 13 fathoms, and the average 33 fathoms. Subsequently, the second part of the third section between Alexandria and Benghazi, and the second part of the second section between Benghazi and Tripoli, were laid, and the communication was established. No accurate estimate could be made of the actual slack paid out, but as a general rule in depths under 100 fathoms, from 2 to 2½ per cent. was the utmost that could be got out of the ship when the cable was running quite free. The angle at which the cable was paid out ranged from 40° to 45°. The maximum speed was 7·15 knots, the mini-

mum 4·5 knots, and the mean 5·25 knots per hour.

Respecting the tests during and after the laying, it was observed that as the cable was paid out its electrical condition invariably improved; the highest resistance being found in the deepest and coldest water, and the lowest in the shallowest and warmest water. Experiments as to the rate of working showed that the speed attained agreed very nearly with that which had been anticipated; namely, five words per minute through a length of 1,100 knots, except through the short sections, where the limit of the speed depended simply upon the skill of the clerk.

The second paper read was "On the Electrical Tests employed during the Construction of the Malta and Alexandria Telegraph, and on Insulating and Protecting Submarine Cables," by Mr. C. W. Siemens.

Having been employed by her Majesty's Government as the electrician to superintend the manufacture and shipment of the Malta and Alexandria Telegraph Cable, the author was in a position to speak as to its actual state of insulation at different stages of its progress, and as to its general superiority compared with former lines. The methods of testing differed essentially from those previously resorted to. This was the first line that had been tested systematically throughout; and the importance of a uniform and well-devised system of electrical tests being carried on during the manufacture, shipment, laying, and subsequent working of submarine cables, had been fully proved.

The covered strand of conducting wire, in lengths of one nautical mile, was placed for twenty-four hours in tanks filled with water maintained at 75° Fahrenheit. It was afterwards removed into a pressure tank, containing water at the same temperature; and, when uniformly heated, it was tested for conductivity and insulation, and the result, expressed in units of resistance, noted. A pressure of 600 lb. per square inch was then applied, and the electrical tests were repeated. Before any coil was approved, it was required that the copper resistance should not exceed 3·5 (Siemens) units, or possess 80 per cent. of the conductivity of chemically pure copper; that the gutta percha resistance per knot at 75° should amount, at least, to 90,000,000 units, corresponding to about 80 per cent. of the highest insulation that could be obtained with the best gutta percha of commerce; and further, that the insulation should improve when the pressure was applied, which was invariably the case when the covering was sound. The coils were then transferred to Messrs. Glass, Elliot, & Co.'s works at Greenwich, where they were submerged in tanks until required for the sheathing machine. The sheathed cable was coiled into large tanks, and was always intended to be covered with water; but, owing to a defect in the construction of the tanks, this regulation could only be partially carried into effect. It was also intended, in the first instance, that the ships should be provided with water-tight tanks, to receive the cable during the outward voyage; but, owing to the passive resistance with which every deviation from previous routine was usually met, this plan was not carried out, until the heating of the cable on board the steamship *Queen Victoria* had proved, at great cost, that tanks were essentially necessary. There were other important advantages obtained through the adoption of the water-tanks, by which the causes of failure in paying out were avoided, and the operation was rendered comparatively safe and easy.

Respecting the construction of a cable of a more permanent character than any hitherto made, to which the author had given much consideration for many years, it was observed that, with regard to the insulating covering, nature seemed to have provided only two suitable substances, india rubber and gutta percha, combining permanent pliability at all ordinary temperatures, with high insulating property. India rubber had a higher insulating power, a lower specific induction, and was capable of resisting higher temperatures than gutta percha; but the latter could be put upon the wire in a plastic state by a die process, and gave greater security against faults than the lapped india rubber covering. It was also less liable to receive accidental injuries, to become sticky or semi-fluid when exposed to the atmosphere, and resisted the action of water more perfectly.

The absorption of water by gutta percha, india rubber, and compounds of india rubber, such as vulcanised india rubber, Wray's mixture, and a compound with mica, under various pressures and temperatures, and from water containing different degrees of salt in solution, had been fully investigated. These experiments served to show that an increase of pressure up to 50 lb. per square inch did not increase the rate of absorption, which was found to be more rapid from pure water than from sea water, and from sea water than from brine. Raw and unvulcanised india rubber absorbed water in greater quantities than the other materials; while, next to gutta percha, vulcanised india rubber showed, both in fresh and salt water, the greatest insensibility to absorpcion.

The results of experiments on the insulating and inductive capacities of wires coated with india rubber in combination with gutta percha, compared with those of special gutta percha and pure india rubber at different temperatures, were then given. The lengths experimented upon varied from 600 to 2,500 yards. The specific resistance of special gutta percha decreased from 9·11 at 50° Fahrenheit to 1·50 at 80° Fahrenheit, or to about one-sixth of its original value; while the combination of india rubber and gutta percha had, under the same circumstances, only gone down to about one-third of its insulation at 50° Fahrenheit. The inductive capacity of the combined india rubber and gutta percha wire, and of pure india rubber covered wire, was as 0·7 to 1. Notwithstanding the comparatively high insulating property of india rubber, its low inductive capacity, and its power to resist heat, its gradual dissolution in sea water was a circumstance which alone rendered it inadmissible for submarine wires, unless it was securely inclosed in another waterproof medium, and gutta percha appeared, in every respect, well suited for such outer covering. It was desirable that the india rubber should be brought upon the wire without the application of heat, or solvents, both of which often entailed a gradual decomposition of that material, particularly when exposed to atmospheric influence in contact with copper. Dr. W. A. Miller had stated that the liquefaction was the result of a process of oxidation, from which it might be inferred that the effect could not take place where oxygen was excluded. It, moreover, was important to produce a perfectly cylindrical covering; and taking advantage of a peculiar property of india rubber cohering perfectly where two fresh cut surfaces were brought together under considerable pressure, the author had constructed a covering machine which fulfilled the several purposes. Such combined india rubber and gutta percha covered wires had been tried under various circumstances, exposed to the atmosphere, to water or the moisture of the ground, for nearly two years, without betraying any signs of gradual deterioration of the india rubber, or the appearance of faults. A circumstance greatly in favour of the bi-covered wire was, that the gutta percha shrank upon the india rubber covered wire; and, when any mechanical injury to the covering occurred, the yielding india rubber was forced into the gap by the elastic pressure exercised by the gutta percha, and prevented the appearance of a fault.

The outer covering of cables, as hitherto constructed, was certainly the least perfect part. An iron sheathing was very necessary to protect the insulated core in shallow waters; but for cables in more than 30 or 40 fathoms of water, the iron sheathing was an element rather of weakness than of strength. It rendered the cable ponderous, its shipment expensive, the paying-out risky, and repairs impossible, owing to the difficulty of raising a heavy cable from a great depth under any circumstances, and the absolute impossibility of doing so after corrosion of the iron wire had made some progress.

When the Falmouth and Gibraltar cable was first contemplated, the author, in conjunction with Mr. Forde, proposed to cover each iron wire with gutta percha, with a view to prevent oxidation; but the system was not acted upon, except by way of experiment. Mere protection of the wire was, however, not sufficient, in the author's opinion. It was capable of mathematical demonstration, that in paying out a wire-sheathed cable, with a considerable strain upon the break-wheel, it would untwist while in suspension in the water to a considerable extent, causing elongation of the core to the amount of say 1 per cent., or even more. On reaching the bottom, the strain and consequent twist would be released. Copper wire could not be elongated more than 2 per cent. without receiving a permanent set; and it was also a well-ascertained fact that when telegraph core had been stretched at any time beyond the limits of elasticity of the copper, the latter, being henceforth too long for the more elastic covering, would tend to assume a serpentine form, and to push its way through the insulating material by slow degrees, particularly in places where short bends or kinks occurred.

Based upon these views, the author designed a sheathing of the following description:—The insulated conductor, or core, was passed in the sheathing works through a series of three machines in close succession. In passing through the hollow spindle of the first machine, a close spiral covering of hemp, previously saturated in Stockholm tar, was applied in such a way that each string was and remained under a given strain. The second machine was similar in construction to the first, but supplied a second covering of hemp, wound in the opposite direction to the first. The rope thus formed passed next through a stationary clip with longitudinal grooves, to prevent it from turning round in the operation immediately following, which consisted in the application, under the influence of great pressure, of from three to six strips of copper, or other metal, which might best resist the action of sea-water. These strips were accurately guided into the revolving covering tool, so as to overlap each other equally for nearly half their breadth, the pressure applied being sufficient to crush or socket the one metal down where it was covered by the other. This cable had no tendency to untwist: its extension with half the breaking strain upon it did not exceed one-half per cent.; and being very strong, and of only double the weight of water, it would support about 8 miles of its own weight in the sea.

Considering that good ship's sheathing lasted about ten years when the ship was at rest, and that the cable had two layers of metal with hardened tar between, it appeared not unreasonable to suppose that this sheathing would last at the tranquil bottom of the ocean from twenty to thirty years at least. Several short lengths of this cable were now being tried, under various circumstances; and the results, so far, were promising of success upon a larger scale.

"UP THE NILE."*

THOUGH an invalid in search of health in the dry and mild region of Egypt, Mr. Fairholt has evidently not spared his energies, either physical or intellectual, while wending his way up "the sacred river"; and he describes, in clear and pleasant narrative, what he saw and sketched as he went along; much of what remains of ancient Egyptian architecture and art in general having obviously excited his utmost interest. Eschewing elaborate details, however, of architectural remains; which have been elsewhere abundantly described; his aim was chiefly to catch the aspect of the river, its towns and their inhabitants; and to describe what strikes the eye and mind of a stranger most forcibly on a first visit to "the land of Mizraim" and mystery. The absorbing interest of the antique remains, as Mr. Fairholt remarks, has hitherto precluded much notice of ordinary life on the Nile; and he devotes his chief attention, therefore, to subjects heretofore somewhat neglected; illustrating many points of interest by engravings done by himself, and Mr. H. Rimbault, from sketches of his own preparation.

In a volume so full of interest it may not be easy to select any passages in particular as of more than average attraction; but in turning over the pages we shall just note a few points as we do so.

Of the old "needle" or obelisk, erroneously called Cleopatra's, of which so much has been said of late, Mr. Fairholt agrees with those who are of opinion that it would not be worth the trouble and expense of removal to England for any purpose.

At the picturesque old city of Cairo, or Masr of the Mizraim, Mr. Fairholt found reason to regret the progress of modern "improvements."

> "Mohamed Ali forced European 'reforms' and 'improvements' upon his subjects. He gave a death-blow to picturesque character of the streets when he widened them and erected ghastly stucco-faced houses on each side of the way; as ugly as they are in an English country town, and still more fragile. The main avenue, known as 'the Mooskee,' where the European shopkeepers reside, abounds in examples."

Mr. Fairholt notes the impudent and almost sacrilegious assurance and conceit of Dr. Lepsius in defiling the Great Pyramid by cutting out a tablet in a most prominent position, right above the great entrance, with eleven lines of spurious hieroglyphics, all about "King William of Prussia;" and into which he has dragged "Victoria, Queen of England;" but it does not seem to have been noted either by Mr. Fairholt, or by Lord Nugent, who also deprecates this pedantic modern vandalism in strong language, that the impudence and absurdity

* "Up the Nile, and Home Again: a Hand-book for Travellers, and a Travel-book for the Library." By F. W. Fairholt, F.S.A., with 100 illustrations. London: Chapman & Hall. 1862.

of it are all the more glaring, inasmuch as the Great Pyramid is utterly and everywhere else devoid of all hieroglyphic or inscription; even the central "oratory," and the sarcophagus itself there, in which, doubtless, the kings of the ancient nation lay "in glory" as in their "own house," having been all left with their polished surfaces pure and untouched by any sculpture whatever. Moreover, this is not the only feat of a similar description, in which the same learned gentleman has left "his mark" upon the memorials of ancient Egypt, in an offensive manner, which the comparatively modest doings of the ancient Greeks in the same line put to utter shame. To thus vitiate the most venerable monuments in the world is deserving of the utmost condemnation. The puerile inscription on the Great Pyramid ought to be mercilessly expunged; and we hope soon to find some new traveller up the Nile record the doing of so commendable a deed.

Fresh interest is given to the famous rock-cut tombs of Beni-Hassan by Mr. Fairholt's vivid description of their curious representations of the daily life of Egypt in the Bible era. Strange does this heretofore unaccountable propensity of the ancient Egyptians to mix up life with death appear to modern ideas; and far less singular was it that they should place a mummified body in the seat of honour at their feasts than that within a dark and rock-cut tomb they should so elaborately and unwearyingly ensculpture all its walls with careful and beautiful representations of the secular and ordinary occupations of every-day life. But were not the travellers of old,—who tell us, as Norden does, that "the mountains of this quarter are famous on account of the *grottoes* of *holy hermits* that have *formerly* made their abodes in them,"—more correct than the moderns, as regards their *original* purpose; however true it may be that these and such-like "grottoes" for those "dead to this world" have been used as tombs for the actual relics—of mortality, if we cannot strictly say, as to mummies,—of corruption? Mr. Fairholt himself tells us of a "*holy* hermit" who inhabits a "grotto" to this day, a little farther up the Nile,—"a very old man with a long white beard," who has there vegetated for more than a quarter of a century; and of whom (though probably a mere impostor, and, it may be, not even a fanatic) the natives, with superstitious reverence, "believe that he is entranced every night; and that his soul then travels to Mecca, and intercedes for them; performing at the same time the true religious ceremonies." In a country where customs are comparatively unalterable, perhaps we have here, in modern superstition, something like a glimpse of ancient Egypt itself.

Of the most northern of the "tombs" of Beni-Hassan, Mr. Fairholt, in a description which does not look much like that of a mere tomb, says,—

"A portico, supported by two columns, is in front of the entrance—a square door surrounded by lines of hieroglyphics. On entering, a grand hall or vaulted chamber opens to the view. It is supported by four massive columns, similar to those seen at the entrance. Each column has sixteen slightly-fluted sides, and supports an abacus, the whole bearing so striking a resemblance to the Doric order, that it is evident the Greeks obtained this their earliest architectural style from such more ancient monuments. The triple vault of the ceiling is filled with coloured ornament, in compartments. In front of the entrance is a small shrine; which, like the entrance-gate, is surrounded by lines of hieroglyphic inscription. Broken figures, a triad of divinities, still occupy the places where they were worshipped of old. Plate VII. is a general view of this interesting spot: to the right the broken pillar presents one of those melancholy instances of wanton, useless mischief, that have just been alluded to. The columns have been coloured to imitate red granite; also about 3 feet of the lower part of the walls: above this, to the ceiling, they are laid out in long lines of figures, engaged in husbandry, fowling, fishing, and domestic occupations; as well as wrestling, dancing, ball-play, and other amusements. On the side wall, to the right of the entrance, sits the owner of the tomb, to receive from his overseer an account of his flocks and herds, or his household goods. This being the principal figure, in accordance with the rule of ancient art, is of gigantic proportion: a great man was a *large* man in the sight of the old world; hence our popular tales of gigantic ancestors in all nations. We may consider these rooms as the chapels of cemeteries: the resting-places for the dead were excavated in pits beneath, and were entered by square shafts, in the sides of which holes were cut to facilitate descent. In some of these tombs we shall see these shafts opening to the mummy-pit below."

Speaking of the extensive series of tombs in the hills near the once-renowned city of Abydus; where, as Plutarch states, the ancient Egyptians were particularly anxious to be interred, because there Osiris himself was believed to have reposed in death; Mr. Fairholt remarks that the inscriptions found in these tombs tell us that the mummies within them were brought there from long distances; thus corroborating Plutarch's assertion; and also, we may add, reminding us of the kindred fact that in Persia, to this day, the dead, in many cases, are carried from long distances,—even from India,—to the western bank of the Euphrates,—the site of the ancient Chaldean cities of the dead; and where there still are towns which may be regarded as remnants of some of these very cities; for they are still held sacred; and there the Persians are prone to bury their dead.

Of the decorative symbolism of the ancient Egyptians which so astonishingly prevails in the Theban and other tombs on the Nileian banks, Mr. Fairholt remarks:—

"In our contempt for their symbolism we forget that we also adopt *absurdities*. Our Mediæval monograms and mysticisms are not impervious to criticism; nor can good taste justify the modern and monstrous concoction of cherubs' heads with wings at the point of decapitation; where no muscles could move them; yet eternally dying; and singing without lungs!"

But if symbols be significant of certain ideas, as doubtless they once at least were; it is questionable whether their apparent absurdity in other respects, or even their violation of "good taste," should have constituted a sufficient reason why they ought not to have been used. The reasons for the original use of symbols, we conceive, were so strong and overpowering, that "good taste" and the sense of the grotesque or the apparently absurd, as hindrances to their use, were treated by the originators and users of the symbols as secondary and contemptible considerations.

We must now close Mr. Fairholt's very suggestive and entertaining volume with a warm recommendation to the public to purchase and peruse it; but many of *our* readers, to whom Mr. Fairholt must already be favourably known, will need very little urging from us, we are sure, to induce them to do so.

STRENGTH OF IRON IN CONSTRUCTION.

In a recent paper on the Properties of Iron, more especially with regard to ship-building, read by Mr. Fairbairn at the Royal Institution, some remarks occurred which may be usefully printed. The lecturer said as to

The Properties of Iron.—If we are desirous to attain perfection in mechanical, architectural, or ship-building construction, it is essential that the engineer or architect should make himself thoroughly acquainted with the properties of the materials which he employs. It is unimportant whether the construction be a house, a ship, or a bridge. We must possess correct ideas of the strength, proportion, and combination of the parts before we can arrive at satisfactory results; and to effect these objects the naval architect should be conversant with the following facts relating to the resisting powers of malleable and rolled iron to a tensile strain.

The resistance in tons per square inch of—

Yorkshire iron is	24·59 tons.
Derbyshire do.	23·25 ,,
Shropshire do.	22·50 ,,
Staffordshire do.	20·00 ,,

Strength of Riveted Joints.—The architect, having fortified himself with the above facts, will be better able to carry out a judicious distribution of the frames, ribs, and plates of an iron ship, so as to meet the various strains to which it may be subjected; and ultimately to arrive at a distribution where the whole in combination presents uniformity of resistance to repeated strains, and the various changes it has to encounter in actual service.

There is, however, another circumstance of deep importance to the naval architect; which should on no account be lost sight of; and that is the comparative values of the riveted joints of plates to the plates themselves. These, according to experiment, give the following results:—

Taking the cohesive strength of the plate at	100
The strength of the double-riveted joint was found to be	70
And the single-riveted joint	50

These proportions apply with great force to vessels requiring close riveting, such as ships and boilers that must be water-tight; and in calculation it is necessary to make allowances in that ratio.

The next question for consideration is the properties of iron best calculated to resist the penetration of shot at high velocities; and in this I am fortunate in having before me the experiments of the committee on iron plates, which may be enumerated as under:—

Specific gravity.	Tensile strength in tons per square inch.	Compression per unit of length in tons.	Statical resistance to punching in tons; 1-in. plate.
7·7621	24·802	14·203	40·1894

Remarks.—The specimens subjected to compression gradually squeezed down to one-half their original height; increasing at the same time in diameter till they attained 90 tons on the square inch.

In these experiments four descriptions of iron were selected, marked A, B, C, D: the two first and last were taken from rolled and hammered iron plates; excepting C, which was homogeneous, and gave higher results to tension and dead pressure than the others.

In density and tenacity they stood as follows:—

Mark on Plates.	Density.	Tenacity in tons.	Remarks.
A Plates	7·8083	24 644	
B Plates	7·7035	23 354	
C Plates, homogeneous	7·9·42	27·032	
D Plates	7·6322	24·171	

Here, it will be observed, that the strengths are in the ratio of the densities, excepting only the B plates, which deviate from that law.

On the resistance to compression it will be seen that in none of the experiments was the specimen actually crushed; but they evidently gave way at a pressure of 13 tons to 14 tons per square inch, and were considerably cracked and reduced in height by increased pressure.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The concluding meeting of the present session (1861-62), was held on Monday evening last, at the House in Conduit-street.

The chair was occupied by the president, Mr. Tite, M.P.

The following gentlemen were also present, and were introduced to the president: Baron De Bode, engineer (Paris); Mr. Trélat, architect and professor (Paris); Mr. Stelelm, architect, Basle; Mr. Woodward, librarian to her Majesty at Windsor; Mr. Carpenter, British Museum, &c.

The hon. secretary read a list of donations to the library, including a number of valuable works from Mr. E. G. Burnell. He expressed a hope that other gentlemen would follow his example, so that vacancies might be filled up.

The President, in moving a vote of thanks to the donors, referred to the exertions which the Dean and Chapter of Westminster were making for the restoration of their Chapter-house. There were not, he said, any funds in connexion with the abbey applicable to the purpose; and therefore it was very desirable that the architectural profession should join in a representation to the Government for assistance. The Chapter-house had been used as a record-office ever since the reign of Charles I.; and it was a beautiful and remarkable building, which had been desecrated in a very extraordinary manner. Its restoration ought, therefore, to be a subject of interest to all architects and archæologists. With regard to the paper to be read by Mr. Ashpitel that evening (on some of the architectural drawings in the library at Windsor Castle), the late Prince Consort had discovered the drawings in an accidental manner, and had expressed a desire that they might be submitted to the Institute for proper examination and discussion. He had no doubt that although the subject might at first sight appear a dry one, Mr. Ashpitel would, with his usual happy treatment, make it pleasant and instructive.

Mr. Ashpitel then read a paper, "On some of the Architectural Drawings in the Royal library at Windsor, exhibited, by command of his late Royal Highness the Prince Consort, by Mr. B. B. Woodward."

At the conclusion,

The President observed, that his prediction in reference to the nature of Mr. Ashpitel's paper had not been falsified by the result, and that they had much reason to be grateful to him for the learning and application which he had brought to bear on the subject. As he saw Mr. Woodward in the room, he might perhaps wish to offer some observations on the interesting volumes referred to in the paper; and he was sure that anything he had to say would be listened to with the attention it deserved.

Mr. Woodward said he had little to add to the remarks made by Mr. Ashpitel, as he had had but few opportunities, owing to the demands upon his time, to inquire into this particular department. He felt bound, however, to say that he was deeply grateful for the kind manner in which the president had referred to him, and that it afforded him great pleasure to be in any way instrumental in bringing the collection of ancient architectural drawings in the Royal library under the notice of the Institute. His

oyal Highness had rescued the volumes from heir obscurity; and he was sure that if living he would have been gratified in placing them at he disposal of the Institute. Mr. Carpenter, of he British Museum, who was in the room, was ar more competent to give an opinion as to he authorship of the drawings than he was.

Mr. Carpenter said that, in his opinion, the major portion of the drawings were by Baldassare Peruzzi, collected by Serlio. He founded this opinion chiefly upon the circumstance that the drawings were known to have been purchased by the Consul Smith in Venice.

Professor Donaldson observed that the great difficulty in reference to these drawings was to distinguish the writing appended to them, as there was a great similarity in the characters. In cases where the drawings were signed, there could be no difficulty in identifying them with the aid of a glass.

The President inquired of Mr. Ashpitel whether he had seen the whole of the thirty-eight volumes, or merely the four exhibited in the room that evening?

Mr. Ashpitel replied that he had seen them all.

Mr. Woodward said that he would have been anxious to exhibit the whole number, but that, upon further consideration, he thought it would be more economic to husband the treasure, and submit the volumes for examination by degrees, so that they might receive the attention to which they were entitled. He might add, in connexion with the subject, that he had commenced photographing the most interesting specimens of the collection, and that he would be happy to place copies at the disposal of the Institute.

The President said he hoped that, in the course of their next session, Mr. Woodward would be enabled to submit for their inspection some of the other volumes; and that he himself would also favour the Institute with his presence.

A vote of thanks was then passed to her most gracious Majesty, for the permission granted to inspect the volumes; to Mr. Woodward, for his courtesy in attending; and to Mr. Ashpitel, for the paper which he had prepared and read.

On the motion of Mr. Ashpitel, seconded by Mr. Wyatt Papworth, a vote of thanks was also passed to Mr. Panizzi and the officers of the British Museum and library, for their uniform courtesy and attention to the Institute.

Mr. E. W. Pugin, of 14, Buckingham-street, Adelphi, was on ballot elected a member of the Association.

The annual *conversazione* of the Institute will be held on Wednesday next, the 25th instant.

LINCOLN ARCHITECTURAL SOCIETY.

MEETING AT MARKET RASEN.

The annual meeting of the Lincoln Diocesan Architectural Society was held this year at Market Rasen, and was a very successful one. In the outset the Rev. E. Trollope delivered an address in the aisle of St. Thomas's Church, now under restoration, on the chief points of interest connected with the town, including the church itself. The members then went on an excursion to Middle Rasen, West Rasen, Kirkby, Kingerby, Thornton, South Kelsey, Holton, Nettleton, Caistor, and Walesby; returning to Market Rasen in the evening; when a meeting was held in the Market-hall; Sir Charles H. J. Anderson, Bart., in the chair. An address to the society from the inhabitants of Market Rasen, and the reply of the members, were read. The Rev. E. Trollope then read a paper on Anne Askewe.

On the following day another excursion took place; and the following localities were visited:—Linwood, Buslingthorpe, Snarford, Holton, West Torrington, Hainton, Sixhills, and Tealby & Bayon's Manor. The excursionists then returned to Market Rasen, in the midst of heavy rain, but accompanied by the local volunteers, who complimented them with instrumental music and rifle-shot accompaniments.

A public dinner took place in the evening at the White Hart Hotel, Mr. H. R. Boucherett in the chair; and, after the toasts were exhausted, the company adjourned to a public meeting in the Market-hall, under the presidency of Sir C. Anderson. There was a crowded audience, mostly of the working people, anxious to hear Mr. Trollope, who lectured on the contents of the museum of rubbings, photographs, &c., collected for the occasion.

It was announced that the society's autumnal meeting would take place at Leicester, on Wednesday, the 6th day of August next. On that occasion, the Archæological Association of Great Britain, the Leicestershire Architectural and Archæological Society, the Northamptonshire Architectural Society, and the Lincoln Diocesan Architectural Society, will hold a meeting in common. On the morning of the 6th of August an excursion will be made to Bosworth Field.

PURIFICATION OF THE UPPER THAMES.

A few years since, in some "Memorials of Father Thames," we gave a statement of the population of a large number of towns and districts which drained into and polluted the most famous river in England; and, while advocating the interception of the entire drainage of the metropolis, and conveying it to a safe distance from the multitude of inhabitants; showed that the great cost of the London Main Drainage would fail yielding an adequate return in successful effects, if the drainage of considerable towns, such as Oxford, Windsor, and many others, were allowed to continue to defile and poison the upper regions of the Thames. We look anxiously forward to the Census report for 1861, which is in progress, for the purpose of noting the large increase of this defilement. The neglected state of the river, by an expression of complaint which was undeniable, forced the legislature into those measures of metropolitan main drainage which will ere long be completed, at the cost of several millions sterling, raised entirely by the taxation of the London district; but this immense outlay, as we have hinted, will be comparatively useless if we allow it to continue receiving the constantly increasing drainage of an advancing population, stretching over a space of more than 6,000 square miles.

We have hope, even in connexion with the metropolis, that, notwithstanding all the difficulties connected with such a huge quantity of matter, the intercepted sewage may be made a means of adding to the fertility of the land; but as regards the smaller towns in rural districts, the experiments which have been made in various directions show that instead of wasting the sewage and polluting the rivers, it may be employed, with considerable advantage, upon the land. A committee of inquiry has been demanded, for the purpose of inquiring carefully into this very important subject; and we hope it will be granted, and be earnestly and well managed; for it is labour in vain to attempt to purify the central part of the Thames while an immense stream of pollution flows continually from above.

IRISH NEWS.

The committee having charge of the project for the reconstruction of Carlisle Bridge, at Dublin, have collected seventy-six designs and 202 illustrative drawings of bridges, according to *Saunders's News Letter*; and they intend selecting the best for adoption in the rebuilding of the bridge: the designs and drawings were placed in the Exhibition-room, College-street, and have been inspected by the lord-lieutenant: they have been furnished by competitors from London, Dublin, and other principal towns in the three kingdoms; and the expense of carrying any one of them out ranges from a maximum of 57,000*l.* to 22,000*l.* A prize of 200*l.* is to be given for the successful design, 100*l.* for the second, and 50*l.* for the third.

An Independent church has been opened at Coleraine. The local *Chronicle* gives an engraved view of the edifice, with a description of it, from which we quote the following particulars:—The general plan is that of a parallelogram, 62 feet by 38, with a porch on the south-west end, and a tower some 80 feet high on the north-west angle, through which the chapel is entered by an easy ascending stone stair, 8 ft. 6 in. wide, making the whole width of front 58 feet. On the east end is a vestry, 21 feet by 13 feet: underneath is situate a hot-water heating apparatus, which warms both chapel and school or lecture room. The latter is of the same dimensions as the chapel, and entered from New-row, at the south-west corner. The exterior is constructed of black rock set in black mortar, with dressings of Glasgow sandstone. The height from ground to eave is 24 feet, and from ground to apex of gable 34 feet. In the centre of the west-end is a window 25 feet by 10, of Flamboyant style, filled in head and centre with flowing tracery. On either side of it, and sides of chapel generally, are proportionately smaller windows of a similar pattern. The interior of the chapel is arranged so as to admit of future galleries. The roof is open timbered. The total cost will be somewhat above 2,000*l.* The work has been superintended by Mr. R. Gailey, of the firm of Maxwell & Gailey, Londonderry, builders, who were also the contractors. Mr. R. Smyth was the architect.

Mr. Neville's designs for the new bridge at Drogheda have been placed in the hands of the secretary of the grand jury, for inspection at the board-room of the Harbour Commissioners.

The Roman Catholic Church at Tramore is progressing. At present there is being finished an altar-piece, of Caen stone as its general work, with Galway marble and Penzance serpentine. The altar is surmounted by a lantern canopy, with carved arches, and having on its sides angels bearing spears and blowing trumpets; and in front St. Michael the Archangel. Immediately underneath is a figure of the Lamb bearing a banner; at its feet two angels in the act of adoration. Underneath is the tabernacle, composed of Derbyshire marble, supported on pilasters of Penzance stone. On each side, at the foot of the tabernacle, and immediately surmounting the altar itself, the reredos is formed into Gothic arches, with embellished cornices, ornamented with trefoil leaf and shields, the shafts of the arms being executed in Galway green marble. The table of the altar is composed of a solid slab of white marble. On the Epistle side of the altar stands a canopy with a perforated pinnacle, divided into two compartments. The upper, supported by four pillars of Galway marble, contains a figure of St. Bridget in monastic habit. On the Gospel side, in a similar pavilion, is a figure of St. Patrick. On the Epistle side of the altar, immediately over the reredos, between St. Bridget's canopy and the tabernacle, is worked out in Caen stone a representation of the "Carrying of the Cross;" and in a similar position on the Gospel side is a delineation of the Crucifixion. The design of the work was by Mr. J. J. M'Carthy, the architect of the church; its execution being entrusted to Mr. Lane, of Birmingham.

SOMETHING TO BE DONE.

While bad drainage, over-crowding, the ill construction, want of ventilation, and other defects of the dwellings in our large towns certainly cause a multitude of deaths which might be prevented, we must not overlook other causes of evil. We should attend with care to the proper drainage, ventilation, space, &c. of the schools, not only of the poorer classes, but also of those provided for the children of persons in better circumstances. There are great improvements to be made in these arrangements.

The payment of the dustmen chiefly in fees collected from various persons acts very injuriously in many of the poorer districts of the metropolis.

Many of the extensive mews in which hundreds of horses are kept, and in which many human beings live, are situate in the rear of large and well-conditioned houses. The manure, particularly in the summer months, when persons in agricultural pursuits are engaged in the fields, is allowed to remain. The atmosphere is thus polluted, and no doubt deaths and sickness are to be attributed to this cause. Bad, however, as this is, it is nothing in comparison with the evils and unpleasantness which result from the pernicious custom of keeping cows pent up in crowded parts of the metropolis. This practice is as bad for the unfortunate animals as it is for those who dwell near, and for the consumers of what is called milk obtained from such sources.

There are also the great gas-works which exist amid the people of the metropolitan district; and, although great improvements have been made during the last few years by removals and scientific arrangements, there are still several manufactories which cause annoyance and ill-health to neighbours; nor must the impurities of certain articles of food be overlooked.

Although we have good reason for congratulation that the exertions which have been used have nearly prevented the system of intramural interments in the metropolis, there are still pernicious effects from keeping the dead for a considerable time in dwellings, particularly of the poorer classes; and from the practice which also exists of keeping dead bodies brought from the hospitals and workhouses, and those of people drowned. There are other things which call loudly for remedy, particularly the better supply of water daily to the poor. Taking encouragement from the past, and hoping that the success which has attended recent efforts will lead to greater exertions, we trust that by the time another great international exhibition happen we may be able to make, not only as regards the metropolis, but throughout the country, satisfactory note of sanitary progress.

BIRMINGHAM EXCHANGE BUILDINGS COMPETITION.

In this case the competition was limited to ten Birmingham and six London architects; and in the selection the directors acted under the advice of Mr. Jarvis, of London, architect. On Saturday last the adjudication was made. The consulting architect presented a report stating the grounds of his decision, which was favourable to the design marked "*Ars Artificem Probat*" (Mr. Holmes). To Mr. Cranston, architect, was awarded the premium of 100*l.*; and to Mr. H. R. Y. Thomason the premium of 50*l.*

The style of the selected design is the Pointed. The design includes a turret 100 feet high; coloured brick facings; and the free use of Bath and coloured stone. The exchange is 70 feet long, 40 feet wide, and 21 feet 6 inches high. Over it is an assembly-room of the same dimensions, 28 feet high. 20,000*l.* are talked of as the cost, and 1,800*l.* additional should the directors wish the face of the building to be entirely of stone. The design, we are informed, will be carried out in its integrity. The site is in New-street.

ON THE FORMATION OF A NATIONAL MUSEUM OF ARCHITECTURE, VIEWED IN CONNEXION WITH ITS BEARINGS UPON MEDIÆVAL ART.*

HAVING been somewhat actively concerned in the first establishment of the Architectural Museum; and the collection there made having been, either temporarily or permanently, deposited in the hands of a Government department, who are supposed to have in contemplation the formation of a National Museum of Architecture; I have thought it not out of place to offer some suggestions as to what such a National Museum ought to be; but, in doing so, to direct my attention more particularly to that part of it in which I feel most interest,—that which would illustrate the architecture and the arts of the Middle Ages.

A museum may be defined as a depository in which objects illustrative of science and art are collected and exhibited for purposes of instruction and study.

Its great uses are to facilitate the studies of those who cultivate the arts and sciences which they illustrate, and to excite interest in them in the minds of others. They have also a secondary use, as being places where objects of interest, which would otherwise be likely to be lost or dissipated, or to perish from decay or other causes, may be cared for and permanently preserved.

When the museum is *public* or national, it performs, or *should* perform, these duties on a grand scale, and for the use and benefit of the *public*.

Limiting our consideration to a museum of *art*, I would say that its directors ought to devote their energies, primarily, to collecting such objects as are worthy of the study to the practical student of art, and as would tend to form the public taste upon a true and healthful standard. Secondarily, to the illustration of the history of art in its various schools and periods; and, *thirdly*, to the conservation of such movable specimens as would otherwise be in danger of being lost or destroyed, provided such works are of actual merit, or of value as bearing upon art-history.

Concentrating, again, our attention upon *architecture* and its subsidiary arts, let us endeavour to apply to it the general rules above stated.

An architectural museum should illustrate the *history* of architecture; and it is hard to conceive of anything more interesting than a collection which would really and honestly perform so noble a duty.

The history of architecture is the history of the world; it is the history of the changing power and dominion of races and nations; it is the history of human thought, and of the growth, the fluctuations, the decay, and the revival of human civilization; and worthily to illustrate such a subject would be indeed a noble undertaking! This should not, however, be the primary aim. The great and vital object to be aimed at is the actual promotion of art *amongst ourselves*; and it is to this object that the best energies of those engaged in such a work should be directed. In the first place, it is pretty obvious that, while illustrating in their degree other classes of architecture, such a museum should be mainly devoted to the two great classes of architecture which are actually practised amongst ourselves, and which are familiarly, though somewhat unmeaningly, known as "*Classic*" and "*Gothic*."

* Read at the Architectural Museum by Mr. G. G. Scott, R.A., on Tuesday, the 17th instant. At the end of the lecture, Mr. A. J. Beresford Hope, the president, announced the close of the lecture-session.

It may be asked why these two classes of art should be selected from among the multitude which have prevailed in different ages and countries. Is it merely from the accident of their chancing to be practised by us at the present day? By no means. The reasons are founded both upon history and upon intrinsic merit. Classic architecture founds its historical claims, firstly, upon the great fact that it originated among those nations of antiquity whose glorious privilege it was to unite in one main channel the several streams of the civilization of the ancient world, to collect and concentrate all that was worthy of perpetuation in its previous course, and to bring it, with its arts, sciences, and literature, to the highest perfection which they attained; and, secondarily, upon the fact, not much less important, that what remained of the civilization of these favoured nations of antiquity supplied the germ from which a second civilization sprang—that of which we now enjoy the blessings.

Gothic architecture, on the other hand, founds its historical claims on the fact that it is the indigenous architecture of that family of nations to whose custody that new civilization was committed, and that it belongs to ourselves as a leading member of that family; and that, though it has for some centuries been superseded by the revived architecture of the ancient world, it is now, in its own turn, revived by those nations among whom it originated, and is familiarly used by them side by side, and on equal terms with that which had for a time supplanted it.

I will not dwell upon the former of these branches of art, but will now concentrate my attention upon that in which I personally feel the greatest interest; and the illustration of which, through the medium of a national museum, is the subject of my present paper.

I will first state what often seems to be lost sight of: that it was not the historical claims of this style of architecture—strong though they are—which brought about its revival. Its opponents often seem to suppose the converse of this, and to think that, by directing their arguments against those claims, they shall undermine a movement which, gloriously supported though it is by historical claims and associations, originated wholly in an appreciation of the merits and beauties of the architecture, and its suitableness to our wants. On this subject, however, I will not dwell further than to say, that if you do not *feel* the beauties and perceive intrinsic merits of this wonderful style of architecture, I fear it would be hopeless for me to attempt to convince you of them. If you wish to know my views on this point in detail, I will take the liberty of referring you to the first and the last of my lectures at the Royal Academy. They are reported in the *Builder* and elsewhere, in March and April, 1857, and in February, 1860.

Now, let us digress for a short time to consider what are the means by which a practical art-like architecture is to be most successfully learned, and its advancement best promoted.

Architecture, it should never be forgotten, differs from the sister arts of sculpture and painting in this great and most important quality: that its productions are not the actual handiwork of the leading artist himself, but that it unites under its banner not only its two noble sister arts themselves, but also an almost innumerable train of subsidiary arts, each of which contributes its quota towards the perfection of the architect's work, and vies with others in rendering it noble and magnificent. When we speak, therefore, of architectural instruction we mean, not only that of the architect himself, but of all the artists who work under his banner.

It is a general fault in England, at the present day, that those who follow a practical art take too low a view of its *artistic* as distinguished from its *practical* element. Thus, with our manufactures, the workmanship is often excellent, the taste very rarely so. Our artisans are often *giants* in mechanical skill, but *pigmies* in art.

The same has been the case with the arts subsidiary to architecture; and, though a great revival has taken place, those who have advanced the most best know how great is still the need of reformation.

This reformation must, however, begin at the fountain-head. The same precedence of the mechanical over the artistic which has obtained amongst our manufacturing and our architectural workmen has existed also amongst architects themselves. We do not wish to be less practical—far from it—but to be more artistic; and, if we aim at raising the architecture of our day *as an art*, we must begin by giving a more distinctly artistic tone to the education of our architects. The absence of any recognized and defined facility for obtaining the class of instruction required to supply this very general need is one of the greatest hindrances to the advancement of our art. The Institute of British Architects have been considering for a long time past the organizing of a severe examination of young architects; but they have never, to my knowledge, taken any step to aid their education. The Junior Institution (the Architectural Association), have in some degree taken the matter up, and have established classes for mutual improvement: a step worthy of all praise, and the furtherance of which merits the serious attention of every lover of architecture.

If there are present any students of architecture, let me earnestly and seriously press this subject upon their attention. In an architect's office you can learn the more mechanical and business-like parts of your art, and you there—and there *alone*—learn the application of such artistic skill as you may possess to actual and practical work; but that *artistic skill itself* must be acquired elsewhere, and by your own individual exertions. I wish it, however, to be distinctly understood that the artistic skill I am speaking of relates to *applied*, not *pictorial* art: that which will make your buildings noble works of art, as distinguished from that which only enables you to make pleasant pictures of them. This last-named class of art is not to be despised. It will further your interests: if you are also an artist, in the higher and more practical sense, it will do good by commending your *good* designs to public favour; while, if you fail in skill of this higher class, it will do great harm by obtaining favour for your *bad* designs.

When real architectural art was highest, this pictorial power was not much cultivated. It is not infant *architectural* skill, but only the means of promoting the adoption or the approval of your designs, whether good or bad. As bad designers often possess it, or can obtain its aid, do not by any means neglect it, or you will give them an advantage over you; but always remember that, like eloquence, it is a mighty engine of good or evil, according as that which it commends to popular favour is noble or vile.

The artistic power, however, which I am urging you to cultivate is the power of making noble designs, and of clothing them, when circumstances permit, with noble decoration, whether in the form of architectural carving, sculpture, painting, or other decorative art. The first part, the parent of actual architectural design, cannot be acquired without the most careful, determined, and continued study of existing works, accompanied by a constant, though not a self-confident criticism of their merits and their faults. It is ridiculous to suppose that such an art as architecture is to be learned without the most careful study of its existing productions, or that originality is likely to be developed upon a basis of ignorance; and it is equally unlikely that excellence will be attained solely through the medium of knowledge without the most jealous and careful training of the eye to the most delicate and scrupulous perception of the right and the wrong in form and proportion. The want of this is the most crying sin in modern architecture, especially, I fear, in this country. Continually is the more cultivated eye offended by discords which in music would set the very teeth on edge. I know not how to advise you on this point. This delicacy of perception is, in some degree, intuitive; but that it is not wholly so, is proved by the fact that the works of some periods are nearly all harmonious, while at other periods this harmony seems only occasionally to have been attained. The only rule I can suggest is the *jealous cultivation of the eye*. As the greatest of moralists has said, "Keep thy *heart* with all diligence, for out of it are the issues of life," so may one say to the architect, "Keep thine *eye* with all diligence, for out of it are the issues of *art*." Never allow your eye to get accustomed to, or to *condone*, errors of proportion, even in works which in other respects you venerate for the noble art which clothes them; and much less allow of any deliberate error in your own designs. To avoid these blemishes, sketch your designs over and over again, no matter how slightly and roughly, rejecting rigorously everything against which the eye rebels, and never permitting a proportion which it has once condemned to remain even for a minute before you; for ocular perception is most delicate, and its instincts may be blunted by dwelling even for a few seconds upon what its first impression saw to be wrong. Never clothe a form with detail or with pleasant drawing till its proportions have been thoroughly sifted and rigorously corrected; and if you fear that you have, by

dwelling too long or two indulgently upon what you have sketched, prejudiced your eye in its favour, put it away, and attend to something else, or take the opinion of some unprejudiced person in whose correctness of eye you have confidence; for first impressions of another will often correct your own.

As to obtaining a knowledge of architecture, I cannot too often or too strongly urge careful sketching from first-rate examples. The student of Classic architecture is under a disadvantage, as its original and best examples are in other lands; but with those who pursue the other great branch of architectural art, the case is very different; for though, in most parts of Europe, he will find constant and ever-varying objects of study, he can never go far from home without finding among the monuments of our own country productions equally deserving and equally instructive. To the student, then, of Gothic architecture I would concentrate my advice on this point in one word—"SKETCH." And, if any one advises the neglect of this, I assure you that he stands *ipso facto* self-condemned as a false teacher. I want you, however, to add to this a great deal more. I want you to obtain distinct and precise instruction in art in all its bearings upon architecture. I want to urge upon you to study figure-drawing, animal-drawing, the drawing of foliage, whether natural or architectural, the combination of figures and animals with foliage, the designing of coloured decoration in all its branches, and of every other decorative art which bears upon architecture. I want to urge upon you the necessity for the systematic learning of all these kinds of drawing, and the obtaining of a perfect mastery of them; and not only this, but that you should learn, in some degree at least, the actual practice of these arts. Human life is not long enough to do the latter thoroughly; but now, in the days of your youth, you can do it to a certain extent, even at the sacrifice of a few frivolous amusements. You have embarked on a noble art. Make its cultivation take the precedence of all inferior pursuits. To effect this, I am disposed to think that combination is necessary. A society of students might be formed, and aided by others, for obtaining the best instructors in all these branches of art, which each student singly would find impossible. I earnestly commend this to your united consideration. And, above all, do it *at once*, or your own individual share in the coming reformation will be lost.

I will only add one piece of advice to young architects:—*Do not make* OPINION *a substitute for art.*

There is at all times an ever-varying set of opinions afloat as to matters of art; and those who ride on the wave of the last-received opinion of their party, be it good or bad, are apt to be viewed by themselves and their companions as oracular, quite irrespective of their own attainments or skill. What I would, then, say is this: Hold what opinions you like, so long as you make yourselves artists, and you will come right in the end; but hold what opinions you like, if you neglect to make yourselves artists, you will never be good for much.

I will add another suggestion. Never let your appreciation of the demerits of the present age in matters of art lead you into a sneering, supercilious, and contemptuous way of speaking and thinking of what you see; but rather let it impel you onwards all the more vehemently in making *yourselves* exceptions to the censure you pass upon *others*. We continually hear persons speaking in a discontented and hopeless tone of contempt of what others are doing, without exhibiting any very strong signs of exertion to acquire real powers of art *themselves*. I urge you to reverse this habit, and learn to think kindly and favourably of the efforts of *others*, while you keep up a *rigorous censorship* over *yourselves*. And make all you see in others, whether of success or of failure, act as only so many incentives to the determined pressing forward of *your own* artistic training.

What I have urged respecting the artistic education of the architect himself, applies almost precisely to that of the architectural art-workman. He has an easier task, because his efforts are concentrated upon a single art; while, on the other hand, he suffers severely from his very limited facilities of obtaining instruction, and of seeing objects worthy of his study. The aim, however, is precisely the same; and I would say to the art-workman, as to the architectural student, Make yourself really an artist; jealously cultivate a delicate accuracy of eye; diligently study the finest productions of your art in its best days; and add to all this (or, I would rather say, unite with it, and thoroughly mix up with and *knead* into its very substance), a constant, devoted, and loving study of the productions of nature, whether animal or vegetable.

I think, with art-workmen as with architectural students the greatest hope of obtaining a real artistic training would be in combination for self-improvement—a clubbing together to obtain instructions in drawing, &c. I would especially urge the cultivation of figure and animal drawing. In this our carvers, &c., are the most deficient, and to this they should direct their best attention; not so much with the direct object of becoming figure sculptors, as to facilitate the free introduction of animal life in combination with architectural carving, a power which our best carvers very rarely possess, but which is absolutely necessary to the perfecting of their art.

Now, with the actual student, as distinguished from those who have made a certain degree of proficiency, there can be no doubt that the best training is frequent and careful copying (whether by drawing, modelling, or carving) from models of undoubted merit. Every art is acquired in the first instance by submitting implicitly to routine: no one would believe that the mechanical drilling which a soldier has to go through, would do much to teach him *actual fighting*, yet it is found practically that success absolutely depends upon it, and so well did the ancient Romans know this, that—as Gibbon, I think, remarks—they called their army by a name not derived from their ultimate duty of *fighting*, but from their preparatory duty of *exercising*.

No one, again, would believe that the dumb show called "position drill" would make a man a good rifle-shot; and a thousand parallel cases could be instanced to show how skill in any pursuit is to be attained by submitting, for a time, to what may be accounted as *drudgery*. Art is not an exception to this rule, and I would recommend its younger students (and perhaps others, if they have not already passed through the ordeal) to put themselves through a diligent course of the most careful drawing or modelling from the best examples they can find, before they venture upon a freer line of study. By this they will attain a correct appreciation of truthfulness of line, and of the importance of precision of detail, and they will find that it will greatly facilitate their future and less mechanical studies, and in the end promote, rather than fetter, originality.

It may appear that I have been departing widely from the subject of my paper; the very contrary is the case. It is useless to treat of what a museum of architecture should be without first considering its necessity and the uses it is to serve.

I think what I have said respecting the art-education of architects and architectural workmen will make this pretty clear.

Architectural students may, it is true, visit the actual buildings which contain the objects of their study: they *must* do so indeed, and they *do it*; but, even with them, it is impossible to do this so often and so systematically as to form the staple of their studies. They need, in addition to this, facilities for constant practice and self-tuition; they want a place where they may continually refer to the finest examples, where they may pursue their studies and practise their hand and eye continually, and on all occasions when a spare hour is at their command.

And if this is so necessary for the student of architecture,—nay, for the architect himself,—how greatly more pressing is its necessity to the art-workman! Instead of wondering and saying ill-natured things about the deficiencies of our carvers, &c., it seems to me half miraculous that they should be able to learn their arts at all. Those who have aimed at Classic art would have never have seen its original productions at all, were it not for the specimens collected in museums; and even those who follow the Gothic revival, though its original productions are around us, have usually neither time nor money for visiting any but those buildings immediately within their reach. This is still more emphatically the case with the young apprentice. His time is not at his own disposal, and the only opportunities he has for self-improvement are his evenings.

The formation of the Architectural Museum in 1852 was the first and has been the only step taken to aid him. Till we, the architects who every day of our lives witnessed and experienced this pressing need, came forward ourselves to supply it, nothing was done to aid the neglected architectural workman, and to this moment we, in the main, stand alone as his helpers.

I do not wish to boast of what we have effected, but it would be unjust to our great cause to abstain from asserting that the good done by the formation of the Architectural Museum is beyond all calculation. From the time it was first opened in Canon Row, the improvement in architectural carving became most marked and indisputable; and the same influence for good was visible among such architectural students as availed themselves of it. Its influence has been somewhat reduced by the remoteness of its present habitation, but it still continues; and I think I see means of meeting this unavoidable disadvantage. It was our limited funds which led us to take up our quarters at South Kensington, and the same course has rendered us powerless to resist a series of circumstances which have brought us more directly than at first under the régime of its autocratic government.

If that governing body should take up our work for us, and carry it out with a true appreciation of its importance and its necessity, we need not feel ourselves annoyed at the transference of our powers and our labours to a body so richly endowed with worldly goods.

I warn them, however, with all seriousness, of the responsibility they incur. They have done their utmost to render practically powerless a body of men who, at a great sacrifice of time and money, have come forward to a work of the most urgent necessity, which the Government had always refused to do. They have the pecuniary means for carrying on this great work. If they neglect to do it, if they do it inefficiently, and if they refuse the aid and advice of those who have launched the Museum into existence, they are, in their own individual and personal reputation, answerable to the public and to posterity for the consequences. If, on the other hand, they will take it up in all honesty and heartiness, I can only say that we shall rejoice to aid their efforts in every possible way; and that they will, personally as well as collectively, earn the lasting gratitude of all who care for our noble art.

I cannot, however, omit here respectfully, though, in the most emphatic and in the strongest manner, to protest against any attempt to dismember our collection, otherwise than with the full permission and consent of those who have formed it. A collection like this must of necessity require periodical revision. That revision, however, *must* be effected by, or in full consent with, those who made the collection. I have personally taken an active part in doing this, and I will never consent to have it dismembered by parties who have taken no part in its formation.

I further enter my firm though respectful protest against any attempt to prevent us from increasing our collection as heretofore. We, as architects, have continual opportunities of adding specimens to our collection, and I protest against any attempt to deprive us of the power of doing so. I have no objection in all these matters to mutual and friendly co-operation, but I will never consent to abdicate our powers of adding to our store, so long as we exist as a committee, and continue possessors of the collection. It is our best and our dearest privilege, and it will be treason to our cause to relinquish it.

In illustrating architecture through the medium of a museum, I should lay down, as a primary and fundamental rule, that it must mainly and on strict principle be effected by representations, rather than by collecting the actual works of art themselves. There are exceptions to this; but in case of each of such exceptions the onus lies upon the collector of proving the propriety and lawfulness of his departure from the rule, and of clearing himself of the charge of encouraging spoliation. Architectural objects belong to their own sites; and, even where severed from their actual position in the building of which they formed parts, they ought, as a rule, to be preserved either on its site or in its vicinity, that their local associations may not be lost.

I call special attention to this, because I fear that a feeling exists in the minds who direct our national collections that plaster casts are worthless and contemptible objects, and are almost unworthy of admission; whereas, on the contrary, it is the actual objects of art that demand apology; and I will boldly say that any actual architectural objects in our own museum I would gladly see returned to more local habitations, if such can be shown to exist; and, at the risk of being pronounced a barbarian by the curators of the British Museum, I would almost go so far as to say that I should feel a satisfaction in learning that the Elgin Marbles were to be restored to their places in the Parthenon, and that our great Museum should be content with casts of these glorious master-pieces of art, though perhaps made in some material more durable than plaster.

I will roughly classify the objects to be illustrated as follows:—

1. Actual architecture, by which I specially mean stonework, whether in the form of mouldings or other mechanically-formed details, or of architectural carving.

2. Sculpture forming a part of, or intended expressly as an accompaniment of, architecture.

3. Woodwork forming a part of, or connected with, architecture.

4. Metal-work belonging to architecture.

5. Architectural decorations, whether inlaying, mosaic work, painting, or other cognate form of art.

6. Painted glass.

7. Pavements, whether of tile, mosaic work, or otherwise.

8. Monumental slabs, whether as brasses, incised sculpture, or inlaid stones.

9. Miscellaneous objects.

East of these classes includes all its chronological and national varieties.

On the first class (actual architecture) I will first remark that it is not, as a general rule, necessary to go very far in illustrating its more mechanical forms, such as mouldings, &c., though a collection of them belonging to buildings of different dates would be highly useful. Generally, however, the architect may study these sufficiently from the actual buildings, and their sections can more accurately be represented on paper than in plaster. It is, however, of the utmost importance to obtain casts of them wherever they come in contact with sculpture or foliage, and where they are enriched in any degree by carving. Thus, where a cast is made of a capital, the abacus, a portion of the shaft, and perhaps a short length of the arch mouldings which it sustains, should in many cases be cast with it, so as to illustrate it *as a whole*, and that the art-workman or student may see the carved work in connexion with its natural accompaniments. Again, where certain orders, or parts of arch mouldings, are enriched with carving or sculpture, those not so enriched should be represented with them, that the grouping of the whole should be represented, and the mutual influence of the plainer and more ornate parts one upon another may be illustrated.

I have thought it necessary to premise with what is properly only a matter of detail, by way of limiting the vastness of the field which is open to us; for, so endless is the variety of our style and the richness of its resources, that a collection which would worthily illustrate it will occupy a somewhat inconveniently large space. In forming, however, an Architectural Museum on a scale worthy of being called *national*, great space is an absolute necessity; and it is of little use to make the attempt without boldly facing this primary fact.

It is known only to those who have for years been in the habit of visiting and diligently studying and sketching from ancient buildings what an inexhaustible fund of exquisite and ever-varying art we have to draw from; though it is not by any means easy to obtain the specimens most needed. It is, in fact, in many cases only through the intervention of the architects engaged in the repairs, and only when repairs are going on and scaffoldings erected, that the most valuable works in our great buildings can be reached; while in buildings of a humble class it is architects alone who know where such works of art are to be met with.

One great distinction between a national museum, for which considerable funds could be procured, and a private one like our own, is that much larger objects can be obtained. It is often most desirable to possess casts of entire doorways, or their sculptured tympana, tombs, reredoses, &c., so as to show the work as a whole, instead of in a number of small and disjointed portions. A private society like our own can very rarely do this; but in a museum supported by public funds, it would readily become practicable; indeed, the largest of such objects would not, perhaps, cost more than is sometimes expended on a single specimen of majolica.

It is not, however, our own architecture alone which must be illustrated. The contemporary art of other countries has equal demands upon us; nay, in one sense greater, inasmuch as if our art-workmen find it difficult to visit our own architectural monuments, they will find it impossible to visit those of foreign countries.

The Gothic architecture of France is the elder sister of our own; and, if not more beautiful, possesses beauties and varied expressions of its own, which must ever secure to it the earnest love and devoted admiration of every student of Mediæval art. Our own architecture can hardly be correctly understood without a knowledge of that of France. Their origin, development, and history are so linked and entwined together, that without the knowledge of both they cannot be fairly studied or appreciated. France, too, took the first place in art—as in arms—amongst the nations of Mediæval Europe. Her art-productions may, therefore, be viewed as the normal types of Gothic architecture; and as such they claim a full illustration in a museum of the architecture of those periods; and there is a boldness and nobility of treatment about them which especially commends them to the most diligent study of the architectural student and workman.

French architecture must therefore, in such a museum, be illustrated as fully and as voluminously as our own; nor can I conceive of any field of illustration so glorious or so eminently useful as this.

The Mediæval architecture of Germany and of Italy has claims only second to those of France. Indeed, time would fail to enumerate in the roughest manner the glorious works which should find place in such a museum.

They must illustrate each element of architectural ornamentation and detail throughout its chronological course, and through the several countries where our architecture prevailed; giving, however, a due preponderance to the best periods, the best examples, and the countries where the art possessed the finest characteristics.

The period claiming the great amount of illustration, at least in Northern Europe, may be roughly said to embrace two centuries, viz.: the great thirteenth, and a moiety of the preceding and succeeding centuries; that is to say, from A.D. 1150 to 1350. Earlier and later periods must be fairly represented; but this interval contains the real vigour—the pith and marrow of Mediæval art.

Mediæval architecture demands, however, for its elucidation, that certain styles which preceded it, and from which it drew its first inspiration, should also be duly illustrated. I refer to the Byzantine and the Italian Romanesque: each including the branches by which it was led through other countries, and especially through Germany and France, with the changes it underwent by the way.

I have taken some pains, in my lectures delivered at the Royal Academy in 1858, to show how direct was the influence of Byzantine art upon the architecture of France in the twelfth century. The foliage and the figure-carving, so well known in the earliest French Pointed works of the latter half of that century, are, for the most part, directly derived from Byzantine carving and drawing, with a certain degree of influence from Italy, which was herself drawing freely upon Byzantine art. It is clear, therefore, that to illustrate Mediæval architecture properly, we must possess ample specimens of these its parent styles.

The classification of specimens may be divided into those which are elementary and those which are in a less and in a greater degree combined into complete and applied architectural features. Thus we must illustrate in its more abstract form the history and progress of architectural foliated ornamentation; showing how it had taken, during the darker ages, that strange form which is sometimes designated as Runic (though whence derived it is difficult to say); how this was long used side by side with foliage derived from debased Classic remains; how a distinctly Byzantine tone was imported into the art, during the twelfth century, both in France and Germany; how this, in process of time, developed itself into a new and original style of foliage, such as we find in France, England, and Germany, in the earlier years of the thirteenth century—the noblest and the most perfect conventional and architectonic ornamentation which has, perhaps, ever been generated; how, by working this gradually up towards nature, the artists at length fell back implicitly upon Nature herself: first using natural foliage of the most exquisite kind imaginable side by side with the architectonic, and at length to its exclusion; and how at length a new and inferior conventialism supplanted it—a conventialism of *departure from*, as the other had been one of *approach to*, nature.

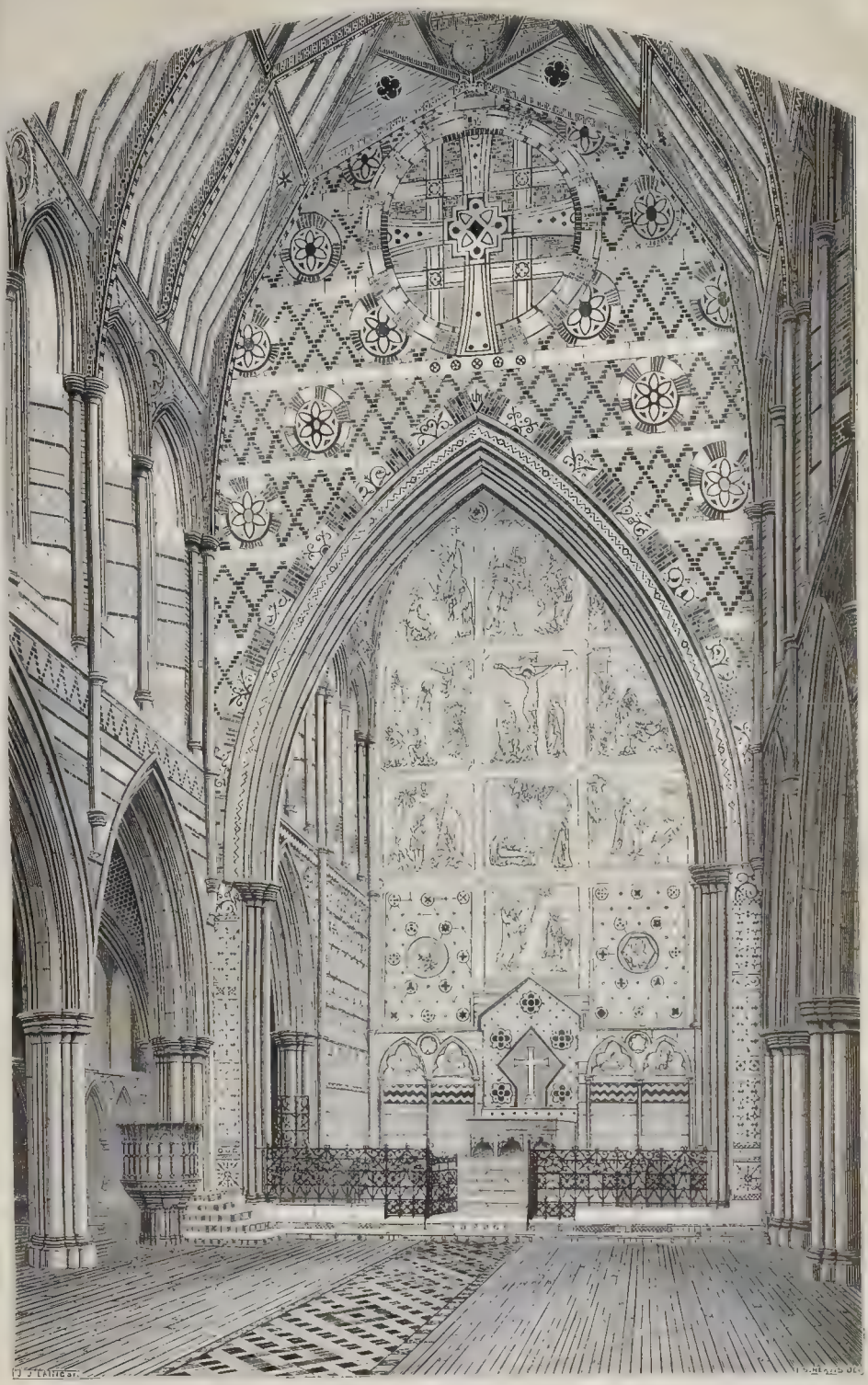
In the same manner we must illustrate the accompanying progress in animal and figure sculpture: how the barbarism of the northern nations during the Dark Ages became gradually enlightened by an infusion of Byzantine art; how this art gradually softened down its rigid severity, and gave way to the noble sculpture of the thirteenth century,—imperfect in academic correctness, but full of noble sentiment and of high aspirations after artistic perfection, unhappily not at that time fully realized, but which it is *our place*—would that it may be *our lot*—to carry forward to its legitimate results.

Then we must illustrate the history and use of these as applied to architectural features: we must show the historical progress of foliated capitals,—in itself a wide subject of historical and artistic inquiry, and of study for our own actual use and instruction: we must, in the same way, show the history of foliated enrichments in mouldings, arches, cornices, and all architectural details to which it is applied; the development and changes in *surface*-ornaments of all kinds, and of the union with all these of representations of animal and human life. Then we must, in larger specimens, show these elementary details combined into greater architectural compositions, and united more directly with figure-sculpture. To do this we want, as I have already stated, complete casts of entire doorways, or, where impracticably large, of portions of their arches, of perhaps their entire jambs, and their sculptured tympana; casts of celebrated tombs, of pulpits, of fonts, &c. Then, again, we want the history of niches and tabernacle work—itself a most fertile subject, and demanding casts often on a magnificent scale: we want the history of crockets, finials, foliated crestings, and a thousand other architectural elements which it is impossible in such a paper as this to enumerate. The work before us is a truly glorious one, and it only requires to be taken up in a spirit worthy of its claims to make the result in the highest degree noble and beneficial. I must, however, add one word,—that casts alone will not do all which is wanted: they must be accompanied by photographs, and often by *measured drawings*.

ST. ALBAN'S, BALDWIN'S GARDENS, GRAY'S INN.

THE new church in Baldwin's-gardens, which has been some years in progress, from the designs of Mr. Butterfield, is now finished, with the exception of the wall paintings to decorate the east end, at this time in progress, and the stained glass intended to take the place of the plain glass at present filling the window openings. The church comprises a clerestoried nave and chancel, both with aisles, and a saddle-back tower at the west end. The building is of brick, with stone, alabaster, and terra cotta dressings. Externally, the bricks are of the ordinary stock brick character, with very slight bandings of red; and internally, red and yellow bricks are disposed in patterns mixed with stone; the latter being ornamented with incised scroll work filled in with a black mastic. The use of constructive polychrome, we may note, and the absence of carving, are characteristics of the edifice. The western end of the church takes the shape of a vestibule, or narthex; a lofty archway marking the commencement of the nave. Entrance to the belfry story is obtained by a staircase opening into the church at the centre of the west wall. Over this door is the inscription, "I believe in one baptism for the remission of sins," under a sculptured bas-relief of the Last Supper; and close to the door, in the narthex, will stand the font. The roof is of wood, ornamented with colour: the floor of the nave is boarded, with the exception of three tiled pathways, one up the centre and one in each aisle. The pulpit, of oak, simple in design, on a pedestal of stone and terra cotta, stands at the east end of the nave, on the north side.

The chancel walls are lined with alabaster, banded with tile and ornamented in parts with *niello* work. On the flat east end, above the second story, a series of panels are formed; and in these Mr. Le Strange is now painting the pictures shown in our view. A low wrought-iron screen separates the nave from the chancel; and lofty, somewhat heavy, iron parcloses divide the chancel from its aisles. The columns of the clerestory here, as in the nave and in the arcading against the north and south walls of the aisles, are of red terra cotta, in short lengths, and scarcely consort with the rich material elsewhere used in the chancel. The walls of the aisles above the arcading are plastered. The size of the encircled cross above the chancel-arch, and the maiming of the patterns here, will excite comment; but these are matters concerning which Mr. Butterfield may plead his own taste as against that of objectors. The church is of noble proportions, and is altogether a notable work. Mr. Myers was the builder, and appears to have done his work well. Our engraving, we may say, is a particularly careful representation.



ST. ALBAN'S, BALDWIN'S GARDENS, GRAY'S INN LANE.— Mr. Butterfield, Architect.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday evening (the 6th inst.), at the House in Conduit-street; Mr. Blashill, V.P., in the chair.

Mr. Robert H. Burdon, of Berners-street, Oxford-street, was, on ballot, elected a member of the Institute.

The following gentlemen were also nominated for officers in the year 1862-3: — President, Mr. Blashill; vice-president, Mr. R. Norman Shaw; treasurer, Mr. C. J. Adams; honorary secretaries, Mr. C. J. Adams and Mr. H. A. Reeves; librarian, Mr. C. H. F. Lewes.

The committee for the ensuing year was also nominated.

Mr. Paraire inquired whether the honorary secretary had received any communication from the Institute respecting the document recently agreed to by the Royal Institute of British Architects on the subject of professional charges?

The Chairman said the document in question had not yet been communicated to the Association.

On the motion of Mr. Paraire, a resolution was passed requesting the honorary secretary to communicate with the Institute on the subject.

Mr. R. H. Harris suggested that it would be desirable if, during the vacation, a scheme might be originated for visiting the ancient churches and other buildings in the metropolis and its vicinity.

The Chairman highly approved of the idea; and it was agreed that in the interval before the next meeting some arrangement might be made for the members (with the sanction of Mr. Gilbert Scott) to visit Westminster and those portions of the building to which the public are not usually admitted.

Mr. Lewes observed upon the desirability of closing architects' offices at two o'clock on Saturday afternoon, in order to enable the younger members of the profession to make the visits suggested.

Mr. T. Roger Smith said he had been informed by one of the honorary secretaries of the Royal Institute of British Architects that it was the intention of that body to present the Association with a number of duplicate works from their library.

A long conversation ensued respecting a proposal made by the Northern Architectural Association for an architectural alliance; and ultimately Mr. T. R. Smith moved that the Association send a deputation, as requested, to attend the meeting of delegates to be held in London on the 1st of July, to deliberate on the proposal for an alliance; but that the deputation should not be empowered either to grant or refuse the assent of the Association to any proposed alliance; the Association declining to come to any decision until after receiving the report from the deputation.

This motion was seconded by Mr. Paraire, and agreed to; Mr. T. R. Smith, Mr. Blomfield, and Mr. Bunker, being appointed the deputation.

THE ALBERT MEMORIALS.

Birmingham.—The sub-committee have resolved that the main feature of the monument shall be a statue. The question of a site has been fully discussed, and steps taken to carry out the resolutions of the last general meeting. Some half-dozen of the leading sculptors will be invited to compete. The amount subscribed, 1,960*l.*, is considered to be nearly enough for the purpose.

Aberdeen.—The committee appointed by the subscribers have lately had one or two meetings in London; and it is understood they have selected Baron Marochetti as the artist. The monument is to consist of a colossal statue in bronze; and the site is near Union Bridge, on the main thoroughfare of the city. The arrangements of the committee will be submitted to her Majesty.

Banbury.—A stained-glass window is about to be placed in Christ Church as a memorial of the Prince Consort. Upwards of 50*l.* have been subscribed in aid of this object.

Highworth.—A stained-glass window, dedicated to the memory of the Prince, has been erected at the west end of the south aisle of the reopened church of St. Michael's, Highworth. It was designed and executed by Mr. Wailes, of Newcastle, and is put up at the sole cost of the members of the Orphans' Hope Lodge of Odd Fellows, established in this town now nearly twenty years.

Warwick.—A movement is on foot at Warwick to erect a memorial of the Prince. Amongst the generality of the townspeople there appears a strong desire to perpetuate his memory by means of a substantial memorial.

Harrogate.—Mr. Knowles, of York, to whom was intrusted the execution of a memorial window to his late Royal Highness in Low Harrogate Church, has so far completed his work that the window is now ready for erection, and will shortly be put up.

Medal of the Prince.—A medal by Mr. Charles Wiener, medallist and sculptor to his Majesty the King of the Netherlands, has just been struck in memory of his Royal Highness, as the founder of the International Exhibitions of 1851 and 1862. It is about three inches in diameter, and one-eighth of an inch in thickness. The obverse represents the Prince as he appeared three months before his death. The reverse bears the words "Founder of the International Exhibitions of 1851 and 1862," surrounded by a wreath of oak leaves and acorns.

STATUES AND MEMORIALS.

The Scott Statues at Oxford.—The two colossal statues of the brothers Scott,—Lord Chancellor Eldon and Lord Stowell,—have recently been placed in the new library erected, from the design of Mr. Scott, architect, for the purpose of receiving them, in University College, of which society both of these celebrated men were fellows. The figures, it will be remembered, are sitting, and on one pedestal: they are about 7 feet 6 inches high, and the material is the finest Carara marble. The history of these statues, of which the *Oxford Herald* gives an account, is somewhat notable. The original idea was suggested by the second Earl of Eldon to Chantrey, who was to execute them. Chantrey died, however, without carrying out the design; and Allan Cunningham was then intrusted with his master's design. He also died without any progress having been been made towards the realization of the design; and it was next given to Watson. He, too, though a young man, died; leaving the casts complete, but the marble only partially worked; and it was left for Mr. Nelson to complete the "twin statues." Even here, however, all difficulty was *not* at an end. It was intended, and indeed arranged, that the statues should be placed in the ante-chapel of New College. In 1844, nevertheless, the college as a body decided that it was undesirable the statues should occupy the proposed place. Being of marble, the group required to be under cover, and no other fitting place could be found in Oxford. Lord Eldon's executors, therefore, largely assisted the masters and fellows of University College in erecting a new library, specially intended to afford a site for the colossal group; and this building has been completed; the statues having already been placed on their site in 1860. The pedestal on which the statues have been placed is of Sicilian marble, designed by Mr. Scott, and bears the following inscription:—

FRATRES ILLUSTRES
JOHANNES SCOTT COMES DE ELDON
GULIELMUS SCOTT BARO STOWELL
HUJUSCE COLLEGII OLIM SOCII.

The Sturge Memorial at Birmingham.—The statue of Mr. Joseph Sturge, the Quaker, who, it may be remembered, was one of those very sanguine gentlemen who conceived the idea of obviating the Crimean war by going to Russia, and using their influence with the Emperor Nicholas to that end, has now been placed and unveiled. The sculptor was Mr. Thomas, who died before he could give the last touches to his work. The statue has been erected on a prominent site at one of the boundaries where the parishes of Birmingham and Edgbaston meet; the last being the parish in which Mr. Sturge resided. The monument consists of a central figure of Mr. Sturge, his right hand resting on a Bible, and the left extended towards a figure symbolical of Peace. A figure on the other side is typical of Charity. At the base of the statue, in front and back, are large basins for ornamental fountains, and at either side are drinking fountains. The principal figure is in Sicilian marble, the secondary groups are in freestone.

Parish Church Memorials.—The chancel of Boston parish church now contains two memorials,—the one on the north side presented by Mrs. Herbert Ingram, in memory of her deceased husband and son; and consisting of a carved oak canopy, by Webster (formerly of Wyberton), and an inscription on brass by Hardman, of Birmingham; and the other, also a canopy, executed by the same artist, and presented by Miss Baily in memory of her deceased father and mother.

Miscellaneous.—Messrs. Osmond & Son, of Salisbury, sculptors, have just erected in Whippingham churchyard, Isle of Wight, a monument consisting of a cross on three steps and circle, with the following inscription:—"To the memory of George Frederick Jones, born 1820, died 1862, groom to Queen Victoria, and the faithful attendant during thirteen years of the Royal children, by whom this stone is erected."——A memorial has recently been erected in St. Barnabas's Church, Erdington, to the late Miss E. Harrison, of that place, who for many years distinguished herself by continued acts of charity and benevolence. The memorial consists of the figure of an angel, 5 feet 8 inches high, executed in Caen stone, bearing a brass shield, upon which is an inscription. The carver of the figure was Mr. S. P. Wood, of Lichfield; and the brass the work of Mr. T. Brawn, architectural metal-worker, Birmingham.

CHURCH-BUILDING NEWS.

Loddon (Norfolk).—The Town Lands and Church-building Committee have decided on carrying out the restoration of the fine old church here, which is one of the largest in Norfolk. Mr. James S. Benest, of Norwich, architect, is preparing the designs. Ground has also been purchased, adjoining the church, for the erection of a vicarage.

Lowestoft. — The foundation-stone of a new Wesleyan chapel has been laid at Lowestoft. The edifice is in the Italian style; and will cost, with the site, over 3,000*l.*; and it will seat 1,200 persons.

Highworth.—St. Michael's Church, Highworth, has been reopened, after some restorations have been carried out. The works executed are the removal of all the old fittings; the stonework throughout cleaned down and repaired; the walls newly plastered; the windows all repaired and glazed; the two arches which led from the nave to the transepts considerably increased in width; a new roof placed upon the nave, of a high pitch to correspond with that on the chancel; and the roofs of the aisles and transepts repaired and covered with new lead; the groined stone ceiling in the tower cleaned and restored; the ringers placed on the floor above; and the whole area of the building has been furnished with oak benches. In the south-west window a memorial has been placed, in stained glass, executed by Mr. Wailes, of Newcastle-on-Tyne.

Wolverhampton.—A public meeting was to be held on Monday, at the Town-hall, to consider the completion of the restoration of the collegiate church, the building of a new chancel, and the repair of the lich-gates and churchyard fences.

Yarkhill.—The church of Yarkhill, near Stoke Edith, Herefordshire, is about to be restored, and a great portion rebuilt, at a cost of 1,000*l.* Messrs. Ainslie & Blashill, of London, are the architects, and Messrs. Niblett & King, of Gloucester, the contractors.

Dawlish.—A private chapel, which has been built by Mr. P. Hoare, at his own expense, at Luscombe Park, near Dawlish, has been opened by licence from the Bishop of Exeter. The chapel, which is built from designs by Mr. Scott, at a cost of 5,000*l.*, and will seat 100 persons, is in the Transition style. There is a nave, one aisle, and a circular chancel. There are three different kinds of stone employed, viz., Bath, Stoke, and Red Mansfield. The arcade is built with different coloured stone and Devonshire marble,—the latter highly polished. The ceiling, which is groined, springs from pillars of Devonshire marble, polished. The windows are of stained glass, those in the chancel representing various incidents in the life of our Lord, up to the period of His ascension. The other windows are filled with various saints and apostles. To each of the windows are two variegated marble pillars, with carved capitals. The nave and aisle are paved with black and red quarry tiles, laid to design. The seats are of cedar, most of it grown on the estate: they are carved. The exterior is plain. Passages have been constructed by which the family can enter the edifice from the house. The entrance for the tenantry is from the courtyard.

Llanarmon.—The church of Llanarmon was reopened on June 6th, by the Bishop of Bangor; having been restored by the exertions of the Rev. St. George A. Williams, rector of Llanarmon with Llangybi. The eastern end of the nave is used as a chancel, the extent of which is marked out by an old oak screen, which has been restored as far as possible. These two sections of the church are divided by an arcade of four openings. A porch has been added on the south side; and the bell-turret has been rebuilt on the western gable of the nave. Four new windows have been inserted, two in the north wall, one in the south wall, and one in the western gable of the south aisle. The roofs have been made new. The church has been re-seated with open seats, which will accommodate 329 persons, giving an increased accommodation of 121 sittings, without a gallery. The old stonework has been dressed over to remove the whitewash with which it had been encrusted by successive generations of churchwardens. The works have been carried out by Mr. Wm. Thomas, builder, Menai Bridge, from designs and under the superintendence of Messrs. Kennedy & Rogers, architects, Bangor, at a cost of between 550*l.* to 600*l.*

Liverpool.—St. Timothy's Church, which has recently been erected in the densely populated district which has sprung up between Islington and Richmond-row on the south and north, and Soho-street and Shaw-street on the west and east, and

which lies within the district attached to St. Augustine's Church, Shaw-street, has been opened for divine service. The church is very plainly decorated as yet. It is somewhat peculiar in appearance, being nearly square, with a very high pitched roof; and it is lighted through the roof and end walls. At each side of the interior there are open pews of the ordinary kind, but the whole of the centre is occupied with rush-bottomed chairs, fixed on to a frame, the back of each chair serving as a sort of desk or book-rest to the one in rear. The architect is Mr. W. H. Gee; the builder, Mr. J. Burroughs. The edifice stands on the east side of Rokeby-street. It is constructed of red pressed bricks, with Storeton freestone dressings; black bricks being occasionally introduced. The external elevation to the street is a gable 62 feet high, on the north side of which springs a tower and spire 100 feet high. The west gable is pierced by a decorated window, 26½ feet high. The principal architectural feature about the building is the immense open-timbered roof, which is of the span of 64 feet. The building is heated with hot water, circulating in cast-iron tubes round the interior. There is seat-room for about 800 persons. The cost of the church is about 2,300*l.*

SCHOOL-BUILDING NEWS.

Croydon.—The foundation-stone of St. Andrew's new schools, Croydon, has been laid. The site is a plot of land near St. Andrew's Church. The schools are to be erected from a design in the Pointed style, by Mr. H. Dawson, of London, architect. Externally the building will be chiefly of brick, relieved in bands and arches, and ornamented by coloured bricks. The roof will be of plain tiles. Besides a class-room for the industrial training of girls, which will accommodate about thirty, there will be room provided for about sixty boys and 100 girls. The schools are to be warmed by open fireplaces. Ventilation has been provided by means of ventilating turrets to the roofs, and at the sides by open casements in the windows. It is hoped funds will be forthcoming to enable the committee also shortly to erect an infant-school to accommodate about seventy children. Arrangements are made for erecting a laundry and appurtenances for the industrial training of girls, who will here be taught washing, cooking, baking, &c. There will be a residence for a mistress. The contractor is Mr. Nye, of Ealing, Middlesex. The estimated cost of the structure is between 1,300*l.* and 1,400*l.*

Gravesend.—The following tenders were received for the erection of a new building for the Ragged School here:—George, London, 820*l.*; Sawyer, ditto, 738*l.*; Relph, Gravesend, 698*l.*; Blake, ditto, 645*l.*; Wood, ditto, 585*l.*; Pink, Northfleet, 577*l.*; Cobham, Gravesend, 552*l.*; Gould, ditto (accepted), 545*l.* The building will be from a design by Mr. J. B. Cooper.

Bristol.—The new parochial schools for St. Philip and Jacob, which are situate in Mary Bush-lane, near the parish church, have been formally opened, though not quite completed. The school-room measures 70 feet by 20, with a class-room 20 feet by 14: the boys' school is underneath. The schools are arranged to accommodate 170 boys and 170 girls. The total cost of the erection has been about 2,000*l.* Mr. Clark is the architect of the schools, which are built in a plain manner. The contract was taken by Mr. R. M. Bryant, of Bristol; the sub-contractors being J. King, for the mason's work; Hill, for the tiler's, plasterer's, painter's, and glazier's work; Tuckey, for the plumber's work; and Leaman, for the ironwork. The building of the infant school has been stopped for want of funds.

ACCIDENT AT THE UNDERGROUND RAILWAY.

FOR more than two centuries past the River Fleet has proved a source of trouble and been a sad nuisance. Its resistance, at times, to being decently covered from the sight was vigorous; and at this time, notwithstanding its strongly-arched prison, a dangerous and rebellious spirit is now and then shown, which will not be altogether curbed until the main intercepting drainage is completed.

For some time past there has been leakage either from the large Fleet sewer or the tributaries, which has lodged in the hollows near the schools below the church on Saffron-hill. This was not only unwholesome to the scholars of this school and the congregation of the church, but also to others, and clearly showed that there was some imperfection here which required remedy.

At the time of the construction of the Fleet sewer we noticed that there were considerable difficulties in forming the junctions in the neighbourhood of Ray-street,—where the land descends at steep gradients from Ray-street, Hatton-garden, &c., on the west; Coppice-row, on the north; and from Clerkenwell-green, Smithfield, &c., on the east,—during the execution of the sewer works. We more than once saw the rush of storm-water after thunder; and it is not easy to convey an idea of the rush and strength of the water coming here from three quarters. On Sunday last, and for some days past, there were sharp showers of rain, and the surface earth had been saturated to a considerable extent. One of the heaviest of these storms passed over Islington in the afternoon of Sunday; but before that time—about mid-day—a length of the new wall inclosing the railway was seen to sink at the point above referred to. It is said that at this time the more level part of the sewer was water-logged. Part of the road-way fell, and the foul water of the Fleet came forth and flooded the railway works (which are here an open cutting) and several parts adjoining. It is fortunate that no loss of life has taken place: notwithstanding, the cause of this accident should be carefully inquired into, and an explanation given to the public; for uneasiness has been caused as to the danger of such floods when this railway is completed.

After this was written, namely, on Wednesday last, a further disaster occurred, resulting in the fall of a considerable length of retaining wall, about 25 feet high, at the northern end of Victoria-street, and an influx of water. Prompt measures were adopted, and the sewer has been diverted temporarily.

FEMALE SCHOOL OF ART AND DESIGN.

A MEETING, to promote the interests of this excellent institution, was held on Tuesday last, in the Mansion House, the use of which had been kindly granted by the Lord Mayor, who also occupied the chair. No report was read; but it appeared, from the various speeches, that the school had now attained its majority, having been founded in 1842. Originally established at Somerset House, it first removed to premises in the Strand, which it continued to occupy until 1852, when it took up its quarters in Gower-street. The Government aid to it being reduced, another migration became necessary, and it is at present situate at 43, Queen-square, Bloomsbury, where its operations may be inspected by any visitor on Tuesdays, between the hours of ten and three. Not yet self-supporting, it requires either large aid from annual subscriptions, or, better still, such an accession to it of capital fund as will enable the committee to carry out various changes and improvements in their premises, with the view of enabling them to receive a larger number of students, and, as a consequence, a greater amount of fees: 1,500*l.* is asked for this purpose, and it may reasonably be expected that this sum will be raised.

The claims of the school to public support are indisputable. It renders material assistance in solving one of the most important and interesting social problems of the day, viz., that of enabling educated women who, by sudden reverses of fortune or by any other cause, are thrown upon their own resources to gain an honourable livelihood. Her Majesty, who withheld her support from the society until she had an opportunity of witnessing its practical results, was so pleased with them that she has become one of its patrons; and has also been graciously pleased to present a considerable number of half-crown tickets of admission to the International Exhibition for the use of the students.

The Rev. Emilius Bayley, Professor Westmacott, R.A., Mr. Tite, M.P., Mr. Godwin, Alderman Rose, the Rev. Anthony Thorold, and others, moved and supported various resolutions, urging on the public the importance of supporting the school, and thanking Her Majesty for her great assistance. A cordial vote of thanks to the Lord Mayor closed the proceedings.

We hope some of our readers will send contributions to Queen-square.

ARCHITECTURAL NOBODIES.

I AM not about to reply to your correspondent "A Subscriber" of last week, but merely to comment upon the following words used by him: "incumbered with the names of mere nobodies,—persons of whom, beyond their names, nothing is apparently to be ascertained: nor, even if it could be ascertained, would it be of the slightest interest."

Now I humbly submit that there are here three assertions open for discussion. Firstly, who or what is a "nobody"? Secondly, are there any "persons of whom, beyond their names, *nothing is apparently to be ascertained*"? and, thirdly, how can we tell "if it (what is *it*? something?) could be ascertained, would it be of the slightest interest," until we know what the fresh circumstance may be? The words of your correspondent appear to me to be rather loose writing.

But the chief point of interest is, who or what is a "nobody"? Is a man of past years a "nobody," because little at present happens to be known of him or of his works? Can it be said that nothing more will ever be known of either? Let me take an example out of many that occur. The name of the able designer of the spire of Salisbury Cathedral is known to have been Richard de Farleigh. Well, is he a "nobody"? Yes, concisely, says your correspondent: "nothing is apparently to be ascertained beyond his name: nor, even if it could be ascertained, would it be of the slightest interest." Well, let it be granted that such might have been the expectation, and that he is classed as a "nobody." A document turns up showing that *a* Richard de Farleigh was engaged at the same time at the works going on at Reading and at Bath. Who was R. de Farleigh? What were his other works? Oh! he was considered a mere nobody, and so he is consigned to oblivion. Other documents may, in these days of researches and inquisitorial occupations, be found stating other and later works on which he was engaged; and the first entry, however unimportant, may give a clue to help in forming a complete account of him for the benefit of future inquirers. But even so far as we have gained a knowledge of him, is he so insignificant as to be devoid of any further interest? No; for, by the connexion of his name with these other works, he becomes of the highest importance in the history of the art; as proving that, in the Mediæval period, it was not unsual for a master to be engaged on more than one building at a time; the reverse being strongly urged as the proper practice by some of our enthusiastic Mediævalists; who, by the way, do not follow their own teaching. I hope, then, that I have shown that R. de Farleigh is a somebody; and, although but little more than his name was at first known, that so much was worth possessing in the hope of obtaining more.

Again, a building may be of great historical importance, without our having the date and the name of the designer. Say the Chapter-house of Westminster Abbey, for instance. Should we not all rejoice, not only at bagging the name of the designer of it, but also at finding that he was a native, and not a foreigner? Should we consider that he was a "nobody"?

We have all heard of the name of John of Padua. It was first made prominent, probably, in that very useful repository of "nobodies" called "Walpole's Anecdotes of Painting;" a work which was compiled to rescue such persons from oblivion; and has so far succeeded in encouraging an inquiry after them, as to have gone through at least four editions. But as to this John of Padua, Who was he? Where did he come from? What did he do? are questions which arise at the bare mention of his name. Is he a "nobody," because "nobody knows nothing" certain about him? "Yes," would say your correspondent: "put that name in the condemned list." There would be many objections to that course of procedure. We have yet to elucidate who was John of Padua, and the other questions concerning him.

Another of Walpole's "nobodies" living in the Elizabethan period, is a certain "Master Stickles," mentioned by Stowe as an excellent architect of that time; who, in 1596, built for a trial a pinnace that might be taken to pieces." Now here is a real "nobody," I suppose; and yet one whose name was thought of sufficient importance to be recorded by the great historian of London, although not a word is said whether his architectural works were of the "slightest interest," or otherwise. But some papers that have lately turned up (see *Builder*, vol. xviii., p. 588) have thrown a little more light upon his capabilities; and have shown that he was an inquirer as to whether the "Woorkes Moddarn, or the Woorkes Antiques, is of most Effecte, and which of them Contayn most Truthe." They also show that his name was not "Stickles," but "Robert Stickelles," and that he was "recommended by ye Erl of Derby for ye office of Surveyor of her ma^tie woorkes." A short period longer and we may know all the names of his buildings; but why

should his name be classed with any that may be called "nobodies" until then?

The mention of the "Surveyorship" recalls the objection against recording Clerks of the Works, and Masters of the Works. True, we do not care much for the title of Clerks of the Works nowadays; although they have lately had their names brought prominently forward in the descriptions of the erection of buildings by architects. But stay awhile. Were not Clerks of the Works the architects in the days of our forefathers? I think so: others think so. Such a personage was at the head of the Royal Establishment of Works in and previous to Queen Elizabeth's reign. Some consider that the Master of the Works was also the architect; whether acting in Spain, Scotland, or England. May not such persons be rescued from their oblivion in scarce works of, perhaps, merely archæological interest; and introduced in another,—one accessible to all at all times? Lengthened details need not be added to the name; as concerning the probable connexion of the "nobody" that may be in question with the date of the arts at the period,—whether he belonged to hundreds of societies, or whether he distinguished himself as a man and a Briton, by joining a volunteer corps, or otherwise. But surely the bare mention of his name and the work (if any) may be allowed the brief space in any special work for general reference.

What rejoicing amongst antiquaries is there, should one lucky individual have routed up, in an obscure part of the country, a fragment of a block of stone, having an inscription containing the mutilated name of some consul or governor of former periods! A lecture is necessary to promulgate the discovery; a treatise essential to prove his connexion with another portion of another mutilated inscription, found in another obscure part of the country; or to show how immensely important was his name in the annals of the kingdom; his succession to some well-known governor; and his resignation, or otherwise, for that greatly-applauded successor; whose accession had never hitherto been properly elucidated on account of the want of that one wanting link. But that man is, by the dictum of your correspondent, equally a "nobody." Nothing is known of him; nor is anything likely to be! What are a newly-discovered coin, or a newly-found engraver's mark on an old print, and other like subjects, but similar cases? I never heard that these were "nobodies" or "nothings." Who shall decide? Some of our enthusiastic Mediævalists appear to consider that Wren was a mistake—that he might possibly have made a decent Mediæval architect, but that now he is simply despicable, and only fit to be held up as something to be openly avoided. Is he to be judged a "nobody" by a mere expression of opinion? Let us hope not yet. At least, it appears to me that his name is of some importance in the history of our art; even if his works are considered to be below mediocrity by some self-elected judges. What shall we ourselves be considered, say a hundred years hence? Nobodies?

WYATT PAPWORTH.

ANOTHER CRY FOR A NEW STYLE.

ALLOW me to offer a suggestion which might be made advantageous to the taste of the community at large.

Let a competition be held at such intervals of time as might be resolved on; the subject in view to be the most original treatment of a given architectural study; the design most removed from any of the existing styles of architecture, and at the same time most æsthetically beautiful, to receive a premium (which ought to be considerable, as an inducement in the first instance) and an honour; the object of these competitions to be, to gradually elicit a new style.

These competitions, if conducted properly, and open to all Britain, would induce the rising generation to aspire at original composition; for, as the adage says, "Old birds are ill to tame;" so we may not look for much originality from men who have spent their lives with due respect to precedent, which must in a great measure destroy originality.

Had Watt or Stephenson adhered as lovingly, as unmeaningly to precedent as architects do, our steam might still have wasted its power in no greater efforts than playing a rattle-tattle with our tea-kettle lids. That this great age—an age of improvements and discoveries, when day after day shows the mighty march of master-minds in scientific accomplishments—should have produced no originality of style in architecture, shows that the *fashion* in which we work must be perversely or blindly wrong.

For, read we of our own country, at any particular time when science or society pushed onwards and flourished, the same period also left its stamp of originality on its style of architecture,—if with no other advantage, at least broadly marked with originality.

Are there many who are content to draw on our present resources,—who pretend to consider Gothic in one or other of its phases all powerful; or Classic to fulfil every requirement? And we have lately seen this discussed in the spirit of fair dealing, and by one who professes impartiality. What conclusion may we draw from his discourse? That Classic is fitted for secular buildings; but that Gothic is perhaps better adapted for church architecture.

Without any regard to association,—whether the one be the style of heathen, or the other of imagery and the Seven Hills, of the Toga or of the Coat of Mail,—are we to suffer by the perpetration of copies of distinct styles, in the same town, in the same street, ay, and side by side? Glorious monuments to our enlightened age indeed!

When somewhat of Classic style was introduced in the sixteenth century, our forefathers gradually ceased to erect their buildings in Gothic; but the enlightened men of the nineteenth century must mark theirs with something more highly seasoned: we cannot afford to lose anything good: let us have both. This *will* be a monument to the taste and spirit of the age;—a proof that all pulled in one direction, and that direction onwards.

To those denominating themselves architects, it should be a shame that they mark their day and generation by such a spirit. Who can deny that there are beauties in the one which are foreign to the other? Is not the one marked by sharpness, which the other wants; this, by refined softness and repose, contrasting favourably with the noisy splendour of that? And, since we can see the failings and advantages of both, why should we stand still?

Do not several of the great men of our day try to blend them, but in a smothered way? No one is found bold enough to depart very far from the beaten track; else all should be down on him with their precedents; and he would have need of an iron-plated hide or head who would go against such weapons.

Is there no such thing as coaxing over the mixture, as Italian-Gothic? They might as well say Gothic-Italian; or add a conjunction to couple them. And what is there so very objectionable in blending the styles? Is the language of our poets the less beautiful or touching, although the words (or elements) are derived from many different languages?

No one can tell what manner of style might be produced by united effort. We are highly favoured: we have seen the elements of the beautiful contained in every style,—even to the Egyptian, with bulls and obelisks,—that, if in spirit it should not be marked forcibly with originality, it would give the lie to the prevailing spirit of the age.

VERITAS.

BATH STONE: FAILURE OF COLUMNS.

SIR:—The strength and dependability of Bath stone as a building material are a matter of sufficient importance to excuse my mentioning the following facts, with the view of eliciting the experience and opinion of some of your correspondents as to the use of this stone in pillars, piers, and other positions where strong bearing power is required; its resistance to atmospheric action; and the weight that may be imposed upon it with safety.

In a Roman Catholic church, in the Gothic style, now in course of erection at Clonea, county Waterford, Ireland, the columns supporting the clerestory, and the dressings, interiorly and exteriorly, are of Bath stone; Corsham Down being used for the pillars and other interior work; and Box Ground for the external work, plinth, quoins, &c.; and, I regret to say, a failure, the evident result of over-pressure, has taken place in the nave pillars and chancel piers and arch, and generally throughout the building wherever the stone has been subjected to any great weight; the chancel-arch having fallen, and the pillars cracked vertically; so that there is not one sound column in the church, and scarcely a sound stone in any column. Moreover, the external plinth, quoins, labels, &c., have suffered severely from the effects of moisture and frost. The columns are 11 feet high, 2 feet in diameter, and 16 feet apart from centre to centre. The walls of clerestory above them are 2 feet 9 inches thick, and built of limestone; the height from the springing to the apex of the nave arches being 11½ feet, and from the apex to the top of nave wall, 14 feet, with two clerestory windows, 7 feet by 3 feet, in each bay. These dimensions would give a load equal to about fifty tons weight for each column; whilst, according to the most reliable authorities that I have seen, not more than about twenty-four tons could with safety be placed upon columns of 2 feet diameter. I am not aware of Bath stone having been previously used in nave pillars (at least, of such dimensions) carrying a clerestory; and, as a weather-stone, it would appear to be unable to combat the humidity of the Irish climate. A note upon the whole subject will be very acceptable.

TYRO.

A VOICE FROM THE WORKSHOPS WITH REFERENCE TO FURNITURE AND DECORATION IN "THE EXHIBITION."

BEING deeply interested in the prosperity of art-manufactures, pray allow a corner in your widely-circulated and popular Journal for a few remarks which I venture to think have a close relation to a subject much discussed at present, viz., the position and prospect of designers and art-workmen in this country. On looking around the courts of Class 30, devoted to decoration and furniture, and, at the same time, reverting to the vivid impressions made by the products of the same trades in the Exhibition of 1851, we are forcibly struck with the great advance made by the British (except in a few instances) as draughtsmen and art-workmen since that time; for, however unwilling many have been hitherto to acknowledge the benefits derived from the exhibitions of 1851 in London and of 1855 in Paris, the result, as shown here, is a strong evidence of the success arising from an earnest endeavour made by all concerned, whether heads of houses, draughtsmen, or art-workmen, to improve and take advantage of the exchange of ideas brought to light by these exhibitions. Much, then, as we admire this vigour and determination of purpose, we cannot refrain from observing that there is a great danger of trying only to *imitate* those works by others (which we have great reason to admire), especially those of the French; for by so doing we are apt to work an idea *ad nauseam;* and although Fourdinois's noble sideboard of 1851 gained a council medal, we must not expect that by merely introducing colossal figures and trophies of game anywhere the royal road to fame is open to us also. No: *toujours perdrix* is no more to be desired in sideboards than anything else; and also in the *Louis Seize* style of ornamentation, both in decoration and furniture (so much in vogue just now, and well carried out by many of our exhibitors), what care is required lest its peculiar individuality should be lost by being changed from a beauty into a deformity; its leading features vulgarly exaggerated; and the subordinate parts rendered destitute of the delicacy so perceptible in the works of Hubert, Grohé, Mazaroq, Marchand, and others, who now exhibit. These faults we have observed in some English specimens. Let us, therefore, admire our neighbours' works as they deserve; and when we discern therein what due regard *they* show to the general effect and the relative proportions of the various parts, either in colour or relief, so as to form one harmonious whole, we shall perhaps learn from them, without *servile imitation*, something of *their* boldness of conception when arranging the prominent masses, and *their* exquisite tenderness in the finishing of all subordinate detail.

Bearing in mind that our aim is, or should be, to take the lead, and to compete for the first prize, may we not attribute one of the secrets of their success to their natural temperament—their vivacity and enthusiasm, as shown by their leading men,—in what they undertake in decoration and furniture; and that, like good actors on the stage, they are so carried away out of themselves, and lost in admiration of their part, that they fearlessly attempt and successfully achieve that which a more cautious and bashful disposition would not venture upon? Perhaps with us, it will be said by the careful man who wishes to turn all to gold, that

> "The native hue of resolution
> Is sicklied o'er with the pale cast of thought;
> And enterprizes of great pith and moment,
> With this regard, their currents turn awry,
> And lose the name of action."

Or is it not more likely that, where this enthusiasm does exist, it is quenched and crushed by the chilling want of appreciation in others? for what man is there who is not encouraged and stimulated in the designing and executing of works of art, and whose enthusiasm is not augmented, when he meets a kindred spirit in his

customers or employers? The art-education of the French has undoubtedly done much; but, destitute of their lively enthusiasm, and their appreciation of the beautiful in nature, it would have been of little avail in designing and inventing novelties "ever changing—ever new."

Those who wish to lead the trade in this country will do well, therefore, to encourage this enthusiasm to the utmost; for without it they may stand still; and let them not fear, lest the inferior houses should copy their ideas. If they are active and liberal, they can afford to allow the pirates who live upon the brains of others and are to be met with in all trades, to "out-Herod Herod" to their hearts' content.

The vocation of a first-class decorator, upholsterer, and cabinet-maker is of more importance than many suppose; and if he examine it in its proper light,—as the promoter of the cheerfulness, the contentment, and the comfort of "the home" so dear to every Briton,—he will be anxious more and more to do his utmost to educate, first, the eyes in the nursery, then to cheer the sick in the bedchamber; to increase the comforts of the dining-room; to give lustre to the brilliant joyousness of the ball-room; or to study the quiet sobriety of the library, by combining with usefulness pleasing forms and colours in all around. If this be done in the houses of the wealthy, it must lead to great improvements in the dwellings of the middle and poorer classes.

Let the nobility and the wealthy of this country look around and examine the products of their own country in the present Exhibition, and appreciate the efforts made by their fellow-countrymen; put out a helping hand by encouraging trade; and so give them every opportunity for proving that they also can, and will, produce works worthy of high commendation and free from the stigma of plagiarism.

AN ENGLISH DRAUGHTSMAN.

WORKING MEN AND THE INTERNATIONAL EXHIBITION.

SIR,—The subject of the Palace of Art and Industry having been freely commented on in the *Builder*, emboldens me to say a word or two about it in your columns. The working man—who, without a doubt, will be the most likely to profit by such an exhibition of the world's industry—must, to properly understand the many things there set before him, pay more than one visit to the building. Most employers have kindly given, or will give, their men a day for the purpose of a trip to the Exhibition; but *one* day is not enough to study attentively anything like the half of its contents; and a second visit would cost a day's pay as well as the price of admission, and other incidental expenses quite unavoidable.

Now, I would suggest that, for a few weeks before the season ends, the days and prices of admission should be slightly altered. Suppose Thursday and Friday were made half-a-crown and five-shilling days, and Saturday a shilling day: the working man could then avail himself of the almost universal half-holiday, and enjoy the building and its contents to his heart's content.

According to statistics recently set forth in the *Builder*, I think I may very safely assert that the treasury would in no way suffer by the making such (as I think) capital arrangement. J. G.

"COLOUR NO SHAM."

DR. BARLOW has had the advantage of 110 lines of the *Builder*, in which he says he desired to put in a word of truth in defence of a subject that has recently been treated with unmerited opprobrium.

If half that number may be allowed to the present attempt to show that there is very little truth in what he has advanced, I would begin by denying that the subject has been so treated; *ergo*, his first five lines are not wanted.

Nobody ever said that colour was a sham, in the sense that we use that slang term in speaking of cement. There is no trite truism to the effect that *there is nothing more positive than colour*: we speak of primitive colour, truly, but not in the sense that Dr. Barlow does. Colour never makes a difference between the real and the unreal, at least to the unaided eye, in any way worth his notice in such a paper; *ergo*, his next eight lines are not wanted.

His definition of "sham" may be accepted: four lines of truth out of more than a hundred are very little, especially when the truth is never contested and is always acknowledged.

I am not conscious of any revelation that other eyes than those of human beings naturally take delight in colour; and I know of one case in which colour is decidedly objectionable to other than human eyes: Dr. Barlow's theory therefore does not stand. It is only the diseased eye which requires colour; and as a physician, Dr. Barlow will confirm my statement that only diseased eyes see particular colours. And as a physician, I think that upon reflection he will allow that the taste receives and requires a greater amount of education than the sight (*eye* must be a misprint); that it is more subject than any other to the effect of constant impressions, of constitution, and of climate: *ergo*, a quarter of his communication is worthless.

It is a bold assertion that, to the eye of the Persian architect, form without colour is almost a blank; and I unhesitatingly assert that no Persian architect ever told such a fib to Dr. Barlow, who had better ask Charles Texier for an opinion. As for the doctor's assertion that the ancient Egyptians and Assyrians, and to a certain extent the Greeks and Romans, were fond of colour, I suppose that I know as much about them as he does, and am aware that the question of extent of fondness is *sub judice*; but on the whole I should be inclined to consider the Assyrians and Greeks as less fond of colour in their buildings (and, be it observed, that *colour in art*, in an architectural periodical, is supposed to apply mainly to its architectural employment) than the Egyptians and Romans. And, defying Dr. Barlow to produce the *philosophical reasons analogous to those which influence the phenomena of light*, that he says would prove that the Greeks and Romans were less fond of colour than the Egyptians and Assyrians, I have heard great artists of our times object to the colour seen in nature as frequently horridly discordant. If Dr. Barlow does not mean what his words convey, his thirty-nine lines are worthless.

Neither can he mean the deduction from the next eleven lines, viz., that the inside of a shell has its colour produced by, and governed by, the action of light. He, of course, knows the received theory, but has mashed it up so as to make any one believe that he supposes nothing would grow, except of one uniform substance, if light were wanting.

But his greatest error is contained in the assumption that the human eye, where there is much light, delights in bright colours. He has forgotten that the brightest tints are used by the inhabitants of the coldest climates; and he would very much astonish a Spaniard by asking him to wear a light-blue coat, or a pair of emerald-green trousers.

In my own travels I have noticed that no people dress so smartly—or, as the doctor would say, so tastefully—as the northern peasantry; that is to say, they wear the strongest tints. The Arab, Persian, Hindoo, Malay, and Chinese never wear anything (except as uniform) more glaring than the smock-frock of our peasantry, or the French blouse.

In truth, pure, primitive, untoned colour, is reserved for us; who, following in faith and hope the practice of the glorious Middle Ages,—the full noon of art between its dawn and the present twilight,—can afford to laugh at Hittorff and Owen Jones. And I repudiate the idea of our allowing ourselves to be fettered with what Dr. Barlow rather rudely calls a puerile conventionalism. All art is conventional; and if the doctor does not know that, he had better turn to the study of any "pathy" that may be the novelty of the day. I do not see that an alabaster high tomb would be improved by painting: perhaps the doctor does; and I suppose he only speaks for himself and others with diseased eyes, when he prefers the tint of dirty marble to that of the material fresh from the sculptor's chisel. I have only twenty-five lines more to notice. Dr. Barlow confounds *colour* with *pigment*; so his Venus is as bad water-colour painted as it oil-painted.

I really do not agree with him that two arts are to be confounded in the same object. I always thought that to use, but not confound them, was the right course. That the Mediæval architects used colour to bring out form, is a gross mistake, if literally meant. They used it to cover and confuse form, as many genuine remains still attest. As to his last five lines, they look too like a puff of a friend to be noticed by G. V. R.*

COMPETITIONS IN SMALL.

Vicarage House, East Retford.—Some time ago it was decided that a new vicarage should be erected for the residence of the Rev. Arthur Brooke, vicar of East Retford. Six sets of designs were sent in by various architects, and the vicar has given the preference to those by Messrs. Wilson & Walker, of Nottingham. The accepted plans are designed in the Decorated Gothic style, freely treated. The exterior of the building will be mainly constructed of brick, with stone dressings; the gables of the roofs and lower portion of the eaves being terminated by pendentive ornamental ironwork, in which the leaf of the ivy is a principal terminal feature. The estimated cost is 1,000*l*.

If architects are prepared to compete for superintending the erection of 1,000*l*. dwelling-houses, things have come to a pretty pass. We shall hope to hear that the rev. gentleman paid each of the six architects, whose time and skill he thus laid under contribution.

OVERCROWDING IN LONDON.

SIR,—With your indulgent permission, I would fain obtain a small space in your valuable journal, the *Builder*, for some remarks concerning that melancholy detail, both literary and pictorial, of the condition of the poor in the metropolis from overcrowding that appeared last week in your pages.

In the first place, let us ask ourselves, Is this an abomination to speak maliciously about, or whereupon to vent our accusations here and there in eager yearning for the culprit? But, taking care whom we accuse, why not rather accept the bringing to light of such distressing pictures as a summons for all your readers to contribute in every possible way to the healing or diminution of the evil? For an evil no doubt it is which is a reproach and a scandal to a great civilized community like ours. It is humiliating to hear of it in the midst of our International Exhibition glories. But the remedy depends upon a far nearer approach than has been made as yet, I would suggest, to such a community as Butler, in his "Analogy," portrayed wherein all were virtuous. When all are virtuous, and not until, may I not say, sir, such painful evidences of Paradise Lost will cease? It is not on legal interference, which may be unskilful, and therefore unjust and oppressive, that I would much rely to mitigate this terrible sore. Something however, perhaps, might be done by the civil authorities, if guided by a purely benevolent spirit. But, unless the true spirit of religion acquire firmer hold of every rank of society, nothing else will overcome the misery we deplore. Still we may hope that some true charity is awakened by the distressing knowledge you have made public, and that, therefore, human means will avail to some extent.

A CLERICAL READER.

* The very objectionable tone of this communication would have prevented the insertion of it, but we were unwilling to discourage the discussion of the question at issue.—ED.

THE PUBLIC BATHS AND WASH-HOUSES IN ST. JAMES'S, WESTMINSTER.

FROM a printed statement by the Chairman of the Public Baths and Wash-houses in St. James's parish, it appears that since the establishment was opened, June 14, 1852 (barely ten years), the actual number of baths given was one million forty-eight thousand three hundred and thirty-six; and the daily takings, from bathers and washers, have amounted to the large sum of 21,405*l*. 19s. 7d. Of this sum 9,044*l*. 16s. 7d. were pertaining to the wash-house. In the year 1855 it produced 818*l*. 5s. 11d. In 1861 it produced 1,163*l*. 4s. 6d. From 1st January to 8th June, 1861, the receipts from bathers were 312*l*. 11s. 7d. only; while in the same period of this year (1862) they rose to 585*l*. 4s. 7d. The baths given during those twenty three weeks were 23,409 and 45,712 respectively. This accession of business in the bath department is in a great measure due to the increased accommodation and efficient arrangements for women. The enlargement of the building was commenced on 5th November, 1860, and completed last October. Notwithstanding the interruption of business while the works were in progress, the actual receipts from bathers and washers during 1861 amounted in the aggregate to 2,233*l*. 17s. 11d.; showing an increase, as contrasted with the receipts of 1860, of 13*l*. 18s. 6d.; while the disbursements (including a sum of 303*l*. 11s. 6d. paid for repairs and renewals of the machinery, &c.) amounted to 2,126*l*. 16s. 8d.; leaving a surplus of 107*l*. 1s. 3d. over the working expenses.

Books Received.

VARIORUM.

"THE Church's Floral Kalendar, compiled by Emily Cuyler; the Illuminations designed and chromo-lithographed by W. R. Tymms." Under this title Messrs. Day & Son have published a prettily-illuminated little book, addressed to the religious public, giving on separate pages a representation of a flower in connexion with each saint's day and some holydays, with short poems connected with the flower, and quotations from the sacred writings. Thus, for example, for Easter Tuesday we have the primrose; for Monday in Whitsun week, birch; and so on. The selection is in many cases arbitrary. The leading motive is set forth in the quotation on the cover, "O all ye green things upon the earth, bless ye the Lord, praise him and magnify him for ever."——"Impressions of Rome, Florence, and Turin. By the author of 'Amy Herbert.'" (Longman & Co.) Although Miss Sewell says in her preface that these reminiscences are intended for the possible amusement of such persons as have a personal interest in the author, and offer no information to the public generally which has not already been given by other travellers, they may be recommended to a wider circle. The author gives a sensible and suggestive account of what she saw; and displays in her notices of works of art a cultivated and appreciative mind. We may take as an example of the writer's style a few observations on two or three works seen in Rome which happen now to be in the Brompton Palace of Art:—

"The studios are open to every one, and are as necessary a part of sight-seeing as the Vatican or Capitol; and people are less afraid of giving an opinion upon them than upon ancient art. It would be heretical to criticise the Apollo; but one may fairly be allowed to pass judgment upon Gibson's coloured statue of Venus, or Pandora. I believe I am in the minority in saying that I admire them—the Pandora especially. I should not like to see colouring commonly introduced into sculpture: it seems to require a delicacy of taste which must be very rare; and which, if wanting, would render the attempt a fatal failure. A coloured statue which is not beautiful must be a monstrosity. It would be a representation, not a suggestion; and so, like the theatrical Romish ceremonies, would excite a sense of the ridiculous. But the charm in Gibson's statues is exactly this, that they are suggestive. Pandora is not a woman with a flesh-coloured complexion and black eyes, but an exquisite creation of a being so human and life-like as to touch one's sympathies; yet so ethereal in the tint which is shed over her, that she is felt to be as yet unsullied by the evil to which ordinary mortality is heir. Only in the sweet sorrow of her most lovely face can be read the foreboding of the consequences of her own rashness. I saw two other very perfect statues in the studio of Mr. Storey, an American gentleman,—Cleopatra, and the Libyan Sibyl. In both there was a careful observance of the Egyptian type of countenance and style of dress,—and I was surprised to see how extremely beautiful they could be. Cleopatra is generally represented as a Greek; and it is difficult to imagine her as anything else; but the Egyptian features, and the low ornamental fillet—to an English taste, generally so destructive of beauty—certainly did not in this case in the least detract from her charms. The Sibyl was wonderful,—so earnest, thoughtful, sorrowful,—so impressed with the weight of her own powers, and so very beautiful,—yet not in the least according to any regularly

acknowledged type of beauty: exaggerate the features or the expression in the slightest degree, and she might be repulsive, even coarse."

——"Pen and Pencil Sketches of Faröe and Iceland," by Andrew James Symington (Longman & Co.), will send some visitors to the land of the Geysers. Mr. Symington shows that Iceland can be visited and enjoyed, and made useful during a summer's holiday; and he gives such information in the course of his very interesting little book as will make the trip easier and pleasanter for those who follow him. The appendix contains translations of thirteen Icelandic stories, besides specimens of old Icelandic poetry. Speaking of the Norse language, still spoken in Iceland, and to which our own owes much of its directness, expressiveness, and strength; Mr. Symington says,—

"Many words, which we now use with a secondary or restricted meaning, still retain their primitive signification in Icelandic. Thus the word 'smith'—a contraction for smiteth—which with us is restricted to a worker in metals, in Icelandic still retains its old sense of handicraftsman. Hence the Icelander not only talks of a goldsmith as a guldsmidr, a silversmith as silfursmidr, but of a saddler as söðlasmidr, a cooper as a koparsmidr, a shoemaker as a skörsmidr, a joiner as a trésmidr, a builder as a húsasmidr, a printer as a prentsmidr, a blacksmith as a jarnsmidr, a cabinet-maker as a skrinsmidr, a watchmaker as an ursmidr, and, in a metaphorical sense, of a poet or ode-writer as an odarsmidr; just as the Anglo-Saxons talked of a warrior as a war-smidr.

Miscellanea.

SOUTH KENSINGTON MUSEUM.—In Whitsun-week 37,041 persons visited the museum.

PROPOSED COMPETITION, CORK.—With reference to the approaching competition for the honour of erecting the new cathedral in Cork, a correspondent takes objection to the circumstance, that an eminent architect connected with the city has been placed on the committee, and that the firm to which that gentleman belongs will be amongst the competitors. This possible awkwardness will doubtless be avoided.

THE ETRUSCAN TOMBS.—From an article published by the *Revue Contemporaine*, the following particulars are extracted:—After some researches, Mr. François informed Mr. Desvergers that on the embankment of Fiora, at Vulci, at an altitude of 90ft. above the river, he had bored the ground, and found an artificial grotto presenting none of the characteristics of a sepulchre, and which was probably intended to protect a more important crypt from the effects of infiltration. A shaft was therefore sunk to the depth of 36ft. below the surface; when a subterranean passage was discovered, 9 feet in breadth and 99 feet long. This being cleared, the pioneers reached the door of a hypogeum. When the first gleam of light from their torches revealed the interior, they saw warriors clad in armour lying on their sarcophagi: the forms, the vestments, stuffs, and colours remained visible for a few minutes; until the air from without, gradually penetrating into the crypt, effaced the whole. All that remained to the persevering explorers were the weapons, jewels, bones falling to dust, and a few threads of gold and silver which had been woven into their garments. The walls were, however, covered with paintings representing an episode of the *Iliad*, and of very superior execution, evidently pointing to the influence of Greek civilization in Etruria. The crypt had eight entrances, all adorned with the peculiar Etruscan mouldings which Vitruvius calls *barycephalæ*, or top-heavy. The inscriptions were ascertained to be of a period anterior to that of the conquest of Etruria by the Romans. Mr. Desvergers therefore concludes that this tomb dated from the fourth century before our era. Some of the treasures now in the Musée Napoléon III. belonged to this tomb.

OUR PARKS AND GARDENS.—Sir: The recent wet weather has converted the walks and pathways into little better than quagmires. I am unable to see why the proprietors of the Zoological Gardens, Regent's Park; the Horticultural, at South Kensington; and the Commissioner for the Regent's Park, should consider it necessary to emulate Rotten-row, as desirable for pedestrians. The condition of the paths is attributable to three causes,—very defective drainage; improper material; and not being formed, as they should, in contour of a flat ellipse. The addition of a little *lime* would bind the gravel together; proper side-drains would keep the paths always dry; and if formed to a proper contour they would always be in good condition. My remarks do not apply to Hyde Park, except as to defective forms, as regards section; not being formed to proper currents.

R. L. S.

NEW SLAUGHTER-HOUSES AT LEITH.—For the convenience of the butchers, and the sanitary improvement of the town, the provost, magistrates, and council of Leith have agreed to erect public slaughter-houses. After no little difficulty, they procured ground in Salamander-street, and employed Mr. David Cousin, architect, Edinburgh, to prepare plans. These having been prepared and approved of, it was resolved to proceed with the work, and contracts have been entered into for their immediate erection. The whole cost, including the ground, will be about 4,000*l.*

SCHOOLS OF ART.—A Government report on the Boston school says,—"I am directed by the Lords of the Committee of Council on Education to inform you that they have received the inspector's report on the Boston school, and that they learn with satisfaction that the school appears to have established itself fairly as a self-supporting institution. The results of the examination, as a first examination, are considered creditable to the master, and it is hoped future years will show an increasing number of successful students."——Notwithstanding the efforts which have from time to time been made to sustain the Wolverhampton School of Art, that institution has at last been closed; and, with a view of winding up its affairs, a special general meeting of the members of the society has just been held.

BRITISH MUSEUM.—When the report of supply was brought up in the Commons, Mr. Gregory, on the item for the British Museum, 99,012*l.*, said, the report of the committee of 1860, faulty and unsatisfactory as it was, made some exceedingly useful suggestions. One was, that a small additional amount of space, on the spot where the Museum now was, would have been sufficient for the natural history collection; but in that, as well as other matters, their recommendations had been entirely ignored by the Government. He believed that the whole of the additional accommodation required for the natural history collection and the proper exhibition of sculpture could be provided at a cost of 276,000*l.*; whereas, according to the Government scheme, about 700,000*l.* were demanded, in order to provide additional space for the exhibition of natural history alone.—Mr. Coningham would object to the drawings being removed from the British Museum to the National Gallery. By the removal of a great deal of rubbish a considerable space might be obtained. Much of the sculpture which of late years had been added ought never to have been placed in the Museum.—The Chancellor of the Exchequer said it would be the duty of the Government to consider further the whole subject of the provision to be made for these collections; and, if they should again propose the plan which they recently laid before the House, to do so in the way which would place the House in the best position for giving a definite judgment on that plan.—The vote was agreed to.

THE MIDDLE LEVEL INUNDATION.—Mr. Hawkshaw's plan of making a coffer-dam with panels has not been abandoned, but piling has been also resorted to. An inspection on Saturday evening last disclosed the following unpleasant facts:—The west side of the west bank of the cut is greatly damaged by the high winds. There are several places where the slope of the bank has been almost totally washed away. The embankment of the railway is also very much injured. There had been a larger quantity of water on the land during the past three days than ever before, to an extent of several inches. But for the favourable direction of the wind the result would have been most disastrous. Mr. Page, C.E., and Mr. R. Young, mayor of Wisbech, a few days before had examined the banks and found them "in a most shameful state," to quote the language of the mayor of Wisbech. In some places the banks were like a riddle; and an iron spear eight feet in length, which they took with them, was easily put through; and, when withdrawn the water came bubbling up as if through a drain-pipe. The bottom of the cut by the Short Fen, North-bank, above the Magdalen-road bridge, had been scoured to a depth of 17ft. below its original level, and the sides showed evidence of curving in, being undermined. The existence of the hole had been known for nearly a week, being one of those to which attention had been previously drawn; but no steps had been taken to remedy the evil, though proper representations had been made in the right quarters. At the coffer-dam matters were pretty nearly at a standstill. The shores, to the weakness of which attention had before been called, were being strengthened by bracing, and by placing concrete behind the abutments.

ST. THOMAS'S HOSPITAL.—The newspapers are scarcely correct in stating that St. Thomas's Hospital will be erected in the Surrey Gardens. This site, it is true, has been leased to the Governors for two years and a half, and the Hall will be used as a temporary hospital. The ultimate destination of St. Thomas's is not yet fixed.

THE HANDEL FESTIVAL.—The preparations are now complete, and the rehearsal will take place this Saturday. We shall be curious to learn the effect produced by the new roof of the great orchestra. Up to this time the full effect has never been obtained from the large masses of singers and instrumentalists who have been assembled there.

NEW BRIDGE OVER THE SEVERN, AT BRIDGNORTH.—A company has been formed for the erection of a bridge over the Severn at Hampton's Load. At a meeting for setting the company agoing, Mr. Heap, representative of Messrs. Harrison, of the Canada Works, Birkenhead, produced a plan of a wrought-iron lattice superstructure; the total length being 178 feet, or four spans of 40 feet each, with a roadway of a width of 15 feet. The Bridge Company will have a capital of 5,000*l.*, in 500 shares of 10*l.* each, with a deposit of 10s. a share.

TO MAKE HARD WATER IN CEMENTED TANKS SOFT.—Sir: For this, Nature most appropriately supplies the best remedy by the growth of that green lining, which some occasionally so inconsiderately remove; and, as a result, their previously soft water again becomes hard. I would suggest to your correspondent to place in the tank some *confervæ*, such as the green coating off the walls of a well; and, if this will but fix itself on the sides of his tank, he will find it effect a costless and "perfect cure."—PETER HINCKES BIRD, F.L.S.

FALL OF A GOODS WAREHOUSE AT WIGAN.—An accident of an alarming character has occurred at the old goods warehouse of the London and North-Western Railway, in Chapel-lane, Wigan. It would seem that a large number of barrels and sacks of flour, with other heavy goods, had been stored in the grain-room, which is on the second floor, and directly over a broad passage through the building which leads from the street to the line of railway. Three of the large beams supporting the floor of this room gave way, and the flooring and a considerable number of the barrels of flour were precipitated on to the ground-floor. No injury was sustained by any person.

OPENING OF THE EDEN VALLEY RAILWAY.—This line has been formally opened for passenger traffic. Captain Tyler, the Government inspector, when examining the line, recommended that additional braces should be added to the superstructure at Skygarth Bridge, Temple Sowerby, for its security. The bridge is composed of four spans, 105 feet from centre to centre, constructed of iron or lattice girders, 11 feet deep; and after a severe test he recommended that additional strength should be added for its security. This bridge was contracted for by Messrs. Kennard & Co., of London, but the piers and abutments of masonry were erected by Messrs. Lawton. On examining the bridges and the works in general, says the *Carlisle Journal*, he expressed his satisfaction with the stability of the works.

WATER-SUPPLY FOR CALCUTTA.—Mr. W. Clark, C.E., the engineer to the Municipal Commissioners of Calcutta, has prepared a scheme for supplying the town with water, on which he has reported to the Commissioners, for submission to the Government, who have set apart a certain fund in aid of water-supply. The engineer, in his report, proposes a scheme with various modifications for bringing water from Pulta Ghat. He says:—"I believe it will be found quite possible, so far as the levels are concerned, to bring the water from Pulta Ghat direct to [the pumping-station at] Wellington-square, through a covered brick culvert. A double culvert 4 feet 3 inches in diameter, with a fall of 6 inches per mile, if constantly running 3 feet 2 inches deep, would bring down to Calcutta the full quantity, 12,000,000 gallons per day. Such a culvert, 13 miles long, at the depth stated, would contain 9,500,000 gallons, and would, in fact, be a storage reservoir in the event of any stoppage occurring at the Pulta end of the works. The cost of such a double culvert would be 12 lakhs of rupees." One of the engineer's estimates is as follows:—

	Rs.
Works at Cossipore, 24-inch main to Wellington-square ..... ditto ditto ..	9,63,892
Land and engines, &c., at	
Cost of 36½ miles pipes, &c.	4,00,000
	Rs. 13,63,892

Lower estimates, on modifications of the full scheme, are given. The works would occupy two years in construction.

WORKMEN'S HOUSES IN SCOTLAND.—A petition of the Free General Assembly in favour of the appointment of a Royal Commission to inquire into the state of workmen's dwellings in Scotland has been prepared for presentation to Parliament.

GUILDFORD.—At a vestry meeting of the parish of St. Mary, held on Thursday evening last, a show of hands was taken for the appointment of an architect to carry into effect the restoration of the church at Guildford, when the choice fell upon Mr. T. Goodchild. A building committee was formed at the same time, and the works are to be pushed forward with vigour. Subscriptions to a considerable amount have already been collected.

SOCIETY OF ENGINEERS.—This society held its annual *conversazione* on Tuesday evening before last, in the Lower Hall, Exeter Hall. An interesting and instructive collection of models, drawings, photographs, and general engineering appliances was made. Mr. J. Strachan, the engineer of the Reading Gasworks, contributed a complete working model, in glass, &c., of a small gaswork. Amongst a variety of other inventions, there was one by Mr. Treppass, a "charimorphoscope," or modification of the kaleidoscope, displaying an endless variety of combinations of patterns, which can now be photographed for the use of the pattern draughtsmen and designers.

OPENING OF LOCKE PARK, AT BARNSLEY.—About twelve months ago, Mrs. Locke, widow of the late Mr. Joseph Locke, M.P., civil engneer, in order to commemorate the connexion of her husband with the town of Barnsley, and in addition to giving 2,000*l.* for the founding of scholarships in the Grammar School, and 1,000*l.* in aid of the Roman Catholic schools, offered to present the town with a park, if a suitable site could be found. A piece of ground, nearly 20 acres in extent, known as "The High Style Field," and close to the town, was selected; and the whole has been inclosed, and now forms a commodious recreation ground, with ample accommodation for the games of cricket, bowls, &c. The park has been purchased and laid out at a cost of from 4,000*l.* to 5000*l.* It was publicly opened on Whit-Tuesday, and the ceremony took place amidst much rejoicing.

CIVIL ENGINEERS.—The Smeatonian Society of Civil Engineers gave, on Thursday evening, the 12th inst., a dinner, at the Ship Hotel, Greenwich, to several of the distinguished foreign engineers and others connected with science now in London. About fifty gentlemen sat down; and Mr. Charles Hutton Gregory, the president for the year, took the chair. Several members of the society were present; and after dinner the standard toasts of the society were given. The President, in giving the toast of "Foreign Engineers," gave a sketch of the history of the society, which was instituted in 1795; and, after alluding to its early members, —Brindley, Goulburn, Watt, Priestley, Rennie, Mylne, &c., and to the general condition of English and foreign engineering,—coupled the toast with the name of Mr. Tresca, president of the Institution of Civil Engineers at Paris. Mr. Tresca replied in French, and proposed "the Smeatonian Society," to which Sir John Rennie returned thanks on behalf of the society. Mr. Vignoles, in French, proposed "the Foreign and English Visitors," coupling the names of Dr. von Steinbeis and Professor Donaldson, who both replied.

ASCOT: NEW STABLES, &C.—Considerable improvements are being made on the course and in its neighbourhood. It will be remembered, as announced in our paper at the time (says the *Windsor Express*), that at the last year's meeting a project was started for building a convenient hotel at Ascot, attached to which would be commodious stables. The contract was subsequently taken by Messrs. Todd & Lee, the well-known builders at Blackheath, at the sum of 6,300*l.* The contract, we believe, provided for the completion, under a penalty, of the hotel and stables by this meeting; but some unforeseen circumstances connected with the supply of labour or materials interposed, so as to retard the progress anticipated. With the view of avoiding the proverbial failure sometimes resulting from an attempt to accomplish too much; it was determined to confine operations, preparatory to next week's meeting, entirely to the stables. These are intended for the accommodation of 100 horses; and we believe that provision for fifty-eight out of that number is now ready, and no doubt the stalls will be fully occupied. They are erected on what was a waste piece of ground called the Kennel Allotment, at the Swinley Corner. The building forms a compact block or square, with only one entrance.

HER MAJESTY'S THEATRE.—*Roberto il Diavolo* has been produced with new scenery and costumes, an admirable Alice (Mdlle. Titiens), but very inefficient Robert. The size of Signor Armandi, the singer in question, is against him; for it promises power, and the promise is not fulfilled. Signor Vialetti is a satisfactory Bertram. "The Cloisters" is an effective and in some respects beautiful scene; the light being remarkably well managed. Why Mr. Mapleson should have chosen this particular opera for revival when it has long been known that Mr. Gye was preparing to produce it at the Royal Italian Opera House, it would be hard to guess; but the policy of managers is seldom that of ordinary overlookers.

GREAT FIRES IN ST. PETERSBURG.—Telegrams received announce several terrific fires in St. Petersburg. Large warehouses and shops, covering several acres, have been destroyed, including the Apraxine and Stehbukine markets, and the Minister of the Interior's mansion and several Government buildings. The direction of the wind protected the Bank. The loss, according to first accounts, was said to be little less than a million sterling; but it is to be hoped that this will prove to be over-estimated, although much additional loss has since occurred from the subsequent fires. It would appear that the disasters are suspected to be the work of political or revolutionary incendiaries.

NEW ANGLICAN CHURCH IN NAPLES. — A church in connexion with the English Establishment is about to be erected in Naples. One of the acts of Garibaldi, when Dictator in Naples, in 1860, was to present to the British residents a valuable piece of ground, most conveniently situate in the best part of the city, as the site for an Anglican Protestant church,—a circumstance which derives all the more interest from the fact, that under the late Government English Protestants were forbidden to worship except in a room, and that room in the consul's residence. The British community at Naples are attempting to raise a sum of at least 5,000*l.*, which will include church, schools, teacher's house, and parsonage. The church is to cost 4,000*l.*, and to contain 600 sittings. About 1,500*l.* have been contributed in Naples, and 800*l.* in England.

THE COMPRESSION OF WATER.—Mr. Guibal, professor at the School of Mines, at Mons, has recently, it is reported, applied the compression of water successfully to the detaching of rocks from their beds, and especially to the extraction of coal. At a recent meeting of the old pupils of that school, he produced a cast-iron cylinder, divided in two by a partition parallel to its axis, and presenting the appearance of the shaft of a mine. By the application of the pressure of water he broke the two iron hoops which bound the two parts of the cylinder together, and the transversed sections of which presented a surface of 100 square millimètres. By calculation it was found that the pressure applied was equal to seventy-five atmospheres, but far within the limits, it is said, of the pressure which might, if necessary, be obtained.

WOODEN CHURCHES.—*Notes and Queries* says, — Although the interesting church of Little Greenstead, in Essex, is chiefly composed of upright wooden blocks laid close together, yet it has (or had) brick buttresses and a brick chancel. Newland Church, Worcestershire, two miles from Malvern, on the Worcester-road, is one of the few wooden-framed churches remaining in the country. The panelling between the frame-work is lath and plaster, but here and there repaired with brick. The little church is supposed to have been a grange belonging to the Priory of Great Malvern, and resembles many of the half-timbered houses in that neighbourhood—that at Pickersleigh, for example. There is a wooden porch, a wooden bell-cot, and two-light windows with wooden frames. It is supposed to have been erected in the fifteenth century. (See Noakes's *Rambles in Worcestershire*, iii. 7.) The font, however, is early Norman, and is thought to have been brought from Malvern Abbey church.

TENDERS.

For fifteen cottages, Wandsworth-road; Mr. Cæsar A. Long, architect:—

Greig	£1,675 0 0
Restell (accepted)	1,432 0 0

For repairs, Vestry Hall, Kensington —

Cowland	£239 0 0
Cade	217 0 0
Wheeler	190 0 0
Rhodes & Roberts	160 0 0
Taylor & Son	159 0 0
Craffer	158 0 0
Woodard	152 10 0
Hunt (accepted)	148 17 0
Hardman	100 0 0

For additions to Swanstour, Whitchurch, Oxon; Messrs. Poulton & Woodman, architects:—

Matthews	£3,558 0 0
Woodroffe	3,494 0 0
Shephard	3,420 0 0
Messrs. Wheelers (accepted)	3,398 0 0

For finishing four houses in Montpelier-road, Peckham, for Messrs. Hart & Lovering; Mr. F. G. Widdows, architect:—

Greenwood	£450 0 0
Trott	380 0 0
Ween	347 0 0
Jeff, Brothers	343 0 0
Hunt	290 0 0

For repairs and reseating Bringhurst Church, Leicestershire; Mr. E. Christian, architect:—

Brauston	£610 0 0
Jeff, Brothers	569 0 0
Satchell & Dean	534 19 0
Burdett	464 0 0
Stanyon	451 5 0

For alterations to No. 21, Old Fish-street, for Mr. Rich; Messrs. John Young & Son, architects:—

Conder	£633 0 0
Little	556 0 0
Hardiman & Sandon	526 0 0
Hart	470 0 0
Chessum	435 0 0

For new building, Hutchison-street, Aldgate, for Mr. Lazarus; Messrs. John Young & Son, architects:—

Larke	£737 0 0
Hart	665 0 0
Ennor	641 0 0
Henshaw	595 0 0
Chessum	589 0 0

For parsonage-house, Thorpe Hamlet, Norwich; Mr. Barry, architect:—

Brooke	£1,272 18 8
Foyson	1,247 10 0
Browne & Bailey	1,238 0 0
Lacey	1,223 0 0
Worman	1,218 0 0
Ling & Balls (accepted)	1,198 0 0

For villa, Wilson-street, Derby; Messrs. Giles & Brookhouse, architects:—

Thompson	£987 0 0
Bridgart	978 0 0
Briggs	894 0 0
Bingham (accepted)	825 0 0

For erecting a house at Great Malvern, for Mr. H. B. Beresford; Messrs. Elmslie, Francy, & Haddon, architects:—

Wilson (accepted)	£1,364 0 0

For erecting a house in the Graham-road, Great Malvern, for Miss M. Harris; Messrs. Elmslie, Francy, & Haddon, architects:—

McCann & Everat (accepted)	£2,300 0 0

For covering to platform of the Great Malvern Station, for the W. M. R. Co.; Messrs. Elmslie, Francy, & Haddon, architects

Austin & Brown	£1,186 0 0
Barwell & Co.	1,112 10 0
McKenzie, Clunes, & Holland (accepted)	1,100 10 0
Connell	1,050 12 0

For the erection of the proposed Methodist New Connexion College, Sheffield; Mr. William Hill, architect. Quantities supplied:—

Mycock	£3,500 0 0

For new Baptist Chapel, Manningham-lane, Bradford, Yorkshire; Messrs. Paull & Ayliffe, architects. Accepted tenders:—

Excavator and Mason.	
Booth	£2,339 10 0
Carpenter and Joiner.	
Booth	1,854 0 0
Boundaries.	
Booth	275 0 0
Slater.	
Tattersall	178 10 3
Plasterer.	
Hargreaves	145 0 0
Ironfounder.	
Keighley	190 0 0
Plumber and Glazier.	
Keighley	170 0 0
Painter.	
Keighley	95 0 0
Total	£4,747 0 3

For laying-out grounds, forming roads, terraces, and slopes, and drainage connected with the same; erecting a porter's lodge, and laying the corridors, &c., with tile pavement, at the Jews' Hospital, Lower Norwood, Surrey; Messrs. Tillott & Chamberlain, architects. Accepted tenders:—For laying-out grounds and the drainage,—

Winn	£650 0 0
For porter's lodge:—	
Wills	323 0 0
For tile-paving to corridors, &c.:—	
Cannon	125 0 0

For alterations and additions to the English Presbyterian Church, Shrubland-road, Dalston; Messrs. Tillott & Chamberlain, architects:—

Prince	£318 0 0
Cannon	310 0 0
Fish	230 0 0
Wills	218 0 0

For a pair of semi-detached villas, Park-road, New Wandsworth; Mr. R. W. Giblett, architect:—

Hewett	£800 0 0

For new aisle, Church of the Holy Family, Saffron-hill; Messrs John Young & Son, architects. Quantities supplied by Mr. Shoppee:—

	Aisle.	Sacristy.
Axford	£800	£150 0
Conder	762	143 0
Laurence & Sons	720	140 0
Malcott	649	138 10
Hart	646	132 0
Chessum	630	150 0
Hardman & Sandon	593	108 0
Kelly	585	112 0

For bricklayer's work to houses in City-road; Mr. Caesar A. Long, architect. Accepted tender:—

Beale	£230	0	0

For the erection of two houses, and forming and making new roads, &c., at Lower Norwood, Surrey, for Mr. Barnett Myers; Messrs. Tillott & Chamberlain, architects:—

For two houses. Quantities supplied:—

Piper & Wheeler	£1,040	0	0
Fish	1,035	0	0
G. & R. Buck	1,009	0	0
Ashby & Sons	988	0	0
Cannon	967	0	0
Wills	893	0	0
Mark Deacon	880	0	0

For forming and making new roads, &c.:—

Colson	£320	0	0
Wills	279	0	0
Skitterall	265	0	0
Rogers	255	0	0

For the erection of a dining-hall, 70 feet by 20 feet, at the Pauper Lunatic Asylum, Norwich, for the Norwich Court of Guardians; Mr. J. S. Benest, architect. Quantities supplied:—

Wright	£160	10	0
Chapman	153	10	0
Plummer & Bloom	153	0	0
Greengrass	149	15	0
Browne & Bailey	149	10	0
Burrell	149	0	0
Youngs	147	10	0
Murray & Son	145	0	0
Leach (accepted)	139	10	0

For additions to Lambrook, Berkshire, for Mr. William Budd; Mr. F. Warburton Stent, architect:—

Kirk	£1,244	0	0
Nicholson	1,190	0	0
Bowley (accepted)	1,095	0	0

TO CORRESPONDENTS.

Paint and Sea Salt.—A correspondent, the owner of a row of houses on the seaside, the fronts of which are cemented and painted, says "he finds that the salt atmosphere causes the paint to peel off, and wishes to know of anything that will withstand the sea air." Is he quite sure that the "salt" is not in the mortar of the brickwork or the sand used with the cement?

R. F. B. (goodness as to sound depends on other matters than dimensions, and cannot be settled empirically.)—G. W.—J. C. W. (any brickyard, Lambeth or elsewhere.)—J. C. J. & Co. (correspondent simply asserts that it does render the water hard.)—J. N.—S. D. W. The Rev. G. B. (would legislate too minutely, yet neglect the great evil.)—J. P. W. (shall appear.)—*Faust Rien.*—Colorista.—E. H.—W. W.—H. B. & B.—G. T.—W. G.—Messrs. W.—W. E. M.—F. H.—H. G. H.—T. B. S.—W. H.—W. H. J.—M. B. N.—S. W. T. (an opportunity shall be found).

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than FIVE *o'clock, p.m., on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

PARTNERSHIP.—WANTED, a PARTNER with a capital of from 600*l.* to 1,000*l.* to join the Advertiser, a Builder of good City connexions. A young man of sober and business habits only will be treated with.—Apply for partiers ars to B. S. K. Post-office, Finsbury-place, E.C.

TO PARENTS AND GUARDIANS.

A CIVIL ENGINEER and SURVEYOR, practising in Newcastle-on-Tyne, has a VACANCY for an ARTICLED PUPIL. Premium required.—Address, C. E. 7, Wardle-terrace, Newcastle-on-Tyne.

TO ARCHITECTS AND SURVEYORS.

A GENTLEMAN in practice in London, and holding a public appointment, requires ASSISTANCE, and would be glad to negotiate a partnership with a gentleman of good connections and moderate capital.—Address, DELTA, Office of "The Builder."

CLERK of the WORKS WANTED, immediately, for church work, at Oxford.—Apply, in the first instance, by letter only, with all particulars, references, &c. to J. T. C. 14, Bucklersbury, E.C.

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, a Clever ASSISTANT.—Address, stating age, salary, and other particulars, Mr. HAMILTON, Office of "The Builder."

TO JOINERS

WANTED, a few experienced BENCH HANDS, accustomed to Gothic work in Wainscot Oak. None but first-class hands need apply.—Apply by letter to R. H. Post-office, Nottingham.

WANTED, a strong, active LAD, as an out-door APPRENTICE to the PLUMBING, PAINTING, and GLAZING.—Apply to Mr. STORR, 9, Duke-street, St. James's.

WANTED, a BUILDING FOREMAN, to SUPERVISE the occasional ERECTION of COTTAGES, and other buildings, as well as the GENERAL REPAIRS of HOUSE PROPERTY, at a large IRON WORKS in SOUTH WALES. Situation permanent. Salary, 100*l.* per annum. Written applications, stating qualifications (with references), to be addressed to JOHN NORTON, Esq. Architect, 24, Old Bond street, W.

WANTED, a TIMEKEEPER and DELIVERY CLERK, in a Gas-Fitting Warehouse. A knowledge of the trade and good reference indispensable.—Apply at 55, High Holborn.

TO LONDON SMITHS' FOREMEN.

WANTED, in a small General Factory, a FOREMAN. He must thoroughly understand every description of kitchen work, hot water, steam, and the general routine of a smith's shop.—Apply, by letter only, to B. A. care of Messrs. Kennards, 67, Upper Thames street.

TO BUILDERS, PAINTERS, DECORATORS, &c.

WANTED, by a Young Man, thoroughly competent, a SITUATION to take entire Charge of the BOOKS. Has had eight years' experience in a West End business, is a good accountant, can take orders, and is willing to render himself useful.—Address, M. M. 46, Lisle-street, Leicester-square, W.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, a SITUATION as ASSISTANT to the above. Understands drawing, estimating, book-keeping, &c. and will make up time at the bench, if required.—Address, A. B. 25, Victoria-terrace, Portland Town, N.W.

WANTED, a SITUATION as CLERK. Has been in a builder's office six years; the last two years and a half with a large builder, who has retired from business. Unexceptionable references given.—Address, A. X. Shaw's Library, 256, Oxford-street, W.

WANTED, a RE-ENGAGEMENT as SHOP FOREMAN of JOINERS, or to TAKE CHARGE of WORKS, by a thoroughly efficient and practical Man of several years' experience. Has no objection to the country. Good reference from last and previous employers.—Address, C. D. 58, Coppice-row, Clerkenwell.

TO BUILDERS, ENGINEERS, &c.

WANTED, by a Young Man, a SITUATION as CLERK, or in any other capacity where steadiness and integrity is required.—Address, X. Y. 29, John-street, Blackfriars-road.

TO PLUMBERS AND BUILDERS.

WANTED, EMPLOYMENT, by a first-class Plumber or Three-branch Hand.—Address, WM. LLOYD, 3, Charlotte-place, Old Church-street, Paddington-green.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, a RE-ENGAGEMENT as CLERK. Is a thorough book-keeper, &c. First-class references from last employer. Salary moderate.—Address, A. B. C. 48, Milton-street, Dorset-square, N.W.

TO CONTRACTORS AND OTHERS.

WANTED, by a thoroughly-practical and competent Man, an ENGAGEMENT to MANAGE Extensive WORKS. Has just finished a contract on the Metropolitan Main Drainage. Or should have no objection to a sub-contract of brickwork, earthwork, &c. Age, 38.—Address, WATERHOUSE, No. 321, City-road, London, E.C.

TO PLUMBERS, BUILDERS, AND OTHERS

WANTED, by a Young Man, a PERMANENCY as PLUMBER, Painter, Glazier, Writer, Grainer, and Paperhanger. Patterns can be seen, if required.—Address, W. E, 31, Queen's gardens, Brompton-road, Knightsbridge.

TO THE LEAD AND GLASS TRADE

WANTED, by a Young Man, aged 23, a SITUATION as GLASS-CUTTER and GLAZIER. Has a thorough knowledge of the lead trade and plumber's brasswork. Undeniable reference.—Address, A. M. care of Mrs. Stretten, 7, Duke's-court, Long-acre.

TO LANDLORDS AND OTHERS

WANTED, by a steady Man, aged 32, a Constant BERTH as JOBBING BRICKLAYER, PAINTER, PAPER-HANGER, &c.—Address, A. W. FOWLER, 44, Little Duke-street, Tower street, Waterloo road, S.

TO PLUMBERS, &c.

WANTED, by a Young Man, aged 24, a SITUATION to improve himself in PLUMBING. Has a good knowledge of the above.—Address, B. C. 163, Gloucester-mews West, Montague-square.

TO BUILDERS, SMITHS, AND IRONMONGERS.

WANTED, by a Middle-aged Man, a JOB as BELLHANGER, Housesmith, Gasfitter, and Locksmith. Good reference.—Address, J. H. No. 50, Henry street, Kennington-lane, S.

WANTED, by the Advertiser, an ENGAGEMENT in the Office of an ARCHITECT, &c. Is a good draughtsman, and well up in construction. Good references.—Address, N. B. care of Mr. Baker, 147, Cheapside, E.C.

WANTED, by a Young Man, age 27, a SITUATION as CLERK, &c. Salary not so much an object as employment.—Address, G. H. No. 8, St. George's-road, New Kent-road, Borough.

TO BUILDERS

WANTED, by an experienced SHOP FOREMAN, a SITUATION. Has had eight years' experience in town. Is an experienced staircase-hand. Well versed in Gothic work. No objection to the country. Good reference can be given from present and last employer.—Address, M. B. A. Mr. Harshant's, News Agent, Stamford street, Blackfriars-road.

WANTED, by an Assistant, of six years' experience, a RE-ENGAGEMENT in an Architect's Office. Aged 21.—Address, C. B. Horace Jones's, esq. 16, Furnival's-inn.

TO IRONMONGERS, &c.

WANTED, by the Advertiser, a SITUATION as BELLHANGER, LOCKSMITH, &c. Has had three years' experience in London.—Address, H. M. STEVENS, 19, Grape-street, Leicester.

TO BUILDERS, MASTER PAINTERS, &c.

WANTED, by a Young Man, a permanent SITUATION, as a Grainer, Painter, Glazier, &c.—Address, J. B. 23, Hermitage-street, Paddington-green, Paddington, W.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION as CLERK. Good reference. Age 23.—Address, W. F. at Mr. Hall's, Queenborough, Kent.

WANTED, by a respectable Young Man, who is just out of his apprenticeship, a SITUATION for further improvement in the Stone Masonry. Excellent character.—Address, A. J. 26, King's-road, Camden-town, N.W.

TO ARCHITECTS, BUILDERS, AND OTHERS.

WANTED, by a good and expeditious Draughtsman, an ENGAGEMENT, temporary or permanent, in either of the above offices. Knows the routine of either. Good references.—Address, A. W. Office of "The Builder."

TO BUILDERS AND OTHERS.

WANTED, a RE-ENGAGEMENT, as SHOP or GENERAL FOREMAN, by a thoroughly practical man well versed in construction. Can prepare finished and working drawings, take out quantities, and measure works. Good references and testimonials.—Address, Z. Y. No. 7, Castle-terrace, Pownall-road, Dalston, N.E.

TO BUILDERS, &c.

WANTED, by a Young Man, a SITUATION in a Builder's Office. Can get out plans, measure up work, keep the books, take time, &c. Six years with last employer. Age 27.—Address, W. R. 63, Hatfield-street, Stamford-street, S.

TO ARCHITECTS.

WANTED, a SITUATION as CLERK of WORKS. Has had very considerable experience in Secular and Ecclesiastical Architecture. Also in every other class of buildings. Unexceptionable testimonials and references can be given.—Address, F. B. care of Mr. Abbott, 7, Little Tower-street, E.C.

TO PLUMBERS, BUILDERS, AND DECORATORS.

WANTED, by a respectable Young Man, a SITUATION as a First-Class Plumber, Painter, and Lead-Light Glazier, and Gas-Fitter. Is a good Grainer and Writer. Reference given.—Address, W. JONES, 18, Queen's gardens, Brompton.

WANTED to PLACE a YOUTH of first-rate connexions with a BUILDER of good standing as In-door APPRENTICE. If required, a premium would be paid.—Apply to BUILDER, at Mr. Smith's, Stationer, Upper Holloway, N.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS

WANTED, a SITUATION as CLERK of WORKS, or GENERAL FOREMAN, by a Person of large practical experience. Can produce satisfactory testimonials as to ability and character.—Address, C. B. Office of "The Builder."

TO ARCHITECTS, &c.

THE Advertiser is open to an ENGAGEMENT as CLERK of WORKS, or Assistant in an Office. Is a good practical and perspective draughtsman, and is well up in details, designs, taking out quantities, estimating, &c. (Could take the management of an office, if required.) Fifteen years' first-class testimonials. References to London architects.—Address, G. W. R. Kennett's Library, York-street, Covent-garden.

TO CIVIL ENGINEERS AND SURVEYORS.

THE Advertiser, having just completed an engagement, desires a RE-ENGAGEMENT. He is provided with all field and office instruments. Rails, and other engineering operations executed with accuracy and despatch.—Address, SURVEYOR, 29, Acton-street, Gray's Inn-road, W.C.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who is capable of preparing working and detail drawings, also specifications, and generally conversant with the duties of an office, desires a RE-ENGAGEMENT. Moderate salary.—Address, R. C. Mr. Stuch's, Post office, Newington Butts, S.

TO LAND AGENTS AND SURVEYORS.

THE Advertiser, who has served his articles with a Land Agent and Surveyor, and can be well recommended, is desirous of an ENGAGEMENT, in a good office of general business. Salary not so much an object as an opportunity of being well and fully employed.—Address, E. D. 6, Maddox-street, Regent-street, London.

TO PARTIES about to BUILD.—An experienced Builder wishes to ENGAGE himself to assist in carrying out Buildings, Repairing Cottages, &c.; or would be glad to undertake the Management of an Estate in Town, having had great experience in repairs of tenements. He can give good references.—Address, P. O. 36, Charlotte-street, Blackfriars-road, S.

TO PLUMBERS, BUILDERS, AND OTHERS.

THE Advertiser, who thoroughly understands Plumbing, Gas-fitting, Painting, and Glazing, wishes for a permanency.—Address, E. P. 1, White Hart-court, Bishopsgate-street Without, E.C.

BELL HANGING.—WANTED, by a first-class Bell Hanger, an ENGAGEMENT in the country or abroad. Satisfactory reference.—Address, W. W. care of Thomas Turner, 1 Earl street, Kensington, Middlesex.

TO BUILDERS, STEAM JOINERY AND SAWING-MILL PROPRIETORS.

A PRACTICAL FOREMAN seeks an ENGAGEMENT, on moderate terms. He is a systematical manager of men and directing joinery work, in shop and at machines; a judge of timber; reads drawings, and quick at detail. Credentials unexceptionable.—Address, MARIO, Mr. Nash's, Tobacconist, 4, Upper Dorset street, Paul-st. S.W.

TO BUILDERS AND CONTRACTORS.

AN ENGAGEMENT required as CLERK OF WORKS or General Foreman; a joiner by trade, with a good practical knowledge of every branch of the building trade; accustomed to set out and measure up all kinds of work. No objection to the country, or the charge of an extensive job. Accustomed to machinery, and a good brisk trade.—Address, F. J. Commercial Chambers, Devonshire square, Bishopsgate, E.C.

A GOOD GRAINER is in WANT of a SITUATION. No objection to Plain Painting or Paper hanging, in town or country.—Address, W. W. 81, Bolsover street, Portland-road.

TO ARCHITECTS AND SURVEYORS.

AN Experienced ASSISTANT desires an ENGAGEMENT, temporary or for a portion of his time only. Holds a Certificate of Competency from the Royal Institute of British Architects, under Building Act.—Address, L. P. 41, Watling-street, E.C.

LIFE ASSURANCE.

A YOUNG MAN of good family and some influence, is wanted to represent an old-established Life Office, in his leisure hours; very remunerative; mutual terms will be given to a suitable party.—Address, J. L. H. 18, Merrick-square, Trinity-street, Borough.

TO MASTER CARPENTERS AND BUILDERS.

A YOUNG MAN, a CARPENTER, is in WANT of EMPLOYMENT. Just out of his time. Wages, 24*s.* per week.—Address, X. Y. 31, Great Guildford-street, Southwark.

A YOUNG MAN, aged 23 (married), a good penman, and quick at figures, wishes for a SITUATION as TIMEKEEPER or CLERK, in a builder's office. Can work as a carpenter, and would fill up his time at the bench, if required. Has been in an office before. No objection to a country town. Good references.—Address, G. R. 4, North street, Westminster, S.W.

TO IRONMONGERS AND BUILDERS.

A PRACTICAL MAN wishes for a SITUATION as LOCKSMITH, Bellhanger, Gasfitter, and Smith. Good references.—Apply to W. A. B. 128, St. John-street-road, Islington, E.C.

TO ARCHITECTS, &c.

A GOOD DRAUGHTSMAN and COLOURIST is in want of a SITUATION, either temporary or permanent. Is fully competent to prepare finished, working, and detail drawings, and understands office duties generally. Good references, if required.—Address, A. K. care of Librarian, Reading-rooms, Grange road, Hampstead-road, N.W.

TO ARCHITECTS.

A GOOD and Expeditious DRAUGHTSMAN, who is perfectly capable of getting up working and finished drawings, perspectives, &c. is a good colourist, and understands the routine of an office, is desirous of meeting with an ENGAGEMENT. Terms moderate.—Address, C. B. R. 47, Frederick-street, Grey's Inn road, W.C.

AN ARCHITECT'S ASSISTANT is in WANT of a SITUATION. Is competent to prepare finished and detail drawings, perspective, &c. Salary 25s. per week.—Address, W. G. 11, Charlwood-street, Pimlico.

TO CARPENTERS AND BUILDERS.

A YOUNG MAN, who has been at the bench for two years, wishes to ARTICLE HIMSELF. Wages not so much an object as improvement.—Apply by letter to H. M. 29, Poole-street, Hoxton, N.

TO BUILDERS, BRICKLAYERS, &c.

A YOUNG MAN is in want of a SITUATION as IMPROVER to the BRICKLAYING, or will Article himself for one or two years if required. Has been three years with a jobbing bricklayer, and does not object to the country.—Address, H. F. 22, Upper Bemerton-street, Caledonian-road, Islington.

TO ARCHITECTS.

A YOUNG MAN who has had eight years constant employment in an Architect's office, desires a RE-ENGAGEMENT in a month.—Address, F. B. No. 49, St. John's-street, Oxford.

A CIVIL ENGINEER, and University First-class Honour Man for Science, and Medallist for Modern Languages, has a VACANCY for a few PUPILS, either for the profession or for the Civil Service Examinations.—Address, MAJOLICA, Office of "The Builder."

TO WHARFINGERS, MERCHANTS, AND OTHERS.

A YOUNG MAN, married, aged 30, wishes for a SITUATION as CLERK, TRAVELLER, COLLECTOR, or MANAGER of a Wharf or Warehouse. Has a good knowledge of business habits, &c. can write a good hand, and have good references and character from the firm he is now leaving.—Apply to A. Z care of Mr. List, Post-office, near Stepney Station, Commercial-road, E.

TO BUILDERS AND PAINTERS.

A GOOD GRAINER wants a constant SITUATION at 33s. per week.—A dress, A. D No. 6, Surrey place, Old Kent road.

TO ARCHITECTS.

A RESPECTABLE Young Man, aged 20, is desirous of obtaining a SITUATION in the office of the above. Can make finished and working drawings, &c. &c Terms moderate Address, J. C. 7, Islington green.

TO ARCHITECTS.

A QUANTITY SURVEYOR and MEASURER, with a practical knowledge of building, would be glad to TREAT with ARCHITECTS for their Quantities, and Measuring, Writing Specifications, &c. upon reasonable terms. References given to Architects. Quantities guaranteed.—Address, ALPHA, care of Mrs Fuller, Stationer, Vassall road, Brixton road, S.

TO BUILDERS, CONTRACTORS, &c.

A WHEELER will be in want of a SITUATION in a few days. Is well acquainted with light and heavy London work Can take the management of all kinds of vehicles. Strong and active, with good reference.—Apply, by letter, S. M. 11, Edward Villages, Conoubury square, N.

TO ARCHITECTS AND SURVEYORS.

A FIRST CLASS ARCHITECTURAL DRAUGHTSMAN, who is also a good Land Surveyor and Leveller, is desirous of an ENGAGEMENT.—Address, L. M. N. Office of "The Builder."

TO CIVIL ENGINEERS.

A YOUNG ENGINEER, having excellent testimonials, wishes for EMPLOYMENT Salary not so much the object as practical experience A premium would be given.—Address, X. care of Mr. White, 33, Fleet-street.

LIME GROVE ESTATE, Putney.—This fine estate, containing altogether about forty acres, and immediately adjacent to the Putney Station, and near to Putney-heath, mood-road, TO BE LET on building leases, either as a whole, or in Victoria-street, Westminster; Mr. POWNALL, 50, Lincoln's Inn-fields; or Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament-street.

LAND for the ERECTION of FACTORIES, with Canal Frontage if required, TO BE LET on BUILDING LEASE, in plots from a quarter of an acre to three acres, situate within two miles and a half of London Bridge, Surrey side For particulars apply to Mr. WILLIAM RUSSELL, Plough road, Lower-road, Rotherhithe

FREEHOLD RIVERSIDE PREMISES, near LONDON BRIDGE—TO BE SOLD, a valuable PROPERTY, comprising landing and storing warehouses, dwelling-house and offices, having a frontage of 75 feet to the Thames, and occupying an area of about 16,000 square feet, in immediate contiguity to the proposed terminus of the Charing Cross Extension Railway Particulars may be obtained of Messrs. WILSON & SCOBLE, Estate Agents, 114, Leadenhall street, E.C.

TO CARPENTERS, BUILDERS, and OTHERS -FOR SALE, TWO WELL-BUILT CARCASES, in a good situation at Dalston Term, 99 years. Ground Rents, 5l. each. Price 180l. Advances if required.—Apply to Mr CLARKSON, 9a, Great St. Helen's, City.

LAND at HACKNEY, sufficient for the erection of eleven houses, TO BE LET on Building Leases Term, 75 years, held from the Governors of St. Thomas's Hospital Money advanced, if required —Apply to Mr. J. TUCKER, 294, High Holborn, W.C.; or to Mr. HENRY J. PHILLIPS, No. 34, Moorgate-street, E.C.

TO SPECULATING BUILDERS and OTHERS.—LAND, close to the Royal Dockyard, Deptford, TO BE LET, on LEASE, eligible for building five roomed cottages that would readily let for 6s. a week Apply to Mr JOHN WIMBLE, 2, Walbrook; or to Mr J. A. BONE, 57, Leadenhall-street.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

WANDSWORTH ROAD, near VAUXHALL.—BUILDING LAND TO BE LET on LEASES for Forty Houses, to complete a Street, at 8s per foot frontage.—Apply to Mr TAYLOR, No. 5, The Lawn, South Lambeth, S.

CHEAPSIDE.—BUILDING LAND.—To BUILDERS, CAPITALISTS, and OTHERS.—A valuable SITE, in Cheapside, of about 69 feet frontage, and averaging 45 feet in depth, TO BE LET on Building Lease for a term of eighty years from Lady Day, 1863, suitable for the offices of a public company, or for warehouse or business premises. Tenders will be received up to the 25th day of AUGUST next. Plans, particulars, and conditions of Tender may be seen on application to the Clerk, Sadlers' Hall, Cheapside, E.C.; or to Mr. F. W. PORTER, Architect, 19, Russell-square, W.C. between TEN and FOUR.

EXTENSIVE MANUFACTURING PREMISES, WHITECHAPEL.—TO BE LET or SOLD, together or separately, the extensive and important range of PREMISES recently occupied as the WHITECHAPEL DISTILLERY, with land adjoining, if required. The Buildings, many of which are of great extent, are most substantially erected, principally in 1845, and are very conveniently arranged for almost any manufacturing purpose. There are three distinct gateway entrances, and the Buildings on all sides are surrounded with paved yards. The total area is about three acres, exclusive of six acres of accommodation land, which may be had if required There is an Artesian well, which affords a constant and unlimited supply of pure water.—Further particulars and cards to view may be had of Messrs TENNANT & DARLEY, Solicitors, Raymond's-buildings, Gray's-Inn; and of Messrs. FULLER & HORSEY, Billiter-street, E.C. where plans of the property may be seen.

TO ENGINEERS, FOUNDERS, and IRONMONGERS.—TO BE LET, on very desirable terms, extensive MANUFACTURING and ENGINEERING PREMISES, with Cellarage underneath, the whole situate in a principal street in the centre of London. The Premises are freehold, excepting a small part, which is leasehold. The business has been carried on most successfully for many years, and the plant and stock have just been valued. The present Manager, with a staff of workmen, is willing to continue under a new employer. Every information can be obtained on applying in the first instance by letter, with the real name and address, to THOMAS SMITH, Surveyor to the Hardware Trade, 14 and 15, St. Swithin's lane, London, E.C.

MILE-END-ROAD. — To BUILDERS, BREWERS, DISTILLERS, and MANUFACTURERS. — TO LET, on lease, for a term of eighty-one years, A desirable PLOT of BUILDING GROUND, with a valuable frontage on the High road of 216 feet, eligible for shops, and another free toge of 275 feet, depth from north to south 220 feet, being the site on which the Jewl Hospital now stands, and eligible for the erection of genteel private residences, a public institution, or business premises. Land-tax redeemed — Terms may be known on application to Mr. MASON, Estate Agent, 15, Finsbury-place South, E.C.

TO BUILDERS.—FOR SALE, FREEHOLD LAND, about Seven Acres and a Quarter, with House and Courts, at Acton, five miles from the Marble Arch, and a quarter of a mile from the North and South Junction Railway Station. Soil, gravel, sloping south; well timbered, frontage to Uxbridge-road, also to East Acton-road. Gas and water pass the premises —May be viewed from TEN to FIVE. Grove House, Acton, Middlesex.

FREEHOLD SITES for BUILDING can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

TO BUILDERS.—TO BE LET, a convenient House and Premises, with spacious Workshops, late y occupied by a builder, in a borough town containing a population of 8,000, and two hours by rail from London, where there is a decided opening. Sixty acres of land are about to be sold in the immediate vicinity for building purposes. Persons without a reasonable capital need not apply.—Further particulars, by letter, to G. F. at D. T. Miller's, esq. 5 and 6, Sherborne-lane, City, London.

BUILDING LAND, Guildford, Surrey.—TO BE SOLD, by Private Contract, a few PLOTS of BUILDING LAND, commanding views of some of the most beautiful scenery in Surrey, and very eligible situate for the erection of first-class residences. The land is within ten minutes' walk of the South-Western and South Eastern Railway Stations, from which trains run to London, Portsmouth, Reading, and Redhill, the trains reaching London within the hour. The land is on a slope, with a southern aspect, and by its situation is protected from the north and east winds. The subsoil is chalk.—For further particulars apply to Mr. E. C. DUNCOMBE, Surveyor, Guildford.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT, For Damp Walls and Lining from Houses, 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

POLONCEAU and LIMMER ASPHALTE.



ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above) the adjoining of joints preventing the generation of ammonia. For estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TO ARCHITECTS AND SURVEYORS.

DAVIES & GUYER, LITHOGRAPHERS, STATIONERS, and PRINTERS, 2, Grocers' Hall-court, Poultry, E.C beg to invite the attention of the profession generally to the resources of their establishment, as above, for LITHOGRAPHING AND PRINTING BILLS OF QUANTITIES, SPECIFICATIONS, DETAIL DRAWINGS, &c. &c.

Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands, thoroughly conversant with the various building terms, constantly engaged on the premises, they are enabled to guarantee superiority of style, correctness, and expedition. Specimens and Lists of Charges post free,

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINE, and SPIRIT WARRANTS. BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Balance-sheets prepared, and Meetings of Creditors attended Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scuda more, and other Organs usually in Stock. Also as to the Tuning, &c of Organs in all parts of the country. Church Organs of any size, built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 3d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 4d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 11s. 3d.; 1 White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & F. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,000 feet in Plank and Board, sawn three years. E. HUTTERWORTH, ALUM STREET TIMBER-YARD, MANCHESTER.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c. For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter: Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24. Guilford st. Russell-sq.

NOTICE. -There is no VACATION at MIDSUMMER in the Architect's, Builder's, and Civil Engineer's Drawing Classes. The only Classes where the Pupils have the privilege of Inspecting Buildings in Progress and Measuring up Work from the Carcase Prospectuses of the Day and Evening Classes at the Offices, 73, Old street, E.C.—Mr. T. J. HILL, Architect, June, 1862.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

TO BUILDERS, CONTRACTORS &c.

HAYES & SON, Scotgate-Works, Stamford, will exhibit their FIRST PRIZE WAGONS, CARTS DRAYS, BARROWS, &c at Stand Nos 82 and 181.

ROYAL AGRICULTURAL SHOW YARD, BATTERSEA PARK.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

Decimus Burton, esq.
Travers Buxton, esq.
Octavius Edward Coope, esq.
William Cotton, esq.
John Davis, esq.
George Arthur Fuller, esq.
Charles E. Goodhart, esq.
James Alexander Gordon, esq.
Edward Hawkins, jun. esq.
Kirkman D. Hodgson, esq. M.P
William James Lancaster, esq.
John Dorrien Magens, esq.
John Timothy Ogier, esq.
Benjamin Shaw, esq.
Wm James Thompson, esq.
Hy. Reynaud Toulmin, esq.
Matthew Wadting, esq.

AUDITORS.

John Hodgson, esq. | Peter Martineau, esq.

Joseph Samuel Lescher, esq.

SECRETARY—George William Lovell.
ASSISTANT SECRETARY—John J. Broomfield.
SOLICITORS—Messrs. Dawes & Sons, Angel-court.

Insurances against Loss by Fire are effected by the Phœnix Company upon every description of Property in every part of the world, on the most favourable terms.

Persons insuring with the Phœnix Company are not liable to make good the losses of others, as is the case in some offices

Insurances with this Company expiring at Midsummer must be renewed within fifteen days thereafter, or they will become void.

Receipts are now ready at the Principal Offices, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

ACCIDENTS ARE UNAVOIDABLE. Every one should therefore provide against them.

THE RAILWAY PASSENGERS' ASSURANCE COMPANY

Grant Policies for Sums from 100l. to 1,000l. assuring against ACCIDENTS OF ALL KINDS.

An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.

Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.

1/2,817 have been paid by the Company as COMPENSATION for 56 Fatal Cases, and 5,041 Cases of Personal Injury.

The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d at all the PRINCIPAL STATIONS.

Empowered by Special Act of Parliament, 1849.

64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

POLYTECHNIC.—What I saw at the International Exhibition; or, Half-an-Hour's Advice to Intending Visitors, by Professor J. H. PEPPER, F.C.S. A. Inst. C.E. &c on Tuesday and Thursday, at half-past 1 and quarter-past 7.—New Lecture by Professor J. H. Pepper, commencing Wednesday, 25th, at quarter to 9, on "Some of the Chief Scientific Specialities in the World's Fair." Herr Schmidt will give his remarkable imitations of the Lark, the Nightingale, and other British Birds and Animals. Re engagement of GEORGE BUCKLAND, Esq. for his Buffo-Musical Entertainments.—New Gorgeous Scenic Optical and Pyramatic Fountain Spectacle Beautiful Dissolving Views, illustrating London in Ancient and Modern Times Paris as it is—The Holy Land.—N B. In consequence of the very general approbation of the Concerts of the BROUBIL FAMILY, they have been re engaged for another month. See weekly programme of 8 pages. Open from 12 to 5, and 7 to 10. Admission 1s.

HAMPSTEAD ROAD JOINERY WORKS.

21, HARRINGTON STREET, N.W.

NEVIL SIMMONDS,

MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.

SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIRCASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.

Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp.

BRICK-MAKING BY STEAM POWER.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINE,

(Each producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS, London.
" BRASSEY & CO. London.
" BAKER & SON, Isle of Wight.
" ROBT. SHARPE & SONS, London.
S.-E. RAILWAY COMPANY, Folkestone.
Mr. GEORGE FURNESS, London.
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO. Burham.

FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works; at the Great Exhibition, South Kensington; or at their Show Rooms, Upper Montague-street, Montague-square; or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.

ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

A. TAGNON,

7, NORTH MEWS, LITTLE JAMES-STREET, GRAY'S INN LANE, LONDON.

Begs to recommend his extensive STOCK of every description of MARBLE CHIMNEY-PIECES and CASES for MARBLE CLOCK-STANDS. Being a large proprietor in Belgium of black, grey, red, &c. marble quarries, he can furnish any quantity in qualities, at most moderate prices. Mosaic inlaid work and marble clock-stands repaired and polished. Columns and vases turned and polished for the trade

THE BRITISH and FOREIGN MARBLE

GALLERIES, Warwick House, 142 and 144, Regent-street; and 29, 30, and 31, Warwick-street, W.

EDWARDES, BROTHERS, & BURKE, PROPRIETORS.

The largest and most superior Stock of Chimney-pieces in Europe on view at the above-named Establishment.

Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.

Estimates for every description of Marble Stone and Granite Work.

MARBLE CHIMNEY-PIECES, STOVE-

GRATES, FENDERS, and FIRE-IRONS.

MAPPLEBECK & LOWE, BIRMINGHAM.

MANUFACTURERS OF THE LEAMINGTON KITCHEN RANGE.

SIXTY MARBLE CHIMNEY-PIECES

TO BE SOLD, in consequence of Monsieur Beernaert, of the Belgian and Westminster Marble Works, Millbank-street, Westminster, having discontinued his Show-rooms in London. The above Chimney-pieces consist of Carved Statuary, Bold Rouge Royal, Black Tynemd, &c. &c. The above will be sold at a great sacrifice—in fact, no reasonable offers will be refused.—Apply to Mr. PILTON, Westminster Marble Works, Earl-street, Horseferry road, S.W.

MARBLE CHIMNEY-PIECES

of every Description, also enamelled Slate, to be SOLD at 260, MARYLEBONE-ROAD (opposite the Yorkshire Stingo). BATH STONE BOX CHIMNEY-PIECE, with MOULDED CAP and BASE, 7s. FITTED TO ANY OPENING.

THE LIZARD SERPENTINE

COMPANY, LIMITED.

Works—CARLEON COVE, LIZARD, CORNWALL.

Offices—24, ST. JAMES'S-STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.

All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

MAGNUS'S ENAMELLED SLATE

obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 29 and 40, Upper Belgrave-place, Pimlico, S.W.

ROBERT WHITE, SLATE MERCHANT,

SHEFFIELD,

ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor Mold Junction and Garston.

GRANITE.—The Cheesewring Granite

Company, Limited, Liskeard, Cornwall.

SHOW ROOMS, 6, CANNON STREET, E.C.

London Agents—TREGELLES & TAYLOR.

Manager—JAMES J. TRATHAN, Liskeard.

This Granite is selected for the New Westminster Bridge.

DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.

EDGE RUNNERS OF SUPERIOR QUALITY.

POLISHED GRANITE WORKS,

ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

W. & J. FREEMAN, Merchants in the

various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK

BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slate, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.

Country orders promptly attended to.

LITTLE CASTERTON FREESTONE.

Apply for prices, &c. to

OCTAVIUS N. SIMPSON, STAMFORD;

and see Specimens at the Office of

Messrs. PINDER SIMPSON & SONS, 20, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

CAEN and AUBIGNY STONE.

FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.

Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.

Depôt—GRANITE WHARF, East Greenwich.

Office—10, Three Crown-square, Borough.

HY. GEORGE & COMPANY,

CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.

Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.

Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE

SILICEOUS STONE.

ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.

Filters and Filtering Slabs for Domestic or Manufacturing purposes

For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster or Patent Stone Works, Ipswich.

HAM HILL STONE, from the white or

yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

VICTORIA MARBLE WORKS,

33, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

RED MANSFIELD STONE.

WHITE MANSFIELD STONE.

YELLOW MAGNESIAN or BOLSOVER LIMESTONE.

Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.

Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

REMOVAL of OLD PAINT, VARNISH,

&c.—PATENT EXTRACT of LETHICUM.—For Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. in a few minutes, and for Cleaning and Restoring Old Paint. Success guaranteed. Price 5s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London.—Messrs. NAENIARE & CO. 11, St. Andrew's-hill, Doctors'-commons, London, E.C.—N.B. Cheap patented Brushes for laying on the Extract and removing the old paint, 2s. per pair

CONDY'S PATENT FLUID is adopted by

the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable, such as purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c. as well as by use in the bath for promoting and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 1s. 2s. or 4s each; or per Gallon, 16s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.

Wholesale of the Patentee, Battersea, Surrey, S.W.

COLOURS and VARNISHES at

REDUCED PRICES.

Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 2d. per gallon; Boiled Oil, 3s. 6d.; Turpentine, 3s 8d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

PATENT GRAINING APPARATUS.—

TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED

with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

30, LONDON WALL, E.C.

Where also may be obtained their

CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,

Together with all kinds of Colours and Varnishes,

Warranted of the purest quality and at the lowest prices.

Agents for Kershaw's Graining Machines.

T. KENT'S PAINTING-BRUSH

MANUFACTORY

Is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.

Iso Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES

are all stamped G. B. KENT & CO

And are manufactured solely by G. B. KENT & CO.

at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES

(C. A. Watkins's Patent), warranted secure, best bristles, and of superior texture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.

PAINTING BRUSH MAKERS,

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

And of their Agents,

SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

IMPORTANT to BUILDERS and

PAINTERS. Genuine White Lead, 30s. per cwt.

Linseed Oil, 3s. 2d. per gallon; Boiled Oil, 3s. 6d. per gallon.

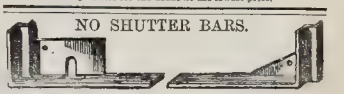
Turpentine, 3s. 9d. per gallon.

Fine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Ebury-street, and 45, Colenhill-street, Pimlico, S.W.

Every article for the Trade at the lowest price.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland-street, Blackfriars road.

FIRES.—VAUCHER'S PATENT WOVEN

HOSE for Fire-engines and Ships' purposes may be had of any length and diameter. All warehouses and large establishments should have a plug with a length of hose attached on each floor.—Samples of double and half-inside substance, and all particulars, may be had at the Office, 1, Chapel-place, Poultry. Shipping orders prepared for tropical climates on the shortest notice.

MR. CHARLES WOODROFFE, of 29,

New Bridge-street, Blackfriars, is prepared to ADVANCE MONEY in discount on short notice, on HOUSES in the course of erection, at frequent intervals, as the works proceed, the borrower depositing the writings. No legal expenses.—Apply between Ten and Four.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from **2s.** per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from **3s.** per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1½	2	2½
„ 2ft. 6in. sup.	1½	1¾	2¼	3
„ 4 ft. super...	1¾	2	2½	3½

Orchard House Sizes.

	per 100 ft.	15 oz.	21 oz.
20 by 12		4ths 12s. 6d.	4ths 17s. 0d.
20 by 13		3rds 15s. 0d.	3rds 21s. 6d.
20 by 14		2nds 18s. 0d.	2nds 28s. 0d.
20 by 15		1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d. } per cwt.
Patent Dryers .....28s. to 42s.

Fine Oak Varnish ...10s.
„ Carriage ...12s.
Linseed and Boiled Oil
Turpentine ..... } per gallon.

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

TO BUILDERS, CARVERS AND GILDERS, PICTURE-FRAME MAKERS, AND OTHERS.

NET CASH PRICES FOR GLASS OF SUPERIOR QUALITY,

In Cases of 200 feet super. large sizes.

	15 oz.	18 oz.	21 oz.
Best	£4 3 4 —	£4 11 8 —	£5 0 0
Seconds	2 18 4 —	3 6 8 —	4 3 4
Super Thirds	2 1 8 —	2 10 10 —	3 6 8 } Per Case.
Thirds	1 13 4 —	1 17 6 —	2 18 4
Fourths	1 5 0 —	1 9 2 —	2 12 0

Estimates and Price Lists for every description of Glass forwarded on receipt of particulars.

ROBERT METTAM & CO.

Wholesale British and Foreign Window Glass Warehouse, 30 and 31, Princes-street, Leicester-square. Established, 1793.

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF

PRIZE MEDAL, LONDON, 1851. Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maesta and Montoria (Spain), Bastennes (Landes), &c. **GOLD MEDAL PARIS, 1844.**

SEYSSEL ASPHALTE,

AND BY H.M.'S ROYAL LETTERS PATENT,

MANUFACTURERS OF

METALLIC LAVA.

FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.



Illustrated Treatise, Post free, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:— Cardington Street, Hampstead road, London.



THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, ocean tabs, and counter cases, aquariums, form cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

311, REGENT STREET, W.

(Adjoining the Polytechnic Institution).

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 „
Ladies' or Gentlemen's Gold English Lever Watches	18 „
Strong Silver Lever Watches	5 „
Gentlemen's Gold Compensation Balance Watches	40 „
Do. Silver do. do.	25 „
Marine Chronometers	25 „

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.

INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock, may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No 2 323.

JOSEPH FAIRER,

Turret Clockmaker to Her Majesty's War Department, 188, St. George-street East, London.

BENJAMIN EDGINGTON, 2, DUKE-STREET, FOOT of LONDON-BRIDGE, S.E.

Manufacturer of Tarpaulins, and Improved Dressed Cloths.

Tarpaulins Let on H.P., Scaffold-cord, Rope, &c. Books of every description. Marquees, Tents, Awnings, Rick-cloths, Sails, &c.

N.B. The ONLY ESTABLISHMENT is at 2, DUKE STREET, LONDON-BRIDGE, S.E.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

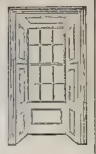
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,
CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS
Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		Laths, 28s. per load.
Yellow Deals, sound and good	£19 10 0 per 120,	or 0s. 3½d. per foot.
Spruce Deals	16 10 0 ,,	0 2½ ,,
Yellow Battens, excellent quality	11 10 0 ,,	0 2 ,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 ,,	3 6 ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,
OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅝-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	16s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
⅝-inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards } from 11s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
8,000 Yellow Deals ..... from 3s. 3d. each
14,000 Spruce ditto ..... from 2s. 9d. each

5,000 Yellow Battens ..... from 11l. 10s. per 120
50,000 feet Spanish and Honduras Veneer ..... } from 1d. per foot
Maple ditto ..... from 1d. per foot

SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅝ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	16s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

MOULDING WORKS.
SMITH & McGAW





(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP.

VENTILATION—PURE AIR.

Shortingham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d. These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Blackfriars-road, Borough, London; and of all respectable Ironmongers, Builders, &c.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. — Orders received at Great Scotland-yard, Whitehall; and at the Works.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
19, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice

GEORGE ALLEN (late W. & T. N.
GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT
STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and
KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND, ROMAN, and PLASTER
CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise,
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c, RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, and MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.
LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET.
MANCHESTER,—THOMAS OAKDEN.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Hadlow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PATENT PORTLAND and ROMAN CEMENT,
AND PLASTER OF PARIS WORKS,
FRINDSBURY, on the MEDWAY, KENT, and
CANAL ROAD, KINGSLAND ROAD, N.
MESSRS. FREEN & CO.
Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER of PARIS, in any quantity, fresh from the kilns.
Orders addressed to their LONDON WORKS, Canal road, Kingsland N. will meet with prompt attention.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREYSTONE CHALK, FLARE and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA-COTTA and CHIMNEY-POTS, GARDEN VASES, TRUSSES, and HEADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms—PEROY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

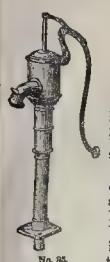
O. MCCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited,
Are prepared to Supply their First-class Blue Lias Lime in any quantity and at any place
SPECIAL CONTRACTS MADE FOR LARGE WORKS.
All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & FOTT, Nine Elms, London.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.
BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



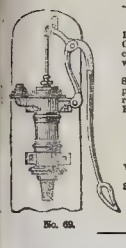
No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2¼ in. short	1 ft. 7 in.	Fitted for lead, gutta percha or cast iron flanged pipe, as required.	1 1 0
2½ „ long	3 3		1 10 0
3 „ ditto	3 6		2 4 0
3½ „ ditto	3 6		2 9 0
4 „ ditto	3 6		3 16 0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			2 0 0
2½ in. long ditto	ditto		2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.



No. 69.

WARNERS' PATENT

BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£6 0 0	Larger sizes when required.
3 „	7 5 0	
3½ „	8 0 0	

Fitted to the best Plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4 15 0
3 „	6 15 0



WARNERS'

BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from 30s. to 50s. each. J. W. & SONS also supply all Fittings requisite for the same.

A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384. No. 383.

WARNERS' HIGH PRESSURE COCKS

are made with gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re-leathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Screw Cock.

JOHN WARNER & SONS,

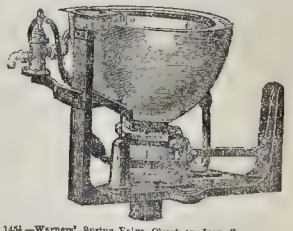
BELL and BRASS FOUNDERS to HER MAJESTY.
INTERNATIONAL EXHIBITION.

Class 8. WESTERN ANNEXE. Pumps, Beer Engines.
Class 9. EASTERN ANNEXE. Garden Engines, Syringes, &c.
Class 10. NEAR EASTERN DOME. Water closets.
Class 31. SOUTH-EAST TRANSEPT.—A Peal of Eight Bells and Chiming Apparatus.
Class 31. HARDWARE COURT. Bells, Urns, Lamps, Brazierry Goods, Rasps, Stencil Plates, Plumbers' Cocks.

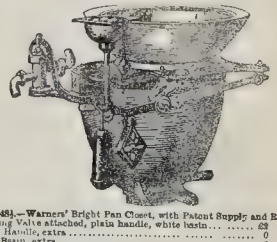
Illustrated Catalogues forwarded on application at the Manufactory, 8, Crescent, Cripplegate, London.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 145½.—Warners' Spring Valve Closet on Iron Frame, with vulcanised India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 0
Sunk handle, extra 0 2 0
Blue basin, extra 0 1 6



No 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £3 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

The above Prices are subject to a liberal discount.

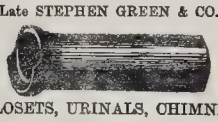
JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

CARSON'S
ORIGINAL ANTI-CORROSION PAINT.

Patronised by

THE BRITISH GOVERNMENT, | H.R.H. THE PRINCE CONSORT, | RAILWAY AND CANAL COMPANIES
THE FRENCH GOVERNMENT, | MOST OF THE NOBILITY & GENTRY, | THE PRINCIPAL COLLIERIES,
THE RUSSIAN GOVERNMENT, | THE DOCK COMPANIES, | MILLOWNERS, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also

IRON ROOFING, BRIDGES, HURDLING,
AND EVERY DESCRIPTION OF IRON WORK;
FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone. The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.

OIL, TURPENTINE, AND BRUSHES.

Prices, Patterns, and Testimonials sent upon application to

WALTER CARSON AND SONS,
(SUCCESSORS TO THE INVENTORS,)
9, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.
NO AGENTS THROUGHOUT THE UNITED KINGDOM.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage stamps.

BUFF & DEEP RED FACING BRICKS,

Splays, Cutters, Floor-tiles, Garden Edging, &c.—Apply to E. HOOPER, Manufacturer, Southampton; or JOHN DOWNEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.

Architects and Builders requiring superior colour in bricks are respectfully invited to inspect the above.

MINTON & CO.
HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS,
TO 50, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 31 Wharf, Macclesfield street North, City-road Basin, N. finally, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and lastly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Filories," Tunstall, Staffordshire as the first of the kind in the world.

C. H. T. BIKKER, 110, Bradford-street, and 162, Cheapside, Birmingham, ARTIST in ECCLESIASTICAL DECORATIONS, HOUSE and CHURCH DECORATOR. Wall painting, diapering, and gilding in the three styles of the twelfth, thirteenth, and fourteenth centuries. Every description of ecclesiastical writing, labelling, and Gothic decorations; also Egyptian, Roman, and Grecian decorations truthfully carried out in accordance with the several styles. Experienced artists sent to any part of the United Kingdom. Architects' designs carried out by experienced decorators, or drawings furnished if required. Specimens may be seen fully carried out at the above address.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL,

MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed.
The Cover, being fired in one piece with the Pipe, fits perfectly.
There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.
MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

DOULTON & WATTS,
LAMBETH POTTERY, LONDON.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

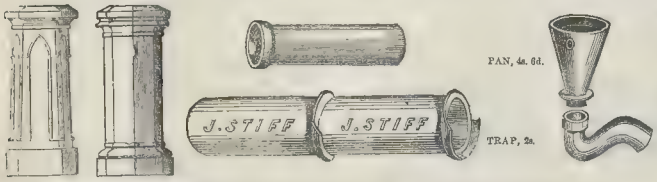
Be particular to order the
3s. 9d. Enamelled Stoneware Closet and Trap.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

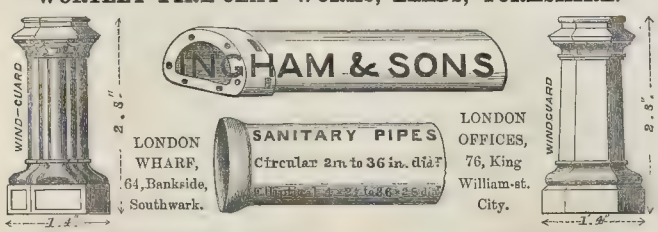
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



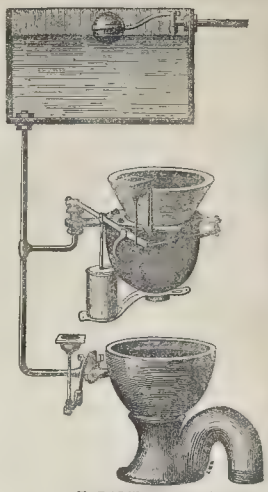
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.
May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S City-road Wharf, City Basin
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed street, Paddington.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.
Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

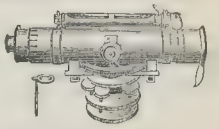
FERGUSLIE FIRE CLAY WORKS,
PAISLEY.



PATENT GLAZED SEWER PIPES, according to Jenning's Patent and the GLAZED SEWER PIPES with SOCKET JOINT. Also all articles made of Fire Clay. The Sewer Pipes are in sizes from 2 inches up to 24 inches bore, and are of the best quality made. Prices very moderate. The extent, both for the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be.
ROBERT BROWN.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42 inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 36-inch, 5s. 6d. and 8s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN.
LONDON, W.C.
Price 2s. 6d post free, STANLEY'S
IMPROVED DRAWING PEN.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
30, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

A FEW REMARKS ON SANITARY PROGRESS,
BY GEORGE JENNINGS.

Prior to the "Health of Towns Act, 1848," and Exhibition, 1851, but little consideration was given (except by an earnest few) to Sanitary Matters—(we had no Sanitary Commission or Social Science Meetings then),—the Dead were buried in the midst of the Living, the necessities of life (excepting eating and drinking) were unknown, or, if known, were altogether neglected by the great bulk of the Community. Pure Air, Pure Water, and good Drainage (now considered so essential) were then Secondary Matters, just necessary for ENGINEERS, DOCTORS, and ENTHUSIASTS to rave about. "People would live till their time came," and they never died (no matter the cause) except "by the Visitation of God."

As an Humble Worker in the cause of Sanitary progress, George Jennings followed in the train of the "earnest few," and endeavoured to the best of his ability to supply mechanically those wants which ARE NOW considered so essential to the PROTECTION, PERFECTION, and PRESERVATION of the Human Plant from Infancy to Ripe Old Age.

That his efforts have not been altogether unsuccessful, is proved by the fact that ALL HIS INVENTIONS HAVE BEEN RECOGNIZED AS IMPROVEMENTS," and largely adopted; as a further proof of their Value, they have ALL BEEN MORE OR LESS COPIED by other Manufacturers (some nearer than the Law will permit), and unblushingly Exhibited as original Inventions in the Exhibition, 1862. To these "COPIES" attention is particularly invited, and Comparison with the ORIGINALS requested, all of which may be seen in the Civil Engineering Department, South side of the Eastern Dome.

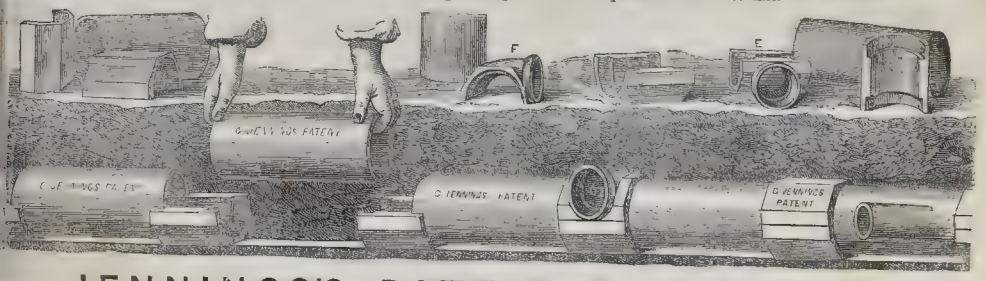
George Jennings takes this opportunity of calling attention to the Sanitary Arrangements of the Retiring Rooms of the International Exhibition, which he thinks (with his other Manufactures within the Building) will give evidence of the improvements made since 1851. He would also remark that he has ever endeavoured to combine UTILITY with SIMPLICITY and DURABILITY; and his success may be estimated by the fact that all his Sanitary appliances in the Rooms referred to WITHSTOOD the ROUGH USAGE of English and Foreign Workmen, Sappers, and Police for TWO MONTHS before the Opening, and the wear and tear by Visitors since that time, WITHOUT REQUIRING ATTENTION OR REPAIR.

In the limits of an advertisement it would be impossible to describe George Jennings's Improvements in Building Sanitary and Domestic Appliances, the demand for which has been so great as to render, for the past two years, any kind of advertisement unnecessary. To meet the increasing demand he has recently doubled the size of his Pottery Works, the

SOUTH-WESTERN POTTERY, POOLE, DORSET,
And established large
WORKS, 17, FORDROUGH STREET, BIRMINGHAM.

With these increased means he will endeavour to supply mechanically those wants which result from scientific inquiry.

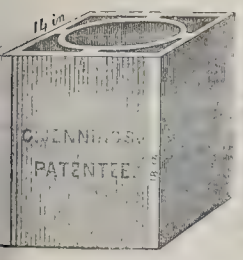
George Jennings's Improvements in the Construction of Buildings with Hollow Walls are well worthy the consideration of those who desire to preserve a uniformity of temperature, summer and winter; and as a preventive of DRY ROT or DAMP RISING, he would especially recommend TAYLOR'S PATENT DAMP-PROOF COURSE as a great improvement on asphalte or slates in cement.



JENNINGS'S PATENT DRAIN PIPES,

With all their acknowledged advantages, are the Same Price per Foot run as charged for ordinary Socket or Half-Socket Pipes, viz.:—

3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in.
5d.	6d.	8d.	1s. 1½d.	1s. 10d.	3s. 0d.	4s. 0d.



The above are the ONLY DRAIN PIPES CONSTRUCTED WITH A VIEW TO ACCURATE LAYING, PERFECT JOINTING, and COMPLETE EXAMINATION, or that **LEGALLY PERMIT** of the introduction of **SADDLE JUNCTIONS OF ANY SIZE OR FORM** to New or finished lines of Pipes.

In spite of the Strongest Trade Combination that ever existed, bad Copies of the Original Invention and discounts varying from Ten to Fifty per Cent., the demand for these Pipes has steadily increased, and they are now specified in every Public or Private Work IN WHICH CONSIDERATION IS GIVEN TO THE **CONTINGENCIES PECULIAR TO DRAINAGE.**

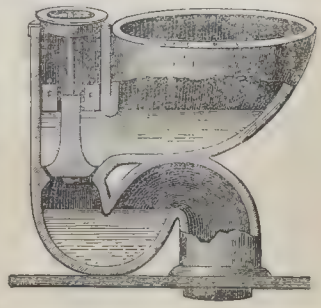
Admitting that a fire-place is necessary to every room, and a chimney to every fire-place, there is no reason why seventy-five per cent. of the heat generated should pass wastefully away. By the use of JENNINGS'S PATENT AIR-CHAMBER SMOKE-FLUES this waste is avoided: the Smoke-flue being, as shown, **IN THE CENTRE** OF AN AIR-CHAMBER, not a particle of heat can escape laterally without doing duty. These Flues not only SUPPLY FRESH AIR warmed to an agreeable temperature, but they extract it after use. George Jennings hopes that the day is not far distant when as much consideration will be given to the supply of pure air as is now given to the supply of pure water and properly-purified gas.

Jennings's Exhibition or Valve Closet and Trap.

If the illustration of this Closet is compared with any other offered to the public, its simplicity will be at once apparent. The BASIN, VALVE, SEAT, and TRAP, are all in one piece of earthenware; it is free from complication; no Wires, Cranks, Levers, D-Traps, or Regulators; and in its various qualities is fit for the Mansion or Cottage.

Want of space prevents the illustration of several recent Improvements in Building and Sanitary Appliances, all of which may be seen in the

CIVIL ENGINEERING DEPARTMENT OF THE EXHIBITION,
or at
GEORGE JENNINGS'S LONDON SANITARY DEPOT,
HOLLAND STREET, BLACKFRIARS ROAD.



SALES BY AUCTION.

THE MATERIALS OF THE EAST-INDIA HOUSE.—Fourth Portion

PULLEN, HORNE, & EVERSFIELD

are instructed to SELL by AUCTION, on the premises, on WEDNESDAY, JUNE 25th and following day, at TWELVE, in lots, the FOURTH PORTION of the VALUABLE MATERIALS of the EAST-INDIA HOUSE, Leadenhall-street, comprising the west portion of the building, with return next Leadenhall Skin Market, and including 35 square of slates and slating-boards, prime oak and fir timber in rafters, joists, and girders; 150 square of sound oak and other floor boards, 100 pair glazed sashes, 150 wainscot and other doors, 20 marble chimney-pieces, panelled partitions, stone staircases with iron balusters, 5,000 feet York landings and paving, Portland-stone front, stone coping, window cills, and stringing; 25 tons of lead, in flats, gutters, cisterns, and pipes; sheet-copper covering, 300 feet of ornamental iron railing and gates, iron girders and columns, stoves, ranges, and a variety of useful materials and fittings-up.—May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

LONDON, CHATHAM, and DOVER RAILWAY.—Metropolitan Extensions — Seventeenth Clearance Sale. — Building Materials, Brixton

PULLEN, HORNE, & EVERSFIELD

are instructed by the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, JUNE 27th, at TWELVE, in lots, the excellent BUILDING MATERIALS and FITTINGS-UP of SIX capital residences, built within a few years, situate in Canterbury-road, Dresham-road, and Barrington-road, Cold Harbour-lane, Brixton; comprising nearly new bricks, thirty-five square of slates, excellent timber and flooring-boards, plate-glass and other sashes, doors, chimney-pieces, and interior fittings, coach-house gates, erection of greenhouses, lead gutters and pipes, stoves, and various useful fixtures and fittings up.—May be viewed the day previous, and catalogues may be had, at the VINERS Office, 3, Fredrick's place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C.; and 40, Parliament-street, S.W.

BUILDING MATERIALS, MINCING LANE, CITY.

PULLEN, HORNE, & EVERSFIELD are

instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 1, at TWELVE, in lots, all the valuable BUILDING MATERIALS, OFFICE FIXTURES, and FITTINGS-UP of THREE HOUSES and PREMISES, Nos. 20, Mincing-lane, and 1 and 2, Hammond-court, adjoining; comprising sound brickwork, useful timber in rafters, joists, girders, and breast-summers; large quantity of plain tiles, sashes, doors, warehouse fronts, chimney-pieces, partitions, wainscoting, sound flooring-boards, stone paving, cills, and coping; 5 tons of lead, in gutters, cisterns, sinks, and pipes; mahogany desks and counters, tables and chairs, nests of drawers, iron bookcases, copying presses, gas-fittings, coppers, stoves, and other useful fittings-up.—May be viewed the day previous; and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C.; and 40, Parliament street, S.W.

Highly important Freehold Premises, at the west end of the metropolis, close to Regent-street and Oxford-street, occupying an area of about 22,500 square feet, with immediate possession; also the Reversion to a Freehold Residence adjoining.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT are honoured with instructions to SELL by AUCTION, at the MART, on FRIDAY, JUNE 27, the very important and highly valuable FREEHOLD PROPERTY, comprising the spacious mansion, offices, and garden, known as Argyll-house, the property of the Earl of Aberdeen, situate about the centre of the east side of Argyll-street, with a frontage thereto of 62 feet, and also an entrance from Marlborough-mews in the rear, and likewise an approach through Queen-street from Oxford-street. The mansion contains a noble suite of apartments on the ground floor, and, with its capital offices, stabling, and other appurtenances, combines every accommodation for a large establishment, and is well suited to a foreign embassy or the residence of a nobleman or gentleman of wealth; but the very central position of the premises, and the large extent of freehold ground (so difficult to be obtained), renders it considerably more eligible for a public institution, assembly rooms, picture galleries, exhibition, club, bank, insurance office, or a grand hotel, requiring a first-rate quiet situation, close to the principal thoroughfares of the west-end. At the same time will be sold, in a separate lot, the Reversion (after 38 years) of the Freehold House, No. 6, Argyll-street adjoining, at present in the occupation of Sir Wm. J. Newton. The property can be viewed by cards only, which may be obtained, with printed particulars and plans, at the offices of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Savile-row, W. and 19, Change-alley, E.C. Printed particulars may likewise be had at the Mart; and of Messrs. WHITE, BROUGHTON, & WHITE, Solicitors, 12, Great Marlborough-street, W.

REDHILL, SURREY, adjoining the Common.—Valuable FREEHOLD BUILDING LAND, being a portion of Waterslades Estate, of a healthful dry sand and gravelly soil, possessing important frontages to main turnpike roads, within ten minutes' walk of the Redhill Junction Station, at which about 30 trains to and 31 from London stop daily; about half an hour's ride from London Bridge; and, upon completion of the Charing-cross Railway, it will have the advantage of the two West-end Stations at Charing-cross and Pimlico, and of the City Terminus at Cannon-street. It is also within one mile of Reigate Town.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT will SELL by AUCTION, at the MART, opposite the Bank of England, on FRIDAY, JULY 11th, Twenty-eight Plots of FREEHOLD BUILDING LAND, free of land-tax and tithe, occupying one of the most attractive and enjoyable spots in the admired and picturesque locality of Redhill, suitable for the erection of detached and semi-detached villas, and worthy the attention of gentlemen and builders wishing to erect residences for occupation or investment. Note—Two-thirds of the purchase-money may remain on mortgage.—Particulars, with plans, may be obtained at the Mart; at Lakefield, Redhill; at the White Hart Reigate; and at the Offices of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville-row, Regent-street, W.; and 19, Change-alley, Cornhill, E.C.

The valuable BUILDING MATERIALS of the CARLTON RIDE and STABLES, St James's Park

MESSRS. GLASIER & SON are favoured

with instructions from the Honourable Charles Gore, the Commissioner of her Majesty's Woods in charge of the Land Revenue in England, to SELL by AUCTION, on the PREMISES as above, on WEDNESDAY, JULY 9th, and following days, at TWELVE for ONE, in lots, the valuable BUILDING MATERIALS and FITTINGS of the CARLTON RIDE and STABLES, comprising upwards of 1,000,000 capital stock bricks; 4 thousand feet of capital York and Portland stone in paving, steps, string course, cills, &c.; capital Portland stone entrance, with fluted columns and entablature; 20 squares of slating; slating boards, &c.; 20 pair strong framed principals, 22 feet span; 500 square of flooring boards and joists; fittings of stabling for sixty horses; large quantity of stone columns; 100,000 Dutch clinkers; 300 tons of granite pitching; York paving, coach-house gates, sashes, doors, and frames; wainscoting, large iron tank, stoves, ranges, coppers, slate cisterns, iron railings, &c.; about ten tons of lead, fixtures, and fittings.—May be viewed the day prior and mornings of sale; and catalogues had of JAMES PENNETHORNE, Esq Whitehall-yard; at the Office of Woods, 1, Whitehall place; on the Premises; and of the Auctioneers, No. 41, Gearing-cross, S.W.

TO GENTLEMEN BUILDING, ARCHITECTS, MARBLE MASONS, BUILDERS, AND OTHERS, REQUIRING MARBLE CHIMNEY-PIECES, &

MESSRS. BONHAM are instructed to SELL, at their AUCTION ROOMS, in Leicester-street, Leicester-square, on FRIDAY, JUNE 27, at TWELVE, a superior collection of

MARBLE CHIMNEY-PIECES,

elegantly designed, comprising statuary, dove tinted, black marble, black and gold griotte and other fancy marbles; POLISHED PAVING SLABS, IN MARBLE, also a quantity of unpolished marble slabs, in Sienna, Ireland, and Irish green marbles of excellent quality; several thousand VENETIAN TILES, for conservatories, balconies, terraces, covings, and hearths for chimneys.

Also, ELEVEN CARVED OAK MOULDED and PANELLED ROOMS, designed by Inigo Jones, enriched by fine carvings; carved oak chimney-pieces, moulded and carved cornices; oak sashes, frames, and shutters; AN OAK STAIRCASE suitable for a large mansion, with moulded handrail, and carved twisted oak balusters, with panelled dados at sides, adapted for two stories, 13 feet and 10 feet high.—May be viewed two days prior to sale, and catalogues to be forwarded, on application to the Auctioneers, Leicester-street and Prince's street, Leicester square.

BUILDING MATERIALS.—BRENTFORD.—Booth & Coulton.

MESSRS. FULLER & HORSEY are

instructed to SELL by AUCTION, on TUESDAY, JULY 1, 1862, at TWELVE o'clock, on the PREMISES, in lots, the BUILDING MATERIALS of portions of the Brentford Distillery, including 20 rods sound brickwork, 100 squares countess slating, 14 squares pantiles, 2 tons of lead, 80 loads of timber in girders and bearers; 15,000 feet of purlins, plates, rafters, and joists; 140 squares 3-inch plank and deal flooring, 50 squares weather-boarding, 14 doors, 50 glazed sashes and skylights, 23 cast-iron columns, tie-rods, rain-water pipe, and guttering; Portland stone steps, cills, and bases; and other effects.—To be viewed on Monday previous to the Sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

CAMDEN TOWN.—To BUILDERS, CABINETMAKERS, and OTHERS

MESSRS. LEREW & LEREW will SELL

by AUCTION, at the Railway Arches, Camden Station, on MONDAY, JUNE 23, at TWELVE, 1,910 PLANKS, DEALS, and BATTENS, 7-0 ditto cut in various thicknesses, 115 squares of 1¼-inch, 1-inch, ¾-inch, and ¾-inch prepared flooring; 7,000 feet quartering, 8,000 feet wide pine board, 60 squares of feather-edge and match-boards, slating battens, pantile battens, doors, scaffolding, sawing machine, ironmongery, &c.—May be viewed the Saturday prior to the sale, and catalogues had on the Premises; and of the Auctioneers, 2, Cardington-street, N.W.

TO CONTRACTORS, BUILDERS, CABINET-MAKERS, and OTHERS. The Remaining STOCK of Mr. R. Batterbury, retiring from business.

MESSRS. LEREW & LEREW are directed

to SELL by AUCTION, on the PREMISES, Gloucester-road, Regent's Park, near the Railway Arches, on TUESDAY, JUNE 24, at ELEVEN for TWELVE, 5,000 feet of well-seasoned MAHOGANY, 1,000 feet of birch, quantity of useful timber, 8 benches, 200 pieces of paperhanging, 2 patent hoist, iron girders and columns, 2 pumps, stove metal, portable forge, ironwork, church-fittings, old materials, 8 carts, 3 trucks, 2 cart-horses, 2 nags, 2 cobs, harness, Stanhope phaeton (nearly new) by Mills, basket-carriage, &c.—Auction Offices, 2, Cardington street, Hampstead-road, near the Euston Station

AT GARRAWAY'S COFFEE-HOUSE,

CORNHILL

On FRIDAY, 27 JUNE, 1862, at TWO,

For account of the Underwriters and Owners,

3,000 WHITE DEALS and BATTENS, } The cargo of "Empress,"
1,080 Yellow Deals, } from Petersburg, derelict
Lashwood and Sleepers.

Also,

Timber.....500 loads, foreign and colonial.
Deals and Battens..50,000 pieces, ditto ditto.
And other wood goods.

H. FREEMAN & CO. Brokers, 3, Crooked-lane, Cannon-street, E.C.

MESSRS. WILSON & THOMPSON have

received instructions from the Trustees, to SELL by PRIVATE CONTRACT, all that FREEHOLD and eligible BUILDING LAND, consisting of 45 acres, in the hamlet of Litchurch, adjoining the borough of Derby. The land to be sold in allotments to meet the wishes of purchasers. The estate is bounded on the east and west by the two most important turnpike-roads leading from the town, and is a very short distance from the railway station. The land is particularly adapted for building purposes, and has been laid out accordingly. It is near to Derby, but not subject to its rates. The estate is in a rapidly increasing neighbourhood. Capitalists would find it a profitable investment.—For particulars and plans, apply at the Office of Messrs. WILSON & THOMPSON, Architects and Surveyors, 12, Corn-Market, Derby.

LEYTON, ESSEX

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Devisees under the will of the late Jno. Hyde Pearse, Esq; to OFFER for SALE by AUCTION, at the MART, London, on FRIDAY, the 11th JULY, at TWELVE o'clock (unless previously disposed of by private contract), a very valuable FREEHOLD ESTATE, within an easy distance of the church and the railway station at Leyton and Lea-bridge, and about six miles from London, in the county of Essex. Lot 1. An exceedingly desirable and substantial residence (for many years in the occupation of the late proprietor), standing perfectly detached, approached by a drive, and containing every accommodation for a gentleman's family, with coach-house, stabling (for many years in the occupation of the late proprietor), standing perfectly detached, approached by a drive, and containing every accommodation for a gentleman's family, with coach-house, stabling (for many years in the occupation of the late proprietor), standing perfectly detached, excellent gardens and pleasure grounds, hothouse, orangery, and green-houses, productive kitchen gardens, rich park-like meadows, ornamented with fine timber and surrounded by dry gravelled walks, nearly half a-mile in extent, farm-yards, farm buildings, bailiff's house, &c.; the whole containing 27a. 3r. 14p and forming altogether a most desirable property for the occupation of a merchant or banker. Lot 2. A valuable meadow, with cottage and gardens, farm-yard, cow house, stable and shed, situate immediately opposite lot 1, having an important frontage of about 250 feet to the high road from London to Stratford, and containing 6a. 3r. 1p. Lots 3, 4, and 5. Three plots of building land, adapted for the erection of villa residences, adjoining lot 2, having extensive frontages to Capworth-street, leading from London to Woodford, and containing together 15a. 3r. 15p.—May be viewed by cards only, and particulars had of Messrs. HUGHES, MASTERMAN, & HUGHES, Solicitors, No. 17, Bucklersbury; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

HORNSEY.—Near to the Wood-green Railway Station the first portion of valuable Freehold Building Ground.

MR. BRAY, Jun. is instructed to SELL,

at the MART, on TUESDAY, the 1st JULY, at TWELVE o'clock, in Seventeen Lots, the first portion of a valuable FREEHOLD ESTATE, formerly known as part of the Lordship-lodge Estate, situate in Lordship-lane, in the parish of Tottenham, within half a mile of the Wood-green Railway Station, and offering eligible sites for the erection of suburban residences.—Particulars and conditions of sale, with plans of the estate, may be had of Messrs. ROY & CARWRIGHT, Solicitors, 4, Lothbury, E.C.; of Messrs. FORD & LLOYD, Solicitors, 4, Bloomsbury-square, W.C.; of JOSH. IVIMEY, Esq Solicitor, 8, Staple-inn, Holborn; at the Nag's Head, Wood-green; at the Ship, Tottenham; at the Angel, Edmonton; and at the Offices of the Auctioneer, 16A, King's-road, Bedford-row, W.C.

STOCKWELL, SURREY, contiguous to the Clapham-road.

MR. BRAY, Jun. will SELL, at the MART,

on TUESDAY, the 8th of JULY, at TWELVE o'clock, in 15 lots, the last portion of a valuable ESTATE, eligible for building purposes, contiguous to the Swan Tavern, Clapham-road, and presenting sites for the erection of detached or semi-detached villas, with ample depths allotted for garden ground. The roads have been made, and the water mains laid.—Particulars and conditions of sale, with a plan of the Estate, may be had of Messrs. ANDREW ATKINS & IRVINE, Solicitors, No. 2, White Hart-court, Lombard-street; at the Swan, Stockwell; at the Castle, Tooting; the White Lion, Streatham; at the Mart; and at the Offices of the Auctioneer, 16A, King's-road, Bedford-row, W.C.

Residence, with six and a half acres of Land, at Kingston-on-Thames, within a few minutes' walk of the Station of the New Railway.

MR. NIGHTINGALE has received instruc-

tions to SELL by AUCTION, at the MART, on MONDAY, 30th JUNE, at TWELVE, in one lot, a very desirable FREEHOLD RESIDENCE, in the most favourite part of Surbiton, facing the Promenade and River, and commanding views of the charming scenery of River Thames, Hampton Court Park, &c. The House, built by Messrs. Cubitt, approached by a carriage drive from the Portsmouth road, contains entrance hall, three reception rooms, eight bedrooms, dressing room, closets, and perfect domestic offices. The pleasure-grounds, tastefully laid out, are in capital order, and, with the meadow, are bedded with beautiful evergreens and timber trees. There is a good kitchen-garden, well stocked. A portion of the property, about two acres, has been used as a bleaching ground, with brick-built storehouses, foreman's cottage, and out buildings. The Estate possesses very great advantages to those seeking first-class residences, and, from its highly eligible nature for building purposes, to builders and speculators. By the formation of a road between Maple-grove and the Portsmouth-road, building frontages of great value, exceeding 1,800 ft. in length, will be obtained, without detriment to the house. The land-tax is redeemed.—To be viewed on Wednesdays only, by cards from the Auctioneer; particulars, with plans, may be had at the Auction Mart; also of Messrs. HICKS & SON, Solicitors, 5, Gray's Inn-square, W.C.; and at Mr. NIGHTINGALE'S Auction, Survey, and Estate Agency Offices, High-street, Kingston-on-Thames, S.W.

Preliminary Sales.—The Royal Agricultural Show, Battersea Park.—2,000 iron cattle hurdles, together with a large quantity of BUILDING MATERIALS, consisting of about 50,000 feet of new dry flooring-boards, chiefly Archangel planks, 23 feet long, 11 inches by 1 inch, and 11 by ¾; also a quantity of whole battens and quarterings, will be SOLD by AUCTION, on THURSDAY, JULY 3rd, and MONDAY, JULY 7 h, by

MR. N. BALL. Sale to commence at

ELEVEN o'clock each day. Catalogues may be had of Mr. BALL, Auctioneer, Wandsworth; and at Mr. MANNING'S Office, in the Show Yard, Battersea Park, and 251, High Holborn.—N.B. The Entrances, Turnstile Registers, Exits, and several Portable Cottages, are for sale by Private Contract.

Theodolites, Telescopes, and Sextants, all in perfect order, and in first rate condition, by order of the Secretary of State for India in Council.

MESSRS. GADSDEN, WINTERFLOOD, & ELLIS will SELL by AUCTION, at the STORE DEPARTMENT, 108, Leadenhall-street, on WEDNESDAY, 25th JUNE, at TWELVE for ONE o'clock precisely, TWENTY-THREE very superior THEODOLITES, varying from 4 to 10 inches, chiefly with auxiliary telescopes, adjusting screws, and divided on silver; also TWO JULLAR SEXTANTS, FOURTEEN 18 inch three drop MILITARY TELESCOPES, in sling cases; and SEVEN one-draw DAY and NIGHT TELESCOPES, in cases. The instruments are by Gilbert, Elliott, Dolland, and others. They have been recently regulated, and put into first-rate condition, and are fit for immediate use.—May be viewed the day preceding, between the hours of TEN and FOUR, and on the morning of sale, from TEN to TWELVE o'clock.—Catalogues may be had on application, by post or otherwise, to the Auctioneers, 18, Old Broad-street, City.

BRICKMAKING BY STEAM POWER.

INTERNATIONAL EXHIBITION, Class 7 B, Eastern Annexe.

Messrs. BRADLEY and CRAVEN,

Of WESTGATE COMMON FOUNDRY, Wakefield, Yorkshire,

Are exhibiting one of their MACHINES as above.

The following testimonial from the well-known firm of Messrs. Pets & Betts, who are working Brick Machines of several makers,—Ainslie, Clayton, & Co. &c. is conclusive as to the practical superiority of Messrs. Bradley and Craven's.

"9, Great George-street, Westminster, April 14th, 1862.

Gentlemen,—I have pleasure in giving you the result of twelve months' experience in working your Brick Machines at my Aylesford Pottery. Previous to becoming acquainted with your machine, I had worked for years several of the best machines of the day; I have, therefore, had considerable experience in mechanical brick making, and the result is, I am pleased to notify to the value of your machine as being the only one that at present in this country will make a brick by one operation direct from the clay-pit without preparation, and at the same time with economy. I have had three of these machines working throughout the past year, both summer and winter, and as the machine requires no water to be mixed with the clay, we can wheel the bricks direct to the kilns. The machines make regularly from 40,000 to 50,000 bricks per day, and continue to give me every satisfaction. I can also bear testimony to the value of your Dry Clay Machine and Mill, now working for me at the Sydenham tunnel, producing very superior bricks from a most refractory material at the rate of 12,000 per day. I shall be happy to admit your friends to my works to see them in operation on receipt of an introduction from you.—I am, gentlemen, your obedient servant,

E. L. BETTS.

To Messrs. Bradley & Craven, Wakefield."

Illustrated catalogues and every information connected with brick machinery on application as above.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
" Kiln Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 26s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices Delivered in Trucks in London, or along the Line on the Eastern Counties Railway About 20,000 Bricks lying at Downshire-street Station, at 26s. per 1,000.

BRICKS of this season's make are now

READY FOR SALE at the EANELAGH BRICK WORKS, Fulham-fields, and the SWAN BRICK WORKS, West-cun-green, S.W. Bright stocks for fronts, grey stocks, grizzells, and place, of superior quality, can be delivered to any part of the W. or S.W. districts at very reasonable prices.—J. JOHNSON, Proprietor.

BRICKS.—New White, Red, and Black

Facings, of superior quality.

Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best Grey Kiln burnt Common Bricks, in large quantities.
Do 6 inches
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight.

R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty, 75*l*.
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,810.

A NEW BRICK and LIME WHARF,

and DRAWDOCK,

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
BRICKLAYERS, BRICKCUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

INDIA-RUBBER MILL BANDS,

WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, June 21, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

Vol. XX.—No. 1012. JUNE 28, 1862. Price Fourpence.

ILLUSTRATIONS.

Overcrowding in Workshops.—Artificial-flower Makers: Blighting the Buds: A Shoemakers' Workshop: more care for the "Soles" than the Bodies 457
Architecture Illustrated by Ancient Paintings 461

CONTENTS.

Deptford Pumping-station and the Southern High-Level Sewer: London 453
Voluntary Architectural Examination: Royal Institute of British Architects 454
Gossip about the International Exhibition 455
The Fleet Ditch and the Metropolitan Railway 456
The Canvoge Society, Bristol 456
Overcrowding in Workshops 457
The Handel Festival at the Crystal Palace 458
Notes of Coloured Marble Statues in the "Museo Bourbonico" at Naples 459
The Architectural Association 459
Antique Decorations and Vases, as illustrative of Architecture.. 459
On the Formation of a National Museum of Architecture, viewed in connection with its Bearings upon Mediæval Art .. 463
Italian Architectural Drawings in the Royal Library at Windsor 464
The Present State of the English Cotton-workers 465
The Truthful in Art 466
Church building News 466
International Exhibition: The Award of Prizes 466
"Halting-Places" 466
Books received: Antrobus on Painting (Stauntou); Lendy on Fortification (Mitchell) 467
Miscellanea 467

THE NEW SOCIETY of PAINTERS in WATER-COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall-mall, near St. James's Palace. Admission, 1s.; Catalogue, 6d. Season Ticket, 5s. JAMES FAHEY, Secretary.

ARCHITECTURAL ASSOCIATION. — By the permission of the Dean, and with the kind concurrence of Mr. Scott, arrangements have been made for a Visit to Westminster Abbey on SATURDAY, the 28th instant. Members are requested to meet in the Cloisters punctually at THREE o'clock, and to bring Note books. A Prize is offered for the best written Account of this Visit.

ARCHITECTURAL ALLIANCE. — The FIRST GENERAL MEETING of the Architectural Alliance, including delegates from the Institute of Scotland, and the Associations of London, Birmingham, Liverpool, Glasgow, Manchester, and the Northern Architectural Association, will be held at the Architectural Union Rooms, 9, Conduit-street, Regent-street, on WEDNESDAY, JULY 2nd, at ELEVEN a.m.

The delegates and friends will afterwards dine together at the St. James's Dining Rooms, at SIX o'clock. Tickets, including wine, 10s. each.

Architects not being delegates, but wishing to be present, may obtain tickets for the meeting, and vouchers for the dinner, on application to any of the delegates, or to Mr. J. P. PRITCHETT, Northgate House, Darlington.

ECCLESIOLOGICAL SOCIETY. — The TWENTY-THIRD ANNIVERSARY MEETING of the ECCLESIOLOGICAL SOCIETY will be held on TUESDAY, JULY 1st, at EIGHT p.m. in the LECTURE THEATRE of the South Kensington Museum.

The subject of Discussion will be the Ecclesiological Aspect of the International Exhibition, and of the Exhibition (on Loan) of Fine Arts at the South Kensington Museum.

Ladies admitted.

It is suggested that Members of the Ecclesiological Society and persons interested in its pursuits should meet at TWO p.m. on that day at the South Kensington Museum, to visit the Exhibition of Works of Art on Loan.

For the convenience of persons attending the Meeting, a Club Dinner will take place in the Refreshment Rooms of the International Exhibition, at 6 p.m. at 7s. 6d. a head; Mr. Beresford Hope in the chair. The names of those intending to dine should be sent to Mr. Masters, 78, New Bond-street, on or before Saturday, the 28th instant.

A. J. B. BERESFORD HOPE, President.
(Rev.) BENJAMIN WEBB, Honorary Secretary.
(Rev.) H. L. JENNER Hon. Secretary for Musical Matters.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—The business of the above Institution will, in future, be carried on at the Architectural Union Company's Offices, Conduit-street, Regent-street, on the First and Third Wednesdays in every month. The first meeting will take place on WEDNESDAY Evening, JULY 2nd next. The chair will be taken at 8 15 p.m.

RICHARD MOWLE, President
JOHN LUCAS, Secretary.

INTERNATIONAL EXHIBITION. Admission for the week ending JULY 5:—Monday to Thursday, One Shilling; Friday and Saturday, Half a Crown. Doors are opened at Ten, except on Saturday, when they are opened at Twelve o'clock.

EQUESTRIAN STATUE of the late LORD HARDINGE, now in the International Exhibition, by J. H. Foley, R.A. It is proposed to erect in London a duplicate of this grand work, originally executed for Calcutta. The object of the original was to commemorate the services of Lord Hardinge as Governor-General of India. The object, at least the main object, of the duplicate, is to secure to the nation one of the finest works of modern times.

D. ROBERTS, R.A.
W. C. MARSHALL, R.A. } Honorary
D. MACLISE, R.A. } Secretaries.
P. MACDOWELL, R.A.

Gentlemen interested in the proposal are requested to address "Hon. Secs." Hardinge Statue, 22, Regent-street, S.W.

ROYAL HORTICULTURAL SOCIETY'S GREAT SHOW, at South Kensington, WEDNESDAY next, JULY 2nd. Open at ONE o'clock. Bands of Royal Artillery and Royal Marines comence at Two o'clock. Tickets purchased before the day, 5s.; on the day, 7s. 6d. Visitors can pass under cover to the Show.

HORTICULTURAL GREAT SHOW, WEDNESDAY, JULY 2. The Garden will not be open till ONE o'clock.

EXHIBITION of HORTICULTURAL IMPLEMENTS, GARDEN POTTERY, &c. at the ROYAL HORTICULTURAL SOCIETY'S GREAT SHOW, WEDNESDAY, JULY 2.

COMPETITIONS.

THE DUBLIN EXHIBITION PALACE and WINTER GARDEN COMPANY (Limited) — Offices, No. 119, Grafton-street, Dublin.—The Directors are prepared to receive DESIGNS and PLANS for the Exhibition Palace and Winter Garden Buildings, proposed to be erected by this Company. The expenditure not to exceed 30,000l. The Directors offer the following premiums for such designs as shall in their opinion be best adapted for the purposes of the Company:—First premium, 150l.; second premium, 75l. The successful designs and plans to become the property of the Company. Maps of the ground and further particulars to be had on application to HENRY PARKINSON, Esq. Secretary, No. 119, Grafton-street, Dublin. Designs and plans to be sent, on or before TWELVE o'clock on FRIDAY, the 1st day of AUGUST, 1862, endorsed, "Plans for Exhibition Palace and Winter Garden," and addressed, under seal, with motto or fictitious signature, to the Chairman of the Building Committee, No. 119, Grafton-street, Dublin.

EXETER CITY GAOL.—EXTENSION of TIME.—To ARCHITECTS.—The Town Council of Exeter are desirous to be informed if the present City Gaol and House of Correction can be made available so as to satisfy the requirements of the law, as to the construction of gaols and houses of correction; and they invite architects to ascertain if it is practicable that the present City Gaol and House of Correction can be so altered. They offer a premium of 30l. for the plan of alterations which shall be considered the best, and if such plan be carried into effect, the architect providing it will be employed to superintend the execution of the work at the usual commission; but in that event his premium is to merge in his commission. A premium of 20l. will be given for the plan which shall be considered the second best. The Gaol and House of Correction may be examined upon application to the Gaoler, and further particulars obtained from Mr. G. W. CUMMING, Post Office Chambers, Surveyor to the Council; or to Mr. GIDLEY, the Town Clerk, 15, Bedford Circus, Exeter, to whom each plan, with a statement of the probable cost of carrying it into effect, is to be sent before the second MONDAY in AUGUST. Plans of the present gaol, with sections of the main part of the building, and across one of the wards, may be had of the Surveyor to the Council, on and after the 27th inst.

June 19th, 1862.

CONTRACTS.

GARSTON and LIVERPOOL RAILWAY. To IRONMASTERS and OTHERS.—The Garston and Liverpool Railway Committee are prepared to receive TENDERS for the SUPPLY and ERECTION of COLUMNS, WROUGHT-IRON BEAMS, IRON ROOFING, and other IRON WORK, at their Goods Station, at Liverpool. Plans, sections, drawings, and form of contract, may be seen on or after the 13th day of JUNE, at the Office of W. M. BRYDONE, Esq. C.E. 8, Whitehall place, Westminster, London, from whom specifications (price 10s. 6d. each), and any other information may be obtained.—Sealed Tenders, marked "Tenders for Iron Work," must be in the hands of the undersigned, at the Offices of the Committee, London road Station, Manchester, not later than NOON on TUESDAY, the 8th JULY next.—The Committee do not bind themselves to accept the lowest or any Tender.—By order,

EDWARD ROSS, Secretary to the Committee.

Manchester, June 11, 1862.

GARSTON and LIVERPOOL RAILWAY. To CONTRACTORS and OTHERS.—The Garston and Liverpool Railway Committee are prepared to receive TENDERS for the CONSTRUCTION of their GOODS STATION and BUILDINGS at Liverpool.—Plans, sections, drawings, and form of contract may be seen, on or after the 13th of JUNE, at the Office of W. M. BRYDONE, Esq. C.E. 8, Whitehall-place, Westminster, London; from whom specifications (price 10. 6d. each) and any other information may be obtained. Sealed Tenders, marked "Tenders for Works," must be in the hands of the undersigned, at the Offices of the Committee, London road Station, Manchester, not later than noon, on TUESDAY, the 8th JULY next. The Committee do not bind themselves to accept the lowest or any Tender.—By order,

EDWARD ROSS, Secretary to the Committee.

Manchester, June 11, 1862.

PAVING.—The Vestry of St. George the Martyr, Southwark, will meet at the Vestry Hall, in the Borough-road, Southwark, on MONDAY, the 30th day of JUNE, 1862, at SIX o'clock in the evening, to OPEN TENDERS for REPAVING the Carriageway of a part of the High-street, Southwark.—Specifications and particulars may be obtained at the Vestry Clerk's Office, Vestry Hall, Borough-road, where the Tenders must be delivered before FIVE o'clock on the day above named; and the parties Tendering, or their representatives, must attend the Vestry meeting.

DANIEL BIRT, Vestry Clerk.

WYCOMBE RAILWAY.—THAME to OXFORD.—CONTRACT for WORKS.—The Directors will be ready, on the 19th of JULY next, to receive TENDERS for the CONSTRUCTION of the RAILWAY, according to a contract specification and drawings which will be exhibited at the Office of their Engineer R. L. WARD, Esq. 6, Victoria-street, Westminster, on and after the 8th of JULY.—The Directors do not bind themselves to accept the lowest or any Tender.—By order, W. H. WILSON, Secretary.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a WASHING ESTABLISHMENT, at the Hospital, Albany Barracks, Isle of Wight.

Parties desiring to Tender for this work must leave their names at the Royal Engineer Office, Albany Barracks, near Newport, in the Isle of Wight, on or before the 30th JUNE, and pay the sum of half a guinea for the bills of quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender. A. ROSS, Colonel Commander, Royal Engineer.

Royal Engineer Office, Portsmouth, 16th June, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a HOSPITAL at Hilsea, near Portsmouth, in the county of Hants.

Parties desiring to Tender for this work are required to attend at the Royal Engineer Office, Hilsea, on the 7th day of JULY, 1862, at THREE o'clock, to appoint a surveyor to take out the quantities in conjunction with the Government Surveyor.

Each party will be required to pay the sum of one guinea for the quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, 24th June, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the triennial contract for the EXECUTION of the several WORKS and REPAIRS to the BUILDINGS at SANDHURST, Berks.

Parties desiring to Tender for the execution of these services, for a term of three years, commencing 1st of OCTOBER next, will be furnished, by the payment of 5s. 9d. with the printed schedules of prices, conditions of contract, form of Tender, and with every necessary information respecting the same, on application at this Office, between the hours of TEN and FOUR each day (Sundays excepted), from the 28th JUNE until the 16th JULY, 1862, after which date no further issues will be made.

One Contractor only will be accepted for the whole of the trades, but the rates of per centage at which the parties tender may be different for each trade at their option; but such rates must be shown in the proper place in the Tender.

Royal Engineer Office, Sandhurst, 24th June, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of an HOSPITAL and OUTBUILDINGS, at Fleetwood.

Parties desiring to Tender for the erection of these works are required to attend at this Office, on the 3rd proximo, at ELEVEN a.m. to appoint a Surveyor to take out the quantities in conjunction with the Government Surveyor. Each party will be required to pay the sum of 21s. for the bills of quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, 225, Stretford-road, Manchester, 19th June, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a CANTEEN at Fleetwood.

Parties desiring to Tender for the erection of these Works must leave their names at this Office, on or before the 7th proximo, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, 225, Stretford-road, Manchester, 23rd June, 1862.

BRISTOL LOCAL BOARD of HEALTH.—To BUILDERS, CONTRACTORS, and OTHERS.—The Local Board of Health of the City and County of Bristol have given Notice that they intend to CONTRACT for Laying down, Constructing, and completely Finishing certain intended BRICK SEWERS, in "The Bronze Intercepting Sewer District," with their Depth and about 5,231 yards in length. Persons wishing to Contract for the same are requested to forward through the post, on or before THURSDAY, the 3rd day of JULY next, by TEN o'clock in the Forenoon, sealed Tenders, addressed to the Committee of the Local Board of Health, 13, Prince street, Bristol, and endorsed "Tender for Sewers." Any Tender not sent through the post will be rejected. The plans and specifications of the works to be done may be seen at the Offices of the Local Board of Health; and any further information may be obtained, either on personal application or by letter (pre-paid), addressed to the Surveyor, Mr. FREDERICK ASHMEAD, C.E. The party Contracting will be required to give sufficient security, to be approved by the Local Board of Health, for the due performance of the Contract. The Local Board will not hold themselves bound to accept the lowest or any Tender. By order of the Board,

JOHN G. HAVEN, Clerk.

Local Board of Health Offices, 13, Prince-street, 5th June, 1862.

TO CONTRACTORS.—Sealed TENDERS will be received by the SECRETARY of the Grand Jury of the County of the Town of Drogheda up to two days next before the Grand Jury Meeting for Road business of the 1st Assizes, for TAKING DOWN the present BRIDGE over the River Boyne at Drogheda, and BUILDING a NEW CAST IRON BRIDGE in place thereof, 95 feet span and 30 feet wide, with Stone Abutments, according to the plans and specification prepared by J. NEVILLE, Esq., C.E., County Surveyor, to be seen at his Office in Dundalk. Hours of TENDER, FOUR o'clock, on any day (Sundays excepted) after 1st of JUNE, 1862.

The lowest or any Tender not necessarily to be accepted.

HENRY CLINTON, Secretary to the Grand Jury of the County of the Town of Drogheda.

Offices, Fair-street, Drogheda,
Dated this 19th May, 1862.

[*For remainder of Contracts see next Page.*

CONTRACTS.

NORTH-EASTERN RAILWAY.—To CONTRACTORS.—The Directors are prepared to receive TENDERS for CONSTRUCTING a DEVIATION LINE of RAILWAY at Goathland, on the Whitby and Pickering branch, about 1½ miles long, commencing a little to the north-east of the fiftieth mile-post, and terminating near the 49 mile-post from York. Plans, sections, and specification may be seen on, and after the 21st JULY next, at the Engineer's Office, Central Station, Newcastle, on Tyne, where printed forms of Tender, specification, and quantities may also be obtained. Sealed Tenders, addressed to the Secretary, marked "Tender for Goathland Deviation Line," must be delivered at York, not later than TWELVE o'clock at noon, on THURSDAY, the 7th AUGUST next; and the Directors will meet at York on the following day to open the Tenders. Ample security will be required from the contractor whose Tender may be accepted. The Directors do not bind themselves to accept the lowest or any Tender.

J. CLEGHORN, Secretary.

York, 16th June, 1862.

METROPOLITAN BOARD of WORKS.—TO BUILDERS, CONTRACTORS, AND OTHERS.—The Metropolitan Board of Works hereby give notice that they will meet at the Office of the Board, Spring Gardens, on FRIDAY, the 11th day of JULY next, at TWELVE o'clock at noon, precisely, and will then be prepared to open TENDERS by parties who may be willing to contract for the CONSTRUCTION of a GAS METER, Testing-house, Store-Room, and Labourer's Cottage, at White Lion-street, Spitalfields. Parties desiring to submit Tenders may obtain plans, sections, specification, form of Tender, and other particulars, on application to Mr. E. CRESY, at the Office, Spring Gardens, between the hours of NINE a.m. and FOUR p.m.; or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, 10th JULY next. The Tenders are to be delivered to the Clerk of the Board, and must be delivered at the Office before FOUR o'clock on THURSDAY, the 10th day of JULY next; and no Tender will be received after that hour. The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring Gardens, 24th June, 1862.

TO CONTRACTORS and OTHERS.—TENDERS are required for the MAKING of a BRICK OUTLET DRAIN, the CONSTRUCTION of a TIMBER APRON VALVE, &c. and other WORK required for the Birkdale Estate Drainage, near Southport. The work to be done in accordance with certain plans and specifications which may be seen at the Offices of the undersigned, 1, Canning Chambers, 4, South John-street, Liverpool; or 3, Kilshaw terrace, Waterloo. Tenders, sealed and endorsed, to be sent to the undersigned on or before JULY 2nd, 1862. The lowest or any Tender not necessarily accepted.

ALFRED TAYLOR, Civil Engineer.

TO IRON FOUNDERS & CONTRACTORS.—The Birkenhead Improvement Commissioners are prepared to receive TENDERS for the supply of an IRON TANK required to be erected on Flaybrick Hill, near Birkenhead, also for a LIFTING CRANE to be erected at the Reservoir at the same place. Drawings and specifications may be seen at the Gas and Water offices, Birkenhead; or at the Offices of J. F. BATEMAN, Esq., C.E. 13, Great George-street, Westminster. Tenders are required "Tenders for Iron Tank and Crane," and addressed to the Chairman of the Gas and Water Committee, to be sent to the above Offices on or before the 11th day of JULY next.—By order,

AMBROSE WALN, Clerk of the Commissioners.

Commissioners' Offices, Hamilton-square, Birkenhead, 21st June, 1862.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of FARM-BUILDINGS and ADDITIONS to a FARM-HOUSE, at Oxthorpe, near Bourne, on property belonging to the Hon. C. H. TRUST, may see the plans and specification at his Office, on and after MONDAY, 7th inst. Sealed Tenders to be delivered to S. HUTCHINSON, Esq. Manthorpe Lodge, Grantham, on MONDAY, JULY 14th. The lowest Tender will not necessarily be accepted.

June 24, 1862. EDWARD BROWNING, Architect, Stamford.

TO BUILDERS.—Builders desirous of TENDERING for the ERECTION of a NEW BANK at Watford, in the county of Herts, for the London and County Banking Company, are requested to send in their names to me, when bills of quantities will be forwarded. Plans and specifications can be seen at my Office, Pinners' Hall, Old Broad-street, London, after the 1st of JULY. Tenders, to be addressed to the Directors of the London and County, Lombard-street, London, to be delivered on or before TWELVE o'clock a.m. on MONDAY, the 7th of JULY.

FRED. CHANCELLOR, Architect.

Pinners' Hall, Old Broad street, London, and Chelmsford, Essex.

TO BUILDERS.—Parties desirous of CONTRACTING for the ERECTION of WAREHOUSES, OFFICES, &c. in Hull, may see the drawings and specifications at my office, between the hours of TEN and FIVE, from TUESDAY, the 1st of JULY; and Tenders to be sent to me at or before noon on the 8th instant.

R. G. SMITH, Architect, County-buildings, Hull.

TO RAILWAY CONTRACTORS.—The Directors of the Blyth and Tyne Railway are desirous of receiving TENDERS for the CONSTRUCTION of about SEVEN MILES of RAILWAY, from Backworth to Newcastle; and of about TWO and a HALF MILES, from Hotspur-place to Monkseaton. Plans and specifications may be seen, and bills of quantities obtained, at the Office of Mr. J. F. TONE, No. 10, Market-street, Newcastle, on and after TUESDAY, the 17th inst. Tenders to be delivered at the Company's Offices not later than THURSDAY, the 3rd JULY. The Engineer will meet intending Contractors at his Offices, at TEN o'clock a.m. on FRIDAY, 27th inst. to go along the Branches and point out the Works.

Newcastle-on-Tyne 16th June, 1862

TO BUILDERS.—Persons willing to submit TENDERS for BUILDING a NEW RECTORY HOUSE and OFFICES at Asterby, near Horncastle, are informed that the Drawings and specifications will lie for inspection at the Rectory Asterby, from WEDNESDAY, 2nd JULY, to FRIDAY, 18th JULY. Tenders to be delivered by post, prepaid, on or before SATURDAY, 19th JULY, addressed to the Architect Mr R. J. WITHERS, 51, Doughty-street, London, W.C. of whom further information may be obtained. The lowest or any Tender not necessarily be accepted.

Asterby Rectory Horncastle, 23rd June, 1862 G. BABB, Rector.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of a NEW CONGREGATIONAL CHAPEL, Vestries, Boundary Walls, and Railings, at Newington, can apply for their names to the Architects, Messrs. W. G. HABERSHON & PITE, 28, Bloomsbury-square, London, W.C.

TO SEWER CONTRACTORS AND OTHERS.

SEWER-BOOTS, for Flushing, &c., to be had at T. A. STACKS', late Pew & Co.'s 127 Drury lane, W.C. ESTABLISHED THIRTY YEARS. CONTRACTS at LOW TERMS.

CASTINGS, ANY WEIGHT AND QUANTITY,



With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.

IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Birmingham, and Limehouse.

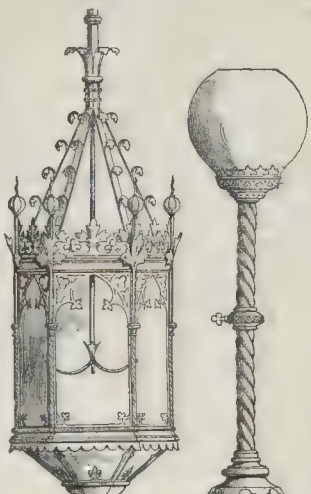
Every description of Iron Work Galvanized.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

HART AND SON,

MEDIÆVAL METAL WORKERS,

IN SILVER, BRASS, & WROUGHT-IRON.



HALL LIGHTS, STANDARDS, PENDANTS, BRACKETS, GRATES, FENDERS, VANES, CROSSES, FINIALS, ALTAR AND TOMB RAILS, ALTAR PLATE, ALTAR CHAIRS, &c.

53 to 58, WYCH STREET, STRAND, W.C.

And 20, COCKSPUR STREET, PALL-MALL.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street. Drawings and Estimates furnished.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

H. G. COOMBS, IRONFOUNDER, &c.

INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.

PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE CASTINGS,

And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—17, Union-street, Borough; and 253, Great Guildford-street.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water: High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.

HULETT & CO. 85, High Holborn.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, stores, &c.

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.

Also to be seen in extensive operation at their Premises, King's road, Chelsea.

IRON BUILDINGS and IRON ROOFING.

SAMUEL C. HEMMING & CO.

21, MOORGATE STREET, E.C.

NOTICE TO BUILDERS AND CONTRACTORS.

HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Crab Winches, all sizes.—For further particulars apply to BOWSER & CAMERON, Springfield Ironworks, McNeil-street, Glasgow.

CANNON IRON FOUNDRY, 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Wrought-iron Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

FIRE-PROOF CONSTRUCTION.—FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,

12, YORK BUILDINGS, ADELPHI.

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW

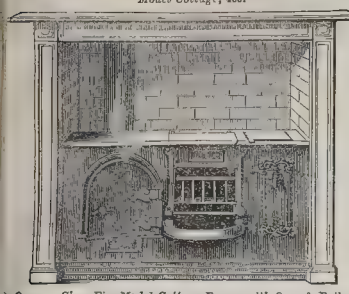
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Model Cottage, 45s.



Open or Close Fire Model Cottage Range, with Oven & Boiler.

Self-acting, with Bright Wrought Bars.

34 inches	54s.
36 ,,	59s.
38 ,,	64s.
42 ,,	69s.

Self-acting Cottage, with Oven and Back Boiler.

30 inches	22s.
32 ,,	24s.
34 ,,	26s.
36 ,,	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4½ per inch
Best ditto, with Fire-brick Back, from per inch, 6d.
Bright Stoves, with Two Fires, 6s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	¾-inch.	2 inch.	2½ in.	3 inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2 in.	2½ in.	3 in.
Cast Rain-water Pipe....	8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on....	10d.	1s. per yard.

	2	3	4	5	6
Patent Line	3s 6d.	4s.	5s.	7s.	9s per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s 9d. each Light Elliptic and Register Metal, 12s 6d per cwt.
Dr. Arnott's Ventilators, 4s each
Brick Moulds kept in stock. Any size made to order.

Combined Range with Wrought Galvanized Boiler for Washing, 80s.



TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF **WROUGHT-IRON GIRDERS**

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.

ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of



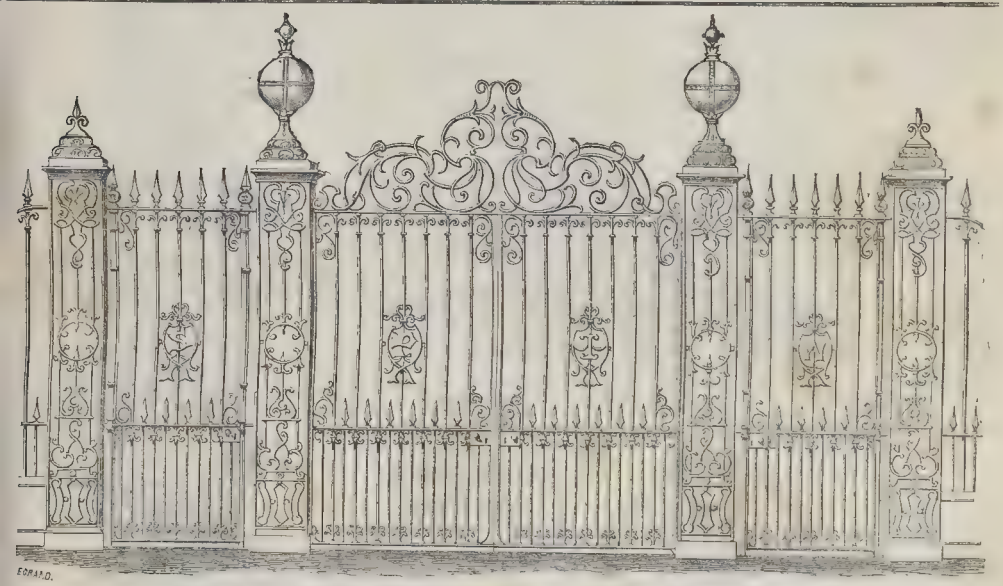
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES.
TOMB RAILING.

VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of WROUGHT IRON TUBE and FITTINGS,

FOR **HIGH-PRESSURE-WATER**; OR STEAM.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Iron-mongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

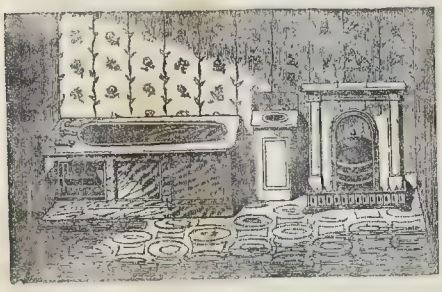
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.
Testimonials from Architects, Bankers, &c. of their security and durability forwarded.
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.
Agent for the Crystal Glass Pillars and Sash Bars.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET. LONDON.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

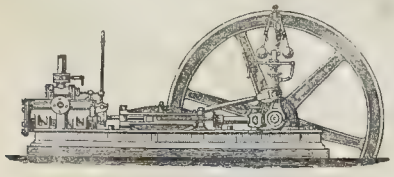
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,

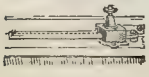
AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF
HORIZONTAL
AND
VERTICAL
STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB WINCHES, &c.
SEVERAL ALWAYS READY FOR DELIVERY.
Price List forwarded on application







PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.

PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.

PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.

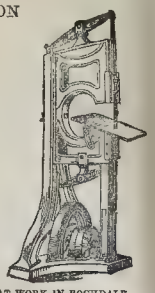
Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.





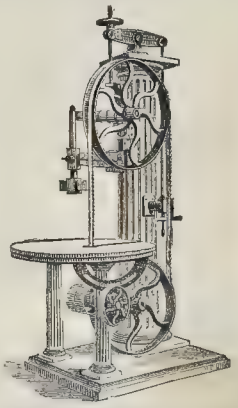


THOMAS ROBINSON
and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.

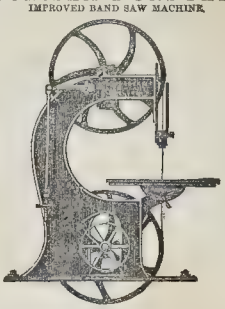
POWIS, JAMES, & CO.
ENGINEERS AND MACHINISTS,
VICTORIA WORKS, BLACKFRIARS ROAD, LONDON,
Having taken additional premises at 22 Blackfriars Road, known as the Surrey Iron Works, have added Portable Steam Engines to their sawing and Wood-working Machinery Business. Contractors, colonists, merchants, and others, may rely on their engines being fitted with the same care and exactness which has gained for the firm so respectable a position as Machinists and Tool Makers.
Specimen Machines and Engines can be seen at the Works, at the Machinery Department, Crystal Palace, Sydenham; and in class 7, section 2, stand 217, International Exhibition, South Kensington.
Engines, &c, on hire, with or without the option of purchase.
ALL LETTERS MUST BE ADDRESSED TO THE OFFICE,
26, WATLING-STREET, E.C.



The ENDLESS BAND-SAWING MACHINE, shown above, is the ONLY PATENT in the United Kingdom for an IMPROVEMENT in this class of Machine

---

S. WORSSAM & CO.'S PATENT
IMPROVED BAND SAW MACHINE.



(¼ inch scale)

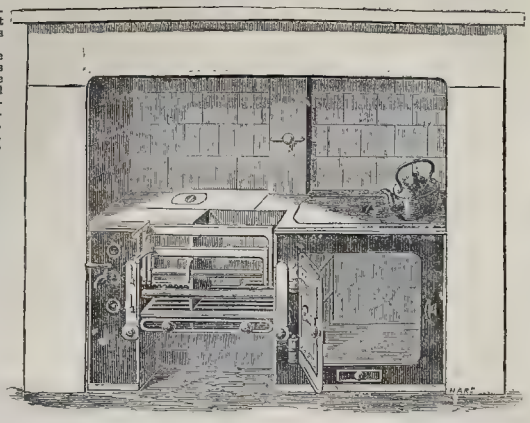
S. Worssam & Co. have recently made new patterns for band saw-machines of two sizes, and introduced all the latest improvements to obviate the breakage of saws, and can with the greatest confidence, recommend their new machines as the best yet out. For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's road, Chelsea, S.W.

TO JOINERS AND BUILDERS.
IRONMONGERY at FIRST COST.—A List of Prices may be had on application to the BRITISH HARDWARE COMPANY, Phœnix Works, Wolverhampton.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 250 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.
Further particulars as to Joints, &c and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.



This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)



NUT PLATE.

WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and particulars sent upon application.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

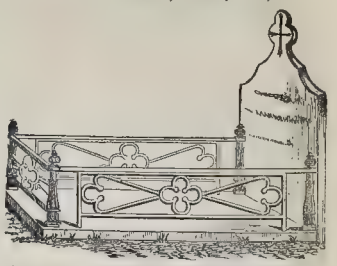
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

IRON RAILINGS for ENCLOSING
TOMBS and GRAVES,
COMMUNION RAILINGS, SCREENS, GATES, &c.

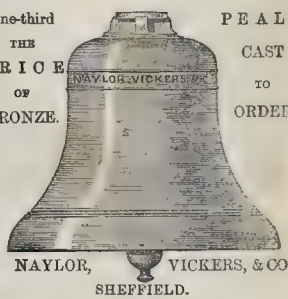


Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY STREET, OXFORD STREET,
LONDON, W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.

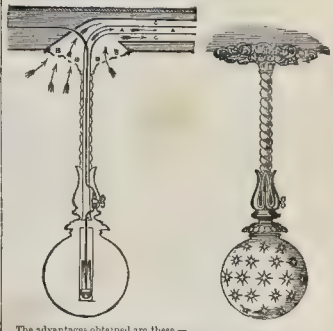


PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

RICKET'S & HAMMOND'S VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these —

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

HUTHNANCE'S PATENT ECONOMIC LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS,

Is strongly recommended to public notice, as being the most efficient and economical arrangement for the purpose of drying linen, clothes, bedding, &c.; specially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c. &c.; as, in a sanitary point of view, it is invaluable, the DRYING-ROOM being raised by its use to a very high temperature, whilst the IRONING-ROOM is kept AGREEABLY COOL and WELL VENTILATED.

The economy of fuel is extraordinary, as, in a small union, it caused a saving of seven tons of coals in four months, whilst for simplicity of arrangement and cleanliness in use it cannot be surpassed.

No BLACKS or SOOT can enter the drying-room.

This arrangement has been carried out in numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS

Testimonials and illustrated particulars forwarded upon application to Mr. PIERCE, SOLE PROPRIETOR and MANUFACTURER, 5, JERMYN STREET, REGENT STREET.

A large model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to

RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

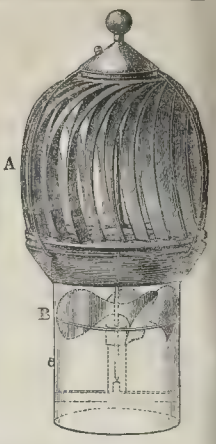
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

CHADWICK'S

PATENT ARCHIMEDEAN VENTILATOR

AND

SMOKE CONDUCTOR.



The ARCHIMEDEAN VENTILATOR is the only one constructed on strictly scientific principles, and certain in its operation in purifying the air of a crowded workshop or ordinary apartment, and in preventing smoke.

An attentive consideration of the diagram will render the action of the Ventilator intelligible, and show that it is constructed on unerring principles.

They are constructed, for Chimneys, from 10 to 13 inches; and for Buildings, from 14 to 30 inches.

The Patentee's invention consists of lifting-vanes, acting as a screw, suspended within a circular tube or shaft, as shown at B, centred upon an imperishable substance, moving without noise, and surmounted by a diagonally-formed wind-vane, A; which is hung so delicately that the least breath of air will cause it to rotate, so that a draught upwards is a necessary effect.

Combining the advantages of a perfect Smoke-Conductor and Ventilator, it is admirably adapted for all close and crowded Rooms, Schools, Churches, Chapels, Infirmaries, Music and Lecture Halls, Factories, Printing Establishments, Coffee and Smoking Rooms, Club-Houses, Kitchens, Stables, &c. particularly where gas is used and a number of people are compelled to breathe a confined atmosphere.

The most satisfactory testimonies to the value of this invention, Specimens of the Ventilators themselves, and further explanations, will be gladly furnished by the London Agent,

THOMAS K. BAKER, 73, FARRINGDON-STREET, E.C.

ROYAL AGRICULTURAL SOCIETY AND INTERNATIONAL EXHIBITION.



Musgrave's Patent Stable Fittings, Cow-house Fittings, and Iron Piggeries, and Musgrave's Patent Slow Combustion Stoves,

Are to be seen at the Royal Show-yard, Battersea Park, Stand No. 238, and in the Exhibition, No. in Catalogue, 6,159.



These INVENTIONS differ from any other, are SUPERIOR in EFFICIENCY, STRENGTH, and APPEARANCE, and LESS in PRICE.

They ALONE OBTAINED the MEDALS of the ROYAL AGRICULTURAL SOCIETIES of ENGLAND and IRELAND last year.

MUSGRAVE, BROTHERS, BELFAST.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,

STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.

COTTAM'S

PATENT INVENTIONS FOR STABLE REQUISITES,

Awarded a prize at the Paris Exhibition,

Patronized by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the Kingdom

In use at her Majesty's Stables, Aldershott and Balmoral.

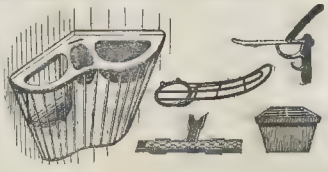


COTTAM & COMPANY, Winsley-street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Water-trough, and Wrought-iron Rack, united to an iron tie plate, and forming the complete and perfect feature, having COTTAM'S Patent Noiseless Hinge Gable and Centre Rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED BOX, an important addition to the above fittings, being simple in construction, light, and durable, protects the oats, and is economical in its results.

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, is a most essential addition to their fittings; it is never in the way; can be placed and replaced in an instant; while its cheapness, simplicity, and utility in keeping the contents of the trough clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED



It can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT-IRON VENTILATING BRACKET preserves the shape and allows a free admission of air to the under parts of the saddle.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

KNIGHTLEY'S PATENT STABLE FLOOR.

Illustrated Catalogues and Estimates gratis, upon application to

COTTAM & CO. 2, WINSLEY STREET, Oxford Street, London, W.

WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

PROTECTION FROM LIGHTNING.

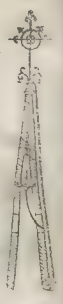


LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY-ROW,

MANCHESTER.



These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to supply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

TELEGRAPHS.

REID BROTHERS, 12, Wharf road, City-road, near the Gutta-percha Works,

Telegraph Contractors to the following Telegraph Companies:—

THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.

Are now prepared to give estimates and execute contracts for firms and private companies, in town and country. Gentlemen's private houses fitted up with simple and efficient telegraphs, in the most economical terms. All communications addressed to the above will meet with immediate attention.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 6d. per foot.
Half-inch diameter	1s. 6d. "
Five eighths-inch diameter	2s. 6d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" Gateshead-on-Tyne
" 57, Dale-street, Manchester.
" 68, Anderson-quay, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price lists, 12s—Nos. 55 and 56, High Holborn.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Prince-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanised Tinned Sheets and Tiles for export.
IRON-WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

TRADE MARK.

CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Wood, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham court-road, W.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

LOSH, WILSON, & BELL, NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast Iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

SAVING IN GAS.
D. HULETT & CO. 35, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the
LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street, London, E.C.

MOREWOOD & CO. (late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON; GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Alley, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire-Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

WANTED, a NEW or SECOND-HAND MACHINE for MIXING CONCRETE.—Particulars as to description and price to be sent to JOSHUA HARGRAVE, Jun. Victoria Quay Works, Cork, Ireland.

TO ENGINEERS.
WANTED, TO HIRE, for Fen Drainage purpose, for eighteen months, a HORIZONTAL STEAM ENGINE, of 30 horse power.—For particulars, apply to Mr. JAMES LYON, Chatteris, Cambridgeshire.

TO BE SOLD, AN IRON GEOMETRICAL STAIRCASE.
For price, apply to
Messrs. AMIES & BARFORD; or
Mr. J. AITKIN, Peterborough.

BUILDING LAND. -To be LET, at Castle-hill, Dover, on BUILDING LEASES, for 99 years, good SITES on made roads for houses, villas, &c. The ground commands good views of the sea, Shakspeare's Cliff, &c. and is one of the most picturesque spots in Dover. The new church of St. James is on the estate.—For full particulars and plan apply to Messrs. DANIEL SMITH, SON, & OAKLEY, 10, Waterloo-place, Pall-mall, S.W.

LIME GROVE ESTATE, Putney.—This fine estate, containing altogether about forty acres, and immediately adjacent to the Putney Station, and near to Putney-heath, with very extensive frontages on Putney-hill and the Upper Richmond-road, TO BE LET on building leases, either as a whole, or in part.—For particulars, apply to Messrs. BAXTER, ROSE, & Co. 6, Victoria-street, Westminster; Mr. POWNALL, 60, Lincoln's Inn-fields; or Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament-street.

LAND for the ERECTION of FACTORIES, with Canal Frontage if required, TO BE LET on BUILDING LEASE, in plots from a quarter of an acre to three acres, situate within two miles and a half of London Bridge, Surrey side.—For particulars apply to Mr. WILLIAM RUSSELL, Plough-road, Lower road, Rotherhithe

LAND at HACKNEY, sufficient for the erection of eleven houses, TO BE LET on Building Leases. Term, 75 years, held from the Governors of St. Thomas's Hospital. Money advanced, if required.—Apply to Mr. J. TUCKER, 234, High Holborn, W.C.; or to Mr. HENRY J. PHILLIPS, No. 34, Moorgate-street, E.C.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

EXTENSIVE MANUFACTURING PREMISES, WHITECHAPEL.—TO BE LET or SOLD, together or separately, the extensive and important range of PREMISES recently occupied as the WHITECHAPEL DISTILLERY, with land adjoining, if required. The Buildings, many of which are of great extent, are most substantially erected, principally in 1845, and are very conveniently arranged for almost any manufacturing purpose. There are three distinct gateway entrances, and the Buildings on all sides are surrounded with paved yards. The total area is about three acres, exclusive of six acres for accommodation land, which may be had if required. There is an Artesian well, which affords a constant and unlimited supply of pure water.—Further particulars and cards to view may be had of Messrs. TENNANT & DARLEY, Solicitors, Beaumont-buildings, Gray's-inn; and of Messrs. FULLER & HORSEY, Billiter-street, E.C. where plans of the property may be seen.

TO BUILDERS.—FOR SALE, FREEHOLD LAND, about Seven Acres and a Quarter, with House and Courts, at Acton, five miles from the Marble Arch, and a quarter of a mile from the North and South Junction Railway Station. Soil, gravel, sloping south; well timbered, frontage to Uxbridge-road and to East Acton road. Gas and water pass the premises. May be viewed from TEN to FIVE. Grove House, Acton, Middlesex.

BUILDING LAND, Guildford, Surrey.—TO BE SOLD, by Private Contract, a few PLOTS of BUILDING LAND, commanding views of some of the most beautiful scenery in Surrey, and very eligibly situate for the erection of first-class residences. The land is within 15 minutes' walk of the South Western and South Eastern Railway Stations, from which trains run to London, Portsmouth, Reading, and Redhill, the trains reaching London within the hour. The land is on a slope, with a southern aspect, and by its situation is protected from the north and east winds. The subsoil is chalk.—For further particulars apply to Mr. E. C. DUNCOMBE, Surveyor, Guildford

TYSSEN-AMHURST ESTATE.—LAND TO BE LET for BUILDING, in different parts of CLAPTON, HACKNEY, and KINGSLAND.—For plans and particulars apply to Mr CHESTER CHESSON, Architect and Surveyor at the Offices, Church-street, Hackney, N.E. near the Railway Station

BELVEDERE, near Erith, Kent, S.E.—TO BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES near London.—This beautiful Park is to be thrown open for building at the new year, 1863. Probably no district to the east of London has equal natural advantages. The beauty of the river and land scenery is well known. The soil is dry and healthy, the water pure and abundant. There are stations of the North Kent Railway at Erith and at Belvedere. The former, near to the east end of the Park; the latter, within four minutes' walk of the west end of the Park, and the Picardy and Lesness Heath portions of the estate. By the end of 1862, it is expected that there will be complete railway communication to Charing Cross. Picardy, close to the Belvedere Station and Lesness Heath (close to the Belvedere Church and Schools) are already (within two years) nearly covered with buildings, viz. villas of different classes, from 25l. to 70l. a-year, and shops of various descriptions; some plots, however, may still be had there. Some streets in the park are paved, let, and it is intended to grant leases of other similar plots for ninety-nine years, for erecting villas of a superior description. Plots will be laid out contiguous to four principal roads running through the park. These are the Park-road, leading from the Belvedere station to Brookstreet; the Avenue-road and the Tower-road, each leading from the public Erith-road at different points to the flower; and the Valley-road, leading from the Erith Lodge to the archway in the park. The ground rents are very moderate.—Applications for terms and for other particulars may be addressed to Messrs. WM. G. HABERSHON & PITE, Architects, 38, Bloomsbury square, W.C.; Mr SHERLAND, Lesness Heath, will show the ground to persons applying. The mansion will also be let on lease after April, 1863, for an hotel or public school, or other public institution.—For particulars apply to Messrs. BORTON & HOGGART, Old Broad-street, E.C.

WATERSIDE PREMISES TO BE LET, known as Chancellor's Wharf, Hammersmith, with convenient dwelling-house, outhouses, and stable; also a large brick building (on piers), suitable for a large builder, stone or timber merchant, or a dealer in building materials generally. Rent moderate.—For further particulars apply to Messrs. ROBERTS & ADLARD, Slate Merchants, 12, Potter's fields, Tooley-street, S.E.; or to Mr. BOND, House and Estate Agent, Dorcas-terrace, Hammersmith.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive Manufacturing Premises, known as FREDEGAR WORKS, Bow, Machine Shop, 61 feet by 54 feet; two ranges of workshops, 74 feet by 25 feet; steam-engine, boilers, forge, sheds, stabling, counting-houses, and all other conveniences suitable for a large factory.—For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

SAW-MILLS, TIMBER-YARD, and valuable WHARFAGE on the THAMES, near the Docks.—TO BE SOLD or LET, FREEHOLD WATERSIDE PREMISES, fitted up with 40-horse double cylinder steam-engine by Hall; two Cornish boilers, sawing and planing machinery, and driving gear; offices, foreman's house, stabling, and other requisites.—For particulars, and to view, apply to Messrs. BROWN & ROBERTS, 22, Throgmorton-street, Bank.

KENSINGTON GARDENS. — BUILDING LAND, facing these gardens, TO BE SOLD. Plots for Twelve first-class Houses.—For plans and terms, apply to HORACE FIELD, Esq. Surveyor, 69, Lincoln's-inn-fields.

TO ENGINEERS, FOUNDERS, and IRONMONGERS.—TO BE LET, on very desirable terms, extensive MANUFACTURING and ENGINEERING PREMISES with capacious Wharfage, well lighted, and Cellarage underneath the whole, situated in a principal street in the centre of London. The Premises are freehold, excepting a small part, which is leasehold. The business has been carried on most successfully for many years, and the plant and stock have just been valued. The present Manager, with a staff of workmen, is willing to continue their services if required. Every information can be obtained on application, in the first instance by letter, with the real name and address to THOMAS SMITH, Valuer to the Hardware Trade, 14 and 15, St. Swithin's-lane, London, E.C.

ALDEBURGH, Suffolk.—TO BE SOLD, in plots, or let on building leases, an eligible FREEHOLD ESTATE, suitable for marine residences, close to the railway station, with an uninterrupted sea view. Brick earth, gravelly soil, and springs of the purest water on the estate.—For plans and particulars, apply to Mr RICHARD LEE MAYHEW, Solicitor, Saxmundham, Suffolk; or of Mr. GEORGE ELKINGTON, Architect and Surveyor, 19, Cannon street West, London.

DRAIN-PIPE WORKS and BRICKFIELD TO BE LET, with access to the rail and river. A very large country demand for drainage goods especially, at great facilities for obtaining fuel at a low rate.—Apply to MESSON & CO. 8, George-yard, Lombard street, E.C.

CHEAPSIDE.—VALUABLE BUILDING SITE.—Notice is hereby given, that the time for receiving TENDERS has been EXTENDED to AUGUST 2. Plans, particulars, and conditions of Tender may be seen, on application to the Clerk, Saddlers' Hall, E.C.; or to Mr. F. W. PORTER, Architect, 16, Russell-square W.C. between TEN and FOUR.

UPPER HOLLOWAY, near Highgate.—A small PLOT of BUILDING LAND TO BE LET, with advances, if required.—Apply to Mr WILLIAM ELLISON, Architect, 23, Fenchurch buildings, Fenchurch-street, E.C.

UPPER THAMES-STREET.—St. Bartholomew's Hospital.—TO BUILDERS and OTHERS.—TO BE LET, on a building lease, for 70 years, from Michaelmas, 1862, the valuable FREEHOLD ESTATE belonging to this Hospital, comprising the premises Nos. 148, 149, 150, and 151, Upper Thames-street, with a frontage of 98 feet towards Thames street, and 75 feet towards Suffolk-lane.—For further particulars apply at Mr. HARDWICK'S Offices, No. 1, Henrietta-street, Cavendish-square. Tenders are to be sealed up and delivered at the Clerk's Office, within the Hospital, on TUESDAY, the 8th day of JULY, at a quarter before ELEVEN precisely. WILLIAM WILBY, Clerk.
St. Bartholomew's Hospital, June, 1862

MANUFACTURING WATER-SIDE PREMISES, on the Thames.—TO BE SOLD or LET on LEASE, the extensive PREMISES lately occupied as the Distillery at Brentford, occupying a site of about 4 acres, having a considerable frontage next the Thames; a plentiful supply of pure spring water, and well placed for land or water carriage, being but a short remove from the Brentford Docks, and immediately contiguous to three lines of railway. There are some very spacious and substantial buildings, and a good dwelling house with large garden; the whole presenting advantages for many large manufacturing establishments.—For further particulars apply to ST P. B HOOK, Esq. Solicitor, 9, Lincoln's-inn-fields, W.C.; or to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO CAPITALISTS and BUILDERS.—TO BE LET, in perpetuity, in large or small plots, and at low rates, the BELMONT, SYDENHAM, and GLEN-MACHAN ESTATE, IRELAND. The estate is of more than 700 acres in extent, and is situate within two miles of Belfast, in the borders of Belfast Lough. The main roads are made; there is a stone quarry and large quantities of brick earth on the estate. Brick, stone and lime may be had at low prices. A church and a large number of first class villas have already been erected and let readily. Close to the estate there is a station on the Holywood branch of the County Down Railway, which runs along the western boundary of the estate. The vicinity of the estate to Belfast, the picturesque views of the adjacent sea and of the surrounding country, with many natural advantages, render this estate particularly suitable for the erection of first-class villas, for which there is a large demand. Plans may be seen and particulars obtained of Messrs. HOVENDEN & HEATH, Surveyors, 3, Broad-street buildings, London, E.C.; and of THOMAS MACLURE, Esq. Belmont, Belfast, Ireland.

ADDISCOMBE COLLEGE ESTATE, Croydon, Surrey.—FOR SALE by PRIVATE CONTRACT, eligible FREEHOLD BUILDING LAND, a portion of the Addiscombe College Estate, situate within a few minutes' walk of the town, with extensive views of the neighbourhood of Norwood and the Crystal Palace, and admirably adapted for the erection of villa residences for which purchase-money may be paid by instalments.—For plans and particulars apply to Mr WHITTINGHAM, at the Offices of the British Land Company, 14 Moorgate street, London, E.C.

RED HILL, Surrey.—FOR SALE by PRIVATE CONTRACT, eligible FREEHOLD SITES for the erection of villas near the Red Hill Railway Station.—For plans and particulars apply to Mr. WHITTINGHAM, 14, Moorgate-street, London, E.C.

SHOOTER'S HILL, Kent.—FOR SALE by PRIVATE CONTRACT, several lots of eligible FREEHOLD BUILDING LAND close to the town of Woolwich, where the want of residential accommodation is much felt.—Apply to Mr. WHITTINGHAM, 14, Moorgate-street, London, E.C.

NEW BARNET, Herts.—FOR SALE, eligible BUILDING LAND close to the Barnet Station, with frontages to good roads, and with water and gas laid on. Freehold, and land tax redeemed. The parcels may be had in lots to suit investments.—Apply to Mr. WHITTINGHAM, 14, Moorgate-street, London, E.C.

WANTED, near the centre of the City, FREEHOLD GROUND, for building purposes; comprising an area of not less than 1000 superficial yards, in one or two lots. Letters to be addressed, stating size and terms, to A. B. care of Charles Sharpe Heard, esq., 24, Moorgate-street, E.C.

TO BUILDERS.—First-class BUILDING SITES TO BE LET, at Beckenham, Putney, Fulham, Weybridge, Brockley-hill, Croydon, Wanstworth, Shepherd's Bush, Parson's-green. Low ground-rents. Roads and sewers made, with the usual plots reserved; 50 per cent. advances made to respectable builders. For further particulars, apply at Mr. A. C. HOOK'S Offices, 13a, Great George-street, Westminster, S.W.

TO WORKING BUILDERS and OTHERS. TO BE LET or SOLD, a PAIR of VILLAS, of handsome elevation; one finished and let at 50l. per annum, the other unfinished. About 500l. already advanced, and further advances would be lent for finishing if required.—For particulars apply to W. B. care of R. Sanders, esq. 2, Tavistock street, Covent-garden, W.C.

TO BUILDERS AND OTHERS.—Freehold Ground at Muswell-hill, direct from the Freeholder.—A Small CORNER FIELD, most eligibly situate, half-way on the hill, TO BE LET on Building Lease for 99 years, in whole or in plots, at a moderate ground-rent. Has a frontage of about 200 feet to the hill, and 225 feet to St. James's-lane, and is suitable for middle-class houses, which are in request in this desirable neighbourhood. Distance from the hill to Hornsey Station nearly one mile; from Hornsey Station to Farrington-street in fifteen minutes by Metropolitan Railway, in a few months. A peppercorn rent for 15 months. Advances made, if required. Inquire of Mr. J. J. SPILLER, Solicitor, 3, South-place, Finsbury.

FREEHOLD BUILDING LAND FOR SALE, near Park Station, on the Eastern Counties Line. Gravelly soil; roads and drains made. Entry, approved purchasers, by letter, addressed to C. R. Charles Barker & Sons, 8, Birchin-lane, City

FREEHOLD SITES for BUILDING and FREEHOLD HOUSES can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

BUILDING LAND TO LET, for First and Second-Rate Villas, within ten miles of London, and a few minutes' walk from a good railway station. Situation high, healthy, and re-pectable.—For particulars address A. M. care of Mr. Muller, Post-office, No. 9, High Holborn.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826.

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATION.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

ROYAL AGRICULTURAL SHOW-YARD.

MACHINERY IN MOTION YARD.

PEARCE'S PATENT SANITARY PIPE, BRICK, AND TILE MACHINES,

Producing nearly double the quantity and of very superior quality to any machine yet invented. These Machines may be seen in full operation at Stand 309, Machinery in Motion Yard. The improvement consists in the introduction of a central stem to support the core of the die, and obviating the necessity of cross-bars or bridges, hitherto found so detrimental in the manufacture of large sanitary pipes. The upper part of the Machine acts as a Pug-Mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die. The larger Machines will make sanitary pipes, from 3 inches to 24 inches. The smaller, from 2 inches to 12 inches, with a double mouthpiece for making either perforated or solid bricks.

PARTICULARS ON APPLICATION TO THE

IRON WORKS, POOLE, DORSET.

NEW WORK BY "WATERS."

On July 1 (never before published), price 1s.

EXPERIENCES of a REAL DETECTIVE.

By INSPECTOR F.

Edited by "Waters," Author of "Recollections of a Police Officer."

London: WARD & LOCK, 158, Fleet-street.

On July 1 (never before published), price 1s.

THE KING'S PAGE.

By LASCELLES WRAXALL.

London: WARD & LOCK, 158, Fleet-street.

This day, a third edition, Atlas of Plates, folio, with separate text 12mo, price together 1l 5s (postage 1s),

ON IRON SHIPBUILDING, with Practical Examples and Details, in 24 Plates; together with Descriptive, Explanatory, and General Remarks.

By JOHN GRANTHAM, C.E. Consulting Engineer and Naval Architect.

LOCKWOOD & CO. 7, Stationers'-hall court, E.C.

NEW WORK by WILLIAM TEMPLETON. Now ready, 18mo 2s 6d. cloth (postage 2d),

THE ENGINEER'S, MILLWRIGHT'S, and MACHINIST'S PRACTICAL ASSISTANT: a Collection of valuable Tables, Data, &c.

By WILLIAM TEMPLETON, Author of "The Operative Mechanic's Workshop Companion," &c.

LOCKWOOD & CO. 7, Stationers'-hall court, E.C.

SOCIAL SCIENCE REVIEW.—June 28th, 1862.—Price 4d.—CONTENTS: The Detection of Falsified Money in Gold—The Defects of the Old Educational Code—How to Purify Air—Proceedings of the National Association for Promotion of Social Science—Mixed Law in British Colonies—Habitual Criminals—Medical v. Legal Coroners—The Causes of Illegitimacy in Scotland—The Day. Office: 10, Whitefriars-street, Fleet-street.

Sold by all Newsvenders in town and country.

Just published, in 8vo, price 2s sixpence,

ON the ESTABLISHMENT and MANAGEMENT of COTTAGE-IMPROVEMENT SOCIETIES: A Paper read in the Fifth Department of the National Association for the Promotion of Social Science in the Guildhall, London, June 9, 1862. By W. A. GREENHILL, M.D. Oxon.

London: LONGMAN, GREEN & Co. 14, Ludgate hill.

NEW WORK BY SIR HENRY HOLLAND, BART.

Just published, in 8vo, price 14s. cloth,

ESSAYS on SCIENTIFIC and other subjects contributed to the Edinburgh and Quarterly Reviews. By Sir HENRY HOLLAND, Bart. M.D. F.R.S. D.C.L. Oxon. &c.; Fellow of the Royal College of Physicians; Physician in Ordinary to the Queen.

"Were we asked to point out give the most complete, the most the work in which one might obtain the best view of the present position of natural science, its leading aims, its guiding principles, its most recent discoveries, its probable course for the next few years, we should without hesitation single out these."—*Essays of Sir Henry Holland.* . . They

general view of what is now being done in the circle of sciences, and of the ultimate results to which the several researches converge . . . In this list of subjects we can see that Sir Henry has included all the most important scientific problems of the day."—*Times.*

London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

Just published, price 2l 2s.

MANUAL of HYDROLOGY

By NATHANIEL BEARDMORE, Civil Engineer.

CONTENTS—

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV. ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 9 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 66, London-wall. 1862.

In 4to with 24 Plates of Figures, price 5s. cloth,

HANDBOOK of ELEMENTARY DRAWING: with Practical Suggestions on the Formation and Conduct of Drawing Classes in Public Schools. Designed chiefly for the use of Teachers

By ROBERT HALE,

Head Master of the Burnley School of Art, late Teacher of Drawing in Queen's College, and Second Master in the Government School of Design, Belfast.

London: LONGMAN, GREEN, LONGMAN, and ROBERTS.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

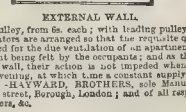
ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the



admission of Pure Air through an

EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is close for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union street, Borough, London; and of all respectable Ironmongers, Builders, &c.

The Builder.

VOL. XX.—No. 1012.

Deptford Pumping-Station and the Southern High-Level Sewers: London.



THE Deptford pumping-station—which is destined to receive, dredge, pump up, and pass on to the outfall, a maximum flow of sewage and rain-fall of a district extending over 42 square miles, every one of which is peopled by some thirty thousand inhabitants — assumes dimensions and a character commensurate with the extent of the work it is to perform; and the main-drainage scheme adopts contrivances which are deemed equal to the consummation of its novel, ingenious, and onerous task. The contract is taken by Messrs. Aird & Son, for the large sum of 113,550*l.*: the works are now in full swing. The site is a piece of ground on the east bank of Deptford Creek, to the south of the Greenwich Railway, in the close neighbourhood of gas, vitriol and chemical works, and flour and oil-cake mills. It possesses the one advantage of tidal-water carriage for the materials used in the construction of the buildings and works connected with the station, and for the coals to be used in the working of the engines; but it has its disadvantages also. Part of it is an old osier-bed, and the rest the oldest tan-yard in England. The difficulties attending the formation of foundations were very great. The area is inclosed by walls, that facing the creek being a wharf-wall, building with iron piles and plates. The station contains, besides the lay-bye for barges at the wharf wall, engine and boiler houses, with pumps and engines equal to 428 nominal horse-power, in duplicate, in cases of accidents and repairs; a residence for the superintending engineer, coal-sheds for 3,000 tons of coal, penstock chambers, penstock gratings, dredging filth-hoists, cross-sewers, bell-mouth junctions, and the mouths of the sewers themselves. The creek is the natural outlet of the Ravensbourn river or sewer. It discharges into that bend of the Thames called Greenwich Reach, which is opposite the Isle of Dogs; and the receding tides of the Thames duly leave deposits of London muckiness upon its margins and on its bed: in fine, its waters at high tide, and its mirous bed at low water, are as feculent, mucilaginous, and dreggy as the general character of the neighbourhood, and the immediate proximity of Slaughter-house-lane would indicate—a veritable Styx. The parishes of St. Paul, Deptford, and St. Alphege, Greenwich, meet in the centre of the creek, and jointly claim to have charge of this insalubrious property. When, however, the sewage of London is intercepted, and carried down so far as Barking Creek and Erith Reach, the great shipyard that saw the Leviathan built and launched, the docks and Royal dockyard, store-houses, saw-mills, flour-mills, the jetties, mooring-wharves, piers, iron-cable and mast-factories, steam-engine and floating-dock works, potteries, ferry-stages, and river-side taverns, fringing the river like sedges, will be laved by sweeter waters.

All that will be seen above ground of the pumping station will be an elaborate salmon-coloured brick building, relieved with white and brimstone-coloured bricks, built in the form of a centre with two wings: the former containing the boilers and cylinders, and shafts; the latter the duplicate engines and dredging filth-hoists, which will be grouped with the Italian villa-like residence of the acting engineer, and the immense iron coal-sheds. But let the external arrangements be ever so costly and sightly, the neighbourhood of this station to a crowded inhabited district must be regretted. The Trinity Almshouses, the Jubilee Almshouses, Queen Elizabeth's College, the labyrinth of dwellings in the low narrow streets around, even Greenwich Hospital itself, will be within the baneful influence of it. Both Deptford and Greenwich now possess but an unenviable reputation for cleanliness; but it is probable that the local vestries and boards, on the completion of the intercepting scheme, will see the propriety of improving the sanitary condition of the districts in their charge, when, but for the proximity of the station, all would be changed and clean. Although it is calculated that the steam from the boilers will be blown off into the Lea-green Sewer, and that the smoke will be consumed (a very tall chimney, 150 feet high, is in course of building), and that the foul air will pass through the furnaces before it mixes with the external atmosphere, there yet remains the stubborn fact that it is sewage that is dealt with, and, that besides the ordinary emanations from that coming into the station by gravitation from the High-Level Sewers, there will be more offensive effluvia arising from the unceasing process of pumping up, to the level of the outfall, the rancid excretions conveyed into the Low-Level Sewers from an area of twenty-two square miles, occupied by about a million of inhabitants. The station, too, must become a depôt for the brickbats, branches of trees, dead cats, and other animals and objects, and such heavy, offensive matter which, detained by the gratings from passing into the pumping cylinders, have been dredged up by the filth-hoists from the sewage. For these reasons it would be well if a site removed from habitations had been fixed upon for this station. The second, and final pumping lift, to be erected at Crossness, will be free from this objection.

The unusual works we are about to describe are conducted under the superintendence of Mr. Grant, engineer, and Mr. J. Bennett, clerk of the works. The invert of the Low-Level Sewer being fixed at 20½ feet below that of the High Level and the extensions—the crowns of which pass beneath the bed of the creek—and 30½ feet below Trinity high-water mark, it became necessary to attain a still lower depth for the foundations of the sewers and of the buildings to contain the engines and hoists; and as the site was an old osier-bed, with peat and loose sand beneath it, and with tidal and other waters oozing in from all directions, the task of reaching a suitable foundation was laborious. A vast timbered coffer-dam was formed, and, at some periods of the operations, as many as 300 men were at work. An engine of 70-horse power meanwhile has been pumping constantly 7,000 gallons of water a minute. The peat and shifting sands excavated from the area required for the foundations, to a depth of 38 feet, were removed to Battersea Park—the only instance of utilization of the excavations on the main-drainage works brought under our notice, except the instance where, gravel being found, it was used for concrete. The iron-cased well, formed for the working of the 70-horse power engine, is also to be utilized: it is to be the source of water-supply to the engine-boilers. Walls destined to stand the vibration of powerful pumping-engines are necessarily constructed of great thickness and solidity. All the brickwork below high-water mark has been built in Portland cement, and all above Trinity high-water mark with blue lias: no mortar is used. Pilasters and all projections about the engine-houses and residence are built—with fastidious nicety, seeing how soon a few London fogs will make them all black alike—of Allen's Ballington salmon and brimstone-coloured bricks, and all panels are built of the white Suffolk brick. Portland stone is used for plinths and cornices; Wingerworth York stone for landing and steps; and Bramley Fall stone for the engine beds. We have said that the engine and boiler houses are in the form of a centre with two wings. In the centre, on a bed of concrete 14 feet deep, chosen in preference to piles, originally stipulated, will lie, side by side, brought up to a level with the engine-room, ten boilers, each 6 feet diameter and 30 feet long; and in connexion with these are the various chambers for air, cold, feed and exhaust pipes, and delivery troughs. In the wings, nearly 40 feet of which are below ground, are the chambers, 36 feet in diameter, for the fly-wheels, cranks, and beams, and into the lower part of which the low-level sewers discharge their contents, regulated by massive iron penstock gates. Cylinders, 8 feet in diameter, lift the sewage from the low level to that of the outfall. Gratings, placed at the openings into these cylinders, detain foreign substances not intended to be pumped up; which are emptied into tanks provided for their reception. Ejected from either cylinder on to a bridge-like platform conduit, at the mouth of the Outfall Sewer, the sewage flows in two channels, 8 feet diameter, past a cut-water towards a central chamber, 120 feet distant on the route. This arrangement provides for the use of either or both engines. After finding its way into this chamber the sewage departs in one 11 feet 6 inches barrel for some further distance towards a bell-mouth junction, paved at its delivery with granite cubes, into which sweeps the sewage from the High Level in a sewer 5 feet 9 inches by 8 feet, shaped with semi-circular top, straight sides, and flat invert. Thence both levels pass in one length of 260 feet of 11 feet 6 inch barrel, built in excellent bricks of five rims, the invert of which is built with hard blue bricks, to withstand the rush and ceaseless wear of the sewage, in the rear of Chapel-place. This taps the Lea-green Sewer in its progress, and, with accumulated flow, the sewage passes under the Greenwich-road, and joins the 11 feet 6 inch outfall-barrel: the contract for which, now completed by Mr. Webster, we described in our last notice of these works. All the buildings are sufficiently advanced to receive the engines and pumping machinery, prepared by Messrs. Slaughter & Gruning, of Bristol.

The Coal Store-sheds, calculated to hold 3,000 tons, are ordinary railway sheds, with windowless roofs, and open on all sides. The roofs are supported on iron pillars fixed in bases of Mount Sorrel stone. Mr. Simpson, of Pimlico, furnished the ironwork.

There are a few peculiarities about the construction of the wharf-wall of the creek. The soil of the banks and bed being of the shifting description mentioned, and the scouring by the receding tides, and the rush of the Ravensbourn, having to be taken into consideration, it has been deemed expedient to supersede the ordinary stone or granite wall by ironwork, which, following the curve of the creek for 550 feet in short angular lengths, is formed, as we saw, in this way:—massive triangular-shaped iron piles, cast vertically, are first driven by a dolly made of elm, fitted to the pile-head by the steam pile-drivers of Messrs. Sisson & White, of Hull: the ordinary monkeys failing to execute the task. The main iron piles are bolted to each other and tied into the bank with massive rods. Between them a wall is formed of strong sheeting piles and plates tied and bolted together. These are backed with concrete made with Portland cement. At every 30 feet along the face of the wharf-wall, at right angles

with it, wooden piles with planking 12 by 3 inches are submerged and fixed to prevent the bed being undermined or scoured. All the iron-work is primed with paint before it is put down; and is subsequently tarred four times: twice before fixing, and twice afterwards, with the best coal tar; it is furnished by Messrs Cochrane, of Woodside.

After being conducted by men with lights to view the structure of the completed sewers and the bell-mouth junction, and after traversing the great 11 feet 6 inches outfall barrel, and thinking of the functions it has to perform; and after standing at the bottoms of the pumping-chambers and engine-houses, and thence ascending the scaffold to the highest points of the building, examining the completed iron coal-sheds and the formation of the iron wharf-walls, viewing the coffer-dams across one-half of the creek for the execution of one-half of a section of the low-level sewers to lie below the bed of the creek, and studying the plans and details in the office of the clerk of the works under one of the arches of the Greenwich Railway,—we cannot but feel that the Messrs. Aird & Son should be commended for the masterly execution of a great public work.

Leaving the Deptford pumping-station, we start from the bell-mouth junction, to trace the course of the High-Level Sewer. We have said that, as it comes up to the junction at the station, its dimensions are 5 feet 9 inches by 8 feet. These by no means represent its size along its route; for, until it arrives at the opposite bank of the creek, it has consisted of two barrels of a maximum size of 11 feet each. As the storm-waters of both are discharged into the creek, there is no longer any necessity for this vast size. The level being bounded by the bed of the creek, as the navigation could not be obstructed, it was necessary to resort to special construction at this point. The sewage is conveyed beneath the creek in four iron tubes 3 feet 6 inches, side by side, at an inclination of 1 in 1,531, on a run of 1,053 feet, or 4,212 feet in all. These four tubes, which have been laid with difficulty, merge into the 5 feet 9 inches by 8 feet sewer within the boundaries of the pumping-station. We now approach the contract taken by Messrs. Lee & Bowles.

This portion of the scheme consists of 810 feet of 10 feet 6 inches barrel running from the creek to the Broadway, Deptford; 9,500 feet run of 10 feet 6 inches thence to Peckham; 1,790 feet of 10 feet 3 inches barrel; 3,320 of 10 feet barrel, contracting at Camberwell-grove to 4,750 feet of 9 feet 9 inches barrel, which extend as far as the Loughborough-road; thence a run of 1,190 feet of 9 feet 3 inches barrel reaches to the Brixton-road, whence a run of 1,870 feet of 6 feet 3 inches barrel comes up with the Stockwell-road. A further run of 2,970 feet terminates in Clapham-rise; and thence there are 310 feet of 5 feet by 3 feet 4 inches egg-shaped, and 1,740 of 4 feet 6 inches by 3 feet egg-shaped: making a total length of 5 miles 1,850 feet from Deptford Creek. The Effra branch of this level consists of 810 feet of 10 feet 6 inches barrel, 6,250 of 8 feet 3 inches, 4,990 of 8 feet, 2,030 of 7 feet 6 inches, 1,550 of 7 feet 3 inches, 7,350 of 7 feet (1,000 feet of which are tunnelled), and 30 of 4 feet by 2 feet 8 inches egg-shaped: making a length of 4 miles 1,090 feet, and a total of 9 miles 2,940 feet. The most difficult part of this route was in Broadway, Deptford, where the High Level and its branch, running side by side, filled up the whole width of the road. The shabby, rickety houses, with cellars and tenements on both sides of the way, which a despotic Government would have razed to the ground, were first propped, shored, and stayed, and then the walls, one at a time, were underpinned. A platform was also constructed for the convenience of the people passing to and from their houses; and then the work of excavation began. The task was much complicated by the existence of the old main sewer in the line of roadway, which had to be kept in its place while the two enormous barrels were constructed below it, and by the necessity of diverting storm and various waters. Considerable progress had been made when heavy rains caused the sides of the old main to give way, and the open street, thus laid bare, was flooded. The delay and damage caused by this accident were great; and it can scarcely be much consolation to Messrs. Lee & Bowles to be told that the experience thus gained will lead to the adoption of precautions which may for the future prevent the repetition of similar disasters; more especially as, out of work that was not to exceed 200,000*l.*, they had already executed as much as amounted to 154,000*l.* The aspect of this length of the work, after the accident, was most dismal and wreck-like.

The sewer along this long line of route was laid by a cutting, sometimes as many as 30 feet or 40 feet deep; sometimes when the crown of it is just below the crust of roads and fields. The invert is formed of four rims, with hard black bricks for the invert, except where it crosses under the Brighton and North Kent Railways, when it is formed of five. It rests upon a foundation of clay, except in treacherous places, where concrete is used. A railway along the bank of the cutting served at once to convey the bricks and lime required, and to take aside the gravel, or soil, or clay excavated. Mountainous heaps of these were lying at various points along the route,—one on the lands of the Haberdashers' Company attaining an almost Alpine outline. As long as the direction of the sewer crosses fields there is nothing more formidable to contend against than the ditches of running water; but when traversing a principal thoroughfare there are both the gas and water mains and old main sewers to protect. This level is completed, except at certain short patches purposely left for the tapping of old sewers. At one of these places (Dennet's-road), at the boundary of the parishes of St. Paul, Deptford, and St. Giles, Camberwell, the spring storms wrought similar devastation to that experienced in Deptford. The old main blew up and brought down the banks of the cutting, discharging at the same time volumes of water and sewage.

Near St. Mary's Church there is an instance of the exigency of the level that has a remarkable consequence. The sewer passes transversely under a new villa. The whole of the ground on which this residence is built was obliged to be removed, and the villa propped up over it while the sewer was built. Additional foundations have been made which will cause it, on the completion of the work, to be newly founded on the sides and crown of the sewer, itself passing beneath. In another instance, close by the head-quarters of the 1st Surrey Rifles, a house had been undermined of which the faces had given way; and floors, and doors, and roofs, and windows, were propped up, presenting the odd appearance of a skeleton of a house while the walls are rebuilding. At a point further along the route, in Hanover-road, the only evidences of the great work buried beneath are two portable pumping-engines, by Garrett, of Saxmundham, that are employed in raising water that finds its way into the new and scarcely completed sewers through the gaps left for the purpose of tapping the old mains. Then we come to a length in an orchard in the rear of Camberwell-grove, where the swing road steam barrow hoists are at work. Ten men are filling the barrows at the base of the cutting, and ten men waiting to receive them at the stage on the summit and tip them into the railway waggons. We stand by as a waggon runs off the rough, rude sleepered line, and the clockwork-like operation is at an end till the line is cleared. At Denmark-hill the sewer runs across the hill and under a handsome villa, the gardens of which are laid out with taste. In the garden, fields, and orchards, in the rear of the latter and close to the church, on the borders of Cold Harbour-lane and De Crespigny-park, the contractors have a depôt of bricks, broken fences, piles of lumps of bricks cast in moulds for the inverts, offices, carts, waggons, heaps of gravel, and a portable engine with upright boilers pumping water. Many horses are at work, which are trained to leap up a bank and give the waggons they draw a tip to turn out the gravel. The intelligence and endurance of the powerful horses that perform so large a share in this great work deserve more words than this. We saw some of them patiently working up to their bellies in clay. Looking into the cutting at this point near this depôt, where there are seven tiers of baulk strutting one below the other, we are reminded of the skeleton of a ship's hold. Such are the characteristics of the practical difficulties undertaken and surmounted in the laying down of this level along its long road to its rise at Clapham.

The Effra branch—sometimes cropping out to the surface, sometimes burrowing in deep cuttings, sometimes tunnelling below shafts 70 feet deep, leisurely blocking up private and public roads, and remaining in possession of Dulwich for two years—has been brought to a successful issue. Its extremity brings us to the highest level of all.

The Southern High Level sewer extension, joining the commencement of the Effra branch, is now in formation by Mr. Pearson. More than 1,000 feet are completed. The point in hand at the period of our latest inspection was a very deep narrow cutting in the narrow Croxted Foot-lane. The invert was in formation of air and hollow pottery bricks.

Resting at this elevation, and thinking over the varied nature of the work—the tunnellings in clay, gravel, and chalk; the cuttings in gravel, clay, shifting sands filled with volumes of water, peat, osier-beds, tan-yards, marshes, highways, fields, and streets; the undermining of houses; the suspendings of old main sewers, gas mains and water mains; the crossings through and under rivers, canals, and creeks; the stridings over railways and burrowings beneath them; the struggles with water and sewage by coffer-dams, in rivulets, ditches, and storms,—and turning from the dazzling glitter of the Crystal Palace on the ridge of the hill to gaze upon London, lying mistily before us, veiled in the wreaths arising from tens of thousands of domestic and commercial altars, we feel that modern engineering is performing a great work, whatever may be thought of the wisdom of it in times to come.

VOLUNTARY ARCHITECTURAL EXAMINATION.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE council of the Institute have issued the "Regulations and Course of Examination, with Forms of Declaration and Recommendation, for the Voluntary Architectural Examination," together with a list of books recommended to candidates (published by us some time ago), and a sketch of a form of examination paper, running to the extent of twelve pages quarto. As copies of these papers have been already issued to all members of the Institute, and may be had on application to the honorary secretaries, by any who are interested, it is not necessary for us to print more than a few particulars.

The regulations say,—

"The examination shall be open to all British subjects, and shall be arranged in two classes, so as to offer to a candidate the opportunity of acquiring an acknowledgment of proficiency, and further an acknowledgment of distinction. No candidate under thirty years of age shall be permitted to present himself for an acknowledgment of distinction without having previously passed the examination in the class of proficiency.

The examination shall in no respect be conducted *viva voce*. It shall take place in the last week of the month of January, as often as there shall be five candidates seeking an acknowledgment of proficiency; and it shall occupy not more than three days for the candidates in that class, with not more than three additional days for the candidates seeking an acknowledgment of distinction.

The first of such days' examination shall be in drawing and design; the second in mathematics, and physics, with professional practice; the third in materials and construction, with history and literature; while the fourth, fifth, and sixth days shall be assigned to the same subjects in similar order; languages being included on the fifth day. If fewer than six days be devoted to any examination, the examiners are at liberty to vary the distribution of the time prescribed. The hours of attendance shall be from ten till five, except on the sixth day, when they shall be from ten till two: and on each day there shall be an interval of one hour, during which no work shall be allowed, and the Institute shall provide some simple refreshment.

Upon the days of examination the candidates shall have access to such books of tables as may be provided by the honorary secretaries under the advice of the examiners.

A candidate, who has passed in the class of proficiency, shall not be required to attend on the days appropriated to the class of proficiency in any subsequent examination at which he may present himself for the class of distinction."

"The papers of questions and requirements of work shall be framed by the examiners as much as possible with direct reference to architecture, and in conformity with the applications of candidates regulated by the subjects in the following programme.

The number of marks to be allotted by the examiners to their questions shall be 10,000; of which 6,000 shall be in the class of proficiency, and 4,000 in the class of distinction in the following programme, and also shall be as there noted,—Drawing and design, proficiency, 1,500, distinction, 600; mathematics, prof., 75 1, dist, 600; physics, prof., 600, dist., 400; languages, dist., 300; professional practice, prof., 500, dist., 500; materials, prof., 750, dist., 400; construction, prof., 750, dist., 500; history and literature, prof., 1,250, dist., 700.

Of these marks 3,000 in the class of proficiency shall entitle a candidate to pass in the said class; and 2,000 in the class of distinction shall entitle a candidate to pass in the said class; such numbers being in each case one-half of the entire number for the class; but the candidate shall not be held to deserve the acknowledgment of proficiency unless he obtains at least half of the number of marks allotted to the divisions of drawing and design, materials, and construction respectively, in addition to at least a fifth of the number of marks allotted to each of the other divisions in that class."*

At the head of the "Sketch of Form of Examination Papers," the council remark,—

"The Institute, aware that architects in practice cannot command the leisure sufficient to prepare for such an examination as is here contemplated, will not consider such persons as called upon, in any way, to present themselves as candidates; and the Institute, not intending that any compromise of the examination should be offered (except the modification as to number of marks in the first two years), announces that no architect above thirty years of

* The council is empowered to fix for the first examination a smaller number of days and a less proportion than that above arranged of marks necessary to pass; and to raise for the second examination the proportion of such marks to an average between that of the first and that provided in the regulations, which shall be used for the third.

ge will be encouraged to offer himself as a candidate. t also suggests that very young men, although they may ave availed themselves fully of the advantages of an ademical education, ought not to present themselves or this examination until they have acquired that amount f architectural knowledge which *practical* experience lone can afford. The institute, therefore, will not ncourage any person to offer himself as a candidate in he class of proficiency under twenty-one years of age, or n the class of distinction under twenty-five years of age."

While they deprecate too severe an examina- ion as tyrannous; and one too slight as obviously worthless; they say:—

"Of course it is difficult to steer evenly between these errors. Few examinations have been esta- blished without being charged with one or the other at the outset. The subject is now, however, better understood than it was; and the reports from the various professions where it has been insti- tuted are so favourable,—the system has been found to answer so well with legal and medical men; with the soldier, the sailor, and the diplomatist; with, in fact, every rank where the education of a gen- tleman is expected, as well as the ability of a pro- fessional man,—that there seems little doubt that this examination, if carried out with judgment and good feeling, must advance the *British Archi- tect* in popular respect, and in social status."

GOSSIP ABOUT THE INTERNATIONAL EXHIBITION.

Visitors to the Exhibition cannot have avoided noticing the wretchedly incommodious structure of the omnibuses which, in such vast numbers, form a never-ending double line along the road to Brompton. Many of them are old, battered, and unsightly vehicles, long laid aside for repair or destruction; but which have been fished up for active work on the present lucrative occasion. The extremely battered examples are, however, exceptions which it would be hardly fair to criti- cise; some of them belonging to the earliest epoch of the omnibus age. It is, therefore, to the plan and build of the really sound vehicles, such as do the usual omnibus-work of the main lines of Lon- don traffic, that the following remarks apply. The designs of all these—and their construction is various—do not (with the sole exception of the so- called Manchester pattern) exhibit any attempt to adapt them to their purpose, especially since the outside traffic has become so general. The crowded top-loads appear most dangerously situate; and it is only wonderful that some dreadful accident has not occurred. Even the clambering up and down, by the slight means afforded, is far from a safe proceeding, except to the very active; and when the top is gained, passing along the sloping roof without any handrail, or one not sufficiently high, is a feat by no means unattended with risk. I had been conning over these matters during my last visit to the Exhibition, when I found myself unexpectedly close to the model omnibus exhibited in the Annexe of the French Department. In this model, which is the one now adopted for the Parisian omnibuses running by the Boulevard from the Bastille to the Madeleine, several of the objections to the ordinary build of an English omnibus have been obviated. In the first place, without adding to the bulk or detracting from the symmetry of the design, a light *staircase*, with a handrail, enables outside passengers to reach the roof with ease and safety; and then another and more elegant handrail enables him to walk along the roof without fear of being toppled over by the slightest jerk of the vehicle. The internal arrangements are not so strikingly superior; yet they are certainly better, and decidedly more roomy.

Mr. Ferdinand de Lasteyrie, one of our foreign critics, complains that in the catalogue of the picture gallery no dates are given. In the English school he found this omission particularly inconve- nient, as it embraces works of deceased artists of the last century. He then says, instead of a date we have the name of the *proprietor* of the pic- ture, about which the student of art cares nothing. He complains, also, that the name of the master of each artist is not given. This last, however, is a piece of information, in regard to the English school, which it would be very difficult to furnish. Most of our painters have, as it were, drifted into art; the thorough kind of artistic education pur- sued on the Continent being almost unknown with us. Many of our greatest painters have become artists by chance. Even the training which some have gone through at the Royal Academy cannot count for much, as comparatively few of the students in that establishment ever attain eminence, and many do not eventually follow the profession of art; and as for the studios of our eminent artists, they are not thrown open to pupils, as on the Con- tinent; and, if they were, pupils would be few, for the English artist does not enjoy painting in public. But, after thus replying to Mr. de Lastey- rie's wish for the names of the *masters*, let us just look into his main ground of complaint, and we shall find it well founded. He is attracted, for in- stance, by the unusually graphic aspect of a series of pictures illustrating "incident," manners, and costume peculiar to a certain epoch. He is anxious to know something about their authors, at all events, whether living or dead; and at what epoch the pictures in question were painted. All he finds in the catalogue to meet this very natural desire for information is the simple name, W. Hogarth,—not even the William in full. There is no date of either birth or death, nor any date for the paint- ing; only opposite to the title of each picture he finds John Murray, esq.,—her Majesty,—the Foundling Hospital. And what does Mr. Lasteyrie care for excellent Mr. John Murray or the Foundling Hospital? He has still another com- plaint equally well founded. There is no attempt at chronological arrangement; and what is still more confusing is, that the works of each artist are not to be found altogether, but are dotted about, according to some secret principle, the bearings of which are not easily discoverable. These same picture galleries have not only given to Mr. de Lasteyrie an opportunity for some sharp criticism as to their arrangement, but have afforded some curious and interesting tests of the artistic instincts of different classes of society. On the guinea days, educated connoisseurship leads the fashionable crowd to Gainsborough's "Blue Boy," to the Hogarths, and to Reynolds's aristocratic portraits. On the shilling days the "Blue Boy" and the Reynoldses are deserted, and the crowd assemble round the more accurately-defined modern works; the pictures by Maclise, for instance, with their vivid colouring, graceful female forms, and rich detail; or, more still, round the photographic realisms of the pre-Raffaellites. But this is not the most singular thing to be observed in the direction of public taste. While the guinea and even the five-shilling visitors confine their Exhibi- tion promenades almost exclusively to the picture galleries, the Roman Court, the nave, and the Decorative-Art Courts,—leaving the annexes, with all their wonders of machinery, altogether desert,—the shilling crowds comparatively neglect the pictorial and decorative sections of the Exhibition, and crowd to the machinery.

In the Swiss Court a species of decorative art may be studied which has been carried to very high perfection, and from which lessons may be taken by all engaged in any branch of the deco- rative arts, whether their works be on a large or small scale. The designs I allude to are those made for ornamenting the cases of Geneva watches, some of which are so beautiful, and exhibit such exquisite effects of form and colour in their details, that they are brim-full of suggestion for orna- mental designs of every class; even for the deco- rative portions of architecture, either internal or external. The designers of these works have raised their speciality in design to the rank of a very important branch of ornamentation, in which several artists have achieved such high repute that they realize incomes which may vie with those of artists in what are considered far higher walks of art. The designs by Alphonse Dubois, and Fritz Kundert, are among the most beautiful; and it is creditable to those manufacturers, who thus publish the names of their artists, as many pursue an opposite course, stating, with a kind of com- mercial pride, that all the designing, as well as the execution of their productions, is done "in the esta- blishment;" thus treating the artists, upon whose graceful inventions their fame and profit almost entirely depend, as part of the machinery of their workshops. Among many distinguished firms, however, who delight to honour the artists associated in the production of their beautiful wares, and give them the advantage naturally arising from the publication of their names, the house of Christofle & Co., of Paris, ought to be honourably mentioned, as having given to the public the names of the accomplished artists who furnished them the designs for their fine table ornament, only one-third of which is at present exhibited. Among these are Mr. Baltard, architect, and inspector of fine arts in Paris; Mr. Maillet; and the skilful ornamental modeller, Mr. Auguste Madroux.

Speaking of the exquisite ornamentation of the cases of Swiss watches naturally leads to con- sideration of the ornamentation of chimney-piece clocks. In this branch of room-decoration the French bronzists and ormolu-workers had acquired a degree of supremacy that appeared unapproach- able. But, somehow or other, that branch of decorative art appears to have run wild some few years ago, as Gothic architecture did in the begin- ning of the sixteenth century, when it died out, crushed by the weight of its own excessive load of parasitic decoration. Just so the designs of orna- mental room-clocks eventually became so over- charged with ornament, that a destructive re- action has taken place in the opposite direction. In the Louis Quatorze and immediately following periods, these features in room-decoration were frequently designed by the architect himself, or by the painter or sculptor, along with the other principal features of palatial interiors. There are clocks of the epochs referred to, designed by Le Pautre, Le Brun, and others, that present all the breadth of treatment which places them in perfect accord with the architecture by which they are surrounded. At a later period, towards the close of the first quarter of the present cen- tury, very graceful and appropriate designs were developed in this branch of art, one of which be- came a fortune to the firm in whose establishment it was produced. The design was known as "the little readers" (les petits lecteurs). The clock- face formed part of the front of a richly orna- mented book cabinet, in front of which two chubby little naked boys were seated, facing each other, each with a great book on his knees. The one was intently reading, while the other, keeping his place with a plump little finger, glanced towards the dial. The success of the design was as great as its ingenious device and good execution deserved. Since that time it has been less and less sought to make the designs appropriate. Any historical figure offering the attraction of rich costume was adopted; and the final elaboration of the chaser made the work glitter all over with a richness relieved by no repose; while gilding, silvering, bronzing, and enamelling, were mixed up together, without the chastening influence of study, till all bounds of good taste were passed, and a beautiful source of room-decoration, to a great extent, abandoned. It is true that, at the same time, a severer style, generally all bronze, had sprung up; but even this was overdone; and the manufacturer now seeks to propitiate the out- raged taste of the public by making the clock merely the pedestal for a miniature copy of some antique statue. Symptoms are, however, appar- ent, in a few specimens in the present Exhibition, of a return to a more appropriate class of design in this branch of art-manufacture.

In other substances than metal it is rendered quite evident, by some exhibited specimens, that decorative clocks may be produced with good effect. For the dining-room of a sporting-lodge, for instance, what can be more appropriate than the clock exhibited in the Zolverein Court, the case of which is entirely composed of stag-horn? It is one of the most beautiful works of this special class, sent by F. Böhler, of Frankfort. The main features of the frame, which are well designed, are composed of the horn with its ex- ternal crust, and are consequently of a rich brown tone. In certain suitable situations, compart- ments are introduced, in which the brown exterior of the horn is cut away, and the rich ivory tone of the interior serves to give contrast and relief to delicately-sculptured ornament or figure-sub- jects connected with the chase. The composition is crowned, above the clock, by two statuettes of stags, entirely of the white part of the horn, which produce an agreeable effect. Both in texture and colour the interior of stag-horn differs from ivory, or from any kind of light wood, or any other substance: it has a waxy character, which imparts great softness; while its evident firmness, as shown by the grain of the horn, imparts the necessary effect of solidity. There are some large cabinets of the same material, and treated in a similar manner, which are very remarkable works, and well worthy of study for their design, and methods, and structure. An architect, suddenly called upon to design stag- horn furniture for a Scottish hunting-lodge, would have but small chance of making the most of his material, without having studied the works of these Frankfort and Baden designers and manu- facturers, who have made this class of work a speciality.

I was disappointed at not meeting with a dis- play of those Swiss carvings, in pine wood, in which the two shades of colour—those of the heart and those of the more external portions of the wood—are made to produce a pleasing cameo-like effect, the dark pinkish tone of the centre serving as the ground for the subject, carved in the nearly white outer wood. It is not, however, the farrago of worthless rattletraps such as the Swiss depart- ment in 1851 was crowded with, in the shape of needle-cases, glove-boxes, and other nicknacks of the kind, which we find but too abundantly in

every hotel in Switzerland, that one wishes to see; but works of a superior class, such as panelling and balustrades; and also large vases in the same wood; aiming (at a humble distance) to rival the beauty of form and detail of the marble vases of Greece and Rome. I have occasionally seen such specimens of Swiss work, of this class, as led me to expect great things in this direction. I have often thought that a summer mansion, constructed among the Swiss mountains, might have the whole of its interior finished in pine wood of various kinds;—panels of deep ruddy cedar colour, relieved with groups and bosses of flowers, carved in white wood, in the centre, which could be prevented from appearing too detached in effect by a judicious inlay of the same wood in borderings of some delicate diaper pattern. Columns of the white wood, with capitals and bases of the deep yellow pine, would produce a characteristic effect which would blend well with panels treated as described; and, in fact, a long series of effects of extremely various character might be carried out with good effect and very pleasant associations in such a situation.

Speaking of carved panels naturally leads to the carved doors in the Roman Court. They are designed for the new *salon* in the Vatican Palace that has been recently enriched with decorative paintings by the Cavaliere Podesti. They are designed and carved by Luigi Marchetti. The carving is exceedingly bold and crisp; the ornament consisting of foliage, natural flowers, birds, butterflies, &c. The style is in a Cinque-Cento feeling, but rather German or Flemish than Italian. The carved work is supported by some beautiful inlaying; the two effects aiding each other. Of somewhat similar style is the large silver cabinet by Mr. Barbédienne; the entire casing of oxidized silver being embossed and chased in a style somewhat analogous to the carving of the Roman doors. This fine work has just been purchased by the Pasha of Egypt, at the price of one thousand guineas.

Panelling, and door decoration, bring us to notice the decorative designs exhibited by various artists for painted panels, and for squares of tapestry intended to fill panels; especially some designs for gilt leather-work by E. Faure, which are in a rather unusual style; the patterns, instead of being of large and bold design, being formed of masses of extremely minute lacy work; a certain boldness, suited to the material, being obtained by the fine shapes of the masses of delicate work, between which runs a rivulet of the undisturbed colour of the ground. Tapestry used for panelling produces a much softer and richer effect than painting; and, when the grounds are light, or actually white, as in some of the designs and specimens now exhibiting, the effect is very cheerful, and gives a *furnished* look, to an otherwise empty room, that painted panels can never convey. Among the designs alluded to are those by Mr. Gourdet-Adan. In these the general ground is white, with an arabesque bordering in pale gold colour; while, in the centre, are Watteau-like vignettes representing the different seasons. The figures are, however, children in modern costume. In the first vignette they are mowing, or sharpening scythes. In the next they are gathering the vintage, and wine-making. In another, it is the corn harvest. The little figures in modern costume serve to show the *realistic* tendencies of the art of the present day. Ten years ago these little children would have been Cupids, and the scenery would have been of an imaginative semi-Grecian character. Decorations of this kind necessitate the use of carpeting of a somewhat analogous character. A boudoir with tapestry panels would require a very rich floor effect. Mr. H. Henri has provided for this want in a design for a chenille carpet of exquisitely delicate taste. The ground colour is a full pearl grey, which is tastefully broken up and varied by arabesques of a subdued gold colour, the sparkling straw-coloured lights of which are lighter than the ground. Upon this general groundwork rich bouquets of natural flowers are sparingly, but boldly, introduced; and the general effect, in execution, would evidently be extremely good. In an apartment having such delicate main tones for the walls and floor, the hangings, such as curtains, &c., should be of a full, deep, decisive colour. Mr. H. Henri has furnished designs for such hangings; and his drawings are full of artistic and playful variety. One set of curtains has the ground of a deep maroon, with delicate arabesque borderings in gold, or gold colour; and, at wide distances, medallions, of about a foot in diameter, containing groups of figures in natural colours. Among other designs of this description is one for a large landscape, intended for room tapestry, which has been already executed for Mr. H. Mourceau.

A connoisseur cannot look at the design for the chenille carpet just alluded to, without regretting the high price which would necessarily be its cost; and then he is glad to have seen the famous American carpet-weaving machine. It is a power-loom, upon a new principle, for weaving cut-pile carpets, which may be seen in actual work in the Machinery Annexe. It has already set our carpet-weaving interest in a ferment, and is destined to revolutionize that branch of trade in one of its most picturesque departments. Architects may now design a carpet for a special room without fear of ruining their clients; for, provided the pattern be a good one, and there be no objection to its being used as a trade-pattern, the weaver, with the new American power-loom, can produce it very cheaply. While on the subject of carpets and rich hangings, we ought not to omit the magnificent brocades in the Austrian Gallery; the richest being those exhibited by Lemann & Co., of Vienna. Many of them are intended for church-decoration; but most of them would be equally applicable for the private drawing-room, if great richness of effect were required.

Among the decorative porcelain produced by the Royal Prussian manufactory, several things deserve mention on account of their fitness for blending with rich architectural effect, both in galleries and private living-rooms. For instance, as chimney ornament, such as might be fully on an equality with the more purely architectural decorations of a stately apartment, there are sculpturesque groups, in biscuit-ware and gold, such as would not discredit the chisel of a graceful sculptor. The side-pieces are compositions of considerable size, formed by swans and Cupids supporting flower vases. They are extremely elegant; the ware being marble white, while the gold heightenings combine both richness and delicacy; the details being all of a very high class of decorative art. The price of these handsome compositions is not extravagant, being only eighteen guineas each; while the magnificent centre-piece, composed of a group of nymphs supporting a large and magnificently modelled sea-shell, is valued at no more than 67*l.* 10*s.* These are evidently intended as table ornaments; but as receptacles for flowers, and placed on a richly-wrought marble chimney-piece, such as that at Alnwick Castle, of which an engraving appeared in the *Builder* of the 14th instant, they would be equally in their place, and would form very noble ornaments. The colossal vases, which are the masterpieces of the Prussian porcelain works, are priced at 345*l.* each; but then the highly-wrought paintings of nereids, &c., with which they are so splendidly decorated, and the marvellously-modelled handles, with their endless details of rich foliage, the gilding of which equals the finest ormolu, make the great price appear small in comparison with the amount of artistic labour that must have been lavished upon these fine works of art. There are, however, a pair of low, basin-shaped vases, at only 52*l.* each, which I should really prefer. They are of considerable size, though not approaching the dimensions of those just described. In their enrichments, the general effect of majolica has been the effect aimed at, but at the same time something beyond. There is more blending of tone, more depth of colour, and, by means of a far greater use of semitones, a general velvety richness is produced, far beyond that obtained in any examples of ancient majolica I have ever seen. The pictorial designs of the old majolica ware are little more than spirited outlines filled up with colour, and then retouched with a few deeper lines and a few high lights; while the designs of this charming pair of vases are most highly wrought, with careful finish, and yet without losing the spirit of the original bold outline. They are well worthy of careful artistic study for their peculiar effect; there being no porcelain painting of precisely similar style in the whole Exhibition. I cannot recollect their distinguishing number; but they are a low basin-shaped pair of vases, standing on either side of one of the entrances to the interior of the stand.

Leaving for the present the two fine Italian mosiacs which have been but just uncovered, and various other very interesting objects, which my paper always seems too scanty to allow me room for; I cannot help expressing my satisfaction at the great influx of shilling visitors, and at the hearty zeal, knowing no fatigue, which conducts them to every nook and cranny of the vast building. The passages still appear to be sufficient to allow of the most easy circulation of the vast numbers who daily throng the building on the early days of the week; except here and there, where some favourite object occasionally collects too great a crowd, and for a moment stops the way. The piping bullfinch appears to have been one of these irresistible attractions; and the commissioners are said to have had serious thoughts of removing the too fascinating songster. It is also whispered that the mysterious disappearance of Rimmel's exquisite perfume from the waters of the great fountain had its origin in a similar wish to remove impediments to the free circulation of the crowd, however attractive such impediments might be; and so the impassable crowd of handkerchief-dippers that formed so dense a mass round the majolica fountain has been dispersed.

THE FLEET DITCH AND THE METROPOLITAN RAILWAY.

THE difficulty which has occurred at the northern end of Victoria-street has not yet been overcome. The stream was turned, but the bad condition of other parts of the sewer has forced the superintendent to let the water again into the railway cutting to avoid a greater accident. A fresh line has been determined on for the new channel for the sewer. Instead of it passing, as determined upon on Monday, in a direct line through the valley of the Fleet, and nearly on the site of the original bed, a curve will be formed at the corner of Castle-street and Victoria-street. The trench, taking an easterly direction across Victoria-street, and passing beneath the railway works, will form a junction with the main sewer at a point nearly opposite Bit-court, Turnmill-street.

It is doubtless felt by all concerned that there must be no dallying in the matter, or worse will follow. The state of the air when we visited the spot a few days ago was very bad, in consequence of the open sewer.

THE CANYNGE SOCIETY, BRISTOL.

THE annual meeting of this society, established to promote the restoration of the Church of St. Mary Redcliff, was held on the 19th, the Right Worshipful the Mayor (Mr. John Hare) presiding. In the course of the proceedings Mr. Charles S. Clarke read a report, of which the following are extracts:—

"After a sermon preached by the Lord Bishop of Llandaff, on the day of the last anniversary, in 1860, the sum of 52*l.* 19*s.* was collected, and announcement was made of the large sum of 4,566*l.* 5*s.* subscribed to meet the donation of 1,000*l.* by Mr. S. W. Lucas, of Birmingham. Of these sums (together 5,566*l.* 5*s.*) a separate account had been kept under the name of the 'Lucas Fund.' The annual subscriptions and other donations for the year ending 31st December, 1860, amounted to the sum of 298*l.* 2*s.* 7*d.* From unavoidable circumstances no anniversary was held last year. The annual subscriptions, however, for the year ending 31st December last amounted to 171*l.* 6*s.*, and the donations to 345*l.* 10*s.*, together 517*l.* 16*s.* In addition to the foregoing, the sum of 82*l.* 14*s.* 10*d.* was collected in the box kept in the church for donations of visitors. . . . In the chancel the old walls, against which the pictures by Hogarth were formerly placed, have been removed, and the passages to the Lady Chapel from the north and south chancel aisles have been thrown open, and the new roof of the Lady Chapel has also been completed. In the south transept, two clerestory windows have been filled with stained glass, by Mr. Bell, of Bristol; and the restoration of the north transept and east clerestory windows is now proceeding. In addition to the foregoing works of general restoration, the following portions have been completed since the last report, at the cost of the particular contributors:—The west door in the north porch, at a cost of 33*l.* 10*s.*, which completes the restoration of the north porch, by "Nil Desperandum;" the east window (executed by Mr. Wailes), to the memory of the late Mr. Thomas Lucas, by his family; the window on the south side of the Lady Chapel, to the memory of the late Mr. Wm. Hall (executed by Mr. O'Connor); and a window on the north side, contributed by Mrs. Hobson, of Liverpool, to the memory of Miss Jemima Lucas (executed by Mr. Wailes). The south chancel aisle window (executed by Messrs. Clayton & Bell), contributed by Mr. Jas. Broad, of this city, to the memory of his late father. Several columns in the nave have been cleaned and restored at the cost of the following persons, viz.:—Two by Mr. F. K. Barnes; one by Mr. Joseph Cookson, of Clifton; one by Mrs. Hobson, of Liverpool; one by Mr. Wm. Proctor, present churchwarden; one by Mr. T. Bullock, of Birmingham; and two by Mr. H. C. Bingham, of Melton Mowbray. The interior of the tower under the belfry has been restored by the churchwardens by order of the vestry, and the monuments which have been removed from the pillars during the progress of the restoration have been placed there. It will be remembered that announcement was made of the Society of Freemasons having undertaken a portion of the work of restoration, viz., the north-east of the Lady Chapel. Your committee have the pleasure to report that this was successfully completed in the month of August last year. . . . . The committee regret to add that the tower is in a dangerous state. Mr. Godwin has been consulted on the subject, and has advised certain temporary measures to be adopted to secure its safety until its restoration can be effected. Before removing any of the present structure it is intended that drawings should be carefully taken, in order that the original character and details of the architecture may be preserved. Until considerable further progress has been made in the general restoration this portion of the work cannot be undertaken. The committee, therefore, urge the necessity of further contributions, in order that the restoration of the tower may be commenced with as little delay as possible."

OVERCROWDING IN WORKSHOPS.

THE paper "On Overcrowding in London, and the Remedial Measures practicable," read at the Social Science Congress, and fully reported in our pages,* appears to have excited very considerable attention, and may, it is hoped, lead to such legislation on the subject as is desired. The *Times*, commenting on it in a forcible leading article, remarks:—

"We are not in a position to say whether a more rigorous application of the existing law might not abate these evils, but we quite agree with Mr. Godwin that, by some means or other, it is high time to check them. It is vain to trust entirely to the vigilance of individuals in such a case. The wretched fathers of families who rent this class of lodgings think of nothing but the smallness of their wages, the cost of living, and the increasing number of their children. They could not make terms for the improvement of their ventilation, even if they saw the want of it. The fact is, however, that they do not. 'Custom blunts perception, and ignorance does not perceive.' Few of the other conditions of health can be violated without suffering more or less palpable. Insufficiency of food makes itself felt through the pangs of hunger, and even unwholesome food occasions painful symptoms which cannot be overlooked or mistaken. But most men live in the atmospheric ocean which surrounds us without being conscious of its quality. Bad air does not burn, or drown, or sensibly affect him who inhales it; it only causes life to flow at a low ebb, takes the edge off the appetite, impairs the digestion, depresses the spirits, weakens the muscular power, deprives sleep of its refreshing power, and predisposes to mortal disease. All these are occult effects, and even educated persons have not yet learned to trace them to their causes."

And again:—

"The Legislature has a right to interfere at least on behalf of the innocent victims of their landlords' or neighbours' negligence; and, by fixing a statutable *minimum* of breathing room in cases where such protection shall be proved to be most needed, may gradually enlighten public opinion on this subject."

The *Times* is less hopeful than we are as to what may be done by personal efforts:—

"A radical change of ideas and habits (says our contemporary) is not the work of one session or of one generation. To eradicate the superstitious notion that diseases come by chance, or are sent by an arbitrary Providence; to implant a faith in the power of man to preserve his own health, and procure for himself the prospect of length of days; to persuade the mass of mankind that the sins of the fathers are here visited on the children, and that a want of pure air produces not only fever and loss of wages,



ARTIFICIAL-FLOWER MAKERS: BLIGHTING THE BUDS.

but a sickly offspring—this is a task which the statesman cannot undertake, and which the philanthropist will hardly achieve before the dawn of an educational millennium."

We look for it long before. We have already seen great changes in public opinion on the matter, and shall see greater, if those who know what is right persevere in their endeavours, and a knowledge of sanitary laws be widely spread.

The *Morning Advertiser* draws attention to the same subject in two leaders:—

"There are evils," says the editor, "which accompany 'overcrowding' with which it is clearly the right and the duty of the Legislature to interfere. Mr. Godwin speaks of a locality—one out of many—in which the drains are out of order, the 'traps' destroyed, and the atmosphere pestilential. Surely, at least, we should have inspection here. 'The Act,' he says, 'for regulating common lodging-houses has worked well; fevers have ceased to infest them, and the manners even of those frequenting them, it is said, especially with reference to the provinces, are much improved. The Act nowhere defines the class of buildings intended to be designated as common lodging-houses, and a very limited application of it was made. I cannot avoid the conviction that its powers should be farther applied; that all houses let in tenements should be registered, inspected, and regulated.'

We quite agree with the writer. We believe that this extension of the powers of the Common Lodging-house Act is the first essential step towards the abatement of an evil which he says, justly, 'concerns as well the political economist as the philanthropist and the Christian.' The overcrowding in our great towns is a reproach to all three. It is a waste of power; demoralizing to human nature; and a sin against charity. When Mr. Godwin's paper has been carefully read and pondered, let our readers take this caution with them:—that it is only an indication, and, careful and painstaking as it is, only a very faint indication, of the degraded condition in which tens of thousands of our fellow-creatures are living,—a condition so debased, and so surrounded with depraving influences, that morality and Christianity become under its influence almost impossibilities. But now, to turn this dissertation to profit, how long are we to suffer this evil? *Quousque tandem.* Surely the Social Science Congress will not have pleaded in vain in the British metropolis for the emancipation of a vast population from the thraldom of moral and physical debasement."

In the paper in question attention was drawn to the dangerous overcrowding to be found in work-rooms; and especial reference was made to the condition of young females engaged in the



A SHOEMAKERS' WORKSHOP: MORE CARE FOR THE "SOLES" THAN THE BODIES.

manufacture of artificial flowers, and to the circumstances under which, in many cases, shoemakers and tailors pursue their work. As the eye in these cases is often more ready to receive a lasting impression, we give engravings of two such work-rooms, from sketches made for us on the spot by Mr. Brown: one a room filled with girls and young women manufacturing artificial flowers; the other a shoemakers' workshop in Somers Town.

The subdivision of labour in artificial-flower making is considerable. The wire which forms the stems has to be covered with paper of a green, yellow, brown, or other suitable tint. The leaves have to be cut, stamped, and shaded. These have to be fixed in the proper position. The pistils and such-like portions are usually purchased from those who deal in the materials required by the flower-makers; but the other parts of the flowers have to be stamped out, and stitched or pasted in the right place. Very little girls can perform some parts of the work without much teaching or practice; so that, in order to keep pace with competition, young children of from six to eight years of age are engaged at wages of about 1s. 6d. or 2s. a week. Some of these eventually become artificial florists themselves, and in consequence the number of those engaged in this branch rapidly increases.

In several instances which have come under our notice, the girls are pent up in space inconsistent with healthful existence: ventilation is neglected, and there is, besides, the evil of the poisonous materials with which they work. In one of those places, nearly every room in the house was filled with groups of young girls, superintended by forewomen; and although, if we except the state of the atmosphere, in some cases kindness is shown by the employers to their work-people, in others there is a most reprehensive system pursued, so that, when business is pressing, young children and delicate girls are kept at work, with but short intermission, from eight o'clock in the morning till twelve at night.

Such a state of things as this should not be permitted. The laws should protect those who cannot protect themselves.

See p. 422, *ante*.

THE HANDEL FESTIVAL AT THE CRYSTAL PALACE.

THE great triennial Handel Festival at the Crystal Palace has now become an institution which we may regard as permanent. The interval of three years between these magnificent acts of homage to the memory of the greatest composer of sacred music is a happy arrangement; as an ample opportunity is thus afforded for doing justice to the works of Haydn, Beethoven, Mendelssohn, Spohr, and other great writers of the sacred drama, in the interim; whilst assigning to the illustrious Handel an undisturbed supremacy as the oldest, most prolific, and most inventive of authors in the particular class of composition comprised in the oratorio. The same interval has long been established in some of our great provincial cities with most satisfactory results; and we may congratulate Sydenham on admission to a sisterhood with those cathedral and provincial towns that have long enjoyed a reputation for these comprehensive musical gatherings. But, though latest in the competition, the colossal size and singular beauty of the Crystal Palace, and its accommodation for an orchestra and an audience almost numberless, confer a magnificence upon the *fêtes* held within its walls that eclipses all others. It is, moreover, the *Metropolitan* Festival; and, amid the costly array of delicacies that the caterers to our musical appetite annually set before us at this season of the year, stands forward, the climax of their efforts,—the grand *pièce de résistance* of the London musical banquet.

The great Handel Festival of 1862 derives no small addition to its lustre from the fortunate circumstance of its occurrence simultaneously with the still greater International Exhibition now open; and our Continental visitors, who have ascertained our exact position in every other branch of art, science, and manufacture, will have an opportunity of witnessing our advancement in music also;—at least, if a combination of executive skill, upon a scale never yet approached, may be taken for an argument.

But a still more important feature in the present festival is the result of the bold and clever scheme of covering the whole orchestra with a vaulted roof or sound-board, so constructed as to prevent the dispersion of sound anywhere but amongst the audience. The first step to this result was taken in 1859, when the orchestra was enlarged, the sides inclosed, and an awning, or *velarium*, of oiled canvas, suspended over it. This modest substitute for a roof had much beneficial effect, and was, moreover, picturesque; but it was merely the beginning of the end.

> "Parva fuit, si prima velis elementa referre
> Roma: sed in parva spes tamen hujus erat."

The permanent roof now erected is a colossal vault, semi-circular on plan and segmental on section, the springing of which is a trifle lower than that of the roof of the nave, and the sectional termination of which corresponds in extent with the side of the nave, and overlaps the orchestra by one intercolumniation. The span of this vast segment is 216 feet; and the vault retains its regular form among the columns, girders, and tie-rods of the great transept; which pass through it, as they occur, independently of each other. The same may be said of the great organ, which looks somewhat boxed in, but, fortunately, is not injured in tone, if we may judge by what we heard. Light and invisible iron ties extend from side to side of the transept, and help to steady the timber-work of the ingenious fabric. The decoration of the whole is at once simple and effective. The inclosing wall is red, and the vault pale blue; and a band or frieze that surrounds the whole, recording Handel's works, a few arabesque ornaments suggested by the form of the vault, and a foreground of flowering shrubs, compose its sole decoration; but, filled with a living mass of performers, its effect is marvellously fine. The festival of 1862, like that of 1859, consists of a public rehearsal, succeeded by three performances. As the former was wholly composed of a selection of the pieces intended to be performed at the latter, it is unnecessary to say more than record that some 20,000 persons assembled on Saturday last to hear them; that the insufficiency of the railway accommodation not only confounded all distinctions of class and rate of payment in one common struggle for seats or standing-room, but rendered the transit at all of numbers extremely problematical; and that, finally, the rehearsal began more than an hour after the appointed time, owing to the non-arrival of many of the performers. But of the "performances" proper we have more to say.

Surely the orchestra that assembled on Monday to interpret Handel's imperishable oratorio, "The Messiah," would have satisfied even the mighty master of counterpoint himself, could he have heard it. To collect a body of 4,000 skilled executants together, the aid of many communities must be invoked; and, accordingly, the metropolitan ranks are recruited by contingents from the chief cathedral and commercial towns of the kingdom where choral training is pursued; yet to hear this mighty mass in operation you would think they had been associated for years,—so complete is the *ensemble*, so thorough the *entente cordiale*. And never did the Sacred Harmonic Society more nobly vindicate its supremacy than on this occasion.

Whilst the musicians were tuning their instruments, and the audience were finding their "blocks," and, according to circumstances, blessing or cursing the god Terminus, who either shut them in or kept them out,—

> "Termine, sive lapis, sive es defossus in agro
> Stipes ab antiquis, sic quoque numen habes,"—

we reverted in thought to the same occasion three years back, and our impressions then, and compared them with those now. There was the same beautiful building as before, filled, as then, with the choicest treasures of nature and art,—a fairy structure, more lovely far than poet's conception, and to crown all, real. There was the living mass of gaily-clad people, talking and laughing, forgetful of all other pursuits save delight. There was the chorus, too, like a bed of choice flowers amid a forest of evergreens; and the band, in which we recognized many an old friend, grown older-looking, and many a young one, unknown to fame, as the good men and true dropped quietly into their places and prepared for their work. And we had just arrived at the comfortable reflection that one art, at least, was rapidly progressing among us, when suddenly the sun went in and a change came over the spirit of our dream. We thought of the many who had passed away from the scene since the last great occasion of a similar assemblage, and amongst them of the Prince, whose sagacity in council, thorough knowledge of our institutions, and fine perception in art and literature, had endeared him as much to the nation in general as his domestic virtues had to our beloved Sovereign, now, alas! a widow. And as the beautiful reflection of the historian came across us that "the art of man is able to construct monuments far more permanent than the narrow span of his own existence; yet these monuments, like himself, are perishable and frail; and in the boundless annals of time his life and his labours must equally be measured as a fleeting moment;" the first solemn strains of the National Anthem aroused us from our reverie to the event of the day.

If the performance of Saturday had left the slightest doubt in our mind as to the vast improvement in acoustical effect produced by the roof over the orchestra, those doubts were entirely removed on Monday; for not only do we pronounce it, in the abstract, the grandest performance of "The Messiah" ever listened to; but its effect in the vast area of the Crystal Palace was not far short of what the most zealous promoters of the Festival could have wished it to be. In the orchestra itself, after the delivery of the overture, executed with marvellous precision, there was but one opinion. With the audience, the effect, we are convinced, is not only influenced by position, but by accident also; for the strong currents of air pervading so vast a building, with so many entrances for its admission, are as much a cause of its capricious variations of intensity, as the space required to be filled or the material relied on to retain it. As we remarked on a former occasion, the best situation for obtaining the desired effect is the opposite end of the transept; and particularly so, as its former objection of the inaudibility of the solos consequent upon the distance is now, to a great extent, removed. The old reverberation, so destructive to the effects of fugue, is now greatly ameliorated; and one question only remains to be answered—Can anything more be done to the Crystal Palace to improve its conditions, in an acoustical point of view, for gigantic musical gatherings? For the orchestra, all has been done that science can suggest: for the great transept, to tamper with it would be a manifest absurdity. What, then, remains to be done? It is but a suggestion: cut off the whole, or a portion, of each nave, as we long since suggested, by a movable partition, upon these extraordinary occasions, leaving accommodation within for 30,000 persons. We repeat, this is but a suggestion, and may be found, on consideration, to be unadvisable; but drowning men catch at straws; and, though by no means in such extremity as that, we see nothing else at this minute to grasp at.

It is fortunate for us that the bitterest opponents to the union of religion with æsthetics object not to its union with music, or our greatest means of elevating the soul of man to higher aspirations would be denied him. Indeed, it would seem as if the primitive Christians had formed no conception more sublime of celestial employment than perpetual hozannahs. Thus thought Dante,—thus Milton,—

> "Then crowned again, their golden harps they took;
> Harps ever tuned, that glittering by their side
> Like quivers hung, and with preamble sweet
> Of charming symphony, they introduce
> Their sacred songs, and waken raptures high;
> No voice exempt, no voice but well could join
> Melodious part; such concord is in heaven."

Thus thought St. Ambrose and St. Gregory; and thus, too, Handel, who from the plain and simple Canto Fermo of the first ages of the Church, bequeathed to us the highest results of his inexhaustible fancy in the Oratorio, as he made it, and which is universally allowed to have reached its climax in "The Messiah."

The "Sacred Oratorio" was first performed in 1742, and for the last time under Handel's direction in 1759. A week afterwards he was numbered with the dead. To him how well the words of Ovid would apply,—

> "Cum volet illa dies, quæ nil nisi corporis hujus
> Jus habet, incerti spatium mihi finiat ævi:
> Parte tamen meliore mei super alta perennis
> Astra ferar: nomenque erit indelebile nostrum."

Subsequently to its original performance, he carefully revised many portions of it. But its crowning glory was achieved when, in 1789, Mozart wrote his masterly additions to the instrumental score, intended as a substitute for the extemporaneous accompaniment on the organ, with which the composer was accustomed to enrich the performance.

To analyze the beauties of a work so patent to the world, would be to repeat an oft-told tale, or to enumerate all the points made by the soloists or the chorus, would exceed our limits and our scope. We can but allude generally to both. The solo singing could not have been finer. Mdlles. Parepa and Titiens divided the soprano, "Rejoice greatly," with its music, between them; and the first in introductory recitatives, and the latter in "How beautiful are the feet," and "I know that my Redeemer liveth," won great applause. Mr. Sims Reeves, who experienced an immence reception, took the whole of the tenor music; and from the lovely "Comfort ye my People," to "Thou shalt break them with a rod of iron," added triumph to triumph. But when and where will Mr. Sims Reeves's successor be found? Madame Sainton Dolby, who was the contralto, threw her usual pathos into "He was despised"; and Signor Belletti and Mr. Weiss, who were the basses, made respectively a marked sensation in "The trumpet shall sound," and "Why do the nations."

Of the choruses we can only repeat that they were grand in their delivery beyond precedent: the enthusiasm of the audience being especially bestowed upon "For unto us a child is born," the "Hallelujah," and the final "Worthy is the Lamb," with its stupendous "Amen." Such was the performance on Monday, before an audience of between 15,000 and 16,000. Applause at oratorios is not so readily or so lightly bestowed as at operas; but silence often means approval, or, as Terence says, "tacent, satis laudant;" when, therefore, it is bestowed as on Monday last, it means much indeed.

The performance of Wednesday, before 15,000 persons,—consisting of selections from the Dettingen *Te Deum*, Samson, Judas Maccabæus, Saul, the Ode to St. Cecilia's Day, Hercules, Alexander's Feast, Solomon, Acis and Galatea, l'Allegro, Deborah, and Joshua,—comprised some of the finest songs and choruses of the prolific composer, and was just as perfect and successful. We cannot particularize them, but may record the capital singing of Madame Lemmens-Sherrington, who took the place of Madlle. Parepa.

"Israel in Egypt" will conclude the Festival, on Friday (this day); and, with every wish that its results may be satisfactory in a pecuniary as it is in an artistic sense, we here take leave of the great Handel Festival for 1862.

MEDIÆVAL COURT, PALACE OF ART.—We are asked to mention that the works alluded to by us, in notice of the Mediæval Court, as exhibited by Messrs. Cox, were designed by Mr. Tracey, architect.

NOTES OF COLOURED MARBLE STATUES IN THE "MUSEO BOURBONICO" AT NAPLES.

Statues of the Balbus Family, from Herculaneum.—Hair gilt.

Statue of Eumachia, from Pompeii.—Hair gilt.

Head of a Bacchante.—Upper and under eyelash marked with colour.

A Terminus, from Pompeii.—Pupils of eyes lightish black, centre of pupil quite black, thin black lines for eyelashes, eyebrows painted in as hairs in a kind of brownish black; the hair a dirty brownish black.

Another Terminus.—Eyes as above; the hair regularly gilt, but cut up by leaves which are at present white; the pupils are very delicately shaded.

Whole-length Statue of Sivia.—Eyelashes coloured red; also hair.

A Diana of early work, from Pompeii.—Hair gilt, lines for eyelashes in black, eyebrows of the same colour, broad but very lightly-defined. Pupils, a brownish colour with blue centre; the chaplet on hair is light blue or green fimbriated red, with gilt rosettes. The edges of upper garment have a light lake border, with white pattern painted on it; the outer edge of all is gold. The gilding has probably been put on with white of egg, as there are no traces of any mordant. There are also indications of a light red border on the lower dress. This statue is figured in Mr. Falkener's "Dædalus;" it is there called Diana Agroptera, and we learn that it was found in 1760 at Oplonte, near Pompeii. I have no doubt but that the colours have greatly faded; I have, however, thought best to describe simply what I myself saw.

Large Statue of Abundance, from Pompeii.—Has the borders of garments of a rose-pink colour, with yellow ornaments heightened by white; the border is also fimbriated yellow.

Terminal Bust.—Eyebrows gilt; eyes cut in but not deeply, probably to receive artificial eyes; the hair gilt in lines only.

Whole-length Figure of a Discobolus, Pompeii.—Hair gilt, eyebrows a darkish red and marked as hairs; a reddish line round discus, and remains of reddish colour on borders of garment.

Broken Mask, Pompeii.—Hair gilt, but much faded, as also eyebrows; dark spots for pupils of eyes.

Several Termini.—Have the hair gilt or reddened.

Head of Bacchus, No. 889.—The hair gilt; eyebrows and pupils of eyes reddish black; a sort of black colour between the two lips, and the grapes in hair vermilion and rose pink.

An Amorino holding a Cornucopia.—Hair gilt, and the hairs afterwards marked out in red; eyebrows, eyelashes, and circles of pupils of eyes, red; cornucopia and vine-leaves red. Some of the fruits have been red, others gilt with red details, and others of a dirty green; the wings have been in metal.

Several pieces of sculpture appear to have had a kind of varnish applied to them, *e.g.*, a Bust of Minerva, found in Rome and belonging to the Farnese collection, now at Naples.

OBSERVATIONS.

The Hair.

1. Generally gilt.
2. The gold often applied on a red mordant.
3. In many cases it is cut up by chaplets, flowers, &c., probably to take away from the mass of gilding.
4. Sometimes the lines only of the hair were gilt; but then they were close together.
5. Sometimes the lines of the hair are indicated by red lines on a gold ground.

Eyes.

1. Eyebrows gilt, but often of a blackish brown.
2. Sometimes divided into hairs, or, rather, painted as hairs.
3. Eyelashes marked by one or two blackish lines. The lower eyelash is very thin, and placed at quite the extreme outer edge of eyelid. The upper one, on the contrary, is placed at the extreme inner edge. In the Vatican there is a colossal bust of Minerva, with bronze eyelashes.*
4. The pupils of the eyes are in a lightish-brown black; occasionally they are delicately shaded from the outer ring; one part of the ring is wider than the rest. The spot in the middle is generally dark black; but in some instances a blue colour.

Garments.

In two instances the garments have coloured borders; but, as many of the statues have been cast, it is hardly to be expected that many examples of this will be found. I did not find any instance of entire garments having been coloured all over. I strongly suspect that the carnations were gone over with a thin varnish, with a little colour in it as a glazing. The cheeks were probably coloured by rubbing in very delicately a little powder colour.

In Pompeii, near one of the tombs, are three statues inserted in coarse stone, and then covered over with fine cement, like the temples at Pæstum and elsewhere.

W. BURGES.

* There is a bronze bust in the British Museum with bronze eyelashes: it is not shown to the public, being kept under the portico.]

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday evening, the 20th instant, at the House in Conduit-street; Mr. A. W. Blomfield, president, in the chair.

Mr. Paraire observed that the document recently agreed to by the Royal Institute of British Architects respecting the professional charges and practice of architects should be well considered, as it related very materially to the interests of the profession. At present the public did not appear to be generally aware of what constituted the duties of an architect; and in many cases thought that architects made charges which they were not entitled to. As the document to which he referred had emanated from the leading architects of England, he thought that some means should be taken to give it the widest possible publicity.

The Chairman did not think it likely that, on so short a notice, the members of the Association would be prepared to discuss so large a question. It seemed to him that the best course to be adopted, under the circumstances, would be to postpone the consideration of the subject to the next session.

Mr. Paraire suggested that the members should, in the mean time, carefully study the subject of professional charges; and at some future time the attention of the Association should be directed to it.

Mr. Ridge and Mr. Walter, scrutineers of the voting papers for election of officers for the ensuing year (1862-3), reported that the following gentlemen had been elected: President, Mr. Thos. Blashill; vice-president, Mr. Norman Shaw; members of committee, Messrs. Blomfield, Bunker, Spiers, Lewes, Tarver, Goodman, Paris, Paraire, New, and Gritten; honorary secretaries, Messrs. C. J. Adams and H. A. Reeves.

The Chairman said he had to announce the receipt of a letter from the committee for the restoration of the Chapter-house at Westminster Abbey, inviting members to sign the memorial to the Government in favour of the restoration being effected at the expense of the country, instead of by public subscription. (The memorial was numerously signed in the course of the evening.)

The Chairman informed the meeting that he had the pleasure of announcing that Mr. Gilbert Scott had been communicated with on the subject of the proposed visit of the Association to Westminster Abbey; and that that gentleman had kindly consented to accompany the members of the Association over the Abbey on Saturday, the 28th inst.; the party to meet in the cloisters at three o'clock. He hoped the members of the Association would largely avail themselves of the opportunity.

It was also stated that a prize, in the shape of a copy of Mr. Scott's work on Westminster Abbey, would be given to the member who should write the best account of the visit to the Abbey; the MS. to be sent to the Association on or before the 1st of September; and the judges to be chosen at the Abbey from amongst the members present.

A vote of thanks to the president and vice-president for their services during the past year was passed unanimously, and was briefly acknowledged by Mr. Blomfield and Mr. Blashill.

ANTIQUE DECORATIONS AND VASES, AS ILLUSTRATIVE OF ARCHITECTURE.

WE return to Mr. Hittorff's researches and remarks with reference to the elucidation of classical architecture.*

It seemed to Mr. Hittorff indispensable to call attention to the varied information contained in the paintings of the ancients; though he says, he is far from being ignorant that others have noticed details for certain points. Many restorations of ancient monuments have been indebted to these paintings. Mr. Auguste Caristie, of the Académie des Beaux Arts, made some use of them in his restoration of the Temple of Serapis at Pozzuoli. Researches exclusively directed to what belongs to architecture, in vases and mural paintings, had however not been made. Mr. Hittorff claims to have only opened the subject. The materials are abundant; the bulk of the vases in museums have not been published; and amongst those which are so, few have been given with the necessary exactitude in the architectural details. The vases in the British Museum exhibit, besides other architectural monuments, public fountains in great variety; and there are numerous *motifs* of architecture in the collection now displayed in the Louvre, as there will be found, no doubt, in the vases of the Campana collection.

There would then, Mr. Hittorff says, be many drawings to make in order to compare and study these ancient documents architecturally: but those drawings would offer also great assistance in studying the historic or mythological pictures. Coincidence between the character of the figures and that of the monuments would indicate matters of contemporary origin. By the analogy of the architectural portions with the remains of edifices, we should be able to define the epoch of execution of the paintings. Figures and columns which might present the types of sculptures and of columns of temples of a known epoch, would be considered to correspond with the time of building of those sanctuaries; just as in a painting which recalled the character of the Parthenon, such painting could not be anterior to the construction of such edifice. Many little details which have escaped observation, serve to designate locality. Such indications are those of the small openings represented in one example mentioned in Mr. Hittorff's work, and which resemble the windows in the *pronaos*, serving to light the staircases, in the Temple of Concord at Agrigentum. These forms as shown, and particularly, accompanied as they are with *ex voto* offerings of all sorts, indicate therefore the vestibule of a sanctuary. The figure part of the subjects is also important; and the representations of the combats of the giants have assisted our author in the restoration of some of the metopes of Selinus.

Mr. Hittorff then passes to the detailed study referred to in the title of his paper; and which he thinks, will show, still more than the preceding examples, of what importance for the history of architecture, the examination of ancient paintings may be. The want of space for description, and for the requisite number of woodcuts, will prevent our offering more than an indication of the comparison between one of the Pompeian wall decorations and the principal tomb of Petra, which the author has worked out step by step. We give, however, some of Mr. Hittorff's diagrams, and the main points and conclusions of the essay. The figures 1 to 10 inclusive, in our page, have been referred to in the previous part of this notice of the researches; and are now sufficiently explained in the table of reference at the end of this article.

Mr. Hittorff believes that he has discovered in a painting in the House of the Labyrinth, given in the second volume of the work by Zahn, on the Ornaments and Paintings of Pompeii (and represented in our figure 11), an edifice which has served as prototype for the Khasne tomb (fig. 16), known to most architects, and spoken of in terms of the highest admiration by all travellers. In the course of his description of this latter monument, Mr. Hittorff endeavours to show that the objections to its crowning features architecturally, are not entirely founded in reason. We may add that it is one of those works which require to be drawn accurately, and *in perspective*: a front elevation by itself, gives the idea that the case is the same as that of a broken pediment.

Petra was visited somewhat prior to the year 1830, by Le Comte Léon de Laborde, in company with Mr. Linant. The results of the journey appeared in the "Voyage dans l'Arabie Pétrée," and in an English volume where a view of the tomb will be found. Our architect-*confrère* was requested to make a restoration of the tomb, for the French work, from the careful views which, with some measurements, had been taken; and he considered that he arrived at a result in a geometrical elevation which was as exact as possible. The dimensions of the monument as now shown by Mr. Hittorff, approach those of the Arc de l'Étoile.

To the terms of admiration quoted from Burckhardt, Banks, and De Laborde, it would be easy for us to add those of later travellers. The impression seems to ourselves greatly due to the contrast between architectural features and the surrounding mass of rock, and to the effect of colour in the rock out of which the monument is hewn.

* See p. 269, *ante*.

Our elevation (fig. 16) shows a front of two stories. The lower portion of the front consists of an arrangement of six Corinthian columns without bases, the four in the centre surmounted by a pediment, and inclosing a *pronaos*. The upper story has the centre space corresponding, recessed, and a second Corinthian order; the flanks and returns being crowned by a moulding, raking to the angle, so that the appearance *in elevation* is somewhat like that of a broken pediment; whilst centrally placed in the recess, is the form of a *monopteral* temple, or rather building with engaged columns, of the class of the monument of Lysicrates, crowned by a vase. There is much ornament, and sculpture of figures of men and animals, about the whole. The feature distinguishing the monument from other tombs carved in rock, is that of the upper story. Without that story, the front would be the ordinary one, reproducing the feature of a temple. The *plan* of each story however should be taken into consideration, in following the course of Mr. Hittorff's argument. The points to recollect are the existence, in the ground story, of a perfect *naos* with a recess opposite the entrance, and the recess in the upper story where the *pseudo-monopteral* feature is "engaged."

In a description of the town of Agrigentum, read before the French Institute in 1859, Mr. Hittorff spoke of the so-called Monument of Theron as conforming with the description, by ancient authors, of the generality of tombs in several stages, which were placed in the Necropolis, and as a prototype of the Mausoleum at Halicarnassus, saying that the Greek architects had applied the idea of elevating on the summit of certain buildings, the Egyptian pyramid, as Bramante had proposed to elevate the Pantheon to form the crowning feature of the Cathedral of St. Peter. The thought of the modern Italian architect, had however been carried into effect in the Khasne tomb, only allowing for a slight difference in the scales.

The painting (shown in our diagram, fig. 11) which is believed to offer the prototype of the tomb, occupies a surface of 4 mètres by 3 mètres. The view, though not in correct perspective, is, supplemented by the Khasne tomb, sufficiently explanatory to have enabled Mr. Hittorff to produce the subject in two plans, a section, and an elevation. Three of these illustrations, omitting one of the plans, appear in our page. The ground plan of the tomb helps Mr. Hittorff to one portion (shown in figs: 12 and 14) of his restoration from the painting; and the plan of the upper story gives him the other portion (shown in figs. 12 and 13). Mr. Caristie's plan of the "Esculapeum," the Temple of Serapis as generally called, we are obliged to omit. The divisions of the "scales" appended to the diagrams represent mètres. The result shows that the front of the building represented in the painting, was composed of two lateral groups of, each, four columns on a square plan; between which was a considerable space, the entrance, closed by a curtain. A similar disposition to that of the groups of four columns, is found at Palmyra. Each group is surmounted by a roof presenting in the chief front, the appearance of a half-pediment, as in the similar groups in elevation, of the second story of the tomb; and there is a vase placed, on the ground, in the centre of each group. The columns are decorated in alternate divisions in the height of the shaft, with ornamented lozenge-forms and facets. At Petra, the pilasters of a triumphal arch present also compartments decorated with rosettes, heads, and lozenges. These examples may be considered as curious precedents of that kind of ornamentation applied to columns in the Palace of the Tuileries; and of which, the invention is attributed by Philibert de l'Orme to Catherine de Medicis. Between the rearward columns on each side, is a wall, about two-thirds their height, on the cornice of which is a colossal mask, a fanciful representation of the soul of the wicked, placed as a scarecrow for the profane and sacrilegious who might approach the sanctuary. An altar is in front of the entrance. Beyond the arrangement already described, of the front, is a court inclosed on three sides by porticoes. In the centre of the court, is a monopteral temple of twelve Corinthian columns, spirally twined with branches with flowers and leaves. The entablature is crowned by a cupola, surmounted as at Petra by a Corinthian capital, and an urn; which last, here is covered by a veil. Half the number of the columns, those farthest from the spectator, are hidden by hangings placed on the inside. Shields are fixed between the columns; and from the centre of the cupola is suspended an eagle, which holds in its talons a coronet. Though the engraving in the work of Zahn distinctly shows an eagle, some have thought the form was that of a swan, bearing a *corona lucis* in bronze. The lustre would be difficult to explain; but the swan would accord with a dedication of the monopteral temple to Venus, the reasons for which are given in the essay. Under the side porticoes of the court are distributed, small chambers; in the middle, beyond the circular building, is a second temple; and two staircases lead to the chambers over the peristyle of the court. These last, and some other features of the restored plan, are not found in the painting. Mr. Hittorff goes on to show why he has introduced them.

When he was struck with the resemblance of the upper portion of the Petra tomb, to the façade of the building represented in the painting, he did not less remark in the painting, the arrangement of the square court with a circular sanctuary in the centre, such as presented itself in the ancient remain at Pozzuoli known as the Temple of Serapis, and in the Pompeian edifice (fig. 15) which bears, he says, the different designations of Pantheon, Hospitium, and Serapeum. The existence of an upper story, shown by the windows in the painting, involves the existence of staircases; and the restoration, with this upper story carried on columns, is consistent with discoveries at Herculaneum, and with Mr. Caristie's restoration of the so-called Temple of Serapis. The dimensions of the court are easily deduced; the depth being made nearly in accordance with the proportion in the building at Pozzuoli. The introduction and disposition of the principal sanctuary are justified by the arrangement in the last-named building, and in the analogous edifice of Pompeii; but more than all by the tomb at Petra: Mr. Hittorff refers to the arrangement and position of the principal sepulchral chambers, which we have adverted to as shown in the plan of the tomb. He places a cella and prostyle, not unlike those features of the Khasne tomb, at the farther end of the court, in his restoration, in a similar position to the features in the plan of the "Temple of Serapis," and in the Hospitium. In the same manner that the architect of the tomb reproduced an existing model, the building shown in the painting, we may expect as regards the sanctuary, a similar reproduction in the painting, from existing structures. Mr. Hittorff arrives by such course at many details of the plan.

Mr. de Laborde had demonstrated the relationsbip between the Roman works destined for sepulchres, and certain buildings in which many sick persons found health, but others necessarily death. The connexion between the hospital and a different class of structures, we may add, is yet preserved, as those who have visited the wards of the French hospitals, and noticed the altars in each of them will be aware. It is affirmed that the "temple" at Pozzuoli, called of Serapis, was an establishment of the hospital class, in connexion with the mineral waters; and Mr. Hittorff supposes that the original of the painting was one to which should be given the designation Esculapeum,—now admitted, he says, for the "Serapeum," which last, he adds, as well as the tomb at Petra, gives no trace of the worship of the Egyptian deity Serapis. We certainly thought that a statue of Serapis had been found; as well as that there was an inscription showing that the worship of the Egyptian god existed at the second century. But these facts do not affect the main question. The relationship being admitted between the painted representation, and existing remains in brick, stone and marble, some details in the painting are useful towards completing the restoration of the Serapeum. Such are the cupola and urn, placed as at Petra on the summit of the monopteral; such are the votive shields between the columns, and the eagle sustaining a crown. From the presence of these several details,—the urn, the bucklers of soldiers who had died for their country, and the eagle—emblem of an *apotheosis*,—the author deduces that the monopteral building was a funereal monument, appropriated to ceremonies in honour of the deceased. Considering the importance of those ceremonies during which the body remained often for eight days exposed after embalmment, a consecrated place was necessary. The altar, in the entrance-way, shown in the painting, would then be brought into use. The arrangement of the entrance in the "hospitium" (fig. 15) with a central niche and lateral ways, is analogous. The monopteral, in its form, answered to its destination; whilst the more distant sanctuary (fig. 14) dedicated to Esculapius, having a *cella*, and place for the statue of the god (shown in the plan, fig. 12) satisfied the requirements of a religious edifice. The temple, the latter building, would be required to be free of all impure contact, and especially without any view from it, of the dead, that would have entailed the loss to the priest, of his sacred character. It is therefore interesting to find, in the painting, the curtain inclosing one half of the monopteral,—an arrangement which would effectually shut out the view from the prostyle behind. Whether the central feature in the so-called Serapeum at Pozzuoli, had a cupola, or as thought by Mr. Caristie, not, it is shown does not affect the question of the destination.

The results then which Mr. Hittorff claims to have established from the study of a single painting, are, shortly, the following:—

1. That the *façade* of an unknown edifice, as found on the walls of one of the most beautiful of the Pompeian houses is, so to speak, identical with the upper part of the *façade* of the most remarkable tomb of Petra.

2. That the decomposition in geometrical drawings of the perspective of this painting, shows that the edifice that it represents is similar to the ancient remain called the Temple of Serapis at Pozzuoli, and analogous to that called the Hospitium at Pompeii.

3. The manner in which the introduction in the plan of the edifice as painted, of a temple having a *cella* like that which forms an integral portion of the remains at Pozzuoli, harmonizes, is a strong presumption in favour of its original existence. This presumption is confirmed by the employment of a temple with its *naos* in place, and in elevation, for the lower story of the Petra monument.

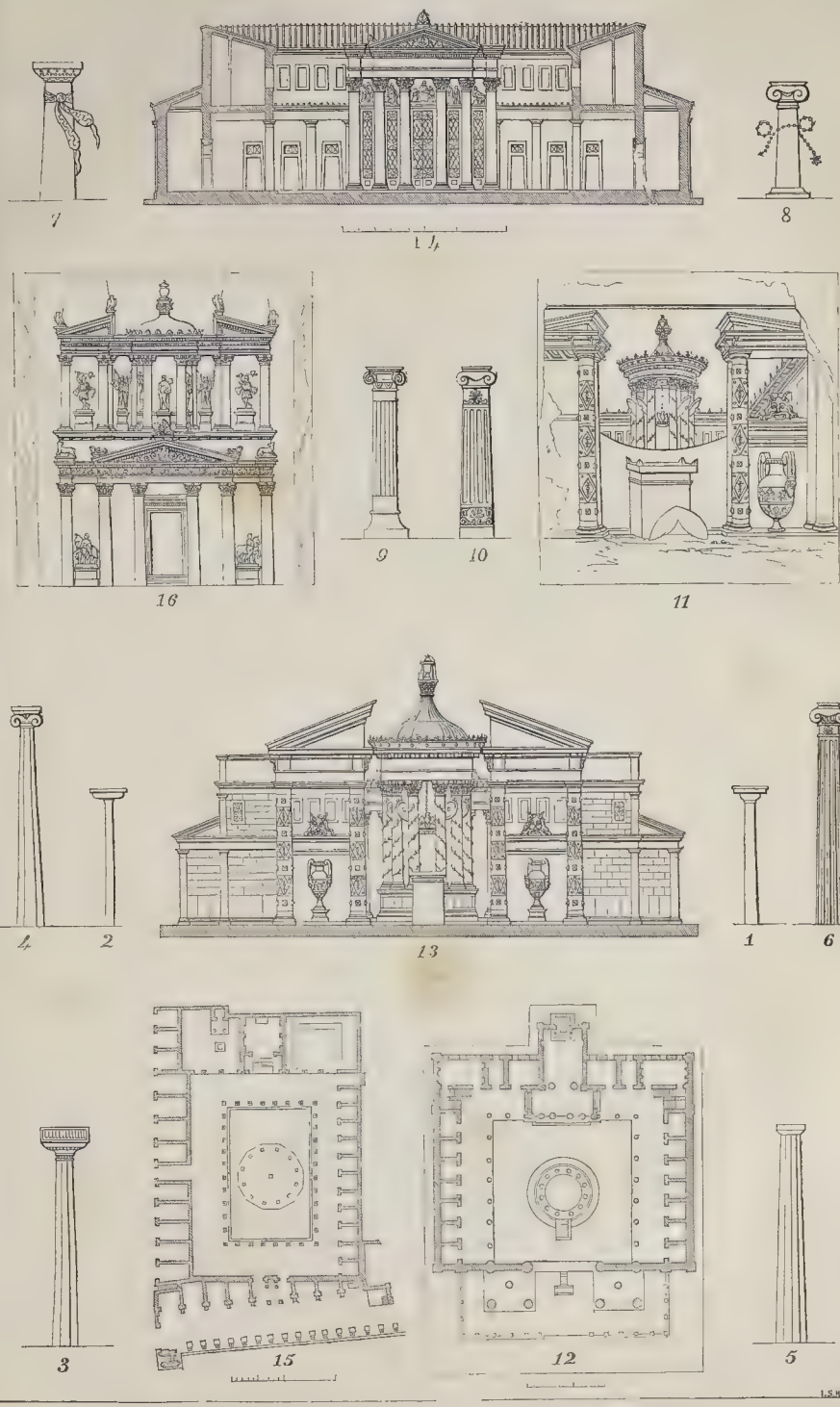
4. The monopteral temple represented in the painting, and reproduced at Petra, was consecrated to funereal ceremonies; and the circular colonnade existing at Pozzuoli, could and must have served for a similar destination.

5. The view was intended to represent an Esculapeum, that is an establishment for the treatment of sick, whether with the aid of the water of springs, or other medical agency, by the priests of Esculapius.

The question remains of the circumstances that have brought about the connexion existing between the Esculapeum of the painting, and its reproduction in the tomb of Petra. Here, the elements of the investigation are wanting. But, Mr. Hittorff supposes that, looking to the fact of the invasion of the East, by the Romans; and the establishment under Trajan of a colony in Arabia Petrea; it may be admitted that many chiefs and dignitaries would become temporary residents, and afterwards return to Italy with fortune and glory acquired. Those who were arrested by death received sepulture in magnificent tombs; and those who returned to die in the mother-country, leaving renown in Arabia, were commemorated also in funereal monuments. Colossal cenotaphs were erected by the ancients, monuments to those who were believed to have merited such distinction, containing neither corpse nor ashes. The sculpture of the Petra tomb shows that it was elevated to a warrior. The two groups of led-horses beside the porch of the prostyle temple, recall the custom of the ancients in military funerals, which is followed by the moderns: the lions borne by the columns of the lower rank express the warlike virtues; the winged female figures, beside the monopteral, carrying palm branches and crowns, are Victories. The Amazons in fighting action are there to recall the warlike games that followed the burning of the body; the urn at the summit of the whole symbolizing the ashes. It is known that at the conclusion of the Roman funeral ceremony, an eagle darted from the midst of the fire and smoke, to symbolize the ascension of the soul of the deceased. This incident is represented by an eagle with extended wings, sculptured in the pediment of the tomb; whilst the four eagles crowning the summits seem intended to reproduce the bird of Jupiter which surmounted the Roman standards.

REFERENCE:—

1, 2:—Painted representations of columns, imitating the primitive columns in wood.
3, 4:—Similar pictorial representations, imitating the most ancient columns in stone.
5, 6:—Forms representing those of the columns of the Parthenon and the Erectheion.
7, 8:—Doric and Ionic funereal columns.
9:—Etruscan column in stone.
10:—Column, analogous, painted on a vase.
11:—Painting found in one of the most richly-decorated houses of Pompeii,—that called the House of the Labyrinth.
12:—Plan of an Esculapeum restored, from the painting.
13:—Elevation of an Esculapeum restored, from the plan and the painting.
14:—Section of the same, and elevation of the temple.
15:—Hospitium or Serapeum at Pompeii.
16:—Elevation of a tomb at Petra.



ARCHITECTURE ILLUSTRATED BY ANCIENT PAINTINGS.

[Also referred to, page 269, *ante*.]

ON THE FORMATION OF A NATIONAL MUSEUM OF ARCHITECTURE, VIEWED IN CONNEXION WITH ITS BEARINGS UPON MEDIÆVAL ART.*

UNDER the head of Actual Architecture, I must mention one other class of objects which would demand house-room within the museum. I refer to those melancholy but invaluable relics of ancient art which exist in our ruined abbeys, and to those in other buildings which are in danger of being destroyed by inevitable decay.

It is the *absolute duty* of an Art Department, whether or not they had contemplated an architectural museum, to rescue these exquisite and invaluable works from oblivion by obtaining casts, photographs, and measured drawings from them while they yet exist. Every winter abrades their ancient carved surfaces, and brings down perhaps larger portions of their sculptured foliage. Those who have been for many years in the habit of sketching from old buildings see at every visit the progress of destruction which is ever going on, and which is ever accelerating its destructive inroads. A few years more of delay, and these precious works of art will have perished. In the name, then, of art, of reason, and of patriotism, let us delay no longer, but at once obtain perfect representations of what we have left, by means of plaster, of photography, and of drawing; and enshrine them as the most precious relics, to be for ever preserved in the archives of our national art! I will add here, however, one word of caution,—let a hardening process be always applied to the ancient carved work before attempting to make casts of it, or we may destroy the original while obtaining the copy.

What I have said of architecture proper applies equally to the second head,—sculpture forming a part of architecture. I will, therefore, view this as included in the foregoing remarks; only adding that a collection of the Mediæval sculpture of the thirteenth and fourteenth centuries, of France, Germany, and Italy, would be an invaluable acquisition to a national museum,—indeed, would be an absolutely necessary portion of it.

Architectural Woodwork.—This, being much scarcer than stonework, especially that of the best dates, must be collected with great care. Let me, however, be always understood to mean casts, rather than the actual work; though when this has, unhappily, been severed from its proper position, it will promote its conservation to place it in such a museum. Of woodwork of the fifteenth century and later there is a large supply of casts in the hands of the Government, which were prepared to assist the carvers employed in the Houses of Parliament. This, however, is by no means the best period. We want woodwork of the thirteenth and fourteenth centuries. This is, in England, somewhat scarce; and wherever it exists, casts should be made from it. Among foreign countries, Germany, perhaps, contains the largest store of ancient woodwork. The stalls at Cologne, not only in the cathedral, but in many of the churches; the wonderful doors of St. Mary's, of the Capitol, the stalls, &c., and at many churches throughout the length and breadth of the country, should find the representatives in such a museum. The elementary classes of woodwork, and the progressive illustration of their history, would assume a course quite parallel to what I have shadowed out in speaking of stonework; and it is needless to recapitulate them. The objects, however, themselves, and the art expended upon them, differ considerably from the previous class; and the objects are comparatively so scarce that there is much more difficulty in obtaining them; and it is only by the help of those who are in the constant habit of searching out objects of study in the most out-of-the-way places that they can be found out. Every year, too, they are getting more and more scarce. Even the few early remains of woodwork in our old cathedrals are diminishing, from the carelessness and want of knowledge of their guardians: let no time, then, be lost in searching out and obtaining perfect representations of those which remain, whether at home or abroad.

We now come to the fourth class,—Architectural *Metal-work.*

If woodwork of the best ages is so scarce, how much more so is metal-work; and how indescribably important is it that we should use our utmost exertions to collect and to preserve representations of it where it would be improper or impracticable to obtain the reality of what yet remains to us!

Here the Department of Art, as regards the smaller and more movable classes or objects, is doing very great things for us: indeed, we cannot be too grateful for the splendid collection of specimens of this and kindred branches of art which is being formed within these walls; nor can we be too assiduous in availing ourselves of the facilities for study which are thus afforded us. These, however, can scarcely, for the most part, be classed under the head of *Architectural* Metal-work, though they bear very directly upon it. What I refer to is chiefly of a larger description, such as screen-work, hinges, brass fonts and lecterns, retabulæ, coronæ, doors, gates, &c.; and the other forms of metal-work, brought more immediately into contact with architecture. These, like other architectural objects, are chiefly to be represented by casts and drawings; and these should be, from time to time, made from all the best specimens which remain in this country, and all which we can gain access to abroad. We long ago contemplated obtaining a cast from the truly magnificent brass font and its cover at Hildesheim, but our funds forbade it. There are a great number of such fonts nearly equally worthy of being represented in our museum, as well as innumerable other objects of all kinds and descriptions. Among others I will mention, though a late example, the exquisite brass genealogical tree which clothes the tomb of Mary of Burgundy, at Bruges; and this leads me to call attention to the numerous brass effigies and entire monuments which exist, and many of which would be well worthy to be represented in such a collection. I will also call attention to the most magnificent of all classes of metal-work,—the gorgeous shrines of the twelfth and thirteenth centuries. There are some invaluable specimens of the same exquisite workmanship in the museum of the Department, and it is possible that a few more may by chance be obtained. The greatest and most glorious specimens, however, of this wondrous art must ever remain where they now are, and where, for the most part, they have always been; and can there be only rarely visited and studied. What I wish to press upon the attention of the Department of Art is the necessity of obtaining perfect full-sized representations of these most sumptuous works. Among the many which exist, I will call especial attention to those of the three Kings at Cologne; of Notre Dame, at Aix-la-Chapelle; and of St. Elizabeth, at Marburg. These are *absolute miracles of art;* and I would earnestly press the necessity of perfect, full-sized, and perfectly detailed drawings being made from them; accompanied by some more tangible representations of some of their parts.

But I must go on to my next head—*Coloured Architectural Decoration.* Here, again, we have heartily to thank the Department for much which they have done, and to entreat them to go on as they have begun. They have already collected many drawings of such decorations, with some of the originals. Mr. Octavius Hudson, of whose zeal, knowledge, and skill I cannot speak too highly, has adopted the excellent practice of having casts made for the details of ancient buildings on which he is engaged, and making upon them fac-simile copies of the remains of colouring which he finds. This, if followed out, would supply invaluable illustrations of decorative art; and I would urge the collection of full-size drawings of all other branches of decoration, wherever they can be procured. Such remnants of old art are continually being destroyed. How easy would it be to perpetuate them by fac-simile drawings! And thus, of all the other classes of art I have enumerated. Let us have coloured tracings of stained glass, not only of famous works, but of the fragmentary remains in village churches. Let us have (as, in fact, we already have to a considerable extent) rubbings of brasses and incised stones; coloured rubbings of ornamental pavements; and perfect representations of all other branches of decorative art. I exhibit a fac-simile copy of a part of the ancient retabulum in Westminster Abbey, as an illustration of the kind of drawing I am recommending. Time will not allow me to go further than to say that a museum thus constituted would be worthy of being called "National;" and would not only be the greatest benefit which could be conferred upon our art, but would be no more than the carrying out to its natural results of what the Department have already commenced.

It may be feared by some that such a collection would encourage slavish copying. My own experience has led to a contrary opinion. I have observed with pleasure that, so far from this being the case, the increased study of ancient examples leads the art-workman to a more enlarged and more reasoning appreciation of his art; gives him greater freedom in the exercise of it; and, above all, leads him to a more zealous and intelligent study of nature. I will only add two more suggestions. 1st. That as such a collection would not be made for a mere spectacle but for actual use, it should not be deposited in vast and imposing halls and galleries, but should be so subdivided as to give the student every possible facility for quietly studying any one department which he might be pursuing, without the distraction which the enormous multiplicity of the objects would otherwise occasion. In reading a book, we should be sadly annoyed if we were obliged to see a number of its pages or its illustrations at once; and so it is with a museum: the student only wants to see the part to which his studies are directed. 2ndly. I would suggest, as South Kensington is not a place very accessible to the student or the art-workman, that a system be organized of lending out objects to particular districts, in which rooms for the studies of art-workmen shall be opened; and that the specimens so lent shall be changed periodically (perhaps every month), and thus a constant and ever-changing course of study facilitated.

I will now conclude by suggesting some points for consideration, as to how our great work can be carried on with the greatest possible advantage to the great cause we have in view.

There are two parties to this undertaking,—the representatives of the demand, and of the supply; and it can only be successfully carried out by their hearty and continued co-operation.

The representatives of the demand are *the architects.* It is not their personal interests in the least degree which are at stake; for buildings would be erected, and architects employed and paid, just the same, whether the arts subsidiary to architecture are cultivated or neglected; nor can the demand be said to come mainly from the art-workman himself, though it does more nearly affect his personal interests. Those among them whose apprehensions of art have been aroused to activity join heartily and earnestly in the demand; but, as in the case of religion, those who most need instruction are the least alive to their necessities; and, among architects themselves, it is those who most keenly appreciate the nobleness of their art, and have best cultivated it *as a fine art,* who most strongly feel the necessity for aiding the art-workmen, on whom depends the realization of the more artistic portions of their designs. Not only, however, are the architects, and the best among them, the representatives of the demand, but they are also the parties who best—I might almost say who *alone*—understand what is the nature of that demand; who know, from their daily experience, what are the objects necessary to meet it; and who, from their own travels, their own studies, and from the contacts in which their practice places them with ancient buildings, know also whence and how those objects are to be supplied. It is, therefore, self-evident that the aid of the architects most conversant with the subject is essential to the success of the effort; and when we add to this that those architects have already, by their own individual exertions and of their own free motion and sense of the necessity, most efficiently launched the work, and founded an architectural museum which must be the nucleus or the model of whatever is effected, the case is rendered still more obvious.

The representatives of the supply are the Government Department of Art. To them has been committed that great cause, the promotion of *applied art* in this country.

The museum of objects of art which they are forming must of necessity be of the greatest benefit to this object. It brings within the reach of the manufacturing art-workman the finest objects for his study, such as he could otherwise never have hoped to gain access to. What we ask of them, then, is to aid us and work with us in doing the same for the *architectural* art-workman, who equally needs and equally deserves their aid.

If they will not do so; or if, in doing so, they refuse the aid and advice of those who alone understand what is needed, the world and posterity will know on whose shoulders the onus will lie. If, on the other hand, they appreciate and frankly acknowledge this, perhaps, the highest of their duties, they will merit the eternal gratitude of every lover of art; and I am sure that I utter the feelings of my brother architects when I say that we are prepared to abdicate our self-imposed task in their favour, and to unite with them heart and soul, and without jealousy or rivalry, in carrying out the most noble and most needful work.

The exact regulation under which this united action will be best effected I will not here attempt to define: "where there is a will there is a way;"

* By Mr. G. G. Scott, R.A. See p. 440, *ante.*

and I content myself with asserting that on our part at least there is a hearty good will; and that I see no difficulty whatever as to the way.

ITALIAN ARCHITECTURAL DRAWINGS IN THE ROYAL LIBRARY AT WINDSOR.*

A SHORT time before the fatal illness which deprived the architectural and artistic world of one who had devoted the best part of his study and energy to cultivate and foster their pursuits, that great personage had occasion to direct some very important alterations in the Royal Library at Windsor. During his researches there he discovered some old Italian architectural MSS. having the name of Muzio Oddi, of Urbino. He was much interested by the bold, original, and in some degree quaint nature of some of the drawings, and the extent of the knowledge and pursuits of the author. There were rough designs for large churches and palaces, mixed with sketches for details of the smallest matters; and with them were plans of battles and sieges, projects for fortifications of vast extent, and with them minute details, comprehending even the method of raising a drawbridge. The writing is in old Italian, and very difficult both to decipher and to translate. As other volumes now from time to time came to light, evidently by various architects, and all inscribed in the same language, and as many long days' reading in the libraries of Italy, while in search of materials for the restoration of the remains of old Rome, had made me, in some degree, familiar both with the character and phrases of the MSS. of the time, I was requested to examine them. I was able to identify and explain the greater part of the subjects. The research was of course suspended and delayed by the melancholy death of His Royal Highness, but ultimately this was the result:—No less than thirty-two bound volumes, mostly of very large size, were discovered, besides six large portfolios of drawings, which probably were intended at one time to have been bound. The earliest date I could discover written in them was 1563, and the latest 1773, but many of the drawings are probably older. Some of these volumes contain the arms of the Albani family, and as they are surmounted by the cardinal's hat, it is probable they came from the library of some ecclesiastical dignitary of that family. Some have the arms of the celebrated Consul Smith (as he is generally called), a gentleman who occupied a distinguished diplomatic situation in Italy for a long time, and who is favourably known among artists as a collector of very refined taste, and better known among the lovers of old books as the editor of the curious *fac simile* of a very early and celebrated edition of Boccaccio. Some of them contain reports directed to Pope Clement XI., who was one of the Albani. Whether he bequeathed them to his family, or in what way they got to England, is matter of conjecture. The tradition is that Consul Smith had an unlimited commission from George III. to purchase for the royal library. Suffice it to say, they commence before the period of the completion of the chancel, as we should call it, but, more strictly speaking, the *tribune* of St. Peter's, and proceed, giving examples of some of the finest modern edifices in Rome, to the decadence of the art of architecture in Italy, a range of more than 200 years.

Among the objects of which we have copious detail drawings are those of the completion of St. Peter's and building the sacristy; the alterations of the basilican churches of the Lateran, St. Sebastian, and St. Maria in Trastevere, which were required by a change of ceremonies at the period of the papal benedictions of the pope; a great number of new churches, among which San Ignazio, Spirito Santo, San Pietro in Montorio, works connected with Santa Maria dei Angeli, and many others; among the villas are the Giulia, Medici, Albani, Riarii, Madama, Panfili, and the banqueting-house of Cardinal Farnese; among the public buildings, the Curia Nuova, the Propaganda, and many of the buildings on the Quirinal; of the theatres, Alibert, Tordenone, that at Parma so well known; the noble flight of stairs or salità of the Trinita ai Monti, and the fine façade of the fountain of Trevi. Among the objects of antiquity are drawings of the Columbaria about Rome, and of all the temples and basilicas in the state they were in at the time. Valuable as those are which represent objects still in existence, there are many which have a twofold value to the Roman antiquary, because they have since wholly or in part disappeared. Among them are the temple of Minerva Medici, that in the Forum of Nerva, the Settizonium of Septimius Severus, the villas of Hadrian and of Pliny, and a great number of relics formerly in the Appian Way. There are also rich treasures in beautiful copies of friezes, arabesques, stuccoes, and mosaics, taken from the remains of antiquity, many of which have faded since exposed to the light, and some, perhaps, have perished. But the architects have not confined themselves simply to building operations; they have condescended to design the minute adjuncts to decorations required. We find among those volumes, drawings for altars, tents, tombs, funeral decorations, chimney-pieces, fountains, and even lamps and thuribles. Nor have they been content with the artistic portion of their profession; we find amongst those volumes evidences of high scientific knowledge; we have drawings of harbours, with the method of repairing breaches of the sea and constructing breakwaters, on a less scale, it is true, but as ably planned as that at Plymouth, and a more wonderful work, if we consider they could not compel the services of that gigantic helot steam in those days. There are also designs for prisons and houses of correction quite on the principle of our system of inspection, plans for complete drainage of towns, and a number of others, which show that architecture and engineering were at that time almost synonymous arts. Not only so, but military engineering exhibits itself largely in these volumes. There are plans of the sieges of Tortosa, Monferrat, Fuentes, Antibes; a number of military plans of various parts of the country; projects for fortifying the city of Lucca, which were carried out and now exist; curious designs for towers of defence, mounting one large gun, like our Martello towers; designs for large granaries; powder manufactories, with drawings of the machinery; designs for drawbridges; in short, specimens of almost all the useful and ornamental arts of the day may be found in those volumes. The names attached to the drawings, which in most cases, and perhaps in all, are autographs, are indeed deserving of deep respect, second only to those of the great men of the age which immediately preceded them, as Da Vinci, Raffaelle, and Michelangelo. We find the names or works of Julio Romano, Dominichino, Bramante, San Gallo, Pirro Ligorio, Bartoli, Borromini, Oddi, the Fontanas, &c. And one precious volume is filled with original sketches, chiefly from Venice, by the famous Canaletti. When we consider the versatility of talent displayed by the Italian architects, who did not disdain small things in art because they were capable of great things; nor the useful because they were masters of the ornamental, it is not to be wondered at they held the high rank in society they did. The pope, the emperor, the grand duke, all welcomed the architect as not only a lofty but a useful spirit in the state, and he trod in courts the equal of the leading minds of the day in other intellectual pursuits—the diplomatist, the jurist, or the great inquirers into the physical or metaphysical worlds. Whether the system urged upon us by some, in the present day, of despising science and learning, and narrowing the mind to one branch alone, or rather to a sub-branch of a branch of architecture, tends to raise the profession in the eyes of the public, or whether it has not already tended to its depreciation in some degree, it is not our purpose now to inquire. By gracious permission of the Queen we have before us four volumes out of the collection at Windsor, on which I beg to venture a few remarks. They are not specimens of the most finished and most highly-coloured drawings there, but exhibit rather the architect in his studio, dashing off with a common pen the rising ideas in his mind, and the greater part had probably never been meant to meet the public eye. The most of them, however, are evidently to scale, and the localities and the subjects, and the purpose-like manner in which they are executed, will, I am sure, be worthy our attention. The first to which I shall direct your attention has a melancholy interest attached to it; for it was the first discovered by the late Prince Consort. The name of its author is not one of those familiar to every ear, though in foreign biographies it holds a respected place. It may be convenient, however, to state a few facts as to his character before proceeding to the examination of the contents of the two volumes, which I will endeavour to do as briefly as possible. Muzio Oddi, whose name stands conspicuous on the title-page, was born at Urbino, in 1569. His father was an officer in the troops of Francisco di Medici. At an early period he gave promise of spirit and talent, and was placed under the tuition of the celebrated Baroccio, from whom he learned drawing. This painter was also a native of Urbino, and one of the few that opposed the so-called eclectic school of the day, preferring rather that of Correggio, Raffaelle, and their predecessors. He soon discovered in the lad a talent for mathematics and the constructive arts, and advised him to give them his particular attention. His biographers say that Oddi made rapid progress in these studies, when, like our late valued and lamented fellow-member, the celebrated Cavaliere Canina, he entered the army, and became *chef d'artillerie*. He seems to have distinguished himself so much, and to have won the approbation of the grand duke to such a degree, as to be admitted member of his privy council, when suddenly a storm broke over his head. He was charged by the grand duke with having betrayed the secrets of the privy council, and that to his wife, the grand duchess, and he was immediately consigned to the dungeons of Pesaro. The charge seems strange; and there are hints that, after all, Italian jealousy was at the bottom of the accusation. However this may be, it seems clear that the unhappy young man was subjected to a strict and cruel confinement for nine long years. He was deprived of the use of pen, ink, and paper; but his biographers say he got over these defects by making pens out of pieces of reed, and ink from charcoal and the soot of the chimney, and that he fabricated a sort of size from the relics of his food, with which he prepared the commonest sorts of paper, so that they could take the ink. Specimens of these drawings are still preserved at Urbino, and shown as curiosities; and I have very little doubt that some of the rougher sketches now on the table before us were done in the same manner. In these pursuits, and in the study of mathematics, the time passed away, and he was at length liberated; but on condition of his leaving his native place for ever. He proceeded at once to Milan, where he was elected to the professorial chair of mathematics, and probably practised also as an architect; for we have in the volume before us some designs which appear to have been carried out in the cathedral there. From thence we read that he was invited to Lucca, to fortify that city; it was in the year 1626, when a struggle was going on for the vacant dukedom of Mantua, and Italy was ravaged alternately by the arms of France and Spain. The drawings of those fortifications are before us; and we are told that they gave such satisfaction to the authorities that he was presented with a medal of honour. From the drawings of sieges and other military operations, it is probable he was present at some of the battles which ended with the sack of Mantua. He seems, however, to have resided at Lucca; for his biographers state he was invited from thence by Cardinal Trivulzio to return to Milan. This invitation he declined, preferring to proceed to Loretto, where he seems to have designed the sacristy for the famous church there, and to have executed works at Ancona. Shortly afterwards he appears to have had permission to return to his native town, Urbino, where he died at the age of seventy years. His writings are still extant; and they are purely mathematical. One is a description and the direction for use of an instrument which he calls the polymetral compass, a delineation of which it is supposed is in one of the volumes before us. On the title to the book is neatly written "Original Drawings from the hand of Muzio Oddi, of Urbino." It commences with a large number of sketches in a sort of ink and in red chalk. Some of these are very neatly finished, others are of the roughest description — in fact nothing but scratches, and as if done by a very imperfect light. They are on mere scraps of paper, and the probability is, a good portion of them were done in the solitude of his dungeon, and with the imperfect materials I have described. Among them is a drawing of a curious instrument, composed of two limbs connected together with a graduated circular arc, which seems to be fixed, and carrying another one graduated in like manner, which seems to be moveable. It is furnished with a plummet, and seems intended for taking angles or levels, and may be the polymetral compass alluded to by his biographers. We have no clue to the period, but might infer it was made after his liberation. A rough sketch (p. 21) is given of a tablet to the memory of his father. The inscription is —"D. O. M. To Captain Lactantius Oddi, who, when alive, was strenuous and upright under every fortune. Mutius and Matteo placed this as an act of piety to their father." Many of the drawings which now follow are more neatly executed; and many have dimensions figured on them which would lead one to suppose they had actually been executed. They are not only for churches, campaniles, and other large constructions, but even for organ-cases, brackets, and other ornaments; and

* Read by Mr. Arthur Ashpitel, at the Royal Institute British Architects, as mentioned in our last.

one seems a design for a picture-frame. A large number of them are for doorways, entrance-gates, and large windows, and, I think we must agree, display much ingenuity and boldness of handling.

The second volume commences with plans which seem to have been parts of conventual buildings. Among these is a very curious sketch of the inside of a dome looking upwards, and showing a construction of scaffolding, cords, &c., probably intended, as appears by a section at page 22, to enable the builders to fix the tambour at the top. At page 19 we have an elaborate plan of a large palace, fortified at each angle with a bastion, with embrasures for twelve guns each. It in some degree resembles Caprarola in arrangement; but the latter is a polygon on plan, while this is square. This is followed by the plans of the *enceinte* of a large town, strongly fortified with the sections, or, to use the expression of the old engineer, "profiles" of the ramparts; unfortunately there is no description by which it may be identified. We have three plans, &c., for conventual buildings, one of which is endorsed "A monastery for the nuns of Ancona," and shows our author continued his avocations as an architect even while occupied in military pursuits. We then have the plan of a large amphitheatre, on the back of which are some curious moral reflections on beauty and love. One of these is headed by a reflection, expressed, no doubt, many thousand times before and since his time—"*Amore tiranno.*" Whether the remembrance of the Grand Duchess gave birth to this expression, we know not. We then have the design for a large window, which, from the inscription, we may suppose to have been put up at Milan in the Duomo; under this it appears an altar was intended to stand, which, he says, was to be conformable to the altar of St. Joseph. The whole is of marble, and seems of very large size. It would be tedious minutely to describe every item before us. Suffice it to say, we have designs for a chapel, on the back of one of which is written, "Plans of the Chapel of the Pope in the Church of Minerva," probably Santa Maria sopra Minerva at Rome, and others for the sacristy at Loretto.

We now get the designs for fortifying the town of Lucca. Some are marked the "Idea of George Settale of Milan"; while his own is modestly inscribed "The idea of another without a name," *innominato*. With these are detail drawings of bastions: one with rounded, and the other with square orillons; there are also stairs apparently leading to casements, or magazines, or other places of safety. We then have a plan of the city and citadel of Casale, on which is sketched in red chalk the approaches of the enemy; and some rough outworks, which seem to infer that he was present and took part in the operations. The mixture of military and civil architecture which follows shows that Oddi still combined the pursuit of arts and arms. But it would weary you to describe them all. I would, however, call your attention to a very ingenious contrivance for raising and lowering a draw-bridge, where the increased weight, due to the increased leverage as the bridge descends, is compensated by a very clever contrivance, much on the principle of the fusee of a watch. To judge of his abilities in a military point of view by the knowledge of the present day would be absurd. The increased powers of ordnance, particularly of the mortar and shell, have entirely altered siege operations from the time of Muzio Oddi. He seems to have used both the flat bastion (such as those with which San Michele fortified Verona) and the bastion with a larger capital and sharper angles, of Vauban and Coehorn; but he seems to have taken especial pains with his orillons. In his time cities were often taken by storm as soon as any breach could be effected, and very often merely by escalade, by *coup-de-main*. In this case it was very important to be able to get guns to sweep the face of the curtain, and equally important those guns should not be exposed to a cross-fire. San Michele put one under another in the orillons; but of course, like all casemated guns, they were annoyed by their own smoke. Oddi placed his side by side. If, however, we judge of his abilities from the honours paid him, and the testimony of his biographers, he must have been a great military architect.

The next volume to which I shall beg to call your attention is one wholly devoted to the Church of St. John Lateran, at Rome. This noble building has a façade nearly 40 feet wider and 30 feet higher than our St. Paul's; and is nearly 80 feet wider between the clear of the walls of the nave. The old Basilica was destroyed by fire about the year 1350; and was restored by a long succession of popes, and completed, as to its interior, by Clement II., about the close of the seventeenth century. The volume contains a number of plans and sections of the building, boldly and almost roughly executed in pen and ink. These show the present state of the church. It formerly consisted of five aisles, divided simply by immense Corinthian columns, from the capitals of which arches sprung in the old Basilican style. As modern requirements demanded a great number of altars, large piers were constructed, with niches, &c., fitted for that purpose. A great many of the old columns which had escaped the fire are said to have been built into these piers. It has, therefore, entirely lost its ancient Basilican character. The whole edifice is enriched with the finest marbles, mosaics, gildings: it is full of noble statues and fine monuments; and is, in fact, second in richness only to that of St. Peter's. The book before us is well worthy of inspection, not only to those who have seen the building, but to those who have not. The latter half of the volume is occupied by a most curious subject. It contains drawings for all the ceremonies of a council of the Church. This, of course, would not be an œcumenical or general council; the last of which, as is well known, was that of Trent, nearly three centuries and a half ago. It is, probably, a smaller council, or conclave. The principal feature in decoration is an immense tabernacle, called a catafalco, which stands over the high altar, and is very richly decorated. It seems to have been surrounded by basreliefs showing the procession and the other ceremonies, the bishops and other dignitaries: some are walking, some sitting at a table, some kneeling at an altar; while behind a sort of screen stand skeletons, which seem watching and mocking their pomp and state. There are plans of the arrangements of the seats, and even of the hangings to adorn the church, and drawings of the accessaries down to the chalices and candlesticks. The benches and chairs are also drawn. One is said to be "for the Pope made:" it tells "of red brocade and damask velvet, with two footstools to match." Another more curiously is marked "Seat of straw with two cushions of silk." All have figured dimensions. This volume is probably by Carlo Fontana, as the arms of Clement XI. appear in several places. This prelate came to the papacy in 1700, both Borromini and Bernini then being dead.

The last volume to which I venture to invite your attention (at least the greater part of it) is superior in artistic execution, and the subjects are of greater interest than those I have already alluded to; although there are others at Windsor possessing still greater claims to your admiration. The volume commences with some extremely well-executed sketches of Roman remains, very carefully outlined and shaded with bistre. They consist of the arches of Constantine, Septimius Severus, the Goldsmiths, of Lucius Verus; the Porta Maggiore, the Arch of Titus; the remains in the Roman Forum, of that of Nerva; the Baths of Paulus Emilius, the Theatre of Marcellus; the temples of Fortuna Virilis, Antoninus, &c.; the Septizonium, the Pyramid of Caius Cestius, &c. They are very faithfully rendered, and possess the unusual interest of giving some examples which are now destroyed or removed. Thus, the Temple of Pallas, in the Forum Transitorium, was taken down by Paul V., and the columns now form part of the magnificent fountain called the Aqua Paola. The Arch of Lucius Verus has disappeared. The Septizonium of Septimius Severus has also perished, and nothing is left of it but a heap of old bricks. At first, I thought the drawings were the originals of those given in Gamucci's "Rome;" but, though they resemble them somewhat in character, all differ more or less; while the larger part differ *in toto*. One curious circumstance arose during the research, and that led to the inference that they are older than his book, which was printed in 1565. The Arch of Septimius Severus, in the latter work, shows an excavation round the lower part, by which the pedestals are exposed to view as they are at present; while in the Windsor MS. they are drawn as still covered up with the earth.

An examination of Rossi, Sadeler, Du Perac, Defrairius, Gamucci,—in fact, of all the authors on the subject to which access could be had in the very limited time I had to prepare this paper,—proved these drawings were no part of their works. I therefore took the volume up to the British Museum; the kindness, attention, and courtesy of whose officers, on repeated occasions, I am proud to acknowledge. Mr. Carpenter, Mr. Rye, and Mr. Bond, gave a very long and patient investigation of the subject. The former gentleman said immediately that he thought they strongly resembled the drawings of the Jacopo Tatti, whom we know better as the great Sansovino of Venice. Unfortunately the museum possesses but one drawing from this architect's hands. On comparing it with those before us, there certainly was a very great similarity. The colouring was hardly so warm as these, but that might have been quite an accidental circumstance. The latter gentleman, who I ventured to name, and who, in judgment of the identity and period of handwriting, may be considered "*facile princeps*," also thought the inscriptions on both extremely like. With but one drawing from which to judge, however, it would be much too hasty to pronounce a decided opinion. We all thought, however, we might go so far as to say there is great probability that these drawings are the work of Sansovino; and, if that be correct, of course they are of the greatest interest and value.

The remaining drawings in the volume are by different hands, some being very well executed, and some evidently copies of good drawings by inferior hands. In one or two of them, the blunders in the perspective are such as none but an inexperienced person could make. On one drawing there is the name of Vignola; but it is not likely it is his. On another is the more likely inscription, in Latin, "From the books of Julian Giamberti, called San Gallo;" and the drawing may thus be said either to be by that celebrated architect, or to have been collected by him. The subjects are all Roman antiquities. No. 17 is the so-called Portico of Octavia, in the Peschiera, which is drawn as nearly entire, and the restoration of which differs very little from that of Canina. It is now in a very dilapidated state. Several others may be recognized, as the Arch at Verona, and those of Titus and Constantine, the Baths of Paulus Emilius, &c.; but it is exceedingly tantalizing to see several very curious buildings to which we have no clue, and which we suppose must have disappeared. At the end of the volume are a number of plans which seem to suit some of the drawings; and if so, the inscriptions "One mile out of Rome," "Two miles from Rome," &c., would lead us to think they are parts of the villas, tombs, or temples which some time lined all the roads from Rome, and now are mere heaps of ruin; and, having served as quarries for ages to every one who wanted building materials, are now mere heaps of rubbish. The beautiful statues, the sculptured friezes, the marble columns, that adorned those buildings, have long ago been burned into lime to fertilize the land; such of the other materials as could be moved have formed wretched farmhouses or inclosures to keep the sheep and goats from the nightly incursions of the wolf. Nothing now remains but such masses of brickwork as are too hard, too rock-like, to be worth the labour to plunder, and which stand up among the vast plains of the Campagna as ghostly relics of past grandeur.

This paper was begun with saddened feelings, and seems to conclude in the same spirit. It is natural it should be so. It might be thought fitting to make further allusion to the great personage who has departed. I cannot but feel that such a course would necessarily revive painful feelings, and that it would be out of place for me to attempt to pronounce anything like panegyric. One thing may be permitted, however, which offers in some degree a more cheering retrospect, and that is, that one of the last things the Prince asked for from the library related to these MSS.; and one of his latest wishes was that an opportunity of exhibiting them should be afforded to a body he always held in regard,—the Royal Institute of British Architects.

THE PRESENT STATE OF THE ENGLISH COTTON-WORKERS.

SOME time since we directed attention to the widely-spread distress which was coming upon Lancashire and the other cotton-manufacturing districts, and mentioned the necessity which would surely arise for extensive and general assistance, from all parts of the land, for a multitude of suffering workmen, who are exposed to distress by circumstances which they could not possibly prevent. At about that time the matter was actively taken up in London. A committee was formed, which, we believe, is still in existence; and the Lord Mayor willingly agreed to receive funds for the relief of the distress, at the Mansion House. But, as it seems to us, a check was put to this movement by some of the magistrates, manufacturers, and other influential persons in the Lancashire district, who strongly repudiated any other than local assistance and the support which the Poor-law would allow. While admiring this spirit of independence, and also the sacrifices

which some of the most important manufacturers have made for the purpose of assisting the men; one cannot but fear that they have been too sanguine of the speedy termination of the American struggle, and have not taken sufficient account of the wide spread of the dark cloud of poverty which was coming upon poor cotton-spinners. The discouragement of these subscriptions has already entailed great distress upon many families; and it is to be feared that this distress, so far as can be at present seen, will be still further intensified. Having had good opportunies of learning the feelings of the Lancashire men and women, we know how repugnant it is to their views to receive help in the way in which it is afforded to them by the parish relieving-officers: the labour of stone-breaking and road-making to men who are unfitted, by having followed pursuits of a totally different description, is not easy.

The misfortune which has befallen these poor people could not, in the first instance, have been prevented by them; and their conduct in the course of this trouble has been worthy of the greatest praise; while the stern necessities of men, women, and children are weekly becoming greater. The voice of hunger will not be much longer smothered; and it is a duty for all parts of England to set vigorously about the relief of this suffering without delay; and let us hope, in the distribution of such funds as are raised, that, while food is provided, the provision for rent, which will enable them to keep a home shelter for their wives and children, will not be forgotten.

THE TRUTHFUL IN ART.

UNDER this title a lecture was recently delivered at the Architectural Exhibition, in Conduit-street, by Mr. Robert W. Edis.

The lecturer gave a very brief history of art from the time when, according to him, men laboured in good and earnest integrity; until the present day, which he characterized as an age of plaster and rococo abominations; and as one in which gigantic shams and pseudo-work of all kinds hold sway, to the perversion of all good taste and true art;—drawing attention to the beautiful works of the ancient Greeks and Romans, and the grand monumental poems of the Mediævalists, which have been handed down to us in all their glorious array of majesty and truthfulness. The lecturer, however, thought that the line must be somewhat drawn in at the end of the thirteenth century, since men from that time seemed to labour and build more out of vanity and self-love than out of earnest truthfulness and love for what they were doing; and certainly the so-called restorations and improvements of the last generation, in many of the domestic and ecclesiastical buildings of England, were not to be classed as good or true work; any more than the base imitation and pseudo-plaster copyism of Greek and Roman temples, and the effect-at-any-price ornament, stuck on anywhere and everywhere, totally regardless of construction and nearly all else, were to be classed with their majestic prototypes in Ægina, Italy, and elsewhere. He thought that Nature should be more than carefully studied in all ornamentation; not for mere imitation, which could be of no use, saving to show mechanical power of copyism; but he thought that all artists should seek to adapt the many beautiful forms that Nature was daily laying before them, in their decorative and sculpturesque work. The paper concluded with a few remarks upon bigotry; urging that there should be more unity amongst men, and that those who really had the same cause at heart, namely, to ennoble and elevate their art, should work together, so that there might be strength as well as intention to do well.

PROVINCIAL NEWS.

Preston.—An invitation to the Prince of Wales to lay the foundation stone of the new Town-hall in Preston, during the celebration of the local Guild, has been declined; a letter from Sir C. B. Phipps saying, "It was her Majesty's wish that none of the Royal children should, during the present year, attend any public ceremony."

Newport (Isle of Wight).—The contract for erecting the parsonage house, as lately advertised, has been taken by Mr. C. Jolliffe, builder; but the original plan has since been considerably modified, in order to bring the cost of the building within a certain estimate. The contract for laying down a common sewer in Trafalgar-road has not been as yet agreed upon; there being only two tenders submitted, and both of them above the amounts granted by the town council and highway commissioners.

Manchester.—The contract for the extension of the new station buildings, which have been designed by Messrs. Mills & Murgatroyd, of Manchester, architects, and are being carried out under their direction, has been let to Messrs. W. & H. Southern, of Salford, and the sub-contractors have begun to erect their scaffolding, &c. The contract stipulates that the new building shall be roofed in by the end of June, 1863. The contract for the masonry has been taken by Messrs. Patteson, of Manchester: Messrs. E. T. Bellhouse & Co. will supply the ironwork; and the brickwork will be done by Mr. Rutherford. The new building will have a frontage in a line with the angles of the existing station; the central projecting portion of the present building being destined for entire removal. The chief frontage will be towards Piccadilly at the head of the slope, and will be nearly 200 feet in length, with a height of more than 70 feet, and a depth of 162 feet. The elevations towards Piccadilly and Birmingham-street will be in the Italian style, and of stone. In the centre of the basement story there will be a gateway, with a 40-feet clear opening, for road and foot-paths; the roadway running about 200 yards beyond the building, and separating the two arrival platforms; its higher end being widened and used as a cab-stand. In the front there will be an extensive glass-covered porch, supported on ornamental iron columns. Proceeding through a spacious vestibule, passengers will enter a hall, 64 feet long, 31 feet broad, and nearly 70 feet high, lighted from the roof. At the further end will be the booking-offices. The first floor will contain two board-rooms and sets of offices; while the second floor will be wholly used by the Sheffield Company. The new iron and glass roof in rear of this building, and covering the platforms, will be 625 feet long, of proportionate height, and a span of 192 feet 6 inches, the present roof being not more than 450 feet by 130 feet. The inclined approach to the station is to be widened forthwith, and to be brought considerably nearer Piccadilly. The approach will be altered, under the direction of Mr. Baker and Mr. Sacré, the engineers of the London and North-Western, and the Manchester, Sheffield, and Lincolnshire Railways.

Stockport.—The excavation and embankment for the largest reservoir at Lyme Park for the Stockport district waterworks are progressing. The embankment at its base will be 240 feet thick, and at its top 20 feet, and sufficiently wide and strong to form a cart-road. The perpendicular depth of the water in this hold will be 60 feet. This reservoir is in the valley on the Disley side of Lyme Cage, and it is to be filled with the Bollinhurst, or Silver Brook. The other reservoir is to be formed on the Elmerhurst brook, in the valley on the other side of Lyme Cage. Together, it is calculated they will furnish a supply of water excellent in quality and sufficient for a population twice as great as that of the district included in the Act of Parliament. The filters are situate in Norbury. One of the filter beds is advanced towards completion. About 150 men are engaged. The contractors for the earthworks, excavations, embankments, and pipe-laying, are Messrs. John Aird & Son, of Lambeth; and for the pipes and ironwork, Mr. R. Barrow, of the Stavely Iron Works, near Chesterfield. The promoters are said to be confident of being able to have the water in Stockport in September next.

CHURCH-BUILDING NEWS.

Mayfair.—A meeting has been held in the Hanover-square Rooms, under the presidency of the Bishop of London, for the purpose of adopting measures for securing the erection of a new church in Mayfair. Towards the erection of the proposed new church some liberal subscriptions were announced.

Leicester.—About two years ago the intersection tower of St. Martin's Church was found to be in such a ruinous condition that the vicar and churchwardens resolved to have it taken down. It has now nearly been rebuilt, together with the north and south transepts. The new tower, which is 26 feet square, is supported on four arches 16 feet wide by 32 feet high in the clear. (The old arches were 12 feet wide by 15 feet high.) It is proposed to surmount the new tower with a lofty broach spire; but at present the committee have only the funds sufficient to carry up the tower to the height of 108 feet. The works have been carried out by Messrs. Dove, of Islington, from the designs and under the superintendence of Mr. Raphael Brandon, who directed the former restorations of this church.

Welby (near Melton Mowbray).—The parish church here, which was re-roofed and partially restored two years since, has been finally completed, and was reopened for service on the 19th June. The interior has been fitted up with open benches of deal, stained. The pulpit and reading-desk are of oak, filled with old oak carved panels, which existed in the church. The altar rail is of moulded oak, on wrought foliated standards. The aisles, &c., are paved with black and red quarries in patterns. The east window has been re-glazed, and had the stonework repaired. The contract for the latter portion of the restoration was carried out by Messrs. Morrison & Brutnell, under the superintendence of Mr. R. W. Johnson, of Melton Mowbray, architect. The expense was borne partly by Sir G. E. Welby Gregory, bart., and partly by the parishioners.

Chichester.—The church of St. Peter the Less, in North-street, has been enlarged and embellished under the directions of Mr. Draper, architect. The galleries have been removed, the flat ceiling taken down, and the timber of the roof exposed. The chancel, which was in a sadly dilapidated and almost dangerous state, has been restored and lengthened, giving increased accommodation. At the east end of the chancel is a painted window, designed and executed, under the architect's directions, by Messrs. Heaton & Butler. The subject is the Saviour in the Garden of Gethsemane. In digging the foundations for the enlargement of the chancel, remains of a Roman pavement were brought to light, and have since been presented to the Chichester Museum. The old square pews have been removed, and the church is now fitted up with open, low, and uniform seats. There is accommodation for one hundred and fifty persons. The exterior of the church has been improved, the tower and buttresses particularly, as the decayed Caen stonework is being replaced by new. Mr. Redman has carried out the contract.

Llanwarne.—A new church will shortly be erected in this parish, to replace the present dilapidated structure. The existing church is in a low and damp situation; and it is proposed, according to the *Hereford Times*, to build the new church on the opposite side of the road, on higher ground. Two sites were offered, one by the Rev. G. H. Bosanquet, of Broomy Close, and the other by Mr. James Edwards, of the Cloughs, Staffordshire; and the committee selected the one offered by Mr. Edwards, who not only gave the land but 150*l.* in addition. The cost of the new church will be about 1,600*l.* The plans are being prepared by Messrs. Wingate & Co., of Hereford.

INTERNATIONAL EXHIBITION: THE AWARD OF PRIZES.

THE awards of the juries will be made public on Friday, 11th July, at one o'clock. The Duke of Cambridge, as her Majesty's representative, will distribute the awards to the exhibitors of the United Kingdom, and its colonies and dependencies. The special representatives of foreign countries will distribute the awards to foreign exhibitors. The ceremonial will commence in the Horticultural Gardens; and there will be a procession to the Exhibition Buildings. Military bands will be in attendance. We hope the sun will be so, too.

"HALTING-PLACES."

A PUBLIC "halting-place" has been erected in the centre of the carriage-way in Holborn, on the site previously occupied by a small and inconvenient provision of the same nature. For those internal fittings immediately connected with the purpose of the structure, Jennings's patent has been adopted; while the parts inclosing and screening the interior have been treated with such regard for external effect as seemed proper for a building which, while it should not be made obtrusive, cannot and ought not to be concealed.

The general plan of the structure is octagonal, having six divisions arranged round a central column, and screens thrown out to mask the two entrances. The framework consists of cast iron, with panels of slate on the sides, and in the screens. A moulded base runs round the whole, having pilasters on every angle, surmounted by a perforated frieze, filled in with a stellate ornament. The cornice has a billeted moulding above the corona; and at short distances along the upper moulding are placed pointed ornaments of simple character, with a larger one at each angle. The covering is composed of eight castings of light open work, which stand at a pitch usual in works of Italian character, and support a central column and octagonal lamp. Two other lamps are carried

by ornamental pierced standards rising from the entrance screens. These screens are joined to the main structure by flat arches, and are similar to it in character, but are subordinated and kept lighter by the omission of the cornice. The slate panels have a channelled border on the outer face, with circular angles, and are left of their natural colour, the ironwork being painted bronze-green.

The work, which is in the department of the City Sewers Commission, has been carried out by Mr. William Haywood, their engineer. Messrs. Burton, Sons, & Waller, were the contractors for the ironwork.

Books Received.

Rise and Progress of Painting. By EDMUND EDWARD ANTROBUS, F.S.A. London: Staunton & Son, Strand. 1862.

WITHOUT making any pretensions to originality or the production of new matter, Mr. Antrobus has done good service in putting together at this moment a compendious little handbook of the various schools, and a dictionary of eminent painters of all countries, commencing with the doubtful Eucher, A.M. 1218, and running on to those who died last week. The author addresses it specially to the younger members of society, who, as well as others, will find it useful, whether in the Palace of Art at Brompton or in the National Gallery. Mr. Antrobus has been long known as a lover of the arts.

Treatise on Fortification; or, Lectures delivered to Officers reading for the Staff. By Captain LENDY, F.G.S., &c. London: Mitchell, Charing-cross. 1862.

FOR a reason difficult to understand, candidates for the army are not expected to possess any information on this branch of their future profession; and, strange to say, although a trifling knowledge of fortification *was* demanded of them a few years ago, the Crimean war was followed by the entire suppression of that little which before was deemed requisite. Had the Armstrong and other experiments which recently have shaken the whole science of war to its centre then transpired, one might have better understood why this should be; but, unless the certainly also rather startling ideas suggested by the use of earthworks tended to bring the constructive science of more elaborate fortification into disrepute, it is not easy to comprehend the intentions or views of the military authorities in thus purposely ignoring the science of fortification. The study, however, has been sustained, to a certain extent, by the competition for entrance into the Staff College, and the qualifications required of candidates for staff appointments.

Three-fourths of the English staff, it appears, have read Fortification with the author of this elaborate work,—Captain Lendy,—who is director of the Practical Military College of Sunbury; and the course now published, which must be regarded as a standard authority on such a subject, was compiled for staff officers, and is now printed at their urgent request, for behoof of themselves and their successors. The work is illustrated by upwards of 100 engravings. It is dedicated, by permission, to the Commander-in-Chief; in itself a strong recommendation.

Miscellanea.

GREEK REMAINS IN FRANCE.—A discovery is said to have just been made at Marseilles of the ruins of a Greek circus.

ST. ALBAN'S ARCHITECTURAL SOCIETY.—The annual meeting of this society has just been held. The Rev. H. J. H. Nicholson, D.D., presided. A paper, by Mr. Joseph Beldam, of Royston, on "Royston Court House," was read by the Rev. Mr. Nicholson. A paper was also read on "The Abbey Restorations," by the same gentleman.

TO PREVENT TOOLS FROM RUSTING.—Thousands of dollars are lost each year by the rusting of ploughs, hoes, shovels, &c. Some of this might be prevented by the application of lard and resin, it is said, to all steel or iron implements. Take three times as much lard as resin, and melt them together. This can be applied with a brush or cloth to all surfaces in danger of rusting, and they can easily be kept bright. If tools are to be laid by for the winter, give them a coating of this, and you will be well repaid. It can be kept for a long time, and should always be on hand, and ready for use.—*American Country Gentleman.*

TEST FOR POISONOUS PAPER-HANGINGS.—Common spirit of hartshorn or ammonia is a sure test for arsenic. On application, the beautiful but dangerous green turns to a blue. A small drop, on the back of a leaf, might be made to reveal the secret of its deadly composition; but the unnatural vividity of the green itself is almost sufficient.

ST. MARTIN'S SCHOOL OF ART.—The annual *conversazione* of the St. Martin's School of Art is to take place this, Friday, evening; when the medals and prizes will be distributed. Twenty-five students received medals in February last: eight of these were selected to compete for the national medallions; one of which was ultimately awarded to James Mahoney.

NEW BUILDINGS AT WINDSOR CASTLE.—A new building for the Guard at Windsor Castle is in course of construction. It will be in the Early English style, and extend from the Salisbury Tower, near Henry the Eighth's Gateway, along the western side of the lower foundation, to the Old Garter Tower; and will comprise every necessary accommodation for officers and men. The building contains a guard-room, 74 feet by 20 feet: at one end there is also an open corridor, 28 feet by 20 feet; and, at the opposite end, officers' apartments are to be built in the Old Garter Tower. Beneath this there is to be a kitchen, connected by an underground passage with the guard-room, fitted up for cooking by the soldiers on guard.

PERMANENT EXHIBITION IN PARIS.—The project for a permanent Exhibition in Paris where specimens of the manufactures and products of every country will be collected in one spacious building, in order that dealers and consumers from all parts of the world may see them, has met with the approval of the Emperor. A special license has been granted for the admission of all foreign products free of duty, with liberty to re-export them without payment of duties; or to sell them on the spot on paying the duties imposed by the new international tariff. It is asserted that the whole of the capital, amounting to 600,000*l.*, has been subscribed in France. The palace, which will stand near the railway-station at Auteuil, in Paris, will be opened for the purposes of the Exhibition early in the summer of 1863. It is stated that the building will surpass in size that for the present International Exhibition.

THE STATE OF RUSSIA.—A correspondent of the *Siècle*, writing from St. Petersburg, gives an account of the acts of incendiarism in that capital, so terrible as to recall the times of the Jacquerie, and to lead to the question whether this, bad as it is, be not the beginning of a general outbreak of savage vindictiveness threatening to involve society in desolation. During the preceding fortnight, or say the first half of June, fire succeeded to fire in every direction, spreading such devastation that the value of property consumed is estimated at 100,000,000 of roubles. In one fire 500 houses were burned. Another set a whole faubourg in flames. A third consumed 80 houses in a different faubourg. The telegraph was set to work to call assistance from Moscow, and the answer was that Moscow was burning too! The most serious loss appears to be that caused by the destruction of a bazaar containing 2,000 shops filled with merchandise, and which is now a heap of ruins. By this ruin of property 200,000 persons are thrown on the streets. It was on Whit-Monday that the bazaar was destroyed. Other towns besides St. Petersburg and Moscow have also been set fire to.

SLATE-DRESSING MACHINES.—Mr. Henry Gilson has patented some improvements in the machinery for cutting and trimming the edges of slates. The machine consists of a wheel in the form of an ordinary fly-wheel, working upon horizontal axes fixed on a strong frame; with two, three, or more knives for cutting and trimming the slates, fixed at equal distances on the side of the wheel; or, if two slate-cutters work at the same wheel, then another set of knives may be fixed upon the other side of the wheel in alternate order. The knives should be fixed at such distances from the spokes of the wheel as to admit of the slate being presented to the knife without the projecting end coming in contact with the spokes of the wheel. The knives should be of sufficient length to cut the sides of the largest slates in ordinary use. They may be fixed either parallel to the spokes of the wheel, or diverging slightly from them, but radially from the axis of motion, so that the inner end of the knife shall first come in contact with the slate. The slate to be cut is rested obliquely on a cutting edge fixed on the framework of the machine, and receives the revolving knife progressively from its inner to its outer extremity, as from a pair of shears.

RAILWAY STATION AT NEWINGTON.—Progress is being made with the Newington Station on the London, Chatham, and Dover Railway. The contract for the erection has been taken by Mr. Lewis Shrubsole, of Faversham, and the foundations of the station and platforms are completed.

THE MIDDLE-LEVEL INUNDATION.—The troubles of the Middle-Level Commissioners are now, it is believed, almost at an end, as the dam has been at last finished so as to arrest the tidal waters; and, that effected, the repair of the banks of the drain, and the drainage of the 7,000 acres of inundated land, will soon be accomplished. The spaces between the walls of the dams have been filled up, and a large bank of clunch has been formed against its seaward face, so as to protect it from the influence of the tidal waters. This bank affords a broad footway across the drain, and it will be further increased. The efficiency of the work has been tried by the tide, and has stood well. The water on the land will be removed by syphons.

EXCURSION OF THE SOCIAL SCIENCE ASSOCIATION TO REIGATE.—In consequence of the invitation of a committee of influential gentlemen, residing in Reigate, Redhill, and the neighbourhood, a number of members of the Social Science Association arrived at Redhill Station on Tuesday, for the purpose of visiting various philanthropic and other institutions in this neighbourhood. The party first proceeded to the cottages of the Reigate and Redhill Cottage Improvement Society. They then visited the Philanthropic Society's Farm School and the Idiot Asylum at Earlswood Common, and afterwards proceeded to Reigate, where they had refreshments in the new Public Hall, where also various gentlemen addressed the meeting. An excursion to the Brockham Home followed, with tea by invitation at Wonham Manor, where the founder of this Home for orphans girls (the Hon. Mrs. Way) resides.

THE THAMES EMBANKMENT BILL.—On 21st June the committee met and considered various clauses, some of them saving the rights of the Crown. One clause requires that the Board of Works shall not appropriate or grant any part of such bed or foreshore, or any right or easement in connexion therewith, by way of compensation to any person for loss of river frontage or other damage. A clause indicating compensatory rights on the part of the Crown having been proposed, Mr. Toulmin Smith opposed the clause and an amendment of it, and said that in the Thames Conservancy Act of 1857 no rights of the Crown were reserved: he contended that there was not a scintilla of right to be set up either by the Crown or the Corporation of London. The clause, as amended, however, was adopted. It requires that an estimate be made of the amount of the diminution in value which would be caused by the works authorized by the act to lands on the bed and shore of the river below high-water mark, and the amount of such estimate to be paid by the Board of Works to the Commissioners of her Majesty's Woods, Forests, and Land Revenues, on behalf of her Majesty, and to the Conservators of the River Thames, by way of compensation for the right and interest aforesaid, before the Board should commence any works on the bed or shore of the river below high-water mark.

GLASGOW CATHEDRAL: COMPLETION OF THE ROYAL WINDOW.—The painted glass for the east window is now erected. The splayed sills have been replaced, and the window-frame is restored to its original form. The new window contains figures of the Evangelists—Matthew, Mark, Luke, and John,—contrasting with the stern prophets of the transept window. The upper part of the window is filled with diaper. To the left of the centre and of the spectator, but to the right in the window, are placed the arms of the Sovereign, as Queen of the United Kingdom; to the right of the centre, the royal arms of Scotland: close to the arms of her Majesty are those of the lamented Prince Consort; whilst the arms of the heir to the throne are placed on the other side, surmounted by the badge of Wales, instead of the usual royal crest. There is no special inscription of dedication. The funds were provided by Parliament. The figures of the Evangelists were designed by Johann Von Schrandolph, historical painter, professor in the Royal Academy of Munich, &c. The ornament is from the designs of Maximilian Ainmiller, architect, Knight of the Order of St. Michael of Prussia, of the Order of the Red Eagle of the third class, and the Order of Pius IX. The Chevalier Ainmiller is also an honorary member of the Royal Academy, Munich, and inspector of the Royal Establishment of Glass Painting.

CONSERVATION OF ANCIENT MONUMENTS.—The following Fellows of the Institute have been nominated by the council a committee on the conservation of ancient monuments and remains: Mr. Tite, president; Messrs. G. G. Scott, M. Digby Wyatt, A. Ashpitel, James Bell, W. Burges, E. Christian, Joseph Clarke, B. Ferrey, T. H. Lewis, C. C. Nelson, J. L. Pearson, F. C. Penrose, A. Salvin, W. Slater, and G. E. Street.

THE EMPSON MEMORIAL WINDOW, BATH ABBEY.—We are glad to hear that the friends of the late Mr. Empson have erected a stained-glass window to his memory in Bath Abbey. It is placed over the north-west entrance. In the centre are represented the Four Evangelists, in full-length figures, with appropriate emblems: above them are four smaller figures, emblematic of Death and Victory. Underneath the Evangelists, at the base of the window, is the simple inscription, in readable letters, "In affectionate remembrance of Charles Empson, of this city. Born 1795, died 1861." The window has been executed by Chance, Brothers, of Birmingham. "Affectionate," in the inscription, is the right word: Mr. Empson was an amiable and kindly-hearted man, full of quaint knowledge, and was most esteemed where he was best known.

CONVERSAZIONE AT THE INSTITUTE OF BRITISH ARCHITECTS.—A *conversazione* was held on Wednesday night at the rooms of the Royal Institute of British Architects, by the invitation of the council, and was numerously attended. A varied and extensive collection of works of art of the highest character had been provided for the entertainment of the guests, and will remain open for inspection for a short time. Among the objects exhibited are a series of original architectural drawings of the Palace at Whitehall, by Inigo Jones, and other fine drawings in water-colours, sent by her Majesty the Queen, under the care of Mr. Woodward; some beautiful works in enamel and jewelry, from Mr. A. J. Beresford Hope; a curious collection of valuable autographs and water-colours, with a medal of Sir C. Wren, from the president; a large collection of drawings by Flaxman, from Mr. Kibble; and many other interesting matters.

SUFFOLK INSTITUTE OF ARCHÆOLOGY.—The summer meeting of this society was held at Haverhill, on the borders of Essex and Cambridgeshire. The company was not so numerous as usual. Mr. W. W. Boreham, having addressed the company at the Court-room, Haverhill, pointing out more especially the vestiges of the Romans in Haverhill and its neighbourhood, proceeded to conduct the party to the church. The company then proceeded to the above town churchyard, where part of the foundations of a Norman apsidal church had been exposed to view for the gratification of the visitors; and thence to the house of Mr. Boreham, where a collection of local and other antiquities, Roman, Saxon, Etruscan, Egyptian, &c., had been arranged. Having partaken of luncheon, the visitors started for the excursion. Their first halt was at Little Wratting Church. From thence they went to Ketton Church. Great Wratting Church was the next point of attraction, and then Withersfield Church. The party next proceeded to Horseheath, and thence returned to Haverhill, where a dinner finished the day.

TENDERS.

For restoring and reseating the village church of Holywell-cum-Needingworth, Hunts. Mr. Robert Hutchinson, Huntingdon, architect:—

Richardson	£989 17 0
Bunting & Son	942 0 0
Saint	895 0 0
Allen & Smith	835 0 0
Mason & Smith	816 17 0

For building the district church of St. Chad's, near Malpas, Cheshire. Mr. Robert Jennings, architect:—

Ruscoe	£1,759 0 0
Spencer	1,595 0 0
Fox & Brother	1,487 0 0

For the erection of a residence, on the Terrace, Richmond. Mr. Bell, architect. Quantities supplied by Mr. E. J. Austin:—

Little	£8,899 0 0
Allen	7,876 16 0
Mansfield	7,587 0 0
Piper & Co.	7,497 0 0
Adamson & Sons (accepted)	6,937 0 0

For new premises for the London and Middlesex Bank, in Finch-lane, Cornhill. Mr. F. Pouget, architect. Quantities supplied:—

Holland & Hannen	£4,550 0 0
Ashby	4,456 0 0
Mansfield & Son	4,410 0 0
Rider	4,380 0 0
Westacott	4,349 0 0
Piper & Wheeler	4,230 0 0
Downs	4,037 0 0
Lawrence, Brothers	3,930 0 0

For house at Mitcham, Surrey, for Mr. G. P. Bidder. Messrs. Hunt & Steward, architects. Quantities supplied:—

Mansfield & Son	£9,021 0 0
Robinson	8,721 0 0
Lawrence, Brothers	8,390 0 0
Holland & Hannen	8,275 0 0
Lucas, Brothers	7,890 0 0
Downs	7,698 0 0
Myers & Sons	7,658 0 0

For drainage, &c., for the Local Board of Health, Ham Common, Surrey:—

Long (accepted)	£2,249 0 0

For Congregational chapel and schools, Plymouth. Messrs. Paull & Ayliffe, architects:—

Matcham	£9,445 0 0
Southall	8,121 0 0
Sawyer	7,963 0 0
Finch	7,768 0 0*

For the erection of a warehouse in Wood-street, City, for Mr. Brett. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Myers & Sons	£5,209 0 0
Piper & Wheeler	4 993 0 0
Lawrence & Sons	4,953 0 0
Ashby & Sons	4,875 0 0
Holl, Keddall, & Robinson	4,846 0 0
Wills	4,825 0 0
Fish	4,696 0 0
Cannon	4,600 0 0
Brass (accepted)	4,455 0 0

For alterations to Messrs. Merry & Nutter's premises, High-street, Whitechapel. Mr. John Hudson, architect:—

King	£929 0 0
Little	910 0 0
Read & Son	874 0 0

For cleansing and colouring the ceilings, walls, and cornices; painting, graining, and varnishing the pews, and other repairs and decorative work to the district parish church of St. George, Camberwell:—

Denison	£385 0 0
Cousins	335 0 0
Holmes	239 10 0
Dennis	239 0 0
Farmer	230 0 0
Fisher (accepted)	219 0 0
Cook	208 16 0
Thornhill & Son	189 10 0

For rebuilding Cheam Church, Surrey. Mr. Pownall, architect:—

King, Burton, & Co.	£4,584 0 0
Ashby & Horner	4,175 0 0
Lawrence & Sons	4,103 0 0
Myers	3,993 0 0
Piper & Wheeler	3,970 0 0
Tracey & Co.	3,908 0 0
Macey	3,882 0 0
Jacklin	3,850 0 0
Burrell & Spinks	3,680 0 0
Adamson & Sons	3,591 0 0
Sharpington & Cole	3,561 0 0

For building two houses in Holborn, for Mr. Prew. Mr. Mullins, architect:—

Warne & Co.	£4,258 0 0
Robinson	3,794 0 0
Ruder	3,658 0 0
Keys & Head	3,328 0 0
Palmer	3,277 0 0
Macey	3,259 0 0
Patman & Co.	3,222 0 0

For the restoration of the parish church, at Kew Stoke, Somerset. Mr. John Norton, architect:—

Hughes	£2,645 0 0
Marquess & Munro	1,994 0 0
Broad	1,989 10 0
Lewis	1,870 0 0
Streeter	1,683 0 0
Beavan & Son	1,674 10 0
Dument	1,629 15 0
Durke	1,599 0 0

For the erection of a new Congregational church in Tolmers-square, Hampstead-road, including boundary fence:—

Scrivener & White	£5,991 0 0
Piper & Wheeler	5,875 0 0
Little	5,693 0 0
Richards	5,588 0 0
Saunders	5,499 0 0
Higgs	5,432 0 0
Myers & Sons	4,983 0 0
Patman & Fotheringham	4,969 0 0
Jackson & Shaw	4,920 0 0
Dove, Brothers	4,765 0 0

For cleasing, painting, distempering, and otherwise repairing the inside and the outside of St. Mary's Church, situate in Clarence-street, Old Kent-road. Mr. Henry Phillips, architect:—

	Add for painting pews, extra.
Whitehouse	£280 10 0 ..... £66
German	282 0 0 64
Burtwell	241 12 0 55
Rudkin	184 0 0 55
Brighton	198 10 0 40
Fortesque	179 0 0 40
Cox & Cutler	175 10 0 42
Sawyer (accepted)	120 0 0 60

For erecting new schools, minister's and master's houses, at Frome Selwood, Somerset. Mr. William J. Willcox, architect:—

Long	£2,799 0 0
Beavan & Co.	2,700 0 0
Hodder, Greenland, & Chislett	2,513 0 0
Davis & Son	2,295 0 0
Ashman (accepted)	2,062 0 0

* Accepted; but chapel only to be built at present.

For Huntingdon Corn Exchange. Mr. Robert Hutchinson, Huntingdon, architect:—

Bird (accepted)	£1,289 0 0

TO CORRESPONDENTS.

S. & L. (next week).—C. G. S.—G. L.—J. H.—T. F.—C. J. H.—An Intending Competitor (address the directors).—G. F. T. (next week).—Mr. F. (ditto).—G. T. (ditto).—Subscriber (we are not aware that the architect is yet appointed).—J. K.—H. N. H.—T. M. R. (shall appear). E. G. H. (ditto).—J. A. (shall have attention).—J. L.—O. B.—E. A.—J. M.—F. S.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.**, *on Thursday.*

ADVERTISEMENTS.

HORNSEY. Near to the Wood-green Railway Station, the first portion of valuable Freehold Building Ground.

MR. BRAY, Jun. is instructed to SELL, at the MART, on TUESDAY, the 1st JULY, at TWELVE o'clock, in Seventeen Lots, the first portion of a valuable FREEHOLD ESTATE, formerly known as part of the Lordship-lodge Estate, situate in Lordship-lane, in the parish of Tottenham, within half a mile of the Wood-green Railway Station, and offering eligible sites for the erection of suburban residences.—Particulars and conditions of sale, with plans of the estate, may be had of Messrs. ROY & CARTWRIGHT, Solicitors, 4, Lothbury, E.C.; of Messrs. FORD & LLOYD, Solicitors, 4, Bloomsbury-square, W.C.; of JOSH. IVIMEY, Esq. Solicitor, 8, Staple inn, Holborn; at the Nag's Head, Wood-green; at the Ship, Tottenham; at the Angel, Edmonton; and at the Offices of the Auctioneer, 16A, King's road, Bedford-row, W.C.

STOCKWELL, SURREY, contiguous to the Clapham-road.

MR. BRAY, Jun. will SELL, at the MART, on TUESDAY, the 8th of JULY, at TWELVE o'clock, in 15 lots, the last portion of a valuable ESTATE, eligible for building purposes, contiguous to the Swan Tavern, Clapham road, and presenting sites for the erection of detached or semi-detached villas, with ample depths allotted for garden ground. The roads and sewers have been made, and the water mains laid.—Particulars and conditions of sale, with a plan of the Estate, may be had of Messrs. ANDREW ATKINS & IRVINE, Solicitors, No. 5, White Hart court, Lombard street; at the Swan, Stockwell; at the Castle, Tooting; the White Lion, Streatham; at the Mart; and at the Offices of the Auctioneer, 16A, King's-road, Bedford-row, W.C.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE. Every description of Architectural Drawings prepared, and Perspectives Outlined or Coloured, by Mr. T. T. MARDON, Jun.; Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c. 7, John-street, Bedford-row, W.C. Office hours, Ten to Four.

TO STONE MASONS

GOOD BANKER HANDS WANTED, immediately. Apply to JOHN BROOK, Foreman of Masons, Clifford Priory, near Hereford.

TO JOINERS.

EXPERIENCED BENCH HANDS, accustomed to Gothic work in wainscot oak, may meet with EMPLOYMENT, by applying by letter to E. H. Post office, Nottingham. None but first class hands need apply.

TIMBER TRADE.—WANTED, an experienced PERSON to go Abroad, to superintend the preparation of Wood for the English market. A knowledge of the working of saw-mills indispensable. Liberal terms will be given, and none but those thoroughly competent need apply.—Address, Y. Z. Messrs Baily, Brothers, Royal Exchange Buildings, Cornhill, London, E.C.

TRAVELLER WANTED, for Fire-bricks, Chimney-pots, &c.—The Cleveland Fire-brick and Pottery Company, Limited, are desirous of ENGAGING an energetic, steady TOWN TRAVELLER, having a good connexion amongst dealers in fire-bricks, shippers, builders, &c. Also, a suitable small WHARF, or part of one. The fire-bricks are of most excellent quality.—Apply to Mr. PRATT, Stokesley, Yorkshire.

TO JOINERS.—Persons desirous of taking a large quantity of OAK FLOORING to lay, may hear all particulars on application to A. B. Post-office, Stowmarket, Suffolk.

TO ARCHITECTS

WANTED, in an Office in the Country, a Steady, Active, JUNIOR ASSISTANT, thoroughly qualified to assist on all the departments, and capable of taking sole charge of the Office under the principal. None need apply whose character for integrity and ability will not bear strict investigation.—Address, stating terms, age, references, and capabilities, 893, Midland Counties Herald Office, Birmingham.

WANTED, an intelligent YOUTH, of 18 or 19, to assist as STOREKEEPER, weighing up and booking goods, and the keeping of workmen's time.—Apply by letter only (pre paid), in own handwriting, to G. M. D. care of Mr. Robins, Stationer 57, Tooley-street, S.E. Good character required.

WANTED, SIX good JOINERS, and a good second-hand MORTISING MACHINE; also an OUT DOOR APPRENTICE to the Carpentering and Joining. Apply, with full particulars, to Mr. F. CUSHING, London-road, Enfield, Middlesex, N.

WANTED, an intelligent, clever GLASS CUTTER, who thoroughly understands the business of wholesale Glass-dealer in all the departments of plate, sheet, and crown glass, can write a good hand, and is a quick and able calculator. Apply, stating salary required, and references as to character, honesty and competency, to Messrs. BUCHAN & SON, Wholesale Glass-dealers, Southampton.

WANTED, a first-class and thoroughly practical MANAGER for the Decoration and Painting Business.—Apply, inclosing references, to WILLIAM FRY & CO. Westmoreland-street, Dublin.

WANTED, immediately, in an Architect's Office in the provinces, TWO JUNIOR DRAUGHTSMEN.—Apply by post, stating terms, to T. JECKYLL, No. 8, Furnival's Inn, London.

TO BUILDERS' FOREMEN.

WANTED, by a London Firm, an experienced FOREMAN, to Take Charge of some Works in Town. Address, stating age, salary, and where last employed, to C. A. B. Office of "The Builder."

TO WRITERS.

WANTED, a Young Man, to do PLAIN WRITING and SHADING. Also an OUT-DOOR APPRENTICE.—Apply at 10, Hampton-street, Walworth.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.

WANTED, a SITUATION as CLERK of WORKS, or GENERAL FOREMAN, by a Person of large practical experience. Can produce satisfactory testimonials as to ability and character.—Address, C. B. Office of "The Builder."

TO IRONFOUNDERS AND OTHERS.

WANTED, by a Young Man, aged 27, a SITUATION as ORNAMENTAL PATTERN MAKER. Has a knowledge of carving.—Address, R. S. 14, Poland-street, Oxford-street, London.

WANTED, WORK, with or without Materials, by a Plasterer and Architectural Modeller, who has had great experience in both, and is well acquainted with working drawings.—Address, A. W. 1, Peverill-place, Coburg-road, Old Kent-road.

TO CARPENTERS, &c.

WANTED, by a Young Man, a SITUATION as an IMPROVER at the BENCH. Has been six years in the trade.—Address, W. S. No. 6, Church-street, Kennington.

TO BUILDERS AND OTHERS.

WANTED, by a Practical Man, a SITUATION as CLERK of WORKS, General Foreman, or Superintendent on a Gentleman's Estate. Has good knowledge of builders' work in all its branches, can prepare working and finished drawings, and measure up work.—Address, M. N. 19, Grafton-road, Kentish-town.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, of thorough business habits, a RE-ENGAGEMENT as BUILDER'S CLERK. Is a thorough book-keeper, &c. First-class references. Salary moderate.—Address, A. B. C. 48, Milton-street, Dorset-square, N.W.

TO BUILDERS AND CONTRACTORS.

WANTED, a SITUATION as CLERK in a Builder's Office, or to Take Charge of a Job. Is well acquainted with measuring, and the usual business of an office. Good references can be given. Age 27. Salary moderate.—Address, B. H. 38, Stamford street, Blackfriars-road.

TO LANDLORDS AND HOUSE AGENTS.

WANTED, by a steady Man, aged 30, EMPLOYMENT as CARPENTER. Is well accustomed to general repairs, with good reference as such.—Address, T. M. care of Mr. Basset, 36, New Millman-street, Foundling Hospital, W.C.

TO BUILDERS AND OTHERS.

WANTED, by a Young Man, a SITUATION as PLUMBER, PAINTER, and GLAZIER. Suitable for a Jobbing Shop.—Address, M. H. 17, Frederick-street, Regent's Park.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a Young Man, aged 22, constant EMPLOYMENT in painting, glazing, and paper-hanging. Address, J. A. 7, Murray-street, Camden-square, Camden-town, N.W.

WANTED, a SITUATION, by a Young Man, aged 22, as IMPROVER in the PLUMBING, &c. business. Address, J. A. 18, Cobden-terrace, Notting-hill.

TO DECORATORS, BUILDERS, &c.

WANTED, a SITUATION as FOREMAN of PAINTERS, or to take the entire Management of a Business. The advertiser is also a grainer, sign and glass writer. All letters to state wages, &c.—Address, E. M. Sir C. Mordaunt's, Walton-hall, near Warwick.

TO BUILDERS AND CONTRACTORS.

WANTED, by a thoroughly practical Man, a Joiner by trade, a RE-ENGAGEMENT, as SHOP or as GENERAL FOREMAN, or to take charge of Works, either in town or country. Good references.—Address, A. Y. 9, Upham-cottages, Queen's-road, Peckham.

TO NOBLEMEN, LANDOWNERS, OR OTHERS.

WANTED, by the Advertiser, a Gentleman of business habits and great experience in the erection of buildings, laying out roads, draining, and a good draughtsman and measurer, an ENGAGEMENT as GENERAL MANAGER or OVERLOOKER of an ESTATE. First-class references. Aged 40. No objection to take the management of a Country Builder's Establishment, and instruct a minor in the above; also the setting out of any description of works, however elaborate.—Address, G. T. Stationer's, 36, Grosvenor-road, St. John's-wood, London, N.W

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, to take (piece-work) STONEMASONRY. Labour only, or labour and materials.—Address, Y. Z. Mr Weibbe's, Stationer, &c. No. 2, Ponsford-terrace, Maldon-road, Kentish-town, N.W.

TO BUILDERS, DECORATORS, AND OTHERS.

WANTED, by a thoroughly practical Builder's Foreman, a carpenter by trade, a RE-ENGAGEMENT as GENERAL FOREMAN, or to take charge of a job. Good reference from last employ.—Address, G. L. at Jessop's Dairy, St. Alban's-place, Edgware-road, Paddington, W.

WANTED, by the Advertiser, a SITUATION as SHOP FOREMAN of JOINERS, or FOREMAN of WORKS. Best testimonials from present and former employers.—Address, M. A. Office of "The Builder."

WANTED, by an experienced CLERK of WORKS, a RE-ENGAGEMENT in that capacity. Good references will be given.—Address, F. H. Office of "The Builder"

TO BUILDERS AND CONTRACTORS.

WANTED a SITUATION as SHOP or GENERAL FOREMAN, a joiner by trade, with a thorough knowledge of every branch of the building trade; can set out and measure up all kinds of work; preference to a business where machinery is used; or would give an employer the use of an engine and sawing machinery, at a small rental for a term.—Address, F. Foreman, General Post Office, London.

WANTED, by the Advertiser, a SITUATION, as FOREMAN BRICKLAYER, or Sub-contractor on Public Works or a Gentleman's Estate. High testimonials.—Address, A B. Post-office, Ledbury road, Westbourne-grove, Bayswater, London.

TO ARCHITECTS.

WANTED, by an experienced Assistant, a RE ENGAGEMENT. He is fully competent to prepare fair, working, or detail drawings, and make perspectives; also, to take off quantities. Good testimonials, and references to architects with whom he has been engaged.—Address, F. T. M. Office of "The Builder"

WANTED, PLASTERING, by a person in the habit of taking piece-work, in town or country; labour only.—Address, J. L. Post-office, 60, Commercial-road, Lambeth.

WANTED, by a steady Young Man, a constant SITUATION as SMITH and GASFITTER. Well acquainted with steam and hot-water work. Can get seven years' good character from his last employer. Town or country. Town preferred.—Address, R. Z. 10, Victoria-street, Paddington-green.

TO ARCHITECTS, &c.

WANTED, a SITUATION as CLERK of WORKS, or otherwise, by a Young Man who can make plans, take out quantities, estimates, &c. and has a thorough practical knowledge of the building business. A small salary would be accepted if part of the duties were in the office.—Address, E. S. 13, St. George's-terrace, Liverpool road, Islington.

TO ARCHITECTS.

WANTED, by the Advertiser, a PARTNERSHIP where a thorough acquaintance with Gothic Work would be of service.—Address, G. T. Office of "The Builder."

WANTED, a RE-ENGAGEMENT as GENERAL or SHOP FOREMAN, by a practical Man of several years' experience, thoroughly acquainted with building in all its branches; understands drawing, measuring, &c. Good reference and testimonials. Town or country.—Address, R. 3, George Cottages, Holloway.

TO ARCHITECTS.

THE Advertiser, who is a neat and expeditious Draughtsman, requires a SITUATION. Used to prepare competition, working, and detail drawings. Satisfactory references. Address. F. A. B Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

THE Advertiser desires an ENGAGEMENT. Is a neat and careful draughtsman, capable of making details, &c. Understands surveying and colouring, and the general duties of an Architect's office.—Address, W. P. Ebury Wharf, Upper Belgrave-place, Pimlico, S.W.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, aged 19, who will be disengaged shortly, desires a RE-ENGAGEMENT in the Office of an Architect or Surveyor. He has been several years in a similar situation, and can be well recommended.—Address, E. F. care of Mr. Hardwidge, 326, Caledonian-road, N.

TO BUILDERS, HOUSE AGENTS, &c.

THE Advertiser, a PAINTER and GRAINER, wishes to TAKE WORK from the above by contract or otherwise.—Address, by letter, to E. D. 5, Gower-place Euston-road.

TO ARCHITECTS AND SURVEYORS, OR NOBLEMEN'S AGENTS.

THE Advertiser, an ARCHITECT of much experience in his profession, is desirous of ENTERING the OFFICE of a Gentleman (in a provincial town), as Agent to a nobleman or gentleman, to conduct the architectural practice entirely, and to manage the business during the absence of the principal.—Address, A. B. 121, Albany-street, Regent's-park.

TO MASTER BUILDERS AND PAINTERS.

THE Advertiser is in want of a SITUATION as WRITER, GRAINER, PAINTER, &c.—Address, H. E. 23, Sandwich-street, Burton-crescent.

TO ARCHITECTS, &c.

THE Advertiser is open to an ENGAGEMENT as CLERK of WORKS, or Assistant in an Office. Is a good practical and perspective draughtsman, and is well up in details, designs, taking out quantities, estimating, &c. (Could take the management of an office, if required.) Fifteen years' first-class testimonials. References to London architects.—Address, G. W. R. Kennett's Library, York-street, Covent-garden.

TO SPECULATING BUILDERS.—A gentleman desirous of SUPERINTENDING the ERECTION of a VILLA with a view to his occupation and ultimate purchase of same, invites the above to favour him with PROPOSALS to effect that object. The drawings may be inspected by a previous appointment with his architect, Mr. HODGE, 37, Lodgate-hill, E.C.

TO COUNTRY UPHOLSTERERS, AUCTIONEERS, ESTATE AGENTS, &c.

THE friends of a respectable Youth, age 20, desirous of placing him in a first-class firm, will be glad to treat with principals only, on liberal terms.—Address, Mr. EDWARDS, at Messrs. Rivington & Co.'s, 3, Waterloo-place, Pall-mall.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, writing specifications, measuring, and making up Builders' accounts, disputed or otherwise. Satisfactory references to Architects and Builders.—Address, X. Y. Z. 43, Mornington-road, Regent's-park

TO ARCHITECTS.

A YOUNG MAN who has had eight years constant employment in an Architect's office, desires a RE-ENGAGEMENT in a month.—Address, F. B. No. 49, St. John's-street, Oxford.

TO ARCHITECTS.

A QUANTITY SURVEYOR and MEASURER, with a practical knowledge of building, would be glad to TREAT with ARCHITECTS for their Quantities, and Measuring, Working Specifications, &c upon reasonable terms. References given to Architects. Quantities guaranteed.—Address, ALPHA, care of Mrs. Fisher, Stationer, Vassall-road, Brixton-road, S.

TO ARCHITECTS AND SURVEYORS.

A DRAUGHTSMAN, aged 28, requires a RE-ENGAGEMENT, either temporary or permanent. Good references. Salary very moderate.—Address, T. T. care of Mrs. Downes, 15, Essex street, St. Peter's, Islington.

TO ARCHITECTS AND SURVEYORS.

AN experienced ASSISTANT, ready at design, fully competent to prepare working, finished, and perspective drawings, a fair colourist, and also a good land surveyor and leveller.—Address, X. Y. Z. 5, Clarence-street, Essex-street, Islington, N.

TO ARCHITECTS AND CIVIL ENGINEERS.

AN efficient practical ASSISTANT requires an ENGAGEMENT. Prepares perspective and working drawings and specifications with despatch, is not prejudiced as to "style" in architecture, and competent to superintend the execution of works. For testimonials or references address A. Z. 36, Tachbrook-street, Pimlico, S W.

TO BUILDERS.

A THOROUGHLY experienced Young Man seeks an ENGAGEMENT, either as Working Shop Foreman, or to superintend the Erection of Buildings, either in town, country, or abroad. In a thoroughly practical person, and would not object to work, if required. Unexceptionable reference as to personal character, &c.—Address, C. C. W. 36, Gloucester-street, Queen-square, W.C.

A CARPENTER and JOINER of good experience wishes to meet with constant EMPLOYMENT in some firm, factory, or institution. Town preferred. Good reference if required.—Address, A. B. No. 19, Hatfield-street, Stamford-street.

A YOUNG MAN, who is a good DRAUGHTSMAN, and is competent to take the place of Junior Assistant in an engineer's office, is desirous of an ENGAGEMENT. Salary not so much an object as improvement.—Address, H. D. 2, Lower-road, Richmond.

AN ARCHITECT'S and SURVEYOR'S ASSISTANT wishes for an ENGAGEMENT Salary not so much an object as advantages of improvement.—Address, A. R. C. Mr. Noak's, 12, Hyde Vale, Greenwich, S.E.

TO LAND SURVEYORS AND CIVIL ENGINEERS.

AN ASSISTANT, provided with all Field and Office Instruments, desires a RE ENGAGEMENT, at home or abroad. Is experienced in parish, estate, and railway surveying, levelling, and setting out.—Address, SURVEYOR, 29, Acton-street, Gray's-inn-road, London, W.C.

A YOUNG MAN, aged 19, whose apprenticeship expires in JULY, wishes an ENGAGEMENT, for further improvement, in an Architect's house of business.—Address, H. W. 5, Devon Villas, Buckingham-road, Kingsland, N.

TO ARCHITECTS, &c.

AN ASSISTANT is desirous of an ENGAGEMENT, either in town or country. Competent to prepare finished and working drawings, perspective, &c. Good testimonials.—Address, ALPHA, Post-office, Mount-street, Lambeth.

TO ARCHITECTS.

AN ASSISTANT, who has a thorough knowledge of Gothic architecture, and has been engaged in the offices of some of the first London architects, is desirous of an ENGAGEMENT. Is accustomed to prepare and design working and detail drawings, and is capable of undertaking the management of an office.—Address, P. Q. Office of "The Builder."

TO ENGINEERS AND ARCHITECTS.

A YOUNG MAN, who has a good theoretical and practical knowledge of the business, would be glad to find EMPLOYMENT, either office or field work, permanent or by the piece. Terms very moderate. Can produce the highest testimonials.—Address, W. E. S. Office of "The Builder."

TO ARCHITECTS AND ENGINEERS

AN experienced ASSISTANT desires an ENGAGEMENT. A good and expeditious draughtsman, and thoroughly conversant with quantities, surveys, and construction. Unexceptionable references.—Address, A. L. 41, Watling-street, E.C.

TO ARCHITECTS, &c.

AN Architect and Surveyor's Assistant desires an ENGAGEMENT. Highest references can be given as to abilities, &c.—Address, T. J. K. care of A. Laurie, 89, St. John-street-road, Clerkenwell, N.

TO ARCHITECTS.

A GENTLEMAN, of considerable proficiency in the profession, is desirous of undertaking the SUPERINTENDENCE of WORKS erecting on the Sea Coast. As change of air is his object, a very moderate salary would be required. References unexceptionable.—Address, H. M. Office of "The Builder."

A YOUNG MAN, age 20, wishes for IMPROVEMENT in the CARPENTERING.—Address, G. T. 24, Fashion-street D ecshead

TO PLUMBERS AND OTHERS.

A YOUNG MAN wishes for EMPLOYMENT as a THREE-BRANCH HAND. No objection to make himself generally useful.—Address, A. B. 1, Albert-terrace, Denmark-road, Camberwell.

TO ARCHITECTS, &c.

A GOOD DRAUGHTSMAN and COLOURIST is open to a TEMPORARY ENGAGEMENT in town. Good references.—Address, T. B. L. 22, Harmood-street, Kentish Town, N.W.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSE OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	12 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do. do.	25 "
Marine Chronometers	25 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.

INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock, may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,743.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

Decimus Burton, esq.	Kirkman D. Hodgson, esq. M.P
Travers Buxton, esq.	William James Lancaster, esq.
Octavius Edward Coope, esq.	John Dorrien Magens, esq.
William Cotton, esq.	John Timothy Ourry, esq.
John Davis, esq.	Benjamin Shaw, esq.
George Arthur Fuller, esq.	Wm James Thompson, esq.
Charles E Goodhart, esq.	Hy Heyman Toulmin, esq.
James Alexander Gordon, esq.	Matthew Whiting, esq.
Edward Hawkins, jun. esq.	

AUDITORS.
John Hodgson, esq. | Peter Martineau, esq.
Joseph Samuel Lescher, esq.
SECRETARY—George William Lovell.
ASSISTANT SECRETARY—John J. Broomfield.

Insurances against Loss by Fire are effected by the Phœnix Company upon every description of Property in every part of the world, on the most favourable terms

Persons insuring with the Phœnix Company are not liable to make good the losses of others, as is the case in some offices

Insurances with this Company expiring at Midsummer must be renewed within fifteen days thereafter, or they will become void

Receipts are now ready at the principal Offices, Fleet-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

NORWICH UNION FIRE INSURANCE SOCIETY.

Notice.—MIDSUMMER RENEWALS.

Losses by fire occurring during the fifteen days of grace are made good to the assured

The business of the Company exceeds 68,000,000*l.*

The duty paid to Government for the year 1860 was 81,333*l.* 9*s.* 9*d.* and the amount insured on farming stock 9,988,805*l.*

A bonus of three-fifths of the profits periodically made to parties insuring, who have thus from time to time received sums amounting in the aggregate to 440,000*l.*

The rates of premium are in no case higher than those charged by the other principal offices making no return to the insurers.

For prospectuses, apply at the Society's Offices, Surrey-street, Norwich, and 6, Crescent, New Bridge-street, Blackfriars, E.C.

GUARDIAN FIRE and LIFE ASSURANCE COMPANY,

No. 11, Lombard-street, London, E.C.
Established 1821

Subscribed Capital, Two Millions. Paid up, One Million.

DIRECTORS.

Sir Minto Farquhar, bt. M.P. Chairman.
Charles Wilson Cutts, esq. Deputy Chairman.

Henry Muse Barnes, esq.
H. Bonham Carter, esq.
Charles Dyson, esq.
Peter Hall Dyke, esq.
Sir Walter R. Farquhar, bt.
James Gordon, esq.
Thomson Hankey, esq. M.P.
John Harvey, esq.
John C. Hubbard, esq. M.P.
John Labouchere, esq.
John Martin, esq.
Rowland Mitchell, esq.
James Morrison.
Henry Normand, esq.
Henry R. Reynolds, esq.
Abraham D. Roberts, esq.
James Tulloch, esq.
Henry Vigne, esq.

AUDITORS.

Lewis Loyd, esq.
Cornelius Paine, jun. esq.
Thomas Fielder Whitmore, secretary.
Henry Sykes Thornton, esq.
Noel Whiting, esq.
Samuel Brown, esq actuary

LIFE DEPARTMENT.—Under the provisions of an Act of Parliament, the Company is enabled to now allocate EIGHTY PER CENT. OF THE PROFITS, AT QUINQUENNIAL DIVISIONS, OR A LOW RATE OF PREMIUM without participation of Profits.

Since the establishment of the Company in 1821, the amount of Profits apportioned to the Assured has exceeded in cash the sum of 900,000l. which, next to an equivalent Reversionary Bonus of 1,800,000l.

After the Division of Profits at December 1859, the Life Assurances in force with existing Bonuses thereon, were entitled to upwards of 4,730,000l. the Income from the Life Branch 207,000l. per annum, and the Life Assurance Fund, independent of the Capital, exceeded 1,818,000l.

LOCAL MILITIA and VOLUNTEER CORPS.—No extra premium is required for service therein.

INVALID TABLE.—Increased Premiums corresponding Extra Premiums

LOANS granted on Life Policies to the extent of their values, if such value be sufficient for that purpose.

ASSIGNMENTS of POLICIES.—Written notices of, received and registered.

MEDICAL FEES paid by the Company, and no charge for Policy Stamps.

Notice is hereby given, That Five Pounds per cent. on the Capital Stock of the Company will be payable on and after Thursday the Third day of July next, to such Shareholders as shall be entitled to receive the same, at the Office of the Company, No. 11, Lombard-street, London, and that the Transfer Books will be closed from the 20th to the 30th instant, both days inclusive.

By Order of the Board,
ROBERT TUCKER, Secretary and Actuary.

Examples of the amount of Bonus awarded at the recent division of profits to Policies of 1,000l each effected for the whole term of life at the undermentioned ages:—

Age when Assured.	Duration of Policy.	Bonus in Cash.	Bonus in Reversion.
20	7 years	£29 7 0	£86 0 0
	14 years	36 2 0	74 10 0
	21 years	44 8 0	82 0 0
40	7 years	49 16 6	84 10 0
	14 years	61 2 6	93 19 0
	21 years	76 2 6	108 0 0
60	7 years	85 2 6	127 14 0
	14 years	117 2 6	144 10 0
	21 years	144 1 0	305 10 0

*** For Prospectuses, Forms of Proposal, &c. apply at the Offices as above, or to any of the Company's Agents.

PELICAN LIFE INSURANCE

OFFICE, ESTABLISHED IN 1797,
70, Lombard-street, E.C. and 57, Charing-cross, S.W.

DIRECTORS.

Octavius E. Coope, Esq.
Wm. Cotton, Esq. D.C.L. F.R.S.
John Davis, Esq.
Jas. A. Gordon, Esq. M.D. F.R.S.
Edward Hawkins, Jun. Esq.
Rirkman D. Hodgson, Esq. M.P.
Henry Lancelot Holland, Esq.
William James Lancaster, Esq.
John Lubbock, Esq. F.R.S.
Benjamin Shaw, Esq.
Matthew Whiting, Esq.
M. Wyvill, Jun. Esq. M.P.

ROBERT TUCKER, Secretary and Actuary.

REMOVAL of OLD PAINT, VARNISH, &c.—PATENT EXTRACT of LETHICUM. — For Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. in a few minutes, and for Cleansing and Purifying Old Paint. Success guaranteed. Price 5s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London. — Messrs. NARRAMORE & CO. 11, St. Andrew's-hill, Doctors' commons, London, E.C.—N.B. Cheap patented Brushes for laying on the Extract and removing the old paint, 2s. per pair.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very simple, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 36, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to His Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.

Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 3d. per gallon; Boiled Oil, 3s. 6d.; Turpentine, 6s. 4d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c at the lowest prices

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES

(C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.

Linseed Oil, 3s. 3d. per gallon; Boiled Oil, 3s. 6d. per gallon.
Turpentine, 6s. 6d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Tolmeh-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 6s. per gallon; Dark and all other woods, 8s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James-street Oxford street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Cuttlebumpton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church"

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S

POLYTECHNIC.—What I saw at the International Exhibition; or, Half-an-Hour's Advice to Intending Visitors, by Professor HENRY M. PEPPER, F.C.S. A. Inst. C.E. &c. on Tuesdays and Thursdays, at half-past 1 and quarter-past 7.—New Lecture by J. H. Pepper, commencing Wednesday, July 2, at 4 to 7, or "Some of the Chief Scientific Specialities of the International Exhibition"—Herr Susman will give his remarkable imitations of the Lark, the Nightingale, and other British Birds and Animals.—Re-engagement of George Buckland, Esq. for his Buffo-Musical Entertainments New Gorgeous Scenic Optical and Dramatic Panoramic Spectacle—Beautiful Dissolving Views, illustrating India in Ancient and Modern Times—Pepper's Ghost at the Holy Land.—N.B. In consequence of the very general acclamation of the Concerts of the BROUGH FAMILY, they have been re-engaged for another month. See weekly programme of 8 pages. Open from 12 to 5, and 7 to 10. Admission 1s.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
29, WESTMINSTER BRIDGE ROAD, LAMBETH
Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

THEODOLITES, LEVELS, TRANSIT THEODOLITES, DRAWING INSTRUMENTS, SCALES, &c. C. BAKER,

243 and 244, HIGH HOLBORN,

Begs to inform Civil Engineers, Architects, and others, that, having recently made extensive alterations in his premises, whereby greater facility for manufacturing is obtained, he is now enabled to supply every description of first-class SURVEYING and DRAWING INSTRUMENTS, at prices very much lower than is generally charged for superior workmanship. Every article manufactured on the premises. Altered and repairs executed with despatch. A large assortment of second-hand Levels, Theodolites, &c. in stock, at extremely low prices—Catalogues free, by post.

A TRANSIT THEODOLITE, by the celebrated makers, Troughton and Simms (est. 50 last), the owner, not requiring it, will sell it for 27l. The instrument is in every way perfect, never was used, and may be seen at THOMAS HARRIS & SONS, No. 52, Great Russell-street, Bloomsbury, W.C. London

SAMUEL HIGHLEY, SCIENTIFIC EDUCATIONALIST, MICROSCOPE and PHILOSOPHICAL INSTRUMENT MAKER,

Invites attention to his Collections of Apparatus, Models, Natural History Specimens, &c. now on view in Classes 14, 24, and 29,
AT THE INTERNATIONAL EXHIBITION.
A Descriptive Illustrated Catalogue (six stamps) on application.
70, DEAN STREET, SOHO SQUARE, LONDON, W.

BENJAMIN EDGINGTON, 2, DUKE-STREET, FOOT of LONDON-BRIDGE, S.E.

Manufacturer of Tarpaulins, and Improved Dresse'd Cloths.
Tarpaulins Lat. Hats, Scaffold-cord, Rope, and Blocks of every description. Marquees, Tents, Awnings, Rick cloths, Sacks, &c.
N.B. The ONLY ESTABLISHMENT is at 2, DUKE STREET, LONDON-BRIDGE, S.E.

TO BE SOLD, for 10l. a Builder's SPRING CART, nearly new. Cost 25l.—Inquire at 14, Carlisle street, Soho, W.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Frames.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.

GEORGE ELL,
EUSTON WORKS, 366 and 468, EUSTON-ROAD, N.W.

TO BUILDERS, CONTRACTORS &c.

HAYES & SON, Scotgate-Works, Stamford, will exhibit their FIRST PRIZE WAGONS, CARTS DRAYS, BARROWS, &c at Stands Nos. 32 and 131, ROYAL AGRICULTURAL SHOW YARD, BATTERSEA PARK.

NO SHUTTER BARS.



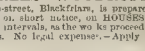
JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FURNISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

MR. CHARLES WOODROFFE, of 29, New Bridge-street, Blackfriars, is prepared to ADVANCE MONEY in discount on short notice, on HOUSES in the course of erection, at frequent intervals, as the works proceed, the builder proceeding the while.—No legal expenses.—Apply between Ten and Four.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now exclusively used for paving Stables (as shown above) the absence of which prevents the generation of ammonia. For Estimates and Prices, &c. apply to JOHN PILKINGTON, 13, Pall street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TO ARCHITECTS AND SURVEYORS.

DAVIES & GUYER, LITHOGRAPHERS, STATIONERS, and PRINTERS, 2, Grocers' Hall-court, Poultry, E.C. beg to invite the attention of the profession generally to the resources of their establishment, as above, for LITHOGRAPHING AND COPYING BILLS OF QUANTITIES, SPECIFICATIONS, DETAIL DRAWINGS, &c. &c.

Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands, thoroughly conversant with the various branches of the terms, constantly engaged on the premises, they are enabled to guarantee superiority of style, correctness, and expedition. Specimens and lists of Charges post free.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.

SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
69, Bishopsgate-street Without, E.C. Manufacturer, by appointment to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS

TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES. CARY & PRIER, DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

RUBBISH. A SHOOT IS OPEN FREE, IN GLENGALL-ROAD SOUTH, OLD KENT ROAD.

SMALL SCREW STEAM TUG FOR SALE, about 62 feet long, 12½-feet beam, and 6½ feet deep, fitted with a direct-acting engine, 16 H.P. complete. For price and particulars apply to Mr. T. MEACHAM, Consulting Engineer, 2, New London-street, Mark-lane, E.C.

PULPIT for SALE.—A handsome hexagon-shaped stone carved oak PULPIT, with sounding-board and clerk's desk, in three compartments (cost over 200l.), TO BE SOLD for 25l. Also, a quantity of old OAK PANELLING, DOORS, &c and a capital iron stove, with descending flue, suitable for church, chapel, or large building; price 10l. May be seen at the chapel, Little Carter-lane, St. Paul's; key with Mr. GRIFFITHS, 33, Old Change, Cannon-street.

TO CONNOISSEURS and PERSONS of TASTE.—TO BE SOLD, an INDIAN CABINET, 12ft; two old PAINTINGS of the Holy Family, 25l. and 20l.; an elegant MARBLE VASE and PEDESTAL, 15l.; handsome EPERGNE, 10l.; some original WATERCOLOURS, by Dolby; large Bronze CLOCK, 10l.; French CABINET; handsome ORMOLU FIRE DOGS, &c.; Stained-glass CASEMENTS, &c. &c. To be seen at 2, BARNSBURY-STREET, ISLINGTON.

FIRES.—VAUCHER'S PATENT WOVEN HOSE for Fire-engines and Ships' purposes may be had of any length at a moment's notice. All warehouses and large establishments should have a plug with a length of hose attached on each floor.—Samples of double and half-double substance, and all particulars, may be had at the Office, 1, Chapel-place, Poultry. Shipping orders prepared for tropical climates on the shortest notice.

TO CARPENTERS and BLIND MAKERS. TO BE SOLD, a BUSINESS in the above line, with a good jobbing connexion.—For particulars apply to Mr PEARSON, Bookseller, Park road, Peckham, S.E.

IN a very old-established Business, a few miles from London, an offer presents itself to an industrious person as a WORKING PARTNER in the branches of Plumbing and General Repairs.—Apply to J. H. care of Messrs. Franks, Oil Merchants, London Bridge, Borough.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE SOLD by PRIVATE CONTRACT, a large lot of WAINSCOT BOARDS that have been cut out and seasoned from seven to ten years. The sizes are 9 inch, 1 inch, 1¼ inch, 1½ inch, 2 inches, and 2½ inches. It is warranted fit for immediate use, and to some town builders must be invaluable.—Apply to CHARLES A. LEWIN, 31, Edred-l, Poole, Dorset.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 2s. 8d.; Mahogany, 6d.; 2d Yellow Battens, 11d. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; 2 White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walnut-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,500 feet in Plank and Board, sawn three years. E. BUTTERWORTH, ALUM STREET TIMBER-YARD, MANCHESTER.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz.			
	4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1⅜	2	2½
„ 2ft. 6in. sup.	1½	1¾	2¼	3
„ 4 ft. super...	1¾	2	2¾	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.
} per cwt.

Fine Oak Varnish ...10s.
„ Carriage ...12s.
Linseed and Boiled Oil
Turpentine .....
} per gallon.

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

HAMPSTEAD ROAD JOINERY WORKS.

21, HARRINGTON STREET, N.W.

NEVIL SIMMONDS,

MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.

SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.

Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

MARBLE CHIMNEY-PIECES of every Description, also enamelled Slate, to be SOLD at 361, MARYLEBONE ROAD (opposite the Yorkshire Stingo). BATH STONE BOX CHIMNEY PIECE, with MOULDED CAP and BASE, 7s. FITTED TO ANY OPENING.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices 24, ST JAMES'S STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.

All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. A few Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 8, CANNON STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Ash, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and others, to their Stocks as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER SIMPSON & SONS, 29, Saville row, London, and at the Museum of Practical Geology, Jermyn street W

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned at railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

VICTORIA MARBLE WORKS, 26, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given Country and foreign orders executed with promptness and personal attention

RED MANSFIELD STONE. WHITE MANSFIELD STONE. YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMFY, Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery Museum and Galleries — Earl street, Horseferry-road, Westminster—The largest stock of Marble Chimney pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney-piece in the world

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

BELLMAN & IVEY,
SCAGLIOLA MARBLE MANUFACTURERS,
14, BUCKINGHAM-STREET, FITZROY-SQUARE,
LONDON, W.
Execute, in the most workman-like manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION,
IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.
Also Manufacturers of Superior and Improved Plaster of Paris.

SLATE! SLATE!! SLATE!!!
TO BUILDERS, CONTRACTORS, AND OTHERS.
TO BE SOLD, by PRIVATE CONTRACT,
5 m 16 by 8, Fort Madoc Slate at £4 0 0 per 1,200
5 m 16 by 10, " at 5 0 0 "
7 m 16 by 10, Carnarvon ..... at 4 16 6 "
6 m 18 by 10, " ..... at 5 0 0 "
11 m 18 by 10, Bangor..... at 5 1 6 "
8 m 18 by 9, " ..... at 5 18 0 "
All best Slates; and to a party having any large works in hand this would be found a favourable opportunity of securing a lot, as they will only be sold in quantity.—Apply to
CHARLES A. LEWIN, Timber Merchant, Poole, Dorset.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE SOLD by PRIVATE CONTRACT, about 35 Tons of first quality Rough Welsh Queen's and Princess's SLATES, assorted sizes.—Apply to CHARLES A. LEWIN, Timber Merchant, Poole, Dorset.

TO SLATE and STONE MERCHANTS, and OTHERS.—TO LET, HALF an extensive WHARF, with buildings and crane.—Apply to Mr. W. FARRY, Evelyn Wharf, Church street, Deptford.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 36s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire street Station, at 23s. per 1,000.

BRICKS of this season's make are now READY FOR SALE at the RANELAGH BRICK WORKS, Fulham-fields, and the SWAN BRICK WORKS, Wilton-green, S.W. Bright stocks for facings, grey stocks, gibbells, and place, of superior quality, can be delivered to any part of the W or S.W. districts at very reasonable prices.—J. JOHNSON, Proprietor.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do 6 inches.
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge-tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.
Price, including royalty, £77
Licenses to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,810.

A NEW BRICK and LIME WHARF, and DRAWDOCK,
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W and Licensed Lighterman and Wharfinger, of Heraldage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM UTTERS, PICKINGS, &c
A good Stock on the Wharf Bricks, Sand, Ballast, &c. by barge alongside, where required.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These pencils are prepared in various degrees of hardness and shade
H H H H for drawing on wood.
H H H for architectural use.
H H for engineering.
H for sketching.
H B hard and black for drawing.
M medium.
F F light and shading.
F for general use.
B black for shading.
B B ditto ditto.
B B B ditto ditto.
B B B B ditto ditto.
Sold by all the principal Stationers in town or country.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash
Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot-houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.
JEFFS, BROTHERS,
CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS
Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		Laths, 28s. per load.	
Yellow Deals, sound and good	£19 10 0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	16 10 0 "	0 2½ "	
Yellow Battens, excellent quality	11 10 0 "	0 2 "	
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 "	3 6 "	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¼-inch "	12s. 6d.	12s. 6d.	13s. 6d. "
1-inch "	14s. 6d.	15s. 0d.	15s. 6d. "
1¼-inch "	—	18s. 0d.	19s. 6d. "

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. "
Spruce Deals ..... £16 10s. "
Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. "
¾-Inch White Matched Lining ..... 13s. per square
J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.
20,000 Dry Prepared Flooring Boards ..... from 11s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
8,000 Yellow Deals ..... from 3s. 3d. each
14,000 Spruce deals ..... from 2s. 9d. each
5,000 Yellow Battens ..... from 11l. 10s. per 120
50,000 feet Spanish and Honduras Veneer ..... from 1d. per foot
Maple ditto ..... from 1d. per foot
SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.



MOULDING WORKS.
SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased the Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by
J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,
BRICKMAKERS, and MARBLE IMPORTERS.
For Account of Experiments on the Strength of their

PORTLAND CEMENT,
Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,
Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
N.B. Can be Painted in Twenty-four Hours.
MILLBANK STREET, WESTMINSTER.
LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET.
MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,
LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.
Manufactured ONLY by J. CUMBERLAND PART,
186, DRURY-LANE, LONDON, and at DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.
EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)
FIRE BRICK AND TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.
DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board Vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to MR. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the monthly price-lists.
N.B. Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. & W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Material can be obtained of the best quality—
GREY STONE CHALK FLARE and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

O. MCCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited,
Are prepared to Supply their First-class Blue Lias Lime in any quantity and at any place.
SPECIAL CONTRACTS MADE FOR LARGE WORKS.
All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street E.C.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble. — Manufacturers, FRANCIS, BROTHERS, & FOIT, Nine Elms, London.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND, ROMAN, and PLASTER
CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brick-work, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT
STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally
Country orders forwarded with despatch.

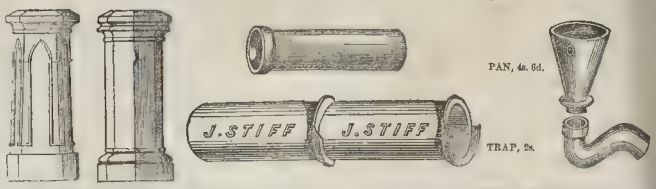
GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

T SQUARES.—W. F. STANLEY,
late STANLEY and ROBINSON'S IMPROVED.
Recorded in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN.
LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

PAINTED GLASS WINDOWS AND MURAL DECORATION.
LAVERS & BARRAUD, of ENDELL STREET, Bloomsbury, London, and 3, Oxford-street, near St. Peter's Church, MANCHESTER, will be happy to submit DESIGNS for the above, for Ecclesiastical and Domestic purposes.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.
May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Horton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.

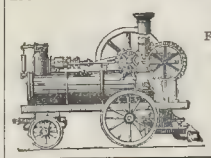


LONDON WHARF, 64, Bankside, Southwark.
LONDON OFFICES, 76, King William-st. City.
MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.
Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.
WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.
PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



PORTABLE STEAM PUMPING-ENGINES,
From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 20, Soho-square, W. and George-yard, Cross-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

PATENT and BRITISH PLATE GLASS.
JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 38, Soho-square, London.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. MEYTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

ENCOURAGE COUNTRY MANUFACTURE.

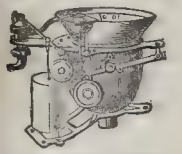
WORTLEY, JOSEPH CLIFF & SON. NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG SHAPED.

M. B. NEWTON, LONDON AGENT,
WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

THOMAS LAMBERT & SON,

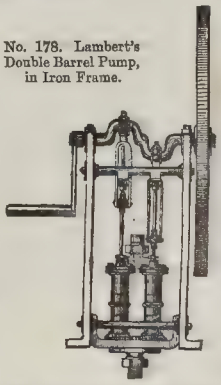
No. 37. Self-Regulating Pan Closet.



No. 36a. Bath Valves.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



High Pressure Stop Valve.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,
SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.
PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.
High-Street, Lambeth, London.

HAYWARD TYLER & CO.

ENGINEERS AND BRASSFOUNDERS,

84 AND 85, UPPER WHITECROSS STREET, LONDON, E.C.



HOWARD'S PATENT

REGULATING VALVE,

MANUFACTURED BY H. T. & Co.

Has been fixed in every situation, and proved to be

THE ONLY EFFICIENT VALVE

FOR

SUPPLYING CLOSETS WITH WATER WITHOUT
THE COMPLICATED ARRANGEMENT OF
CRANKS AND WIRES.

The "Great Eastern" has been fitted with these Closets, and hundreds are now in operation in many large establishments in the metropolis.

H. T. & Co. solicit an inspection at the Manufactory, where they may be seen in operation.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



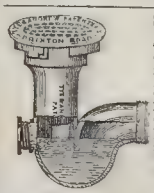
In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes, and the Pans become DISCOLOURED and UNFIT for USE.

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the 3s. 9d. Enamelled Stoneware Closet and Trap.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH-PRESSURE and SELF ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. M. & W. & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, &c. &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent.—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS.

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices

MESSRS. HERBERT, MODELLERS,
242 EUSTON ROAD, ST. PANCRAS.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1763, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

BUFF & DEEP RED FACING BRICKS, Splays, Cutters, Floor-tiles, Garden Edging, &c.—Apply to R. HOOPER, Manufacturer, Southampton; or JOHN DOWNEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.

Architects and Builders requiring superior colour in bricks are respectfully invited to inspect the above.

MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON TRENT.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 681, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

C. H. T. BIKKER, 110, Bradford-street, and 169, Cheapside, Birmingham, ARTIST in ECCLESIASTICAL DECORATIONS, HOUSE and CHURCH DECORATOR. Wall painting, diapering, and gilding in the three styles of the twelfth, thirteenth, and fourteenth centuries. Every description of ecclesiastical writing, labelling, and Gothic decorations; also Egyptian, Roman, and Grecian decorations faithfully carried out in accordance with the several styles. Experienced artists sent to any part of the United Kingdom. Architects' designs carried out by experienced decorators, or drawings furnished if required. Specimens may be seen fully carried out at the above address.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND ARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1852.—In reply to your letter received this morning, expecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

BUILDING MATERIALS, MINCING LANE, CITY.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 1, at TWELVE, the long and valuable BUILDING MATERIALS, OFFICE FIXTURES, and FITTINGS-UP of THREE HOUSES and PREMISES, Nos. 20, Mincing-lane, and 1 and 2, Hammond-court, adjoining; comprising sound brickwork, useful timber, in rafters, joists, girders, and dressummers; large quantity of plain tiles, sashes, doors, warehouse fronts, chimney-pieces, partitions, hanging, sound flooring-boards, iron girders, stone sills, and coping; 5 tons of lead, in gutters, cisterns, sinks, and pipes; mahogany desks and counters, tables and chairs, nests of drawers, iron bank safes, cupola, presses, gas fittings, copers, stoves, and other useful fittings up.—May be viewed the day previous; and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C.; and 40, Parliament-street, S.W.

MAY FAIR.—MATERIALS of TWO HOUSES, STABLING, &c. to clear the site for the new Church.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, JULY 4th, at TWELVE, the MATERIALS and FITTINGS of TWO HOUSES and SHOPS, being Nos 1 and 2, Carrington-place; also a Range of STABLING in Brick-street, adjoining; and the STABLING and PREMISES in the rear of No. 17, Hertford-street; comprising the capital brickwork, sound timber in roofs and floors; doors, sashes, paneling, &c.; stable fittings; clinker, and other paving; coach-house gates; large kitchen range, with wrought-iron boiler; force pump; cisterns, and pipes; several tons of lead in flats, gutters, &c.; plain and pan tiles, slates, and other effects.—May be viewed one day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, E.C.

PADDINGTON.—Surplus Plant and Materials from the Works of the Metropolitan Railway.—First Portion.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Smith & Knight, the Contractors for the western portion of the line, TO SELL by AUCTION, on the PREMISES, Wharf-road, Paddington, adjoining St. Mary's Hospital, on MONDAY, JULY 7th, at TWELVE for ONE, the first portion of the valuable PLANT and MATERIALS, comprising an excellent 8-horse power horizontal engine and boiler, double-barrelled and other pumps, mortar-mill, with 3 feet 6 inch runners; pug-mill, boring tackle, circular saw bench, watchman's boxes, chains, &c.; also about 2,000 prime deals and planks 50 loads of pitch pine, yellow pine, Dantzic and spruce timber, short sewer-struts, die square timber, centering, railway sleepers, boards, framing, and other useful material.—May be viewed on FRIDAY and SATURDAY previous, and catalogues had at the Royal Mint Tavern, Farlington, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

EUSTON ROAD.—Marble Chimney-pieces.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, at the MARBLE WORKS, 133, Euston-road, near St. Pancras Church, on TUESDAY, JULY 8, at TWELVE for ONE, the manufactured stock of MARBLE CHIMNEY PIECES; comprising about 90-inch statuary, vein, Sicilian, dove, black and gold, St. Ann's, Devonshire, and black marble, all of which are of superior workmanship, and adapted for houses of a modern character. May be viewed one day previously, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore street, E.C.

GREENWICH HOSPITAL.—OLD CLOTHING, STORES, and MATERIALS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Greenwich Hospital to SELL by AUCTION, at the Royal Hospital, on WEDNESDAY, JULY 9th, at ELEVEN for TWELVE, the usual assortment of CLOTHING, and other STORES belonging to the Steward's Department, and sundry old Materials, Ironwork and Metal, belonging to the Works Department.—May be viewed two days previous, and catalogues had at the Offices of the Steward and Inspector of Works; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

OLD MATERIALS, IRONWORK, &c. at Somerset House, Whitehall Chapel, Burlington House, Military Asylum, and Chelsea Hospital.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, at Somerset House, Strand (and afterwards at the other places stated above), on FRIDAY, JULY 11th, at ELEVEN for TWELVE, a quantity of SURPLUS MATERIALS, consisting of glazed sashes, doors, and frames in quarters and fire-proof, about 4 tons of iron, comprising casing stoves from the Crimea, grates, ranges, and boilers, gas and water pipes, old ironmongery, gas-fittings, a capital lift, wrought-iron gratings, &c.—May be viewed one day previous, and catalogues had at the Office of her Majesty's Works, &c. 12, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W., and 80, Fore street, City, E.C.

LLOYD'S MARBLE WHARF, PIMLICO.—TO SCULPTORS, MASONS, BUILDERS, & OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. E. Lloyd & Co. to SELL BY AUCTION, at Lloyd's Marble Wharf, adjoining Vauxhall Bridge, Grosvenor-road, Pimlico, on WEDNESDAY, JULY 16th, at ELEVEN for TWELVE, about blocks of Italian, comprising statuary, vein, Sicilian, dove, black and gold, Bardilla, Sienna, and various coloured varieties; also about 20,000 feet super of slab, and a selection of sculpture work, consisting of figures, busts, vases, chimney-pieces, &c. May be viewed two days previous, and Catalogues had at the place of Sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, and 80, Fore-street, City, E.C.—N.B. Approved bills at four and six months.

HOLLOWAY FARM, containing upwards of sixty-one acres of fine building land, a handsome mansion, close to and on the south side of the town of Dorking, presenting unusually attractive sites for the erection of mansions or villas of a superior character, for a building operation of magnitude, or for a safe and lucrative speculative investment

MESSRS. WHITE & SONS are favoured with instructions from the Devisee of the late Mr. Henry Napper to SELL, the same by AUCTION, at the MART, on FRIDAY, JULY 11th, at TWELVE, in two lots. This interesting and valuable property commands views of great extent, variety, and beauty, the lands are undulating and dry, being of extraordinary natural healthy, being on the sand ridge, intersected by the turnpike-road, by which the lots are divided, near the park-like Holmwood and St. Paul's District Churches, within 2 of the centre of the town of Dorking, and on the verge of an extensive building operation recently successfully carried out. Lot 1 is that part of the Holloway Farm situate on the west side of the turnpike-road, consisting of several enclosures of arable and meadow land, orchard and garden ground, containing 44a. 0r. 27p. with the farm-house and agricultural buildings, and the thriving and ornamental timber thereon. Lot 2. The remaining portion of Holloway Farm, situate on the east side of the turnpike-road, consisting of an arable field, a piece of coppice and the table land on the summit, containing 16a. 1r. 0p. Or. 27p. studded with beautiful oak timber. A certain and profitable result must accrue by a subdivision of this estate into building sites, the great value of land in the immediate locality having been tested by recent sales and the increasing demand and diminished supply.—Particulars, with plans, may be obtained in due time at the Mart; at the Estate Gazette Office, 209, Fleet street; or of Messrs. WEAKLIN & FLINT, 21, Farringdon-street, London; the Old Ship, Brighton; the White Hart, Guildford and Reigate; the Griffin, Kingston; and the Greyhound, Croydon; also of Messrs. HARVEY, HART, & HART, Solicitors, and of Messrs. WHITE & SONS, Auctioneers, Valuers, and Land Agents, Dorking, who will forward them by post on application.

Valuable Oak Timber, in the parishes of Darenth and Stone, Kent.

MR. W. M. HODSOLL is instructed by Chas. Colyer, esq. to SELL by AUCTION, at the RAILWAY TAVERN, Greenhithe, on FRIDAY, JULY 4, 1862, at TWO for THREE o'clock, 266 superior OAK TIMBER TREES, 33 Oak Tellers, and 600 Oak Top Fagots, in the above-named parishes, and near to Greenhithe.—May be viewed, on application to JAMES WILSON, at Darenth Wood, near Greenhithe, of whom catalogues may be had; also at the Place of Sale; and of Mr. WM. HODSOLL, Auctioneer, &c. Farningham, Kent.

BUILDING MATERIALS.—BRENTFORD.—Booth & Coulton.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on TUESDAY, JULY 1, 1862, at TWELVE o'clock, on the PREMISES, in lots, the BUILDING MATERIALS of portions of the Brentford Distillery, including 200 rods sound brickwork; 1,000 square yards slating, 8 squares paving tiles, 2 tons of lead, 60 loads of timber in girders and bearers; 15,000 feet of purlins, plates, rafters, and joists; 140 squares 3 inch plank and deal flooring, 50 squares weather boarding, 14 doors, 50 glazed sashes and skylights, 25 cast iron columns, tie-rods, rain-water pipe, and guttering; Portland stone steps, cills, and bases; and other effects.—To be viewed on Monday previous to the Sale, when catalogues may be had on the Premises; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on TUESDAY, JULY 22, and following day, at ELEVEN o'clock each day, at the DEPOT, Thames-bank, Pimlico, near the railway bridge, and on the banks of the Grosvenor Canal, in lots, without reserve, an Immense Collection of MATERIALS and PLANT used in the construction of the building for the International Exhibition, 1862; including 12,000 scaffold-poles, 6,000 boards, 1,500 dozen cords, 6,000 puttogs, 500 feet Baltic and Swede timber, 250 loads short ends of timber, 25 loads new Swede timber, 6 loads new yellow pine, 5,000 deals and battens, 200 fathoms firewood and slabs, 10,000 feet pitch-pine slabs, 6 cast stays, 1,000 feet scaffolding, 2 gins and crabs, 120 ladders, 170 navvy barrows, 500 mortar-boards; 4 portable steam-engines, 8, 12, 16, and 20 horse-power; 100 tons bar, rod, and hoop iron; bolts, nuts, and washers; 16 tons tramway and turntable plates, metals, two tons chairs, 700 sleepers, 5 pile-engines, with monkeys, 3 ringing-engines, 12 double and single purchase cranes, one 3-ton derrick-crane, hydraulic pile-driving machine, 2 locomotive steam-engines, patent crab-hoist, 1 manifold-purchase crab for a traveller, 2 tons wrought-iron shutting, 35 tons cast-iron columns, 40 pairs iron truck wheels and axles, 20 tons useful castings, 20 gratings and platforms, 3 tons cross saw benches, 1 rack bench, powerful double and treble purchase-blocks, 20 tons rope falls and slings, 3 tons chain, smiths' tools, 15 anvils, 12 forge backs, 1 ton tools, 12 pairs bellows, portable forges, 2,000 feet fungel-pipe, wrought-iron pumps, timber carriage van, 2 carts, 4 dobbin carts, 2 dirt waggons, 100 water tubs and casks carpenters' benches, cranes, draughtpipe, beds and junctions, 2 portable offices, dinner-bell, and numerous other effects.—To be viewed on Friday, Saturday, and Monday previous to the sale; when catalogues, at 6d. each, may be had on the premises; or of Messrs. FULLER & HORSEY, Billiter-street, E.C.

The Gwydir, otherwise the Bwich Slate Quarries and Works, near Llanrwst North Wales.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, JULY 31, at TWELVE, at the AUCTION MART, London, in One Lot (unless an acceptable offer be previously made by private contract), the GWYDIR (otherwise the Bwich) SLATE QUARRIES, situate at Dolwyddelen, in the county of Carnarvon, about nine miles from Llanrwst, about twelve miles from the shipping stage or quay at Trefriw, on the Conway River, where vessels of 100 tons' burden can load alongside, and about twenty one miles from the shipping port of Conway, North Wales. The railway from Conway to Llanwrst will be completed in the spring of next year, and will afford additional facility for transit. The quarries are on the slope of the Carnarvon range of mountains; the slate formation lies about 10 yards beneath the surface, and has been proved to the depth of about 35 yards. The quality of the slate is uniform, equal in grain to the well-known Bangor slate, and of the original blue colour of the Welsh slate. The works were formed some years since by the Gwydir Slate Company, and fitted with costly machinery for sawing, planing, and otherwise preparing slate slab, including two block-sawing machines, nine circular slab-sawing machines, and three self-acting planing machines; the whole, as also a pump in the deep workings of the quarry, are worked by an iron overshot water-wheel, 30 feet diameter, 3 feet 6 inches breast, which is driven by a powerful stream of water flowing from a lake in the mountains about five miles distant, discharging itself into the River Lledr, a tributary of the Conway, which flows past the property; but although large sums of money have been expended in fitting the machinery and in opening the quarry, it may almost be pronounced a virgin quarry, from the comparatively very limited operations hitherto performed, there being up to the present time only four bargains or workings actually formed, and these only partially worked, the yield from which during the past six months has been 665 tons of slates; but by a judicious expenditure (now being gradually made) the produce of the quarry may be at once within the next twelve months, thereby increasing the yield to at the least 400 tons per month, or 4,800 tons per annum. The quarry is well placed for working, being to the slope of the mountain at a very convenient elevation, and with plenty of ground for tip room at the base. A steam-engine, of about 15-horse power, with winding gear, has been erected near the summit, for raising the blocks or slate from the deep workings; tramways also intersect the works. The demand for the slates has been steadily increasing, and there is no difficulty in finding ready markets for all the products on very remunerative terms; the profits under the present disadvantages of heavy carriage to the shipping port (production realising 25 per cent. on the returns. The property occupies a site of 33 acres, 2 roods, and 35 perches, more or less, and under 25 acres the slate formation has been proved to exist. It has a frontage next the high road of about 308 yards, and extends westward into the mountain to a bridle path leading from Dolwyddelen to Capel Curig, about 700 yards. It is held under Lord Willoughby d'Eresby, subject to a small fixed rent and royalties, which amount to about 5 per cent. on the gross returns. The buildings comprise the slab sawing and planing mill, two sawing sheds, stabling, chaise-house, blacksmith's shop, house keeper's cottage, office, and yards, also one corner of an adjoining field, containing about half an acre. The wharf at Trefriw is the property of Lord Willoughby d'Eresby, and the tenants of the quarries are allowed to stack slates on the wharf, and ship them therefrom, at a charge of 3d. per ton. The cost of carting the slates from the works to the wharf is 6s. 6d. per ton; but when the quarries are fully working, a great saving in this charge may be effected by the construction of a tramway along the valley at the base of the mountains, facilities for which would be readily executed, and which would place the works in almost as advantageous a position as the celebrated quarries belonging to the owner of Penrhyn. Easy terms may be arranged for payment. The works may be seen at any time by cards only, which may be obtained of GEORGE HADLEY, Esq 8, Old Jewry; or of Messrs FULLER & HORSEY, Billiter-street, London, E.C. Printed particulars may be obtained at the Penrhyn Arms and Castle Hotels, Bangor; the Castle and Erskine Arms Hotels, Conway; the Eagles and Victoria Hotels, Llanrwst; at the Queen's Hotel, Chester; at the "Midland Counties Herald" Office, Birmingham; of SAMUEL FISHER, Esq. Solicitor, Merchant Taylors' Hall, Threadneedle-street, London, E.C.; of GEORGE HADLEY, Esq. 8, Old Jewry-chambers; and of Messrs. FULLER & HORSEY, Billiter street, London, E.C.

MESSRS. WILSON & THOMPSON have received instructions from the Trustees, to SELL by PRIVATE CONTRACT, all that FREEHOLD and eligible BUILDING LAND, consisting of 45 acres, in the hamlet of Litchurch, adjoining the borough of Derby. The land to be sold in allotments to meet the wishes of purchasers. The estate is bounded on the east and west by the two main important turnpike-roads leading from the town, and is a very short distance from the railway station. The land is particularly adapted for building purposes, and has been laid out accordingly. It is near to Derby, but not subject to its rates. The estate is in a populous and increasing neighbourhood. Capitalists would find it a profitable investment. For further particulars apply at the Office of Messrs. WILSON & THOMPSON, Architects and Surveyors, 12, Corn-Market, Derby.

OLD STREET, ST. LUKE'S.—To Builders, Building Material Dealers, and Others.—Peremptory Sale, on MONDAY next.

MR. WM. HOLLINGSWORTH will SELL by AUCTION, on the PREMISES, Nos. 1 and 2, Old-street, on MONDAY next, at ONE precisely, the BUILDING MATERIALS of THREE HOUSES and SHOPS; comprising two tons of lead, shop-fronts, sashes and frames, doors, floors and joists, the brickwork, and other materials.—Catalogues of the Auctioneer, 13, High Holborn.

PAPERHANGINGS, CHIMNEY-PIECES, CLOSETS, MOULDINGS, AND IRON SAFES.

MR. EDWIN WHITE will SELL, without reserve, at his ROOMS, 12, Holborn Bars, on TUESDAY, 1st of JULY, at TWO precisely, about 2 000 PIECES of French and English PAPERHANGINGS, in flocks, golds, satins, grounds, Sienna marbles, &c.; also 120 statuary, vein, black, dove, and other marble chimney-pieces; 1,600 feet of gilt room mouldings; 14 water-closets, and 2 first-class fireproof safes.—View and catalogues Monday prior and morning of sale.

Valuable Freehold Meadow Land, near Woodford and Chigwell, Essex.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the MART, near the Bank of England, on FRIDAY, JULY 18, at TWELVE, a valuable enclosure of FREEHOLD ACCOMMODATION MEADOW LAND, in the parish of Woodford, containing 7a. 2r. 31p. situate front ng on the west side of the turnpike road from London to Chigwell, and about half a mile from the George-lane Station on the Loughton Railway, within a short ride of Bishopsgate or Fenchurch-street Terminus. It is let to Mr. Whitfield, a yearly tenant, at the low rent of 21l. per annum.—Particulars and plan may be had of Messrs. RICKARDS & Co. Solicitors, 2, Crown-court, Old Broad-street, E.C.; at the Mart, E.C.; at the George Inn, Woodford; at the Eagle Inn, Snaresbrook; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

In the CITY of LONDON.

MESSRS DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the MART, near the Bank of England, on FRIDAY, JULY 25, at TWELVE o'clock, the commanding BUSINESS PREMISES; comprising a new PUBLIC-HOUSE and two shops, the well-known establishments of Messrs. Orridge, chymists, and Messrs. Baugh & Beasley, j botographers, printsellers, &c and being No 22, Lugate-hill, extending from thence to Pilgrim-street, and immediately opposite the London Coffeehouse, held by lease from the mayor, commonalty, and citizens of the City of London, for a term of 61 years, from Michaelmas, 1845, at a rent of 24l. 13s. 0d. per annum, renewable every 14 years, on payment of a fixed fine of 172l 13s. 0d. and let to Messrs. Orridge, on lease, for a term of which five years will be unexpired at Michaelmas, 1862, at the very moderate rent of 300l. per annum. The property is of a very valuable character, and from its position is likely to increase in rental value, besides which, several leases will be falling about to be taken down for the formation of the London, Chatham, and Dover Railway, the difficulty of obtaining premises in this important thoroughfare will be greatly increased.—Particulars may be had at the Mart, E.C.; of GEORGE MASEFIELD, Esq. Solicitor, Ledbury; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land-agents, 10, Waterloo-place, Pall-mall, S.W.

BERMONDSEY

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the MART, near the Bank of England, on FRIDAY, 18th JULY, 1862, at TWELVE o'clock, in two lots, the following valuable FREEHOLD PROPERTY, viz.:—Lot 1. Dwelling-houses and shops, warehouses, workshops, and tan-yard, being Nos 15 to 22, Bermondsey-square, also No. 223 to No 229, Grange road, with the extensive builder's yard, house and premises, at Star-corner, held by Messrs. Wills, the whole let on lease for a term, of which 33 years will be unexpired at Midsummer, 1862, at the rent of 60l per annum. Lot 2. Upwards of 70 dwelling houses and shops in Abbey-street, Long-walk, Abbey-street south, &c. and extensive workshops, tanyards, and buildings, the whole let on lease for a term of which 33 years were unexpired at Lady-day, 1862, at the rent of 65l. per annum These properties occupy most valuable and extensive sites, and the reversion in each case at the termination of the leases is extremely valuable, the present rack rentals being large, and the value of the land for commercial premises, &c must increase every year. Particulars, with plans, may be had at the MART, E.C.; of Messrs. BOYD & TWEEDIE, Solicitors, 8, Ely-place, Holborn, E.C.; and of Messrs. DANIEL SMITH, SON, & OAKLEY, No. 10, Waterloo-place, Pall-mall, S.W.

WARWICKSHIRE, on the immediate borders of the Counties of Northamptonshire and Leicester.—The distinguished Mansion, known as Bilton Grange, an extensive and magnificent structure, presenting a fine example of the Tudor period of architecture, with every internal fitting and decoration in pure keeping, and suitable for a nobleman or gentleman with a large establishment, beautifully situated two miles from Rugby, affording excellent railway transit, and surrounded by about 400 acres of park and farm lands overlooking a delightful landscape, formed by a richly-timbered pasture vale, terminating in high land, dividing the counties of Warwick and Northampton, in the heart of a district hunted by the Pytchley, the Quorn, and three other fashionable packs of foxhounds.

MESSRS. DANIEL SMITH, SON, & OAKLEY have been honoured with instructions to offer by AUCTION, at the MART, in the summer (unless previously disposed of by private contract), the above remarkably important FREEHOLD RESIDENCE, with possession of the mansion, which may be obtained, and the whole of the appropriate antique fitted and other furniture may be taken by valuation.—Full particulars may be obtained of Messrs. BIRCH & BIRCH, Solicitors, 45, Parliament-street; and of the Auctioneers, 10, Waterloo-place, Pall-mall, London, S.W.

CAMDEN TOWN, adjoining the Regent's Canal, and opposite the London and North Western Railway Company's Goods Station.

MESSRS. DANIEL SMITH, SON, & OAKLEY, beg to inform the public that this FREEHOLD PROPERTY, has not realized, was NOT SOLD at the Auction on the 13th MAY, but they will now be happy to receive offers for the same by Private Contract.

WESTMINSTER.—To RAILWAY CONTRACTORS, IRON FOUNDERS, BUILDERS, and OTHERS

MR. MARSH has received instructions to SELL by AUCTION, on the ground adjoining a proposed new street, in the rear of Victoria-street, Westminster, on TUESDAY next, JULY 1, at ONE o'clock punctually, the PLANT and MATERIALS used in the construction of TRANSIT'S PATENT TRAMWAY in Victoria-street, and the residue of line from the Bayswater-road; comprising about 9,000 feet run grooved sleepers, averaging 7 by 5½ inches, in about 26-feet lengths; about 8,000 fe-t run transoms in 6-feet lengths, about 50 tons of best wrought double-headed iron tram rails, 3-8 flange, patent switches for sidings, a quantity of iron screw bolts, fe-s, nuts, and spikes.—May be viewed the day prior and morning of sale, and catalogues obtained on the Premises; at 18, Great George-street, Westminster; and at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion-house.

Preliminary Sales.—The Royal Agricultural Show, Battersea Park.—2,000 iron castle handles, together with a large quantity of BUILDING MATERIALS, consisting of about 50,000 feet of new dry flooring-boards, chiefly Archangel planks, 23 feet long, 11 inches by 1 inch, and 3 by 1 inch, a quantity of new battens and quartering, will be SOLD by AUCTION, on THURSDAY, JULY 3rd, and MONDAY, JULY 7th, by

MR. N. BALL. Sale to commence at ELEVEN o'clock each day. Catalogues may be had of Mr. BALL, Auctioneer, Wandsworth; and at Mr. MANNING'S Office, in the Show Yard, Battersea Park, and 251, High Holborn.—N.B. The Entrance Gates, Lodges, Entrances, Exits, and several Portable Cottages are for sale by Private Contract.

The valuable BUILDING MATERIALS of the CARLTON RIDE and STABLES, St James's Park.

MESSRS. GLASIER & SON are favoured with instructions from the Honourable Charles Gore, the Commissioner of her Majesty's Woods in charge of the Land Revenues in England, to SELL by AUCTION, on the PREMISES as above, on WEDNESDAY, JULY 9th, and following day, at TWELVE for ONE, in lots, the valuable BUILDING MATERIALS and FITTINGS of the CARLTON RIDE and STABLES, comprising upwards of 1,000,000 capital stock bricks; several thousand feet of capital York and Portland stone in paving, steps, string course, cills, &c.; capital Portland stone entrance, with fluted columns and entablature; 20 i square of slating, slating boards, rafters; 20 pair strong framed principals, 25 feet span; 500 square of flooring boards and joists; fittings of stabling for sixty horses; large quantity of stone columns; 100,000 Dutch clinkers; 300 tons of granite pitching; York paving, coach-house gates, sashes, doors, and frames; wainscoting, large iron tank, stoves, ranges, coppers, slate cisterns, iron railings, &c.; about ten tons of lead, fixtures, and fittings.—May be viewed the day prior and morning of sale; and catalogues of JAMES FENNETHORNE, Esq. Whitehall-yard; at the Office of Woods, 1, Whitehall-place; on the Premises; and of the Auctioneers, No. 41, Charing-cross, S.W.

[*For remainder of Auctions see p.* 468.

LONDON: Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St Giles in the fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, June 28, 1862.

The Builder

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1013. JULY 5, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

London Street Architecture: a Marine Insurance Office, in Old Broad-street 470
A Damp Room; and its Dangers 478

CONTENTS.

The Palace of Art and Industry: the Public Works of France 469
Walk and Talk in Rome 470
Disjointed Notes of the International Exhibition 472
Summer Excursions 473
The Accident to the Metropolitan Railway 473
The Well, Clerkenwell 473
Devonport, Stonehouse, and Cornwall Hospital 474
The Llandudno Junction Railway Station 474
Canada Military Asylum 474
The Society of Arts 474
Competition 474
Irish Building Notes 474
The Ecclesiological Aspect of the International Exhibition and the Ecclesiological Society 475
Scene Painting 476
New Buildings in Oxford: Oxford Architectural Society 476
The Thames Embankment Bill 477
The Architectural Association in Westminster Abbey 477
Proposed Architectural Alliance 477
The Chatham Waterworks 477
Paris 477
Damp in Dwellings 478
Cells, Sanctums, and Crypts 478
London Street Architecture 478
Lodgings of the Poor 481
School-building News 482
Church-building News 482
Stained Glass 483
Schools of Art 483
Albert Memorials 483
Competition for the Erection of a Protestant Church at Montpellier (Hérault), France 483
Crowfield Chapel, Coddenham, near Ipswich: Half-timber Chancel 483
The Designs for Blackfriars Bridge 484
Edinburgh 484
The Works at Mont Cenis 484
Purification of the Thames 484
Can we form a New Style? 484
Workmen and Churches 485
Patents connected with Building 485
Books received. Lee's Isca Silurum (Longman & Co.); Various Miscellanea 486

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—The members and friends of the above Institution are requested to notice that G. R. BURNELL, Esq. Civil Engineer and Architect, will deliver a LECTURE, at the Rooms of the Architectural Union Company, No. 9, Conduit street, Regent-street, where the business of the above Institution is now carried on. The subject of the Lecture will be, "A Builder's Visit to the International Exhibition." To commence at Half-past Eight o'clock on WEDNESDAY Evening, JULY 9th, 1862. Tickets may be had of any of the members, or at the door.
July 2nd, 1862. R. WEBSTER, Librarian.

ARCHITECTS' BENEVOLENT SOCIETY.
PATRONS.
Sir Robert Smirke, A. J. B. Beresford Hope, Esq. M.P.
PRESIDENT—Sydney Smirke, Esq., R.A.
TRUSTEES.
Philip Hardwick, Esq. R.A. Charles R. Cockerell, Esq. R.A.
Geo. Gilbert Scott, Esq. R.A.
TREASURER—William Tite, Esq. F.R.S. M.P.
The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 23, Great Ormond-street, W.C.
J. TURNER, Hon. Secretary, 15, Wilton-street.

THE NEW SOCIETY of PAINTERS in WATER COLOURS. The Twenty eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall-mall, near St. James's Palace. Admission, 1s.; Catalogue, 6d. Season Ticket, 5s. JAMES FAHEY, Secretary.

INTERNATIONAL EXHIBITION. Admission for the week ending JULY 12:—Monday to Thursday, One Shilling; Friday (State Ceremonial), Ten Shillings; Saturday, Half a Crown. Doors are opened at Ten, except on Saturday, when they are opened at Twelve o'clock.

COMPETITIONS.

THE DUBLIN EXHIBITION PALACE and WINTER GARDEN COMPANY (Limited) — Offices, No. 112, Grafton-street, Dublin.—The Directors are prepared to receive DESIGNS and PLANS for the Exhibition Palace and Winter Garden Buildings, proposed to be erected by this Company. The expenditure not to exceed 25 000*l.* The Directors offer the following premiums for such designs as shall in their opinion be best adapted for the purposes of the Company:—First premium, 150*l.*; second premium, 75*l.* The successful designs and plans to become the property of the Company. Maps of the ground and further particulars to be had on application to HENRY PARKINSON, Esq. Secretary, No. 112, Grafton-street, Dublin. Designs and plans to be sent, on or before TWELVE o'clock on FRIDAY, the 1st day of AUGUST, 1862, endorsed, "Plans for Exhibition Palace and Winter Garden," and addressed, under seal, with motto or fictitious signature, to the Chairman of the Building Committee, No. 112, Grafton-street, Dublin.

WOLVERHAMPTON AGRICULTURAL HALL.—PLANS, SPECIFICATIONS, and ESTIMATES are REQUIRED by the Directors of the Wolverhampton Agricultural Hall Company (Limited), for the ERECTION of the above BUILDING, which must be delivered on or before the 14th AUGUST next.—Full particulars, with ground-plan of the site, may be obtained, on application to Messrs. H. & J. E. UNDERHILL, Solicitors, Exchange-chambers, Wolverhampton.

NEW BATH THEATRE.—Architects are invited to furnish PLANS for a NEW THEATRE at BATH, on the site of the old one.—Premiums of Twenty and Ten Guineas to be given for first and second plans not accepted. Information may be obtained from the Hon. Secretaries, Messrs. MANT, MAULE, & ROBERTSON, and Mr. POWELL, 2, Wood-street, Bath.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for CONSTRUCTING a CASE and EXPENSE STORE, and for a Painters' Shed, at the Royal Laboratory, at Bull Point, Devonport.
Persons desiring to Tender for the erection of these works must send their names to this office, on or before the 12 inst. with the sum of ten shillings and sixpence for the bills of quantities for each work, which will be forwarded as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender for either work.
Royal Engineer Office, Devonport, July, 1st 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a HOSPITAL at Hilsea, near Portsmouth, in the county of Hants.
Parties desiring to Tender for this work are required to attend at the Royal Engineer Office, Hilsea, on the 7th day of JULY, 1862, at THREE o'clock, to appoint a surveyor to take out the quantities in conjunction with the Government Surveyor.
Each party will be required to pay the sum of one guinea for the quantities
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Portsmouth, 24th June, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the triennial contract for the EXECUTION of the several WORKS and REPAIRS to the BUILDINGS at SANDHURST, Berks.
Parties desiring to Tender for the execution of these services, for a term of three years, commencing 1st of OCTOBER next, will be furnished, by the payment of 5*s.* 9*d.* with the printed schedules of prices, conditions of contract, form of Tender, and with every necessary information respecting the same, on application at this Office, between the hours of TEN and FOUR each day (sundays excepted), from the 28th JUNE until the 16th JULY, 1862, after which date no further issues will be made.
One Contractor only will be accepted for the whole of the trades, but the rates of per centage at which the parties Tender may be different for each trade at their option; but such rates must be shown in the proper place in the Tender.
Royal Engineer Office, Sandhurst, 24th June, 1862.

NORTH-EASTERN RAILWAY.—To CONTRACTORS.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of the WORKS on the North Yorkshire and Cleveland Extension Line from Castleton to Grosmont, in length about 10¼ miles, commencing at Castleton Station and terminating near Grosmont Station, on the Whitby and Pickering Branch. Plans sections, and specification may be seen on and after the 21st JULY next, at the Engineer's Office, Central Station, Newcastle-on-Tyne, where printed forms of Tender, specification, and quantities may also be obtained. Sealed Tenders addressed to the Secretary, marked "Tender for Castleton and Grosmont Line," must be delivered at York, not later than TWELVE o'clock at noon, on THURSDAY, the 7th AUGUST next; and the Directors will meet at York on the following day to open the Tenders. Ample security will be required from the Contractor whose Tender may be accepted. The Directors do not bind themselves to accept the lowest or any Tender.
J. CLEGHORN, Secretary.
York, 16th June, 1862.

NORTH-EASTERN RAILWAY.—To CONTRACTORS.—The Directors are prepared to receive TENDERS for CONSTRUCTING a DEVIATION LINE of RAILWAY at Goathland, on the Whitby and Pickering branch, about 45 miles long, commencing a little to the north-east of the fifteen mile-post, and terminating about the 45¼ mile-post from York. Plans, sections, and specification may be seen on and after the 21st JULY next, at the Engineer's Office, Central Station, Newcastle-on-Tyne, where printed forms of Tender, specification, and quantities may also be obtained. Sealed Tenders, addressed to the Secretary, marked "Tender for Goathland Deviation Line," must be delivered at York, not later than TWELVE o'clock at noon, on THURSDAY, the 7th AUGUST next; and the Directors will meet at York on the following day to open the Tenders. Ample security will be required from the contractor whose Tender is accepted. The Directors do not bind themselves to accept the lowest or any Tender.
York, June 16, 1862. J. CLEGHORN, Secretary.

TO CONTRACTORS.—Sealed TENDERS will be received by the SECRETARY of the Grand Jury of the County of the Town of Drogheda up to two days next before the Grand Jury Meeting for fiscal business at the next assizes, for TAKING DOWN the present BRIDGE over the River Boyne at Drogheda, and BUILDING a NEW CAST-IRON BRIDGE in place thereof, 95 feet span and 45 feet wide, with Stone Abutments, according to the plans and specification prepared by J. NEVILLE, Esq., C.E., County Surveyor, to be be seen at my Office, between the hours of TEN and FOUR o'clock, on any day (Sundays excepted) after 1st of JUNE, 1862.
The lowest or any Tender not necessarily to be accepted.
HENRY CLINTON, Secretary to the Grand Jury of the County of the Town of Drogheda.
Offices, Fair-street, Drogheda,
Dated this 19th May, 1862.

CONTRACTS.

TO IRON FOUNDERS & CONTRACTORS The Birkenhead Improvement Commissioners are prepared to receive TENDERS for the supply of an IRON TANK, required to be erected on Flaybrick Hill, near Birkenhead, also for a LIFTING CRANE to be erected at the Reservoir at the same place.—Drawings and specifications may be seen at the Gas and Water Offices, Birkenhead; or at the Offices of J. F. BATEMAN, Esq. C.E. 16, Great George-street, Westminster. Tenders, endorsed "Tenders for Iron Tank and Crane," and addressed to the Chairman of the Gas and Water Committee, to be sent to the above Offices on or before the 11th day of JULY next.—By order,
AMBROSE WALN, Clerk of the Commissioners.
Commissioners' Offices, Hamilton-square, Birkenhead, 21st June, 1862.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of FARM-BUILDINGS and ADDITIONS to a FARM-HOUSE, at Obthorpe, near Bourne, on property belonging to the Hon. C. H. CUST, may see the plans and specification at my Office on and after MONDAY, JUNE 30. Sealed Tenders to be delivered to S. HUTCHINSON, Esq. Manthorpe Lodge, Grantham, on MONDAY, JULY 14th. The lowest Tender will not necessarily be accepted.
June 23, 1862. EDWARD BROWNING, Architect, Stamford.

TO BUILDERS. — Builders desirous of TENDERING for the ERECTION of a NEW BANK at Watford, in the county of Herts, for the London and County Banking Company, are requested to send in their names to me, when bills of quantities will be forwarded. The plans and specification may be seen at my Office, Pinners' Hall, Old Broad-street, London, after the 1st of JULY. Tenders, to be addressed to the Directors of the London and County Bank, Lombard street, London, to be delivered on or before TWELVE o'clock a.m. on MONDAY, the 7th of JULY.
FRED. CHANCELLOR, Architect.
Pinners' Hall, Old Broad street, London, and Chelmsford, Essex.

TO BUILDERS.—Persons willing to submit TENDERS for BUILDING a NEW RECTORY HOUSE and OFFICES at Asterby, near Horncastle, are informed that the drawings and specifications will be for inspection at the Rectory, Asterby, from WEDNESDAY, 2nd JULY, to FRIDAY, 18th JULY. Tenders to be delivered by post, prepaid, on or before SATURDAY, 19th JULY, addressed to the Architect, Mr. R. J. WITHERS, 51, Doughty-street, London, W.C. of whom further information may be obtained. The lowest or any Tender will not necessarily be accepted.
Asterby Rectory, Horncastle, G. BABB, Rector.
23rd June, 1862.

BROMLEY, Kent.—BUILDING LAND. To BUILDERS.—REQUIRED, a BUILDER, to CONTRACT to ERECT a PAIR of semi-detached VILLAS, and accepts for so doing, instead of cash, a conveyance of freehold building land, situate in this delightful situation, admirably adapted for the erection of semi-detached residences, intends to request in this neighbourhood, being about ten minutes' walk from the Bromley Station, on the Mid-Kent and London, Chatham, and Dover lines of railway, affording easy access to the City and West end.—Full particulars can be obtained on application to G. T. DAVIES, Esq. Solicitor, 43, Mincing-lane, London.

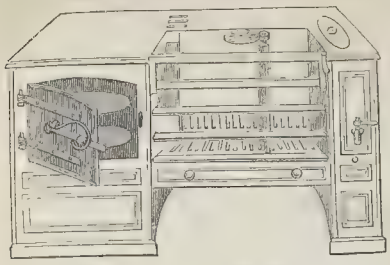
DOVER LOCAL BOARD.—WATER-WORKS.—To CONTRACTORS, &c.—The Dover Local Board are prepared to receive TENDERS for the following works:—ENLARGEMENT and ALTERATIONS of WATERWORKS.
CONTRACT A.—New Boiler; Alterations, &c. to Engines and Pumps; Rising Mains.
CONTRACT B.—Covered Reservoir to hold 1,000,000 gallons; Boiler-house and Coal shed, &c.; 1,200 Yards of Headings in Chalk; about 500 Yards of Cast-iron Supply Main, with Valves, &c.
The drawings, specifications, and conditions, with a form of contract, which the persons whose Tenders are accepted will be required to execute, may be seen, and further particulars obtained, on application to Mr. JOHN HARVEY, the Engineer, at his Office in Castle-street, on and after WEDNESDAY next, the 2nd day of JULY. Any one person or firm will be at liberty to Tender for both Contracts. Sealed Tenders in the required form, to be marked, "Tender—Waterworks," must be delivered at my Office on or before WEDNESDAY, the 16th day of JULY next. The Board do not engage to accept the lowest or any Tender. EDWARD KNOCKER, Town Clerk.
Local Board Office, Dover, June 26, 1862.

TO RAILWAY CONTRACTORS. DARTMOUTH and TORBAY RAILWAY.—The Directors are prepared to LET the WORKS on the remaining portion of their Line, viz.—between the Brixham Road Station and the town of Dartmouth, a length of about three miles. Plans and specifications may be seen, and further information obtained, at the Office of the Engineer, R. P. BRERETON, Esq. 18, Duke-street, Westminster, on and after FRIDAY, the 4th JULY. The Tenders, addressed to the Directors, are to be delivered at the Secretary's Office, Dartmouth, before TWELVE o'clock on FRIDAY, the 18th JULY. The Directors do not bind themselves to accept the lowest or any Tender. By order,
ALEX. E. SHOVD, Secretary.
Dartmouth, 30th June, 1862.

TO BUILDERS.—Parties desirous of CONTRACTING for the ERECTION and COMPLETION of a BLOCK of BUILDINGS, contained in a square of 110 feet by 120 feet, at Goole, Yorkshire, may see the plans and specification at Mr. SMALES, Bookseller, Goole, or at my Office. N.B. Quantities furnished. The lowest or any Tender not necessary accepted.
R. CLARKE, Architect, Nottingham.

TO BUILDERS.—Parties desirous of TENDERING for the ERECTION of a WESLEYAN CHAPEL and other WORKS, at East Leake, in the county of Nottingham, may inspect the drawings and specification, at my Office, on and after TUESDAY, the 7th inst.
T. H. LOMAS, Architect.
Fletcher-gate, Nottingham, July 2, 1862.

[For remainder of Contracts see next Page.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler.	
24 inches	54s.	30 inches	92s.
30 „	58s.	32 „	94s.
38 „	68s.	34 „	96s.
42 „	80s.	36 „	98s.

Register Stoves, with Strong Bars, from per inch, 4d
Improved New Pattern Circular Check Register, with strong Bars and Frivets, 4d. per inch.
Best ditto, with Fire brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 40s. to 100s. each.
Best Cut Clasp and Rose Nails.

1-inch.	2-inch.	3 inch.	24-inch.	3-inch.
14s.	24s.	12s.	12s.	8d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½ in.	3-in.
Cast Rain water Pipe...	8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½ in
O G Gutters, with Clips on....	10d.	1s. per yard.

Patent Line..	2	3	4	5	6
	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6 inch Rd Ward Mortise, with best Furniture and Patent Spindles, 2s 9d. each. Light Elliptic and Register Metal, 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock. Any size made to order.

FURNESS'
PATENT WOOD-WORKING MACHINES,
FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,
73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

CLASS No. 7. INTERNATIONAL EXHIBITION. STAND No. 1688.
SAWING AND WOOD-CUTTING MACHINERY – FIXED AND PORTABLE STEAM-ENGINES FOR SALE OR HIRE.

POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON.

OFFICE, 26, WATLING STREET, E.C. where Letters and Applications for Machinery are to be addressed.

CONTRACTS.

TO BUILDERS and CONTRACTORS.—The Directors of the St. Neot's Corn Exchange Company (limited) are prepared to receive the Names of Builders willing to TENDER for the ERECTION of the CORN EXCHANGE and OFFICES to be built at St. Neots, in the county of Huntingdon, in the High-street and Market-street. Applicants are requested to forward their names and addresses on or before the 15th of JULY, 1862. Due notice will be given to the Contractors as to the inspection of the plans, &c.—By order of the Directors,
BELLAMY & HARDY, Architects and Surveyors.
Offices, 30, Broad-gate, Lincoln, June 27th, 1862

CEYLON RAILWAY.—To CONTRACTORS for PUBLIC WORKS.—Crown Colonies Office, No. 6, Adelphi-terrace, London, 30th June, 1862.—By direction of Her Majesty's Principal Secretary of State for the Colonies, the undersigned hereby give Notice that they are prepared, on behalf of the Government of Ceylon, to receive TENDERS for the CONSTRUCTION of a RAILWAY from Colombo to Caltura, in the Island of Ceylon.
Plans, specifications, and other documents for the information of contractors will be open at the Office of the undersigned, on and after the 8th proximo, and an engineer thoroughly acquainted with the country through which the line is to pass will be in attendance to afford information to them.
Tenders, on forms to be furnished, must be sent in, and later than Noon, on SATURDAY, the 19th JULY next, addressed to the "Agents General for Crown Colonies," and endorsed "Tender for Ceylon Railway."
Persons desirous of Tendering may obtain copies of the specifications and other papers, at the Office of the undersigned, on having an deposit of £5 thereon, which deposit will be given back on the return of the papers.
It is to be expressly understood that the Ceylon Government does not bind itself to accept the lowest or any Tender.
PENROSE G. JULYAN, } Agents General for
W. C. SARGEAUNT, } Crown Colonies

BARNSLEY LOCAL BOARD of HEALTH.—WATERWORKS DEPARTMENT.—TO PIPE FOUNDERS.—The Local Board of Health for the Township of Barnsley, in the county of York, are desirous to receive TENDERS for a large quantity of CAST IRON SOCKET PIPES, of 12 inches diameter and under, together with other Castings.—Printed specifications and forms of Tender may be had (price 5s. each) on application to me, or to Mr. HAWKSLEY, C.E. 30, Great George-street, Westminster, S.W.; and sealed Tenders, endorsed "Tender for Pipes," must be delivered at or sent to my Office not later than SATURDAY, the 19th day of JULY next. The Board do not bind themselves to accept the lowest or any Tender.—By order,
WM. H. PEACOCK, Clerk of the said Local Board.
Barnsley, 24th June, 1862.

WALTON PARSONAGE HOUSE.—Beg to invite TENDERING for the ERECTION of a PARSONAGE HOUSE at Walton, Yorkshire, from the drawings and specifications at the Office of Messrs. WATSON & SON, Solicitors, Aylesbury, on and after the 7th day of JULY instant.—Further information may be obtained at the Office of the Architect, D. BRANDON, Esq. 24, Berkeley-square, London. The Tenders are to be delivered at the Office of Messrs. WATSON & SON, on or before the 14th JULY. The Committee for the Erection of the Parsonage House do not bind themselves to accept the lowest or any other Tender

MEDWAY LOWER NAVIGATION COMPANY.—To CONTRACTORS and OTHERS.—Persons desirous of TENDERING for the REMOVAL of a SHOAL, estimated at about 2,500 cubic yards, called the "Foretal Shoal," in the river Medway, between Allington Lock and Aylesford Bridge, may see the particulars relating to the proposed works on application to Mr. MARTIN BULMER, Maidstone, Surveyor to the company. Tenders to be delivered at the Offices of Messrs. BEALE & HOARE, Clerks to the Company, on or before the 14th day of JULY, 1862. The company do not bind themselves to accept the lowest or any other Tender.
Maidstone, June 30th, 1862.

TO STONEWARE PIPE-MAKERS and OTHERS.—The Sewers Committee of the Local Board of Health of the City and Borough of Bath, are desirous of receiving TENDERS for the SUPPLY of GLAZED STONEWARE SEWERAGE PIPES for twelve months. The probable quantity required will be 1,500 feet of 12 inch, 4,500 feet of 9 inch, 600 feet of 6-inch, with junctions and bends. The pipes to be of the best quality and make, and to be supplied from time to time in such quantities as may be required, from a depot to be provided by, and at the expense of, the contractor in Bath, where sufficient stock must be kept on hand to meet the demand. Tenders, upon the printed forms, sealed and endorsed "Tenders for Pipes," must be addressed to the Sewers Committee, at Foxhole's buildings, Bath, to be sent in on or before ELEVEN o'clock in the forenoon of WEDNESDAY, JULY 16, 1862. A sample 6-inch, a 9-inch, and a 12-inch pipe, with maker's name painted thereon, also to be delivered with at before. Tender, free of all charge, such pipes to become and remain the property of the Committee. The Committee do not bind themselves to accept the lowest or any Tender. Further particulars to be obtained of ALFRED MITCHELL, Engineer, 3, Fountain-buildings, Bath
ALFRED MITCHELL, Engineer.

TO BUILDERS.—The Stockton and Darlington Railway Company are prepared to receive TENDERS for the ERECTION of TWO HOUSES near the Railway Station, at Stockton. Plans and specification can be seen upon application at the Railway Offices, Darlington, from WEDNESDAY, the 2nd day of JULY, to WEDNESDAY, the 16th, at Stockton. Tenders to be delivered on or before THURSDAY, the 10th JULY, addressed to the Secretary, and endorsed "Tender for houses at Stockton." No pledge is given that the lowest or any Tender will be accepted.
Railway Office, June 28th, 1862. THOS. MAC NAY, Secretary.

RESTORATION of WADDESDON CHURCH, near Aylesbury, Bucks.—Builders desirous of TENDERING for the RE-ROOFING and RE-SEATING the above CHURCH may see the plans and specification, and obtain further information, on application at the Rest 29, Waddesdon, or at my Office, 20, Temple street, Birmingham, on or before the 7th JULY. The Tenders are to be addressed and delivered to the Rector, at Waddesdon, on 12th JULY. The lowest or any Tender will not necessarily be accepted. J. A. CHATWIN, Architect.
5, Temple street, Birmingham.

CARDIFF UNION.—To BUILDERS and CONTRACTORS INDUSTRIAL SCHOOLS.—The Guardians of the Cardiff Union are ready to receive TENDERS for the ERECTION of INDUSTRIAL TRAINING SCHOOLS at Ely, near Cardiff, in accordance with the plans and specification, which may be seen at the Cardiff Union Workhouse. Sealed tenders, endorsed "Tender for Industrial Schools," must be sent to my office on or before THURSDAY, 17th JULY, 1862. The Guardians do not bind themselves to accept the lowest or any Tender.—By order,
T. WATKINS, Clerk.

TO BUILDERS.—Persons desirous of CONTRACTING for the partial REBUILDING, REPAIR, and REFITTING of Malling Church, in Lincolnshire, may see the plans and specification by application to the Rev. B. BASHFORTH, Mouling Vicarage, or at their FRIDAY, the 4th of JULY last. Tenders to be sent to the office of the Architect, EWAN CHRISTIAN, 8, Whitehall-place, London, S.W. on or before THURSDAY, the 17th of JULY. The Committee do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.—TENDERS are required for the RESTORATION of the FABRIC, and the RE-FITTING of St. CUTHBERT'S CHURCH, Darlington. Plans and specifications may be seen in the Vestry, on and after WEDNESDAY, JULY 9th. Tenders are to be delivered before the 22nd of JULY, addressed to H. WILSON, Esq. Bondgate, Darlington, endorsed "Tender for Works at Church." Any additional information may be obtained by applying to the Architect, G. G. SCOTT, Esq. 20, Spring-gardens, London. The Committee will not bind themselves to accept the lowest or any Tender, and the contractor will be required to give substantial sureties to the full amount for the due performance of the work

MIDLAND RAILWAY.—TO BUILDERS AND OTHERS.—The Directors are prepared to receive TENDERS for the ERECTION and per schedule of prices of STABLING for Fifty Horses and sundry buildings in connection therewith, near the Goods Station, Ashton, Bristol.—Printed forms of Tender and further particulars may be obtained upon application at the Engineer's Office, Midland Railway, Glen-eater, on and after TUESDAY next. Tenders to be forwarded to the Secretary of the Way and Works Committee, Midland Railway, Derby, by NINE a.m. on TUESDAY, the 15th instant. The Directors do not bind themselves to accept the lowest or any Tender.—By order,
G. N. BROWNE, Secretary.
Derby, July 2nd, 1862.

TO IRONFOUNDERS, CONTRACTORS, and BUILDERS.—WATER-WORKS.—The Corporation of Hertford require TENDERS for the following WORKS and PIPES, &c. in separate Tenders:—
1. The Formation of a Reservoir, to contain 300,000 gallons of water; a Well; Cutting Trenches for Pipes, and Carting Pipes to the different points required.
2. Erection of Engine and Boiler House, and Cottage for Engineer.
3 About 4,000 Yards of Piping, varying from 3-inch to 2-inch Pipes, and Bends, &c.
4 Laying 4,000 Yards of Pipes, Services to Hydrants, and Fixing Hydrants.
Plans, specifications, &c. may be seen at the Office of Mr. C. J. C. BAILEY, Engineer, Hertingfordbury, Hertford, from the 10th to the 19th instant, both inclusive, between the hours of TEN a.m. and FOUR p.m. Any further information may be obtained of him, or the Consulting Engineer, W. GRAVATT, Esq. 16, Park-street, Westminster. Tenders are to be sent to the Town Clerk's Office, Hertford, by noon on MONDAY, JULY 21st, 1862, endorsed "Tender for Water-works." The Corporation do not bind themselves to accept the lowest or any Tender PHILIP LONGMORE, Town Clerk.
Hertford, 3rd July, 1862

TO SEWER CONTRACTORS AND OTHERS.
SEWER-BOOTS, for Flushing, &c., to be had at
T. A. STACKS, late Fowlis, 187, Drury-lane, W.C.
ESTABLISHED THIRTY YEARS CONTRACTS ON LOW TERMS.

TO ARCHITECTS AND SURVEYORS.
DAVIES & GUYER, LITHOGRAPHERS, STATIONERS, and PRINTERS, 2, Grocers' Hall-court, Poultry, E.C. beg to invite the attention of the profession generally to the resources of their establishment, as above, for LITHOGRAPHING AND COPYING BILLS OF QUANTITIES, SPECIFICATIONS, DETAIL DRAWINGS, &c. &c.
Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands, thoroughly conversant with the various binding terms, constantly engaged on the premises, they are enabled to guarantee superiority of style, correctness, and expedition. Specimens and Lists of Charges post free.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

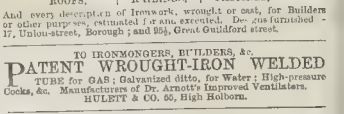
TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

POLYTECHNIC.—What I saw at the International Exhibition; or, Half-an-Hour's Advice to Intending Visitors, by Professor J. H. PEPPER, F.C.S. A. Inst. C.E.—New Lecture by J. H. Pepper, on Tuesday, Thursday, and Saturday, at half-past 12, and half-past 7, on "Some of the Chief Scientific Specialities of the International Exhibition." Her Majesty will see the remarkable imitations of the Lark, the Nightingale, and other Birds' Nests, and Animals. Re-engagement of George Buckland, Esq. for his Musical Entertainment in New Gorgeous Scenic Optical and Prismatic Fountain Spectacle—Beautiful Dissolving Views, illustrating "Olden Times and Modern Times"—Paris as it is—The Holy Land.—N.B. In consequence of the very general applause of the Conjuring by the BROTHERS FAMILY, they are re-engaged for another month. See weekly programmes of 8 pages. Open from 11 to 5, and half-past 6 to 10. Admission 1s.]

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.
PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS. | TANKS, BOOKS, RAILINGS. | STAIRCASES, MACHINERY, CASTINGS.
And every description of Iron-work, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished—17, Union-street, Borough; and 95½, Great Guildford street.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufactures of Dr. Arnott's Improved Ventilators.
HULETT & CO. 66, High Holborn.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Roe's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. F. W. Cowan keeps a large stock in hand, which may be seen at the Works. F. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Filtering Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRIDGE STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application

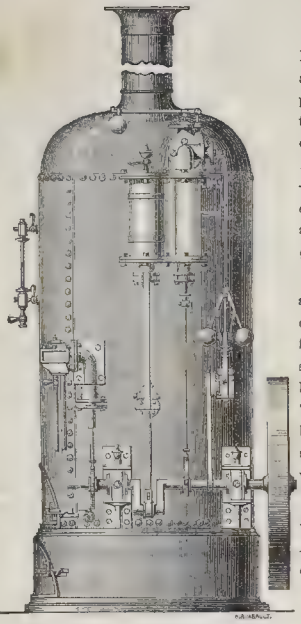
PATENT ASPHALTE CALDRON, for laying Asphalte Floors. The cheapest and best kind of floor, impervious to wet, and vermin will not touch it. Full particulars sent free, by
WOODS & COCKSEDGE,
IRONFOUNDERS, STOWMARKET.

NEW PATENT PORTABLE STEAM ENGINES AND BOILERS,

WITH IMPROVED COMBUSTION APPARATUS.

STATIONARY ENGINES

Requiring No Chimney-Shaft, nor Building whatever, a Cast-Iron Ash-Pit forming the Sole-Plate, and may be set up anywhere, and started at once.



The above is a Front Elevation of an IMPROVED NON-CONDENSING VERTICAL STEAM ENGINE, applied to stationary purposes. The Engine is strongly attached to the Boiler, which requires no Chimney-shaft nor any building whatever. The Boiler rests on a strong cast-iron base plate, which forms the ash-pit, and is provided with a door for removing the ashes and regulating the draught, thus giving complete control over the power of producing steam in the boiler. There is, by the adoption of the base-plate, no necessity for any brickwork whatever connected with these Engines, which have only to be set up on any secure foundation, and even, with perfect safety from risk of fire, on an upper wooden floor, with the addition, in such case, of an ordinary water ash-pan. The furnace-door is so constructed with a simple patent apparatus, as to afford more perfect combustion of the gases arising from the fuel which is being consumed.

The Boilers are of the most improved tubular construction, consuming less fuel, and generating steam more quickly than the ordinary dome variety, and are tested to more than double their working pressure. Dome boilers, however, can be supplied if desired. A further great improvement in the smaller sizes of these Engines is, that the crank shaft is so constructed as to admit of the fly-wheel being placed on either side, or a pulley at the side opposite to the fly-wheel to drive additional machinery, this being much superior to the old over-neck crank, which does not possess such advantage. *The cylinders of the Engines have a greater diameter—thus giving more power—than other Engines offered at the same price. The Engines are delivered free in Glasgow, Liverpool, or London, at the prices quoted.*

They are superior in finish as well as construction to any other Engines of similar description. Being very carefully made of the best materials, they may be perfectly relied on to work satisfactorily, and from their self-completeness they may be erected and set to work by any ordinary mechanic to instructions supplied. These Improved Engines have the great advantage of being applicable to a variety of purposes, the small space they occupy rendering them available where ordinary Engines cannot be used.

Engines mounted on flanged railway or plain roadway wheels, at 10 per cent. extra to the prices quoted. *All Engines are fitted with improved steam gauge without extra charge.*

PRICES OF ENGINES AND BOILERS COMPLETE.

Delivered free in Glasgow, Liverpool, or London.

1-Horse Power, Cylinder	3½	in.	×	6½	in.	Stroke	£45	9-Horse Power, Cylinder	9½	,,	×	16	,, £180
2	,,	,,	4½	,,	×	9	,,	65	11	,,	,,	10¾	,, × 18 ,, 210
3	,,	,,	5½	,,	×	11	,,	85	13	,,	,,	11¾	,, × 20 ,, 240
4	,,	,,	6½	,,	×	13	,,	105	16	,,	,,	13	,, × 22 ,, 275
5	,,	,,	7½	,,	×	14	,,	125	20	,,	,,	14½	,, × 24 ,, 310
7	,,	,,	8½	,,	×	14	,,	150	25	,,	pair Cyldrs.	11½	,, × 20 ,, 370

HOISTING ENGINES

Of Increased Power, Hoisting Greater Weights, and Delivered Free in Glasgow, Liverpool, or London, at ordinary prices.

No. 1.—PORTABLE STEAM CRANE, for a Wharf or Railway, on Wrought-iron Carriage and Roadway or Railway Flanged Wheels, with Link Motion, Foot Brake, &c. all under the easy control of one man. The Engine and Boiler swing completely round on the central pillar, and counterbalance the load. The Jib is adjustable, and the larger-sized Cranes are made to hoist, lower, and turn round in either direction by Steam; the smaller sizes hoist and lower by Steam, and twist by Hand.

Most of the improvements so successfully introduced into the Stationary Engines have also been introduced into these Cranes. They are made of the best material, finished in the best style, and are guaranteed in every case to work satisfactorily. They have another great advantage over other Steam Cranes, that they are provided with a pair of Cylinders instead of only one,—thus making the Cranes work more effectually and easily. The combined power of the pair of Cylinders is also greater, hoisting much heavier weights; and they are sold at the usual prices, as quoted under, delivered free in Glasgow, Liverpool, or London, and fitted with improved Steam Pressure Gauge, without extra charge.

THESE MAY ALSO BE WORKED AS HAND CRANES WHEN THE STEAM IS DOWN.

PRICES, delivered Free in Glasgow, Liverpool, or London.

4-Horse Power, to hoist, with Return Chain and Block,	35	cwt.	pair of Cylinders,	4¾	in.	diameter	×	10	in.	stroke	£190		
5	,,	,,	,,	,,	50	cwt.	,,	5	in.	,,	×	10	in. ,, 235
7	,,	,,	,,	,,	70	cwt.	,,	6	in.	,,	×	10	in. ,, 285
8	,,	,,	,,	,,	6	tons	,,	7	in.	,,	×	10	in. ,, 380

Larger sizes in proportion.

No. 2.—PORTABLE HOISTING ENGINE, on Carriage of Wood or Iron, and Roadway or Flanged Railway Wheels, with Pillar and Jib to swing about three-quarters round by Hand. The Engine, Brake, and Disengaging Clutch under the easy control of one man.

PRICES, delivered Free in Glasgow, Liverpool, or London.

2-Horse Power, one Cylinder,	4½	in.	diameter	×	9	in.	stroke,	to hoist,	with	single	Rope or Chain,	about 12	cwt. £115
3	,,	,,	5½	in.	,,	×	11	in.	,,	,,	,,	,,	17 ,, 145
4	,,	,,	6½	in.	,,	×	13	in.	,,	,,	,,	,,	23 ,, 175
5	,,	pair of Cylinders,	5½	in.	,,	×	10	in.	,,	,,	,,	,,	28 ,, 195
7	,,	,,	6½	in.	,,	×	10	in.	,,	,,	,,	,,	40 ,, 240

No. 3.—PORTABLE HOISTING ENGINE, on Wood Carriage and Roadway, or Flanged Wheels, with Crab Winch on front of Carriage, as in No. 2, but without Post or Jib. The Engine Brake, and Disengaging Clutch, are under the easy control of one man

PRICES, delivered Free in Glasgow, Liverpool, or London.

2-Horse Power, one Cylinder,	4½	in.	diameter	×	9	in.	stroke,	to hoist,	with	Single	Chain or Rope,	about 12	cwt. £95
3	,,	,,	5½	in.	,,	×	11	in.	,,	,,	,,	,,	17 ,, 120
4	,,	,,	6½	in.	,,	×	13	in.	,,	,,	,,	,,	23 ,, 135
5	,,	pair of Cylinders,	5½	in.	,,	×	10	in.	,,	,,	,,	,,	28 ,, 165
7	,,	,,	6½	in.	,,	×	10	in.	,,	,,	,,	,,	40 ,, 195

By a simple modification of the Gearing, any of the above Engines may be made to hoist more or less weight at a slower or faster rate, according to the requirements of the case; or they may be adapted for doing other work when required.

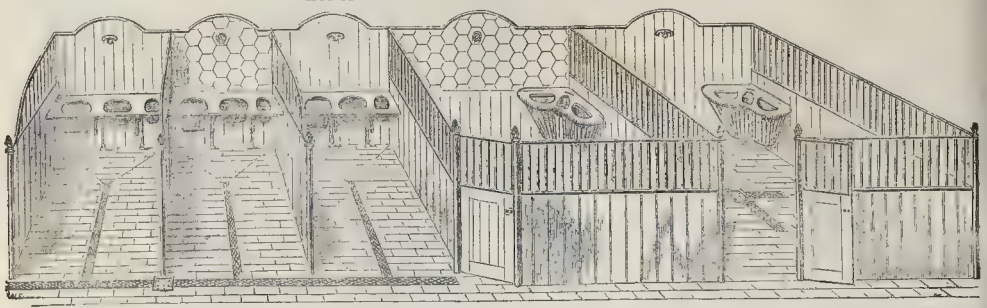
J. B. BROWN & CO. 18, CANNON STREET, CITY, LONDON, E.C.

COTTAM AND CO. 2, WINSLEY-STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined. KNIGHTLEY'S PATENT STABLE FLOOR.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

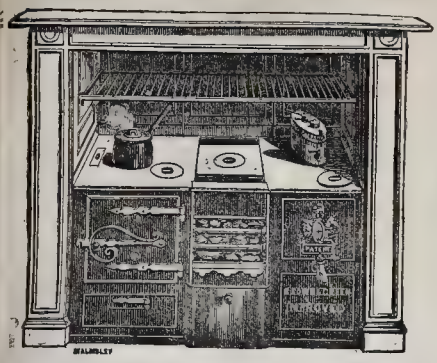
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, Cleats, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare-market, London.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10*s.*

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney, Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges.

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen alone are employed.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat,—viz. that reflected from the upper or concave surface,—to be projected parallel with the floor, instead of directly to the ceiling, as is done by the flat surface of the arch of the Stephens's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction, thus thoroughly warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which is intended to be kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black on the top, and obviates any needless waste of heat.

AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18*s.* 6*d.*

BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.

F. THOMAS, AGENT.

ILLUSTRATED PROSPECTUSES POST FREE.

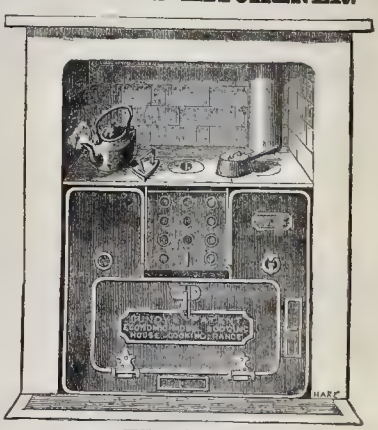
CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of

THE MANUFACTURER,



WHEN CLOSED.

WILLIAM ADDIS, Nos. 6 and 15, LEICESTER-ST. LEICESTER-SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61A, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.

THE ALPHA TUBE WORKS,

WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.

LAMBERT, BROTHERS,

Manufacturers of WROUGHT IRON TUBE and FITTINGS,

FOR HIGH-PRESSURE-WATER; OR STEAM.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. to the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 30 per cent. cheaper than iron pipes. They are made in seven feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

GALVANIZED IRON and ZINC WORKS.



TRADE MARK.

Galvanized or Black Sheet Iron, corrugated and plain, always in stock.
Manufacturer of Guttering, Pipes, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Iron-work Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers.

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET LONDON

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.



HENRY DOULTON AND CO.'S

PATENT COMBINED SMOKE AND AIR FLUES.

BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

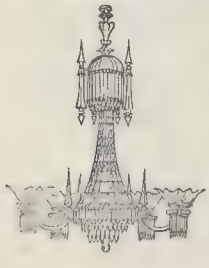
Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

Manufactured in terra cotta for smoke-flues equal to 12 in. 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

Small models will be forwarded to architects on application to

Henry Doulton & Co. High-street, Lambeth.



INTERNATIONAL EXHIBITION, Class 31 and 34.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

THE NEW CRYSTAL STAR AND SUN LIGHT.

J. DEFRIES & SONS,

ENGINEERS, GAS-FITTERS, AND MANUFACTURERS
Of MEDIÆVAL and every Description of
GAS-FITTINGS, CRYSTAL, BRASS, and ORMOLU
CHANDELIERS, VESTIBULES, &c. &c.

Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other public and private Buildings. HOT-WATER PIPES for heating Conservatories, Warehouses, &c. &c. supplied and fitted on the most Improved and Economical Principles. Public and Private Gas-Works Erected.

Works—London and Birmingham.
Principal Depôt and Show-rooms—147, Houndsditch, City.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

HART AND SON,

MEDIÆVAL METAL WORKERS,
IN SILVER, BRASS, & WROUGHT-IRON.

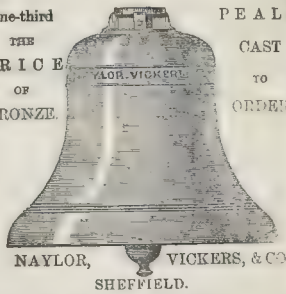


HALL LIGHTS, STANDARDS, PENDANTS, BRACKETS, GRATES, FENDERS, VANES, CROSSES, FINIALS, ALTAR AND TOMB RAILS, ALTAR PLATE, ALTAR CHAIRS, &c.

53 to 58, WYCH STREET, STRAND, W.C.
And 20, COCKSPUR STREET, PALL-MALL

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

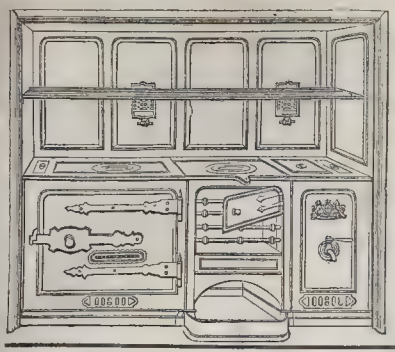
NAYLOR, VICKERS, & CO.
SHEFFIELD.

IRON RAILINGS, for enclosing TOMBS AND GRAVES

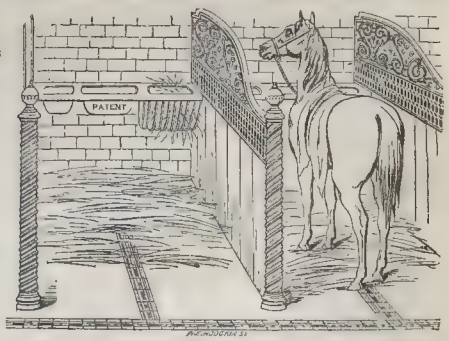


COMMUNION RAILINGS, SCREENS, GATES, &c
Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET,
LONDON, W.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT.



MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

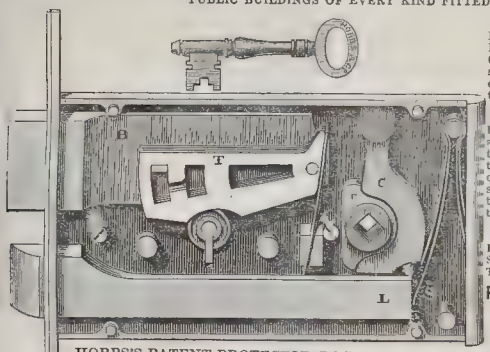
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.
Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

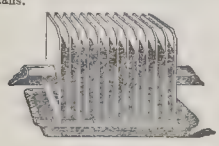


THE LONDON
WARMING AND VENTILATING COMPANY,
LIMITED,
26, GREAT GEORGE-STREET, Westminster, S.W.
MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known Plans.



The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL, the various offices of the "Department of Science and Art," and at the Architectural Societies' House, 9, Conduit street, Regent-street

Particulars and testimonials forwarded on application.

DEVAUX'S PURE THICK ROOFING ZINC,

FOR FLATS, ROOFS, GUTTERS, CURBS, MANSARDS, TERRACES, VERANDAHS,

And every ROOFING purpose, is of great durability, and will not get out of order if laid on the new system introduced by J. EDMESTON, Esq. F.R.I.B.A. by whom a certificate is given.

ESTIMATES FURNISHED to ARCHITECTS and BUILDERS for works to any amount, in town or country.

Apply to Mr. J. W. TYLER, Appointed Layer, 4, Wood-street, Westminster, S.W.

MODELS and SPECIMENS at the Architectural Galleries, 9, Conduit-street, W.

N.B.—Metal of the proper thickness only, is stamped with Messrs. DEVAUX'S name.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 114, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the joint and all staples, complete for fixing, at the following prices:—

Three-eighths inch diameter	1s. 0d. per foot.
Half-inch diameter	1s. 6d. "
Five-eighths inch diameter	2s. 0d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" Gateshead-on-Tyne.
" 27, Dale-street, Manchester.
" 68, Anderson-quay, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

TELEGRAPHS.

REID BROTHERS, 12, Wharf-road, City-road, near the Gutta-percha Works.

Telegraph Contractors to the following Telegraph Companies:—

THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.

Are now prepared to tender, estimate and execute contracts for firms and private gentlemen, in town and country. Gentlemen's private houses fitted up with simple and efficient telegraphs, on the most economical terms. All communications addressed to the above will meet with immediate attention.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.



This Stove is the most applicable to Warming by Hot Water, and an excellent Aid in Ventilation.

It will burn in Churches from Saturday till Sunday Evening, with little attention during the hours of service, in a well known fair sized night Coal, with little or no display of warmth, or consumption, for twenty-four hours, at a cost of Three-pence; and deserving of special attention, in case of its safety, its cleanliness, durability, and extreme simplicity.

Lists of prices will be sent on application, to the Inventors and Makers,

MUSGRAVE, BROTHERS,
Ann street Iron Works, Belfast

CAUTION to ARCHITECTS and BUILDERS.

—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of

SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER-TIGHT WATER BAR; and
SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 84, Bridge-street, Leicester-square, London, and SUCH ONLY are WARRANTED

SKAIFE & COMPANY,

Manufacturers of
PATENT GALVANIZED IRON.

Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanizing Tube Brackets and Tubs for export.

IRON WORK GALVANIZED

Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

W. HARMER & SON,

BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.
WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.
WROUGHT IRON TUBE and FITTINGS for GAS or WATER.
CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.

W. HARMER & SON,
3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,
5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE
PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

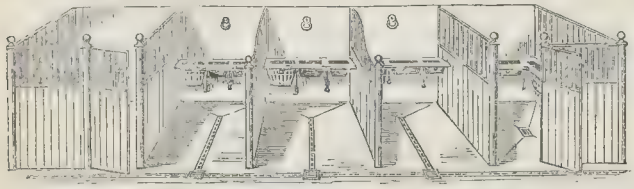
SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

BARTON'S PATENT STABLE FITTINGS.

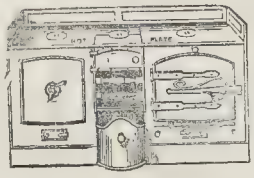
AND ENAMELLED MANGERS.
These SUPERIOR-CLASSSTABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.
The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four postage stamps.
JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.
The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.
A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.
All Goods delivered free within five miles.



BURT AND POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS.
38 and 65, York-street, Westminster.

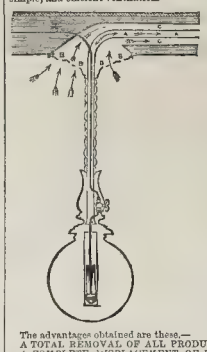
HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, King's road, Chelsea.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies street, Three Doors from Oxford street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman square, London, W.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 80, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

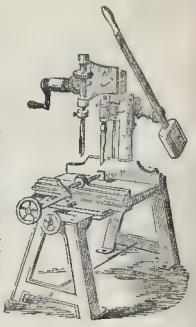
RICKET'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

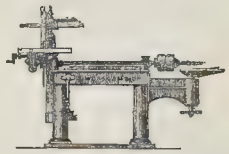
INTERNATIONAL EXHIBITION.
THIRTY-HORSE HIGH-PRESSURE CONDENSING HORIZONTAL ENGINE, Double Cylinder, driving flax machinery in the Western Annexe, FOR SALE, at the close of the Exhibition. She is sister to one erected this spring at Portslade Mill, near Brighton, for Mr. Smith, to whom reference is permitted as to her economy and other excellent qualities.—Apply at the Manufacturer's Stand, in Class 9, for information.
BARRETT, EXALL, & ANDREWES,
ENGINEERS, READING.

WILLIAM BISSELL, Wholesale Ironmonger, Union-street, Wolverhampton.
Proprietor of the Patent EQUI-ACTION RIM and MORTISE LOCKS, Patentee of the FLOORING CRAMP, and Sole Agent for HAIGH'S PATENT MORTISING, BORING, and DRILLING MACHINES.



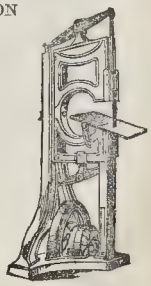
The most POWERFUL, SIMPLE, EASY, and DURABLE on the Market, combining the best mechanical principles of ECCENTRIC and LINEAR MOTIONS.
Testimonials of the highest class can be shown from Builders in almost every part of the United Kingdom.
A The Boring and Drilling Apparatus, which can be removed at pleasure.
Per 4 lb/ complete, with a set of eight chisels, screwdriver, and Boring Apparatus.
15/ ditto, ditto, without the Boring Apparatus.

S. WORSSAM & CO.'S PATENT
THE GENERAL JOINER.



(4-inch scale.)
This exceedingly useful and novel machine is adapted for sawing, cross-cutting, grooving, tonguing, rabbeting, tenoning, moulding, and boring; and will be found invaluable in any joiner's or builder's establishment. It is also specially useful for box-making, and is fitted with a slide-plate for squaring the edges of drawers, &c.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON STREET, E.C.

TO JOINERS AND BUILDERS.

IRONMONGERY at FIRST COST.—A List of Prices may be had on application to the BRITISH HARDWARE COMPANY, Phœnix Works, Wolverhampton.



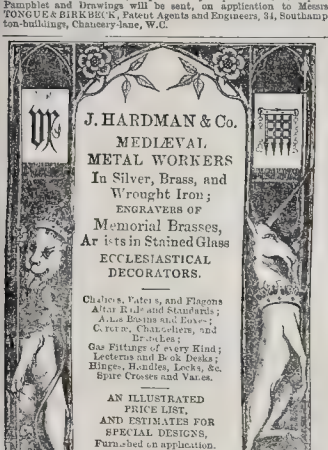
BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gaselers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.

Specimens at the Architectural Exhibition, Conduit street.

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, bothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fixing up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS F. HAWKINS, 27, Dale-end, Birmingham.

TO ARCHITECTS, BUILDERS, &c.

HEATING and VENTILATING LARGE PUBLIC BUILDINGS, HOTELS, MANSIONS, &c.—Your Inspection of ZIMARA'S MODEL of Improved Patent STOVE and APPARATUS for these purposes, in the Gallery of the Russian Court, International Exhibition, is particularly requested.—A Descriptive Pamphlet and Drawings will be sent, on application to Messrs. TONGUE & BIRKBECK, Patent Agents and Engineers, 34, Southamp ton-buildings, Chancery-lane, W.C.



CHUBB'S LOCKS, with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on Application
CHUBB and SON,
57, ST. PAUL'S CHURCH-YARD, LONDON,
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

HUTHNANCE'S PATENT ECONOMIC LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS,

Is strongly recommended to public notice, as being the most efficient an d economical arrangement for the purpose of drying linen, clothes, bedding, &c.; specially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c. &c.; as, in a sanitary point of view, it is invaluable, the DRYING-ROOM being raised by its use to a very high temperature, whilst the IRONING-ROOM is kept AGREEABLY COOL and WELL VENTILATED.

The economy of fuel is extraordinary, as, in a small union, it caused a saving of seven tons of coals in four months, whilst for simplicity of arrangement and cleanliness in use it cannot be surpassed.

No BLACKS or SOOT can enter the drying-room.

This arrangement has been carried out in numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS.

Testimonials and illustrated particulars forwarded, upon application to Mr. PIERCE, SOLE PROPRIETOR and MANUFACTURER, 5, JERMYN STREET, REGENT STREET.

A large model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

TRADE MARK.

CROWN TUBE WORKS, WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

HANDSOME BRASS and IRON BED-STEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanised; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill wall L.

LOSH, WILSON, & BELL, NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring a welcome and uniform lighting, equalising the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the
LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham street, London, E.C.

MOREWOOD & CO. (late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pulls, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

WANTED, a NEW or SECOND-HAND MACHINE for MIXING CONCRETE.—Particulars as to description and price to be sent to JOSHUA HARGRAVE, Jun. Victoria Quay Works, Cork, Ireland.

IRON BUILDINGS and IRON ROOFING. SAMUEL C. HEMMING & CO.
21, MOORGATE-STREET, E.C.

NOTICE TO BUILDERS AND CONTRACTORS.
HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Crab Winches, all sizes.—For further particulars apply to BOWSER & CAMERON, Springfield Ironworks, McNeil-street, Glasgow.

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

REDMUND'S PATENT HINGE MANU-FACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City-road, E.C. near the Canal Bridge
E. GOLLOP, SOLE PROPRIETOR.
A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor springs, Gate-hinges, Rising-hinges, Rising spring-hinges, Not-rising Spring-hinges, Double-acting Spring-hinges, Rising and Not rising Door Back springs, &c. &c.
Price List and Drawings on application as above.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON
FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY
TIMBER, WINE, and SPIRIT WARRANTS.
BANKRUPTS' and INSOLVENTS' CASES CONDUCTED.
Balance-sheets Prepared, and Meetings of Creditors Convened
Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT,
17, Moorgate-street, Bank, London.

BRICKMAKING BY STEAM POWER.
INTERNATIONAL EXHIBITION, Class 7 B, Eastern Annexe.
Messrs. BRADLEY and CRAVEN,
OF WESTGATE COMMON FOUNDRY, Wakefield, Yorkshire,
Are exhibiting one of their MACHINES as above.

The following testimonial from the well-known firm of Messrs. Pett & Betts, who are working Brick Machines of several makers,—Ainslie, Clayton, & Co. &c. is conclusive as to the practical superiority of Messrs. Bradley and Craven's

"9, Great George street, Westminster,
April 14th, 1862

Gentlemen,—I have pleasure in giving you the result of twelve months' experience in working your Brick Machines at my Aylesford Pottery. Previous to becoming acquainted with your machine, I had worked for years several of the best machines of the day; I have, therefore, had considerable experience in mechanical brick making, and the result is, I am pleased to notify to the value of your machine as being the only one that at present in this country will make a brick by one operation direct from the clay-pit without preparation, and at the same time with economy. I have had three of these machines working throughout the past year, both summer and winter, and as the machine requires no water to be mixed with the clay, we can wheel the bricks direct to the kilns. The machines make regularly from 40,000 to 50,000 bricks per day, and continue to give me every satisfaction. I can also bear testimony to the value of your Dry Clay Machine and Mill, now working for me at the Sydenham tunnel, producing very superior bricks from a most refractory material at the rate of 12,000 per day. I shall be happy to submit your friends to my works to see them in operation on receipt of an introduction from you.—I am, gentlemen, your obedient servant,
E. L. BETTS.

To Messrs. Bradley & Craven, Wakefield."

Illustrated catalogues and every information connected with brick machinery on application as above.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 36s. per 1,000
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire-street Station, at 26s. per 1,000.

BRICKS of this season's make are now READY FOR SALE at the RANELAGH BRICK WORKS, Fulham fields, and the SWAN BRICK WORKS, Wallam-green, S.W. Bright stocks for facings, grey stocks, grizzells, and place, of superior quality, can be delivered to any part of the W. or S.W. districts at very reasonable prices.—J. JOHNSON, Proprietor.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns
Best hard kiln-burnt Common Bricks, in large quantities.
Do 6 inches.
Do Culvert Bricks
Plain Tiles of kinds
Plain and Fancy Ridge-tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.
Price, including royalty, 75*l.*
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Swanborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,810.

A NEW BRICK and LIME WHARF, and DRAWDOCK,
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS.
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8	Guineas.
Gentlemen's do do	10	"
Ladies' or Gentlemen's Gold English Lever Watches	18	"
Strong Silver Lever Watches	6	"
Gentlemen's Gold Compensation Balance Watches	40	"
Do. Silver do.	25	"
Marine Chronometers	35	"

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 33, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.

INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock, may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3 348.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Blackfriars-road.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge. OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

MARBLE AND STONE WORKS,

WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

BRIGHTON.—To PLUMBERS and HOUSE DECORATORS To be DISPOSED OF, an ESTABLISHED BUSINESS, in the immediate neighbourhood of the first-class resident families. The only business now in the neighbourhood. Most convenient premises and moderate rent; the present trade about 1,200*l.* per annum; a business man with capital could do three times the amount; about 300*l.* cash; more than the value in stock and plant.—Apply to M. W. WEBBER, 43, Portland-street, Brighton.

TO MARBLE and STONE MASONS.—An old-established BUSINESS in the above line, at Sherborne, TO BE SOLD, with a trade to begin with. Satisfactory reasons will be given for the disposal of the same. May be offered on moderate terms. No opposition within six miles. Coming into Use. Apply to WILLIAM COLE, Accreman-street, Sherborne, Dorset; or at his residence, Acreman-street, Yeovil, somerset.

OLD-ESTABLISHED BUILDER'S BUSINESS TO BE LET, with immediate possession, situate at Alton, Hants, the terminus of the Guildford branch of the South Western Railway, about 1 hour from London. Stock of timber, and the whole or part may be taken. The premises consist of a good dwelling house, two workshops, sheds, yard, stable, and A. The present good opportunity for any person wishing to engage in the building business. Particulars of Messrs. CLEMENT Solicitors, Alton; or of Mr. E. HELLIS, Woodside, Alton, Hants.

"THE BUILDER"—February 15th, 22nd, March 1st and 15th, 1862

A few Copies of the above dates are required.—Apply to the Publisher, at the Office, 1, York-street, Covent-garden, W.C.

NEW WORK by WILLIAM TEMPLETON. Now ready, 18mo. 2*s.* 6*d.* cloth; postage 2½*d.*

THE ENGINEER'S, MILLWRIGHT'S, and MACHINIST'S PRACTICAL ASSISTANT: a Collection of valuable Rules, Data, &c.

By WILLIAM TEMPLETON, Author of "The Operative Mechanic's Workshop Companion," &c.

LOCKWOOD & CO. 7, Stationers'-hall-court, E.C.

This day, a third edition, Atlas of Plates, folio, with separate text, 12mo. price together, 1*l.* 5*s.* (postage 1*s.*),

ON IRON SHIPBUILDING, with Practical Examples and Details, in 24 Plates; together with Descriptions, Explanations, and General Remarks.

By JOHN GRANTHAM, C.E. Consulting Engineer and Naval Architect.

LOCKWOOD & CO. 7, Stationers'-hall-court, E.C.

In 1 vol. 12mo. limp cloth, 2*s.*

THE PRACTICE of EMBANKING LANDS from the SEA, treated as a Means of Profitable Employment (Capital and Enterprise); and also Practical Embankments; and also Practical Remarks on the Repair of Old Sea Walls.

By JOHN WIGGINS, F.G.S. Late Assistant Surveyor.

Forming Vol. LXXX. of the LIBRARY of USEFUL KNOWLEDGE, RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy-lane, and 294, City-road.

Now ready, with a Frontispiece of Stonehenge and a Selection of some of the most remarkable Megalithic Antiquities, Ancient and Modern, drawn and etched by Mr. Spreckley, &c.

COLOSSAL VESTIGES of the OLDER NATIONS. By WILLIAM LINTON, Corresponding Member of the Archæological Society of Athens, Author of "Ancient and Modern Colours," "Scenery of Greece," &c.

London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

NEW WORK BY SIR HENRY HOLLAND, BART.

Just published, crown 8vo, price 10*s.* 6*d.* cloth,

ESSAYS on SCIENTIFIC and other subjects contributed to the Edinburgh and Quarterly Reviews. By Sir HENRY HOLLAND, Bart. M.D. F.R.S. D.C.L. Oxon. &c. Fellow of the Royal College of Physicians; Physician in Ordinary to the Queen.

"We are asked to point out give the most complete, the most thorough, in which one might observe a few of what is now being attain the best view of the present [illegible] circle of sciences, and [illegible] of natural science, its [illegible] of the ultimate results to which [illegible] aims, its guiding prin[illegible] the several sciences converge. [illegible] its most recent discoveries, in [illegible] of subjects we can see [illegible] capable for the next that Sir Henry has included all [illegible] few years, we choose, with the most important scientific hesitation fix upon these "Essays" problems of the day."—*Times.*

Sir Henry Holland. They

London LONGMAN, GREEN, & CO. 14, Ludgate-hill.

PART III. JULY 1.

PRACTICAL MECHANICS' JOURNAL RECORD of the EXHIBITION, contains: AGRICULTURAL IMPLEMENTS and BRICKmaking, TILE MACHINERY, by JOHN WILSON, F.R.S.E. F.C.S. Professor of Agriculture, Edinburgh University; NEW MANURES, by AUGUSTUS VOELCKER, Ph. D. F.C.S. Agricultural College, Cirencester; MINING and COLLIERY WORK, by WARINGTON SMYTH, M.A. F.R.S. Government School of Mines Illustrated by large Plate Engravings of AVELING & PORTER'S TRACTION ENGINE, and AYTOUN'S MINING CAGE; with sixty Woodcuts.

London: LONGMAN & CO. Ludgate-hill
Proprietors' Offices: Offices for Patents, 47, Lincoln's-inn-fields, W.C.

THE EDINBURGH REVIEW, No CCXXV.—ADVERTISEMENTS intended for insertion should be forwarded to the Publishers immediately. Advertisements and Bills cannot be received later than WEDNESDAY NEXT.

London: LONGMAN & CO. 14, Ludgate-hill.

Just published, Part I. containing Five Plates, impl. 4to. price 5*s.*

MODERN ARCHITECTURE: ECCLESIASTICAL, CIVIL, and DOMESTIC. Illustrated by Views and Plans of Gothic and Classic Buildings executed since 1850.

By JAMES MURRAY, F.R.I.B.A.

This work will consist of Lithographic Views and Plans of Churches, Town-halls, Exchanges, Warehouses, Schools, Villas, Street Houses, &c. &c. and will be completed in Twelve Parts. Published Monthly Subscribers' names to be sent to the Author, at 5, Warwick green South, Coventry.

Just published, price 2*l.* 2*s.*

MANUAL of HYDROLOGY By NATHANIEL BEARDMORE, Civil Engineer.

CONTAINING—

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES
DIVISION IV.—ON RAINFALL AND EVAPORATION
The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 68, London-wall. 1862

KELLY'S PRACTICAL BUILDERS' PRICE-BOOK; or, Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an abstract of the New Building Act for regulating the Construction of Buildings. Revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by steel Engravings and numerous Woodcuts. Royal 8vo. price 8*s.* neatly bound,

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL: and may be had of all Booksellers

Of whom may be had, New Editions in 2 parts, of the following Practical Architectural Works.

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET MAKING, Revised by TREDGOLD: being a new and complete System of Lines, for the Use of Workmen; founded on Geometrical and Mechanical Principles Ten parts at 3*s.* or in boards, 30*s.*; containing upwards of 120 Steel Plates, and numerous Woodcut Diagrams

2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING (revised by TREDGOLD), both plain and ornamental; containing a new and complete System of Lines for Stone Cutting, for the Use of Workmen; the Formation of Mortars, Cements, Concrete, &c. to which is added a variety of new designs for Mural Tablets, Tombs, Gravestones for Cemeteries, &c. &c.; and a description of the various materials employed. Ten Parts at 2*s.* 6*d.* in boards, 25*s.*; containing upwards of Ninety Steel Plates and Numerous Woodcuts

3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the FIVE ORDERS of ARCHITECTURE containing Rules and Simple Rules for Drawing and Executing them in the purest style; including an historical Description of Gothic Architecture. Delivered by myriads of One Hundred Steel Engravings, executed by Artists of first-rate talent, including numerous Diagrams, &c. Twelve parts at 3*s.*; or in boards, 36*s.*

4. DESIGNS for COTTAGE and VILLA ARCHITECTURE: containing Plans, Elevations, Sections, Perspective Views, and Details for the Erection of Cottages and Villas. By H. BROOKS, Architect. Beautifully engraved on steel, with Direction for Building, and the estimated Cost of each Edifice. Twelve parts at 3*s.*; or in boards, 40*s.*

5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views and Details of Churches, Chapels, Schools, Almshouses, Gas Works, Markets, and other buildings for public purposes. By H. BROOKS, Architect. Beautifully engraved on steel. Ten Parts, at 3*s.* or 32*s.* boards

6. THE HOUSE DECORATOR and PAINTER'S GUIDE: containing a series of Designs for Decorating Apartments with taste, and suited to the various styles of Architecture. By H. W and A. ARROWSMITH, House Decorators to her Majesty. Ten Parts, at 3*s.*; or in boards, 30*s.*

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION: containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the Origin of Colour, the Laws of Harmonious Colouring, the Manufacture of Pigments, Oils, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by actual Specimens of Hand-Brush Graining and Marbling. Ten Parts, at 3*s.*; or in boards, 32*s.*

THE ENGINEERS' and MECHANICS' ENCYCLOPÆDIA, a new and enlarged edition, comprehending Practical Illustrations of the Machinery and Processes employed in every description of Manufacture of the British Empire. Illustrated by upwards of 2,000 Wood Engravings. By LUKE HEBBERT, Civil Engineer, &c. The rapid progress of Mechanical Science has developed many of the important facts since the first publication, in 1825, of the Encyclopædia. The Inventions and discoveries recently made have engaged the sedulous attention of the Editor; for, as the value of each was tested by experiment, a description was accordingly prepared. By the select on of new articles and care in the revision of old ones, the work has now become systematically enriched: so that it may be received as fully and faithfully expressing "the existing state of Engineering and Mechanism, adapted to the wants of Practical Men." In two large 8vo volumes, cloth lettered, price 30*s.*

INTERNATIONAL EXHIBITION ILLUSTRATED CATALOGUE.

THE ART-JOURNAL for July (price 2*s.* 6*d.*) contains the fourth division of the Illustrated Catalogue of the International Exhibition. The exhibited specimens comprised in this portion are from works executed in Jewellery, Silver, &c.; Lace; Stained Glass; Terra-cotta; English Porcelain; Crystal Glass; Examples of Dresden Porcelain from the Royal Manufactory at Meissen. The State Carriage of the King of Prussia; also specimens of Carriages by celebrated English and Foreign builders. The works in Cast-iron include Ornamental Balustrades and Chimney-pieces, Gates and Umbrella stands, Grates, Tables, and Medieval Stoves and Fenders, &c. &c. The letter-press portion of the ART-JOURNAL for July contains Articles on the Pictures of the British School of the International Exhibition; Block Printing, Ancient and Modern, illustrated; Notabilia of the International Exhibition; New Documents regarding Michel-angelo; Exhibition of the Works of Old Masters at the British Institution, &c. &c. The Line Engravings published with this number are "The Duet," by J. Sant, A.R.A. engraved by F. Holl, and "Dutch Boats in a Gale," engraved by J. C. Armytage, from the picture by J. M. W. Turner, R.A.

JAMES S. VIRTUE, 26, Ivy-lane, and 1 International Bazaar.

Just published, half sheet imperial, in shilling cover, price 10*s.* 6*d.*

SUGGESTIONS for the FORMATION of a NEW STYLE of ARCHITECTURE, specially adapted to CIVIC PURPOSES.

By T. MELLARD READE, Architect, Liverpool.

Containing Seven Plates and a Treatise on the Growth and Development of existing Styles, and an Inquiry into the Principles by which they have been evolved.

All on finest Plate Paper.

London: JOHN WEALE, 59, High Holborn.

BANKSIDE, SOUTHWARK. — TO BE LET, on Lease, extensive PREMISES and a WHARF, on the banks of the Thames, extending from New Park street to the river, near the foot of Southwark bridge. Further particulars may be had of Messrs BENBOW, TUCKER, & SALTWELL, Solicitors, No. 1, Stone-buildings, Lincoln's-inn; and of Messrs ABBOTT & WRIGGLESWORTH, No. 26, Bedford-row, Gray's-inn, who are instructed to let the property, either as a whole or in separate occupations.

GRANGE PARK, LEYTON, ESSEX.—FOR SALE BY PRIVATE CONTRACT, in Lots, a portion of this Park, suitable for the erection of villas or good cottages. The estate is freehold and tax free, and is situate within ten minutes' walk of the Low Leyton Station on the Loughton Railway. The purchase-money may be paid by instalments.—Apply to Mr. WHITTINGHAM, 14, Moorgate street, London, E.C.

BUCKHURST HILL, near WOODFORD, ESSEX.—FOR SALE, several eligible SITES for the erection of one or more residences, close to the Railway station and the Forest. The purchase money may be paid by instalments. Apply to Mr. WHITTINGHAM, 14, Moorgate street, London, E.C.

WALTHAMSTOW, ESSEX.—FOR SALE, several Lots of eligible FREEHOLD BUILDING LAND, near the Church, and within a pleasant walk of the Forest.—For further particulars apply to Mr. WHITTINGHAM, 14, Moorgate-street, London, E.C.

HAMPSTEAD.—To BUILDERS, CAPITALISTS, and OTHERS.—Some most desirable FREEHOLD LAND TO BE LET or SOLD, for building purposes; eligibly situate in this healthy locality. Leases can be obtained direct from the freeholder.—For terms and further particulars, apply to E. HABERSHON, 37, Bedford-place, Russell-square.

BUILDING LAND.—TO BE LET, at Castle-hill, Dover, on BUILDING LEASES, for 99 years, good SITES, on main roads, for houses, villas, &c. The ground commands good views of the sea, Shakespeare's Cliff, &c. and one of the most picturesque spots in Dover. The new church of St. James's is on the estate.—For full particulars and plan, apply to Messrs. DANIEL SMITH, SON, & OAKLEY, 10, Waterloo-place, Pall mall, S.W.

BUILDING LAND TO LET, for First and Second Rate Villas, within ten miles of London, and a few minutes' walk from a good railway station. Situation high, healthy, and respectable.—For particulars address A. M. care of Mr. Muller, Post-office, No. 9, High Holborn.

LIME GROVE ESTATE, Putney.—This fine estate, containing altogether about forty acres, and immediately adjacent to the Putney Station, and near to Putney heath, with very extensive frontages on Putney Hill and the Upper Richmond-road, TO BE LET on building leases, either as a whole, or in part.—For particulars, apply to Messrs. BAXTER, ROSE, & CO. 6, Victoria-street, Westminster; Mr. POWNALL, 60, Lincoln's Inn-fields; or Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament-street.

TO BUILDERS.—FOR SALE, FREEHOLD LAND, about Seven Acres and a Quarter, with House and Courts, at Acton, five miles from the Marble Arch, and a quarter of a mile from the North and South Junction Railway Station. Soil, gravel, sloping south; well timbered, frontage to Uxbridge-road, also to East Acton-road. Gas and water pass the premises.—May be viewed from TEN to FIVE, at Grove House, Acton, Middlesex.

The Builder.

VOL. XX.—No. 1013.

The Palace of Art and Industry: the Public Works of France.

OUR previous article* on the illustrations in the Exhibition building, of French engineering and public works, whilst referring to the divisions of the classification which comprise bridges and viaducts, spoke of those works as exemplifying steps of the recent progress in construction of deep-seated foundations, and others in rapid completion of a roadway, which are of great importance in the economic and financial aspect of bridge-building, and towards the object of perfecting routes and communications, whether in such a country as France, or such a town as London. At the conclusion of the same article, points of difference in the application of the compressed-air system of founding piers of bridges were adverted to; and of these, reserving for subsequent notice here, the matter of the improvements in the practice of construction of the roadway, we proceed to give some account.

The first idea of the compressed-air system, says Mr. Castor in a foot-note in his book mentioned in our last article, and say the French engineers lately in London, was put forth by Mr. Triger, a Frenchman, who, adopting the system in mining operations under water, suggested that it might be applied in bridge-building. It was actually so first applied, as the French allow, in the foundations of Rochester Bridge. In the volume of our Journal for 1856 in which appears the account of that bridge, may be found some particulars which we wrote, of the method of founding the piers.† To that invention or application the name of Mr. John Hughes was attached. How far, both he and the French engineer were anticipated by Lord Dundonald's patent of 1830, we will not now inquire. Mr. Hughes's method was adopted at Rochester when Dr. Potts's exhaustion system, it was discovered, would not answer the requirements. The late Mr. Brunel recognized the value of the compressed-air system, and made a great step in the application of it. His cylinder, which was of plate-iron, for the pier of the Saltash Bridge, was so much as 37 feet in diameter and 90 feet in length. It was strongly stayed, was closed at the top, and had the bottom divided into compartments, which, says a printed account, "were kept clear of water partly by a supply of compressed air, partly by pumping." The cylinder was "correctly placed on the rock through the mud which was there, 13 feet in depth, and which being loaded with shingle ballast, assisted to keep out the water."

Somewhat later than the work at Rochester we believe, the compressed-air system was applied in the bridge of Tzegedin over the Theiss in Hungary, and at Macon and Lyons in France. In the Kehl Bridge modifications of great importance were made, primarily to avoid the necessity of sinking the number of cylinders which would have been required for the considerable area of each pier. The modifications comprised the use of caissons of sheet iron (strengthened), three to the ordinary piers and four for those of larger area, each caisson being, in fact, little different from a diving-bell, into the roof of which were fixed two cylinders for alternate use, to be lengthened by addition at the top as the caisson descended, and also a third cylinder, starting from the bottom level, in which a dredging apparatus worked, scooping the materials of the bed of the river, and raising them to the summit. The compression of air was maintained only in the cylinders first mentioned and the caisson: the cylinder for the chain of buckets was open at the top, and dipped at bottom into water. The workmen removed the earth from beneath the lower edges of the caisson, throwing it to the centre to be taken up; and the whole apparatus descended by this means and the dredging of the river bed. The *béton* and masonry were built upon the caisson and inclosing the cylinders, as well as internally to support the iron ceiling; and the whole descended till the required depth was reached, when the cylinders and caisson were entirely filled, and the pier was complete.

In the Bordeaux Bridge, there were only cylinders; thus, these were filled, but not encased. There were, however, improvements upon the Rochester method of executing the work, we are told, in the use of the hydraulic press in lieu of the addition of weight to sink the cylinders, by which the sinking was under regulation, and did not take place by jerks; and instead of chambers at the top, requiring to be detached as often as the cylinder had to be lengthened, the upper part of the cylinder itself was arranged in a simple manner, with two removable floors, so that the materials, when raised, could be readily deposited, and thence speedily shot into barges.

In the Argenteuil Bridge, which is on the new Paris and Dieppe line, there is a further modification. We find it shown in Mr. Castor's book, and there described, as well as in the *Moniteur* of the 2nd of last month. In this most recent case, each cylinder-pile is composed of an outer cylinder-casing and an inner cylinder. The latter, the centrally-placed cylinder, rests on a base having the form of an inverted funnel, which is called *crinoline* by the workmen. The larger circumference of this funnel-shaped caisson corresponds with the bottom of the outer cylinder, the whole (*crinoline* and concentric-cylinders) being let down to the bed of the river by suspension-rods, ready for the commencement of the dredging and excavating work. The *béton* or masonry is filled in to the space between the two cylinders; and they are sunk by the weight. When the river-bed thus is reached, the work goes on, the inner tube or cylinder where a chain of scoop-buckets is set to work, and the cone-base, forming together the compressed-air portion of the arrangement, and the outer space, open at the top, being continually filled in with *béton*. By the aid of these and other improvements, the piers of the Argenteuil Bridge have been sunk 16 to 20 mètres below the level of the river-bed, and with great rapidity. Actually, the sinking and construction of the last pile was effected in twenty-five days; though as we learn, the soil was not of the most favourable character. The whole was completed under the supervision of the engineers of the Compagnie de l'Ouest,—Mr. Jullien, director; Mr. Martin, engineer-in-chief; and Mr. Léonard, "ingénieur ordinaire des ponts et chaussées." Mr. Castor, in his book, shadows forth other economic improvements applicable in future cases, such as the substitution of sheet-iron for cast, in the outer cylinder, where filled with *béton*. It is right to add that some of the methods above described resemble in certain points, features of a system for which Mr. Hughes obtained a patent, his second, in 1853.

It has been recently stated that Mr. Hawkshaw is adopting the compressed-air system in sinking the cylinders for the railway-bridge which is displacing the Hungerford suspension-bridge. That is an error. He is adopting the method in the case of a bridge at Londonderry, where he has the assistance of Mr. Hughes. But the cylinders for the bridge over the Thames are sunk by the aid of divers, who work in the ordinary manner. The reasons for the preference of the method in the latter case may be worth mentioning; for, considering the improvements in the dress and mechanical contrivances for diving as exemplified in many of the specimens of such apparatus in the Exhibition, the compressed-air or diving-bell system may not be necessarily the most conducive to durability in piers of all bridges, or even the most rapid method of proceeding. In the compressed-air system, from the moment that the foot of a cylinder in the descent has got below the level of the river-bed, the cylinder is kept free of water by a constant or repeated forcing of the air and water from its interior through the soil round about the foot, or so in great part. The disturbance of the soil which may result would, at first thought, not appear desirable. In the case of the Hungerford or Charing-cross bridge, the engineer knew that the cylinders would soon arrive at the London clay, when they could be pumped dry; so that, for all reasons, he preferred not to adopt the system which he used, at Londonderry, under other conditions of *strata*, even in passing through the Thames bed of gravel. In the foundations of the Lambeth Bridge by Mr. Barlow, in which as in the last case, cylinders are used, and without the application of the compressed-air system, not even has it been necessary to employ divers: indeed it is preferred to dispense with them. The cylinders are weighted; and they sink thus a considerable portion of the depth of the stratum of gravel. The removal of the gravel is effected by scoops; and after the cylinder reaches the clay, there is no difficulty. It is evident from these particulars of French and English practice that we are arriving at the utmost simplicity and economy in the construction of foundations; and our readers, knowing the importance to be attached even in social progress, to the provision of adequate routes in towns and countries, will approve of this digression from the notice of the models in the Exhibition.

We need not add much to the particulars we have given, above and heretofore, of the Kehl Bridge. The works of that bridge were commenced at the end of 1858; and, though the opening of the *route* did not take place till April, 1861, the foundations seem to have occupied but a small portion of the time, or about a month for the construction of each pier. The expense of the whole bridge is set down as seven millions of francs, or 280,000*l.*; of which sum 5,250,000 francs, or 210,000*l.*, are said to have belonged to the foundations. Messrs. Vuigner and Fleur-Saint-Denis, assisted by Mr. de Sappel, were the engineers directing the last-named portion of the works. The two first-mentioned gentlemen have published a description of their proceedings,* which would probably show whether the arrangement of the third cylinder, which is open at the top, provides the channel for the air forced out of the caisson, and so renders less probable any disturbance, real or apprehended, of the foundation, as in the use of cylinders without caissons.

The Bordeaux Bridge has a total length of about 500 mètres, which is divided into 7 spans, namely, two of 57 mètres 36 centimètres each, and five of 77 mètres 50 centimètres, measuring from centre to centre of piles. The superstructure is an ordinary arrangement of diagonal bracing in riveted iron. Each pier consists of two cylinder piles, at a distance of 8 mètres from centre to centre; each tube or cylinder being but 3 mètres 6 centi-

* See p. 433, *ante*.
† Vol. xiv., pages 417, and 480.

* "Pont sur le Rhin à Kehl. Détails Pratiques sur les dispositions générales et d'exécution de cet ouvrage d'art; par M. Emile Vuigner, Ingénieur en Chef de la Compagnie des Chemins de Fer de l'Est, et M. Fleur Saint-Denis, Ingénieur Principal de la Sixième Division de Construction." 2 vols., 4to., 1 vol. text, pp. xxiii. and 157; and atlas, plates 22. Paris: Dunod, Quai des Augustins 49. 1861.

mètres in diameter. The foundations were commenced on the 15th of September, 1858; and the bridge was opened on the 15th of August, 1860 The special difficulties arose from the tides, and the depth of water varying from 7 to 13 mètres, and from the swiftness of the current. The repeated changes of pressure rendered the hydraulic-press before spoken of, particularly suitable in sinking the tubes. By the successful application of steam-power,—the moving force being outside; though connexion to the chain of buckets inside, was not first easy,—it became possible to raise the excavated earth with such rapidity, that a tube could be sunk 2 mètres 65 centimètres in the space of twenty-four hours. The twelve tubes of the intermediate piers, were sunk in less than thirteen months; and the statement that, whilst the sinking of the first tube absorbed, though exceptionally, fifty-two days, that of the last demanded only nine days, its depth in the soil being 15 mètres 84 centimètres, gives some idea both of the actual gain in bridge-building, and the progress still that may be looked for. It may be well to note that in this case, the superstructure of the bridge was constructed with the aid of some kind of scaffolding. This seems to have consisted of a temporary work (*pont de service*), extending half across the river, which was removed to the other half, when the permanent work was completed; a clear-way of 250 mètres being always left for the navigation. The total cost of this bridge was 2,994,000 francs (119,760*l.*), or 5,988 francs (239*l.* 10s. 4½d.) per mètre of length. The total expense of the six intermediate piers was 694,686 francs 60 centimes. Each pier, composed as above stated of two piles or cylinders, cost 115,781 francs 10 centimes, which would be 57,890 francs 55 centimes each cylinder; depth in the soil varying from 7 mètres 52 centimètres to 17 mètres 3 centimètres. The castings, the cylinders themselves, absorbed half the sum; the sinking operation having cost only 8,910 francs 10 centimes of the amount per cylinder, and the concrete 5,058 francs 64 centimes. Thus it appears that each cylinder of such a bridge as that over the Garonne, might, at French prices, be placed in position at a cost of less than 2,316*l.* But the experience at Argenteuil seems to us to point the way to having, without material increase of expense, a larger area of base for piers, and a better architectural effect than that of two pegs or posts. The price paid to the contractor for the superstructure of the Bordeaux bridge was at the rate of 66 centimes per kilogramme of wrought and plate iron fixed in place. The original designs for the bridge were made by the late Mr. Bommart; the definitive projects were by Messrs. Laroche-Tollay and Regnauld; and the works were completed under the direction of Mr. Surell, all engineers of various grades "des ponts et chaussées," and connected with the company of the Chemin de Fer du Midi.

The construction of the arch or truss of an iron bridge without centering, or support raised from below, is the next important description of recent practice of which we find illustrations in the French Public Works' Court. The Pont de Saint-Just, a road-bridge, across the Ardèche, was built to replace a stone bridge that had been carried away by a flood. The first intention after the accident, was to construct a suspension-bridge; but when the piers for that work had been commenced, the administration "des Ponts et Chaussées" decided in favour of the arched form, with five piers instead of the two as in the first project. The span of each of the six openings is slightly over 46½ mètres, and is composed of five wrought-iron arched girders distant rather more than 1¼ mètre, and with a rise of 4½ mètres. The breadth of the bridge is 7 mètres, between the balustrades. The principal members of the construction in each span are bolted with those of each adjoining span through the masonry of the pier. Thus, it is considered, the system of construction is capable of being regarded as the application of two different principles, one, the principle of the arch, and the other that of the console,—and that it is to the union of the two conditions that the stability of the construction, in spite of the slight rise of the arches, is due. Wrought iron is used, rather than cast, on the ground that the parts of the girder are subject chiefly to the tensile strain. We will now speak of the method adopted in placing these arched girders in their positions. Until recently, it was the practice to build the arches of all bridges on wooden centres. The system was adopted alike for bridges in cast-iron as for those in masonry; and, says the French account, it was retained even for the Bridge of Arcola, in Paris, which is of wrought-iron. One of our articles on Paris, however, has spoken of a different method of construction in the Pont des Saints-Pères, where for each arched girder, the form was first built in carpentry, and the iron-work bolted thereon, so as to constitute when finished, a tubular arc, the wood being encased by the iron. The old method of centres has several disadvantages, in the case of iron bridges. The arches, so to call them, in wrought-iron, like girders of plate-iron or trellis-work, are formed of fragments which have to be riveted, or otherwise put together, to ensure as nearly as possible rigidity; whilst there should be free access to the arches or girders, during construction, on the underside. Wooden centres therefore are considered as at least entailing supplementary operations and expense. In the particular case of the bridge over the Ardèche, there was another reason for not adopting ordinary centres, namely, the liability of the river to floods, which occurring suddenly, and increasing vastly the volume of water, would have endangered any arrangement of support from beneath the arches. The timber-work support was therefore provided *above* the line of level of the intended roadway, to suspend the iron-work; which last, in place of being put together *in situ*, was riveted in the most convenient position on shore, to be moved thence, entire, with the timber truss.

The truss of carpentry was formed on the system which the French call *Américain*, or the lattice principle, and was equal in length to that of the span of two arches. It was floored top and bottom for the passage of workmen, and to prevent torsion; and was otherwise as to strength, fashioned for the duty it had to perform. On the upper floor were fixed rails for two carriages, each of the carriages being furnished with two cranes on rollers. The piers and abutments of the bridge, were then surrounded with a simple arrangement of scaffolding to support wheels or rollers at a height corresponding with the base of the timber truss. This truss, which we have hitherto regarded as altogether on shore, on rollers, close to the abutment, was drawn by means of ropes across the first span, until its end rested on the first pier; one half the length of course remaining supported still on land. In this latter portion, the arched girders of iron were constructed. On their completion, they were taken up by means of the cranes, and carried along by the carriages on the lines of rails; and when they arrived over the intended position, they were dropped down to it. With the arched principals placed, the cross-bracing was easily filled in. The truss of carpentry was then moved on to the next pier, the ironwork was put together and braced as before, in the portion of the truss now over the first span; the timber-truss with its load of iron was again moved forward; and so the work continued and was completed. The advantages were extreme precision, security, rapidity, and economy. The total cost of this bridge of six spans, making a total length of 295 mètres 50 centimètres between the abutments, was 967,668 francs 71 centimes; of which 274,879 francs 20 centimes were for the masonry, or piers and abutments, and 692,789 francs 51 centimes, or under 27,711*l.* 12s., were for the ironwork superstructure. We regret that our information is wanting as to the price of the material and the labour. The general design was made by Mr. Oudry, for the *administration* of the "Ponts et Chaussées," and the details were worked out at the Creusot establishment of Messrs. Schneider & Co., whose engineer-in-chief is Mr. Mathieu. The trusses were fixed under the control of Mr. Joly, engineer-in-chief, and Mr. Vigouroux, *ingénieur ordinaire*, of the "Ponts et Chaussées."

We have not the date of the work just described, or that of the viaduct of Fribourg; and therefore, if the system in one led to that in the other, we cannot say which was actually considered to offer the advantage. The system in the Fribourg case however, dispensing altogether with a timber suspending truss, will be found to be well deserving attention.

The Fribourg Viaduct, which is for the passage of the Lausanne Railway to Fribourg and the Bernese frontier across the valley of the Sarine, much resembles recent works of British construction, some of which we have named in one of our notices of the British Division of Class 10 of the Exhibition. These viaducts have piers of great height, constructed, unless excepting their bases, of tiers of iron columns strongly cross-braced; and have trussed-girders of great span, which are sometimes on the lattice principle, sometimes on a trellis-principle of fewer intersections, and sometimes with a merely chevron-filling between the top and bottom members as in the form now so much employed. The bridge or viaduct now in question has a total length between the abutments of 328 mètres 84 centimètres; and crosses the stream at the great height of 76 mètres, measuring to the level of the rails. There are six piers, distant from one another 48 mètres 80 centimètres. Each of these piers is composed of iron-work for 44 mètres of the upper part of its height, and of masonry below that; the loftiest pier having a total height of 80 mètres from foundation to level of rails. The superstructure, carrying the rails in each span, is composed of four trellis-braced trusses; and each truss is formed of flat and angle-iron, the former material placed where tensile strain operates, and the latter to resist compression. The scantlings and spaces of the chief members of the truss vary, as usual in these bridges, so that the *maximum* of resistance and that of strain may be everywhere correspondent. In the piers, the mixed construction, metal and stone, was adopted, says the French account, because of doubts of the strength of the particular stone on the spot, as well as for rapidity of execution. The ironwork of the superstructure rests directly on that of the piers, or without interposition of friction-rollers, calculation and experience having shown that the flexure of the piers was sufficient to permit the extension and contraction of the trusses in the limits of the temperature. At the abutments, however, the ends of the trusses rest on rollers.

We now arrive at the most interesting subject in connexion with this viaduct, the placing in position the iron-work of the piers and superstructure without scaffolding. This was managed literally by hauling from one bank of the valley to the other, the superstructure; the piers being built with the aid of the latter, itself. Cranes, carefully devised to avoid producing torsion, were first erected on one of the abutments. In designing the whole length of trusses, the strength of a portion equal to two spans was calculated so that the length of one span might be sustained supported only at one end. The end of the truss which would be some time hanging without support from below, further was sustained by rods, which were carried over shear-legs placed in the position of the first pier and were tied to the truss at the distance corresponding with that of the second pier. The whole superstructure, ready to be hauled forwards, was placed on rollers 80 centimètres in diameter, each capable of sustaining a weight of 125,000 kilogrammes. It was then hauled so that the end came above the position of the first pier. The members of this pier were next carried in waggons along the rails of the superstructure, to the position named, where a crane dropped them down; and thus the pier was built. When this first pier was finished, it was mounted at the top with four rollers, preparatory to a second forward movement of the superstructure and the commencement of a second pier. The impression produced on us on learning that the superstructure underwent this onward movement, was that despite the rollers, a considerable pressure would be exerted against the piers. The pressure, however, is met by special precautions to maintain the verticality, that is by tying in the piers to the abutment. Chains by which that is effected are themselves supported by a subsidiary, a calculated catenary chain, as well as from the superstructure itself, so as to be always straight. The strength of the series of chains tying the piers, of course diminishes from the abutment which is the starting-point, to the last pier built. The advantages of the method of building, are regarded by the French engineers as very great. The hauling-operation was effected actually by sixteen men, in six hours of work for each span of 48 mètres 80 centimètres; and the loss of life in setting the masonry of the piers was vastly greater than that in fixing the iron-work. The weight of metal employed in the viaduct was 3,150,000 kilogrammes. Messrs. Schneider & Co. were the constructors; and to them and their engineer Mr. Mathieu, the credit for what we have described, ought to be given. The general dimensions of the viaduct, and the number of the piers, with their construction, part in masonry and part in metal, were prescribed by the engineers of the company.

WALK AND TALK IN ROME.

AFTER the Forum had become, to popular regards, the "Cow Field" (Campo Vaccino) of modern Rome, it need not surprise us to find the Capitol's western summit degraded from "Tarpeian Rock" into "Goats' Mountain" (Monte Coprino), whilst those animals might browse on

* See page 289, *ante*.

its height undisturbed by any of the buildings now occupying it. Two spots there are, one at the north-west, the other at the south of its acclivities, where, from obscure courts shut in by paltry houses, we look up at precipices of tufo-rock, crowned by the Palazza Caffarelli and private gardens, lofty enough for the "traitor's leap" hence, to "cure all ambition," though soil and rubbish have much accumulated around. Southward grows the flashy dark-green foliage of the *cactus opuntia* (or prickly pear); and a few courses of massive stonework along the ridge at the north-western side are referred by Nibby to the walls of Servius Tullius; by Canina, to the temple of Juno Moneta. On the other Capitoline summit, now occupied by the venerable Franciscan church, S. Maria in Aracœli, and approached by the lofty staircases thrown up in the fourteenth century, stood the superb temple of Jupiter Capitolinus (restored so magnificently in the design given by Canina), which remained still entire till the fifth century of our era, though long abandoned and closed before Stilichon, the chief minister of Honorius, removed the lamina of gold incrusting its portals; before Genseric, in the sackage of 455, carried away, among countless spoils, about half the gilt bronze tiles still covering its roof; after which its gradual dilapidation and final disappearance may be well accounted for. Very soon did this mount become the chief seat of municipal authority under the popes, as it had been of such differently-constituted power under the emperors; and perhaps the force of the same local traditions caused it to be chosen for two memorable transactions in recent story; when, in February, '49, was here proclaimed the downfall of the Papal sovereignty, and in the July following its re-establishment under the auspices of a victorious invader. So early as 850 we find it the site preferred for the coronation of an emperor, Louis, by a pope, Adrian II.; and in the eleventh century encumbered by the fortresses of the Corsi family, till their demolition; ordered to check the turbulent power of the owners, by the emperor Henry IV.; though the same family returned again to ensconce themselves here, in 1109. About twenty-five years subsequently the whole mount was given by an anti-pope, Anacletus, to the abbot of S. Maria, a monastic church on the site of the present Aracœli; and the document (afterwards confirmed by the legitimate pope, Innocent II.) gives a curious picture of the Capitol's condition at that period, with houses, orchards, gardens, underground chambers, ruins, and a spacious market-place, extending below, strewn with columns and masses of broken stonework:* The Tabularium, here styled Portieus Camellariæ, and considerable remains of a temple (Templum Majus), described as "Super Alafantum" (which Nibby interprets to mean the Tarpeian Rock), though what the real character of that edifice was no extant fragments allow us to infer. In 1143 the citizens rose against the government of Innocent II., and established in its stead a completely independent republican one, in the sequel to which the Capitol became the official seat of the Roman Senate; as, under whatever modifications and varied circumstances, it has continued to be ever since; the senators thenceforth being elected in front of their municipal palace, to the sound of the great bell. Only two years after this revolution, Lucius II. so forgot his sacerdotal dignity as to besiege this new seat of rival authority; and, in the struggle, which he personally directed, injuries from the stones thrown by the defenders proved fatal to his life. The Tabularium was now inhabited by numerous families, who were actually divided over two parishes within these same walls; those in the upper stories being of S. Maria, those in the lowest of SS. Sergio e Bacco, the two churches upon and at the foot of the Capitoline Hill. In the fourteenth century the whole mount was held with military force by the emperor Henry VII., after whose departure the populace again rose supreme above the aristocratic power; the imperial party being attacked and driven away from this stronghold. In 1347, Rienzi restored the now ruinous Senatorial Palace: after his expulsion it was taken from the magistracy by Jacopo Savelli; and again, in 1354, assailed in the insurrection against the once-idolized Tribune, after his *second* instalment for brief domination. In 1394 the whole summit was fortified by Boniface IX., and those two lofty square towers of brick raised to overlook the Forum; where they still stand above the massive structures of the Tabularium, flanking that more modern residence of the Senate, begun by Innocent VII. (1405); completed by Nicholas V., whose name is still read on its front above the Forum; but restored, and its present façade, on the northern side, built, in the sixteenth century, from the designs of Michelangelo.*

At the foot of the descent hence, by the modern road, into the Forum, stands at our right the unpretending little church *S. Giuseppe die Falegnami*, built above those horrific Mamertine prisons whose two cells, known since the Middle Ages as *S. Pietro in Carcere*, from the tradition of the confinement of St. Peter and St. Paul, till hence led out to martyrdom, are both converted into oratories. Their Mediæval story is obscure; but it is certain that no consecration for worship had taken place here before the ninth century. Descending by the modern stairs made in the thickness of the walls, we notice, in their masonry, on one side the concave form of a bearded head under a grating, and an epigraph telling how St. Peter, when led into the lower dungeon, was brutally thrust against this wall by the gaoler, and left this impression of his profile thus miraculously impressed in the stones yielding like wax!—a prodigy mentioned by different writers of the last three centuries, but by none (that we can ascertain) of any earlier epoch. Baronius is the first to describe another miracle whose supposed result is still shown here,—the gushing of a fountain in the lower dungeon to supply water for the baptism, by those two apostles, of their gaolers, Processus and Martinianus, with forty-seven other converted captives. Tradition, but not history, refers the first dedication of these prisons for sacred rites to Constantine, on the instance of Pope St. Sylvester, as once accepted on authority of an apocryphal letter ascribed to St. Jerome (see Polidoro Virgilio, *De Rerum Inventoribus*). The church above them, belonging to the Guild of Carpenters under patronage of St. Joseph, does not date earlier than 1598; for that confraternity, after taking a lease of the prisons from the parish priest of S. Martina, the adjacent church, had first satisfied themselves with a mere wooden chapel, thrown up over these subterraneans in 1540. At their expense was formed, 1665, the pavement, raised considerably above the original level of the lower dungeon; and a conduit opened from this interior is now ignorantly pointed out as a communication with some catacombs miles distant. In 1743 was instituted, by Benedict XIV., an annual observance in this prison chapel,—affecting from its contrast with the scenes and associations,—the pontifical High Mass,—attended by the prelates of one of the administrative colleges, on the 6th day, within the octave of St. Peter's; the festival most splendidly celebrated of all in Rome.

The modern edifice has inclosed within a vestibule the ancient front of these prisons, still bearing the epigraph which tells that two consuls restored them in the year of the city 775 (A.D. 21). Their horror-striking character is best described in the words of Sallust ("De Bello Catilin." c. 55); nor does the vaunt of Juvenal—

"Viderunt uno contentam carcere Romam"—

admit of interpretation very honourable to Rome's humanity when we see what that one *carcer* was, and learn that archæologists assume the existence of several chambers extending under the Capitol; only one of which, Ancus Martius's foundation, still remains on the side above the Forum. Ampère ("Histoire Romaine à Rome") ingeniously argues against the scarcely-tenable but hitherto received views that the *lower* prison, ascribed to Servius Tullius, is the additional one of *later* origin. Its construction in stupendous quadrilateral blocks of volcanic pietra albana, projecting forward so as to give to the whole the form of a truncated cone, being, indeed, unintelligible, upon this theory, as a work subsequent to that above it, and of much narrower dimensions. Abeken ("Mittel. Ital.") saw in the Tullian prison merely a *cistern*, whence water was drawn through the round orifice, by which afterwards captives were let down into it; and Ampère suggests a Pelasgic origin, anterior to every other building in Rome.

Near this church we may enter a narrow street, where, in an obscure court (little better than a pigstye), is seen all that remains of the Forum of Cæsar; founded by him after the battle of Pharsalia; and said to have been more splendid than was the then Forum *par excellence*, "Roman"; the Temple of Venus Genetrix, standing within its quadrangular inclosure; beside that goddess's image a beautiful statue of Cleopatra in its cella; and the equestrian statue of the Dictator, in gilt bronze; the horse a work by Lysippos, before its front. All left of these monuments are a few courses of structure in *lapis Gabinas*, stupendous squared blocks, with constructive arches, at one side of that miserable little court; though till the sixteenth century remained majestic ruins of the atrium, or sacred inclosure, as seen and measured by Palladio. The scarcity of notices respecting the fate of these ruins in the Middle Ages may lead us to infer an early demolition, or total ignorance of their origin. What we still see is a remnant of that outer girdle of walls; and we are told that ten millions sesterces were paid for the mere ground thus appropriated.

Pursuing our stroll through the *other* Forum, we may regret (and a distinguished archæologist has expressed that regret) to see renewed the plantation of trees along the road through its centre, cut down during the siege in '49; and though affording pleasant shelter, much better missed from this scene of monumental antiquities. The Arch of Titus, to which this avenue extends, judiciously and completely restored under Pius VII., is only too obvious, too sharply defined a renovation of the antique as we now behold it; but its reliefs, among the finest of Græco-Roman art, display sad mutilation in almost all the heads of the figures representing the triumphal procession with the spoils from Jerusalem; though a drawing by Giuliano da Sangallo, at the Barberini Library (dated 1465), shows this very sculpture with all its figures perfect! To Mediæval Rome it was known as the Arch of the Seven Candlesticks (*septem lucernarum*), from the sacred objects here represented among the spoils, with the trumpets and altar of incense. In passing under it, used to be made halt another gorgeous procession, on the progress of the popes to the Lateran for their solemn installation; that here, beside the trophy of Jerusalem's fall and Israelite subjection, the Jews of this city might present a copy of the Pentateuch to the new pontiff, with profession of loyalty towards his person. A French writer, quoted by Cancellieri,* states that this people never would voluntarily pass under the monument of their conquest, and were therefore allowed to open a way expressly for their use at one side. The adjacent monastery of S. Maria Nuova comprises within its garden-walls one of the two correspondent cellæ of Adrian's double temple to Venus and Rome; and, as Flaminius Vacca tells us, once, in the fifteenth century, extended its demesne so far as to include the entire Colosseum after those ruins had been handed over to the Olivetan monks by Eugenius IV.; till, on that pope's death, the people rose to put down such intolerable monopoly; threw down the invidious inclosure; and restored Rome's grand old Amphitheatre to public property. In the excavations carried on here under Nibby's direction, 1827-29, were found several tiles with the mark of a consulate answering to A.D. 123,—two years later than the assumed date of the foundation, to commemorate which were the struck coins with the proud legend, *Urbs Roma Æterna*. The area of the great platform, 500 feet by 300 feet, in the midst of which this temple stood, occupied the site of the Atrium and the Nerovian Palace, and also of many other earlier buildings traced in modern researches. A quadrangular portico of granite colonnades, 400 feet by 200 feet, surrounded this forecourt of a sanctuary,—one of the most splendid ever raised to heathen worship in Rome; and a few broken shafts strewn around the monastic walls still show the vast scale of this pillared

* Till 1250 this was a Benedictine monastery, and the staircase of 124 marble steps, thrown up before its front in 1348, are said by Andrea Fulvio to have been taken from the temple of Quirinus on the Quirinal Hill. Emperors used to ascend the steps of Jupiter's sanctuary on their knees; and even in the seventeenth century, Mabillon found the practice still kept up by Roman devotees of approaching this church in like humble attitude. Below it, on the side towards the Forum, are some brick walls, supposed to clothe the vast substructures, by which the whole height was supported to fortify the position of that vanished temple. In Mediæval story we find this Aracœli convent serving as a fortress, and as the residence of the Capitoline judges, who held their tribunals in the church, till 1521; the judgment-seat of the senator still standing within these sacred walls!

* One of Pope Boniface's towers is curtailed of its original height. The two lateral palaces, appropriated to the municipal conservators and the museum, were not built till about a century later; also from designs ascribed to Michelangelo; but altered (and certainly little to the credit of any architect in their style or effect) by Del Duca. The easy-ascending staircase on this, the Capitol's northern side, was made under Paul III. for the occasion of the emperor Charles's visit, 1536. In no one detail are these modern Capitoline buildings either graceful or imposing, though the lofty tower of the observatory forms a good object in the city's *ensemble*.

* Dijon, in 1775; and the same prejudice, or rather honourable sensibility, is mentioned by Madame de Staël; but the Abate Cancellieri does not confirm a report creditable to the Jewish feeling; nor can we see, in the isolation of the arch, how a pathway could have been required for avoiding it. The formula of homage and presentation by the Israelites was omitted at the last papal "Possesso" though the occasion's celebrations under Pius IX. had more than the usual norma of magnificence.

architecture. Proconnesian marble encausted the temple and formed the pavement of its terrace-area; and Flaminius Vacca, who saw that pavement uprooted, gives the measurement of its slabs 13 palms by 9 palms, and 3 palms in thickness. Giallo antico and cipollino clothed the walls of the cella, where vestiges of such decoration have been found. A large mass of Corinthian cornice in Proconnesian marble, with folial decoration and egg-mouldings of great beauty, brought to light 1825, now stands against the walls beside the outer cella facing the Colosseum; and at the foot of the terrace, between the two ruins, we see the immense square basement of brick to which was removed the colossal statue of Nero after the final destruction of his Golden House. Till the fifth century stood before Adrian's temple, on the side towards the Forum, the bronze figure of Clelia, mentioned by Livy and Seneca; till the sixth century the elephants, also bronze, to which Cassiodorus alludes (lx. Ep. 10). Nibby supposes the two existing cellæ are those rebuilt by Maxentius about the year 307, after a conflagration that so nearly destroyed Adrian's edifice as to require a restoration; allowing this to be reckoned by Aurelius Victor among the former emperor's grandest public works. Strange is the fact that, till 391, the domination of Christianity had not caused this, like other temples, to be either dismantled or closed; but in that year the laws of Theodosius, more strictly enforced than previous edicts against paganism, obliged this fane also to be shut up and abandoned. Till 625, however, its main buildings still rose intact; now to be despoiled by Pope Honorius I. of its entire roofing in bronze tiles; but not before permission asked by the pope, and granted by the emperor Heraclius, then on his visit to Rome, for adorning St. Peter's, where they were soon again a prey, now to be lost for ever, on the sacking of that Basilica by the Saracens in 846. It was in 625 arose a church of the Blesed Virgin within the walls of this Venus-temple (a striking opposition, like many others between the movements of the two worships); and S. Maria Antiqua was its name known till the eighth century, when the church, being embellished or restored by Nicholas I., took the title of S. Maria Nuova, now sometimes exchanged for that of S. Francesca Romana.* From the seventh to the twelfth century, it is supposed, the work of spoliation, induced by the profusion of rich marbles strewn over these ruins, continued uninterruptedly. The almost entire rebuilding of the decayed city, after the return of the Papal court from Avignon, supplied further pretext for demolitions in the fifteenth and sixteenth centuries;† and Paul II. is believed mainly responsible for the final destruction of Adrian's superb fane, in the object of supplying material to the great castellated palace he built on the Piazza di Venezia, one of the few patrician residences of that period here still kept up unaltered. In 1819 were discovered remains of the great staircase ascending this terrace from the Via Sacra, and carried along its whole western limit; with statues that rose, at intervals, on basements, one of which is still imperfectly preserved. Nibby discovered the entire stratum, now covering this terrace area in lieu of the lost pavement, to be a congeries of marble fragments and splinters, in part calcined and mixed with carbonized matter, in many examples showing the original character of architectonic decoration; and with learned indignation that archæologist narrates what he had seen when in the mass of ruins was found a lime-kiln entirely lined with porphyry fragments broken up, as evident, by sharp instruments in the hands of spoilers! Interesting is it to learn, in the poetry of Prudentius, what this temple was in the fifth century, with its pomp of Pagan rites amid an increasing population of Christians, and what were *their* naturally indignant feelings at this spectacle.

* To that matron saint, of the fifteenth century, it is also dedicated, because containing her tomb, with a beautifully finished relief by Bernini; and in the seventeenth century was added the present façade, whose pasteboard flimsiness of style offensively contrasts with the majesty of ruin around.

† Then were disturbed the very foundations, to remove the peperino and travertines that incrusted the outside fronts of this terrace; and from this period the whole, temple and area, must have become, what we now see, a mere skeleton; the brickwork of the two cellæ, with their richly-coffered vaulting in the apses placed back to back; a few remains of contiguous walls, broken columns of granite and cipollino strewn over the wide surface, amid which a spacious monastery dwindles into insignificance; and the elevation, stretching from the Basilica of Constantine to the Colosseum, now rather like a natural mound than an artificial structure. Since the earlier years of this century, no attempt has been made to discover or check the progress of decay any further; and the drill of French soldiers or Roman recruits now finds an appropriate field on this ample platform, as under the vast arcades of that Basilica near. Entering the convent garden, through a gloomy vaulted corridor, we see much more of the cella on this side, than remains of that external, with the lateral walls, to the right; still surmounted by a portion of the coffered vault; and pierced by niches, for statuary; as are also the two apses, alternately arched and quadrate; but of the rich incrustation and porphyry columns desecrated, are no traces, at least distinguishable from below. The two principal statues were seated in their niches; and it is well known how the caustic criticism of Apollodorus cost that architect his life,—that the deities, if they stood up, would be too tall for, and indeed unable to leave, their sanctuary; besides the comment and the effect, very well for an emperor!

DISJOINTED NOTES OF THE INTERNATIONAL EXHIBITION.

Lead Pencils.—Amongst the many interesting operations going on in the Process Court, which continues to attract numbers of the visitors, is that of making artists' and account-book pencils by Mr. Cohen's improved method. Slips of his continuous compressed Cumberland lead having been prepared of the exact size and degree required, the workman proceeds to fill the centre cavity of the cedar without unbroken length of lead; thus rendering each pencil, as the maker maintains, unvarying in its degree throughout, and obviating the inconveniences arising from the ordinary method of laying in several small pieces in succession, which snap at each joint, and incur the further liability of having different degrees mixed in one pencil. The lead is manufactured from the Borrowdale plumbago; which, cleansed from all impurity, is smooth and tough in texture. Mr. Cohen claims to have supplied those requirements in a pencil set forth in our pages on more occasions than one; and we are quite ready to admit that we have found some samples that he submitted to us remarkably good.

Terra Cotta.—We have seen nothing better in the shape of architectural terra-cotta than the specimens exhibited in the North Court, central division, by Mr. Blashfield, of the Stamford Pottery Works. The vases are admirable; the brickwork sharp and true; and there are some small figures which are very beautiful.

Large Pipes of Pottery.—In this same court, Messrs. Cliff & Son, of Wortley, near Leeds, exhibit samples of salt-glazed socketed pipes, for conveyance of water and sewage, of more than ordinary size. Unless we are wrongly informed, the assertion of another exhibitor, as to having produced 4-feet pipes, is incorrect. Messrs. Cliff & Son, however, have made pipes of glazed ware 4 feet 6 inches diameter; each pipe weighing upwards of 25 cwt. In the centre of the stall is an egg-shaped pipe, 36 inches by 24 inches, which is extensively used in the provinces as a main drain, in place of 9-inch brickwork and stoneware invert, and is far less costly. There is also a circular pipe of 30-inch diameter, quantities of which have been supplied for water culverts. The sockets are all uniform; being made by machinery at the same time as the pipe itself. The joints of such pipes offer the greatest difficulty at present, as they will not resist hydraulic pressure to the same extent as the pipes themselves.

Cast Iron.—Amongst the architectural cast-iron appliances, those exhibited by Messrs. Macfarlane, Walter, & Co., of Glasgow, stand very high. These are in Class 10, and include crestings, bannerets, pipes, finials, and vanes. Both in design and workmanship they make considerable claims on attention. As castings, we have found nothing better.

Tasmania.—The timber trophy illustrating Tasmanian woods deserves the attention of all persons interested in ship-building, railways, public buildings, and other purposes to which timber is applied. It will, probably, not less clearly illustrate the peculiar adaptability of Tasmanian cabinet woods, from their beauty of colour and marking, for ornamental furniture and other requirements of modern elegance and refinement. We learn from a useful report drawn up by Mr. George Whiting, secretary to the commissioners for Tasmania, that, to render this trophy a temporary museum of the more useful Tasmanian woods, specimens have been procured from the oldest public buildings of the colony, each of which is fully labelled, and will tell its own tale. The Old Gaol and the Old Court House of Hobart Town have furnished sleepers, door-posts, flooring-joists, boards, window-lintels, and architraves,—of Huon pine, blue gum, and stringy-bark, which are as sound as when built in forty years ago. Nearly all the timber of the Old Hobart Town Court House has been found to be sound, and has been used in the erection of the New Post-office just completed on the same site. But the builder and the railway engineer may ask, "Will Tasmanian timber resist equally well the atmospheric influences of the open air?" The naval architect will inquire into its "behaviour" under water. Let the old piles, and planks, and posts, in the trophy supply the answer. Some of these old piles, which have been split down longitudinally in order to facilitate inspection, have been partly submerged daily, as the tide rose and fell, for periods up to twenty-one years, whilst forming part of the wharfs of Hobart Town. Blue gum and other planks from the wharf platform will show their power of resistance, for the same period, of copious showers, hot sunshine, dry winds, and heavy traffic. A Tasmanian schooner, built of blue gum,—the *Flying Squirrel*, 97 tons,—has twice been thrown by the surf above high-water mark; and on being got off did not exhibit the slightest defection in her lines, or a sprung trenail, and has never even required to be pumped since undergoing this severe ordeal. It appears, from experiments which are related, that blue gum will sustain about double the weight of English oak before it breaks; and will even recover its elasticity after bearing a weight at which oak will break. Its mean cohesive power beyond oak is nearly, but not quite, in the proportion of 3 to 1. It may not, perhaps, be improper here to suggest that the appointment of a commission of inquiry to examine and report on the various woods in the Exhibition might possibly obtain results of even national importance, now that a supply of British oak can no longer be relied on. Appended to Mr. Whiting's report is a paper by Dr. E. S. Hall, "On the Health and Sanitary Condition of Tasmania," wherein, after giving some tables, he says:—"1,479 deaths out of a population of 89,977 persons is at the rate of 16·43, or less than 16½ per 1,000; so that the mortality rate of all Tasmania is less than that of the 63 healthiest registration districts of England and Wales — 17 per 1,000 — which the Registrar-General of England adopts as a normal standard for death rates. In the purely rural population of Tasmania, counting exclusive of those associated with the urban districts of Hobart Town and Launceston—53,667—the deaths in 1861 amounted only to 619, being at the rate of 11 53, or 11½ per 1,000. Glendale, in Northumberland, which has the smallest death rate in the English returns, has 15 per 1,000. But even this contrast, favourable as it is to Tasmania, does not exhibit the whole superiority."

Convict Work.—In the Western Australian Court, a cabinet, constructed by the convicts in the establishment at Freemantle, will be viewed with interest. It comprises various woods which the colony produces. The drawers are lined with sandal-wood of a fine perfume. The pedestal on which it stands is a section of a curious excrescence occasionally found growing from the native mahogany, of which there are several other specimens in the same court.

Hard Woods and Fancy Woods.—In the Eastern Annexe a very remarkable collection of woods is exhibited by Messrs. Fauntleroy, Robert, & Co. It takes the shape of a large model of the west front of the Royal Exchange (London), constructed of various specimens of hard and other woods, to the number of *five hundred or more*, together with the corozo nut, or vegetable ivory, and coquilla nuts. The whole are arranged so as to display the merit of each, for turnery and other purposes. The reference list which they have printed is valuable. In addition to the woods enumerated, the board on which the model rests is covered with a choice variety of veneers in mosaic; including, amongst others, Amboyna, Hungarian ash, Russian and other maples, rosewoods, New Zealand totara wood, walnut, satin-wood, rustic, birch, holly, cocus wood, figured ebony, zebra wood, mahogany, Yacca wood, king wood, partridge wood, tulip wood, black ebony, cam wood, &c., &c. This model ought certainly to find its place in one of our public museums—that of Kew, for example.

A Gigantic Steam Hammer.—In the Western Annexe will be found a fifteen-ton hammer, which has been for some time in use at the Ouseburn Engine Works. The hammer is substantially a huge perpendicular battering-ram, but may be worked by the strength of a child, the only exertion needed being that of turning on or off the steam. It is constructed upon Mr. R. Morrison's first patent, is single-acting, and worked by hand. The cylinder is 46 inches in diameter, with a clear fall of stroke of 8½ feet, and, with its covers and glands, weighs 32 tons; the hammer-bar, 15 tons; the two frames, 34 tons; the anvil-block, bed-plate, and sockets for crane-posts, and bottom foundation-plates, 120 tons: making in all, 210 tons. The foundation for carrying the whole is composed of concrete, timber, and stonework, and

s 44 feet one way, 26 feet the other way, and 14 feet deep. So light a blow can be struck with this hammer, notwithstanding its power and weight, and with such certainty, as to crack a nut under it without spoiling the kernel. The height from the surface of the ground to the underside of the frames is 11 feet 3 inches; so that the largest piece of work that can be got under the hammer can be turned round in every way without being taken from under the hammer; and the moving mass of the hammer itself being of malleable iron, and in one solid piece, prevents the possibility of breaking. The length of the cylinder over the top and bottom covers which form the guides is 14 feet; so that, whatever may be the size of the forging under the hammer, the bar is always guided for the length of 14 feet.

SUMMER EXCURSIONS.

THE season for excursions which may be made both instructive and pleasant has come; and although, this year, the International Exhibition will prove a great source of attraction townwards, there is much to be done in the way of country excursions, not only by our professional readers, but by a vast portion of the general population. While wandering in many of the rural parts of England; in which, studded amid beautiful and picturesque scenery, are objects of great interest, many must have been painfully struck by the want of knowledge amongst the resident population respecting those objects; and this even in localities where there have long been national schools, and a large distribution of cheap books and useful periodicals.

In the neighbourhoods of most villages there are objects which might, with advantage, be studied both by old and by young, but which (like London sights among Londoners) are little heeded or thought of by those residing near; and in many instances a stranger visiting the district finds it difficult to obtain information, unless he bring it with him in the form of guide-books and local histories. In several of the poorest parts of both the Borough and the City sides of the metropolis, the clergymen and others connected with Sunday schools, have organized summer excursions to healthy spots; and these have been a means of doing much good. It is gratifying to find that such excursions are becoming each year more common; and, in considering this question, it should not be forgotten that, great as is the delight felt by the dwellers in the courts and alleys of the capital, and of other large towns, when they can escape into the green fields, woods, and commons of the unbricked country; not less would be the interest felt by those living in the villages and country, if facilities were afforded them of visiting, under proper guidance, the most important curiosities of the cities and towns at no great distance from them.

Within the heart of London, but more particularly in the outlying districts and the suburbs, there are many thousands who have never seen the interior of St. Paul's Cathedral, Westminster Abbey, and other remarkable and instructive features of the metropolis; and yet how easily could this be managed without neglecting country trips in connexion with the national schools, district churches, &c. We have before asserted that there is good teaching in the ancient historical spots of London,—in the picture-galleries, and other national collections; and to a certain extent there is much in our chief towns which might be made in the same way available.

Not long since we made inquiry, in the parts surrounding two important cathedral cities, and were surprised to find how small a number, in proportion, of persons who had arrived at years of maturity had seen those great and ancient edifices which are amongst the chief glories of our land.

In the counties of Northumberland and Durham, in both the large and small towns and villages near the coast, well-organized steamboat excursions to the old castles and picturesque scenery have become very common; nor are the places inland, which have interest and can be reached by railway, been neglected. In several instances the great manufacturers, shipbuilders, and proprietors of other large establishments, have thrown their premises open, at convenient times, to the inspection of large parties of excursionists.

We have accounts from other localities; but must at present conclude with a brief notice of some village excursions which have been arranged chiefly by the exertions of Professor Henslow. This gentleman first attempted the formation of a village excursion party in 1849; proposing, to as many members of the Stoke and Melford (Suffolk) Benefit Club as should be willing, to make an excursion to Ipswich: each member had the privilege of taking a person with whom he was acquainted, and for whose good conduct he could be responsible. On this occasion Messrs. Ransome & May threw open their manufactory to the rustic visitors, who were about fifty in number. The party consisted of both sexes, and all were over fourteen years of age. Most of those persons had never been beyond their village of Hitcham, or, at farthest, the adjoining parishes; but were thus tempted to widen their knowledge. A payment was demanded from the labourers which, although not sufficient to defray the railway and other expenses, still served to make the excursionists feel independent. Several of the farmers kindly lent their waggons to convey the party to the Stowmarket station, distant about seven miles. At Ipswich the visitors inspected with wonder the manufactory above mentioned; saw the working of the steam-hammers and other machinery; and, having noted other curiosities, returned by the evening train to their rural homes. The following year (1850), the excursion, which was much more numerously attended, was made to the seaside; and great was the general enjoyment. Since then, year after year, Professor Henslow has accompanied his village parties to different places,—amongst them to Harwich, Norwich, and Cambridge; and the results have been most satisfactory. Besides the pleasure afforded, it has been very gratifying to notice, on these occasions, the readiness with which places of interest have been opened to the excursionists, and the kindness with which they have been treated both by rich and poor.

THE ACCIDENT TO THE METROPOLITAN RAILWAY.

So many extraordinary accounts of the accident having appeared in the daily publications, and not one of them being correct, you will perhaps be able to afford space for a more accurate account of the accident from first to last: it is a casualty that so seldom happens, that a detailed account may be interesting to your readers.

Some days previously a short length of the Fleet sewer had fallen in, which had not affected the railway works; but on the 19th ult., between one and two p.m., a further fall took place; and, the crown of the sewer being crushed in for a considerable length, the flow of water through the sewer was completely stopped. About two p.m. the ground at the back of the wall was still in motion, the water rising up into it. At 2.30 p.m. I observed a slight crack in the coping of the retaining wall of the railway, about one-sixteenth of an inch wide (I may mention that the railway excavations are about 6 feet below the invert of the Fleet): at 2.45 p.m. this crack was one-eighth of an inch wide; and from that time the wall on one side of the crack began to settle down. The water of the Fleet was all this time heading up in the ground at the back of the wall (all made ground); and at 3 p.m. the bottom of the railway wall was seen to be in motion; for at a height of about one-third from the bottom of the wall horizontal cracks appeared in the counterforts (projecting 6 feet in front), gradually opening wider at the outside, and running to nothing at the back of the counterforts; the raking struts (of whole timbers) commenced to bend, and several fell broken in half. Four of the original timbers first placed to support the sides of the excavation, and which extended across the cutting (and were each formed of two whole timbers, bolted to a pile sunk in the ground about 5 feet), here commenced an extraordinary movement; for as the bottom of the wall moved outwards, the horizontal timbers were forced inan upward direction; and, working on the bolts, drew the four piles out of the ground; raising them 4 feet above it, and forming four king-post trusses without a tie-beam. They were suspended in this position above an hour. Some smaller struts, placed between the railway wall and the wall of the large vault (containing the bones collected from the old burial-ground when Victoria-street was formed), were forced against the vault; and one crushed the brickwork in and raised the coping-stone; but no bones were visible (dead bodies were reported as washed out). All this time, up to 4 o'clock, hardly any water had found its way into the railway works, though the water had risen from about 20 feet below the surface of Victoria-street to within about 8 feet. The houses at the bottom of Back-hill and Saffron-hill were flooded to nearly the ceilings of the basements, and the Fleet had overflowed into the vacant space on the opposite side to the railway. The railway-wall was all this time in motion, the upper two-thirds falling back on Victoria-street, and the bottom one-third moving outwards from the foundations, and pushing before it and raising into a singular shape the line of rails and sleepers over which an engine and truck had passed at two o'clock (reported as buried in the ruins in one account). A little after four o'clock p.m., at that portion of the railway-wall where the first fall of the Fleet had taken place, and in a vertical crack about 10 feet below the coping of the wall, a small stream of water and concrete poured out; then a brick or two came out, with more water; then suddenly several bricks flew out of the wall, followed by a regular torrent of water, which in about five minutes washed a huge gap in the wall down to the foundations; and the timbers fell in all directions, breaking up and dancing about like straws. The wall then subsided down into its final position, and the waters of the Fleet took possession of the railway-works, extending up the tunnel as far as Exmouth-street. Of the gas and water mains only one 7-inch gas-main in Victoria-street was broken; and a lamp-post quietly subsided down into the trench over the Fleet without the glass being broken, and remained in nearly a perpendicular position; showing how gradually the fall took place. A 16-inch water-main sank down in the trench over the Fleet, and was rendered useless. As it was apprehended that the ground would give way on the opposite side to Victoria-street, owing to the timbers supporting the sides of the excavation having fallen; the gas-mains therein were stopped with bladders, as a precaution against the escape of gas in the vicinity of the houses.

With regard to the permanent character of the Metropolitan Railway works, nothing could have better illustrated it than this accident; for the retaining wall, though quite new brickwork, held together in an extraordinary manner; the counterforts breaking up into large solid masses.

Considering all the facts connected with the accident, it is evident that the cause of the railway-wall falling was the hydrostatic pressure exerted at the back of the wall by the water of the Fleet, which forced the foundations outwards; and the ground at the back of the upper part of the wall having fallen into the Fleet, this portion, being deprived of its support, fell backwards. As regards the primary cause of the Fleet sewer falling in, it will be advisable not to give an opinion; as, from the correspondence published in the daily papers, it is evident that this matter will be discussed elsewhere.

To the best of my recollection, I have given an accurate account of the whole affair; having been on the spot upwards of six hours from the commencement of the accident. B. D. K.

THE WELL, CLERKENWELL.

FROM time to time we have mentioned with regret the removal of the mark which was placed to preserve the memory of the ancient spot from which this now vast and populous parish takes its name, and which has been associated with remarkable passages in the history of Old London. Some time since we gave an engraving which showed the ruinous condition of the premises covering the well; and reported that the site had been allowed to become a public nuisance; which even, under other circumstances, would have been discreditable to the parish.

The property belongs to the parish, and was left to it for a particular purpose: it was, however, let on a lease; and the person to whom the lease was granted has allowed it to fall into that state of wreck which we have represented.

Some years ago, certain worthy churchwardens of Clerkenwell placed a tablet here, on which was an interesting inscription, giving a brief historical account of the well. This altogether vanished from the view, and none seemed to know where it had been taken; but, from information which we have received, it seems that this tablet, which must be classed with the public monuments of the metropolis, was not long since in the possession of a well-known gentleman who is connected with the management of the parish.

At length a movement has been made in Clerkenwell for the restoration of the site of the well. It is mentioned that funds will be required to effect the desired restoration; and it is feared that, in the present depressed state of trade in this parish, they will not be forthcoming to a sufficient extent, either from the parish purse or from private subscriptions throughout the district. It is, therefore, proposed that the funds should be assisted by the subscriptions of persons who take an interest in those matters though resident in other parts.

It is most desirable to have the inscription connected with the Clerks' Well restored to its original position; and it is to a certain extent an object of interest to the whole of the metropolis; so that help might be expected from other districts. But the expense of the replacing of the inscription would not be very great, supposing that the person who has taken it away were to give it up; and the premises, which have been allowed to fall into decay, were rebuilt.

It might, however, be worth while to consider if something both useful and ornamental, in combination with the inscription concerning the well, could be erected here with advantage; a drinking fountain, for instance, with seats for the numerous wayfarers who pass this way to rest. Most of the houses at this corner of Clerkenwell-green are old and dilapidated, and will probably ere long be replaced by better-looking and more important buildings. Should some such design as this be brought forward, it is suggested that there would not be found much difficulty in obtaining assistance to enable the parish of Clerkenwell to meet the expense; and that probably, in such a case, the Corporation and the Drinking Fountain Association would contribute. It is to be hoped that those who have taken the matter in hand will not cease their exertions until they have achieved their purpose. We should not give up the landmarks of history.

DEVONPORT, STONEHOUSE, AND CORNWALL HOSPITAL.

THIS hospital is now in course of erection at the head of Newpassage-hill. The style of the building, which was designed by Mr. Alfred Norman, of Devonport, architect, is Italian in its general character. The edifice will comprise a centre block running north and south, and an eastern and western wing, to each of which are attached two square towers. The eastern wing will be devoted to the purposes of a Lock hospital. In the centre block, which, with the western wing, will be used as a general civil hospital, will be the dispensary, waiting-room for out-patients, medical officers' rooms, house-surgeon's quarters, matron's apartments, and committee-rooms. On the second floor will be two special wards for fourteen beds, and also male and female wards for diseases of the eye and ear. In the basement story, under the western wing, will be an accident or casualty ward, for eight beds, and a male and female ward, each for sixteen beds. The other stories of the wing are divided into wards, which are planned on the "pavilion" principle, and most of them 14 feet high; with windows, 10 feet high; so placed that two beds only shall be between each window. Care, it is said, has been bestowed on the arrangements for ventilation and warming the wards. At the end of each ward will be doors communicating with the towers at the angle, in which are the lavatories, bath-rooms, and closets. In the centre block are the kitchen offices, communicating with the stories above by means of a lift sufficiently large to enable a patient to be taken to the proper ward on a bed. The wash-houses and laundries are distinct buildings on the north side.

The main building, of which the *Devonport Independent* gives an engraving, is 200 feet long, and about 40 feet in height at the western wing. It will be faced externally with dressed limestone and granite.

The committee submitted the plans of the internal arrangements to Miss Nightingale for her approval, and valuable suggestions were made by her in reference to them.

The building was commenced in March last; the contract for the erection of the work having been taken by Messrs. Jenkins & Hallett, for 6,900*l*. The memorial stone has just been laid, with Masonic honours, by the Earl of Mount Edgcumbe, P.M., P.P.G.S.W. Those who joined in the procession numbered about 500.

THE LLANDUDNO JUNCTION RAILWAY STATION.

IN consequence of the increasing traffic to Llandudno, in North Wales, a new station has been erected at the junction of the Llandudno branch with the Chester and Holyhead Railway, near Conway. The style employed is Mixed Gothic. The passenger-station building is 150 feet long, and contains all the requisite waiting-rooms for ladies and gentlemen, both first and second class; and also a spacious and lofty general waiting-room and booking-office, which occupies the centre of the building. The telegraph office, porters' and lamp room, occupy the north end; and along the whole front is a spacious verandah, 20 feet wide, which is continued round the end and along the Llandudno line, by which means travellers may pass from one train to the other under cover. The front of the verandah is supported with ornamental cast-iron columns, brackets, and spandrel girders. On the side facing the Chester and Holyhead high road, the centre portion of the roof projects, to afford shelter for passengers alighting from vehicles. In continuation of the building is a carriage-shed and tank-house; and on the opposite side of the main line is a passenger-shed 150 feet by 35 feet, from under which the Llanwrst trains are to start.

The walling is all of Penmaenmaur stone uncoursed, and the dressings of Cefn stone. From the angular and varied shapes of the wall-stones, (none of which are large), the joints well defined with pointing, and the soft contrast between the light neutral blue of the walling and the rich yellow tone of the dressings, a very pleasing effect is gained, and the same style of work is likely to become general in that neighbourhood. The principal features in the composition of the front elevation are two ornamental gables, in which are placed niches having traceried heads supported by polished Anglesea marble shafts, and crowning the whole are two ornamental pinnacles.

A medallion panelled gablet, filled with floral ornament, forms a central feature in the composition, and unites with a deeply-cut dentilled cornice. The chimney-shafts are hexagonal, and of dressed stone, with deeply sunk moulded caps. Two traceried and panelled gablets surmount the cornice on the elevation facing the high road. The verandah-beams at the wall-end rest on shafts with carved bosses, and all the windows and doors have splayed and moulded dressings.

The sole contractors for the work were Messrs. Joseph Gibson, of Warrington. Mr. George Glaister, of Liverpool, executed the mason's work; Mr. Edw. Geflowski, the carving; and Mr. Joshua Hewitt, the plumbing and painting.

The whole of the works were carried out, in conjunction with the company's engineer, Mr. Hedworth Lee, by Mr. T. Mellard Reade, of Liverpool, architect.

CANADA MILITARY ASYLUM.

THE corner-stone of the Canada Military Asylum, Quebec, has been laid on the new site conceded to the institution by the Imperial Government, on the St. Lewis-road.

The building, which has been advanced to the first floor, was decorated with flags and evergreens.

The Lord Bishop of Quebec having offered up prayers and invoked the divine blessing on the undertaking, the president of the committee, Colonel Paynter, handed to Lord Frederick Paulet a collection of the current coins of Canada, which were inclosed in a small parchment bag. The president then desired the treasurer, Staff-Surgeon Blatherwick, to read aloud the parchment commemorative of the occasion. The building is being erected by Mr. Joseph Archer, from the designs and under the supervision of Messrs. Stent & Laver, architects of the Government buildings now in course of erection at Ottawa.

THE SOCIETY OF ARTS.

AT the recent examinations, his Royal Highness the Prince Consort's prize of 25 guineas was gained by John Gershom Greenhough, aged 19, Bradford Mechanics' Institute, merchant's clerk; who has obtained the following certificates:—

1859. Arithmetic—first-class certificate.
1860. English History—first-class certificate.
" Geography—first-class certificate.
1861. English Literature—first-class certificate.
1862. Algebra—first-class certificate.
" Geometry—first-class certificate (with first prize).

The first prize in Free-hand drawing, 5*l*., was awarded to Isaac Holloway, aged 22, Messrs. Chance's Library, Birmingham, glass painter; and the second prize, 3*l*., to Thomas William Camm, aged 23, Messrs. Chance's Library, Birmingham, draughtsman.

In geometrical drawing no prizes were awarded. Strange to say, no candidate obtained a first-class certificate in this branch.

By the report read at the annual meeting held on the 25th, it appears that finding that the decisions of her Majesty's Commissioners for the Exhibition relating to the juries provided only for the publication of their awards, but not for that of reports descriptive of the progress of industry since the Exhibition of 1851; and that the Commissioners do not contemplate the publication of any extended reports; the council have undertaken this work with the co-operation of her Majesty's Commissioners and the juries; and have placed the matter in charge of Dr. Lyon Playfair, the Special Commissioner of Juries. It is intended that the reports shall be published in royal octavo, to range with the one-volume Jury Reports of 1851.

The lease of the Society's house expires at Lady-day, 1867. There are thought to be many reasons in favour of the Society retaining its present situation, as being well adapted for carrying on its operations; and this totally irrespective of any interest which may accrue to the Society in the International Exhibition Buildings under the terms of the charter constituting the Royal Commissioners for the Exhibition of 1862. The council have therefore thought it right to accept a renewal of the lease of their premises in the Adelphi.

The council have awarded the following medals for papers read at the evening meetings:—

To Dr. F. Crace Calvert, F.R.S., for his paper "On Improvements and Progress in Dyeing and Calico-Printing since 1851." *The Society's Silver Medal.*

To E. C. C. Stanford, for his paper "On the Economic Uses of Seaweed." *The Society's Silver Medal.*

To James Morris, for his paper "On Mauritius: its Commercial and Social Bearings." *The Society's Silver Medal.*

Mr. William Tooke, F.R.S., the senior vice-president, was elected president pending the arrival of the time when his Royal Highness the Prince of Wales may probably be induced to accept the office.

COMPETITION.

Birmingham Exchange Buildings.—The following has been forwarded to us as a list of the competitors:—Messrs. Holmes, Cranston, and Thomason, all of Birmingham, premiated; and Mr. Robins, London, selected as fourth by the referee. Messrs. Martin, Chamberlain, Bateman, Bland, and Chatwin, of Birmingham; and Messrs. Hornblower, Edys & Johnson, of Birmingham, unable to complete their plans in time. Messrs. F. C. Clarke, T. W. Goodman, Medland & Maberly, of London; and Mr. Seckham, of Oxford.

IRISH BUILDING NOTES.

A NEW Protestant hall is in course of erection at Longford. The plan of the building is a rectangle, containing four apartments; viz., large hall or lecture theatre, 76 feet by 30 feet; porter's room, entrance-hall, and committee-room. There is a gallery in the large hall, with a staircase leading to it; off the staircase is the lecturer's room. The roof is supported by semicircular trusses resting on corbels; and the total height from the floor of hall to the crown of the semicircular rib is 37 feet. The front, which is two stories (24 feet) high and 38 feet long, is of Italian character. Mr. J. Bell is the architect; Mr. J. Mullins, contractor. The amount of contract is about 1,500*l*.

A new bank is about to be erected for the National Banking Company, adjacent to the Market-square at Castlerea, county Roscommon. The building consists of a main block and back addition. The main block contains a cash office, 26 feet by 24 feet, on the ground-floor; also a hall and stairs leading to dwelling apartments. The first-floor contains a drawing-room, 16 feet 6 inches by 20 feet; and two bed-rooms, 16 feet by 18 feet, and 16 feet 4 inches by 10 feet respectively. The main block is two stories high. The back addition, which is three stories high, contains, on the ground-floor, a strong-room, 9 feet by 6 feet; vouchers' room, 13 feet by 9 feet; kitchen, 18 feet by 16 feet 6 inches; and a small store and scullery. The first-floor contains dining-room, 22 feet by 17 feet; pantry, and servants' bed-room. The second-floor contains two bed-rooms, 14 feet by 14 feet, and 18 feet by 15 feet respectively; also w.-c. The style of the front is Italian, with doorways at either side; affording separate entrances to the public and private apartments. The total height of the main building from the ground to the eaves is 27 feet. Mr. P. Nulty, of Kells, is the contractor; Mr. F. Caldbeck, the architect. The amount of contract is about 2,000*l*.

The new Molyneux Church, Upper Leeson-street, Dublin, has been opened for divine service. The architect was Mr. Carroll, of Dublin, and Mr. Bolton was the builder. The building cost about 5,000*l*.

Extensive additions and improvements are about to be carried out at the glebe-house of Athleague, co. Roscommon, for the Rev. Fitzmaurice Hunt, under the superintendence of Mr. W. E. Martin, architect.

We understand a new glebe-house is about to be erected at Westport, co. Mayo, for the Rev. R. O'Callaghan, by the same architect.

THE ECCLESIOLOGICAL ASPECT OF THE INTERNATIONAL EXHIBITION AND THE ECCLESIOLOGICAL SOCIETY.

THE twenty-third anniversary meeting of this Society was held on Tuesday evening last, in the Lecture Theatre of the South Kensington Museum. The chair was occupied by Mr. Beresford Hope. Amongst those present were—Lord Lyttelton, Lord A. Compton, Sir S. R. Glynne, bart.; Hon. C. Lindsay, Chevalier C. de Borman, M. Guffens, M. Sweetz, Signor Salviati, M. Cuypers, Rev. Dr. Jebb, Rev. W. D. Morrise, Rev. P. Freeman, Rev. W. Scott, Rev. J. C. Jackson, Rev. S. Webb, Rev. H. L. Jenner, Rev. S. S. Greatheed, Rev. T. Helmore, Rev. H. W. White, Rev. W. H. C. Luke, Rev. H. J. Matthew, Rev. J. F. Russell, Rev. C. J. Segeyt, Rev. T. James. Messrs. J. L. Anderdon, G. M. Mills, R. E. E. Warburton, J. D. Chambers; G. G. Scott, R. A.; B. Ferrey, G. E. Street, E. W. Godwin, W. White, W. Slater, J. Skidmore, W. C. Luard, D. Brandon, W. H. J. Weale, F. Gambier Parry, J. F. France, G. R. Robson, N. W. Lavers, J. Barraud, H. Parnell, W. J. Hopkins, H. Webb, J. S. Forbes, W. Burges, T. B. Pearson, S. S. Teulon, W. M. Teulon, J. Clark, Digby Wyatt, J. Prichard, F. G. Lee, E. A. Fitzroy, W. Slater, &c.

The Chairman said that they were assembled for the purpose, in the first place, of transacting the usual business of their annual meeting. The Lecture Theatre in which they met had been made much more commodious since an anniversary meeting of the Society had been held in it, now three years ago. For the last two years they had assembled in the Architectural Gallery, in Conduit-street, where they had found snug quarters; but from circumstances to which he need not further allude, and the whole world living as it were centered in the South Kensington direction, whatever part of London might, under ordinary circumstances, be the best and most convenient, no doubt South Kensington was the place for all artistic gatherings during the summer of 1862, and accordingly they had come there. They had not only present on that occasion members of the Society and other English friends, but they were favoured with the presence of some distinguished foreigners who took an interest in the progress of ecclesiology. The committee had within the last few days elected the following five honorary members whom the great International Exhibition had attracted to London;—M. Cuypers, of Ruremond; Signor Castellani, of Rome; Professor Eitelberger von Eitelberg, of Vienna; M. Du Sommerard, Director of the Hôtel de Cluny; and Dr. Salviati, of Venice,—all distinguished ecclesiologists. On ordinary occasions, at the annual meetings, the report having been read, a debate usually ensued upon topics adverted to in it; and after a discursive conversation on ecclesiology growing out of the report, the subjects for debate were proceeded with; for they had got out of the stereotyped system of reading papers, and had approached nearer to that of open-air preaching. On that evening, however, the subject for debate was the ecclesiological aspect of the International Exhibition, and of the exhibition on loan of fine arts at the South Kensington Museum. Either of those subjects would require many evenings in order to be dealt with as they deserved; and they should, therefore, be merely touched upon on that occasion. The whole ecclesiology of the past year might be said to be concentrated in one department of the Exhibition; and, when the report had been read and adopted, he would be glad to hear such observations on the subject as any gentleman present might think proper to make. He had only now to advert—and he did so with sincere regret—to the absence caused by indisposition of the Archdeacon of Bristol, who had presided over them for twenty-five years, and whose presence amongst them they had always hailed with the utmost pleasure. At no meeting could the present state of his health be mentioned without exciting the deep sympathy of every member and friend of the society.

The Rev. Benjamin Webb, hon. secretary, then read the Annual Report, to which we may return.

Lord Lyttelton moved that the report be adopted.

The Rev. P. Freeman seconded the motion. He confessed, that considering the advanced stage which ecclesiology had reached, he had but a slender acquaintance with it. Many years ago he was for a short time chairman of committees; but for the last 20 years he had not taken an active part in the proceedings of the society; and he could not but be struck with the rapid strides it had made during that period. Then he could have taken a fair part in their debates, but now he found that he was fallen into lee-way. The variety of subjects it embraced, the extent of area it covered, and the amount and utility of the work it proposed to itself, were perfectly astounding. That which he had left a babe he now found a giant. The occasion of the great International Exhibition had brought out this fact very strongly;—that there was scarcely a part of the civilized world which had not heard of the old Cambridge Camden, now the Ecclesiological Society. He congratulated the society upon the work it was doing, and the country upon possessing so valuable a society. When they looked back to Mediæval times they saw how artists worked, not only with the hand but with the head: hand and head went together: that which they pursued was not merely an art, but also a science. It was of the utmost importance that there should be at the head of ecclesiology a society like this, which would watch and take care that that noble religious science was not deteriorated into a mere art or trade; but that its position and dignity as a science, and as a religious science, were vindicated and upheld; and that it carried out in brass, wood, stone, glass, and many other materials, that which Coleridge had spoken of in reference to stone alone—"The petrifaction of our religion."

The motion for the adoption of the report was then put, and carried unanimously. After which the Treasurer, the Rev. Samuel Stephenson Greatheed, read an abstract of the accounts for the past year, which was adopted. Lord Lyttelton was then appointed one of the vice-presidents of the society; and the "House District Committee" and auditors were appointed.

The Chairman then said that, having disposed of the formal business of the meeting, he would briefly advert to the subject of debate, namely,—the ecclesiological aspect of the great International Exhibition, and of the works of art on loan now exhibiting at the South Kensington Museum. The subjects were so extensive that either of them would require a session for their full debate as long as the Parliamentary session. Time would, however, now only admit of a cursory glance at them. He would, therefore, direct their attention to a few points of view in the tangled forest into which they had wandered. He entertained no doubt that in the course of time the Great Exhibition would be of infinite value to the world. It helped to shed light upon the progress which science had made, and in some degree to show to each nation that which it lacked, and in which others excelled. The result would, however, be a work of time. Before they struck out a philosophy, they should have a glossary made out. Any one who visited the Exhibition must have noticed an infinite number of points, many of which were entirely new to him. If members and friends of the society brought under their notice the various points which had so struck them, and which they thought deserving of praise or of blame, they would by that means collect together a multitude of valuable facts for future study which would in the end enable the society to contribute to the development of that ecclesiological art in which they had faith, because it was modern and progressive. To be sure, they were of the Mediæval period, and their Court was the Mediæval Court. But why was that so? Because they believed there were many facts appertaining to Mediæval art which made it the best and most serviceable for the nineteenth century,—the art, in short, which was most suited to the wants of the present generation. They greatly respected archæology: they gladly studied antiquities; but they did so supremely and entirely with a view to the wants of the present age, and with a view also to the ages to come, which would be dependent very much upon the practical results which in this day are attained. That he considered to be the very keystone of the system,—that which made the society a living power in the age in which their lot was cast. He would now mention a few ideas which had occurred to him as he wandered up and down the mazy avenues of the Exhibition. He would begin with architecture pure and simple. In the presence of their foreign friends, he would only say, in reference to the Architectural Gallery, that he was extremely sorry the short time given by her Majesty's Commissioners to get the Exhibition together, the absurdity of their directions, and the little appreciation they showed of the value of architecture,—all these things had conspired to frustrate any collective exhibition of illustrations of architecture on the Continent. There were several very meritorious designs from Germany and Holland, but none at all from France. With one exception, France had sent nothing but restorations. The colonies of the country had sent numerous photographs. He alluded particularly to those from Sydney and Montreal. He did not criticise the buildings. They were very much what would be seen in villages and country towns in England, built by the architect of the place. There was very little ecclesiology, if he excepted two churches from New South Wales, of which those who forwarded them were justly proud, when it was considered that they were erected soon after the starting time of a struggling community. Several of the gentlemen present met under the wing of the Institute of British Architects, for the purpose of having the Exhibition as perfect as under the circumstances was possible. Mr. Waring was one of them: he worked heartily and well, and with his assistance they obtained from the Commissioners four galleries,—two with two walls each, and two with one wall. In these galleries there was an interesting and important exhibition of the architecture of England for the last twenty years. There were many hundred drawings well worthy of close and minute inspection: Gothic and Classic would be found ranged face to face—not in hostile, but in friendly opposition. Outside there were some mixed specimens of Scotch architecture which everybody should see. An opportunity such as was afforded by the existence of these galleries might not occur for many years; and altogether, it was a most interesting and important branch of the Exhibition. Good, bad, and indifferent specimens of both Gothic and Classic were to be found there; but, having studied them, they would go away well satisfied with the advance which architecture had made in this country. As he had said, foreign architecture—not from any fault of foreign countries, the fault was nearer home—was very slightly represented. There were, however, a few designs which would amply repay inspection. There was an elaborate design in Late German Gothic—later than we should like in England—but still a very careful and able study, by Mr. Schmidt, for the Town-hall at Berlin. Drawings of Mr. Fristill's Church at Vienna, and of a Romanesque church for the city of Prague, will also be found very interesting. There was also a church, on a large scale, for Amsterdam, by Mr. Cuypers, in which the double triforium is introduced, for congregational purposes. He (Mr. Beresford Hope) considered it a curious fact, that some time since, in a work he published, he had suggested that the double triforium could be used for such a purpose. Ecclesiological art was illustrated in the Mediæval Court. There the Society were hosts, and it was neither manners nor morals to talk over their guests. They were delighted at having the opportunity of opening it; and they were satisfied with it, as they considered it an honour and a credit to their movement. He would content himself with thanking the contributors, and acknowledging the obligation the Society was under to Mr. Burges and to Mr. Slater for the generous and ungrudging labour they had bestowed upon the court. The Architectural Objects Court had been alluded to in the report. It was, in fact, an off-shoot of the Architectural Gallery up stairs. Near it stood a grand metallic screen, which those who wished to realize the growth of Mediæval art, and could remember the Exhibition of 1851, would do well to study. The screen was alluded to in the report: he did not criticise it: there were some points in it which some would object to: there were many points which all must admire. One feature of it he desired to draw particular attention to, namely, the introduction of electrotype statues. Electrotyping, in the hands of good designers, would, he believed, work a most beneficial revolution in architecture. Cast statues were difficult to procure, and very costly; but electrotyping would enable the artist to realize the result of his own skill. The tiles exhibited by Mr. Minton were also deserving of notice, as were likewise the designs for external decoration, in which he recognized the germ of future development, and which had this great advantage, that the rain would wash off them the London soot. The chairman, having alluded to various objects of art contributed by foreign exhibitors, went on to say that the portions of the Exhibition to which he referred contained many objects which were not Gothic, but with which they would all be delighted. What was the lesson they were to draw from that? That they were abandoning their principles? That they were going to sea without having a haven to look forward to? By no means. They were taught to recognize this great truth, that art is one; which there was an ideal, if they could attain to it, that comprehended all. New ideas could be gathered from every school of art; while at the same time he believed theirs to be the most liberal and the best suited to meet the requirements of the age.

✠

Mr. T. Gambier Parry having been called on, said that he came to the meeting to listen and to learn. With respect to the subject of ecclesiology, he had already written his ideas on it, at the request of the committee, and they were before the Society; and he would now listen with pleasure to what might be advanced by others.

Mr. Gilbert Scott was next called on. He said that, as yet, he had not visited the Exhibition sufficiently often to be able to offer any remarks on the subject before the meeting. Mr. Digby Wyatt would, no doubt, give them the benefit of his observation.

Mr. Digby Wyatt said that all who were interested in the progress of art in this country must be wonderfully struck with the enormous advance which had been made within the last ten years. He had heard foreigners express their astonishment at the changes that had taken place in that respect in this country during that period. Arts which in 1851 had scarcely made each other's acquaintance, now went hand in hand together. It was also a happy sign of progress to hear the president state that something could and ought to be learned from every school. In every style, in fact, there was some element which it would be most desirable to attain a knowledge of—some excellence which is worthy of true appreciation; and it was an evidence of real progress that that principle had been recognized at the meeting. In every department the advance made was very great. In enamel, in glass, and metal-work, the change was very extraordinary. With respect to an observation made by the chairman, the Mediæval form might be the best for the present generation. To a certain extent he was prepared to agree with those who held that opinion. The history of Mediæval art showed that there had been continual change in it. Collateral assistance was always made available: improvements were not considered innovations; and he believed that, by the adoption of the same principle, a style would at length be formed which would be worthy of being called National. There was strength in union: in some of the changes which were taking place some advancing phase would be found: the artist's mind was fed by engravings, photographs, casts,—everything that showed what was now doing, or what had been done in former times. There was, happily, a principle of assimilation in the artist's brain; and it was by cultivating it, and taking honey from every flower, that they would attain to a national style. He considered that the arts of this country gained immensely from that sort of union which the Society exhibited and encouraged.

Mr. Weale (of the Belgian Commission) said that, on returning to England after an absence of nine years, he was amazed and delighted at the progress which had been made. Formerly, artists were copiers; now he found an immense number of really original designs ably reasoned out. He attributed the improvement which had taken place in a great measure to the fact that English students went forth to foreign countries more than the students of any other country. In France there was a much more slavish imitation of the thirteenth and fourteenth centuries than in England. There the mind is thrown into the work; the head goes with the hand, as had been stated; and the wants of the nineteenth century were more attended to. He was convinced that the Mediæval was the style best suited to the present age; and, if England worked it out, the victory of the Gothic was certain.

Mr. Street said he hoped their foreign friends would not confine themselves to the Architectural Gallery with a view to inform themselves of the condition of English architecture, but would also visit the public buildings. The designs in the courts gave very little idea of what a building was when carried out in all its parts. With respect to the Exhibition, he did not think that either English or foreign exhibitors had made much progress since 1851. It was an unfortunate circumstance that the gentlemen to whom the arrangement had been intrusted did not seem to know what stained glass was. One reason for the little progress that had been made he believed to be, that the manufacture of stained glass was in the hands of a few. He congratulated the meeting upon the view expressed by the chairman, which had been alluded to by Mr. Wyatt. There was a catholicity in art; and if that fact was appreciated, and that which was excellent in each school acquired, it would lead to the development of art to which they all anxiously looked forward.

Mr. Burges also remarked on the little progress that had been made in stained glass, and the injudicious arrangement of the specimens exhibited.

After a few words from Dr. Salviati,

Mr. Skidmore said he thought the directors of the museum were entitled to the thanks of the Society for bringing together the Fine Arts collection, which they had all inspected with so much pleasure.

The Chairman said that they were all most thankful to Mr. Robinson, and those who had aided him, in bringing together, with so much labour, so splendid a collection.

The proceedings then terminated.

SCENE PAINTING.

Mr. FOUCAULT, optician, is at present engaged at the Palais de l'Industrie, Paris, in a series of experiments for improving the art of scenic decoration. Under the present system a back-scene and a certain number of side-scenes constitute an *ensemble* representing a landscape, forest, garden, &c.; requiring on the part of the spectator a good deal of imagination and good nature to induce him to admit the truth of the representation. According to French papers, Mr. Foucault proceeds on another plan. Instead of the traditional side-scenes representing old trees or rocks, and intended to limit the extent of the back-scene; instead, also, of the strips of canvas used to suggest air and clouds; he employs a large canvas surface representing a panoramic view of the sky, the end of which is not perceptible in any direction, either from the side-boxes or orchestra. All side-scenes are done away with, and the landscape thus acquires its fullest effect. One of his scenes represents, for instance, a view of the Desert of Sahara. Here, as far as the eye can reach, we see nothing but an interminable plain of sand bounded by the sky; and, to render the contrast more striking, a date-tree and plants of aloes decorate the centre of the scene; while, according to the old system, these plants would have had their place assigned to them right and left. Nor are Mr. Foucault's skies invariable. He makes clouds float about at pleasure; masses them together for a storm; and dissolves them for the return of fair weather with the greatest ease.

Something of the same sort has been done before now by Mr. Beverley. The ruggedness of the scenery at the sides, and the inartificial arrangement of skies, often presented in our theatres, are very discreditable, and might be obviated by a little thought. Perhaps the mention that some improvement (it may not be much) is being attempted in Paris may lead some of our managers, with whom it rests as much as with the artists, to give attention to the matter.

NEW BUILDINGS IN OXFORD.

OXFORD ARCHITECTURAL SOCIETY.

AT the annual meeting of this society, Mr. E. A. Freeman, M.A., gave a lecture on "The New Buildings in Oxford." According to the *Oxford Herald*, he said,—"The two subjects of architecture and history were intimately connected, and either was imperfect without the other. They did not know the history of bygone ages unless they were conversant with the styles of architecture accepted from one period to another, through successive generations. Architecture was, beyond question, an essential fact in the history of any people. The great thing he wished them to understand was that the study of architecture could only be pursued with advantage by those who duly considered it in its historical bearings. The study of architecture without its historical bearings was truly frightful in its results. Upon the present occasion there was one thing he missed:—their old friends the casts and brasses were all gone. They were probably in some cellar or garret; but he hoped the University would open its eyes to the fact that they were of as much value as many of the things they had got together in the Museum: the one illustrated the history of man, the other the history of matter. He had heard it said that casts were of no use as soon as photography was invented. He made a study of putting down all the foolish things he heard, and that was one of them. He thought the man who made use of the observation did not know what a cast or a photograph was. Photography was a most wonderful thing, and served many architectural purposes better than any other mode; but it was no deterioration of that to say that it could not answer the same purposes as the casts themselves. The cast was the cast, and nothing else. They could look at it on the left and on the right, and inspect its mouldings to advantage; but a photograph they could only look at from one place. The speaker then proceeded with the main subject of his lecture; having reference to the new buildings of Oxford; and began with a period of twenty-one years ago. He was sorry to say that, during that time, architecture had not only not gone forward, but back; and he had no hesitation in saying that most of the new buildings were constructed with worse taste than when he first came to the University, twenty-one years ago. In some of the old buildings he might find peculiar faults; but they were built on a good honest principle,—that of following the general architecture of the country. The modern fantastical vagaries of the present time were not then heard of. Look at the Martyrs Memorial. That was a thoroughly beautiful thing, with some of the most glorious Mediæval work known. Look at the new part of Magdalen Church: the windows, tracery, and some other portions were as good as could be; but when they looked into the building, they found the roof was ready to break down. It was not purely modern architecture, but of the Early English style. Of the Taylor Buildings, the least said the better. Then, as to Magdalen College Schools, the Pointed gable, the turret, and the porch, did not correspond with the other parts of the building; but, although he might find fault, he was not disposed to do so. He was satisfied to see a good piece of honest, useful, English work. Next, he came to St. George's Church, in George-street. The roof might be improved; but the whole building was a good piece of straightforwardness. He then referred to Balliol College Chapel; complaining that its erection was an injury to Trinity-College men, as it deprived them of a view of the exquisite beauty of the old chapel. The thing stood out with a great staring strong roof, and a most awkward thing upon it. He did not know what to call it, and it was for the architect to find a name for it, and not for him; but there it was. Then as to the buttresses: they were something between a buttress and a pinnacle, such as they might suppose were made when buttresses were first invented. On either side of the east window was something Burton had put up; but he (Mr. Freeman) did not know the name of it: it seemed to him as if the architect was trying to invent a new Grecian order. The speaker referred to the reading-room of the Union: it looked as pretty as could be in the summer; but in the winter there was no window at all; whereas with good straightforward Perpendicular mullions the effect would have been the same all the year round. Then as to the new Museum: the front was a very beautiful thing indeed: they had nothing like it in the University; but the architect reminded him of the Irishman with his gun, which could not shoot round the corner; for the architect had stuck on two pieces which seemed to have nothing to do with the building. The sides and the front were not worked together; but when he got inside the building it was another thing, as a cloister ran uniquely round it. After all, the building was not so outrageous as some; but it was not a good working out of the honest English style. Altogether it had many merits, and so with Balliol. But, said the lecturer, there is one place I can have no mercy upon whatever: that is the new church in the parish of St. Giles. It was as if they were to take the shoulders of a very weak ill-proportioned fellow, and then those of a strong burly fellow, and stick the two together; and then, because they would not join properly, to beat in the ribs of the big one to make them join. This was exactly what Mr. Street had done at that church. When he (the speaker) got inside the building, he found as much to complain of. Because he wished to do all justice he could, he must speak of the restoration of the Cathedral. It reflected the greatest credit upon all; giving the best effects possible under the circumstances. The speaker concluded with a eulogy of Mr. Scott, with especial reference to Exeter College Chapel. He considered they had not many such buildings in England; and no college chapel was built in such a splendid style. The only fault he could find was, that Mr. Scott had run off into the partly Transitional style, which was purely French and passed off for Italian. The speaker concluded by expressing a hope that some contemplated alterations at Merton and other colleges might not be carried into effect.

Captain Burrows, at the conclusion, said he would not attempt to enter into a detailed notice of Mr. Freeman's remarks, as the president discouraged discussion. He would, however, observe that on such matters as these there might at least be a difference of opinion; and that it was quite conceivable that another competent judge might travel over the very ground that had been gone

over to-day and give a totally different report of it. As regarded the Church of SS. Philip and James, he thought it could scarcely be fairly criticised before it was finished; and, until the spire was added, they could not judge of the general effect of the exterior outline of the whole building.

THE THAMES EMBANKMENT BILL.

A BLUE book of 360 pages has been issued, containing the evidence heard before the select committee on the above Bill, together with their brief report. The committee state that they have amended the preamble; that the estimates of the works are in their opinion sufficient; that they have agreed to report the evidence to the House; and that they have gone through the Bill and made amendments. Amongst the witnesses examined were — The Lord Mayor, Sir R. Mayne, Mr. D. W. Harvey, Mr. J. M'Lean, Mr. Bazalgette, Mr. Bidder, Captain Galton, the Duke of Buccleuch, Mr. Tite, M.P., Viscount Gage, Mr. Horsman, M.P., Mr. Hawkesley, &c. The Bill, as altered by the select committee, now authorizes, besides the embankment itself, approach roads from Surrey-street, Norfolk-street, and Arundel-street; a street from Wellington-street, Strand, to join the embankment at Hungerford-bridge (but this is not to be made until all the other works are completed); a new street from this last street to commence near George-street, Adelphi, and to terminate in Whitehall-place; and, lastly, a new street from the embankment at Whitehall-stairs to the Horse Guards. This clause then follows:—"And whereas it is expedient to afford time for the further consideration of the best means of relieving the thoroughfares of the metropolis in connexion with the proposed embankment; therefore it shall not be lawful for the Board of Works to lay down any roadway on that part of the proposed embankment which is situate between Whitehall-stairs and Westminster-bridge;—provided always that nothing herein contained shall be held to prevent the construction for the use of the public of a footway or terrace of a width not less than 80 feet along the river frontage of the last-mentioned portion of the embankment."

So strong an opinion prevails out of doors as to the course pursued by the Duke of Buccleuch, and the concession that has been most unwisely made to him by the committee, that we have every reason to hope that the House of Commons will give power to continue the embankment to Westminster-bridge.

Mr. Locke has given notice that, in committee on the Thames Embankment Bill, he will move to leave out the clause providing that a footway only be made between Whitehall-stairs and Westminster-bridge.

THE ARCHITECTURAL ASSOCIATION IN WESTMINSTER ABBEY.

ON Saturday afternoon at three o'clock a large gathering of the members of the Architectural Association took place in the Cloisters at Westminster, where they were met by Mr. G. G. Scott, who had kindly undertaken to conduct them over and explain to them some of the most interesting parts of the Abbey. He began, with the help of a large ground-plan, by pointing out the dates of the different parts, and then led his audience into the earliest of the existing buildings,—namely, the arcade or cloister, under the south end of the present library, which is now used as a covered playground for the Westminster boys. After spending some time here, the party went on through the Little Cloisters to examine the remains of the chapel of St. Catharine (formerly the chapel of the Infirmary) and part of the hall of the Infirmarer's house, still standing. Passing back through the Cloisters, they were next admitted into the library, which was formerly the monks' dormitory, although bearing few traces of its original use, except the doorway leading into the Abbey. Here some time was spent in examining some exquisite missals, *temp.* Henry III. Mr. Scott now led his audience back to the Cloisters; and after some conversation an ascent was made to the triforium, where much was to be asked, explained, and commented on. Here, in making the circuit of the east end, the peculiar method adopted in setting out the sides of the apse with the surrounding chapels was noted. Then up again still higher, till the roofs were gained. Here, during a short examination of the roof of the south transept and the back of the vaulting, a member asked the thickness of the filling in; when Mr. Poole, the Abbey mason, produced a complete stone of the original filling in, which proved to be about 9 inches in thickness, worked into a regular voussoir, with a winding intrados. Mr. Scott said that he could identify the stone as a particular kind of chalk, only found in one part of Surrey, and remarkable for beautiful greyish veins, which almost give it the appearance of marble.

A long descent now followed to the very lowest point of the Abbey, the crypt below the Chapter-house. Here the extraordinary thickness of the walls (17 feet 6 inches) was pointed out and conjecturally explained; and the curious receptacles hollowed out of the central shaft excited much attention and curiosity. By this time the crowd of casual visitors who had been thronging the Abbey during the day had all disappeared; and the party ascended into the south transept to find the whole Abbey in their undisputed possession. A short time was spent in the chapel of Saint Blaise, with its beautiful bit of sexpartite groining and its curious mural painting; and attention was directed to the bridge of communication between the dormitory and the Abbey, at the west end of this chapel. Passing into the choir, the pavement within the altar rails was next examined and explained. Then through the screen to the shrine of Edward the Confessor, with the history of its removal and clumsy re-edification, its mutilations and disfigurements; which, after all, have left it that wonderfully picturesque thing we could none of us wish to see altered now. Daylight was by this time beginning to fail; and, after a hasty look at a few other treasures, of which the chief were the retable in the south aisle, and the tomb of William de Valence, the party were reluctantly compelled to disperse soon after eight o'clock, thoroughly delighted with their visit and the kind and hearty manner with which Mr. Scott gave them the benefit of his learning and experience, and answered the numberless questions which were put to him.

It is greatly to be hoped that the success of this meeting may bring about others of a similar kind; and that it and all such meetings may kindle amongst many a real and lasting interest in old buildings, and induce them to *sketch! sketch! sketch!*

PROPOSED ARCHITECTURAL ALLIANCE.

A MEETING of gentlemen interested in the formation of an "architectural alliance" was held on Wednesday last, at the House of the Architectural Union Company, in Conduit-street.

The attendance was very limited, but delegates from several provincial architectural societies, including those of Bristol, Edinburgh, Liverpool, Glasgow, Manchester, and the Northern Architectural Association were present; also Mr. Blashill, the president of the Architectural Association of London.

Mr. Austin, of Newcastle, was called to the chair; and Mr. Pritchett, of Newcastle, acted as honorary secretary.

On the motion of Mr. Pritchett, a resolution was submitted that an architectural alliance be formed.

Some considerable discussion ensued with reference to the propriety of adopting, as the basis of such alliance, the outline of a scheme already circulated by the Northern Architectural Association.

An opportunity was afforded by a sitting of the council of the Royal Institute of British Architects in the same building for an interview on the subject, at which the delegates were courteously received, and explanations afforded as to the object which the promoters of the alliance have in view, namely, general harmony of action in reference to professional practice and charges, and a desire to raise the *status* of the profession.

Ultimately, a series of resolutions for the promotion of an architectural alliance was drawn up and approved. These are to be submitted to the several provincial and other bodies interested, for their consideration.

THE CHATHAM WATERWORKS.

THE new reservoir of the Brompton, Chatham, and Rochester Water Company is nearly completed. The bottom of the reservoir is the natural level of the ground. The building, according to the local *News*, consists of four retaining walls, forming a nearly square receptacle, capable of holding a million gallons of water. On two sides are buttresses of brickwork, to resist the great outward pressure of the water: the other sides, which are formed in curved lines, are tied together by arches running across the reservoir. There are ten of these series of arches; each series resting on ten pillars; these, with the abutments from the outward walls, giving eleven arches in each series, or 110 arches in all. The whole of the brickwork is laid in cement. The floor will be formed of three layers of bricks—two flat, and the centre layer placed edgeways; forming a floor a foot in depth; the whole imbedded in cement. This floor, the pillars, and the walls, will all be coated with a hard cement, which dries nearly white. The water forced up from the works at Luton, some 300 feet below this point, will enter by a 12-inch main near one corner of the reservoir; and the main for supplying the towns will be situate at another corner. Resting on the outward walls and on the series of arcades will be arches of brickwork, covering in the whole of the reservoir. Over these arches there will be a covering of earth: earth also will be thickly piled against the retaining walls; so that, when the work is completed, only a mound will be outwardly apparent.

The water has been already filtered by nature as it percolated through the thick chalk strata; and has, it is said, hardly a trace of organic impurity; so that no filtering-beds are required. The object of lifting it from Luton to Star Hill, and depositing it in the reservoir, is to get a quantity stored, and to obtain a pressure from elevation which will send a stream of water over the highest houses in Brompton, situate as that town is on a hill.

The contract for the reservoir was obtained by Mr. J. G. Naylar, of Rochester; the plans having been prepared by Mr. Pilbrow, the civil engineer of the Water Company.

In the valley, extensive operations have been going on for augmenting the storage space at the works, and for increasing the springs. Nearly 60 feet beneath the surface of the ground on which the engine-house stands, and of the yard surrounding the house, an extensive excavation has been made: galleries supported by brickwork arches have been formed in the chalk: these galleries are about 20 feet high. Besides providing a reservoir for storing the water as it rises from the deep artesian borings and central well, this excavation has added a number of new and copious springs; so that altogether a very large supply of water is now every hour provided at Luton.

PARIS.

ANOTHER pavilion (the ninth) is about to be erected for the Halles Centrales, the pillars and a portion of the framed roof being ready to put in place. To make room for this, the market of the Rue des Prouvaires is to be demolished, and the "tripiers" and the pork-shops therein removed to the ancient Halle aux Draps, which is being temporarily fitted up and turned into a market; windows are being broken out, and bays opened on the ground floor in several places, partitions removed, and the building consolidated.

A curious fountain, worthy of a place in our International Exhibition, is being erected in the Champs Elysées, before the eastern entrance. It is in granite from Laber and Kersanton (Finisterre), and is 6 mètres (19·7 feet) high from the base to the summit. It is composed of a square surbase with chamfered edges, a piedouche with a basin 3 mètres 40 centimètres (11 feet 2 inches) diameter; another piedouche and basin smaller than the lower one; and a pillar for the jet of water, also supporting a candelabrum brilliantly lighted. All this work was executed in the lathe; and some idea may be formed of the enormous labour when we affirm that the principal vase or dish was wrought by manual labour, applied to the steam lathe, out of a single block of granite, weighing 25,000 kilogrammes (about 24 tons 12 cwt.), transported by sea and land from Finisterre. The granite of which this fountain (unique in Europe) is entirely composed is identical with that of the block upon which the Luxor Obelisk stands in the Place de la Concorde.

The *Moniteur des Arts* announces that the Museum of the Louvre has just been enriched by a painting by Velasquez; it is a full-length portrait of Philip IV. of Spain. It cost 23,000 francs (920*l.*), and is placed near the Pouilleux of Murillo.

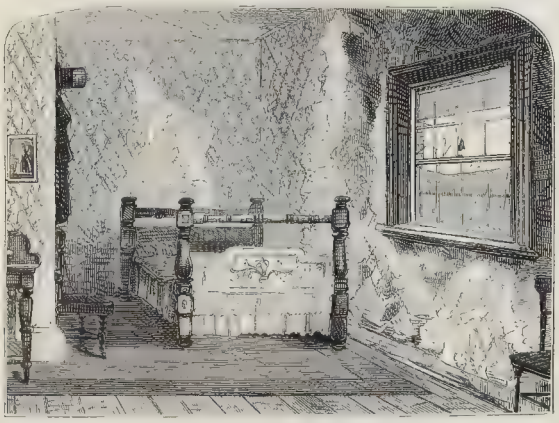
THE FIRES IN RUSSIA.—These political or revolutionary fires have been extending from St. Petersburg to the provinces. On the 16th May, 10 houses were burnt at Tiflis; on the 9th, 20 at Mohilew; and on the 11th, 44 houses, 133 shops, and the church at Czernichow. Fires have also taken place at Novgorod, but details are wanting; and also at Odessa. Those at Moscow we have already alluded to.

DAMP IN DWELLINGS.

KNOWING the damage which is often done to buildings by damp, and the serious danger to health which arises from this cause, it is extraordinary to find, in so many instances, how little care is taken effectually to drain the ground surrounding dwellings, and otherwise to keep them dry.

In the metropolitan suburbs, and in many places both in the town and country, there is especial reason for complaint in this respect. Pools of stagnant water are allowed to collect and remain during the winter months. The land becomes saturated with moisture, which is more or less absorbed by the porous brick walls of the houses; and still further mischief is done by the summer heat distributing the poisonous contents in vapour throughout the surrounding locality. No care is taken in putting in the foundations.

The injurious effects and great extent of the evil in cottage and other dwellings are generally not sufficiently considered. In hundreds of instances, notwithstanding that large fires are regularly kept burning, the interiors of rooms, even in houses occupied by persons of means and intelligence, are as moist as some caves: the paper peels off the walls: the plaster cracks and falls to pieces: the covers of books become mouldy and have a fusty smell: papers stored in cupboards; prints hanging against the walls; linen in drawers, if not constantly aired, soon perish. In mild, dull weather, streams of water run down the glass of the windows; and in frosty weather it is covered with icy crystals. At times the paint-work seems in a state of violent perspiration. In such houses, ironwork, both polished and of other kinds, gets rusty in a few hours. But these and other evils are nothing in comparison with the ill effect produced upon health. The cause of the illness, however, is usually looked for in another direction. In many cases the michief is caused by want of attention to the spouts and pipes, which get stopped or broken; and in rainy weather, streams of water fall upon the outer walls, and sink into the basement; for in many of the small dwellings which were built a few years ago—and in too many at present, as already mentioned—sufficient attention has not been paid to the foundations, and to the means of



A DAMP ROOM; AND ITS DANGERS.

carrying away the rain-water. Even if the spouts are in good condition, such is the nature of the building materials, and neglect of drainage, that the damp from the earth may be seen to rise to one row of bricks after another;—to a height of from 10 feet to 12 feet and upwards; and it is in such situations that many diseases, particularly among young children, are fostered or generated.

In parts of the City and closely-populated portions of the metropolitan districts, much mischief is caused by the overflow of cisterns: the ball-cock is taken off, or pipes are stopped or broken; and neighbours are surprised to find dampness showing through walls in the most inconvenient situations.

As regards damp houses, it is not always easy for inexperienced persons to detect them, particularly in the summer time. In order to catch a tenant the exterior is smartly done up; the little plot of flowers and plants looks pleasant; and in the inside every room is decked with the "sweetest" papering. In a short time, however, a change takes place; and in spite of care the colours and patterns fade and give the appearance of half a century's neglect.

The apartment which is shown in the engraving was carefully drawn on the spot. It is a room on the first floor of a house not far from the Regent's Canal, in Islington. Not nine months ago the wall-papering was renewed, and now it has almost perished, in one part, from the overflow of the spouts: ghastly forms have appeared in other parts; and from the ground the damp has risen up in the way we have endeavoured to illustrate.

Too much care cannot be taken to prevent the action of damp; and any necessary sum expended for this purpose will in the end be a saving. Damage is often done by the damp site on which buildings are placed; and yet at the present time we could point to new streets where the scavengers are depositing liquid sweepings, masses of decomposing animal and vegetable refuse, and other abominations; and upon this, presently, the walls of houses will be raised, without the slightest arrangement to keep down the moisture or prevent dangerous exhalations. Those who sleep in the basement of such a house suffer first and most.

CELLS, SANCTUMS, AND CRYPTS.

THE entrancement and seerism of the "holy hermit," in his cell, cave, or grotto, by night, mentioned in Fairholt's "Up the Nile," remind one of what is said of the Sibyl to whom Æneas was guided, as the *way* to "the Shades":—

> "In a cave upon a rock, by night,
> Reclines the mad, prophetic Sibyl."

And it is a curious circumstance that at Cumæ, where Æneas was to find this cell, this Sibyl, and this *way* to the World of Spirits, a strange "City of the Dead," like that of Thebes and Beni-Hassan, has been found; as at Ur, too, or Hur, the Paradise of the Chaldee "daimons," or spirits; but with its tombs or apartments, like those of Beni-Hassan, and many others in Egypt,—including the inner chamber, cell, or "oratory" of the Great Pyramid, containing the sarcophagus and the elaborate and scientific ventilators,—"prepared *as if for the living* rather than for the really dead"; as we may well conceive the Sibyl's own cell or cave amongst those at Cumæ to have also been. And, as we have the Shades of the Sibyls at Cumæ, and the Hur of the Huris* in Chaldea thus remarkably associated with "Cities of the Dead;" so, even in this country, and at the present day, we find a churchyard occasionally, as at Chichester Cathedral, called a "Paradise." The subject of cells is a very extensive and interesting one. The cell or adytum of a temple was the *sanctum sanctorum* in which "the god" was believed to come to his worshippers; and the manner of his coming may be inferred from many hints as to temples and cells: thus in the *sanctum* or cell of the temple on the top of the tower of Belus at Babylon, as Herodotus tells us, there was "an elegant bed," on which reposed a priestess, whom the god, Belus, or Baal, visited by night; and, in certain Egyptian "invocations of the god," he who "reposes on the beautiful couch" is indicated. The "arkite cells," kist vaens, or caers of the Druids, were places where mystical initiations took place. Thus the Taliesin was "made perfect" in the "narrow bed" of the mystic cell; and he says,—"Complete is my chair in caer sidi: neither disorder nor age will oppress him who is within it:" and again,—"I went the circuit: I slept in a hundred isles: through a hundred caers I toiled . . . A second time was I formed . . . I have died and have revived . . . I am now Taliesin." Of the Druidical "God of Mystery" it is said,—"Hu lived and died alternately;" so that this death of the Taliesin was doubtless that state of entrancement during which "the god" was believed to have "lived" in the body of the "departed soul," till the Taliesin again "revived" in the alternate *death* or departure of the god, or spirit of entrancement. In short, the cell was the *sanctum sanctorum* in which the god "appeared" *in* the entranced; who were believed to be "god possessed," and "dead to the flesh," while "quickened by the Spirit." In the temples of ancient Egypt there were dark chambers, or crypts, in which the sick were submitted to thaumaturgical treatment by the priest-physicians, in "the temple sleep" referred to by Iamblichus; and the prescriptions of the Egyptian Æsculapius,—or, in fact, "the god" or "spirit" who appeared in those who were entranced in this temple sleep,—were inscribed on the walls of the temple. The dark chambers discovered by Mr. Layard in the temples of ancient Nineveh were doubtless devoted to similar purposes; and Ezekiel probably refers to just such dark chambers or cells of the Israelites,—who were so prone to follow the practices of the heathen,—where he says,—"Then said he unto me, Son of man, hast thou seen what the ancients of the house of Israel do in the dark, every man in the chambers of his imagery?" Every man in the chambers of his imagery appears to be in the original a significant expression, implying that each occupied his own separate cell or chamber; and reminds one oddly of those "kings of the nations, even all of them," who "*lie in* GLORY [in the Spirit of Glory?] *every one in his own* HOUSE." As in some measure connected with this very curious subject, we may remark, that a recent American author describes an ancient temple in Central America, "under the altar" of which was a crypt, where it was said that those initiated into certain mysteries were placed; and into which dead bodies of human beings just presented on the altar as sacrifices were said to have been cast. Tomb-tops in the catacombs of Rome, we may here also remark, were used as altars by ancient Christians, who practised their religious rites, as well as buried their dead, in crypts and catacombs,—perhaps not altogether on account of persecution, as supposed; and crypts and caves or cells still exist under some Christian Churches just as they did under many heathen temples; and as the sepulchre of our Saviour does in the Church of the Holy Sepulchre at Jerusalem; once connected, too, as *it* was, with a garden or paradise.

* See leading article in *Builder* of 22nd August, 1857, on "The Mystic Chaldea."

LONDON STREET ARCHITECTURE.

THE erection of banks, commercial chambers, and insurance offices, in the city of London, is fast changing and improving the aspect of the streets. One of the most recent structures of the kind is that for the Ocean Marine Insurance Company, in Old Broad-street, as yet scarcely completed. We give a view of the front of this building: it is of stone, of considerable extent, and exhibits a large amount of carving very fairly executed. The architect is said to be too busy to afford any particulars; and the company is of so peculiar a character that, according to one of its officers, it does not desire publicity—in fact, is rather anxious than otherwise that insurances should not be offered to it. We wonder if the shareholders take the same view of the matter? Anyhow, the wished-for obscurity shall not be disturbed by us. We will simply add that the ground floor is the only part retained by the Insurance Company for their offices, and that the first and second floors are occupied by the Brazilian Bank, which has been recently formed. Mr. Little was the contractor.



LONDON STREET ARCHITECTURE: A MARINE INSURANCE OFFICE, IN OLD BROAD STREET.

LODGINGS OF THE POOR.

THIS subject, so frequently treated in the *Builder*, has attracted more serious attention since it has been taken up by the Social Science Congress; and the pictorial exhibition of overcrowded and pestiferous chambers, in your number of 14th of June, holds up to the view of well-housed Londoners the endurances and miseries of the operative classes. It is only the visitor of the poor in their dark and drear retirements who could hitherto have realized any idea of their actual condition. The pencil has here done the work; and introduces, as by magic, the innocents of the poor to the aristocratic and independent portion of the community.

It is above ten years since the writer treated the subject of model lodging-houses and the inadequacy of such buildings to meet the wants of 20,000 families huddled together throughout the metropolis in a state of utter barbarism and filth. These houses, so far as they go, are certainly a boon to many,—single persons especially; but the cost is too high for the artizan or working man with a family; 5s. or 6s. for a set of chambers being too great a sacrifice out of their weekly wages. Those moderately-comfortable foundations are, therefore, tenanted by parties who hardly need the sympathies of the benevolent or philanthropic.

The great social requirement of the day is *improvement in the dwellings of the poor who have families*. This point, so essential to the health, moral elevation, and comfort of the people, has hardly been touched on as yet. The munificent gift of Mr. Peabody would seem to offer a first step, from which to graduate an ascending scale.

Formerly, pious founders of almshouses left funds and estates, in trust, for parochial or private management by governors or committees; but all these have merged into charities or great public schools, *disposable* by private presentation or by force of corporate or vestry influence! Latterly, a nearer approach to the grand desideratum has been effected by the Bethnal-green Lodging-houses: still the real requirement is as remote as ever.

At least 200,000 souls are located throughout the extent of London, and in all its quarters, in the state so truly depicted in the *Builder*. This number is, however, only a fraction of the host which fills up the labouring complement of three millions of inhabitants.

The question is, What can be done to *cheapen*, to *improve*, and to *humanize* the abodes of so much misery? To repair at once or in a season these stupendous social defaults would be impossible; but to begin a system by which progressive amelioration should be surely effected is quite within the capabilities and means of this community. It is not because the great thoroughfares are palpably neglected, and that straits and barriers are suffered to incommode, stagnate, and degrade this metropolis, that nothing can be done in so mighty a work as the improvement of the dwellings of the poorer classes: it needs but a beginning in the right way; and such a sum as the gift of the good American banker, long our fellow-citizen, would suffice for the commencement as well as the proof.

Private companies have erected some of the model lodging-houses; and they pay a return of 7½ per cent.: others, again, are said to pay 3, 4, and 5 per cent. per annum. All these buildings are got up in a solid and plain style; but as yet the healthy, commodious, and cheap plan has not been realized: that plan ought to secure apartments for families,—not as a charity, but at a low rate; sufficiently remunerative to satisfy the capitalist; and adequately moderate, so as to secure the independent feelings of the occupants.

As before remarked by the writer, it would be impossible to obtain sites for entirely new buildings, even in the lowest of the crowded slums; but it would be perfectly easy to hire, or purchase at a premium, on long lease, the crazy tenements which are now let at rents varying from 30*l.* to 60*l.* a year; and improve, amend, repair, and adapt them for the accommodation of many families. Wherever practicable, two or more houses ought to be thrown into one, with a common staircase (inside, if necessary, or without where practicable), giving access to every suite; with the basements always arranged as kitchens, laundries, cellars, or even as evening schools (but never as sleeping-rooms),—a common parlour with fire being an indispensable accessory to the arrangement.

Wherever the walls would admit of it, one or more additional stories could be added; yielding, of course, additional rents; but those rents should in no instance exceed 1s. 6d. per week, whilst the charge for smaller rooms might be 1s.; the rule being always inflexible, that to every floor at least there be a water-closet, and to every set of rooms a larder and closet or presses.

When this scale of accommodation is proposed, the return for capital laid out cannot be computed at a rate exceeding 3½ per cent.; and it will be conceded that if such rental, as arising from the capital of 150,000*l.*, were funded and suffered to accumulate, and that such accumulation were laid out *decennially* after the same fashion; then, after the lapse of fifty years, the deodand might be increased by accumulation in additional buildings worth many times the original sum.

The peculiarities most prized by families occupying chambers in such houses are—1st, additional space; 2nd, cleanliness and comfort; 3rd, privacy of peculiar rooms and offices; 4th, the economy of a common kitchen, laundry, &c.; 5th, ventilation and warmth of the whole structure.

In very large houses, such as barracks, access by one internal staircase, and by corridors leading to several suites, are rather objectionable to families, who generally prefer external stairs and galleries: these always conduce to better ventilation, and more complete segregation; besides, that internal space, in so crowded an area as London, is rendered more available. To choose positions for building is not possible; therefore, in altering old houses, the most must be made of existing elevations; taking care that sewage be made perfect, with water-supply to every floor, each suite having a tank and sink within its inclosure; and dust-shoot for every floor, to convey the ashes to a common receptacle.

For a community of families thus formed a properly-systematized service of gas to the halls, chambers, and passages, will be an item of saving, while it gives increased warmth; and this, together with fuel for the common room or saloon, must prove an attraction towards forming a social community of feeling; added to which, the opportunity of clubbing together for the purveyance of food may be made a source of general profit.

The subject of warmth and ventilation has lately occupied much public attention; and in this particular, as regards the houses or rooms of the poor, as well as in large buildings, a greatly-improved system has been introduced by Mr. J. Newton; who, by a simple stove and ordinary fireplace, has found the means of heating and ventilating several apartments. This is done by taking in the atmospheric air at the lowest story, and transmitting a current, warmed to any desired degree, by ducts leading to other rooms.

Whatever the system used, ventilation is an object of primary importance in the abode of multitudes, as the recent reports on barracks fully demonstrate. The health, and consequent ability, of workmen, and most notably of children, greatly depend upon it.

It may be argued that the improvement of old houses, or the building of new, must be the subject of bargain and contract. So they certainly must. But if specifications be given by competent surveyors, and those formed upon plans and designs set out by parties ardent in the promotion of the great and benevolent object herein shadowed forth, there can be no room for extravagance nor undue expense; for competition is very active amongst builders of the day; and it is clear that there never was a time when utilitarian and solid buildings could be got up and finished so quickly, nor at so small a comparative cost.

Should it meet approval, accredited parties might receive subscriptions to establish a fund, to be applied as above indicated, to pay a dividend of 3½ per cent. only. When 10,000*l.* are collected, begin with that amount. Every establishment completed on that scale must soon be filled. As the new houses become tenanted at a cheaper rate, the old lairs must become deserted; so that the working man's rent will fall still lower, and the owners of those vile refuges will be compelled to repair and improve, as well as abate.

The plan suggested cannot be summarily carried out or generalized; but it is the only comprehensible mode of attacking and dealing with an acknowledged evil. Every new change or improvement pulls away the homes of workmen. They are forced to more distant localities, perhaps in or beyond the suburbs. All this not only reduces their vails, but violates the domesticity of the bread-gainers. The suggested plan, on the contrary, offers an accessible home near to their scenes of occupation; and the facilities for intercommunion by means of assembly or reading rooms, or schools, gives both the opportunity and inducement for humanized if not refined habits of thought and action.

In troublous times, strifes never proceeded from a happy, contented, or employed people. No: disaffection is rather the offspring of neglected penury, of disregarded complaint, and of suffering which might be alleviated by municipal care. The poor are conscious that privations are sometimes inevitable, and attach no blame to the higher orders on that account, for they are equally actuated by the better feelings of our common nature; and so benefits conferred by attention to their condition bring forth the best fruits.

As a happy home is the greatest blessing, so a filthy lair is the direst misfortune. By securing comforts to the working classes, they become healthy and contented; whilst, their industrial energies being reanimated and their habits refined, all classes profit, and the nation thrives.

QUONDAM.

PROVINCIAL NEWS.

Gravesend.—Alterations and repairs of the corporate buildings are in progress. A new staircase has been laid down to the Town-hall. The windows have been taken out of the hall, and will be replaced by plate glass. The ventilation of the justices'-room has been improved by the insertion of new ventilators. The fish-market is being converted into a storehouse for the police. The buildings generally are to be repainted, the police cells repaired, and the houses of the superintendent of police and the sergeant of mace are also to be repainted and repaired. The cost of these improvements will be about 500*l.*

Hertford.—We understand (says the *Herts Mercury*) that the Lords of the Treasury have given their assent to the whole of the corporation scheme for the extension and improvement of the water supply of the town of Hertford. Now that the matter has been so far settled, it is to be hoped that there will be an end to all differences on the subject; and that the corporation will have the sympathy and support of all classes of the inhabitants in carrying out their scheme.

Worcester.—In consequence of the earnest remonstrances of many antiquaries of high standing, one wall of the Guesten Hall (all the rest having been demolished) has been kept standing, till the Dean and Chapter shall decide at their next meeting what is to be done with it. This fragment contains some windows, with Decorated tracery. It has been a shameful act.

Gloucester.—The materials of St. Margaret's Hospital have been disposed of by auction. Mr. Clutterbuck, builder, became the purchaser, at 21*l.*, and the removal of the building has been commenced and has to be completed in a month. The site will form part of the gardens of the new almshouse.

Milford.—A large malthouse, including engine-house, boiler-house, and workmen's cottages, is now in the course of erection at Milford Junction, on the North-Eastern Railway line; it is one of the largest in the West Riding of Yorkshire. The proprietor is Mr. Wm. Naylor, of Leeds; the architect, Mr. John Child, also of Leeds; and under his directions the works are being carried out by his assistant, Mr. Stead.

Pontypridd.—The contracts for the waterworks have been let. Messrs. Thomas & Griffiths, the contractors of the Sirhowy Railway works, in Monmouthshire, have taken the works in connexion with the construction of the reservoir, filter-beds, laying the pipes, &c. The tender of Mr. Jordan, of Newport, has been accepted for the pipes, and that of Mr. Prodger, of Cardiff, for the house services. The reservoir works have been commenced.

East Retford.—Designs and plans for the new vicarage of East Retford have been prepared by Mr. A. Wilson and Mr. S. Dutton Walker, of Nottingham. The plans were selected by competition from six other sets sent in to the Rev. Arthur Brooke, the vicar; and are in compliance with the requirements of the Ecclesiastical Commissioners. The Decorated style has been adopted by the architects. The western front of the building looks into the garden and faces the church. The gables are finished with decorated wrought-iron work, which it is intended shall be painted in ultramarine, and gilt terminals or finials representing the ivy leaf. The apices of the gables will also be treated in a corresponding manner. The building is to be brick, with stone window facings and dressings, and the cost is not to exceed 1,000*l.*

Derby.—The Poor-Law offices, Derby, are situate in Becket-street, Wardwick. The exterior is built with pressed bricks and stone. The style of architecture adopted is Italian. The front is 50 feet wide and 35 feet in height, the centre being recessed: a wing is formed on either side. The

centre contains the principal entrance. The parapet is of open stone balustrading on stone cornice. The upper windows have pilasters with carved capitals and deeply-moulded circular architraves; also open balconies, supported on corbelled entablature. The whole facing to the lower part is of stone. The dressings to the lower windows, principal entrance, and angles, are vermiculated with rusticated joints; the several keystones being carved. The front is inclosed with iron palisading, with gates and stone piers. The design selected in competition has been carried out by Mr. Dusautoy, contractor, under the direction of the architects, Messrs. Giles & Brookhouse, of Derby.

Wakefield.—The new building for the Wakefield Church Institution, at the top of Westgate, has been formally inaugurated. The building comprises a reading-room, library, lecture-hall, and class-rooms.

Todmorden.—A new Masonic Hall has just been dedicated at Todmorden. The hall is a stone structure, erected between the Market-place and the railway station. The building is in the Italian style of architecture, and has cost nearly 2,000*l.* It has been erected by a Masonic company.

St. Boswell's.—Eildon Hall is at present undergoing extensive alteration and improvement, according to the *Border Advertiser*. The projected plan is in the old Scottish style. The foundation at present extends upwards of 400 feet. It is being laid with large stones from Twisel quarry. These average about 15 cwt. each, being 4 feet long by 9 inches thick. Mr. Laidlaw, of Hawick, is the contractor, and Mr. Scott Burn, of London, the architect of the building.

Auchencairn.—The *Dumfries Courier* states that a new mansion, to be called Auchencairn House, has been built upon the estate of Auchencairn, purchased a few years since by Mr. Ivie Mackie, who was thrice mayor of Manchester, and made a large fortune in England. The designs for the edifice were furnished by Mr. Corson, of Manchester, architect. The decorations were done by Mr. J. B. Bennett, of Glasgow.

Banff.—The Commissioners of Supply in Banffshire have resolved to proceed with the erection of additions to the present County Buildings in Banff, in terms of the report by the Government architect. At a recent meeting in Banff, Messrs. A. & W. Reid, Elgin, reported on two sites, which the commissioners have it on view to purchase, the one at the north end of the present buildings, and the other at the back. Both sites were reported eligible, and it was resolved that one or other should be purchased. So soon as the site is fixed upon, Messrs. Reid are to prepare the necessary plans.

SCHOOL-BUILDING NEWS.

Leigh (Essex).—The Rev. R. H. Herschell, minister of Trinity Chapel, Edgware-road, has erected a school-building in the fishing village of Leigh, which was opened for use on the 18th ult. The school, which is capable of accommodating between 300 and 400 children, is a plain brick edifice, erected from the designs of Messrs. Habershon & Pite, architects, at a cost of about 700*l.* It stands on the slope of a hill.

Bromyard.—The new national schools here have been opened. The designs were by Mr. T. R. Kempson, of Hereford, architect, and the contract for building was let to Mr. Joseph Turbill, of Bromyard, for 1,100*l.* The foundation-stone was laid in March, 1861. The walls are built of native stone, with Bath-stone dressings, and ornamental brickwork. The building is somewhat in the form of the letter H, with the boys' school in the centre, the girls' school to the right, and the house for the master and mistress to the left. The school-rooms are each about 41 feet by 16 feet, and there is also a class-room, about 16 feet by 15 feet.

Girlington (Bradford).—The corner-stone of a new Sunday school, about to be erected by the Wesleyan Methodists of the Bradford West Circuit, at Girlington, has been laid. The site adjoins Girlington-road, at the corner of a street leading, near the bottom, towards Whetley-lane. The plot of ground and land is sufficiently large to admit of the erection of a Wesleyan chapel at some future time. The building is being erected from the designs of Mr. Eli Milnes, architect. The school will be in the plain Italian style of architecture: it will have round-headed windows, and an open-timbered roof. There will be one school-room measuring 56 feet by 36 feet, and two class-rooms. The school-room will afford accommodation for 300 scholars. The estimated cost of the building, exclusive of fittings and the site, is 500*l.* The school site and the ground for the future chapel have been purchased for 200*l.* The contractors for the execution of the works are, Messrs. Isaac Verity & Co., masonry; Mr. J. Baxter, joiner's work; Mr. Schofield, plumber's work; Mr. Byrom, painting; Mr. Cordingley, plastering; and Messrs. Hill & Nelson, slating.

Swannington.—The new national schools at Swannington have been opened. These schools have been erected at a cost of 700*l.* The school-room is 39 feet 3 inches long by 18 feet wide: the class-room is 18 feet long by 12 feet wide, divided from the school-room by sliding-doors, so as to make one large room, in order that the whole may be suitable for divine worship. Accommodation is provided for about 108 children. The warming is effected by open fireplaces (one in the school and one in the class-room), and ventilation by means of a ventilator fixed at end of school next class-room, communicating with a foul-air chamber in roof of teacher's house, and one ventilator in chimney-breast of class-room, having a foul-air flue communicating therewith; fresh air being admitted from circular ventilators fixed in floor of school and class-room, connected with brick funnels communicating with sliding ventilators fixed in external wall of school and class-room. At the end of school, adjoining the class-room, is the teacher's house, consisting of a parlour, kitchen, scullery, with three bedrooms—one being over the class-room. The style adopted is Early English. Mr. S. W. Hallam was the builder; Mr. T. W. H. Miller, the architect.

CHURCH-BUILDING NEWS.

Wyrardisbury (Bucks).—The parish church of Wyrardisbury, or Wraysbury, has lately been restored; the chancel and the nave arcades being the only portions of the old edifice that have been retained. The north aisle has been rebuilt; the old doorway therein (the only object it possessed of antiquarian interest) having been copied. A new south aisle has been added. The nave, which was formerly covered with a plaster ceiling, is now, together with the north and south aisles, roofed over with open-timber roofs. The western gallery has been taken down, and the old west window opened. The church is now re-seated with plain open benches, and the passages and chancel have been repaved. The works have been carried out by Mr. Harley, of Slough, from the designs and under the superintendence of Mr. Raphael Brandon.

Winchester.—Scaffolding has been erected over the cathedral entrance from the Close, preparatory to repairing the window above it and removing the glass, in order that a memorial window may be placed in the opening to the memory of the late Rev. Canon Pretyman. A mural monument will ere long be placed in the south aisle of the chancel to the memory of the late Rev. Dr. Williams, of New College, Oxford, who was a canon of the cathedral. The monument will be placed against the tower pier. The steps and pavement at the west front are being proceeded with.

Birkenhead.—The Roman Catholic Church of "Our Lady of the Immaculate Conception" has been opened. The architect is Mr. Pugin, and the builder Mr. Yates, of Liverpool. The building is at present only partially completed, to meet the requirements of the present congregation; but, as it is expected that this will increase, it is intended, at some future time, to lengthen the east end by the addition of transepts. At present the church consists of a nave and two side aisles, confessionals, sacristy, and a gallery. The style is severe French Gothic. On each side of the nave are four arches, resting on pillars of Cork marble on a black Galway marble base. At right angles from these are other arches, which support the roof of the aisles. Each aisle is lighted by fifteen windows, in clusters of three; and there are on either side eleven clerestory windows, of ornamental design and cathedral-twisted glass. In the west end is a wheel-window; and there is also another smaller one at the east end, and two rose windows at the eastern extremities of the aisles. The roof of the nave is formed of beams and panels, tapering upwards. The building is supplied with a hot-water apparatus by Mr. Bennett, of Liverpool, and is at present capable of seating about 1,000 persons. The cast-iron supports for the seats were furnished by Mr. Rankin, of Liverpool.

Cheadle Hulme.—The chief stone of All Saints' Church, Cheadle Hulme, has been laid. The edifice is to be of stone, and will accommodate 300 persons. A provision for enlargement has been made. The plan consists of nave, chancel, south transept (the north being reserved for the extension), and vestry and organ-chamber to the north. The heating apparatus will be placed underneath the vestry. The extreme internal length is 75 feet 9 inches; width of nave, 25 feet 6 inches; and that of the church, 17 feet 2 inches. The height from floor of nave to top of ridge is 37 feet. The roof will be open timbered, and covered with Staffordshire tiles in two colours, arranged in geometrical patterns. Children will be seated in the transept, to which they will have access by a door in its west wall. The main entrance to the church will be by a door at the south-west, opening into a small porch, surmounted by a timber bell-turret. The contract has been taken at 1,200*l.* by Messrs. Thackrah & Peirce, of Stockport. The architect, from whose designs and under whose superintendence the work is being executed, is Mr. J. M. Taylor, of Manchester.

Stockport.—The Roman Catholic Church of St. Joseph has been opened for divine service. The church stands upon a site adjoining St. Joseph's Schools, erected three years ago, on the south side of High-street. The ground-plan consists of a nave and aisles, a sanctuary, with north and south lateral chapels, a vestry for the clergy, and one also for the choir men, with a room over it on the south side. At the western termination of the south aisle, foundations, 8 feet in thickness, have been prepared for the tower, which opens into the nave and aisles with lofty arches. It is intended hereafter to cover it with a vaulted ceiling, having a circular trap-door for the passage of the bells. The tower, with circular turret-stair on the angle and buttresses, is at present carried as high only as the base of the clerestory; but the intention is to surmount it with a spire, terminating, at a height of 200 feet, with a gilt orb and cross. The principal entrance to the church is in Tatton-street, in the centre of the western gable. The dimensions of the nave are;—Length, 100 feet; width, 30 feet; height to panelled ceiling, 60 feet; height to ridge, 72 feet. It is separated from the aisles by an arcade of five arches, supported by circular columns, having bases of polished Derbyshire marble, which form a contrast with the Yorkshire stone shafts. The aisles are 18 feet wide and 24 feet high; and are lighted by three and four light windows of Middle Pointed style. The clerestory is pierced by three-light windows, 13 feet high, of decorated tracery. The roof of the nave consists of arched ribs, moulded, and forming an open truss, the depth of which averages 6 feet. These arches are supported by hammer pieces, resting on columns, carried down to the base of the clerestory. The ceiling of the nave is divided into panels by moulded wood ribs; the panels being of plaster, inclosing the upper part of the roof, so as to form a chamber for ventilation. The arch which separates the apsidal chancel from the nave is of wood, moulded. The sanctuary is lighted by three geometric windows, 24 feet in height, the sills of which are 17 feet above the level of the predella in front of the altar. The area of the church is seated for 1,000 persons. The benches are open, stained and varnished. The alleys are laid with Yorkshire flagging; the space under the seats being boarded, the underside and the bearing timbers having been saturated with a preparation of creosote. The exterior of the church is built of Dunford Pierpoint stone, the tracery and ashlar facings being of Hollington freestone. The roofs are covered with Welsh slates. The church has been erected by contract from the designs and under the superintendence of the architect, Mr. M. E. Hadfield, of Sheffield. The whole has been carried out by Mr. J. Robinson, jun., of Hyde, the contractor; Mr. J. Dickinson acting as clerk of the works. The cost of the edifice is about 5,000*l.*, and the dome and spire will be 1,200*l.* more. There is an interior drawing of this church in the Palace of Art.

Bradford.—The consecration of St. Luke's Church has just taken place. This is one of the ten churches to be built in Bradford in five years: the churches previously consecrated being St. Philip's, Girlington; St. Stephen's, Bowling Old Lane; and St. Mary's, Laister Dyke. St. Thomas's, Cropper-lane, is nearly completed; and All Souls', at Little Horton, (at the sole expense of Mr. F. S. Powell), is in course of erection. St. Luke's is planted in the midst of a dense population at Broomfields, Wakefield Road, and has been erected by the Bradford Church Building Society, aided largely by churchmen in the district, and by grants from church societies. The church, which will accommodate about 700, is in Decorated Gothic; and built from the designs of Messrs. Mallinson & Healey, of Bradford. The cost of the building will be about 3,000*l.* exclusive of the land. The contractors were Messrs. Birkby & Healey.

STAINED GLASS.

Presbyterian Church, Islington.—The whole of the windows of the new Presbyterian church at Islington are to be fitted with stained glass. One of them is the gift of Mr. Alderman Lawrence. Mr. T. Chatfield Clarke is the architect; and Messrs. Heaton, Butler, & Bayne are the artists employed.

All Saints', Brixton.—The large west window of All Saints' Church, Brixton, has been completed. The subject is the "Te Deum." The central light is filled with the figure of our Saviour, crowned, and with groups of angels; while on either side are the figures of the prophets, apostles, and martyrs. Messrs. Heaton, Butler, & Bayne were the artists, who are to fill the other windows also with stained glass. Mr. T. Bury is the architect employed.

Thorpe Malsor Church, Northants.—A window has been recently placed in the little church of Thorpe Malsor. It is intended as a memorial of the late Hon. Caroline Eliza, wife of Mr. T. P. Maunsell. The four principal lights represent the Nativity, the Crucifixion, the Three Maries, and the Ascension. Above these are four smaller lights, which contain symbols of the four Evangelists. These are surmounted by two angels bearing scrolls, and by an emblematical representation of Christ in Glory. Underneath the window is a band formed of glazed encaustic tiles, on which is the inscription, in yellow and white letters, on a chocolate-coloured ground, edged with a yellow line, and bordered with green. The whole was designed and completed by Messrs. Ward & Hughes, of London.

Catesby Abbey Church, Northants.—The east window of this church has been filled with stained glass. In the centre openings are the figures of our Saviour and St. Mary; and in the side lights are the four Evangelists, under canopies, and upon pedestals, in which are introduced their emblems. Stained glass has also been placed in the north-side chancel window: it contains two subjects representing the Marriage Feast and Last Supper. The other windows have been releaded and surrounded with stained-glass borders. All these works were executed by Mr. Holland, of Warwick.

Bodicote Church (near Banbury).—A stained-glass memorial window has been placed in this church, containing the subjects of our Saviour raising to Life Jairus's Daughter, and the Acts of Charity; the tracery being filled with emblems and foliage. Also one smaller memorial window, containing the subject of Christ blessing Little Children. Both works were executed by Mr. W. Holland, of Warwick.

Aspley Guise Church.—For the last thirteen years (says the *Bedford Times*) the rector, the Rev. J. V. Moore, M.A., has been adding, year after year, one or more stained-glass windows, until the church now presents an unbroken series of painted and stained glass, the greatest portion of which are the works of Messrs. T. Baillie & Co., of London. In 1849, two three-light windows, with emblems on stained ornamental quarry backgrounds, were fixed up; in 1851 a memorial two-light window, with subjects, viz., "The Good Samaritan," and "Mary at the Feet of Jesus;" also three other memorial windows, each of three lights, in one of which are the figures of St. Matthew, St. Mark, and St. Luke; in another, St. Peter, St. Paul, and St. John the Baptist; and the third window contains three subjects, viz., "The Crucifixion, "Nativity," and "Entombment" of our Saviour. In 1851, also, a two-light window was placed in the vestry, representing "The Presentation of our Lord in the Temple." Also a three-light west window, with tracery lights,—"The Ascension of our Saviour" continued through the three openings: in the tracery are angels with scrolls, above which is our Lord seated. In 1854 a circular window was fixed, containing "Our Lord's Charge to St. Peter." In 1856 the east chancel window was erected. In the upper part of this window are represented "The Transfiguration," "Resurrection," and "Ascension of our Saviour:" and in the lower compartments, "The Last Supper;" the group continued through the three openings. Also a rose-window at the west front over the organ, in which King David is represented as seated, playing on the harp. A window, just fixed, viz, "The Adoration of the Magi," is dedicated to the memory of the late Prince Consort. In addition to these, the rev. gentleman has further embellished the clerestory windows, eight in number, with two lights in each, and each having a medallion in the centre, representing the emblems of the four Evangelists, "The Holy Lamb;" "The Dove," &c., &c.

Holy Trinity Church, Stratford-on-Avon.—The south-west window in this church has been filled with stained glass, the centre light containing the figure of our Saviour, and the side, ornamental geometrical patterns. Mr. Holland, of Warwick, was the artist.

SCHOOLS OF ART.

The Vauxhall School.—On Thursday evening, 26th June, the annual distribution of medals and prizes to numerous students of the Vauxhall School of Art took place at the Art School recently erected on a part of the old Vauxhall Gardens, and illustrated in our pages. The Rev. Robert Gregory presided; and, in presenting the medals and prizes, alluded to the advantages afforded by the school, both to the manufacturers and artisans of the neighbourhood; and congratulated the students upon having attained such success as to take twenty-eight medals out of thirty, which is the largest number allotted by the Department to any school. Mr. Edward T. Haynes received the national medallion for a drawing of foliage from nature. This drawing is now placed in the International Exhibition. Mr. James Dafforne afterwards delivered an address on the subject of "Art Education," which was highly appreciated by the company assembled. The thanks of the meeting were then given to the chairman, to Mr. Dafforne, and to Mr. Sparkes, the head-master of the school.

The Boston School.—The first exhibition of the works of the pupils, and distribution of prizes, took place recently at the school, which was thrown open for the inspection of visitors; and in the evening the prizes were distributed. The Mayor occupied the chair. Mr. W. Gane, hon. sec., read the report for the past year; and the master, Mr. V. Howard, then read over the list of prizes, which had been obtained by the students on an examination by the Government Inspector. Eight first-class medals were awarded by the inspector, and three of them have been forwarded to South Kensington for the national competition. There were nine prizes for second-grade examination. For the students in the various public schools where the art-master gives instruction, prizes were also awarded. The master then read a comparative statement, showing that Boston in the first year of its establishment had gained a larger number of medals, in proportion to the number of students, than any of the list of twelve schools mentioned. The Mayor presented the prizes, and addressed the students and the company upon the value of art, and its importance and influence upon the tastes of society; recommending a more diligent and careful study of it, as a source of relaxation, refined amusement, and elevating occupation.

The Leeds School.—Since the appointment of Mr. Walter Smith, this school is considered to have made considerable progress; and this year the good effects produced by the prizes offered by the borough members, the mayor, and others, have been evinced by the improvement of the competing works. The exhibition of students' works has just taken place, and is well spoken of by the local press. Eighteen first-class medals were awarded to drawings, of which ten have been sent to South Kensington for national competition. Of second medals seven, and of third medals four, besides other prizes, were awarded.

ALBERT MEMORIALS.

Barnstaple.—The foundation-stone of the Prince Albert memorial tower at Barnstaple has been laid. The tower (designed by Mr. R. D. Gould) will be 60 feet high. It is to have a four-dial clock and a drinking-fountain. The estimated cost is 400*l.*

Bristol.—It has been resolved that, inasmuch as subscribers to the extent of 182*l.* 16*s.* were in favour of a memorial window in the cathedral, a communication be made to the Dean and Chapter or the Restoration Committee to the effect that, provided a sum of 1,000*l.* be raised, the above sum (after deducting the proportion of the expenses) be appropriated for the erection of a window in the west end of the cathedral.

Halifax.—The memorial it has been decided to erect at Halifax will probably be an equestrian statue in bronze. A design by Mr. Thornycroft, which it is stated will cost 1,300*l.*, has been approved of by the Memorial Committee. Ward's End—a large open space in one of the most public parts of the town—is the site selected. This will be the first street statue erected in Halifax.

Harrogate.—The Prince Consort memorial east window in Low Harrogate Church, by Mr. John Knowles, a young artist from York, has just been completed. The window, which is in the Early English style, contains three separate lancet lights, and forms three sides of a hexagon. The side lights have been filled in with twelfth-century geometrical design, having quarterfoils of ruby intersected by straps of blue. In the inside of two of those quarterfoils are armorial bearings; the uppermost containing the arms of her Majesty, emblazoned on a shield and surmounted by the crown of England; the other the arms of his Royal Highness the Prince, quartered with those of her Majesty: this shield is also surmounted by the crown of the Prince Consort. In the quarterfoils that are not occupied with the coats of arms the space is filled up with rich centres of coloured leaves and straps. The remainder of the window between the borders and quarterfoils is filled in with amber glass and coloured semicircles out of which spring scroll-work containing the leaves and berries of the *Herba benedictus*. The border is composed of the same leaves and berries on a variegated coloured ground. The middle light, which is the most important of the three, has for its design an elongated panel, in which the Ascension of our Lord is represented surrounded by the *Vesica Piscis*. In the foreground are the Apostles, the most prominent of whom is St. Peter. Above and below the panel are quarterfoils containing the "Agnus Dei," and the "I.H.S." The border of this light is also composed of the leaves of the *Herba benedictus*, on a ruby ground, intersected by semicircular shafts of white. At the base of the window is the following inscription:—"These three windows were erected by private subscription to the memory of his Royal Highness Francis Albert Augustus Charles Emanuel, Prince Consort, Duke of Saxe Coburg and Gotha, A.D. 1862."

Balmoral.—In Mr. Theed's studio, in course of preparation, is a statue of the Prince Consort, in Highland dress, intended for Balmoral.

COMPETITION FOR THE ERECTION OF A PROTESTANT CHURCH AT MONTPELLIER (HÉRAULT), FRANCE.

OUR advertising columns show that designs for a Protestant church, to be erected at Montpellier, are invited from English and other architects, and that varying premiums will be given to three of them. A copy of the conditions, with a plan of the site and schedule of prices of materials on the spot, may be obtained by early personal application at our office.

The sum to be expended is 8,000*l.*; and, if the author of the best design be commissioned to direct the works, he will receive 5 per cent. in lieu of the premium (100*l.*). Competent persons, including Mr. César Daly, will aid in the selection.

CROWFIELD CHAPEL, CODDENHAM, NEAR IPSWICH.

HALF-TIMBER CHANCEL.

THE restored church of Crowfield, near Ipswich, was a few weeks ago reopened for divine service by the Bishop of Norwich. It is a small picturesque building of the latter part of the fourteenth century; interesting as possessing a half-timbered chancel; the east window and side windows of chancel being of oak. The timbers of the walls, set at intervals of about 9 inches, were formerly filled in with clay and wattle, which had decayed, and would have fallen out but that the whole external surface had been covered with lath and plaster; but this was also in a perishing condition. These timbers are now exposed to view, both inside and outside; the interstices for the lower half of their height being filled in with flint-work; the upper half with brickwork, covered with plaster.

This timber chancel was found to be quite capable of repair; but the flint-built nave, owing principally to settlements caused by digging graves close to the walls, had to be entirely taken down and rebuilt.

The roof, which, when stripped of the plaster ceiling, was found to be one of much beauty, was shored up, and needed little repair beyond the lining between the moulded rafters with oak boarding, and supplying the carved saints and angels, of the former existence of which the tenons for fastening them were the only evidence. This has all been done, and the church repewed with oak benches with stall ends and carved finials; the stall seats in the chancel having carved angels on the elbows in addition to the finials.

The chancel is laid with Minton's encaustic tiles; the steps being formed of oak cills. The pulpit is an open platform, with oak book-desk; the lectern and prayer-desk, also of oak, being on

the opposite side. All the windows are filled with stained glass, by Mr. Hughes, of London.

A vestry has been added on the north side of the nave, where an old north door has been re-opened, and a south porch of carved oak has been restored. An oak bell-turret and spire, about 25 feet high, has been added from the nave roof, where it was on record that one formerly existed.

The whole has been done by local tradesmen; Messrs. Whiting & English, Mr. Golley, of Coggeshall, assisted by Mr. Wombwell, being the wood carvers.

The works have been executed under the direction of Mr. E. J. Hakewill, at the sole expense of the Hon. Lady Middleton.

THE DESIGNS FOR BLACKFRIARS BRIDGE.

AT a meeting of the Common Council of London, held on 26th ult., Mr. Vallance, chairman of the Bridgehouse Estates Committee, brought up a report from them in reference to the proposed new bridge at Blackfriars. On the 13th of February last it was referred to the committee to reconsider their previous report upon the subject, with instructions to examine the whole of the plans and estimates with professional assistance; to confer with the various engineers who had furnished the designs; and report again to the court.

"The report proceeded to state that they had substantially done all that, and had besides conferred with the Conservators of the Thames upon the matter. After full information had been afforded to them by the several engineers, and the careful examination of their designs and estimates, the committee determined to recommend that the proposed bridge should be one of five arches, springing from an abutment in a line with the present wharf lines on each side of the river. They then requested the various engineers who had sent in designs to modify them in conformity with that resolution as they might desire. Sixteen modified designs were, in consequence, submitted to the committee; comprising five designs for a stone bridge, ten for an iron arched bridge with stone piers, and one for an iron-girder bridge. After a full consideration of the subject, the committee did not see any reason to alter the opinion expressed in their former report; that, having regard to the length of time that would necessarily be occupied in the construction of a stone bridge, as compared with that required for the erection of a bridge with iron arches; and to the very great difference between the cost of a stone bridge and that of an iron one; it would not be desirable to adopt a design for a stone bridge. Having reconsidered the whole matter, they came to the conclusion that the best mode of carrying out what they conceived to be the views and wishes of the court would be for them (the committee) to select five designs, from which one should be chosen for adoption by the court. That being so, they carefully examined the several designs; and it appeared to them that those best calculated to meet the requirements of the public were;—The design of Mr. James Brunlees, for a bridge of five elliptical arches, at the estimated cost of 230,573*l.*, including the cost of a temporary bridge; the design of Mr. Joseph Cubitt, for a bridge of five segmental arches, at the estimated cost of 265,000*l.*; the design of Mr. John Fowler, for a bridge of five elliptical arches, at the estimated cost of 280,000*l.*; the design of Mr. Robert William Mylne, for a bridge of five segmental arches, at the estimated expense of 308,000*l.*, exclusive of the temporary bridge and the reconstruction of the outlet of the Fleet sewer; and the design of Mr. Thomas Page, for a bridge of five segmental arches, at the estimated cost of 260,000*l.*, including an allowance for contingencies and for removing the present bridge. They accordingly submit those five designs to the consideration of the court; and, in accordance with an opinion expressed in their former report, they recommend that the engineer whose design may be adopted should be retained as the engineer to superintend the requisite works connected with the erection of the new bridge, and to make temporary provision for the traffic in the meantime. They also recommend that they should be authorized to take the steps referred to in their previous report for obtaining Parliamentary powers for raising the necessary funds for the erection of the works, upon the credit of the surplus rents and profits of the Bridge-house Estates. They concluded by expressing their thanks to the several eminent engineers who had furnished them with designs, for the talent they had displayed and their great care and attention in the preparation of those designs and of the accompanying reports and estimates; and Thursday, 3rd inst., was fixed for the consideration of the subject by the court at a special meeting."

EDINBURGH.

IT is intended to erect on the site of the tenement which fell in High-street in November last, and by which thirty-five people lost their lives, a tenement of four stories above the street, consisting of shops, warehouses, and dwelling-houses, the design being in the old Scotch Domestic style. The flat immediately above the shops is to be ornamented by an oriel window in the centre, which is intended as a memorial of the rescue of the boy M'Iver, who was buried among the *débris;* and who, on recognizing signs of the firemen's approach to his deliverance, exclaimed, "Heave awa', lads, I'm no' deid yet." At the request of the proprietor of this flat, a bust of the boy will be introduced on the keystone of the arch of the close; and underneath there will be a scroll bearing the above exclamation.

The Metropolitan and the Edinburgh Building Associations are each to build two rows of workingmen's houses at the Dumbiedykes. According to the *News*, the designs for the houses to be erected by the Metropolitan Association are by Mr. Paterson, the city assessor; and the estimates for the work have been accepted, and the building was to begin in course of last week. Mr. J. D. Peddie and Mr. Moffat are the architects for the houses to be erected by the Edinburgh Association; and the estimates for these houses, we understand, will also be ready immediately. Altogether, at this place, 200 houses will be erected, providing accommodation for a thousand persons, young and old.

The late Miss Barclay, among other legacies, left the sum of 10,000*l.* for the erection of a new Free church in Edinburgh. A site has been secured for the new edifice towards the north of the ground at Wright's Houses, Bruntsfield Links; and the building will be erected from the designs of Mr. Pilkington, architect. The main front will be to Leven-street, and will consist of a tower and spire, which rises from the pavement to a height of 250 feet, from the north-west corner of the edifice, and an adjoining gable, in which is placed a large window. A lofty porch, supported upon four small columns, and divided into two entrances, is situate at the base of the tower. The eastern front of the new edifice faces Bruntsfield Links. A circular tower, 135 feet high and 27 feet in diameter at the base, rises from the north end of the elevation; while a circular building, designed for the session-house and church-officers' apartments, is placed towards the south corner. At the east and west sides of the church are small porches. The interior is designed in the form of a clam-shell, and is divided into three parts, each of which is reached by distinct passages. The roof is 70 feet high. The church will be seated for 1,050 persons. Although the style of the new building is founded on the Venetian Gothic, the character of the edifice does not partake rigidly of the details of that style.

THE WORKS AT MONT CENIS.

SOME weeks ago you had an account of the operations for the formation of the tunnel under Mont Cenis; and it must be apparent therefrom that to facilitate the completion of the tunnel is a very important object. To effect that, I propose that a length of pipes, of some size, should be laid from the mouth of the tunnel to the working-stages;—that near the mouth and in the pipe there should be a fan-blower (and a blower is always a drawer) worked by steam or water. Now, as there is a shield near the working-stages, and also there is an injection of air from the outside; this addition, by taking away from the workings the noxious gases, left by the explosions of gunpowder, in a rapid continuous stream, before the shield is opened after every explosion (instead of leaving them to flow out in a sluggish manner, filling the whole tunnel), would save more than one-half the time the workmen now wait after each explosion for ventilation; and that waiting-time, as we read, is about two-thirds of the workmen's whole time employed. We should thereby effect a saving of three years in the operation, if not more. GEO. TODD, C.E.

PURIFICATION OF THE THAMES.

CONSIDERING the vastness of the scheme of metropolitan drainage, the enormous outlay, and great interference with public convenience in carrying it out, it might have been reasonably expected that a satisfactory and complete result would be obtained, affording a pattern for all other towns and cities. But it seems that after all these great works shall be effected, entailing such a heavy debt on the ratepayers for thirty years to come, the river will still continue in a state of great pollution, from the drainage poured into it by the immense population located on its banks above, continually augmenting, and flowing down to the metropolis. London may remonstrate against the nuisance; but suppose that all other places should follow an example of intercepting and conducting the foul matter into the stream a little below the seat of population, it is quite evident that, on the whole, no good would be done, no relief obtained, but only a transfer of malaria and an absolute waste of all the fertilizing matter; the intensity of the former being as the largeness of the population to the smallness of the river; a result which, in many of our midland towns, is becoming intolerable. It is quite clear, therefore, that the metropolitan scheme is not founded on principles of general application; and as the question is properly a national one, and of incalculable importance, both sanitary and economic, we look with anxious expectation to the result of the inquiry now pending in Parliament. It may be deserving of consideration, whether this subject has not hitherto been taken up from a wrong point of view,—viz., as a nuisance simply to be got rid of; and thus the course pursued has been directly opposed to that of nature. Organized matter cannot be got rid of or annihilated: its destiny is *reproductiveness;* and it *will* produce good or evil, according as it is dealt with. Nature proclaims the law unmistakably. If the refuse be not returned to the soil, it will punish the neglect by its noxious emanations; and it will equally and as certainly reward its legitimate application to the soil, by an incalculable amount of increased fertility. F.

CAN WE FORM A NEW STYLE?

THE inconsistency of modern architectural practice in employing so many styles, none of which can be said to be fitly representative of the nineteenth century, not having resulted from the growth of modern ideas—being purely reproductions of old styles originally emanating from an entirely different state of society—will strike most reflective minds as it has done that of your correspondent "Veritas." Our Gothic architects, who are the leading men of the day, avoid one inconsistency by advocating unity of style; yet it appears to me, until we possess a style more flexible, more capable of expressing our sentiments, and more adaptable to modern exigences than any at present in use; the former method, though perhaps theoretically absurd, is the only one practicable.

It is certainly surprising, in this age of advancement, that in architecture alone we should adhere so unflinchingly to precedent. In no other art or science in these days would such conservatism find favour. Modern civilization is preeminently distinguished by boldness of thought and subtlety of investigation. With scientific men precedent unsupported by fact or nature counts for naught. Indeed, it is the pure abstract nature of modern inquiry that has lifted us so rapidly to the proud position we now occupy; for with the recognition of every new *principle*, practical science permanently establishes itself a step further in advance.

Our present practice of art is so opposed to everything we learn from history of its progress among nations with whom it became a vital principle, that it seems incredible no one should have come forward to assist us with some really *new* ideas. By new ideas I do not mean a resuscitation of old ones; for all our art-movements have lately taken that direction; but something entirely different to what we have been accustomed to, if it be only a systematic attempt to unite elements which are now in conflict. Of a vague shadowy sort of writing we have plenty; but what we want is something more definite, such as illustrations; but these people are too timid to give, and too fearful of, adverse criticism. I believe it does not arise from any lack of originality among our best architects, but from habit and fashion. From the admiration excited by the splendour and superiority of ancient work, it has long been considered orthodox to copy it. Habit and precedent seize so strongly upon the human mind, that it requires almost a convulsion to unseat them. By the researches of many able and learned men we have more knowledge of the arts of antiquity than ever was possessed before. So far from its proving a hindrance, it ought, on the contrary, if properly applied, to open out a vast field of originality to us. Materials for a new style we have in abundance: what we require is ability to use them. Every day shows us elements and forms, formerly thought incongruous, combined, often with happy effect, in the productions of rising architects; but what is done is done timidly, and generally confined to minor details. If the introduction of ideas from one style into an opposite style is attended with success in minor instances, why should not a systematic attempt at combination also be successful? Each style possesses beauties peculiar to itself; then why, if it can be done, should we hesitate to combine those beauties? The objection usually made to such a suggestion is, that combination would destroy the beauties of both,—like negative and positive electricity, neutralize each other; but such an opinion is more often founded upon theory than practice; and any student who brings his mind without bias to the study of the nature of lines will, I feel assured, in time create originality. Such theories are, I know, pooh-poohed by many; but I ask any sensible man who has not been educated in

the prejudices of the day, whether, in the nature of things, such a course would be unreasonable?

In the works of the greatest opponents of what is termed eclecticism, if original, we find in their designs foreign elements introduced; and it must of necessity be so; for the human mind is not comprehensive enough to *create* anything in the highest meaning of the term, but can only combine and arrange. By retaining the purity, as it is called, of any particular style or period, we shut out original conception; for if new features are introduced, the character of the style is changed; therefore, how foolish and unreasonable it is for us to be such sticklers for chronological unity. When I hear that any building is in the thirteenth, fourteenth, fifteenth, or sixteenth century Gothic, or any particular phase of any style, I think what unmitigated copyists we are; for, without strict adherence to all the minor points of the style, it could not be so denominated. At the same time, it does not follow but what a design which claims to be of no particular style may be mere mongrel architecture. In Gothic, originality led to continual change, as it cannot but do in any style; but in Gothic, the changes were very rapid and marked. The Gothic architects never looked back as we do, and the style went through the whole process of development and decay: it exhausted itself by its own efforts; and, if we wish to regenerate its beauties, it must be done by engrafting upon the old stock some new shoots.

That there is any necessity for copying any preceding style in all its integrity, I do not believe; and all experience is against it. Are all the "forms and lines of art divine" exhausted, that we cannot invent any new combinations for our own gratification and use? Pure Grecian or Gothic architecture in the present day, beautiful though they be, are gross anachronisms; and we find now that the question of styles is resolving itself into one, not of beauty, but adaptability, as we may see from Mr. Burges's paper upon Athens. Can it be disputed, then, that, if adaptability is to be the argument adopted in favour of any particular style, one might be invented much more applicable to our purpose than any now in use?

The subject is so great and so interesting, that it is to be hoped architects may be awakened to the serious consideration of such a contingency as the introduction of a new style; and I am quite sure the public will have no prejudice against its advent, but would rather feel interested in its success; for it has often puzzled them why architects go on contented with repeating *ad nauseam* the ideas handed down by their ancestors. I feel convinced nothing would more conduce to the popularity of architecture than the healthy interest such a movement would create in the public mind.

At present, the abortions which disfigure our towns result from the want of interest which is felt in artistic decoration; and, consequently, an architect often is not selected for the quality of his designs,—the public reasoning that one is as good as another: at least, it would appear so from the success obtained by joiners, auctioneers, and others, who often *profess* to a knowledge of the profession. T. MELLARD READE.*

WORKMEN AND CHURCHES.

MAY I ask you to give me a small corner of your paper to draw the attention of builders and all large employers of labour to the fact that few working men go to church? For some years I have noticed this among my own men, and feel it my duty to call attention to the sad fact.

The chief cause of it in London (except in the City) is want of churches. Take, for instance, a rising suburb, say Sydenham, Brixton, or even Chelsea and Pimlico: there is no parish church, or it is full, and one or two churches are built. To support them and pay for the building, the pews are let at about 20s. or 30s. a sitting; consequently, only the middle classes go. The mechanic cannot afford the money, and goes nowhere. No matter how anxious the clergyman is to do his duty, he cannot ask the poor to go to his church, as he must pay his way.

Dissenters are in the same difficulty. They must have those who can pay. What this paying means, those know who attend church or chapel, and remember the endless collections, besides the mere pew-rent, for interest, or the everlasting "building-fund," "missions" of all sorts, "expenses," &c., &c. The Gospel in old times was preached to the poor, who must now forego the privilege in favour of the rich. If any man thinks this untrue, let him go round a few of the suburban districts, and see those who go to church, and who not. It is not because the poor do not wish to go: witness the audiences at the preaching in theatres.

The first difficulty is churches. Cannot architects lessen this by making designs less costly, and studying the reception of the largest possible number at the smallest possible expense? Builders have workshops: might not they induce their men who live near enough to meet in them on Sundays, with their families, and let one of the men read the Church service, and a sermon out of a book—say Wesley's, Barrow's, or Baxter's? I have no doubt that if employers of labour would thus personally interest themselves in the eternal welfare of the men, the men themselves would take the matter into their own hands shortly, and get up cheap churches—for instance, hire large rooms for themselves.

It must, however, be noticed that the example must be set by some one: the men themselves must be talked to, and induced to go to church. Messrs. Peto & Betts, when making the Victoria Docks, built a wooden church, and paid a preacher. I have several times gone there, but never saw *one in fifty of their men*. So it comes to this, that the masters must remember that God will one day call them to account for the use to which they put their influence over those under them, and act accordingly.

J. P. W.

P.S. I may add that Messrs. Silver have set a good and encouraging example at their works, near Woolwich.

* Under the title,—"Suggestions on the Formation of a New Style of Architecture, specially adapted to Civic Purposes:" (Weale), Mr. Reade has recently published a book to illustrate his views. We must take another occasion to speak of it.

PATENTS CONNECTED WITH BUILDING.

IMPROVEMENTS IN SCREW-WRENCHES.—*W. T. Weston.* Dated October, 17, 1861.—This consists in forming on either side of the handle of a screw-wrench, containing one fixed jaw or chop thereof, a toothed rack, the situation of which is at that part of the handle of the wrench along which the movable jaw or chop is to slide; and in furnishing such movable jaw with an eccentric thread or helical worm, formed on a disc or button having a milled edge; the disc being perforated with holes similar to a windlass or capstan, and placed with its pivot perpendicularly with regard to the rack into which it works; so that, by turning such screw or thread by means of its milled edge, or by the application of a lever, to the holes, the movable jaw is caused to move along the rack as may be desired with respect to the fixed jaw of the wrench.

IMPROVEMENTS IN STEAM-HAMMERS.—*T. Fearnley.* Dated October 19, 1861.—The patentee forms the steam cylinder annular, in order that the ram may pass through the inner or central part of such cylinder, and thereby have increased guiding surface in its motion, as also to reduce the height of it; and he forms the piston annular with rods passing through the head of the cylinder to a cross-head affixed to or formed upon the ram, or through the bottom of the cylinder direct to the hammer above the head. He also forms the hammer to surround the cylinder; the piston-rod being keyed into the hammer just above the head. In this case the cylinder is fixed to the upper part of the framing, and the framing below is bored, to receive and guide the hammer in its motion; whilst the inside of the hammer is bored true to slide on the cylinder. He also gives motion to the valves of steam-hammers by means of a spiral groove or feather, cut or formed in the hammer, acting upon a pin or stud in connexion with the valve or valves.

IMPROVEMENTS IN LIFTING OR HOISTING APPARATUS.—*J. Lister & D. Myers.* Dated October 16, 1861.—These improvements in apparatus for arresting the fall of the cage or basket in a mine, relate, first, to a combination of parts connecting the rope or chain with the article to be lifted. 2. To means for preventing the overwinding of the rope, whereby accidents often occur from the cage being pulled over the top pulley. The details of the invention are voluminous.

IMPROVEMENTS IN THE APPARATUS FOR AND METHOD OF INCREASING THE ILLUMINATING POWER OF GAS.—*W. Smith.* (A communication.) Dated October 17, 1861.—This invention consists in the use of a box containing capillary arrangements or apparatus, as described, for producing an atmosphere of benzone vapour for the purpose of charging the gas passed therethrough, as set forth. Also, in the use or employment of the capillary arrangement or apparatus described, whether benzone or any other liquid carbon be employed, for the same or similar purposes.

AN IMPROVED SPRING AND FASTENING, APPLICABLE TO GATES, DOORS, &C.—*W. T. Weston* Dated Nov. 4, 1862.—This invention consists in the application of a fastening to a straight rod or bar of hardened and tempered steel, thereby to twist or turn it so as to form a spiral, in order that, in the continual effort to regain its natural position, it may exert an action or force analogous to that exercised by springs of some other different constructions.

IMPROVEMENTS IN MACHINERY FOR ENAMELLING MOULDED SURFACES.—*J. H. Johnson.* (A communication.) Dated Oct. 29, 1861.—This invention relates to a peculiar construction and arrangement of machinery or apparatus for applying enamel to the surface of wood mouldings in the process of preparing them for gilding, as well as for the purpose of making an enamelled surface upon all material capable of being heated in this manner. The essential features of this invention consist in the employment of a plate, the lower edge of which is formed or shaped the reverse of the tranverse form of the moulding to which it is applied, when such plate is made self-acting to the surface of the moulding whilst being traversed longitudinally over it. Also in the employment of a hopper, or other suitable receptacle to contain the enamelling composition, having the lower edges of the two end plates thereof formed or shaped the reverse of the transverse form of the moulding to be enamelled, such moulding constituting at the same time the bottom of the hopper or receptacle.

IMPROVEMENTS IN MACHINERY OR APPARATUS FOR MAKING PIPES AND OTHER ARTICLES OF EARTHENWARE, AND IN THE FORM OF PIPES FOR GAS, SEWAGE, AND OTHER PURPOSES.—*T. Spencer & T. Robinson.* (Partly a communication.) Dated Nov. 2, 1861.—This invention refers to those machines in which the direct action of steam or other fluid is employed for forcing the plastic material through or into dies, and consists in the employment of an additional power, whereby the patentees are enabled to maintain the pressure after the moulding has been effected, and to work with a less pressure of the fluid. Another part of the invention relates to making articles of earthenware by a plunger, which is forced into a mould, and consists,—1, in covering the said plunger or mould with cloth or other such material, which may be peeled off; and, 2, in giving the said plunger a roughened surface. Another part of the invention relates to making pipes or other articles with a socket or other design at each end. Another part relates to a particular form of pipe for gas and sewage; which pipes they make with an enlarged part at one end, within which there is a recess, and the other end with a part capable of fitting into a similar recess upon another pipe; and they prefer so forming the ends that the interior diameter shall not be interrupted with projections.

CERTAIN IMPROVEMENTS IN STEAM-HAMMERS, AND IN VALVES APPLICABLE TO THE SAME AND TO OTHER STEAM-ENGINES.—*R. Wilson.* Dated November 5, 1861.—This consists in an improved arrangement of valves and gearing for working steam-hammers, by which the steam may be admitted both below and above the piston to which the hammer block or ram is connected, or only to the former when required. The improvements in valves for steam-hammers and other steam-engines consist in so constructing them that their area, and, consequently, the weight and power required for working them, are greatly reduced.

IMPROVEMENTS APPLICABLE TO BUILDINGS, IN ORDER TO FACILITATE THE EXTINGUISHING OF ANY CONFLAGRATION WHICH MAY HAPPEN THEREIN.—*W. P. Bayliss,* the Lloyd's, Madeley, Shropshire. Dated 20th November, 1861.—This invention consists in constructing buildings with each apartment or compartment with an aperture or apertures at the upper part, the said apertures being in (or communicating with) tubes or channels opening into the nearest chimney or flue; or the tubes or channels may be continued and opened into the external atmosphere. Hence, if a conflagration should take place, it will only be necessary to close the apartment or compartment, and the smoke and fire will find vent by the said channels, flues, or tubes. Also, for the purposes aforesaid, the patentee provides a cistern or receptacle at the upper part of the building, from which pipes descend which reach from the said cistern to the basement of the building, and may form supporting columns or pillars to it. The tops of the said pipes, where they open to the cistern, have proper valves; and from these pipes, at every floor of the building, other pipes or channels branch out in such manner that valves may be applied to stop the first-mentioned pipes at the level, or nearly so, of such branching pipes; causing such flow of water from the cistern to run into the said branching pipes or channels; and thence, through suitable apertures, into the apartment or compartment, or any two immediately adjoining or contiguous apartments or compartments; and this without allowing the entry of the water into any other apartment or compartment. The floors and roofs should be fireproof.

HARDENING STONE, &c.—*J. B. Hulard & L. G. Poupel,* Paris. Dated 25th November, 1861.—The composition which the patentees prefer for their indurating liquid contains the following ingredients in certain proportions:—Borax, white lead, sulphate of alumina, acetate of lead, sulphate of zinc, silicate of soda or of potash, kaolin, linseed oil, and water.

* Selected from the lists in the *Engineer*.

Books Received.

Isca Silurum; or, an Illustrated Catalogue of the Museum of Antiquities at Caerleon. By JOHN EDWARD LEE, F.S.A., &c. London: Longman & Co. 1862.

THIS is much more than a mere catalogue: it contains a good deal of interesting antiquarian matter in connexion with descriptions of the various objects catalogued; and also numerous truthful-looking illustrations, executed by the author,—all the plates, including chromo-lithographs, being either transfers from his own etchings or having been drawn by him direct upon the stone. Nearly all the antiquities drawn or described are now in the museum of the Monmouthshire and Caerleon Antiquarian Association. The volume also contains a notice of the excavation at Caerwent, by Mr. O. Morgan, M.P., reprinted from the "Archæologia;" and an abridgment of a paper "On Caerleon," by Mr. F. Wakeman.

VARIORUM.

"A Handbook to the Guildhall and the various Offices of the Corporation of London: illustrated. Second edition. London. 1862." This well-compiled and useful guide is one prepared by Mr. Abraham Harvey, the beadle or custodian of Guildhall. It contains minute descriptions of the various objects of interest, rooms, &c., in the building, with some interesting historical matter, and information as to the various business departments, hours of attendance, officers' names, and other useful details.——"Naval and Commercial Docks on the Mersey: a Letter addressed to John Laird, esq., M.P. for Birkenhead. By J. Abernethy, esq., C.E.; with Plans. London: E. Wilson, Royal Exchange. 1862." Mr. Laird being of opinion, with others, that farther dock accommodation will be requisite on the Mersey, even after the completion of the Birkenhead docks; and considering that Tranmere would form an excellent site; requested Mr. Abernethy to report to him on the subject. The result is the pamphlet under notice, in which plans of a naval and a commercial dock are given; the estimated cost being 900,000*l.* for the naval dockyard, and 850,000*l.* for the commercial dock, exclusive of land, chiefly unoccupied foreshore. —— "On the Registration of Births, Deaths, and Diseases. By A. Harkin, M.D., Belfast. Dublin: Hodges & Smith. 1862." This pamphlet contains a paper read before the Social Science Association at Dublin in 1861, with notes and addenda. In case of a Registration Act for Ireland being passed, it proposes certain improvements on the Act for England, and points to a division of offices into sub-registrar, superintendent registrar, and registrar general.—— "History and Description of Needle-making. By M. T. Morrall, Manchester. 1862." This penny tract may be said to belong to the International Exhibition series of publications. It is historically illustrative of the useful little article exhibited by Mr. Morrall as the product of the Morrall machines. It would be well were many other exhibitors to treat of their respective articles of manufacture in a similar way; although there is a risk of this sort of thing degenerating into mere advertising puffs, which this does not appear to be.——"The Coins of England; published in sheets and books by Griffith & Farran, St. Paul's Churchyard, London;" is another Exhibition product, and in the book form must be useful to foreigners. It gives what we may call rubbings of our several coins, on gilt, silvered, and bronzed paper, with their respective values in French, German, Dutch, Spanish, and American coins.——"The Men at the Helm: Biographical Sketches of Great English Statesmen. By W. H. D. Adams. With illustrations by J. Franklin. London: Hogg & Sons." The intention of this volume is to furnish youthful students with a more comprehensive summary of the careers and policy of some of our most distinguished statesmen, now deceased, than common school histories afford; and to supply a companion and sequel to those elementary works. The amusement of a leisure hour, and a book of reference to more advanced readers, have also been objects kept in view by the author. The Earl of Aberdeen is the last of those statesmen whose career is here treated of. The volume contains some interesting reading, without much political bias.——"The Fleet of the Future in 1862; or, England without a Fleet. By J. Scott Russell, esq., F.R.S., V.P. of Institution of Naval Architects. Second Edition. London: Longman & Co. 1862." Mr. Scott Russell is startling the country with very forcible and able denunciations of that mismanagement and waste whereby we are virtually left still without a fleet, while 30,000,000*l.* sterling have been wasted during the last seven years in the vain attempt to realize one. By being "without a fleet" he means that nothing but a fleet of *Warriors* now merits the name; and that our wooden fleet is virtually no fleet at all. We have only two such vessels as the *Warrior*; and therefore our war fleet is yet to be built, although we have spent on our nominal navy, since the desirability of having such vessels was known and admitted, as much money as would have produced sixty *Warriors* of the enlarged class of 7,000 tons,—sea-going, sea-worthy ships, capable of running at the rate of fourteen knots an hour, and possessing complete shot-proof batteries. Mr. Russell charges the Duke of Somerset with literally wasting 12,000,000*l.*, which, during the last three years, his grace "has muddled away in the dockyards, producing nothing," though it might have produced a fleet of some twenty *Warriors*. "The ineradicable evil is this," says Mr. Scott Russell, in allusion to the Board of Admiralty,—"that where the knowledge is, the power is not; and where the power is, the knowledge is not." The House of Commons, he urges, ought to buy a fleet, not build it; expending at least 3,000,000*l.* a year on the work; and as for the dockyards, and what is to become of *them*, he adds significantly,—"Which do you wish to have,—fleets or establishments?"——"Colour to Sculpture: Is it applicable? A Letter to T. C. Grattan, esq. By C. D. Griffith, esq., M.P. London: Hardwicke, 1862." The reply to the query in this title is, that "The distinctive character of every work of art is, that it should be suggestive only, and not completely imitative,"—and "that a work of art is an appeal to the imagination; that it is in no case a mere physical imitation; and that, as soon as it is extended so far as to become an imitation, or appeal to the senses alone, the interest felt in it previously by the mind or imagination fades away, and it becomes by reaction rather a repulsive than an attractive object."—— "On the Establishment and Management of Cottage-Improvement Societies. By W. A. Greenhill, M.D. Oxon. London: Longman & Co. 1862." This pamphlet contains a paper read in the fifth department of the Social Science Congress, at Guildhall, London, last month; and it is based on the experience gained from two societies with which the author is connected; namely, the Hastings Cottage Improvement Society, and the London Labourers' Dwellings Society, of both of which we have occasionally spoken.

Miscellanea.

EXPENSE OF A HARBOUR.—The entire cost of the work performed in the construction of the harbour of St. Catherine, in the island of Jersey, exclusive of purchases for land defences, is 234,235*l.* 16*s.*

SINGLE SHAFTS IN COAL-MINES.—The Government Bill laid before the House of Commons proposes to enact that, after the passing of the bill (except in merely searching for minerals), it shall not be lawful for the owner of a new mine, or old mine the working of which shall be begun afresh,—and, after 1864, it shall not be lawful for the owner of an existing mine,—to work the same without two shafts or outlets, separated by natural strata of not less than 10 feet, and affording distinct means of egress.

BRIGHTON.—At length, says the local *Herald*, there appears to be a prospect of some improvements being made to the principal thoroughfares leading from the Railway Terminus into the heart of our town. We may now hope that those eyesores at the very entrance to the town, the slaughter-houses in the Queen's-road, will be removed; that the chief approach to the sea, by West-street, may be rendered more commodious; and that the great traffic of North-street will be relieved by the widening and otherwise improving of North-lane. Important steps with reference to these improvements have been taken by the Town Council. —— The foundation-stone of the new church of St. Ann, for which an endowment was provided under the will of the late Mrs. Cook, has been laid. The site is at the north-east end of Burlington-street, Marine-parade. The church is to consist mainly of a nave, chancel, and side aisles, built in the Decorated style. The total length of the church is to be 114 feet 6 inches, its total breadth 59 feet 6 inches. The edifice will be built of hewn Kentish rag-stone, with Bath-stone dressings. The seat accommodation is computed for 900 sittings, 500 free. Mr. Ferrey is the architect, and Messrs. Cheesman & Freeman are the builders.

WHIPTON.—All Saints' Chapel, Whipton, a chapel-of-ease to Heavitree parish, Exeter, was consecrated on the 23rd ult. The building consists of nave, with stone bell-cot, north transept, chancel, a porch, and vestry. There is accommodation for about 200 persons. The style is the Geometrical. The walls are faced with Killerton stone, and the dressings are of Coombe Down stone. The avenues and chancel are laid with tiles from Poole pottery. The roofs and seating are of deal, stained and varnished. There is a burial-ground, walled in, of three-quarters of an acre. The architect is Mr. Ashworth, and the builder Mr. Kenshole. The cost of the work is about 1,500*l.*

INVENTIONS FOR THE PREVENTION OF RAILWAY ACCIDENTS.—Mr. Grivel Jeune, a French engineer, has recently patented two inventions for preventing railway accidents, and they are now on view at the Whittington Club. They are thus described by the inventor:—"First, a self-acting apparatus, indicating to the driver of a train if the line is clear, and if a preceding train is at a proper distance or not; and warning him of same in any weather or season." Second—"A new description of brake, to stop the disastrous results of a locomotive mounting an incline to which carriages and trucks are attached, paralysing the rupture of the coupling chains; arising either from the too great weight, or from flaws in the manufacture." The action of the inventions is explained by means of models and drawings.

ARBITRATION CASE: TERREY *v.* GOBBY.—A correspondent says, an award has just been made in this case, wherein the plaintiff had agreed to do certain works of seven houses, in Merlin's-place and Margaret-street, Clerkenwell, in rebuilding the upper portion of fronts, chimney-shafts, water-closets, outbuildings, &c. The action was brought for a balance of 23*l.* 10*s.*, which the defendant refused to pay, being dissatisfied with the manner in which the works had been carried out. These he had to complete himself, and to pay the surveyor's fees, in respect of which plaintiff pleaded non-liability. The estimate for works was 154*l.*; and it is understood that the costs, amounting to more than this amount, will have to be paid by plaintiff, the award being against him.

SALE OF ARGYLL HOUSE, REGENT-STREET.—On the 27th, by direction of the Earl of Aberdeen, Messrs. Rushworth, Jarvis, & Co., put up to auction at the Auction Mart, the freehold property known as Argyll House, situate in Argyll-street, Oxford-street. It occupies an area of 21,675 feet, with a frontage of 62 feet to Argyll-street; and adjoining it is a freehold residence in the occupation of Sir William J. Newton, held for 80 years at a peppercorn rent from 25th of March, 1820. The mansion comprised a paved court-yard with carriage gates; a paved hall, 30 feet by 21 feet; a great drawing-room, 27 feet by 21 feet; a banqueting-room, 43 feet by 31 feet; a library, 24 feet by 19 feet, &c., all fitted with statuary, &c. The first offer was 10,000*l.*, which gradually increased up to 18,500*l.*, at which sum it was sold.

NATIVE TALENT.—The *John o'Groat Journal* mentions the works of James Coghill, a working mason at Wick. He picks up a piece of granite, and with hammer and chisel and laborious hand-polishing he turns it into a vase. He has managed to make both picture and frame out of the same durable material. A specimen of this kind of work in Welsh slate, lately finished, gives a view of Ackergill Tower from the east. He has a book-case, the front of which is divided into compartments, each of which is fitted with a model of a cathedral window; some pointed and some circular, and of the most intricate patterns; each of them cut out of this same Welsh slate. Several of these designs are taken from specimens of cathedral windows that have appeared from time to time in the *Builder*. His *chef-d'œuvre* is John o'Groat's House. The tradition, as everybody knows, is that John and his seven brothers had disputes about precedence, which were settled by the building of a house with eight doors leading into an octagonal dining-room, where each one sat at the head of the table. Carrying out this idea, Mr. Coghill has designed and constructed a model of the tradi ionary John o'Groat's House, in Caen stone, complete as regards both external and internal fittings. It contains several hundred windows; has a tower in the centre; and cost its constructor the leisure hours of half-a-dozen years to finish it. It is to be hoped he has some to direct his labour aright; or he may, after all, be wasting it. There is a melancholy specimen of such industry misdirected at the International Exhibition, in a huge model of a cathedral cut out of corks.

Society of Antiquaries.—Miss Burdett Coutts has placed her house in Stratton-street at the disposal of the council for a *conversazione*, which will be held there on Monday next.

Public Monuments in the Metropolis.—Mr. Hankey asked the First Commissioner of Works when the return of public monuments and statues in London, ordered on the 3rd of June, 1861, would be laid upon the table? Mr. Cowper said he felt considerable difficulty in getting accurate information on some of the details of the return, but he thought he should be able to lay it on the table in a few days.

Monumental.—The pedestal for the monument to be erected in Boston to the memory of the late Mr. Herbert Ingram, M.P., has just been finished by Mr. M'Glashan, at his granite works, near Peterhead. The pedestal is a massive piece of granite work. It is in the form of a sloping square, of 4 feet 3 inches; and is 11 feet 4 inches high; composed of three blocks of polished Peterhead granite, with a base (8 feet square) of polished Aberdeen granite in the form of two sloping steps. In front there is a niche for a small statue and water fountain; the cup being hollowed out at the base of the niche. The marble statue of Mr. Ingram (being presently executed by Mr. Munro, sculptor, London) is to stand on the pedestal; and the monument, when finished, will be 23 feet in height. The design of the pedestal was prepared by Mr. Munro, the sculptor: its weight is about 22 tons.

Important to Builders and Others.—A case of considerable importance, as affecting the relation of employers in the building trades and their workmen, has been decided at Edinburgh by Sheriff Jameson in the Small Debt Court there, and is reported in the local *News*. John Rodger, a wright, in the employment of Mr. John Ewart, builder, sued his employer for 18s. 7d. of wages, in respect Mr. Ewart had discharged him without warning. After Rodger had entered into Mr. Ewart's service, Mr. Ewart had intimated to his workmen, when paying their wages, that, thereafter, the rule of the shop was to be that warning would neither be given nor required; and Mr. Ewart had caused a printed notice to that effect to be put up in his workshop. Rodger admitted that he had read the notice, and had afterwards continued in Mr. Ewart's employment. The Sheriff held that an employer was quite entitled to make a rule that no warning should either be given or required; and thus to alter the custom of the trade as regarded the workmen in his individual employment; and, therefore, decided in favour of the employer.

Bridge Accidents.—At Pateley Bridge, a new wrought-iron bridge, crossing the river Nidd, was in course of erection. The bridge was constructed upon the lattice principle, 100 feet span, with 10 feet carriage way, and was designed by Mr. R. Hodgson, of Newcastle. The contractors are Messrs. J. & G. Joycey, of Newcastle. Each girder weighs about twelve tons. About one month had been occupied since the arrival of the material in riveting the sides to their proper length, and launching them across the river. The girder to the side was placed in position. The other girder, lying parallel with it, remained straight at the time of the misfortune, and was all but ready for lowering the ends on to the stone beds prepared for their reception, when the breaking of a chain in the middle caused the girder to swerve; and, falling on its side, it was precipitated into the water, lying in confusion amongst the scaffolding. Had it fallen in the opposite direction, the destruction of the girder then in position would also have been certain, and many lives would have been placed in imminent danger. The accident with the Lendal lattice-bridge at York was a somewhat similar one. It is rather remarkable, also, that a destructive accident happened to one of the girders for the bridge at Pateley, when first dispatched from Newcastle. The coupling chains of the trucks upon which it was placed breaking, they became disengaged, and the whole were impelled over a bridge into a roadway at Gateshead, 30 feet deep. The cast-iron was broken into fragments, and the wrought-iron twisted into various shapes, but happily no lives were sacrificed.——A railway-bridge over the Old Bridge-road, at Luton, has recently been widened for the purpose of laying down a double line of rails. During the time the work was being carried out the weather was showery; and, when it was determined to strike the centres, the abutment moved about three quarters of an inch, and the crown of the arch of the new part of the bridge fell about an inch. The centres were readjusted, and workmen were engaged to strengthen the abutments, so as to avoid any trouble of the kind in future.

Progress of Hull.—In 1861 the population was returned at 109,000; and this year it is estimated at 110,800; while in 1836 it was only 65,000. The property rateable last year was 238,504*l.*; and in 1836, 176,559*l.* In 1860 the tonnage of the shipping entering the port was 833,633 tons, as compared with 490,044 tons in 1836; and the clearances outwards were 798,217 tons in 1860, against 421,938 tons in 1836. In 1836 the area of the docks was 23a. 0r. 39p.; while now the area of the dock accommodation is 40a. 5r. 28p.; and the area of the proposed new West Dock is 17a., and the increase to the Victoria Dock is 6a. The sanitary condition of the population is said to have of late materially improved.

Worssam's Machinery for Cutting Wood. This invention, by Samuel W. Worssam, of the King's-road, Chelsea, relates to sawing machinery for cutting logs or large baulks of timber, both longitudinally and transversely. The first part of the invention relates to the machine for cutting up the timber longitudinally, and the second part of the invention relates to the machine for cutting up logs or timber transversely. In the sawing machine for cutting up the log longitudinally, the log is placed on a travelling platform, which is actuated by gearing, so as to bring the timber up to the saws; or the log may be fed forward by means of feed-rollers, without the use of the travelling platform. The saws are attached to the cross-heads of a vibrating framing, to which an up-and-down motion is given by means of a connecting rod and crank, driven by any prime mover; but the saws (of which there may be one, two, or more, as may be required) are arranged to work outside of the main standards of the machine, so that the log may be moved up laterally to the saws when the cuts have been finished.

The Right to Ring Church Bells. — A paragraph under this heading went the round of the papers in April last, with reference to a disturbance which had taken place in Thurnby, near Leicester. The vicar had inhibited the bells being rung on occasion of the meet of some hounds in the parish, and fastened the belfry door, taking possession of the key. One of the churchwardens, with others assisting, maintaining that the vicar had no voice in such a matter, broke open the door, and set the bells a ringing in defiance. The case was brought before the magistrates at Leicester, who dismissed it, as the question of right did not come under their jurisdiction. The case was afterwards taken to the Court of Arches; and on the 18th of June (as reported in the *Times*), the judge, Dr. Lushington, on admission of the articles against the churchwarden, the parish clerk, and the ringers, admonished them to refrain from the like conduct in future,—namely, that of ringing the bells contrary to the order, and against the remonstrances, of the vicar; and condemned them in the costs of the suit.

Value of Town Sewage.—At the last meeting of the Royal Agricultural Society, Dr. Voelcker delivered a lecture on the value of town sewage. Mr. Hofmann, he said, had estimated that the fertilising matter of sewage was worth about 2d. per ton, or 17s. 7d. per 100 tons. And taking the fertilising property in the London sewage at the estimate of 90 grains of solid matter per imperial gallon—though that was a high average—the sewage of London would be worth 3,796*l.* per diem, or 1,385,540*l.* per annum. The calculation of the value of sewage, however, was always made by a comparison with Peruvian guano, which was taken at 11*l.* per ton, and it was hardly fair to compare the dry matter of sewage, of which one-third only was valuable, with a material like guano, which contained scarcely any worthless matter at all. He considered that a ton of the solid matter of London sewage was worth for its ammonia 4*l.* 1s. 6d., at 6d. per lb.; for its potash, 17s., at 3d. per lb.; and for its phosphoric acid, 3s. 2d., at 2d. per lb. By this calculation a ton of London sewage would be worth for its fertilising properties 1¾d. However, it would be very fallacious to draw the conclusion that, because the fertilising materials in a ton of sewage were worth that amount, its value as a manure to the farmers must be estimated at that price in the same way as guano was when sold at 11*l.* per ton. They must consider the bulk in each case, and the worthless matter in sewage. An interesting discussion took place at the conclusion of the lecture; and, in reply to questions, Dr. Voelcker remarked, that anything that was grown very quickly was inferior in quality to the same kind of thing that was grown more slowly; but of course it was quite another thing whether it was not more profitable to producers to have the large increase in quantity, although it was attended by some degree of inferiority.

Consumption of Nails.—The number of nails manufactured in Bromsgrove is so enormous, averaging about ten millions weekly, that the wonder is that such vast quantities should be wanted. As an example of the numbers required, the *Worcester Chronicle* states that in the erection of the Great Exhibition building 200 tons were used; which, upon a fair computation, would give about 33½ millions of nails.

Gas in Scotland.—The Hawick gas company have declared a dividend of 7½ per cent. on their original shares, and reduced the price of their gas from 6s. 8d. to 6s. 3d. The chairman of the annual meeting wished to make the gas cheaper, but some of the directors erroneously argued as if reduction of price were equivalent to reduction of dividend, and hence resisted the chairman's proposal.——The Kelso company have declared a dividend of 10 per cent. on their paid-up capital. The price has been reduced from 7s. 6d. to 6s. 8d.——The Elgin company have declared a dividend of 6 per cent., and a reduction of price to 8s. 4d. and 7s. 6d. according to locality.

Fine Arts Club.—On Wednesday evening Miss Burdett Coutts placed her fine suite of rooms in Stratton-street, Piccadilly, at the disposal of the Fine Arts Club; the occasion being a *conversazione* given by the members of that association. The rooms on the drawing-room suite were in great measure decorated by contributions which had been supplied by members of the Fine Arts Club; and amongst these were some very rare articles of vertu and specimens of gold and china manufactures. Perhaps the most conspicuous objects—or at least those which excited the most marked attention—were a magnificently ornamented gold salver, contributed by Earl Cowper; and a splendid cameo, of most unusual dimensions, representing Jupiter and Thetis, belonging to the Right Hon. W. E. Gladstone.

Revolving Batteries.—In reference to a claim of precedence to Captain Coles made by Mr. Forbes, of Bartley, Mr. John Elliott, in a letter to the *Hampshire Advertiser*, claims precedence to Mr. Forbes, and says:—"That part of my plan for the use of revolving batteries appeared so important to his Grace [the Duke of Richmond, for whom Mr. Elliott was acting professionally], that he invited me to Goodwood to meet Sir John Burgoyne, to discuss the subject. The plan I laid before him was to construct a circular vessel to receive the cannon, and to float that in a sunk tank. My plan was afterwards described in detail in the *Builder*. Sir John stated that it was extremely ingenious; but that, the object in coast defence being a scattered fire, and not a concentrated one, he considered the invention of no practical use. Dwelling on his words, and considering that a concentrated fire must be necessary in naval warfare, I designed a ship with four revolving protected batteries on deck, on the turn-table principle, and took this to Admiral Ommanney, who so pooh-poohed and ridiculed it as to deter me from publishing it; and I thus lost the reward Captain Coles has so deservedly obtained."

A Novel Budget.—Mr. T. H. Willis suggests a concentrated and simplified scheme of taxation. He proposes a single tax on the occupants of land, built upon or unbuilt upon,—that is, in town and in country,—at varying rates, per acre, according to estimated values; at same time repealing all property and income taxes, excise levies, and assessed taxes and rates, as also custom dues generally. The land, for these purposes, Mr. Willis divides into—1st, covered land; 2nd, land worked as mines or quarries, and as brick and pottery grounds, wood land, or as taken up for railways, tramways, and canals; 3rd, land used as gardens, nurseries, parks, yards, &c.; 4th, land employed in tillage or pasturage; and 5th, land held for all other purposes, as game-preserves, &c. He indicates, as a criterion of the extent of rate or tax, that 2s. per acre on 40,000,000 acres of cultivated land in the three kingdoms would suffice; and calculates that covered land alone would yield 35,000,000*l.*; the average levied rate being estimated at 70*l.* per acre, on 500,000 acres. In this scheme it is "recognized as a principle in law that the land may be assessed as a *personal* tax in respect to land, but not as a tax *on* the land." The same principle of taxation, Mr. Willis adds, "might be applied, and with the same advantages to the occupying tenant, in respect to parochial rates and all other local rates and taxes;" and in all cases "every taxpayer will be able to verify the proportion of the tax he will have to pay." By the general scheme it is estimated that while "the full amount of the required revenue will be raised, the burden of taxation will fall equally upon all."

RAILWAYS IN THE ISLAND OF SARDINIA.—The *Opinione Nazionale* states that a company of English capitalists have applied to the Italian Minister of Public Works for the concession to construct all railways in the Island of Sardinia, in consideration of the Government guaranteeing them the sum of 30,000fr. for every kilometre of railway laid down, and ceding them 300,000 hectares (700,000 English acres) of crown lands.

BRIDGES IN FRANCE.—The number of bridges in France on which tolls are paid, says the *Salut Public* of Lyons, is about 400. On the Rhone, between Serrières and Saint-Ésprit, there are eleven, which are a heavy tax on the inhabitants of Lyons, as they must cross them to reach the Lyons and Marseilles Railway. It is hoped that the Government will ere long introduce a general measure for suppressing these tolls by indemnifying the parties interested.

HARWICH HARBOUR.—Near the beginning of the present century, a trade in cement-stone, obtained by dredging, had begun in Harwich; and a great demand arose when it was determined to fortify the port. The result of all this dredging has been that the natural barrier to the stroke of the sea has been removed; and the shingle has so accumulated that the mouth of the harbour is closing up. A select committee of the House of Commons has just reported upon the matter; and, in addition to dredging the entrance to the harbour, a groyne or breakwater is suggested; the cost of the works being estimated at from 10,000*l.* to 16,000*l.*

DUPLICATE EQUESTRIAN STATUE OF LORD HARDINGE FOR LONDON. — As our readers would observe from our advertising columns of last week, it is proposed to obtain for London a duplicate of Foley's statue of the late Lord Hardinge executed for Calcutta. The main object of the effort is to secure to the nation one of the finest art-works of modern times; and it is to be hoped there will be no difficulty in doing so. The statue is now in the International Exhibition; so that the public have the opportunity of judging for themselves. The subscription list already reaches some four hundred pounds; and those inclined to add their names to it are requested to address to the Hon. Secs., Hardinge Statue, 22, Regent-street, S.W. We have before now urged the desirability of the step.

THE MIDDLE-LEVEL INUNDATION.—The dam has been so strengthened that it is not considered likely to be affected by the severest tide; and it has already stood the test of the spring-tides in a satisfactory manner. The syphons, which are to be placed over it, have not yet been fixed: it is stated that, if they act well, they will be permanently retained, and the expense of erecting a new sluice thus be avoided, as the syphons will be of large calibre,—in fact, with the same capacity of discharge as the waterway of the old sluice. Valves are to be placed in these huge instruments to preclude any reverting of the tide-water into the drain: air-chambers will be constructed on the summit of the arching tubes to contain the air that may collect in them; and a small steam-engine, erected on the bank, is to exhaust these chambers, and keep the syphons in operation. Should the trial be successful, great and continual expense will be saved, and a revolution accomplished in lowland drainage. The repair of the great breach will have next to be commenced.

DOMESTIC ARCHITECTURE IN SINGAPORE.—Within his own house, Whampoa lives entirely in the European fashion. One of his properties, which is several miles in circumference, has a spacious, elegantly-furnished mansion, with a splendid colonnade, a beautiful flower-garden, and a perfect menagerie of useful domestic animals. Within the house all the arrangements are European, with the exception of the oval doors, communicating between the great saloon and the antechambers, which are pushed into the wall on either side, and have a very surprising effect. In the evening, especially when the saloon is illuminated, if a person passes through this oval entrance, the effect is as of a life-size portrait set in a golden frame. It would not be a bad idea to introduce this Chinese form of doorway into our European residences and country seats; and it is assuredly not the only improvement in the decorative art which we could borrow with advantage from the Chinese. Whampoa's own favourite habitation is about four miles outside the town, and presents a curious admixture of European comfort and taste with Chinese notions of ornament. In the saloons, adorned with a quantity of neat fancy ornaments, are suspended from the walls verses and proverbs of the most renowned Chinese poets, all written on long elegantly-illustrated rolls of paper.—*Parthenon.*

TOXTETH LOCAL BOARD OF HEALTH.—At the last monthly meeting of the Toxteth Park Local Board of Health, Liverpool, the board (unsolicited) agreed to increase the salary of their surveyor, Mr. J. A. Hall, 50*l.* a year. Mr. Hall was appointed on the 7th of last January as engineer and surveyor to the board; and has since been engaged upon the sewerage plans of the district, which have just received the sanction of the Home Secretary.

NEW INVENTION IN GATES.—At the Agricultural Show in Battersea Park there are some gates exhibiting which are the invention of Mr. Thomas Webb, of Smallwood Manor. They are thus noticed in the *Times* correspondent's report:—"These new gates surprise you by opening upwards into the air; by opening of their own accord upon the approach of a vehicle; and by closing after it is passed; while horsemen can open the gate by grasping a bell-pull." Mr. Webb has some of the gates in use on his property. We must say a few words about the Show next week.

A LONG-CLOSED THEATRE REOPENED.—At the moment of the destruction of Pompeii by an eruption of Mount Vesuvius, A.D. 79, a theatrical representation was being given in the Amphitheatre. A speculator, named Langini, taking advantage of that historical reminiscence, has just constructed a theatre on the ruins of Pompeii; and the opening of which new theatre he announces in the following terms:—"After a lapse of 1,800 years, the theatre of the city will be reopened with 'La Figlia del Reggimento.' I solicit from the nobility and gentry a continuance of the favour constantly bestowed on my predecessor, Marcus Quintus Martius; and beg to assure them that I shall make every effort to equal the rare qualities he displayed during his management."

ST. GEORGE'S, NEW MILLS, DERBYSHIRE.—A stained and painted window has just been placed in the chancel of this church by Miss Ingham, as a thankoffering on recovery from severe illness. The window is of three pointed lights, each about 18 feet by 3 feet. The principal subjects represent three dispensations, viz.;—The Patriarchal, by the offering up of Isaac; the Mosaic, by Moses lifting up the brazen serpent in the wilderness; and the Christian, by the Crucifixion. The figures in these subjects are 4 feet in height, and in strong outline, to suit the style of the church (which is Early English). Below them are three small subjects, viz.:—The Saviour's Birth, Baptism, and Last Supper. In the upper part of the window are the descending dove, the emblem of the Trinity Alpha and Omega, &c. The window has been designed and executed by Messrs. R. B. Edmundson & Son, of Manchester.

TENDERS.

For New Warehouse, London-wall, for Messrs. Gooch & Cousens. Mr. Porter, architect:—

Mansfield	£15,960 0 0
Patman & Co	15,689 0 0
Lucas	15,230 0 0
Brown & Robinson	14,980 0 0
Laurence	14,870 0 0
Oxford	14,636 0 0
Holland	14,598 0 0
I'Anson	14,480 0 0

For additions to Erleigh-hill House, Reading. Messrs. Poulton & Woodman, architects:—

Woodroffe	£1,550 0 0
Wheeler	1,547 0 0
Matthews	1,497 0 0
Sheppard	1,433 0 0
Strong	1,418 0 0
Searle (accepted)	1,394 0 0

For a pair of Semi-detached Villas, Spencer-road, New Wandsworth. Mr. G. H. Page, architect:—

J. & C. W. Todd	£889 0 0
Fish	870 0 0
Kendell	847 0 0
Thorton	775 13 0
Bass	740 0 0

For New Public-house Front, Hackney-road. Mr. Cæsar A. Long, architect:—

Evans	£213 10 0
Scott	216 0 0
Hardy	177 16 0
Larke	174 0 0
Power	163 0 0
Skinner, Brothers	160 0 0

For re-building Boys' School, and for the erection of Class-rooms, for the Trustees of St. Mark's National Schools, Whitechapel. Mr. John Hudson, architect:—

	Boys' School.	Class-Rooms.
Jacobs	£685	£360
Dudley	575	325

For alterations at the Joan of Arc, Roman-road. Mr. F. F. Holsworth, architect:—

Harvey	£191 0 0
Kent	185 0 0
Clarke & Mannock	176 0 0

For Villa, Oswestry. Messrs. Bidlake & Spaull, architects:—

Climie	£2,392 9 2
Treasure	2,180 0 0

For the erection of a Gallery in Lecture-hall of Sunday School Union. Messrs. Searle, Son, & Yelf, architects:—

Turner & Son	£277 10 0
Stimpson	233 0 0
Warne	215 0 0

Exclusive of wrought-iron girders and stanchions.

For painting the Iron Fencing of St. Mary's Churchyard, Newington, in reply to advertisement in our columns, there were twenty-five tenders, ranging from 42*l.* to 10*l.* The tender of Henry Ransom, 12*l.*, was accepted.

For New Pipe Sewers for the district of Perry-fields, Maidstone. Mr. Bulmer, Maidstone, engineer:—

Crotchet	£2,585 0 0
Chambers	2,598 0 0
Sutton & Vaughan	2,293 0 0
Lee	2,206 0 0
Anscomb	2,191 0 0
Pearson	2,197 0 0
Bugbird	2,179 0 0
Cobb	2,175 0 0
Shrubsole	2,155 0 0
Sills	2,148 0 0
Sharon	1,945 0 0
Naylar	1,843 0 0
Coles (accepted)	1,388 0 0

For Boundary Walls and Gates to the Great Malvern Hotel. Messrs. Elmslie, Franey, & Haddon, architects:—

Perkins (accepted)	£1,150 0 0

For covered way to lead from platform of Station to the Great Malvern Hotel. Messrs. Elmslie, Franey, & Haddon, architects:—

Perkins (accepted)	£830 0 0

For Schools for the Trustees of Ashton's Charity, Dunstable, Bedfordshire. Mr. G. Somers Clarke, architect. Quantities by Messrs. Batstone & Hunt:—

Hinton	£5,422 9 0
Lucas, Brothers	5,310 0 0
Myers & Sons	5,215 0 0
Conder	4,884 0 0
Kirk & Parry	4,748 0 0
Bell & Sons	4,735 0 0
Parker	4,540 0 0

For a Nine-roomed detached Villa, for the Rev. E. Davies, minister of the Baptist Chapel, Belvedere, Kent. Messrs. Habershon & Pete, architects:—

Lamb	£715 0 0
Blofield	650 0 0
Tear	458 0 0

For building St. Jude's Church, Gray's-Inn. Mr. Joseph Peacock, architect:—

White	£7,273 0 0
Patman & Co.	6,838 0 0
Sawyer	6,743 0 0
Mansfield	6,557 0 0
Holland	6,410 0 0
Dove	5,980 0 0
Myers	5,957 0 0
Jackson & Co.	5,955 0 0
Carter	5,792 0 0

For the erection of one pair of semi-detached villas, and six cottages, at Bromley, Kent, for Mr. S. Moore. Mr. J. Wimble, architect:—

	Villas.	Cottages.
Palmer	£1,362	£1,083
Tudd	1,000	720
George	995	830
H. & C. Bond	990	900
Dennis	949	797
T. & C. W. Todd	850	720
Simmons	..	945
C. Simmons	..	780

For house at Chislehurst, for Mr. Carrington. Mr. W. G. Bartlett, architect. Quantities supplied by Mr. W. Campbell:—

Wood	£2,877 0 0
Conder	2,788 0 0
Mansfield	2,770 0 0
Tompson	2,760 0 0
Piper & Wheeler	2,730 0 0
Winder	2,668 0 0
Rider	2,640 0 0
Downs	2,627 0 0
Wills	2,598 0 0
Todd, Brothers	2,576 0 0

For Congregational Chapel and Schools, Leek. Mr. Sugden, architect. The following have been accepted for the works of the above buildings:—

Noden, for excavator, bricklayer, and stonemason's works, including the materials of the old buildings	£1,579
W. & J. Nixon, for carpenter, joiner, slater, and plasterer's works	1,020
J. & J. Hudson, for carpenter and joiner's works to a portion of the school buildings	130
J. J. Howard, for plumber, glazier, and painter's works	273

TO CORRESPONDENTS.

W. E. M. (view has already appeared elsewhere).—A Lover of Colour. M. E. H.—J. E. D. V.—E. H. (send plans). Colour (we want no personalities, and will not print them. We desire to be guided by a better principle than mere wish to please correspondents). — J. B.—C. G. S.—E. B. R. (no power is given by fly-wheel: it simply husbands power).—A Cure.—G. M.—Rev. Mr. E.—F. W. (report referred to was not enclosed).—F. S.—S. S. — T. W. H. M. — R. B.— W. S.—E. A. S.—H. de M.—J. B. (we cannot supply addresses).

NOTE.—*The responsibility of signed articles, and ers read at public meetings, rests, of course, the authors.*

☞ *NOTICE. — All Communications respecting dvertisements, Subscriptions, &c., should be ad-ssed to "The Publisher of the Builder," No. 1, rk-street, Covent Garden. All other Commu-ications should be addressed to the "Editor," and to the "Publisher."*

dvertisements cannot be received for the current k's issue later than FIVE o'clock, p.m., *on ursday.*

ADVERTISEMENTS.

ROYAL AGRICULTURAL SHOW, BATTERSEA PARK.—TWO THOUSAND IRON CATTLE RDLES, and the BUILDING MATERIALS, will be SOLD by CTION, by Mr. N BALL, on MONDAY, JULY 7th, TUESDAY, Y 22nd, and on THURSDAY, JULY 24th.—Catalogues at the ye-yard; of Mr. BALL, Auctioneer, Wandsworth; and of Mr. NNING, 281, High Holborn.

valuable BUILDING MATERIALS of the CARLTON RIDE and STABLES, St. James's Park.

ESSRS. GLASIER & SON are favoured with instructions from the Honourable Charles Gore, the Com-missioner of her Majesty's Woods in charge of the Land Revenues in land, to SELL by AUCTION, on the PREMISES as above, on ONESDAY, JULY 9th. and following day, at TWELVE for ONE, ots, the valuable BUILDING MATERIALS and FITTINGS of the ELTON RIDE and STABLES, comprising upwards of 1,000,000 tal stock bricks; several thousand feet of capital York and Port-d stone in paving, steps, string course, cills, &c.; capital Portland ne entrances, with fluted columns and entablature; 20 squares of ing, slating boards, rafters; 20 pair strong framed principals, feet span; 500 squars of flooring boards and joists; fittings of ning for sixty horses; large quantity of stone columns; 100,000 ch clinkers; 300 tons of granite pitching; York paving, coach-house s, stables, doors, and frames; wainscotting, large iron tank, stoves, ges, coppers, slate cisterns, iron railings, &c.; about ten tons of l, fittings, and fittings.—May be viewed the day prior and morning ale; and catalogues had of JAMES FENNETHORNE, Esq. White-ll-yard; at the Office of Woods, 1, Whitehall-place; on the Pre-es; and of the Auctioneers, No. 41, Charing-cross, S.W.

STOCKWELL, SURREY, contiguous to the Clapham-road.

MR. BRAY, Jun. will SELL, at the MART, on TUESDAY, the 8th of JULY, at TWELVE o'clock, in 15 lots, a last portion of a valuable ESTATE, eligible for building purposes, ediately to the Swan Tavern, Clapham road, and presenting sites the erection of detached or semi-detached villas, with ample depths ted for garden ground. The roads and sewers have been made, d the water mains laid.—Particulars and conditions of sale, with a n of the Estate, may be had of Messrs. ANDREW ATKINS & WINE, Solicitors, No. 5, White Hart court, Lombard-street; at the an, Stockwell; at the Castle, Tooting; the White Lion, Streatham; the Mart; and at the Offices of the Auctioneer, 16A, King's-road, dford-row, W.C.

Suffolk.—Somerleyton-hall, and part of the Somerleyton Estate, situate midway between Lowestoft and Yarmouth.

MESSRS. DANIEL SMITH, SON, and OAKLEY are instructed to SELL by AUCTION at the UCTION MART, on TUESDAY, AUGUST 5, at TWELVE, in one t, this beautiful RESIDENNIAL PROPERTY, with its fine estate, prising the first class mansion, with its elegant winter-garden, d many other luxurious adjuncts, surrounded by a finely-timbered rk and domain of about 2,850 acres, comprising numerous con-uient farms of arable, meadow, and marsh land, with excellent omesteads, interspersed with ornamental plantations and the game serves, the extensive and valuable decoy, with the Ashby and ition water, fringed by fir and other plantations. The estate is uated about five miles from Lowestoft, and seven from Great Yar-outh, with easy communication with the metropolis by the East folk Rail way. The mansion, park lands, decoy, &c. and about 3 acres of arable and pasture are in hand. The farms are let at low ntals, and the total rental is about 3,350l. per annum. This pro-erty presents an opportunity of acquiring a first-class mansion, with very compact domain around it, combining one of the very finest me estates, with a sound landed investment. The estate is abun-ntly stocked with game, and if desired, the purchaser may have the ooting from the 1st of September. The advowson of and next ssentation to the rectory of Somerleyton may be purchased if de-ed. N.B. The winter garden, and any of the vineries or forcing-uses not required by the purchaser, will be removed by the vendor. articulars, with plans (2s. each), may be had of Messrs. SWIFT, AGSTAFF, & BLENKINSOP, 32, Great George-street, Westminster; ed of Messrs. DANIEL SMITH, SON, & OAKLEY, 10, Waterloo-ace, Pall-mall, S.W.

TO STONE-CARVERS.—Any one acquainted with the present ADDRESS of WILLIAM ICHARDS, late of Hudson's terrace, Earl street, will confer an bligation by forwarding it to Mr. R. C. BAKER, Park-street, Cam-rwell, S.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

APPRENTICE WANTED, to Herald Painting and Writing. Out-door preferred. Premium mode-te.—Apply to J. W. BOSWORTH, No. 21, Upper Marylebone-street, ortland-place, W.

TO SIGN AND GLASS WRITERS.

A PRACTICAL MAN wanted for a permanency.—Apply in the evening at 27, Bridge House-place, ewington-causeway.

FOREMAN.—WANTED, a thoroughly experienced CARPENTER, to take the entire Charge of a Job. ddress, stating particulars, where last employed, salary required, &c. A. B. 32, South Molton-street, Oxford-street, W.

MANAGER of BRICK and TILE-YARD. WANTED, by a respectable middle-aged Man, a SITUATION above, either at per annum or by contract In the manufacture, plain and ornamental, in all its branches, including Pottery and Machinery Thoroughly understands burning, and is a good ok-keeper Most satisfactory testimonials from previous employers. ddress, W. A. 20, Grove-street, Camden-town.

TO ARCHITECTS' ASSISTANTS.

WANTED, an experienced ASSISTANT in an Architect's Office, in the Provinces; the situation may considered a permanent one. Also, a CLERK of the WORKS, one ving experience in ecclesiastical masonry preferred.—Address to D. office of "The Builder."

WANTED, an energetic Working FOREMAN of JOINERS, in Leeds. A Staircase Hand, and one ing a similar situation, preferred. There are twelve joiners kept.—ddress, stating terms, references, &c. to D. 52, Mercury Office, Leeds.

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, a First-class experienced ASSISTANT, clever at design and detail, thoroughly understanding construction, competent to prepare specifi-cations and perform all the usual duties. The engagement would probably be permanent. If will save trouble if none will apply who cannot fully meet the above requirements Address, stating qualifi-cations, age, salary, references, former engagements, and any other particulars, to ARCHITECT, care of Mr. W. S. Shove, Spencer-place, Blackheath, S.E.

WANTED, in town or country, constant EMPLOY as PLUMBER Can do painting and glazing.—Address, A. B. care of Mrs. Moir, 10 Society, Brown's-square, Edin-burgh, Scotland.

TO LONDON SMITHS' FOREMEN.

WANTED, in a small General Factory, a FOREMAN. He must thoroughly understand every descrip-tion of kitchen work, hot water, steam, and the general routine of a smith's shop.—Apply, by letter only, to B. A. care of Messrs. Kenard's, 67, Upper Thames-street.

TO BUILDERS' AND SURVEYORS' CLERKS.

WANTED, in a Surveyor's Office in Dublin, an ASSISTANT, thoroughly up in squaring, abstracting, and billing quantities quickly and accurately —Apply, stating terms, age, and last employment, to A. B. 32, Seville-place, Dublin.

WANTED, in a Borough Surveyor's Office, an ASSISTANT, competent to surveying, levelling, and at general draughtsman. Must have had some experience in sewerage and other public works.—State terms required, and other particulars, addressed to F. M. Office of "The Builder."

TO BUILDERS' CLERKS.

WANTED, in an Office in the Country, a JUNIOR CLERK, to square dimensions, copy and trace drawings, &c. He must write a good hand and have some knowledge of drawing —Letters, prepaid, with references, stating age, salary required, and where last employed, to be addressed to E. P. Office of "The Builder"

TO IRONMONGERS

WANTED, in an old established Furnish-ing and General IRONMONGER'S BUSINESS, in a leading manufacturing town in the north of Yorkshire, a JUNIOR PARTNER. Capital required, from 2,000l to 3,000l.—For particulars apply to Messrs. BARBER & GROOM, Union-court, Holborn-hill, London, E.C.

TO ARCHITECTURAL ASSISTANTS.

WANTED, in the country, a first-class ASSISTANT, capable of getting up perspective, detail, and other drawings, and writing specifications.—Address, stating age, salary, where drawings may be seen, and other particulars, to O. O. Office of "The Builder," York-street, Covent Garden

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.

WANTED, a SITUATION as CLERK of WORKS, or GENERAL FOREMAN, by a Person of large practical experience. Can produce satisfactory testimonials as to ability and character.—Address, C. B. Office of "The Builder."

TO DECORATORS, BUILDERS, &c.

WANTED, a SITUATION as FOREMAN of PAINTERS, or to take the entire Management of a Business. The Advertiser is also a grainer, sign and glass writer. All letters to state wages, &c.—Address, E. M Sir C. Mordaunt's, Walton-hall, near Warwick

WANTED, by a young man, aged 21, a SITUATION as GRAINER and PAINTER; in town or country. Wages not so much an object as constant employment. Address, F. H. T. P. 7, Carburton-street, Pitcroy-square, Marylebone.

TO BUILDERS, &c.

WANTED, a RE-ENGAGEMENT as GENERAL or SHOP FOREMAN. The advertiser is a joiner by trade, and has had great experience in every branch of the build-ing trade. No objection to the country.—Address, J. P. 17, Devon-shire-street, Bishopsgate-street, City.

WANTED, by a steady Young Man, a SITUATION as LINER and GENERAL DECORATOR. Can use the pencil well; also work at mat and burnish gilding; and is willing to make himself generally useful. Wages, 33s.—Address, W. S. 15, Clarence-place, Hackney-road, London.

TO MASTER PLUMBERS, BUILDERS, AND OTHERS.

WANTED, by a respectable Young Man, a CONSTANT SITUATION as PLUMBER, who does not mind filling up his time in painting and glazing Good references if required. Town or country. Country masters to state terms.—Address, F. F. 68, Napier-street, Hoxton, N

WANTED, by an experienced CAR-PENTER and JOINER and his Sons, PREPARING and FIXING PIECE-WORK, or would not object to work out a small CARCASE, on mutual terms. In town or country. — Address, W. F. S. 9 A, Balmes-road, Southgate-road, N.

TO BUILDERS, &c.

WANTED, EMPLOYMENT, as IRON-PIPE WORKER, GASFITTER, WARMING and VENTILA-TION, or JOBBING HAND to Ironmongers. The advertiser can have six years' character.—Address J. M. No. 4, Old Fish-street-hill, Doctors' Commons, London.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, a SITUA-TION as CLERK or ASSISTANT to the above. Under-stands drawing, estimating, and book-keeping. No objection to fill up time at the bench.—Address, A. B. 25, Victoria-terrace, Portland-town, N.W.

TO PLUMBERS AND BUILDERS.

WANTED, by a First-class PLUMBER, or Three-branch Hand, EMPLOYMENT.—Address, W. LLOYD, No. 3, Charlotte-place, Old Church-street, Paddington-green.

TO ARCHITECTS.

WANTED, by a thoroughly practical Man, a SITUATION as CLERK of WORKS.—Address, A. B. 50, Acton-street, Gray's-inn-road, W.C.

WANTED, by a Young Man, a SITUA-TION as CARPENTER and JOINER, to look after repairs in a Warehouse. — Address, stating wages, to T. WATSON, 13, St. Leonard's-road, East-India-road, Poplar, E.

WANTED, by a Gentleman, who has been ten years with a surveyor, and some time in a building firm, an ENGAGEMENT as MANAGING CLERK to a Surveyor in mode-rate practice.—Address, W. C. 8, Cornwall-place, Holloway, N.

TO CARPENTERS AND BUILDERS.

WANTED, by a Young Man, aged 23, constant EMPLOYMENT to WORK at the BENCH, or to do Fixing.—Address, E. N. 32, Kensington-place, Notting hill, London.

WANTED, a SITUATION as CLERK of WORKS, or Foreman to an Architect or Builder, or on an Estate, by a thoroughly competent person Is well up in construction, a good draughtsman, accountant, and correct at quantities. Refer-ences first-class. Country preferred.—Address, C. W. 60, St. John's Wood-terrace, Regent's-park.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, aged 22, a RE-ENGAGEMENT in either of the above offices. Under-stands book keeping, and has a good knowledge of drawing. Satisfac-tory references as to character and capabilities from last employers, with whom he was engaged for the last four years.—Address, W. L. S. care of Mr. Barnes, 38, Long-acre.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION, by a first-class Plumber, Gasfitter, and Glazier. Has no objection to make himself generally useful.—Address, H. B. 4, North Cottages, Green-street, Marlborough-road, Chelsea.

TO CONTRACTORS, HOUSE AGENTS, &c.

WANTED, by a steady Young Man, a SITUATION as TIME-KEEPER, Collector on an Estate, or to Take Charge of Repairs. Is a carpenter and joiner, a good trades-man. Could fill up his time at the bench or otherwise. No objection to the country.—Address, W. W. 3, Willow-place, Ball's Pond-road, Kingsland, N.

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, a RE-EN-GAGEMENT as CLERK, or to Take Charge of Work. Is well acquainted with measuring, book-keeping, &c. Good references can be given. Age 27. Salary, 32s. per week.—Address, G. H. No. 42, Broad-street, Golden-square, W.

TO BUILDERS, CONTRACTORS, &c.

WANTED, by the Advertiser, a thoroughly practical Man, a SITTATION as FOREMAN or MANAGER of WORKS. Has had twenty years' experience in all kinds of build-ings and earth-work Can level and survey. Good references from London and provincial employers.—Address, F. R. B. No. 10, Sussex-terrace, Bridge road, Hammersmith, W.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a respectable Young Man, aged 20, a RE-ENGAGEMENT as CLERK and TIMEKEEPER, or in any capacity where trust and confidence are required. Satisfac-tory references can be given.—Address, W. GODFREY, Brunswick-cottage, Lower Tottenham, N

TO BUILDERS AND CONTRATORS

WANTED, a RE-ENGAGEMENT as BUILDER'S CLERK, by a Young Man of thorough business habits. Is a thorough book-keeper. First class references from last employer.—Address, A. B. C. 48, Milton-street, Dorset-square, N.W.

TO BUILDERS AND OTHERS.

WANTED, by a Carpenter and Joiner, a RE-ENGAGEMENT as SHOP FOREMAN, or to take charge of a Job or General Works. Good reference from two last employers. Age, 39.—Address, J. B. 71, St. John-street, Clerkenwell, London, E.C.

TO BUILDERS, PLUMBERS, &c.

WANTED, EMPLOYMENT as first-class PLUMBER. Would fill up his time at Glazing and Painting. Address, PLUMBER, Wigmore Coffee house, 20, Wigmore-street, Cavendish square

WANTED, by Two experienced Men, CARPENTER'S or JOINER'S WORK, by the Piece.—Address, J. I. 7, Rodney-place, Thornhill-street, Caledonian-road.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, &c.

WANTED, by the Advertiser, who is a neat and expeditious DRAUGHTSMAN, accustomed to copying, tracing, &c., also a good penman, willing to render his services useful, an ENGAGEMENT, likely to be permanent, in an Office of either of the above.—Address, F. B. 41, Stanford-road, Fulham-road, S.W.

WANTED, by an energetic, Practical Man, a RE-ENGAGEMENT as SHOP FOREMAN of JOINERS, or the charge of works. Thoroughly understands the building trade in its various branches. Could assist in the office, if required. Good references and testimonials.—Address, R. 3, George's Cottages, Holloway, N.

WANTED, by a JOINER, a PERMA-NENT SITUATION. Has no objection to town or country.—Address, stating wages, to S. M. Post office, Faversham, Kent.

TO ARCHITECTS.

WANTED, by an experienced ASSIST-ANT, a RE-ENGAGEMENT He is fully competent to pre-pare fair working and detail drawings; get out perspective, and take off quantities. Good references to architects with whom he has been engaged.—Address, Q. R. S. Office of "The Builder."

TO BUILDERS, TIMBER MERCHANTS, AND OTHERS.

WANTED, by the Advertiser, a SITUA-TION as CLERK in a Builder's Office or in a Timber-yard. Has had some years' experience in the building trade Good refer-ences can be given.—Address, T. B. W. 6, George-street, Torquay, Devon.

WANTED, by a Respectable Young Man, a SITUATION as IMPROVER in a Joiner's Shop. Has served an apprenticeship as Joiner and Cabinet-Maker.—Address, Ald. 4, St. Peter's-street, Islington, N

TO ARCHITECTS, &c.

THE Advertiser is open to an ENGAGE-MENT as CLERK of WORKS, or Assistant in an Office. Is a good practical and perspective draughtsman, and is well up in details, designs, taking out quantities, estimating, &c. (Could take the management of an office, if required.) Fifteen years' first-class testi-monials. References to London architects.—Address, G. W. B. Ken-nett's Library, York-street, Covent-garden.

TO BUILDERS, HOUSE AGENTS, &c.

THE Advertiser, a PAINTER and GRAINER, wishes to TAKE WORK from the above by con tract or otherwise.—Address, by letter, to E. D. 5, Gower-place Euston road

TO CABINET-MAKERS AND UPHOLSTERERS.

THE Advertiser, aged 33, wishes for a PLACE as a JOBBING HAND and GENERAL FIXER in every branch of the business.—Address, W. P. 19, St. John's Wood-terrace, London, N.W. Good references can be given.

TO ARCHITECTS.

THE Advertiser, who has had five years' experience, is desirous of an ENGAGEMENT in London.—Address, W. T. 31, Bywater-street, Chelsea.

IMPORTANT TO PLASTER MANUFACTUERERS, &c.

SITUATION WANTED, by a man of considerable experience in the manufacture of all kinds of plaster, Terra-alba, &c. The advertiser can also dress stones, and is competent to take the management of a large concern. 8½ years' good character.—Address, W. F. 40, Cobden-street, Leicester.

TO ARCHITECTS.

SEA COAST.—A Gentleman of considerable experience in the practice of the profession wishes to SUPER-INTEND the ERECTION of WORKS on the Sea Coast. As chance of war is the principal object, a very moderate remuneration would be accepted.—Address, T. P. Office of "The Builder."

OCCASIONAL ASSISTANCE.—An expe-rienced Architect's Assistant is OPEN to give OCCASIONAL ASSISTANCE on moderate terms. Good references can be given.—Address, G. G. care of Mr. Houghton, Stationer, 30, Poultry, E.C.

TO ARCHITECTS, SURVEYORS, AND OTHERS.

EVENING EMPLOYMENT WANTED to prepare competition, perspective, working, or detail drawings, &c. either at my own rooms or otherwise.—Address, T. A HOVENDEN, 2, Southampton street, Strand, W.C.

TO CARPENTERS AND BUILDERS.

EMPLOYMENT WANTED by an Experienced Young Man, aged 24 at the BENCH.—Wages, 27s. per week Address, D. Y 73, Judd street, Brunswick square.

CLERK of WORKS.—A thorough business Man, aged 31. Sober, steady, and of strict integrity; good draughtsman, measurer, and accountant; practically acquainted with every description of artificer's work, and fully qualified to superintend the most extensive or complicated works Reference, an eminent London architect.—Address, H. G. Post-office, Oakley-terrace, Old Kent road, S.E.

TO ARCHITECTS AND ENGINEERS

AN experienced ASSISTANT desires an ENGAGEMENT. A good and expeditious draughtsman, and thoroughly conversant with quantities, surveys, and construction. Unexceptionable references.—Address, A. L. 41, Watling-street, E.C.

TO SANITARY ENGINEERS

AN ENGINEER of experience in Railways, Docks, Machinery, &c. wishes to obtain an APPOINTMENT as Assistant Engineer.—Apply, by letter, to R. R. care of Mr. Whitfield, 178, Strand, London.

TO CARPENTERS AND BUILDERS.

A HANDY Young Man, just out of his time, wishes for EMPLOYMENT in the CARPENTERING and JOINING. Can do jobbing. Town preferred. Wages, 24s. perweek. Address, J. E 2, Mellina-buildings, Westminster-road.

TO ARCHITECTS AND SURVEYORS

AN experienced ASSISTANT desires an ENGAGEMENT An expeditious draughtsman, accustomed to prepare sketches, working, and detailed drawings, &c.; thoroughly understands construction and quantities; competent to manage a business.—Address, B. S. 4, Hamilton-terrace, Highbury, N.

TO GENTLEMEN, ARCHITECTS, AND OTHERS.

A SITUATION WANTED by the Advertiser, who is an experienced person, to undertake the General REPAIRS in PLUMBING, PAINTING, and GLAZING on a Gentleman's Estate. Respectable references given.—Address, W. H. D. care of Messrs. Page & Teagood, Nurserymen and Seed Factors, Above Barr street, Southampton.

A CLERK of WORKS, thoroughly efficient, having just completed a stone mansion in the country under a London architect, is OPEN to a RE-ENGAGEMENT. A good draughtsman, measurer, and accountant; and practically conversant with all the building trades. References first class.—Address, ALPHA, Post office, High street, Peckham, S.E.

A GOOD DRAUGHTSMAN is open to an ENGAGEMENT. Can make working details, and perspective drawings, &c. Distempering colouring Terms moderate.—Address, B.D. C. Deacon's, Leadenhall-street, E.C.

TO CARPENTERS AND BUILDERS.

A YOUNG MAN, aged 21, wishes for an ENGAGEMENT, as IMPROVER. Wages not so particular as improvement.—Address, B. N. 23, Edward-street, Dorset-square, N.W.

TO ARCHITECTS, &c.

A YOUTH, aged 19, who has some knowledge of drawing, would be happy to meet with an ENGAGEMENT. Salary not so much an object as further improvement.—Address, J. B. 9, Ampthill square, Regent's park, N.W.

TO ARCHITECTS AND BUILDERS

AN Estimator of experience and standing, having a PORTION of his TIME DISENGAGED, is willing to undertake estimates and quantities at moderate charges—Address, Y. Z. care of Mr W Brock, 35, Nicholas-lane, E.C.

A QUALIFIED Architect's Assistant requires an ENGAGEMENT. Twelve years in the profession. Age 27. First-rate testimonials. Can take the entire management of an office or pupils, as well as of any kind of building operations. London preferred. Salary, two guineas.—Address, Mr. TAYLER, 25, Tachbrook-street, S W

TO ARCHITECTS AND SURVEYORS

A GOOD and expeditious DRAUGHTSMAN, in his 28th year, requires a RE-ENGAGEMENT, either temporary or permanent. Good references. Salary low.—Address, W. S. care of Mrs. Downes, 15, Essex street, St Peter's, Islington

TO LAND SURVEYORS AND CIVIL ENGINEERS.

AN ASSISTANT, provided with all field and office instruments, desires a RE-ENGAGEMENT, either at home or abroad. Is experienced in parcels, estate, and railway surveying, levelling, and setting out.— Address, SURVEYOR, 29, Acton-street, Gray's-inn-road, London, W C

TO ARCHITECTS, BUILDERS, &c.

AN experienced Surveyor is open to an ENGAGEMENT for the preparation of quantities and estimates, measurement of works, settlement of accounts in litigation, &c. by arrangement.—Address, UTILITAS, 134, Leadenhall-street, E.C.

TO CIVIL ENGINEERS.

A YOUNG ENGINEER who has served his term of four years with a Civil Engineer and Surveyor, wishes to IMPROVE himself in a thoroughly good Engineer's Office. Address, A. B. C. Post-office, Weston-super-Mare.

TO BUILDERS AND PAINTERS.

A GOOD Grainer is in want of a PERMANENT SITUATION, in town or country; is a good general hand in painting, writing, gilding, marbling, &c. Wages, 35s. per week, town or country.—Address, L. M. 43, Aldenham street, Euston square, London.

HANDRAILS AND STAIRS

A THOROUGHLY competent Staircase Hand is in want of an ENGAGEMENT in the above branch.—Address, E. E. T. 13, Claremont-terrace, Prince of Wales-road, Kentish-town, London, N.W.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive Manufacturing Premises, known as TREDEGAR WORKS, Bow Machine Shop, 61 feet by 54 feet; two ranges of workshops, 74 feet by 25 feet; steam-engine, boilers, forge, sheds, stabling, counting-houses, and all other conveniences suitable for a large factory.—For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

TO ENGINEERS, FOUNDERS, and IRONMONGERS.—TO BE LET, on very desirable terms, extensive MANUFACTURING and ENGINEERING PREMISES, with capacious Warerooms, well lighted, and Cellarage underneath the whole, situated in a principal street in the centre of London. The Premises are freehold, excepting a small part, which is leasehold. The business has been carried on most successfully for many years, and the plant and stock have just been valued The present Manager, with a staff of workmen, is willing to continue under a new employer. Every information can be obtained on applying, in the first instance by letter, with the real name and address, to THOMAS SMITH, Valuer to the Hardware Trade, 14 and 15, St. Swithin's lane, London, E.C.

BUILDING LAND, Guildford, Surrey.—TO BE SOLD, by Private Contract, a few PLOTS of BUILDING LAND, commanding views of some of the most beautiful scenery in Surrey, and very eligibly situate for the erection of first-class residences. The land is within ten minutes' walk of the South-Western and South Eastern Railway Stations, from which trains run to London, Portsmouth, Reading, and Redhill, the trains reaching London within the hour. The land is on a slope, with a southern aspect, and by its situation is protected from the north and east winds. The subsoil is chalk.—For further particulars apply to Mr. E. C. DUNCOMBE, Surveyor, Guildford.

DRAIN-PIPE WORKS and BRICKFIELD TO BE LET, with access to the rail and river A very large country demand for drainage goods especially, and great facilities for obtaining firing at a low rate.—Apply to MEESON & CO. 8, George-yard, Lombard-street, E.C

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the property is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let for the erection of private residences only) in plots of from one to two acres. For terms, apply to Messrs. BLAKE, Croydon.

EXTENSIVE MANUFACTURING PREMISES, WHITECHAPEL.—TO BE LET or SOLD, together or separately, the extensive and important range of PREMISES recently occupied as a FIRE ENGINE MANUFACTORY, with and adjoining, if required. The Buildings, many of which are of great extent, are most substantially erected, principally in 1845, and are very conveniently arranged for almost any manufacturing purpose There are three distinct gateway entrances, and the Buildings on all sides are surrounded with paved yards The total area is about three acres, exclusive of six acres of accommodation land, which may be had if required There is an Artesian well, which affords a constant and unlimited supply of pure water.—Further particulars and cards to view may be had of Messrs TENNANT & DARLEY, Solicitors, Raymond's-buildings, Gray's-Inn; and of Messrs. FULLER & HORSEY, Billiter-street, E.C. where plans of the property may be seen.

ALDEBURGH, Suffolk.—TO BE SOLD, in plots, or let on building leases, an eligible FREEHOLD ESTATE, suitable for marine residences, close to the railway station, with an uninterrupted sea view. Brick earth, gravelly soil, and springs of the purest water in the estate. For plans and particulars, apply to Mr RICHARD LEE MAYHEW, Solicitor, Saxmundham, Suffolk; or of Mr. GEORGE ELKINGTON, Architect and Surveyor, 19, Cannon street West, London.

CHEAPSIDE.—VALUABLE BUILDING SITE.—Notice is hereby given, that the time for receiving TENDERS has been EXTENDED to AUGUST 27 Plans, particulars, and conditions of Tender may be seen, on application to the Clerk, Saddlers' Hall, E.C.; or to Mr F. W. PORTER, Architect, 16, Russell-square, W.C. between TEN and FOUR

UPPER THAMES-STREET.—St. Bartholomew's Hospital.—To BUILDERS and OTHERS.—TO BE LET, on a building lease, for 79 years, from Michaelmas, 1862, the whole of a FREEHOLD ESTATE belonging to this Hospital, comprising the premises Nos 148, 149, 150, and 151, Upper Thames-street, with a frontage of 36 feet towards Thames-street, and 79 feet towards Suffolk-lane.—For further particulars apply at Mr HARDWICK'S Offices, No. 1, Henrietta-street, Cavendish-square. Tenders are to be sealed up and delivered at the Clerk's Office, within the Hospital, on TUESDAY, the 8th day of JULY, at a quarter before ELEVEN precisely. WILLIAM WILBY, Clerk.

St. Bartholomew's Hospital, June, 1862

MANUFACTURING WATER-SIDE PREMISES, on the Thames.—TO BE SOLD or LET on LEASE, the extensive PREMISES late in occupation of the Distillery at Brentford, comprising a site of about 4 acres, having a considerable frontage next the Thames; a plentiful supply of pure spring water, and well placed for land or water carriage, being but a short remove from the Brentford Dock and immediately contiguous to three lines of railway There are some very spacious and substantial buildings, and a good dwelling-house with large garden; the whole presenting advantages for any large manufacturing establishment For further particulars apply to ST. P. B HOOK, Esq. Solicitor, 9, Lincoln's-inn-fields, W.C.; or to Messrs. FULLER & HORSEY, 13, Billiter street London, E.C.

TO CAPITALISTS and BUILDERS.—TO BE LET, in perpetuity, in large or small plots, and at low rates, the BELMONT, SYDENHAM, and GLEN-MAVAN ESTATE, IRELAND The estate is of more than 700 acres in extent, and is situate within two miles of Belfast, on the borders of Belfast Lough The main roads are made; there is a stone quarry and large quantities of brick-earth on the estate Bricks, stone, and lime may be had at low prices. A church and a large number of first-class villas have already been erected and have let readily. Close to the estate there are two stations on the Holywood branch of the County Down Railway, which runs along the western boundary of the estate. The vicinity of the estate to Belfast, the picturesque views of the adjacent sea and of the surrounding country, with many natural advantages, render this estate particularly suitable for the erection of first-class villas, for which there is a large demand. Plans may be seen and particulars obtained of Messrs. HOVENDEN & HEATH, Surveyors, 3, Broad-street-buildings, London, E.C.; and of THOMAS MACLURE, Esq. Belmont, Belfast, Ireland.

FREEHOLD BUILDING LAND FOR SALE, near Park Station, on the Eastern Counties Line Gravelly soil; roads and drains made. Extent, 7¼ acres.—Particulars, by letter, addressed to C. R. Charles Barker & Sons, 8, Birchin-lane, City

FREEHOLD SITES for BUILDING and FREEHOLD HOUSES can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

WANDSWORTH ROAD, near Nine Elms. BUILDING LAND TO BE LET, on Leases, at low ground rents, with advances, if required.—Apply to Mr. TAYLOR, 5, The Lawn, South Lambeth.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29 30, and 31, Warwick-street, W.
EDWARDS, BROTHERS, & BURKE, PROPRIETORS.
The largest and most superior Stock of Chimney pieces in Europe on view at the above named Establishment
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

MARBLE CHIMNEY-PIECES of every Description, also enamelled Slate, to be SOLD at 200, MARYLEBONE ROAD (opposite the Yorkshire Stingo).
BATH STONE BOX CHIMNEY PIECE, with MOULDED CAP and BASE, 7s. FITTED TO ANY OPENING.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 87, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Roofing Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD Invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice. Country orders promptly attended to.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect colite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E. Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE SILICEOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster or Patent Stone Works, Ipswich.

VALE of WARDOUR FREE STONE, TISBURY QUARRIES, WILTSHIRE.—Geologically this stone is identical with the Portland Oolite; the beds vary in texture, the upper being a stiff couch, of which large blocks are readily obtained, and is suitable for heavy works, such as bed stones for engines, girders, machinery, &c or for waterworks. The under beds produce a stone of fine texture, which is well adapted for carving, mouldings, tracery, balusters, plinths, cornices, copings, sills, ashlar, and for building purposes generally, also for tombs, gravestones, chimney-pieces, steps, paving, hearth slate, mantels, &c Numerous buildings of considerable antiquity attest the durability and texture of the stone of this district Amongst these may be cited Salisbury Cathedral, Tisbury Church, the Poultry Cross at Salisbury, Wilton Abbey, &c, erected from Chilmark and other quarries immediately adjacent to these oolite. Specimens of the stone may be seen at Messrs. POOLE & SON, Marble and Stone Works, Great Smith-street, Westminster, S.W. and in the Museum of Practical Geology, Jermyn-street, Nos. 311 and 312, Case V, London; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Tisbury Quarries. Orders for worked stone carefully executed at the Quarries.—Samples forwarded, and any other information may be obtained of Mr. T. P. LILLY, Gillingham, Dorset.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, sold at the lowest possible prices
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

RED MANSFIELD STONE. WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries—Earl-street, Horseferry-road, Westminster.—The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney-piece in the world.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE SOLD by PRIVATE CONTRACT, about 35 Tons of first quality Rangor, Queen's, and Princess's SLATES, assorted sizes.—Apply to CHARLES A. LEWIN, Timber Merchant, Poole, Dorset.

BENJAMIN EDGINTON, 2, DUKE-STREET, FOOT of LONDON-BRIDGE, S.E.
Manufacturer of Tarpaulins, and Improved Dressed Cloths.
Tarpaulins Let on Hire, Scaffold-cord, Rope, and Blocks of every description. Marquees, Tents, Awnings, Rick-cloths, Sacks, &c.
N.B. The ONLY ESTABLISHMENT is at 2, DUKE STREET, LONDON-BRIDGE, S.E.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses. BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.



REDUCTION IN PRICE

OF

CLARK'S

NEW PATENT REVOLVING SHUTTERS,

FOR

SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1750)

GREAT EXHIBITION, LONDON, 1851.

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

EXPOSITION UNIVERSELLE, PARIS, 1855.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

FOR SALE, a pair of 2½-inch handsome French-polished Spanish Mahogany SASH-DOORS, quite new, with lifting-shutters, 8 feet by 3 feet 6 inches, TO BE SOLD, a bargain, in consequence of alteration of plan.—Apply at 5, King William-street, Strand.

TO BUILDERS.—VILLAS to be erected on a first-class Estate in the country, with liberal advances as the work proceeds.—For particulars apply at the Offices of Messrs. LMSLIE, FRANEY, & HADDON, Architects, 43, Parliament-street, ondon.

THE Builder of several Leasehold Houses is desirous TO SELL his INTEREST in them. They are well let, ew, and about ninety years yet to run. To pay 10l. per cent. Cash equired 7 0l. To parties wanting good investment, with good security, this is worth their notice.—For further particulars, apply to BISCHLEY, Kingston-on-Thames, Surrey.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

FARM-HOUSES, FARM-BUILDINGS, and LABOURERS' COTTAGES DESIGNED with due regard to economy and efficiency. Drainage and all works of improvement planned or executed. Loans obtained for these purposes.—Address, Mr. C. STUART BARKER, Farm Architect and Drainage Engineer, 12, Buckingham street, Adelphi, London, W.C.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TO ARCHITECTS and SURVEYORS.—Best DRAWING PAPERS, mounted on Cloth, in webs of 12 yards, 27 inches wide, at 1s. 4d. per yard; 40 inches wide, at 2s. per yard; 52 inches wide, at 3s. per yard. TRACING PAPER, of all sizes, on reasonable terms. Also, a new MAP of the BRITISH ISLES, size 5 feet 8 inches by 5 feet, mounted on rollers and varnished, 1l. 10s. at J. COOPER'S, Map Mounter, 36, Fetter-lane, Holborn.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1¾	2	2½
„ 2ft. 6in. sup.	1½	1¾	2¼	3
„ 4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 } per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13 }	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14 }	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15 }	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s. } per cwt.
Anti-corrosian Paint 28s. to 34s. }
Linseed Oil Putty .....7s. 6d. }
Patent Dryers .....28s. to 42s. }

Fine Oak Varnish ...10s. } per gallon.
„ Carriage ...12s. }
Linseed and Boiled Oil }
Turpentine ..... }

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

PEARCE'S PATENT SANITARY PIPE, BRICK, AND TILE MACHINES,

Producing nearly double the quantity and of very superior quality to any machine yet invented. The improvement consists in the introduction of a central stem to support the core of the die, and obviating the necessity of cross-bars or bridges, hitherto found so detrimental in the manufacture of large sanitary pipes. The upper part of the Machine acts as a Pug-Mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die. The larger Machines will make sanitary pipes, from 3 inches to 24 inches. The smaller, from 2 inches to 12 inches.—Particulars on application to the

IRON WORKS, POOLE, DORSET.

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF

PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,

LONDON, **SEYSSEL ASPHALTE,** PARIS,

AND BY H.M.'S ROYAL LETTERS PATENT,

MANUFACTURERS OF

1851. **METALLIC LAVA.** 1855.

FOR PRICE AND PARTICULARS APPLY AT THE

OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

ACCIDENTS ARE UNAVOIDABLE.

Every one should therefore provide against them.

THE RAILWAY PASSENGERS' ASSURANCE COMPANY

Grant Policies for Sums from 100*l.* to 1,000*l.* assuring against ACCIDENTS OF ALL KINDS.

An Annual Payment of 3*l.* secures 1,000*l.* in case of DEATH by ACCIDENT, or a Weekly Allowance of 6*l.* to the Assured while laid up by injury.

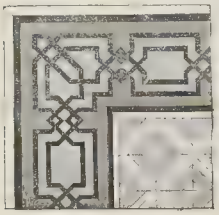
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.

102,817 have been paid by the Company as COMPENSATION for 56 Fatal Cases, and 5,041 Cases of Personal Injury.

The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.

Empowered by Special Act of Parliament, 1849.

64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.



SOLID PARQUET FLOORS,

ARROWSMITH'S PATENTED,

From 1s. per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture-Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 80, New Bond-street, W.

A new and most important invention, which has been for some months before the public, designated

HAY'S PATENT WATERPROOF GLUE

and VARNISH, originally designed for the decks of ships. Is proved by various tests to be adapted to building purposes, and as such is commended to the attention of architects, builders, &c. From the pointed and satisfactory character of the following testimonial it will be seen that for all cases of damp or wet, this composition promises to be extremely useful :—

Testimonial of H. Hollingsworth, Esq. proprietor of the King's Rooms, Southsea, near Portsmouth, Hants.

"I have much pleasure in adding my testimony to the efficacy of the Patent Waterproof Glue, as a remedy for damp walls. One portion of my buildings was always damp; it stands close to the sea, is bu lt over a bank; and, by the negligence of the builder, the mortar used in its construction was mixed with sea water of course the walls were perpetually steaming; every remedy was tried in vain, till we had recourse to the Patent Glue, which, I am happy to say, proved a complete success. In 48 hours after its application we were enabled to paper the walls, and, during the whole of the past humid spring, not a spot of damp has made its appearance.

"To Mr. G. Weeks, Manager of the Patent Glue Factory, Portsmouth, Hants."

VENTILATION—PURE AIR.



Sharingham's Ventilator for admission of Pure Air through an EXTERNAL WALL.

With single pulley, from 6s. each, with loading pulley, from 8s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY,

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS,

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour. PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Rule Facing BUILDING and SEWER BRICKS. Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent,
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

PATENT PORTLAND and ROMAN CEMENT,
AND PLASTER OF PARIS WORKS,
FRINDSBURY, on the MEDWAY, KENT, and
CANAL ROAD, KINGSLAND ROAD, N.
MESSRS. FREEN & CO.
Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER of PARIS, in any quantity, fresh from the kilns.
Orders addressed to their LONDON WORKS, Canal-road, Kings- and N. will meet with prompt attention.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRARD-STREET, PADDINGTON.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent,
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

C. N. THWAITE, ARCHITECTURAL MODELLER in CARDBOARD
18, Commercial Chambers, Ridings-court, St. Mary's-gate, Manchester.
See Models in International Exhibition. Produced at a very reasonable cost. Estimates sent to all parts of the country.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terra-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.
Manufactured ONLY by J. CUMBERLAND PART,
186, DRURY-LANE, LONDON, and at DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.
EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)
FIRE BRICK AND TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.
DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERERS HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
22s. " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Despatch.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,
BRICKMAKERS, AND MARBLE IMPORTERS.
For Account of Experiments on the Strength of their
PORTLAND CEMENT,
Read at the Institute of Civil Engineers, apply to the Makers.
KEENE'S IMPROVED CEMENT,
Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
N.B. Can be Painted in Twenty-four Hours.
MILLBANK STREET, WESTMINSTER.
LIVERPOOL, JOHN MACKENZIE, 46, SEEL STREET.
MANCHESTER, THOMAS OAKDEN.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parr's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
ROMAN CEMENT (made at the above works may be had fresh from the kilns daily, and has great advantage to drains and sewer contracts, especially in winter time.
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured at Kent (this cement will carry more sand than any of the other cements, which is now brought into the market and sold as Portland).
PLASTER OF PARIS, both coarse and fine, of very superior quality and colour.
LIME. Grey Stone, Chalk, and Blue Lias Lime well burnt, by the barge or yard, and may be had fresh ground daily, by steam power, for concrete.
BRICKS from our fields in Kent, by the barge alongside, in the river or canals, or by cart from the above wharf, of good quality and moderate price.
A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain, Pan, and Paving Tiles, Hair, Laths, Chimney-pots, &c. always kept in stock.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. — Orders received at Great Scotland-yard, Whitehall; and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANE-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Wiltshire, Bridgwater, and other Limes of the best quality.
GREYSTONE, CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORD-SHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS and CLINKERS. &c. DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

O. McCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Hooks Lane and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited,
Are prepared to supply their Keynsham Blue Lias Lime in any quantity, by land or sea, at
SPECIAL CONTRACTS MADE FOR LARGE WORKS.
All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in or four of the usual times, as Parian Stucco may be painted and covered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble. — Manufacturers, FRANCIS BROTHERS, & POTT, Nine Elms, London.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

CARSON'S
ORIGINAL ANTI-CORROSION PAINT.
Patronised by
THE BRITISH GOVERNMENT, THE FRENCH GOVERNMENT, THE RUSSIAN GOVERNMENT, H.R.H. THE PRINCE CONSORT, MOST OF THE NOBILITY & GENTRY, THE DOCK COMPANIES, RAILWAY AND CANAL COMPANIES THE PRINCIPAL COLLIERIES, MILL OWNERS, IRON MASTERS, &c.
It is extensively used at home and abroad for all kinds of
OUT-DOOR WORK,
And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also
IRON ROOFING, BRIDGES, HURDLING,
AND EVERY DESCRIPTION OF IRON WORK;
FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,
And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone.
The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as
ANY PERSON CAN LAY IT ON.
The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.
OIL, TURPENTINE, AND BRUSHES.
Prices, Patterns, and Testimonials sent upon application to
WALTER CARSON AND SONS,
(SUCCESSORS TO THE INVENTORS,)
9, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.
NO AGENTS THROUGHOUT THE UNITED KINGDOM.

BRICK-MAKING BY STEAM POWER.
HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,
(Each producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—
Messrs. PETO & BETTS, London.
" BRASSEY & CO. London.
" BAKER & SON, Isle of Wight.
" ROBT. SHARPE & SONS, London.
S.-E. RAILWAY COMPANY, Folkestone.
Mr. GEORGE FURNESS, London.
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO. Burham.
FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.
Machines can be inspected at the Works; at the Great Exhibition, South Kensington; or at their Show Rooms, Upper Montague-street, Montague-square; or descriptive catalogues sent free by post, by
HENRY CLAYTON & Co., Patentees, Engineers, &c.
ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

HAMPSTEAD ROAD JOINERY WORKS.
21, HARRINGTON STREET, N.W.
NEVIL SIMMONDS,
MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.
SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.
Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp.

BARTLETT BROTHERS & CO.
DEVONSHIRE WHARF, CAMDEN TOWN, N.W.
Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.
Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,
INTERNATIONAL EXHIBITION, 1862.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford street, W.

PATENT and BRITISH PLATE GLASS.—JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.



Illustrated Treatise, Post free, 2s. 6d.
HEATON, BUTLER, & BAYNE.
Works:—Cardington Street, Hampstead road, London.



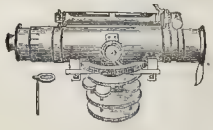
CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

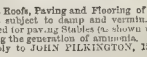
MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN' LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

THEODOLITES, LEVELS, TRANSIT THEODOLITES, DRAWING, INSTRUMENTS, SCALES, &c.
C. BAKER,
243 and 244, HIGH HOLBORN,
Begs to inform Civil Engineers, Architects, and others, that, having recently made extensive alterations in his premises, whereby greater facility for manufacturing is obtained, he is now enabled to supply every description of first-class SURVEYING and DRAWING INSTRUMENTS, at prices very much lower than is generally charged for superior workmanship. Every article manufactured on the premises. Alterations and repairs executed with despatch. A large assortment of second-hand Levels, Theodolites, &c. in stock, at extremely low prices.—Catalogues free, by post.

POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED  1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

...gs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

THE RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

		Laths, 28s. per load.
Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		
Yellow Deals, sound and good	£9 10 0 per 120,	or 0s. 3½d. per foot.
Spruce Deals	16 10 0 „	0 2½ „
Yellow Battens, excellent quality	11 10 0 „	0 2 „
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 „	3 6 „

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¼-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	16s. 6d. „
1¼-inch „	—	18s. 0d.	19s. 0d. „

...ellow Deals, 3 by 9 ..... £19 10s. per 120.
...ellow Battens ..... £11 10s. „
...pruce Deals ..... £16 10s. „

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. „
⅜-inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

...,000 Dry Prepared Flooring Boards ..... } from 11s. 6d. per square
...,000 Pine Planks ..... from 3s. 6d. each
...,000 Yellow Deals ..... from 3s. 3d. each
...,000 Spruce ditto ..... from 2s. 9d. each

5,000 Yellow Battens ..... from 11l. 10s. per 120
50,000 feet Spanish and Honduras Veneer ..... } from 1d. per foot
Maple ditto ..... from 1d. per foot

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring from	12s.	12s. 6d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

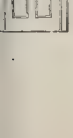
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

10, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass-house Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE SOLD by PRIVATE CONTRACT, a large lot of WAINSCOT BOARDS that have been cut out and seasoned from seven to ten years. The sizes are 2 inch, 1 inch, 1¼ inch, 1¼ inch, 2 inches, and 2½ inches. It is warranted fit for immediate use, and to some town builders must be invaluable.—Apply to CHARLES A. LEWIN, Merchant, Poole, Dorset

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 2s. 9d.; Mahogany, 6d.; 9d. Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 6d.; 1-inch Yellow, from 16s. 6d.; 1¼ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & E. KNIGHTS, Lathwood Merchant's, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 80,000 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

REMOVAL of OLD PAINT, VARNISH, &c.—PATENT EXTRACT of LETHICIUM. — For Preventing Blisters, Removing Old Paint, Varnish, Varnished Paper, &c. In a few minutes, and for Cleaning and Restoring Old Paint. Success guaranteed. Price 5s. a gallon, in cases containing from one to ten gallons; sent free twelve miles from London. — Messrs. NARRABE & CO. 11, St. Andrew's-hill, Doctors'-commons, London, E.C.—N.B. Cheap patented Brushes for laying on the Extract and removing the old paint, 2s. per pair.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS, 30, LONDON WALL, E.C.

Where also may be obtained their CELEBRATED STAINS for EVERY DESCRIPTION of WOOD, Together with all kinds of Colours and Varnishes, Warranted of the purest quality and at the lowest prices. Agents for Kershaw's Graining Machines.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

T. KENT'S PAINTING-BRUSH MANUFACTORY Is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.

Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 3d. per gallon; Boiled Oil, 3s. 6d.; Turpentine, 8s. 6d. per gallon; Fine Pale Oak Varnish, 8s. 8d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 144 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.

PAINTING BRUSH MAKERS,

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

And of their Agents,

SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s per cwt. Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 9d. per gallon. Turpentine, 8s per gallon.

Fine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.

Every article for the Trade at the lowest price.

CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innoxious and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c. as well as by use in the bath for promoting and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 1s. 3s. or 5s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE. Wholesale of the Patentee, Battersea, Surrey, S.W.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT. For Damp Walls and Lining Iron Houses.

2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

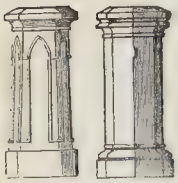
JAMES STIFF & SONS,

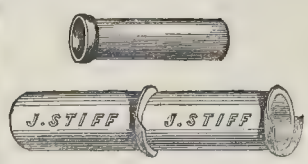
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs BLACKMORE & CO'S City-road Wharf, City Basin
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danver's Wharf, Chelsea.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.



only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.

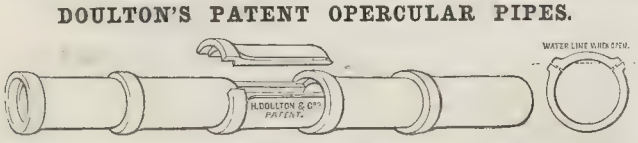
Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed.

The Cover, being fired in one piece with the Pipe, fits perfectly.

There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.





UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. & Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred

TO ARCHITECTS, BUILDERS, PLUMBERS, &c

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water-Closets, Valves, Gas Meters, &c. on the same premises.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

FERGUSLIE FIRE CLAY WORKS,

PAISLEY.



PATENT GLAZED SEWER PIPES, according to Jenning's Patent and the GLAZED SEWER PIPES with SOCKET JOINTS. Also all articles made of Fire Clay. The Sewer-Pipes are in sizes from 2 inches up to 24 inches bore, and are of the best superior quality. Prices very moderate. The subscriber, from the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be.

ROBERT BROWN.

THE ARCHITECTURAL POTTERY

COMPANY, POOLE, Dorset, Manufacturers of BALWS PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance-halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes, string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.: also, the Architectural Pottery Company's patent orange-tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No. 36, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS

CAST WORK CENTRE FLOWERS,

SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,
242 EUSTON ROAD, ST. PANCRAS.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the resident of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

BUFF & DEEP RED FACING BRICKS,

Sphynx, Cutters, Floor-tiles, Garden Edging, &c.—Apply to E. HOOPER, Manufacturer, Southampton; or JOHN DOWNEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.

Architects and Builders requiring superior colour in bricks are respectfully invited to inspect the above.

MINTON & CO.

HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,

TO 59, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

FARTHENWARE AND PLAIN TILES
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and Sndly, that the "Reports of the Juries," page 681, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

C. H. T. BIKKER, 110, Bradford-street,

and 102, Cheapside, Birmingham, ARTIST in ECCLESIASTICAL DECORATIONS, HOUSE and CHURCH DECORATOR. Wall painting, diapering, and gilding in the three styles of the twelfth, thirteenth, and fourteenth centuries. Every description of ecclesiastical writing, lettering, and Gothic decorations; also Egyptian, Roman, and Grecian decorations truthfully carried out in accordance with the several styles. Experienced artists sent to any part of the United Kingdom. Architects' designs carried out by experienced decorators, or drawings furnished if required. Specimens may be seen fully carried out at the above address.

ASPHALTE—GERVASE FOOTTIT,

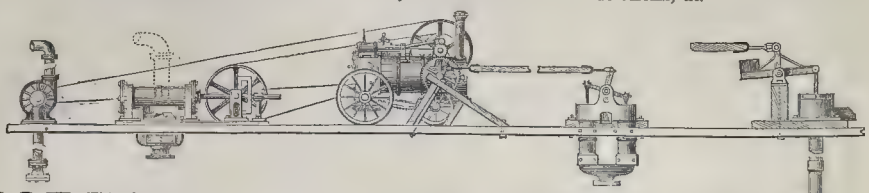
TRINIDAD ASPHALTE WORKS, Rotherhithe London. Established 1834. TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by steam power, laid down in the most thorough manner, or supplied in any quantity. Information for laying forwarded with material. Post-office orders or reference in London promptly attended to. Estimates given for every kind of the above work.

BENJAMIN FOWLER & CO., WHITEFRIARS ST., FLEET ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

TO BE WORKED BY STEAM, HORSE, OR HAND POWER, FOR TEMPORARY OR PERMANENT USE; ALSO OF SINGLE OR DOUBLE PURCHASE CRABS, PULLEY BLOCKS, SCREW AND HYDRAULIC JACKS, &c.





PORTABLE STEAM ENGINES,

IN GOOD SOUND WORKING ORDER,

WITH or WITHOUT PUMPS, to DISCHARGE a LARGE or SMALL QUANTITY OF WATER FROM ANY DEPTH, ready for delivery to order at a DAY'S NOTICE, or, upon very reasonable terms, ON HIRE.



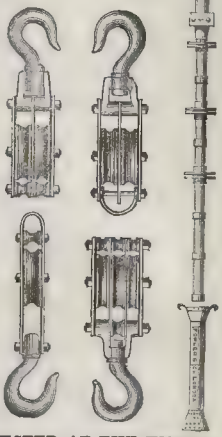
FOWLER'S PULLEY AND SNATCH BLOCKS,

of every size and description. These are strong, well-made blocks, and will be found in all points as good in quality and as low in price as those made by any house in London.

RUBBISH WHEELS OF VARIOUS SIZES.

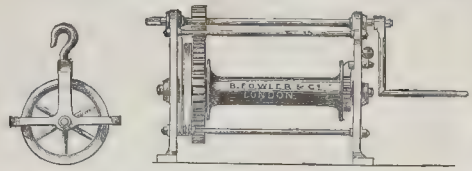
FOWLER'S USEFUL SINGLE, DOUBLE, and TREBLE PURCHASE CRABS.

B. F. & Co. have a variety of Patterns, strong and light, at prices which will meet any requirement.



WESTON'S PATENT DIFFERENTIAL BLOCKS,

To lift from half a ton upwards, with chain to suit, at the LOWEST PRICES.



A LARGE STOCK IS KEPT READY FOR PROMPT DELIVERY, AND CAN BE INSPECTED AT THE WORKS.

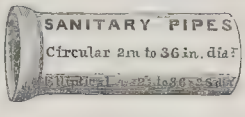
Price Lists of Pumps, &c., forwarded on application.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



NGHAM & SONS

LONDON WHARF, 64, Bankside, Southwark.



LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.

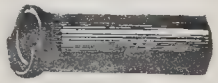
Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

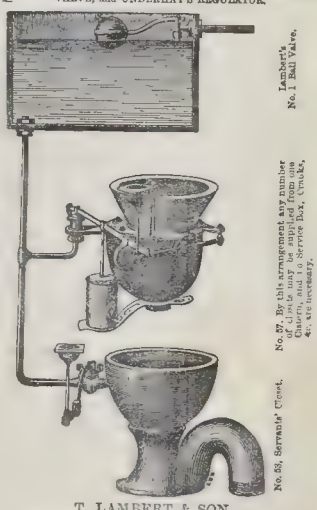
MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1853.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

PADDINGTON.—Surplus Plant and Materials from the Works of the Metropolitan Railway.—First Portion.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Smith & Knight, the Contractors for the western portion of the line, TO SELL by AUCTION, on the PREMISES, Wharf road, Paddington, adjoining St. Mary's Hospital, on MONDAY, JULY 7th, at TWELVE PRECISELY, the first portion of the valuable PLANT and MATERIALS, comprising an excellent 8-horse power horizontal engine and boiler, double-barrelled and other pumps, mortar-mill, with 3 feet 3 inch runners; pug-mill, boring tackle, circular-saw bench, watchman's boxes, chains, &c.; also about 3,000 spruce deals and planks, 60 loads of pitch pine, yellow pine, Dantzic and spruce timber, short sewer-struts, 6-in-square timber, centering, railway sleepers, boards, framing, and other useful materials.—May be viewed; and catalogues had at the Royal Mint Tavern, Paddington; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

EUSTON ROAD.—Marble Chimney-pieces.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, at the MARBLE WORKS, 133, Euston-road, near St. Pancras Church, on TUESDAY, JULY 8, at TWELVE for ONE, the manufactured stock of MARBLE CHIMNEY-PIECES; comprising about ninety statuary, vein, Sicilian, dove, black and gold, St. Ann's, Devonshire, and black marble, all of which are of superior workmanship, and adapted for houses of a modern character. May be viewed one day previously, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, E.C.

GREENWICH HOSPITAL.—OLD CLOTHING, STORES, and MATERIALS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of Greenwich Hospital to SELL by AUCTION, at the Royal Hospital, on WEDNESDAY, JULY 9th, at ELEVEN for TWELVE, the usual assortment of CLOTHING, and other STORES belonging to the Steward's Department, and sundry old Materials, Iron-work, and Metal, collected in the Works Department. May be viewed two days previous, and catalogues had at the Offices of the Steward and Inspector of Works; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

OLD MATERIALS, IRONWORK, &c. at Somerset House, Whitehall Chapel, Burlington House, Military Asylum, and Chelsea Hospital.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, at Somerset House, Strand (and a Portion on the premises), on WEDNESDAY, JULY 9th, and THURSDAY, JULY 11th, at ELEVEN for TWELVE, a quantity of SURPLUS MATERIALS; consisting of glazed sashes, doors, and framing, fir quartering and fire-wood; about 100 tons of iron also, comprising cooking stoves from the Crimea, grates, ranges, and boilers, gas and water pipes, old ironmongery, gas-fittings, a capital lift, wrought-iron gratings, &c.—May be viewed one day previous, and catalogues had at the Office of her Majesty's Works, &c. 12, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W., and 80, Fore street, City, E.C.

LLOYD'S MARBLE WHARF, PIMLICO TO SCULPTORS, MASONS, BUILDERS, & OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. R. Lloyd & Co. to SELL BY AUCTION, at Lloyd's Marble Wharf adjoining Vauxhall Bridge, Grosvenor-road, Pimlico, on WEDNESDAY, JULY 16th, at ELEVEN for TWELVE, about 150 blocks of marble, comprising statuary, vein, Sicilian, dove, black and gold, Barbadoes, Siennas, and various coloured varieties; also about 20,000 feet super of slab, and a selection of sculpture work, consisting of figures, busts, chimney-pieces, &c. May be viewed two days previous and Catalogues had on the place of Sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, and 80, Fore street, City, E.C.—N.B. Approved bills at four and six months.

LIMEHOUSE. Contract 2's Plant and Materials.

PULLEN, HORNE, & EVERSFIELD are instructed by Mr. Henry Flower to SELL by AUCTION, on the PREMISES, Stainsby-road, Limehouse, on FRIDAY, JULY 18, at TWELVE for ONE, the remaining CONTRACTOR'S PLANT and MATERIALS; consisting of crab engines, forge bellows, anvils, vices, and smiths' tools; set of blocks, chain slings, pumps, barrows, benches, for which, also, plotting and punching pots, and other useful materials.—May be viewed one day previous; and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.—N.B. The PREMISES TO BE LET.

GLOUCESTER.—Important Notice of Sale, at the RAILWAY WORKS, Bristol-road, Gloucester.—To Railway Companies, Contractors, Agriculturists, Iron and Steel Dealers and Consumers in general, Ironmongers, Builders, Cabinet Makers, Firewood Dealers, and others.—All the remaining EXTENSIVE STOCK of Quebec Yellow Pine Timber, of first-rate quality, in boards all thicknesses, thick Slabs, Scantling, Laths, &c. and a great quantity of Firewood; upwards of 100 Tons of new Iron, Steel Castings and Scrap Iron, large cast-iron Blocks for girder-making, many tons of new Fang and Strap Bolts, assorted; 82 Permanent-way Crossings and Switches, on set of parallel Sleds, new Rails (best make), Pile Driving and other Engines, four Lift and other Pumps, Travelling Cranes, Lifting Crabs, Hoisting Tackle, Chains, and Ropes, Locomotive and Stone and other Trolleys, Carts, Waggon, two Boats, large Packing Cases, three-ton barthen, neat four-oared Gig, two Horses, Tackle, several Tons of Nails (assorted), Coach and Wood Screws, Rivets, new and old Files, Hammers, metal and Iron Tubes, Screw Brass and Copper, Lead, Oils and Oil Cisterns, Paints, Weighing Machines, Scales and Weights, Portable Hearths, Mortising Machine, and an infinity of other valuable and useful Property; TO BE SOLD by AUCTION, by

MESSRS. BLOORE, on TUESDAY, the 15th of JULY instant, and following days, on the PREMISES, as above by direction of Messrs. Treadwell & Co. who, in consequence of the death of two of the Partners, are relinquishing the Trade at Gloucester. Sale to commence each day at ELEVEN o'clock punct. Catalogues may be had, price 1s. each, prior to the Sale, at the place of Sale; or at the Offices of the Auctioneer, 1, Cannon-street, Birmingham; and at the Offices of the various newspapers in which an advertisement of the Sale appears.

REDHILL, SURREY, adjoining the Common.—Valuable FREEHOLD BUILDING LAND, being a portion of Waterslades Estate, of a healthful dry sand and gravelly soil, possessing important frontages to main turnpike roads, within ten minutes' walk of the Redhill Junction Station, at which about 30 trains to and 31 from London stop daily; about half an hour's ride from London Bridge; and, upon completion of the Croydon Cross Railway, it will have the advantage of two additional stations at Charing-cross and Ludgate-hill, or City Terminus at Cannon street. It is also within one mile of Reigate Town.

MESSRS. RUSHWORTH, JARVIS, & ABBOTT will SELL by AUCTION, at the MART, opposite the Bank of England, on FRIDAY, JULY 11th, Twenty-eight Plots of FREEHOLD BUILDING LAND, free of land-tax and tithe, occupying one of the most attractive and enjoyable spots in the admired and picturesque locality of Redhill, suitable for the erection of detached and semi-detached villas, and worthy the attention of gentlemen and builders wishing to erect residences for occupation or investment. Note—Two-thirds of the purchase-money may remain on mortgage.—Particulars, with plans, may be obtained at the Mart; at Laker's Hotel, Redhill; the White Hart Hotel, Reigate; and at the Offices of Messrs. RUSHWORTH, JARVIS, & ABBOTT, Saville-row, Regent-street, W.; and 19, Change-alley, Cornhill, E.C.

MESSRS. WILSON & THOMPSON have received instructions from the Trustees, to SELL by PRIVATE CONTRACT, all that FREEHOLD and eligible BUILDING LAND, consisting of 45 acres, in the hamlet of Litchurch, adjoining the borough of Derby. The land to be sold in allotments to meet the wishes of purchasers. The estate is bounded on the east and west by the two most important turnpike-roads leading from the town, and is a very short distance from the railway station. The land is particularly adapted for building purposes, and has been laid out accordingly. It is near to Derby, but not subject to its rates. The estate is in a populous and increasing neighbourhood. Capitalists would find it a profitable investment.—For particulars and plans apply at the Office of Messrs. WILSON & THOMPSON, Architects and Surveyors, 12, Corn-Market, Derby.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on TUESDAY, JULY 22, and following days, at ELEVEN o'clock each day, at the DEPOT, Thames-bank, Pimlico, near the railway bridge, and on the banks of the Grosvenor Canal, in lots, without reserve, an immense Collection of MATERIALS and PLANT used in the construction of the building for the International Exhibition, 1862; including 12,000 scaffold-poles, 6,000 boards, 1,500 dozen cords, 6,000 putlogs, 800 loads Baltic and Swedish timber, 200 loads short ends of timber, 25 loads new Swede timber, 6 loads new yellow pine, 5,000 deals and battens, 200 fathoms firewood and slabs, 10,000 feet pitch-pine slabs, 6 mast spars, 1,000 feet mahogany plank and boards, 12 ladders, 170 navvy barrows, 500 mortar-boards; 4 portable steam-engines, 8, 12, 16, and 20 horse power; 100 tons bar, rod, and hoop iron; bolts, nuts, and washers; 16 tons temporary and permanent metals, two tons chairs, 700 sleepers, 5 pile-engines, with monkeys, 3 rigging-engines, 12 double and single purchase crabs, one 3-ton derrick, crane, hydraulic girder-proving machine, 15-ton weighbridge, 2 tons patent crab-hoist, 1 manifold-purchase crab for a traveller, 2 tons wrought-iron shafting, 35 tons cast-iron columns, 40 pairs iron truck wheels and axles, 2 tons useful castings, engine and frames, 2 iron and 1 steel saw benches, 1 rack bench, powerful double and treble purchase blocks, 20 tons rope falls and slings, 3 tons chain, smiths' tools, 15 anvils, 12 forge backs, 1 ton tools, 12 pairs bellows, portable forges, 2,000 feet funnel-pipe, wrought-iron pumps, timber carriage van, 2 carts, 4 dobbin carts, 2 dirt waggons, 100 water tubs and casks, carpenters' benches, cramps, drain-pipes, tents and huts, 3 portable offices, dinner-bell, and numerous other effects.—To be viewed on Friday, Saturday, and Monday previous to the sale; when catalogues, at 6d. each may be had on the premises; or of Messrs. FULLER & HORSEY, Billiter-street, E.C.

The Gwydir, otherwise the Bwich Slate Quarries and Works, near Llanrwst, North Wales.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, JULY 31, at TWELVE, at the ASSEMBLY ROOMS, Llanrwst, unless a more acceptable offer be previously made by private contract), the GWYDIR (otherwise the Bwich) SLATE QUARRIES, situate at Dolwyddelen, in the county of Carnarvon, about nine miles from Llanrwst, about twelve miles from the shipping stage or quay at Trefriw, on the Conway River, where vessels of 100 tons' burden can load alongside, and about twenty-one miles from the shipping port of Conway, North Wales. The railway from Conway to Llanrwst will be completed in the spring of next year, and will afford additional facility for transit. The quarries are on the slope of the farm-land range of mountains; the slate formation lies about 10 yards beneath the surface, and has been proved to the depth of about 35 yards. The quality of the slate is uniform, equal in grain to the well-known Bangor slate, and of the original blue colour of the Welsh slate. The works were formed some years since by the Gwydir Slate Company, and fitted with costly machinery for sawing, planing, and otherwise preparing slate slab; the whole worked by an iron overshot water-wheel, 30 feet in diameter, driven by a powerful stream of water flowing from a lake in the mountains, discharging itself into the River Lledr, a tributary of the Conway, which flows past the property; but although large sums of money have been expended in fitting the machinery and in opening the quarry, it may almost be pronounced a virgin quarry, from the comparatively very limited operations hitherto performed, there being up to the present time only four hargains or workings actually formed, and these only partially worked, the yield from which during the past six months has been 665 tons of slates; but by a judicious expenditure (now being gradually made) an additional bargains may be at work within the next twelve months, thereby increasing the yield at the least 400 tons per month, or 4,800 tons per annum. The quarry is well placed for working, being on the slope of the mountain at a very convenient elevation, and with plenty of ground for tip room at the base. A steam-engine, of about 15-horse power, with winding gear, has been erected near the summit, for raising the blocks of rock from the deep workings; narrow gauge railways also intersect the works. The demand for the slates has been steadily increasing, and there is no difficulty in finding ready markets for all the produce, which commands a ready sale at the goods under the present disadvantages of heavy standing charges and limited production realising 25 per cent. on the returns. The property occupies a site of 33 acres 2 roods, and 36 perches, more or less, and under 26 acres site slate formation has been proved to exist. It is held under Lord Willoughby d'Eresby, subject to a small fixed rent and royalties, which amount to about 5 per cent. on the gross returns. The whole of that portion of the property of Lord Willoughby d'Eresby, and the charge of shipping thereon is sold per ton. The cost of carting the slates from the works to the wharf or shipping stage on the Conway is now in full working, a great saving in this charge may be effected by the construction of a tramway along the valley at the base of the mountains, facilities for which will be readily granted by any party likely to use it. These works in almost as advantageous a position as the celebrated quarries belonging to the owner of Penrhyn. Easy terms may be arranged for payment. The works may be viewed by application to the spot, and may be obtained of GEORGE HADLEY, Esq. 8, Old Jewry; or of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.—Printed particulars may be obtained at the Inns of Chester; at the "Midland Counties Herald" Office, Birmingham; of SAMUEL FISHER, Esq. Solicitor, Arthur's Taylor Hall, Threadneedle-street, London, E.C.; of GEORGE HADLEY, Esq. 8, Old Jewry-chambers; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

HOLLOWAY FARM, containing upwards of sixty-one acres of fine building ground, on a beautiful eminence, close to and on the south side of the town of Dorking, presenting unusually attractive sites for the erection of mansions or villas of a superior character, for a building operation of magnitude, or for a safe and lucrative speculative investment.

MESSRS. WHITE & SONS are favoured with instructions from the Devisee of the late Mr. Henry Napper to SELL the above by AUCTION, at the MART, on FRIDAY, JULY 11th, at TWELVE, in two lots. This interesting and valuable property commands views of great extent, variety, and beauty, the lands are undulating and elevated, but easy of access, dry and healthy, being on the sand ridge, intersected by the turnpike-road, by which the lots are divided, near the park-like Henwood and St. Paul's District Church, within a mile of the centre of the town of Dorking, and on the verge of an extensive building operation recently successfully carried out. Lot 1 is that part of the Farm situate on the west side of the turnpike-road, consisting of several enclosures of arable and meadow land, orchard and garden ground, containing 44a. 0r. 32p. with the farm-house and agricultural buildings, and the thriving and ornamental timber thereon. Lot 2. The remaining portion of Holloway Farm, situate on the east side of the turnpike-road, consisting of an arable field, a piece of coppice and the table land of the summit, containing altogether 17a. 0r 27p. studded with beautiful oak timber. A certain and profitable result must accrue by a subdivision of this valuable building site, the present value of land in the immediate locality having been tested by recent sales and the increasing demand and diminished supply. Particulars, with plans, may be obtained in due time at the Mart; and of the Estate Agents' Office, 200, Fleet-street; or of Messrs. WEAKLIN & FLINT, 91, Farringdon-street, London; the Old Ship, Brighton; the White Hart, Guildford and Reigate; the Greyhound, Croydon; and the Greyhound, Croydon; also of Messrs. HART & HART, Solicitors, and of Messrs. WHITE & SONS, Auctioneers, Valuers, and Land Agents, Dorking, who will forward them by post on application.

LOWESTOFT.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the ROYAL HOTEL, Lowestoft, on THURSDAY and FRIDAY, the 14th and 15th days of AUGUST, 1862, at ONE o'clock each day, in numerous lots, THREE superior SEMI-DETACHED VILLA RESIDENCES, having a beautiful sea view, and being Nos. 14, 15, and 16, on the Esplanade; Eight capital Residences, being Nos. 22, 26, 28, 29, 34, 36, 37, and 38, on the Marine Parade; several other valuable properties, including the Plough and Sail beerhouse; a residence, in the occupation of Captain Daniels; the offices occupied by Mr. Cox, the boat-house, cottage, &c.; various lots of cottage property, the Fish Office, &c. The foregoing are all freehold. Also valuable Mercantile Premises on Lowestoft Quay, consisting of the Lake and Oil Mills, held by lease for ninety-nine years, at low ground-rents. Also numerous ground-rents, with reversion, well and amply secured, amounting to about 350l. per annum; and five farm rents and perpetual charges on houses recently erected, amounting to upwards of 160l. per annum; various freehold building sites, &c. The property included in this sale is of a very valuable character, and will afford to the capitalist sound investments.—Particulars, with plan, may be had at the Royal Hotel, Lowestoft; of Messrs. SWIFT, WAGSTAFF, & BLENKINSOP, Solicitors, 32, Great George-street, Westminster, S.W.; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 11, Waterloo place, Pall-mall, S.W.

STRATFORD.—On the Chobham Estate.

MR. JOHN M. DEAN will SELL by AUCTION, at the SWAN INN, Stratford, on MONDAY, 14th of JULY, at FOUR o'clock, in nineteen lots, FIFTY-SIX PLOTS of valuable FREEHOLD BUILDING GROUND, exonerated from land tax, having an aggregate frontage of 1,413 feet on Leyton-road, Garnett-road, Chobham-road, Chaddon-road, and Temple Mill-lane, by depths of 100 to 150 feet. The land is pleasantly situate in a particularly dry and healthy locality, within easy access of several railway stations, bounded by good roads, with sewer thereon, and in close proximity to the main routes to the Forest.—Particulars, with plans, may be had of H. HARRIS, Esq. Solicitor, 34a, Moorgate-street, E.C.; at the Swan, Stratford; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E. (Turner Estate Office).

1,800 new Yellow Deals, 1,000 capital Norway Battens; 2,000 new Inch and 1¼ Inch Yellow Boards, from 12 to 20 feet long; 3,000 feet new cut Quartering; 1,000 Glazed Drain Pipes, 3, 6, and 9 inch, with bends and junctions; and 700,000 capital new Bricks, comprising best, second, and rough stocks, best and second place, very superior malm pickings for fronts, red cutters, red bullders, &c. &c. will be SOLD by AUCTION, by

J. G. HALL, on THURSDAY, JULY 17, at ONE o'clock, under instructions from the proprietor, Mr. Robert Wright, at BRIDGE WHARF, Regent's Canal, Old Ford-road, Victoria Park. The brick lots will be delivered into carts at 4d. per thousand, and into barges or boats at 1s. per thousand. The wharf is surrounded with excellent roads, and unusual facilities by water are offered, the Regent's Canal being in direct conjunction with the River Lea at this place.

No. 76, OXFORD-STREET.—Important and commanding BUSINESS PREMISES, erected within a few years in the most substantial manner, under the superintendence of an eminent architect, situate on the right side and in the best part of one of the most distinguished thoroughfares in the metropolis. The premises are of handsome elevation, and comprise double-fronted shop with convenient depth, and three tiers of galleries for the display of goods, adapted and fitted in every way for the convenience of carrying on an extensive trade. The property is leasehold, for a term of years, under the Duke of Portland, at a ground rent, and immediate possession will be given.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed by the mortgagees to prepare the above-desirable PROPERTY for SALE at GARRAWAY'S, on WEDNESDAY, JULY 9, at TWELVE, valuable and extensive PREMISES of handsome elevation, most desirably situate in the best part of Oxford-street, admirably adapted for an ironmonger, in which trade they have been several years, but suitable for any business requiring extent and space; comprising commanding double-fronted shop of considerable depth, plate glass windows, with three tiers of galleries over, well lighted, and extensive warehouse in the basement. Held on lease from the Duke of Portland for a term, whereof thirty-five are unexpired, at a ground-rent of 100l. per annum. May be viewed, and particulars had of Messrs. POOLE & JOHNSON, Solicitors, New-square, Lincoln's-inn, W.C.; Messrs. DRUCE & SON, Solicitors, Billiter-square, E.C.; on the Premises; at Garraway's; and at the Offices of Messrs. FAREBROTHER, CLARK, & LYE, 6, Lancaster-place, Strand.

THE VULCAN IRONFOUNDRY, Cornwall-road, Lambeth.—To ENGINEERS, IRONFOUNDERS, CONTRACTORS, and OTHERS.—Exceedingly valuable Premises, of great extent, covering nearly an acre of ground, late in the occupation of Messrs. Hallen, together with the Steam Plant and Machinery.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed by the mortgagees to SELL, at Garraway's, on WEDNESDAY, JULY 9, at TWELVE o'clock, the extensive MANUFACTURING PREMISES, known as the Vulcan Ironfoundry, comprising a capital factory with five cupolas, two blowing machines, powerful cranes, engine-room with 10-horse high-pressure engine, smith's shop with three double forges and bellows, three fitting shops of great extent, pattern room, workshops, store room, japanning rooms, sheds, &c; counting-house and rooms over. The whole occupying a space of an acre, enclosed by brick wall, iron palisading, and large double folding iron gates. Held on lease for a term of which 24 years are unexpired, at a rental of 124l. per annum.—May be viewed and particulars had of Messrs. POOLE & JOHNSON, Solicitors, New-square, Lincoln's-inn, W.C.; Messrs. DRUCE & SON, Solicitors, Billiter-square, E.C.; at the Foundry; at Garraway's, E.C.; and at the Offices of Messrs. FAREBROTHER, CLARK, & LYE, 6, Lancaster-place, Strand, W.C.

CHANCERY LANE.—To Bankers, Public Companies, Builders, and Others.—Important Freehold Building Ground, with Frontages to Chancery-lane, Carey-street, and Star-yard.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed by the Directors of the Law Fire Assurance Society to SELL at GARRAWAY'S, on WEDNESDAY, JULY 30, at TWELVE o'clock (unless previously disposed of) an important and valuable FREEHOLD PLOT of BUILDING GROUND, in Chancery-lane and corner of Carey-street, having a frontage to the former of 55 feet 9 inches to the latter 148 feet 6 inches, and to Star-yard of 55 feet 9 inches; containing an area of 9,000 superficial feet. The central situation of this great business thoroughfare renders the site highly eligible for the erection of a branch bank, offices for public companies, restaurant, or grand hotel-chambers, or for any other commercial purposes requiring extensive space with the advantages of light on all sides, and easy access from every part of the metropolis and with the intended concentration of the new law courts, and the alterations attendant thereon, in this locality, further enhancing the value of all available ground and property for business purposes. Particulars and plans may be had of Messrs. HARRISON, BEAL, & HARRISON, Solicitors, 19, Bedford-row, W.C.; of T. BELLAMY, Esq. 8, Charlotte-street, Bedford square; GEORGE POWNALL, Esq. 60, Lincoln's-inn-fields; at GARRAWAY'S; and at the Offices of Messrs. FAREBROTHER, CLARK, & LYE, 6, Lancaster-place, Strand, W.C.

TO BUILDERS, BRICKMAKERS, AND SPECULATORS.

HANWELL, MIDDLESEX.

MESSRS. GREEN (28, Old Bond-street) have received instructions to SELL by AUCTION, in two lots, at the MART, on WEDNESDAY, JULY 16 (unless in the meantime disposed of), a very desirable and speculative FREEHOLD PROPERTY, known as Rose Bank; comprising a villa residence, together with gardens and meadow land, and 25 acres for timber shoots, which, from its proximity to the railway station, and consequent supply from the west-end of town, together with the elevated position, which commands extensive and picturesque views over Osterley Park and the surrounding beautiful scenery, combine to render it peculiarly qualified as a building site for the erection of gentleman's residence, while its natural resources, embracing an immense quantity of brick-earth, gravel, and fine sand, all of very superior quality, with the advantages of a dock to the Junction Canal present unusual advantages for speculation. Lot 1 will comprise the agreeable residence known as Rose Bank, together with very handsomely laid out undulating pleasure grounds, gardens, and meadow land, in all about 23a. 3rd. 5p. Lot 2 comprises a plot of ground copsehold of the manor of Hanwell, containing 1a. 0r. 22p. having a frontage of 220 feet to the high road leading from Hanwell to Brentford, and is most eligible for building purposes.—Particulars and conditions of Sale may be obtained at the Mart; of Messrs. HUNTER, GWATKIN, & HUNTER, Solicitors, 3, New-square, Lincoln's-inn; and of the Auctioneers, 28, Old Bond-street.

CAMDEN TOWN.—TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, near the Railway Station, on MONDAY, JULY 7th, at TWELVE, 1,800 PLANKS, DEALS, and BATTENS, 800 planks, deals, and battens, in various thicknesses; 5,000 feet quartering, 110 squares of flooring, 4,000 feet lath, 200 feet arris rails, 500 feet ogee moulded feather-edge, and match boards; 70 dozen sliding battens, 20 dozen panelled laths, doors, ironmongery, &c.—Auction Offices, Cardington-street, Hampstead-road.

[For remainder of Auctions see p. xi.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 4, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, July 5, 1862.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1014. JULY 12, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Interior of the Chapel, Exeter College, Oxford. Mr. G. G. Scott, R.A., Architect 497
The best Form and Dimensions of a Seat 495

CONTENTS.

A Memorandum of the Agricultural Show at Battersea 489
The Palace of Art and Industry: Art-Designs 490
A Few Facts for the Workman who Visits the Loan Museum at South Kensington 491
Church Restorations in North Northumberland 492
The Decay of Needle-Working 493
Leek Mechanics' Institution 494
The Stoppage of Metropolitan Thoroughfares 494
From Paris 494
The Thames Embankment Bill 494
Proposed Blackfriars Bridge 495
Premiums Awarded by the Institution of Civil Engineers 495
On the best Form and Dimensions of a Seat 496
The Development of Heat, Solar and Terrestrial 496
Proposed Architectural Alliance 496
Lodgings for Exhibition Visitors 496
The Chapel of Exeter College, Oxford 496
Competitions 499
Proposed Dublin Exhibition Palace 499
New Poorhouse for Leith 499
Ecclesiological Report 499
University College 499
School building News 499
Church-building News 499
Stained Glass 500
Provincial News 501
Scottish News 501
Statues and Memorials 501
The Shrewsbury Sewerage Question 501
A New Style 502
Workmen and Churches 502
Books received: Dresser on Ornamental Art in Exhibition (Day); Baron on Sondmore Organs (Bell & Daldy); Variorum 503
Miscellanea 503

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—A GENERAL MEETING will take place on WEDNESDAY evening, JULY 16th instant, at 9, Conduit street, Regent-street, for the Election of Officers, and also for the transaction of other important business, when the attendance of the members is particularly solicited. Business to commence at Eight, p.m.

JOHN LUCAS, Secretary.

THE NEW SOCIETY of PAINTERS in WATER-COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall-mall, near St. James's Palace. Admission, 1s.; Catalogue, 6d. Season Ticket, 5s. JAMES FAHEY, Secretary.

COMPETITIONS.

NEW BATH THEATRE.—Architects are invited to furnish PLANS for a NEW THEATRE at BATH, on the site of the old one.—Premiums of Twenty and Ten Guineas will be given for first and second plans not accepted. Information may be obtained from the Hon. Secretaries, Messrs. MANT, MAULE, & ROBERTSON, and Mr. FOWELL, 2, Wood-street, Bath.

GLOUCESTER CATTLE MARKET COMPETITION.—The Town Council of Gloucester having EXAMINED the PLANS sent in for ALTERING and IMPROVING their CATTLE MARKET, have selected and adopted the one bearing the motto of "SMITHFIELD," by Mr. R. GRIFFITHS, of Bridgenorth, Salop; and awarded a Special Prize of £5l. to the one bearing the motto "CITY ARMS," by Messrs. MEDLAND & MABERLEY, of Clarence-street, Gloucester, and 17, Exeter-hall, London. The plans belonging to the remaining competitors will be forwarded to them on application to

WILLIAM McLANDSBOROUGH, City Chamberlain.
Corn Exchange, Gloucester, 9th July, 1862.

THE DUBLIN EXHIBITION PALACE and WINTER GARDEN COMPANY (Limited). — NOTICE. In compliance with numerous applications the Directors have EXTENDED the TIME for SENDING IN DESIGNS and PLANS for the proposed EXHIBITION PALACE and WINTER GARDEN, from the 1st of AUGUST to the 1st of SEPTEMBER, 1862.—For maps of ground and printed instructions, apply to HENRY PARKINSON, Esq. Secretary, Company's Offices, 112, Grafton-street, Dublin.

CONTRACTS.

TO RAILWAY CONTRACTORS.—DARTMOUTH and TORBAY RAILWAY.—The Directors are prepared to LET the WORKS on the remaining portion of their Line, viz.—between the Brixham road Station and the town of Dartmouth, a length of about three miles.—Plans and specifications may be seen, and further information obtained, at the Office of the Engineer, R. P. BRERETON, Esq. 18, Duke-street, Westminster, on and after FRIDAY, the 11th JULY. The Tenders, addressed to the Directors, are to be delivered at the Secretary's Office, Dartmouth, before TWELVE o'clock on FRIDAY, the 18th JULY. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

ALEX. E. SHOYD, Secretary.
Dartmouth, 30th June, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE TO BUILDERS.—TENDERS are required for the triennial contract for the EXECUTION of the several WORKS and REPAIRS to the BUILDINGS at SANDHURST, Berks.

Parties desiring to Tender for the execution of these services, for a term of three years, commencing 1st of OCTOBER next, will be furnished, by the payment of 5s 6d with the printed schedules of prices, conditions of contract, form of Tender, and with every necessary information respecting the same, on application at this Office, between the hours of TEN and FOUR each day (Sundays excepted), from the 28th JUNE until the 16th JULY, 1862, after which date no further issues will be made.

One Contractor only will be accepted for the whole of the trades, but the rates of per centage at which the parties tender may be different for each trade at their option; but such rates must be shown in the proper place in the Tender.

Royal Engineer Office, Sandhurst, 24th June, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for ADDITIONS to OFFICERS' QUARTERS, at Hounslow Barracks, in the county of Middlesex.

Persons desiring to Tender for this work must leave their names at this Office, between the 18th and the 22nd JULY, 1862, both days inclusive, and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District, 11, James-street, Buckingham Gate, S.W. July 9, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for GRAVELLING between the Streets of the Huts at the Hut Barracks, Pembroke Dock.

Forms of Tender, and every necessary information respecting the same, will be furnished on personal application at this Office, between the hours of TEN and FOUR each day, until the 16th JULY, 1862.

The Tenders will be required to be delivered on or before the 23rd day of JULY, 1862, at the War Office, Pall mall, London, addressed to "The Director of Contracts," and endorsed, "Tender for Gravelling at the Hut Barracks, Pembroke Dock," in the left-hand corner of the envelope.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Pembroke Dock, July 3, 1862.

TO CONTRACTORS.—Notice is hereby given, that TENDERS will be received by the Director of Contracts, War Office, Pall mall, London, on or before SATURDAY, the 26th JULY, 1862, from persons desirous of CONTRACTING with the Secretary of State for War, for SUPPLYING and ERECTING FENCES, GATES, &c. on the War Department Land at Chatham Lines and Fort Clarence, Chatham.

Plans and specifications of the work are to be seen, and forms of Tender obtained, on application at the Royal Engineer Office, Chatham Lines, between the hours of TEN and FOUR, till the 25th JULY, 1862.

Tenders to be addressed to "The Director of Contracts, War Office, Pall mall, London, S.W." and to be delivered, free, endorsed "Tender for Fences and Gates at Chatham."

No Tender can be admitted after the said 26th day of JULY, 1862.

N.B. The Secretary of State for War reserves to himself the right to reject the whole or any of the Tenders

Royal Engineer Office, Chatham, 7th July, 1862.

DOVER LOCAL BOARD.—WATER-WORKS.—To CONTRACTORS, &c.—The Dover Local Board are prepared to receive TENDERS for the following works:—ENLARGEMENT and ALTERATIONS of WATER-WORKS.

CONTRACT A.—New Boiler; Alterations, &c. to Engines and Pumps; Rising Mains

CONTRACT B.—Covered Reservoir to hold 1,000,000 gallons; Boiler-house and Coal-shed, &c.; 200 Yards of Headings in Chalk; ab. at 500 Yards of Cast-iron Supply Main, with Valves, &c.

The Drawings, specifications, and conditions, with a form of contract, which the persons whose Tenders are accepted will be required to execute, may be seen, and further particulars obtained, on application to Mr. JOHN HARVEY, the Engineer, at his Office in Castle-street, on and after WEDNESDAY next, the 2nd day of JULY. And one person or firm will be at liberty to Tender for both Contracts. Sealed Tenders in the required form, to be marked, "Tender, Water-works," must be delivered at my Office on or before WEDNESDAY, the 16th day of JULY next. The Board do not engage to accept the lowest or any Tender. EDWARD KNOCKER, Town Clerk.

Local Board Office, Dover, June 26, 1862.

BUILDERS desirous of TENDERING for the ERECTION of FARM HOUSE and FARM BUILDINGS, at Shrunton Hall, near Swindon, are requested to send their names forthwith to the Offices of the Architect, Mr. MANTELL, of Swindon Tenders to be sent in on the 19th inst.

TO ENGINEERS, IRONFOUNDERS, CONTRACTORS, and BUILDERS.—WATER-WORKS.—The Corporation of Hertford require TENDERS for the following WORKS and PIPES, &c. in separate Tenders:—

1. The Formation of a Reservoir, to contain 300,000 gallons of water; a Well; Cutting Trenches for Pipes, and Carting Pipes to the different points required.
2. Erection of Engine and Boiler House, and Cottage for Engineer.
3. About 4,000 Yards of Piping, varying from 8-inch to 2-inch Pipes, and Bends, &c.
4. Laying 4,000 Yards of Pipes, Services to Hydrants, and Fixing Hydrants.
5. A Ten-horse Engine.

Plans, specifications, &c. may be seen at the Office of Mr. C. J. C. BAILEY, Engineer, Hertingfordbury, Hertford, from the 10th to the 19th instant, both inclusive, between the hours of TEN a.m. and FOUR p.m. Any further information may be obtained of him, or the Consulting Engineer, W. GRAVATT, Esq. 13, Park-street, Westminster. Tenders (sealed) to be sent to the Town Clerk's Office, Hertford, by post, on MONDAY, JULY 21st, 1862, endorsed "Tender for Water-works." The Corporation do not bind themselves to accept the lowest or any Tender. PHILIP LONGMORE, Town Clerk.

Hertford, 3rd July, 1862.

CONTRACTS.

CEYLON RAILWAY.—To CONTRACTORS for PUBLIC WORKS.—Crown Colonies Office, No. 6, Adelphi-terrace, London, 30th June, 1862.—By direction of Her Majesty's Principal Secretary of State for the Colonies, the undersigned hereby give Notice that they are prepared, on behalf of the Government of Ceylon, to receive TENDERS for the CONSTRUCTION of a RAILWAY from Colombo to Kandy, in the Island of Ceylon.

Plans, specifications, and other documents for the information of contractors, will be on view at the Office of the undersigned, on and after the 20th proximo; and an engineer thoroughly acquainted with the country through which the line is to pass will be in attendance to afford local information.

Tenders, on forms to be furnished, must be sent in, not later than Noon, on SATURDAY, the 19th JULY next, under cover, addressed to the "Agents General for Crown Colonies," and endorsed "Tender for Ceylon Railway."

Persons desirous of Tendering may obtain copies of the specifications and other papers, at the Office of the undersigned, on leaving a deposit of 5l. therein, which deposit will be given back on the return of the papers.

It is to be expressly understood that the Ceylon Government does not bind itself to accept the lowest or any Tender.

PENROSE G. JULYAN, } Agents General for
W. C. SARGEANT, } Crown Colonies.

TO STONEWARE PIPE-MAKERS and OTHERS.—The Sewers Committee of the Local Board of Health of the City and Borough of Bath, are desirous of receiving TENDERS for the SUPPLY of GLAZED STONEWARE SEWERAGE PIPES, for twelve months. The probable quantity required will be 1,50 feet of 12 inch, 4,500 feet of 9 inch, 3,0 feet of 6-inch, with junctions and bends. The pipes to be of the best quality and make, and to be supplied from time to time in such quantities as may be required, from a depôt to be provided by, and at the expense of, the contractor, in Bath, where a sufficient stock must be kept on hand to meet the demand. Tenders, upon the printed forms, sealed and endorsed "Tenders for Pipes," and addressed to the Sewers Committee, 3, Fountain-buildings, Bath, to be sent in on or before ELEVEN o'clock in the forenoon of WEDNESDAY, JULY 23, 1862. A sample 6-inch, a 9-inch, and a 12-inch pipe, with maker's name painted thereon, also to be delivered, with or before the Tender, free of all charge, such pipes to become at once and remain the property of the Committee. The Committee do not hold themselves to accept the lowest or any Tender.—Forms of Tender to be obtained of Mr. ALFRED MITCHELL, Engineer, 3, Fountain-buildings, Bath.

ALFRED MITCHELL, Engineer.

TO CARPENTERS and JOINERS.—TENDERS required for the CARPENTER and JOINER'S WORK necessary to be done in the COMPLETION of a VILLA, a few miles from London, and close to a railway station.—Plans and specification may be seen, after TWELVE on MONDAY, at Mr. PHILPOT'S, Newington causeway, S.E. The lowest or any Tender not necessarily accepted.—N.B. A ready-money job.

TO BUILDERS. — Parties desirous of CONTRACTING for the ERECTION of a WESLEYAN CHAPEL, may inspect the drawings and specifications, between the hours of NINE and FIVE, at the Offices of the Architect, Waterloo-road, Wolverhampton.—Tenders to be delivered on or before SATURDAY, the 19th instant, sealed and endorsed, to H. R. FOWLER, Esq. Summerfield, Wolverhampton. The Trustees do not bind themselves to accept the lowest Tender. GEORGE BIDLAKE, Architect.

July 8, 1862

SAINT MARY, ISLINGTON.—Metropolis Local Management Act.—The Vestry of this Parish hereby give notice, that a Committee will meet at the Vestry Offices, Upper-street, Islington, on WEDNESDAY, the 23rd JULY instant, at TEN o'clock in the Morning precisely, to receive TENDERS for the CONSTRUCTION of about 1,520 feet of BRICK SEWER, in Maiden-lane, Brandon road, and the Spoil now called Pleasant grove, Belle Isle, and the necessary Works in connexion therewith. The form of Tender, which alone will be received, may be obtained, and the specification and Bill of Quantities seen, at the Vestry Offices (Surveyor's Department), between the hours of Ten and Four o'clock. Persons desirous of Contracting must attend at the time and place above stated, with sealed Tenders addressed "Tender for Sewer Works." The Vestry do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the Works.

JOHN LAYTON, Vestry Clerk.

Vestry Offices, Upper-street, Islington, 10th July, 1862

TO BUILDERS. — BAPTIST CHAPEL, Stow Hill, Newport, Mon.—Persons desirous of TENDERING for the ERECTION of the above CHAPEL, according to the altered drawings and specification, may obtain particulars, with copy of quantities, on application to Messrs. WM. G. HABERSHON & PITE, 38, Bloomsbury-square, London, Park-square, Newport, and Belvedere, Tredegarville, Cardiff. Tenders will be opened at Newport on FRIDAY, JULY 25th, at ELEVEN o'clock precisely. The lowest or any Tender will not necessarily be accepted.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.—ARUNDEL and LITTLEHAMPTON BRANCHES.—TO BUILDERS and CONTRACTORS.—The Directors of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the ERECTION of the STATIONS, GOODS SHEDS, WAREHOUSES, ENGINE-SHEDS, CLERKS' HOUSES, COTTAGES, and other BUILDINGS required at the following places upon the Branch Railways between Arundel and Littlehampton, Angmering, and Houghton, all in the county of Sussex. Drawings and specifications will lie for inspection at the Office of the Engineer, Mr. JACOMB HOOD, No. 7, Parliament-street, Westminster, S.W. on and after MONDAY, the 14th inst. and Tenders, upon the prescribed form only, must be delivered to the undersigned, at the London Bridge Terminus, not later than TWELVE o'clock, on MONDAY, the 21st of July next.

FREDERICK SLIGHT, Secretary.

N.B. The Directors will not be bound to accept the lowest or any Tender

London Bridge Terminus, 9th July, 1862.

[*For remainder of Contracts see next Page.*

CONTRACTS.

PARISH of ST. MARY ABBOTTS, Kensington, in the County of Middlesex.—CONTRACT for BROKEN FLINT.—The Works, Buildings, and Sanitary Committee will meet at the VESTRY HALL, Kensington, on FRIDAY, the 18th instant, to receive TENDERS for the supply of 2,000 yards of BROKEN FLINT, to be delivered at the Draw Dock, Hammersmith, free of all tolls, in three quarters, and in such quantities at a time as may be directed by Mr. JAMES BROADBRIDGE, the Surveyor to the Vestry. The whole quantity to be delivered within two months after the acceptance of the said Tender. Form of Tender and further particulars may be obtained on application at Mr. BROADBRIDGE'S office, Vestry Hall, aforesaid. Tenders to be sealed and endorsed "Tender for Flints," and to be delivered at my Office by or before FOUR o'clock in the afternoon of FRIDAY, the 18th instant. No Tender will be received unless made upon one of the said printed forms. The Vestry do not bind themselves to accept the lowest or any Tender. The Contractor to enter into a written Contract and to pay the expense thereof.—By order.

REUBEN GREEN, Clerk of the Vestry.

Vestry Hall, Kensington, 9th July, 1862.

PARISH of St. MARY ABBOTS, Kensington, in the County of Middlesex.—CONTRACT FOR BROKEN BLUE GUERNSEY GRANITE.—The Works, Buildings and Sanitary Committee will meet at the Vestry Hall, Kensington, on FRIDAY, the 18th inst., to receive TENDERS for the supply of 1,000 yards of BROKEN BLUE GUERNSEY GRANITE, to be delivered at the Dock, Hammersmith, free of all tolls and other charges, and in such quantities at a time as may be directed by Mr. JAMES BROADBRIDGE, the Surveyor to the Vestry. The whole quantity to be delivered within one month after the acceptance of the said Tender. Form of Tender and further particulars may be obtained on application at Mr. BROADBRIDGE'S office, Vestry Hall, aforesaid. Tenders to be sealed and endorsed "Tender for Granite," and to be delivered at my Office by or before FOUR o'clock in the afternoon of FRIDAY, the 18th instant. No Tender will be received unless made upon one of the said printed forms. The Vestry do not bind themselves to accept the lowest or any Tender. The Contractor to enter into a written contract and to pay the expense thereof.—By order,

REUBEN GREEN, Clerk of the Vestry.

Vestry Hall, Kensington, 9th July, 1862.

TO BUILDERS.—Parties desirous of CONTRACTING for the ERECTION and COMPLETION of a BLOCK of BUILDINGS, consisting of a square of 120 feet by 120 feet, at Goole, Yorkshire, may see the plans and specification at Mr. SMALLS, Bookseller, Goole, or at my Office. N.B. Quantities furnished. The lowest or any Tender not necessarily accepted.

R. CLARKE, Architect, Nottingham.

METROPOLITAN BOARD of WORKS, MAIN DRAINAGE of METROPOLIS, WESTERN SEWERS.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give Notice, that they will receive in Office of the Board, Spring-gardens, S.W. on FRIDAY, the 1st of AUGUST next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of BRICK SEWERS, four miles 1 furlong 16 in length, or thereabouts, with other works in connexion therewith, commencing at a point near the River Thames and the West London Extension Railway at Fulham, and terminating near to Chiswick-mall; and from the King's-road near Sandsend-lane to Fulham Bridge, situated in the respective parishes of Fulham and Hammersmith, in the county of Middlesex. Parties desirous to submit TENDERS may, upon payment of 2l. obtain plans, sections, specification, form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m.; or on SATURDAYS (before 1 o'clock) between NINE a.m. and TWO p.m.; and after THURSDAY, the 24th JULY instant, until THURSDAY, the 31st instant. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on THURSDAY, the 31st instant, and no Tender will be received after that hour. The Tenders delivered must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works. JOHN POLLARD, Clerk of the Board.

Spring gardens, S.W. 7th July, 1862.

TO BUILDERS desirous of TENDERING for the ERECTION of a SMALL HOUSE at Orpington, St. Mary's Cray, Kent. Can apply to Mr. JAMES G. STAPCLTON, Jun. 12, Cannon-street. The lowest or any Tender not necessarily accepted.

TO BUILDERS and CONTRACTORS.—Alms-houses to be built near Wallsall. The Saltersʼ Company having it in contemplation to BUILD ALMSHOUSES according to plans and specifications already prepared, are desirous to receive the names of parties willing to TENDER for the same, and desirous of being supplied with the specification of works, and particulars of quantities. Names to be addressed to the Clerk at the Office of the Clerk, at the Company's Hall, No. 87, Southwark-bridge.

EDW. THOMPSON, Clerk of the Company.

Saltersʼ Hall, 3rd July, 1862.

BLYTH and TYNE RAILWAY.—CONTRACTS for MATERIALS for PERMANENT WAY.—The Directors are desirous of receiving offers before THURSDAY, the 31st instant, TENDERS for the following MATERIALS, viz :—

1,300 Tons of RAILS.
550 Tons of CHAIRS.
80,000 Wrought Iron SPIKES
10,000 Wrought Iron FISH PLATES
20,000 Wrought Iron FISHING BOLTS.
10,000 LARGE CHAIRS, in Lots of 300 and upwards.
40,000 OAK KEYS.
40,000 WOODEN CUSHIONS for Chairs.

Specifications and further particulars can be obtained at the Offices of Mr. J. F. TONE, C.E. No. 10, Market-street, Newcastle, on and after the 14th instant.

Newcastle-upon-Tyne, 3rd July, 1862.

TO PAINTERS, &c.—The Churchwardens of St. Peter's, Walworth, are ready to receive TENDERS for SCRAPING and PAINTING two coats of oil colour, the IRON GATES and the RAILINGS surrounding the Church. Tenders may be addressed to the Churchwardens, care of Mr. S. D. GARWOOD, 6, Scott Terrace, Lorrimore-road, Walworth, S. Terms, cash, on completion.

TO BUILDERS.—The Guardians of the Poor of the Wandsworth and Clapham Union will MEET at the UNION WORKHOUSE, East-hill, Surrey, on THURSDAY, the 31st day of JULY instant, at TWO o'clock in the afternoon, to consider TENDERS for the ENLARGEMENT of the UNION WORKHOUSE. Tenders to be sealed and endorsed "Tender for Enlargement of Workhouse." No Paper will be received after ONE o'clock, and no one need attend unless he is willing to enter into sureties prescribed, and the party or parties tendering have attendance. Satisfactory securities will be required for the due performance of the works, and the Board do not pledge themselves to accept the lowest or any Tender. The plans, specifications, and forms of Tender and Contract may be seen and further particulars obtained at the Office of the Architect, Mr. G. H. PAGE, Spencer-road, New Wandsworth, S.W. on or after the 21st instant, between the hours of NINE and TWO

GEORGE FREDERICK MERRIMAN, Clerk

Clapham-common, 3rd July, 1862

POLYTECHNIC.—What I saw at the International Exhibition; or, Half-an-Hour's Advice to Intending Visitors, by Professor J. H. PEPPER, F.C.S. A first GRAND Lecture by J. H. Pepper, on Tuesday, Thursday, and Saturday, at half past 12 and quarter-past 7, on "Some of the Chief Scientific Specialities of the International Exhibition." Here Novelties will pass his remarkable machines of the Lark, the Nightingale, and the British Lads and Arabs. Engagement of Geo. Buckland, Esq. for his Buffo-Musical Entertainments.—New Gorgeous Scenic Optical and Prismatic Fountain Spectacle.—Beautiful Dissolving Views, illustrating London in An cient and Modern Times. Paris as it is. The Holy Land. Concerts by the BROUSIL FAMILY. Seaweekly programme of 8 pages. Open from 11 to 5, and half-past 6 to 10. Admission 1s.—N.B. On Wednesday evening, July 16, the Institution will be closed to the public.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 9-inch Pavings, at 37s. 6d. per 1,000.
" Kiln Bricks, at 28s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. Also at 25,000 Bricks lying at Devonshire street Station, at 26s. per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. 6 inches.
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge-tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 30,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty, 75l.

Licences to Manufacture granted for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Snuff borough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, N. 1,310.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

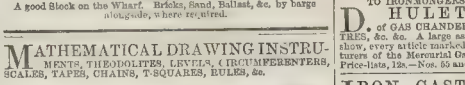
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM CUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH
Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 33-inch, 3s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsman's use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN
LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

THEODOLITES, LEVELS, TRANSIT THEODOLITES, DRAWING INSTRUMENTS, SCALES, &c.

C. BAKER,

243 and 244, HIGH HOLBORN,

Begs to inform Civil Engineers, Architects, and others, that, having recently made extensive alterations in his premises, whereby greater facility for manufacturing to order will be now enabled to supply every description of first-class SURVEYING and DRAWING INSTRUMENTS, at prices very much lower than is generally charged for superior workmanship. Every article manufactured on the premises. Alterations and repairs executed with despatch. A large assortment of second-hand Levels, Theodolites, &c. in stock, at extremely low prices.—Catalogues free, by post.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES.

CARY & PRIER,

DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

CANNON IRON FOUNDRY, 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

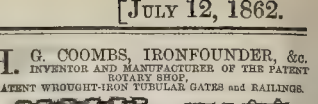
IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Engineering, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.

PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,

And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—17, Union-street, Borough; and 264, Great Guildford-street.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;

SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON.

Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tipped Sheets and Tiles for export.

IRON WORK GALVANIZED.

Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the most efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame

D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi),

Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street, London, E.C.

THE Directors of the Boston Gas Company have FOR SALE TWO very STRONG GASHOLDERS. Dimensions of each—diameter, 36 feet 6 inches; depth, 14 feet. They are worked by counterbalance weights, are in excellent working order, and may be inspected any day on the works. Working capacity, 12,000 feet each. The above are offered for sale in consequence of being replaced by larger ones, and they will be sold cheap.—For price and particulars apply to WM. STOUT, Manager.

Boston, Lincolnshire, July 4th, 1862.

DREDGING-MACHINE and BARGES WANTED.—Any person having a good DREDGING-MACHINE, with the necessary HOPPER BARGES, for DISPOSAL, may hear of a purchaser by applying, by letter only, stating fullest particulars as to capabilities, years, and lowest price, to X. Y. Z. care of Messrs. Waterlow & Sons, 24, Birchin-lane, Cornhill, London.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 24, Davies-street, Three Doors from Oxford-street.

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connexion with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.

N.B.—The usual discount to builders and the trade.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.

Also to be seen in extensive operation at their Premises, King's-road, Chelsea.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

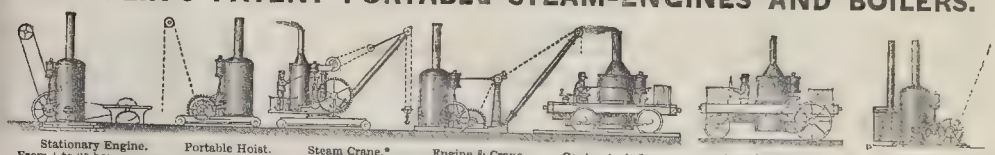
GATES.
CIRCULAR STAIRCASES.
BALCONIES.
TOMB RAILING.

VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane.* 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

* These Cranes were selected by Her Majesty's Commissioners to receive and deposit the heavy machinery in the International Exhibition.

Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

CRANSTON-HILL ENGINE WORKS, GLASGOW.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



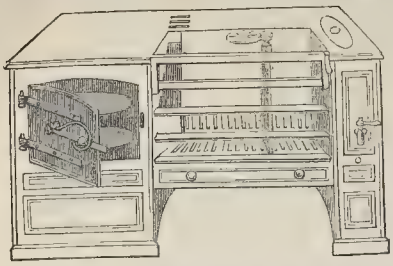
HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. ARNOTT'S Improved Ventilators. HULETT & CO. 85, High Holborn.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LA GE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.
34 inches ..... 54s.
36 ,, ... 56s.
38 ,, ... 58s.
42 ,, ... 60s.

Self acting Cottage, with Oven and Back Boiler.
30 inches ..... 22s.
32 ,, ... 24s.
34 ,, ... 26s.
36 ,, ... 28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 6d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 46s. to 100s. each.
Best Cut Clasp and Rose Nails.
1-inch. 14s. | ¾-inch. 14s. | 2-inch. 13s. | 2½-inch. 12s. | 3-inch. 11s. 6d. per cwt.
Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½-in.	3 in.
Cast Rain-water Pipe....	8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on....	10d.	1s per yard.

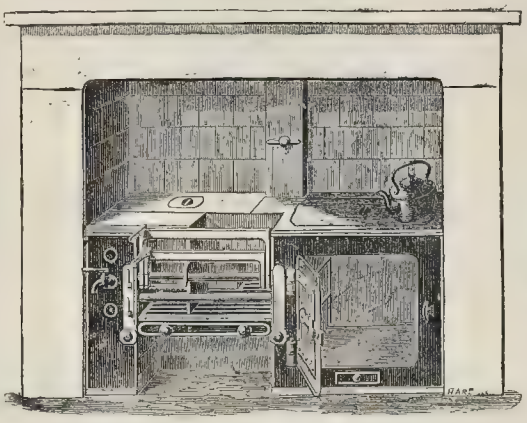
	2	3	4	5	6
Patent Line..	3s 6d.	4s.	5s.	7s.	9s. per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock. Any size made to order.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.



This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Muitum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

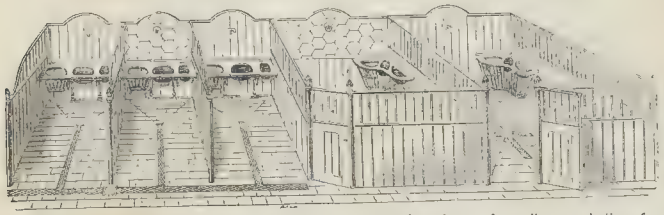
Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

COTTAM & CO. WINSLEY STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF
THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS
COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation, preventing foulness in the rack, facility in fixing, safety from accident, durability in construction and cleanliness in use.

STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.

COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

KNIGHTLEY'S PATENT STABLE FLOOR.

ILLUSTRATED CATALOGUES FREE, on application to
COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.
COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.
N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

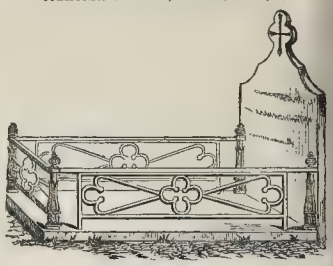
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.
Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

IRON RAILINGS for ENCLOSING

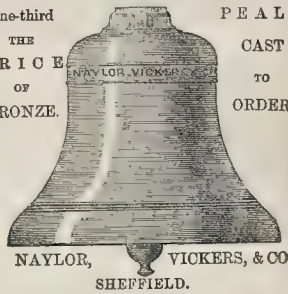
TOMBS and GRAVES,
COMMUNION RAILINGS, SCREENS, GATES, &c.



Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY STREET, OXFORD STREET,
LONDON, W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.

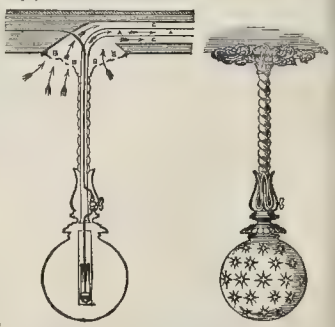


PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

RICKET'S & HAMMOND'S VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these:—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W C.

THE ALPHA TUBE WORKS,
WALSALL, STAFFORDSHIRE. ESTABLISHED 1830.
LAMBERT, BROTHERS,
Manufacturers of **WROUGHT IRON TUBE and FITTINGS,**
FOR **HIGH-PRESSURE-WATER**; OR STEAM.

GALVANIZED IRON AND ZINC WORKS.
GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.
VAVASSEUR AND CO.
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

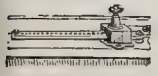
J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their
BATH APPARATUS,
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.
Illustrated Catalogues to be had of the Manufacturers,
J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

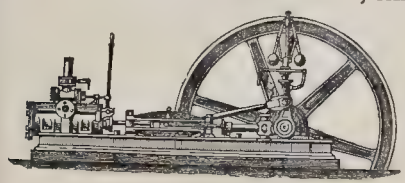
MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.
By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.




PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.
PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.
PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,
AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,

MANUFACTURERS OF
HORIZONTAL
AND
VERTICAL
STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB WINCHES, &c.
SEVERAL ALWAYS READY FOR DELIVERY.
Price List forwarded on application

HART AND SON,
MEDIÆVAL METAL WORKERS,
IN SILVER, BRASS, & WROUGHT-IRON.

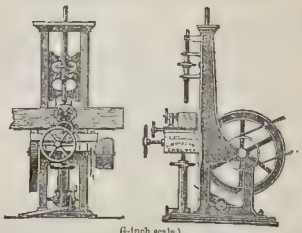
HALL LIGHTS, STANDARDS, PENDANTS, BRACKETS, GRATES, FENDERS, VANES, CROSSES, FINIALS, ALTAR AND TOMB RAILS, ALTAR PLATE, ALTAR CHAIRS, &c.
53 to 58, WYCH STREET, STRAND, W.C.
And 20, COCKSPUR STREET, PALL-MALL.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.

Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit street, W
Drawings and Estimates furnished.

THOMAS ROBINSON
and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*

Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, 8, CANNON E.C.

S. WORSSAM & CO.'S PATENT
IMPROVED POWER MORTISING MACHINE.

(¼-inch scale.)
Combines many improvements not to be found in any other mortising machine. A single machine, worked by a man, with a boy to assist in removing the stuff, will do as much work as ten chisels, or as four hand-machines.—For prices Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Birmingham, and Limehouse.

Every description of Iron Work Galvanized.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,
STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.
Descriptive, illustrated, and Priced Catalogues free per post.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co)



NUT PLATE.

WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.

We invite particular attention to the PATENT LOCK FURNITURE, which we consider the-state to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New and Designs in glass, china, brass, bronze, gilt, carved woods, inlaid &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of Locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and particulars sent upon application.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.
Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

CHUBB'S WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

OF VARIOUS SIZES, FOR STRONG ROOMS,

AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other advantages.

The floors and roofs are formed by a combination of joists of wrought iron, filled in with concrete, so constructed that each floor becomes in effect a mass of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or tile, cement, asphalte, tiles, slate, or other material.

Some of the very largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended by the test of all who are interested in it, as being both as superseding the necessity for cast iron girders and brick arches, and as securing the great desideratum of fire proof construction, even for the ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

NOTICE TO BUILDERS AND CONTRACTORS.

HENDERSON'S PATENT DERRICK CRANES,

sizes from 1 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 2 cwt. upwards; Cranes, Hoists and Sack Power Crab Winches, all sizes.—For further particulars apply to BOWSER & CAMERON, Springfield Iron-works, McNeil-street, Glasgow.

A PRIZE MEDAL for SUPERIOR LOCKS

was awarded to J. H. BOOBYER, at the Great Exhibition of 1851, which attracts the attention of Bankers, &c. to his stock of Iron mongery. Lever Foundry, Nails (wrought and cut), Copper, and Zinc, Patent Locks of all descriptions, Chairs, Glass, and Wood Furniture of all kinds, with Patent Shifting Spindles; Dr Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6d. 8s. each.

J. H. BOOBYER (late STURCH & BOOBYER), established nearly 300 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Staithope-street, Clare-market, London.

HUTHNANCE'S PATENT ECONOMIC LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS,

Is strongly recommended to public notice, as being the most efficient and economic arrangement for the purpose of drying linen, clothes, bedding, &c.; specially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c. &c.; as, in a sanitary point of view, it is invaluable; the DRYING-ROOM being raised by its use to a very high temperature, whilst the IRONING ROOM is kept AGREEABLY COOL and WELL VENTILATED.

The consumption of fuel is extraordinarily low, in a small degree, it causes a saving of from 10 to 20 cwts. of coals in four months, whilst for simplicity of arrangement and readiness of use it cannot be surpassed.

No BLACKS or SOOT can enter the dry linen.

The Apparatus may be seen in full operation at numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS.

Detailed Plans and illustrated Particulars forwarded upon application to Mr. HUTHNANCE, SOLE PROPRIETOR and MANUFACTURER, 5, JERMYN STREET, REGENT STREET.

A large Model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES,

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.



At the late Meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended;" being the only prizes conferred on any competitor in this class.

Full particulars will be sent on application to the Inventor and Makers, MUSGRAVE, BROTHERS, Annadale Ironworks, Belfast.

TELEGRAPHS.

REID BROTHERS, 12, Wharf road, City-road, near the Gutta-percha Works,

Telegraph Contractors to the following Telegraph Companies:—

THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.

Are now prepared to give estimates and execute contracts for firms and private companies, in town and country. Gentlemen's private houses fitted up with simple and efficient telegraphs, on the most economical terms. All communications addressed to the above will meet with immediate attention.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three eighths inch diameter	1s. 0d. per foot.
Half inch diameter	1s. 6d. "
Five eighths inch diameter	2s. 0d. "

R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" Gateshead-on-Tyne.
" 27, Dale street, Manchester.
" 68, Andrew's lane, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange buildings, Dundee
" 7, Fredericks-street, Aberdeen.

PROTECTION FROM LIGHTNING.





LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

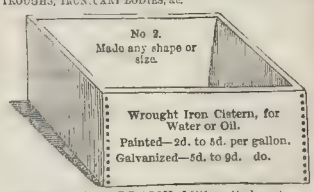
TRADE MARK.

CROWN TUBE WORKS,

WEDNESBURY, STAFFORDSHIRE.
Warehouse—21, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

WROUGHT-IRON TANKS, CISTERNS,

GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall Iron Works.

LOSH, WILSON, & BELL,

NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Tubular Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

WANTED, a NEW or SECOND-HAND MACHINE for MIXING CONCRETE.

—Particulars as to description, and price to be sent to JOSHUA HARGRAVE, Jun. Victoria Quay Works, Cork, Ireland.

IRON BUILDINGS and IRON ROOFING.

SAMUEL C. HEMMING & CO.
21, MOORGATE-STREET, E.C.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION IN PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect non-absorbency; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They weigh only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
WOOD-WORKING ENGINEERS, FIXED AND PORTABLE ENGINE MAKERS, FOR SALE OR HIRE.
CLASS No. 7. INTERNATIONAL EXHIBITION. STAND No. 1688.
OFFICE, 23, WATLING STREET, E.C. where Letters and Applications for Machinery are to be addressed.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.
Testimonials from Architects, Bankers, &c. of their security and durability forwarded.
MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.
Agent for the Crystal Glass Pillars and Sash Bars.

PURE STATUARY MARBLE! and in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS, 383, EUSTON-ROAD, London, N.W.
Prices moderate.
M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their designs carried out with great care and exactness. Established 1821.

MARBLE CHIMNEY-PIECES of every Description, also enamelled Slate, to be SOLD at 370, MARYLEBONE ROAD (opposite the Yorkshire Stingo).
DARK STONE BOX CHIMNEY-PIECE, with MOULDED CAP and BASE, 7s. FITTED TO ANY OPENING.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries.—Earl-street, Horseferry-road, Westminster.—The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price. International Exhibition, Class XC The largest Marble Chimney-piece in the world.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

BELLMAN & IVEY,
SCAGLIOLA MARBLE MANUFACTURERS,
14, BUCKINGHAM-STREET, FITZROY SQUARE,
LONDON, W.
Execute, in the most workman like manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION,
IN THE VERY BEST MANNER AND ON THE MOST
REASONABLE TERMS.
Also Manufacturers of Superior and Improved Plaster of Paris.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship. Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN WEST END DEPÔT for Yorkshire Paving, Portland and Derby Stone, Bunger Slates, Slate, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 20, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

CAEN and AUBIGNY STONE. POUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANNEE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, Bond-on.

LIME GROVE ESTATE, Putney.—This fine estate, containing altogether about forty acres, and immediately adjacent to the Putney Station, and near to Putney Heath, with very extensive frontages on Putney-hill and the Upper Richmond-road, TO BE LET on building leases, either as a whole, or in part.—For particulars, apply to Messrs. BAXTER, ROSE, & Co. 6, Victoria-street, Westminster; Mr. POWNALL, 60, Lincoln's Inn-fields; or Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament-street.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive Manufacturing Premises, known as TREDEGAR WORKS, Bow, Machine Shop, 61 feet by 54 feet; two ranges of workshops, 74 feet by 25 feet; steam-engine, boilers, forge, sheds, stabling, counting-house, and other conveniences suitable for a large factory.—For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

TO ENGINEERS, FOUNDERS, and IRONMONGERS.—TO BE LET, on very desirable terms, extensive MANUFACTURING and ENGINEERING PREMISES, with capacious Warehouses, well lighted, and Cellarage underneath the whole, situated in a principal street in the centre of London. The Premises are freehold, excepting a small part, which is leasehold. The business has been carried on most successfully for many years, and the plant and stock have just been valued. The present Manager, with a staff of workmen, is willing to continue under a new employer. Every information can be obtained on application, or the first reference by letter, with the real name and address to THOMAS SMITH, Valuer to the Hardware Trade, 14 and 15, St. Swithin's-lane, London, E.C.

DRAIN-PIPE WORKS and BRICKFIELD TO BE LET, with access to the rail and river. A very large country demand for drain-ware goods especially, and great facilities for obtaining firing at a low rate.—Apply to MESSON & CO. 8, George-yard, Lombard-street, E.C.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in lots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

ALDEBURGH, Suffolk.—TO BE SOLD, in plots, or let on building leases, an eligible FREEHOLD ESTATE, suitable for marine residences, close to the railway station, with an uninterrupted sea view. Brick earth, gravelly soil, and springs of the purest water on the estate.—For plans and particulars, apply to Mr. RICHARD LEE MAYHEW, Solicitor, Saxmundham, Suffolk; or of Mr. GEORGE ELKINGTON, Architect and Surveyor, 15, Cannon-street West, London.

CHEAPSIDE.—VALUABLE BUILDING SITE.—Notice is hereby given, that the time for receiving TENDERS has been EXTENDED to AUGUST 25.—Plans, particulars, and conditions of Tender may be seen, on application to the Clerk, Saddlers' Hall, E.C.; or to Mr. F. W. PORTER, Architect, 18, Russell-square, W.C. between TEN and FOUR.

MANUFACTURING WATER-SIDE PREMISES, on the Thames.—TO BE SOLD or LET on LEASE, the extensive PREMISES lately occupied as the Distillery at Brentford, occupying a site of about 4 acres, having a considerable frontage next the Thames; a plentiful supply of pure spring water, and well placed for land or water carriage, being but a short remove from the Brentford Docks, and immediately contiguous to three lines of railway. There are some very capacious and substantial buildings, and a good dwelling-house with large garden; the whole presenting advantages for any large manufacturing establishment. For further particulars apply to ST. P. B. HOOK, Esq. Solicitor, 9, Lincoln's-inn-fields, W.C.; or to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

TO CAPITALISTS and BUILDERS. TO BE LET, in perpetuity, in large or small plots, and at low rates, the BELMONT, SYDENHAM, and GLEN-MACHAN ESTATE, IRELAND. The estate is of more than 700 acres in extent, and is situate within two miles of Belfast, on the borders of Belfast Lough. The main roads are made; there is a stone quarry and large quantities of brick-earth on the estate. Bricks, stone, and sand may be had at low prices. A church and a large number of first-class villas have already been erected and have let readily. Close to the estate there are two stations on the Holywood branch of the County Down Railway, which runs along the western boundary of the estate. The vicinity of the estate to Belfast, the picturesque views of the adjacent sea and of the surrounding country, with many natural advantages, render this estate particularly suitable for the erection of first-class villas, for which there is a large demand. Plans may be seen and particulars obtained of Messrs. HOVENDEN & HEATH, Surveyors, 3, Broad-street-buildings, London, E.C.; and of THOMAS MACLURE, Esq. Belmont, Belfast, Ireland.

FREEHOLD BUILDING LAND FOR SALE, near Park Station, on the Eastern Counties Line. Gravelly soil; roads and drains made. Extent, 7½ acres.—Particulars, by letter, addressed to C. R. Charles Barker & Sons, 8, Birchin-lane, City.

REIGATE, SURREY.—TO BE SOLD, FREEHOLD LAND, varying from 3 to 6 acres, commanding most extensive views, with good approaches, and well timbered, offering choice sites for the erection of a residence. Land to be redeemed; building-stone on the land. A portion of the purchase-money may remain on mortgage.—Apply, by letter, to Mr. CHAMBERS, Reigate.

FREEHOLD SITES for BUILDING and FREEHOLD HOUSES can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to G. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

WANDSWORTH ROAD, near Nine Elms. BUILDING LAND TO BE LET, on Leases, at low ground rents, with advances, if required.—Apply to Mr. TAYLOR, 9, The Lawn, South Lambeth.

TYSSEN-AMHURST ESTATE.—LAND TO BE LET for BUILDING, in different parts of CLAPTON, HACKNEY, and KINGSLAND.—For plans and particulars apply to Mr. CHESTER CHESTON, Architect and surveyor, at the Offices, Church-street, Hackney, N.E. near the Railway Station.

BELVEDERE, near Erith, Kent, S.E.—To BUILDERS and GENTLEMEN desiring to RESIDE or to ERECT RESIDENCES near London.—This beautiful Park is to be thrown open for building at the new year, 1863. Probably no district to the east of London has equal natural advantages. The beauty of the river and land scenery is well known. The soil is dry and healthy, the water pure and abundant. There are stations on the North Kent Railway at Erith and at Belvedere. The former, near to the east end of the Park; the latter, within four minutes' walk of the west end of the Park, and respectively and Lessees Heath, parts of the estate. By the end of 1862, it is expected that there will be complete railway communication to Charing Cross. Picardy, close to the Belvedere Station and Lessees Heath (close to the Belvedere Church and School) are already partially and tastefully covered with buildings, viz. villas of different classes, from 25l. to 70l. a year, and shops of various descriptions; some plots, however, may still be had there. Some sites in the park are eligible, and it is intended to grant leases of other similar plots for ninety-nine years, for erecting villas of a superior description. Plots will be laid out contiguous to four principal roads running through the park. These are the Park road, leading from the Belvedere station to Brook-street; the Avenue-road and the Tower-road, each leading from the public Erith-road at different points to the Tower; and the Valley road, leading from the Erith Lodge to the archway in the park. The ground rents are very moderate.—Applications for plots of land, and for other particulars may be addressed to Messrs. WM. G. HABERSHON & PITT, Architects, 35, Bloomsbury-square, W.C. Mr. STICKLAND, Lessees Heath, will show the ground to persons applying. The mansion will also be let on lease after April, 1863, for an hotel or public school, or other public institution.—For particulars apply to Messrs. NORTON & HODGART, Old Broad-street E.C.

TO BE LET, on a Building Lease or Leases, FOURTEEN ACRES of FREEHOLD LAND, situate in the Fulham-road, facing the Cemetery Gates.—Apply to Mr. CHARLES LEE, 20, Golden-square, Westminster, Architect.

TO BUILDERS, &c.—WANTED, PREMISES suitable for a BEER-HOUSE.—Address, A. B. No. 185, Grange-road, Bermondsey.

TO BE SOLD, under cost, the money being required immediately, a PLOT of FREEHOLD LAND, in a rapidly-improving neighbourhood, the Gurney-road, Stratford, E.; it is 56 feet wide by 150 feet deep, well drained, and gas and water are laid on. Price 45l.—Apply to ALPHA, No. 204, Great St. Helen's, Bishopsgate-street, City.

BUILDING LAND.—TO BE LET, at Castle Hill, Dover, on Building Leases for 99 years, Good Sites, on main roads, for Houses, Villas, &c. The ground commands good views of the sea, all steamers, &c. passing, and is one of the most picturesque spots in Dover. The new church of St. James is on the estate.—For further particulars apply to JAMES STILWELL, Esq. Solicitor, Dover; or of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall Mall, S.W.

TOOTING, SURREY. — FOURTEEN ACRES of valuable FREEHOLD BUILDING LAND for SALE, beautifully situate on the high ground near the Common, at six miles from London and Westminster Bridges, and one mile and a half from Tooting Station and Streatham Station. The land is well in front, has a gravelly subsoil, slopes to the south, commands extensive views, and offers a delightful site for residences, or for a public institution.—For particulars, apply to Messrs. DERENHAM & TEWSON, Estate Agents, 80, Cheapside, where a plan may be seen.

TO BE DISPOSED OF, extensive, old-established BUSINESS and PREMISES, in the best part of King's-road, Chelsea. The premises will be sold or let off, and would more than clear the whole.—For further particulars, apply at 153, King's-road, Chelsea.

TO CARPENTERS and JOINERS.—TO BE LET, in St. John's-wood, a WORKSHOP, with good BUILDING BUSINESS, established forty years. Excellent opportunity for an energetic man. As the proprietor is retiring, a small amount only required for the utensils and fixtures.—Apply to Mr. GOODCHEAPE, House Agent, 12, Hanover place, Clarence-gate, Regent's-park, N.W.

OLD-ESTABLISHED BUILDER'S BUSINESS TO BE LET, with immediate possession, situate at Alton, Hants, the centre of the Oldest Hop District of the South-Western Railway, and two hours from London. Stock not required to be taken. The premises consist of Dwelling-house, Counting-house, roomy workshops, stores, sawpit yard, garden, &c. This presents a good opportunity for any person wishing to engage in the building business.—Particulars of Messrs. CLEMENT, Solicitors, Alton; or of Mr. E. HELLIS, Woodside, Alton, Hants.

TO CARPENTERS, &c.—TO BE DISPOSED OF, a Capital BUILDING BUSINESS. Nothing of the stock to purchase.—Apply to Messrs. [illegible] and Lewis, [illegible]

TO BUILDERS, CONTRACTORS, and ARCHITECTS.—Wanted to PURCHASE the Good-will, Plant, and Stock of a Builder's, Contractor's, or Builder's and Architect's BUSINESS.—Principals only treated with. Letters addressed to Mr. BEARDEN, 91, Piccadilly, shall meet with immediate attention.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railway or farm use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DORBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

C. H. T. BIKKER, 110, Bradford-street, and 102, Cheapside, Birmingham, ARTIST in ECCLESIASTICAL DECORATIONS, HOUSE and CHURCH DECORATOR. Wall painting, staining, and leading in the three styles of the twelfth, thirteenth, and fourteenth centuries. Every description of ecclesiastical writing, labelling, and Gothic decorations; also Egyptian, Roman, and Grecian decorations executed in or carried in accordance with the several styles. Experienced artists sent to any part of the United Kingdom. Architects' designs carried out by experienced decorators, or drawings furnished if required. Specimens may be seen fully carried out at the above address.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the unmixed Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

This day is published, in large 8vo. bound in cloth, price 8s.

THE RELATIVE VALUE of ROUND and SAWN TIMBER, shown by means of Tables and Diagrams. With Explanatory Remarks.

By JAMES RAITT, Land Steward at Castle Forbes.

WILLIAM BLACKWOOD & SONS, Edinburgh and London.

Now Complete in Two Volumes, price 2l. 2s. cloth lettered,

The BOOK of FARM BUILDINGS: their Arrangement and Construction. By HENRY STEPHENS, F.R.S.E. Author of the "Book of the Farm," &c.; and ROBERT SCOTT BURN, Engineer, Royal Navy. Illustrated with twenty-eight Engravings on Copper, and 1,017 Engravings on Wood. Half-bound, 1l. 11s. 6d.

Uniform with the above:

THE BOOK of the FARM. By HENRY STEPHENS, F.R.S.E. 2 vols. royal 8vo. with Engravings. Price 3l. half-bound.

THE BOOK of FARM IMPLEMENTS and MACHINES. By JAMES SLIGHT and R. SCOTT BURN. Edited by HENRY STEPHENS, F.R.S.E. Royal 8vo. with 375 Engravings. Price 2l. 2s. half-bound.

THE BOOK OF THE GARDEN. By CHARLES M'INTOSH. 2 vols. royal 8vo. with 1,235 Engravings. Price 4l. 7s. 6d. half-bound. Each Vol. sold separately—viz.: Vol. I. Architectural and Ornamental, price 2l. 10s.; Vol. II. Practical Gardening, price 1l. 17s. 6d.

THE FORESTER. By JAMES BROWN, Wood-Manager to the Earl of Seafield. Third Edition, greatly enlarged, in 1 vol. 8vo. with numerous Engravings on wood. Price 1l. 1s. half-bound.

"THE BUILDER"—February and March, 1862, Numbers or Parts.

A few Copies of the above dates are required.—Apply to the Publisher, at the Office, 1, York-street, Covent garden, W.C.

NEW WORK ON VENTILATION.

Now ready, with Seven Plates and Three Woodcuts, 8vo. 8s 6d. cloth (postage 6d.)

A TREATISE ON VENTILATION, Natural and Artificial.

By ROBERT RITCHIE, C.E. Associate of the Institution of Civil Engineers, London, author of "Railways: their Rise, Progress, and Construction," "The Farm Engineer," &c.

London: LOCKWOOD & Co. 7, Stationers'-hall-court, E.C.

Just published, half sheet imperial, in stiff cover, price 10s. 6d.

SUGGESTIONS for the FORMATION of a NEW STYLE of ARCHITECTURE, specially adapted to CIVIC PURPOSES.

By T. MELLARD READE, Architect, Liverpool.

Containing Seven Plates and a Treatise on the Growth and Development of existing Styles, and an Inquiry into the Principles by which they have been evolved.

A limited number of Plates Paper.

London: JOHN WEALE, 59, High Holborn.

AN INTRODUCTION to the STUDY of GOTHIC ARCHITECTURE By JOHN HENRY PARKER, F.S.A. Second Edition, revised and enlarged, with 370 Illustrations, and a Glossarial Index, fcap. 8vo. cloth lettered, price 5s.

AN ATTEMPT to DISCRIMINATE the STYLES of ARCHITECTURE in England, from the Conquest to the Reformation: with a Sketch of the Grecian and Roman Orders By the late THOMAS RICKMAN, F.S.A. Sixth edition, with considerable additions, chiefly Historical, by JOHN HENRY PARKER, F.S.A. and numerous Illustrations by O. JEWITT. 8vo. cloth, 21s.

[Nearly ready.

SOME ACCOUNT of DOMESTIC ARCHITECTURE in England. With numerous Illustrations of Existing Remains from Original Drawings From William I. to Henry VIII. By the late T. HUDSON TURNER, and J. H. PARKER, F.S.A. In 4 vols. 8vo. with 400 Engravings, and a General Index, price 3l. 12s.

"People do not realize the fact that Gothic ever was a prevalent civil style. Mr. Parker's beautiful volumes on English Domestic Architecture come in most opportunely to drive away this error. His book opens to us a vast store of exquisite remains of Mediæval civil architecture still existing in our country, and gives some glimpses of far richer stores which exist in other lands. The popular ignorance of this subject is truly amazing. Our land is still studded with beautiful fragments of mediæval domestic art; only the difficulty is to make people believe that they are domestic."—*The National Review*, January, 1862.

Oxford, and 377, Strand, J. H. & J. PARKER.

NEW WORK by WILLIAM TEMPLETON.—Now ready, 18mo. 2s. 6d. cloth (postage 2d.),

THE ENGINEER'S, MILLWRIGHT'S, and MACHINIST'S PRACTICAL ASSISTANT: a Collection of valuable Tables, Data, &c.

By WILLIAM TEMPLETON, Author of "The Operative Mechanic's Workshop Companion," &c.

LOCKWOOD & CO. 7, Stationers'-hall court, E.C.

This day, a third edition, Atlas of Plates, folio, with separate text, 12mo. price together, 1l. 5s. (postage 1s.),

ON IRON SHIPBUILDING, with Practical Examples and Details, in 24 Plates; together with Descriptions, Explanations, and General Remarks.

By JOHN GRANTHAM, C.E. Consulting Engineer and Naval Architect.

LOCKWOOD & CO. 7, Stationers'-hall-court, E.C.

Just published, price 2l. 2s.

MANUAL of HYDROLOGY.

By NATHANIEL BEARDMORE, Civil Engineer.

CONTAINS—

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 68, London-wall. 1862.

THE EDINBURGH REVIEW, No. CCXXV. will be published on WEDNESDAY, 16th JULY.

CONTENTS:

I. THE EXPLORERS OF AUSTRALIA.
II. WELLINGTON'S SUPPLEMENTAL DESPATCHES
III. SIR G. C. LEWIS' ASTRONOMY OF THE ANCIENTS.
IV. EARL STANHOPE'S LIFE OF PITT.
V. TROYON'S LAUSTRINE ABODES OF MAN.
VI. WEBER'S GLEANINGS IN GERMAN ARCHIVES.
VII. IRON: ITS USES AND MANUFACTURE.
VIII. REMAINS OF MRS. RICHARD FRENCH.
IX. DOLLINGER ON THE TEMPORAL POWER.

London: LONGMAN & CO. Edinburgh: A. & C. BLACK.

THE QUARTERLY REVIEW, No. CCXXIII. will be published NEXT WEEK.

CONTENTS:

I. THE BRUNELS.
II. DEAN HOOK'S ARCHBISHOPS OF CANTERBURY.
III. SUSSEX.
IV. VOLUNTEERS AND NATIONAL DEFENCE.
V. MODERN POETRY—DRYDEN TO COWPER.
VI. INTERNATIONAL EXHIBITION.
VII. THE CHURCH AND BICENTENARY MOVEMENT.
VIII. SANDWICH ISLANDS.

JOHN MURRAY, Albemarle street.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Soudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TO ARCHITECTS and SURVEYORS.—Best DRAWING PAPERS, mounted on Cloth, in rolls of 12 yards, 27 inches wide, at 1s. 4d. per yard; 40 inches wide, at 2s. per yard; 52 inches wide, at 3s. per yard. TRACING PAPER, of all sizes, on reasonable terms. Also, a new MAP of the BRITISH ISLES, size 5 feet 6 inches by 5 feet, mounted on rollers and varnished, 1l. 10s. at J. COOPER'S, Map Mounter, 36, Fetter-lane, Holborn.

A new and most important invention, which has been for some months before the public deserving

HAY'S PATENT WATERPROOF GLUE and VARNISH, originally designed for the decks of ships. Is proved by various tests to be adapted to building purposes, and as such is commended to the attention of architects, builders, &c. From the pointed and satisfactory character of the following testimonial it will be seen that for all cases of damp or wet, this composition promises to be extremely useful:—

Testimonial of R. Hollingsworth, Esq. proprietor of the King's Rooms, Southsea, near Portsmouth, Hants.

"I have much pleasure in adding my testimony to the efficacy of the Patent Waterproof Glue, as a remedy for damp walls. One portion of my buildings was always damp; it stands close to the sea, is built over a tank; and, by the negligence of the builder, the mortar used in its construction was mixed with sea water of course the walls were perpetually steaming; every remedy was tried in vain, till we had recourse to the Patent Glue, which, I am happy to say, proved a complete success. In 48 hours after its application we were enabled to paper the walls, and, during the whole of the past humid spring, not a spot of damp has made its appearance.

"To Mr. G. Weeks, Manager of the Patent Glue Factory, Portsmouth, Hants."

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment to Her Majesty's Honourable Board of Ordnance.

The Builder.

VOL. XX.—No. 1014.

A Memorandum of the Agricultural Show at Battersea.

FINANCIALLY, it seems, the Show of the Royal Agricultural Society in Battersea Park has not been so great a success as was anticipated. Nevertheless, very large numbers of persons visited it, and many of the exhibitors are well satisfied with the result. London has been overdone with sights and meetings; and they who projected them for the time of the International Exhibition miscalculated the imbibitive powers of ordinary mortals. The show was an instructive one; and we hope that they who visited it will not be content with admiring new inventions or improvements; but will, as their opportunities serve, inquire further into them, and adopt them if satisfied. Portable steam-engines, calculated to be of use in many ways, were numerous; and road locomotives, with advanced powers, were turning and twisting about within a ring not much larger than that at Astley's: of brick and tile machines there were many specimens with conflicting claims which should be tested. Apart from the advantages which they must offer to the regular manufacturer, there are many parts of the country where the possession of a small machine would prove of the greatest convenience, and effect much saving.

Messrs. Clayton had a large shed containing brick and tile machines of various sorts in full operation. The medals they have obtained and the testimonials which are published seem to show beyond doubt the excellence of their arrangements.

The sanitary pipe, brick, and tile machine of Mr. William Pearce, of Poole, has claims for consideration. The improvement in it seems to be the introduction of a central stem to support the core of the die, obviating the necessity of the cross-bars or bridges, which have hitherto been a serious defect in the manufacture of large pipes. The upper part of the machine acts as a pug-mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die; and this arrangement, the inventor says, will produce nearly double the quantity, and of a very much superior quality, compared with any machine yet invented. This machine will make sanitary pipes from 3 inches to 24 inches in diameter. His pug-mill, for the purpose of preparing clay for brick-making and pottery purposes, consists of a cast-iron cylinder, in which the clay is worked by knives, fixed in a central shaft, that cut and press it into a plastic state, of a close and equal consistency. His patent brick machine, for steam or horse power, is similar in principle to the pipe machine, but is made horizontal for the convenience of removing the bricks, which can be produced as fast as it is possible to carry them away. "It is calculated that 1,000 bricks per hour may be obtained when working with two-horse power; but more power can be applied if desirable, and a larger result obtained."

Bulmer & Sharp, with reference to their patent brick and tile machine, say the clay requires no expensive tempering, but simply to be dug, and supplied with water sufficient to reduce it to a plastic state. It is then passed through the pug-mill, in which is fixed a series of screw knives, which press it downwards through two orifices at the bottom, into a chamber, from which, by means of a revolving arm, it is forced through dies, on to the rollers of the cutting frame,—perforated or solid bricks or tiles being produced at pleasure. Each semi-revolution of the arm forces through one of these dies a band of clay sufficient to make from four to six bricks, which is produced at either side of the mill alternately, allowing the clay to be stationary whilst being cut. The arrangement of the chamber at the bottom of the mill, and the arm revolving in it, constitute an important improvement. There would seem to be a difficulty in keeping the cutters free from clay, and unless this be done the sides and angles of the bricks would not be straight and well defined. By hand power alone they profess to produce 5,000 bricks, or 10,000 2-inch draining tiles, per day. The same firm exhibited patent sheds for drying bricks and tiles, which seem to deserve attention. The leading feature of these sheds is their economy of time and fuel. Beneath the fire-flue is an air-flue, which breaks the connection with the ground, thereby preventing the heat from the furnace drawing any moisture from the earth. The heated air from the furnace passes under the whole length of the floor of the shed, at the end of which it rises through openings in the floor into the shed, along which it travels back on its road to the chimney, drying the bricks or tiles on its way, and carrying with it the steam generated in the operation. By means of trays, resting on projecting ribs on the sides of the sheds, five tiers of bricks or tiles may be dried simultaneously. When 60 feet long and 6 feet wide, the sheds will contain 12,500 bricks, which can be thoroughly dried in thirty-six hours, with a consumption of 18 cwt. of small coke, or 1½ cwt. per 1,000 bricks.

Amongst the advantages, they place the fact, that the work can go on in all weathers, both winter and summer. The cost of the fuel is less than the cost of wheeling to and from the "flat ground;" and when wagons are used, there is no expenditure for labour in stacking and re-stacking, and no loss in turning over; and where an engine is used, the waste heat from the boiler can be conducted through the flues, and thus effect a great saving of fuel in drying. Each flue, covering an area only of 7 feet by 60 feet, will hold 12,500 bricks, which can be dried in thirty-six hours, with 18 cwt. of small coke.

As a substitute for bricks of the kind last mentioned, Mr. Lovejoy exhibited what he calls the "Reading Abbey Concrete, or Rubble Stone," claiming for it that it resists moisture, heat, cold, and pressure, presenting a clean and smooth surface, and is capable of formation into mouldings, corbels, quoins, balustrades, bricks, tiles, drain-pipes (of small or large dimensions), and all other kinds of articles suitable for architectural and agricultural purposes, acquiring an extraordinary degree of hardness within a few minutes after leaving the mould. He goes on to say, "Ornamental blocks and slabs of any size can be produced—all the parts of a house—the steps, landings, basement stairs and floors, sinks and window-cills, blocks for the walls, &c., and at a cost below that of bricks, no skilled labour being required." He further considers it equally applicable for large public works, such as banks, sea-walls, and docks. It would seem, however, to be neither more nor less than ordinary concrete of lime and ballast, which is put into moulds. What lime is used we could not learn, and we equally failed to discover anything new in the process adopted. The face of the bricks, or ornamental blocks, necessarily consists simply of lime and sand; and how long this would remain smooth, exposed to wind, rain, and frost, may be doubtful. The patentee points to a house two years old: Mr. Ranger probably could give the result of longer experience. Be this as it may, we are quite satisfied that there are many cases wherein concrete might be used above ground advantageously, and said so years ago, before concrete was generally employed in foundations as it is now. More recently, as our readers know, it has been largely used in blocks, in sea-walls and piers.

Cockey & Son, of Frome, exhibited a handy mortar-mill, costing 6*l.*; and Braggins, of Banbury, a patent adjustable hinge, for field or railway gates, which enables the owner, without the assistance of carpenter or smith, to raise or sink the point or front of the gate in a few minutes; and, in the case of a gate opening both ways, to bring it to its centre, so as to prevent it from remaining open. It seems a useful invention. Francis Morton & Co. go further as to gates and fences, and exhibited their improved field-gate, straining pillars, and fences. The "patent winding straining pillar," made in cast iron, prepared for hanging field-gates, will stretch and always keep perfectly rigid, without expense, every kind of fencing wire, also prepared hoop iron, greatly reducing the cost of fixing, and entirely superseding the necessity for any separate straining tackle. It will strain 400 to 500 yards in one stretch round the sharpest curves or angles, and over the most irregular ground, with the greatest ease and efficiency; and makes the erection of all kinds of wire fences simple and economical. The wire-cable strands are made in long lengths of 500 or 1,000 yards, and are more easily fixed than plain wire.

Scott's glass walls, exhibited by the St. Pancras Ironwork Company, ought to be very largely used. They are constructed so that they may be taken down in autumn for the benefit of the trees, and replaced in the spring for the purpose of sheltering the blossoms from frost, and the tree from an excess of moisture. A gardener and labourer may take down or put up from 200 to 300 feet run. in a day, the glass being stowed away in boxes made expressly for the purpose. It seems clear that, by the use of such walls, many a good crop of fruit may be preserved, which would otherwise be destroyed, and the fruit ripened a fortnight earlier than without their use, while the cost is not great; 10-feet lights, for example, with sheet or rolled plate glass, costing 15s. 6d. per foot run.: the ends and doors are extra.

However, we are not giving an account of the show, which is past and done with. We have simply indicated a few prominent objects which called for attention, and we hope many of our architectural readers examined the exhibition for themselves. The authors of "The Book of Farm Buildings" took a paragraph from "Adam Bede," calculated to do mischief, as a motto for their title-page. Part of it runs thus:—"Now, there's Mr. Irwine has got notions o' building more nor most architects; for, as for th' architects..... most of 'em don't know where to set a chimney so as it sha'n't be quarrelling with a door. My notion is, a practical builder, that's got a bit o'taste, makes the best architect for common things; and I've ten times the pleasure i' seeing after the work when I've made the plan myself." And they further show to whom they desire to transfer the designing of farm-buildings in the preface, where they "venture to hope that the work will take its place as a trustworthy guide to the *mechanic* who may be constructing, or the *agriculturist* who may be planning, highly-interesting varieties of farm-buildings required in the various forms of agriculture practised in the United Kingdom." To this injurious teaching, of course, we object, as we have before objected. It is the more noticeable as one of the authors writes himself "engineer" on the title-page. The object of all who desire improvement in farm arrangements should be to direct that way the attention of educated architects; and, in order that such may be induced to give their attention, to lead the agricultural public to apply to architects. To assist in keeping up the impression that the designing of farm-buildings

should be left in the hands of mechanics and agriculturists, is to throw back, and not advance, agricultural science.

There is yet an immense deal to be done to render farms efficient manufactories of beef, mutton, and other food; and architects should lose no opportunity to increase their stock of data, and apply manure to the field of their intelligence, so that society and themselves may hereafter reap an abundant harvest.

THE PALACE OF ART AND INDUSTRY: ART-DESIGNS.

IN the north-eastern gallery of the eastern transept are arranged the "Art-Designs for Manufactures" (Class 38A of the British Division of the Exhibition), divided as works of *deceased* and *living* artists. The whole number of the designs does not much exceed three hundred, scarcely one-third of them being the productions of the deceased artists—about twenty names in all of the latter. Neither section of the "class" can be considered good in selection or arrangement of the works. Each section, however, contains some designs which either are of great merit, or have a certain interest historically. The names of deceased artists include those of Robert Adam, Cipriani, J. Bacon, Brettingham, Catton, Sir Wm. Chambers, Sir F. Chantrey, Chippendale, Cotterill, Flaxman, Joseph Gandy, Sir John Soane, Kent, Kilburn, Matthias Lock, Nollekens, Pitts, A. W. Pugin, Stothard, Vardy, James Wyatt, and W. Wyon, the works being chiefly contributed by Mr. C. J. Richardson, the South Kensington Museum, Miss Kearsley, and Mr. H. Vaughan. Out of the whole number of productions to which these names are attached, about half are by Stothard.

Of the designs exhibited in the class, which are rightly entitled as "for manufactures," those bearing names of the most celebrated artists deceased, will not stand comparison with the best works, lately produced, of the same branch of art, Stothard's Wellington Shield hardly excepted. The designs by Flaxman (2,752) "for Silver Work (four frames)" contributed from the South Kensington Museum, might have been intended as a demonstration of bad principles, so much is the treatment of the stem of the *tazza* or centre piece, where a figure with the head downwards carries the plateau or dish on its feet, at variance with the architectonic principle, namely the expression of the idea of stability, and of general fitness for the duty of support. The designs for candelabra (2,780, 2,781) by Stothard, like the last, may be chiefly useful in contrasting with designs which are amongst the works of artists, many of whom are affiliated to the Department of Science and Art.

It is, we may allow, curious, that still, there is, as shown in other classes of the Exhibition, a demand for presentation plate of such forms as that of a palm-tree carrying a glass-dish, beneath which may stand a group of animals, or a cannon, or cast anyhow on the base, or ground, are the attributes of the hero and recipient of the testimonial: everything, leaves and bark of the tree, grass and wild-flowers, dress and accoutrements, being pretty closely imitated; whilst the production exhibits not a spark of art. Painters and sculptors however now, when employed by silversmiths, do not we think generally produce works of this latter class. Still, knowing only, or chiefly, the figure, they apply it often in situations where the member, base, stem, bracket, or other portion of the composition having obviously a purpose, would be most consistently treated with direct reference to that use. The French, albeit that they are so remarkable in some of the qualities for artists, as fancy and fertility, are great sinners against the right principles which we have alluded to, and which are needed by the French, no less than the fancy and fertility by us, for the production of work of the highest class. The finest modelling and chasing, or all the attributes of high-art in a figure itself, such a production as there are several of, in prominent positions in the French Court, will not always excuse the making the figure the support for a lamp, and will much less palliate the error of putting the lantern in the place of the spear-head of a standard. The figure would be a beautiful thing, and a more beautiful thing, apart, as a work of sculpture; and the candelabrum, or lamp-pillar, would be a better work of art, designed as candelabrum; whilst this last would allow use of sculpture as an accessory, and with finer effect, general or of detail, than any that can come from the practice referred to, which is a misreading of the elements of the art called decorative and ornamental, and a prostitution of the other art, sculpture. There are hundreds of productions, candelabra for example, by French artists, which are designed with full recognition of the correct principles of design for works of their class; and the works of Vechte, as vases, are evidence to the reasonableness of our argument, that it is possible to combine the largest amount of sculpturesque art with the use of the object decorated, and with the outline and visible formation which may be most consistent with such use. The whole of this subject is one which we have treated at length on many previous occasions. We readvert to it because the recollection of the correct principles of design in art-manufacture will be of assistance in the accurate appreciation of works in the French Court. Speaking of British productions, we have not here alluded to the particular error which has been exemplified by some who might have known better,—as in making a salt-cellar with the receptacle for the salt in the form of a shell, or a match-box in imitation of a Gothic tomb. All these substitutes of an imitated form adapted for one use, for the form adapted for the real use, are, as we have often said, of the nature of practical jokes rather than works of art, and to be classed with beer-jugs in the form of the head of the late Duke of Wellington, which would be equally bad in point of art, as beer-jugs, did they produce the head of an Apollo that might be the finest conception of the ideal. The *real* shell to hold the holy-water, as in the continental churches, is less objectionable than the imitated shell of the sort of art-manufacture above instanced. Confining attention to a higher class of works of art-manufacture; in many of these, which are works of painters or sculptors, architectonic principles and details are as much wanted yet, as we have lately held them to be in public monuments. We must not be supposed to say that the stem of a table-lamp might be for instance, a Corinthian column: the fact of such a form being used for a building should suggest it as out of place for the lamp: but the form for the lamp should be visibly fitted for *its* duty, as the column is to carry the springer of an arch or its portion of an entablature—be the outline straight, or baluster-formed and moulded, and surface-channelled, or ornamented with any description of relief, which like the sculpture on the vases before spoken of, may never destroy the normal form. This is what we recognize and inculcate as architectonic principle, though the details in our mind be not resembling those of buildings. No argument of any importance, in favour of the use of a figure as the support for a lamp, can be drawn from the use of Persians and Caryatides by the ancients; though it would carry us far from our notice of the works in the Exhibition to show that such is the case.

There is however, in Birmingham and London ware-rooms, a large class of works of art-manufacture which avoiding representation of natural forms, and making no use of sculpture, are architectural in so far as they employ scrolls, and acanthus leaves, and enriched mouldings of the more common kinds. This sort of art has prevailed largely with the gasfitters, or those who supply the trade with brackets and "gaseliers." Let the foliage be perfect and the curves harmonious, a defect soon appears in the art, its sameness. There is perhaps nothing more beautiful in ornament than the Roman scroll; as there is no conventional treatment of foliage which surpasses that of the acanthus. But whilst, would we avoid poverty, material of art is necessary; and whilst, would we escape error, models, and precedents are to be kept in mind, there can be no *art* without something more, supplied. The path of novelty is beset with danger: often, the thing found or offered, is either not new and a bad copy, or it is new but tasteless. But novelty is necessary, notwithstanding. In short, neither can novelty excuse art that is considerably inferior to previous art; nor can models and precedents be made to produce art without the combination of invention. The French are especially remarkable for the fertility which we have spoken of, essential to the artist; and they are served by their knowledge of many processes of ornamentation, which like those applicable to surface-decoration, enable them to give pleasing effect in an object having, from the requirements of its use, an originally-unfavourable form. Our own Department of Art produces evidence of much that can be done, with the improvement of public taste, in the same path; and in no respect is more credit due to the Department, than in connexion with this matter of surface-decoration. It is remarkable how much yet may be discovered, that is worthy of study, in that kind of ornamentation, amongst the most uncivilized nations. We would direct attention to some of the objects, exhibited near the "central transept," north side of the building, brought from the interior of Africa. There was probably a chain of communication, though the desert sand has swept over it, between the savage tribes of the interior, and the Roman and Saracen colonizers of the sea-board. But, whatever art may have travelled inland, the posterity of it seems superior to the offspring of western art in India, be it the recent Gothic, or the earlier legacy there from the French Louis XV.

In the list of deceased artists of whose works there are specimens in Class 38A, have been named several architects. The few designs by each of these, will give foreign inquirers no idea of the influence which some of them had, both over the decoration of apartments, and the style and character of English furniture. It would have been most interesting and valuable to all the present race of architects, could the original idea of this section of the Exhibition have been better served by contributions of drawings, and chronological arrangement. By Robert Adam there are two drawings, besides one, a design for a chimney-piece, by Adam & Cipriani. A very large collection of designs by Adam, for buildings and for furniture of every kind, is that in the Soane Museum, heretofore spoken of by us. No one can come from the examination of that collection without a higher opinion of Adam's abilities than is commonly found expressed in books. He was not only one who had some regard for the study of *plan* with the object of architectural effect, but he was not one likely to hand over the completion of his work to the "decorator" and upholsterer. The two drawings (2,731 and 2,732) in the gallery of the Exhibition building, one the "Design for a Capital to be called the British Order," and the other "Design for an Alcove," &c., are the least "representative" of his drawings that we are acquainted with. In the former work, as usual in such attempts, inferiority to the Corinthian capital is the condemnation of the design, which here indeed in the manner of the substitution of the lion and unicorn for *caulicoli*, has not the essentials, symmetry and balance of parts. In the other design, palm-trees are made use of as supports. In chimney-pieces by Adam, Chambers, and Kent, so much was designed in fair quality of taste, that it is wonderful how the art was afterwards allowed to go back, as it was in those details and many others of interior decoration. Neither of the two first artists named is adequately represented by the designs shown. The chimney-piece by Adam and Cipriani (2,733) is just noteworthy for the use of inlaid ornament. Chambers's designs, including one (2,739) "for Guilloche and Capital," 2,740 "for Ceiling," 2,741 "for Chimney-piece, 2,742 "for an Ewer," and 2,743 "for Decoration of Vase and Frieze," would show only that that architect gave attention to architectural detail and some branches of ornamental and decorative art. Besides the drawings, a model is exhibited by Messrs. Vezey & Co., of Her Majesty's State-coach, which was designed by Chambers. The panels of the coach were painted by Cipriani, who also painted the original sketches on the model. The six sheets of designs by Kent (2,755 to 2,760) include the same number of designs for fire-places, the best of them having looking-glass frames over. To this arrangement, of which there are eighteenth-century examples remaining in many houses in London, we have frequently called attention. The more such articles of decoration as mirrors can be made part of the building, and of the architect's design, the more favourable are the circumstances tending to the architectural result. Mirrors and chimney-pieces eventually got into separate hands of manufacturers, and out of the architect's control. Interior decoration is now coming back to its position as a branch of *architecture*; and this is evidenced by many works of the "furniture Class" in the Exhibition, such as Messrs. Trollope's chimney-piece, in the nave, which has the frame or panel for picture arranged quite on the principle of Kent's designs, though the detail is very different. The majority of the gilt-frames for mirrors produced by carvers and gilders, have been for the last fifty years execrable in taste. The veritable Louis XV. had decorative character and a certain beauty about it; and the worst Rococo, with stalactites and bird-cages, was more tolerable for a time, than the clumsy mouldings of George the Third's time, and much of the revived Louis XV., so to name it. The genuine work of the eighteenth century was some years ago, to be picked up at certain shops; and it may still be found to justify us in a good word spoken for the

putation of two artists, several of whose designs in the gallery we are examining. These men re Chippendale, by whom there are three frames 746) of designs, in the gallery, and Matthias ck by whom there are four frames, (2,762-3). ey are contributed by Mr. George Lock, of ncester Place. The date of Matthias Lock's signs is given as 1740 to 1780. Designs by ippendale are published.

Many of the works, both of deceased and living tists, are placed much too far from the eye for to make out what they are; and some we have t been able to find at all. The order of numring works in this Exhibition, is irregular and oublesome to an extent that we have had no evious experience of. By Brettingham we find "design for interior decoration" (2,735) and Vardy three or four works (beginning with o. 2,813) of the same class. Who of the rising neration, now knows the name of Joseph Gandy? t little it is to their credit to be ignorant of the me. For, Gandy was something more than .R.A.; he was a true artist, who thought about adth and grouping, and published some of his eas, though he did perpetrate the "design for a andelier" (2,753) which was for Eaton Hall, and ke the rest of the Gothic there, as to detail at ast, is of the "very tolerable and not to be dured" kind. Gandy had great skill in pictoal compositions of Classic architecture, which he esented with great power of water-colour paintg. What has become of his works? By A. W. ngin there ten or eleven drawings; but the ajority of them are very hasty sketches, from hich no builder or manufacturer could have rked, without previous notions of what the deigner wanted. Drawings or sketches for pavements of the Westminster Palace, by him, are xhibited somewhere by Messrs. Hardman & Co., nd Minton, Campbell & Co. Cotterill, the deigner of "race cups," some of whose drawings re shown by Messrs. Garrard & Co. (2,747—9); nd Pitts, more especially, by whom there is a Design of Shield of Æneas" (2,765) exhibited y Messrs. Hunt & Roskell, were artists of no ommon kind. Stothard's drawings seem weak, nd wanting in precision, when we look at some f the works of his successors.

Amongst these, passing to the productions of iving artists, Mr. H. H. Armstead's "Designs llustrating the History of the Shirley Family" 2,824) deserve high praise. Mr. Felix Summerly's riends' productions we will not criticise closely; we can speak better of what has been done since their day. We find contributed by the Department of Art, the Female School of Art, and the provincial schools, designs for watch-cases, breakfast services, drinking-fountains, black-flounces, chintzes, paperhangings, majolica dishes, silver prize-cups, carpets, chandeliers, glass, book-covers, and many other articles, the majority of which are highly satisfactory, and deserve the attention of manufacturers. Mr. Jackson's designs "for metalwork" (2,887), contributed by Messrs. Elkington & Co.; Mr. E. Cable's "for paperhangings" (2,842); Mr. A. J. Barrett's and Mr. N. Roskell's for Goodwood and other "cups" (2,829, 2,830, and 2,948), contributed by Messrs. Hunt & Roskell; Mr. Owen Jones's numerous designs for covers and pages of illuminated books (2,895); some of the works of the Illuminating Art-Union; Mr. J. Lessels' designs for book-stamps, frontispieces and embossed glass (2,911 and 2,912); Mr. Maclise's series of beautiful designs "for ceramic-ware—the Seven Ages of Man" (2,919), contributed by the Art-Union of London, and his designs "for a bracelet" (2,920) and "for a cup" (2,921); Mr. W. H. Rogers's several designs for wood-carving (2,946) and for the Royal Cradle (2,947), would all deserve particular notice. Some of Mr. Godfrey Sykes's designs, which include several for the arcades of the Horticultural Society's Gardens, are good; the best is the design (2,988) "for bronze doors of a school of art." Mr. M. Digby Wyatt displays a large number of designs (3,021), and for a great variety of objects—including railway carriages; and some of the late Mr. Thomas's designs are here found. Designs for stained glass are exhibited by Messrs. O'Connor (2,930), and Mr. S. Powell (2,937). There is also a design, probably not recent, (2,857) by Mr. Dyce, "for a stained glass window for Alnwick Church, Northumberland." The mullions cut through the figures; the lights are not designed separately. This treatment of stained glass is not, we suppose, approved by the Department of Art, who exhibit the drawings. In a design "for mural decorations by encaustic chalk drawing" (2,856), exhibited by Mr. B. E. Duppa, the drawings are in part by Sir Edwin Landseer. We can further only name, but that should be approvingly, Mr. Alfred Stevens's designs (2,972 to 2,974) contributed by Messrs. Minton, Campbell, & Co., especially one for a vase in Nevers-ware (2,973), and Mr. F. Smallfield's designs (2,961 to 2,963) for metal-work, including a "loving-cup" and a jewel-cup, which are excellent. Art, like poetry, has always its elements existing in the world, and will have ever. Only the mind and hand are wanting at times to bring these elements to expression; but now that the Exhibition has demonstrated, no less in art-designs than in completed works, that British artists can produce works of excellence, it rests with the public to demand good art at the hands of manufacturers; and the public will do well, and fairly, to honour at the same time the men, too little known, who may be not the less great artists, though not painters or sculptors and eligible to the Academy.

A FEW FACTS FOR THE WORKMAN WHO VISITS THE LOAN MUSEUM AT SOUTH KENSINGTON.

A VERY great deal has been written of late years respecting the social and political failings of what is termed the Upper Ten Thousand; and that the subject has not yet been abandoned, is shown by the enormous delight everybody takes in the sayings of that very gentlemanly but half-idiotic nobleman, Lord Dundreary. Of course the great point in all the plays and novels which treat of the aristocrat, is his intense exclusiveness. Both his person and his house, with its contents, are supposed to be guarded with the most jealous care. However, it is now being gradually discovered that the said upper ten thousand live and move and have their being very much in the same manner as other ten thousands who are lower in the social scale; and, although it may occasionally be difficult for a stranger to obtain a view of some private collections should he be unprovided with a proper introduction to the owner, still the exhibitions of art-treasures at the Society of Arts, in 1851, at Manchester, at the Ironmongers' Company, and in the present instance at South Kensington, prove that the English nobleman or gentleman is always willing to deprive himself of his most cherished works of art in order to afford amusement and instruction to his fellow-citizens.

As the present Exhibition is by far the most complete that we have ever had in England, it specially behoves all art-workmen to take advantage of it; and it is the object of the present article to lay before them a few facts which may be useful to them when visiting the magnificent collection at South Kensington. There can be no excuse for those who neglect this opportunity, for the authorities of the Brompton Museum have done a most excellent work in throwing open the Loan Collection upon the same terms as their own collection. The consequence is, that 6d. admits you on the reserved days, and on the public days—one of which, by the way, is Saturday—there is nothing at all to pay. Add to which the fact that the Saturday half-holiday is now generally granted in all large establishments, and there remains really no valid excuse for any workman neglecting the opportunity.

We all know how very fashionable the imitations of Etruscan jewelry have become, and what very great improvements they are upon the usual Parisian patterns. Well, here are several specimens of the original work which show us how very much has yet to be done before we at all equal those men whom we are accustomed to view as a species of semi-barbarians. If we compare the best modern work with the ancient, we are at once struck with the exceeding lightness and grace of the latter; Signor Castellani, of Rome, and his father and brother, have the credit of beginning the restoration of the old method of working; and in the current number of the *Archæological Journal* he tells us the various difficulties he has surmounted, and has still, alas! to surmount; for it is really very galling, in these days of steam-engines and oxy-hydrogen blow-pipes, to be told that the Etruscans had a solder that we cannot obtain,—a matter of chemistry, and not one of art. Signor Castellani informs us that, from 1823 to 1827, his father devoted his attention to the chemical processes in the colouring of gold, "particularly the part played by electricity in phenomena of this nature—a discovery which belongs rightly to him." About the same time, excavations were made among the Etruscan tombs, and Signor Castellani at once set about imitating the exquisite jewelry which was one of the results of these researches. It was found that all of it, with the exception of those articles intended for funeral ceremonies, instead of owing the raised parts to the chisel or the hammer, was formed of separate pieces brought together and placed one upon the other. The great difficulty was the soldering together these minute parts; but, after some very considerable research, it was discovered that a school of workmen were to be found in a remote corner of the marshes of St. Angelo in Vado, who still used some of the processes employed by the Etruscans. These workmen were obtained and set to work; and, by substituting arseniates for borax as solvents, and reducing the solder to an impalpable file dust, very satisfactory results were obtained. The next thing was to commit the more delicate work to women; and this also turned out well. But still Signor Castellani confesses to the want of some method of soldering on the minute gold-dust we so often see in ancient work, which gives the effect of what is called "frosting" in the present day. Another process of the Etruscans was to wind round a gold bead a wire as thin as a hair, which was kept in its place by the same wonderful soldering. A necklace belonging to the Rev. M. Taylor* shows both the above ways of working, —viz., the fine gold-dust and the fine wire. Another necklace (Mr. S. Addington) shows the application of the gold-dust in larger atoms on the muzzles and eyebrows of the lions' heads which hang from it; while a third, belonging to Signor Castellani himself, and said to have been found at Alexandria, proves that the exquisite chains of the Venetian and Indian goldsmiths were fully anticipated before the Christian era. Nor were the ancients less skilful in the art of beating up metal. If we go into the Italian Court of the International Exhibition, we shall find a case containing Signor Castellani's own work. In it, amongst other things, is an imitation of a little head found at Kertch during the late war. It is supposed to represent the Tauric Diana; but, with every wish to render full justice to Signor Castellani, impartial observer would feel himself bound to say that, the imitation falls short of the original. The system of ornamenting jewelry by means of soldering on smaller pieces was probably never lost, and it obtains to the present day in the shape of filigree. Filigree is of two sorts: one, where the article is made entirely of wire bent into various shapes and soldered together; and the other, where this wire is employed to decorate a piece of metal which forms the ground. The former system is employed at the present day; and at Malta, Genoa, and in India the traveller can buy as much of it as he wishes. The Mediæval work, however, was done in the second manner, and generally takes the form of minute ribbons of gold with their edges milled. These ribbons of gold are bent into various shapes, and soldered to the ground and to each other, while the eyes of the scrolls are generally filled with minute globules of gold or silver; the method of making which is given by Cellini in his "Trattati della Oreficeria," where he tells it is effected by pouring melted gold into powdered charcoal. And here it may be remarked, how very great a boon a translation of Cellini's treatise would be to the modern workman. Unfortunately, it would be a task of very considerable difficulty, as the translator would have to combine the qualities of a practical goldsmith, a first-rate Mediæval antiquary, and, above all, of a good Italian scholar. In the present collection, many pieces of filigree will be found scattered up and down the various cases. Thus it occurs in the Anglo-Saxon brooches, in the Jewish wedding-rings (Mr. Waterton), in the triangular chrysmatory in Case 1 (the Mediæval case *par excellence*), in the poison-cup of Clare College, and in very many other instances.

Another method of ornamentation which succeeded filigree about the end of the thirteenth century, was the stamping out or casting of two or more minute leaves with their stalks, and then soldering them together on a large wire, which forms a support, and is yet hidden by the leaves. This sort of work is never *a jour*, but has always a gold background; although I have seen tinsel employed instead, in the shrine of St. Romain, at Rouen. Sometimes the great wire is omitted, and the leaves are soldered on to the ground itself, as in the case of a ring in Mr. Waterton's collection, and in the two curious curved ornaments in Case 1 (Hon. R. Curzon). I have not remarked, in the present collection, any of the first kind, which is soldered on to the strong wire; but a cast of such a piece is to be seen among the casts from ivories, in the Architectural Museum upstairs. I

* The names of the owners are given, as it is the only way of distinguishing the articles. At present there is no catalogue, although the Rev. J. Beck is hard at work upon it. The Greek and Etruscan jewelry is scattered over several cases.

do not know where the original may be; but it is exceedingly curious, as not only is it made up of several sorts of leaves and fruits, but there are little figures of men and animals mixed with them.

Of all the workmen employed in the arts, to no one does the present collection afford a richer treat than to the jeweller. Everybody knows how very rare are the jewels of the Middle Ages, and of the Cinque Cento; yet here they are to be found almost in profusion; while the precious stones are by no means undeserving of study, and among them is the largest pearl known. It is something like 2¼ inches long, and 3½ inches in its greatest circumference. Unfortunately, the shape is exceedingly ungainly, and should the possessor, Mr. A. J. B. Beresford Hope, ever follow the example of another owner of a precious pearl, and drink it dissolved in vinegar, the world would simply lose a great curiosity, but not a beautiful object. Another great attraction is the largest cat's eye known. This, also, is the property of Mr. Hope. But of all gems none yield in interest to those forming the collections of her Majesty, the Duke of Devonshire, and the Rev. Gregory Rhodes; for not only are precious and beautiful stones found in these collections, but they have the still further recommendation of being works of art, and some of them are even justly attributed to the great masters of antiquity. Mr. King, in his most excellent work on engraved gems, lately published, tells us that the art is almost lost in the present day. It is to be hoped, however, that the impetus which his work must naturally give to the study will have the effect of inducing those who can afford it to give commissions for engraved gems; and I have no doubt but that, after a time, the artists will be forthcoming, as they always are when there is a demand for any particular art. In the meanwhile, it should be remembered that no production of human ingenuity is more indestructible than an engraved gem; and it is only by the most positive violence (such as breaking them with a heavy hammer) that they can possibly be destroyed.

The best guide to her Majesty's gems is a paper in the current number of the *Archæological Journal*, by Mr. King. From it we find that the collection consists chiefly of cameos, presenting us with portraits of the great personages of the last three centuries and a half. The principal antique is a cameo, 7½ inches long by 5½ inches wide, representing a profile bust of Constantius II. On the other hand, the collections of the Duke of Devonshire and of Mr. Rhodes consist almost entirely of antiques, some of them containing the names of the artists. There is one intaglio (imperfect) of a cow in the former collection, for which the Duke is said to have given 1,000*l.*, because the subject is a cow with the artist's name beneath, the said artist being mentioned by Pliny as having engraved a certain cow which was greatly admired.

But, after all, the great attraction to the jeweller will be the Cinque-Cento works, so many of which belong to her Majesty. Here we see misshapen pearls, jewels, enamels; rich materials such as jasper or lapis lazuli; and indeed almost every thing that is precious; in juxtaposition. At one time it is the small reliquary of Catherine of Braganza which attracts attention; at another it is Lord Stamford's Christ at the Column, or the Mermaid, or the St. George belonging to the Queen. The pelican jewel of Mr. Majoribanks shows us how diamonds and gold can be effectively employed; while Colonel Comming's little agate beads, which open, and contain enamelled groups of figures, are more curious than beautiful. But of all the jewels of this kind Mr. Beresford Hope's vase takes the lead. This is not the place to try the question as to whether it is or is not the work of Cellini; in fact, we have so few works by that artist, that it is most difficult to say anything with certainty upon the subject. All we know is, that he was a most excellent workman, and that, by his own confession, he did occasionally occupy himself with jewelry. However, there can be no doubt as to the extreme merit of Mr. Hope's vase, and every advantage should be taken of the present opportunity for its most careful study. In fact, a detailed description of it satisfactorily going into the various processes used, would be almost a compendium of the art of jewelry; and the same thing may be said of Mr. Waterton's collection of rings. Suffice it to say that Mr. Hope's vase contains figures enamelled on the round, painted, and champlevé. It contains jewels of many kinds; and the agate vase itself, which forms the nucleus for all this jewelry, is supposed to be an antique.

Mr. Waterton's rings must not be passed over, although a whole volume would hardly suffice to tell the peculiarities of their history and manufacture; for, indeed, there is scarcely a single case in the whole exhibition from which a goldsmith might learn more than from this.

The following very short *catalogue raisonné* will give some little idea of its riches:—

Egyptian, with cartouches containing figures and hieroglyphics.

Grecian.—Engraved figures.

Etruscan, with a sort of mixed art. Some of the figures very stiff, others more like Greek work. One, all gold, has a mark of beaten-up work, most beautifully executed.

Roman.—Iron rings of slaves, containing engraved stones. Apuleius mentions the iron rings of slaves. Military bronze rings, engraved with numerals.

Silver.—Mostly without stones.

Gold.—Belonging to the equestrian order, and to those who had the *jus annuli aurei*.

Little rings supposed to have belonged to the children of the above.

One with Vestal Virgin feeding the sacred fire, supposed to have been a corporation seal.

Duplex rings, supposed to have been the reward of military valour.

Gold ring, set with uncut diamonds. It should be remembered that it is only since the end of the fifteenth century that diamonds have taken their present place in jewelry, owing to the improved manner of cutting them.

One ring is very curious. The centre ornament, in this case a head, and part of the ring, is cut out of the same stone.

Glass rings.

Key-rings.

Early Christian rings, with inscriptions—LIBERI · VIVAS, VIVIS · IN · DIO.

Gnostic rings, of the Lower Empire.

Byzantine.—Intaglio in bloodstone, head of S. Theodora.

Merovingian.—With filigree, cut slices of red glass and garnets.

Anglo-Saxon.—Chased with Runic ornaments, the celebrated ring of ALHSTAN, bishop of Sherborne, the engraving filled with *niello*; made of twisted wire.

Jewish.—Wedding rings ornamented with filigree, enamel, and Hebrew letters.

Mediæval.—Large rings in base metal and false jewels; arms of ecclesiastics on the sides. Nobody knows exactly the use of these rings; they were perhaps given to messengers as credentials. Golden episcopal rings set with jewels; one, with a sapphire, belonged to Benedict XIV. Copper rings with engraved figures; others with pious or superstitious inscriptions. Engraved heraldic signet rings, the arms in metal or in stone. Rebus signet rings: one has a very sorry sort of pun. Will (an elm tree.) WOT for Wilmot. Rings with posies. Engaged rings where the hands do not open, and Gimmel rings where they do. Talismanic rings. Italian silver rings with *niello* portraits.

Renaissance—Italian Giardinetti rings with flowers made of precious stones. There are a great many Renaissance rings, some decorated with the most minute work in enamel. Some rings have enamelled death's heads.

Personal Rings—Ring of Rienzi, with his name in *niello*. The Darnley ring. Memorial ring of Charles I. Ring of St. Carlo Borromeo. Ring of Frederic the Great, set with a turquoise, engraved with an *F*.*

W. BURGES.

CHURCH RESTORATIONS IN NORTH NORTHUMBERLAND.

THE Archdeason of Lindisfarne, the Venerable R. C. Coxe, M.A., in a startling charge delivered to his clergy about two years ago, the substance of which we brought before our readers at the time, described the condition of the seventy ecclesiastical fabrics in his archdeaconry. He showed that there were many interesting ancient churches that were half ruinous; and that there were also modern and well-conditioned churches built in the worst taste; and concluded by expressing a hopeful trust that the diffusive energy of public opinion would lead to the conservation of the ancient remains, and to the adaptation of the modern churches to the requirement of a better ecclesiastical taste. The appeal created considerable controversy. In the case of the fine old church of Rothbury, particularly, which had been enlarged and modernized, but was, nevertheless, fast going to ruin from the imperfect execution of the work, a great deal in the way of refutation was said. But we perceive that the witlessness of allowing the newly-built fabric to perish has been now acknowledged, and a rate just levied for its repair. In other directions much has been done towards the fulfilment of the archdeacon's hope.

Before enumerating the various instances of recent church restorations, we will look at a North Northumbrian church that has not yet met with the saving care it, in common with others, so much needs. At the feet of groups of the Cheviot hills, which rise into the air in masses of dark porphyry tapering into peaks of green and grey, among which storm-clouds appear to hover as large winged eagles over eyries,—on ground every inch of which is historic (for traces of the castle of the proud Umfravilles tell of an overthrown monument of Mediæval chivalry; and the waving ferns are for ever whispering—to Summer, when she bids them unfurl their tender leaves,—to Winter, when he shelters them beneath his mantle of inimitable loveliness,—it was here the Percies fought, and there the Douglas fell), stands Alnham Church. The river Alne trickles away from its source close by; and a few stone farm-houses, and herds' and hinds' cottages, are distributed over the valleys. Open the rickety church-door. The eye is met by a green flash from the damp, mildewed walls, and by streaks of sky seen through the unceiled slates. The western end, with its early Transitional single light, has not been much disturbed; but the rest of the window openings have been modernized and filled with common sashes, which are rotten, and let in wind and rain. The east end has a small square sash, such as is ordinarily provided for a scullery or any inferior office. Three of the worm-eaten, mousy pews are square, with a table fixed in the centre of each: a fourth forms three sides of a quadrangle that is occupied by a stove. Fungi abound, and the pavement is soddened with damp. Ruin is imminent, unless precautions are taken to avert it. This state of things is unredressed by the great holder of the land, on the ground that it is good enough for the pastoral people of the district. Other churches—as at Shilbotel, Long Framlington, Mitford, Felton, and Edlingham—are in similar or nearly similar condition, and many more were so till the numerous restorations lately effected were set on foot.

The parish church on St. Cuthbert's Holy Island, for one, was in a lamentable condition at the date of the archdeacon's charge. Straw was strewed in the pews to keep the congregation dry-footed, just as it is strewed in a stock-yard for the accommodation of cattle. But the building is now in process of a careful restoration—a process that has afforded, by the way, several new archæological facts concerning the famed priory church by its side.

Of the judicious restorations at Warkworth, with the interesting discovery of Saxon remains, we have already given an account: we need, therefore, do no more than remind our readers of them. The fact of the parish setting about the renewal of the nave led to the restoration of the chancel by the Ecclesiastical Commissioners; and these two works, progressing side by side, diffused so earnest a feeling for church decoration, that the wealthy residents of the district, one by one, have filled nearly every window with stained glass.

At Ellingham, where, on the site of an Early English church, a modern building had been placed, which was at once unsightly and unsafe—for the foundations of the tower had shrunk, and the north wall had cracked—a good work has just been accomplished. The vicar, the Rev. C. Thorpe, M.A., has rebuilt the church at his own cost, assisted by his family and friends. The severity of the cruciform outline of the plan is relieved by a porch on the south side of the nave, and a sacristy on the north side of the chancel. From the point of intersection rises a square tower, which has too closely embrasured parapets, and is covered by a slate spirelet surmounted by a vane. Access is gained to the upper part of the tower by a turret springing from the junction of the north transept and the nave. The materials used in this building are varied; and, being well grouped and treated with skill and integrity, produce a pre-eminently devotional aspect. The masonry is of the pink-tinted stone of the locality, with the exception of the decorative portions—the mouldings, jambs, mullions, sills, tracery, &c.,—which are of pure white Bamborough stone. Contrasts of colour are of further avail on the woodwork. The timbers of the roofs are dark: the chancel stalls, the litany desk, and the pulpit, are oak; and the low-backed open sittings are pine wood. The dorsal and super-altar is formed of alabaster, decorated with a jewelled incised cross. The spaces between the rafters of the chancel arch are coloured blue, and the window at the east end filled with stained glass; further enrichment and colour being

* To be continued.

tained in crimson and gold reredos hangings, and e sedilia, credence, and tesselated pavement. A apel lectern, wrought of iron and decorated with ands of different tints, stands out, another testiony to the charm of a judicious use of colour. As additional indication of the root that the spirit conservation is taking in this district, we should ld that the only vestige of the Early English difice—a small lancet window—has been carefully corporated into the new church. All this is the ore noticeable, for being the work of an mateur.

Kirk Newton Church, which was in an identical ate with Alnham Church, and reported by the rural ean, the Rev. W. Dodd, as "ruinous, disgraceful, d dangerous," has been properly restored. This urch is in a very picturesque neighbourhood, rrounded by hills of the Cheviot range, close to eltic camps and other remains of our ancient ritish predecessors; and close, too, to fair, but tal, Flodden. There is a curious circumstance onnected with the history of the restoration hich may be well told. A sketching antiquary, aving visited the church, made a drawing of a ade piece of sculpture built in the walls, which pressed him with the conviction that the church as Saxon. The impression thus lightly produced eveloped into a strong opinion; and the fear of sturbing so ancient an edifice prevented any ttempt to arrest the decay that was going on for me time. Practical archæologists were, however, onsulted, who plainly showed that the whole uilding was of the rudest modern type, erected n the foundations of a little Norman chapel of a naracter of which there are several specimens in e archdeaconry. It was the excessive rudeness f the sculpture and masonry that had invested it ith its fleeting Saxon reputation. The site of e church is in the route of the Scottish armies oming south, as well as in the great chase district of Cheviot, Yeavering Bell, Homildon, and her famous localities: little wonder that the difice has been destroyed more than once.

At Berwick-upon-Tweed, the rural dean, the ev. G. Hans Hamilton, has been very active in seconding the efforts of his archidiaconal superior. hurches, schools, and glebe-houses have alike nared his care. At Lesbury the chancel of the hurch has been recently newly roofed; and a new astern window filled with stained glass. To show e earnest feeling abroad, we may mention that e effort to accomplish this work was made by e incumbent just as he was leaving the parish; nd, though it was possible his eyes might not ehold it again, in reverent regard he rested not ill the task was accomplished. From Widdrington re have also word of the good work. At Ulgham, hiefly by the instrumentality of Earls Carlisle nd Grey, a new nave with an aisle is so far forward s to admit of the contracts being entered into. The chancel of this church has been formerly nvested with a due ecclesiastical character; but he nave remains an unsightly stone box. The new nave and aisle will therefore complete a task hat it would have been grievous to have left nfinished.

At Kyloe and Beadnell the churches are modern, and were of the packing-case description deprecated by the archdeacon; but both of these edifices have been transformed; and, by additions and alterations, endowed with an ecclesiastical aspect. The result in both cases shows that a building cannot be in such bad taste as to place it unalterably without the pale of improvement. The churches at Lucker, Ilderton, Rennington, Ingram, Tweedmouth, Wooler, Belford, Lowick, Cornhill, Carham, Hebron, Netherwitton, and Longhorsley, still represent this churchwarden-sash-window-packing-case type. Kyloe Church had no chancel. This important portion of a church has been added, and a belfry lantern is to be added to the tower, which serves as a landmark at sea. A stone pulpit and other internal features have been placed. Beadnell Church has been made appropriate for its service at the cost of Mrs. Taylor, a lady whose mansion faced the utterly blank north wall of the structure. Windows have been opened in this wall, and buttresses added to it; which treatment revealed the pleasing surprise that a glimpse of a handsome memorial stained-glass window, placed on the south side of the church by the same benefactress, could be seen from the windows of her mansion through the new openings. An arcaded lantern has been added to, and improved the squat appearance of, a modern spire. Besides these instances of restorations of ancient churches and improvement of modern ones, North Northumberland has been very recently enriched with entirely new churches. The Duke of Northumberland is building a small church at South Charlton, and has built another with a parsonage at Acklington,—both from the designs of Mr. Deeson, whose drawings of them, in one sheet, may be seen in the gallery of the International Exhibition. The same nobleman has provided temporary church-room for the inhabitants of a rising bathing-place—Alnmouth—by converting a disused granary into a chapel. This seaport possessed a Norman chapel in old times, which was built on an eminence called Church Hill. Curiously, the river has forced a new course for itself in the rear of this hill, which was thus cut off from the land. Winds and waves together have left scarcely a trace of the chapel, although at the time of Grose's tour the walls of the edifice were still standing. Since the discontinuance of divine service there, the inhabitants, for marriages, burials, christenings, and worship, were obliged to resort to Lesbury Church, some two miles distant. The temporary church—granary though it be—is, therefore, a boon to the district.

More of the good work is in contemplation. Eglingham Church, of which the Archdeacon of Lindisfarne is vicar, is to be forthwith remodelled. This is an ancient structure, but has been altered at various times. The Early English tower remains. The chancel has been rebuilt in Stuart times. In the churchwarden-whitewashing era, the whole edifice was well packed with high-backed pews and galleries, the chancel receiving especial favour at the hands of these ruthless purifiers; for here they placed the font as well as plenty of sittings. About a quarter of a century since, a few improvements were made, which, however, did not effect all that a more cultivated taste now renders imperative. Two of the neighbouring landed gentlemen, noted for their archæological acquirements,—Mr. Carr, and Mr. C. Langlands,—have associated themselves with the vicar as churchwardens, for the purpose of carrying out the scheme of restoration, advised by an architect whose attention has been turned to the conservation of ancient remains. Beginning with the chancel, the splays of the eastern windows are to be enriched, the font removed to the western end of the nave, stalls substituted for pews, and a reredos added. In the body of the church the high pews are to be lowered and re-arranged, and the shabby barn-door entrance is to be replaced by a recessed and moulded porch. The modern roof of the tower is to be replaced by a spire, and various minor improvements are to be made.

Only part of the parish of Ponteland is within the archdeaconry of Lindisfarne; but the scope of our subject permits us to mention that the chancel of Ponteland Church, where the ferruginous nature of the stone used in its construction had caused decay,—the iron streaks starting from the stone which crumbled away,—is now in course of restoration. This chancel is a good specimen of fourteenth century work that has been, happily, not much disturbed. The principal alteration ever effected in the chancel is the substitution of a modern roof and flat plaster ceiling—now worn out in its turn—for the ancient one. The restoration includes the reproduction of the ancient masonry and of the decayed mullions and sills, stone for stone; and the erection of a new roof at the original pitch—the mark left by which is visible against the gable over the chancel arch. Oak stalls and altar standards, and an encaustic-tiled pavement from the tileworks at Brenckburn, are also among the new works. The monuments of the ancient Northumbrian families of Ogle and Carr, which occupy the chancel walls, will, meanwhile, be cared for. This chancel is the property of Merton College, as is that of Embleton Church, within the archdeaconry,—which, by the way, being in the same want of conservation, will probably also receive attention at the hands of the authorities.

The fine Perpendicular parish church of St. Mary, Alnwick, is another of the edifices the fortunes of which are about to be influenced by the zeal aroused by the archdeacon. Since our recent account of this golden grey pile—which we would have preserved intact for its quaint mixture of ancient work and last century decorations—for Strawberry Hill and Fonthill Abbey are laid with the dust, as well as the coeval buildings at Alnwick Castle, and posterity should see some remains of the much-abused work of the period, which we should remember Walpole cherished,—word has gone forth that it is to be remodelled. The most rigorous conservatism should be here exercised; for the Perpendicular southern façade, with the turret staircase in the south-east angle leading to the look-out on the chancel-roof, is unique, and should be religiously preserved. The turret stair also leads to a chamber above the chancel; for, at the elevation of the roof, the ancient doorway leading to it, although filled in, remains; and there is also a mullioned window opening in the wall above the large window at the east end of the south aisle of the chancel; and a deep groove in the outer stonework of the turret, facing the roof, marks the (probably timber) boundary of this curiously-placed apartment. The look-out was at a greater height, as there are the first few steps of another round to be seen. There are also four octagonal pillars in the chancel, of great interest. They are pillars between the chancel and its north and south aisles. The richly-foliated capitals all differ in detail, and are surmounted by angels bearing shields—two on each pillar, one facing the north, the other the south. The abacus of the cap of the north-eastern column is ornamented with the insignia of Hotspur—a crescent with a fetlock on either side of it being displayed on the eight faces; the bell by foliage; the neck by a band of intertwined branches; and the angel, looking northwards, bears on its shield a St. Catharine's wheel. The capital of the south-western column is especially artistic. A diagonally-interlaced band of branches twines round the neck, upon which foliage rises to the upper edge of the abacus, the details of which vary in each of the eight compartments. The two faces of the cap of the south-eastern column nearest to the altar are richer than the rest. Of the eight shields borne by angels, one is charged with the Catharine wheel mentioned above; four with crosses, and three are left unsculptured. The shafts are all alike: four round filleted bowtels, with four pointed bowtels likewise filleted, arranged alternately with them, the fillets all being on the octagonal planes. Two of the three bells in the belfry are very ancient, and bear Latin inscriptions, in early characters, immediately below their haunches. The first says,—*Ave Maria gratia plena orate pro aia de John de Va—*; the second—*Adjutorio populo dei in Michael Archangeli veni*: the third bears the date of a century since, and the names of the churchwardens. The inscription on the second bell is too long to be arranged in one band: the latter part of the legend rises gently on to the *cerebrum vel caput*, and forms a second line part of the way round. In the six cusps of one of the windows in the southern façade are pieces of stained glass that are evidently *in situ*. They are circular in form, and bear minute delineations—one of them, in conformity with the use of the grotesque in which the Perpendicular style indulged, representing a long-billed bird playing on a harp: a second has a cock, with flapping wings: a third shows an amber pelican picking her breast. There are other fragments of ancient stained glass in the church, but they are disjointed and scattered: these have escaped destruction.

School-building is being carried on with scarcely less energy. The new schools at Ford, building by the Marchioness of Waterford, are pictures in a village already rich in beauties and historic in associations,—Ford Castle and Ford Church, the latter artistically restored—being in the immediate proximity of Flodden. New schools have been built at Bewick, by Mr. Cresswell, and at Lilburne, by Mrs. Collingwood. Of the schools built by Earl Grey in his model village of Howick, we have already written.

New parsonage-houses have been also built. We have mentioned one at Acklington. Beadnell has built a parsonage: a disused granary at Alnmouth has been turned into a third: the enlargement and reparation of others are in contemplation. We congratulate the archdeacon on the results of his vigorous charge. With a view to the conservation of our ancient remains, we may presently review the condition of the castles, fortlets, bastel-houses, and peel-towers in this remarkable district.

THE DECAY OF NEEDLE-WORKING.

A RECENT and most painful wandering over an eastern district of the metropolis, which we have from time to time visited, shows that the distress amongst the silk weavers is greatly on the increase; and, as we have before been very unwillingly forced to state, the chance of any permanent improvement seems to be, under existing circumstances, hopeless. Bad as has been the state of the needlewomen, also, for several years past; the condition of affairs is now far worse. The price of hand labour in needlework, small as the pittance for a long time past has been, is still constantly on the decrease; and hundreds of honest and industrious women, even while employed, are next to starving. Before long, for manufacturing purposes, this description of female employment will altogether cease; for the sewing machine will, ere many years have passed, render the old needle as rare as

the distaff and spinning-wheel now are. Meantime it is most distressing to witness the suffering which is caused in the transition while changes which will be of future general benefit are being carried out. In no instance do we remember this to have been so painfully evident as in the case of the silk weavers and the needlewomen of the metropolis. Pent up in unhealthy quarters of this great city; having for years past struggled for a bare and miserable subsistence; not well informed as regards the laws of social politics; and for the most part unable or unwilling to look for change of occupation; their immediate prospect is indeed dismal and gloomy; and it becomes a matter of deep anxiety to all who have thought carefully on the subject, to endeavour, by some effectual means, to lessen the present and still coming privation.

Plain and simple as the fact is that slow and antiquated methods *must* give way to those of a more rapid and economical description; the principle is so little understood by large masses of the people, that it is necessary, from time to time, to advert to the real condition of affairs. For instance, the Spitalfields weavers believe that the imposition of a tax on the importation of foreign silk would restore their trade to a state of prosperity. It seems, however, almost needless to show the injustice and the bad policy of such an arrangement to the millions who form the British population.

Year after year various branches of industry fall, owing to the changes of fashion and other causes. In the days of the Prince Regent the making of bright brass gilt buttons gave employment to some thousands of skilful artificers: then mould buttons covered with cloth became the rage; and soon all those workers in metal were rendered idle. In the extremity of their need, deputations from the men and women engaged in this manufacture waited upon the Regent and other high and fashionable personages, soliciting the revival of the use of brass buttons; and at one or two levées, and a few important evening gatherings, the buttons were shown in their wonted brilliancy. But vain was this benevolent attempt to stop the tide of change in taste and fashion; and the more brilliant gave way entirely to the more sombre decoration. In like manner the Court and female nobility have been appealed to in behalf of Spitalfields silk; but, although exertions have been made, it is impossible to force a material into sale in competition with an equally good and perhaps a superior article at a lower price. Many similar instances might be given. We will, however, only further remark that, of late, the beautiful embroidery work which was so much used for the adornment of ladies' dresses has not been in much demand; and in consequence a very large number of women have been thrown out of employment. Her Majesty, with her usual consideration and kindly feeling, in answer to an appeal from those engaged in this beautiful branch of manufacture, selected articles for herself and the Royal Family; and we hope that the worthy example of the Queen and other ladies of rank may be the means of restoring this trade, and bringing back comfort to many homes. The best directed exertions—the most benevolent ideas—however, are often of no avail against the stern ruling of fashion.

As regards the needlewomen, and, in fact, a great number of men, who are employed in several departments of tailoring, there might be much done in the way of relief. At present, in consequence of the method of giving large quantities of work to contractors; who, in the way to which we have before referred, sublet it to various other persons with less capital; there can be no doubt that, in many instances, one half, if not more, of the price of the labour falls into the hands of the "middle-men" and the middle-women, who do none of the work. To put a stop to this abuse, several attempts have been made: establishments have been formed for the purpose of supplying the needle-workers with employment directly from those who require this description of labour; and although these efforts have not been supported to the extent which might be expected, they have already done, and still are doing, a considerable amount of good. Attention has, however, been drawn by Miss Barber and some other ladies to an important aspect of this description of work. Of late years, in several departments of the Government works, a practice has been introduced, on a very large scale, of manufacturing several kinds of Government stores: we will not enter into any argument, as to whether this be advisable or not: suffice it for our present purpose to note that such is the fact; and that in the extensive building which has been recently erected at Pimlico, the making of soldiers' clothing, and certain accoutrements, is to be carried forward on a large scale: it is in connexion with this work that it is suggested employment of a payable description might be given to a considerable number of both women and men: what is asked, in connexion with this movement, is, that, as far as possible, the labour of individuals should be paid for at the same rate as would be allowed to contractors, who would dispose of the work in the manner above mentioned. The Government would thus ensure to the poor struggling workers a fair market price. This plan, if it afford only partial relief, is worthy of the most careful consideration; but, taking this subject in its various bearings; and especially considering the rapid advance of the use of machinery; it seems to be highly important, in all matters to which the hand and needle have for so long been required, that those who have young families—particularly the girls—should have the fact forced and impressed upon their attention and their memory, that needlework can no longer be depended upon as a means of obtaining a living; and that it is necessary to teach their children other means of industrial employment. We would not dream, in these days of Rowland Hill's Post-office arrangements, and of all the appliances of railways and electric telegraphs, of employing "running-footmen" for the purpose of carrying letters or messages; or the old-fashioned bellman instead of the advertising columns of the newspapers and the handbills and broad sheets of the streets and walls; or the Gravesend wherry instead of the large and swift steam-packets;—and just so, before long, the use of the hand-needle will be as little called into requisition as those antiquated appliances just mentioned. It would therefore be wise in our working-class heads of families were they to prepare the way for a future livelihood for their children, and more particularly their girls, quite independently of the needle; although, as regards its family use, we are disposed to think, from a good deal of observation amongst the rising generation of that class of the people, that the still indispensable little implement is too much neglected even now.

LEEK MECHANICS' INSTITUTION.

THE new Mechanics' Institution, just completed, has been opened and celebrated by a trip to Alton Towers, the grounds of which were thrown open by the Earl of Shrewsbury, for the benefit of the funds of the institution.

The arrangements of the building comprise: On the ground floor, library, committee-rooms, entrance-lobby, and hall. From the latter ascends a polished stone staircase to the reading-room, which, with a commodious landing, occupies the whole of the first floor. The second floor consists of class-rooms and a penny-bank room. The entrance-lobby, hall, and passages to library, and committee-rooms, are laid with Minton's tiles.

Each division of the building is ventilated by a supply of fresh air round the walls near the floor, the extent of which can be regulated; outlet flues for vitiated air being formed in the chimney-breasts. In winter the air is partially warmed by passing through chambers constructed in connexion with the fire-places. The building is of Italian character, and decorated, to a limited extent, by carving the prominent features of the stone-work, and by bricks and tiles in colours. The necessary conveniences of the institution are provided in the basement; the remainder of which is let off as a warehouse. The works have been carried out from the designs and under the superintendence of Mr. Sugden, of Leek, architect.

THE STOPPAGE OF METROPOLITAN THOROUGHFARES.

THE accident to the Fleet Sewer and Metropolitan Railway has caused the closing of the thoroughfare from the bottom of Holborn-hill northward. The constant closing of various parts of London, for two or three years past, has been one of the evils attending the construction of an underground railway throughout a populous district.

While the roadways have been blocked, the traffic has almost ceased: the inconvenience to the inhabitants dwelling near has been great; and, while the shopkeepers are obliged to pay rent and taxes, business is suspended. We fear that, what with the damage done to houses, the difficulties with the sewers in several parts, and other unexpected accidents, the expenses of this work will prove very large. Taking all this into consideration, it is worthy of inquiry if in large and populous towns it will be wise to construct underground railways in leading thoroughfares.

It is not only of a railway, however, that the public have reason to complain. What with the drainage, alterations in the gas and water pipes, electric wires repairs, &c., the earth of the London streets is never still. In consequence of the important works which are going on, and the present imperfect arrangement of these things, the difficulty is not to be avoided; but sufficient care is not taken to remove with expedition the mounds of rubbish which accumulate. The footpaths, which at only a little trouble could be kept clean, are neglected; and in many instances the works are kept in hand much longer than is necessary. There is a need of restrictive measures in connexion with such proceedings; and much of the evil complained of might even be removed by the parish authorities and the police diligently doing their duty.

If a shopkeeper neglect to keep his footpath clean, the police or parish street inspector have power to insist upon it being done; and there is no reason why the same law should not be put in force with those who are engaged in troubling the earth.

FROM PARIS.

ANOTHER great thoroughfare is projected; and for which an *enquête* has been opened in the thirteenth and fourteenth arrondissements, consisting of, firstly, a wide street leading from the Pont Napoléon (the *pont-mixte*, or road and rail bridge of Bercy) to a place called the Quatre-chemins, on the Orleans high-road; secondly, of a junction roadway abutting on the Boulevart de la Santé, near the ancient barrière. These lines of communication will establish a connexion between the two arrondissements above mentioned and the eleventh and twelfth; but this will not be accomplished without serious difficulties being overcome.

The Boulevart Magenta is to be continued to the east of the Butte Montmartre, and two inquiries have been set on foot at the eighteenth Mairie. The result has been that new surveys are to be made, and the line studied afresh.

The Academy of Fine Arts in Paris has lost a valuable member, Mr. Petitot, of the section of sculpture. His name is attached to numerous works in Paris and Versailles. Mr. Petitot was the sculptor of the four figures in the Place du Carrousel. His father was also a statuary of merit.

There is no token of peace between nations more significant than the spontaneous rendering from one to the other of the trophies of war and the memorials of combats of which, perhaps, they are ashamed when they have shaken hands. An example of this generous feeling (which, by the bye, has made us altogether forget Waterloo and its anniversary, now no longer celebrated) has occurred lately on the Continent. The Museum of Artillery in Paris has just received twelve old pieces, of French origin, presented to the Emperor by the Sultan. These, consisting of cannon, culverins, and one mortar, were in the possession of the Turks since 1669. The latter, weighing 3,325 kilog. (7,331·6 lb.), was constructed in the fifteenth century: it bears on it the shield of Pierre d'Anbusson, grand master of the "Hospitaliers," and in a circular cordon an inscription.

THE THAMES EMBANKMENT BILL.

THIS Bill has passed, in the Commons, through committee of the whole House, who have expunged the obnoxious clause restricting the public roadway to a footpath between Whitehall Stairs and Westminster Bridge. This the House quite rightly persisted in doing, although the Government desired merely to amend the clause so far as to limit the absurd arrangement till Parliament should otherwise provide. Parliament preferred at once otherwise to provide.

On the motion for going into committee on the Bill, one of those wordy discussions took place which Lord Palmerston happily characterized as being intended by the supporters of the clause in question "to draw away the attention of the House from the real question, and to involve it, like one of Homer's heroes, in a cloud for the purpose of defending their darling object."

On this occasion Mr. Doulton, of Lambeth, who appears to have already proved himself to be an active and useful member, gave the following summary of the principal evidence for and against the roadway to Westminster Bridge:—

"Very few, if any, of the witnesses who spoke against the plan proposed by the Royal Commission could be regarded as impartial. Evidence in favour of stopping at

Scotland-yard was given by the architect of Montague-house, who stated that the Embankment would place that edifice in a ditch; by the Duke of Buccleuch, who was candid enough to say that, even if it could be proved that the public interests demanded that the road should be carried as far as Westminster-bridge, he would still protect his private rights; by the Hon. Charles Gore, who spoke without reference to the public interests, but solely with reference to the interests of the Crown as a landowner; by Mr. Page, who propounded a plan of his own in 1844, and whose main objection to the plan of the commission was that it would interfere with certain lines of tramway which he had laid down on Westminster Bridge, and which, in the opinion of many persons, were abominable nuisances; and by Mr. Pennethorne himself, the author of the rival plan, whose evidence could not, with any show of reason, be called impartial. There was also the evidence of the right hon. member for Stroud, who declared that if it could be shown that the public interests demanded the extension of the roadway to Westminster Bridge, his opposition would be at once withdrawn; but, upon the whole, the only evidence which could be considered impartial, was that of the hon. member for Bath, whose main objection to the scheme proposed by the commission was, that it did not provide a proper communication between Charing-cross and the Embankment. The witnesses examined on the other side were not employed architects or residents in the locality, but such men as Hawksley, Bidder, Bazalgette, and Cubitt; and their evidence was to the effect that property would be benefited rather than injured by the construction of the roadway. No more competent or impartial witness could be found than Sir Richard Mayne, who had no plan to propose, but whose only wish was to see that the greatest amount of accommodation was afforded to the public. Sir Richard stated before the committee that if the roadway stopped short at Scotland-yard, it would give no adequate relief to the difficulties with which the police had to contend."

We wish the member for Bath's objection to the scheme of the Royal Commission had only related to the Charing-cross question: as it was,

"Mr. Tite said the hon member for Lambeth did him strict justice in saying that his opinion was an unbiased one. He did not know the Duke of Buccleuch, nor did he believe that he had ever seen him. The real question was a very simple one. The line of the Embankment was determined by the conformation of the Thames, as the plans for that House had also been determined. The question upon which his opinion had been asked was whether, if the new street were to be turned off from Whitehall Stairs and Whitehall-yard into Parliament-street, it would be more for the public convenience; and his answer was that it would be better to do so than to have all the traffic carried along the Thames to Westminster Bridge. Moreover, it was arranged that the Embankment of the Thames should be 4 feet above high-water mark; so that they would thus have an incline of 1 in 30. [An hon. Member—'1 in 80.'] He took it, at all events, that there would be a steep incline. ('No.') Any hon. gentleman who went upon Westminster Bridge, and looked at the difference between the level of the bridge and that of the wharfs, would see that there must be a considerable incline, and one such as no heavy traffic was likely to travel upon. If he could conceive the possibility of continuing the road along from the Embankment in front of these houses he might take a different view of this question; but he could not conceive the possibility of that, because the terrace went as far into the river as its conformation would admit of, and was in a line with the abutments of the bridge itself. He did not believe they could by any mechanical contrivance carry a road in front of the houses in any manner that would not be a disgrace to the nation. He should like to see a road two miles in extent made along the bank of the river, which would certainly be a magnificent promenade, but he did not know how it could be done. Believing sincerely that Mr. Pennethorne's plan would give a more convenient approach than one across the avenue of Westminster Bridge, he had honestly expressed that opinion before, and he adhered to it now. He could not help thinking that the select committee whose report was now under discussion had come to a right conclusion when they adopted a footway. A footway of 80 feet wide would, in fact, be a road, and there would be no difficulty in carrying that into effect.

Mr. Locke said the hon. member for Bath had declared that he had always been in favour of carrying a road throughout the length of the Embankment. Now, the length of the proposed Embankment had all through been from Blackfriars Bridge to Westminster; and on that point the committee appeared from the report to have been all agreed. The only question was this—whether from Whitehall up to Westminster Bridge they were merely to have a footway, or to have the carriage road continued all the way to Westminster Bridge. The objections to such a continuous carriage-road were most futile. As to the approach from the Embankment to the bridge being a steep one, the hon. member for Bath seemed to think it made no difference whether the incline were 1 in 30 or 1 in 80. That was rather remarkable as coming from one who had been professionally employed in carrying out some of the greatest works which adorned the metropolis. There was an incline of 1 in 40 in the approach to London Bridge on the Southwark side, along which carriages passed with the greatest ease, and which was the greatest thoroughfare in all London. The hon. member for Bath had ridden off on another question, viz., the Embankment in front of the Houses of Parliament. Certainly the committee entirely scouted such a proposal. He had heard no reasons to satisfy him why the carriage roadway could not be carried up to Westminster Bridge.

Mr. Cowper said, in reference to the Duke of Buccleuch's resistance to the roadway, that he thought that under such circumstances he should have submitted to the little inconvenience of a public road near his house rather than have insisted on his rights and endeavoured to stop so great—so vast a public convenience as the roadway in question would be. A right hon. gentleman had very amusingly described the difficulties which every one coming to that House encountered at the corner of Bridge-street and Parliament-street; but he would ask, what would the alternative line, as it was called, do to diminish the excessive traffic at that corner? A large proportion of the traffic passed over Westminster Bridge,—on some days, probably, at least 2,000 carriages in the course of the day. Most of those vehicles would, if the original plan in the Bill were adopted, pass from Westminster Bridge to the Embankment; but if the plan recommended by the right hon. gentleman was adopted, they would all be obliged to pass into Parliament-street and block up that already over-crowded street. As to widening Parliament-street, that would be a useful portion of any plan of improvement. He could assure the House that no engineering difficulty whatever existed to the continuation of the Embankment along the front of the Houses of Parliament. He knew that the high authority of the hon. member for Bath (Mr. Tite) had been quoted against it; but he relied upon a higher authority than that of the hon. member for Bath—the authority of common sense. He had also been assured by very distinguished engineers that it was perfectly idle to imagine there was any engineering difficulty in the construction of a roadway in front of the Houses of Parliament. It was not proposed to have a solid embankment at this point, but a roadway might be carried along on iron columns, or it would be very easy to support it on stone piers in the water. It would be obviously a great improvement to unite the Embankment now proposed with that at Millbank, and thus get a continuous Embankment of three miles in length along the north bank of the river. This, however, would be entirely prevented if the Embankment were wholly stopped at Westminster Bridge."

Mr. Tite has certainly disappointed us in this matter.

Lord Palmerston said, the only argument he had heard against continuing the roadway to Westminster was very absurd indeed. It is said that, in order to disencumber the thoroughfares of London from the pressure of the crowd, you are to shut up an additional avenue, and to direct the public stream into the narrow gauge of Parliament-street. And then it is said that you may get rid of another difficulty in that quarter by spending 300,000*l.* in pulling down one side of Parliament-street. The pulling down of the whole would be more expensive, for you would have to buy all the houses between Parliament-street and the site of the new public offices. But if you were to save by so doing the expense of the Embankment, that plan might be very good. But no; the Embankment is to be made, after all. On another point his lordship remarked,—

"It is said, Can you do anything so absurd as to make a thoroughfare that will come at right angles to the foot of the bridge? Well, is there any town which any hon. gentleman is acquainted with in which that has not been done? Dublin has been mentioned. Every bridge which crosses the river must be at right angles with the quays along its banks. Has any gentleman who opposes this continuous roadway been to Paris? There all the streets leading to the bridges are at right angles with the quays. If I mistake not, the same thing is seen at Florence. I forget exactly whether it is not so also at Berlin and Dresden; but I rather think it is. But one really need not go so far for examples. Has any gentleman happened to visit the cattle-show? Has he gone by Chelsea Bridge? Because, if he has, unless my memory greatly deceives me, he had to proceed along an embankment, and then turn at a right angle to cross the bridge. But it is really childish to say that you are not to have a road-way up to Westminster Bridge, because, when you get to the foot of the bridge, however you may round the corner, you must make a sharp turn to cross the river."

His lordship might have added that, in the making of this very embankment, all the bridges will cross it at right angles.

In a subsequent debate, Sir Joseph Paxton said,—

"He was very sorry that it was not possible to carry the high-level embankment which had been suggested; but he was astonished that the hon. baronet (Sir J. Shelley) and his hon. friend (Mr. Tite), and those who before had raised an objection about delivering the traffic at right angles on to the bridges, should now have such great objections to the present proposal. All the principal plans submitted to the committee of 1860 contemplated the crossing of all the bridges by the Embankment at right angles; and that was also the case with the bridges and thoroughfares of every capital in Europe. He believed that, if Mr. Pennethorne's scheme were carried out, the Embankment would be the laughing-stock of Europe. He could hardly have conceived that Mr. Pennethorne could have proposed to bring a road at so objectionable an angle into Parliament-street. What ought to be done was this:—to take down the block of houses in King-street, as far as the new Government Offices; to widen King-street; and then, by means of the Embankment, and a road from the Horse-guards, which would convey the traffic from Victoria-street and relieve Parliament-street, they would improve the crossing at the corner of Bridge-street, which was now intolerable."

In conclusion, all we need say is, that it is to be hoped the Lords will not attempt to upset the decision of the Commons on the question of carrying out the Embankment to Westminster Bridge; and that, if there be any force in the argument as to the traffic, let an *additional* thoroughfare be opened through Whitehall;—even were it requisite, for the public convenience, to run the line right through Montague House itself, and through Mr. Horsman's premises also.

PROPOSED BLACKFRIARS BRIDGE.

THE Bridge House Estates Committee, to whom the question had been twice referred for consideration, eventually determined to recommend that the bridge to be erected by the Corporation should be one of five arches springing from an abutment in a line with the present wharf-lines on each side of the river. Having regard to the length of time that would necessarily be occupied in the construction of a stone bridge, as compared with one of iron arches; and to the very great difference between the cost of a stone bridge and that of an iron one; the committee were of opinion that it would not be desirable to adopt a design for a stone bridge. Of sixteen designs submitted to them by engineers of eminence they selected five, each of five arches, as best calculated to meet the requirements of the public,—namely, stating them alphabetically, as the committee had done,—the design of Mr. James Brunlees for a bridge of five elliptical arches, at the estimated cost of 230,573*l.*, including the cost of a temporary bridge; the design of Mr. Joseph Cubitt for a bridge of five segmental arches, at the estimated cost of 265,000*l.*; the design of Mr. John Fowler for a bridge of five elliptical arches, at the estimated cost of 280,000*l.*; the design of Mr. Robert Mylne for a bridge of five segmental arches, at the estimated cost of 308,000*l.*, exclusive of a temporary bridge and the reconstruction of the outlet of the Fleet sewer; the design of Mr. Thomas Page for a bridge of five segmental arches, at the estimated cost of 260,000*l.*, including allowance for contingencies and for removing the present bridge.

At the last meeting of the Common Council the committee presented these designs, with an accompanying report, for them to choose one for adoption. Pictorial representations of the selected designs were exhibited in the council-chamber. Mr. Brunlees' design had a centre arch of 209 feet 4 inches span, side arches of 195 feet 6 inches, and abutment arches of 163 feet 4 inches. The headway of the centre arch above Trinity high-water mark was 26 feet, the distance from abutment to abutment 995 feet, and the available waterway for navigation 929 feet. The average gradient of the bridge was 1 in 50, with 70 feet breadth of way. In Mr. Cubitt's design the span of the centre arch was 189 feet, of the side arches 176 feet, and of the abutment arches 164 feet. The headway of the centre arch was 27 feet above high-water, the distance from abutment to abutment 963 feet, and the available waterway 869 feet. The breadth was 75 feet, and the steepest inclination of the bridge was 1 in 40. Mr. Fowler's centre arch was 184 feet in span, two side arches 173 feet each, and two side arches of 162 feet. The headway of the centre arch above high-water mark was 22 feet, the distance from abutment to abutment 925 feet, and the available waterway 854 feet. The gradient of the bridge was 1 in 50, and the breadth 80 feet. The centre arch of Mr. Mylne was 216 feet span, the side arches 199 feet, and the two land arches 156 feet, the headway of the centre arch being 26 feet, the distance between the abutments 987 feet, and the available waterway 926 feet. The span of Mr. Page's centre arch was 200 feet, of the adjoining arches 188 feet, and of the abutment arches 164 feet. The headway of the centre arch above high-water was 23 feet, the distance between the abutments being 994 feet, and the available waterway 903 feet. The breadth of the bridge was not less than 75 feet, and the gradient was 1 in 50 on the Middlesex and 1 in 40 on the Surrey side. Mr. Wellington Vallance, chairman of the Bridge-house Committee, in moving the adoption of their report, said, with regard to the question of cost, he was enabled to state, on the authority of the chamberlain, that the council need have no hesitation in adopting any design for a bridge, the estimated cost of which was not more than 300,000*l.*, and that they might even go further, to the extent of an additional sum of 50,000*l.* or 70,000*l.*

Each of the designs was then submitted alphabetically to a show of hands, until the number was reduced to two. The result was first to eliminate that of Mr. Mylne; then that of Mr. Fowler; and, thirdly, that of Mr. Page, leaving those of Mr. Brunlees and Mr. Cubitt from which to choose. Eventually the court, on a show of hands, adopted that of Mr. Cubitt by a large majority.

On the motion of Mr. John Young, jun., it was referred back to the Bridge-house Committee to take all the necessary steps, with the least possible delay, for erecting the proposed bridge after Mr. Cubitt's design.

PREMIUMS AWARDED BY THE INSTITUTION OF CIVIL ENGINEERS.

THE Council of the Institution of Civil Engineers have awarded the following premiums for papers read during the session 1861-62:—

1. A Telford medal, the Manby premium, in books, and a Stephenson prize of twenty-five guineas, to C. A. Hartley, for his "Description of the Delta, and of the Works recently executed at the Sulina Mouth, of the Danube."

2. A Telford medal and a Miller prize of fifteen guineas to J. H. Muller (of the Hague), for his paper "On Reclaiming Land from Seas and Estuaries."

3. A Telford medal and a Miller prize of fifteen guineas to J. Paton, for his paper "On the Sea Dykes of Schleswig and Holstein, and on Reclaiming Land from the Sea."

4. A Telford medal to James Abernethy, for his "Description of the Works at the Ports of Swansea, Silloth, and Blyth."

5. A Telford medal to J. Bailey Denton, for his paper "On the Discharge from Underdrainage."

6. A Watt medal to Joseph D'Aguilar Samuda, for his paper "On the Form and Materials for Iron-plated Ships."

7. A Council premium of books to James Brunlees, for his paper "On Railway Accidents,—their causes and means of prevention."

8. A Council premium of books to Captain Douglas Galton, R.E., for his paper "On Railway Accidents, showing the bearing which existing legislation has upon them."

9. A Council premium of books to H. C. Forde, for his paper "On the Malta and Alexandria Submarine Cable."

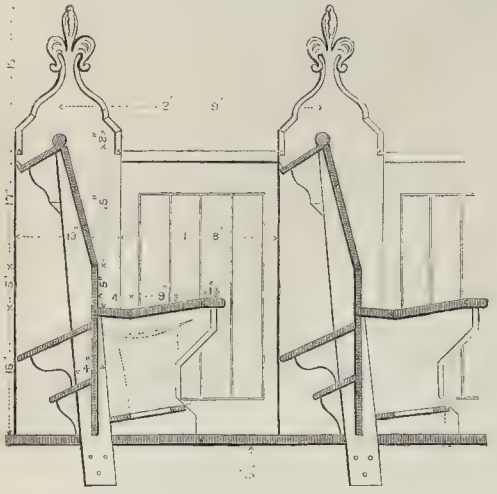
10. A Council premium of books to C. W. Siemens, F.R.S., for his paper "On the Electrical Tests employed during the construction of the Malta and Alexandria Telegraph, and on Insulating and Protecting Submarine Cables."

11. A Council premium of books to J. Atkinson Longridge, for his paper "On the Hooghly and the Mutla."

12. A Council premium of books to James Oldham, for his paper "On Reclaiming Land from Seas and Estuaries."

ON THE BEST FORM AND DIMENSIONS OF A SEAT.

A CORRESPONDENT writes as follows:—When a workman is about to make a saddle, he does not begin with a T-square and straight-edge, and make every part of it with right angles; but proceeds to model a saddle-tree, with the underside fitted to the horse's back, and the upper surface formed so as to extend as much as possible the part on which the rider sits. The same principle applies to a seat. The form of the human frame should be considered, and the seat so modelled as to extend the resting-surface, and be adapted to the average size of man. Keeping this in view, the best dimensions for a comfortable church pew would appear to be,—



Width of pew from centre to centre	2ft. 9in.
Height of back, total	3 2

Divided thus,—

From floor to upper surface of seat at back	1ft. 4in.
From thence, perpendicular.....	0 5
From thence, sloping about 1 inch in 4 inches ..	1 5
	3ft. 2in.

Seat, total breadth, 15 inches, divided thus,—

From back, forwards, decline ¼-inch in	0ft. 4 in.
From thence, rise 1½ inch in	0 9½
From thence, to the front, level	0 1½
	1ft. 3 in.

Making the height of the seat at the front 17 inches.

There is abundant room for men's hats under the seat.

If the seats are to have cushions, they should be half an inch lower, and that half inch added to the perpendicular part of the back, making it 5½ inches.

This perpendicular part of the back is of essential importance to the comfort of the seat, as it gives support to the bony frame of the loins, while the slope above it leaves room for the motion of the heart and lungs, and affords rest to the shoulders.

The form of the seat also gives support to the limbs where they grow thinner, and in every way extends the surface on which the body rests.

This general form and these dimensions have been worked out, after much comparison and study, by Mr. William Brown, of Glasgow. The general principles, says the writer, may be also employed in the improved construction of benches, couches, and chairs.

THE DEVELOPMENT OF HEAT, SOLAR AND TERRESTRIAL.

PROFESSOR TYNDALL delivered a highly interesting lecture "On Force," at the Royal Institution, on 6th June; which, we think, has been less quoted, and is less known, than it deserves to be.

In the course of this lecture the development of heat was treated of; and it is to the wonderful conclusions to which men of science have come on this subject that we would more especially direct the attention of our readers; although the mere abstract law of the conversion of mechanical force into heat; and, *vice versâ*, of heat into mechanical force; has long been known and treated of. Having first of all considered this law in various of its bearings, the professor thus proceeded:—

Whence is the sun's heat derived, and by what means is it maintained? No combustion, no chemical affinity with which we are acquainted, would be competent to produce the temperature of the sun's surface. Besides, were the sun a burning body merely, its light and heat would assuredly speedily come to an end. We have already regarded the case of a body falling from a great distance towards the earth; and found that the heat generated by its collision would be twice that produced by the combustion of an equal weight of coal. How much greater must be the heat developed by a body falling towards the sun! The maximum velocity with which a body can strike the earth is about seven miles in a second: the maximum velocity with which it can strike the sun is 390 miles in a second. And, as the heat developed by the collision is proportional to the square of the velocity destroyed; an asteroid falling into the sun with the above velocity would generate about 10,000 times the quantity of heat generated by the combustion of an asteroid of coal of the same weight. Have we any reason to believe that such bodies exist in space; and that they may be raining down upon the sun? The meteorites flashing through the air are small planetary bodies, drawn by the earth's attraction, and entering our atmosphere with planetary velocity. By friction against the air they are raised to incandescence and caused to emit light and heat. At certain seasons of the year they shower down upon us in great numbers. In Boston, 240,000 of them were observed in nine hours. There is every reason to believe that space is stocked with smaller masses, which obey the same laws as the large ones. That lenticular envelope which surrounds the sun, and which is known to astronomers as the Zodiacal light, is probably a crowd of meteors; and, moving as they do in a resisting medium, they must continually approach the sun. Falling into it, they would be competent to produce the heat observed; and this would constitute a source from which the annual loss of heat would be made good. The quantity of matter competent to produce the necessary effect would, during the range of history, produce no appreciable augmentation in the sun's magnitude. The augmentation of the sun's attractive force would be more appreciable.

Our earth moves in its orbit with a velocity of 68,040 miles an hour. Were this motion stopped, an amount of heat would be developed sufficient to raise the temperature of a globe of lead of the same size as the earth 384,000 degrees of the centrigrade thermometer. It has been prophesied that "the elements shall melt with fervent heat." The earth's own motion embraces the conditions of fulfilment: stop that motion, and the greater part, if not the whole, of her mass would be reduced to vapour. If the earth fell into the sun, the amount of heat developed by the shock would be equal to that developed by the combustion of 6,435 earths of solid coal.

To whom, then, are we indebted for the striking generalizations of this evening's discourse? All that I have laid before you is the work of a man of whom you have scarcely ever heard,—a German physician, named Mayer. Led by his own beautiful researches, and quite independent of Mayer, Mr. Joule published his first paper on the "Mechanical Value of Heat," in 1843; but in 1842 Mayer had actually calculated the mechanical equivalent of heat from data which a man of rare originality alone could turn to account. You will desire to know what has become of this man. His mind gave way: he became insane; and he was sent to a lunatic asylum. He recovered, however; and, I believe, is at this moment a cultivator of vineyards in Heilbronn.

PROPOSED ARCHITECTURAL ALLIANCE.

AT the meeting held on the 2nd instant, to discuss this proposition, as mentioned in our last, there were present as delegates;—From the London Architectural Association, Messrs. Blashill, T. R. Smith, and W. W. Bunker; Institute of Scotland, Mr. Lessels; Institute of Ireland, Mr. J. J. Lyons (unofficial); Birmingham Association, Messrs. J. H. Chamberlain and A. B. Phipson; Bristol Association, Messrs. H. Lloyd and E. W. Godwin; Liverpool Association, Messrs. Weightman and S. M. Hay; Glasgow Association, Mr. Kennedy; Manchester Association, Messrs. Lawrence Booth and A. Darbyshire; Northern Association, Messrs. Thomas Austin and J. P. Pritchett. A set of rules has been drawn up and printed; but, as it would seem to be tentative only, we delay printing it. We do not quite see our way in the matter.

LODGINGS FOR EXHIBITION VISITORS.

THE difficulty of providing rooms for the vast number of visitors from abroad, and from the provinces, is far greater than in 1851; and it is probable that, as the season advances, the number of persons coming to London from the country districts will increase still farther; but even at present, great as is the extent of the hotel accommodation in the central parts of the metropolis, all these establishments, and the lodging and boarding houses, are crowded to overflowing; and grievous are the complaints of indifferent accommodation and enormous charges.

The inconvenience is, in a great measure, caused by the desire of so many persons to find lodging near the central places of business and the leading thoroughfares. There are, however, elsewhere, plenty of comfortable bed and other rooms which might be had at a very moderate cost. There are hundreds of householders in Lambeth, Islington, and other parts, who would gladly let their apartments. But there is a want of some systematic plan. If registry-offices were established in or near the great railway stations, steam-packet wharfs, &c., where lists of lodgings could be had, with particulars of the extent of the accommodation, price, &c., it would be a decided advantage. There should also be means of making inquiry respecting the character of the persons who offer their lodgings to be let; and whether the rooms, beds, &c., are such as can be safely recommended.

THE CHAPEL OF EXETER COLLEGE, OXFORD.

OF the exterior of this building, one of the best of Mr. Scott's works, we have already given a view, with some descriptive particulars.* To this we now add a view of the interior, looking east. It is an apsidal chapel, about 90 feet by 30 feet internally, vaulted; stone of two colours being used for that purpose. The chapel consists of five bays; and the apse has five sides. Shafts of coloured marble are somewhat extensively used. The general works were executed by Mr. Symm, of Oxford: the stone-carving was done by Mr. Phillip, of London.

The chapel was consecrated on the 18th of October, 1859, by the Bishop of Oxford.

* See vol. xvii. (1859), p. 440; also p. 401, same vol.; and elsewhere in our pages.



INTERIOR OF THE CHAPEL, EXETER COLLEGE, OXFORD.—Mr. G. G. Scott, R.A., Architect.

COMPETITIONS.

Birmingham Free Libraries.—A correspondent, speaking of the designs which have been submitted and quietly adjudicated on, gives the following quotations, and asks how they are to be reconciled:—"From the Instructions to Architects:—The cost of the whole erection, exclusive of the architect's commission, fixtures, and fittings, *must not exceed* 10,500*l.* The buildings *must be* delivered up complete in *every respect*, as *no extras* will be permitted after *the adoption of the plans*: to ensure this the committee reserve to themselves the right to retain the *whole* of the commission until the *completion of the work*." From the *Daily Post*:—Mr. Osborne asks for power to 'obtain tenders for the erection of the work, *according* to the designs of Mr. Martin, at a cost not exceeding 12,500*l.*'"

Leamington Church.—The design of Mr. John Dundall, architect, of Leamington and London, has been selected, by the committee, for the completion of the above church, at an estimated outlay of 10,000*l.*

PROPOSED DUBLIN EXHIBITION PALACE.

THE obscurity of the advertisement offering premiums for designs, as to the employment of the successful competitor, and the fact that the company advertise an architect of their own, have led to a written request to the secretary for a more explicit statement on this head. The secretary replies that he is unable to render any additional information; and our advice is that architects should decline to submit designs until the matter be made clear. The time for sending designs has been extended to September 1st.

NEW POORHOUSE FOR LEITH.

THE North Leith Parochial Board having feued a piece of ground, measuring about three acres, in North Junction-street, whereon to build a poorhouse and offices for the Board and their servants, the buildings were commenced in July, 1860, according to plans prepared by the late Mr. Peter Hamilton, of Edinburgh, architect, and they are now completed. The poorhouse is situate in the centre of the ground, with the front to the south, according to the *Scotsman*. The principal portion of it is two stories high, 140 feet long, and 45 feet broad; and the height from the floor to the ceiling on the ground-floor is 12 feet, and in the upper flat 13 feet. In this part of the building there are apartments for the governor, three day-rooms, a sick-room, two work-rooms, dormitories for 130 people (allowing 500 cubic feet of clear space for every inmate), four lavatories supplied with hot and cold water, and store-rooms. Betwixt and connecting the two principal divisions of the house, there is a large hall, 40 feet by 28 feet, seated for 150, which serves for the twofold purpose of a dining-room and chapel. Several of the grates in the rooms are constructed with boilers, in such a manner that the fires used for heating the rooms warm the water for the lavatories. The whole arrangements for ventilation have been completed by Mr. William Cunning, ironmonger, Queen-street, Edinburgh, after a plan of which he is the inventor. The late Mr. James Hume, builder, Leith, was the contractor for the mason's work; Mr. Andrew Cunninghame, wright, Leith, for the joiner's work; Mr. Peter Innes, plasterer, Edinburgh, for the plasterer's work; Mr. Fortune, slater, Leith, for the slater's work; and Mr. Law, plumber, Edinburgh, for the plumber's work. The cost of the house and furnishings amounts to about 7,000*l.*

ECCLESIOLOGICAL REPORT.

WE take a few paragraphs from the Report of the Committee of the Ecclesiological Society, referred to in our last.

"We proceed to remark on the actual architectural progress since our last anniversary. And first, as to the principal new churches which have come under the notice of the committee. Mr. Butterfield's new church of St. Alban, Baldwin's-gardens, has not yet been consecrated, but is about to receive its final mural decoration from Mr. Le Strange's pencil. Mr. Street's St. James's the Less, Garden-street, and Mr. Brandon's St. Peter's, Great Windmill-street, have been opened. Mr. Clarke has begun an interesting work in the new chapel of the House of Charity, in Soho-square; and Mr. Pearson has given an excellent design for St. Mary's the Less, Lambeth. St. Michael's, Star-street, Paddington, by Mr. Rohde Hawkins; St. Luke's, King's-cross, by Mr. Johnson; Mr. Blomfield's chapel-school, in Bedfordbury; and St. Stephen's, Spitalfields, by Mr. Christian, have been finished during the year. Out of London we have to notice Mr. Scott's churches of All Saints' Highgate, and Hawkhurst, Kent; Mr. Street's churches of St. George, Lillesball, Shropshire, and St. John, Stourbridge, Worcestershire; Mr. Bodley's churches at Brighton, and of St. Martin-on-the-Hill, Scarborough; Mr. Slater's Digby mortuary chapel, at Sherborne, and his collegiate chapel of St. John's, Hurstpierpoint, Sussex; Mr. Norton's St. John's the Evangelist, Middlesborough, Yorkshire; Mr. White's Christchurch, Freemantle, Hampshire, and his design for a church at Masborough, Yorkshire; Mr. Pearson's St. Mary's, Dalton Holme, Yorkshire; Mr. Hugall's St. Mary's-church, Devonshire; Mr. Higham's Christ Church, Shield Field, Newcastle-on-Tyne; and a design by Mr. Crossland, for a church at Huddersfield. Mr. Slater's church of Bray, near Dublin, is making satisfactory progress. A new church, by Messrs. Welland & Son, called Zion Church, at Rathgar, also near Dublin, has been severely critcised in our pages as unworthy of the present state of ecclesiastical architecture among us.

The cathedral movement has made remarkable progress. A new cathedral is in contemplation for Aberdeen. In Ireland the example of Kilmore is to be followed by the rebuilding of the Cathedral of Cork. Tuam Cathedral also is to be rebuilt by Sir T. Deane & Son; the curious early choir (now used as a porch) being retained as a sanctuary. We have already described the design in our pages. A cathedral for the diocese of Connor, at Belfast, the second town in Ireland, has also been undertaken; and its erection is strenuously pushed by the diocesan. The restoration of Limerick Cathedral, by Mr. Slater, is in progress. Under this head may also be noted the refitting of the Cathedral at Londonderry.

In the colonies, also, we have to record the slow but steady progress towards completion of Sydney Cathedral; and of St. Andrew's, Singapore. Mr. Slater's design for Honolulu Cathedral has been published and described in our pages. Mr. Clarke's church at Point de Galle, and Mr. Bodley's design for a Mission Church at Delhi, are both very interesting works. Mr. Scott has designed a church for Calcutta. On the continent of Europe Mr. Statz's church at Aix-la-Chapelle, and Mr. Stadler's churches at Lucerne and Basle, have been described in our journal.

We proceed next to the Church Restoration of the year. First must be mentioned the beautiful restoration of Lichfield Cathedral, by Mr. Scott. The works in the lantern of Ely Cathedral, undertaken as a memorial to Dean Peacock, have been begun under the same architect. The present Dean of Ely has followed his predecessor's example in issuing a report of the progress of the work of restoration in his church. The works in Durham Cathedral have advanced satisfactorily under the care of Mr. Robson; as have those at Hereford, under Mr. Scott, whose restoration of the tabernacle work of the stalls in the choir is proceeding to a satisfactory completion. In York Minster considerable improvements have been made, especially in the manner of lighting the choir by a string of gas-jets below the great string-course of the clerestory. Less satisfactory are the destructive restorations at Worcester Cathedral, under a local architect, and at Bristol, under Mr. Pope. The scraping of Lincoln Minster has, we regret to say, been ruthlessly persisted in against the unanimous remonstrance of all competent authorities. Here we may note the useful and able line taken, in support of our own view, by a local newspaper, the *Lincoln and Stamford Mercury*. The question of the restoration of the Chapter-house at Westminster, now cleared of records, has been mooted with good prospects of success by the Dean, and taken up both at a meeting held within the building, and in a memorial signed by several hundred names, including an unusual proportion of influential persons of all opinions. Mr. Scott has recovered enough of the original detail to make the work a safe and easy one. The early and strong notice which the press has taken of the proposal to close the building again with some documents of no value will, we trust, defeat that unlucky scheme. Also in London, the round church of the Temple is under restoration by Mr. St. Aubyn. It is extremely to be regretted that the conical roof is not to be restored. Mr. Withers has had the task of improving and partially restoring two London churches of the fifteenth century—St. Ethelburga, Bishopsgate, and St. John, Clerkenwell. One Wrennian church, SS. Augustine and Faith, Watling-street, has been decorated not unsuccessfully with polychrome. The restoration of St. Sepulchre's, Northampton, by Mr. Scott, is one of the most conspicuous works of the year out of London. Mr. Scott has also restored the ancient church in Dover Castle, and All Saints', Huntingdon. the improvement of Great St. Mary's, Cambridge, is, we hear, no longer to be delayed. Mr. Hussey's restoration of St. John Baptist's, Chester, has been noticed at length in our pages. Mr. D. Brandon has restored the Italianised interior of Benenden Church, Kent. Mr. Butterfield's restoration of St. Lawrence's, Alvechurch, Worcestershire, must also be noticed. The re-appropriation of Roslin Chapel to the purposes of divine worship must be commemorated. In the colonies Mr. Butterfield is about to reform and rearrange the Cathedral of St. George, at Capetown."

"The progress of religious sculpture during the year is best illustrated by the display in the International Exhibition. It is enough to mention the recumbent effigies of Dr. Mill, by Mr. Philip, now completed; of Lord Cawdor, by Mr. Forsyth; and the very beautiful ideal figure of a young lady, by Mr. Nicholl, under Mr. Burges's direction. Mr. Redfern's bassi relievi for the Digby mortuary chapel at Sherborne, and for the Westropp monument at Limerick; and Mr. Nicholl's sculptured reredos, from the designs of Mr. Burges, for Waltham Abbey, must be noticed with especial commendation. The committee must also notice the recumbent effigy under a recessed tomb to the late Rev. J. Murray, in St. Andrew's, in Well-street, which is in progress, by Mr. Nicholl, under Mr. Burges's directions. The memorial also includes a window, which is to be filled with subjects in grisaille, by Messrs. Lavers & Barraud, from Mr. Smallfield's designs.

The Architectural Productions Court in the International Exhibition contains several interesting objects, including a marble pulpit and reredos, designed by Mr. Street, executed by Mr. Earp; Mr. Slater's doorway for the Digby chapel at Sherborne, executed by Mr. Poole; an elaborate reredos, executed by Mr. Earp, in imitation of Mr. Street's style, from a design by Mr. Bentley. It is much to be regretted that Mr. Scott's stone and marble pulpit for Westminster Abbey, now erected in the nave, was not previously exhibited. There is also a Pointed fountain, by Mr. Nesfield. In an adjoining court, Mr. Slater's pavement for the sanctuary of Chichester Cathedral, in marble mosaic, is exhibited. Messrs. Clayton & Bell's panels in incised work, for the pavement of Lichfield Cathedral, are of unusual merit. One of them is shown in the Mediæval Court."

The report concludes with the expression of a belief that in every branch and department of religious art there are signs of vitality and growth; and that there is no longer any form of applied art among us in which there are not zealous workers and successful results.

UNIVERSITY COLLEGE.

THE following prizes have been awarded:—Architecture, by Professor Donaldson, M.I.B.A., Ph.D.—Fine Art, Second Year's Course: Prize, Rowland Plumbe; Certificates, 2, E. D. Drury; 3, Sydney F. Smith; 4, Charles William Brooks. — Construction, First Year's Course: Prize, Benjamin Corser; Certificates, 2, James Stanford; 3, Sydney F. Smith. Second Year's Course: Prize, Rowland Plumbe; Certificates, 2, Charles W. Brooks; 3, John Richard Gover. Professor Donaldson also mentioned Messrs. Clarkson, Donkin, Mason, Poole, S. Smyrke, and Spiers, in the First Year's Class; and Messrs. Plumbe, Drury, Green, and Brooks, in the second year's classes, as having carried off during the session various prizes for reports and essays required from time to time by the professor.—Civil Engineering, Professor Pole. Prize, John Hawthorne Kitson; Certificates, 2, Edward Wagg; 3, equal, Edward Crompton, Frank Thorowgood.

SCHOOL-BUILDING NEWS.

Bedminster.—The foundation-stone of the new parochial schools, which it is proposed to erect in connexion with the parish of St. Luke's, Bedminster, has been laid by the mayor of Bristol. The site of the proposed school is about 300 yards from St. Luke's Church, in what was formerly known as Weare's-mead. The style will be plain Early English. The building will comprise one schoolroom, 94 feet by 36 feet; two class-rooms, offices, and other conveniences; with two playgrounds in front. The estimated cost of the erection is 1,035*l.*, and the school is intended to accommodate 600 children. Mr. Crisp is the architect, and Mr. Norris the contractor.

West Bromwich.—The foundation-stone of new Ragged Schools has been laid here. Messrs. Nicholls & Bower are the architects, and Messrs. Stockton & Field, the builders.

CHURCH-BUILDING NEWS.

Otley.—Several important alterations have been lately carried out in the interior of the parish church of Otley. Two ornamental tables, relating to the local charities, have been painted in illuminated characters on the wall over the west gallery. The roof of the south transept has been coloured with geometrical patterns, and the two windows in this part of the building filled with stained glass. The larger of these windows, looking due south, and forming the principal feature of the transept on that side of the church, is of three lights divided by a transom frequently used in windows of this period, viz., of the fifteenth century. These six divisions are filled with stained glass in the following order:—The lower tier represents the Nativity of our Lord. In the centre light sits our Saviour on the lap of His virgin mother, while the magi and the shepherds, grouped in the side lights respectively, adore the new-born King. In the tier above is represented our Lord's Crucifixion, the side lights being occupied, as in the case of the lower tier, by pendent groups. On the one side are the three Maries, and on the other St. John, Joseph of Arimathea, and the good centurion. In the tracery are numerous angels under canopies. As this window represents our Lord's birth and death, the second one, looking east from the same transept, sets forth His resurrection. In this case the triptych order of arrangement is adhered to; the figures of the risen Lord and the Roman soldier being in the centre light, while the three Maries, St. John, and St. Peter occupy the side lights. The attitude of the Roman soldier is perfect: though in full armour, there is a lassitude and ease in the limbs quite striking. The entire cost of the decorations in this transept, amounting to several hundred pounds, has been paid in a most liberal and cheerful manner by Mr. Fison, of Greenholme, near Otley. A three-light window, situate in the north aisle, has also been filled with stained glass at the sole expense of Mr. Francis Billam, of Newall Hall, near Otley. This window contains three separate groups, emblematical of our Saviour's obedience, wisdom, and affection. In the centre is a representation of our Lord blessing little children, and in the side lights are set forth His discussion with the doctors in the temple, and His being subject to His parents. There are angels in

the tracery, and underneath the groups is the following inscription:—"In memory of a beloved child who was reclaimed by Him who gave her.' All the stained-glass work and the chromatic decorations in the south transept were done by Messrs. Clayton & Bell, and the ornamental tables by Mr. James Horner, of Otley.

Sheffield.—The chief stone has been laid of a new church for the Independents at Upperthorpe. The chapel will front on Albert-terrace-road, a little distance from the west wing of the General Infirmary. The style of the proposed building is Italian. The internal dimensions are 52 feet long, 46 feet wide, and 22 feet high, exclusive of orchestra, staircases, &c. The accommodation provided is sittings for upwards of 700. Underneath the chapel provision is made for a lecture-room, 46 feet by 26 feet wide, with closets, &c. The present contract, which is exclusive of the fences, &c., is about 1,800*l.* The total cost will probably be 2,000*l.* Mr. J. Hall is the architect; and Mr. G. Longden, the builder.

High Harrogate.—The alterations and enlargement of Christ Church are nearly completed; and the new portion of the church, namely, the transepts and chancel, have been opened for divine service. Christ Church was originally built in 1831. The original cost was somewhere about 4,000*l.* In the original design (if, indeed, a design had ever been drawn out) there was no chancel nor transept. The additions consist in plan of a north and south transept, a chancel, an organ chapel, and vestry. The work is designed in the Early English style, and is of more ornamental character than the older portion of the structure. Internally, however, the appearance of the old building has been improved by taking down the old flat plaster ceiling, and by filling in the roof principals, thus exposed, with open tracery work; after which the whole has been stained and varnished, to correspond with the new portion of the work. A central arch, decorated and enriched, and two subordinate side arches, open out the connexion between the old and new portions of the church, and the central arch is repeated at the chancel. The organ chapel, also, opens out into both transept and chancel by arches, relieved by mouldings. Low and open stalls or benches fill the transept and the choir, to be lighted with standard lights. The east and the south transept windows are filled in with stained glass, and the wall behind the altar, under the east window, is covered by a carved and enriched reredos, and the floor within the altar rails laid with encaustic tiles. The contract has been carried out by Mr. H. Horner, under the direction of the Faculty Commissioners and architects. The stained glass has been supplied by Messrs. Warrington, of London; the heating apparatus by Mr. England; and the reredos by Messrs. Mawer & Ingle, of Leeds. The works have been carried out under the superintendence of Messrs. Lockwood & Mawson, of Bradford, architects. The stained windows consist of the triplet east window, each division of which is a memorial to departed townspeople, and have been so placed by the desire, and at the cost, of surviving friends. The window in the south transept is in memory of the late Prince Albert, and has been subscribed for by a few of the inhabitants of High and Low Harrogate, and members of the congregation at Christ Church. Both windows have been executed by Messrs. Warrington & Sons, of London. The subjects emblazoned on the glass are as follows:—Turning to the east window, the first compartment on the left represents "Bearing the Cross" and "Raising Lazarus." The centre compartment represents "The Nativity," "The Crucifixion," and "The Ascension." In the right-hand compartment the subjects are "Noli me tangere" and "Raising the Widow of Nain's Son." The south transept window represents six different subjects, illustrations of the following scriptural passages:—"Give me understanding, that I way learn Thy commandments" (Ps. cxix. 34); "Thy wife shall be as a fruitful vine" (Ps. cxxviii. 3); "In the morning shall my prayer prevent thee" (Ps. lxxxviii. 13); "Sympathy with the sick and afflicted" (Ps. xxxv. 14); Armorial Bearings of the Queen; Armorial Bearings of the late Prince Albert. This last window is to be paid for independent of the Enlargement Fund. The entire cost of the whole alterations and additions will be about 2,500*l.*

Ossett.—The chief stone of a new church to replace Trinity Church, Ossett, has been laid by Mr. Ingham, late of Ossett, now of Sicily, who provides 1,500*l.* of the 8,500*l.* requisite for the re-erection. The church will be in the Early second Pointed style. Mr. Crossland, of Halifax, is the architect; and Mr. Hampshire, of Huddersfield, the contractor. The edifice is cruciform; and consists of nave with aisles, transepts, chancel, with a south aisle, and vestry on north side. The nave is 28 feet wide within the walls, the aisles 14 feet, and the length of nave from west wall to chancel arch is 115 feet 6 inches. The transepts are 14 feet deep, and the chancel 35 feet. The square of the tower is 30 feet 6 inches. The aisles are 14 feet high to plate; nave 40 feet to plate, and 67 feet to ridge, having a clerestory 16 feet high. The chancel and transepts are each 30 feet to plate, and 57 feet to ridge. The total height of tower and spire is 210 feet. The ashlar stone for the external dressings is from Huddersfield, and the intermediate walling stone from Halifax; the internal dressings of Morley stone. The piers of nave arcade are to be of polished red and grey Aberdeen granite, with foliated capitals and moulded arches. The lesser shafts of the tower piers are also of granite. The aisle windows are coupled lancets with a quatrefoiled circle in the head. The clerestory windows are coupled lancets with a six-foiled circle in the head, all having a retaining arch. The east window has five lights, the centre light being broadest, the head being filled with geometrical tracery, moulded, and having inside Purbeck marble shafts with bands and moulded caps. The window is to be filled with subject glass. The west window is also of five lights, the transepts four lights, all with geometrical tracery moulded. Over the altar will be a representation, sculptured in bas-relief, of the Last Supper, having a border inlaid with marble. The floor will be laid with Staffordshire tiles and black and white marble. The seats are to be open, and of pitch pine; the total accommodation, 1,002.

Leeds.—The chief stone of a chapel for the Leeds Grammar School has been laid. The building is to be erected at the east end of the school; and it is intended to accommodate about 300 persons. The style of architecture will be Decorated; and it is designed to harmonize with the present school buildings. The architect is Mr. E. M. Barry. The interior of the chapel will be about 80 feet long by 24 feet wide, and the structure will be so arranged that it may be connected with the main building at a future time, if required. It will be completed in about nine months, and the total cost will be 2,500*l.*, the whole of which will be met by public subscription. No contract has yet been entered into.

Ellingham.—The church here has been rebuilt during the last year, and reopened for divine service. The old church, although modern, was two years ago pronounced unsafe by the archdeacon, after personal visitation: the foundation of the tower had given away, and had rent the whole edifice. The new church is cruciform, consisting of nave and chancel, and north and south transepts, with a porch on the south, and a vestry on the north. A square tower rises from the point of intersection. The amateur architect was the Rev. J. F. Turner; and the contractors were Messrs. Smith & Brown, of Coldstream.

Bradford.—The foundation-stone of a Baptist chapel has been laid by Sir S. M. Peto, bart., M.P., on ground adjoining Hallfield-road, Manningham-lane. The new building will consist of a chapel capable of seating 1,000 persons; a school-room for 350 children in classes; a lecture-room for 130 persons; a class-room, with gallery, for 80 infants; two class-rooms; a tea-room or class-room; a room for school library; minister's vestry, ladies' vestry, deacons' large vestry, cellar kitchen, and other apartments. The front of the chapel will front Manningham-lane, and the side elevation next Hallfield-road will partake of the same character as the front, and be consistent with it. The opposite (or quarter east) side is intended to be more simply treated. The school buildings are to be in the rear of the chapel, having an end frontage to Hallfield-road, and are so designed as to be subordinate in appearance to the chapel, but will be grouped with it. The style adopted (says a quotation in the local *Observer*) will be generally called Gothic, but widely differs from what is usually understood by that term. Internally, the chapel will be 53 feet wide, and 78 feet long, exclusive of organ recess, which is 14 feet deep; height of side walls, 30 feet; height from floor to centre part of ceiling, 41 feet. The construction of the interior divides the space laterally into a centre and two side compartments, as "nave and aisles." Coupled iron columns, each 7 inches diameter and 3 inches apart, support the side galleries, and are carried upwards to receive Pointed arches of brickwork which carry the roof above. There will be five arches on each side, each 13 feet span. Over the lecture-room and class-rooms, &c., will be the school-room, 60 feet by 30 feet, and 22 feet high, approached by two separate stone staircases for boys and girls, and communicating with the side galleries of the chapel. A tea-room, to be provided with boiler, &c., complete, adjoins the school-room. In front of the chapel will be a stone terrace, 10 feet wide, with three flights of steps. The walls of the building are to be of stone throughout, faced with hammer-dressed courses; and the dressings are to be of stone from Bolton Wood. Contracts have been taken for the works as follows:—

For the excavators', masons', carpenters', and joiners' work, and the boundaries complete—by B. Illingworth, of Bradford	£3,968	10	0
For the slaters' work—by J. Tattersall, of Bradford	178	10	3
For the plasterers' work—by T. Hargreaves, of Bradford	145	0	0
For the plumbers', glaziers', painters', and smiths' and ironfounders' works—by J. Keighley, of Bradford	455	0	0
Total	£4,747	0	3

These contract amounts are exclusive of heating apparatus (which will be supplied by Messrs. Haden & Son, of Trowbridge), gas, and chapel and school furniture, which, together with the land and architects' commission, &c., will swell the total expenditure to about 6,500*l.* The architects are Messrs. Paull & Ayliffe, of Manchester.

Murton (*York*).—The foundation-stone of a new Wesleyan chapel has been laid at Murton, near York, by Mrs. Singleton, late of York. The building will provide accommodation for about seventy persons. The architect is Mr. E. Taylor, of York: while the work has been intrusted to Mr. J. Walker, builder, York.

Guernsey.—The foundation-stone of a new Wesleyan chapel at St. Martin's, Guernsey, has been laid by the Rev. William Morley Punshon; and its name will be Morley Chapel, in compliment to the reverend gentleman who laid the stone. The *Comet* gives the following information:—"It will be an ornament to the neighbourhood, the design being Gothic. It will consist of a nave and transept, the nave being crowned with a centre finial, and on each quarter a steeplet. The building will be of red granite, and random masonry. The walls will have buttresses pointed with Portland cement. The length of the building is 42 feet, and width 33 feet; length of transept, 47 feet. The walls are to be 16 feet in height, and 40 feet from the ridge to the ground. The roof will be slated. A centre window of quarried glass, 14 feet in height and 7 feet in width, will adorn the front and on either side of the doorway will be a lancet window. On either side will be three windows, one at each end of the transept, and two in the nave. The building is calculated to seat 218 persons, of which fifty sittings will be free. The estimated cost is 450*l.* Mr. Peter Gallienne, formerly in the employ of the late Mr. M. de Putron, is the contractor. It is to be completed in nine months."

STAINED GLASS.

Middlewich Church.—The restorations of this church are drawing to completion. The south side of the clerestory is enriched with five stained-glass windows, by Messrs. Laver & Barraud, of London, the gifts of Messrs. J. France, E. Moss, and J. Blackwell; Mr. Clark, the architect, and Mr. Jones, the contractor. The subjects are the Twelve Apostles, the Two Evangelists, and St. Paul. A memorial window, by the same artists, has been placed in the south aisle, by Mr. W. R. Court, of the Manor House, Newton, in remembrance of his late father; the subject being the Nativity of our Saviour. The north aisle has also been enriched with a stained-glass window, in memory of the late Mr. Peter Barker, by Messrs. Heaton, Butler, & Bayne, of London, representing the Six Acts of Mercy, the Good Samaritan, and the Prodigal Son. This window is the gift of Mr. C. F. Barker. The baptistery has also been filled with stained glass. The window is in the Pointed style, and consists of three lights. The centre compartment contains two subjects, viz, "The Baptism in Jordan," and "Christ Blessing Little Children," each of which is surmounted by a canopy. The name of "Jehovah," inscribed, in Hebrew characters, on a radiant, divides the pictorial representations. The lateral divisions are filled with a mosaic design, and surrounded by a border of foliage. The tracery in the upper portion displays a floriated pattern, with a ribbon, set on a ruby ground, and inscribed, "This is my Beloved Son," the apex terminating with a descending dove. The window was designed and painted by Mr. C. Evans, at the manufactory of Messrs. Evans & Brothers, of Shrewsbury.

St. Mary's, Hulme.—The two central lights of

the great east window of this church have just been filled up with stained glass. According to the *Manchester Courier*, each light contains three subjects, illustrative of the life of our Lord, enriched with canopies and borders. The following are the subjects:—"The Raising of Lazarus," "The Transfiguration," "The Sermon on the Mount," "The Last Supper," "The Washing of the Disciples' Feet," and "The Triumphal Entry into Jerusalem." The artists were Messrs. Hardman, of Birmingham. The lights are the gift of a member of the congregation of St. Mary's, who intends to fill the whole window gradually; a design having been prepared for the whole, which will represent eighteen events in our Lord's life, from the Annunciation to the Ascension, in the six lights; the tracery being filled up with the four Evangelists, angels, &c. The east window of St. Mary's Church is the largest in Manchester, and one of the largest in the north of England; being 48 feet in height and 28 feet in width; and, when completely filled with stained glass, will be a marked addition to the church.

PROVINCIAL NEWS.

Everton (Liverpool).—The foundation-stone of the new public baths for Everton and its neighbourhood has been laid by Mr. J. Newlands, the borough engineer. These baths are to be erected between Cresswell-street and Margaret-street. A pleasing feature connected with the ceremony was the presentation to Mr. Newlands of a handsome silver trowel by the *employés* in his department of the Health Committee's executive.

Bingley.—A new court-house and prison are to be built here, to transact the business of the county in, and also for the Improvement Commissioners of Bingley to meet in; and a house for the fire-engines belonging to the Improvement Commissioners is to be connected with it. The masonwork has been let to Messrs. Clark, masons; the woodwork to Mr. W. Whitley, joiner; the slating to Mr. T. Thornton; and the plumbing to Mr. Dawson, all of Bingley. It is supposed that the building and site will cost upwards of 1,300*l.*

Leicester.—Amongst town improvements we may note the extensive additions now in progress at a warehouse in Campbell-street, belonging to Messrs. Evans & Stafford. The new buildings chiefly consist of stabling, coach-houses, harness-rooms, granaries, and store-rooms for hay and straw. They are approached through an archway with ornamental gates, surmounted by a group of sculpture representing Commerce and Agriculture, with a central figure of Britannia. The sculptor was Mr. Farmer, of London. On either side of the archway is an ornamental cast-iron railing. The new wing itself is decorated with carved stone medallions of Flora and Minerva, in correspondence with a similar style of ornamentation on the old building. A conspicuous feature in the premises is the glazed front of a covered yard, the idea of which appears to have been taken from the Crystal Palace. Fox & Barrett's fire-proof patent has been used in parts of the new building. The entire premises cover an area of 2,680 yards, and have three street frontages varying from 100 to 180 feet in length. The architect is Mr. H. Shenton, of Leicester.

SCOTTISH NEWS.

Edinburgh.—It is curious to mark the wide difference in the style of building houses for the working and middle classes, as exemplified in several parts of the Old and New Towns of Edinburgh. The erections of an older date, though massive and enduring, possess little comfort for the inmates from their interior arrangement; while the shops on the ground-floor are small and obscure, and sometimes badly lighted, from the projection of the upper part of the wall. The modern style of building, however, has ample size of rooms, and large and variously-formed windows. The New Town of Edinburgh has long been characterized by many buildings of this description; and, recently, specimens have been reared in the more ancient parts of the city. The foundation of a new dwelling-house, with shops, according to the local *News*, has just been laid in Montague-street, at the south end of the town. The building is to contain shops on the ground-floor, and four stories above, divided into shut-in half-flats, with every necessary accommodation. The frontage is 74 feet, and the height from the ground level to the ridge is 65 feet. Underneath the pavement, there is a depth of 10 feet for cellarage. The shop-fronts, though on a line with the range of houses on each side, project 3 feet 6 inches beyond the wall of the building, and have large windows, with sheets of plate-glass between the windows and the inner wall. The corner near Montague-street is furnished with a shop-entrance, and an angular dormer-window above, terminating in a short pinnacle. The proprietor and architect of this building is Mr. Gibson, and the contractor for the mason work Mr. Henderson, builder.

Portobello.—The tenders for the erection of the Town-hall buildings were opened by Mr. Bryce, architect, in the Council Chambers, before a meeting of the directors, when the following were accepted:—Messrs. A. & J. Wilson, Tranent, mason-work; Mr. H. Scott, Portobello, joiner-work; Messrs. Hume & Co., plumber-work; Mr. Anderson, Edinburgh, slater-work; and Mr. Sinclair, Portobello, plaster-work. The architect and directors have specified that the rubble stones are to be from Tranent, being of a superior quality; and the stone for front elevation from Burntisland. The estimates are considerably below the capital of the company.

Glasgow.—Between twelve and one o'clock on Saturday morning last, a large portion of a three-story brick building, occupied as a printing establishment by Messrs. Bell & Bain, in St. Enoch's-lane, fell with a tremendous crash. It appears that the ground next the building was being excavated for a sunk floor to premises about to be erected at the back of the property lately belonging to the Faculty of Physicians and Surgeons. Fortunately, no one has been injured, the fall having taken place early in the morning.

Dumfries.—A new building for the Dumfries branch of the National Bank, erected on the site of the premises formerly occupied by the bank, near the foot of Bank-street, approaches completion. The building has been constructed from designs and plans furnished by Mr. A. Fraser, architect, Dumfries; and will cost, when finished, about 2,500*l.* It contains accommodation for the offices of the bank and a house for the agent. The stone of which the edifice is built is the red sandstone of the district. The frontage of the building towards Bank-street is 40 feet in length, but at the back the length is 70 feet, the building extending upwards for about 30 feet at the back of the Custom House. The height in front is 45 feet. The exterior of the edifice is in the Italian style, and the carved enrichments on the front have been executed by Mr. Wm. Flint, stone-carver, Dumfries. The building is finished with a dentilled cornice surmounted by an open balustrade. The whole of the windows to the front are of plate-glass. In regard to the interior accommodation, the public office or telling-room occupies the front portion of the building on the ground-floor—its dimensions being 25 feet by 19. The consulting and clerks' rooms are at the back. The height of this story is 14 feet. The agent's house occupies the second and third floors. The mason's work was contracted for and executed by Messrs. Crackston & Son, and the joiner work by Messrs. Grierson & Son. The other contractors were Messrs. Adair, slater; Drummond, plumber; Fraser, plasterer; and Aitken, glazier.

Perth.—The foundation-stone of the chapel of the Evangelical Union Church, now in course of erection in High-street, has been laid. The building, which has been designed by Mr. James Watson, is to be in the Gothic style. It will be seated to hold nearly 500. The slaters, plumbers, and plasterers are, respectively—Messrs. M'Lachlan, Donaldson, and Mackay.

Ordiquhill.—The *Banffshire Journal* states that the parish church of this place has been repaired and reopened at the cost of Major Duff. The old earthen floor has been replaced by a wooden one, at a lower level; and the walls have been lathed, the windows enlarged, and the front of the gallery renewed. The alterations and improvements were carried out under the superintendence of Mr. J. Stevenson, of Portsoy, architect: the painting-work was by Mr. Geddes, of Banff; and the plaster-work by Mr. Wilson, of Keith.

STATUES AND MEMORIALS.

The Outram Statues and Testimonial.—Upwards of 8,000*l.* have been subscribed towards the proposed statues and testimonial. One of the statues (bronze), by Mr. Noble, is to be erected in London; and an equestrian statue (bronze), by Mr. Foley, will be erected in Calcutta. A silver dessert service (value 1,000*l.*), has been presented with an address bearing the names of those who have subscribed.

Statue of Hallam.—Mr. Theed has just executed a statue of Hallam, which is about to be erected in St. Paul's Cathedral. Somewhat above the life size, the historian is represented standing in his doctor's robes, pencil in hand, and grasping a manuscript volume in which to write.

The Memorial of John Locke.—This work of art was inaugurated at the Shirehall, Taunton, on July 1st; the bust of the celebrated Somersetshire philosopher having been placed in the building near to the one recently deposited to the memory of Admiral Blake. There was a large attendance of county magistrates, presided over by Sir William Miles, bart., M.P. The bust of Locke has recently been exhibited in the studio of Mr. Papworth, in London.

Memorial of the Children of the Murderer Taylor.—A monument, from the design of Mr. B. Lee, has been erected by Mr. W. Grimshaw, stonemason, in the Harpurhey Cemetery, over the grave of the three children of the murderer Taylor. The monument is in the form of a quadrangular obelisk, 9 feet high, surmounted by a Latin cross, and is made of Burnley stone. On one side is the following inscription:—"These poor innocents were found dead on the 16th of May, 1862; and, to avoid a pauper's grave, Mr. B. Lee received, in a few hours, from upwards of 3,000 persons, of all classes and sects, voluntary contributions sufficient to provide a respectable funeral and to purchase this monument. One touch of nature makes the whole world kin." The grave is enclosed by a low kerb stone, surmounted by iron palisading, ornamented with crosses. The enclosure will be planted with shrubs, presented by Mr. Copeland, of Manchester. It was in consequence of labels, written by the murderer, or his accomplice, having been placed on the breasts of these poor children, to the effect that they should be buried at Harpurhey (where their sister, killed by the boiler explosion, had been buried), that the burials took place there; and although one can sympathise to a certain extent with the feeling which prompted so many to obviate a pauper's funeral in this case; still we think the matter, under the peculiar circumstances, has been carried rather too far; and the motives are but too likely to be misunderstood.

THE SHREWSBURY SEWERAGE QUESTION.

THE report of Mr. Bazalgette on the five sewerage plans submitted to him has been made to the corporation of Shrewsbury. These plans, the reporter says, all bear marks of much thought, labour, and merit; but he does not exclusively adopt any one of them, in his recommendations, as a whole. The plans he submits are intended to embrace the best points in each. The report then goes on to say:—

"I therefore recommend that the outfall be placed at the borough boundary near to Preston Boats, and that a sewer be constructed nearly in the route recommended by Mr. Curley, up to the railway at Abbey-foregate, as shown upon the accompanying plan and section. The invert of the main sewer would be 5 feet in diameter, and rise at an inclination of 4 feet in a mile, which would produce a velocity of current when running half full of nearly two miles per hour, and a discharging power of upwards of 200,000 cubic feet per hour. At the Longden Coleham road it would receive the branch sewers from the Abbey-foregate district, and about three-quarters of a mile of the main sewer would be in a tunnel; thence it would be continued, by 166 yards of iron pipe 4 feet 6 inches in diameter, underneath the river, and through the western arch of the English Bridge to the towing-path, where it would receive the drainage of the southern and eastern portions of the town. A brick sewer, 4 feet 6 inches in diameter, with an inclination of 4 feet 6 inches per mile, would be continued thence along the towing-path to a point about 300 yards north of the English Bridge, where it would turn, in a nearly direct line, through a tunnel 266 yards long, underneath the town, to about the centre of the Cattle Market: here it would receive the drainage of the Castle-foregate district, extending on to Ditherington; and, at the eastern side of the Cattle Market it would receive the drainage of the principal portion of the town. From this point an iron pipe, 2 feet high by 3 feet wide, and 66 yards in length, would be carried underneath the river; and an egg-shaped brick sewer, 3 feet 9 inches high by 2 feet 6 inches wide, would be continued, at an inclination of 1 in 78, up to the Frankwell district. The routes, sizes, and levels, proposed for the branch sewers, are shown upon the accompanying plan, sections, and table. According to the information given to me when at Shrewsbury, it would appear that the present sewers are not of sufficient depth, and cannot on this account be made available in the proposed system of drainage."

The plans, therefore, provide for the entire re-drainage of the borough. Ventilating shafts at the upper ends of all the branch sewers, and others at intermediate points, are recommended. These, the report adds, may in cases be carried up the backs of houses; or, where this cannot be managed, ventilating gratings, with charcoal deodorizers, may be fixed in the streets. The question of the application of the sewage of towns to agricultural purposes "is at present," says the reporter, "in so unsatisfactory a condition, that I am unable to point out any mode by which the corporation can

dispose of their sewage with profit, or deodorize it without cost; and I have thought it prudent to secure an outfall into the river at a considerable distance from the town." The complete system of sewerage for the borough, according to the report, will not exceed 30,000*l.*

A NEW STYLE.

"ANOTHER cry for a New Style" has raised an echo more powerful than itself. And to be deeply regretted it is that former cries should have passed unheeded, when the necessity is so great, so obvious. For what reason have they done so? Because architects, having fallen slaves to precedent, have neglected to strive as a body towards the goal; and as well might a handful of men strive to conquer an opposing army, as one man or two to create the style which, humanly speaking, certainly will arise. To our disgrace, it may not be in our time; the architecture of which, to posterity, must be marked by incongruity and evidences of misdirected talent.

Can any one be so narrow-minded as to doubt the possibility of a new style arising? As well might he dispute that no thoroughly original piece of music should ever be composed. The requirements of the style would merely be, a different arrangement and quantity of the perpendicular line, the horizontal, the circle, ellipse, or curve (why should *we* suppress any of them?); one predominating in a different degree over the other, as the original piece of music would depend upon a different arrangement of the notes and time. As an original composition in music may be the work of one mind, the effort is often made and brought to a successful issue; and only for the reason that the new style of architecture will receive birth but from the impetus of collective mental exertion, has the effort never been successfully made in our day.

Had the question been mooted when the Norman style obtained in this country, "is it possible that a phase of this style, very different from the one we are practising, shall prevail?" No doubt many would have pronounced the idea utopian, as many now pronounce that of a nineteenth-century style to be. But the effort, if made, must eventually be crowned with success, seeing the superior mental culture and other advantages possessed by men of the time; even to say nothing of the number competent to the work—far greater than we have any reason to believe originated any existing or obsolete style.

The use of small stones conduced to elicit the arch of Gothic architecture—its marked feature. Had architects been possessed of larger stones, with engineering contrivances to apply them, in all probability beauty would have given way to adaptability, and the superincumbent wall been carried by a lintel; and that the door and window arch led the way to the grand display of groining, as Gothic was developed, may be assumed.

I advance this as a proof that circumstances, unforeseen by those striving, may form the clue (and it seems very slight indeed) on which the whole issue turns. They could not see that the necessity to use small stones would resolve itself into a means of producing a then original style; but they were fully acquainted with no other; and, by sheer force of application, the necessities and predilections of those barbarous times, they succeeded in leaving a fashion which we are not ashamed to use: though we should not hazard appearing in their dress, and have no Quixotic regret that these feudal times have gone,—"good old times,"—

> "when men
> Prowled on each other's path, to find
> Their fellest foes in humankind;
> And, hemmed around by fears and wars,
> Kept life and wealth by blood and scars;
> Revenge and hate their constant toil;
> By turns a spoiler and a spoil."

Yet we lose sight of progress in architecture by looking back: much of our architectural knowledge is more fitly in the province of the archæologist. We can pass over anything ugly in the works even of well-known architects, on the score that it is quaint; and to be able to furnish an instance where the ancients did this or that in a like manner, silences every opponent. Much of the ornament of lately-built churches is more worthy of a Red Indian than a civilized mind of such an age;—rows of notches; concentric circles; and other such primitive decorations; beautiful gurgoils, where everything that is lovely and sublime is sought after and attained; grotesque griffins, which fitly show the grotesque state of the brains that placed them there.

But, as Classic and Gothic have both fallen into disuse before, they certainly shall do so again, or blend. We have no necessity to throw out expensive abutments for the purpose of covering wide spaces; nor to choke our churches with clustered shafts;—and these, with many other such malpractices, must pass, and give way to a style adapted to the appliances of an advanced age.

VERITAS.

WORKMEN AND CHURCHES.

SIR,—A discussion upon religious topics appears somewhat out of place in the columns of the *Builder*; but the subject of church attendance having been broached in a recent issue, I trust you will admit a few remarks thereupon by one who has a workman's thoughts, sentiments, and, possibly, prejudices.

Your correspondent, in adverting to the fact that working men, as a rule, are not church or chapel goers, assigns, as a reason, the existence of pew-rents. Doubtless this is one; but in my view it is not the only or most powerful reason. We are repelled by the modern form of sermonizing, in which are served up dry, abstract reasonings upon points of doctrine, so very, very misty that we don't understand them. The sort of preaching now in vogue may suit some persons, but it will never interest the mass of the people. There is so much vagueness and indefiniteness about it, accompanied by a paucity of vigorous and telling illustration, that it fails to awaken the drowsy powers of the hard-working mechanic or labourer. If the so-called *preachers* of the gospel would abandon doctrinal preaching; aim more at a practical exposition of Christianity, as exemplified in the life and character of Christ; and establish a freer, easier, and more open communication with their hearers than at present prevails; I will venture to say that complaints respecting our neglect of religious services would be far less frequent than they now are.

Your correspondent also thinks that there is not sufficient church accommodation, and he suggests that large employers should open their shops for services to be conducted by the men themselves. There are, however, difficulties in the way of adapting our workshops to such a purpose. But if there were not, I doubt the propriety of such a step. In the first place, by far the larger number of men in London reside at too great a distance from the shops where they work, to be induced to go there on Sundays. Then look at the comfortless and chilly aspect of our workshops generally. It is all very well for the easy church-goer, in his comfortable cushioned and curtained seat, to talk of preachings or services in workshops; but, with all due respect, our well-to-do friends must understand that we, who, by our labour and the exercise of our skill, contribute to their comfort in the house of God, keenly appreciate comfort ourselves. We build up forms and carry out designs of beauty, upon which the eye of the wealthy loves to gaze, even when ostensibly worshipping God. Surely it is rather too much to expect us to be content with the surroundings of a workshop—the rough rafters and brick walls—hard seats, benches, tools, and work, all reminding one of hard toil. Such things are anti-devotional; and, therefore, admitting that more places are desirable for worship, I say emphatically, keep out of the workshop.

And for another reason I urge this, because there is no necessity for it. In the metropolis there are nearly, if not quite, 300 temperance halls, in some of which services are now held; and I know of no reason why there should not be in all. Again, look at the number of National and British school-rooms in our midst: if there is scant accommodation for us in churches or chapels, we have here the means of remedying the evil, and at a very trifling expense. I know the sort of prejudices that stand in the way of adopting my suggestion. In urging this very point upon a respected clergyman in my neighbourhood, and pointing out the propriety of conducting services thereon in a more unpretentious and familiar manner than the ordinary church service, he was afraid that, if made thus interesting, these supplementary services would entice people from the regular services! I said, "Supposing it should be so, what then, sir? Is not a man far more likely to be profited by what he is interested in, than that in which he feels little or no interest, where there is nothing to attract and fix his attention?" This was admitted; and yet the worthy divine dreaded the idea of attempting to introduce services of a more interesting and popular character in the immediate neighbourhood of his church. There was another fear upon the good man's mind. Evidently he dreaded appearing to sanction unconsecrated ministrations; for I should observe that my plan comprehends not only reading by working men, as suggested by your correspondent, but also brief comments upon Scripture narratives and events, &c.

This prejudice of a bygone age is, I am afraid, far from being extinct, and will probably stand in the way of National schools being used for this purpose. I do, however, hope that some of our well-wishers within the pale of the Church, abandoning some little of the pride of station, will cordially invite the co-operation of religious-minded working men to make an effort in this direction.

Your correspondent, at the close of his letter, refers to the responsibilities of employers in this matter. Alas! sir, my own experience proves that few—very few trouble themselves about this responsibility. I have known and worked for professedly religious employers, who did not care a straw whether a man was religious or not. So much have I seen of this sort of thing, that I candidly confess I do not believe in religious employers as a rule. The irreligious workman notices this, and learns to speak contemptuously of the profession of such men; or, rather, they learn to speak contemptuously of religion itself.

In conclusion, I hope the subject, once set on foot, will be thoroughly discussed. Meantime, I would suggest to the friendly correspondent so deeply interested in our religious welfare to make an effort to get up a private meeting, both of rich and poor, in his own immediate neighbourhood, in order to have a quiet chat upon the topics started in his letter, and the comments I have ventured to make thereon. I think something practical would result.

WILL JACKPLANS.

PARIS PERMANENT EXHIBITION.—The architect of the edifice is Mr. Liandiet: the iron columns are being cast by Messrs. Eddington & Co., of Glasgow.

Books Received.

Development of Ornamental Art in the International Exhibition. By C. DRESSER, Ph. D., &c. Day & Son, Lincoln's-Inn Fields. 1862.

THE object of this little work is to present to International Exhibition visitors the means of judging of the merits of the ornamental art-works there set before them, by a concise statement of laws which govern the production and application of ornament, with reference to the best examples.

A few of Dr. Dresser's chief axioms may be quoted in order to show his ideas on the moot subject of beauty in ornament.

An object must fitly answer the purpose for which it has been originated. Curves will be found to be more beautiful as they are subtle in character. Proportion, like the curve, must be of a subtle nature. A principle of order must prevail in every ornamental composition. The repetition of parts frequently aids the production of an ornamental effect. Alternation is a principle of primary importance in certain ornamental compositions.

These he specially indicates as the primary principles of ornament. "But," he adds, "it must not be thought that these propositions, or, indeed, any others, can set forth the nature of ornament so fully that a mere glancing over them will render the reader, who now for the first time devotes his attention to the subject of decoration, at once competent to determine the merits of the works of art; for long cultivation is necessary in order that the perception be so quickened in relation to form, that the beautiful, in all its modifications, can promptly be separated from that which is devoid of this quality. All that we can hope to do, in a brief summary like the present, is to call attention to a few salient features which will lead to a consideration of certain of the fundamental truths of ornament." And this the author does with clearness and ability, calling to his aid the writings of others.

Scudamore Organs; or, Practical Hints respecting Organs for Village Churches and Small Chancels, on Improved Principles. By the Rev. JOHN BARON, M.A., Rector of Upton Scudamore, Wilts. With Designs by GEORGE E. STREET, F.S.A. Second edition, revised. London: Bell & Daldy. 1862.

THE Scudamore organs have advanced in repute since the issue of the first edition of this volume, which was favourably noticed by us at the time. The reverend author's objects have been not only the cheapening of the organ as an instrument of divine worship, but its improvement by riddance of false facings, and the transference of its general arrangements and designs from the hands of the tradesman into those of the architect and the employer, stripped of those absurd and useless mufflings and falsities in which it has been so much the modern practice to envelop and disfigure such instruments; and the author has more especially in view the adaptation of them for village churches and small chancels.

VARIORUM.

"LONDON SOCIETY" (49, Fleet-street) is making good progress. The illustrations are numerous, and for the most part excellent. The July number contains, with various stories and essays, some sensible art notices.——"Female Education; and how it would be affected by University Examinations: a Paper read at the Social Science Congress, London, 1862. By Frances Power Cobbe. London: Emily Faithfull & Co., Great Coram-street." The proper education of women is a most important subject, which urges itself more and more upon the public attention. If woman be the "weaker vessel," there is all the more reason why her mental training should be carefully attended to. Woman is man's own first teacher; and even self-respect ought to induce him to aid her in worthily fulfilling such an office. Mrs. Cobbe's paper contains some sensible remarks on the subject of female education. At the close she says:—"But, after all, refined women will best prevent the growth of strong-mindedness, in its obnoxious sense, by bringing their own good taste to help their sisters, whom the harsh struggles of life under a woman's disadvantages have perhaps somewhat hardened and embittered. And men who laugh at the absurdities (incident, alas! in some mysterious way to all the doings of women), will also, in graver moments, feel that there is another side to the subject, not a ludicrous one; and that the answer

of the poor frogs to the boys in the fable might often be made by human sufferers—'throwing stones may be fun to you, but it is death to us.' To aid a woman in distress was deemed in the old days of chivalry the chiefest honour of the bravest knight; it is assuredly no less an honour now for wise and generous men to aid the whole sex to a better and nobler life, and to the developing more perfectly, because more fully and freely, that Womanhood which God has also made in His own image—a divine and holy thing."——"The Social Science Review" of July 5th (publishing office, No. 10, Whitefriars) shows that this periodical is progressing. It contains articles on the Post-office, Domestic Animals, Proceedings of the Social Science Association, the Journeymen Bakers' case (a crying evil and a disgrace to "the nineteenth century"), on Vice and Disease, Prisons, Education, and other interesting matter.——"The Popular Science Review" (Hardwicke, Piccadilly), for the quarter commencing with July, has been issued. It contains various able and important papers, on the Physics of a Sunbeam, the Microscope, Tubular Bridges, Primitive Astronomy, and others.

Miscellanea.

THE NEW SHERIFFS OF LONDON AND MIDDLESEX.—Alderman James C. Lawrence, citizen and carpenter, known necessarily to many of our readers, has been elected Sheriff for the ensuing year. His colleague in the office is Mr. Hugh Jones, citizen and spectacle-maker.

WORKS ON THE SERPENTINE.—In reply to a question in the Commons, Mr. Cowper said an unexpected delay had arisen in reference to the sinking of the well at the head of the Serpentine. He hoped the well would soon be in order, and that the water in it would be available.

NUMISMATIC SOCIETY.—A *conversazione* given by this society was held at the house of the Treasurer, Mr. Virtue, Euston-square, on Thursday evening, the 26th of June. A large number of very interesting coins and medals were exhibited by members of this society and their friends, through the exertions of Mr. Madden, honorary secretary, to whom the arrangements of the evening were mainly due.

THE "LONDON-FIELDS" QUESTION.—A numerous meeting was recently held in Shoreditch, to protest against the threatened sale of these fields, and their appropriation to private uses; when several resolutions were passed condemnatory of the attempt; and a committee appointed to wait upon the vestry, to urge upon that body to take steps to extinguish the rights of the present freeholders by purchase, and to devote the fields to public use.

DEATH OF MR. JAMES BOWMAN LINDSAY, OF DUNDEE.—The Dundee papers announce the death of this gentleman, who is known to our readers as the originator of a scheme for telegraphing across rivers and seas without wires or cables. "Mr. Lindsay," says the *Courier*, "was perhaps the most remarkable man that ever lived in Dundee. His extensive learning enabled him to conduct private classes in all the languages, and in mathematical science. He was a free contributor to the local journals on scientific subjects, and published several learned works. Among these was the Lord's Prayer and Creed in fifty different languages. His house had acquired a celebrity as one of the curiosities of the town. Lord Derby's Government recommended him to her Majesty, and he obtained a pension of 100*l.* yearly. This relieved him from the necessity of labour." The *Advertiser* says:—"He had discovered as early, if not earlier, than Morse or Wheatstone, the principles of the present system of electric telegraphy. Immediately after the public adoption of the system of land telegraphy, Mr. Lindsay directed his attention to the sending of messages across water by means of insulated wires; and succeeded — after several trials on ponds and sheets of water in the neighbourhood—in establishing on a sure basis the principles of electric communication by insulated submerged wires. Nor did he stop here: his searching experiments inspired him with the hope that one day he would be able to transmit messages across rivers and seas without even the aid of wires. Mr. Lindsay so far perfected his invention as to transmit currents without the aid of wires across several small pieces of water—the last occasion on which he publicly experimented with this invention being in Portsmouth, about two years ago, when he was highly successful, and the results afforded great satisfaction to the scientific men who assisted."

ECCLESIASTICAL COMMISSIONERS, IRELAND.—Mr. James F. Fuller, architect, has been appointed to the north-western division of Ireland under the Ecclesiastical Commissioners. There were more than 100 candidates for the post. A vacancy in the office in Dublin was filled at the same time.

BLUE LIAS LIME.—The manner in which the fallen masses of brickwork on the Metropolitan Railway have held together having been the subject of congratulatory observation, it is only fair to say that the mortar used there for building the tunnel and retaining walls was made with Greaves's blue-lias lime. The same lime is used in the Main Drainage works.

THREATENED ENCLOSURE OF HAMPSTEAD-HEATH.—A Bill has been introduced into the House of Lords to amend the Settled Estates Act of 1856. The object of the Bill is to enclose Hampstead-heath. Parliament having thrown out a private Bill to effect the enclosure, and the Court of Chancery having refused a similar application, it is now proposed to enact that no application shall be deemed to have been rejected on its merits, or reported against by the judges, if any other application to effect the same or similar object shall have passed either House of Parliament, or shall have been approved of by the judges to whom such Bill may have been referred.

ECCLESIASTICAL DILAPIDATIONS BILL.—This Bill of the Primate, as altered in the select committee, makes no distinction between present and future incumbents, and provides concerning all that it shall be lawful for the bishop, on the complaint of the archdeacon or of the patron, that the buildings of a benefice are in a state of dilapidation; or at the request of the incumbent, to direct a surveyor for the dioceses to inspect the buildings and report upon them; and the incumbent must execute the repairs prescribed in such report, subject to any modification made by the bishop after hearing the incumbent's objections. But when any such complaint is made by the archdeacon or patron, the incumbent may give notice that he intends forthwith to put his buildings in proper repair, and in that case the surveyor is not to inspect and report at that time.

METROPOLITAN BOARD OF WORKS.—At the ordinary weekly meeting of the Metropolitan Board of Works, held on the 4th inst., various tenders for the engine-house and works for the southern outfall sewer were considered. The engineer's estimate was 312,000*l.*, including 30,000*l.* for extras. The Board sat for some time with closed doors, and ultimately decided on accepting Mr. Webster's tender, because he had done the previous work well and satisfactorily. The tenders for engines and pumps were next considered. The engineer's estimate was 45,000*l.* The Board decided to refer the matter to three engineers, to ascertain which proposal would be the cheapest, taking into consideration the cost per horse-power of working the engines. Mr. Miller moved that a resolution of the Board of the 20th of June last, to the effect that the Board should not petition against the Tramways Bill, be rescinded. An animated discussion ensued; during which it was admitted that a large number of persons had travelled by Train's tramway because it was cheap, expeditious, and commodious; but it was a nuisance to others who used carriages, and ought, therefore, to be resisted. On a division, the motion was lost by a majority of 19 to 9.

AWARD OF JURIES, GREAT EXHIBITION.—On this, Friday, the 11th, the state ceremony to be held by the commissioners of the Exhibition of 1862, on the occasion of the declaration of the awards of the juries, will take place in the Palace of Art and the Horticultural Garden, on which occasion a very large assemblage of royal and important personages will take a part in the proceedings. A dais will be erected on the base of the Memorial of 1851, on which, if the weather be favourable, the ceremony of delivering their awards by the Juries to her Majesty's representative, the Duke of Cambridge, and to the special representatives of foreign countries, will be gone through. Should the weather prove unfavourable, this part of the ceremonial will take place in the Conservatory. After receiving the awards, a procession will be formed, which will pass along the arcades to the Exhibition buildings, and at various stations will deliver the awards to each nation or class. The hint may be useful to those who see it in time, that no one will be allowed to go from one place to another during the procession: those who prefer to see the opening ceremony, therefore, must remain in the garden; and those who prefer to see the proceedings in the building will be restricted to different localities. Although this is decided on with the best intention, we are disposed to fear it will give rise to dissatisfaction.

MANSION FOR THE MARQUIS OF BREADALBANE. A large mansion is to be erected by the Marquis of Breadalbane, near Oban. The contract has been closed—Mr. Bayne, Bridge of Allan & Crieff, being the successful person.

THE HOLY SEPULCHRE AT JERUSALEM.—It is said that, in consequence of the demand made by France and Russia to the Porte, for authorization to repair the cupola of the Church of the Holy Sepulchre, those countries have each sent an architect to Jerusalem to examine the general state of the building. It appears, from the report of the two scientific men charged with that mission, that not only the cupola requires immediate repairs, but that the walls on which it is built are in an insecure state, and must be reconstructed; also, that repairs are indispensable in other parts of the building.

CROYDON.—Two plans for draining Norwood are under consideration. The plan of the chairman of the Croydon Board of Health is to take all the sewage to Beddington, and that of Mr. Fenton to have local filter works at Blind-corner, and on the land taken by the Board between Norbury and Norwood. The chairman's plan will cost 1*s.* in the pound to carry out, for thirty years; Mr. Fenton's about 5*d.* The great point to be decided is whether clay land, such as Norwood, is capable of cleansing sewage by irrigation. Mr. Fenton, according to the *South-Eastern Gazette*, is of opinion that it is; the chairman, that it is not.

BROADSTAIRS CHURCH AND CLOCK-TOWER.—It is intended to hold a bazaar in the first week in August, 1862, for the benefit of the funds raised to erect a tower and otherwise improve the church at Broadstairs, which has been called by a popular writer "a petrified haystack." Broadstairs, quietest of watering-places, is divided by the authorities from the mother church at St. Peter's, and is made a separate incumbency. It therefore becomes necessary to render the church more worthy of its destination. Mr. G. L. Taylor, long resident there, is acting as honorary architect. Above 300*l.* has been raised by a local subscription, and the tower is up in carcass to its summit. They want means to finish it.

THE OXFORD WORKHOUSE TENDERS.—At a special meeting of the local Board of Guardians, Dr. Adams stated that the committee had now to report that six tenders had been sent in, but they regretted to state that none of them came within the stipulated sum of 7,000*l.*, to which that Board was limited. The lowest tender was 7,205*l.* for bricks made on the ground, and 7,505*l.* for bricks not made on the ground, with a charge for additional works not mentioned in the specifications, at 231*l.* The committee were, therefore, of opinion that it was of no use their attempting to carry their labours further. Some discussion followed, after which it was formally resolved that the report of the committee be received; that none of the tenders be accepted; and that the plans and specifications be sent back to the competing architects, with a letter from the clerk stating that none of the builders' estimates came under the specified sum. It was also resolved that a committee be appointed to report to the Board on the proper steps to be taken with a view to erecting a workhouse on the site newly purchased as speedily as possible.

CHATHAM: OPENING OF THE SOLDIERS' INSTITUTE.—The building recently erected in the rear of Chatham Barracks, for a "Home" or "Institute" for the use of the troops stationed at this garrison, has been opened by Major-General Eyre. The building was completed several months since, but the opening was postponed. The Institute was built by Mr. Stump, of Brompton. The principal entrance, which is in the main road near Melville Hospital, is approached by a flight of stone steps. The building, as described in the *Chatham News*, comprises on the ground floor two large smoking and reading rooms, which are provided with bagatelle tables, draughts, and numerous other games, and well furnished with newspapers. There are also rooms for the accommodation of the person in charge of the establishment. The upper story is composed of the library, consisting of upwards of 4,000 volumes, and a spacious lecture-room. The whole of this story can be thrown open into one large room, about 80 feet in length and 50 feet in width. A building has also been erected in the immediate vicinity of the Institute which is to be fitted up as an American bowling-alley; and there is a fives and racket court; and ground is set apart to be covered in and fitted up for skittles. For all the advantages of the establishment only 1*d.* per week is asked. There is reason to believe that the Government will erect a gymnasium upon the adjoining ground, should the Institute prove successful.

THE CENTRAL COTTAGE IMPROVEMENT SOCIETY.—A *conversazione* was held on Tuesday evening at the National Club, Whitehall-gardens, for the purpose of exhibiting various models of cottages, and of affording information as to the dwellings of the labouring classes. The meeting was presided over by Mr. Macartney.

THE SHAKSPEARE FUND.—On Monday evening last Mr. Dillon Croker, son of the late Mr. Crofton Croker, gave some "Selections from the English Dramatists" in the Vestry Hall, Chelsea; the proceeds to be applied in aid of the fund now being raised to effect certain purchases at Stratford. In these selections he personated all the leading actors of the present generation, including Kean, Phelps, Fechter, Webster, Farren, Harley, Buckstone, Keeley, Compton, Wright, Paul Bedford, Robson, Sothern, as the popular *Lord Dundreary*, and other well-known artists. Of these imitations it is impossible to speak too highly; and the assembly acknowledged the closeness of the imitation and the good taste that guided it by repeated hearty plaudits. Mr. Croker possesses a power of a remarkable kind.

DEATH OF MR. JOHN EDWARD ERRINGTON, C.E.—The death of this eminent engineer, whose name was intimately associated with that of the late Mr. Joseph Locke, M.P., in the history of railway enterprise in this country, took place on the 4th inst. Mr. Errington was born at Hull in the year 1806, and was actively engaged in the development of the railway system, especially upon those lines connecting England and Scotland; and, with Mr. Locke, was engineer to the Glasgow and Greenock Railway and Dock, the Lancaster and Carlisle, the Caledonian, the East Lancashire, the Scottish Central, Scottish Midland, and Aberdeen railways. About the year 1850, Mr. Errington was appointed, jointly with Mr. Locke, consulting engineer for the northern division of the London and North-Western Railway; and in that capacity constructed many of the branches and extensions of that system. He was also, up to the time of his death, engineer-in-chief to the London and South-Western Railway; and superintended the construction of the lines, just completed, connecting that system with Exeter and the west of England.

WORCESTERSHIRE DIOCESAN ARCHITECTURAL SOCIETY.—The first general meeting and excursion of this Society for the present year has been held. The *route* lay to Fladbury, Charltons, Cropthorne, Elmley Castle, Netherton, Bricklehampton, Little Comberton, Great Comberton, and Eckington, embracing a part of the valley between the Avon and Bredon Hill. The weather was all that could be desired. After visiting Fladbury Church—having reached Fladbury by rail—the party crossed the old ferry and walked through some cornfields to the old manor-house of the Dingleys or Dineleys of Charltons, and thence to Cropthorne, whence they were conveyed by coach to the other places in their visitation. At Cropthorne they were hospitably entertained at the rectory by the rector, the Rev. Mr. Sanders; and at Little Comberton, by the Rev. William Parker, the rector. The party returned from Eckington at seven o'clock in the evening. Mr. J. S. Walker, as secretary, added interest to the excursion by papers and explanatory remarks.

ARTIFICIAL STONE, &C.—Letters patent, dated 26th October, 1860, and sealed 12th February, 1861, have been taken out by Mr. Frederick Settle Barff, of the city and county of Dublin, for the invention of "Improvements in the production of artificial stone, which improvements are also applicable to the preservation of stone, bricks, tiles, and other analogous substances or materials." The following is a quotation from the specification:—"To obtain artificial stone by my improved process, I employ powdered pumice-stone in combination with soluble silicates, such as silicate of soda or silicate of potash; the said silicates being combined with or decomposed by carbonate of lead, carbonate of zinc, or other suitable material insoluble in water, which will decompose or chemically unite with the said silicates. The proportions I prefer to employ are as follows:—Silicate of soda (sp. gr. 1470), or otherwise as above mentioned, 10 drams by measure; powdered pumice-stone, 2 lb. by weight; carbonate of lead, or otherwise, 4 oz. by weight. Which composition, when placed in moulds of the required form, sets of itself, and becomes hard and insoluble in water without the agency or action of heat. Proportionate quantities of chalk, sand, or other similar or suitable substance may also be incorporated with the compound, and thus enable it to be obtained at less cost in accordance with the nature or description of the work to which it is intended to be applied."

SOUTH KENSINGTON MUSEUM. — During the week ending 5th of July, 39,793 persons visited the museum.

SOCIETY OF ARTS' CONVERSAZIONE.—The Society of Arts held a *conversazione* at the South Kensington Museum on Wednesday evening last, which was most numerously attended, and in all respects successful.

ANOTHER LONDON HOTEL.—A prospectus has been issued of the Langham Hotel Company, with a capital of 150,000*l.*, in shares of 10*l.*, with the view of purchasing Mansfield House and gardens, Langham-place, to be converted into an hotel. The size of the building is to exceed that of the Grosvenor Hotel by one-half.

RESTORATIONS; RIPON CATHEDRAL.—At a meeting recently held, the Dean and Chapter of Ripon accepted the tender of Messrs. Ruddle & Thompson, of Peterborough, for the proposed restoration of the cathedral. The works are to be carried out under the direction of Mr. Scott, and are estimated at 30,000*l.*

PIER AT BLACKPOOL.—The first pile of the new pier at Blackpool was screwed into place on Friday before last. The pier is to be 1,360 feet long and 25 feet wide, and will be supported, in spans of 60 feet each, upon circular piles, with screws 2 feet 9 inches in diameter. The engineer is Mr. E. Birch, C.E., of Parliament-street; and the contract, for 11,500*l.*, has been taken by Mr. Laidlaw, of Glasgow. The whole is to be completed in about five months.

DRINKING-FOUNTAIN MOVEMENT.—The fountain, erected at Rhyl, by public subscription, to commemorate the coming of age of Mr. Conwy Grenville Hercules Rowley, of Bodrhyddan, Rhyl, is now completed, with the exception of the inscription tablet. The Rhyl waterworks proprietors supply the fountain with water free of charge. There are two basins for the human supply and a trough for the canine race. The architect was Mr. T. M. Penson, of Chester; and the builder, Mr. W. Thomas, of Rhyl. It is built of Cefn stone, and the basins are of polished limestone.

ROYAL COMMISSIONS.—According to a Parliamentary return, the Fine Arts Commission, which was appointed in 1841 in reference to the rebuilding of the Houses of Parliament, consisted of thirty-one members, and no less than eighteen of them have since died: its expenses have exceeded 16,000*l.* The Commission on utilizing the Sewage of Towns was appointed five years ago: its expenses to this time have been 1,880*l.* The most expensive commissions of recent years have been the Popular Education Commission, which cost 12,997*l.*; the Weedon Store Accounts' Commission, 9,847*l.*; the Defence of the Realm Commission, 8,041*l.*; and the Lights, Buoys, and Beacons Commission, 6,370*l.*

MESSRS. HARTLEY'S GLASS WORKS.—An interesting model of Messrs. Hartley's extensive glass-works has been placed in the gallery of the Crystal Palace at Sydenham, showing the buildings required for the manufacture of the various kinds of glass,—crown, sheet, patent rough plate for roofing, coloured for artists, &c.; and the processes of flattening, blowing, warehousing, annealing, and packing, are exemplified. The model occupies a space of about 22 feet by 9 feet, and is crowded by the various chimneys and buildings necessary to a giant manufactory. The cones of some of the kilns are of glass, so as to show the interior fitting-up. The glass required for the Palace of Art at Kensington was made here,—about 600,000 superficial feet, weighing about 300 tons. The *Globe*, alluding to these works, says,—"It is scarcely credible that thirty years ago there was not a foot of sheet glass made in this country. About that time foreign workmen were brought over by Mr. Hartley, but the manufacture languished for several years, and did not fairly take root in English soil until the repeal of the Excise Duties in 1845. Yet what is the state of this industry now, in which we are exporting it very largely to all parts of the world? We are informed that the yearly production of sheet glass in England at the present time is equivalent to fifty millions of superficial feet of glass weighing 1 lb. to the foot, or more than sufficient to encircle the globe with a band 12 inches wide. One glass-house pot will produce about 150,000 to 160,000 feet per annum, and each furnace contains eight of these pots. Hence each furnace is capable of producing a million and a quarter superficial feet a year; and as Messrs. Hartley show ten glass-houses on their model, they could, if all produced the same glass as they supplied to Messrs. Kelk and Lucas, turn out 12,500,000 superficial feet per annum, or a foot per head for all the male population of the United Kingdom.

NORFOLK AND NORWICH ARCHÆOLOGICAL SOCIETY.—A general meeting of the Norfolk and Norwich Archæological Society was held at Wells, on Thursday, June the 26th. In consequence of the distant point selected for the Society's observations on this occasion, and the absence of many members from home, the attendance was smaller than usual. The members assembled at Wells Church shortly after nine o'clock. It is a large and handsome church of the Perpendicular style; the chief attractions of the interior being the carved woodwork in the roof of the aisles, which is unusually fine; the old brass lectern; and the doorway to the vestry on the north side of the chancel. Warborough Hill; Stiffkey Church; Morston Church, where the lower part of the tower appears to be of Norman date; Blakeney, a fine Perpendicular building, with a lofty tower at the west end, and a singular lantern tower at the north-east end of the chancel, which is supposed to have been used as a light-house or beacon; and the church of Cley-next-the-Sea, were visted at the last. A paper on the church was read by Mr. R. M. Phipson. Briefly noticing the remains of ancient houses in the streets at Cley, the party inspected Wiveton and other churches, and then home.

TENDERS.

For second contract, Kensington Presbyterian church, Foxley-road. Mr. J. M. McCulloch, architect. Quantities supplied:—

Bird	£2,042 0 0
Temple & Foster	1,950 0 0
Dove, Brothers	1,785 0 0
Greig (accepted)	1,669 0 0

For the erection of a warehouse in Wood-street, City, for Mr. J. S. Basset. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Myers & Sons	£1,991 0 0
Lawrence & Sons	1,889 0 0
Ashby & Sons	1,847 0 0
Brass	1,797 0 0
Wills	1,715 0 0
Piper & Wheeler	1,700 0 0
Cannon	1,569 0 0

For re-building Messrs. Robinson & Hetley's Auction-rooms, in Old Bond-street, W. Mr. George Truefitt, architect:—

	1st Contract.	2nd Contract.
Patrick & Son	£2,747	£220
I'Anson	2,638	225
Patman & Fotheringham	2,595	235
Longmire & Burge	2,379	215
Scrivener & White	2,358	209
Waters	2,345	197
Clarke & Mannooch	2,300	195
Allen	2,285	190

For farm steading at Teigh, in the county of Rutland. Mr. R. W. Johnson, architect:—

Clifton & Firn	£2,843 0 0
Halliday & Cave	2,454 14 5
Robinson	2,449 15 0
Hobson & Taylor	2,345 0 0
Fast	2,110 0 0

For works at the import warehouses and uptown warehouses, for the East and West India Dock Company, under the direction of Mr. George Adam Young, architect to the Dock Company. Quantities supplied by Mr. Charles J. Shoppee and Messrs. Williams & Schofield:—

Ashby & Horner	£16,900 0 0
Lucas, Brothers	16,780 0 0
G. Smith, Son, & Taylor	16,235 0 0
G. Mansfield & Son	15,900 0 0
W. Cubitt & Co.	15,890 0 0
Lawrence & Sons	14,740 0 0
Holland & Hannen	14,716 0 0
Munday (accepted)	13,627 0 0

For the erection of a Free Methodist Chapel at Wisbeach, Cambs. Mr. F. Boreham, architect:—

Andrews	£1,137 0 0
Clare	1,087 0 0
Lancaster	1,072 0 0
Batterham	1,012 0 0
Bennett & Sons (accepted)	851 3 0
Hutcheson	851 0 0

For cemetery chapels, lodge, mortuaries, and boundaries, Rugby, Warwickshire. Mr. George Bidlake, architect:—

Sawyer	£5,028 0 0
Addenbrook	3,900 0 0
Satchell	3,270 18 6
Robinson	3,220 0 0
Cosford	3,173 0 0
Birchall	3,128 0 0
Bromich	3,121 15 0
Woolridge	3,012 0 0
Parnell	3,000 9 2
Horsman	2,995 0 0
Hallam	2,916 5 0
Denney	2,890 7 2
Trow	2,857 16 8
Burkett	2,720 0 0

For factory and warehouse, Leicester. Mr. George Bidlake, architect:—

Herbert	£1,460
Wykes	1,254
Neale	1,219
Johnson	1,201
Thurlby	1,176

For building three houses, Warwick-road, Kensington. Mr. Josiah Houle, architect:—

Stanham	£1,773 0 0
Bird	1,725 0 0

For the erection of a dwelling-house, &c., at Cubitt Town, Poplar, for the Seyssel Asphalte Company. Messrs. Tilbott & Chamberlain, architects:—

Prince	£443	0	0
Cannon	385	0	0
Wills (accepted)	359	0	0

For additions and alterations, and new stables, Devonshire Villa, Colney Hatch-road. Mr. Josiah Houle, architect:—

Hunt	£1,190	0	0
Cowland	910	0	0

For erecting warehouses, offices, &c., at Kingston-upon-Hull, for Mr. W. P. McBride. Mr. R. G. Smith, architect.—

Hall & Son	£989	0	0
Clarkson	855	0	0
Jackson	786	0	0
Siminson	770	0	0
Hutchinson (accepted)	770	0	0

For reseating and restoring Spaldwick Church, Hunts, allowing for old materials. Mr. Robert W. Edis, architect:—

Bird	£627	6	0
Hardiman & Sandon	516	12	6
Richardson	493	14	0
Baxter	486	0	0
Poole	435	14	0

TO CORRESPONDENTS.

"Cry for a New Style"—Half a dozen letters on this subject shall have consideration.

W. P. (if a zinc roof admit water it must be defective mechanically, we apprehend; and no "solution" would remedy that)—J. M.—J. L.—T. H. L.—Dr. R.—Subscriber—J. C.—J. H.—J. B.—S. G. C.—H. M. E.—T. L.—R. W. E.—S. P.—S. C. R.—A. M.—E. H.—W. G. C. M.—C. B. G.—R. C. J.—J. H. L. (probably glue.)—Stelln (the quantity of arsenic in the colour must be very small. We should not apprehend any danger.)—H. H.—S. P.

NOTE. — *The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

Mousley.—Melrose Villa, a substantially built and comfortably arranged gentleman's residence, with stabling, extensive pleasure grounds, garden, orchard, shrubberies, &c., with a fine building frontage to a road, also an extensive river frontage.—Preliminary advertisement.

MESSRS. DANIEL SMITH, SON, & OAKLEY have been favoured with instructions from the Trustees under a Will to offer for SALE by AUCTION, at the MART, near the Bank of England, on TUESDAY, the 5th day of AUGUST, 1862, in one lot, the above very valuable PROPERTY, eligibly situate next to the Hampton Court Railway Station. It comprises about 2½ acres, with a frontage of upwards of 500 feet to a main road, and bounded by a good wall on the north side, and extending with pleasant walks along the banks of the river Mole on the south side. The grounds are tastefully laid out, perfectly secluded, thickly planted, and well stocked with fruit trees, including a fine old mulberry tree. The house contains eight bed-rooms, three sitting-rooms, and offices, and is so placed as to render a portion of the property available for building. The property as an entirety forms a delightful residence, and is in the occupation of a good yearly tenant.—Further particulars will shortly be published, and may then be obtained of C. T. WELLBORNE, Esq. Solicitor, 17, Duke-street, London-bridge; and, with orders to view, of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-Mall, S.W.

SUFFOLK Somerleyton Hall, and part of the Somerleyton Estate, situate midway between Lowestoft and Yarmouth

MESSRS. DANIEL SMITH, SON, & OAKLEY, are instructed to SELL by AUCTION, at the Auction Mart, on TUESDAY, AUGUST 5th, at TWELVE, in one Lot, this beautiful RESIDENTIAL PROPERTY, with its fine estate, comprising the first class mansion, with its elegant winter garden, and many other luxurious adjuncts, surrounded by a finely-timbered park and domain of about 2,850 acres, comprising numerous convenient farms of arable, meadow, and marsh land, with excellent homesteads, interspersed with ornamental plantations and fine game preserves, the extensive and valuable decoy, with the Ashby and Fritton water, fringed by fir and other plantations. The estate is situated about five miles from Lowestoft and seven from Great Yarmouth, with easy communication with the metropolis by the East Suffolk Railway. The mansion park lands, decoy, &c. and about 600 acres of arable and pasture are in hand. The farms are let on low rentals, and the total rental is about 3,550*l.* per annum. This property presents an opportunity of acquiring a first-class mansion, with a very compact domain around it, combining one of the very finest game estates with a sound landed investment. The estate is abundantly stocked with game, and, if desired, the purchaser may have the shooting from the 1st of September. The advowson of and next presentation to the rectory of Somerleyton may be purchased if desired. N.B.—The winter garden, and any of the vineries or forcing-houses not required by the purchaser, will be removed by the vendor. Particulars, with plans (8s. each) may be had of Messrs SWIFT, WAGSTAFF & BLENKINSOP, 32, Great George street, Westminster; and of Messrs. DANIEL SMITH, SON, & OAKLEY, 10, Waterloo-place, Pall Mall, S.W.

LOWESTOFT.

MESSRS. DANIEL SMITH, SON, & OAKLEY have received instructions to SELL by AUCTION, at the ROYAL HOTEL, Lowestoft, on THURSDAY and FRIDAY, the 14th and 15th days of AUGUST, 1862, at ONE o'clock each day, in numerous lots, THREE superior SEMI-DETACHED VILLA RESIDENCES, having a beautiful sea view, and being Nos. 14, 15, and 16 on the Esplanade; Eight capital Residences, being Nos. 23, 26, 28, 29, 34, 36, 37, and 38, on the Marine Parade, several other valuable properties, including the Plough and Sail beerhouse; a residence in the occupation of Captain Daniels; the offices occupied by Mr. Glover, the boat-house, cottage, &c.; various lots of cottage property, at the Flail Office, &c. The foregoing are all freehold. Also valuable Mercantile Premises on Lowestoft Quay, comprising the Cake and Oil Mills, held by lease for ninety-one years, at low ground-rents. Also numerous ground-rents, with reversion, well and amply secured, amounting to about 350*l.* per annum; and fee farm rents and perpetual charges on Houses recently erected, amounting to upwards of 160*l.* per annum; various freehold building sites, &c. The property included in this sale is of a very valuable character, and will afford to the capitalist sound investments.—Particulars, with plan, may be had at the Royal Hotel, Lowestoft; of Messrs. SWIFT, WAGSTAFF, & BLENKINSOP, Solicitors, 32, Great George-street, Westminster, S.W.; and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall, S.W.

SHOOTER'S HILL, KENT.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the TOWN HALL, Woolwich, on FRIDAY, JULY 18th, 1862, at SIX for SEVEN o'clock, the SIXTH PORTION of the POTTERIES ESTATE, consisting of 52 lots of eligible freehold building land on the south side of Herbert-road, and near to the Royal Military Academy, Woolwich-common. Nine-tenths of the purchase-money may remain on mortgage or contract, at 5 per cent. to be paid in nine years, by half-yearly instalments; but the whole, or any part of the balance, may be paid off at any time, without notice.—Particulars, plans, and conditions of sale, may be obtained on application to Mr JOHNSON, on the estate; Mr. R. GREEN, Richard-street, Woolwich; the Auctioneer, 14, Moorgate-street, London, E.C.; or to Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.

TO MASONS AND UNDERTAKERS

MR. TINDALE will SELL by AUCTION, on the PREMISES, 7, Saville-row, Mile end-road, on WEDNESDAY, 16th JULY, 1862, at TWELVE o'clock, by order of the proprietor, retiring from the business, the STOCK in TRADE of a MONUMENTAL MASON, comprising an assortment of Monuments, Tombs, Head and Foot Stones, Curbs, strong Truck saws, Tressels, &c. Catalogues may be had post-free of the Auctioneer, 1, Portland-place Commercial-road, E.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE. Every description of Architectural Drawings prepared, and Perspectives Outlined or Coloured, by
Mr. T. T. MARDON, Jun.;
Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c.
13, Heathcote-street, Mecklenburgh-square, W.C.
Office hours, Ten to Four.

AN Out-door APPRENTICE WANTED, to the CARPENTRY and JOINTING.—Address, with particulars, D. D. 3, Arthur-street, New Oxford-street, W.C. Premium moderate.

A YOUTH is WANTED in the Office of a Surveyor, at Kentish Town. Must be able to trace and copy drawings, write a fair hand, and be willing to make himself useful. Send own handwriting age, salary required, where previously employed, &c. to SURVEYOR, 12, Cornwall Villas, Kentish Town, N.W.

OFFICE BOY WANTED, immediately, by a Surveyor.—Apply by letter to X. Y. care of Messrs. Brown & Standfast's, Newsagents, 4, Little George-street, Westminster.

PORTLAND CEMENT.—WANTED, a MAN who thoroughly understands the MAKING of PORTLAND CEMENT, the Construction of the Ovens, and the Erection and Working of all the necessary Machinery. A single man will be preferred.—Apply for particulars, either by letter or personally, to Mr. BURTON, 184 Euston-road, London.

STAINED GLASS.—An experienced FIREMAN WANTED.—Address, HEATON, BUTLER, & BAYNE, Cardington-street, Hampstead-road, London.

WANTED, in Dublin, a Quantity Surveyor's First-class ASSISTANT, competent to take out quantities, &c.—Apply by letter, with references, stating age and salary required, to A. B. No. 3, Drumcondra-terrace, Lower Dorset-street, Dublin.

WANTED, an OUT-DOOR FOREMAN of MASONS, to TAKE CHARGE of a GOOD JOB, where a number of masons will be employed Must be fully competent for the work. Undeniable reference required.—Apply, stating terms, to HENRY LOVATE, Builder, Darlington-street, Wolverhampton.—P.S. Must have a good knowledge of the other trades.

WANTED, in an Architect's Office, an ADVANCED PUPIL or IMPROVER. Salary must not be expected at first.—Address, R. S. Office of "The Builder," stating particulars.

TO CLERK OF WORKS.

WANTED, to Superintend the Erection of Cemetery Buildings, an Efficient CLERK of WORKS. One educated in an architect's office preferred.—Address, stating salary and references (by letter only), to Mr. BIDLAKE, Ashby-road, Canonbury, London.

TO ARCHITECTS' ASSISTANTS.

WANTED, in an Architect's Office (out of London), a thoroughly-qualified ASSISTANT.—Address, by letter, stating salary required, and giving references, to Mr. BIDLAKE Architect, Ashby road, Canonbury, London.

WANTED, in a Civil Engineer and Surveyor's Office in the country, a DRAUGHTSMAN and ACCOUNTANT. He will be required to conduct the routine work of the office, to prepare estate and other plans, to measure and calculate earthwork, mason work, and builder's work, and to make working drawings and specifications. Unexceptionable references will be required. Apply by letter, stating terms, to A. B. C. Office of "The Builder."

TO IRONMONGERS.

WANTED, in an old established Furnishing and General IRONMONGER'S BUSINESS, in a leading manufacturing town in the north of Yorkshire, a JUNIOR PARTNER. Capital required, from 2,000*l.* to 3,000*l.*—For particulars apply to Messrs. BARBER & GROOM, Union-court, Holborn-hill, London, E.C.

WANTED, several PARTIES to SOLICIT ORDERS in London and all Towns in the Counties around, for a New Work just issued upon Architecture and Building, and many other Works in course of publication. Every information and encouragement will be given.—Apply personally, or by letter, to Mr. M. UNDERWOOD, Agent for Messrs. A. Fullarton & Co. 115, Newgate-street, London, E.C.
P.S. None need apply without first-class references.

WANTED, an ENGAGEMENT in a Gothic Office. Age, 26. Salary, 2*l.* 10*s.*—Address, R. N. Office of "The Builder."

TO CONTRACTORS AND OTHERS.

WANTED, a RE-ENGAGEMENT as GENERAL FOREMAN or MANAGER of WORKS. Is thoroughly practical and very energetic. Age, 37. Has been engaged on every description of contractor's and builder's works.—Address, BROWN, 321, City-road, E.C.

TO PLUMBERS, BUILDERS, &c.

WANTED, by a Young Man, a SITUATION as PLUMBER. No objection to fill up his time with painting and glazing.—Address, J. B. 6, Cutmore-place, Victoria-road, Pimlico, S.W.

WANTED, by a steady Young Man, aged 23, a SITUATION, as ENGINE DRIVER or FITTER. Can be well recommended.—Address, Mr. G. MARTIN, 3, Hartstreet, Battersea, Surrey.

WANTED, by a respectable Young Man, a SITUATION as CARPENTER and JOINER. Wages not so much an object as a permanent situation.—Y. Z. No. 6, Malpett-place, Waterloo-road

TO BUILDERS.

WANTED, by the Advertiser, in town or country, a SITUATION as SHOP FOREMAN of JOINERS. Is a good draughtsman, and understands setting out any description of work, and stairs. Can be well recommended from late employers.—Address, M. P. Mr. Nottle's, 73, Cornwall road, Lambeth.

TO DECORATORS AND BUILDERS.

WANTED, a RE-ENGAGEMENT, as GENERAL or SHOP FOREMAN. The Advertiser is a French-polisher, and has had great experience. Has good references. Town or country.—Address, stating terms, C. E. 8, Yeoman's-terrace, Brompton road, Brompton, London.

WANTED, a PERMANENCY as General JOBBING BRICKLAYER. Understands jobbing in all its branches. Good character. Age 36.—Address, C. T. 39, Norland-road, Notting hill, W

TO BUILDERS.

WANTED, a SITUATION as FOREMAN of CARPENTERS and JOINERS, in a shop or building, having previously had the charge of both. A good draughtsman and accountant. A first-class character will be given from last employer. No objection to the country.—Address, G. B. 7, Warwick-place, West, Pimlico, S.W.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION, by a good JOINER, a decent draughtsman and carver.—Address, H. M. T. 10, Ostram street, Maiden-lane.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, &c.

WANTED, by the Advertiser, who is a neat and expeditious DRAUGHTSMAN, accustomed to copying, tracing, &c., also a good penman, willing to render his services useful, a RE-ENGAGEMENT, likely to be permanent, in an Office of either of the above.—Address, F. R. 41, Stanford-road, Fulham-road, S.W.

TO BUILDERS.

WANTED, by a Practical Mason, who has completed some extensive Gothic Works, a RE-ENGAGEMENT as WORKING FOREMAN, or to Take any Amount of Piecework. Good references can be given from late employers.—Address, G. W. No. 1, Rosslyn-street, Hampstead, N.W.

TO IRONMONGERS AND BUILDERS.

WANTED, by a steady Young Man, a SITUATION as GAS-FITTER, BELL-HANGER, and SMITH. Understands hot-water work, either in Town or country. Good references.—Address, H. X. 136, St. John-street-road, Islington.

TO BUILDERS AND OTHERS

WANTED, a RE-ENGAGEMENT as FOREMAN of WORKS, or to Take the Management of Buildings. A joiner by trade.—Address, N. O. care of Mr. James, Tobacconist, High-street, Notting-hill, W.

TO BUILDERS.

WANTED, by a Young Man, aged 17, a SITUATION as IMPROVER to the above. Has served three years to the bench.—Address, J. M. 57, Westbourne Park-road.

WANTED, a SITUATION as HANDY MAN; or would Article himself for two or three years as an improver in the Carpentering. Age 26.—Address, G. T. 34, Pashley-street, Dockhead, Bermondsey.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.

WANTED, a SITUATION as CLERK of WORKS, or General Foreman, by a person of large practical experience. Can produce satisfactory testimonials as to ability and character. Age 35.—Address, T. B. F. 1, Alfred-terrace, Gloucester-street North, Hagg-retreat

TO BUILDERS, PLUMBERS, AND OTHERS.

WANTED, by a Young Man, a SITUATION as PLUMBER; has no objection to fill up his time Glazing or Painting.—Address, T. S. 1, Sackville-terrace, Church-road, Battersea.

TO ENGINEERS, CONTRACTORS, AND OTHERS.

WANTED, by a Young Man (a practical engineer, but who is unable to follow it owing to a weak ankle), a SITUATION as TIME or STORE KEEPER, or in any other light capacity. Town or country. Good references as to character.—Address, E. S. 1, Norfolk-place, Battersea, S.W.

WANTED, by a Young Man, aged 23, a PERMANENCY as THREE-BRANCH HAND. Wages not so much an object as a constancy.—Address, J. C. 7, Slippers-place, Rotherhithe.

TO PARENTS AND GUARDIANS.

WANTED to APPRENTICE, a respectable Youth, to an ARCHITECT, Civil Engineer, Contractor, Builder, or Land Agent and Auctioneer. Premium, to include board and residence, must not exceed 500*l.*—Apply to Mr. REARDEN, 91, Piccadilly.

TO BUILDERS AND OTHERS.

WANTED, by the Advertiser, a SITUATION as CARPENTER and WHEELWRIGHT. In town or country.—Address, A. E. No. 4, Denmark-grove, Penton-street, Islington

TO ARCHITECTS.

WANTED, by a thoroughly efficient and practical man, a SITUATION as CLERK of WORKS.—Address, A. B. 59, Acton-street, Gray's Inn-road, W.C.

TO BUILDERS, PLUMBERS, &c.

WANTED, EMPLOYMENT as first-class PLUMBER. Could fill up time at Glazing and Painting.—Address, PLUMBER, 4, Junction-place, Praed-street, Paddington.

WANTED, by an experienced PLUMBER, a Permanent SITUATION, in town or country. No objection to fill up his time with Painting. Good references.—Address, G. T. No. 37, Post-office, Wardour-street.

TO PLUMBERS AND BUILDERS

WANTED, by a first-class PLUMBER or Three-branch Hand, EMPLOYMENT.—Apply, WM. LLOYD, No. 3, Charlotte-place, Old Church-street, Paddington-green

TO MASTER PAINTERS, WRITERS, &c.

WANTED, by a Steady Young Man, who is a good plain writer, a SITUATION. He is willing to make himself generally useful.—Address, W. T. Baths, Addington-square, Camberwell.

WANTED, an ENGAGEMENT, by a practical ZINC, GALVANIZED IRON WORKER and PLUMBER. Would not object to fill up his time at gasfitting, painting, glazing, &c. Country preferred.—Address, A. Z. No. 5, Evelyn street, New Town, Deptford, S.E.

TO ARCHITECTS, BUILDERS, &c.

WANTED, a SITUATION, as CLERK of WORKS, or otherwise, by a highly respectable Young Man, age 24, who can prepare detail and other drawings, take out quantities, estimates, &c. and has a thorough practical knowledge of the building trade. Good references.—Address, J. P. Post office, Store-street, Bedford square, London, W.

WANTED, by an experienced SHOP-FOREMAN of JOINERS; a RE-ENGAGEMENT (working or otherwise). Has had extensive experience, and can be well recommended by last employer.—Address, S. A. Office of "The Builder."

TO ARCHITECTS, BUILDERS, &c.

WANTED, a SITUATION as CLERK of WORKS, or otherwise, by a Young Man who can make plans, take out quantities, estimates, &c. and has a thorough practical knowledge of the building business. A small salary would be accepted if part of the duties were in the office.—Address, E. S. 13, St. George's-terrace, Lawrence-road, Islington.

TO IRONMONGERS AND SMITHS.

WANTED, a SITUATION as BELL-HANGER, GASFITTER, and GENERAL SMITH.—Address, S. S. 32, Swinton street, Gray's-inn-road.

TO PLUMBERS AND BUILDERS.

WANTED, by the Advertiser, a SITUATION as PLUMBER.—Address, H. H. 13, Paradise-row, Bethnal-green, N.E.

TO BUILDERS AND PLUMBERS.

WANTED, by a respectable Young Man, a SITUATION as good PLUMBER. No objection to fill up his time in painting, if required. In town or country. A good reference can be given, if required.—Address, post-paid, J. G. 4, Abbey-street, Bermondsey Church, Southwark.

TO PLUMBERS, BUILDERS, AND OTHERS.

THE Advertiser, who thoroughly understands plumbing, gas fitting, painting, and glazing, wishes for a PERMANENCY.—Address, A. B. 45, Liverpool-street, Bishopsgate-street Without, E.C.

TO PLUMBERS, BUILDERS, AND OTHERS.

THE Advertiser wishes to place himself under a plumber for twelve months, and to fill up time in painting.—Address, A. T. 1, White Hart-court, Bishopsgate-street Without, E.C.

CLERK OF WORKS.

THE Advertiser, aged 30, begs to inform Architects that he is now open to a RE-ENGAGEMENT. Good draughtsman, and first class measurer and accountant, with a practical knowledge of all the building trades. The most undeniable testimonials as to ability, &c.—Address, A. Y. Z. care of Mr. J. MURRAY, 6, Henry's-place, Old Kent-road, S.E.

TO BUILDERS AND SMITHS.

THE Advertiser is in want of a SITUATION as LOCKSMITH, BELL HANGER and GAS-FITTER, and GENERAL SMITH. Has had seven years and a half's experience in London.—Address, WM. CLARK, 10, Grosvenor-mews, Berkeley square.

TO ARCHITECTS.

THE Advertiser desires an ENGAGEMENT. Is a neat and careful Draughtsman and Colourist, can assist in taking out quantities, &c. understands surveying, and the general duties of an architect's office.—Address, R. W. Ebury Wharf, Upper Belgrave-place, Pimlico, S.W.

TO ARCHITECTS, BUILDERS, &c.

THE Advertiser requires a RE-ENGAGEMENT in either of the above Offices, or as Clerk of Works. Is a first-class draughtsman in design and practical detail, can prepare specifications, take out quantities, and measure up all descriptions of work. First-class references can be given from City and West-end surveyors. Has seen twenty years in the profession. Age 36 years.—Address, B. care of Mr. Bloss, Stationer, &c. 23, Greenwich-road, Kent.

CAPE OF GOOD HOPE.

THE Advertiser, a Civil Engineer, aged 33, is desirous of proceeding to the Cape. Would be glad to go out as ASSISTANT. Has had considerable experience on railways, water and sewerage works, and would offer it to an engagement to conduct any engineering works.—Address, C. E. 170, High-street, Hoxton.

TO PLUMBERS, &c.—In a very old-established Business, a few miles from London, an unusual offer presents itself for PARTNERSHIP for a steady, practical, working Partner. He must be a first-class tradesman.—Apply to J. H. Messrs. Franks, Oil Merchants, Borough, London Bridge.

TO BUILDERS.

THE Son of a Builder wishes to meet with an ENGAGEMENT, either in a BUILDER'S OFFICE, or as MANAGER of WORKS. He has had ten years' experience, the first five being served at the bench. Can get out either working or finished drawings, take out quantities, and is thoroughly accustomed to the trade in all its branches.—Address, A. E. No. 58, Market-square, Stafford.

TO CIVIL ENGINEERS AND SURVEYORS.

THE Advertiser, who is a good Draughtsman and Surveyor, is open to an ENGAGEMENT. Reference to present employer. Salary moderate.—Address, B. A. 489, Oxford-street, W.C.

OCCASIONAL ASSISTANCE.—A young Architect of considerable practical experience, is desirous of meeting with an ENGAGEMENT for employing part of his time.—Address, L. M. Mr. Osgood's, 29, Ironmonger-lane, E.C. Good references; terms moderate.

TO ARCHITECTS AND OTHERS.

G. H. G. CLERK of WORKS, aged 31. Good draughtsman, measurer, and accountant, with great experience in design and construction. The highest testimonials as to character and ability.—Address, G. H. G. Post office, Oakley-terrace, Old Kent-road, London.

FROM JACKSON'S, Decorators, Rathbone-place. The Advertiser, a Joiner by trade, having been in the employ between seven and eight years, is desirous of an ENGAGEMENT. Has had great experience in imitations, graining, decorations, &c.—Address, S. B. 22, Oansburgh-street, Regent's-park.

FIVE POUNDS DOUCEUR will be Given to any party procuring for the Advertiser a PERMANENT SITUATION as MACHINE DRIVER. Wages, not less than 25s. per week. First-rate references.—Address, O. G. Mr. Hammer's, 44, Harrington-street, London, N.W.

A RAPID and efficient DRAUGHTSMAN and GENERAL ASSISTANT requires an ENGAGEMENT. A London office preferred. Is well versed in Mediæval design and detail. Salary moderate.—Address, W. B. 1, Compton-road, Wolverhampton.

A YOUNG MAN, aged 21½ years, requires a CLERKSHIP. Is by trade a joiner. He writes a good hand, can take out figures, and correctly execute working drawings, and will make himself useful. A moderate remuneration to begin with. Six years' character.—Address, B. O. E. No. 67, Prebend-street, New North-road, Islington, N.

TO ARCHITECTS AND SURVEYORS.

AN experienced ASSISTANT desires an ENGAGEMENT. An expeditious draughtsman, accustomed to prepare sketches, working and detailed drawings, &c.; thoroughly understands construction and quantities; competent to manage a business.—Address, B. S. 4, Hamilton-terrace, Highbury, N.

TO ARCHITECTS AND BUILDERS.

AN Estimator of experience and standing, having a PORTION of his TIME DISENGAGED, is willing to undertake estimates and quantities at moderate charges. Address, Y. Z. care of Mr. W. Brock, 33, Nicholas-lane, E.C.

TO CARPENTERS AND JOINERS.

A YOUNG MAN, aged 24, wishes for IMPROVEMENT, at the BENCH.—Address, A. B 2, St. Mary's Cottages, Praed-street, Paddington.

AN ARCHITECT'S ASSISTANT is in want of a SITUATION. Competent to prepare finished and detail drawings, perspective, &c. Salary, 25s. per week.—Address, A. R. T. 50, Admiral terrace, Vauxhall Bridge-road, Pimlico.

TO CARPENTERS AND BUILDERS.

A BUILDER'S SON, aged 18, who has been in the trade, wishes to IMPROVE himself in the Carpentry and Joinery. Writes a good hand, and will make himself useful.—Address, A. B. Post-office, Elstree, Middlesex.

TO PARENTS AND GUARDIANS.

AN Architect and Surveyor in a County Town near London has a VACANCY for an ARTICLED PUPIL. The business is of a general character, consisting of a London and country practice.—Apply, by letter only, addressed A. A. No. 3, New Bridge street, Blackfriars, E.C.

AN experienced Bookkeeper wishes for an ENGAGEMENT. Is a rapid writer and accountant. For seven years had charge of the books of a building firm. Is acquainted with the general contract trade. Age 30. Is neat, sober, and active. Address, QUIL, 7, Grove-place, Lisson-grove.

TO LANDLORDS.

AN active business Man, now collecting, repairing, and managing an estate, requires a RE-ENGAGEMENT as above. Town or country. Undeniable reference.—Address, B. 19, Bathfield-street, Stamford street, Lambeth.

TO PLUMBERS.

A YOUNG MAN, aged 19, who has been engaged five years as a Plumber, desires an ENGAGEMENT as IMPROVER in a respectable establishment. Wages not so much an object as an opportunity for improvement.—Address, H. B. care of Mr. Bell, Plumber, Spalding.

A GOOD THREE-BRANCH HAND wants a constant SITUATION. Is also a good gas fitter and paper hanger. Understands building, and generally repairs in all their branches. Writes a good hand, and can measure and estimate work. Address, J. B 8. 13, Henry street East, Avenue-road, St. John's-wood, N.W.

A PERSON accustomed to the routine of an Architect's and Surveyor's Office is desirous of obtaining EMPLOYMENT, either occasional or otherwise, on moderate terms. Address, M. S. 108, Wickham-street, Tyer-street, Vauxhall.

TO ARCHITECTS AND ENGINEERS

AN experienced ASSISTANT desires an ENGAGEMENT. A good and expeditious draughtsman, and thoroughly conversant with quantities, surveys, and construction. Unexceptionable references.—Address, A. L. 41, Watling-street, E.C.

TO PLUMBERS, &c.

A YOUNG MAN WANTS to get a knowledge of PLUMBING. Is handy at Painting. Will take small wages.—Address, W. R. 16, Queen's road, Notting-hill.

TO ARCHITECTS AND SURVEYORS.

A GOOD DRAUGHTSMAN, accustomed to quantities and the duties of an office, desires an ENGAGEMENT, in town or country.—Address, A. Y. 49, St. George's-road, Southwark, S.

TO WHARFINGERS AND OTHERS.

A CLERK in a Wharf, by a young Man who has been in the building line.—Address, Y. R. Post Office, Bushy Heath, Herts.

TO BUILDERS, PLUMBERS, &c.

A GOOD, steady PLUMBER, or THREE-BRANCH HAND, is in want of EMPLOYMENT. Good reference.—Address, W. M. PLUMBER, 10, Duke's-court, Bow-street, W.C.

TO ARCHITECTS.

A FIRST-RATE DRAUGHTSMAN and COLOURIST is open to an ENGAGEMENT.—Terms, One Guinea per week.—Address, A. Z 5, Eden Villas, Lower Norwood.

TO SANITARY ENGINEERS.

AN ENGINEER of experience in Railways, Docks, Machinery, &c. wishes to obtain an APPOINTMENT as Assistant Engineer.—Apply, by letter, to R. R. care of Mr. Whitfield, 178, Strand, London.

A CLERK of WORKS, of great experience, wishes a RE-ENGAGEMENT. Immediate attention to any commands addressed, Clerk of Works, Elvetham Hall, Winchfield, Hants.

TO ARCHITECTS, &c.

A GOOD DRAUGHTSMAN and COLOURIST is open to a TEMPORARY ENGAGEMENT, in town; or would render assistance at his own rooms. Good references. Address, R. S. Office of the "Builder."

TO ARCHITECTS.

AN ASSISTANT, who has a thorough knowledge of Gothic Architecture, and has been engaged in first-class offices, is desirous of an ENGAGEMENT, or would prepare drawings at his own rooms.—Address, E. L. 40, Norfolk-street, Strand.

TO CARPENTERS AND BUILDERS.

A YOUNG MAN, aged 20, WANTS IMPROVEMENT. Wages not so much an object as a constancy. Address, W. D. 6, Crozier-street, Palace-road, Lambeth.

AN Architect and Surveyor's Assistant is desirous of an ENGAGEMENT. A moderate salary only would be required, if any exceptional opportunity of acquiring information and experience in the practical parts of the profession could be offered. Address, S. G. O. Office of "The Builder."

TO BUILDERS, DECORATORS, AND RAILWAY COMPANIES.

A YOUNG MAN requires constant EMPLOYMENT, as GRAINER, PAINTER, and GLAZIER. Wages moderate. Country not objected to.—Address, X. Y. Z. 45, Goldington-street, Old St. Pancras-road, N.W.

LAND SURVEYING AND CIVIL ENGINEERING

AN ASSISTANT, provided with all field and office instruments, desires a RE ENGAGEMENT. Is experienced in parish, estate, and railway surveying, levelling, valuing surveys, &c. and is a good draughtsman. Address, SURVEYOR, 29, Acton street, Gray's-inn-road, London, W.C.

TO ARCHITECTS AND SURVEYORS.

A GOOD and expeditious DRAUGHTSMAN, aged 28, requires a RE-ENGAGEMENT, either temporary or permanent. Salary low. Good references.—Address, B. W. care of Mrs. Downes, 15, Essex street, St. Peter's, Islington.

TO MASONS.

A YOUNG MAN, having had five years' experience in Masonry, wishes to ARTICLE himself to a Mason.—A. G 2, Oak Cottages, Waddington-road, Stamford New Town, Essex.

TO BUILDERS, CONTRACTORS, &c.

AN Experienced FOREMAN, a Bricklayer by trade, wishes for a RE-ENGAGEMENT as FOREMAN on a JOB, or FOREMAN BRICKLAYER. Thoroughly understands drawings and setting out work. Has no objection to take brickwork by the rod. Can have a good reference from his last employer, where he has been foreman for these last five years.—Address, F. C 27, West bourn-street, Pimlico, S.W.

TO ARCHITECTS AND SURVEYORS.

AN experienced ASSISTANT desires an ENGAGEMENT. A good and expeditious draughtsman, accustomed to prepare working and detail drawings, well versed in construction, and thoroughly conversant with quantities, &c. Good references.—Address, G. W. Mr. Robertson's, Stationer, 95, Upper-street, Islington, N.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

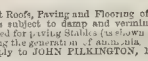
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for Cowsheds, Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PULKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TO BUILDERS, CONTRACTORS, and OTHERS.—To be SOLD by PRIVATE CONTRACT, Eighty Pieces of Memel, Riga, and Dantzic TIMBER, over 30 ft. and up to 60 ft. long, large size, and best quality.—For terms and particulars apply to CHARLES A. LEWIN, Merchant, Poole, Dorset.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE SOLD by PRIVATE CONTRACT, a large lot of WAINSCOT BOARDS that have been cut out and seasoned from seven to ten years. The sizes are 1 inch, 1¼ inch, 1½ inch, 2 inches, and 2½ inches. It is warranted fit for immediate use, and to some town builders must be invaluable.—Apply to CHARLES A. LEWIN, Merchant, Poole, Dorset.

FOR SALE, at 46, Great Ormond-street, Bloomsbury, a quantity of old PANELLING and CARVED WORK, the fittings of a dining-room.

ARCHITECTURAL and ENGINEERING DRAWINGS

Made, copied, or traced. Perspectives erected, &c. Designs made, and working drawings prepared to any scale, by WALTER W. BROWNE, Architectural Draughtsman, 29, Alwyne-road, Canonbury, N. Attendance at Office if required.

TO BUILDERS.—VILLAS to be erected on a first-class Estate in the country, with liberal advances as the work proceeds.—For particulars apply at the Offices of Messrs. ELMSLIE, PRANEY, & HADDON, Architects, 43, Parliament-street, London.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents, their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-sq. Bars.

FARM-HOUSES, FARM-BUILDINGS, and LABOURERS' COTTAGES DESIGNED with due regard to economy and efficiency. Drainages and all works of improvement planned or executed. Loans obtained for these purposes.—Address, Mr. C. STUART BARKER, Farm Architect and Drainage Engineer, 12, Buckingham-street, Adelphi, London, W.C.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, FAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING, Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

J. B. WHITE & BROTHERS,
CEMENT MANUFACTURERS.
BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,
Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,
Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.
LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.
RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT
Is the best internal Cement in use.
Manufactured ONLY by J. CUMBERLAND PART,
186, DRURY-LANE, LONDON, and at DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.
EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,
(ESTABLISHED 1826)
FIRE BRICK AND TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.
DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,
74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SPURGEON'S IMPROVED MARTIN'S CEMENT.
A very SUPERIOR CEMENT, fully equal to any for its Hardness and Beauty of Finish, and the Cheapest Internal Cement that can be used.
MANUFACTURED ONLY BY
B. W. SPURGEON, DERWENT WORKS, DERBY.
London Depôts:—129, GREAT PORTLAND STREET, W.; BAKER'S BUILDINGS, LIVERPOOL STREET, E.C.
Coarse, Fine, and Superfine London-made PLASTER of PARIS.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise,
LONDON WHARF, BRLVIDERE ROAD, LAMBETH.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms. PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Wherest can be obtained, of the best quality:—
GREYSTONE CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and Ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, and DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered per barge, in any quantity alongside the Thames.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stuff may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS BROTHERS, & POTT, Nine Elms, London.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

BUNNETT AND CO.

The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-plates, &c. of unequalled quality, at lowest prices

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN STREET, CITY; AND AT GLASGOW.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from **2s.** per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from **3s.** per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. — 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1¾	2	2½
„ 2 ft. 6 in. sup.	1⅔	1¾	2¼	3
„ 4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

	per 100 ft.	15 oz.	21 oz.
20 by 12	per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	per 100 ft.	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	per 100 ft.	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	per 100 ft.	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.
} per cwt.

Fine Oak Varnish ...10s.
„ Carriage ...12s.
Linseed and Boiled Oil
Turpentine .....
} per gallon.

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

HAMPSTEAD ROAD JOINERY WORKS.

21, HARRINGTON STREET, N.W.

NEVIL SIMMONDS,

MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.

SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.

Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS. Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

STOURBRIDGE FIRE-CLAY WORKS
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. NASH),
GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
ANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 3, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

GREY STONE LIME
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

STRINGFIELD and BLYTH
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TAYLHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 30s. per cwt.: Linseed Oil, 2s. 4d. per gallon; Boiled Oil, 2s. 8d.; Turpentine, 8s. 6d. per gallon; Fine Pale Oak Varnish, 8s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES
(C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 11, GREEK-STREET, SOHO SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

IMPORTANT to BUILDERS and PAINTERS Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 1d. per gallon; Boiled Oil, 3s. 3d. per gallon.
Turpentine, 8s. 6d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at LOWARD BROTHERS' Colour and Varnish Warehouses, 30, Upper Ebury street, and 45, Cole-hill-street, Pimlico, S.W.
Every article for the Trade at the lowest price

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where same may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD, Ready for use with all kinds of Colours and Varnishes, Warranted of the very first quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposing to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. SAYLOR'S Stains may be had at the Factory, 4a, James street Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
Also Manufacturers of the Patent India rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford street, S.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 3d.; Spruce, from 2s. 8d.; Pine Plank, from 8s. 3d.; Mahogany, 8d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; 1½ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These pencils are prepared in various degrees of hardness and shade

H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.
JEFFS, BROTHERS,
CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS
Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared),	11s. 6d. per square.			Laths, 28s. per load.	
Yellow Deals, sound and good	£19	10	0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	16	10	0 ,,	0 2¾ ,,	
Yellow Battens, excellent quality	11	10	0 ,,	0 2 ,,	
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 ,,	3 6 ,,	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	19s. 0d.	19s. 6d. ,,

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,
Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
¾-inch White Matched Lining .... 13s. per square
J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.


MOULDING WORKS.
SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

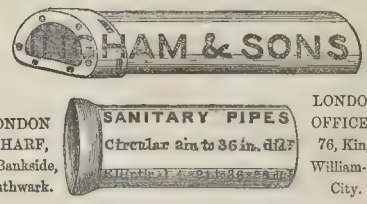
JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by
J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,


TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash
Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.


MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

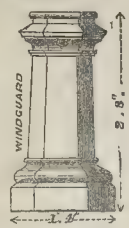
WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.





LONDON WHARF, 64, Bankside, Southwark.

LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

JAMES STIFF & SONS,

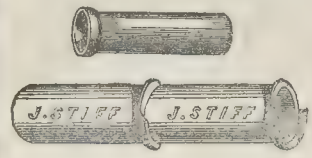
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs GLADDISH'S, Pedlar's-acre, Lambeth; Buckland Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin
Messrs COLES, SHADBOLT, and CO'S, at James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr A. RICHES, Ravensbourne Wharf, Greenwich Mr. GEORGE ALLEN'S, Danvers Wharf, Chelsea.
Mr. LAWRENCE, Dowgate Wharf, Canal-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.
PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.
High-Street, Lambeth, London.

PEARCE'S PATENT SANITARY PIPE, BRICK, AND TILE MACHINES,

Producing nearly double the quantity and of very superior quality to any machine yet invented. The improvement consists in the introduction of a central stem to support the core of the die, and obviating the necessity of cross-bars or bridges, hitherto found so detrimental in the manufacture of large sanitary pipes. The upper part of the Machine acts as a Pug-Mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die. The larger Machines will make sanitary pipes, from 3 inches to 24 inches. The smaller, from 2 inches to 12 inches.—Particulars on application to the

IRON WORKS, POOLE, DORSET.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and

pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening sound.

Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

PEAKE'S TERRO-METALLIC TILE
PIPES, &c.—Notice is hereby most respectfully given, that
LONDON DEPOT for this WARE is REMOVED to No. 21 Wh
Macclesfield-street North, City-road Basin, N. Sndly, that the tr
term, "TERRO-METALLIC" is the exclusive right of the Proprieto
and Sndly, that the "Reports of the Juries," page 231, of the Gr
Exhibition, note the grant of a First-class Medal, and rank the Ma
factories known so long as "The Tileries," Tunstall, Staffordshire
the first of the kind in the world.

IMPERISHABLE TESSELATE
PAVEMENTS, combining a highly decorative and economi
substitute for ordinary floors of their perishable coverings. MAW
CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together wi
special design and estimate of cost adapted to any given dimensions
hall, passage, conservatory, verandah, frieze, &c. will be sent on ap
cation to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions &c. n
open at the Galleries of the Architectural Exhibition, 9, Condu
street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on
view a great variety of Specimens of the Pavements.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWER
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external de
rations, executed in Plaster, Carton Pierre, Composition, and eve
kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242 EUSTON ROAD, ST. PANCRAS.

TERRA-COTTA WORKS, BLACK
FRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGIN
TERRA-COTTA WORKS, established 1769, and the recipient of t
PRIZE MEDAL at the Exhibition of 1851, for MATERIAL a
WORKMANSHIP in TERRA-COTTA.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

BUFF & DEEP RED FACING BRICK
Splays, Cutters, Floor-tiles, Garden Edging, &c.—Apply to
HOOPER, Manufacturer, Southampton, or JOHN DOWNEY (s
agent for London), Victoria Wharf, Nine Elms, S. where they a
always kept in stock.
Architects and Builders requiring superior colour in bricks a
respectfully invited to inspect the above.

MINTON & CO
HAVE REMOVED FROM ALBION-PLACE, BLAC
FRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENT
EARTHENWARE AND PLAIN TILES
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PAINTED GLASS WINDOWS AND MURAL DECORATION.
LAVERS & BARRAUD, of ENDEL
STREET, Bloomsbury, London, and 3, Oxford-street, n
St. Peter's Church, MANCHESTER, will be happy to submit DESIG
for the above, for Ecclesiastical and Domestic purposes.

GLASS.—W. H. JACKSON suppli
BRITISH PLATE, PATENT PLATE, ROLLED PLA
CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURE
PHOTOGRAPHIC, and every description of Glass, of the best ma
facture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.
WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate
Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business ca
addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

STAINED GLASS and WAL
PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

SOHO PLATE and GENERAL GLAS
WAREHOUSE, 26, Soho-square, W. and George-yard, Cro
street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and
Trade generally, that every description of Glass required for build
purposes can be procured WHOLESALE, either in STOCK SIZES
CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITI
of Glass upon the receipt of particulars.

DENT, CHRONOMETER, WATCH, a
CLOCK MAKER to the Queen and the late Prince Consort,
MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance
design of his extensive Stock of Watches and Drawing room Clo

Ladies' Gold Foreign Watches	8	Guine
Gentlemen's do. do.	10	,,
Ladies' or Gentlemen's Gold English Lever Watches	18	,,
Strong Silver Lever Watches	6	,,
Gentlemen's Gold Compensation Balance Watches	40	,,
Do. Silver do. do.	26	,,
Marine Chronometers	35	,,

Gold and Silver Pocket Chronometers, Astronomical, Turret, s
Bracket Clocks, of every description. An elegant assortment
London made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Ro
Exchange; and at the Clock and Marine Compass Factory, Somer
Wharf, Strand, London.

THE VILLAGE CLOCK.
A serviceable, well-made, and warranted TURRET CLOCK,



go eight days and strike the hours,
Forty Guineas; not to strike, from
teen to Twenty Guineas; adapted
the village church or school.
INTERNATIONAL EXHIBITION
A sample of the Forty-Guinea Vill
Turret Clock may be seen in action
striking, with bell and bell complete
Also a sample Turret Clock, from
teen to Twenty Guineas, suitable
school or stable, in Class 15, No. 3,34
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty
War Department.
188, St. George-street East, Londo

INDIA-RUBBER MILL BAND
WASHERS for Steam Joints, HOSE PIPES and FLEXIB
TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL MEW
GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



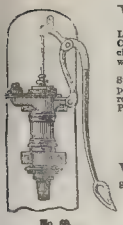
No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2½ in.	short	1 ft. 7 in. / Fitted for lead, gutta percha or cast iron flanged pipe, as required.	1 1 0
2¼ „	long	3	1 10 0
3 „	ditto	3	2 4 0
3½ „	ditto	3	2 9 0
4 „	ditto	3	2 16 0
2½ „	short, with 15 feet of lead pipe attached, ready for fixing		2 0 0
2½ in.	long ditto	ditto	2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.



No. 60.

WARNERS' PATENT

BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£6 0 0	Larger sizes when required.
3 „	7 5 0	
3½ „	8 0 0	

Fitted to the best Plank, 5 ft. 9 in. high.

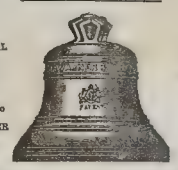
Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4 15 0
3 „	5 15 0



WARNERS'

BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from 2l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.



A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 334. No. 363.

WARNERS' HIGH PRESSURE COCKS

are made with gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re-leathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

JOHN WARNER & SONS,

BELL and BRASS FOUNDERS to HER MAJESTY.
INTERNATIONAL EXHIBITION.

Class 8. WESTERN ANNEXE. Pumps, Beer Engines.
Class 9. EASTERN ANNEXE. Garden Engines, Syringes, &c.
Class 10. Near EASTERN DOME. Water-closets.
Class 31. SOUTH-EAST TRANSEPT.—A Peal of Eight Bells and Chiming Apparatus.
Class 31. HARDWARE COURT. Bells, Urns, Lamps, Braziery Goods, Baths, Steam Fittings, Plumbers' Cocks.

Illustrated Catalogues forwarded on application at the Manufactory, 8, Crescent, Cripplegate, London.

JOHN WARNER & SONS desire to draw

attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 1454.—Warners' Spring Valve Closet on Iron Frame, with vulcanised India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 0
Sunk handle extra 0 3 0
Blue basin, extra 0 1 6



No. 1464.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £3 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

The above Prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON, NEAR LEEDS

MANUFACTURERS OF THE LARGEST SIZES OF
SALT-GLAZED SOCKETED DRAIN-PIPES,
BOTH ROUND AND EGG-SHAPED.

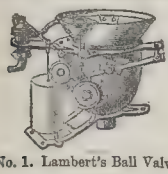
M. B. NEWTON, LONDON AGENT,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

THOMAS LAMBERT & SON,

No. 17. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



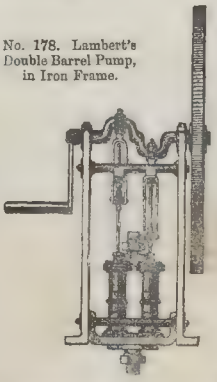
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.

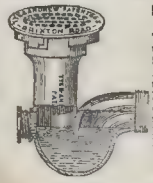


In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes, and the Pans become DISCOLOURED and UNFIT for USE.

The above CLOSET PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets. Be particular to order the 3s. 9d. Enamelled Stoneware Closet and Trap.



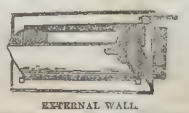
TYE & ANDREW'S

NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

SALES BY AUCTION.

BUILDING MATERIALS.—Threadneedle-street, opposite the Royal Exchange, to clear the site for the new offices of the Mercantile Fire Insurance Company

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 15th, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS-UP of the spacious premises situate in Sun-court and the house adjoining, being No. 61, Threadneedle-street, comprising sound brickwork, useful timber in rafters, joists, girders, &c. bressummers, tiles and slates, sashes, doors, plate-glass front, marble chimneypieces, partitions, staircasing, sound flooring boards, stone paving, sills and coping, several tons of lead in gutters, cisterns, sinks, and pipes, iron columns, large iron doors and fittings, gas fittings, stoves, and other useful fixtures and fittings-up.—May be viewed the day previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

LLOYD'S MARBLE WHARF, PIMLICO.—TO SCULPTORS, MASONS, BUILDERS, & OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. R. Lloyd & Co. to SELL BY AUCTION, at Lloyd's Marble Wharf, adjoining Vauxhall Bridge, Grosvenor-road, Pimlico, on WEDNESDAY, JULY 16th, at ELEVEN for TWELVE, about 150 blocks of marble, comprising statuary, vein, Sicilian, dove, black and gold, Sardilla, Sienna, and various coloured varieties; also about 20,000 feet super of slab, and a selection of sculpture work, consisting of figures, busts, chimneypieces, &c.—May be viewed two days previous. And Catalogues had at the place of Sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, and 80, Fore-street, City, E.C.—N.B. Approved bills at four and six months.

LIMEHOUSE.—Contractor's Plant and Materials.

PULLEN, HORNE, & EVERSFIELD are instructed by Mr. Henry Flower to SELL by AUCTION, on the PREMISES, Stainsby-road, Limehouse, on FRIDAY, JULY 18, at TWELVE for ONE, the remaining CONTRACTOR'S PLANT and MATERIALS; consisting of small engines, forge bellows, anvils, vices, and smiths' tools; set of blocks, chain slings, pumps, barrows, benches, planks, boards, pebble paving, chimney-pots, and other useful materials.—May be viewed the day previous; and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.—N.B. The PREMISES TO BE LET.

MESSRS. WILSON & THOMPSON have received Instructions from the Trustees, to SELL by PRIVATE CONTRACT, all that FREEHOLD and eligible BUILDING LAND, consisting of 45 acres, in the hamlet of Litchurch, adjoining the borough of Derby, which has been laid out in allotments to meet the wishes of purchasers. The estate is bounded on the east and west by the two most important turnpike roads leading from the town, and a very short distance from the railway station. The land is particularly adapted for building purposes, and has been laid out accordingly. It is near to Derby, but not subject to its rates. The estate is in a population and increasing neighbourhood. Capitalists would find it a profitable investment.—For particulars and plans, apply at the Office of Messrs. WILSON & THOMPSON, Architects and Surveyors, 12, Corn-Market, Derby.

STRATFORD.—On the Chobham Estate

MR. JOHN M. DEAN will SELL by AUCTION, at the SWAN INN, Stratford, on MONDAY, 14th of JULY, at FOUR o'clock, in nineteen lots, FIFTY-SIX PLOTS of valuable FREEHOLD BUILDING GROUND, econerated from landtax, having ample frontage (Old feet on Leytonstone-road, Lovett-road, Chobham-road, Chandos-road, and Temple Mill-lane, by depths of 100 to 150 feet. The land is pleasantly situate in a particularly dry and healthy locality, within easy access of several railway stations, is marked by good roads, with sewers therein, and in close proximity to the main routes to the Forest.—Particulars, with plans, may be had of H. HARRIS, Esq. Solicitor, 34, Bedford-street, W.C.; at the Swan, Stratford; and of Mr. JOHN M. DEAN, Auctioneer and Surveyor, The Grove, Stratford, E. (Turner Estate Office).

1,800 new Yellow Deals, 1,000 capital Norway Battens; 2,000 new inch and 3½ inch Yellow Boards, from 12 to 30 feet long; 5,000 feet new cut Quartering; 1,000 Glazed Drain Pipes, 3, 6, and 9 inch, with heads and junctions; 700,000 capital new Bricks, comprising the best, second, and rough stocks, best and second place, very superior malm; kilns for fronts, red cutters, red builders, &c. &c. will be SOLD by AUCTION, by

J. G. HALL, on THURSDAY, JULY 17, at ONE o'clock, under instructions from the proprietor, Mr. Robert Wright, at BRIDGE WHARF, Regent's Canal, Old Ford-road, Victoria Park. The brick lots will be delivered into carts at 4d. per thousand; and other lots at a like proportionate rate. The wharf is surrounded with excellent roads, and unusual facilities by water are afforded, the Regent's Canal being in direct conjunction with the River Lea at this place.

CHANCERY LANE.—To Bankers, Public Companies, Builders, and Others.—Important Freehold Building Ground, with Frontages to Chancery-lane, Carey-street, and Star yard.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed by the Directors of the Law Fire Assurance Society to SELL at GARRAWAY'S, on WEDNESDAY, JULY 30, at TWELVE o'clock (unless previously disposed of an important and valuable FREEHOLD PLOT of BUILDING GROUND, in Chancery-lane, and corner of Carey-street, having a frontage to the former of 55 feet 9 inches, and to the latter 148 feet 6 inches, and to Star-yard of 55 feet 9 inches; containing an area of 9,000 superficial feet. The central situation of this desirable property, and the under-the-site highly desirable for the erection of a bank, club-house, public companies, restaurant, or grand hotel-chambers, or for any other commercial purposes requiring extensive space with the advantages of good light on all sides, and easy access from every part of the metropolis and with the intended concentration of the new law courts, and the new approaches extending from the Holborn Valley, further enhance the value of all available ground and property for business purposes.—Particulars and plans may be had of Messrs. HARRISON, BEAL, & HARRISON, Solicitors, 19, Bedford row, W.C.; of T. BELLAMY, Esq. 8, Charlotte-street, Bedford-square; GEORGE POWNALL, Esq. 60, Lincoln's-inn-fields; at GARRAWAY'S; and at the Offices of Messrs. FAREBROTHER, CLARK, & LYE, 6, Lancaster-place, Strand, W.C.

TO BUILDERS, BRICKMAKERS, AND SPECULATORS. HANWELL, MIDDLESEX.

MESSRS. GREEN (28, Old Bond-street) have received instructions to SELL by AUCTION, in two lots, at the MART, on TUESDAY, JULY 15 (unless in the meantime disposed of), a very desirable and speculative FREEHOLD PROPERTY, known as Rose Bank, comprising a villa residence, together with garden and pleasure ground, in all about 3 acres thereabouts, which, from its proximity to the railway station, and easy distance by road from the west-end of town, together with its elevated position, and the extensive and picturesque and luxuriant views over Osterley Park and the surrounding beautiful scenery, combine to render it eminently qualified as a building site for the erection of a gentleman's residence, while its natural resources, embracing an immense quantity of brick-earth, gravel, and fine sand, all of very superior quality, with the advantages of a dock to the Junction Canal, present unusual advantages for speculation. Lot 1 will comprise the agreeable residence known as Rose Bank, together with very tastefully laid-out undulating pleasure-grounds, gardens, and meadow land, in all about 3a. 3r. 6p. Lot 2 comprises a plot of ground, copyhold of the manor of Hanwell, containing 1 acre, having a frontage against the high-road leading from Hanwell to Brentford, and is most suitable for building purposes.—Particulars and conditions of Sale may be obtained at the Mart; of Messrs. HUNTER, GWATKIN, & HUNTER, Solicitors, 9, New-square, Lincoln's-inn; and of the Auctioneers, 28, Old Bond-street.

WILDS' PATENT VENTILATOR.—INTERNATIONAL EXHIBITION, Class 31, No. 6p.

MESSRS. E. & H. LUMLEY will SELL by AUCTION, at Garraway's Sale Rooms, Change-alley, Cornhill, TUESDAY, JULY 15th, at TWELVE for ONE o'clock, the valuable LETTERS PATENT granted to Mr. WILLIAM WILDS for His "Improvement in Apparatus for Ventilating," dated August, 1861, and denominated "The British Ventilator," an efficient invention, and, from its simplicity and efficiency, adapted for universal use Models at the Exhibition, and at the Auction Offices, 67, Chancery-lane, where particulars and conditions of sale can be had, and models and specifications can be seen.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kelk & Lucas to SELL by AUCTION, on TUESDAY, JULY 29, and following days, at ELEVEN o'clock each day, at the DEPOT, Thames-bank, Pimlico, near the railway bridge, and on the banks of the Grosvenor Canal, in lots, without reserve, an Immense Collection of MATERIALS and PLANT used in the construction of the building for the International Exhibition, 1862; including 12,000 scaffold-poles, 6,000 boards, 1,800 dozen cords, 6,000 pulleys, 800 loads Baltic and Swede timber, 200 loads short ends of timber, 20 loads new Memel timber, 6 loads of yellow pine, 5,000 deals and battens, 200 fathoms firewood and slabs, 10,000 feet pitch-pine slabs, 6 mast spars, 1,000 feet mahogany plank and boards, 12) ladders, 170 navvies' barrows, 60 mortar mills; 4 portable steam-engines, 8, 12, 16, and 20 horse power; 6 pairs contractors pumps, by Fowler, from 5 inches to 12 inches; mortar mill, with two 4-feet runners, 2-feet carb; 2 horizontal high-pressure steam-engines, 8 and 12-horse power; Cornish steam boiler, 18 feet long, 4 feet diameter; 100 tons bar, rod, and hoop iron; bolts, nuts, and washers; 16 tons temporary and permanent metals, two tons chains, 700 sleepers, 5 pile-engines, with monkeys, 3 ringing-engines, 12 double and single purchase cranes, one 3 ton derrick crane, by Bradley (ride-proving machine, 15-ton weighbridge, 1 patent cab-hoist, 1 manhill-purchase hoist for a traveller, 2 tons wrought-iron shafting, 35 tons cast-iron columns, 4 pairs iron truck wheels and axles, 20 tons useful castings, 20 iron and frames, 2 iron circular-saw benches, 1 rack bench, powerful double and treble purchase-blocks, 20 tons rope falls and slings, 3 tons chain, smiths' tools, 15 anvils, 12 forge backs, 1 ton tools, 12 pairs bellows, portable forges, 2,500 feet fire-clay pipe, wrought-iron punch, timber carriage van, 2 carts, 4 dobbin carts, 2 dirt waggons, 100 water tubs and casks, carpenters' benches, cramps, draining-pipes, bends and junctions, 3 prs. boats, drainage pipes, flanch-pipes, and numerous other lots. To be viewed on Friday, Saturday, and Monday previous to the sale; when catalogues, at 6d. each, may be had on the premises; or of Messrs. FULLER & HORSEY, Millbank-street, S.W.

WANDSWORTH, SURREY.—Valuable Freehold Residence, with Coach-house, Stabling, Pleasure Grounds, and Plot of Building Land, close to the Railway Station, the whole containing upwards of Two Acres.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on WEDNESDAY, JULY 16, at TWELVE, in two lots, a valuable FREEHOLD PROPERTY, pleasantly situate on the high road, within five minutes' walk of the Wandsworth Station on the South-Western Railway, and ten minutes from the Clapham-common Station, in the county of Surrey. It comprises a comfortable cottage residence, containing four bed-rooms, two servants' rooms, two dressing rooms, library, drawing and dining rooms, and convenient domestic offices; detached two-stall stable, coach-house, yard, greenhouse, lawn, flower and kitchen gardens; also a plot of very valuable land, situate close to the railway station, adapted for the erection of cottages. Let to Edward Fownes, esq. at a rent of 90l. per annum, but by arrangement possession of all the premises, except the land, will be delivered to the purchaser at Michaelmas next. The land, containing 1a. 1r. 22p. is in the occupation of John Hager, whose notice to leave expires at Christmas next. May be viewed by cards only, and particulars had at the Spread Eagle, Wandsworth; of Messrs. BARNES & BERNARD, Solicitors, 2, Great Winchester-street; of G. T. WOODROOFFE, Esq. New-square, Lincoln's-inn; at the Mart; and with cards to view, of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange

PENGE, SURREY.—Valuable FREEHOLD BUILDING LAND, adjoining the Crystal Palace Grounds.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the MART, on FRIDAY, the 25th of JULY, at TWELVE o'clock, in two lots, a very valuable FREEHOLD BUILDING LAND, situate at Penge and Anerley Vale, immediately contiguous to the Crystal Palace, and near to the Crystal Palace and Anerley Hill road-stations. Lot 1. A valuable plot of Building Land, now in wood, situate in Anerley Vale, immediately contiguous to the beautiful grounds of the Crystal Palace, having a frontage to the Anerley Vale-road of about 260 feet; another frontage to the Palace-road of about 760 feet, containing 7a. 3r. 2p. and admirably adapted for first-class villa residences. Lot 2. A valuable plot of Building Land, next to lot 1, having a frontage to the Palace road, leading from Anerley to Penge, of about 1,220 feet, by an extreme depth of about 200 feet, immediately opposite and overlooking the beautiful gardens of the Crystal Palace, and certain to realize 40l. per ft. in a first-rate situation for villas of a moderate class.—May be viewed; and particulars and plans had at the Crooked Billet, Penge; the Wonder, Anerley Vale; the Spread Eagle, Wandsworth; of Messrs. JOHNSON, FARQUHAR, & LEECH, Solicitors, Mongate-street; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange, E.C.

EAST HAM, ESSEX.—Valuable Freehold Residence, with beautiful pleasure-grounds, lawns, gardens, stabling, offices, and productive kitchen garden; also a cottage and building land opposite the whole comprising nearly six acres; with possession.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to OFFER FOR SALE, at the MART, on TUESDAY, the 5th of AUGUST next, at TWELVE, the following very valuable FREEHOLD PROPERTY, viz.:—East Ham House, a desirable and substantial detached residence, most conveniently situate on the Barking-road, six miles from the City, one from the Plaistow Station, and only a quarter of a mile from the East Ham Station on the Tilbury and Southend Railway. It is placed at an agreeable distance from the high road, nearly surrounded by its own grounds, is approached by carriage drives and a lodge entrance, and contains nine bed and dressing rooms, and entrance-hall, capital lofty drawing and dining rooms of good proportion, library, study, entrance-hall, good domestic offices; the whole well supplied with pure water, and in every respect in thorough and substantial repair for the immediate occupation of a respectable family; capital stabling and offices of every description; tastefully laid out pleasure grounds and lawns, productive fruit and kitchen gardens, greenhouses, dairy, meadow ground and forcing-pits, and a rich paddock—altogether about four acres. On the opposite side of the road is a convenient cottage and garden, and an enclosure of land, having a very important frontage of 736 feet to the road, containing nearly two acres, and admirably adapted for building purposes. Particulars may be had (as 1st) at the Angel Inn, Stratford; at the Mart, and, with cards to view, of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

WINDSOR, BERKS.—Valuable FREEHOLD BUILDING LAND.—TO BE SOLD, pursuant to an order of the High Court of Chancery, made in a cause Bedborough v. Bedborough, the master for the attendance of the Master of the Rolls, in 16 lots, by

MESSRS. BUCKLAND & SON, the persons appointed by the said Judge, at the CASTLE HOTEL, Windsor, in the county of Berks, on THURSDAY, the 24th day of AUGUST, 1862, at THREE o'clock in the afternoon precisely, the following valuable PROPERTIES, viz.:—Lot 1. A corner plot of freehold building ground, in the Clewer-road. Lot 2. A freehold property, consisting of two cottages with a good building-frontage to the Clewer-road, subject to a lease which expires in 1883. Lots 3 and 4. Eight freehold cottages in Clewer-road. Lots 5 and 6. Valuable building ground in the Clewer-road, near the Trinity Church. Lots 7 and 8. Very eligible building land, with double frontages, one to the Alma-road and one to the Dorset-road. Lots 9, 10, 13, 14, and 15. Seven plots of building land, with frontages to the Alma-road, and near the Lord Raglan Inn. Lot 16. A meadow, near the Lord Raglan Inn, containing about 2a. 3r. 20p.—Particulars where now be had, gratis, of Messrs. DEPREE & AUSTEN, Solicitors, 23, Lawrence-lane, London; of Messrs. DARVILL, SON, & POULTON, Solicitors, Windsor; and of Messrs. BUCKLAND & SON, Auctioneers, Windsor.

To Builders, Stone-Masons, Timber Merchants, Per-sons Repairing and Others.—Near the New Church now building, Kennington-road.

MESSRS. F. HALL & SON will SELL by AUCTION, on THURSDAY, JULY 17th, 1862, at ONE o'clock, on the PREMISES, at the rear of the New Church, Chester-Gardens, Walcot terrace, Kennington-road, an extensive assortment of capital New and OLD BUILDING MATERIALS; comprising about 500 clean dry yellow deals, 600 capital white and spruce deals, 90 squares of new Roofing, long new quartering, mahogany planks and boards; about 5,000 feet cube of excellent Portland stone, in large blocks, cornices, columns, pinths, blockings, coping, and ashlar; 1,000 feet of capital Portland curb; stone sinks, tiles, very excellent joists clean rafters, 10,000 feet of yellow fir quarterings, 5,000 feet of clean flooring, and capital long girders and brestsummers, 50 room doors, 30 pairs of mahogany sash and frame, cupboard fronts, stoves, chimney pieces, old iron, and other useful effects.—May be viewed; and catalogues had on the Premises; at the Lord Raglan, Wandsworth-road; the Sir Sidney Smith and King's Arms, Chester-street, Kennington; and at the Auctioneer's Offices, Kennington, S.

CHARING-CROSS RAILWAY.—Nineteenth Clearance Sale.—BUILDING MATERIALS.—South portion of the Hungerford Market.—To BUILDERS, CONTRACTORS, PAVIORS, and OTHERS.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY and SATURDAY, JULY 18th and 19th, 1862, at ELEVEN for TWELVE each day, the South Portion of the very valuable and useful MATERIALS of the HUNGERFORD MARKET; consisting of Fifteen HOUSES and SHOPS, situate in Hungerford Market, Hungerford-street, and Market-court, comprising superior sound stock brickwork, Baltic slating, lath and plaster, sound timber in roofs and floors, good flooring boards, panelled and other doors, sashes, skylights, lead in pipes and gutters, granite columns, with caps and vases; quantity of granite and York paving; and a variety of useful fixtures and fittings-up. May be viewed the day previous to sale; and catalogues had of Mr. MARSH, Charing-cross, Mansion-house, and Adjoining, in lots, the 60ft. portion of the very valuable and useful MATERIALS of the HUNGERFORD MARKET; consisting of a publichouse and a range of seven shops, situate in Hungerford Market, comprising superior sound brickwork, Bangor slating, sound timber in roofs and floors, good flooring boards, panelled and other doors, sashes and frames; lead, in pipes and gutters; granite columns, with caps and vases; quantity of granite and York paving, and a variety of useful fixtures and fittings-up.—May be viewed the day previous to sale; and catalogues had of Mr. MARSH, Charing-cross, Mansion House: of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's court, Cornhill, E.C. and West Molesey, Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices, in the London-bridge Terminus.

Charing-cross Railway.—Twentieth Clearance Sale.—Fifth Portion of the Hungerford Market.—To Builders, Contractors, Paviors, and Others.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY and SATURDAY, JULY 25th and 26th, 1862, at ELEVEN for TWELVE each day, the fifth portion of the very valuable and useful MATERIALS of the HUNGERFORD MARKET; consisting of a publichouse and a range of seven shops, situate in Hungerford Market, comprising superior sound brickwork, Bangor slating, sound timber in roofs and floors, good flooring boards, panelled and other doors, sashes and frames; lead, in pipes and gutters; granite columns, with caps and vases; quantity of granite and York paving, and a variety of useful fixtures and fittings-up.—May be viewed the day previous to sale; and catalogues had of Mr. MARSH, Charing-cross, Mansion House: of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's court, Cornhill, E.C. and West Molesey, Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices in the London Bridge Terminus.

No. 76, OXFORD-STREET.—TO FAMILIES FURNISHING BUILDERS, and OTHERS.—The valuable and extensive Stock-in-Trade of Messrs Hallen engineers and ironmongers.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed by the Mortgagee and Assignees to prepare for SALE, on the PREMISES, on WEDNESDAY, JULY 16, and two following days, the important and very extensive MODERN STOCK-IN-TRADE of Messrs. Hallen: comprising numerous ornamental brass tubular and iron four post Arabian, felting, and other bedsteads; with mattresses, fellings, and other requisites in brass and iron, a great variety of elegant steel fronted and other drawing, dining, and bed room stoves, polished steel, bronze, and iron fenders and sets of fire-irons, patent ranges, gas and hall stoves, copper and japanned coalscuttles and boxes, ornamental iron tables, flower, hall, and umbrella stands, plated and Queen's metal goods, in sets of dish covers, tea and coffee services, forks and spoons, &c.; bronze tazzas, sets of papier maché and japanned trays, a large quantity of ivory and buckhorn handle table cutlery, moderator and other lamps, culinary articles of every description, boxes of tools, garden engines, iron rollers, hurdles, and fencing, garden seats, chairs, and implements, ornamental iron vases, hydraulic and other pumps, the complete new iron fittings of several stables and loose boxes, enamel ed mangers, racks, and manger brackets, a large quantity of pillar and rack chains and single and double harness fittings, 1 gamcorn, iron, corn bins and stable utensils, together with various valuable and useful items.—Catalogues may be had on the Premises and at the Offices of Messrs. FAREBROTHER, CLARK, & LYE, Lancaster-place, Strand.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER YARD, Canonbury-road, Islington, on WEDNESDAY, the 23rd day of JULY, 1862, at ONE o'clock precisely. Luncheon at Half-past Twelve o'clock.

For account of Importers.

7,500	Pieces Yellow Pine Battens
2,000	Quebec Pine Deals
5,000	St. Petersburg Red and White Wood Deals
8,000	Onega Battens, Ends, Battens, and Boards
6,000	Gothenburg Redwood Battens
3,000	Memel Redwood Deals
600	Loads Quebec Yellow Pine
100	Loads Quebec Red Pine
50	Loads Quebec Oak
400	Loads Quebec 1st Timber
50	Loads St. John Pine Timber
70	Logs Fresh Balsam
400	Loads Swedish Timber
300	Memel Pine Spars
1,000	4 to 6 inch } Pine in Norway Spars, daily expected, per
1,100	4 inch } "Ceres," from Fredericksstadt
170	Rickers }
90	Fathoms Dantzic and Hemlock Lathwood
50	Loads Mahogany and Plank
30	Logs Mahogany and Furniture Wood
5,000	Palings

A Quantity of Pine Plank and Scantling With other Goods.

Catalogues will be issued on the Week of Sale.

By Order of Messrs. F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, July 8th, 1862

NATIONAL RIFLE ASSOCIATION, WIMBLEDON MEETING.

MR. NEWBURY BALL will SELL by AUCTION, on WIMBLEDON COMMON, on FRIDAY, JULY 18th, and MONDAY, JULY 21st, at ELEVEN for TWELVE o'clock each day, the BUILDING MATERIALS used in inclosing and preparing the Common for the above meeting; consisting of planks, deals, battens, boards, and quantity of new wire fencing prepared for erecting, and 1,500 feet of inclosed 4 inch iron water pipes and connexions, with brass taps, &c.; iron hurdles, 150 fir poles, together with the sewers, Erection in the approach, the gate, and other effects.—Catalogues may be had of Mr CROUCH, Builder, Wimbledon; and at the Auctioneer's Office, High street, Wandsworth, S.W.

LIMEHOUSE and BARKING ROAD.—Unreserved SALE of FREEHOLD HOUSE PROPERTY, GROUND RENTS, and BUILDING LAND, in 16 Lots.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, JULY 29, at TWELVE, SIX FREEHOLD HOUSES (one being a Shop), Nos. 1, 2, 3, and 4 Cottage-place, Salmon's-lane, Limehouse; No. 8, Brewer-place; and No. 2, Nelson-place, Nos. 1 to 4, same on lease, and other rents yearly, at rents amounting to 147l. per annum. TWO COPYHOLD HOUSES with Shops rental in value to 70l. per annum. No. 11 and 12, Jamaica-row, Wapping, held for the residue of a long term at 2l. per annum, and also large plots of freehold building land, eligibly situate, abutting on the main Barking-road, and Woodside, and commanding extensive frontages, adjacent, within two minutes' walk of the railway station.—Particulars of A. & W. WALTER, Esq. Solicitor, Church-row, Limehouse; and of the Auctioneers, 80, Cheapside.

FREEHOLD SITE for VILLAS, on the main road between Norwood and Croydon.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on FRIDAY, JULY 18, at TWELVE, in one or three lots, a PLOT of FREEHOLD BUILDING LAND, in Dagnall's-park, Croydon-common, within half a mile of Norwood Junction Station. It has a frontage of 150 feet, and offers a desirable site for houses of a respectable class in a proverbially healthy locality. Particulars of Messrs. MERRIMAN & BREWIN, Solicitors, 23, Austinfriars; and of the Auctioneers, 80, Cheapside.

[*For remainder of Auctions see p.* ix.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, July 12, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1015. JULY 19, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

The Jews' Hospital, Lower Norwood. Messrs. Tillott & Chamberlain, Architects 515
Plan of Ground Floor of Jews' Hospital, Norwood 514

CONTENTS.

Exhibition Award-Day. Chat in the Building 505
A Few Facts for the Workmen who Visits the Loan Museum at South Kensington 506
What should be the Spirit of Modern Work? 507
Awards to British and Colonial Exhibitors 508
Mismanagement of Public Works in India: Irrigation and Navigation in the Madras Presidency 509
The Distress in Lancashire 510
What is Iron? 511
Worm and Ant Proof Australian Timber 511
The Female School of Art 511
Competitions 511
Sheffield 512
Irish Building Notes 512
The Victoria Fountain in Victoria Park, London 512
Another Irruption of the Fleet Sewer 512
Stained Glass 512
On the Laws of Nature's Ventilation, and their Application in Construction 513
Albert Memorial 514
The Jews' Hospital, Lower Norwood 514
The Royal Academy of Music 517
Provincial News 517
School-building News 517
Church-building News 517
The Way to the New Style 518
Crying for a New Style 518
Dwellings for the Poor 519
Compensation Case: Charing-cross Railway 519
Property taken under the Lands Clauses Act. Reddin v. the Metropolitan Board of Works 520
Patents connected with Building 520
Books received: Linton's Vestiges of Older Nations (Longman); Various 520
Miscellanea 521

ROYAL INSTITUTE of BRITISH ARCHITECTS.—MEDALS and PRIZES for 1862.—The sum of 10*l.* has been placed at the disposal of the Council as a Prize for the best Essay on the Application of Moulded, Shaped, and Coloured Bricks, and Terra Cotta, to Modern Architecture. The Prize to be given in addition to the Silver Medal already offered by the Institute for the best Essay on the above subject.

JOHN P. SEDDON, } Hon. Secs.
C. F. HAYWARD, }

9, Conduit-street, 15th July, 1862.

BY Order of the Secretary of State for India in Council. Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1863, be open to public competition.

A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter.

(Signed) T. C. BARING.

India Office, 28th June, 1862.

N.B.—All communications to be addressed to the "Under Secretary of State for India."

THE COUNCIL of the ARCHITECTURAL MUSEUM announce that, for the future, the LECTURES will be given, and the PRIZES awarded, later in the season. Due notice will be given in "The Builder" of the programme for 1863.

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Secretary.

ARCHITECTURAL ASSOCIATION.—A SPECIAL BUSINESS MEETING will be held at the Rooms of the Association, 9, Conduit street, on FRIDAY EVENING, JULY 25, at EIGHT o'clock, for the following purposes:—

To receive and consider the report of the Delegates appointed to attend the conference held on the question of an Architectural Alliance.

To consider the question of an Architectural Examination, and to adopt any course with respect to those matters that may seem desirable.

CHARLES J. ADAMS, } Hon. Secs.
H. ATTWOOD REEVES, }

INTERNATIONAL EXHIBITION.—Admission for the week ending July 26, Monday to Thursday, One Shilling; Friday and Saturday, Half a Crown. Doors are opened at Ten, except on Saturday, when the doors are opened at Twelve o'clock.

INTERNATIONAL EXHIBITION.
July 11th, 1862.
The Jurors have awarded a Medal to
JOSEPH CLIFF & SON, Wortley, near Leeds,
For Excellence of Material, and Manufacture of Fire Clay Retorts for Gas.—Class 10, No. 2,259.

INTERNATIONAL EXHIBITION.
July 11th, 1862.—Class 23, No. 6,841.
JOSEPH CLIFF & SON, Wortley, near Leeds,
Are awarded Honourable Mention for
STONEWARE DRAIN PIPES OF LARGE DIAMETER.

WILL CLOSE on SATURDAY, the 26th INST.—ROYAL ACADEMY of ARTS.—The Exhibition is now open in the day from Eight till Seven. Admission One Shilling. Catalogue One Shilling. In the Evening from Half-past Seven till Half-past Ten. Admission Sixpence. Catalogue Sixpence.
JOHN PRESCOTT KNIGHT, R.A. Sec.

THE NEW SOCIETY of PAINTERS in WATER-COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society is NOW OPEN, at their Gallery, 53, Pall-mall, near St. James's Palace. Admission, 1*s.*; Catalogue, 6*d.* Season Ticket, 5*s.*
JAMES FAHEY, Secretary.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for ADDITIONS to OFFICERS' QUARTERS, at Hounslow Barracks, in the county of Middlesex.

Persons desiring to Tender for this work must leave their names at the Office, between the 18th and the 23rd JULY, 1862, both days inclusive, and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District, 11, James-street, Buckingham Gate, S.W. July 9, 1862.

TO BUILDERS.—BAPTIST CHAPEL, Stow Hill, Newport, Mon.—Persons desirous of TENDERING for the ERECTION of the above CHAPEL, are desiring to be altered drawings and specification, may obtain particulars, with copy of quantities, on application to Messrs. WM. G HABERSHON & PITE, 31, Bloomsbury-square, London, Park-square, Newport, and Belvedere, Tredegarvills, Cardiff. Tenders will be opened at Newport on FRIDAY, JULY 25th, at ELEVEN o'clock precisely. The lowest or any Tender will not necessarily be accepted.

BUILDERS desirous of TENDERING for the ERECTION of a SMALL HOUSE at Orpington, St. Mary's Cray, Kent. Can apply to Mr. JAMES G. STAPELTON, Jun. 62, Cannon street. The lowest or any Tender not necessarily accepted.

NORTH-EASTERN RAILWAY. — To CONTRACTORS.—The Directors are prepared to receive TENDERS for CONSTRUCTING a DEVIATION LINE of RAILWAY at Guisborough, in the Whitby and Redcar branch, about 1¼ mile long, commencing a little to the north-east of the fiftieth mile-post and terminating about the 48¾ mile-post from York. Plans, sections, and specification may be seen on and after the 21st JULY next, at the Engineer's Office, Central Station, Newcastle-on-Tyne, where printed forms of Tender, specification, and quantities may also be obtained. Sealed Tenders, addressed to the Secretary, marked "Tender for Guisborough Deviation Line," must be delivered at York, not later than TWELVE o'clock at noon, on THURSDAY, the 7th AUGUST next; and the Directors will meet at York on the following day to open the Tenders. Ample security will be required from the contractor whose Tender is accepted. The Directors do not bind themselves to accept the lowest or any Tender.

York, June 14, 1862. J. CLEGHORN, Secretary.

NORTH-EASTERN RAILWAY. — To CONTRACTORS.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of the WORKS on the North Yorkshire and Cleveland Extension Line from Castleton to Grosmont, in length about 10½ miles, commencing at Castleton Station, and terminating near Grosmont Station, on the Whitby and Pickering Branch. Plans, sections, and specification may be seen on and after the 21st JULY next, at the Engineer's Office, Central Station, Newcastle-on-Tyne, where printed forms of Tender, specification, and quantities may also be obtained. Sealed Tenders, addressed to the Secretary, marked "Tender for Castleton and Grosmont Line," must be delivered at York, not later than TWELVE o'clock at noon, on THURSDAY, the 7th AUGUST next; and the Directors will meet at York on the following day to open the Tenders. Ample security will be required from the contractor whose Tender may be accepted. The Directors do not bind themselves to accept the lowest or any Tender.

York, 16th June, 1862. J. CLEGHORN, Secretary.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a PARSONAGE-HOUSE and OFFICES, at Bengeworth, near Evesham, may see the plans and specification, on and after the 19th instant, by application to the Rev. S. MARSDEN, at Bengeworth. Tenders to be sent to the Office of the Architect, EVAN CHRISTIAN, 85, Whitehall-place, London, S.W. on or before MONDAY, AUGUST 4. Mr MARSDEN does not bind himself to accept the lowest Tender.

ST. MARYLEBONE, July 12th, 1862.—TO BUILDERS, SEWER CONTRACTORS, &c.—Notice is hereby given that the Vestrymen of the parish of St. Marylebone, in the County of Middlesex, will meet in the Board Room of the Court House of the said parish, on SATURDAY, the 26th day of JULY inst. at ELEVEN o'clock in the forenoon, to receive Tenders from persons willing to CONTRACT for the building of NEW BRICK AND PIPE SEWERS, New Inverts, Repairs to Sewers, &c., in parts of High-street, St. Marylebone, Paddington-street, Northumberland-street, Nottingham-street, Nottingham place, Great Weadon-street, and South Mews, all in the said parish of St. Marylebone. Further particulars may be known, and drawings and specifications seen on application to the Vestry's Surveyor, Mr. ROBERT SCACE, at his daily attendance at the Court House, from TWELVE till ONE o'clock. The Tenders to be delivered to the Vestry Clerk, at the Court House, at or before ELEVEN o'clock in the forenoon of SATURDAY, the said 26th day of JULY, sealed and endorsed "Tender for Sewers," and no Tender will be received after that hour. The contractor to find satisfactory securities for the performance of the works, and to pay the expenses of the bond and contract. The Vestry will expect the parties tendering or their friends to be present at the opening of the Tenders, and the Vestry do not bind themselves to accept the lowest or any of the Tenders. By order,

W. C. GREENWELL, Vestry Clerk

CONTRACTS.

RESTORATION of KILTON CHURCH, Somerset.—To BUILDERS and OTHERS.—Persons desirous of CONTRACTING for the above WORKS, can inspect the plans and specifications thereof on personal application to the Rev. S. SHEDDEN, Vicarage, Kilton, Bridgwater, Somerset, to whom Tenders, in writing, are to be delivered on or before the 25th of JULY, 1862.—For particulars, apply to the Architect, JOHN NORTON, Esq. 24, Old Bond street, W.

TO BUILDERS.—Persons willing to CONTRACT for the ERECTION of a new SCHOOL-ROOM, with master's house and two cottages adjoining, and also for sundry alterations and repairs in the present school-house, at Burnham, Essex, may inspect the proposed contract with the plans and specification, at the Office of Mr. WEBB, Architect, Guy Harlings, Chelmsford, any day after the 23rd JULY instant. The lowest or any Tender will not necessarily be accepted.—Sealed Tenders, endorsed "Tender for the Burnham National Schools," to be sent to the Office of Mr. J. W. WILSON, Solicitor, Chelmsford, on or before WEDNESDAY, the 6th AUGUST next.—Chelmsford, July 7, 1862.

BUILDERS willing to TENDER for BUILDING TWO HOUSES at Edmonton can inspect the drawings and specification at the Office of the Architect, who reserves the right on behalf of the Trustees or of rejecting the lowest or any Tender. Tenders are to be delivered, free of expense, on or before THURSDAY, JULY 24th. HENRY M'CALLA, C.E. Architect.
Office, 23, Westbourne-place, Eaton-square.

BUILDERS willing to TENDER for PULLING DOWN and REBUILDING No. 3, Little Queen-street, Westminster, can inspect the drawings, conditions, and specification at the Office of the Architect. Tenders are to be sent in on or before SATURDAY, JULY 26th. The lowest or any Tender not necessarily accepted. HENRY M'CALLA, C.E. Architect.
Office, 23, Westbourne-place, Eaton-square.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.—ARUNDEL and LITTLEHAMPTON BRANCHES.—The BUILDERS and CONTRACTORS employed by the Directors of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the ERECTION of the STATIONS, BOOKING-OFFICES, WAREHOUSES, ENGINE SHEDS, CLERKS' HOUSES, COTTAGES, and other BUILDINGS required at the following places upon the above branch railways, now in course of construction, viz.:—Littlehampton, Arundel, Warnham-cap, and Hailsham, all in the county of Sussex. Drawings and specifications will be for inspection at the Office of the Engineer, Mr. JACOMB HOOD, No. 7, Parliament-street, Westminster, S.W., on and after MONDAY, the 14th inst. and Tenders, upon the prescribed form only, must be delivered to the undersigned, at the London Bridge Terminus, not later than TWELVE at noon, on MONDAY, the 28th of AUGUST next.

FREDERICK SLIGHT, Secretary.

N.B. The Directors will not be bound to accept the lowest or any Tender

London Bridge Terminus, 9th July, 1862.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a WESLEYAN CHAPEL, Kingston, Surrey, can inspect the plans and specification at the Office of the Architect, W. W. POCOCK, 35, Craven-street, Strand. The Tenders are to be delivered at the Wesleyan School, Croydon, on FRIDAY, the 25th inst. at SIX o'clock in the evening. The Committee do not bind themselves to accept the lowest or any Tender.

NEW TOWN HALL, PRESTON.—To BUILDERS.—Any Builders wishing to TENDER for the above Estimate, work are requested to forward the same to ROBERT ASCROFT, Town Clerk, Preston; or to the Architect, Mr. G. G. SCOTT, 20, Spring-gardens, London, before the 29th inst. They will then be apprised of the probable decision of the Town Council do not pledge themselves to accept the lowest or any Tender.

July 16th, 1862. ROBERT ASCROFT, Town Clerk.

BOROUGH of BIRMINGHAM. — To BUILDERS and CONTRACTORS.—Persons who intend to COMPETE for the ERECTION and COMPLETION of a FREE LIBRARY, NEWS ROOM, and GALLERY of ART, for the Corporation of Birmingham, in accordance with designs prepared by Mr Martin, architect, may inspect the particulars and conditions on application at the office of the said Architect, Christ Church buildings, Birmingham, between the 21st JULY instant and the 4th day of AUGUST next. By order,

THOMAS STANDBRIDGE, Town Clerk.

Temple-street, July 7, 1862.

TO STONE-MERCHANTS.—PARISH of St. GILES'S, CAMBERWELL.—The General Purposes Committee will meet on MONDAY, the 28th JULY instant, at half-past SIX o'clock precisely, to receive TENDERS from persons willing to CONTRACT with the Vestry for the SUPPLY and LAYING DOWN of KERBING to the extent of about 18,000 feet of Purbeck, and 1,500 feet of Aberdeen granite, and 1,000 feet of York edging; such Kerbing to be executed as the Vestry may require, but not to be commenced before the 1st day of October next.—Further particulars to be obtained on application to Mr. J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Wells street, Camberwell, between the hours of ELEVEN and THREE o'clock, on and after the 24th instant. Sealed Tenders, signed by the Tenderer, must be in attendance when the Tenders are opened, and the Vestry do not bind themselves to accept the lowest or any Tender. GEO. WM. MARSDEN, Vestry Clerk.

TO PAINTERS, PAPERHANGERS, &c. TENDERS are required for the above work to five houses. Apply at the Office, Oakley street, Kings-road, Chelsea. Tenders to be sent in not later than MONDAY. The lowest or any Tender will not necessarily be accepted.

[*For remainder of Contracts see next Page.*

CONTRACTS.

EXTENSION of TIME.—To BUILDERS. TENDERS are required for the RESTORATION of the FABRIC and the REFITTING of ST. CUTHBERT'S CHURCH, DARLINGTON. Plans and specifications may be seen in the Vestry on and after WEDNESDAY, JULY 9th, 1862. The same to be delivered on or before the 30th JULY, 1862, addressed to H. WILSON, Esq. Bondgate, Darlington, and read "Tenders for Works at Church." Any further information may be obtained by application to the Architect, G. G. SCOTT, Esq., Spring-gardens, London. The Commissioners will not bind themselves to accept the lowest or any Tender; and the contractor will be required to give satisfactory sureties for the full amount for the due performance of the work.

Darlington, 19th July, 1862.

OLD-ESTABLISHED BUILDER'S BUSINESS TO BE LET, with immediate possession, situate at Alton, Hants, the terminus of the Guildford branch of the South-Western Railway, and distant from London by road 46 miles, and to be taken. The premises consist of large and commodious house, roomy workshops, sheds, wood yard, timber pit, &c. This presents a good opportunity for any person wishing to engage in the building business.—Particulars of Messrs. CLEMENT, Solicitors, Alton; or of Mr. E. HELLIS, Wye side, Alton, Hants.

OLD-ESTABLISHED CABINET and UPHOLSTERY BUSINESS TO BE DISPOSED OF.—The Trustees of the late Mr. JAMES MORISON, Cabinet-maker and Upholsterer, 78, George street, Edinburgh, are prepared to receive OFFERS for the STOCK and GOODWILL of the BUSINESS carried on by him. The stock consists (inter alia) of upholstery goods of the first quality, besides a stock of wood, and every other material suitable for carrying on an extensive trade. The business has been established for thirty-six years, and is well known as having one of the largest and most select connexions in Scotland, and therefore offers a rare opportunity for a profitable investment.

Also to be disposed of, the LEASEHOLD PREMISES occupied by the deceased; together with the workshops and woodyard, North Back of the Canongate. Offers to be lodged on or before 11th AUGUST next, with Messrs. DUNN & THOMSON, S.S.C. 7, Hill-street, Edinburgh, by whom all further information will be supplied.

Edinburgh, July 15, 1862.

HOUSE DECORATOR'S BUSINESS in the CITY; the GOOD WILL TO BE DISPOSED OF. A capital opportunity offered, as the proprietor is merely giving up in consequence of ill health. The income derived from it is a superior one, as the connexion is of a very good character, and the business established. Every satisfactory information will be given, and the books, if required, are subject to inspection of the past.—For further particulars apply to Messrs. HAMMOND & KIRKLAND, Auctioneers and Estate Agents (they can themselves speak as to the nature of the business), 5, Carey-street, Lincoln's-inn.

TURRET CLOCK FOR SALE, suitable for a church; capable of striking upon a bell of 18 cwt.; in excellent repair, and to be sold cheap.—Apply to J. FAIRER, 188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design that obtained for him the Council's Award for Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	13 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	20 "
Marine Chronometers	35 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (opposing Coutts's Bank), 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas: adapted for the village church and



INTERNATIONAL EXHIBITION.

A sample of the Forty Guinea Village Turret Clock may be seen in action and strike, with dial and bell complete. Also a sample Turret Clock, from fifteen to Twenty Guineas, suitable for school or stable, in Class 19, No. 3288.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET,
LONDON, W.

CHUBB'S LOCKS, with all the recent Improvements, STRONG FIRE-PROOF SAFES, CASH and DEED BOXES. Complete Lists of Sizes and Prices may be had on Application.

CHUBB and SON,
57, ST. PAUL'S CHURCH-YARD, LONDON,
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Wolverhampton.

TO RAILWAY and other CONTRACTORS.—TO BE SOLD cheap, about 140 TONS CONTRACTORS' METALS, 84 EARTH WAGGONS, with SLEEPERS and NAILS, lying alongside for shipping at Milford Haven.—Apply to LUCAS BROTHERS, Leicester, London.

TO BE SOLD, a Bargain, a first-rate WROUGHT IRON FRAME, with Four Fire-proof Folding Doors, 6 ft. 8 in. by 3 ft. 6 in. fitted with Chubb locks, shelves, stays, &c.—Apply to B. PITT, 16, Lower Belgrave-place, Pimlico, S.W.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of
FIRST-CLASS WOOD-CUTTING MACHINERY,
being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

IMPORTANT TO ARCHITECTS, ENGINEERS, AND BUILDERS.
DEVAUX'S VIEILLE MONTAGNE
THICK ROOFING ZINC.
This invaluable metal, if laid by Mr. TYLER on the new principle introduced by J. EDMISTON, Esq., F.I.B.A. will last as long as lead, at one-fifth the cost.
For Prospectuses, Samples, Models, and Estimates of Works to be executed in the Roofing Zinc, in large or small quantities, in Town or Country, apply to
Mr. J. W. TYLER, 4, WOOD-STREET, WESTMINSTER, S.W.
If the Metal is laid by Mr. TYLER, who has become so well known among Architects and Builders, superior and careful workmanship may be depended upon, and a guarantee given for its durability, if the woodwork is prepared according to directions given.

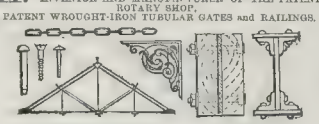
MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS OF ALL DESCRIPTIONS.
WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.
PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.
PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, BOILERS, RAILINGS, | STAIRCASES, MACHINE CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—17, Union-street, Borough; and 554, Great Guildford-street.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Iron work Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.
TRADE MARK.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

SKAIFE & COMPANY,
Manufacturers of
PATENT GALVANIZED IRON
Sheets, Corrugated and Plain; Fencing and Telegraph Wire; Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tipped Sheets and Tacks for export.
IRON WORK GALVANIZED.
Roofing orders promptly and carefully attended to.
Office—Commercial-road, Limehouse, London.
Works—Copenhagen Wharf, Limehouse.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with plates, Iron Bridges, Girders, and Railings; also Portable buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM, and 10, Gresham-street, London, E.C.

THE Directors of the Boston Gas Company have FOR SALE TWO very STRONG GASHOLDERS. Dimensions of each—diameter, 35 feet 6 inches; depth, 14 feet. They are worked by counter-balance weights, are in excellent working order, and may be inspected any day on the works. Working capacity, 12,000 feet each. The above are offered for sale in consequence of the Company having erected new ones, and they will be sold cheap.—For price and particulars apply to WM. STOUT, Manager.
Boston, Lincolnshire, July 4th, 1862.

DREDGING-MACHINE and BARGES WANTED.—Any person having a good DREDGING-MACHINE, with the necessary HOPPER BARGES, for DISPOSAL, may hear of a purchaser by applying, by letter only, stating fullest particulars as to capabilities, power, and lowest price, to X. Y. Z. care of Messrs. Waterlow & Sons, 24, Birchin-lane, Cornhill, London.

TRADE MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanised; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

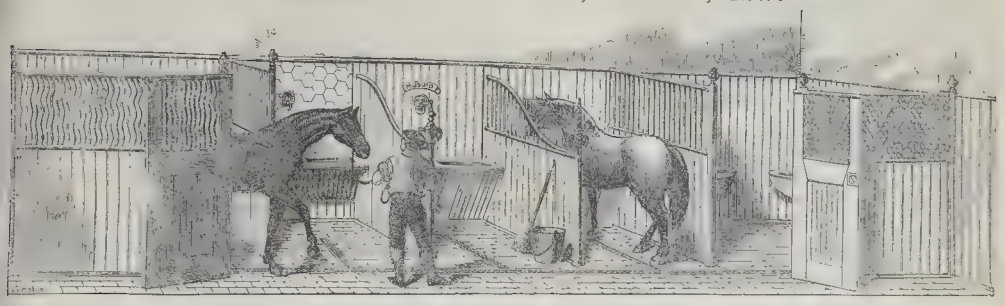
IRON BUILDINGS and IRON ROOFING.
SAMUEL C. HEMMING & CO.
21, MOORGATE STREET, E.C.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect incodibility; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.
Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr. ALEXANDER YOUNG, 144, Cannon-street, London, E.C.

TO RAILWAY COMPANIES. The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineers' Brass-founder, No. 9, Shoe-lane, Fleet-street; manufacturer of Steam Fittings, Diving Apparatus, Pumps, Cocks, &c.; Patent Anti-friction Metal, Gun Metal, Brass Castings, &c.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

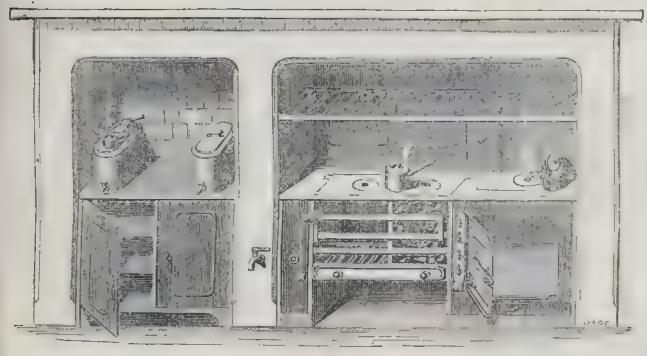
ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

Nos. 6 and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.

ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of



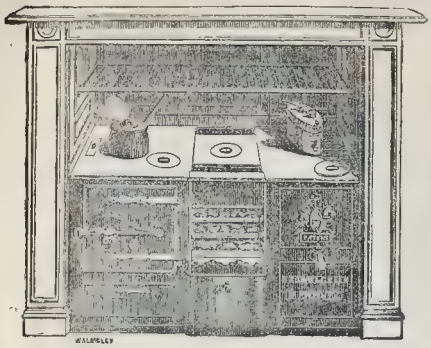
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



BROWN & GREEN'S PATENT KITCHEN RANGE,

PRICE, FROM 4*l.* 10*s.*

This Range produces first-class cookery, roasts well in front of fire, is a certain Cure for a Smoky Chimney. Saves Half the usual Fuel, Consumes the greater portion of the Smoke, Ventilates the Kitchen, and combines all the Advantages of Close and Open Ranges.

The larger sizes, with Two or more Ovens, Steaming Apparatus, Hot Closet, circulating Bath Boiler, and all other appliances, are perfectly adapted for Noblemen's and other large establishments. No charge is made for Designs and Estimates, and experienced workmen also are employed.

THE PATENT RANGE MAY BE SEEN IN ACTION AT THE LONDON WAREHOUSE.

THE PATENT VESTA REGISTER GRATE.

In this valuable, Smoke-curing Invention, the adoption of a concave, instead of a flat reflecting arch, above the fire, causes the chief heat,—viz. that reflected from the upper or concave surface,—to be projected parallel with the floor, instead of directly to the ceiling, as is done by the flat surface of the arch of the Stephen's Reflecting Grate; while the heat projected from the splay sides or cheeks of the Vesta Grate is dispersed in a fan-like direction, thus thoroughly warming the lower atmosphere and floor of the apartment. Also, by the introduction of a central door, which is intended to be kept shut when the fire has burnt up, the rush of air to the chimney is materially checked. This prevents the fire burning black on the top, and obviates any needless waste of heat.

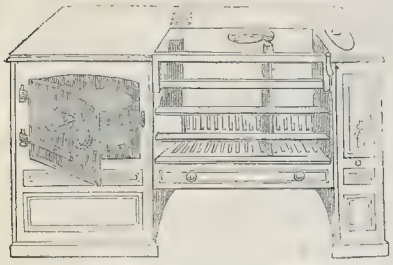
AN ASSORTMENT OF VICTORIA-RADIATING, AND OTHER REGISTERS.

IMPROVED SELF-ACTING MIDLAND COTTAGE RANGES, from 18*s.* 6*d.*

BROWN & GREEN'S LONDON WAREHOUSE,
81, BISHOPSGATE-STREET WITHIN, E.C.

F. THOMAS, AGENT.

ILLUSTRATED PROSPECTUSES POST FREE.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.

159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler.	
34 inches	54*s.*	30 inches	22*s.*
36 ,,	60*s.*	33 ,,	24*s.*
38 ,,	65*s.*	34 ,,	26*s.*
42 ,,	60*s.*	36 ,,	28*s.*

Register Stoves, with Strong Bars, from per inch, 4*d*

Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4*d.* per inch.

Best ditto, with Fire-brick Back, from per inch, 5*d.*

Bright Stoves, with Two Fires, 80*s.* to 100*s.* each.

Best Cut Clasp and Rose Nails.

1-inch.	¾-inch.	2 inch.	2½-inch.	3-inch.
14*s.*	14*s.*	13*s.*	12*s.*	11*s.* 6*d.* per cwt.

Best sheet Cut Floor Brads, 11*s.* per cwt.

Best Cut Lath Nails, 11*s* per cwt.

	2-in.	2½ in.	3-in.
Cast Rain-water Pipe....	8*d.*	10*d.*	1*s.* per yard.

Cast Gutters, 4-in. 7*d.* per yard.

	4-in.	4½-in.
O G Gutters, with Clips on....	10*d.*	1*s.* per yard.

	2	3	4	5	6
Patent Line..	3*s.* 6*d.*	4*s.*	5*s.*	7*s.*	9*s.* per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2*s.* 9*d.* each. Light Elliptic and Register Metal, 12*s.* 6*d.* per cwt.

Dr. Arnott's Ventilators, 4*s.* each.

Brick Moulds kept in stock. Any size made to order.

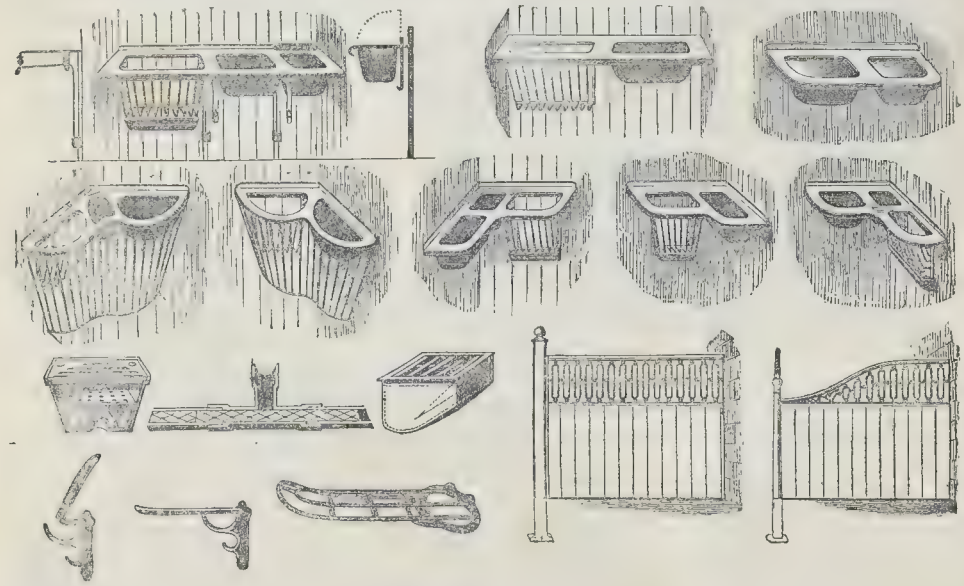
COTTAM & COMPY. 2, WINSLEY STREET, OXFORD STREET, LONDON W.

COTTAM'S PATENTED AND REGISTERED

STABLE AND HARNESS-ROOM FITTINGS.

ORIGINAL INVENTORS OF THE UNDER-FEEDING PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, AS ONE FIXTURE.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM arranged for inspection in full-sized Stalls, Loose Boxes, &c. a portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

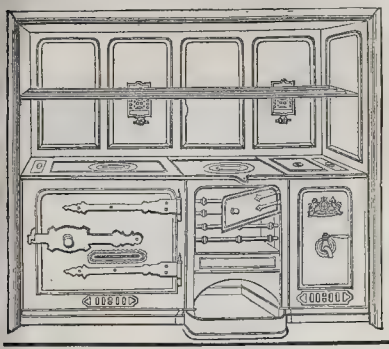
Knightley's Patent Stable Floor.

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to

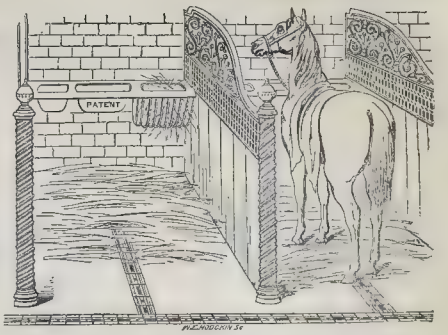
COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—Winsley Street is the Street opposite the Pantheon.

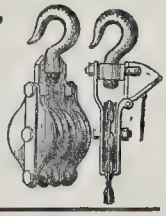


ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT.



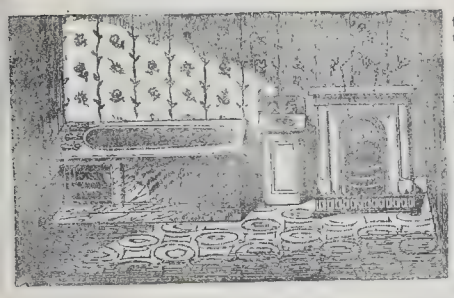
CASTINGS, ANY WEIGHT AND QUANTITY,
With the utmost despatch, at Country Prices.
HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS
OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS,
GIRDERS, &c.
CRABS, BLOCKS, JACKS,
MORTAR MILLS, &c.





GALVANIZED IRON AND ZINC WORKS.
GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.
VAVASSEUR AND CO.
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their
BATH APPARATUS,
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.
Illustrated Catalogues to be had of the Manufacturers,
J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON

MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.
By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

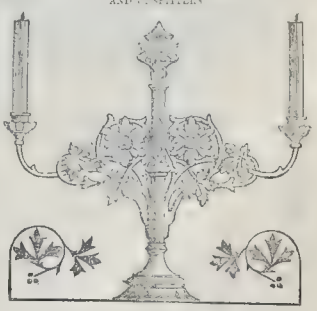
MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,
OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,
MOREWOOD & CO.,
BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

HART AND SON,
MEDIÆVAL METAL WORKERS,
IN SILVER, BRASS, & WROUGHT-IRON.



HALL LIGHTS, STANDARDS, PENDANTS, BRACKETS, GRATES, FENDERS, VANES, CROSSES, FINIALS, ALTAR AND TOMB RAILS, ALTAR PLATE, ALTAR CHAIRS, &c.
53 to 58, WYCH STREET, STRAND, W.C.
And 20, COCKSPUR STREET, PALL-MALL.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS
AND [illegible]



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

INTERNATIONAL EXHIBITION.
THIRTY-HORSE HIGH-PRESSURE CONDENSING HORIZONTAL ENGINE, Double Cylinder, driving flax machinery in the Western Annexe, FOR SALE, at the close of the Exhibition. She is sister to one erected this spring at Portslade Mill, near Brighton, for Mr. Smith, to whom reference is permitted as to her economy and other excellent qualities.—Apply at the Manufacturer's Stand, in Class 9, for information.

TO ARCHITECTS, BUILDERS, &c.
HEATING and VENTILATING LARGE PUBLIC BUILDINGS, HOTELS, MANSIONS, &c.—Your inspection of ZIMARA'S MODEL of Improved Patent STOVE and APPARATUS for these purposes, in the Gallery of the Russian Court, International Exhibition, is particularly requested.—A Descriptive Pamphlet and Drawings will be sent, on application to Messrs. TONGUE & BIRKBECK, Patent Agents and Engineers, 31, Southampton-buildings, Chancery-lane, W.C.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE CUT SCREW GEARING, 2s. 6D. PER FOOT AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61A, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

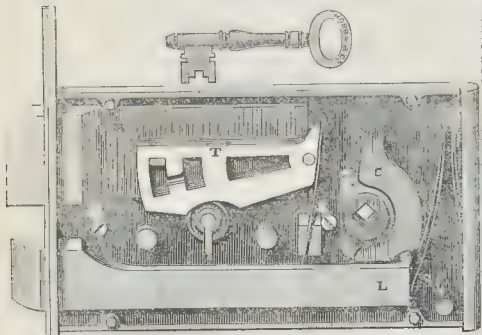
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

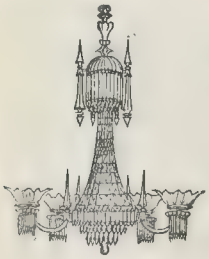
HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.



INTERNATIONAL EXHIBITION, Class 31 and 34.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

THE NEW CRYSTAL STAR AND SUN LIGHT.

J. DEFRIES & SONS,

ENGINEERS, GAS-FITTERS, AND MANUFACTURERS OF MEDIÆVAL and every Description of GAS-FITTINGS, CRYSTAL, BRASS, and ORMOLU CHANDELIERS, VESTIBULES, &c. &c.

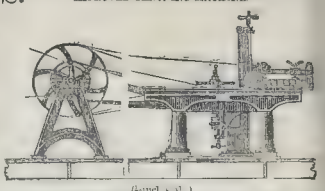
Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other public and private Buildings. HOT-WATER PIPES for heating Conservatories, Warehouses, &c. &c. supplied and fitted on the most Improved and Economical Principles. Public and Private Gas-Works Erected.

Works—London and Birmingham.

Principal Depôt and Show-rooms—147, *Houndsditch, City.*

S. WORSSAM & CO.'S PATENT

IMPROVED TENONING MACHINE.



(Gained a Prize Medal.)

This machine is adapted for working either hard or soft wood, and is fitted with an arrangement for cutting double tenons if required in two sizes, the smaller being adapted for builders' and other purposes, and the larger for railway carriage builders &c. For improved illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

THOMAS ROBINSON

and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles. Price 20*l*.



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, CANNON STREET, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

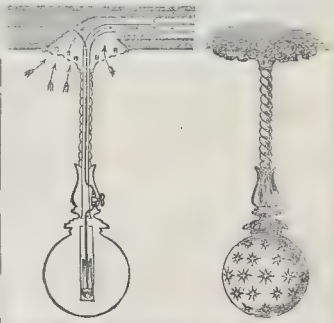
NAYLOR, VICKERS, & CO.

SHEFFIELD.

RICKETT'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

HAWKINS'S REGISTERED CHAIN.—

This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, barbouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, road-jacks, &c.; manufacturing into letter boxes, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

FURNESS'
PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

W. HARMER & SON,

BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.

WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.

WROUGHT IRON TUBE and FITTINGS for GAS or WATER.

CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.

W. HARMER & SON,

3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.

ESTABLISHED 1817.

PFEIL AND STEDALL,
IRON MERCHANTS AND WHOLESALE IRONMONGERS,

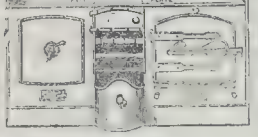
5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

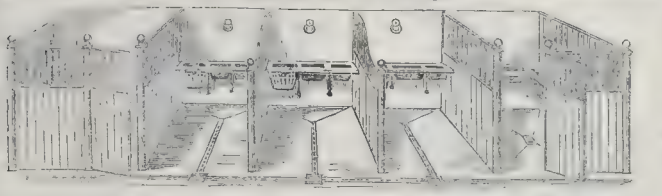
WHOLESALE AND MANUFACTURING IRONMONGERS.

38 and 65, York-street, Westminster.

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS,

These SUPERIOR-CLASSSTABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four postage stamps.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.



This Stove is the nearest approach to Warming by Hot Water, and an excellent Air Ventilator.

It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of Three-pence, and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity

Full particulars will be sent on application to the Inventors and Makers,

MUSGRAVE, BROTHERS,

Ann street Iron Works, Belfast.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 98, Charles-street, City-road, E.C. near the Canal Bridge.

E. GOLLOP, SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising Spring hinges, Noiseless Spring hinges, Double acting Spring hinges, Rising and Not-rising Door Back-springs, &c.

Price Lists and Drawings on application as above.

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW.

Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs

to call their attention to Bae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works T. W. Cowan manufactures all kinds of Steam Engines Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c &c.—KENT IRON WORKS, BRIDGE-STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

NOTICE TO BUILDERS AND CONTRACTORS.

HENDERSON'S PATENT DERRICK CRANES,

easy for Travel upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Crab Winches, all sizes. For further particulars apply to BOWSER & CAMERON, Springfield Iron-works, No. 1 Street, Glasgow.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of

1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare-market, London.

HUTHNANCE'S PATENT ECONOMIC LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS,

Is strongly recommended to public notice, as being the most efficient and economical arrangement for the purpose of drying linen, clothes, bedding, &c.; specially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c. &c.; as, in a sanitary point of view, it is invaluable, the DRYING-ROOM being raised by its use to a very high temperature, whilst the IRONING-ROOM is kept AGREEABLY COOL and WELL VENTILATED

The economy of fuel is extraordinary, as, in a small union, it caused a saving of seven tons of coals in four months, whilst for simplicity of arrangement and cleanliness in use it cannot be surpassed.

No BLACKS or SOOT can enter the drying-room.

This Arrangement has been carried out in numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS

Testimonials and illustrated particulars forwarded, upon application to Mr. PIERCE, SOLE PROPRIETOR and MANUFACTURER, 6, JERMYN STREET, REGENT STREET.

A large model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

LOSH, WILSON, & BELL, NEWCASTLE-ON-TYNE,

Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and

STEWART'S PATENT CAST-IRON GAS and WATER PIPES.

Office, No. 7, Size-lane, London.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 25, Davies street, Three doors from Oxford-street.

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-Hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman square, London, W.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.

These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public

N.B.—The usual discount to builders and the trade.

HEATING BY HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS

Buildings of every description, and of the most extensive dimensions, can be efficiently warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references in Churches, Dwelling houses, Warehouses, &c &c where they have fixed their Hot-water Apparatus.

Also to be seen in extensive operation at their Premises, Kings-road, Chelsea.

MOREWOOD & CO.

(late Morewood & Rogers),

Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the

OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr Arnott's Improved Ventilators.

HULETT & CO. 55, High Holborn.

PATENT ASPHALTE CALDRON,

for laying Asphalte Floors. The cheapest and best kind of floor, impervious to wet, and vermin will not touch it. Full particulars sent free, by

WOODS & COCKSEDGE,

IRONFOUNDERS, STOWMARKET.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every depart. nt of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive consequences of lightning, including the Houses of Parliament, magazines, telegraph stations, the War Department, and many other recognised important structures. Buildings surveyed, and plans and estimates supplied, if required for

J. W. GRAY & SON, 114, Fenchurch-street, E.C.

TELEGRAPHS.

REID BROTHERS, 12, Wharf road, City-road, near the Gutta-percha Works,

Telegraph Contractors to the following Telegraph Companies:—

THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.

Are now prepared to give estimates and execute contracts for firms and private companies, in town and country. Gentlemen's private houses fitted up with simple and efficient Telegraphs, on the most economical terms All communications addressed to the above will meet with immediate attention.

LIGHTNING CONDUCTORS.

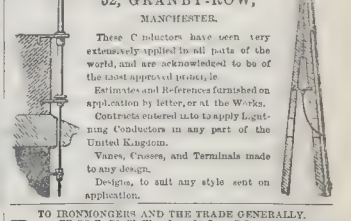
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete fixed, at the following prices:—

Three-eighths-inch diameter	1s. 6d. per foot.
Half-inch diameter	1s. 6d. "
Five eighths-inch diameter	2s. 0d. "

R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—126 Strand, London.
" Gateshead-on-Tyne
" 27, Dale-street, Manchester.
" 66, Anderston-quay, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY-ROW,

MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

TO IRONMONGERS AND THE TRADE GENERALLY.

HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c

A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s. —Nos. 55 and 56, High Holborn.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS.

Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.

PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

MARBLE AND STONE WORKS,

WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

MR. MURRAY'S HANDBOOKS for the CONTINENT, &c.

"Mr. MURRAY has succeeded in identifying his countrymen all the world over. Into every nook which an Englishman can penetrate, he carries his RED HANDBOOK. He trusts to his MURRAY, because it is thoroughly English and reliable."—*Times*.

HANDBOOK—TRAVEL TALK, in English, French, German, and Italian, adapted for Englishmen abroad, or Foreigners in England. 18mo, 3*s.* 6*d.*

HANDBOOK—NORTH GERMANY, Holland, Belgium, Prussia, and the Rhine to Switzerland. Map. Post 8vo. 10*s.*

HANDBOOK—SOUTH GERMANY, the Tyrol, Bavaria, Austria, Salzburg, Styria, Hungary, and the Danube from Ulm to the Black Sea. Map. Post 8vo. 10*s.*

HANDBOOK—PAINTING. The German, Flemish, and Dutch Schools. Illustrations. 2 vols. Post 8vo. 24*s.*

HANDBOOK—SWITZERLAND, the Alps of Savoy and Piedmont. Maps. Post 8vo. 9*s.*

HANDBOOK—FRANCE, Normandy, Brittany, the French Alps, Dauphiné, Provence, and the Pyrenees. Post 8vo. 10*s.*

HANDBOOK—PARIS AND ITS ENVIRONS. Map. Post 8vo.

HANDBOOK—SPAIN, Andalusia, Grenada, Madrid, &c. With a supplement, containing Inns and Railways, &c. 1861. Maps. 2 vols. Post 8vo. 30*s.*

HANDBOOK—PORTUGAL, Lisbon, &c. Map. Post 8vo. 9*s.*

HANDBOOK—NORTH ITALY, Piedmont, Nice, Lombardy, Venice, Parma, Modena, and Romagna. Maps. Post 8vo. 12

HANDBOOK—CENTRAL ITALY, Lucca, Tuscany, Florence, Umbria, the Marches, and the Patrimony of St. Peter. Map. Post 8vo. 10*s.*

HANDBOOK—ROME AND ITS ENVIRONS. Map. Post 8vo. 9*s.*

HANDBOOK—SOUTH ITALY, Two Sicilies, Naples, Pompeii, Herculaneum, Vesuvius, Abruzzi, &c. Map. Post 8vo. 10*s.*

HANDBOOK—PAINTING, the Italian Schools. Illustrations. 2 vols. Post 8vo. 30*s.*

HANDBOOK—EGYPT, the Nile, Alexandria, Cairo, Thebes, and the Overland Route to India. Map. Post 8vo. 15*s.*

HANDBOOK—GREECE, the Ionian Islands, Athens, Albania, Thessaly, and Macedonia. Maps. Post 8vo. 15*s.*

HANDBOOK—DENMARK, Norway, Sweden, and Iceland. Maps. Post 8vo. 15*s.*

HANDBOOK—RUSSIA, St. Petersburg, Moscow, Finland, &c. Maps. Post 8vo. 12*s.*

HANDBOOK—INDIA, Bombay and Madras. Map. 2 vols. Post 8vo. 24*s.*

HANDBOOK—HOLY LAND, Syria, Palestine, Sinai, Edom, and the Syrian Desert. Maps. 2 vols. Post 8vo. 24*s.*

JOHN MURRAY, Albemarle-street.

HANDBOOKS TO THE ART COLLECTIONS, SOUTH KENSINGTON.

The following Works may be had:—

I.

HANDBOOK to the ARTS of the MIDDLE AGES and RENAISSANCE, as applied to the decoration of Furniture, Arms, Jewels, &c. &c. Translated from the French of JULES LABARTE. Edited with Notes, and illustrated with 200 Woodcuts. Post 8vo. 18*s.*

II.

HISTORY of MEDIÆVAL and MODERN POTTERY. By JOSEPH MARRYAT. With coloured Plates and Woodcuts. Medium 8vo. 30*s.* 6*d.*

III.

ANTIQUE GEMS: their Origin, Uses, and Value, as Interpreters of Ancient History, and as Illustrative of Ancient Art. With Hints to Gem Collectors. By Rev. C. W. KING. With Plates and Illustrations. Medium. 2 vols 8vo. 42*s.*

IV.

TREASURES of ART in GREAT BRITAIN. Being an Account of the Chief Collections of Paintings, Sculptures, Illuminated MSS, Miniatures, &c. Obtained from Personal Inspection during several Visits to England, 1835—56. By Dr. WAAGEN, Director-General of the Berlin Gallery. 4 vols. 8vo. 54*s.*

JOHN MURRAY, Albemarle street.

This day is Published,

THE EDINBURGH REVIEW,

No. CCXXXV.

CONTENTS

I. THE EXPLORERS OF AUSTRALIA.
II. WELLINGTON'S SUPPLEMENTARY DESPATCHES.
III. SIR G. C. LEWIS' ASTRONOMY OF THE ANCIENTS.
IV. EARL STANHOPE'S LIFE OF PITT.
V. TROYON'S LACUSTRINE ABODES OF MAN.
VI. WEBER'S GLEANINGS IN GERMAN ARCHIVES.
VII. IRON: ITS USES AND MANUFACTURE.
VIII. REMAINS OF MRS. RICHARD TRENCH.
IX. DOLLINGER ON THE TEMPORAL POWER.

London: LONGMAN & CO. Edinburgh: A. & C. BLACK.

THE QUARTERLY REVIEW,

No. CCXXIII. is published THIS DAY.

CONTENTS

I. THE BRUNELS.
II. DEAN HOOK'S ARCHBISHOPS OF CANTERBURY.
III. SUSSEX.
IV. THE VOLUNTEERS AND NATIONAL DEFENCE.
V. MODERN POETRY—DRYDEN TO COWPER.
VI. INTERNATIONAL EXHIBITION.
VII. SANDWICH ISLANDS.
VIII. THE CHURCH AND BI-CENTENARY MOVEMENT.

JOHN MURRAY, Albemarle street.

ARCHITECTURAL PUBLICATION SOCIETY.

THE DICTIONARY of ARCHITECTURE.

Part I for 1861.—ILLUSTRATIONS will be delivered next week; and, to avoid delay, all subscriptions now outstanding (blue receipts) should be at once forwarded to

ARTHUR OATES, Hon. Secretary.

9, Conduit-street, Hanover-square, July 17, 1862.

POST-FREE, GRATIS. BRADLEY

THOMAS BATSFORD'S Catalogue of Books relating to Architecture, Civil and Mechanical Engineering, &c. &c. amongst which will be found Billings' "Antiquities of Scotland," 4 vols.; Brandon's "Analysis of Gothic Architecture," 2 vols.; Bowman & Crowther's "Churches of the Middle Ages," 2 vols.; Bree's "Railway Practice," 4 vols.; "Builder" (The), a complete set, 15 vols.; "Chambers' Civil Architecture," by Papworth, folio; Clarke's "Schools and School-houses;" Clutton's "Mediæval Architecture of France;" Collings' "Gothic Ornaments," 2 vols.; Cresy's "Encyclopædia of Civil Engineering;" Humber's "Iron Bridges;" "Kings of Bruges Metal Work," 2 vols.; Laxton's "Building Construction;" Nicholson's "Architectural Works;" Papin's (A. & W.) "Architectural Works;" Norman Shaw's "Continental Sketches;" Stuart & Revett's "Athens," 4 vols. folio; Trelgold's "Steam Engine," 4 vols. and other works. Vardon & Calder's "Architecture Civile et Domestique," 2 vols.; Viollet le Duc Dictionnaire, 5 vols. 52, High Holborn, London, W.C.

"THE BUILDER."—February and March, 1862, Numbers or Parts.

A few Copies of the above dates are required.—Apply to the Publisher, at the Office, 1, York-street, Covent-garden, W.C.

NEW WORK ON VENTILATION.

Now ready, with Seven Plates and Thirty-five Woodcuts, 8vo. 8*s* 6*d.* cloth (postage 6*d.*)

A TREATISE ON VENTILATION, Natural and Artificial.

By ROBERT RITCHIE, C.E. Associate of the Institution of Civil Engineers, London, author of "Railways: their Rise, Progress, and Construction," "The Farm, Engineering," &c.

London: LOCKWOOD & Co. 7, Stationers'-hall-court, E.C.

Just published, half sheet imperial, in stiff cover, price 10*s.* 6*d.*

SUGGESTIONS for the FORMATION of a NEW STYLE of ARCHITECTURE, specially adapted to CIVIC PURPOSES.

By T. MELLARD READE, Architect, Liverpool.

Containing Seven Plates and a Treatise on the Growth and Development of existing Styles, and an Inquiry into the Principles by which they have been evolved.

All on finest Plate Paper.

London: JOHN WEALE, 59, High Holborn.

This day, a third edition, Atlas of Plates, folio, with separate text 12mo. price together, 31*s.* 6*d.* (postage 3*s.*),

ON IRON SHIPBUILDING, with Practical Examples and Details, in 24 Plates; together with Descriptions, Explanations, and General Remarks.

By JOHN GRANTHAM, C.E. Consulting Engineer and Naval Architect.

LOCKWOOD & CO. 7, Stationers'-hall-court, E.C.

NEW WORK by WILLIAM TEMPLETON.—Now ready, 18mo. 2*s.* 6*d.* cloth (postage 2*d.*),

THE ENGINEER'S, MILLWRIGHT'S, and MACHINIST'S PRACTICAL ASSISTANT: a Collection of valuable Tables, Data, &c.

By WILLIAM TEMPLETON, Author of "The Operative Mechanic's Workshop Companion," &c.

LOCKWOOD & CO. 7, Stationers'-hall court, E.C.

Just published, price 21*s.* 2*s.*

MANUAL of HYDROLOGY.

By NATHANIEL BEARDMORE, Civil Engineer.

CONTAINS

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II. ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 26 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 66, London-wall. 1862.

POLYTECHNIC.—What I saw at the International Exhibition; or, Half-an-Hour's Advice to Intending Visitors, by Professor J. H. PEPPER, F.C.S. A. Inst. C.E.—New Lecture by J. H. Pepper, on Tuesday, Thursday, and Saturday, at half-past 12 and quarter-past 7, on "Some of the Chief Scientific Specialties of the International Exhibition."—Splendid series of Electrical Experiments with the Great Plate Machine, and Lecture by J. L. KING, Esq.—Remarkable Imitations of British Birds and Animals, by HERR SUSMAN. Re-engagement of George Buckland, Esq., for his Bulls. Musical Entertainments.—New Gorgeous Scenic Optical and Pneumatic Fountain Spectacle. Beautiful Dissolving Views, illustrating London in Ancient and Modern Times—Paris as it is.—The Holy Land. Concertina: the BROUSIL FAMILY. See weekly programme of 8 pages. Open from 11 to 5, and half-past 6 to 10. Admission 1*s*

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revolced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TO ARCHITECTS and SURVEYORS.—Best DRAWING PAPERS, mounted on Cloth, in reels of 12 yards, 27 inches wide, at 1*s.* 4*d.* per yard; 40 inches wide, at 2*s.* per yard; 52 inches wide, at 3*s.* per yard. TRACING PAPER, of all sizes, on reasonable terms. Also, a new MAP of the BRITISH ISLES, size 5 feet 6 inches by 5 feet, mounted on rollers and varnished, 1*l.* 10*s.* at J. COOPER'S, Map Mounter, 36, Fetter-lane, Holborn.

A new and most important invention, which has been for some months before the public, designated

HAY'S PATENT WATERPROOF GLUE and VARNISH, originally designed for the decks of ships. It is proved by various tests to be adapted to building purposes, and as such is commended to the attention of architects, builders, &c. From the positive and satisfactory character of the following testimonial it will be seen that for all cases of damp or wet, this composition promises to be extremely useful.

Testimonial of H. Hollingsworth, Esq. proprietor of the King's Rooms, Southsea, near Portsmouth, Hants.

"I have much pleasure in adding my testimony to the efficacy of the Patent Waterproof Glue, as a remedy for damp walls. One portion of my buildings was always damp; it stands close to the sea, is built over a tank; and, by the negligence of the builder, the mortar used in its construction was mixed with sea water—of course the walls were perpetually steaming; every remedy was tried in vain, till we had recourse to the Patent Glue, which, I am happy to say, proved a complete remedy. In every instance in application we were enabled to paper the walls, and, during the whole of the past humid spring, not a spot of damp has made its appearance.

"To Mr. G. Weeks, Manager of the Patent Glue Factory, Portsmouth, Hants."

C. H. T. BIKKER, 110, Bradford-street, and 162, Cheapside, Birmingham, ARTIST in ECCLESIASTICAL DECORATIONS, HOUSE and CHURCH DECORATOR. Wall painting, diapering, and gilding in the three styles of the twelfth, thirteenth, and fourteenth centuries. Every description of ecclesiastical writing, labelling, and Gothic decorations; also Egyptian, Roman, and Grecian decorations truthfully carried out in accordance with the several styles. Experienced artists sent to any part of the United Kingdom. Architects' designs carried out by experienced decorators, or drawings furnished if required. Specimens may be seen fully carried out at the above address.

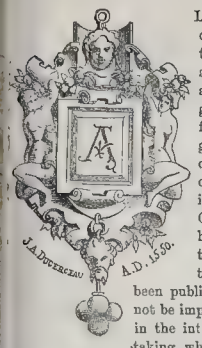
HANDRAILS, VENEERED and SOLID, manufactured by A. M. BUTCHER, 11, Crompton-street, Hall Park, Edgware-road, W. Late Mr. D. SCOTT.

BENJAMIN EDGINGTON, 2, DUKE-STREET, FOOT of LONDON-BRIDGE, S.E. Manufacturer of Tarpaulins, and Improved Dressed Clothes. Tarpaulins Let on Hire, Scaffold-cord, Rope, and Blocks of every description. Marquees, Tents, Awnings, Sack-cloths, &c. N.B. The ONLY ESTABLISHMENT and 2, DUKE STREET, LONDON-BRIDGE, S.E.

The Builder.

VOL. XX.—No. 1015.

Exhibition Award-Day. *Chat in the Building.*



ALL things went well on the award-day at the Palace of Art and Industry: the arrangements were good, the day was fine, and the programme was carried out. The number of persons assembled in the Horticultural Gardens and the building was unquestionably much larger than that which has been published; and it may not be impertinent to inquire, in the interest of the undertaking, what check the Commissioners have on the money returns? Theatres have been ruined before now by the money-takers. A fresh aspect was given to the nave by the erection of national trophies at intervals, whereat the awards were handed to the various representatives. In the construction of these trophies Signor Magni's admirable and beautiful statue of "The Reader," in the Italian, and Mr. Cropsey's fine picture, "Autumn on the Hudson" (why does this remain unsold, by the way?), in the American trophy, both suffered by position, though they increased materially the interest of the several groups. The change in the statue through bad light was especially great: where it was first placed it chained all beholders. It had the same effect, our readers will recollect, at the Exhibition in Florence. Numerous military bands lent their aid on the award-day, some of them, perhaps, as fine as any in the world; but no one of these created the same effect on the listeners, partly because of the novelty, as the band of the Egyptian Ruler: a wild, semi-barbaric march played by them excited strangely all who heard it. More than one accomplished musician, as we happen to know, sought to obtain the music, but were not successful.

The names of those exhibitors who have obtained medals and honourable mention, with "reasons for the award," have been published; but the reports of the juries have not yet appeared. These are being collated, and will be published under the supervision of the Society of Arts, next month. The juries, we may mention, were sixty-five in number, grouped so as to form thirty-six classes or head juries, corresponding to the thirty-six industrial classes under which the objects are arranged in the Exhibition. Each of these head juries, when subdivided into sections, acted as a united body for the confirmation of awards. Before, however, these awards were considered final, they were brought before and received the sanction of a council, consisting of the chairmen of the thirty-six head juries. In the first instance, her Majesty's Commissioners decided that only one description of medal should be awarded by the juries. As the work of the juries advanced, however, it was ascertained that many articles possessed excellence of a kind which deserved a special mention, without, however, entitling them to a medal; and, although it involved some departure from the principle that had been originally laid down, yet the council of chairmen acceded to the wish of the juries, and permitted such cases to be classed and published under the title of "honourable mention."

The jurors and their associates engaged in examining the objects of the Exhibition amounted to 612 persons, of whom 287 were foreigners, and 325 English. Their labours occupied two months, and they had to examine the objects displayed by at least 25,000 exhibitors. The number of medals voted by the juries amount to nearly 7,000, and the honourable mentions to about 5,300. The proportion of awards to exhibitors is greater than in the International Exhibition of 1851, but less than in that of 1855.

Although the same medal is given to all, something of the relative opinions of the jury may be deduced from the lists. On analyzing, for example, the awards of the jury on cabinet works in the present Exhibition, the great progress evinced by English makers since 1851 becomes apparent. In 1851, the principal prize was the Council medal of this class. France took four for cabinet-work, and England not one. In Paris, 1855, there were two principal prizes, viz., the gold medal, of which France took four and England one (Jackson & Graham); and the silver medal, of which France took fifteen and England one (Trollope & Sons). On the present occasion, as we have said, all the medals are of equal value; the special distinction is the reason given by the jury for their award; and we find that, for "*great excellence of design and workmanship*," medals are awarded to three French firms and three English firms, namely:—France—Barbédienne, Fourdinois (Père & Fils), and Grohé. England—Jackson & Graham, G. Trollope & Sons, and Wright & Mansfield.

This result in an industry for which France has been so long famous is most creditable to the English manufacturers: bearing in mind, too, that the jury included a majority of foreigners.

Postponing notices of other divisions, we will give the names of the successful exhibitors, of the United Kingdom, in one class,—that of Civil Engineering; Architectural and Building Contrivances; Sanitary Improvements; and objects shown for architectural beauty (Class 10), and of those in part of Class 34; but, before doing so, may carry on our gossip in the building a stage. Let us look at some of the photographs.

On a recent occasion we called attention to the valuable architectural photographs exhibited in the Roman Court. In the French and Austrian divisions there are others of a similar class, which should be sought out and carefully studied by every architectural student. In the Austrian department a series of photographs of ornamental detail, from the most celebrated Mediæval edifices of Venice, is worthy of attentive study. The crocket-work from St. Marc's is truly wonderful for its intricate elaboration, and very interesting on account of the remarkably distinct kind of treatment which it exhibits. Seen from the piazza, many of the sculptor's finer touches escape the eye. It may be said that these minute refinements in no way aid the general architectural effect; but, even if such should be the case, it is delightful to find how the enthusiastic industry of the Mediæval artist carried the finish of his work far beyond what was required for effect at a given distance; and it is, at the same time, very instructive to trace, in the photograph, a thousand little niceties of treatment never by any other means destined to be plainly seen by the ordinary spectator. It is not quite certain, after all, that this exquisite finish is entirely lost to the eye, even when the spectator contemplates the general effect of the building from the pavement of the piazza. There must be a kind of artistic bloom given to the work by this refinement of finish (when it is kept subservient to the main forms and to the general massive effects of light and shade) which, even at a great distance, does not entirely lose its charm, although the precise kind of charm produced is not to be specifically defined. It appears, however, highly probable that the delicate effects may not be entirely lost, when we consider that the material is white marble, and that the light is that of an Italian sky. But we have already dwelt so long upon the exquisite foliage-work of the crocketings of St. Mark's, that we have only space to say, in reference to the other photographs of the rich details of Venetian Gothic, that some of the decorative features of the Ducal Palace, when thus brought close to the eye by means of a large photograph, are perfectly marvellous in the intricacy and beauty of their detail. They have, moreover, a certain freshness about them which we have rather worn off similar features of English, French, or German Gothic by frequent imitations, which have been ever growing closer and more close.

Among the French photographs of ancient, Mediæval, and modern buildings, those by Mr. Charnay, of the extraordinary architectural remains of Central America, merit particular attention. We have hitherto only seen the details of those wonderful remains reproduced by means of drawings, which have been again filtered through the medium of lithography. In such representations the pencil of the original artist, and afterwards the chalk of the lithographer, necessarily impart more or less of a feeling akin to other styles of art with which they are better acquainted; thus taking from those ancient American remains that peculiar stamp and character which is so singularly interesting. These photographs, on the contrary, give us, untainted by any of the unavoidable mannerism of the artist's pencil, a number of curious details, the precise character of which we could not become acquainted with through the medium of any other process; except, indeed, by means of casts in plaster, which would be far too cumbrous a mode of proceeding. The style, when thus seen and studied, as in the presence of the buildings themselves, conveys the idea of an architecture in which something like the earliest Egyptian and the earliest Hindoo forms are curiously blended. The Egyptians had a tradition that they came originally from Central Asia. The first offshoot of the race may therefore have travelled west from their original seat and settled in Asia, where, like the Western Chinese, as they have been called, they maintained the style of art and general civilization which they brought with them, unchanged, for thirty or forty centuries. A second offshoot, at a later period, when their Asiatic forms of art may have attained a state more nearly approaching the forms of the most ancient examples of Hindoo, may, by a nearly opposite route, have reached America at the extreme north, and, travelling southward, in succeeding generations may have reached those central plains where such extraordinary remains of architectural art, upon a gigantic scale, are now found, and the style of which cannot be accounted for through the medium of any known forms of ancient American art, not even the Mexican. But it is not safe to indulge in such speculations pending the quarrel upon matters Egyptian between Sir Cornewall Lewis and the Egyptologists; that is "a very pretty quarrel as it stands," and "we should only spoil it by trying to explain it." And so, taking the wonderful ruins of Central American architecture as we find them, without endeavouring to assign to them either dates or history, we shall find sufficient to examine in the singularity of their general aspect and their elaborate details. In the first place, we learn from them that styles of architecture may exist (good or bad) entirely different from any style with which we are acquainted, just as this architecture of Yucatan is different. We may learn, also, if we did not know it before, that distinct styles are not invented, but that they grow—that is to say, that they develop themselves, step by step, from simple beginnings—the structures and their decorations becoming more complicated as architectural power, along with other national knowledge, is developed among the people.

Styles of architecture are like political institutions,—they must grow—they cannot be invented. All attempts, for instance, to imitate the British constitution in other countries have failed. With us it has grown on its native soil; and each country must grow its own constitution from the very

earliest germ, or it will not be permanent; it will be without that deep root in the national feelings that is necessary to its security.

We must look upon the remains of the architecture of Central America as specimens of a style of art produced by several centuries of gradual development from some peculiar germ that gave to it a special vital principle which spread into higher and higher forms, without losing the impress given to it by the original germ; just as in the highest form of the Doric temple we plainly trace all the original features of the wood hut.

Among the most remarkable examples of the Central American style of art presented to us in this series of photographs is that of the building called "The Governor's House," in Yucatan. An ingenious ornament, analogous to that of the Egyptian and Greek "key pattern," is most conspicuous in the decoration of this building; but it is enriched and made far more intricate by devices which belong entirely to a distinct style.

In the Palace of Mitla are a series of geometric ornaments, of most ingenious construction and pleasing effect, which fill, after a peculiar fashion, a succession of panels. These ornaments, and the mode of their application, are full of workable suggestions of some value.

In the principal building at Uxmal, the most striking feature is the rounding of the angles of all the main walls, the rounded portion being most elaborately enriched. This is a feature which might be worked out in any style of architecture (in which the building was a detached one) with an effect full of novelty, and, if well treated, with great beauty at the same time. There are also other curious and original features in the building at Uxmal.

Another fine photograph gives us an elaborate doorway from Chichen, in the same district, which, in its main features and much of its marvellously intricate detail, is more truly architectural than many admired monuments of Early Indian architecture that might be cited. In short, though to a great extent this architecture of tropical America exhibits no scientific principles of structure, and betrays a want of continuous development in the design of its connected portions, it is yet well worthy of careful study; and the fine set of photographs exhibited by Mr. Charnay affords a good opportunity.

A French photograph, on a large scale, of the principal doorway of the Romanesque Church of St. Trophime, at Arles, is a very valuable contribution to our records of the art of that period. The design and execution are at once grand, rich, and simple. The proper union of sculpture with architecture appears to have been better understood at that, so called, period of decadence, than at any other. Even the defects of the figure sculpture (as compared with the higher kinds of Greek and Roman art) arise mainly, not so much from an utter decline of artistic skill as has been generally supposed, but from an effort to return to a crude imitation of nature, the pre-existing systems of idealization being worn out, as all conventional systems must eventually be, to give rise to other systems equally conventional, after a new start from a mere literal copying of nature has given a new direction to the artistic feeling of a new age, which had no longer any intimate sympathies with the traditional forms of art of a preceding period. It is thus that our pre-Raffaellites, in the midst of the crudest and most unthoughtfully literal transcripts of unselected nature, are by their indomitable energy preparing a new phase of art which will eventually lead to a new kind of idealization; for to suppose that mere literal copying of ordinary nature can become a permanent state of art appears simply absurd, otherwise the photographic camera would do the artist-work of the age far better than the paint-brush or the chisel.

Mr. Baldus exhibits some well-known but truly noble photographs of the recent additions to the Louvre and the Tuileries. The style of art developed by the French in carrying out, in new forms, the sentiment of art inaugurated in these fine monuments of the Renaissance period, has already produced its effect even in England; for in the competitive designs for a palatial group of buildings to replace the Government-offices in Downing-street, and afford a fitting location for the Foreign-office, we had rather too much of the Louvre style. It is, however, quite in its place, and truly national, in France; and tends to show how, by *advancing* upon established national styles instead of slavishly reproducing them, a fine, national, and progressive style of architecture may be produced.

Mr. Edouard exhibits a photograph of the new Russian chapel in Paris, consecrated in 1861. The singular admixture of Byzantine features with a structure that might pass otherwise for French or English Gothic of the thirteenth or fourteenth century, is very suggestive; and in this photograph, which is on a very large scale, these peculiarities may be studied in the greatest detail.

Some Egyptian photographs of great size give a far more accurate idea of the Nilean architecture than can possibly be obtained from the most skilful drawings. Features that in drawing often appear grotesque are simply grand in this more accurate method of representation.

There is also a series of photographs of some of the most remarkable of the architectural dressings and incorporated statuary of the celebrated fountains in the Park of Versailles. These compositions, thus presented in a condensed form that the eye of the student can command at a critical glance, display a variety of merits of detail which are apt to pass unnoticed at the time of the grand displays of this noble series of fountain-work, but which, nevertheless, greatly add to the success of those celebrated exhibitions of combined hydraulic and architectural genius.

Three new specimens of Italian mosaic have been added to the international display of that branch of art during the last fortnight. They are exhibited by Mr. Antonio Salviati, of Venice, who, it is said, is now in charge of the repairs and restorations at present in progress of the ancient mosaics of St. Mark's. The first specimen is of an early Byzantine character, being the figure of a saint on a gold ground, of course accurately reproduced from one of a series in the ancient church of Monreale, near Palermo. The second is a copy of a fine head of St. Nicholas, the original of which forms part of the magnificent mosaic decorations that clothe a large portion of the interior of St. Sophia at Constantinople. It is a very interesting specimen of late Greek art, and has, like many of the Byzantine illuminations in the manuscripts of the period, the name of the saint in Greek characters of a late style at the side of the head. It reads NIKOΛAOΣ. The third specimen is a half figure of Christ from St. Mark's at Venice, which is superior both in design and workmanship to either of the other specimens. It is in a style which would blend far better with our modern Gothic than the works of more Oriental character.

In the Roman Court there are several fine specimens of mosaic which were not named on a former occasion; among these are a fine view of St. Peter's, and a clever general view of Rome, neither of which are of a kind that could be used with effect in architectural design. There are, however, some small specimens, in a peculiar style, which are very suggestive of different uses to which that peculiar kind of work might be applied in the decorative features of interior architecture. The designs of the specimens in question are composed of branches of flowering plants, produced by a mosaic inlay, which is encrusted in plain black marble. They are very superior to the Florentine specimens of coloured marble inlay, the flowers in these specimens being represented by the mosaic process with all the accuracy and beauty of painting. In many kinds of architectural decoration, pilasters of black marble, or marble of any uniform colour, inlaid with mosaic flowers and foliage after this manner, would be exceedingly beautiful; and such an effect, as an architectural feature, has not hitherto been produced. The flowers executed by this process in the actual specimens are forget-me-not and jasmine, both being treated with great taste and delicacy. The display of mosaic work in the Roman Court is rendered all the more interesting by the exhibition of a large case containing a selection of the tesseræ of which mosaic work is composed: the gradations of shade, of every decided tone, being very numerous, and produced with unvarying accuracy. The tesseræ of the ancient mosaics are said to have been formed of stones naturally of the colour required; but on the modern revival of the art, coloured glass or earthenware was substituted, the gold tesseræ being gilt, and then protected with an additional glaze. The statements which a leading paper has indulged in upon this subject, led astray, perhaps, by the imperfect English of the Italian gentleman in charge of Mr. Salviati's stand, are not quite correct.

We may here mention that there are also in Mr. Salviati's display some tasteful vases, formed of a modern imitation of that kind of old Venetian glass-ware which, by an admixture of glasses of different colours, produced a marbled effect that is very pleasing. The reviver of this old style of glass-ware, Mr. Lorenzo Radi, has termed it "Agate chalcedony," which is a very pretty name. These glass vases are very gracefully mounted in silver filigree, and light gold or gilt work, of very delicate device; the form of the vases and the elegance of the mounting showing how the hand of taste may elevate into novelty and elegance the most ordinary materials. Mr. Hope is the purchaser of one of these elegant trifles, the price of which is extravagantly high.

The Awards will be found two pages on.

A FEW FACTS FOR THE WORKMAN WHO VISITS THE LOAN MUSEUM AT SOUTH KENSINGTON.*

OF late years, no subject has been more taken up by writers and lecturers upon art, than that of enamelling; and we have had all the distinctions between the *cloisonné*, the *champlevé*, the early and late *Limoges* most carefully pointed out; while examples in the various museums, both at home and abroad, are referred to as illustrations of these different varieties, which, by the way, have not even now got English names; but, some how or other, it cannot be denied that our enamels leave a very great deal to be desired, both in the matter of colour and in that of texture. If we go to the great Exhibition we shall see but one manufacturer who has perfectly succeeded even in one kind of enamelling, viz.,—Mr. Barbédienne, the well-known bronzefounder of Paris. All his enamels are good in texture, and very nearly all are good in colour; while it may be observed that they all come under the designation of what is called *champlevé, i.e.*, where parts of the metal are cut away, and afterwards filled in with enamel. They are also opaque, and in their gamut of colour bear more resemblance to the Chinese work than to that of Limoges.

In praising Mr. Barbédienne's work, I do not for a moment wish to assert that the productions of other manufacturers are all bad; on the contrary, nearly every exhibitor has some one or two good colours. Thus, Hardman has a very tolerable light blue; Keith, a good transparent red upon gold; Skidmore, a good transparent green; and Hart has also one or two fair colours; but by the the side of these are often to be seen enamels whose colours positively shock the eyes, so violent and bright are they. The real cause appears to be that the Mediæval revival found our silversmiths simply in the possession of enamels suitable for jewelry work: *i.e.*, where they were employed in small quantities, and in exposed situations, such as in rings. The consequence is, that they are exceedingly hard, so as to bear as much wear as possible; while the colour is almost a secondary question, as the brightest colours become innoxious when employed in small quantities.

What is really wanted is this, viz, for one of the great firms mentioned above to take the matter up seriously, beginning with proper analyses of the old work as a foundation, and continuing the experiments until they produce a good series of opaque and transparent enamels. Of course, the enterprise would cost some amount of money, and a still greater amount of time and patience; but the same thing has been done with regard to glass, by the Messrs. Powells, with the assistance of Mr. Winston; and we see what Mr. Barbédienne has produced in enamels. The great question is, as to whether it would pay commercially; but I believe that the last-named gentleman has not had any great reason to complain of the commissions received at the Exhibition.

The Loan Museum has this very great advantage,—of presenting to the workman a great number of examples of all kinds of enamels, which he is enabled to study, free of cost, until the end of the autumn. Nearly every phase of the art will be found represented, from the remotest periods down to the minatures of Petitot and Bordier. This is hardly the place to go into the history of the art; for that can be found in almost any one of the numerous archæological publications of the last ten or fifteen years; but my object is rather to point out one or two representative specimens which show clearly the manipulation and the gamut of colour.

Although not enamels; the student should by no means overlook Mr. Webb's collection of antique glass; for, a few years ago, it was by no means an uncommon belief that, though the ancients knew how to manufacture glass, yet that it was exceedingly scarce and little used. The discovery of sheets of plate-glass in several of the windows in the little town of Pompeii has, however, dispelled this delusion as to its rarity; while the

* See p. 491, *ante*.

contents of Mr. Webb's case show us that the ancients produced glass which quite rivalled the far-famed work, in later times, of Murano. It does not appear, however, that they did make the thin and thready patterns we so much admire in Venice glass; but they did manage to manufacture most wonderful glass of various colours combined together, and so beautiful is their blue glass, that Theophilus tells us it was broken up and employed as the colouring matter for other glass in his own time. The Gallo-Roman enamels also show us two or more colours used in juxtaposition, without any intervening fillet of metal; and it is still a question how this was effected. No less wonderful are the enamels on the Irish work, of which there is a whole case at South Kensington; the most noticeable object in it being the celebrated crozier belonging to the Duke of Devonshire, which is literally covered with damascening, nielli, and enamels. It has been supposed that these latter were fabricated by putting sundry small sticks of glass together in a pattern; then heating them, and drawing them out until they became much more slender. In this state the roll of glass was cut into slices, which were afterwards polished and fluxed into the metal settings made to receive them.

There are one or two very beautiful specimens of what may be considered as the next stage in the art, although it is by no means certain but what it may not have been the most ancient of all. This has been called the *cloisonné*; a name I am obliged to use as I am sorry to say that as yet there is no recognized English for it. Small strips of metal, generally gold, are bent into various curves, and then soldered on to the bottom of a little tray or box, thus forming sundry cells into which the enamels, generally transparent (but not always), are placed, and afterwards melted. The celebrated jewel of King Alfred, now in the Ashmolean Museum, is made in this manner; as is also the pectoral cross belonging to Mr. Hope in case 1 of the present collection; where also can be seen a reliquary in the form of a foot, which contains several pieces of this kind of enamelling; but perhaps the most curious specimen of all is the fourteenth-century cup belonging to Mrs. Saul, in a case near the entrance. Here the bottom of the little tray or box to which the strips of metal are soldered has been removed, so that it is possible to see quite through the enamel; and, as the trays are made in the form of windows, the effect is very good indeed: of course the enamels have been made separately, and fixed to the cup afterwards, as precious stones would be. It is a curious fact that, while all the western enamels of this kind are executed on gold, the Chinese specimens show that copper is quite capable of being employed for the same purpose.

The next sort of enamels are called *champlevé*, because the holes for the enamels are made in the thickness of the metal. It is often called Early Limoges, as that city appears to have been the principal seat of the manufacture; although it is now well known that there was another school somewhere on the Rhine; and, doubtless, in many other places as well. In the earlier specimens the figures are enamelled on a gilded ground: in the latter examples the ground is enamelled, and the figures engraved and gilded. In both we see several colours used in the same hole or cell, but then they partially run into one another, and are not strictly defined, as in the Gallo-Roman work. When the figure is in metal, it is to be observed that the real outline is always engraved within the edges of the metal, thus giving two outlines to each figure. This system, however, was not carried out in the later works executed by this process on a silver ground, as the Bruce horn and the Lynn cup; but here the enamels are transparent, and the ground has a pattern engraved on it, which serves the double purpose of ornamenting the enamel, and retaining it in its place. It would be impossible to describe all the examples of the Early Limoges work in case 1. Suffice it to say that they are many and beautiful; although in one basin, a violent blue and an objectionable green, in juxtaposition, are as bad as any modern work ever seen.

In all these examples the article has gone through the fire at least twice; for as the enamels melt, they also sink down and present a hollow surface. Thus Theophilus gives strict directions that the *cloisonné* enamels should be twice filled in and twice go through the fire. The Eastern nations, on the contrary, very often content themselves with only one firing; and it is for this reason, *inter alia*, that I suspect the horn belonging to Mr. P. Howard, of Corby Castle, to be Eastern work. The common tradition is, that it was once the property of one of the counts of Toulouse.

A girdle of fifteenth-century Italian workmanship, and belonging to Mr. Octavius Morgan, also exhibits the same peculiarity, although in this case there is not the least doubt of the nationality of the nielli.

At the present time, what we want is good *champlevé* enamels, viz, opaque ones on copper, like the Limoges work; and translucent ones on silver, like the Bruce horn and the Lynn cup. What are called the translucid enamels on relief are, I am afraid, very much beyond the men of the present day; indeed, it was always a difficult operation, and appears to have been employed chiefly by the French and Italians, particularly the latter. It may best be described as the art of covering figures or subjects executed in low relief on metal, with various coloured transparent enamels, but without any interposing strip of metal to keep them apart.* I am not aware that any modern artist has attempted to copy this kind of enamel, the mode of which is minutely described by Cellini. Such, however, has not been the case with the later Limoges enamels; for some two or three years ago the French tribunals were occupied with the trial of a gentleman who had sold a very large collection of works of this kind to one of the Rothschilds, but which, unfortunately turning out to be the result of modern ingenuity, had the effect of consigning the talented artist to the four walls of a prison, to say nothing of the restitution of the purchase-money. These later Limoges works have the surface of the metal covered with black enamel, upon which figures are drawn with white enamel, while the general effect was relieved by gilding. This kind of work has become exceedingly fashionable of late years, and, as a natural consequence, has commanded exceedingly large prices; and some idea may be formed of the value of the present collection when we see two large cases entirely filled with it; among which are conspicuous a series of historical portraits, belonging to Mr. Danby Seymour, the frames of which, however, are modern.

Works in niello are, if anything, much rarer than enamels. In the present day the art is principally confined to Russia; but it is now beginning to be executed in England. Mr. Skidmore has been particularly successful, and the niello executed by him is of a perfectly black colour. That, however, of Hardman & Co., is much too light and metallic-looking. The process of making and using the niello is described by Theophilus and Cellini. In the Loan Museum we have two specimens, one of the twelfth century, and the other of the fifteenth. The former is the celebrated portable altar belonging to Dr. Rock; and the other, parts of a book-cover, the property of the Duke of Hamilton.

Damascening is also another art not much practised at present, although there are some very satisfactory works in it, from Spain, in the International Exhibition. In the Loan Museum will be found a considerable quantity of the Mossul vases executed during the Middle Ages, and the more modern application of the art to armour, &c., during the Renaissance.

There is not very much ironwork, although Mr. P. Hardwick contributes some very good locks, hinges, &c., of German work. The iron chair presented to the Emperor Rodolph II. by the city of Augsburg is a marvel of workmanship. Space will not allow me to do more than simply mention the collection of bronzes, arms, watches, Mediæval embroidery, Faïence, Majolica, and China, to say nothing of the silversmith's work, principally of the last three centuries; but it is to be questioned whether the public will ever be able to see so many ivories of the Middle Ages brought together as those forming Mr. Webb's wonderful collection. This gentleman presents us with ivories of every time and every nation, from the consular diptych down to the devotional figures of the seventeenth century. It would, indeed, be most desirable that they should be purchased by Government, and added to those brought together by the care of Mr. Franks, in the British Museum. Looking at the current price, however, of similar things, such a consummation must be entirely out of the question; but there is one little triptych carved in wood, and to be sought for in a case adjacent to Mr. Webb's collection, which must possess a good deal of interest to all Englishmen; for there can be but little doubt that it is the work of a fellow-countryman; the details exactly agreeing with those found in Ely and Lincoln Cathedrals, and indeed in all England, in the middle of the fourteenth century.

To conclude, it certainly behoves every one who has any interest in the present revival of Mediæval art to take advantage of the present exhibition, and study it most carefully. This should more particularly be the case with our manufacturers, for perfection in only one object capable of being produced by machinery is sure to repay them, if that article is a good and popular one. In this respect they have a great advantage over the architect, who is not allowed to repeat his work, and who is therefore limited in his production of good things; for the more he takes, the less attention and thought can be bestowed upon each work. A manufacturer, on the contrary, repeating the same thing, rather improves the workmanship, and makes his fortune without any further trouble. It is therefore evident, that it is of the most vital interest to him to procure the best designs; and this is only to be done by seeing that his artists and his workpeople make the most of opportunities such as the present Loan Museum affords. The authorities of the South Kensington Museum have not hitherto been everywhere popular; but in the present instance they have certainly deserved well of their country; and, above all, let us not forget to thank those noblemen and gentlemen who have not only worked upon the committee, but in such an unselfish manner have deprived themselves of their most valued treasures to instruct their fellow-citizens.

W. BURGES.

* These translucid enamels upon relief are excessively rare. There are, however, some in case 1: among them a square plaque representing the Last Supper (Mr. Morland), and a Morse (Mr. Magniac), &c.

WHAT SHOULD BE THE SPIRIT OF MODERN WORK.

THERE seems at this moment to be one guiding principle amongst us, and that is to be "doing the grand;" to appear richer, greater, or more influential than we are. It is about the most sneaking, vulgar trait that ever existed: it is such mean, contemptible lying. How is it possible that men who love the pleasures of modern society can ever rise to be noble, honest, simple characters? The love of showing off is universal: the fear of offending society is the law of life. As to a man being guided by his own firm conviction of what is natural and right, there are only the few who have sufficient within themselves so to do. But the majority cannot do without the world: they are not men, but weak nondescripts; certainly not likely to be artists ever in a right sense. Now, the great fault of modern art is its vile conceit: it panders to the weakness of the age, rather than teach the world a sound moral lesson. The insipid modern Italian constructional polychrome, and the copyism of French early detail, are our latest vanities; full of prettiness, elegance, and finickiness. It is sinking architecture to our modern suburban villa life—horrid sham, from beginning to end. Our every-day life being in itself so miserably vain and conceited, it would be well for our architects to be as severe and rigid as possible; eschewing all prettiness and elegance, as things appertaining to the devil.

Rigid work is the best antidote to vanity; and no good art can ever come out of the desire to suit art to modern wickedness. Architecture must be the leader, not the follower, of the so-called modern civilization: and thus, with painting, Leys teaches us something of truth and severe life, but Hebert panders to our vanity. Modern majolica and glass are polished and finished to suit our would-be refinement, and lose all the life of the old work by their want of roughness.

The tendency to centralize shown in many administrative quarters is another foul conceit: the very idea of thinking you can make an artist by rule, and teach him design by laws, shows vulgarity. None so taught will produce one piece of work that shall possess even half the amount of life you may find in any common Japanese grotesque. The whole of the design from such is machine-like and absurd; regular instead of irregular; cold in colour. It is no use talking of it: it is as vulgar and commonplace as Romanesque art is noble and manly. The very soul of art is individuality: individuality is the true characteristic of an Englishman; and by that alone has the nation at large attained its great power,—I mean its fox-hunting, noble country gentleman, honesty, and power. All modern English and foreign art is full of Academyism: it tries to please modern vitiated taste; and does not, in the slightest, attempt to mend our pitiable condition. Any copying of a style is a form of centralization. It is no copying to build with a Pointed arch: a Pointed arch is the strongest form, and hence is adopted by honest men. To adopt French conventionalism is copying. Each man ought to conventionalize

for himself in his own individual manner. One is a law of nature, the other mere subsidiary ornament.

The Early English Gothic shows, in its various remains, great individuality and difference: they were then as little given to centralization as are the right-minded now; whereas the French were always fond of following one central system. So heavy and dull are the majority of architects, that, in order to give a little decoration to suit modern finery, they adapt, as they call it, Italian polychrome, and stick a few coloured bricks round a window. This Modern Italian Gothic is certainly the most sickly thing I have had the misfortune in my life to look at. It is the carrying out, to its full extent, of that wonderful and enlightened remark of the nineteenth century architect, that he must suit his work to the advanced civilized state of modern society. I picture to myself the conceited ape, nay, absolute fool—no, both,—who can talk of modern advancement in an age that has fallen to such a bathos of ignominy as to get its carpets made by machinery. I cannot express my contempt for an age that must needs invent a steam-engine to do men's work; and to what a state of imbecility is the man reduced that has to set this thing a-going! And what have you done with your engines and your machines? Have you produced even one good piece of work? Have you one piece of grotesque you can show me with pride? Are your men any happier or nearer heaven? All the good work that is done—and it is precious little—is by men who are farthest removed from the spirit of steam-engines.

For Heaven's sake, let us try and mend our ways: let there be but one law for all things,—truth and nature: let us have heart and eye work, not rule and tape work: let us set at defiance modern elegance, and show to the world what rigid severity and honesty of purpose are: let us have no more pandering in coloured bricks to Dame Vanity; but let us crush fashion and sensuality by this same "rigid severity" of work. And, before I close, I must bring this same principle to bear on the sister art, Music. We must crush the modern triviality and elegance of Verdi and the Italian school, and learn to appreciate the beauties of Beethoven's third period, the D Mass, the ninth Symphony, its descriptive character; that is, his desire to aid with music the carrying out of the sentiment, either understood or contained in the words; and, above all, we must learn to love the works of Wagner—his musical poems: he is the Leys or Rossetti of music: his orchestration aiding the poem to express the hidden feeling we must understand; for that is the true and natural purpose of music, its true moral end; very different to the tickling sensuality of modern airs. Modern Italian music is like a piece of architecture full of mouldings and chamfers,—that is, full of triviality. It is only written to show off singers: the orchestra is but a large guitar, with an Italian composer; but with Beethoven in his third period, or with Wagner, it assumes its natural place,—that of expressing the sentiment of the words which the singers declaim. Old English airs and madrigals, and Palestrina's Italian school, are also very natural and simple. The latter have great expression of harmony. And, thus far, all our modern work should be rigid, severe, crude, to oppose the vanity and fluery of our age. To refer to what I call rigid work, I call the roughest Norman and Early French rigid: of works modern, I call the shops in Worship-street, Shoreditch, rigid: there is no attempt at cold, measured form: they are quaint, and have life in their form. The Gloucester Fountain, some years ago published in the *Builder*, was rigid. Modern textile fabrics and carpets are thorough specimens of machine-like evenness of colour, and they have no life. In Indian carpets you never find two feet of carpet alike in tone of colour. They do not study evenness of colour: they will work with three or four different tones of one colour; and their colour has life, because it is not exact.

A. W.

CONVERSAZIONE, POLYTECHNIC INSTITUTION.—On Wednesday last, the directors received and entertained a large number of visitors, including many foreigners now in London. Some electrical experiments with the large plate-glass machine, stated to have been originally constructed for the Emperor Napoleon I., were shown, with a brief lecture by Mr. J. H. Pepper. There was a concert, too; an exhibition of metallic spectra; and many other interesting matters; including telegraphic communication with St. Petersburg and elsewhere. All seemed well pleased.

AWARDS TO BRITISH AND COLONIAL EXHIBITORS.

CLASS X.

SECTION A.—*Civil Engineering, Architectural, and Building Contrivances.*

MEDAL.

Nation.	No. in Catalogue.	Name of Exhibitor.	Objects Rewarded, and Reasons for the Award.
U. Kingdom	2235	Barrett, H.	Model of fireproof floor. Practical success.
,,	2239	Bethell, J.	Creosoted wood. Successful application.
,,	2245	Brunel, I., as representative of his father, the late I. K. Brunel, F.R.S.	Models of Saltash and Chepstow bridges. Boldness of design and ingenuity, and goodness of construction. Novel and excellent means of sinking the foundations under very difficult circumstances.
,,	2255	Clark, E.	Model of hydraulic graving dock. For its great utility and novelty of application.
,,	—	Clemence, Q. V.	For the simplicity and economy of construction of the dome scaffold, and traveller, as illustrated by the models.
,,	2265	Cowen, J. & Co.	Gas retorts, firebricks, &c. Excellence of quality.
,,	2268	Doulton, H. & Co.	Stoneware pipes, &c. Excellence of manufacture and lowness of price.
,,	2289	Gibson & Turner	For the boldness of design, and successful execution of the Liverpool station roof, represented by the model.
,,	2290	Gilkes, Wilson, & Co.	Model of railway viaduct over the river Belah. For goodness of execution of the viaduct.
,,	2307	Kennedy, Lieut-Colonel	Extensive application of screw piles to bridges of great extent in India, as illustrated by his models.
,,	2316	Macneil, Sir J., F.R.S.	Importance of design and successful execution of the bridge over the Boyne, illustrated by the model.
,,	344	Murray, John	For good design and execution of Sunderland docks, illustrated by the model exhibited by the Sunderland Local Committee.
,,	2324	Norman, R. & N.	For excellence of manufacture of ornamental bricks and tiles.
,,	2351	Salter, S.	For the admirable execution of the model exhibited by C. Vignoles.
,,	2311	Scott, Capt. H. Y. D.	For discovering a good and cheap cement. Exhibited by Lee, Son, & Smith.
,,	2339	Silicious Stone Company	Articles made in artificial stone. For excellence and durability of material
,,	2661	Stevenson, A.	Boldness of design and successful construction of Skerryvore lighthouse, as shown by the models.
,,	2354	Vignoles, C.	For boldness of design of the Bilboa railway, as illustrated by the model and drawings.
,,	2662	Walker, J.	For boldness of design and successful execution of Small's & Bishop's rock lighthouses, as illustrated by models exhibited by the Corporation of the Trinity House.
,,	—	White, Brothers	Excellence of quality of Portland cement.
Canada	29	Brown, J.	For the excellence of manufacture of his hydraulic cement.
,,		Stephenson, G. R., as representative of his cousin, the late R. Stephenson, M.P., F.R.S.	For the extraordinary boldness of conception and the great ingenuity of the construction of the Victoria Bridge, Canada.
N. S. Wales	420*a*	New South Wales Government.	For the great utility of the Fitzroy Government Dock, represented by the model.
,,	420*b*	Mort	For great utility of the dock, represented by his model.
Victoria	63	Knight, J. G.	For general good quality and interest attached to the collection of building stones exhibited.

HONOURABLE MENTION.

U. Kingdom	2237	Beart's Patent Brick Company	Bricks and agricultural drain pipes, of good quality.
,,	2243	Brown, R.	Tiles, bricks, &c., in colours, of good quality.
,,	2244	Brown-Westhead, M.	Hoist-governor, &c. Ingenuity of contrivance.
,,	2251	Clark & Co.	For novel application of corrugated steel.
,,	2662	Douglas, N. & J. W.	For their intelligent and energetic co-operation when Resident Engineers in charge of the construction of the Small's and the Bishop's rock lighthouses.
,,	2271	Eastwood, J. & W.	Bricks, tiles, &c. For goodness of quality.
,,	2282	Tison & Co.	Kiln tiles for drying malt, white bricks, &c. For excellence of manufacture.
,,	2707	Halpin, G., Engineer to the port of Dublin Corporation	For the successful construction of Fastnet lighthouse.
,,	2388	Keynsham Blue Lias, Lime, and Cement Company	Good quality of lime and cement.
,,	2310	Lawrence, Bros.	For ingenious modes of applying patent sluices, lifts, &c.
,,	2311	Lee, Son, & Smith	For their good manufacture of Scott's cement.
,,	2326	Part, J. C.	For the good quality of Martin's cement and plaster of Paris.
,,	2344	Stephenson, W., & Sons	Good quality of bricks.
Canada	31	Bulmer & Sheppard	For the excellence of their bricks.
,,	38	Gibb, T.	For the excellence of his white bricks and drain tiles.
,,	33	Misisquoi Drain Tile Company	Drain tiles of good quality.
,,	—	Betts, E. L.	A collective honourable mention for the successful execution of the Victoria Bridge, and for the ingenuity displayed by Mr. Hodges in constructing the coffer-dams for the same.
,,		Hodges, J.	
,,		Peto, Sir S. M., bart., M.P.	
India	28	Sandys, T.	Mortar, cement, and concrete of good quality.
Queensland	75	Petrie, J.	Good quality of collection of building stones.
Natal	—	Natal Commissioners	Bricks, tiles, and earthenware pots of good quality.
N Brunswick	—	New Brunswick Commissioners	Models of bridges. For the utility of the works represented by the models.
N. S. Wales	465	Goodsell	Stock bricks. Good quality of material.
Nova Scotia	3	Howe, Prof.	Goodness of quality of the specimens of building stones.
,,	28	Scarfe, T.	Good quality of common and pressed bricks and drain tiles.
S. Australia	47	Priest, T.	Slabs of slate of good quality.
Tasmania	194	Commission for Tasmania	Good collection of building stones adapted to building purposes.
Victoria	18	Beechwod Local Committee	Collection of building stones of good quality.
,,	—	Glew, John	Bricks and tiles of good quality.
,,	410	Kelly, T.	Stoneware drain tiles of superior quality.
,,	455	Sandhurst Local Committee	Bricks and tiles of good quality and low price.
,,	456	Stiebing, G. F.	Fire bricks of good quality.
,,	98	Victoria Kaolin Company	Block of kaolin. Good quality and utility of material.

SECTION B.—*Sanitary Improvements and Constructions.*

MEDAL.

U. Kingdom	2259	Cliff, J., & Son	Excellence of manufacture and material of the clay retorts for gas.
,,	2261	Cookey, E., & Sons	For their newly invented valve for distributing gas.
,,	2384	Finch, J.	Very much improved manufacture of porcelain bath in one piece.
,,	2291	Glover, G., & Co.	Ingenuity, completeness, and efficiency of apparatus for measuring gas, and for excellence of material and workmanship.
,,	2386	Jennings, G.	General excellence of articles exhibited, and novelty of application.
,,	2330	Perkins, A. M.	For his hot-water apparatus for heating rooms, &c.
,,	2399	Rosser, S. E.	For his system of desiccating and warming.
,,	2344	Stephenson, W. & Sons	Excellence of manufacture of earthenware gas retorts.
,,	2403	Spencer, P.	For the introduction of a new material for filtering water.
,,	2411	Woodcock, W.	For the excellence of manufacture of Gurney's stoves and warming apparatus.

SECTION B.—*Sanitary Improvements and Constructions (continued).*

HONOURABLE MENTION.

Nation.	No. in Catalogue	Name of Exhibitor.	Objects Rewarded, and Reasons for the Award.
U. Kingdom	2240	Bower, G.	Neat and economical gas apparatus for small establishments.
,,	2392	McKinnell, J.	Applicability, under certain conditions, of his ventilators to closed rooms and holds of ships.
,,	2393	Moore, J.	For his glass louvre ventilators.
,,	2395	Pierce, W.	General excellence of Huthnance's heating apparatus.
,,	2332	Porter & Co.	Neat and economical gas apparatus, adapted for small rooms and domestic use.
,,	2401	Smith, G., & Co.	Novelty of construction of cast-iron bath.
,,	2408	Underhay, F. G.	Ingenious construction of waterclosets.

SECTION C.—*Objects shown for Architectural Beauty.*

MEDAL.

U. Kingdom	2230	Architectural Pottery Company	Mosaic, glazed tiles bricks, &c. For excellence of manufacture.
,,	2233	Bale, T. S.	Mosaic and ornamental floor, wall tiles, and glazed bricks. For beauty of design and excellence of workmanship.
,,	2238	Bellman & Ivey	Scagliola. High finish of articles exhibited.
,,	2423	Blanchard, M. H.	For articles in terra cotta applicable to architectural and decorative purposes.
,,	6833	Blashfield, J. M.	Terra cotta and pottery. Perfection of manufacture and beauty of form.
,,	6824	Boote, Messrs.	Tiles and pottery. For admirable treatment of material and good design.
,,	2425	Ecclesiological Society	For highly wrought and well understood wood carvings exhibited by the Council of the Architectural Museum.
,,	2430	Forsyth, J.	Model of marble font and cover for Lord Dudley. For beauty of execution and attention to the character of the foliage.
,,	2434	Jackson, G., & Sons	For success in introducing into England carton pierre for architectural and decorative purposes.
,,	203	Lizard Serpentine Company	Sundry works made of serpentine of good workmanship.
,,	210	Llangollen Slab and Slate Company	Enamelled slate work and large slate slab. For excellence of manufacture.
,,	214	Macdonald, A.	For specimens of granite used in building, decorations, memorials, and general purpose. Fine material and workmanship.
,,	2435	Magnus, G. E.	For the perfection to which he has brought the art of enamelling slate.
,,	2317	Maw, G.	For the excellence of the encaustic tiles and various articles exhibited.
,,	2313	McFarlan, W., & Co.	For admirable specimens of iron castings for architectural purposes.
,,	6873	Minton & Co.	Earthenware, majolica, parian tiles, &c. For perfection of manufacture, truth of execution, and beauty of design.
,,	269	Pearce, W., jun.	Inlaid serpentine and steatite tables, columns, &c. Choice material, well wrought.
,,	2440	Poole, H., & Son	Mosaic and other architectural and decorative works in stone and marble. For beautiful execution.
,,	2444	Serpentine Marble Company	Marble font and pedestals. Perfection in the adaptation of a beautiful material, and good workmanship.
,,	2440	Slater (architect)	For beauty of design of exhibits by Messrs. H. Poole & Son.
,,	2446	Thomas, John	Carved chimney-piece with room and cornice decoration, for her Majesty the Queen. Graceful composition and admirable execution.
,,	2317	Wyatt, Digby	For beautiful combination of forms and colours in the articles exhibited by Mr. G. Maw.
Malta	21	Darmanin & Sons	Mosaic work of good execution.
,,	22	Dimech, C.	Specimens of carving in stone. Elaborate execution and low price.
,,	18	Testa, M. F.	Stone carvings. For beauty of execution and low price.

HONOURABLE MENTION.

U. Kingdom	28	Birley, S.	Inlaid marble table of good workmanship.
,,	37	Bright, S, & Co.	Black madrepore vases and mosaic work of good workmanship.
,,	2426	Clay, C.	Inlaid marble table. Good workmanship.
,,	2427	Earp, T.	Architectural decorative carvings of good execution.
,,	266	Lomas, J., & Son	Polished Derbyshire marble table of fine workmanship.
,,	2433	Harmer, J. M.	Models of architectural ornaments of good execution.
,,	2294	Hartley, T.	Beauty of specimens of marbles.
,,	2441	Pulham, J.	Architectural decorations in terra cotta. For sound and durable material.
Malta	17	Francalanza, L.	Specimens of carved stone. For good execution and cheapness.
,,	10	Muir, G.	Specimens of carved stone. For good execution and cheapness.

CLASS XXXIV.

SECTION A.—*Stained Glass and Glass used for Decoration.*

MEDAL.

U. Kingdom	6721	Field & Allan	Stained glass windows. For excellence of ornamental work in Cinque-Cento style.
,,	6725	Hardman, J., & Co.	Stained glass windows. For general excellence of design, colour, and execution.
,,	6727	Heaton, Butler, & Bayne	Stained glass windows. For general excellence of design.
,,	6722 (bis)	Jones, E. B.	Stained glass windows. For excellence of artistic design and colour.
,,	6745	Lavers & Barraud	Stained glass windows. For general excellence of production.
,,	6734	Morris, Marshall, Faulkner, & Co.	Stained glass windows. For artistic qualities of colour and design.
,,	6735	O'Connor, M. & A., & W. H.	Stained glass windows. For general merit.
,,	6737	Powell, J., & Sons	Stained glass windows. For fine qualities of colour and general merit.

HONOURABLE MENTION.

U. Kingdom	6722	Forest, J. A.	Stained glass windows. For general merit.
,,	6723	Gibbs, A.	Stained glass windows. For general merit.
,,	6724	Gibbs, C.	Stained glass windows. For general merit.
,,	6731	James, W. H.	Enamelled window glass, &c. For general executive merit.
,,	6738	Preedy, F.	Stained glass windows. For general merit.
,,	6741	Ward & Hughes	Painted glass windows for St. Anne's, Westminster. For general executive merit.
,,	6742, 6743, 6744	Warrington & Sons	Stained glass windows of various periods. Collective mention for general merit.

MISMANAGEMENT OF PUBLIC WORKS IN INDIA.

IRRIGATION AND NAVIGATION IN THE MADRAS PRESIDENCY.

IN the public journals, reports were published of a banquet, given to Sir Arthur Cotton, at Willis's Rooms, January 31st, 1861; and upon perusing the speeches that were delivered upon that occasion, every lover of truth and justice must experience a feeling of painful regret at the extremely unfair manner by which one person is made to appropriate solely to himself the honour which, if due at all, ought certainly to be shared by many others whose names are not even mentioned. A stranger would be led to suppose that irrigation and navigation works in India had already been proved to be a great success, and that that success was solely due to the exertions and talent of one individual; and, while such statements are allowed to go forth to the world uncontradicted, it is in vain to look for any great or permanent improvements in India.

I have not the slightest personal animosity towards Sir A. Cotton, for whose character I, in common with numerous others in India, entertain the highest respect; but I trust that my respect for truth and justice will always greatly exceed that which I shall feel towards any single individual who, like the gentleman alluded to, has been so fortunate as to build a name upon other men's foundation, without attempting to acknowledge the sources from whence his assistance has been derived.

How far irrigation and inland navigation have succeeded in India; or, if they have succeeded at all, are questions that are at present far from being settled. How far this success, if proved, is to be attributed to Sir A. Cotton, admits of equal discussion.

I shall take the latter of these questions first; premising that I have personally inspected the irrigation works of the Godavery and the Kistna; and the statements I shall put forth will, I trust, be found upon investigation to rest upon the most trustworthy authority.

The great work of Sir Arthur Cotton, and to which allusion is so frequently made, is the Godavery Anicut. This work was originally projected by Mr. Topping, astronomer to the East-India Company about sixty years ago. Neither was the original idea due even to him. Anicuts have been known to exist in India many ages before the English had settled there; and their construction, although rude and faulty, was by no means so destitute of scientific principles as we are generally led to suppose. It is quite true that to Sir A. Cotton is due the merit of having worried the apathetic Indian Government into a reluctant consent to allow him to carry out Mr. Topping's idea; but, in admitting that, we admit almost the sole claim he has upon the public for superior distinction. The appointment of Sir Arthur (then Colonel) Cotton as engineer to the projected Godavery works was due mainly to the untiring energy of Sir H. Montgomery, the revenue commissioner of the Rajamundry district; and very soon after the commencement of the work, Colonel Cotton was, from ill health, compelled to abandon his post; and the charge of constructing the Anicut itself for a long time devolved upon Captain C. A. Orr, now Lieut.-Colonel Orr, the present Mint Master of Madras; to whom is mainly due any merit in overcoming the difficulties of that work; but whose name is scarcely even mentioned in connexion with the subject.

Indeed, many of the engineer officers employed upon the Godavery irrigation scheme are totally at a loss to conceive why Sir A. Cotton should be alone extolled for superior ability, as it is well known among them that to him belongs neither the merit of having designed* nor executed any of the principal works. It was, like most Indian enterprises, a kind of joint-stock affair, in which every officer took a share, and did the best he could; and to this may be chiefly attributed the blunders and want of uniformity that are everywhere so palpably conspicuous.†

With regard to the Godavery Anicut itself, with its locks, sluices, and calingulas, the least said about it the better. Viewed as an engineering work, it is certainly anything but creditable; after making every allowance for difficulties; all honour to the officers and overseers who so valiantly fought their way through obstacles they were so ill fitted to overcome; but small merit to

* Col. Cotton's designs were all altered by the Madras Government.

† A native Hindoo, named Veranah, is said to have been in reality the chief engineer; and the whole work is much more a native work than a European one.

the discernment of a Government who could intrust the execution of a work, costing about 180,000*l.*, to men of so little experience, without a better directing head. Sir Arthur Cotton himself states, that at the commencement of the work they had only three engineer officers, two of whom had never seen a brick laid;* and that the overseers, &c. were all equally ignorant.

A professional inspection of the Godavery works will fully bear out this statement: it is difficult to discover a single cubic yard of decent masonry or brickwork in the whole job. Science is completely ignored: everything depends for its existence upon mere mass; and defects and failures are everywhere visible. A North Country doctor, accustomed to the substantial engineering works of his own country, told the writer that the Godavery Anicut was a "most flimsy abortion;" and certainly experience has fully justified the sage criticism of our canny Esculapius. Every year the dam itself requires a large outlay to keep it in repair; and once it was breached and threatened with destruction; while the sluices, calingulas, &c., are being continually damaged. The annual cost of repairs is enormous. Its value gets less every year; and in a few years it will probably be quite useless.

The Kistna Anicut was constructed entirely under the superintendence of Capt. C. A. Orr—the gentleman whose name has been already mentioned in connexion with the Godavery scheme. Although not so long as the Godavery, it is a far more imposing work; and, notwithstanding numerous defects of construction and detail, is decidedly the greater work of the two. At first sight, its appearance is by no means contemptible; and, although heavy in design, there is a very good architectural effect produced by the uniformity of the various parts; while on the Godavery not one feature is visible to redeem the repulsive ugliness of the whole. Much of the masonry of the Kistna Anicut is bad; nay, almost execrable! but the piers of the arches are substantial and well built, and the foundations for the most part good. Even this Anicut is often dangerously breached; and the annual cost of repairs varies from 400*l.* to 500*l.*, exclusive of channels and locks. One of the most defective parts, both in the Kistna and the Godavery, are the sluices, which are a never-failing source of trouble.

The length of the four Godavery dams together is about 4,400 yards, and their cost nearly 100,000*l.* The length of the Kistna Anicut is only 1,200 yards, and its cost nearly 70,000*l.*; but it is broader, higher, and much more massive than the Godavery dams. How far these works have been successful to fulfil the objects originally contemplated is a matter of grave and serious doubt. In an irrigation point of view, they have certainly done much; although far less than the brilliant statements made by Sir A. Cotton might lead us to suppose. As works of navigation, I regard them as almost total failures; and I believe my opinion is every day gaining ground among those best qualified to judge correctly upon the subject.

For many months in the year the channels are so choked up with silt and sand that they are hardly passable for boats of the lightest draught. Often a boat sticks in the locks, and it requires the united exertions of forty or fifty men for a whole day to drag it through the mud. During the hot dry season of May and June the navigation is difficult,—sometimes impossible; and every autumn the channels have to be closed for one or two months; the sand, &c., dug out by native tank-diggers, and deposited in rude heaps along the sides; spreading fever and malaria all around; as few things in a tropical climate are more unhealthy than newly-excavated soil highly charged with decayed organic matter. The deposit left at the conclusion of each large fresh is often from 3 to 6 feet thick; and in many places the banks are broken; and, falling into the channels, assist in choking them up and presenting a most ruinous scene. Added to this, the locks are of different sizes both in length and breadth; so that a boat passing through one is never certain of getting through the next; the bridges sometimes so low that during a fresh a heavily-laden boat is in danger of sticking fast under the arch: several of the arches are cracked or broken, and the calingulas during a flood so full as to render it dangerous to pass for fear of being drawn into the vortex; and the actual cost of water-carriage, including all expenses, about 1½*d.*, per mile per ton, instead of one-eighth of a penny, as stated by Sir A. Cotton; while their progress against the stream is frightfully slow, often about ten miles a day, or less. Along the banks, and at the various stations, there is not one landing-place—no wharfs, no cranes, no sheds for storing goods—not even a mooring-ring to fasten a boat to: passengers upon the Godavery channels clamber in and out of the boats through mud and long grass; and coolies are seen dragging merchandise up and down the slippery mud-banks by all sorts of native contrivances.

Even as irrigation works, their permanent value is more than doubtful. The district engineers already complain that the channels are unable to supply anything like the quantity of water needed for cultivation. The beds of the rivers in front of the Anicuts are steadily rising; and sand-banks of a truly formidable character are rapidly forming; so that there is but very little doubt that in a few years the entire dams, with their supplementary works, will be buried beneath a mass of sand which no human means can remove.

If we turn from these to other similar works, the prospects are not more encouraging; the Anicut at Nelloor, costing about 10,000*l.*, has been completely destroyed;* and the one commenced at Kurnool by the Madras Irrigation and Canal Company, of which Sir A. Cotton's brother is chief engineer, and upon which about 8,000*l.* have been expended, is now condemned as useless, from being commenced in a wrong place.†

In Bengal, the Ganges Canal, which took more than thirty years to execute, and cost an enormous sum of money, has turned out almost a failure.‡ During the mutiny it was found of but little service for the transport of stores and troops; and during the past year a famine spread over the whole of the North-West Provinces, which this canal was supposed to render impossible; and in Tanjore, the irrigation works—probably the best in all India—were but very partially successful in staying a similar calamity.

If these statements are false, they can easily be disproved: if they are true, they look more like a failure than a success.

Indeed, the policy of damming up large rivers by immense masses of masonry appears even more than doubtful. All hope of even rendering such rivers navigable at any future time is entirely cut off; as the Anicut, even if breached, or covered with sand, can never be removed; and the beds of the rivers are almost certain to rise to the level of the top of the dam, after which the Anicut itself will be quite useless.

It may be asked, then, am I opposed to irrigation works in India? I answer, by no means: let us have irrigation, and let us have navigation channels; but let them be quite distinct from each other; and let them both be properly formed upon scientific principles, and not upon the rude, barbarous, and cheap native system that has hitherto been adopted: let them be entrusted to properly-trained civil engineers, instead of raw military cadets and officers utterly destitute of European experience. And let us hear no more of dividends of thirty, forty, or fifty per cent.: ten per cent. upon the outlay is quite enough to satisfy any reasonable capitalists: all above that is uncertainty and ultimate delusion.

Since the above was written, I find the public journals, &c., almost universally admit that canal navigation, in nearly every part of India, has turned out *a total and complete failure;* and that irrigation and navigation for the future must be kept quite distinct. One journal states that the navigable canals (so called) do not pay one-tenth of their working expenses. The real cause of the failure, I believe to be the ignorance of the engineers, and the shameful way in which most of their works have been executed. INDIAN.

THE DISTRESS IN LANCASHIRE.

SOME time ago, contrary to the opinion of the chief part of the Lancashire manufacturers, and of several of our contemporaries, we indicated the pressing necessity which existed for vigorously organizing means on a scale commensurate with the occasion for affording, so far as a public subscription could do, relief to the distress which has fallen upon the vast population who depend on the cotton trade for their daily bread. At that time the most influential of the Lancashire cotton spinners repudiated assistance, and in consequence a check was put to the tide of subscriptions which otherwise would have flowed from all parts of the country. Now, each day's painful experience shows how valuable this aid would have been in the present emergency, when all the resources of the poor-laws, public subscription, and, we fear, the aid of the Government also, are likely to be required for the purpose of feeding the hundreds of thousands of men, women, and children, who, without any fault of their own, are deprived of their regular employment.

Up the present time, Mr. Villiers, the president of the Poor-Law Board, has been hopeful that the Poor-Laws would be sufficient to meet the evils of this crisis. This gentleman has, however, said since, in the House of Commons, "he was bound to state that in the private letters, within the last week or ten days, of the gentleman whom the Government had sent down to report on the state of the manufacturing districts, there was something less hopeful in their tone with respect to the mitigation of the distress; and, indeed, as to the means of providing for it by voluntary contributions, so much relied upon as providing adequate resources." In some parts of Lancashire the poor's-rates have risen as high as 18*s.* in the pound; and, without some sudden and favourable change in the position of affairs in America, or a more equal distribution of the parish rates of this great county, this enormous tax for the support of the unemployed poor must constantly increase. When these great taxes press so hard upon the ratepayers who are shopkeepers, or who are in other ways depending on this class of workers for their subsistence, many of whom have ventured their capital and credit in supplying, in the present hard times, those who have been for long good and honest customers to them for various necessaries of life, it is clear that, if the distress is continued, many of them, instead of contributing to the rates, must actually fly to them for support.

We have before us, just now, reliable letters from intelligent and well-conducted workmen, which show that it is only by painful and careful personal investigation that any idea of the extent to which distress in Lancashire at the present moment prevails can be appreciated. Families are, in thousands of instances, next door to starvation; for, as the poor-law relief is at the present time administered, it is (without the people go into the unions) insufficient, in most cases, for but little more than the necessary payment of house-rent.

In Preston alone, in one week, 500 hands have been cast idle in consequence of the stoppage of some mills, and the curtailment of working-time in others. In Wigan, one-fifth of the entire population is receiving relief; and in Blackburn, the proportion is said to be larger. At Chorley, the expenditure of the parish is double the ordinary sum. At Walton-le-dale, the numbers of those applying for out-poor relief for several weeks have been as follows:—326, 340, 363, 452, 447, 471, 496, 526, 577, 590, 594, 600; and the stoppage of more mills will, as time passes on, constantly increase those numbers.

From other quarters comes the same sad account that, as week after week passes, the distress increases, and soon the *cotton famine* will prevail, rendering more homes destitute, and bringing the dwellers in them to the brink of starvation; and it should be borne in mind that we are now past the middle of summer, and that ere long the pinching winter must come.

So far the cotton-spinners have set a worthy example of patience in their sufferings which must be admired by all; and although hunger and discomfort have prevailed, we have heard no loud and fierce demonstrations: and it is a most noteworthy fact that, notwithstanding all this privation, crime, throughout those districts, has not increased. The men and women of Lancashire, guided by an advanced intelligence, are waiting patiently, hoping for that assistance from various quarters which their case so worthily deserves.

Looking at the aspect of affairs in America, on the Southern States of which, in spite of thousands of warnings, we have relied for the raw material of such a vast industry, the prospect is most gloomy; for if the contending states are allowed to go on much longer without the intercession of the civilized governments of Europe, we have no hope of cotton from that direction; and even if the present wholesale destruction of life by the weapons of war, and to a far greater extent by pestilence, is put a stop to, we have still a serious difficulty to contend with,—fresh supplies of cotton must be grown. We may hope in time for considerable quantities from India and

* See Colonel Cotton's pamphlet entitled "Profits of British Capital on Indian Public Works," page 2: published by Richardson Brothers, Cornhill. Price 1*s.*

* It has since been rebuilt at a cost of 13,000*l.*, and even now the bed of the river is nearly level with the top of the dam.

† See Major Orr's Report, published in January, 1861.

‡ In Col. Baird Smith's Report upon the Famine in Bengal, it is stated that the Ganges and Jumna Canals irrigate about one-fourth only of the country through which they pass: one-fourth more is irrigated by native wells; and one-half is left without any irrigation at all.

sewhere; but unfortunately, while the cotton wows, the spinners and their families must starve they are not helped.

Under the most favourable circumstances which ne most sanguine can just now foresee, there will e an increasing amount of suffering, which it is ost important to mitigate; but up to the present metheamount of relief from the country generally owing, in a great measure, to the causes to which e have referred) has been very small: the funds hich have been supplied from themetropolisforthe itigation of the distress in Lancashire amount to nly about 7,600*l.*,—a sum but barely equal to ne loss of one week's wages in one of the small owns of this county. This sum has been distriuted amongst the various districts; but in order o show how very limited this assistance is, it may e mentioned that in the period of a week 12,000 ersons were relieved at Preston, at a cost of 50*l.* This is at the rate of 7d. a week for each erson.

When we think of the immense sums which ere collected at the time of the Irish famine, nd at various other periods for aid on the occaion of home and foreign calamities—for instance, n the recent occasion of the accident at Hartley olliery—we are convinced that this matter only equires to be rightly brought before the attention f the inhabitants of the metropolis and the other arts of the kingdom to insure the subscription of sum which is so necessary, and which would be he means of preventing a large amount of disress.

The time has now come for a general and vigoous movement in this matter of life and death.

The cotton manufacturers have largely contriuted towards the local subscriptions, and by orking many mills at a considerable loss; but hese means must fail, and the only recourse for he support of all the multitude will be in the ublic subscriptions, poor-law relief, or Government assistance. As regards the poor-law relief, t is clear that it cannot be much longer aised in the suffering towns, in the enormous sums in which it is required; and it has een suggested that a general rate should be evied on the 8,000,000*l.* a year, which is the rateable value of Lancashire. To a great extent n this county property of every description has ncreased in value by the advance of the cotton rade; so that, to a certain extent, it is but fair that the present loss should be more equally borne.

As we have before said, every endeavour should be made to prevent the workpeople from breaking up their homes and becoming inmates of the unions and workhouses, where the young especially are sure to be deteriorated. In the end, out-door relief will be found to be the cheapest provision; but, at best, the assistance afforded by the Poor-laws to those who have been accustomed to live upon the wages of their industry, is a miserable provision; and there are many of the Lancashire spinners who would rather perish than receive aid from the parish. In fifty ways, therefore, a public subscription would be of service; to many it would be actually the means of saving life; with others it would help out the parish dole, by supplying soup, coal and other necessaries of life. It might save the houses of worthy people from the levying of distress upon their furniture, provide them with needful covering from the cold, and be the means of enabling thousands to abide with something like patience for the coming of those days when they will have an opportunity to work, and will again gladly resume their labour.

WHAT IS IRON?

This is a question that has recently been asked in the *Times*, which gives an excellent summary of the principal phases of this extraordinary metal, while at same time admitting that the question is one which at present cannot be fully answered.

So remarkable are the properties possessed and the changes assumed by iron; and so different is it in many of these respects from all the other metals; that some men of science have doubted whether it ought to be classed with them, or regarded as a metal at all; and so distinguished above all others did it appear in the eyes of the old chemists, that they occasionally spoke of "the four elements" as "fire, air, water, and iron," just as they synonymously named them "fire, air, water, and *earth*;" and some of the alchemists speak of basing the universal transmutative agent on iron;—Van Helmont, for example; who says, in his usual mystical sort of way, while speaking of "the iron age," that iron, "through multifarious mortifications and advances, may be gradually improved, transmuted, and lost, through fire, and be changed into the gold of love and unity, which is fix in the fire;" and that "it can be changed or transmuted into grass, herbs, trees, and corn." So far from thinking it not to be a metal, however, he says it has "a nearer alliance, in many respects, with all the metals, more than they have with one another." As to the transmutation of iron into vegetable natures, we must explain that some of the old chemists seemed to have the notion that carbon was a product of metallic transmutation from "the soot of metals," thus elevating the mineral into the vegetable kingdom. But it was not in the old and dark (?) ages only that iron was regarded as a subject of transmutation. The late Dr. Samuel Brown, a well-known chemist, stated positively and decidedly that he transmuted iron into rhodium, one of those curious metals which are found associated (as iron itself so often is) with gold in nature.

The pre-eminently distinguished, if not cosmical and universal, nature of iron, clearly appears not only in the fact of its constituting the bulk of aerolitic masses in general; but also in the no less remarkable fact that *it* constitutes the grand agent whereby the magnetic force of nature (a cosmical force; so far, at least, as our earth is concerned; and, as many believe, the planets in general, and the sun also) manifests itself. The magnet, or magnetic stone, is an oxide of iron; and, by a stroking process strangely like mesmerism, a piece of iron is readily convertible into the magnetic needle, whose cosmical and wonderful propensity it is continually to point to the poles of the earth.

Of the chemical and other properties of iron in its different states, the writer in the *Times*, as we have said, gives an excellent summary; which, though introducing a few words of our own on the subject in the outset, it was our intention merely to condense.

Pure iron, he remarks, is almost unknown. What we call iron is the metal combined or associated with other elements, which, though present only in small quantity, may, according to their number and proportion, communicate to it widely different properties. These elements are chiefly carbon, silicon, sulphur, and posphorus; but the most important is carbon. It is a simple variation in the proportion of carbon, within the limit of about 5 per cent., which causes the metal to appear in the three well-known states of wrought iron, steel, and cast iron. As the proportion of carbon increases, the metal passes insensibly through these successive stages. It has recently been urged that another element, nitrogen, is an essential constituent of steel; but this theory has been hotly disputed. Sulphur is the most frequent cause of *red-shortness*, and phosphorus of *cold-shortness*, in wrought iron. One part in a thousand of any one of these elements will produce a decided effect on the quality of the iron, either separately or combined; hence the endless diversity in quality of the iron, steel, and pig iron, which we meet with in commerce. Then, again, in the case of wrought iron and steel, the quality of the metal may be greatly modified by the mechanical treatment which it has received; and, in the case of pig iron, by the conditions under which solidification after fusion has occurred. It is a remarkable fact that, so far as our knowledge extends, iron is the only metal which is capable of acquiring such varied and useful properties by the operation of such simple and apparently trivial causes as those which we have just considered. One metal is thus made to act the part of several. The defective state of our knowledge of the chemistry of iron is the opprobrium of modern chemists. There is no metal of which the *science*, properly so called, is less understood.

WORM AND ANT PROOF AUSTRALIAN TIMBER.

With reference to what was said in our columns on Tasmanian timber on the 5th of July, it may be interesting here to give an abstract of some information as to Western Australian "mahogany," forwarded to us by a correspondent, a captain in the Royal Engineers. The timber alluded to, like that of Tasmania, or Van Diemen's Land, may be seen in the International Exhibition.

The timber in question is commonly called "mahogany" in Western Australia, and it very much resembles that wood in appearance. The native name is "jarrah," and the botanical name of the tree "Eucalyptus." It has properties which make it peculiarly applicable for works in the tropics, or on the sea-coast; viz., that neither the white ant nor the sea-worm will touch it; and that it suffers very little from exposure to the sun or atmosphere. It can be delivered in India or the Mauritius in picked logs, or in balk (provided a quantity of not less than 200 loads be purchased at one time), for less than 4*s.* a cubic foot; and if arrangements were made for a larger quantity—say of not less than 400 loads)—it might be delivered for 3*s.* 6*d.* a foot, or less.

Captain Wray, Royal Engineers (not our correspondent) says, "As regards its properties, I have myself used upwards of 3,000 loads of it in buildings, jetties, and bridges; and I have examined timbers which have been exposed to the action of the white ant and sea-worm, in situations where it would have been destroyed if liable to destruction from either of these causes; and I never saw any penetration deeper than the sap-wood, though deal, or other timber close by, was completely eaten away. This indemnity from destruction is generally attributed to its containing large quantities of gum resin. The strength and elasticity are about equal to Riga fir. The weight of the timber makes it inapplicable to movable joiners' work, such as doors or sashes; but this is immaterial, as the white ant, only working in the dark, will not attack these, unless a building is left unoccupied for a lengthened period. I know of no objection to it, except that it is somewhat slow to season; and, if exposed before seasoned, will fly and cast perhaps rather more than other timbers."

The consulting engineer of the Madras Railway says, "The wood is well spoken of by our engineers."

Some specimens in the Great Exhibition have been in use as piles, &c., &c., for periods of from twenty to thirty years, without receiving the slightest injury.

THE FEMALE SCHOOL OF ART.

On Thursday, the 10th inst., the annual distribution of national medallions, local medals, and other prizes took place at the Female School of Art, Queen-square, now under the especial patronage of the Queen. There was a large attendance of students and their friends.

Professor Donaldson took the chair; and after having presented the various awards to the successful students, with a kind word of advice and encouragement to each, he made an appropriate and interesting address on the subject of art study generally. The Rev. Emilius Bayley, rector of St. George's, Bloomsbury, one of the trustees of the school, then addressed a few admonitions to the students, giving a word of caution to the successful, and a word of encouragement to the unsuccessful.

There were four national medallions, twenty-nine local medals, and twenty prizes distributed, and five students had free studentships given to them. We may notice that the Honiton lace dress and veil, lately worn by Her Royal Highness the Princess Alice, was designed, by command of Her Majesty, by Miss Ruth Coxeter, a student of this school.

After a vote of thanks to the chairman the meeting terminated.

Subscriptions have not followed the meeting at the Mansion House to the extent expected; but it is to be hoped that they may yet do so.

COMPETITIONS.

Gloucester Market Improvement.—On the 13th of January last, seven designs for the improvement of the market, with letters under mottoes, were received by the town-council. The amount of each estimate was taken down, and the accompanying letters were placed in an envelope and sealed: "Faith and Hope," 3,000*l.*; "Mittimus," 2,938*l.* 1*s.* 9*d.*; "Experientia docet," 2,942*l.*; "City Arms," 2,982*l.* 15*s.* 6*d.*; "Veritas," no amount named; "Smithfield," 3,926*l.* 7*s.* 7*d.*, and 2,975*l.* 13*s.* 1*d.*; "Do I suit your requirements?" 2,997*l.* 18*s.* 7*d.* The Chamberlain was desired to report on the plans; and after some other procedure the subject came again before the council last week, when it appeared that a committee to whom the matter had been referred had resolved to recommend those marked "City Arms" and "Smithfield" as the most desirable; the others to be returned, and a premium of 25*l.* to be given to the designer of the second-best plan; the plan to become the property of the council. At a subsequent stage of the proceedings last week, Alderman Castree moved that the letters accompanying the plans marked "Smithfield" and "City Arms" be opened. The Mayor then read the letter of "Smithfield;" from which it appeared that Mr. Robert Griffiths, architect and surveyor, Bridgnorth, was the designer of the plans; and the

town-clerk said the plan marked with the "City Arms" was sent in by Messrs. Medland & Maberly. Alderman Castree moved that the letters accompanying the other plans be not opened; and that an advertisement be inserted in the *Builder*, stating that the plans of "Smithfield" and "City Arms" had been accepted, and that the authors of the other plans might have them returned on application to the Chamberlain. The motion was unanimously agreed to.

Cheltenham Cemetery. — About thirty designs for the proposed cemetery at Cheltenham were sent in, and six were selected by the committee for the consideration of the whole Board; viz.:—9, Palmam qui meruit ferat; 13, Trefoil; 15, Labor et Spes; 16, W.; 17, Spes; 20, Faith. On Wednesday in last week the premiums were awarded; the first (by the unanimous vote of the Board), to the design marked W., made by Mr. W. H. Knight, of Cheltenham; and the second to Spes, by Messrs. Medland & Maberly, of Gloucester.

Oxford Workhouse.—The new committee have advised the guardians to increase the maximum expenditure on the proposed new workhouse, from 7,000*l.* to 9,000*l.*; the workhouse to be built in sections; and that advertisements be forthwith inserted in the usual papers. The report of the committee has been adopted at a special meeting of the Board; the new plans to be sent in on or before 19th August. At the same meeting a letter from Mr. Evans, builder, was read, offering to amend his estimate, and execute Mr. Fisher's plan for 7,000*l.*; but the Board rejected the offer. A letter from Mr. J. Castle, architect, was also read, claiming 197*l.* 16s. 6d., for taking out quantities and preparing estimates for builders for carrying out his plan; but the Board were of opinion that, though Mr. Castle was asked to modify his plan, they were not in any way indebted to him.

Market Weighton (Yorkshire). — On Monday last, the committee of the Yorkshire Roman Catholic Reformatory adopted the plans prepared by Mr. M. E. Hadfield for the new church, and additional apartments about to be erected at the Reformatory. The new church will be in harmony with the original monastery, built from the design of the same architect. It will consist of nave, chancel, organ or choir loft, spacious sacristies, and confessionals; a cloister, 140 feet long, in continuation of the present one, terminated by a square tower and belfry,' and having a cross corridor for the access from the reformatory, which is perfectly distinct from the house occupied by the director and his colleagues. Provision is made for a still further extension, and the heating apparatus is also provided. The work is to be commenced forthwith. The buildings will be constructed of white brick, with stone facings. The nave will have an open roof; the chancel ceiling being panelled in wood.

SHEFFIELD.

The New Club House.—The new house which the members of the Sheffield Club are erecting in Norfolk-street is approaching completion. The streets are unfortunately too narrow to permit the new erection to be seen to advantage. The object of the architect (says the *Local Independent*, in describing it) has been to give to the building the character of a gentleman's town mansion. It looks like one of the family houses of Grosvenor-square. It is built of brick, with dressings of Steetley stone, and other enrichments; and is ornamented by carved medallions of her Majesty and the Prince Consort. To obtain a bay-window and a rectangular arrangement of the rooms, it is erected at right angles with Mulberry-street; and the Mulberry-street front is set back three feet to secure light for the basement story. The building is guarded from the street by a stone balustrade, supporting two tripod lamps. The height from the level of Norfolk-street to the top of the battlements is 54 feet. The principal feature on the first floor is the reading-room, 40 feet by 28, occupying the whole front towards Norfolk-street, lighted by four windows, which open upon a balcony. It has a fireplace at each end. Over the reading-room is the billiard-room, of similar size and form, lighted from the roof through ground plate glass. On each of these floors the rooms are 14 feet high. In the attic story are the bedrooms of the steward and servants of the house. The basement story is occupied by kitchens, pantries, &c., and has a communication with Mulberry-street. The balustrade of the grand staircase is of iron, specially designed and electro-bronzed by Messrs. Walker & Hall's process. The cost of the building and site is about 7,000*l.* The architect is Mr. M. E. Hadfield; and the builders are Messrs. Craven.

The New Victoria Hotel.—This building is being fitted up and furnished, with a view to its being opened during the present month. It is built on an elevated site in front of the Victoria Station, and at the end of the Cattle Market. The building consists of a front and two wings, having each four stories above the level of the entrance to the station, and a basement story beneath. The hotel comprises about fifty bedrooms, in addition to servants' apartments, and ten sitting-rooms, in addition to the two coffee-rooms. There is, moreover, the basement story, which extends under the kitchen as well as under the entire front and wings. About half of the basement story is occupied with servants' offices of various descriptions, and the remainder with wine, beer, and other cellars. Mr. Hadfield is the architect.

IRISH BUILDING NOTES.

ALTERATIONS and additions are about to be made to the National Bank, College-green, Dublin, which will double the present accommodation. The whole of the space set apart for the public, together with a corridor 65 feet in length, will have an encaustic tile pavement, containing 1,600 feet superficial. The principal feature of the addition will be the ceiling of the cash office, measuring 55 feet by 45 feet, the greater part filled in with ground plate glass. A hemispherical dome, 30 feet in diameter, and supported on ornamental metal columns 19 feet high with curved wood capitals, springs from the centre of the ceiling. The framing of the lower part of the dome, to where it narrows to 22 feet diameter, is of timber, filled in, panelled, and moulded in plaster. Over this level the framing is of iron filled in with plate glass; the centre pane being 12 feet in diameter. Enriched panelled compartments are formed between the walls and dome all round; the panels glazed throughout, and the greater number of them with semi-cylindrical panes in wrought-iron frames, with groin ribs at angles. The spandrels are filled in with a flowing ornament. Mr. F. W. Caldbeck is the architect. The quantities were supplied by Mr. Doolin.

The new Roman Catholic church of Saints Peter and Paul, off Patrick-street, Cork, is in a very forward state, the roof being almost completed. The total length of the nave and chancel is about 150 feet by 35 feet in breadth: the total length across the transepts is 82 feet by 18 feet in breadth. The roofs are, we understand, covered with felt. The total height of the tower and spire will be 232 feet; only 54 feet of which is now erected. Black limestone, Cork red, and Sicilian and Galway green marbles are used internally. Caen and Mansfield stone, limestone, and old red sandstone are used externally. The architects are Messrs. E. W. Pugin and G. W. Ashlin. The builder is Mr. Barry McMullen; the clerk of works, Mr. T. F. Ely.

THE VICTORIA FOUNTAIN, IN VICTORIA PARK, LONDON.

A VIEW, section, and plan of the magnificent fountain, built at the cost of Miss Burdett Coutts, from the designs of Mr. H. Darbishire, architect, and which was recently inaugurated, will be found in our volume for 1861.* We may repeat that its arrangement is octangular, and consists of a podium, or base, 40 feet 9 inches diameter, and 3 feet 6 inches high; and of a superstructure, 24 feet 6 inches diameter, and 55 feet high. The podium contains eight flights of steps, 6 feet 4 inches wide, leading to the superstructure. Its masonry consists of Portland and Kentish rag-stone; Gaseby stone being employed for the steps and paving. The superstructure is divisible into an exterior and an interior octagon. The former consists of eight piers of polished Peterhead granite, with carved capitals of Aubigny stone, from which spring moulded arches and groins. The height of the piers is 18 feet 6 inches; that of the crown of the arches is 25 feet above the podium. The spandrels of the arches contain moulded panels with slabs of polished marble. Above these rises the principal cornice, composed of arches, brackets, and pendants, enriched with red and green marbles, and surmounted by a perforated parapet. The total height to the top of the parapet is 34 feet from the podium.

The interior octagon is 13 feet 4 inches diameter, or 11 feet 2 inches less than the arcade by which it is surrounded. Its base is three steps, or 1 foot 6 inches above the top of the podium. Four of its sides are occupied by the fountains; three are filled with marble panels and inserted tracery; and on the eighth is situate the entrance to a chamber which affords access to the water-supply and roof. At each angle a polished shaft of Peterhead granite, 6 inches diameter, rises to the height of the external piers, and is connected with them by moulded ribs which intersect the groined roof of the arcade.

Each fountain consists of a grey Aberdeen granite pedestal, with bronze enrichments, containing a bason to receive the water, which is supplied by a Sicilian marble figure in a fluted niche above it. The head of the niche is canopied, carved, and filled with tracery. The drinking-cups are of bronze, silver-plated on the inside, and on the outside bearing Burton's adage:—"Temperance is a bridle of gold." The panels of the alternate sides of the octagon are filled with slabs of Connemara green marble, separated by a band of emperor's red marble, bearing the following inscription:—"The Victoria Fountain, given anno Domini 1862, by Angela Georgina Burdett Coutts, for the love of God and country." This inscription, and the inserted tracery above it, are filled with green mastic. Foliage and armorial bearings occupy the upper portion of the doorway leading to the interior of the building. They are enclosed by a label, upon which is carved, in letters of high relief, part of the first verse of the twenty-fourth Psalm:—"The earth is the Lord's, and all that therein is" (*sic*). The door is of oak, and contains panels of bronze grille. Both the exterior and interior octagons are covered by a timber roof, which springs 1 foot 9 inches above the top of the perforated parapet, and rises to the height of 55 feet above the podium, or 58 feet 6 inches above the ground-line. Clock-dials, and gablets filled with green glass, occupy its alternate sides. The covering and the ornamental details connected with it are of lead. The cresting upon the angle ribs is of wrought-iron, and the vane is copper-gilt.

* Vol. xix. p. 320.

ANOTHER IRRUPTION OF THE FLEET SEWER.

WE are sorry to hear that another serious outbreak of the Fleet Sewer, and inundation of the works of the Metropolitan Railway, took place on Wednesday, consequent upon the heavy storm with which the metropolis was visited. Between four and five o'clock, as the workmen employed at the new station erecting at King's-cross and uncompleted portion of the tunnel at the corner of Acton-street, Bagnigge-wells-road, were busy, they were alarmed by a sudden rush of water into the works. So rapid was the influx of the water, that those at the bottom of the works were up to their knees before they could extricate themselves, and were obliged to leave their clothes and tools behind them. In less than ten minutes the water was 15 feet deep, reaching up to the roadway, and displacing and cracking the huge timber shores like matchwood. It was found that the storm-water pouring down from the high land had broken through the wall of the diverting sewer at the corner of Caledonia-street, York-road; and, finding its way into the channel of the old sewer, had forced an entrance into the railway works. In about an hour, the flow of the storm-water having subsided, a body of labourers were set to work to repair the breakage, which it is hoped will be effected by an early hour this morning. In the meantime, the railway works at this portion of the line are necessarily suspended. In Victoria-street, at the scene of the late accident, damage also occurred.

STAINED GLASS.

Winchester Cathedral.—The workmen of Messrs. Ward & Hughes, of London, have placed in the window over the entrance to the south aisle of the cathedral from the close, the memorial, in stained glass, provided at the expense of MRS. Pretyman, as a monument to her late husband. The window contains six lights, which have been filled in with six of the leading events in the life of the apostle Peter. The subjects are the Calling of Peter; the Descent of the Holy Ghost on the Day of Pentecost; Peter's want of faith; Christ's Charge to Peter; Peter's Vision; and the Release of Peter from Prison. The tracery lights of the window are filled in with angels bearing the emblems of Faith, Hope, and Charity. At the base of the lower lights, and continued upon a brass plate attached to the stonework, is the inscription.

ON THE LAWS OF NATURE'S VENTILATION, AND THEIR APPLICATION IN CONSTRUCTION.*

VENTILATION has for its object the renewal of the air in dwellings and other edifices used by man; in the carriages of various kinds he employs for locomotion; and in buildings occupied by such of the useful animals as horses, cattle, sheep, and dogs;—in other words, to replace air that is deteriorated by air which is pure. If nature maintains, as we know is the case, a constant circulation of the water in the sea, that it do not become stagnant and so unwholesome to the living creatures therein; it is comforting to know that provision has likewise been made to maintain the life-giving air—much more liable to corruption than water—in unceasing motion.

But what are these ordinances of nature which govern the atmosphere in the performance of its grand and multiform offices? An answer, were I to attempt it, would demand too much of my space; and I therefore refer the reader for this information to a remarkable work, entitled "The Physical Geography of the Sea, and its Meteorology," by Captain Maury, in which he will find this matter fully discussed. From this volume I transcribe the following passages, as bearing on the subject of my paper:—"There is no employment more ennobling to man and his intellect than to trace the evidences of design and purpose which are visible in many parts of the creation. Hence, to the right-minded mariner, and to him who studies the physical relations of earth, sea, and air, the atmosphere is something more than a shoreless ocean at the bottom of which he creeps along. It is an envelope or covering for the distribution of light and heat over the surface of the earth: it is a sewer into which, with every breath we draw, we cast vast quantities of dead animal matter: it is a laboratory for purification, in which that matter is recompounded and wrought again into wholesome and healthful shapes: it is a machine for pumping up all the rivers from the sea, and for conveying the water from the ocean to their sources in the mountains: it is an inexhaustible magazine, marvellously stored." . . . "Upon the proper adjustments of the dynamical forces which keep up these ceaseless movements of the atmosphere, the life of organic nature depends. If the air that is breathed were not taken away and renewed, warm-blooded life would cease: if carbon, and oxygen, and hydrogen, and water were not in due quantities dispensed by the restless air to the flora of the earth, all vegetation would perish for lack of food. That our planet may be liable to no such calamity, power has been given to the wayward wind, as it 'bloweth where it listeth,' to bring down from the pure blue sky fresh supplies of life giving air wherever it is wanted; and to catch up from the earth, wherever it may be found, that which has become stale; to force it up, there to be deflagrated among the clouds, purified and renovated by processes known only to Him whose ministers they are. The slightest change in the purity of the atmosphere, though it may be too slight for recognition by chemical analysis in the laboratory, is sure to be detected by its effects upon the nicer chemistry of the human system; for it is known to be productive of disease and death. No chemical tests are sensitive enough to tell us what those changes are; but experience has taught us the necessity of ventilation in our buildings, of circulation through our groves. The cry, in cities, for fresh air from the mountains or the sea, reminds us continually of the life-giving virtues of circulation. Experience teaches that all air, when pent up and deprived of circulation, becomes impure and poisonous."†

The horizontal movement of the atmosphere varies from nothing to upwards of 100 miles an hour, and is measured in our observatories and other places by a simple intrument called the self-registering anemometer. As early as the middle of last century the celebrated Smeaton, in his "Enquiry" concerning the natural powers of water and wind to turn mills,‡ informs us that the air's movement of one mile an hour is hardly perceptible to the feeling; that from 4 to 5 miles is a gentle and pleasant wind; from 10 to 15 miles, a pleasant brisk gale; from 20 to 25 miles, the breeze is strong; from 30 to 35 miles, a high wind; 40 miles is very high, and 50 miles is a storm.

The anemometer teaches us that this horizontal motion of the air varies in a locality at different seasons of the year, and also very considerably in different parts of the same country. Thus, while the atmosphere's mean horizontal motion at Liverpool, for 1860, was, in the first quarter of the year, 400 miles a day, or 16 miles per hour, it was only 290 miles per day in the fourth quarter; the average daily movement for the year being 327 miles, or 13 miles an hour. With this let us compare what the registrar-general says of London, in his annual report for 1857:—"The peculiar meteorological phenomena of the year," he writes, "are the high temperature and the slowness of the wind's movements. The temperature was 2 degrees above the average of the preceding 17 years: the wind, instead of moving at the average rate of 110 miles a day, passed over London at the rate of 81 miles daily during the fifty-two weeks."* Here, while the wind's mean daily movement at London is said to be only 110 miles, or about 4½ miles an hour; at Liverpool, on the average of the three years ending with 1860, it is no less than 321 miles a day, or 13 miles an hour,—a difference greater than one would expect, and the cause of which I am unable to explain.†

The fact being thus established that the vital air is in ceaseless motion,—ever seeking to displace air that is stagnant, and so more or less effete, by pure air,—we have next to inquire from what quarters, or towards what points of the compass, the air stream mostly flows; because a knowledge of this will guide us in some very important particulars in planning buildings with a view to their ventilation, especially in reference to the choice of the most suitable aspect for the front elevation, for the entrance-door, for the windows, kitchens, for the latrines, and for cesspsols, when the latter cannot be dispensed with. In Manchester the direction of the atmospheric movement, during the year, I find to be as follows—(the calculation is on the average of five years):—Winds from the south-east, south, south-west, west, and north-west, prevail 279 days; leaving for other winds, namely, from the north, north-east, and east, 84 days only. Hence, with a map of Manchester and these figures, one can readily find the windward and the lee sides, and so ascertain the movement of the smoke-cloud towards different quarters of the city and neighbourhood. London has its westerly quarter, where the aristocracy dwell, because *that* is the windward side of the metropolis; and the same remark is applicable to all our large cities, in every one of which the north-eastern quarter, being the lee side, is, generally speaking, occupied by the meanest description of dwellings. Indeed, I have always observed that houses of the better class, erected on the east and north-east sides of our large towns, gradually lessen in value; and are, in course of time, abandoned by the wealthy inhabitants. A history of change, in the rank of the occupiers of dwellings on the lee side of our old cities, would afford curious revelations of mutation. I well remember, when a student in Glasgow, visiting pauper patients in tenements on the eastern side of the city, understood to have been occupied at one time by families of the aristocracy.

Having briefly stated what I mean by the laws of nature's ventilation, I now proceed to show the application of these laws in the construction of dwellings and other edifices; and first of cottages.

A properly-constructed cottage is, in a sense, alike necessary to the health and morals of a family.

Single and Double Honeycombs.—In all our large towns thousands of families occupy cottages in which there is only one room to live in; and one where all the members of a family, of both sexes, pass the night. The name honeycomb is from the rooms resembling in certain respects the cells of the bee,—that is, placed back to back against a common wall. In Manchester, Salford, Sheffield, and Liverpool—in the latter city more especially—the double honeycombs are very numerous; whilst in Leicester I found, when there a few years ago, that many of the dwellings of the poor are single honeycombs; that is, each row of these cottages rests against a wall, as if built against the face of a rock. Of course the apartments in the single and double honeycombs alike do not admit of nature's ventilation. No cottage ought to have less than four rooms—two on the ground and two above,—with windows behind corresponding to those in front; and the entrance and back doors should be face to face, to secure a frequent renewal of the air.*

A Pair of Semi-detached Houses.—There are a number of residences of this description in and around our city, mostly of large size, and yielding a high rent. I need only to direct attention, first to the ground-plan, and then to the chamber-plan, to satisfy any person of intelligence that both are faulty. In the first place, the entrance-door and the porch do not conduct *directly* to the hall, whilst the hall itself ends at the median wall; in consequence of which the arrangement of all the apartments tends to impede a proper circulation of the atmosphere. In the chamber story, again, there are the same impediments to ventilation; whilst, to increase the evil, the latrines have a central position at the extremity of the landing, against the before-mentioned median wall, and are manifestly an unwholesome nuisance.

Well-planned Small House.—In the ground-plan, the entrance and the back doors are placed so as to favour through ventilation; whilst, in the chamber story, the water-closet is projected outside, behind the posterior wall; and is ventilated by two windows, one on either side, facing each other, thus securing through ventilation at a right angle with the entrance door.

Townhalls.—Manchester Townhall, King-street, furnishes a good illustration of an important public building with ample air space, and yet very defective ventilation. You step into the lobby; pass on to the staircase, which is lighted principally from the dome; and then you see before you the lofty posterior wall, unpierced by door or window. Having mounted to the landing (the hall or place of assembly is on the first story), you enter from behind, and immediately perceive that this spacious apartment is lighted only by windows in the front. A visit to the hall does not fail to make one feel that the air is stale and sickly; in a word, that you are breathing, perhaps, the very same air an assembly of the citizens inhaled the previous week. A worse planned building for public purposes it would not be easy to find. Besides securing through ventilation—a feature essential in any plan for this kind of structure—there ought to be a door or other opening behind, corresponding with the entrance door; for without some such arrangement it is vain to expect an agreeable condition of the atmosphere, whether in a townhall or in a private mansion.

School-rooms.—Nowhere have I seen school-rooms so badly constructed and ventilated as in Prussia. In some instances you enter a large apartment full of children, with only one door and one window: the state of the atmosphere may be easily imagined. During a tour in Holland, some years ago, I looked into many of the Armen, or public primary schools, and found them more lofty and better ventilated than any buildings of the kind I had seen elsewhere. The ventilation is secured, in general, by means of windows facing each other in the opposed walls at a considerable elevation from the floor; and, being hung on their transverse axis, they are easily opened; and are, in fact, usually kept open. In many of our school-rooms there are windows only on one side, which is evidence that, in some things, we are truly German. No school-room should be planned without deliberate regard to the admission of light and the circulation and continual renewal of the air.

Barrack Dormitories.—As barrack construction has often been the subject of criticism, and is known to be generally in England very defective, I beg to call the attention of architects to the caserne for a large body of troops at Antwerp. It lodged, I think, last year, 2,537 men. The dormitories, which are wide and lofty, have through ventilation by means of very numerous tall windows in the opposed walls; and it is along these walls on either side that the beds are ranged. The stables, too, I found just as well ventilated as the dormitories of the soldiers. Without meaning to affirm that the hospitals, barracks, and other public buildings in Belgium are free from faults, I have certainly visited no country in

---

* By Mr. John Roberton. Read at the Manchester Statistical Society.

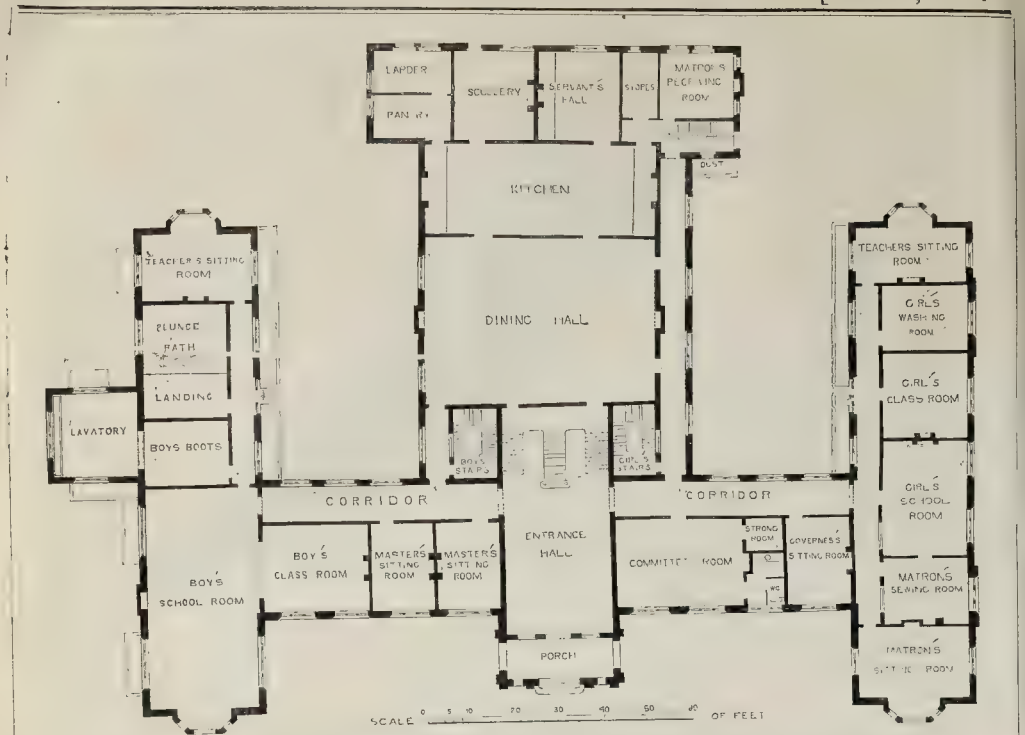
† London: Sampson Low, Son, & Co. 1860, 8vo. pp. 77, 93, and 94. Captain Maury adverts to changes in the air which chemistry fails to detect. I beg here to call the attention of my readers to a remarkable production of Dr. R. Angus Smith, "On the Air of Towns," replete with facts of a novel character, which well deserve the study of all who feel an interest in sanitary science.

‡ Philosophical Trans., vol. li. p. 165.

* Report, p. 43.

† See reports on the health of Liverpool, by W. H. Duncan, M.D., medical officer of health for the borough. In Mr. Samuel Pearce's reports on the sanitary state of Bethnal-green, the mean daily movement of the air in the years 1855, 1856, and 1858, is said to have been 92, 100, and 86 miles,—an average rate considerably below the 110 miles given by the registrar-general.

* Often there are little courts between the cottages at certain intervals, in which are the privies and ashpits, and these for the most part are in a filthy condition. Moreover, it often happens that *under* the cottages are cellar dwellings, parted, like the former, by the median wall.



THE JEWS' HOSPITAL, LOWER NORWOOD. *Plan of Ground Floor.*

which the laws of nature's ventilation are, upon the whole, so well observed.*

Omnibuses.—Some years ago, when in London, I travelled, on a sultry day, by omnibus, from Camden Town to the Bank; and was struck by the unventilated state of the vehicle; the air in which was depressing—almost past endurance. The front was closed, and padded from top to bottom; and the means for ventilation were exactly the same as would have been, had one entered a large cask, on its side, with one end open. All the London omnibuses, at that time, were equally close and uncomfortable. In Manchester our omnibuses have, for many years, had through ventilation; in some by means of perforated zinc plates near the roof; and in others the admission of air is still more free by small semi-elliptical openings, which face each other on the two sides, close to the roof. In addition to this, there is a perforated metallic plate behind the driving-seat, facing the entrance door; thus securing, on all sides, a free communication with the atmosphere. In the hottest day the air is sweet, even when the vehicle is crowded; and there are no unpleasant draughts.

In referring to ventilation we are never to forget that, in order to secure nature's pure air, it is essential to guard against the many sources of its pollution. The air which descends to us is pure, but it is left to man to maintain it so; hence we have to drain our marshes, empty foul ditches, remove cesspools, and see that our streets are sewered and paved. The Deity has given laws for the moral government of society; but He leaves to man, on whom He has bestowed intelligence, the discovery and the application of those scientific means which are necessary to health and physical happiness.

* "We may hope that the keen, searching examination into the various sanitary defects existing in our large towns, an account of which appears from time to time in the *Builder*, will work important improvements. I should also rejoice if people would receive a sanitary law, propounded some time ago by the editor of the same valuable journal, in reference to the use of gas in dwelling-houses; viz.,—*that there ought to be no gas-burner without a flue, any more than a fire without its chimney.* Dining-rooms and drawing-rooms, libraries and parlours, in this city, are illuminated by gaseliers, some with many burners, to the intolerable deterioration and pollution of the atmosphere. The public seem ignorant of a fact, long since enunciated by Liebig, that 'a cubic foot of coal gas consumes 2 to 2½ cubic feet of oxygen, and produces 1 to 2 cubic feet of carbonic acid.' Any one who will take the trouble to visit our Portico, may see gas produce brilliant illumination, and at the same time itself the agent of ventilation."—J. R.

ALBERT MEMORIALS.

AT Clyst St. George, Devon, the parishioners have subscribed for a new treble bell (F), to be added to the peal of five, as a memorial to the late Prince Consort. Besides a large medallion likeness cast on the waist of the bell, the following is in embossed letters:—

IN MEMORIAM, ALBERTI
CONSORTIS, REGII
PII, BENEVOLI, DOCTI
BONARVM, ARTIVM, PATRONI
OMNIBVS, DESIDERATISSIMI.
MD.CCC.LXII.

This idea of a memorial bell is not a bad one. An Albert bell in every parish in the kingdom and colonies would be admirable.

THE JEWS' HOSPITAL, LOWER NORWOOD.

THE building of which we give illustrations is erected in lieu of the structure founded in 1806 at Mile-end, in the county of Middlesex, for the support of the aged and the education and industrious employment of youth of both sexes, by means of voluntary contributions obtained by Messrs. Benjamin and Abraham Goldsmid, and was built, from funds belonging to the Institution and voluntary contributions, upon freehold land given by Mr. and Mrs. Barnett Meyers. The foundation-stone of the building was laid by Sir Anthony Rothschild, bart., in June 1861, and it will shortly be consecrated, the cost being about 23,000*l.*

The excavations and concrete foundations have been very considerable, in consequence of the levels and nature of the soil. The finishings of the plinths, doors, windows, balustrades, quoins, and entrance, are of Portland cement, except the windows of the synagogue, which are of Bath stone. The basement floors are finished with Seyssel asphalte; the entrance-hall with encaustic tiles; and the corridors and principal passages with red and blue terro-metallic tiles; brick arches being turned, to receive the tiling, to render these portions fireproof, corresponding with the staircases and landings, which are of stone.

The wings which form the north and south sides of the building are, with the tower, the only portions basemented, with the exception of the coal-cellar, which is formed under the matron's receiving-room and stores. The west end of the wings is fitted up with the children's "closets," each closet having slate divisions, door, &c.; and under each range of closets is a culvert, lined with glazed bricks, constantly filled with water, except when emptied by the removal of the standing waste. The remainder of the basement is fitted up as play-rooms and cellars.

The arrangement of ground-floor is shown by the accompanying plan. The dining-hall has an open timber roof, with lantern and ventilation. The walls are lined with panelled dado finishings, and the chimney-openings have handsome Caen-stone chimney-pieces, with stone fenders and suitable stoves. The principal staircase is lighted by a stained-glass window, containing Scriptural subjects, presented by Mr. Faudel, the chairman.

Over the hall, &c., is the synagogue, with a gallery, having an open timber roof. The lower part of the synagogue is approached from the landing of the principal staircase and the corridors of the one-pair floor, and the galleries from the corridors of the two-pair floor. The wings of each floor are for dormitories, bed-rooms, lavatories, and wardrobes; the portion between the wings and synagogue are intended for masters', matrons', and assistants' apartments.

The buildings over those shown in the rear of the kitchen on the plan are to be used as the infirmary and contagious wards, and have a separate communication over the passage shown next to kitchen, dining-hall, &c., on plan. The approach to the building is from Knight's Hill-road, the entrance-gateway being the gift of Mr. Henry Keeling, the treasurer.

The buildings have been erected by Mr. John Willson, from the designs of Messrs. Tillott & Chamberlain, architects, Gresham-street, City.

"GUNPOWDER SUPERSEDED."—The latest explosive material consists of the flour of starch, which, boiled in a peculiar way with nitric acid, possesses, it is said, a far greater projectile force than the gunpowder in ordinary use. It is, probably, somewhat similar to gun-cotton.



THE JEWS' HOSPITAL, LOWER NORWOOD.—MESSRS. TILLOTT AND CHAMBERLAIN, ARCHITECTS.

THE ROYAL ACADEMY OF MUSIC.

A MEMORIAL has been addressed to the Chancellor of the Exchequer, signed by 105 professors, members, associates, and honorary members of the Royal Academy of Music, well known musicians, praying the Government to assist in its permanent maintenance and support. The memorial shows:—

"That the yearly expenses of the academy average 3,000*l.*, and these exceed the receipts (drawn from students' payments, annual subscriptions, and interest on stock) by an average of 500*l.*; thus, the accumulated capital of the Academy has been gradually decreased to its present total of 4,200*l.*, which will be further lessened by the deduction of 1,000*l.* to defray the standing liabilities of the institution. An easy calculation would prove from the above that the term of the academy's existence is almost definitely limited; and your memorialists beg of you to consider whether this institution ought in a few years to be closed from the want of funds.

The memorialists regret that the present large rate of annual payment should be required from the pupils. While, therefore, the grant by Government of a building for the carrying on of the operations of the establishment (a support enjoyed by all the scientific and artistic bodies in the metropolis) would greatly relieve the Academy of its apprehensions; the concession of yet more liberal assistance would give the power of diminishing the charges to students, and increasing the number of free scholarships; and thus vastly enhance the benefits of the institution."

We should gladly see this effected. An inquiry into and revision of some of the arrangements of the Academy would also be necessary to bring it about.

PROVINCIAL NEWS.

Peterborough.—The scaffolding in front of the new bank, erected by the National Provincial Company in Narrow Bridge-street, has been removed; and the proportions and general features of the building are for the first time disclosed. The front is of Ancaster stone, ornamented with carved pilasters and a variety of mouldings; and in height the building rises above the surrounding houses. Messrs. Hine & Evans, of Nottingham, are the architects; and it is said that the total cost of the building will be about 6,000*l.* Mr. Young, of Lincoln, is the builder.

Dorking.—It is intended to call a public meeting of the inhabitants at an early date (says the *Surrey Standard*), for the purpose of taking into consideration the expediency of erecting a public hall in some convenient suitable situation; and, at the same time, to receive suggestions and offers respecting sites. Mr. George Cubitt, M.P., has signified his willingness to preside at the meeting referred to. The offer made by Mr. Deverell some short time since, to build a hall on the site of a house in East-street, is stated to be of such a nature as cannot well be entertained.

Bath.—At a meeting of the provisional committee for the erection of a new theatre at Bath, it has been resolved that twenty guineas and ten guineas should be given for the first and second plans *not* accepted by the committee.

Invermoriston.—The series of landing-piers on Loch Ness has now been completed by the erection of the fourth of these structures at Invermoriston. For this pier the public are indebted to Lord Lovat. In addition to the pier, a store-house is in course of erection, and there are to be waiting-rooms for passengers. The pier was executed after a design by Mr. George May, engineer to the Caledonian Canal Commissioners, and is the work of Mr. Sime, contractor, who built similar structures at Temple, Inverfarigaig, and Foyers.

SCHOOL-BUILDING NEWS.

Burton-upon-Trent.—The new schools connected with the Church of the Holy Trinity have been opened. The determination to erect new buildings was arrived at two or three years ago, in consequence of the dilapidated state of the old structure. The schools are built in the Pointed style, and are adapted to accommodate about 500 children. Their cost is stated to be 2,700*l.*

Halifax.—The new school-house for the parish of St. Luke's, the corner-stone of which has just been laid, is being carried out from the designs and under the superintendence of Mr. H. Elliot, architect. The building is to be erected on the lot of ground forming the corner of Morris and Queen streets, facing the west side of the church, and is to be carried out in the Pointed style. It is to be 60 feet long, and 30 feet wide, with a porch projection on the west side 10 feet square, forming the entrance from Queen-street. The main body of the walling is to be of red brick, relieved and lightened, however, by dressings of light-coloured sandstone from the Albert quarries, N.B. The walls are to be built hollow, with an air-space of 4 inches between an outer wall one brick thick, and an inner wall half brick thick. The walls are strengthened by buttresses, of which there are five on each side, with white brick quoins. The roof, which is high pitched and open timbered, is to be covered with Vermont slating of two tints—purple and green—in alternate courses. A bell-turret is to rise above the principal roof, and be surmounted by a wrought-iron finial. On the inside the roof timbers all show, and are to be planed and chamfered, and stained oak colour; the ceiling being plastered in between the timbers. There will also be an air or hollow space of 2 inches between the plastering and slating, to obviate the effects of rapid changes of temperature outside. The room will be lighted by nine side square-headed windows, of two lights each; a large three-light Gothic arched window at the north end, and a two-light ditto at the south end; all of which will be glazed with thick patent quarry-rolled plate glass. The contract for the whole works has been taken by Mr. G. Lang, builder, and the cost will be about 1,000*l.*

CHURCH-BUILDING NEWS.

Clapton (*Northamptonshire*).—The small village of Clapton, Northamptonshire, presented an animated appearance on the 3rd inst. The old church having fallen into a dilapidated and dangerous state, it was determined to pull it down; and Mr. W. P. W. Freeman, the proprietor of the parish, with the assistance of the Rev. Edward C. Shedden, the rector, has undertaken to build a new church, on a new and more convenient site. The foundation-stone was laid by Mrs. Freeman, in presence of a large assemblage of the clergy, county families, and inhabitants of the surrounding neighbourhood. The old church, though so lately pulled down, was built by Reginald, the first rector of Clapton on record, about the year 1200. Previous to that period it was only a timber edifice; and, although the foundations have been undermined from time to time by vaults and graves, both inside and out, still the old church has stood 660 years.

Colchester.—The tender of Mr. H. B. Smith, builder, Ipswich, for building a new Congregational Chapel, at Colchester, for 3,633*l.*, has been accepted by the committee. The plans are by Mr. Barnes, architect.

Widford (*Chelmsford*).—Widford new church, which has been erected at the cost of Mr. A. Pryor, of Hylands, is now completed. The new peal of six bells, from the manufactory of Messrs. Warner, has been inaugurated by professional players, sent down by the founders. Mr. St. Aubyn is the architect of the church.

Chesham.—A new district church is about to be erected for the parish of Ch sham, in the county of Buckingham. This has been in contemplation for some time, owing to the increase of the population. The church, when complete, will consist of chancel, nave, north and south aisles, and tower at the west end of the north aisle, and will accommodate about 600 worshippers. The style adopted is that of the thirteenth century. The construction will be of flints for the walls, with dressed stone for the piers and arches and the dressings of the doorways and windows. The chancel, nave, south aisle, porch, and vestry, is all that is intended to be carried out at present. The contract for this portion of the works has been taken by Messrs. Dove, of Islington. The architect engaged by the committee whose design was selected in competition is Mr. Raphael Brandon.

Guildford.—The parish church of Puttenham has been reopened for divine service. The church, which contains some old Norman features, has been partially restored, under the direction of Mr. Woodger, the principal expense being met by a legacy of 1,000*l.*, which was left by the late rector, the Rev. T. W. Richards, for this purpose. A new organ, built by Messrs. Hill, of London, has been presented to the church by the present rector; a stained glass window by Hardman, the gift of Mrs. Richards and Mrs. Pope; and two smaller windows by Messrs. Powell, the gift of Mr. Moreton Sumner, have also been added to the church. The cost of restoration already amounts to nearly 1,300*l.*

St. Leonard's (*Sussex*).—The Church of St. Leonard's was reopened on the 4th instant, after the completion of the extensive alterations that have been made during the past six months. The nave floor has been lowered to show the bases of the piers: the ceiling of the nave has been taken down, exposing the oak roof: one additional bay is added to the length of the nave; and two transepts, chancel terminating with an apse, vestry, and porch, have been built to the old portion of the fabric. The benches are of deal, stained. Three of the lights in the apse, and one in the transept, have already been filled with stained glass. The centre light in the apse is a memorial, presented by the Rev. J. Carnegie, and represents the Crucifixion. The right-hand stained window represents "Christ Blessing Little Children," and was contributed by the pupils of Mr. Nunns. The left-hand one was constructed at the cost of Mr. J. S. Turner, of Chyngton: it is "The Sermon on the Mount," and is to the memory of Mrs. Ann Pierce. The transepts are about 30 feet wide, with two Pointed windows in each, mounted by a circular window. The painted window in the north is a memorial one, presented by Mr. H. Simmons: it represents the Raising of Lazarus by our Saviour. The whole of the painted windows were put in by Messrs. Powell, of Whitechapel. Some small windows still remain in the aisle walls. They are not more than 4 inches wide and a foot high, of very early Norman work. The aisles have been rebuilt; and the whole of the church, with the exception of the tower (upon which no work has been done at present), has been made to harmonize with the original Transition Norman style of the building. Mr. John Billing, of Westminster, was the architect; Mr. T. Cane, of Brighton, the builder; and Mr. H. Cane has executed the carving, and generally superintended the workmen. The cost of the works was about 2,000*l.*

Kington Magna.—The church of Kington Magna has been consecrated by the Bishop of Salisbury; after having been, except the greater part of the tower, completely rebuilt. The old building was of the Early Decorated style of architecture; consisting of nave, chancel, north and south aisles, with a porch on the south side; and the new church has been built in strict conformity with the original structure; with, however, some few additions, consisting chiefly of a new vestry and warming chamber. The seats are all open, and will accommodate 320 persons; giving an increased accommodation of 72, without any gallery. The works have been carried out under the direction of Mr. Charles Turner, architect.

Oborne (*Dorset*).—The new church of St. Cuthbert, Oborne, has been consecrated by the bishop of the diocese. The edifice consists of a nave, with bell-turret, and apsidal chancel, with a vestry on the north side of the church. It is in the Early English style, and is built of stone quarried in the village, with Ham-hill dressings; the vous-soirs of the chancel arch being of Ham-hill or Tisbury stone. The caps of the columns are of the latter, and were carved by Mr. Poole, jun., of London. The columns themselves are of the red Ipplepen marble, polished. There are five short lancet windows in the chancel, and two at the west end: in the nave there are four double-light windows on the north, and three on the south side. The architect was Mr. W. Slater, and the clerk of the works Mr. Butler. The contract for the walling was taken by Mr. J. Croad; that of the Ham-hill masonry by Mr. J. Chapman; and for the work done in Tisbury stone, by Mr. T. P. Lilly: the woodwork generally was executed by Mr. J. Guppy, and the oak seats by Mr. C. Down; ironwork by Messrs. Read & King; glass-work and painting by Mr. Upsall; the font and carved work by Messrs. Poole, Westminster, the carved desks by Messrs. Forsyth, London; the stone pulpit by Mr. Johnson, Marnhull; the tile paving of chancel by Messrs. Minton, of Stoke-upon-Trent; and that of the nave and porch from the works of the Architectural Pottery Company, Poole.

Worcester.—The choir of the cathedral is about to be thrown open to its aisles, by the removal of the plaster screens which inclosed it; and it is probable, according to the local *Herald*, that the wood galleries and screens or canopies to the stalls will also be removed. The only obstruction of the view from east to west is the organ and its loft; and when the whole is removed (which is said to be contemplated) and the organ deposited in the south transept, under the Adelaide window, the choir and nave will then be thrown open into one for congregational purposes. The scaffolding is being removed from the north-east transept, which has just been completed, except the carving of its arcade work, which had been almost entirely swept away by some former iconoclasts. Mr. Boulton, sculptor, is engaged on a new series of carvings for this transept.—The Barbourne district church, after a long delayed period for erection, is now nearly completed, and will probably be consecrated in a month. The walls are built of Ombersley stone, and defended with buttresses.

The nave roof is lofty, and with clerestory. The tower, which is situate at the south-west angle of the nave and at the end of the south aisle, is of three stages, with double buttresses at the angles, and a newel staircase leading up to its top. At present only one bell is hung: it was cast by Mr. John Taylor, of Loughborough. A spire was originally projected. The church was founded by the late Miss Lavender, who died while it was in course of erection; and the stone was presented by Mr. T. G. Curtler. The style is Decorated. Four acutely-pointed arches separate the nave on each side from the aisles, and stand on circular and octagonal pillars, with freestone capitals, carved in foliage, monsters, &c. The roofs are of open timber—red deal, stained—the principals resting on corbels, carved with foliage. The clerestory consists of duplicated arches, each having a two-light window. All the arches are constructed of red and grey stone alternating. The aisle windows are of two lights, with trefoil opening above; west window, four lights; east window of three, the latter being of stained glass, with the inscription, "In memory of Jane Lavender, who founded this church, and died while it was in building." The subjects of the window are, Moses lifting up the Serpent, Abraham about to sacrifice his Son, the Crucifixion, and Resurrection, with angels bearing a label; and in the tracery of the head are the heavenly hosts, playing on harps, &c. Minton's tiles are laid in the chancel, and the nave floor is covered with Stourbridge tiles. Haydon's hot-air apparatus is applied for warming the church. The seats are open, with leaning backs, and the material is stained deal. The edifice will seat between 500 and 600 persons. Mr. Preedy was the architect; and Messrs. Addenbrooke & Hartland, of Sedgley, were the contractors for the whole work. The churchyard is being levelled, and the walks laid out. A school will also shortly be erected in a field adjoining the churchyard.

Bristol.—A scheme has been concluded between the Dean and Chapter of Bristol and the Ecclesiastical Commissioners, by which the former pass to the commissioners (with certain reservations) the whole of their property; and by which the latter bind themselves to pay to the Dean and Chapter an annual sum of 6,796*l.*; and to expend the sum of 6,000*l.* on repairs and alterations in the cathedral church; such repairs, &c., to be carried out under the direction of the architect of the Dean and Chapter.——The new Wesleyan chapel at Clifton is progressing. The total cost will be 5,980*l.*, all of which has been promised or subscribed except 1,500*l.*

Bisley.—The Church of All Saints, in the village of Bisley, has been reopened. The edifice, according to the *Gloucester Chronicle*, consists of a nave and two aisles and a chancel, the prevailing style being Early English. The other chief features of the interior are an open-timber roof, a clerestory of trefoil lights, a chancel arch, its hood moulding terminating in florid corbels; an ancient font carved, and a stained chancel window of three lights. There is also a second painted window in the north aisle, the gift of the workmen employed in rebuilding the church; and one of the clerestory lights is painted. The roof of the chancel is painted, and the floor of the edifice is covered with Godwin's tiles. The church is surmounted by a spire. The cost of the edifice, amounting to about 4,000*l.*, will, we understand, be defrayed by the vicar and his friends; while the curate, Mr. Lowder, has been the architect. In the progress of the works some Roman remains were found, namely, a domestic altar to Mars, in a very perfect condition; and another, more mutilated, to Castor. A large painting, of the fifteenth century, was also discovered on the north wall, representing St. Michael weighing the souls, with the Virgin Mary receiving them under her robes. A number of incised coffin-lids or monumental slabs were also discovered, and have been preserved, and are now placed in the wall of the north aisle. The stained windows are by Messrs. Clayton & Bell: that in the chancel represents our Saviour as the Good Shepherd; the workmen's windows, Hiram and Bezaleel, the Scripture Builders, with emblems; and the clerestory window, the Transfiguration. The contractors for the masonry were Messrs. Wall & Hook, of Eastcombe; for the carpentry, Mr. W. Restall, of Bisley; and the iron and other work generally has been executed by parishioners. The enlargement of the organ has been done by Mr. Walker, of London; and the colouring of the chancel by Mr. Clarke, of Bristol.

South Cerney (*Gloucestershire*).—The parish church has been reopened. Four or five years ago the spire was struck down by lightning, and the whole of the edifice was much shaken. It was therefore resolved to repair the church, and also to enlarge it. The new edifice has, therefore, been lengthened; and it has also been widened by the addition of a south aisle; and, instead of being a small Norman church, debased and disfigured by alterations of later date, it is now a large one in the Early English style. Some Norman features have been interwoven with the design. The church consists of a chancel and nave, with two aisles. A feature of the interior is the manner in which the tower separates the nave and chancel: the lower story forms a covered passage between them, and serves both for a belfry and a choir. A painted window, by Messrs. Lavers & Barraud, of London, has been put up in the nave: the tracery is filled with the heads of the twelve apostles; and the lights, five in number, divided into two tiers, contain representations of ten incidents in the life of our Saviour. The window is a memorial of Mrs. Edwards, the wife of a former curate of the parish. If the spire were re-erected the church would be complete. After it had been struck it was pulled down somewhat carelessly, and the stones were piled in the churchyard, where they still remain. The cost will be only 150*l.* The builder employed was Mr. O. Estcourt, of Gloucester.

THE WAY TO THE NEW STYLE.

THE idea which we are apt to form of so indistinctly-defined a thing as a new style is extremely likely to differ so much from its natural realization, that we might in no wise recognize the realization when presented to us. None of us who desire the triumphant advent of the new style have as yet seen our idea of it realized. Yet it may be inferred from the expression of this desire that the new style must now be leavening the styles in which we at present practise. Within the last few years some buildings have been erected in a style or manner which is not *old*, although akin to an old manner; and which, in a description of styles, would require its own special chapter. It would be inconveniently *personal* to point out the buildings to which I refer; but they are not all of one, or two, or three architects' design, and they appear to me to realize a new style, in an approximate degree; and perhaps may hereafter be classified as of a transitional style; for they, though mostly private buildings, are not ephemeral erections; and will, doubtless, exist long after the new style has become no longer problematical.

The style of the buildings I have just referred to, therefore, approaches nearest towards realizing my conception of the new style. But the position of the new style is claimed by the advocates of two of the styles which are at present practised; the style or manner called the "Victorian Style," and the "Pointed Style."

I cannot concede to the Victorian style the epithet new; inasmuch as it appears to me to be an old style, with a difference, as the heralds have it,—an old style Borromini-ishly treated, and nothing more.

The present Pointed style is more entitled to be termed new, in consequence of the great modifications it has latterly undergone; and these modifications must not cease now if the style is to be the new style; but they must be continually made until no modification is necessary. But however pliant (as its advocates declare) the nature of the Pointed style, there is a deadly feeling of precedent now growing about it, which, if not checked, will overthrow it. It is now in the position of the old infallible Classic style of the Georges. Puritanic in its avowed principles, it has occupied the seat of the artistic episcopacy; but what then? "New presbyter is but old priest writ *large*."

I propose now to make three remarks on *the* new style; viz., on its unity, its antiquity of principle, and what is its principle; always reserving that I speak as I apprehend; and, while supposing I am right, am only anxious that my views should be adopted in strict proportion to their correctness; and of what that proportion is, I should wish every interested reader to be persuaded in his own mind.

The style which embraces the beauties of all others must also embrace their features. These features being selected according to the necessity of every special case, it will follow that some buildings will differ as widely in character from other buildings as a Gothic church differs from a Classic warehouse. I fear lest this variety should be deemed dis-unity. I do not look at it as such. I think that the unity which we claim is an unity of principle. It is impossible that the forms of buildings should universally assimilate; but I think that there is some such idea entertained as that this impossibility ought to be overcome by the inventors of a new style. I should not desire to overcome it, but rather to produce structures of their several classes, varying from one another no less than bee from spider, or beetle from butterfly,—to extend the comparison no further; although I think it would admit of further extension.

It appears to me that we could not fail of producing a style possessing true unity, if we employed *one* principle, the operation of which must be necessarily regulated and guided by the physical laws of nature. However, it is very necessary to keep harmonious arrangement in view, because it is so easily lost sight of in working in a new manner; and while this must be the artist's care, surely all who value progress should regard errors in this particular with a very charitable feeling. The poet says,—"If you would unheard-of things express, invent new words." If our new words should not be so graceful as the old, give us, O hearer, all your help, so that we may speak more gracefully, while also speaking originally. Do not preconceive this new style either a Minerva, Jove-born; or a Sin, Satan-born.

I consider that the principle on which we found our new style must be old. I do not consider the principle can be correct which is other than that on which all the splendid old styles have grown. I can never perceive that Greek or Pointed architecture, Roman or Egyptian, or Saracenic, or Renaissance, are other than the result of the steady application of *one* principle, which is the most dominant in those works we most admire.

What, then, is this principle,—this principle of unity and immortality which is to be the life of our new style? I will give it in words written by Mr. Fergusson, years since, in the *Builder*. But before transcribing these words, I will observe that, however excellent the principle embodied in them, it does not avail those who do not receive it.

If this principle be right; and you, reader, so conceive it; does not your conscience call upon you to *determine* to carry it out? Did not conscience so cause Galileo to proclaim the truth he perceived? But you, O architect, have but to embody this principle in your style, by a patient application of it to every line you draw or word you write in the description of your work, or every direction you give concerning it. Whether you work for reputation (which is money), or for the love of God, you must consider that your interest requires that your endeavours, however meekly made, must be made laboriously,* fervently, and entirely in the direction which you consider right.

And this is how Mr. Fergusson states what I consider the principle for a new style, and in proximate accordance with which is the style of the buildings referred to in the first paragraph:—

"1st. Design a building wholly and solely for the purpose for which it is to be used, without the least reference to any bygone age or style. 2nd. Construct it with reference to the best material available; using each material—whether it be brick, stone, marble, wood, or metal—according to its own properties, and these only; never allowing it to take the form, or interfere with the province, of the other. And, lastly, ornament the building so designed and constructed in whatever manner you can conceive as most appropriate and most elegant; never concealing or even disguising construction or material,—only dressing them, to use a familiar phrase; and likewise without reference to any other style, or ever looking back, but always forward; trying to surpass whatever has been done before."

S. C. R.

CRYING FOR A NEW STYLE.

SIR,—It seems extremely unfortunate,—at a time when, above all others, some good and eminent men are striving, and apparently with success, to properly form and cultivate the mind of the young architectural student for the work he will have to do—to direct his mind to examine and admire, and his soul to love purity, elegance, and modesty of style in his art,—that endeavours should be made, and made ofttimes by those in responsible situations, to root out and demolish his preconceived notions; disturb the quietude of his thoughts, create disgust with the idea of "fettering" his mind with architectural maxims and works which have excited the emulation and

* Has not the natural dislike of the trouble of repeating in drawing very much to do with the success of the picturesque one-sided manners? Has not the labour of drawing elliptic arches greatly contributed to the employment of the false ellipse?

admiration of all men of taste in preceding centuries; and, in urging him to strike out boldly into the vortex of mistaken originality,—to ruin him; at any rate, for a time. Such endeavours are, I think, mischievous in the extreme.

I have been led, in offering these remarks, upon a subject comprehended by the heading of this letter, to the attention of the readers of the *Builder*, to make them in the hope that they will counteract, at least to some extent, the dangerous tendency of not only the letters which have recently appeared in this journal; but opinions which have been expressed by some in written works; and by others who, one would have thought, were wiser, in works of more enduring material than paper; because I am perfectly convinced that such opinions are not only hurtful to their originators, but baneful to those who will have to succeed them in a few years; and also to the public, who will have, in the long run, to determine whether those opinions are lawful and true or not.

Let us then consider, first, the question, "Is a new style wanted or not?" and next, "Whether a new style can be founded or not."

By a "new style" we must of course understand that a style is meant which no nation or people have ever thought of or conceived before; else how could it be said to be new? Now this cry has been cried for centuries. Ideas have been given; and, in some instances, carried into effect; which have either excited the risible faculties or have been treated with contempt, mingled with sorrow; and still we are without this new style, which shall distinguish its authors from a mere "set of copyists." Seeing, then, that so much time and money have been wasted without producing any valuable effects, it becomes of primary importance to consider the question proposed above.

Do either of the established styles—Italian and Gothic,—the one born and bred by the most scrupulous and refined good taste; and the other called into existence by a great occasion,—fail *of themselves* to represent the feelings and requirements of the nineteenth century?

They cannot be said to do so in a fine-art point of view. Never were people more pleased and enchanted with good work in either style than we of the present era, when we get it;—the more delighted as it approaches to purity and perfection of style; the more displeased as this is disregarded. Purity of style, then, must be the highest aim of an architect, if he wishes to ensure himself lasting approbation; and he will ensure the one, in proportion as he succeeds in producing the other. They cannot be said to inconvenience us by requiring materials we have not. They agree as well as anything can with our variable climate; and for constructive purposes they suit us admirably in every way. They do not fail in any important point; or, if they do, it is rather the fault of the architect. Both in beauty and utility we are suited when they are properly handled. This being the case, then, would it be wise to thrust these capabilities on one side,—to pursue an unpromising object, which will never reward anyone in the future, for expending time and trouble upon it, as it has never rewarded anyone in the past?

Good taste will *not* have architecture which shall, under the doubtful recommendation of originality, figuratively turn the ground-floor into bedchambers and the attics into drawing-rooms. No one cares for such architecture, and no one in particular will countenance it.

How highly ridiculous would our workers in iron be were they to refuse working in that metal because they were not its discoverers; and how equally ridiculous in architects to refuse working in styles which taste tells us are good, because individually they have not formed them! True originality consists in being original in the same way that the author of a book is,—by using words which have been used thousands of times before, only arranging them differently.

Seeing, then, that people are entirely satisfied with the styles we have, so long as they are properly used and not abused; that a new style to oust out the old ones is not required, because the old ones suit us as well as any new one possibly could in every point of view; and that people do not, in erecting a building, wish to speculate in a curiosity, or monstrosity; let us consider the second question, viz.,—"Whether a *new style* could be founded or not, if one was required."

If this *does* mean a style entirely new, I unhesitatingly answer, No; a new style cannot be founded. But if we adopt a milder form, and propose a mixture of the two standard styles; why, I think it may be accomplished; but it would never be satisfactory; and, consequently, never supersede the others.

Centuries of thought and labour have taught us that but two styles suit us—Classic and Gothic. The latter is, perhaps, in the ascendancy at the present time, because of the peculiar religious development which has taken place of late years; which religious feeling corresponds to that which originated the style. Of the phrases of Gothic, the Early English is the most to be desired, inasmuch as it supplies that longing after purity of expression which we have within us. Its effect is gained in a great measure by horizontal and vertical lines; while classic literature, admitting only of horizontal lines, is at once destroyed if leading vertical lines are introduced,—the frieze broken, and projections given where flatness is necessary in order to give that feeling of reposing gracefulness which is the distinctive feature of good Italian. Because, then, Gothic is unpleasing unless it possesses bold projections and vertical lines to give it massive and playful shadows, and Italian is pleasing and good when it is without them, any attempt to unite the two styles must of necessity fail; and the idea of supplying us with a *new* style by a mixture of two old ones is evidently absurd; for it must consist of disjointed fragments of the peculiarities of each old style thrown more or less clumsily together. The lover of Italian will feel hurt to see his love in such bad company as Gothic; and the hater of Italian will feel disgusted to see Gothic polluted by the touch of its foe; and as all men adhere to one or the other, universal disapprobation will be the consequent of any attempt to unite the two styles in one composition.

Oh that every reader would accept as an axiom that no architecture is really good except that which the architect has nobly striven *to perfect*—not sought to originate anew! S. G. C.

DWELLINGS FOR THE POOR.

SIR,—A few months back men were roused to admiration by announcements in newspapers, that Mr. Peabody had placed 150,000*l.* in the hands of trustees for the benefit of the poor of London; and that a large portion of this money would be vested in dwellings for their occupation. Such information as I obtained on this matter induced the belief that the feelings which Mr. Peabody's munificence had excited urged people, in his apparent honour, to the conclusion, that his money would meet all the house requirements of the poor; and that it would be intrusive to sustain him on his purposes for their comfort. Admiration too frequently subsides into such a deadening and unwarrantable conclusion as this; but my belief is that, to truly honour Mr. Peabody for his services to the English poor, we must come to sound conclusions on the question,—What amount of money is necessary to meet and overcome the moral and physical evils which the crowding of the London poor in their dwellings produces?

When Mr. Peabody's gift was proclaimed by the press, my impulse was to observe on its practical merits with reference to this problem; I having toiled over it for some months in the winter and spring of 1860 61; but I thought of the impending meeting in London of the Association for the Promotion of Social Science; and I suspended my purpose in the hope that the subject would be then comprehensively and practically treated by some competent person. It was not so treated; yet something was said, for another purpose, which enables me to show, in this letter, the practical value of Mr. Peabody's money in its connexion with my suggested problem. In the Social Economy Department, on Thursday, 12th June, the merits of a paper on the "Operation of the Poor Laws" were discussed; and, for the purposes of his special arguments, Mr. W. Gilbert declared that, "by the construction of the new street from Stamford-street to the Borough, and of the Charing Cross Railway, and the London, Chatham, and Dover Railway, dwellings which had been occupied by from 5,000 to 7,000 persons of the working classes had been pulled down; and that those occupiers were now crowded upon the already overburdened parish of St. George, Southwark." Crowded! Then wholesome, decent, dwellings for (say) 6,000 poor persons could not be found in the parish of St. George; and there they are festering for the want of such house accommodation as Mr. Peabody seems to indicate to his trustees in his famous letter of suggestive instruction. Now, what would his whole 150,000*l.* do for those 6,000 dispossessed persons? A mere drop-in-a-bucket fraction of that vast host of overcrowded London people we have heard of for long years in the *Builder*. In a parish where the value of land is comparatively low, an illustrious lady has lately caused to be erected a square of dwellings for the poor. Possibly 700 persons occupy them. And I know where I can see other dwellings of like character. Some money has been sacrificed in Columbia-square on certain embellishments, and to give the tenants certain personal luxuries. Give, I entreat you, your thanks to the lady for this generous expenditure; but, putting it away from my calculations, I cannot believe it possible that a square, in even such a locality, could have been erected for less than 25,000*l.*; and eight such squares would scarcely accommodate the 6,000 persons lately thrust into the parish of St. George. So, then, were it convenient for about 5,000 of them to live in the neighbourhood of Columbia-square, seven more such squares would be necessary for their accommodation; and Mr. Peabody's whole money would not be enough for their erection. But men cannot be transported from their ordinary work in this massed way. And in other districts of London, where land is of greater value,—Southwark for instance,—houses of varied character, for the occupation of 6,000 persons, could not be constructed, or re-modelled, for such a sum as 200,000*l.* If, then, Mr. Peabody's 150,000*l.* would not give house accommodation to the dispossessed families declared by Mr. Gilbert to the Social Science Association, the wildest sentimentalist ought not to credit such a clear-headed calculating man for more than this in his noble and departing gift,—an earnest desire to stimulate other men to follow his example, for the benefit of the poor of London. His trustees can only serve them fractionally. But, should the wealthy men and women of London receive what he has done as a positive appeal to them to help the poor in their dwelling necessities; then, on such conclusions as I have reached on the subject, I am of opinion that, conjointly, they could easily and largely aid them.

For the most part, men of wealth have families having moral right to it sooner or later; and no man of the world would be weak enough to assume it possible to win them to such an investment, of such a portion of it as would seriously lessen yearly income, or damage its market value now or ever. But business calculations sustain me on this assertion, that it is quite possible for the wealthy of London, under sound and sure legal arrangements, and by the investment of sums which may be, emphatically, declared trifling, to substantially serve the poor in this case of dwellings;—to serve them by the investment of such sums as could not, on any conceivable calculations of business chances, lower their incomes by more than such trifles as I dare not outrage their self-esteem by naming in this place. Yet such interest-producing investments would do for the poor what our medical men and moralists tell us must be done for them before they can be, as a class, healthy and reputable human beings.

Were I to write of them as beings accountable to that *One* who is of purer eyes than to complacently behold iniquity in mansion or hovel, I should deal with the duty-work of the clergy and ministers of all religious denominations. Therefore this much only on their work: I believe they have arrived at the supreme conclusion that, debarred the decencies and moralities of life in their abodes, it is a hopeless duty to press upon the attention of such poor people the claims and privileges of religion. On this consideration I venture the hope and the belief, that our clergy and ministers will ponder what I have in few and simple words expressed in this letter; and be prepared to aid on the purposes of it, should that aid be claimed from them hereafter by those whom they esteem and honour. P.

COMPENSATION CASE.

CHARING-CROSS RAILWAY.

A COMPENSATION CASE was heard on Saturday, the 12th instant, at the Sheriff's Court, Red Lion-square, before Mr. Burchell and a special jury. Messrs. Gatti & Monico, who had occupied Hungerford Hall for the sale of ices, coffee, &c., claimed upwards of 13,000*l.* for giving up their premises for the formation of the railway. The net profits were stated at 4,000*l.* a year. The receipts last year were 9,552*l.*; on which there was a considerable profit. In the present year the receipts up to May were 5,186*l.*; and, being the International Exhibition year, they were expected to be considerably beyond the receipts of last year. After a consultation the jury assessed the compensation to be paid by the company to Messrs. Gatti & Monico at 7,750*l.*

PROPERTY TAKEN UNDER THE LANDS CLAUSES ACT.

REDDIN *v.* THE METROPOLITAN BOARD OF WORKS.

VICE-CHANCELLOR SIR W. PAGE WOOD, July 10th, gave judgment in this case. The suit was instituted by Mr. E. Reddin, the well-known dust contractor, of Windsor-wharf, Bankside, for the purpose of having the defendants restrained from taking a portion of his premises for the purpose of the main-drainage works, without purchasing the whole of his property.

It appeared in evidence that the defendants had, on the 5th of March last, served the plaintiff with notice that they would require to take a part of the premises at Windsor-wharf, known as the "tot-shop," or sorting-room, in which the plaintiff subjected the dust, rubbish, &c., collected by him, to a final process, by which various articles, such as bones, glass, &c., were prepared for the purposes of trade and manufacture. The real question was, whether this part of the property could be called a "manufactory" within the meaning of the Lands Clauses Consolidation Act, 1845.

His Honour said that a large number of persons were employed upon this "final process," and that it was no stretching of the term "manufactory" to extend it to the sorting-room. The defendants were therefore compellable to take the whole property if they took the sorting-room; with the exception, however, of a building which was held on sufferance, and had not been used for many years.

Mr. Baggally, Q.C., Mr. Cole, Q.C., Mr. Wickens, Mr. Beaumont, Mr. Langworthy, and Mr. Clifford, appeared in the case.

PATENTS CONNECTED WITH BUILDING.*

AN IMPROVED PROCESS FOR HARDENING STONES AND PLASTER OF PARIS, AND MAKING THEM IMPERVIOUS TO WATER.—*J. B. Hulard & L. G. Poupet.* Dated Nov. 25, 1861.—The composition which the patentees prefer for their indurating liquid is composed of the following ingredients in certain proportions:—Borax, white lead, sulphur of alumina [sulphuret of aluminium ?], acetate of lead, sulphate of zinc, silicate of soda or potash, ravlin, linseed oil, and water.

IMPROVEMENTS IN GROUND OR EARTH SCREWS. *F. Johnson.* Dated Nov. 20, 1861.—This consists in making the periphery of the flange of the screw with a number of teeth, similar to a circular saw, and arranged so as to assist the pitch of the screw; thereby enabling it to cut its way into the ground with greater facility than those at present used with a plain unbroken flange; or the screw may be made by having only a portion of its periphery with teeth; and in this case a projection can be made at its cutting edge, so that the remainder of the screw, which is of a lesser diameter, would follow in the opening made by the said projection.

IMPROVEMENTS IN BLOCKS FOR HOISTING.—*W. Duchemin.* Dated Dec. 3, 1861.—This relates to that class of hoisting-blocks in which friction rolls are introduced, and consists;—1. In a block having a ring or central bearing of considerable diameter, cast on to, or otherwise suitably attached to, the shell of the block, and surrounded by a loose metal ring (which serves the purpose of the sheave of an ordinary block), and between which and the central bearing is interposed a series of friction rolls, on which the loose ring turns. 2. In metal bushings for sheaves of blocks, the same consisting of a loose ring or sleeve surrounding the axle on which the sheave runs, a series of friction rolls, and a box for containing the same.

IMPROVEMENTS IN MACHINES FOR BORING HOLES IN ROCKS AND OTHER HARD SUBSTANCES. *T. W. G. Treeby.* Dated December 3, 1861.—This consists of a drill or boring tool which is fastened to a striking rod, which rod moves in iron or wood framing. On this striking rod there is fastened a serrated disc or face ratchet; and on this striking rod there is also attached a spring that gives the blow to the boring tool. The boring tool is withdrawn by a cam or lug working on a spindle: the cam or lug on the spindle, rotating, strikes against the serrated disc or face ratchet on the striking rod, pressing the spring back: as soon as the cam or lug passes the centre, the striking rod is instantly released, and the blow is given by means of the spring before named.

IMPROVEMENTS IN PUMPS.—*J. Knowelden.* Dated December 5, 1861.—The first part of this invention is for an improvement upon an invention, for which letters patent were granted to the present patentee, in conjunction with Downes Edwards, 7th July, 1859, No. 1613, and refers to the valve-chamber and valves. The present improvement consists in forming the chamber circular, and in fitting the valves to feathers on a circular plug. The patentee connects a handle to the outside of the plug, whereby the same may be withdrawn in case of need, and whereby the action of the pumps in connexion with the valves may be reversed; that is, the pipe which acted as a suction-pipe may be made to act as a force or delivery pipe, and that which acted as a force may be converted into a suction-pipe.

IMPROVEMENTS APPLICABLE TO BUILDINGS, IN ORDER TO FACILITATE THE EXTINGUISHING OF ANY CONFLAGRATION WHICH MAY HAPPEN THEREIN. *W. P. Bayliss.* Dated November 20, 1861.—This consists in constructing buildings with an aperture, or with apertures, at the upper part of each apartment; the said apertures being in communication with tubes or channels opening into the chimney, or into the external atmosphere. Hence, if a fire takes place in the building, it will only be necessary to close the apartment and the smoke and fire will vent by the said apertures. The invention also consists in placing a cistern or receptacle at the upper part of the building, from which pipes descend which reach from the said cistern to the basement of the building, and may form supporting columns or pillars to it. Suitable branch pipes and valves are employed for conveying the water into any apartment where fire may occur.

AN IMPROVED MODE OF FASTENING DOORS, AND FOR OTHER SIMILAR PURPOSES.—*J. C. Croxford.* Dated November 20, 1861.—This consists in constructing a fastening for doors, drawers, windows, and other like purposes, in the following manner:—A segmental or straight bolt is worked by, or, if preferred, fixed to, the handle; on turning which the bolt is made to protrude, and enter a groove or other similar provision made in the door jamb: one or more catches or tumblers fall by this movement, and prevent the return of the bolt; therefore, to unlock, it is necessary not only to lift the tumblers or catches, but at the same time to turn the handle. The patentee also makes a key-way in the lock which turns with the key, so that on any attempt being made to introduce a pick, the key-way closes itself, and leaves but a very small passage to introduce anything further.

AN IMPROVEMENT OR IMPROVEMENTS IN FASTENING KNOBS TO DOORS, DRAWERS, AND OTHER ARTICLES; AND IN CONNECTING KNOBS TO SPINDLES.—*E. Harcourt.* Dated Nov. 26, 1861.—This consists in fastening knobs to doors, drawers, &c., and in connecting knobs to locks or other spindles, by a divided collar or plate, which is made to engage with the flange or shoulder which terminates the neck of the knob, or to engage with the neck of the knob. The invention is not described apart from the drawings.

IMPROVEMENTS IN MACHINERY OR APPARATUS FOR CUTTING IRREGULAR AND CURVILINEAR FORMS IN WOOD OR OTHER SIMILAR SUBSTANCES.—*J. H. Johnson.* (A communication.) Dated Nov. 20, 1861.—This consists;—1. In combining with a table, or other equivalent means for rotating the frames to be cut, a pattern of the general form of frame to be produced, and two rotating shafts, each carrying a suitable tracer and cutters. One of these shafts is made self-adapting to the other by a lateral sliding motion, whilst the other shaft is by a similar contrivance made self-adapting to the inner periphery of the pattern; so that the cutters, which, by their form and rotation, produce the required mouldings, shall be guided in the required track to cut the general form of the frame to be produced;—2. In the combination with a pattern and tracer of two sets of cutters carried by parallel shafts, and so mounted that the distance between two shafts shall be self-adapting by a lateral sliding motion of the shafts, the cutters being forced up to the work by a weight or equivalent yielding pressure, whether one or both of the said shafts be so mounted;—3. In so arranging two parallel cutter shafts that the entire surface of a frame can be cut at one operation without any liability of the cutters interfering with each other.

* Selected from the lists in the *Mechanics' Magazine.*

Books Received.

Colossal Vestiges of the Older Nations. By WILLIAM LINTON. London: Longman & Co. 1862.

THERE are very few ancient countries which cannot, to this day, display some evidences of power and skill in the moving or elevation of large stones. As Mr. Linton remarks,—

"Europe, Asia, Africa, and America can each boast of nations which have been distinguished at some period by their acquaintance with the mechanical knowledge requisite for such operations. In Asia, the Indians, the Javanese, the Burmese, the Assyrians, Babylonians, Jews, and Greeks have left us evidence of such knowledge and skill, either in fact or in history. In Africa, the Egyptians have bequeathed imperishable monuments of their grand taste, skill, and mechanical power. In Europe, the Greeks and their colonists, the Etruscans, the Celts, and the Romans, with their early descendants, have severally recorded their energies in durable stone; whilst in America, huge fortifications, temple-crowned pyramids, and statues have secured to its early inhabitants a claim to rank among the skilful and intelligent of the ancient world."

The power which ancient nations have shown in moving enormous monolithic masses of stone, even to great distances,—sometimes hundreds of miles,—is by no means the most wonderful or unaccountable of their vast efforts; since, even in modern times, immense masses—far greater than many or most of those which still record the power of the ancients—have been removed to considerable distances. Thus the rock pedestal of the statue of Peter the Great at St. Petersburg is estimated to weigh no less than 1,336 tons; while the stones of Stonehenge average only 30 tons; the obelisk at Seringapatam, in India, 110 tons; the great pillars at Fateereh, in Egypt, 260 tons; the great Egyptian obelisk at Rome, 445 tons; the colossal sitting statues at Thebes, 850 tons; cut blocks at Baalbec, 1,087 tons; and two lesser obelisks at Heliopolis, 1,150 tons. The pedestal of Peter's statue, weighing 1,336 tons, was removed to St. Petersburg from a distance of more than twelve miles, and crossed a morass by the way (this was done during a hard frost): 400 men were employed in its removal; and the levers they worked with were constructed of masts 15 to 18 inches thick, and 65 feet long, three of these being lashed together to form each lever. With the aid of rails, balls, capstans, &c., the granite boulder was moved at the rate of nearly a quarter of a mile a day. Although the ancients have done still greater wonders in this way, as in moving and setting up the two great obelisks of 2,000 tons at Heliopolis; the obelisk of 4,000 tons at Babylon; and even the monolithic Temple of Latona, of 5,000 to 7,000 tons, with its roof stone of 2,400 tons, at Buto, in the Delta of Egypt, and which masses were taken a journey of 650 miles; still, in the mere removal of enormous monolithic masses from one place to another, we have at least something to compare with such efforts in modern times; even though it may be in a relatively humble way. But the most astounding display of ancient power appears in the lifting of such masses as those worked with to considerable heights, and especially under circumstances where inclined planes would not be admissible. Thus Sir Gardner Wilkinson, in speaking of the Egyptians, says;—"Their wonderful knowledge of mechanism is shown in the erection of obelisks, and in the position of large stones raised to a considerable height, and adjusted with the greatest precision, *in places where the space will not admit of an inclined plane,*—doorways, lintels, roofing stones of large temples," &c., &c.; and Maurice speaks of the "astonishing blocks of marble or granite, elevated to heights and removed to distances which the energy of no mechanical powers known to us at this day could effect."

Even in cases where it may be admitted that the inclined plane could be used, the power brought into action is astonishing: thus the roof-stone of the monolithic temple at Buto, weighing 2,400 tons, was lifted up to a height of 60 feet, and placed upon the still greater monolith like a lid upon a chest! And all we can do to diminish our astonishment is to remind ourselves that an Egyptian Pharaoh was a despot who had no end of human power at his supreme command; although even this goes but a small way in accounting for so extraordinary a knowledge and command of mechanism and mechanical power. Moreover, we must remember that the mere removal of a single stone for some special purpose was by no means the rule, but the exception; enormous masses having been transported to great distances for building purposes by hundreds, by thousands, not only in Egypt, but in India, in Europe, and in America, as ordinary and every-day operations.

Mr. Linton's compilation of all such wonders, and of many other "colossal vestiges" of the older nations, forms an extremely interesting volume; to which is appended a diagram comprising a selection of some of the more remarkable monoliths, ancient and modern, drawn to a scale.

VARIORUM.

"Reminiscences of Captain Gronow, formerly of the Grenadier Guards, and M.P. for Stafford. Related by Himself. Smith, Elder, & Co." These anecdotes of the camp, the court, and the clubs, at the close of the last war with France, give a curious and amusing picture of the state of society fifty years ago. It certainly does not cut a very good figure in these pages. Drinking, gambling, and duelling prevailed; and, if we only looked to Captain Gronow's book, we should find nothing better to counterbalance them. It

will be surprising if some of the writer's stories do not bring upon him abuse; but that will not prevent the book from being read. Few will desire to go back to the times here painted. The book, however, is very amusing and illustrative. ——"The Influence of Railway Travelling on Health: from the *Lancet*. London: Hardwicke." We have already spoken of the interesting and important inquiry on railways published in the *Lancet*. Doubtless there is much truth in the *Lancet* reports; but the whole case as against railway travelling has rather an exaggerated look; and reminds one of Winslow's book on Insanity, whereby every reader is apt to feel himself to be on the very brink of mental derangement. Nevertheless, there is much useful as well as truthful matter in the little volume under notice, although too gullible a belief in everything there set forth must inevitably arrest the reader's career as a railway traveller.——"The Pressing Necessity for Increased Docks and Basins at Portsmouth, with some Observations on Mr. Cobden's 'Three Panics': A Letter to Lord Palmerston. By Rear-Admiral the Hon. Joseph Denman. London: Ridgway, 1862." The author of this pamphlet takes a very different view of the question of public dockyard establishments from Mr. Scott Russell, who asks us, as an *alternative*, whether it is a fleet or an establishment we want. For the rapid repair of ships, however, during war, extensive public dockyards must assuredly be an advantage equivalent almost to a double fleet, however advisable it may be to employ private shipbuilders to fit us out an iron fleet. The projected works at Chatham must surely satisfy the gallant admiral.—— "Sir Morton Peto and the Defence Commission. London: Ridgway, 1862." The author of this pamphlet advocates fixed forts, rather than floating defences, on the score of efficiency as well as of cost.

Miscellanea.

THE PRINCESS'S THEATRE.—"Henry VIII." has been revived with much of its former splendour; Mr. Charles Kean and Mrs. Kean playing with their accustomed power the principal parts.

THE CORPORATION OF LONDON AND EXHIBITION VISITORS. — The Corporation entertained some thousands of visitors on Thursday evening last, too late for us to do more than mention it. The Guildhall, the Council Chamber, and that of the Court of Aldermen, the ancient crypt, with all the adjacent apartments, were elaborately decorated for the occasion, under the general supervision of Mr. Bunning, the City architect; and the result was in the highest degree satisfactory. We may say a little more about it next week.

ARCHEOLOGICAL EXCURSION.—The Midland Counties Archæological Association made the first of this year's excursions to Evesham and Pershore. The party was rather smaller than usual. However, nearly forty of the members and their friends left the New-street Station, Birmingham; and, after a pleasant journey through the lovely scenery between Bromsgrove and Evesham, reached the latter town soon after eleven. Here the visitors were received by Mr. Anthony Martin, who conducted the party to the many interesting places of the town. The ancient Bell Tower of the Abbey and the churches of All Saints and St. Lawrence were first visited. In the Church of St. Lawrence, not many years ago, a curious subterranean chapel existed under the southern aisle; but, as it made a step necessary in the flooring of the church above, its finely-vaulted ceiling, in the Early Pointed style, was ruthlessly destroyed. Within the same inclosure as this church stands that of All Saints. Entering by a Tudor porch at the west end, the visitors proceeded to the Mortuary Chapel, the work of Abbot Lichfield, and where his remains were laid. After visiting other places of interest at Evesham, the party went to Pershore, where a cold collation was served; Mr. S. Thornton, J.P., in the chair. Here it was announced that the next excursion would be either to Malvern or Leicester, and that a bachelor-party of the members would probably visit Compton Wynyates and Edge Hill,—an announcement which was received with murmurs of dissatisfaction by the ladies as well as many of the gentlemen present; and Professor Chamberlain explained that the only reason was that the excursion would fill a long and fatiguing day. The Abbey Church of Pershore was visited under the guidance of the last-named gentleman; and the vicar described the alterations proposed by Mr. Scott, and afterwards treated the party to refreshments at the vicarage, and they then returned, *vid* Worcester, to Birmingham.

BELGIAN IRON PAINT. — The Belgian "minium," or iron paint, made at Anderghem, is a pure iron oxide mixed with about 1-4th its weight of silicious clay. It is said to contain no acid, and is now extensively used in this and other countries for painting ships' ironwork, gasholders, &c.—*Ironmonger*.

ST. PAUL'S.—"S. P." writes;—"Opportunity" (said once a schoolmaster of mine) "is the golden spot of time." Such now offers for obtaining a view of St. Paul's such as has never been yet seen; by the non-erection of the houses now being pulled down at the corner of Warwick-lane and Paternoster-row, and removing a few others.

EDINBURGH: LEITH-STREET TERRACE IN DANGER.—A case has been tried at the local police court, at the instance of Mr. Farquharson, jeweller, Leith-street, against Messrs. Horsburgh & Blair, tea and coffee merchants, Leith-street Terrace, for annoying him by moving a hurley along the terrace. It appeared from the evidence that the noise was sometimes loud enough to render any conversation unintelligible in Mr. Farquharson's shop. It was also stated that the terrace was not at first intended for business premises or moving heavy goods along. It was also stated by a proprietor that he lately employed an architect to inspect his property, and who was of opinion that if a hogshead was started on the one end it would sink the terrace. Decision was given against the defendants.

GREAT FIRES IN THE METROPOLIS.—The most extensive conflagration that has occurred in the metropolis since the memorable one in Tooley-street, on the 22nd of June last year, broke out about half-past three o'clock on Sunday morning last, in the Westminster-road, in a skittle-alley belonging to the Sun Tavern, in Mason-street. Amongst the numerous premises burnt was a carpenter's shop, containing, amongst other valuable property, a quantity of workmen's tools, some chests of which were worth from 70*l*. to 80*l*. each, all destroyed; and, as far as can be learned, none of the owners were insured for a single penny. A floor-cloth factory and various shops were also destroyed; and the official report of Captain Shaw, of the fire-brigade, comprises a list of no less than upwards of thirty houses injured and destroyed by the fire. The two land steam-engines are said to have done wonders, for each had two lines of hose attached, one on either side of the machines; and steady columns of water were projected from each, which fell through the entire length of the immense factory. In fact, the engines did rather more than was requisite; for so great was the force of the water distributed by the steam-power, that some of the back partition walls were knocked down as if battering-rams had been used. Besides the Westminster-road fires, there have been also fires within the last week at Hoxton, Oxford-street, Camberwell, and Woolwich. How long are metropolitan buildings to be reared as if, like "laid" fuel in grates, they were intended for setting fire to?

THE ENLARGEMENT OF THE CHATHAM DOCKYARD.—The total area of the existing docks and basins at the various naval ports is 41 acres; but the three new basins to be formed at Chatham will give an area of 59½ acres, the largest basin being 30½ acres in extent, or about five times the size of the principal basin at Keyham, the largest of the kind in England. The second basin will cover an area of 22 acres; and a smaller basin, mid-distant between the two others, with which it is connected, will be 7 acres in extent. The new works to be undertaken at Chatham will make that naval establishment considerably larger than the Cherbourg dockyard, where there is a floating basin 30 acres in extent. The new docks will be formed on the south side of the large basin, with which they will communicate with locks. The *Warrior*, and other vessels drawing 27 feet of water, will be docked without lightening as at all the existing docks, except Keyham. A complete system of dredging the river will be carried out; and already the whole of St. Mary's Island, extending towards the Medway some two or three miles, has been embanked by means of convict labour; and this will be continued towards the estuary of the Medway. The river from the dockyard to Garrison Point, at Sheerness, a distance of about twelve miles, will be deepened to form a channel 600 feet wide, and 27 feet deep at half-tide, which will give 31 feet at neaps, and 35 feet at springs. The entire works, including the excavations for the proposed docks and basins, will be executed by the convicts at Chatham, who have been occupied for several months past in the manufacture of the bricks required in the undertaking.

ATMOSPHEEIC TIDAL LAWS.—Mr. Mathieu (de la Drôme), who may be recollected in connexion with the French republican assemblies of 1848, affirms that he has discovered regular tides in the atmosphere, precisely analogous to those of the sea, and which reduce varieties of temperature to settled rule, by which the weather can be foretold days, weeks, nay, months, in advance, with scientific accuracy.

WORKMEN'S DINNER. — The workmen in the employ of Messrs. William Lawrence & Sons, of Lambeth, builders, celebrated their anniversary on Saturday last, at the Plough, Beddington Park, near Wallington, Surrey. After a pleasant day spent in the fields, the party dined in the large room attached to the inn. Mr. J. E. Poole, foreman of plumbers and painters, supported by some of the oldest workmen, many of whom have been upwards of thirty years in the employ, occupied the chair; and facing him was Mr. Webster, foreman of joiners. Some songs were well sung by the men, and were closed with various toasts. And then, as one of the guests writes, moved almost to poetry by the extent of his enjoyment,—"They returned to town invigorated by their trip, improved by their association, charmed by their entertainment, and soothed by the most kindly feelings to each other."

CHEAPSIDE *v.* CANNON-STREET.—According to the *City Press*, on the 25th of March, 1862, no fewer than 291 omnibuses passed through Cheapside, in the space of an hour, in the middle of the day. During the same hour (12.20 to 1.20 p.m.) only two passed through Cannon-street. During the same hour, 573 cabs went through Cheapside, and only 256 through New Cannon-street. It has been ascertained that 361 omnibuses pass through Cheapside daily: of these, 306 belong to the General Omnibus Company, and 55 to other proprietors. Each of these omnibuses makes six journeys in a day to the Bank, and six returning thence; in all 4,332 transits through Cheapside and the Poultry in the course of a single day. Add to this the usual proportion of Pickford's vans, country carts, brewers' drays, and the wonder is, not that it is unsafe, and a loss of time to cross Cheapside, but that there are not lives lost every day. Were not the City police well trained to their work, and as vigilant as fresh outposts in an American camp, Cheapside and Fleet-street would be as riotous as Donnybrook Fair.

TELEGRAPHIC.—An action has been decided in the Sheriff's Court, Glasgow, which arose from the following circumstance. The plaintiff or pursuer, on one of the Electric and International Telegraph Company's blank message schedules, wrote instructions to his London correspondents to buy for him in the market "three thousand Turks"—meaning Turkish or Ottoman Scrip, representing stock of the value of 3,000*l*. The words were distinctly written; nevertheless the Telegraph Company, who were the defendants, forwarded the message to buy "three thousand Trunks." And accordingly 3,000 "Trunks," that is 3,000*l*. worth consolidated stock of the Grand Trunk Railway of Canada, at 24*l*. 15s. per cent., were purchased. The pursuer alleged he sold this stock at a loss of 15*l*. The Company maintained that they were not liable for mistakes of this character unless the message was repeated per special agreement, and the court held that the pursuer could not recover.——The United Kingdom Telegraph Company have announced at Edinburgh their adoption of a uniform charge of one shilling for telegraphic messages.

HARDENING IRON AND STEEL. — Mr. E. Partridge, of the Patent Axle Works, Smethwick, has provisionally specified an invention which consists in first heating the article to be hardened in a bath of lead or other suitable molten metals, or in a retort, so as to be protected from the direct action of fire. In applying to it, either in the bath or retort, or immediately on its withdrawal therefrom, a composition presently to be described either in powder or liquid, in some cases the article is returned to the bath or retort after such application. In preparing the composition he takes prussiate of potash or other substance containing cyanogen, or possessing like chemical properties, and reduces it to powder. He mixes with it powdered nitrie and common salt and sets fire to the composition. He takes the resulting ashes or substance remaining after the firing, and powders it. The powder liquefies under heat, and he uses it alone or mixed with charcoal (animal or vegetable), or other suitable form of carbon; or he liquefies the powder by dissolving it in liquid ammonia or other suitable solvent, and applies it to the articles to be hardened in a liquid state.

MR. PEABODY AND THE LONDON POOR.—On the 10th instant the freedom of the city of London, in a gold box, was presented to Mr. Peabody, in recognition of his gift of 150,000*l.* in aid of the poor. He was afterwards entertained at a banquet in the Egyptian Hall, when Mr. H. B. Adams, the American minister, made the speech of the evening. It was eloquent, and touched the time.

FALL OF A WAREHOUSE AT BOLTON.—A large warehouse, situate at the corner of Tipping-street, in Green-street, Little Bolton, has fallen to the ground a mass of ruins. The building has been unoccupied some time; and, about six months ago, was purchased for 350*l.*: for several weeks workmen had been engaged lowering the floors, sinking the cellars, &c., intending to make the premises into a public-house. The cutting away of the lower timbers, however, caused the building to come down.

MINSTER CHURCH (THANET).—The inner part of the church is in a ruinous state. The old arch at the west end of the tower has been dismantled of its mouldings, &c.; and the roof of the nave is stripped of its leaden covering, to be replaced by tiles, and the present ceiling taken away so as to show the inner open roof. The old timber is rotten with age. Under the old gallery, under the south transept-window, was found an old brick and flint tomb-like building, covered with a thick flat stone without an inscription, but nothing inside but a fore-arm bone and a splinter bone. Part of the old screen has been brought to light, and is now in the chancel. It has some ancient carved wood on it.

HORSE RAILWAYS IN SWITZERLAND. — The Horse Railway from Geneva to Carouge—the first section of the lines of horse railways to be constructed in the canton of Geneva under the concession granted to Mr. Burn, C.E.—was opened with the greatest success on the 19th ult. The opening of the line was celebrated by a local *fête* at Carouge, when 7,000 people were carried from Geneva and back. The fares on this line are the lowest ever attempted, and amount to a fraction more than three farthings per passenger per mile. This is the first line of horse railway that has been laid down on the Continent on the American system. The rail used is a grooved rail of peculiar form, which presents no obstruction or inconvenience to the ordinary traffic of the roads. It is some such lines, as branchlets, which are required in this country to complete the development of our railway system.

EMBALMING AMERICAN SOLDIERS.—An occasional correspondent of the *Times* states that he saw some of the embalmed bodies under the charge of "Drs. Brown & Alexander, Government Embalmers." The doctors told him their principal ingredient for embalming was a kind of liquid glass [water glass?] and gypsum, which hardened to a substance like stone. In this state the body would keep for many years, perhaps for ever. The doctors took for embalming a private twenty-five dollars, and for an officer fifty dollars. Since the commencement of the war above 2,000 bodies of soldiers had been embalmed and sent home. This was done in deal boxes, lined with sheet zinc. "The poor fellow I saw nailed up," adds the writer, "wore his uniform, and his writing-case and portfolio were laid beside him. With this, and a bundle of hay under his head and the address on the cover of the box, he was sent home to his mourning parents."

NAPLES.—A communication from Naples says:—"Under the Bourbons little attention was paid to the treasures buried in Pompeii. One king devoted 6,000 ducats (25,000 francs) to those 'Pagan' researches. That allowance was afterwards reduced to 2,000 ducats. King Joseph purchased the ground which covered Pompeii; but Ferdinand I., on his restoration, sold it again. The workmen only went to the excavations when a royal prince came to Naples. Only one or two rooms were thus cleared out every year. At present, under the intelligent direction of Professor Fiorelli, the matter is better attended to. A railway now carries away the rubbish cleared out: a sum of 60,000f. is annually devoted to the excavations; and the works executed last year led to more discoveries and revealed more treasures than those of the twenty preceding years. A new house, very rich in important paintings; a new lupanar, covered with engraved inscriptions; and a number of articles in bronze, particularly a small statue, considered the finest ever found at Pompeii, are among the most recent discoveries. If the works are followed up with the same zeal, and under the eyes of the same director, the whole city will be brought to light in five years from the present time."

THE PLATE-GLASS TRADE.—At a recent meeting of the English plate-glass manufacturers, held at Birmingham, comprising representatives from every company in the trade, the sum of 300 guineas was presented to Mr. R. W. Swinburne, of South Shields and Newcastle, in testimony of the regard and esteem of his brother manufacturers, and in acknowledgment of the eminent services rendered by him, as their president, in promoting the advancement of the trade.

MONUMENTAL.—It is proposed to erect, by subscription, a marble statue of the late Lord Canning, and to place it on an appropriate site in the new India Office. The cost of it will be about 1,500*l.*——The Richmond tenantry in Strathbogie having some time ago resolved to erect a statute of their late landlord, the execution of the statue was intrusted to Mr. A. Brodie, of Aberdeen, and it is now nearly completed. It is a colossal figure, 9 feet in height, of Redhall freestone, and represents the Duke in his uniform as colonel of the Sussex militia. The statue is to be erected at Huntly.

CHURCH STRUCK BY LIGHTNING. — Tackley Church, Woodstock, has been struck by lightning. The electricity entered on the west side of the tower, piercing it horizontally, and passed through the other side nearly on a level, making a perforation as clean as if done by a cannon-ball. It entered also at the west window, breaking the stone mullion; passed through the whole length of the church; and escaped through the east window; breaking it at the top, middle, and bottom. Great damage was also done to the west side of the church.

DRINKING-FOUNTAIN MOVEMENT.—A fountain has been inaugurated at Ironbridge, in memory of the late Rev. M. Bartlett, of Marnwood. Mr. Bartlett presented the fountain to the parishioners. The water which supplies it is conveyed by iron pipes from Strethell. It is intended, in addition to the street fountain, to erect at the back of it, in the Market-square, another fountain. This will assume the form of an obelisk. It will be constructed of Aberdeen granite, 15 feet high. The whole of the erections and constructions have been under the superintendence of the Messrs. Nevitt, builders, Ironbridge.

GAS.—The Boston Gas Company has again declared a dividend of 8½ per cent.——The Halesworth Company has declared a dividend of 10 per cent. and a reduction in the price of their gas from 6s. 8d. to 5s. 10d. per 1,000 cubic feet. They have also directed a sum of money to be added to their reserve fund.——The Worksop Gas Company have declared the full rate of dividends allowed by their act of incorporation, namely, 8 per cent. on old and 7 per cent. on new share capital, besides placing a balance to their contingent fund account. The directors have of late years reduced their price from 6s. 8d. to 5s.——At Brechin the local company have reduced their price from 5s. 5d. to 5s., and declared their former dividend of 10 per cent.

EAST BRIDGFORD (NOTTINGHAMSHIRE).—The parish church, which has been undergoing a partial restoration under the care of the rector, the Rev. A. A. Barker, has been reopened. Messrs. Wilson & Walker, of Nottingham, were the architects for the restoration. The old high pews give place to new benches of red deal. The floor has been taken up and re-laid, and a new iron stove placed under ground provided with cold air by flues from the external walls. Another improvement was the re-plastering and scraping of the stone-work. The external masonry has been preserved in most instances. A new open roof has been erected: the south porch and east window have been restored; and various other improvements effected. The expense of the restoration has been about 400*l.*, and the contractors were Messrs. Wood & Gilbert, of East Bridgford.

EDINBURGH SCHOOL OF ART.—The examination of the students at this school, by the Art-Inspector from the Department of Science and Art, having taken place, the competition works, under charge of the Commissioners of the Board of Manufactures, were opened for exhibition to the public in the eastern division of the National Gallery, free of charge. The works executed in the female department of the school are under the superintendence of Miss Ashworth; and those in the male department under that of Mr. Hodder, assisted by Mr. Morley. In the female section, the Board of Manufactures has given prizes to the amount of 10*l.*; in addition to which eighteen medals and five awards have been conferred by the Department of Science and Art. In the male section there are twenty-seven medals awarded, with two awards to the pupil teachers.

DONCASTER.—The chancel of Christ Church is to be enlarged, to allow of the new organ about to be built being placed therein. For this purpose a part of the present churchyard will be inclosed. The whole will be done under the direction of Mr. Brundell, the architect.

ST. NICHOLAS'S CHURCH, NEWCASTLE.—The finance committee of the town council recommend the effecting of the repairs required for the maintenance of the steeple of St. Nicholas's Church, through a general committee of the inhabitants, from a fund to be raised by public subscriptions; and that the council should vote a donation of 500*l.* towards any fund that may be raised for the purpose. Their report has been adopted.

FINSBURY SCHOOL OF ART.—On the 18th ult., the Committee of the Finsbury School of Art met at the school-room, in William-street, to present the prizes awarded to the students by the Department of Science and Art. Mr. W. W. Williams, the chairman, presided, and congratulated the students on their continued progress. Five medals, two hon. mentions, three prizes, and thirteen certificates were awarded. In the absence of the chairman (a juror at the International Exhibition), Mr. Whiskin attended on the 19th ult., at St. George's Hall, Barnsbury, and distributed three prizes and thirteen certificates to the pupils of the Ladies' Morning Class, successfully taught by Miss Doidge.

"MASTERPIECES OF INDUSTRIAL ART AND SCULPTURE AT THE INTERNATIONAL EXHIBITION, 1862."—Under this title Messrs. Day & Son are about to publish a costly and, what we believe will prove, a very fine work, by Mr. J. B. Waring. It is dedicated, by command, to the Queen; and will consist of three hundred plates, containing several hundred illustrations of the most choice examples, foreign as well as native, in sculpture and decorative art, executed by Messrs. Day & Son, lithographers to the Queen, in the highest style of excellence attainable in chromo-lithography, from coloured photographs taken for the purpose with the permission of the exhibitors. The selection appears to have been made simply with reference to the merit of the objects exhibited; and we shall be glad if this notice of it lead to an increase in the list of subscribers.

ACCRINGTON, LANCASHIRE.—Considerable improvement has been made in Christ Church, Accrington, by removing all the pews from the chancel, which has been raised 6 inches above the floor of the church. Pitch-pine open stalls have been placed in their stead, with carved ends. The space before the altar-rails has been laid with Minton's encaustic tiles, and the rails gilded and coloured. The work has been carried out under the superintendence of Mr. Macaulay, architect, who has also prepared a cartoon for the mural decoration of the wall-spaces between the three arches under the east window. The ornamentation consists of a conventional treatment of the passion-flower, the intertwining stems of which form three panels, in which are illuminated in gold and colours the Ten Commandments, the Belief, Lord's Prayer, &c. On the transept of the same church has lately been placed a mosaic ground-stained-glass window, containing a vesica, with figures of the Three Wise Kings of the East following the star, and executed by the St. Helen's Crown Glass Company.

TENDERS.

For the Birkenhead Union Workhouse:—

Laurence	£14,456	19	0
Roberts & Robinson	11,183	0	0
Haigh & Co.	11,100	0	0
C rrie	10,932	1	5
Humphreys	10,580	0	0
Nicholson & Ayre	10,279	0	0
Allan	10,183	0	0
Neill (accepted)	9,750	0	0

For the erection of pumping-station at Crossness, near Erith, Kent, for the Metropolitan Board of Works. Those contractors marked thus, †, tendered from quantities supplied by the Messrs. J. C. & G. Lansdown:—

Peto	£330,821	0	0
Hill	330,000	0	0
Brassey	327,000	0	0
† Aird & Son	323,136	0	0
Furness	320,000	0	0
Thirst	315,000	0	0
Livers	309,000	3	0
† Webster (accepted)	300,000	0	0
† Myers	297,986	0	0
Ward	278,400	0	0

For alterations and additions to the Presbyterian Church, Carlton-hill, St. John's-wood. Mr. George Truefitt, architect:—

Thomas	£489	0	0
Allen	393	0	0
Longmire & Burge (accepted)	382	0	0

For villa residence, Shiffnal, Salop. Mr. George Bidlake, architect:—

Clarke (accepted)	£1,380	0	0

For dining-room at Pangbourne Rectory. Messrs. Poulton & Woodman, architects:—

Woodroffe	£444	0	0
Searle	444	0	0
Matthews	430	0	0
Strong	407	0	0
Wheeler	403	0	0
Shepherd	403	0	0
Briant	399	10	0

For pulling down and clearing away present buildings, and erecting six new almshouses, at Petersham, Surrey. Messrs. Waring & Blake, architects:—

Long (accepted)	£719	0	0

For two houses for Mr. J. Bratts, Havelock-road, Hastings. Mr. Hopkinson, architect. Quantities supplied:—

Jones	£1,835	0	0
Vidler	1,774	0	0
Broadbridge	1,758	0	0
Howell	1,754	7	0
Parks	1,727	0	0
Pattendon	1,680	13	1
Longhurst (accepted)	1,671	10	0

For new wing to the Green Man public-house, Tooley-street, and alterations to the present house, for the Charing-cross Railway Company:—

Rawlings	£1,198	0	0
Heath	1,135	0	0
Newman & Mann	1,107	0	0

For the erection of gas-testing room, store-room, &c., Spitalfields, for the Metropolitan Board of Works:—

Simms	£1,753	0	0
Walker	1,593	0	0
F. & J. Wood	1,570	0	0
Mann	1,415	0	0
Hall (accepted)	1,367	0	0

For the erection of alms-houses, Brixton. Messrs. Lauder & Bedells, architects:—

Ryder	£3,380	0	0
Lawrence, Bros.	3,373	0	0
Patman & Fotheringham	3,262	0	0
Colls & Co.	3,172	0	0
Palmer	3,039	0	0
Marsland & Son	3,030	0	0
Hill & Son	2,974	0	0
Dove, Bros.	2,965	0	0
Mann (accepted)	2,945	0	0

For office and beer-stores, in the Union-street, Aldershott, for Mr. Taunton. Messrs. Eggar & Stapley, architects.—

Martin	£340	0	0

For workshops and cottages, Castle-street, Farnham, for Mr. James Tily. Messrs. Eggar & Stapley, architects:

Birch	£616	0	0
Duke	604	0	0
J. & G. Goddard (accepted)	554	0	0

For the erection of stabling, and works connected, for Mr. J. R. Andrews, at Wimbledon. Mr. C. R. Gribble, architect. Quantities not supplied:—

Adamson & Sons	£718	17	0
Aries (accepted)	702	14	0

For the erection of two detached houses, with coach-houses and stables, at Erith, Kent. Mr. Herbert Ford, architect:—

Simmons	£4,799	0	0
Wood	4,646	0	0
Watson	4,117	0	0
Hart	4,000	0	0
Dennis	4,000	0	0
Todd	3,981	0	0
McLennan	3,780	0	0
George	3,540	0	0
Bills & Gimbrel	3,302	0	0

For house and shop, at Rugby, Warwickshire. Messrs. Elmslie, Praney, & Haddon, architects:—

Bromwich	£625	0	0
Parnell	589	0	0
Wooldridge	580	0	0
Bradshaw	550	10	0
Rathbone (accepted)	550	0	0

For Christ Church Schools, West Bromwich. Mr. John Weller, architect:—

Baker	£2,081	0	0
W. & B. N. Smith	2,080	0	0
Hartland	1,997	0	0
Thompson	1,990	0	0
Harley	1,949	0	0
Horsman	1,935	0	0
Fisher	1,900	0	0
Cox	1,900	0	0
Ramsay (accepted)	1,850	0	0
Field	1,677	0	0

For a house and shop, to be built at Herbert-road, Potteries Estate, Shooter's-hill, Plumstead, Kent, for Mr. W. J. Lamb. Mr. W. Gosling, architect:—

Lidbetter	£360	0	0
Lonergan	350	0	0
Thompson	350	0	0
Sonnex	339	0	0
Smith	330	0	0

For the erection of boys', girls', and infants' schools, &c., for the district parish of Holy Trinity, Tulse-hill, Surrey. Mr Mathews, architect. Quantities supplied:—

Hill & Son	£1,525	0	0
Wicken	1,389	10	0
Sawyer	1,353	0	0
Smith	1,334	0	0
Pearce	1,295	0	0

For chapel at Newmarket, Suffolk:—

Wardle & Baker	£2,449	0	0
Westley	2,448	0	0
Clarke	2,374	0	0
Andrews	2,350	0	0
Simms	2,200	0	0
Dove	2,118	0	0
Suff	2,020	0	0
Haines	1,999	0	0

For a residence at Hampton, Middlesex, for Mr. H. E. Knight. Mr. John Wimble, architect:—

Oades	£2,000	0	0
Walker	1,944	0	0
Brass	1,897	0	0
Simms	1,690	0	0
Wheatley	1,617	10	0
Adamson	1,599	0	0
Sharpington & Cole	1,597	0	0

TO CORRESPONDENTS.

R. C. S.—H. B.—Capt. D. C.—J. B.—P. D. T.—J. A. D.—W. B.—J. W.—A. S.—C. H. R. (send us particulars).—Mr. H.—J. P. W.—R. R. P. (next week).—Finsbury Student.—E. & T.—W. G.—A Liverman.—Neptune.—R. T. S. (first part is not clear. Send address).—W. & H.—T. F. (is under consideration).

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

AN Architect requires a thoroughly competent ASSISTANT in his country office. He can be able to make out working and other drawings, and understand taking out quantities, and will be entrusted to act as principal clerk. He also requires an ASSISTANT in his London office. Apply by letter, giving references and stating terms, to Mr. FRED. CHANCELLOR, Architect, Editors' Hall, Old Broad street.

TO SURVEYORS. — The Sheerness Local Board of Health will be ready on TUESDAY, the 22nd JULY, 1862, to receive APPLICATIONS from persons willing to UNDERTAKE the DUTIES of SURVEYOR and FOREMAN of WORKS to the said Board. He will be required to superintend the completing of the unfinished works connected with the drainage and water-supply of the Sheerness district, and from all other duties as may be required by the Board, and to live in the whole time in the house provided for him by the Water-works. Applicants are requested to state the salary they will require. Further particulars and information may be obtained from the undersigned, to whom applications for the appointment must be delivered, at the Office of the Board, 9, Edward-street, Banks Town, Sheerness, on or before TUESDAY, the 22nd JULY, in 2, and not later than SIX o'clock p.m. on that day.—By order of the Sheerness Local Board of Health,
EDWARD FELKIN, Clerk.
Office of the Sheerness Local Board of Health, 8th July, 1862.

TO ARCHITECTS
WANTED, to PURCHASE a PARTNERSHIP, in town or country.—Address, B. C. Office of "The Builder."

TO BUILDERS' FOREMEN
WANTED, immediately, a thoroughly practical FOREMAN, to SUPERINTEND the ERECTION of an extensive BUILDING, in town. (A joiner by trade will be preferred.)—Address, by letter only, with full particulars as to where last employed, salary required and references, to J. W. S, Oxford-terrace, Peter's-hill, E.C.

WANTED, Permanently, an Efficient CLERK of the WORKS.—Address, with full particulars as to experience and qualifications, E. F. "Office of "The Builder."

WANTED, a first-class FRENCH or GERMAN ARTIST, for the country.—Apply and enclose a small specimen, to A. J. BUSHELL, Decorator, Ashton-under-Lyne, Manchester.

WANTED, an ASSISTANT, competent to make EXPERIMENTS in the CONSUMPTION of GAS under various conditions. He must be acquainted fully with the character and employment of the various kinds of meters and pressure-gauges, and be well up in the Photometer, but he need not necessarily have a knowledge of gas manufacture.—Apply by letter, prepaid, stating terms, to A. B. care of Housekeeper, Old Jewry Chambers, City of London.

WANTED, in a Civil Engineer and Surveyor's Office in the country, a DRAUGHTSMAN and ACCOUNTANT. He will be required to conduct the routine work of the office, to prepare estimates and other plans, to measure and calculate earthworks, masonry, and brickwork, also to make working drawings and specifications. Those without experience will be required. Apply by letter, stating terms, to A. B. C. Office of "The Builder."

TO BUILDERS AND OTHERS
WANTED, a RE-ENGAGEMENT as FOREMAN of WORKS, or to Take the Management of Buildings. A joiner by trade.—Address, N. O. care of Mr. James, Tobacconist, High-street, Notting-hill, W.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, &c.
WANTED, by the Advertiser, who is a neat and expeditious DRAUGHTSMAN, accustomed to copying, tracing, &c., and a good penman, willing to render his services useful, a RE-ENGAGEMENT, either permanent, in an office of either of the above.—Address, J. R. 41, Southerton-road, Fulham-road, S.W.

TO BRICK, TILE, DRAIN-PIPE, AND POTTERY MANUFACTURERS.
WANTED, by a Young Married Man, aged 30, a SITUATION as TRAVELLER or CLERK. Is a good accountant, and can be highly recommended.—Address, R. C. 9, Margaret street, Commercial-road, E.

TO BUILDERS AND OTHERS.
WANTED, a SITUATION as FOREMAN of PLASTERERS. First-class testimonials can be given from his late employer.—Address, A. B. care of Mr. Lersch, 34, Gloucester-place, St Pancras road.

TO ENGINEERS, LOCAL BOARDS, AND CONTRACTORS.
WANTED, a SITUATION by the Advertiser, who has eighteen years' testimonials and experience in superintending the construction of railways, docks, waterworks, and sewerage, in all their various branches, both at home and abroad.—Apply to C. D. 29a, Albemarle street, Piccadilly, W.

TO BUILDERS
WANTED, by a Young Man, a Joiner, a SITUATION in a Builder's Office.—Address, R. K. Office of "The Builder."

TO BUILDERS AND DECORATORS.
WANTED, by a Young Man, a good Paperhanger, Painter, and Glazier, constant EMPLOYMENT. Can take charge if work. Wages not so much an object as constant work. Used to general house repairs. Town or country.—Address, A. B. C. 19, Sale-street, Paddington.

WANTED, a SITUATION as THREE-BRANCH HAND, in plumbing, painting, or glazing. References given if required.—Address, P. H. Office of "The Builder."

TO SAW-MILL PROPRIETORS.
WANTED, a SITUATION as CIRCULAR SAWYER, or to Sharpen Saws, or Work as Mechanic in a Saw-mill, or to Superintend Engines or Machinery. Sixteen years' practical experience. Can manage a saw-mill if required.—Address, H. G. care of T. Jenkins, Coal Merchant, Station Wharf, Burton-on-Trent.

WANTED, by a steady Young Man, aged 21, EMPLOYMENT in a Plasterer's or Moulder's Shop, where he would have an opportunity of learning to model. Has served an apprenticeship as plasterer, and would make himself generally useful. Address, J. M. W. Bloomsbury Chambers, George-street, Bloomsbury.

WANTED, by a thorough Painter and Grainer, a SITUATION, or would Take the Management of a Job, or Piecework. Town or country.—Address, C. W. Post-office, Boundary-road, St. John's wood, N.W.

TO CONTRACTORS, ENGINEERS, AND ARCHITECTS.
WANTED, a RE-ENGAGEMENT, as GENERAL FOREMAN, MANAGER, or CLERK of WORKS. Is thoroughly competent, practical, and energetic. Has been engaged on every description of contracts and builder's works. Aged 37.—Address, A. B. 321, City-road, E.C.

TO BUILDERS, &c.
WANTED, a SITUATION, in a Builder's Office. Can get out plans, measure up work, keep the books, take charge, &c. Six years with last employer. Aged 21.—Address, W. B. 63, Bath Street, Stamford-street, S.

TO ARCHITECTS, &c.
WANTED, by the Advertiser, aged 19, whose term of four years' apprenticeship has just expired, a SITUATION as an IMPROVER. Is a good draughtsman, and can be well recommended.—Address, H. J. W. 5, Devon Villas, Buckingham road, Kingsland, N.

TO BUILDERS, &c.
WANTED, by an OUT-DOOR FOREMAN (joiner by trade), a RE-ENGAGEMENT as GENERAL FOREMAN, or to TAKE CHARGE of a JOB. In town or country. Good references.—Address, S. T. H. No. 19, Westminster-bridge-road, S.

TO PAINTERS, DECORATORS, AND BUILDERS
WANTED, a SITUATION, by a first-class Foreman of Painters and Decorators. Good references can be given from late employers. The advertiser would either take charge of jobs or act as general foreman.—Address, W. S. 12, Luard-street, Camberwell-road, S.

WANTED, by a good and efficient Draughtsman, an ENGAGEMENT in an Architect's or Builder's Office.—Address, Q. Z. Office of "The Builder."

TO BUILDERS, PLUMBERS, &c.
WANTED, EMPLOYMENT, by an Experienced PLUMBER. Could fill up time at glazing and painting. Writes, PLUMBER, Wigmore Coffee-house, 25, Wigmore-street, Cavendish-square.

WANTED, an ENGAGEMENT in an Architect's Office (in London), by a thoroughly qualified Assistant.—Address, A. A. A. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.
WANTED, a SITUATION as Draughtsman, in a respectable London Office, by a young Gentleman, who has served his time with an architect, and since employed on the Eastern Counties Railway. Salary no object, if opportunity for practical improvement be guaranteed.—Address, O. G. Post-office, Hill, Southampton.

TO CARPENTERS AND JOINERS.
WANTED, by a Young Man, an ENGAGEMENT in the above trade as IMPROVER. Wages not so much an object as a permanency, and a desire to improve.—Address, A. B. 17, Dorset-street, Kingsland-road.

TO ARCHITECTS, BUILDERS, AND ESTATE AGENTS.
WANTED, by a Practical Man, an ENGAGEMENT as CLERK of WORKS, GENERAL FOREMAN, or SUPERINTENDENT on an ESTATE. Is a good draughtsman. Understands accounts, measuring, &c., and superintending every description of work.—Address, W. H. 19, Grafton-road, Kentish Town.

WANTED, by an ASSISTANT, a RE-ENGAGEMENT in an Architect's or Surveyor's office. Is a good draughtsman, and can have an excellent reference from his present employer. For further particulars, address J. C. C. at Messrs. Hill & Sons, bankers, 17, West Smithfield, City, E.C.

TO PLUMBERS, &c.
WANTED, by the Advertiser, a SITUATION as PLUMBER or three-branch hand.—Address, C. H. 5, Camden-row South, Camden-town, N.W.

WANTED, by a Young Man, a Constant SITUATION as a THREE-BRANCH HAND, as PLUMBER, GRANDEL PAPER HANGER, &c. Has been used to plumbing six years' character, if required.—Address, O. E. 1, Vicarage-place, Stratford, Essex.

TO MASTER PAINTERS AND BUILDERS.
WANTED, by a Young Man, aged 26, Constant EMPLOYMENT in town or country. Has been in the above trade six years. Satisfactory references from previous employers. Not so particular as to wages as a constancy; and is willing to make himself useful.—Address, J. R. 8, Draycott terrace, Chelsea.

WANTED, to APPRENTICE (In-doors), a Youth, aged 14, to a PLUMBER, PAINTER, and GLAZIER. A premium will be given.—Address, H. AYLIFFE, 109, Park-street, Camden-town.

TO SURVEYORS, BUILDERS, AND OTHERS.

WANTED, by a thoroughly Practical Man, of some years' experience, partial or occasional EMPLOYMENT, in preparing specifications, taking out quantities, estimating for superintending or measuring works, posting up or checking accounts. Terms moderate. Attendance punctual.—Address, A. B Mr. Rogers's Offices, 45, Borough.

TO ARCHITECTS

WANTED, by a thoroughly efficient and Practical Man, a SITUATION as CLERK of WORKS. Eight and a half years' experience. Good references.—Address, R. W. Post-office, 38, Tottenham court-road, London, W.

WANTED by a Builder's Son, a SITUATION as CARPENTER (bench work) Aged 19. Has had five years' experience.—Address, G. B. 6, Belgrave-street, Blandford-square, S.W.

WANTED, by a WORKING FOREMAN of JOINERS, a RE-ENGAGEMENT as SHOP FOREMAN, or the charge of a job. Is well experienced in either branch, and thoroughly understands his business. Several years unexceptionable reference. No objection to the country.—Address, Q. G. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, aged 21, a RE-ENGAGEMENT in a BUILDER'S OFFICE. Has been five years in his present situation.—Address, A. Z. Mr. Mewett, Stationer, 142, Sloane-street, S.W.

WANTED, EMPLOYMENT, in the office of a builder or surveyor, by a Carpenter and Joiner, a young man with a knowledge of plans, specifications, accounts &c. Address, D. S. W. 8 Dorset Stages, Cromwell, St John's wood, N.W.

TO BUILDERS

WANTED, PLASTER WORK, finding scaffolding and materials, or labour only. Payment by instalments. First class references.—Address, T. S. Office of "The Builder."

WANTED, by a good JOINER, a PERMANENT SITUATION. Has no objection to town or country. Address, stating wages, I. M. I. Post-office, King's Sutton, near Banbury, Oxon.

TO PLUMBERS, BUILDERS, AND OTHERS.

WANTED, by a First-rate PLUMBER, a Constant SITUATION. No objection to fill up his time with gasfitting, &c. Town or country. Three years' good references.—Address, W. C. Mr. Baby's, 4, Berkhampstead Road, Islington.

TO ARCHITECTS.

WANTED, by a thoroughly efficient and practical Man, a SITUATION as CLERK of WORKS. Good references.—Address, A. B. 1, Adam-street, Bedford-row, W.C.

TO ARCHITECTS' ASSISTANTS.

WANTED, a thoroughly-qualified ASSISTANT, well versed in Gothic.—Address, stating salary and references, to G. WOODHOUSE, Architect, Bolton-le-Moors.

TO ARCHITECTS AND SURVEYORS, OR NOBLEMEN'S AGENTS

THE Advertiser, an Architect of considerable experience in his profession is desirous of entering the Office of a Gentleman (in a provincial town) agent to a nobleman or gentleman to undertake the valuing superintendence &c. appertaining to the profession, and to have the management of the office during the absence of the principal.—Address, L. Z. Mr. Sogg's Library, 127, St. James's street, Brighton.

TO PLUMBERS, BUILDERS, AND OTHERS.

THE Advertiser, who thoroughly understands plumbing gas-fitting, painting, and glazing, wishes for a PERMANENCY.—Address, A. B. 26, Lloyd-street, Bedford-square, Without, E.C.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

TWO ASSISTANTS, in an Architect's Office, whose time in the evening is disengaged, would be glad to undertake the COPYING of PLANS and SPECIFICATIONS, &c. with dispatch, upon moderate terms.—Address, H. K. Post-office, Mr. Brown's Alfred-st. B.

PLASTERING, LABOUR ONLY, Town or Country.—An experienced London Hand requires a SITUATION as FOREMAN, or a Piece for the Job. Good references.—Address, B. Office of "The Builder."

LAND SURVEYING and CIVIL ENGINEERING.—A competent ASSISTANT, provided with all field and office instruments, desires a RE ENGAGEMENT. Is experienced in parish, estate, and railway surveying, levelling, ranging curves, &c. and is a good draughtsman.—Address, SURVEYOR, 29, Acton street, Gray's inn road, London, W.C.

TO ARCHITECTS.

GENTLEMEN, having just terminated an engagement as CLERK of WORKS under an eminent London architect, by whom and by many others I can be strongly recommended, I beg respectfully to offer myself for a RE-ENGAGEMENT as above, either as a whole or morning. Unexceptionable testimonials.—Address, VERITAS, Post-office, Gravesend, Kent.

EMPLOYMENT WANTED, temporary or otherwise, in an Architect's or Engineer's Office. Good testimonials as to ability and steady habits. Tracing and working drawings. Thoroughly well versed in copying and lettering.—Address, Mr. D. OLDFIELD, Post-office, Queen's-road, St. John's-wood, N.W.

CLERK of WORKS.—A thorough business Man, aged 30, sober, steady, and of strict integrity. Is a good draughtsman, measurer, accountant, and judge of all building materials; fully acquainted with both town and country work. First-class testimonials from architects and others. Address, H. G. G. Post-office, Newington, Kent.

BUILDER'S APPRENTICE, IN-DOOR. WANTED, to PLACE an educated YOUTH with an established firm. Country town not objected to.—Address, A. B. 10, St. Paul's Grove, Maryless-road, Canonbury, N.

TO ARCHITECTS AND BUILDERS.

AN Estimator of experience and standing, having a PORTION of his TIME DISENGAGED, is willing to undertake estimating and quantities at low charges.—Address, Y. Z. care of Mr. W. Brock, 33, Nicholas-lane, E.C.

TO SANITARY ENGINEERS

AN ENGINEER of experience in Railways, Docks, Mr. Lucas, &c. &c. is desirous of an APPOINTMENT as Assistant Engineer or Inspector.—Address, R. E. care of Mr. Whitfield, 178, Strand, London.

TO LAND AGENTS AND SURVEYORS.

A THOROUGHLY Practical Surveyor and Leveller is open to an ENGAGEMENT. Is an excellent draughtsman, and has had much experience in parish, road, and railway surveys.—Address, B. C. D. Post office, Gloucester

TO PLUMBERS, BUILDERS, &c.

A YOUNG MAN, aged 20, who has served six years to the Plumbing, &c. is desirous of a SITUATION as IMPROVER in a country town or village.—Address, A. B. care of J. Cook, Newsman, 9, Desborough-place, Harrow-road, Paddington, W.

TO ARCHITECTS AND SURVEYORS.

A QUANTITY SURVEYOR and MEASURER, with a practical knowledge of building, would be glad to TREAT with ARCHITECTS for their Quantities and Measuring Writing Specifications, &c. upon reasonable terms. Would be willing to assist Architects and Surveyors at their own offices if preferred. References given. Quantities guaranteed. Address, ALPHA, care of Mrs. Fisher, Stationer, Vassall road, Brixton road, S.

TO ARCHITECTS AND ENGINEERS.

AN ASSISTANT desires an ENGAGEMENT. Is a neat and expeditious draughtsman, accustomed to prepare designs, sections, working and detail drawings. Thoroughly understands construction and quantities. Competent to manage a business. References good.—Address, B. S. 4, Hamilton-terrace, Highbury, N.

AN experienced and fully competent Clerk of Works wishes a RE-ENGAGEMENT.—Address, CLERK of WORKS, Fitzthan Hall, Winchfield, Hants.

TO ARCHITECTS.

A GOOD DRAUGHTSMAN and first-rate COLOURIST is open to an ENGAGEMENT. Terms, One Guinea per week.—Address, A. B. 5, Eden-villas, Lower Norwood.

A FOREMAN of MASONS, 44 years of age, is open to an ENGAGEMENT, either on public works, or in a general yard. Has been accustomed to Gothic work, also cemetery and marble work, and to the control of workmen.—Address, F. G. 19, Rutland street, Leicester.

TO ARCHITECTS AND SURVEYORS.

A GOOD DRAUGHTSMAN, accustomed to quantities and the duties of an architect's office, desires an ENGAGEMENT. Temporary or otherwise; in town or the provinces. Address, A. Y. 42, St. George's-road, Southwark, London, S.

AN Architectural and Engineering DRAUGHTSMAN, Writer, &c. desires an ENGAGEMENT. Age 26.—Address, A. Z. 109, Minories, E.C.

A YOUNG MAN is in want of a permanent SITUATION as WRITER, GRAINER, and ORNAMENTAL PAINTER, Sign, Animal, Marble, and Landscape Painter, in oil or distemper colours, also, wire blind maker and Repairer; not Carpenter or glass. Good references, if required. Strictly all Branches in London.—Address, T. ROGERS, at Mr. Middleton's, Andover, Hants

TO ARCHITECTS.

A DRAUGHTSMAN, neat, expeditious, and a good colourist, well recommended, requires a SITUATION. In town or country. Age 22. Improvement a desideratum. Salary moderate.—Address, VOLENS, Post Office, Darlington.

TO ARCHITECTS, NOBLEMEN, AND GENTLEMEN, IN ENGLAND OR ABROAD.

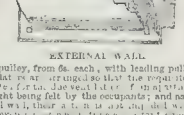
A FIRST-CLASS CLERK of WORKS, who will soon be disengaged, seeks a Confidential ENGAGEMENT on an Estate, in any part of the globe. Has a thorough knowledge of the building trade, and has had the superintending of erecting of machinery, saw-mills, &c. Is a good draughtsman, estimator, and leveller. First class reference to present and former employers, as to character and ability.—Address, E. H. Adelphi Chambers, No. 7, John street, Adelphi, London, W.C.

TO BUILDERS.

A YOUNG MAN wishes to ARTICLE HIMSELF to a Carpenter and Joiner, for a year or more.—For terms, address, O. P. Q. 131, Lower Marsh, Lambeth.

CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Governments for removing Noxious Nature's Deodorizer (OXYGEN), preventing decomposition, and acts precisely in the same manner, as the oxygen gas produced by Nature in purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly pleasant and wholesome odour, and being without odour of its own, it forms the safest and most efficient disinfectant and deodoriser for sick rooms, slaughter-houses, sinks, horse stalls, sewers, cesspools, graveyards, &c. and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c. and for the toilet for preserving and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 2s. or 4s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE. Wholesale of the Patentee, Battersea, Surrey, S.W.

VENTILATION—PURE AIR.



Shoringham's Ventilator for the admission of Pure Air through an EXTERNAL WALL

With single pulley, from 6s. each; with leading pulley, from 6s 6d. These Ventilators are arranged so that the regulating quantity of air may be admitted for the several rooms from a quarter without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not objected to by the householder, as they are entirely concealed from view. Any additional length of Tube required. HAWKINS BROTHERS, Gas Manufacturers, 117 and 118, Union street, Borough, London; and of all respectable Ironmongers, Builders, &c.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DORBIN and other CARTS, specially adapted for exportation with Wrought Iron Wheels.

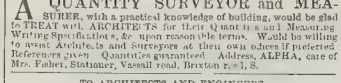
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED to the above, at HALF THE COST OF THE INSECURE AND DISFIGURATIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send DIMINISHED THICKNESS of Shutters, and the way they go up

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.

SCAFFOLD and HEMP ROPE FALLS.

H. PIGGOTT,

59, Bishopsgate-street Without, E.C. Manufacturer, by appointment to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS.

SCAFFOLD and HEMP ROPE FALLS.

AWNINGS FOR FOUNDATION STONES.

CARY & PRIER,

DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

ACCIDENTS ARE UNAVOIDABLE. Every one should therefore provide against them.

THE RAILWAY PASSENGERS' ASSURANCE COMPANY

Grant Policies for Sums from 100l. to 1,000l. assuring against

ALL ACCIDENTS OF ALL KINDS.

An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by Injury.

Apply for Forms of Proposal or any Information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.

1,825 Policies paid for Claims as COMPENSATION for Fatal Cases, and 5,042 Cases of Personal Injury.

The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS

Empowered by Special Act of Parliament, 1849.

64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.



Illustrated Treatise, Post free, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:— Cardington Street, Hampstead road, London.



PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford street, Manchester. Prize Medallists, Class 34 A, 1862.

TO ARCHITECTS, BUILDERS, &c.

GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F. EDELL & CO. 8, Bath-street, City-road, E.C.; or at the Works, 12 Grafton-mews, Fitzroy square, W. N.B. Fret and Church Lamps sold.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the latitude with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS. JAMES HEILBY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass in manufacture—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. METTAM & CO.

30 and 31, PRINCES STREET, SOHO, LONDON, W.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

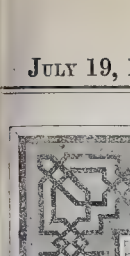
311, REGENT STREET, W.

(Adjoining the Polytechnic Institution).

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be had WITH GREATER, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.



SOLID PARQUET FLOORS, ARROWSMITH'S PATENTED,
From 1s per foot, in various woods, inch thick, grooved, ogued, and keyed together, not veneered
For Halls, Staircases, Corridors, Reception-rooms, Library, Billiard and Bed Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.
SHOW ROOMS, 80, New Bond-street, W.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c,



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsman's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN
LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

THEODOLITES, LEVELS, TRANSIT THEODOLITES, DRAWING INSTRUMENTS, SCALES, &c.
C. BAKER,
243 and 244, HIGH HOLBORN,
Begs to inform Civil Engineers, Architects, and others, that, having recently made extensive alterations in his premises, whereby greater facility for manufacturing is obtained, he is now enabled to supply every description of first-class SURVEYING and DRAWING INSTRUMENTS, at prices very much lower than is generally charged for superior workmanship. Every article manufactured on the premises. Alterations and repairs executed with dispatch. A large assortment of second-hand Levels, Theodolites, &c. in stock, at extremely low prices.—Catalogues free, by post.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone, at W. P. WILLIAMS'S Marble Works, 316, Euston-road, London, N.W.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29, 30, and 31, Warwick-street, W.
EDWARDS, BROTHERS, & BURKE, PROPRIETORS.
The largest and most superior Stock of Chimney-pieces in Europe on view, of the above-named Establishment.
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

MARBLE CHIMNEY-PIECES of every Description, also enamelled Slate, to be SOLD at 280, MARYLEBONE-ROAD (opposite the Yorkshire Stingo).
BATH STONE BOX CHIMNEY-PIECE, with MOULDED CAP and BASE, 7s. FITTED TO ANY OPENING

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries—Earl-street, Horseferry-road, Westminster.—The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney-piece in the world.

VICTORIA MARBLE WORKS, 39, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOW ROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TREATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

GRANITE.—To Contractors, Builders, and Capitalists.—The Lessee of an extensive GRANITE SETT is desirous of DISPOSING of a PORTION of his INTEREST, with a view to the full development of the same.—Samples may be seen and all particulars given on application, by letter, to A Z, No. 7, Suffolk-street, Lower road, Islington.

POLISHED GRANITE WORKS, ABERDEEN.—TOMBS, COLUMNS, PILASTERS, &c. executed of the finest material and workmanship.—Apply to ALEXANDER MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 20, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE SILICEOUS STONE
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster, or Patent Stone Works, Ipswich.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE SOLD by PRIVATE CONTRACT, about 35 Tons of first-quality Bangor, Queen's, and Princess's SLATES, assorted sizes.—Apply to CHARLES A. LEWIN, Timber Merchant, Poole, Dorset.

ROBERT WHITE, SLATE MERCHANT, SHEFFIELD.
ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor M 11 Junction and Garston.

SCAGLIOLA WORKS, 14, SMITH-SQUARE, WESTMINSTER, S.W.
G. WARREN, SCAGLIOLIST,
Begs to inform ARCHITECTS, SCULPTORS, BUILDERS, and the Trade in general, that he is prepared to execute all descriptions of SCAGLIOLA MARBLE WORK, in the best manner, at very moderate prices. Superior Scagliola Pedestals, for busts, &c. at from 4l. 10s. to 5l. 10s. per pair.

BUILDING LAND.—TO BE LET, at Castle Hill, Dover, on Building Leases for 99 years, Good Sites, on main roads, for Houses, Villas, &c. The ground commands good views of the sea, Shakespeare's Cliff, &c. and is on one of the most picturesque spots in Dover. The new church of St. James is on the estate. For full particulars at 1 plan apply to JAMES STILWELL, Esq. Solicitor, Dover; or of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall Mall, S.W.

LIME GROVE ESTATE, Putney.—This fine estate, containing altogether about forty acres, and immediately adjacent to the Putney Station, and near to Putney-heath, with very extensive frontages on Putney-hill and the Upper Richmond-road, TO BE LET on building leases, either as a whole, or in part.—For particulars, apply to Messrs. BAXTER, ROBE, & Co. 6, Victoria-street, Westminster; Mr. POWNALL, 60, Lincoln's Inn-fields; or Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament-street.

TO BUILDERS, CONTRACTORS, BREWERS, and OTHERS wanting EXTENSIVE PREMISES, TO BE LET on LEASE, all that eligible and extensive PREMISES, lately known as the Sun Brewery, situate in John-street, Pentonville, comprising a convenient dwelling-house, with garden, large yard, and two cottages attached; also a large building, which for a trifling outlay might be converted into stabling and coach houses, or made available for manufacturing purposes.—For rent and further particulars apply to J. B. WATSON, Esq. No. 9, Nottingham-place, Marylebone-road, W.

WITH IMMEDIATE POSSESSION.—TO BE LET, large FOUR-STORY WAREHOUSE, Cellarage, fire-proof storerooms, dwelling-house; eight-stall stabling, large lofts over; loading yard, with glass and iron roof over part. Close to the City, in leading thoroughfare.—Particulars of rent, &c. and to view, apply to Mr. T. J. HILL, Architect, 70, Old-street, E.C.—Would suit any large firm.

TO BUILDERS and OTHERS.—TO BE SOLD, TWO CARCASES of ten-roomed VILLA RESIDENCES, up to first story, and partly timbered, and the excavated ground, concrete, and footings for a similar pair. Situated near the Forest gate Station, Romford-road.—Apply to Messrs. LAWRENCE, SMITH, & FAWDON, 12, Bread-street, E.C.; or Mr. R. H. PEARPOINT, 30, Leicester-square, W.C.

TO ENGINEERS, FOUNDERS, and IRONMONGERS.—TO BE LET, on very desirable terms, extensive MANUFACTURING and ENGINEERING PREMISES, with capacious Warerooms, well lighted, and Cellarage underneath the whole, situated in a principal street in the centre of London. The Premises are freehold, excepting a small part, which is leasehold. The business has been carried on most successfully for many years, and the Plant and Stock have just been valued. The present Manager, with a staff of workmen, is willing to continue under a new employer. Every information can be obtained on applying, in the first instance by letter, with the real name and address, to THOMAS SMITH, Valuer to the Hardware Trade, 14 and 15, St. Swithin's-lane, London, E.C.

TO CAPITALISTS and BUILDERS.—TO BE SOLD, the INTEREST in a LEASE, for seventy years, of a very valuable piece of BUILDING GROUND, which will hold 150 houses, including two public houses, as well as shops. The ground is 5¼ acres, on the main Wandsworth-road, and within five minutes' walk of Nine Elms and Vauxhall Stations.—For plans and particulars, apply to Messrs. MILNE & CO. Wandsworth road.

BUILDING SITE for a Warehouse TO BE LET, within five minutes' walk of the Bank, having an area of more than 8,000 square feet, with frontage in a leading thoroughfare, and ample height on every side. Particulars may be had of Mr. ST. QUINTIN, Auctioneer and Surveyor, 30, Royal Exchange.

BROMLEY, Kent.—BUILDING LAND. TO BUILDERS—REQUIRED, A BUILDER, to CONTRACT to ERECT a PAIR of Semi detached VILLAS, and accept for a portion, instead of cash, a conveyance of freehold building land, situate in this delightful situation, admirably adapted for the erection of semi-detached residences, much in request in this neighbourhood, being about ten minutes' walk from the Bromley Station, on the Mid-Kent and London, Chatham, and Dover lines of railway, affording easy access to the City and West-end.—Full particulars can be obtained on application to G. T. DAVIES, Esq. Solicitor 43, Mincing-lane, London.

TOOTING, SURREY.—Fourteen Acres of VALUABLE FREEHOLD BUILDING LAND FOR SALE, beautifully situate on the high ground near the common, about six miles from London and Westminster Bridges, and 1¼ mile from the Balham and Streatham Stations. The land is all in pasture, has a southern aspect, slopes to the south, and affords extensive views, and offers a delightful site for residences, or for a public institution. For particulars apply to Messrs. DEBENHAM & TEWSON, Estate agents, 80, Cheapside, where a plan may be seen.

TO CARPENTERS and OTHERS. Several SEVEN ROOMED CARCASES TO BE SOLD, or LET at ground rent for each house; together or separate. If required the purchase money can be paid by instalments.—Further particulars may be had of G. G. on the Premises, No. 14, Waddington-grove, Upper Holloway, N.

TO BUILDERS.—FOR SALE, FREEHOLD LAND, about Seven Acres and a Quarter, with House and Courts, at Acton, five miles from the Marble Arch, and a quarter of a mile from the North and South Junction Railway Station. Soil, gravel, sloping south; well timbered, frontage to Uxbridge road, also to East Acton road. Gas and water pass the premises.—May be viewed from TEN to FIVE Grove House, Acton, Middlesex.

ESSEX, near Braintree, two miles from the Station.—A Valuable Freehold ESTATE; it is highly productive and admirably adapted for any description of sport and pleasure; and in perfect order for occupation of a gentleman of taste. Comprising about Fifty Acres of Land, beautifully timbered; large orchard, and choicest shrubbery and ornamental garden, abundantly planted with the finest rhododendrons; a small lake stocked with fish. The noble family residence stands in the centre of the estate, and contains about twelve bedrooms, dining, drawing, and breakfast rooms, library, lobbies, and spacious hall, extensive suite of offices, &c. &c. A detached Villa situate at the entrance, admirably suited to let off separately for hunting quarters. Extensive range of newly-built stables and coach-houses of a costly nature, with lofts and apartments, with buildings, &c.; likewise a capital eight-roomed Cottage, with forcing houses, &c. &c. The property is well stocked with game, and affords extraordinary advantages for field sports. TO BE LET OR SOLD, or part may be had. For particulars apply to Messrs. HAMMOND & KIRKLAND, Land agents and surveyors, 3, Carey-street, Lincoln's Inn, London, W.C.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive Manufacturing Premises, known as TREDEGAR WORKS, Bow, Machine Shop, 61 feet by 54 feet; two ranges of workshops, 74 feet by 27 feet each; engine, boilers, forge, sheds, stabling, counting-houses, and all other conveniences suitable for a large factory.—For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

DRAIN-PIPE WORKS and BRICKFIELD TO BE LET, with access to the rail and river. A very large country demand for drainage goods especially, and great facilities for obtaining firing on a low rate.—Apply to MESSON & CO. 8, George-yard, Lombard-street, E.C.

CROYDON, SURREY.—TO BE LET, on Building Lease, the northern part on of the HALING PARK ESTATE, a few minutes' walk from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

ALDEBURGH, Suffolk.—TO BE SOLD, in plots, or let on building leases, an eligible FREEHOLD ESTATE, suitable for marine residences, close to the railway station, with an uninterrupted sea view. Brick earth, gravelly soil, and springs of the purest water on the estate.—For plans and particulars, apply to Mr. RICHARD LEE MAYHEW, Solicitor, Saxmundham, Suffolk; or of Mr. GEORGE ELKINGTON, Architect and Surveyor, 19, Cannon-street West, London.

CHEAPSIDE.—VALUABLE BUILDING SITE.—Notice is hereby given, that the time for receiving TENDERS is now EXTENDED to AUGUST 23.—Plans, particulars, and conditions of Tender may be seen, on application to the Clerk, Saddlers' Hall, E.C.; or to Mr. F. W. PORTER, Architect, 16, Russell-square, W.C., between TEN and FOUR.

FREEHOLD BUILDING LAND FOR SALE, near Park Station, on the Eastern Counties Line. Gravelly soil; roads and drains made. Extent, 7½ acres.—Particulars by letter, addressed to C. R. Charles Barker & Sons, 8, Birchin-lane, City.

REIGATE, SURREY.—TO BE SOLD, FREEHOLD LAND, varying from 3 to 6 acres, commanding most extensive views, with good approaches, and well timbered; offering choice sites for the erection of a residence. Land-tax redeemed; building stone on the land. A portion of the purchase-money may remain on mortgage.—Apply, by letter, to Mr. CHAMBERS, Reigate.

FREEHOLD SITES for BUILDING and FREEHOLD PREMISES, in the Avenue in the Great Park of Prince Albert's Road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 27, Prince Albert's-road, W.

TO BE LET, on a Building Lease or Leases, FOURTEEN ACRES of FREEHOLD LAND, situate in the Fulham-road, facing the Gunter's Arms.—Apply to Mr. CHARLES LEE, 20, Glen-terrace, Westminster, Architect.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1½	2	2½
„ 2ft. 6in. sup.	1½	1½	2½	3
4 ft. super...	1½	2	2½	3½

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 } per 100ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13 } per 100ft.	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14 } per 100ft.	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15 } per 100ft.	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s. }
Anti-corrosian Paint 28s. to 34s. }
Linseed Oil Putty .....7s. 6d. } per cwt.
Patent Dryers .....28s. to 42s. }

Fine Oak Varnish ...10s. }
„ Carriage ...12s. }
Linseed and Boiled Oil } per gallon.
Turpentine ..... }

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

HAMPSTEAD ROAD JOINERY WORKS.

21, HARRINGTON STREET, N.W.

NEVIL SIMMONDS,

MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.

SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.

Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

CARSON'S

ORIGINAL ANTI-CORROSION PAINT.

Patronised by

THE BRITISH GOVERNMENT, H.R.H. THE PRINCE CONSORT, RAILWAY AND CANAL COMPANIES
THE FRENCH GOVERNMENT, MOST OF THE NOBILITY & GENTRY, THE PRINCIPAL COLLIERIES,
THE RUSSIAN GOVERNMENT, THE DOCK COMPANIES, MILL OWNERS, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also

IRON ROOFING, BRIDGES, HURDLING,

AND EVERY DESCRIPTION OF IRON WORK;

FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone. The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.

OIL, TURPENTINE, AND BRUSHES.

Prices, Patterns, and Testimonials sent upon application to

WALTER CARSON AND SONS,

(SUCCESSORS TO THE INVENTORS,)

9, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

PORTLAND CEMENT
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY

COLES, SHADBOLT, & CO
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PATENT PORTLAND and ROMAN
CEMENT,
AND PLASTER OF PARIS WORKS,
FRINDSBURY, on the MEDWAY, KENT, and
CANAL ROAD, KINGSLAND ROAD, N.
MESSRS. FREEN & CO.
Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER OF PARIS, in any quantity, fresh from the kilns.
Orders addressed to their LONDON WORKS, Canal-road, Kingsland-road, N. will meet with prompt attention.

WHITE and RED SUFFOLK FACING
BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY,

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, SOLE CONSIGNEES.
WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE RIDGING and ROOF
ING TILES, plain and Ornamental, in Blue or Broseley colour
PAVING TILES, in various sizes and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Red Facing, BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

STOURBRIDGE FIRE-CLAY WORKS
E. BAKER & CO.
(Patentees to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierley Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N
GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES,
CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT
STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, an
KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta, Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

GREY STONE LIME
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

STRINGFIELD and BLYTH
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND
BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

			Laths, 28s. per load.
Three-quarter inch Flooring (well prepared), 11s. 6d. per square.			
Yellow Deals, sound and good	£9 10 0 per 120,	or	9s. 3½d. per foot.
Spruce Deals	15 10 0 ,,		0 2¾ ,,
Yellow Battens, excellent quality	11 10 0 ,,		0 2 ,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 ,,		3 6 ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¼-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £9 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
¾-Inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards } from 11s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
8,000 Yellow Deals ..... from 3s. 3d. each
14,000 Spruce ditto ..... from 2s. 9d. each

5,000 Yellow Battens ..... from 11l. 10s. per 120
50,000 feet Spanish and Honduras Veneer ..... } from 1d. per foot
Maple ditto ..... from 1d. per foot

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, wellseasoned Flooring, Matched Lining, Skirtings and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass Show Cases, &c

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



CEDAR FOR SALE.—A Fine Growing TREE.—It is 24 feet high the main trunk, and 40 feet total height; has a girth of 9 feet 2 inches at 3 feet and to 8 feet from the ground, and of 4 feet at 24 feet from the ground. Is seven miles from London Bridge.—Address, W. H. D. Mr. Daw, Porter, 38, Cannon-street, City.

TO BUILDERS, CONTRACTORS, and OTHERS.—To be SOLD by PRIVATE CONTRACT, Eighty Pieces of Memel, Riga, and Dantzic TIMBER, over 40 ft. and up to 60 ft. long, large size, and best quality.—For terms and particulars apply to CHARLES A. LEWIN, Merchant, Poole, Dorset.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE SOLD by PRIVATE CONTRACT, a large lot of WAINSCOT BOARDS that have been cut out and seasoned from seven to ten years. The sizes are ¾ inch, 1 inch, 1¼ inch, 1½ inch, 2 inches, and 2½ inches. It is warranted fit for immediate use, and to some town builders must be invaluable.—Apply to CHARLES A. LEWIN, Merchant, Poole, Dorset.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 24 Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 16s. 3d.; 1¼ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

THE LONDON CO-OPERATIVE OIL and COLOUR SOCIETY (Limited) will commence operations on the 1st AUGUST, 1862. Established for providing genuine articles to the Trade, as purchasers of oils, white lead, colours, trescles, drysaltery goods, &c. Shareholders will derive an additional advantage by a dividend of five per cent. per month on each 5l. share. Trade list weekly.—Application for shares to Mr. THOMPSON, Manager, 65, 66, 67, St. George's-street, London Docks, E.

T. KENT'S PAINTING-BRUSH MANUFACTORY

Is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.

Also Manufacturers of the Patent India-Rubber Knife boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

COLOURS and VARNISHES at REDUCED PRICES,

Genuine White Lead, 25s. per cwt.; Linseed Oil, 2s. 4d. per gallon; Boiled Oil, 2s. 8d.; Turpentine, 3s. 6d. per gallon; Pale Oak Varnish, 3s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c., at the lowest prices.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stoppers, and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.

PAINTING BRUSH MAKERS,

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

And of their Agents,

SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 20s. per cwt.

Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s 8d. per gallon.

Turpentine, 3s. 6d. per gallon.

Fine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Ebury-street, and 45, Cole-hill-street, Pimlico, S.W.

Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

30, LONDON WALL, E.C.

Where also may be obtained their

CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,

Together with all kinds of Colours and Varnishes,

Warranted of the purest quality and at the lowest prices.

Agents for Kershaw's Graining Machines.

SHOP-FRONT TO BE SOLD, a Bargain; suitable for any fancy business; richly ornamented, and surmounted with the royal arms carved in stone, with circular head to mahogany sash and sliding shutters and lead weights complete. To be seen at 7, Dover-mews, Dover-street, Berkeley square.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851.

BUNNETT & CO.

ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT.

BUNNETT & CO.

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246).

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851.

BUNNETT & CO.

ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES, COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c. STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.



REDUCTION IN PRICE

OF

CLARK'S

NEW PATENT REVOLVING SHUTTERS,

FOR

SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from **2s.** per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from **3s** per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1750)

GREAT EXHIBITION, LONDON, 1851.

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Index, Door Cups, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

EXPOSITION UNIVERSELLE, PARIS, 1855.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Wiltshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING, Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

SPURGEON'S IMPROVED MARTIN'S CEMENT.

A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.

MANUFACTURED ONLY BY

B. W. SPURGEON, DERWENT WORKS, DERBY.

London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.

Coarse, Fine, and Superfine London-made PLASTER of PARIS.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.

SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.

SCOTT'S PATENT PLASTER.

GREY STONE LIME, of very superior quality. CHALK LIME.

Shipping orders promptly executed.

PARTS MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, BED RUBBERS, OVEN BRICKS, AND P. OVEN TILES COWLEY AND KENT BRICKS, AND PLASTERERS HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c. RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.

" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Despatch.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump of ground, packed in boats, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.

White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Cement may be painted or papered within forty eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS BROTHERS, & POTT, Nine Elms, London.

GREAVES'S BLUE LIAS LIME. GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.

L. M. TAYLHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:—

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK-STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.

LIMEKILN-HILL, LIMEHOUSE, E.

Where it can be obtained, of the best quality:—

GREY STONE LIME, CHALK FLARE, and BLUE LIAS LIME.

ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.

COMPTON and KENT BRICKS.

WHITE, and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.

Ditto, ditto WALL COPING BRICKS and TILES.

YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BRICKS and BLACK GLAZED HEADERS.

WHITE, BLACK, and RED RUBBERS.

STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.

TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.

Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN

DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.

WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS and TILES, of every description and size

GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.

RED DRAIN PIPES, TILES, and CHIMNEY-POTS

TERRA-COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.

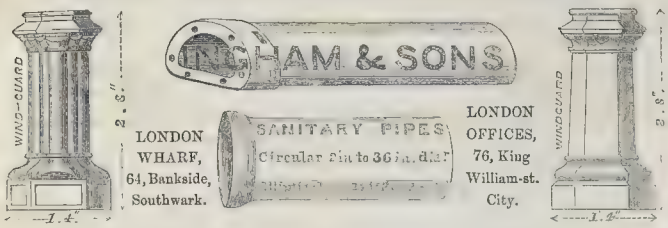
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.

Goods forwarded by Railway with despatch.

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered to any part per barge. Ballast screened or unscreened, by the ton or barge. Stocks Lane, and Old Bricks. Dry rubbish delivered per barge, to any quantity, alongside the Thames.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



LONDON WHARF, 64, Bankside, Southwark.

LONDON OFFICES, 76, King William-st. City.

MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

THE ALPHA TUBE & FITTING WORKS.

WALSALL, STAFFORDSHIRE.—Established 1830.
LAMBERT BROTHERS,
MANUFACTURERS OF LAP WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,

For Steam or High pressure Water and Gas. HIGH-PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS-FITTINGS, GASELIERS, &c.; and of the GROVE HEDSHEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam-engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, Mills, &c. at the International Exhibition, Walsall Court, Class 31.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

BRICK-MAKING BY STEAM POWER.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,

(Each producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS, London.
" BRASSEY & CO. London.
" BAKER & SON, Isle of Wight.
" ROBT. SHARPE & SONS, London.
S.-E. RAILWAY COMPANY, Folkestone.
Mr. GEORGE FURNESS, London.
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO. Burham.

FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works; at the Great Exhibition, South Kensington; or at their Show Rooms, Upper Montague-street, Montague-square; or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.
ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's  Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and only Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Sample, with full directions as to the uses and the manner of applying it, FESTIMONIALS, some of them fifteen years experience from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully invited to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactories LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS at ALDERSHOTT, CURRAGH, SHORNCLIFFE and COLCHESTER; upwards of three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of near One Million Feet. A Liberal Discount allowed to the Trade

---

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF
PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), GOLD MEDAL,
LONDON, Maestu and Montoria (Spain), Bastennes (Landes), &c. PARIS,
1851. **SEYSSEL ASPHALTE,** 1844.
AND BY H.M.'S ROYAL LETTERS PATENT,
MANUFACTURERS OF
METALLIC LAVA.
FOR PRICE AND PARTICULARS APPLY AT THE
OFFICE, 6, GUILDHALL-CHAMBERS,
BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

MONEY.—IMMEDIATE CASH

ADVANCES MADE ON
FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY
TIMBER, WINE, and SPIRIT WARRANTS.
BANKRUPTS' and INSOLVENTS' CASES CONDUCTED.
Balance-sheets Prepared, and Meetings of Creditors Convened
Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT
17, Moorgate-street, Bank, London.

BRICKMAKING BY STEAM POWER.

INTERNATIONAL EXHIBITION, Class 7 B. Eastern Annexe.
Messrs. BRADLEY and CRAVEN,
OF WESTGATE-COMMON FOUNDRY, Wakefield, Yorkshire,
Are exhibiting one of their MACHINES as above

The following testimonial from the well-known firm of Messrs. Peto & Betts, who are working Brick Machines of several makers,—Ainslie, Clayton, & Co. &c. is conclusive as to the practical superiority of Messrs. Bradley and Craven's.

"9, Great George street, Westminster,
April 14th, 1862

Gentlemen,—I have pleasure in giving you the result of twelve months experience in working your Brick Machines at my Aylesford Pottery. Previous to becoming acquainted with your machine, I had worked for years several of the best machines of the day; I have, therefore, had considerable experience in mechanical brick making, and the result is, I am pleased to notify to the value of your machine as being the only one that at present in this country will make a brick by one operation direct from the clay-pit without preparation, at all at the same time with economy. I have had three of these machines working throughout the past year, both summer and winter, and as the machine requires no water to be mixed with the clay, we can wheel the bricks direct to the kilns. The machines make regularly from 40,000 to 50,000 bricks per day, and continue to give me every satisfaction. I can also bear testimony to the value of your Dry Clay Machine and Mill, now working for me at the Sydenham tunnel, producing very superior bricks from a most refractory material at the rate of 18,000 per day. I shall be happy to admit your friends to my works to see them in operation on receipt of an introduction from you.—I am, gentlemen, your obedient servant.

E. L. BETTS.

To Messrs. Bradley & Craven, Wakefield."

Illustrated catalogues and every information connected with brick machinery on application as above.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 30s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire street Station, at 20s. per 1,000.

15,000 or 16,000

OLD BRICKS for SALE.—Apply to Mr MINTY, 41, York-road, Lambeth.

TO BUILDERS AND OTHERS.

BEST YELLOW STOCKS, of this Season's make, can be obtained by applying to JOHN COSH, Stratford Brickfields, Stratford, E.

Also Grizzles and Place Bricks carted by J. Cosh's own carts

BRICKS.—New White, Red, and Black

Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. 6 inches.
Do. Culvert Bricks.
Plain Tiles of kinds
Plain and Fancy Ridge-tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. E. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines

Price, including royalty, 75*l*.

Licences to Manufacture granted for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,580.

A NEW BRICK and LIME WHARF and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN PIPES, AND RED GOODS;
TERRA-COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM CUTTERS, PICKINGS, &c

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

DURABILITY of GUTTA PERCHA TUBING.

—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter from SIR RAYTON JARVIS, Bart. VENTNOR, ISLE OF WIGHT.—Second Testimonial:—"March, 10th, 1862.—In reply to your letter received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From the testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description especially in places subject to damp and vermin. This Asphalte is now extensively used in laying Stables, Cart-sheds, Coal-cellars, Areas preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.



HENRY DOULTON & CO.'S

GLAZED STONEWARE SOCKET DRAIN PIPES.
HALF SOCKET PIPES.
OPERCULAR OR LIDDED PIPES.
PATENT JUNCTION BLOCKS for Brick Sewers.
PATENT INVERT BLOCKS for Brick Sewers.

Doulton's Terra-Cotta Chimney Tops and Shafts are Imperishable.
PATENT SMOKE AND AIR FLUES, AND CHIMNEY LININGS, BUTT OR SOCKET JOINTS.

The above supplied on the lowest Terms direct from their Manufactories,—
HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HENRY DOULTON & CO.

High-Street, Lambeth, London.

JOHN DOULTON, BROTHERS, & CO.

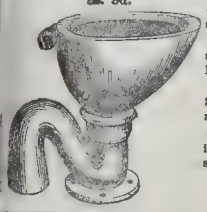
LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL,

MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

3s. 9d.



In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS at the price of the commonest description of earthenware.

The objections to the Cheap Closet-pans have been, that they are not only thin and liable to breakage, but that, after a short period, the glaze crazes and the Pan becomes DISCOLOURED and UNFIT FOR USE.

The above CLOSET-PAN is free from all these objections; it is made of their Strong Vitrified Stoneware, with white interior glaze, and is now to be obtained at the price of the common yellow and white earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

Be particular to order the

3s. 9d. Enamelled Stoneware Closet and Trap.

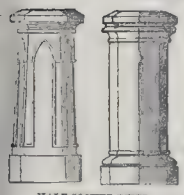
JAMES STIFF & SONS,

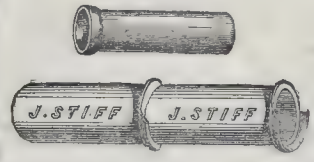
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs GLADDISH'S, Pedlar's-acre, Lambeth; Oakley Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs CHILES, SHADBOLT, and CO.'S, St. Thomas's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr A. RIDDELL, Ranelagh Wharf, Grosvenor-rd.
Mr. LAVERS'S, Dowgate Wharf, Cana-road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.
Mr. GEORGE ALLEN'S, Danvers Wharf, Chelsea.

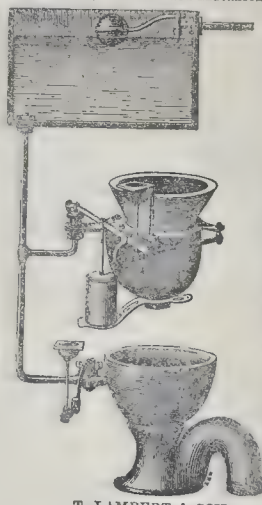
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

PEARCE'S PATENT SANITARY PIPE, BRICK, AND TILE MACHINES,

Producing nearly double the quantity and of very superior quality to any machine yet invented. The improvement consists in the introduction of a central stem to support the core of the die, and obviating the necessity of cross-bars or bridges, hitherto found so detrimental in the manufacture of large sanitary pipes. The upper part of the Machine acts as a Pug-Mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die. The larger Machines will make sanitary pipes, from 3 inches to 24 inches. The smaller, from 2 inches to 12 inches.—Particulars on application to the

IRON WORKS, POOLE, DORSET.

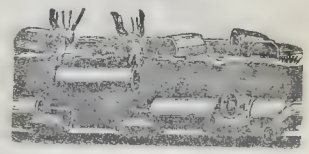
PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

FERGUSLIE FIRE CLAY WORKS,

PAISLEY.



PATENT GLAZED SEWER-PIPES, according to Jenning's Patent and the GLAZED SEWER PIPES with SOCKET JOINTS. Also all articles made of Fire Clay. The Sewer-Pipes are in sizes from 2 inches up to 24 inches bore, and are of the most superior quality. Prices very moderate. The subscriber, from the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be.

ROBERT BROWN.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 81 Wharf, Macclesfield-street North, City-road Basin, N. Bndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

IMPERISHABLE TESSELATED

PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS,

SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,
242 EUSTON ROAD, ST. PANCRAS.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

BUFF & DEEP RED FACING BRICKS,

Splays, Cutters, Floor-tiles, Garden Edging, &c.—Apply to E. HOOPER, Manufacturer, Southampton; or JOHN DOWNEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.

Architects and Builders requiring superior colour in bricks are respectfully invited to inspect the above.

MINTON & CO.

HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON TRENT.

CROGGON and COMPANY,

Manufacturers of
PATENT ASPHALTE ROOFING,
BOILKE, RAILWAY, SHEATHING, and INODOROUS FELT,
For Damp Walls and Lining Iron Houses.
2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

SALES BY AUCTION.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Kalk & Lucas to SELL by AUCTION, on TUESDAY, JULY 22, and following days, at ELEVEN o'clock each day, at the DEPOT, The Lock, Paddington, near the railway bridge, and on the banks of the Grand Junction Canal, the well-selected and extensive Collection of MATERIALS and PLANT used in the construction of the building for the International Exhibition, 1862; including 10-horse portable boiler, 6-horse ditto, 4-horse ditto, 4-inch pulleys, 50 feet line shafting and steel tumbler, 250 lineal feet ends of timber, 55 loads new Swede timber, 6 loads new yellow pine, 5,000 deals and battens, 200 fathoms firewood and skids, 10,000 feet pitch-pine slab, 6 mast spars, 1,000 feet mahogany plank and boards, 120 ladders, 170 navvy barrows, 300 mortar-boards; 4 portable steam-engines, 8, 12, 16, and 20 horse-power; 6 pairs contractors pumps, by Fowler, from 6 inches to 12 inches; mortar mill, with two 4-feet runners, 2-feet curb; 2 horizontal high-pressure steam engines, 8 and 12-horse power; Cornish steam-winch, portable, 4-feet barrel, 200 tons bar, rod, and hoop iron; bolts, nuts, and washers; 16 tons temporary and permanent metals, two tons chairs, 700 sleepers, 5 pile-engines, with monkeys, 3 ringing-engines, 12 double and single purchase cranes, one 3-ton derrick crane, hydraulic girder-proving machine, 15-ton weighbridge, 1 patent crab-hoist, 1 manifold-purchase crab for a traveller, 2 tons wrought-iron shafting, 35 tons cast-iron columns, 40 pairs iron truck wheels and axles, 20 tons useful castings, 20 glue and frames, 2 iron circular-saw benches, 1 rack bench, powerful double and treble purchase-blocks, 20 tons rope falls and slings, 3 tons chain, manilla' tools, a portable forge tools, 12 pairs forge bellows, portable forges, 2,000 feet funnel-pipe, wrought-iron pumps, timber carriage van, 2 carts, 4 dobbin carts, 2 dirt waggons, 100 water tubs and casks, carpenters' benches, cramps, cramplings, bends and junctions, 3 portable offices, dinner-bell, and numerous other effects.—To be viewed on Friday, Saturday, and Monday previous to the sale; when catalogues, at 6d. each, may be had on the premises; or of Messrs. FULLER & HORSEY, Billiter-street, E.C.

The Gwydir, otherwise the Bwch Slate Quarries and Works, near Llanrwst, North Wales.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, JULY 31, at TWELVE, at the AUCTION MART, London, in One Lot (unless an acceptable offer be previously made by private contract), the GWYDIR SLATE QUARRIES, with the STEAM-ENGINE, SLATE MILL, and all the Machinery, Plant, and Effects, situate at Dolwyd'elen, in the county of Carnarvon, about nine miles from Llanrwst, about twelve miles from the shipping stage or quay at Trefriw, on the tidal navigable river Conway, and about three miles from Llandudno Junction Station, on the Chester and Holyhead Railway, and about twenty-one miles from the shipping port of Conway, North Wales. The railway from Conway to Llanwrst will be completed in the spring of next year, and will afford additional facility for transit. The quarries are on the slope of the Carnarvon range of mountains, the slate formation reaching to 70 yards beneath the surface, and has been proved to the depth of about 35 yards. The quality of the slate is uniform, equal in grain to the well-known Bangor slate, and of the original blue colour of the Welsh slate. The works were formed some years since by the Gwydir Slate Company, and fitted with costly machinery for sawing, planing, and otherwise preparing slate slab; the whole worked by an iron overshot water-wheel, 30 feet in diameter, driven by a powerful stream of water flowing from a lake in the mountains, discharging itself into the River Lledr, a tributary of the Conway, which flows past the property; but although large sums of money have been expended in fitting the machinery and in opening the quarry, it may almost be pronounced a virgin quarry, from the comparatively very limited operations hitherto performed, there being up to the present time only four bargains or levels actually formed, and these only partially worked, the yield from which during the past six months has been 665 tons of slates; but by a judicious expenditure (now being gradually made) six additional bargains may be at work within the next twelve months, thereby increasing the yield to at the level 100 tons per week, or 4,000 tons per annum. The quarry is well placed for working, being on the slope of the mountain at a very convenient elevation, and with plenty of ground for tip room at the base. A steam-engine, of about 15-horse power, with winding gear, is erected near the quarry mouth, for drawing the blocks of slate from the deep workings; tramways also intersect the works. The machinery for the slate mill is worth its money, and there is no difficulty in finding ready markets for all the products on very remunerative terms; the profits under the present disadvantages of carriage to the nearest railroad station are very large, 25 per cent. on the returns. The property occupies a site of 23 acres 2 roods, and 35 perches, more or less, and under 26 acres the slate formation has been proved to exist. It is held under Lord Willoughby d'Eresby, subject to a small fixed rent and royalties, which amount to about 5 per cent. on the gross returns. The wharf at Trefriw is the property of Lord Willoughby d'Eresby, and the charge of shipping thereon is 9d. per ton. The cost of carting the slates from the works to the wharf is 6s 6d. per ton; but when the quarries are further working, a great saving in this charge may be effected by the construction of a tramway along the valley at the base of the mountains, facilities for which would be readily granted, and which would place these works in a most advantageous position, and in immediate connexion with the railway system of Wales. The whole of the valuable plant and effects belonging to the owner of Penbryn. Easy terms may be arranged for payment. To view and any further information apply on the premises, which may be obtained of GEORGE HADLEY, Esq. 8, Old Jewry; or of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.—Printed particulars may be had on the premises; at the Hotels at Llanrwst and Chester: at the "Midland Counties Herald" Office, Birmingham; of SAMUEL HIGHELL, Esq., Solicitor, Merthyr Tydvil; Messrs. Thomas Treadle Street, London, E.C.; of GEORGE HADLEY, Esq. 8, Old Jewry chambers; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO IRONFOUNDERS, SMITHS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, AUGUST 7th, 1862, at ELEVEN o'clock, on the PREMISES, the IMPERIAL IRON FOUNDRY, Nos. 61 and 62, Tabernacle walk, Finsbury, the PLANT, MACHINERY, TOOLS, and STOCK, of an IRONFOUNDER, comprising—Powerful high-pressure steam engine, 8-horse 10-horse power, Cornish boiler, 2 rotodes, a multitubular steam boiler, by Maudsley & Field; drilling machine, a 7-inch centre screw cutting lathe, 6 engine turning side lathes, 64 inches to 9-inch centres, boring lathe, Forcing pump, Gwynne's No. 3 Centrifugal pump, wrought-iron cupola, 6 iron boxes, fittings of drying stove, case-hardening furnace, ladles, stove truck, 30-inch fan, forges and bellows, smith's tools, vices, James's Hook Weighing machine, 200 feet shafting, riggers, &c; 200 feet leather bands, a large quantity of axle-trees and arms finished and partly finished, 2 kitchen ranges, several lengths of cast-iron gas mains (10 and 30 feet), gas fittings, an assortment of valuable patterns, and many other effects. To be viewed on WEDNESDAY previous (Coal Duty), when may be had on the Premises, and of Messrs. FULLER & HORSEY, Billiter-street, E.C.

IMPORTANT TO BUILDERS, DECORATORS, AND OTHERS.

MR. EDWIN WHITE will SELL, at 12, HOLBORN BARS, on TUESDAY next, about 1,000 Pieces of good Modern PAPERHANGINGS, comprising every kind, in great variety. Also nearly 100 chimneypieces, of good manufacture, in statuary, vein, Sicilian, dove, black, grey, rouge royal, St. Ann's, and other marbles; and other items for the above trades. Catalogues per post, one stamp.

WINDSOR, BERKS.—Valuable FREEHOLD BUILDING LAND.—TO BE SOLD, pursuant to an order of the High Court of Chancery, made in a cause of Bedborough v. Bedborough, with the approbation of the Master of the Rolls, in 16 lots, by

MESSRS. BUCKLAND & SON, the persons appointed by the said Judge, at the CASTLE HOTEL, Windsor, in the County of Berks, on THURSDAY, the 31st day of AUGUST, 1862, at THREE o'clock in the afternoon precisely, the following valuable FREEHOLD ESTATE, viz.—Lot 1. A corner plot of freehold building ground, in the Clewer-road. Lot 2. A freehold property, containing la. 0r. 27p. with a good building frontage to the Clewer-road, subject to a lease which expires in 1883. Lots 3 and 4. Eight freehold cottages in Clewer-road. Lots 5 and 6. Valuable building ground in the Alma-road, near the Trinity Church. Lots 7 and 8. Very eligible building land, with double frontages, one to the Alma-road and one to the Bracknell-road. Lots 9, 10, 11, 12, 13, 14 and 15. Seven plots of building land, with frontages to the Alma road, and near the Local Board Station. Lot 16. A meadow, near the Lord Raglan Inn, containing about 2r. 24p.—Particulars where they may be had, gratis, of Messrs. DEPREE & AUSTEN, Solicitors, 23, Lawrence-lane, London; of Messrs. DARVILL, SON, & POULTON, Solicitors, Windsor; and of Messrs. BUCKLAND & SON, Auctioneers, Windsor.

BANKSIDE.—Sailing Barges and other Craft

PULLEN, HORNE, & EVERSFIELD are instructed by the Executrix of the late Mr. Ibbott, to SELL by AUCTION, at CARNEY'S WAYS, 83, Bankside, Southwark, on WEDNESDAY, JULY 23rd, at THREE o'clock in the afternoon, without reserve, the following SAILING BARGES, with their tackle and stores, viz. "Owner's Fancy" decked barge, 60 tons; "James," sand barge, with gear, &c.; and "Delight," half decked barge, of 60 tons; also several fleet craft of various descriptions.—May be viewed two days previous, and catalogues had at the Place of Sale; also at the Coal Exchange; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 34, Fore street, E.C.

CHANCERY LANE.—T. Baukers, Public Companies, Builders, and Others.—Important Freehold Building Ground, with Frontages to Chancery lane, Carey street, and Star yard.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed by the Directors of the Law Fire Assurance Society to SELL at GARRAWAY'S, on WEDNESDAY, JULY 30, at TWELVE o'clock, in one lot, the very important and valuable FREEHOLD PLOT of BUILDING GROUND, in Chancery-lane and corner of Carey-street, having a frontage to the former of 55 feet 0 inches, and to the latter 142 feet 6 inches, and to Star-yard of 65 feet 9 inches; containing an area of 9,000 superficial feet. The central situation of this great business thoroughfare renders the site highly desirable for the erection of a branch bank, offices for public companies, restaurant, or grand hotel-chambers, or for any commercial purposes, being extensive space with the advantages of good light on all sides, and easy access from every part of the metropolis as it with the intended concentration of the new law courts, and the alterations attendant thereon, in this locality, further entrance, the value of all available ground and property for business purposes.—Particulars and plans may be had of Messrs. HARRISON, BEAL, & HARRISON, Solicitors, 18, Bedford-row, W.C.; of T. BELLAMY, Esq. 8, Charlotte-street, Bedford-square; GEORGE POWELL, Esq. 30, Lincoln's-inn-fields; at GARRAWAY'S; and at the Offices of Messrs. FAREBROTHER, CLARK, & LYE, 6, Lancaster-place, Strand, W.C.

NATIONAL RIFLE ASSOCIATION, WIMBLEDON MEETING.

MR. NEWBURY BALL will SELL by AUCTION, on WIMBLEDON COMMON, on FRIDAY, JULY 18th, and MONDAY, JULY 21st, at ELEVEN for TWELVE o'clock, the BUILDING MATERIALS used in inclosing and preparing the Common for the above meeting; consisting of planks, deals, battens, cants, and quarterings, about 300 squares of prepared flooring, about 1,8 feet of inch and 2 inch iron water pipes and connexions, with brass taps, &c.; iron hurdles, 150 fir poles, together with the several Erections at the approach to the Range, and other Effects.—Catalogues may be had of Mr CROUCH, Builder, Wimbledon; and at the Auctioneer's Office, High-street, Wandsworth, S.W.

Mousley.—Bridge House, a substantially built and comfortably arranged gentleman's residence, with stabling, extensive pleasure grounds, garden, orchard, shrubberies, &c. with a fine building frontage to a road, also an extensive river frontage.—Preliminary advertisement.

MESSRS. DANIEL SMITH, SON, & OAKLEY have been favoured with instructions from the Trustees under a Will to offer for SALE by AUCTION, at the MART, near the Bank of England, on TUESDAY, the 5th day of AUGUST, 1862, in one lot, the above very valuable PROPERTY, eligibly situate near to the Hampton Court Railway Station. It comprises about 24 acres, with a frontage of upwards of 400 feet to a main road, and bounded by a good wall on the north side, and extending with pleasant walks along the banks of the river Mole on the south side. The grounds are tastefully laid out, perfectly secluded, thickly planted, and well stocked with fruit trees, including a fine old mulberry tree. The house contains eight bed rooms, three sitting rooms, and offices, and is so placed as to render a portion of the property available for building. The property as an entirety forms a delightful residence, and is in the occupation of a good yearly tenant.—Further particulars will shortly be published, and may be obtained of C. T. WELBORNE, Esq. Solicitor, 17, Duke street, London-bridge; and, with orders to view, of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-Mall, S.W.

SOUTH RANTS.—TO FREEHOLDERS ESTATE, and UPTON LODGE, about three miles from Havant, and four from Southampton.

MESSRS. DANIEL SMITH, SON, & OAKLEY have been favoured with instructions to OFFER for SALE by AUCTION, at the MART, near the Bank of England, in SEPTEMBER, the above ESTATE, comprising about 160 acres of good arable, pasture, and wood land, in the parishes of Havant, Rowland, and Bedley. The situation is one of well known and remarkable beauty, and commands extensive views of the river Hamble, the Southern Water, the Isle of Wight, Osborne, and Cowes Castle. It is at present farmed by the owner, and the farm premises, together with the land, are in good condition. Immediate occupation. Both of the farm and residence, could be given to a purchaser. To any one desirous of building a superior mansion on the property there is the attraction of several fine and commanding positions, and a sufficient quantity of oak and other timber for the purpose, in the land. Further particulars with the conditions and plans (when ready) may be had of Messrs. PERKINS & CO. Southampton; at the Hotels at Southampton and Botley; at the Mart, and of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo place, Pall mall, S.W.

MARLBOROUGH HOUSE, ST JAMES'S-PARK. Surplus Building Materials, &c.

MESSRS. GLASIER & SON are honoured with instructions to SELL by AUCTION, on the PREMISES, on TUESDAY, JULY 29, at TWELVE for ONE o'clock, the SURPLUS BUILDING MATERIALS: comprising about 250 feet of black marble steps, white marble landing paving and slips, ornamental Stonework, transoms and mouldings, gold moulding, doors, screens, sashes glazed with plate glass, in squares, 20 inches by 17 inches, bedding for register stoves, a quantity of iron, in sash weights, chimney bars, tire, rods, &c.; slate cistern and slabs, twenty-six Moore's patent ventilators, in brass, frames, and other items.—May be viewed the day prior and morning of sale, and catalogues had of JAMES PAINE THORNE, Esq. 7, Whitehall-yard; on the Premises; and of the Auctioneers, 41, Charing-cross, S.W.

IN BANKRUPTCY.—*Re* BALL.—The PLANT and STOCK of a BUILDER.

MESSRS. J. J. CLEMMANS & SON are instructed by the Assignees to SELL by AUCTION, at No. 6, GOLDEN-SQUARE, Regent-street, on MONDAY, JULY 28th, 1862, at ELEVEN for TWELVE, the above, comprising scaffold-poles, putlogs, cords, and other utensils, carpenters' work benches, a quantity of dry pine, and other effects; and at the BUILDINGS, Stampford, and the Romford-road, near the Three Pigeons Tavern, at TWO o'clock, 30,000 sound stock and place bricks, scaffold-poles, boards, and putlogs; a large quantity of old timber, in joists and rafters, building materials, and stocks. Catalogues had at the Raglan Tavern, Southgate road; the Three Pigeons Tavern, Romford road; and of the Auctioneers, Holywell row, Finsbury-square, E.C.

THE SECOND PORTION of the BUILDING MATERIALS at the ROYAL AGRICULTURAL SHOWYARD, BATTERSEA PARK, containing a large quantity of useful QUARTERING, FLOOR CLOTH, BOOTH CANVAS, IRON HAY-RACKS, WATER-TANKS, BOARDED FENCING, &c will be SOLD by AUCTION, by Mr. N. BALL, on TUESDAY, JULY 22nd, and on THURSDAY, JULY 24th.—Catalogues at the Showyard; of Mr. N. BALL, Auctioneer, Wandsworth; and of Mr. MANNING, 251, High Holborn.

N.B. Several Portable Cottages, suitable for Shooting Boxes, are for Sale by Private Contract.

By direction of the Mortgagee.—The Soho Sawing and Grinding Mills.

MESSRS. E. & H. LUMLEY will SELL by AUCTION, on the PREMISES, the Soho Sawing and Grinding Mills, 37, Dean-street, Soho, on MONDAY, 21st JULY, at TWELVE for ONE, by direction of the Mortgagee, in one lot, if not then disposed of in lots, *vide* catalogues, the LEASE, GOODWILL, and POSSESSION, together with the very suitable MACHINERY and PLANT of these saw-mills, which comprise a superior 8-horse power steam-engine, by Messrs. Maudslay, a nearly new Cornish boiler, an expensive vertical sawing machine, circular saw-benches, band saw machine, overhead motion, strong cart house, timber carts, slabs, boards, and all the valuable fittings. May be viewed.—Particulars and conditions of sale of the lease may be had of H. LEVY, Esq. Solicitor, 18, Surrey-street, Strand; on the Premises; and of Messrs. EDWARD & HENRY LUMLEY, Auctioneers, &c. 67, Chancery-lane.

BALING.—Forty Acres of Freehold Land, exonerated of Land-tax with most beautiful building sites, on an elevated healthy position overlooking an extensive vale and in all charming scenery, within five minutes' walk of the Ewing Station.

MR. MOXON will SELL by AUCTION, at the MART, on FRIDAY, AUGUST 1, in lots of from five to ten acres unless an acceptable offer shall be previously made for the whole, a choice FREEHOLD ESTATE, pleasantly situate at Castle Bar, Ealing, close to the former residence of the late Duke of Kent, now occupied by H. D. Austin, esq. The land comprises the several fields of pasture, in all about 40 acres, sloping away from the elevated site on which overlooks the beautiful and extensive vale watered by the Brent, with a view of Harrow spire in the distance. The district is healthy, on a gravel subsoil, and although perfectly rural, the gas and water pipes are laid on to the estate. It will be divided into large plots suitable for building villas, with land attached, for which, since the near completion of the Metropolitan Railway, there has been an increasing demand. The Auctioneer feels confidence in recommending it to the attention of builders, speculators, or gentlemen wishing to build themselves a residence, having the accommodation of rail and omnibuses, with all the charms of country to surround their dwellings. Particulars and plans at Messrs. LOWES' Offices, 2, Tanfield court, Temple; at the Auction Mart; and of Mr. W. MOXON, 3, St. Martin's-place.

CAMDEN TERRACE, CAMDEN TOWN TO CABINET AND PIANOFORTE MAKERS, BUILDERS, AND OTHERS

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, as above, on MONDAY, JULY 28th, at TWELVE for ONE, 2,000 loads of PINE and WHITE PLANKS, DEALS, and BATTENS, 50 sawn ditto, 120 squares of prepared flooring, 7,000 feet quartering, 2,000 feet ash rail, 4,000 feet wide 1-inch beech, 6-inch edge and nosed boards, 600 feet of 4-inch square, 70 dozen sliding sash cords, 3 dozen sash tubs, sawing machine, 7 cabinetmakers' benches, cast, scaffolding, doors, 28 well made sashes, ironmongery, &c.—Auction Offices, 2, Cardington-street, Hampstead road.

MESSRS. WILSON & THOMPSON have received instructions from the Trustees, to SELL by PRIVATE CONTRACT, all that FREEHOLD and eligible BUILDING LAND, consisting of 7 acres, in the hamlet of Litchurch, adjoining the borough of Derby. The land to be sold in allotments to meet the wishes of purchasers. The estate is bounded on the east and west by the two most important turnpike roads leading from the town, and is a very short distance from the railway station. The land is particularly adapted for building purposes, and has been laid out accordingly. It is now let at the annual rent of £25 per annum.—Particulars to be had of Messrs. McLEOD & CANN, Solicitors, 51, Lincoln's-inn-fields; at the MART; and at the Auctioneers' Offices, 3, Carey street, opposite Lincoln's-inn Gateway W.C.

FULHAM.—LEASEHOLD SEMI-DETACHED RESIDENCE.

MESSRS. HAMMOND & KIRKLAND are instructed to SELL by AUCTION, at the MART, on FRIDAY, AUGUST 1st, the PROPERTY, with possession, a substantial, compact, and well-built villa residence, originally used as a photographic house, at the end of the garden, erected with every convenience.—Messrs McLEOD & CANN, Solicitors, Lincoln's-inn-fields; Estate Offices, 3, Carey street, Lincoln's-inn, W.C.

READING.—TWO FREEHOLD COTTAGES.

MESSRS. HAMMOND & KIRKLAND will SELL by AUCTION, at the MART, on FRIDAY, AUGUST 1st, the above improving FREEHOLD PROPERTY.—Estate Offices, 3, Carey-street, Lincoln's-inn, W.C.

MESSRS. HAMMOND & KIRKLAND LAND AGENTS and SURVEYORS, 3, Carey-street, Lincoln's-inn, are instructed To LET, on Building Lease, the undermentioned LANDS:—

WEYBRIDGE.—Near the Station, suitable for Villas.
NORWOOD.—Close to the Station, suitable for Shops.
PENGE.—Near the Station, suitable for Villas.
HAMPTON COURT.—Site suitable for Semi-detached Villas.
ALDERSHOTT.—Between the two Camps, various Sites; in all about 12 acres.

PECKHAM.—To Builders and Others.—For absolute Sale, by order of the Assignees of Mr. G. B. Marsh.

MESSRS. DEBENHAM & TEWSON will SELL at the MART, on TUESDAY, JULY 29, at TWELVE, in one lot, FOUR UNFINISHED HOUSES, known as Chesfield Cottages, Bath-road, Peckham; held direct from the freeholder for 84 years from July day, 1862, at a ground rent of £6 10s. per annum, and estimated to let when finished at £35 a year each house.—Particulars of H. J. GODDEN, Esq. Solicitor, 1, Clement's-lane, Lombard street; and of the Auctioneers, 80, Cheapside.

TO BUILDERS.—VILLAS to be erected on a first class Estate in the country, with liberal advances as the work proceeds. For particulars apply at the Offices of Messrs. PILMORE, FRANEY, & HADDON, Architects, 13, Parliament street, London.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents, Designs, and the mode of procedure to be adopted, sent gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving PRACTICAL INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometric Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are extra Charges for Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every Branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

FARM-HOUSES, FARM-BUILDINGS, and LABOURERS' COTTAGES DESIGNED with due regard to economy and efficiency. Drainage and all works of improvement planned and executed. Plans obtained for these purposes.—Address M. R. C. STUART BARKER, Farm Architect and Drainage Engineer, 12, Buckingham-street, Adelphi, London, W.C.

LONDON:—Published by CHARLES WYMAN, Printer, at the Printing-Office of C. & A. WYMAN, No. 74, 75, & 76, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published at the Office of the BUILDER, No. 1, York-street, in the Parish of St. Paul, Covent Garden, both in the County of Middlesex.—Saturday, July 19, 1862.

The Builder.

AN ILLUSTRATED JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1016, JULY 26, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Sanitary Shortcomings: London in 1862.—Water Supply,—No Supply.—Fryingpan Alley, Clerkenwell.—A Mews near Russell-square.—Sickness in the Washhouse, and why 532

Italian Art of the Period of the Revival.—Marble Singing Gallery, from Santa Maria Novella, Florence.—Alto relievo in Enamelled Terra-cotta 533

CONTENTS.

Metals, Stone, Slate, &c., in Palace of Art and Industry 525

Mismanagement of Public Works in India 527

A Walk and Talk in Rome 529

Some Notes on the Excess of Infant Mortality in England 530

An Eagle in Copper 531

Sanitary Shortcomings in London 531

"Italian Sculpture of the Middle Ages and Period of the Revival of Art" 532

South Australia 534

The Orcadian Barrow at Maes-Howe 534

Passage of the Toulela and Bilbao Railway across the Pyrenees .. 534

The Age of English Trees 535

Hampstead Heath 535

British Archæological Association 536

St. Mary's Hospital, Beddington 536

Memorials and Statues 536

School building News 536

Church-building News 536

Stained Glass 537

Provincial News 537

A New Style: How can it be formed? 537

Ventilate the Staircase 538

"Workmen and Churches" 538

Decisions Under the Building Act 538

Recovery of Charge for Making Estimate by a Builder 538

Railway Compensation Case: Doctors Differ 538

Miscellanea 538

ROYAL INSTITUTE OF BRITISH ARCHITECTS, 9, Conduit-street, Hanover-square.

Gentlemen who may be desirous of filling the position of Librarian, which will shortly be vacant, should apply by letter, addressed to the Honorary Secretaries, enclosing testimonials as to character and efficiency, on or before the 9th of AUGUST next.

The salary will be 150*l.* per annum.

The duties of the office may be learnt at the rooms of the Institute, on applying to JOHN P. SEDDON, and } Hon.
CHAS. FORSTER HAYWARD, } Secs.

23rd July, 1862.

BUILDERS' BENEVOLENT INSTITUTION.—The FIFTEENTH ANNUAL MEETING of the Subscribers and Friends to this Charity will be held at the LONDON TAVERN on THURSDAY next, 31st instant, at THREE o'clock p.m. GEORGE PLUCKNETT, Esq. Treasurer, in the Chair, to receive the Report for the past year, elect the President, Treasurer, Directors, and Auditors for the year ensuing, and other matters connected with the welfare of the Institution. A. G. HARRIS, Sec.

July 23rd, 1862

THE COUNCIL of the ARCHITECTURAL MUSEUM announce that, for the future, the LECTURES will be given, and the PRIZES awarded, later in the season. Due notice will be given in "The Builder" of the programme for 1863

A. J. B. BERESFORD HOPE, President.
GEO. GILBERT SCOTT, Treasurer.
JOSEPH CLARKE, Hon. Secretary.

INTERNATIONAL EXHIBITION.—Admission for the week ending August 2, Monday to Thursday, One Shilling; Friday and Saturday, Half-a-Crown.—Doors are opened at Ten, except on Saturday, when the doors are opened at Twelve o'clock.

WILL CLOSE on SATURDAY, AUGUST the 9th.—SOCIETY of PAINTERS in WATER COLOURS.—The FIFTY-EIGHTH ANNUAL EXHIBITION is NOW OPEN at their Gallery, 5, Pall-mall East (close to the National Gallery), from NINE till SEVEN. Admittance, 1s. Catalogue, 6d.

JOSEPH J. JENKINS, Secretary.

THE LAST WEEK.—The NEW SOCIETY of PAINTERS in WATER-COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society, at their Gallery, 6*a*, Pall mall, near St. James's Palace, WILL CLOSE on THURSDAY, 7th proximo. Admission, 1*s.*; Catalogue, 6*d.* Season Ticket, 5*s.*

JAMES FAHEY, Secretary

PRIZE MEDAL,
INTERNATIONAL EXHIBITION, 1862. CLASS 35.
THE ONLY MEDAL "FOR STONEWARE"
Has been awarded to
DOULTON AND WATTS,
LAMBETH POTTERY, LONDON.

PRIZE MEDAL,
INTERNATIONAL EXHIBITION, 1862. CLASS 10.
THE ONLY MEDAL FOR STONEWARE PIPES
Has been awarded to
HENRY DOULTON AND CO.
LAMBETH

Extract from Jurors' Report:—"H. DOULTON & CO. STONEWARE PIPES, for EXCELLENCE of MANUFACTURE and LOWNESS of PRICE."

COMPETITIONS.

THE NEW CATHEDRAL, CORK.—The Committee for Re-building St. Finn Barr's Cathedral, Cork, have resolved to extend the time for sending in Plans and Designs to the 1st day of OCTOBER. Plans and designs to be sent with seal, motto, or cipher, accompanied by a sealed envelope, to the Honorary Secretaries, Venerable the Archdeacon of Cork, Rev. J. N. WOODROFFE, and J. M. USBORNE, Esq. under cover to WILLIAM C. BENNETT, Esq. 15, South Mall, Cork, from whom further information may be obtained.

July 21st.

CONTRACTS.

NEW TOWN HALL, PRESTON.—To BUILDERS.—Any Builders wishing to TENDER for the above-named work are requested to signify the same to Mr. ROBERT ASCROFT, Town Clerk, Preston; or to the Architect, Mr. G. G. SCOTT, 20, Spring-gardens, London, before the 29th inst. They will then be apprised of the conditions of the competition. The Town Council do not pledge themselves to accept the lowest or any Tender.

July 16th, 1862. ROBERT ASCROFT, Town Clerk.

BOROUGH of BIRMINGHAM. — To BUILDERS and CONTRACTORS. — Persons who intend to COMPETE for the ERECTION and COMPLETION of a FREE LIBRARY, NEWS-ROOM, and GALLERY of ART, for the Corporation of Birmingham, in accordance with designs prepared by Mr. Martin, architect, may inspect the particulars and obtain forms of application at the office of the said Architect, Christ Church-buildings, Birmingham, between the 21st JULY instant and the 4th day of AUGUST next.—By order,

THOMAS STANDBRIDGE, Town Clerk.

Temple-street, July 7, 1862.

NOTIFICATION.—Up to the arrival in Bombay of the first regular mail from England, expected in September, the Government of Bombay will be prepared to receive PROPOSALS from parties willing to CONSTRUCT a TRAMWAY, capable of being worked by locomotive power, from the Fort of Sedashegbur, in the Collectorate of North Canara, to the cotton districts of the Dharwar Collectorate.

1. The line to be single, with suitable sidings and passing places.

2. To be laid out and completed, to the satisfaction of the Bombay Government, with the best gradients and curves procurable, and safe for a light locomotive traffic at low speed.

3. The gauge to be the Indian standard gauge.

4. The choice of materials and the management and working of the railway to be left to the company, subject to any general restrictions which the Government of Bombay may impose, with a view to the safety of the public.

5. Government will give all land permanently required for the railway free of charge, on lease for ninety-nine years, and will admit all materials free of customs duty.

6. In the event of the line not being completed within the period specified in the agreement, or not being worked as agreed on, Government to have power, after giving three calendar months' notice, to resume possession of the land, and to purchase the railway and all fixtures and movable stock, at a price to be fixed by arbitration, the arbitrators to be one Government engineer and one agent or chief resident engineer of any other Indian railway company, to be nominated by the Sedashegbur Railway Company, with power to call in a third.

Further particulars may be ascertained at the Office of her Majesty's Principal Secretary of State, Westminster, by application addressed to the Under Secretary of State, Railway Department; or at the Office of the Secretary to Government, Railway Department, Bombay.

India Office, July 23rd, 1862.

METROPOLITAN BOARD of WORKS.—MAIN DRAINAGE of Metropolis.—Bermondsey Branch of the Southern LOW LEVEL SEWER.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the OFFICE of the BOARD, Spring-gardens, S.W. on FRIDAY, the 8th day of AUGUST next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of BRICK SEWERS, 3 miles 2,142 feet in length, or thereabouts, with other works in connexion therewith, from Spa-road, near St. James's Church, Bermondsey, to Creek-street, Deptford, in the parishes of St. Mary Magdalen, Bermondsey, and St. Mary, Rotherhithe, in the county of Surrey; and St. Paul and St. Nicholas, Deptford, in the county of Kent. Parties desiring to submit Tenders may, on and after WEDNESDAY, the 23rd instant, upon payment of 2*l.* 2*s.*, obtain plans, sections, specification, form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring gardens, between the hours of NINE a.m. and FOUR p.m.; or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 7th day of AUGUST next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last-mentioned day; and no Tender will be received after that hour. The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the works.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, S.W. 19th July, 1862.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—CONTRACT for WORKS.—The Directors of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the WORKS required to be executed in the WIDENING of the WEST END and CRYSTAL PALACE BRANCH RAILWAY, for a third line of rails between Balham-hill and Battersea, being a distance of four miles or thereabouts. Plans, drawings, and specifications may be seen, and copies of the quantities obtained, at the Office of the Engineer, Mr JACOMB HOOD, No. 7, Parliament-street, Westminster, S.W. on and after MONDAY, the 28th JULY next; and Tenders, upon the prescribed form only, must be delivered to the undersigned before NOON on MONDAY, the 11th AUGUST next. The Directors will not be bound to accept the lowest or any Tender.

By order, J. C. MERRICK SLIGHT, Secretary.

London Bridge Terminus, July, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for ERECTING MEN'S BARRACKS, Married Quarters, Latrines, and Canteen, completion of Roads, Parades, &c. &c. at Milton-next-Gravesend.

Persons desirous of Tendering for these Works are required to attend at this Office on WEDNESDAY, the 30th JULY, at TWELVE o'clock, noon, to appoint a Surveyor to take out the quantities in conjunction with the Government Surveyor.

Each person will be required to pay the sum of 1*l.* 11*s.* 6*d.* for the quantities

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Gravesend,
22nd July, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a new block of INFIRMARY STABLES, at Hounslow Barracks, in the county of Middlesex.

Persons desiring to Tender for this work must leave their names at this office, between the 30th JULY and 2nd AUGUST, 1862, both days inclusive, from ELEVEN a.m. to THREE p.m. and pay the sum of half-a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District, 11, James-street,
Buckingham-gate, S.W. July 23, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for ERECTING QUARTERS for MARRIED SOLDIERS, a WASHING ESTABLISHMENT, and a HOSPITAL for WOMEN and CHILDREN, at Woolwich.

Parties desiring to Tender for these works must attend at this Office on WEDNESDAY, 30th JULY, 1862, at TWELVE o'clock noon, to appoint a Surveyor to take out quantities in conjunction with the Government Surveyor.

Each party will be required to pay the sum of one guinea for the quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, 18th July, 1862.

PRINCE CONSORT MEMORIAL, HASTINGS.—The Committee for carrying out the above will be prepared to receive TENDERS for the ERECTION of a CLOCK TOWER, at the Priory, Hastings, for which purpose the drawings and specification may be seen at the Office of Mr. ROBERT GROUSE, Hon. Sec. High-street, and at the Architect's Office, 10, St. Bride-street, Liverpool. Tenders to be sent in to the Secretary at Hastings on or before the 8th day of AUGUST next. The Committee do not bind themselves to accept the lowest or any Tender.

Hastings, July 23, 1862. ROBERT GROUSE, Hon. Sec.

TO ENGINEERS and OTHERS.—Trinity House, London, E.C. 19th July, 1862.—This Corporation being desirous of obtaining TENDERS for the CONSTRUCTION of a LANTERN for a Floating Light, hereby give notice thereof to Engineers and others who may be willing to execute the work.

The plans, specification, and form of Tender are deposited at this House, and may be inspected any day before SATURDAY, 2nd AUGUST next, between the hours of TEN o'clock a.m. and FOUR p.m.

No Tender will be entertained which is not made in the required form: and Tenders must be delivered at this House on or before MONDAY, 4th AUGUST next.—By order,

F. H. BERTHON, Secretary.

N.B.—The Board does not pledge itself to accept the lowest or any Tender.

CONTRACT for GAS MAINS.—The Directors of the Redhill Gas Company (Limited) are prepared to enter into a CONTRACT for LAYING about 700 YARDS of 4-INCH CAST-IRON MAIN, 700 YARDS of 3-INCH CAST-IRON MAIN, and a small quantity of 2-INCH CAST-IRON MAIN, with all necessary bends, syphons, junctions, tees, crosses, connecting mains, stopcocks, &c. The contractor to lay the above at Redhill, Surrey, at his own expense, opening and repaving the roads to the satisfaction of the surveyors of highways within six months from the date of contract. The contractor to give a bond, if required, for the due performance of the work. Tenders to be sent to the Secretary, Mr. THOMAS WELLER, High-street, Redhill, Surrey, on or before MONDAY, the 4th AUGUST next.—Further information can be obtained of the Secretary. The Company do not bind themselves to accept the lowest or any Tender.—By order of the Board of Directors,

Redhill, July 23, 1862. THOS. WELLER, Secretary.

TO MANUFACTURERS of HOT WATER HEATING APPARATUS.—Liverpool Cemetery, Anfield Park, Walton.—The Burial Board for the parish of Liverpool are prepared to receive TENDERS for HEATING the THREE CHAPELS in this Cemetery. The plans of the buildings can be seen, and other particulars obtained, at the Office of the Board, 12, Clayton-square. Tenders, endorsed "Tenders for Heating Chapels," are to be sent in, addressed to the Chairman of the Executive Committee, before TEN o'clock a.m. on TUESDAY, the 5th day of AUGUST next.—By order,

LUCY & LITTLER, Architects
GEORGE TUEVEY, Clerk } To the Board.

Liverpool, July 22, 1862.

TO BUILDERS.—Persons desirous of submitting TENDERS for the ERECTION of a PUBLIC-HOUSE and TWELVE COTTAGES, and REPAIRS to TWENTY other COTTAGES, at Chiswick, Kent, can see the drawings and specifications thereof on and after WEDNESDAY, the 30th inst. on application to Mr. E. F. THORNE, Dacre Park, Lee, Kent, Architect. The Tenders to be delivered to him at Blackheath, on the 11th of AUGUST next.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO BUILDERS.—The Guardians of the Poor of the Wandsworth and Clapham Union will MEET at the UNION WORKHOUSE, East-hill, Surrey, on THURSDAY, the 31st day of JULY next, at TWO o'clock in the afternoon, to consider TENDERS for the ENLARGEMENT of the UNION WORKHOUSE. Tenders to be sealed and endorsed "Tender for Enlargement of Workhouse." No Tender will be received after ONE o'clock, nor considered unless it be made in the form prescribed, and the party or parties tendering be in attendance. Satisfactory securities will be required for the due performance of the works, and the Board do not pledge themselves to accept the lowest or any Tender. The plans, specifications, and forms of Tender and Contract may be seen, and further particulars obtained at the Office of the Architect, Mr. G. H. PAGE, Spencer-road, New Wandsworth, S.W. on or after the 21st instant, between the hours of NINE and TWO.

GEORGE FREDERICK MERRIMAN, Clerk.

Clapham Common, 3rd July, 1862.

ROCHFORD CHURCH, ESSEX. — To Builders.—TENDERS are required for the RESTORATION and RESEATING of this Church. Plans and specification can be seen on and after TUESDAY next, JULY 22nd, by application to W. GREGSON, Esq. Rochford; or the Architect, Mr. WILLIAM SLATER, 4, Carlton Chambers, 14, Regent-street, S.W.—Tenders to be sent free of expense to W. GREGSON, Esq. on or before AUGUST 18th — The Churchwardens will not necessarily accept the lowest or any Tender.

19th July, 1862.

TO BUILDERS. —Persons desirous of TENDERING for a detached and two small semi-detached HOUSES, situate at Erith, Kent, S.E. can have a copy of the drawings and specifications for five or six days by applying at Mr H FORD'S Office, 1, Charlotte-row, Mansion House, E.C. Tenders to be delivered 7th AUGUST.

TO BUILDERS. — The Stockton and Darlington Railway Company is prepared to receive TENDERS for the ERECTION of a DWELLING-HOUSE, near the Darlington Station.—Plans and specification can be seen upon application at the Railway Offices, Darlington, from MONDAY, the 28th of JULY, to WEDNESDAY, the 13th of AUGUST, 1862. Tenders to be delivered not later than THURSDAY, the 14th of AUGUST, addressed to the Secretary, and endorsed "Tender for House at Darlington." No pledge is given that the lowest or any Tender will be accepted.

THOS. MAC NAY, Secretary.

Railway Office, Darlington, July 21, 1862.

TENDERS for PAINTERS' WORK.—The Guardians of the East London Union will, on WEDNESDAY next, JULY 30th, receive TENDERS for PAINTING the Outside of the Workhouse Buildings at Homerton. A specification of the work required to be done will be shown by Mr. DIXON, the Workhouse Master; and Tenders must be delivered at the Board Room, in Devonshire-square, Bishopsgate, before FOUR o'clock in the afternoon of WEDNESDAY next.—By order,

A. J. BAYLIS, Clerk.

July 23rd, 1862.

TO ENGINEERS and IRON-BRIDGE BUILDERS.—The Committee appointed for carrying into effect the ERECTION of an IRON FOOT-BRIDGE across the River Welland, at Stamford, are desirous of receiving designs and estimates for the proposed Bridge; particulars of which may be had on application to me. Plans and estimates to be sent in by the 22nd day of AUGUST next.

EDWARD BROWNING.

Broad-street, Stamford, July 22, 1862.

EAST COWES DRAINAGE and WATER SUPPLY.—To CONTRACTORS.—The Local Board of Health for the district of East Cowes, Isle of Wight, in the county of Southampton, hereby give notice that they are prepared to receive TENDERS for the DRAINAGE and WATER-SUPPLY of the Town of East Cowes, comprising the construction of Brick and Pipe Sewers, Reservoir, laying Water Mains, and other works connected therewith. The drawings and specifications may be examined, and Forms of Tender and Bills of Quantities may be obtained at the Offices of Messrs. GOTTO & BEESLEY, Engineers to the Board, 35a, Great George-street, Westminster. Sealed Tenders to be delivered at the Offices of the Local Board of Health, East Cowes, before FOUR o'clock on WEDNESDAY, the 6th day of AUGUST next. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to enter into a bond, with two approved sureties, for the due performance of the contract.

NATHANIEL ROBERTON, Clerk to the Board.

East Cowes, Isle of Wight, July 24, 1862.

TO BUILDERS and CONTRACTORS.—The Salters' Company are prepared to receive TENDERS for the ERECTION of EIGHTEEN ALMSHOUSES, COMMITTEE ROOMS, &c. at Watford, under the direction of Mr. JOHN COLLER, Architect. Parties willing to Tender for the proposed works may inspect drawings and specification, and obtain bills of quantities, on application to J. F. LEE, Esq. Surveyor, 35, Craven-street, Strand, on or before TUESDAY next. The Company do not bind themselves to select the lowest or either Tender. Tenders to be addressed to EDW. THOMPSON, Esq. Saltars' Hall, St. Swithin's-lane, City, E.C.; and delivered before half-past TWO on FRIDAY, the 1st day of AUGUST.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a CANONRY-HOUSE and OFFICES at Bangor, North Wales, may apply, giving references, to Mr. CHRISTIAN, Architect, 8a, Whitehall place, London, S.W. on or before JULY 31st next. Mr. Christian does not bind himself to acknowledge or accept any such application.

WITH IMMEDIATE POSSESSION.—TO BE LET, large FOUR-STORY WAREHOUSE, Cellarage, fire-proof storerooms, 4 milling-houses; eight-stall stabling, large lofts over; loading yard, with glass and iron roof over part. Close to the City, in a leading thoroughfare.—Particulars of rent, &c. and to view, apply to Mr. T. J. BILL, Architect, 70, Old-street, E.C.—Would suit any large firm.

TO BUILDERS.—FOR SALE, FREEHOLD LAND, about Seven Acres and a Quarter, with House and Courts, at Acton, five miles fm the Marble Arch, and a quarter of a mile from the North and South Junction Railway Station. Soil gravel, sloping south; well timbered, frontage to Uxbridge-road, also to East Acton-road. Gas and water on the premises.—May be viewed from TEN to FIVE. Grove House, Acton, Middlesex.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE TO BE SOLD, extensive Manufactory Premises known as FREDEGAR WORKS, Bow Machine Shop, 91 feet by 54 feet; two ranges of wing workshops, 74 feet by 25 feet; steam-engine, boilers, forge, sheds, stabling, counting-houses, and all other conveniences suitable for a large factory.—For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway station, from which the property is distant about half an hour. The land, which commands very extensive views, is tastefully timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots from 60 to two acres. For terms, apply to Messrs. BLAKE, Croydon.

CHEAPSIDE.—VALUABLE BUILDING SITE.—Notice is hereby given, that the time for receiving TENDERS has been EXTENDED to AUGUST 7. Plans, particulars, and Forms of Tender may be seen and obtained at the Clerk, Saddlers' Hall, E.C.; or to Mr. P. W. PORTER, Architect, 16, Russell-square, W.C. between TEN and FOUR.

FREEHOLD SITES for BUILDING and FREEHOLD HOUSES can be obtained in the best part of Princes-road, near Kensington Gore, a front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

TYSSEN-AMHURST ESTATE.—LAND TO BE LET for BUILDING, in different parts of CLAPTON, HACKNEY, and KINGSLAND. For plans and particulars apply to Mr. CHESTER CHESTON, Architect and Surveyor, at the Offices, Church-street, Hackney, N.E. near the Railway Station.

BUILDING LAND.—TO BE LET, at Castle Hill, Dover, on Building Leases for 99 years, Good Sites, on made roads, for Houses, Villas, &c. The ground commands good views of the sea, Shakespeare's Cliff, &c. and is on one of the most picturesque spots in Dover. The new church of St. James is on the estate.—For full particulars and plan apply to JAMES STILWELL, Esq. Solicitor, Dover; or of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo place, Pall Mall, S.W.

TO ENGINEERS, FOUNDERS, and IRONMONGERS.—TO BE LET, on very desirable terms, extensive MANUFACTURING and ENGINEERING PREMISES, with capacious Warerooms, well lighted, and Counting-house underneath the whole, situated in a principal street in the centre of London. The Premises are freehold, excepting a small part, which is leasehold. The business has been carried on most successfully for many years, and the plant and stock have just been valued. The present Manager, with a staff of workmen, is willing to continue under a new employer. Every information can be had on applying, in the first instance by letter, with the real name and address, to THOMAS SMITH, Valuer to the Hardware Trade, 14 and 15, St. Swithin's-lane, London, E.C.

LIME GROVE ESTATE, Putney.—This fine estate, containing altogether about forty acres, and immediately adjacent to the Putney Station, and near to Putney-heath, with very extensive frontages on Putney-hill and the Upper Richmond-road, TO BE LET on building leases, either as a whole, or in part.—For particulars, apply to Messrs. BAXTER, ROSE, & Co. 6, Victoria street, Westminster; Mr. POWNALL, 60, Lincoln's Inn-fields; or Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament-street.

BUILDING SITE for a Warehouse TO BE LET, within five minutes' walk of the Bank, having an area of more than 7,000 square feet, with frontage and a lead to a thoroughfare, and ample light on every side.—Particulars may be had of Mr. ST QUINTIN, Auctioneer and Surveyor, 39, Royal Exchange.

OFFICES, FIRST FLOOR.—One Large and One Small Room, suitable for an Architect or Artist, looking into the Temple. Rent, 20l.—Apply to the Housekeeper, 4, Palsgrave-place, Temple Bar, 224, Strand.

NORWOOD JUNCTION.—FREEHOLD DETACHED COTTAGE and GARDEN TO BE SOLD for 600 Guineas, or LET on LEASE. The house is in course of erection, and may be purchased by builders or others, and consists of two sitting rooms and four bed rooms, with garden and every other convenience, completed for occupation. Estimated rental, 45l. per ann. Particulars may be obtained on application to W. H. DAINES, No. 3, Church-court, Clement's-lane, City.

BUILDING LAND TO BE LET, suitable for a Music hall, Tavern, or other large structure. A frontage of about 200 feet in a leading thoroughfare near Sloane-street, Chelsea. Term, 99 years.—Further information obtained by addressing a letter to Z. Phœnix Booking-office, King William-street, City.

TO WHEELWRIGHTS. — A first-class COTTAGE and SHOP TO BE LET, in a healthy village, in Yorkshire, to an agricultural wheelwright, with some knowledge of machinery.—Apply to G. FERMS, Esq. Land Agent, Whitby.

BANKSIDE, SOUTHWARK. — TO BE LET, on LEASE, extensive WATERSIDE PREMISES, No. 9, Bankside, with the large warehouses, stabling, &c. at the rear, either as a whole or in separate occupations.—For particulars, apply to Messrs. ABBOTT & WHIGGLESWORTH, Surveyors, 26, Bedford-row, Gray's-inn, W.C.

ANERLEY-GROVE.—A CARCASE and a HALF CARCASE TO BE SOLD very cheap, situate within 300 yards of the Crystal Palace.—Apply to Messrs. CHARLES HOLT & SON, 93, Guildford-street, W.C.

TO BUILDERS. — FREEHOLD LAND TO BE LET, for Building purposes, at Nine-Elms.—A plan may be seen at the Brewery, Nine Elms.

TO CARPENTERS, BUILDERS, and OTHERS.—For SALE, some well-built CARCASES, at Dalston, in a situation where they will let and sell well immediately they are finished. Term ninety-nine years. Ground-rent 5l. each. Price 180l. for the two. Liberal advance made to assist in finishing if required. Apply to Mr. CLARKSON, Surveyor, 9a, Great St. Helen's, City.

FREEHOLD BUILDING LAND, HOLLOWAY.—TO BE LET or SOLD, about FIFTEEN ACRES of BUILDING LAND, containing excellent brick earth, close to the "Favourite" Omnibus Station, Hornsey-road, and to a projected Railway Station.—Apply to Mr. HUTCHINSON, Builder, Cottenham-road, Hornsey-road; or to Mr. PEACHEY, 17, Salisbury-square, E.C.

ELIGIBLE FREEHOLD BUILDING LAND at ACTON, TO BE SOLD, in Plots suitable for Villa Residences.—For particulars, apply to W. W. POCOCK, 35, Craven-street, Charing-cross.

TOOTING, Surrey.—14 Acres of valuable FREEHOLD BUILDING LAND FOR SALE, beautifully situate on the high ground near the Common, about six miles from the London and Westminster Bridges, and ¼ mile from the Balham and Streatham Stations. The land is all in pasture, has a gravelly subsoil, slopes to the south, commands an extensive view, and offers a delightful site for residences or for a public institution.—For particulars apply to Messrs. DEBENHAM & TEWSON, Estate Agents, 80, Cheapside, where a plan may be seen.

THE Late DAVID COX, Esq.—FOR SALE, a FREEHOLD HOUSE and PREMISES, at Harborne, the residence of this eminent water-colour painter for upwards of twenty-one years, and on which he died; containing his studio, where he executed all his best paintings.—Apply to Mr. COKE, Solicitor, Birmingham.

TO BUILDERS.—SAINT MARY CRAY, KENT (within ten minutes' walk of the Railway Station) BUILDING LAND TO BE LET on LEASE, for 99 years. Small sum advanced on mortgage.—Apply to Mr. W. MAY, 2, Adelaide-place, London Bridge.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood.	F F light and shading.
H H H for architectural use	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

NEWPORT, Monmouthshire.—FOR SALE, a Movable Coal SHIPPING MACHINE, worked by steam power, capable of shipping 200 tons per diem. For particulars apply to the Secretary of the Newport Dock Company, Dock Office, Newport, Monmouthshire, 19th July, 1862.

RAILWAY COMPANIES, CONTRACTORS, and AGENTS SUPPLIED with KEYS, TRENAILS, BUSHES, SLEEPERS, BARROWS, and all descriptions of RAILWAY PLANT and STORES by W. P. FRANCE, GREAT WESTERN SAW MILLS, Bridge Wharf, Paddington.—Debentures taken in payment if required.

TO LET, a DREDGING BOAT, in excellent repair, fitted with machinery combining all the latest improvements. Will dredge 8 feet deep, and is well calculated for river-work. Her width does not exceed 11 feet, and draught of water 2 feet. May be seen at Peterborough on and after WEDNESDAY the 23rd JULY, by applying to Mr. WM. READ, Boatbuilder.—For further particulars inquire of Mr. GEORGE SIDDONS, Oundle 16th July, 1862.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP,

PATENT WROUGHT IRON TUBULAR GATES and RAILINGS.



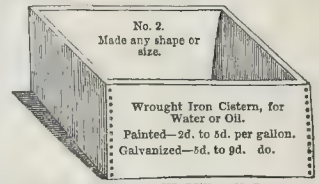
COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,

And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—15, Union-street, Borough; and 93, Great Guildford-street.

TRADE MARK.

CROWN TUBE WORKS, WEDNESBURY, STAFFORDSHIRE. Warehouses—81, Upper Ground-street, London, S. JAMES RUSSELL & SONS, The Patentees and first Makers of Wrought-Iron Tubes.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.

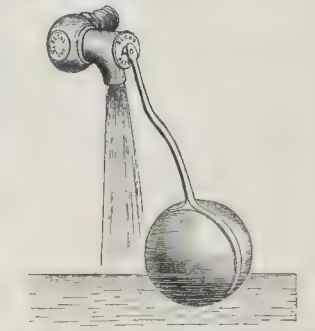


BURNEY & BELLAMY, Mill-wall, London, E.

IRON BUILDINGS and IRON ROOFING. SAMUEL C. HEMMING & CO. 21, MOORGATE-STREET, E.C.

INTERNATIONAL EXHIBITION, CLASS 8.

BECK'S PATENT HIGH-PRESSURE BALL VALVE.



These Valves are made upon an entirely new principle, possessing the following advantages over all Ball Cocks hitherto manufactured, viz.:—

1st. It is impossible for them to get fixed or set fast.

2nd. The water way is considerably larger; the ½-inch Patent Valve being equal to the ordinary ¾-inch cock, and of a proportionate price, therefore, is less than that of the old-fashioned ball cock.

For price list, apply to J. BECK, Sanitary Engineer, Patentee and Manufacturer of the Improved Hot Water, Gas and Steam Valves, Hydrants, &c.

133a, Great Suffolk-street, Southwark, London, S.E.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES
TOMB RAILING.

VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

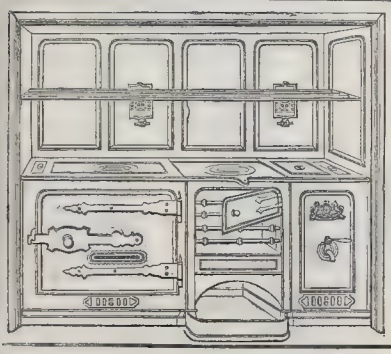
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

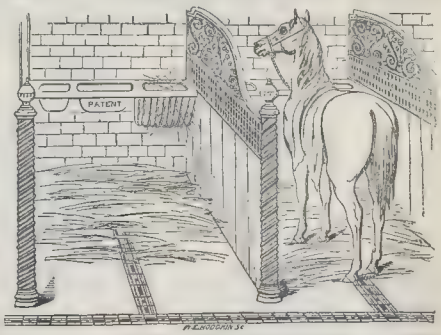
Orders requiring Despatch and Punctuality can be executed in a few days.



ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.

A LARGE STOCK
OF OTHER
CASTINGS KEPT.



TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Birmingham, and Limehouse.

Every description of Iron Work Galvanized.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

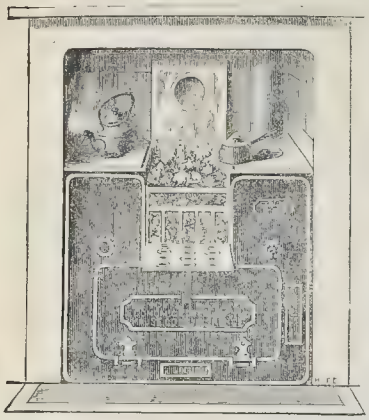
PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. to the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the jointings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and specimen Pipes, may be obtained at the Offices of the Company, on application to MR. ALEXANDER YOUNG, 14A, Cannon-street, London, E.C.

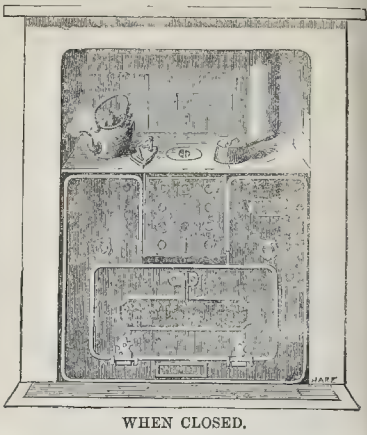
CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of

THE MANUFACTURER,



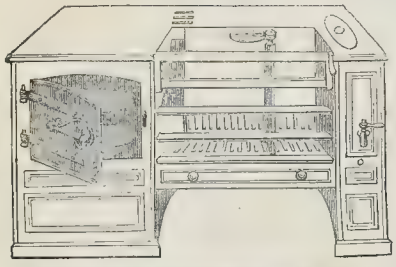
WHEN CLOSED.

WILLIAM ADDIS, Nos. 6 and 15, LEICESTER-ST. LEICESTER-SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler.	
24 inches	5s.	30 inches	22s.
26 „	5½s.	33 „	24s.
28 „	6s.	34 „	26s.
42 „	6½s.	36 „	28s.

Register Stoves, with Set Fire Bars, from per inch, 1d

Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from per inch, 5d.

Bright Stoves, with Two Fires, 40s. to 100s. each.

Best Cut Clasp and Rose Nails

1-inch.	1½-inch.	2 inch.	2½-inch.	3-inch.
14s.	14s.	14s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.

Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½ in.	3-in.
Cast Rain-water Pipe....	8d.	10d.	1s. per yard.

Cast Gutters, 4 in. 7d. per yard.

	4 in.	4½ in.
O G Gutters, with Clips on....	10d.	1s. per yard.

	2	3	4	5	6
Patent Lead	4s	5s	7s	9s	per gross.

6 inch Rd. Ward Mortice, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 12s. 6d. per cwt.

Dr Arnott's Ventilators, 4s each.

Brick Moulds kept in stock. Any size made to order.

THE ALPHA TUBE & FITTINGS WORKS.

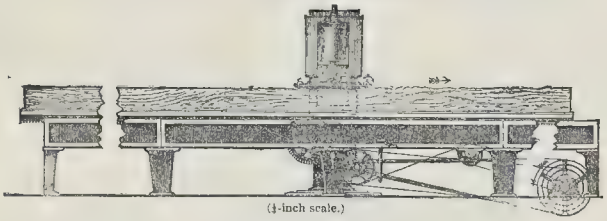
WALSALL, STAFFORDSHIRE.—Established 1820.

LAMBERT BROTHERS,

MANUFACTURERS OF LAP WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,

For Steam or High-pressure Water and Gas. HIGH PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER CLOSETS, IRON and BRASS GAS-FITTINGS, GASELIERS, &c.; and of the GROVE SEEDSTEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam-engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, Mills, &c. at the International Exhibition, Walsall Court, Class 31, precisely as sold from engravings and prices in trade catalogue.

S. WORSSAM & CO.'S
PATENT IMPROVED PLANING AND SQUARING-UP MACHINE.



(¼-inch scale.)

This machine is adapted for planing and squaring up scantlings of either hard or soft wood, up to 18 inches wide and 9 inches thick. The cutter-disc is furnished with a set of Wilson's Patent Cylindrical Gouges, which will last as long as eight sets of the ordinary gouges without being sharpened.

For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.



BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.

38 & 65, YORK-STREET, WESTMINSTER.

FIRE-PROOF CONSTRUCTION.—
FOX & BARRETT'S PATENT.

This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

MR. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

MUSGRAVE'S PATENT STABLE
FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVES PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES. These Inventions are decidedly on metallic principles possessing numerous advantages not before found in anything hitherto made.



At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended," being the only prizes conferred on any competitor in this class.

Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

CANNON IRON FOUNDRY, 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.

Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

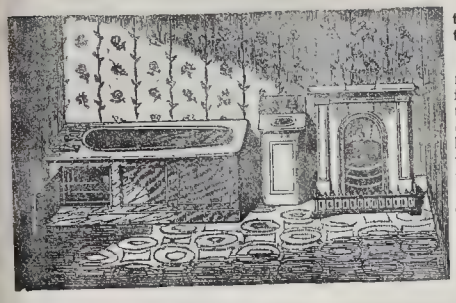
GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers.

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

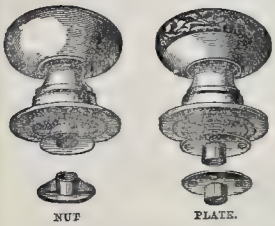
SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.



NUT PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

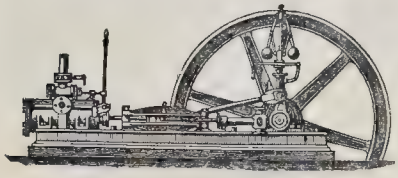
THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass founlry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and particulars sent upon application.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,

AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF

HORIZONTAL AND VERTICAL STEAM-ENGINES,

From 2 to 30-horse power and upwards.

PORTABLE ENGINES, CRAB WINCHES, &c.

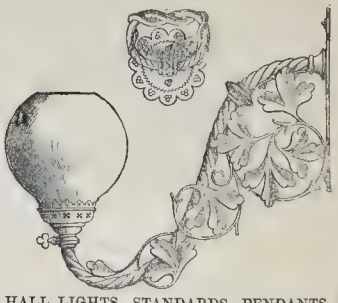
SEVERAL ALWAYS READY FOR DELIVERY.

Price List forwarded on application.

HART AND SON,

MEDIÆVAL METAL WORKERS,

IN SILVER, BRASS, & WROUGHT-IRON.



HALL LIGHTS, STANDARDS, PENDANTS, BRACKETS, GRATES, FENDERS, VANES, CROSSES, FINIALS, ALTAR AND TOMB RAILS, ALTAR PLATE, ALTAR CHAIRS, &c.

53 to 58, WYCH STREET, STRAND, W.C.
And 20, COCKSPUR STREET, PALL-MALL.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.

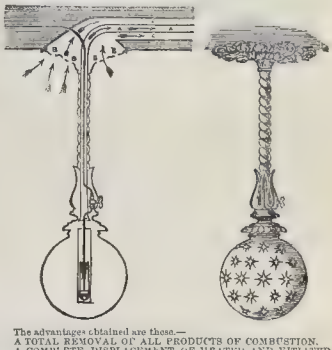


Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W
Drawings and Estimates furnished

RICKETT'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.

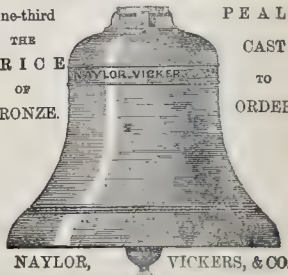


The advantages obtained are these.—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

CAST STEEL BELLS,

One-third PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of
FIRST-CLASS WOOD-CUTTING MACHINERY,
being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

CLAYTON, SHUTTLEWORTH, & CO.
ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,
STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.
Descriptive, Illustrated, and Priced Catalogues free per post.

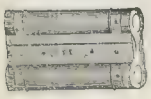
CASTINGS AND WROUGHT IRONWORK
OF EVERY DESCRIPTION.
GLOVER, BROTHERS,
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.
Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

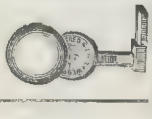
CASTINGS, ANY WEIGHT AND QUANTITY,
With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



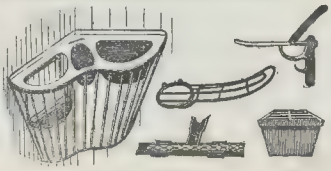
PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE ACTION DOORS.


PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.

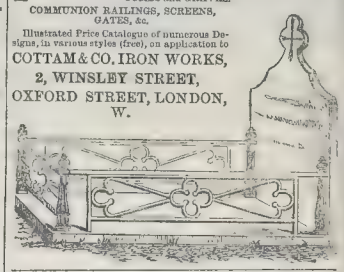

PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.

Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.

COTTAM'S
PATENT INVENTIONS FOR STABLE REQUISITES,
Awarded a prize at the Paris Exhibition,
Patronized by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the Kingdom.
In use at her Majesty's Stables, Aldershott and Balmoral.

COTTAM & COMPANY, Winsley-street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Watertrough, and Wrought-Iron Rack, made to an iron top plate, and form a most complete and useful fixture, having COTTAM'S Patent Nosebag Hook or Guide and Collar Rod attached, which is taken to the back of the manger, and works with ease and freedom from out of the gutter.
COTTAM'S NEW PATENT SEED BOX, an important addition to the above fittings, being simple in construction, light, and durable, impervious to mice, and is economical in its results.
COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, is a most essential addition to their fittings. It is never in the way; can be placed and replaced in an instant, while its cheapness, simplicity, and utility in keeping the contents of the trough clean, and regulating the quantity to be taken, require sufficient to insure its use.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED
... be used with great advantage where space is an object, as it can ... turned up out of the way when not in use.
COTTAM'S IMPROVED WROUGHT-IRON VENTILATING ... GRATE prevents the escape and allows a free admission of air to ... under parts of the saddle.
COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.
COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.
PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

KNIGHTLEY'S PATENT STABLE FLOOR.
Illustrated Catalogues and Estimates gratis, upon application to
COTTAM & CO. 2, WINSLEY STREET, Oxford Street, London, W.
WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.
COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.
N.B.—WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

SMITH & WOODS
SHOP FRONTS
WORKS, HARTS-HILL IRON FOUNDRY, Near Dudley. MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.
LONDON OFFICE, 76, CANNON-STREET WEST, LONDON, E.C. Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES.
COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY STREET,
OXFORD STREET, LONDON, W.


NOTICE TO BUILDERS AND CONTRACTORS.
HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Coal Winches, all sizes. For further particulars apply to BOWSER & CAMERON, Springfield Ironworks, St. Neil street, Glasgow.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions; Chintz, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c., and the New Registered Venetian Ventilator, so much admired, 6s. 8d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the only Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

HUTHNANCE'S PATENT ECONOMIC LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS,
Is strongly recommended to public notice, as being the most efficient and economical arrangement for the purpose of drying linen, clothes, bedding, &c.; specially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c. &c.; as, in a sanitary point of view, it is invaluable, the DRYING ROOM being graduated to use in a very high temperature, whilst the IRONING-ROOM is kept AGREEABLY COOL and WELL VENTILATED
The economy of fuel is extraordinary, as, in a small union, it caused a saving of seven tons of coals in four months, whilst for simplicity of arrangement and cleanliness in use it cannot be surpassed.
No BLACKLEAD or SAND, and not the living touch!
This arrangement has been carried out in numerous UNIONS, INFIRMARIES, BARRACKS, and MANSIONS
Testimonials and illustrated price lists forwarded, upon application to Mr. PIERCE, SOLE PROPRIETOR and MANUFACTURER, 5, JERMYN STREET, REGENT STREET.
A large model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

LOSH, WILSON, & BELL, NEWCASTLE ON TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 84, Davies-street, Three Doors from Oxford street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell hangers, and the Trade in general, at wholesale prices. In connection with the Old Establishment, No. 18, Blandford street, Manchester square, running out 61 Baker street, Portman square, London, W.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.
These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturers of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.
TRADE MARK.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT
AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,
MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

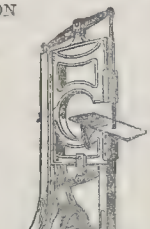
SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, CANNON STREET, E.C.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, either as to pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Frances-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

HEATING BY HOT WATER.

JOHN WEEKS & CO. KING'S ROAD,
Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling Houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

IRON ROOFING of CORRUGATED IRON,
Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.
Estimates and References furnished on application by letter, or at the Works.
Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.
Vanes, Crosses, and Terminals made to any design.
Designs, to suit any style sent on application.

TELEGRAPHS.
REID BROTHERS, 12, Wharf-road, City-road, near the Gutta-percha Works,
Telegraph Contractors to the following Telegraph Companies:—
THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c.
Are now prepared to give estimates and execute contracts for firms and private companies, in town and country. Gentlemen's private houses fitted up with simple and efficient telegraphs, on the most economical terms. All communications addressed to the above will meet with immediate attention.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—
Three-eighths-inch diameter ..... 2s. 0d. per foot.
Half-inch diameter ..... 1s. 6d. „
Five-eighths-inch diameter ..... 2s. 0d. „
R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.
Offices—136, Strand, London.
„ Gateshead-on-Tyne
„ 27, Dale-street, Manchester.
„ 60, Anderson-quay, Glasgow.
„ 17, South Castle-street, Liverpool
„ Exchange-buildings, Dundee.
„ 7, Frederick-street, Aberdeen.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 128—Nos. 55 and 56, High Holborn.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 10, Gracechurch-street, London, E.C.

TO RAILWAY COMPANIES.—The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineers' Brass-founder, No. 9, Shoe-lane, Fleet-street; manufacturer of Steam Fittings, Boring Apparatus, Pumps, Cocks, &c.; Patent Anti-friction Metal, Gun Metal, Brass Castings, &c.



PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.



BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246),

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.



PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1790.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

BALCONY PANELS FOR SALE, Cheap. Size, 3 feet 9 inches, by 2 feet. Very strong. Price, 6s. each.—G. [illegible], 93½, Great Guildford-street, Southwark.

The Builder.

VOL. XX.—No. 1016.

Metals, Stone, Slate, &c., in Palace of Art and Industry.



GREAT Exhibition like that in the Palace of Art and Industry, is an opportunity for posting-up knowledge and gains, and an event from which a fresh spring may be made by each nation taking part in the gathering together and study of the materials, products, and works of mechanism and art, which are displayed. In no department of such an Exhibition can we feel uninterested; and none has greater claims on the attention of our readers, than that which includes the materials used in building. Our national resources here are great; and a high authority has stated our annual produce of minerals as having the value of 32,183,600*l*. We now proceed to the examination of that part of the Exhibition which represents such an amount of wealth.

In the entrance portion of the Eastern Annex, and in two open courts, are a large number of specimens of materials for building and mechanical engineering works, forming Class 1, that of "Mining, Quarrying, Metallurgy, and Mineral Products of the British Division of the Exhibition." They are so much crowded together that many of them are overlooked. Some of the materials are worked into forms, as chimney-pieces, to show ornamental adaptability; and certain products, or primordial manufactures, as those of clay, are to be found chiefly in Class 10, where several have been named by us. "Specimens of steel, made directly from cast-iron by Bessemer's process," catalogued in Class 32, "Steel Cutlery and Edge-Tools," form one of the most important *trophies* of the southern half of the eastern transept; where, in the variety of forms and uses, in or to which the material is applied, an answer is given to those who questioned the value of the invention, which should be conclusive. We are however at the Eastern Annex. At the entrance to it, and in the transept, are several maps and sections of the geological surveys of England and Ireland, and Mr. Mylne's map which we noticed on its publication, of the area round London. Mr. Mylne also exhibits a very interesting map of the tertiary and cretaceous districts of England, the north of France and Belgium, Holland and Denmark, with the coal areas, and the contoured depths of the adjacent seas, which he has compiled from the maps of Dufrenoy and Elie de Beaumont, Dumont, Bach, Forchhammer, the British and French Ordnance Surveys and Geological Surveys and Admiralty charts, Greenough, Godwin-Austen, Prestwich, Murray, and others. Adjoining this is a map, by Mr. J. W. Salter of the Jermyn-street Museum, coloured on a new principle, adopting the prismatic colours as a basis, with a view to secure uniformity in the maps of the geologists of different countries. The sooner understanding is come to on some other matters, the more may the researches in each country be made useful to the geologists of other countries. The French geologists deserve great praise. Besides the general map of France, there are maps of the separate departments; and it is most useful on entering the museum of Beauvais, to find in prominent position the map of the Seine et Oise, and the valuable collection of specimens of the rocks and fossils of that department. The Museum of the École des Mines, Paris, also is admirable for its extent and method of arrangement; as in many respects indeed, is the geological museum of the Jardin des Plantes. We were glad to learn, in Paris, that the museum first named, had been several times examined by the authorities of Jermyn-street, to whom we have heretofore offered suggestions. One hint deserving attention, would be that of exhibiting an ideal section of the earth's crust, with the names of the strata, printed on it, as they are given correspondingly by geologists of different countries: literal translation does not suffice.

Near the maps last spoken of, is placed a collection of mineral products from the Shropshire lead and copper mines, exhibited by the Rev. F. More. Besides felspar and china-stone ochres, oxide of manganese, and sulphate of barytes, the case contains Roman spades and pigs of lead. In the same neighbourhood is a case, devoted to aluminium, showing the progress already made in the application of that valuable metal and of its alloys. The metal is obtained from the double chloride of aluminium and sodium by fusion with sodium. Amongst its advantages, besides non-liability to tarnishing, is the lightness. By its use, a sextant which in brass would weigh 3lb. may be made to weigh 1 lb. 9 oz. It costs 40s. per lb. troy. The alloy of the metal with copper, called aluminium-bronze, contains five per cent. of aluminium, and costs 4s. 6d. per lb. avoirdupois. This alloy resembles gold in appearance; whilst it is stronger than iron. Keys are made of aluminium alloyed with two per cent. of nickel to increase hardness. Messrs. Bell, Brothers, of Newcastle-on-Tyne, are the exhibitors. As showing what our island contains, the collection belonging to Mr. T. A. Readwin, of gold ores from Merionethshire, is interesting. There are also shown ingots of Welsh gold, of 126 oz. 19 dwt., from 6 cwt. 21 lb. of quartz, the weekly yield. A large case at the top of the stairs, descending to the Annex, contains specimens of platinum, and various articles manufactured from it, as alembics and retorts used in the rectification or concentration of sulphuric acid. The usefulness of the metal in manufacturing chemistry, is now greatly increased by the process discovered by Mr. St. Claire Deville, using the intense heat of combined gases, by which it can be made to assume complete fluidity, — the refractory nature of the metal constituting its value in the arts. Messrs. Johnson, Matthey, & Company are the exhibitors. The value of the platinum in the case is 5,180*l*.; one ingot, weighing 3,200 ounces, being worth 3,840*l*. Besides the platinum, and gold and silver, the case contains iridium, palladium, rhodium, uranium, cadmium, selenium, tellurium, osmium, and ruthenium, and the elements called non-metallic, silicon and boron, in various states and combinations. The platinum is recommended for the points of lightning conductors. An alloy of iridium and osmium is used for pen-points. Used in photography are the nitrate of silver, neutral chloride of gold (for imparting a delicate tone to the prints), the cadmium, and the nitrate of uranium. The oxides of uranium are used for colouring glass. In a corresponding position to that of the case last described, is one devoted to specimens and illustrations of the manufacture of German silver-plating, and the applications of nickel and cobalt. It is exhibited by Messrs. Evans & Askin, of Birmingham.

Clays have been classified by Brogniart, into *fire-proof*, *fusible*, *calcareous*, and *ferruginous*. The samples in Class 1 of the British Division, comprise porcelain clays from the granite formations of Cornwall and Dartmoor; the Teignmouth pipe, or potter's, clay; the China-stone of St. Austell; the potter's clay of Poole and Wareham; the fire-clays, including the Stourbridge; and others. Clay and terra-cotta manufactures are represented in Class 1, chiefly by fire-bricks and retorts for various purposes. Mr. Walcott's retort-beds are believed to have an advantage of economy in the arrangement for returning the heat, absorbed by the mass of the brick-work, into the furnace to intensify combustion. The retorts are built three or four in a tier, with heat-passages between; and are heated by one fire, the temperature being uniform.

The Farnley Iron Company have in one of the open courts, a collection of pipes of excellent manufacture, ranging from those of small bore up to some of about 3 feet 6 inches diameter. In the same part of the Exhibition, Messrs. Knight, Bevan, & Sturge exhibit some of their large blocks of Portland cement concrete, for breakwaters, as used at Dover and Alderney. They are composed of nine parts of rubble to one of cement.

The building-stones, we have remarked in a previous notice, are few in number of specimens. We find however specimens from the millstone grit in the form of millstones, and from the "Farewell Rock" of Dean Forest; Buhr stones, French, dexterously put together in England; sandstones, and flags; dolomites; oolites; and limestones, including the hydraulic, lias, and others. The marbles and granites we shall speak of, shortly. No exhibition of such materials, other than a permanent collection in the open air, with the dates when the specimens were exposed cut upon them, could be of service to the extent required for the use in buildings. We more than once made such a suggestion, and we still consider there would be public advantage in providing a place and establishing such a collection in London, if not also in each other locality. The collection of different kinds of stone exhibited by Mr. S. Trickett shows that a great variety of stone is brought to the London market; and it may be referred to with advantage; though prices are not supplied to us. It is singular that amongst the number of dealers and manufacturers who offer cards and lists in the Exhibition, few give the information wanted. As to stone, for example, we want not only the cost at the quarry, and the additional charge for carriage; but, failing evidence of use, such information as that of the absorbing power of the stone. Oolite building stone from the Little Casterton Quarry, near Stamford, is exhibited by Mr. O. N. Simpson. The Ancaster stone is exhibited in the form of a font, by Mr. John Wilson of Grantham, who notes that the material has been in good preservation in buildings (of course not in London) four hundred years. A font in Bath stone is exhibited by Messrs. Rogers & Rawlings of Bradford-on-Avon. In the transept, is a pulpit in the Farleigh Down stone, showing what can be done for 50*l*. We question whether much of the work in very small foliated capitals, that is now executed, is worth the labour; considering the grain, which prevents the intended result, even in Bath stone. We may add that there is a good specimen of York landing from Summerley's quarry at Idle, near Leeds. It would measure about 13 feet 4 inches by 7 feet, and 4 inches thick. Of Greaves's blue-lias lime from Stratford-on-Avon, we have lately spoken. It has opinions quoted in its favour from Mr. E. Smith, of Woolwich Dockyard; Mr. John Roe; Mr. J. Brown of Birkenhead, who speaks of its value in setting masonry where exposed to a strong current; from Mr. T. Wicksteed, who used it at the East London Waterworks, in one part of the lime to eight of gravel; by the late Mr. Brunel and the resident engineers of the Great Western Railway, and others. Mr. E. Tuffley, of Avening, near Stroud, exhibits a model of a stair-

case in Painswick stone; and Messrs. Trickett & Holdsworth, of Horsforth, specimens of the Bramley Fall stone.

Messrs. W. & J. Freeman exhibit a small selection from the materials which they supply, the chief of which here are grey granites, shown in the form of a thick slab for a hall-table, and in columns, which are all well worked and polished. The Cheesewring Granite Company also exhibit their material, at the entrance to the Annex, as well as in Mr. Bell's obelisk in the nave. Good specimens of grey granite from the Craignair Quarries are exhibited by Messrs. D. H. & J. Newell of Dalbeattie, Scotland. Mr. A. Macdonald, of Aberdeen, is one of the chief exhibitors of the same material, grey, as well as of the red, blue, and pink granites. One column which he exhibits has the *frusta* of the shaft so well put together that the joints are barely perceptible; and the workmanship attracts much attention. It has been referred to admiringly in the French papers. The slabs exhibited are also excellent specimens: one which we measured was 8 feet 6 inches by 3 feet 7 inches. All these specimens are beautifully polished. The drinking fountain in the open court, depending chiefly on the material, is better in effect than the majority of the works in which decoration has been attempted. Polished red granite is exhibited also by the Ross of Mull Granite Company; and there are also granites from Ireland. The granites above named should be compared with the column in rose-coloured granite which there is, along with one of serpentine, in the Swedish Division. The shaft of the granite column is in one block, and is called 4 mètres in height and 40 centimètres in diameter. It was produced by convict labour. A fluted column, a candelabrum, a tripod, and other articles in blue-grey jasper of good workmanship, are exhibited in the Russian Department. Though we are not reviewing the Foreign Division of the Exhibition, we ought to allude to the works, in the French Division, of Mr. Hermann, who produced the fountain, in granite of Brittany, lately mentioned by us as erected in the Champs-Élysées, and which was intended for the present Exhibition. Granite, porphyry, and jasper are wrought by Mr. Hermann, according to the French papers, by the aid of a newly-discovered black diamond. His first productions were simply for portions of the machinery for pounding chocolate; but he now exhibits, besides these, works in jasper of Savoy, as vases, with bronze ornaments, which are noteworthy as works of *art* in every sense of the word.

Returning to the entrance to the Eastern Annex, we find numerous specimens of their beautiful material exhibited by the Lizard Serpentine Company, some of them being worked into ornamental forms. One of these is a chimney-piece, with plain arched opening: it is priced 23*l*. A moulded and coped slab, with headstone, is marked 30*l*. The font for Uppingham Church, Rutland, would have been better without foliated ornament in such a material as serpentine: the work of the capitals here is ineffective, and thrown away. Various articles in serpentine are exhibited by Messrs. Pearce of Truro. Devonshire marbles, red and green, are exhibited by Mr. J. C. Stark of Torquay, some of the specimens being in the form of chimney-pieces. The grey fossil marble of Galway, and a marble from the Isle of Man, also are shown. The Connemara green and black marble is exhibited by the Law Life Assurance Society. The illustration of materials of this class, from the United Kingdom is small in proportion to the number and variety of them.

The Derbyshire marbles especially, are poorly represented; though the mosaic tables, and other forms sparkling with colour, into which the marbles are worked, may surprise those who do not know what there is in the county. The black, the red, and other varieties, should have been adopted in the interiors of our London buildings, where scagliola and painted imitations of Italian marbles are used sometimes from pure ignorance that there is a different material, and obtainable in larger blocks than has been supposed. The local marbles contribute much to the effect of Chatsworth House. Not all the marbles exhibited in the Derbyshire manufactures, are found in Derbyshire; but the majority are. The Derbyshire mosaic differs from the "Florentine,"—at least as the latter is practised in this country,—inasmuch as there is not a thin veneer cemented to a backing of stone or slate; but the pieces forming the pattern are let into spaces hollowed out to a sufficient depth in a solid slab. It is evident that great skill is required in the execution of some designs; and want of accurate cutting and setting is apparent in the table-slab designed by Mr. Goldie, which in many respects is very good in workmanship. Manufacturers do themselves as much injury by attempting designs beyond their powers, as by adopting others originally conceived for execution in different material. Another table-slab, which was designed by Mr. Thomas, is more effective than the last. The former is priced forty-five guineas, and the latter sixty-five guineas. They are by Tomlinson, of Bakewell. From Messrs. John Lomas & Sons' marble works, of the same town, are sent specimens of marbles which help to show the variety procurable; though there are many others in the Peak, and about Matlock and Ashford, and on the borders of Staffordshire. The specimens exhibited are called the black, light bird's-eye, dark bird's-eye, coralline, Hopton shell, light fossil, pink fossil, dark fossil, rosewood, and Newburgh marbles. Mr. Samuel Birley, of Ashford, exhibits a table with the top and pillar inlaid, designed by Mr. J. Randall, of the South Kensington School. The ornament, which is very elaborate, is composed of leaves, flowers, and fruit, with birds and butterflies. The colours and conventionalized forms, unless as to the birds, are successfully dealt with: the price—300 guineas—is a high one. There is still wanted, tasteful low-priced art-manufacture; and in that direction, not often taken by contributors to the present Exhibition, we should be glad to see the Department of Art now moving. Black marble vases with inlaying in coloured marbles are exhibited by Messrs. S. Bright & Co., and articles of a similar description by the proprietor of Turner's Museum, Buxton. Small articles in fluor spar from the Blue-John Mine are exhibited by Mr. J. Tym, of Castleton. A word of praise should be given to the objects exhibited by Mr. Henson of the Strand; though his obelisks, not having the hieroglyphics as intaglios, are not accurate representations. We should have mentioned above, the table slab inlaid with Devonshire madrepores, sent by Mr. A. Batson, of Ramsbury, Wilts; and the stalagmite of Mr. L. A. Monteiro; though the latter has the appearance of Spanish rather than British origin. In the northern open court will be found a column with shaft of the Jura marble, the material which is now so much used in Paris, as for the balustrades of squares and bridges, and the basins of fountains.

Slate is shown as plain slabs, and in the forms for roofing, as well as decorated, that is "enamelled." Mr. Hunt states the present consumption of slate in London, as 60,000 tons per annum. Neither the Bangor, nor the Llanberis slates, appear in the Exhibition; and the great variety of forms into which the material is wrought are scarcely hinted at. Every one who has been on the Continent would see that a considerable trade might be carried on in supplying billiard-tables. Those used in France are of small size; and the best machinery for producing them is to be found in Wales. But a foreigner might pass through the Exhibition without having suggested to him that such an article as he was in want of could be supplied. The case adduced strengthens our argument that the Exhibition should not be considered perfect, or even representative of materials, and manufactures; and that the objects, national and international, such as have been lately referred to Mr. Rouher, at the banquet given in his honour, as those of treaties of commerce, should be served by the production of reports, or tabulated information, embracing the whole industry of the country. We lately instanced what is a good model this year, issuing from one foreign commission, as well as two results of 1851; the reports obtained by the Foreign Office are good as starting-points for reports on industries abroad; but we want to get at, and to have the means of supplying, more information respecting our own resources. Architects are constantly wanting it. Even those exhibitors in the South Kensington building who give lists, as we have said, omit necessary information. The producers of iron, exhibiting specimens "broken cold to show fibre," scarcely say what they wish to prove.

The Llangollen Slab and Slate Company are principal contributors to the division of the Materials Department which we were speaking of. They show several slabs of considerable size or good quality. One slab measures 16 feet by 5 feet 10 inches; and another is 20 feet by 10 feet, and 3½ inches thick, weighing 4 tons 10 cwt.; but it appears to have been broken. The Welsh Slate Company of Port-Madoc, exhibit from their quarries at Festiniog, a slab measuring upwards of 13 feet by nearly 8 feet, and 2½ inches thick. One of their slabs, about this size, is rubbed and has the edges moulded. To show the properties of the same slate, they exhibit strips of 5 feet in length and 6 inches in width, which are but one-twentieth of an inch thick. Several other exhibitors from Port-Madoc offer similar specimens. The Rhiwbryfdir Slate Company show that a block (18 inches by 10 inches) which is an inch and a half thick, may be split and dressed into 39 slates; and that out of a block (20 inches by 10 inches) half an inch thick, eight slates can be sawn, the waste in such case being hardly perceptible. There is however great loss in getting and dressing slates, which must render necessary some labour in removing the waste. The utilization of waste substances, just now the subject of popular books, will we hope one day comprise the getting rid of the *débris* of many kinds of mines. A model of a slate-dressing machine, consisting of knife-edges, placed obliquely on a revolving drum, so as to work like the down-cut of a carpenter's saw, is exhibited by one of the Port-Madoc contributors, Mr. J. W. Greaves; and the company there, above named, seem to have a machine that will dress 12,000 to 15,000 slates *per diem*, accurately and completely. The slate ridges and hips of Messrs. R. Williams & Co. also are shown. The roll, rebated as ordinarily, may be used without the slab flashing-pieces, in inferior buildings. The roll may be had with groove to receive the "Rhosydd Ridges," which consist of various modifications of trefoil or Tudor-flower ornament, cut out of thin slab. They are in many respects better as ornaments for ridges of slated roofs, than the clay-ware forms which occasionally are used. There are some specimens of green slate in the Annex, exhibited by the Bwlch-y-Groes Company: but altogether, the varieties of the material in the Exhibition are few. The Duke of Devonshire is said to exhibit slate from Burlington Quarries, Lancashire; but we have not seen it, or that which there is from Westmoreland. There are some specimens of "stone-slate," which is stone, and therefore porous, split thin. The Llangollen Company above named, exhibit various chimney-pieces and other articles in enamelled slate. Among them is a chiffonière, black inlaid with malachite and serpentine, all very well imitated, and priced 40*l*. A chimney-piece representing porphyry with inlaid ornament in black may be had for 2*l*. 13*s*. If exhibitors generally had affixed prices, the value of the Exhibition to architects would have been greater.

To do justice to the Department of Metallurgic Products would require more labour than we can now give. The exhibitors of iron ores, iron in the rough state and cast, and wrought iron in various forms for use, or to show the fibre and strength, are very numerous. There is probably no department of the Exhibition that evinces greater progress, than this, of late years. It is scarcely fifteen years since many architects and engineers, alarmed by terrible accidents, were all but coming to the disuse of iron for large spans, seeing that cast iron was not to be trusted, rolled iron was hardly to be obtained, and riveted girders had not been thought of. We now find that manufacturers can supply an immense number of patterns; and the cases of some exhibitors, showing every variety of section in different dimensions, would be exceedingly useful could they be deposited in some locality for future reference. Mr. R. Smith's display of iron produced at the Round Oak Iron Works, in the South Staffordshire district, from ores in the Earl of Dudley's estate, amounts to upwards of one hundred and twenty articles, besides the specimens of the coal and limestone. Iron is a more commonly-found material than many visitors to the Exhibition would suppose: the presence of the coal and limestone with it in a district, makes the value of the ore for smelting. Somewhat more than twenty years ago, we believe, the hot-blast was introduced, which did not immediately effect the improvement that was anticipated in the quality of iron; since it enabled the manufacturer to use up inferior materials. From all causes, the varieties of quality, and consequent variations in strength, are very great; and it is much to be desired that the proper composition of good iron should be understood by architects as well as it is supposed to be by others employing the material. In ten girders of the same scantlings, we have known the breaking-weights vary as much as the money-items in a list of tenders. So that, averages may be of little value; and in calculating scantlings, the "constant" should be changed according as the material may be different. The experiments of Hodgkinson & Fairbairn, even those to ascertain the form for girders, would supply many of the figures; as they were made on irons of numerous kinds,—the results being carefully tabulated. Were there any lingering prejudice against the material, iron, on the score

of brittleness, the present Exhibition would go far to remove such feeling; it is therefore only necessary that the merits of particular manufacturers should be known. Nearly all, however, exhibit bars and rods doubled, or tied in knots, or fractured to show a fibre like that of wood, in ways quite opposed to the common ideas of the properties of iron. Amongst the specimens from the Earl of Dudley's Works is a bar of iron 1¼ inch square, which, tried at Chatham Dockyard, stood a tensile strain of 64½ tons without fracture, and broke two of the large cables of the testing-machine.

The articles, about fifty in number, in the transept, from the Low Moor Iron Works, sent by Messrs. Hird, Dawson, & Hardy, also form an interesting collection. They include the Low Moor coal, hard and soft, and coke made therefrom, and used in blast or smelting furnaces and refineries; the Black Bed coal used for engine-boilers and house fires, and the coke for lime kilns and other common purposes; the Black Bed stone lying immediately above the coal last mentioned, in six distinct strata, and containing about 28 per cent. of iron; the white ironstone; the calcined iron ore, prepared by roasting or burning in kilns, or in heaps on the ground, for the smelting furnaces, and the limestone from Skipton, used with the latter as a flux; furnace dross, or the earthy part of the ironstone combined with the limestone, used for roads; pig iron, of which the best quality is used for machine castings, the second for heavy machinery, and the third for forge purposes; refined iron, which is prepared from pig iron by being exposed to a strong blast in the refinery; the cinder or impure matter separated from the metal in the refinery; puddled iron, of two kinds—one adapted for boiler-plate, and the other for railway-wheel tires, the specimens showing fracture; chain iron, several specimens, bent cold in various ways to show toughness and strength, or fibre; boiler-plate, bent cold, with shorn edges; similar plate, doubled when hot so as to show pliability in working, and other specimens punched; knots tied cold; various specimens of bars, punched, doubled when cold, or broken to show grain of the iron; and other articles. Of Messrs. Moore & Manby's specimens, including joists to which wooden and other floors can be readily fixed, we have already spoken. Also very important, as in illustration of preceding remarks, are the sections of rolled iron of Messrs. Moser & Sons of Southwark, and the patterns of Messrs. Sutton & Ash of Birmingham. Be it for girder, purlin, or casement-bar, every form seems to be now procurable. The Farnley Iron Company exhibit bars, rods, plates, and forged axles and piston-rods, and supply lists of prices. The works lie between Bradford and Leeds, and the mineral is the same as that of the Low Moor Works which are south of Bradford. South of Bradford also, and near to it, are the Bowling Iron Company's Works, which also supply specimens to the Exhibition; as do the Monk-bridge Company from the same district, and the Kirkstall Forge Company. The Blaenavon Iron and Coal Company send iron in various forms from Monmouthshire; and Messrs. T. Butlin & Co. from the East-end Works, at Wellingborough; where, if we recollect rightly, the ore has only lately been made workable. The Shelton Bar Iron Company, of Stoke, in Staffordshire, exhibit a plate of the superficial area of 112 square feet; whilst from the Mersey Steel and Iron Works there is an armour-plate, measuring 21 feet 3 inches by 6 feet 3 inches, and 5½ inches thick, which the exhibitors say would have been 15 to 20 feet longer could space have been obtained.

The Mersey Company also show a remarkable piece of work in the form of a double-crank shaft for the *Northumberland* or *Minotaur*, weighing between twenty-four and twenty-five tons. It was wrought into shape by the steam-hammer. It is well to know, thus, what can be done. From the Dowlais Iron Works, Merthyr Tydvil, there is a rolled-iron girder, scantling 9¾ inches by 4¾ inches (the section we have not noted), which is 53 feet 6 inches long. But this is surpassed by the Butterley Company, as in a rail (5¼ inches deep) which is 117 feet long. Near it is a tension bar, for a girder; it is 83 feet long, with the scantling 12 inches by 1 inch. The Company however seem to us not quite fair, as to one of their specimens, a portion of a girder 3 feet in depth, which they mark as "solid rolled." It must have been formed of two T bars and a flat bar for the web; for two lines, showing the welding, are discoverable. Such as they are, these girders could be made 30 to 60 feet in length. Would not riveted plate-iron be preferable? The same Company exhibit good specimens of armour-plates 4½ inches thick; and a main-deck beam, and other portions of an iron steam-vessel, all apparently worthy of the Company's long and good reputation. These specimens, and some others we have named, should be looked for in the courts of the Annex, where may be found a wheel-tire of the Monk Bridge Company, 12 feet external diameter, the weight being 200 lb. How far any of these specimens are properly to be classed as of a new material, such as the Bessemer steel, we have not stopped to notice. If we understand the question at all, the distinctive character of the Bessemer material would require it to be placed in the Eastern Annex. In connexion with the subject of the composition, manufacture, and quality of iron, Dr. D. S. Price's cabinet of illustrations of the smelting of iron in Great Britain would be found useful to those who have entered on the study. The other metals, as lead, tin, and copper, we have hardly space to notice; though the specimens are not numerous. Some models of mines are interesting. Of the most useful part of the Exhibition as regards the metal zinc, we spoke in a former number. A sheet of cut lead, one mile in length, is exhibited by Windhurst's Patent Metal Foil Company. Wetterstedt's metal for roofing and other purposes is exhibited by Messrs. W. W. & R. Johnson & Sons. This material, which has been many years before the public, ought to have evidence respecting its durability, obtainable. Messrs. Morewood & Rogers, of whose material we spoke of in Class 10, are exhibitors both in the court of the Annex, and in the Iron and General Hardware Class. We have not spoken of the moulding sand from Mansfield, the sands of the Isle of Wight, the plumbago and other crucibles; the produce of the chalk pits at Grays, including water suggested for the supply of London; the Paris whiting from the works of the Queensgate Company, near Beverley; nor of many minerals which are more important in industry than conspicuous in the Annex. Neither can we describe the specimens of coal, sections of seams, and models of mines, and models and specimens of safety-cages, fuses, and lamps; though many of these may be studied with advantage by an architect. Mr. C. H. Waring, of Neath, exhibits a safety-lamp which cannot be opened without extinguishing the light. In one of the specimens of coal, is seen alive, and otherwise much as it was found, one of those forms of animal life which are met with in coal. A model of docks and harbour-entrance, exhibited by the Sunderland Local Committee, and a model of Seaham harbour and town exhibited by the Marchioness of Londonderry, deserve to be studied. But this may be the proper place to mention Wolston's Torbay Iron-Paints for coating materials which are to be under water, or in a position to be affected by damp. They are manufactured at Brixham, Devonshire; and, if we may accept the statements of the experience in the dockyards and public works, they meet a great want. A caisson in Woolwich Dockyard, painted nine years since, is said to be in a perfectly sound condition, both under water and between wind and water. It is also said that the Torbay paints have been found to stop corrosion that has set in; so that in Pembroke Dockyard, where in 1859, two iron-roofs had been found so corroded as in the opinion of the authorities to need entire renewal, but where two coats of the paint were applied, the result has been such that the expense of renewal is no longer necessary. The experience in the case of corrugated iron-roofing at the Aberdare Iron Works is even more satisfactory. Two coats were there applied in 1853, and one coat since. Three coats are considered equal to four of lead paint: indeed, the cost of painting six iron girders 13 feet 6 inches long and 36 inches girth, is given as 3s. 2d. against 5s. 3d., which would have been the cost with red lead. The black is said to retain its lustre better than other black paints, especially exposed to seawater; to resist intense heat, and sulphuretted hydrogen,—as well as acids to some extent,—and to stand "on materials previously coated with coal-tar, where all other paints fail." The specimens exhibited are taken from roofs in the dockyards and arsenals: the greater number of them bear out the statements above; in one or two others, we found paint detached in places, possibly because the specimens had been knocked about.

NEW ENGLISH CHURCH IN PARIS.—A new English church is being built in that part of the Rue Roquépine which is prolonged to the Boulevard Malesherbes.

MISMANAGEMENT OF PUBLIC WORKS IN INDIA.

IN calling attention, as I did in my last,* to the present state of the irrigation and navigation works of India, I am far from wishing to condemn harshly the works of the Indian military officers, who, without knowledge or experience, and often without any adequate assistance, do the best they can; and many of whom would doubtless do much better if properly instructed; but the public good demands that, however disagreeable the duty, the truth should nevertheless be told; and, in discharge of this duty, I fearlessly maintain that the whole of their engineering works—canals, roads, bridges, buildings of all kinds—are disgraceful to a highly-civilized people like the English; that the far greater majority of the officers themselves learn what little they do know from native subordinates or common soldiers, instead of from British engineers; and that their irrigation works, in their present state, are a convincing proof of the truth of this statement.

I have never yet met with one of the so-called military engineers who knew properly how to lay a foundation upon difficult ground, or to truss a roof of large span; I never knew one who properly understood how to make an excavation, or to throw up and dress an embankment; I never knew one who was able to make a proper survey and section for a line of road, or prepare a correct set of working drawings for a work, and write out a good, well-worded specification. As to setting out a railway curve, building a skew arch, designing a good timber viaduct, or erecting a steam-engine, such things are rarely even thought of. If they build a wall, or turn an arch, it is almost certain to crack, and often to fall to pieces: if they finish a roof, it lets in the rain like a sieve: nothing they do is properly begun, and nothing is ever finished. I never yet remember seeing a well-made and well-burnt clamp of bricks, or scarcely ever a piece of good masonry. Plastering alone, which the natives do exceedingly well, covers all other defects, until crack upon crack reveals what the plaster is intended to hide; and, so far from there being any signs of improvement in this state of things, it gets every year worse; and the works done in India during the past three or four years are far inferior, both in design and execution, to those done forty years ago; indeed, I very much question if the latter works will be in existence at all forty years hence.

And yet the Public Works Department in the Madras Presidency alone is an enormous establishment. It numbers nearly 1,300 persons of all grades, from the chief engineer down to the lowest native subordinate, exclusive of the workmen employed. Their united salaries amount to something like 70,000*l.* per annum; and the money they expend about ten times that sum, or 700,000*l.* per annum. What the nation gets for this money it is very difficult to say—when in many cases whole provinces are almost destitute of roads, and in some places wheeled vehicles are hardly known.

It is now about eleven years ago (January 30th, 1850) that a commission was appointed by the Home Government to inquire into, and report upon, the state of the Public Works Department of the Madras Presidency. The commission consisted of Major Balfour, Mr. Bourdillion, and Major Frederick Cotton. Their report took twenty-two months to prepare, and occupied nearly 300 pages of closely-printed matter; with an Appendix, consisting of about 100 pages, containing much valuable statistical information. What was the result of their labours may be gathered from the following two or three extracts.

In p. 208, par. 500 of the Report,† after alluding to the wretched state of the department, as far as practical art is concerned, the commissioners say:—

"There is not at this moment in the whole Madras Presidency a really good and well-shaped brick to be purchased: not one ingredient of any material used is well prepared; and the same description of tools are in use throughout the country with which the temples were built one thousand years ago. Even those labourers who work by contract have not the energy to put their strength to what they are engaged in; whilst those who are employed on daily wages work as though they considered it a duty to themselves to do no more than they can help. The money lost by apathy and want of skill, by bad materials wrought with ill-formed tools, and by waste from wanton carelessness, even in the works best managed in the present day, is a far heavier per centage upon the outlay than has ever been paid for superintendence; and must be so till we have introduced better apparatus for the manufacture of materials, taught the use of modern tools, and, by a general employment of Europeans, shown what energy can do when well applied," &c.

---

* See page 509, *ante*.

† "Report of the Madras Public Works Commissioners, ordered, by the House of Commons, to be printed, May 27, 1853. Price 4s. 6d."

And in allusion to the difficulties with which the officers are beset, the report states, in page 217, par. 524,—

"It may be gathered from the foregoing remarks that the camps of the civil engineers are constantly in motion, and ever moving with the greatest speed attainable. Every officer in the department feels that he is always wanted where he cannot go, in spite of all his efforts: the more he sees and does, the more anxiety and cause for haste he brings upon himself; and, while in this state of restlessness, if he is to advance the country he travels over, he must find time for projects of improvement, and snatch it as he can from days already crowded with other urgent duties. His information must be taken hurriedly: his observations of the ground must occupy as few days or hours as possible; and, in drawing up his estimate, he must do it with his camp still moving on, out of reach of books of reference, and working with people weary of the constant travelling; and, with good reason, discontented. Added to this, as has been before mentioned, he has the roads, ghauts, and all public buildings more or less under his control. Move where he will, he finds more work wanted than he and his subordinates can effect; and he has no season of recess or rest."

Again, in referring to the imperfect education of the military engineers, in page 207, par. 497, the report says,—

"The very limited scale of our professional establishments compels the employment of young and inexperienced officers in the projection of works, who, as a necessary consequence, fail to see how the object aimed at may be most cheaply and most effectively attained: in short, our engineers are unavoidably put to actual work while they ought to be only under instruction; and they gradually acquire skill and experience by a succession of errors, of which the state bears the cost."

In 1854, Colonel Arthur Cotton published a work, entitled "Public Works in India: their Importance," &c.*—a book which certainly reflected far more credit upon his character than did the construction of the Godavery Anicut. In this work not only did Colonel Cotton endorse everything that the above-mentioned Report advanced,† but added the weight of his influential position to give effect to the statements and recommendations contained therein; and, in 1857, the same gentleman, in a small pamphlet, entitled "Profits of British Capital on Indian Public Works,"‡ says, in page 50, "Why should not twenty European civil engineers, of different classes, be sent to every one of the 120 districts in India; making a total of 2,400 engineers and overseers, &c. P"—thus clearly indicating his conviction of the superiority of the English system as compared with that of India. And, in another place, the same gentleman states "that we ought to teach the natives of India how things are done in England, instead of learning from them how things are done in India."§

The expression of similar views from numerous other authorities induced the Government to attempt the introduction of a new system; and, in 1855, the entire department was re-organized under the direction of Colonel Faber, while the Home Government sent out from England a small number of English civil engineers,—about 15 or 20, I believe,—to introduce a new element into the system.

It might perhaps be supposed that now, at least, something would be done towards the improvement of a department of the public service that had been shown upon all hands to be so thoroughly defective. Nothing of the kind whatever was contemplated by the Local Government. Every abuse and every defect that existed under the old system was carefully preserved or increased. Appointments were bestowed upon military officers as a reward for services in the field against the rebels,‖ without the smallest regard to scientific fitness; and, on the other hand, officers who possessed personal or family influence, and who, for twenty years or more—sometimes during their entire life—had never done one day's military duty, were allowed to draw full military as well as full civil pay, and engross to themselves every really valuable appointment in the department. The engineers sent out from England were put under the direction of these half-military, half-civil ignoramuses, and ordered to implicitly obey their instructions upon pain of immediate dismissal. Conditions were imposed upon them never hinted at when they left England; and all appeal to the Home Government was practically denied to them, as no communication was allowed to pass between them and the parties by whom they were appointed in England, unless it went through the channel of the Local Government. Under such circumstances, they had nothing to do but to submit; and Col. Arthur Cotton, who had so eloquently exposed to public shame the defects of the old system, became now one of its chiefest supporters. The English engineers, he said, did not understand Indian works: such works ought to be entrusted only to old Indian officers—the very class of persons whom he had previously declared to be the greatest bane to the country.*

Let us now see the results of this course of action. The *Madras Examiner*, June 9th, 1859, states, that since 1855 (that is since the professed new organization of the Public Works Department), 197 bridges, three anicuts, and twenty-seven supply channels have been swept away, costing about 510,000*l*. How far this statement may be exact I have no means of ascertaining; but, as it has never been contradicted, it may fairly be presumed to be not very incorrect: certainly, without any prejudice, my own personal observations would lead me to believe in its accuracy. In all parts of the country may be seen bridges—broken, cracked, or tumbling down; roads unfinished, almost impassable, and often leading nowhere; channels half excavated and filled with silt; locks only partly built, or altered because they have been built wrong; and everything else in much the same condition;—most of the engineer officers—military men destitute of all practical knowledge, mere amateurs, in fact—dependent entirely upon native foremen for instruction; and the European overseers—common soldiers, corporals, or sergeants—many of them so ignorant as hardly to be able to write.

A stranger, upon perusing the rules laid down for the guidance of officers in the Department of Public Works, would be apt to imagine that nothing could possibly be better organized, or better regulated; but let him but make himself acquainted with the practical working of the entire body, and he will speedily discover such a heap of anomalies as would convince him that in no establishment in Great Britain would such absurdities be tolerated.

In one of the despatches from the Home Government, No. 14, date August 22nd, 1849, it is stated, that with reference to a certain bridge, it had given way three times, entirely through errors in the construction; and two other bridges; one also stated to have failed from the same cause; and on the 22nd of January, 1857, more than seven years after, we find the chief engineer issuing instructions to the various district engineers respecting the bridges, &c.; which instructions, he states, are called for in consequence of the frequent accidents that have occurred of late to the bridges and other works under construction.

On the 26th of November, 1859, a district engineer reports that, on Trunk Road No. 6, the embankments are breached in many places; that five arches of a bridge at Sooloonpette had fallen in; that a two-arched bridge was reported to be entirely destroyed; that the wing-walls of two other bridges had been washed away; and that many tunnels (culverts) had been totally or partially destroyed. This road is in the same state now, although more than two years have elapsed; and it is one of the main roads from Madras northwards.

During the latter end of the year 1860, I saw four bridges completely broken down; two more partially destroyed; and two more dangerously cracked; besides several drains across roads which had partially or wholly fallen in. Two of these bridges were of considerable size: one of them had on the parapet the names of Col. Pearse and another officer, formerly high in the department. In 1861, I met with sixteen broken bridges; nine of these upon one line of road.

Indeed, if every officer in the Public Works Department were to give a true and faithful account of all the failures which he had witnessed during his engineering career, what a list would be exhibited! Sir C. Wood lately expressed his gratification at some photographs of railway works in India: let him engage a few good photographers to take views of the roads, bridges, channels, barracks, &c., after each monsoon, and before repairs had been commenced, and he would very soon be able to understand why "*maramut works*"—as the repairs are called—absorb annually so large an amount of the entire expenditure.

Neither is there, in fact, any real occasion for all this: the climate of India is by means more destructive to buildings than is that of England. Granted that England has not the intense heat and deluging rain—India is equally free from the destructive effects of frost and dry-rot. During the working season—generally from October or November to April or May—they are quite certain of settled weather; and the storms during the breaking up of the monsoon, although apparently more formidable than those in our northern climates, are not really so; indeed, I question if any storms in India are more truly violent than many in England.

To what, then, is to be attributed the bad condition of our Indian public buildings? I answer, to the utter want of practical knowledge on the part of the designers and engineers; certainly not to their neglect or inattention to their work. Heaven knows! many of the officers work hard enough; and often are they compelled to retire with shattered constitutions and ruined health; but the defective state of their professional education is everywhere apparent. When a foundation is to be laid, a trench is dug two or three feet deep, into which is thrown, generally by native girls and boys, heaps of stones of all sizes and shapes, without any order or regularity; the interstices filled up with mud, which, by the sun's heat, is speedily baked hard as a rock; to be converted into pudding the next rainy season upon this foundation, which never has any footing course, and no kind of bond. The walls of the superstructure are raised, likewise of rubble-stone, in mud, the stones being of all sizes and shapes,—no attempts at courses, no laying the stone on its natural bed, no bond of any kind; the angles of the building and the quoins of the doors and windows of brick, in chunam; but the bricks, soft, badly shaped, and badly burnt, are more like a clumsy clod of half-baked clay than anything else. The walls, for buildings only one floor high, are frequently made 2 feet thick, or more, and the joints often 1 or 2 inches; the whole covered, externally and internally, with a thick coating of chunam (as lime and mortar are termed in India). The inside speedily becomes a nest of white ants, who excavate large hollows between the stones by carrying away the dry mud, and the walls crack and settle in all directions, and frequently fall to pieces. The roofs are equally defective. Terraces (flat roofs) are great favourites in India for the superior class of buildings, although they seldom have any means of ascent, except by a rickety and dangerous ladder. These terrace-roofs are formed of bricks and tiles, set in chunam, and plastered. The mass, frequently 1 foot in solid thickness, is so heavy as to cause the timbers upon which it rests to sag, and thereby crack the terracing in all directions. When this happens, all hope of being able to make the roof watertight is delusive. The cracks are often filled with cotton rags, steeped in tar, or with a composition of resin and sand; but the heavy searching rain gets in, in spite of every precaution; and frequently, when no cracks are visible in the roof, the rain saturates the whole porous mass like a drip-stone; and then, after two or three days' heavy monsoon downpour, all parts of the roof leak equally; the furniture, bedding, &c., get wet and spoiled; mildew forms on the timbers, by which means they decay speedily at their bearing-points; and it takes months after the rains are over to get things again to a proper state.

When tiled roofs are resorted to, the effect is certainly both cheaper and better; but here, again, the same want of practical knowledge is manifested. No proper slope is usually preserved. The tiles—generally of the kind termed "pot-tiles"—are small, thin, and are very badly burnt. They are merely laid on, with no proper gauge or lap, and easily displaced. Notwithstanding all these defects, a well-tiled roof is far cheaper, and far better, than any other kind known in India.

The want of professional and practical ability is the only valid excuse for this state of things. British India contains every necessary material for buildings of every description:—clay for bricks and tiles; fire-clay for fire goods; limestone, kunker (nodulous limestone), and shells and rock-coral make excellent limes; fine and coarse sand, for mortar, &c.; granite, syenite, hornblende, coarse grit stone, laterite (tufa), narpery (a beautiful white and fine slaty marble), teak wood of all sizes, and timber of a great variety of kinds, mostly hard wood; while, for temporary purposes, bamboos of enormous size, palmyra trees (called vasums), cokernut and palmyra leaves, and grass and cholum straw, for thatching; narr, coir, and cokernut hemp for tying;—these, and numerous other articles of the most useful kind, can be obtained, in greater or less quantity, all over India, and many of them extremely cheap.

The magnificent remains of ancient architecture and sculpture, both Hindoo and Mussulman, that exist in India, attest the skill of the forme inhabitants; and which could undoubtedly, with suitable care, be revived in the present races. In

* Richardson, Brothers, Cornhill. 1854.
† See Preface, p. 7.
‡ Richardson, Brothers, Cornhill.
§ "Public Works in India." page 52.
‖ After the rebellion, of course; but a similar system was pursued long before.

* "Public Works in India," page 55.

these remains may often be found vast masses of masonry, of the most perfect construction, formed of enormous blocks of granite and syenite, beautifully and accurately cut; and many of the sculptures finished with a delicacy that might rival the artistic excellence of ancient Greece or the simple massiveness of Egypt.

I must leave for another communication what I have further to say. INDIAN.

A WALK AND TALK IN ROME.*

THE story of certain monuments—and we might especially cite the Colosseum, the Arch of Constantine, the Temple of Pallas, the Pantheon, &c.—may be said to exemplify the general destinies of Classic antiquity under Papal government in Rome, with all the transitions and contrasts of strange vicissitude, in the successive phases passed through from deliberate devastation to carefully-ordered if not tasteful repair. A proud but turbulent vision of the Middle Ages rises before the mind's eye in contemplating that Amphitheatre first styled (from its vast dimensions) "Colosseum," in the citation from a popular saying by the Venerable Bede, who beheld this edifice in the eighth century, still complete in all its majesty of parts and proportions. But who does not know the story of the Vandal spoliations suffered by it before being finally protected by its investment with sacred character under Benedict XIV.? From the description by Ammianus (l. xvi.), it appears to have stood intact and *grandiose* as from the first in the year 357; and the chase of wild animals, even the bloody shows of gladiators, still continued within its walls; the former till the sixth century; the latter (strange to say), notwithstanding all opposition from the spirit and laws of Christianity, till A.D. 403, when they were for ever suppressed by Honorius, in consequence of the noble self-sacrifice by an Oriental monk, Telemachus, who rushed into the arena during one of these homicidal spectacles; kneeling there, entreated the spectators to have mercy on their hired victims, to renounce those cruel entertainments, and himself fell a martyr, overwhelmed by showers of stones, on the spot where a Divine religion had yet failed to triumph over inhuman selfishness. In 442, and again in 508, this edifice was shattered by terrific earthquakes; but in each instance repaired—first by the prefect Lampadius, next by the consul Venantius. More than one-half the circuit of its outer walls and arcades perished totally in the conflagration caused by the troops of Guiscard, 1085; from which date its ruins must have borne nearly their present aspect, with little perceptible change, at least at an outer view, though great and repeated losses of material. In 1130 they became the chief fortress of the Frangipani family; till, in the following century, under Gregory IX., the Annibaldi (or Annibaldeschi) obtained the permission of the Emperor Frederick to divide the whole building, as a feudal stronghold, with that rival house! But in 1312, the Emperor Henry VII., then on a visit to Rome, obliged the latter to surrender this, with other fortresses and palaces they had obtained possession of;† after which it appears that no other family ever held, or defended themselves in, the Colosseum; and the much-abused ruins remained under the official care of the Senate. During this century it was the favourite scene of bull-fights, called *giostre*, in which youths of noble degree displayed their prowess; but no spectacle of which description took place after that attended with great pomp of heraldic devices, decoration, and aristocratic attendance, but of tragic results, in the 1332, described by a contemporary chronicler, Monaldeschi, as preserved to us in the pages of Muratori. Through the untamable fury of the beasts, too strong for their assailants, eighteen gallant youths were stretched dead, and nine left seriously wounded on the arena, causing the festival to end in a funeral, magnificent mortuary rites being celebrated for these victims at S. Maria Maggiore and the Lateran. In 1349, the earthquake described by Petrarch probably inflicted great injuries on this as on other Roman monuments, inferrible from the letter of the Legate in this city to Urban V., at Avignon, complaining that he had found no purchasers except the Frangipani for the stones of the Colosseum, by him put up for sale, no doubt, in the result of some great overthrow. But one portion, at least, was saved from wilful devastation by its cession, in 1381, through act of the Senate, to the chapter of the Lateran, for the purposes of a hospital in dependence upon that, still one of the most important, dedicated to St. John, near the same basilica. Poggio, writing about the year 1425, describes the Amphitheatre's then condition with something of the exaggeration elsewhere observable in his lamentings over Roman antiquity:—though, indeed, the outrages then recent might claim indignant remonstrance; for not many years had passed since, in the previous century, the baronial families had entered into a regular compact to make the Colosseum their common quarry for all purposes of building! In 1471 was built, out of the spoils hence extracted, the castellated Palace of St. Mark (now "Di Venezia"), by Paul II., for his own residence; in 1480, that of the Chancery, by Cardinal Riario; and, early in the next century, the Farnese Palace, by the cardinal of that family, who finished it after becoming Pope Paul III.

Till 1550 continued the practice of using these ruins as a quarry for various buildings and embellishments of modern houses, even without the pretensions of patrician grandeur; but it does not appear that there was any wilful demolition for supplying those more conspicuous palaces; rather that the material taken away had already fallen from the erect portions, as was the case when, in 1703, an arcade of the second story having fallen, its travertine blocks were used for constructing the port on the Tiber opening off the Via Ripetta (v. Moroni, *Dizionario di Erudizione*, v. xv.) Maranzoni (*Memorie sacre e profane dell'Anfiteatro Flavio*) notices no fewer than seven different theories to account for what at once strikes every gazer. The innumerable cavities that completely riddle the whole front to its highest elevation, evidently a work of time and toil, are therefore to be referred to any of the violent storms brought on Rome by invading armies. As many of these gaps appear, it is impossible to suppose them caused by the removal of metallic cramps; the woodwork thrown up for purpose of defence by the Mediæval fortifiers, here installed, may be conjectured among other causes.

A quasi-sacred appropriation had long previously been determined for a spot within this great area, since the Confraternity of the Gonfalone, instituted in 1263, had begun to perform annually on Good Friday, within an arcade of the outer cincture, the mystery drama on the Passion and Resurrection, which strange presentment of the awful subject actually continued in this capital of the church till the year 1540, being then abolished, under Paul III., in consequence (it is believed) *not* of any moral objections, but some obstacle from the progress of decay! Andrea Fulvio, who lived to see this performance, says "the numbers who assemble to behold the spectacle are not less great than were those in ancient time collected to witness here the pomps while Rome was triumphant and reigning over the world." (*Antiquitates Urbis.*) Sixtus V. projected, but did not live to accomplish, the reducing of the whole edifice into a woollen factory, and an asylum for paupers, to be kept at work in that branch of revived industry; and Clement XI. had the corridors appropriated for the production of saltpetre, after the outer arcades had been walled up: a precaution suggested by the frequency of crime, whose perpetrators found in those dark recesses a shelter and places of rendezvous with terrifying dangers to the neighbourhood. That same pontiff was first to adopt the idea of a *consecration*, and consequently had erected a chapel within one of these lofty arcades, where a hermit was placed as guardian, to reside in this ruin-solitude, 1741. About this period a pious confraternity undertook to make the arena a scene of devotional exercises, by celebrating on stated days the *Via Crucis*, or Stations of the Cross; and to meet their purpose with encouragement, Benedict XIV., in 1749, ordered the erection of the fourteen shrines, with their pictured representatives of the acts in that dread history (wretched works of art indeed), besides the planting in the centre of that simple, but here all-sufficient, monument to Christianity, the plain wooden cross elevated upon steps. Thus was initiated, with inaugural benedictions, the Via Crucis, still celebrated on the evenings of every Friday and Sunday, after a procession from a church on the Forum, in the Colosseum, and still happily left in its primitively austere character, without any theatric adornments, affecting and highly picturesque amidst the accessories of such a scene.

The first works for restoration were undertaken under Pius VII.; and in 1805 arose the immense buttress, on the side towards the Lateran, in firm brick masonry, that shoots up to the highest cornices. In 1811 began the process, continued for three years, of clearing the whole interior from encumbrances, soil, or other materials. Again, in 1828, under Leo XII., much was accomplished for the propping up of decayed portions; and thirteen years previously, repairs of the interior were carried on with important results; for, two years after that undertaking commenced, were discovered the series of subterraneans under the whole arena, with three circuits of walls concentric to the podium, and seven parallel corridors; which gave rise to much discussion among archæologists: Fea and Re disputing whether they had pertained to the original construction, or to the period of decadence; Nibby assuming (and with just reasons) that they belong to the restorations under Trajan. After an elevation of the arena above its former level, though such substruction had not existed at the time naumachia used to be among spectacles given here, as by Titus and Domitian; that this series of hypogees having been injured by one of the earthquakes in the fifth or sixth century, were subsequently restored in the inferior style of that epoch, to which the masonry now brought to light was found correspondent. The similar subterraneans, now uncovered and permeable, at the Amphitheatre of Capua, must be allowed to corroborate this theory, well argued out in the *Roma Antica*. Another interesting discovery, made about the same time, was the underground corridor formed by Commodus, passing in direct line to the Cœlian Hill, to communicate between his residence in the Vitellian Palace and the podium, and in which the unsuccessful attempt was made against the life of that gladiatorial tyrant. Its pavement of white mosaic (or tess·llated marble), its walls with a socle of marble below a coating of stucco, once painted, this historic accessory still remains visible, though often partly filled by water; whilst all the other underground compartments are again inaccessible. Those researches, in Nibby's time, brought to light also several marble fragments of beautiful detail, from architecture and statuary, and the more rudely-wrought marble tripods, for burning perfumery, now laid with other *débris* around the arena. The two inscriptions, recording the repairs in the fifth and sixth centuries (barbaric in style and orthography), stand near two principal entrances.

Over the entrance from the Forum (where, day and night, we have now to pass a French sentinel, reminding us of Rome's subjection) is a long epigraph recording works of repair by Clement X., in 1675; by Benedict XIV., in 1750; and by Pius IX., in 1852; and in the Latin lines preceding, "*Diis gentium impio cultu dicatum—ab impuro superstitione expiatum,*" is advanced a theory rather startling; for how maintain that the worship of heathen deities, minutely as its practices entered into life's transactions, had ever its dedicated seat in this amphitheatre? The most notable repairs under the present pontiff, completed in his seventh year, are on the side next the Esquiline Hill, at one of the four imperial entrances, distinguished by its decoration, paonazetto columns, and white marble entablature, now preserved but in fragments, and by the absence of the numbers cut in the keystones above all other archways, thirty-three out of eighty, the entire aggregate, being the arcades now erect, with their enumeration in order from xxiii. to liiii. The oratory, raised by Clement XI., still remains in its vaulted niche, though no longer used for mass; during carnival, the Via Crucis every day assembles a devout multitude within this arena; and the most striking profane spectacles, since mystery plays ceased amid these encircling ruins, have been the illuminations by Bengal fires, several times renewed, either for political festivity or private entertainment, under the present pope. At a general survey of these sublime ruins (now clothed in the verdure of spring, and gemmed by thousands of wild flowers, in all the poetry of decay) it must be owned they afford proof of energy on the part of Rome's government, for the repair of those damages long so systematically and barbarously inflicted. We have, indeed, to examine much before becoming aware how vast the extent of restorations, all dating from comparatively recent years. At the south-west, where the Norman conflagration destroyed the whole outer cincture, two orders, complete with seven arches, and part of the arcade to a third order, were rebuilt under Gregory XVI.; on the side towards the Forum, two arches with their pilasters on the first order, one on the second, and part of one on the third, pilasters included, are modern, and dated the third year of Leo XII. (1826); by far the greater portion of the immense arcades belonging to the outer cincture is, at the inner

* See pp. 289, 470, &c., *ante*.

† *Coliseum quorum possessor erat reddere coëgit*, v. Albertino Mussato, "Hist. Aug." lv., in which passage we find the misspelling of the name, often repeated without regard to its derivation, and vulgarized by the Romans into *Culiseo*.

front of its circuit, a restored structure in brick-work imitating the antique.

Of all Rome's triumphal arches, that of Constantine is best preserved; and one modern accessory has added to its solemn grandeur, in affording the umbrageous background of plantations, the public gardens along the lower slope of the Cœlian. Yet, strange the medley of styles, of the glorious and the base, on its surface! The superb columns of *giallo antico*, the larger reliefs, and the eight statues (except one restored) of barbaric captives, in Phrygian marble, being all spoils from that Arch of Trajan, on his Forum, now utterly destroyed. On its attic are inscriptions, telling how the first Christian emperor (to whose religion is no direct allusion here), "pious, happy, august," &c., *instinctu Divinitatis et Mentis magnitudine*, delivered the Republic from a tyrant and his faction. Nor are those words without significance, in their exceptional introduction amidst the lapidary style of ancient Rome; and a renovation apparent in three lines has led to the inference that they were substituted for some other phrase, in sense more Pagan, after Constantine's open profession of Christianity. The double period recorded in the words *Votis X—Votis XX*, that of the decennial and bicennial vows of the Senate for the emperor, allows us to determine the date of this monument at about A.D. 326, shortly before the twentieth year of Constantine's reign, and therefore considerably later than that of his victory over Maxentius—the very year, indeed, when his refusal to participate in the sacrificial rites of worship to Jupiter on the Capitol, in thanksgiving for that anniversary, so displeased the Senate, that he is said to have been in consequence led to the resolve, important for European destinies, of transferring the imperial seat to Byzantium. Above the three archways of this monument is carried a zone of small reliefs, among the few sculptures executed expressly for it, so pitiably contrasted with those of Trajan's Arch, that even the interval of two centuries seems little to account for the hopeless decline they evince: their subjects, the Siege of Verona (or of Susa, first invested and taken in the war against Maxentius); the battle on the Tiber, near Rome; the triumphal entrance into Rome on a car guided by Victory; the allocution made by the victor on the Forum (interesting as a view of that locality, the emperor and his captains standing on the *Rostra* between the Arches of Septimius and Tiberius); and the *congiarium*, or distribution of largess among the populace: last act in the triumphal festivities. The other original sculptures of Constantine's epoch are reliefs of Victory and the Four Seasons, implying the enduring life of the Empire; those of an emperor on horseback passing over prostrate foes, and the same figure crowned by Victory, with the epigraphs—*Liberatori Urbis, Fundatori Quietis*—are referred by some critics to the time of the Gordian emperors, and are also immeasurably superior to the sculptures of later origin. Relief-busts of Constantine and his three sons, within the lateral archways, have almost disappeared; and in those smaller groups the head of the emperor is, in each instance, nearly obliterated. The natural respect for a Christian prince and signal benefactor of the Church perhaps operated, though far less than might be supposed natural in this Catholic centre, towards protecting his memorial from wilful spoliations and abuses. Those inexorable Frangipani fortified themselves here also, turning the arch into a donjon-keep, not content with their possession of the Colosseum, and similar intrenchment at the other Flavian monument. Alike with other epigraphs, these also have lost every trace of the metal once filling them; and the trophies—metallic pivots for which are still seen, and which are alluded to as extant, in the sixteenth century, by Fulvio—have alike vanished. Well known is the story of the decapitation of those eight statues, the barbaric captives, in paonazzetto, bold and finely executed colossi, achieved in mad prank by Lorenzino di Medici, afterwards notorious as the assassin of his cousin, the Duke Alessandro, at Florence; for this outrage, placed under the ban of the Roman government; though his too-indulgent relative, Clement VII., was then on the throne, he was obliged to fly for his life, on which a price had been set by proclamation of the Senate; and a most characteristic proceeding, expressive of learned indignation, was the assemblage of an *accademia*, in modern Roman style, to recite compositions denouncing the odious deed. What became of the other original heads is unknown; but in 1734 they were replaced by new ones suitably executed; a fragment of the only one among these figures, whose antique original is entirely wanting, now stands in the Capitoline Museum. For a period this arch was the assigned property of the Camaldoles monks of S. Gregorio. Under Clement XII. began, 1733, the works for its repair and protection; but till 1823 it was surrounded by unsightly walls, then first removed so as to leave it accessible from every side. One other glimpse of its Mediæval aspects will present it to our retrospect completely swathed and disguised by the gorgeous ornaments with which all Rome's similar monuments used to be decked out for the pageantries of the Papal "possesso," or instalment at the Lateran.

In the Acts of St. Sylvester are described the imperial allocution and assemblage, here distinctly represented in the Roman Forum, with a change of the scene to that of Trajan; and the report that in his address Constantine there openly declared his profession of Christianity, enjoining his subjects to follow the example, to which they responded with enthusiastic acquiescence! Baronius (*anno* 324) adopts this apocryphal account, without regard to the extreme dissonance both of facts and monuments. Threading the obscure streets that cluster to the east of the Forum, we suddenly come upon one of Rome's most beautiful ruins; but to this day abandoned in a condition that excites sorrowful amazement, and seems an insult to the intelligence and the feeling of the age. Europe has a right to reclaim against the disgraceful neglect in which hitherto has been left what remains of that Forum founded by Domitian, completed by Nerva, whose name it bears; also known as the "Forum of Minerva,"—Palladium, Forum Transitorium, from its being traversed by a public street. Of its superb atrium, within which stood the Temple of Pallas, and subsequently one to Nerva, we now see a fragment shut in by paltry houses, and itself applied to the uses of a baker's shop, its two magnificent Corinthian columns (sole remnant of the inclosing portico) more than half buried in the ground, under a wretched street! On the high attic, with cornice and entablature of the richest character, still appears, though much mutilated, a majestic colossal figure of Pallas in relief, with helmed head and peplus; on the frieze below, the same goddess, superintending the several walks of female industry, lateral to which grouping are seen the arcades of an aqueduct, and the source of the Anio, among the rocks near Tivoli; nor have time and injury from man, though their effects be but too apparent, destroyed the interesting character of the subjects, or obscured the merits of delicate execution still to be appreciated in these admirable minute reliefs. Much more of both temple and atrium existed till the seventeenth century, and long enough for Palladio to make a drawing of the less-decayed edifice, while the front of the pronaos—a Corinthian hexastyle—was still erect. Ten columns and sculptured marble walls were swept away to be used for the showy rather than graceful fountain of Paul V. on the Janiculan Hill; but, as Donati describes, the then condition of these lost features was decayed to a degree threatening speedy disappearance:* and, since that last shock, the state of ruin must have rapidly become what we now behold. Strange notions attached to the beautiful relics of the Middle Ages, like others in popular acceptance reported by the author of the *Mirabilia*; for in those times the "Arch of Nerva" (no longer a term intelligible, no arch being here) became, by change of a few letters, the "Ark of Noah"; and this astonishing misnomer actually continued in use so long as to be repeated, in the fifteenth century, by Flavio Biondo; in the sixteenth, by Andrea Fulvio! not, indeed, that those *savans* participated in the vulgar error they cannot account for, though an arch, probably triumphal, stood here in ruin till annihilated at a later period.

Till 1612 remained the inscription on the frieze: *Imp. Nerva. Cæs. Aug. Pontif. Max. Trib. Pot. II. Imp. II. Procos*, which Palladio copied. A Greek writer of the seventh century mentions that the statue of Janus Quadrifrons, transported from Falerii, on the taking of that city, to this Forum, still stood within its walls, occupying a small temple to the god with four faces, though *not* that famous one only shut in time of peace. In Palladio's plan of the whole, are fourteen intercolumniations; probably the places filled by the colossal statues of the deified emperors, on bronze basements, here set up by Alexander Severus; and we have pleasure in associating the names of two of Rome's worthiest Cæsars with ruins still so beautiful. The entire edifice remained erect till the eighth century, perhaps unscathed save by the loss of its bronzes and sculptures, in the general and deliberate spoliation of temples and fora by Constans, on that remorseless emperor's too memorable visit. Its state of ruin probably dates from the tenth century; but an arch, restored magnificently by Palladio, as one in honour of Nerva, existed in part till 1450, when Poggio saw and mentioned it in his *De Variet. Fortunæ*; the same, no doubt, alluded to in the Pontifical *Ordo* of 1143, and then called *porticus absidata*. When the demolition was decreed by Paul V., in 1606, there stood ten columns erect, with frontispiece and epigraph, now tastelessly appropriated for the Janiculan Fountain and the Borghese chapel at S. Maria Maggiore; and towards the end of that century was destroyed the remnant of an archway, probably the "Noah's Ark" of Mediæval Rome.

* Donati, however, speaks of only *two* columns erect; perhaps those still before us.

SOME NOTES ON THE EXCESS OF INFANT MORTALITY IN ENGLAND.

NOTWITHSTANDING all our sanitary and other improvements, which throughout the country have saved a considerable percentage of human life, it is to be regretted that, while favourable progress is being made in the reduction of the death-rate of persons from five to seven years and upwards, the destruction of infant life, instead of declining, is actually on the increase. This is an unfortunate and even disgraceful fact in our present social condition, and is a subject which demands most serious consideration.

While observing the sanitary and social states of the industrious and poorer classes in the metropolis and in our larger towns generally, we have noted some of the causes which lead to results so much to be regretted; and it will be our present object also to direct attention to them.

First, are the bad and ill-arranged house accommodation, the want of ventilation, and overcrowding; the dirt and neglect in miserable homes. These causes damage the health and strength of parents; and hence weakly children are brought into the world only to be rapidly driven out of it again. The sanitary aspects of this question, however, have been so well discussed, and the results so clearly put before the public, that it may just now be of more advantage to refer to other of the agencies at work in materially adding to the number of infant deaths. Amongst these are cruel and wilful acts of child-murder, which crime is on the increase, particularly in some of the western districts of the metropolis.

There are, also, yearly, a large number of infant deaths attributable to accidents, such as "overlaying," and smothering in the night by bed-clothes. Often, in the dingy courts and streets inhabited by the poor, we have been surprised and pained by noticing the little attention paid to such events by neighbours. Such deaths are common occurrences too often attributable to carelessness or drunkenness, and, we fear, at times, to wilfulness.

Neglected, grim, and unwholesome as are many of those districts, so densely crowded by the poor; in the outward aspect of such localities there is even a worse feature in the large proportion of decrepid, dwarfed, pale, and haggard children: their diminutive size is remarkable: in those of three or four months old it is smaller than the normal size of infants of one month: in all directions are to be seen great staring glassy eyes; skins of a sickly yellow, or of a bluish-white tint; the hair often white and thin; and there are many enlarged heads, crooked and attenuated legs, and skeleton arms and chests. There is no doubt that part of this evil is caused by the drunken and depraved habits of the parents; and it is a sad fact, which does not admit of dispute, that the vice of drunkenness is increasing to an alarming extent amongst the women who live in such districts as the Brill (Somers Town), Golden-lane, and in the east of London. It is no unusual thing to see the wives of working men with children in their arms wandering from their homes to the pawnbroker's, and from the pawnbroker's to the public-house: their besotted appearance shows that the breast milk must be poison; but the ill effect is greatly increased by the abominable practice which prevails in London (and not in this class alone) of giving gin and porter to infants of three or four months old. This is frequently done with the utterly mistaken idea that such stimulants give permanent strength, and are essential to health.

A bad and insufficient supply of food also does deadly work. Naturally weakly in constitution, and affected by the pestilential atmosphere which surrounds them, the quality and quantity of

their food still further render these unfortunate children ready victims to the worst degrees of scrofula, typhoid fever, cholera, or other epidemics which may be prevalent.

In many cases, mothers who are forced to work have to leave their young children in care of others not much older than themselves, and who are quite unfit for such a charge: to keep them quiet, opiates are administered, which, in order to continue to have effect, are increased in power. In the manufacturing towns in which female labour is in demand, this objectionable plan alone produces a large amount of idiotcy, disease, and death.

But it is not amongst the poorer people alone that the excessive mortality occurs: we must glance at the mismanagement of those who are a grade above them,—well-paid mechanics and others who have a sufficient amount of income to fairly support their families. Amongst these there is an amount of ignorance of the laws of health which is really surprising: this frequently causes them to be careless of proper house accommodation, and makes them select situations which are deficient of drainage, and in other ways are injurious, particularly to children. Soothing syrups are largely used; and numerous instances might be mentioned of the fatal results of such mixtures. But a much more extensive cause of death is the manner in which many of the wives of the working and even middle classes are in the habit of feeding infants. In a vast number of instances, when the mother is in robust health, and in the way of having plenty of nutritious food, it is a common practice, instead of providing infants with milk as is appointed by nature, to load their stomachs with cakes, bakers' bread, and other improper matters, amongst which may be included roast beef, mutton, and bacon: these mothers have no idea of the capacity of a child's stomach, and allow it to take quantities of food which it has no power to digest. The consequences are convulsions and other fits, and a long train of dangerous disorders. In many neighbourhoods the medical attendants look constantly to being called upon during the night to children in consequence of their having been overfed.

The treatment of the most simple disorders is but little understood; and it does not seem to be much known that as children advance in years, attention to the varieties of food, the application of the hot-bath, mustard-plasters, and similar steps, will, in the early stages, cure or prevent many disorders.

The education of women of the class to which we have last referred in the simple laws of healthy existence would yearly save thousands of lives, and add materially to the strength of our population.

AN EAGLE IN COPPER.

CONTEMPORARIES have already made known a very remarkable work executed in copper by Mr. Thos. Phillips, of Snow-hill, London; but we cannot allow it to pass by without a few words of description and praise. It represents a "golden eagle" in vigorous action, standing

"On the jag of a mountain crag:"

its wings are extended (they measure from tip to tip 5 feet 2¾ inches), and with open beak and flashing eye he screams defiance. Every portion is represented with scrupulous fidelity. The minute feathers which cluster round the neck, the fine hair-like down which runs from the beak to the eye, the cushion of plumage at the junction of the wings and body, are here separate, and can be each separately raised by the finger. The half-hairy, half-feathery legs of the bird are wonderful in the fineness of the down which overspreads them. The most extraordinary triumph of Mr. Phillips's skill, however, is shown in the extremely minute feathers which cover the frame of the pinions, and which conceal the fastenings of the large feathers forming the tips of the wings. The rock, a mass of tin and antimony in combination, is bold and effective. The metallic lustre of feathers, so difficult to imitate in painting, is rendered with great felicity. The maker says there are more than 10,000 feathers, formed from ordinary copper-plate, all made by hand, some of which had to pass twenty-six or twenty-seven times under the hammer and graver.

For six or seven years this work has been in hand; and it is most satisfactory to us to find that to this patient labour has been added artistic skill. He has not merely imitated feathers, but conveyed expression.

SANITARY SHORT-COMINGS IN LONDON.

METROPOLITAN medical officers of health have, from time to time, urged the necessity for more attention to be paid, particularly in the summer months, to the condition of mews; and it was recommended that some plan should be arranged for the regular removal of the refuse and the prevention of those accumulations which spread an impure atmosphere to some distance around. It was with surprise we noticed that a deputation had waited upon the Chief Commissioner of Works, consisting of Alderman Salomons and others, for the purpose of opposing this wholesome proposition.

These mews are mostly of considerable extent, formed behind rows of large and fashionable houses, by which they are hidden from the general view; and the circumstance of their being thus built in increases the necessity for the use of every sanitary precaution, not only for the preservation of the health of those dwelling around, but also of the animals which are lodged in the mews, and the men, women, and children who dwell, in numbers of cases, above them. During the winter months, when those engaged in the culture of land are at leisure, the refuse of stables and, indeed, every other description of decomposing matter is eagerly sought for and readily removed. In the summer and autumn time, when there is in crowded towns the greater call for attention to the purity of the atmosphere, farmers, being engaged in their fields, do not care so much as at other times for manure, which is often allowed to remain unmoved. Those dwelling near mews in well-conditioned houses know the unpleasant smells, particularly when the atmosphere is hot and dense, which come from them; and the evil gases they generate cause, no doubt, many attacks of sickness for which it seems otherwise difficult to account.

It was owing to the irregular demand for manure that the monster dust-heaps, which eventually became so great a nuisance in London, were made to accumulate. After a severe battle, these have been removed; and we see, day after day, by means of the canals and otherwise, matters collected by the dust contractors conveyed to the country. Regularly as this work is done, it is in the mews and in poor neighbourhoods that the refuse is during the summer allowed to remain.

At certain seasons a load of horse manure in London is, to the extent of a few shillings, more valuable than at others; and, as it is mostly a perquisite of the stablemen, it is kept, notwithstanding the mischief which may be occasioned by it. It is very necessary that some measures should be adopted to enforce the regular removal of all refuse in the summer as well as in the winter. Our sketch represents a mews near Russell-square, and serves to recall to the mind the heaps of decomposing matters and other attendant circumstances which render such places dangerous to health.

The saying that "cleanliness is next to godliness" is an often-quoted truism, especially in connexion with the poorer classes of our large towns; but with many, cleanliness is actually impossible, owing to the want of a sufficient supply of that necessary of life on which the proper care of both homes and persons so particularly depends. It is disheartening to witness the scenes which occur daily in many places in densely-populated parts, where a good supply of water is most especially needed. We refer to this subject again; for the proper water-supply of such neighbourhoods is a matter of right to the neglected inhabitants, and could, with a little care and at trifling cost, be readily effected.

In Fryingpan-alley, Lamb-court, and other narrow passages which are teeming with human life, the manner of the water-supply, notwithstanding all that has been said, is in most respects not better than it was seven or eight years ago. In the afternoon, those who pass that way may see, on looking up the narrow entrances of these courts, crowds of women and children; and, on making a closer inspection, will find that there are from twenty-five to thirty people, provided with bottles, pails, tubs, tea-kettles, broken jugs, and other vessels. These people will tell you that they have not a drop of water in their houses; and, if you seem to doubt their word, they will take you to their miserable homes and show you that this is the fact; and you might examine twenty of these rooms, at from two till past three o'clock, and not find any water in nineteen of them.

The groups to which we have referred are waiting for the turncock to make the water flow from the main; and it is necessary to be in time, for many people want to be supplied, and it runs only twenty minutes.

At length the water issues from a lead pipe of not more than half an inch in diameter; and so small is the stream, that it is difficult, even for those who are provided with proper vessels, to get what is wanted; and some are so ill off in this respect, that they are not able to collect more than a gallon of water. How can the skin, the clothes, or the rooms be kept decent under such circumstances? At the best, these arrangements are bad; for, as our readers know, even if there be enough water taken into these apartments, the atmosphere is so vitiated that the water is spoiled and rendered unwholesome in a few hours. Even the placing of cisterns in such situations is not good, for the air is loaded with pollution.

In Fryingpan-alley, at the time of a recent visit, while the water was coming in, the smell from the closets and drains was abominable. The only safe plan is to allow—at any rate, from morning until evening—a constant supply, which the people may draw from the main.

In Lamb-court there is a small cistern, but it is of no use, for it is so broken that it will hold no water. We were glad, however, to learn that there is a supply on the Sunday mornings in this neighbourhood.

It is surely time that the disgraceful state of affairs to which we have pointed was ended; the loss, if any, to the water companies, by adopting better arrangements, would not be felt; it is, however, the more bounden duty of those who own and let these premises to ensure a proper supply of water by the payment to the companies of a sufficient sum for the purpose.

Drinking-fountains have been placed in our highways and byways; but in some of the dark courts and lanes pure water is as scarce as it is on board an emigrant ship during a long voyage.

Careful inquiry, in various districts, shows us that this evil is extensively spread, and that it needs a speedy remedy. We trust *soon*, in those situations, that with the poor inhabitants their "water shall be sure."

Sickness and death attend sanitary derangements as surely as the darkness follows the daylight. Unfortunately those principles are not so generally and so well understood as they ought to be. There are, moreover, instances in which even those who have studied this important matter are deceived, and are unable to account for derangements of health which are evidently caused by impurity of the atmosphere. A case which in a most striking manner illustrates this has been lately brought under our notice.

In a street in the north of London, which is composed of small cottage houses, there has been a great deal of illness. The dwellings are occupied by persons who are employed on the railway, at the post-office, and elsewhere; most of whom have large families of children; and for years past the place has been well known by the neighbouring medical men. Fevers and low pining sickness have been prevalent; and in the case of one house the medical attendant declared that the only chance of saving the children's lives was for the parents to move them away. In other houses, where the inmates were in comfortable circumstances, there have been serious and fatal attacks of illness; and it is satisfactory to note that in several instances the drain-pipe layer has followed the attendance of the doctor with good effect.

Of late, hooping-cough has been very severe; and, although to a certain extent the attack has been guided by the peculiar constitution of the children, it certainly has been more severe in those dwellings; and experience has shown that hooping-cough, measles, and other complaints peculiar to childhood, are greatly aggravated by impurities of the atmosphere.

In the house marked A on the little plan we have engraved, a child had been for more than a month suffering from a low intermitting fever, which up to the time of writing has baffled the power of medicine,—the child continuing to get daily weaker. Some time ago there had been a derangement of the drains, which had been set right; and, although examination was then made, there was no suspicion of the existence of a cesspool near.

In the house B, the last tenant, who did his work at home, constantly complained of being ill, and left the place in consequence. Now the children there are ill of hooping-cough and measles. In the house C, nearly all the children are ill, and

SANITARY SHORTCOMINGS: LONDON IN 1862.

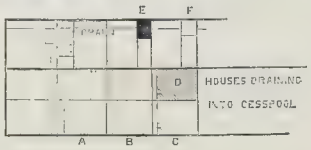


WATER SUPPLY,—NO SUPPLY. FRYINGPAN ALLEY, CLERKENWELL.



A MEWS NEAR RUSSELL SQUARE.





SICKNESS IN THE WASH HOUSE, AND WHY

the doctor has been in frequent attendance for some time past. In the back room, D, two children died of hooping-cough and debility, and were buried on the same day.

In consequence of all this sickness, further examination of the drainage was made, and a large cesspool was found in the rear of the house, B. On raising the broken woodwork of the floor of the wash-house, a large pit completely filled with poisonous refuse was seen. There was no brick arch over the cesspool—no cover except the cracked boards, which were so much decayed it seemed providential that the children who were in the practice of playing over this pit had not fallen into it. Into this cesspool several houses to the northward drained; and a reference to the ground-plan will show how close this pestilential collection is to the room in which the two children died. The cesspool is marked E, and the closets of the other houses F. These are untrapped, and not properly supplied with water.

There is undoubtedly here sufficient proximate cause for disease; and we have mentioned the circumstance in the hope that this experience may lead others in doubtful cases of sickness to make careful sanitary investigation, and obtain the removal of matters which are dangerous to a whole neighbourhood. If we can even make the public connect cause and effect in this matter of health, we shall have done something towards amendment.

"ITALIAN SCULPTURE OF THE MIDDLE AGES AND PERIOD OF THE REVIVAL OF ART."

IN the account we gave in May last* of the opening of the new court at the South Kensington Museum, and of the works of Italian art deposited in it, we spoke at some length of the descriptive catalogue of the works forming that section of the Museum then in course of preparation by the curator, Mr. J. C. Robinson.† This has since been published, and will be found interesting not merely as a guide to the collection, but an outline history of sculpture at the period of the Revival. Without thinking quite so warmly of these works as Mr. Robinson does, we are quite at one with him in believing that the collection is of the greatest value in a historical point of view; and, moreover, that it points to a path by pursuing which sculptors of the present day may bring their art into the homes of the people. We want to see sculpture maintain its natural alliance with architecture, and generally applied to the embellishment of objects of use. The volume is fully illustrated with wood engravings, and of these we insert two specimens,—a view of the Cantoria, or singing gallery of Santa Maria Novella, Florence, of which we have already given a full description;‡ and a representation of a group of the Virgin and Child within a framework of fruit and flowers, and supported on a triangular bracket. It is a fine specimen of the work of Andrea della Robbia, of white enamel on a blue background. The encircling wreath and portions of the ornamental bracket, on the contrary, are enamelled with the most vivid and brilliant colours, proper to the fruit and foliage represented. The sharpness of execution of every part of the work, and the beauty of the enamel covering, render this a *chef-d'œuvre* of the art as practised by the Della Robbia family. It is obvious that every part was most carefully and minutely finished with the chisel, prior to the application of the enamel glaze; that is to say, the crude terra-cotta, after it came from the oven, was entirely worked over and elaborated like a carving in marble. It has fortunately been preserved with the utmost care, and is now literally as fresh and as perfect as on the day it was finished.

This work was one of the principal specimens of the Mediæval sculpture collection of the Campana Museum.

In another part of the work Mr. Robinson thus epitomises the break-up of the Campana collection, from which many of the specimens at Kensington came:—

"The Marchese Campana, director of the Monte di Pietà, or national pawnbroking establishment of the Papal Government, was a passionate amateur and collector of every class of works of art, but more particularly of objects of classical antiquity. During a series of years he accumulated an enormous number of specimens, for which, with an enthusiasm which frequently outran his judgment, he often paid extravagant prices. He also dis-

* See p. 305, *ante*.

† "Italian Sculpture of the Middle Ages and Period of the Revival of Art. By J. C. Robinson, F.S.A., Superintendent of the Art Collections of the South Kensington Museum. Chapman & Hall."

‡ See p. 305, *ante*.



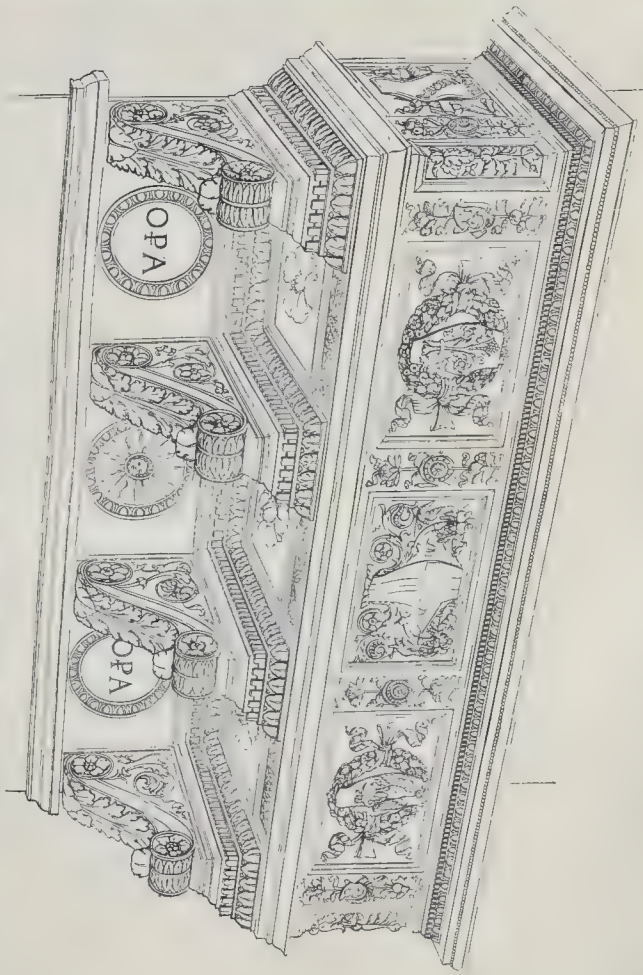
ed large sums of money in conducting excavations the discovery of antique remains. The outlay thus rred led him to make use of the official funds of the blishment under his charge: it is stated, by Signor pana's partisans, that this took place all along with cognizance and sanction of the Papal Government, ch allowed him to make advances to himself on the rity of his collections. However this may have been, was at last suddenly arrested, deprived of his office, thrown into prison. His collections were seques- ed and handed over to the keeping of persons appointed he Government, who were ordered to make a cata- ue of the entire gatherings forthwith, with a view to whole being sold to make good the alleged defalca- is. The sum stated to be due was upwards of ,000*l.*; Campana and his friends asserting that the ection was of much greater value. He remained in ion upwards of three years: finally, however, he was ased; some pecuniary provision was made for him; l the collection was virtually taken by the State in sfaction of its claim."

Negotiations were opened in England, as well other countries, for the purchase of sections of collection, but ended without result:—

In the autumn of 1860, the writer being again in ly, turned his attention once more to the Gigli- pana collections, and the political occurrences of that iod seeming to offer a chance for successful negotia- n, which had never before presented itself, he lost no ae in requesting authority to offer a certain sum for all ch portions of the two collections as were desired. is authority was communicated to him; and after a gthy negotiation, finally, towards the end of December 60, the entire number of specimens originally selected— all eighty-four—from both the Gigli and Campana col- tions, were purchased for the net sum of 5,836*l.*, being 14*l.* less than the amount owing to the Monte di Pieth the Gigli collection alone. At the same time, in com- ance with a stipulation insisted on from the outset, the oman Government remitted the usual duty of 20 per nt. levied on the export of all ancient works of art from e city.

As the ultimate fate of the Campana collection still cites some interest, the further proceedings in respect it may be briefly stated. The principle of allowing ections to be made having been established by the sub- ction of the objects acquired by this Museum, the pal authorities shortly afterwards acceded to an offer the Russian Government for a selection from the tique sections; and an agent of that Government in the nth of March, 1861, succeeded in negotiating the pur- ase of 767 objects, chiefly Greek painted vases, bronzes, d antique marbles, for the sum of 650,000 francs, or ,000*l.* This selection, undoubtedly, comprised a great oportion of the most precious works in the classes om which the choice was made. Finally, intelligence of ese successive transactions having been communicated the French Government, two commissioners were dis- tched with full powers to purchase the residue of the llection. This they effected in the month of June, 1861, r the sum of 4,364,440 francs, or 174,417*l.* The entire mber of objects thus acquired was 11,835; but in this mber only two of the more important of the twelve ries into which the collection was divided—viz., those the antique jewelry and ancient terra-cottas — were tained by them intact."

Amongst the works illustrated and described in r. Robinson's book, but not yet set up, is the ribune, or *Cappella Maggiore*, of the conventual urch of Santa Chiara, Florence, originally erected 1493. As a complete specimen of Florentine chitecture of characteristic style, suggestive of runellesco, and illustrative of the modes of asso- ation of *Quattro-Cento* sculpture with architec- re to be seen nowhere else out of Italy, it will e valuable.



MARBLE SINGING GALLERY, FROM SANTA MARIA NOVELLA, FLORENCE.

ITALIAN ART OF THE PERIOD OF THE REVIVAL.

SOUTH AUSTRALIA.*

SOUTH AUSTRALIA is a new but rising colony. The city of Adelaide, its capital, contains not a few important buildings; and there many of the luxuries of life are obtainable in its numerous stores and shops. There are no less than thirty-three miles of made streets in Adelaide, provided with macadamized roadways, curbed footpaths, water-tables, &c. Water is conducted in pipes along all its streets, and into most of its houses, and is supplied at high pressure from water-works, by means of which the river Torrens has been turned to domestic and other uses, at a cost of nearly 250,000*l.*! The reservoir at Thorndon Park holds 150,000,000 gallons, or a six months' supply, so as to render the city independent in summer of the drying-up of the Torrens. Against fire, nearly 1,000 fire-plugs have been fixed. Public baths have been established; and the luxurious colonists contemplate the erection of Turkish baths.

Among the principal public buildings are, the Government House, an Italian edifice, which has recently been enlarged at a cost of 10,000*l.*; the new Government Offices, also in the Italian style, from a design by Mr. E. A. Hamilton, colonial architect, in 1857, at a cost of 13,000*l.*; the Parliament Houses, erected from a design by Mr. Benuet Hays, in the style of James I.'s time, and at a cost of about 15,000*l.*; the Supreme Court, with Grecian Doric portico and Italian flanks, built in 1849, at a cost of 10,000*l.*; the Post-office, Local Court House, and Police Station, in the Grecian style, with Italian clock-tower, and completed in 1850, at a cost of about 7,000*l.*; the Armoury, Police Barracks, &c., built from a design by Mr. Hays in the Tudor style, at a cost of 12,000*l.*; and the new Custom-house, Court-house, and Police Station, at Port Adelaide, designed by Mr. Hamilton in the Italian style, and built in 1861, at a cost of upwards of 7,000*l.* The Railway Terminus at Adelaide is an Italian edifice, erected under Mr. B. H. Babbage, C.E., in 1854, at a cost of about 7,000*l.* There are various public buildings of more or less importance, including court-houses and police-stations, dispersed over the Colony.

Copper is one of the chief products of South Australia, whose Burra-Burra mines have for some years been well known in this country for their rich produce. Wines are also produced, as well as wheat, wool, and other articles. Alpaca and Angora wool are among the South Australian products exhibited at the Palace of Art.

* "An Account of the Colony of South Australia, prepared for Distribution at the International Exhibition of 1862. By F. Sinnett. With Catalogue of Products exhibited. London: Burt, Holborn-hill. 1862."

THE ORCADIAN BARROW AT MAES-HOWE.

THE interest with which the cell and the runes at Maes-Howe were regarded will be in the recollection of our readers. The runes have now been translated; and Mr. Farrer, the senior member for South Durham, has just got printed for private circulation a "Notice" of the inscriptions. He had casts taken and drawings made with the greatest care and fidelity; and they were all submitted by him to some of the most celebrated Runic scholars of the age,—Professors Rafn, Stephens, and Munch. The result of their examinations (translations) is given in the notice referred to. The origin of Maes-Howe is, of course, most obscure; but it is nevertheless alluded to in the inscriptions, which, as was known, were less ancient in origin. "This barrow," says one of the Runes, "was formerly *a sorcery hall*, erected for Lodbrok: her sons were brave: such were men as they were for themselves (such we may call valiant men, such as they were in their achievements). The Iorsalafarar (visitors of Jerusalem) broke open Orkhow . . . . Earls. To the north-west a great treasure has been hid (but few believe that). A great treasure was hid here. Simon Sigr (victor) carved (the runes) and afterwards Juge. Happy he who may discover this great wealth. Ogdonaegh carried away the goods from this barrow."

"A sorcery hall" was precisely what we anticipated that the Maes-howe cell would turn out to have been. Who "Lodbrok" was does not appear; but just as the cell at the New Grange barrow, in Ireland, was "dedicated to the Great Mother Ops," whose "house" it contained, side by side with "the tomb of the hero" who had undergone all the trials of initiation; so, probably, Lodbrok was the "goddess," or "great mother," to whom the "sorcery hall" of Maes-Howe was "dedicated" or "erected." This sorcery hall also reminds one of the mystic "hall of Ceredwyn," or the Great Mother Ceres, and of "the narrow bed beneath the tumulus," in which the Druidical hero, the Taliesin, was "made perfect." The New Grange tumulus, or "pyramid," as it has been also called, is said to be the very portrait of one described by Pausanias at Mycenæ in the Peloponnesus. We also find a close similitude of its internal arrangements, comprising "the house of the god" and "the tomb of the hero," in "the Dwarfy [or Pictish?] stone" of Hoy, in Orkney itself. This stone is a hollowed monolith, 36 feet long, 18 feet broad, and 9 feet high. At each end is a bed and pillow, worked out in the stone; and at the top is a round hole, probably for ventilation. The entrance is a hole 2 feet square, into which a square stone, still, or at least some years since, extant, could be fitted by way of a door. Herodotus describes just such another near Minerva's Temple at Sais, in Egypt.

Thus universal do those mysterious religious initiations seem to have been which comprise, in their requisite arrangements, such cells as those of Maes-Howe and Hoy, in Orkney; New Grange, in Ireland; Sais, and the Great Pyramid itself, in Egypt; Mycenæ, in the Peloponnesus; and many others in widely-different parts of the world.

The encyclopædiac and compendious Higgins, in alluding to some of these cells, says, "It seems not improbable that these stones may have been for the same religious purpose; *but what that may be*, or whether Druidical or not, *no one can say.*" We have already, however, in the *Builder*, shown good reason to believe that such cells, or "narrow beds" and "sorcery halls," were used for religious or magical initiations and enchantments; in which entrancement, and the god-possession of the entranced, were the primary objects in view; the responses given to those who "inquired" of the Spirit which was evoked in the entranced constituting "the oracles" of the heathen. To this day, there is a tribe in the Himmalayas who, according to Hodgson and other writers in the "Transactions of the Asiatic Society," are in the habitual practice of entrancing a priest called "the Deoda," whom they then consult as an oracle, in a pavilion, or cell, constructed for the occasion. Among the American medicine-men, or thaumaturgical priest-physicians, and various other more or less savage and semi-civilized tribes of men, the Buddhists of Thibet inclusive, similar practices are also still adopted;* as, indeed, they are well known to have been in the temples generally of the ancient heathen.

* Abbé Huc, in his curious and interesting work on Thibet, gives a startling account of a strange process of enchantment which he says he witnessed in a Buddhist temple. A celebrated Lama was *seated on the altar*, surrounded by the Lamas or priests, who monotonously *chanted*, or enchanted, themselves and their central chief into a singular state of excitement, which culminated in the chief Lama committing the almost incredible act of temporarily cutting through the covering of his bowels with a cruciform slash, reminding one of the "happy despatch" of the Japanese, but by no means with a like result. The instant this was done [thus abnormally liberating "the life of the liver;" which, according to Plato, is "the Promethean seat of the spirit of prophecy*"], the chief Lama was consulted as an oracle by the people present, through the surrounding priests; and, after numerous questions and responses, the chief Lama is said to have deliberately run his thumb over the incisions, which forthwith closed, like new-cut india-rubber, or as if it were by what a surgeon would call "healing by the first intention;" and shortly afterwards the Lama's abdomen displayed as little token of the recent horrific operation as the self-inflicted slashes of the Arabs are said to do after the religious furor, during which they also cut and slash themselves, has been expended. Were not Abbé Huc an evidently truthful and honest writer, one would feel greatly inclined to disbelieve his "strange story;" but, whatever illusion or deception the venerable Abbé may have laboured under; the story itself is sufficient for our purpose, if it tend to show that *oracular forms* are still extant. The seating of the supposed *god-possessed upon the altar* is also most significant and instructive.

* The liver of Prometheus, *the Foreseer* and brother of Epimetheus the Afterseer, grew, or increased, every *night*, and was consumed, or diminished, every *day*. "Looking into the liver" for *presages* was a well-known practice in ancient times, and is alluded to in the Bible.

PASSAGE OF THE TUDELA AND BILBAO RAILWAY ACROSS THE PYRENEES.

WE have already mentioned (in our early notice of the engineering works in the Palace of Art and Industry) the model which shows a portion of the Tudela and Bilbao Railway, crossing the great chain of the Cantabrian Pyrenees, between the Bay of Biscay and the valley of the river Ebro, in the north of Spain, exhibited by Mr. Vignoles, F.R.S., the engineer-in-chief. We are now enabled to add some particulars of the undertaking which may interest our readers.

The whole length of the railway is 155 miles, from the port of Bilbao to a point between the towns of Alfaro and Tudela, on the Ebro.

Only the crossing of the line over the Pyrenees is shown on the model. It is the first railway which has actually effected the passage of either of the two greatest mountain-ranges of Southern Europe; thus exhibiting the latest progressive step in civil engineering by one of the most singular railway undertakings hitherto realized. This line will be opened in the month of August of the present year, 1862.

The extent of railway on the model is only 36 miles, including the windings along the skirts of the mountains. Some of the peaks and cliffs, closely adjacent to the line, are from 3,000 to 4,000 feet above sea-level: most of the scarps and ravines are very steep, and in places exhibit from 400 to 700 feet face of perpendicular rock.

The size of the model is 20 feet in length, by 12 feet in breadth, covering an area of 240 square feet.

The horizontal scale is $\frac{1}{5000}$; *i.e.*, 416⅔ feet to an inch, or about 12⅔ inches to a mile; being the smallest scale on which the topography could have been well shown. To bring out the mountains and ravines effectively, the vertical scale is $\frac{1}{2500}$, or 166⅔ feet to an inch.

The outlines of the model were built up by Mr. Stephen Salter, of Hammersmith. The details were worked up by Mr. Henry Mathews and Mr. Christopher Bennison, the district engineers of that part of the railway, aided by Mr. Thomas Vignoles Croudace, the assistant engineer.

The model was coloured by Mr. Percival Skelton, who visited the localities for the express purpose of studying the characteristic features and appearance of the Cantabrian Pyrenees. The same gentleman executed the ten water-colour drawings which hang near, and the panoramic views filling the four panels enclosing the model.

This model will not be without attraction to the public generally; and to several classes it will be found to be extremely interesting,—to the geologist, the artist, the philosopher, to the military man, and most especially to the engineer.

It includes a portion of the country over which the Duke of Wellington had to conduct and manœuvre his troops previous to and during the battle of Vittoria, in the summer of 1813.

One or two chief characteristics of the principles of construction employed may be pointed out, as of general interest. The difficulty, amounting in many instances to impossibility, of obtaining the various requisite materials of suitable quality, or of getting them to the places where wanted, led to the adoption of large and very heavy embankments, at many points where it might, on a first view, have been considered that viaducts would have been the more economical mode of crossing the deep and formidable ravines. Again, in providing the openings for the passage of waters and roads under the heavy embankments, these passages have been in every instance built, not in the centre, but at the side of the embankments, in trenches cut into the solid; and the abutment walls being thus secured from lateral pressure, the arched tops of the culverts and bridges were gradually covered with successive layers of hard material, before the great mass of the embankment was brought over them.

A few general observations about the laying-out of the curves and gradients may also not be inappropriate.

It having been determined to construct a railway from the port of Bilbao to the interior of the country, at Miranda on the Ebro, and which should touch in its course the city of Orduña, it was first ascertained which was the lowest pass in that part of the mountains: this was found at Gujuli, 2,163 feet above the sea,—being probably the lowest in the whole Pyrenean range. It was then readily determined that the only practicable route was by the valley of the Nervion, the estuary of which river forms the port of Bilbao. It was also evident that, once entered, the Nervion valley could not be left again, until arriving near to the village of Amurrio, 21 miles from Bilbao: the rise in that distance is about 650 feet, and the average rate of ascent 31¼ feet per mile; that is, 1 in 169.

Near Amurrio it became possible to leave the Nervion, and ascend by lateral valleys; but two fatal objections existed—first, the line would have been a league distant from the city of Orduña; next, the difference in level between Amurrio and the Gujuli summit was upwards of 1,500 feet, and the direct distance only 7¼ miles, though this might probably have been lengthened to nearly 10 miles; thus, a gradient, either of 1 in 20 in the first instance, or of 1 in 33 in the next, would have

been necessary, besides most enormous works of construction in both cases.

The Nervion was therefore followed to the basin of Orduña; and, having gone thus far, the only subsequent practicable progress was to follow round this basin, to come out again on a much higher level, and then to wind along the skirts of the mountains to the Gujuli summit, in which ascent it became necessary to turn the two deep and wide valleys of Lezama and Ynoso.

By adopting this course the railway was brought within a quarter of a mile of the walls of Orduña; and from Amurrio to beyond Artómaña (a village nearly 5 miles from Orduña, and situate at the opposite side of the basin) there was obtained an average gradient of fully $\frac{1}{100}$ for more than $8\frac{3}{4}$ miles, with curves easier than those previously obtained, and at a very moderate cost of construction.

From Artómaña to the Gujuli summit there was but one course, that just described, and with a gradient of about 1 in 70 for nearly 12 miles. But, as in the case of the passage through the lower part of the Nervion valley, it was found necessary to have recourse to sharp curves; and at intervals, equal in the whole to half that long length of incline, the railway is on curves, and reversing curves, of scarcely more than 300 yards (280 mètres) radius; and it may be remarked, *that there are two points on the line (at the entrance of the basin or concha of Orduña), only 600 yards apart, as measured horizontally across the gorge, which are about 8¼ miles distant, in travelling along the railway*, and which differ 456 feet in level, or vertical elevation.

In the plains the cost was under 5,600*l.* per mile; whereas, through the heaviest parts of the Cantabrian Pyrenees, it amounts to nearly 28,000*l.* per mile. The average expense of the railway throughout is under 12,000*l.* per mile. These sums include land, works, permanent way, fencing, telegraph, &c., but are exclusive of buildings, fittings, and accommodations at stations, of rolling stock, of management, and of interest to shareholders during construction.

After making provision for the items last added, the average cost of the 155 miles will not exceed 16,000*l.* per mile.

It is right to say that this work is wholly due to the spirit of enterprise and knowledge of sound commercial principles displayed by the merchants and citizens of Bilbao, associated with some few of the inhabitants of one or two of the chief towns on the line of railway, and certain of their fellow-countrymen and correspondents in the Havana and in England.

The contract for the part of the railway from Bilbao through the mountains to Miranda, on the Ebro (known as the second section, and about 66 English miles in length), was carried out by Messrs. Brassey, Paxton, & Co., of London.

The works on the portion of the railway extending along the right bank of the river Ebro for about 89 English miles, called the first section, were undertaken by various local Spanish contractors.

Mr. Henry Vignoles is the principal resident engineer.

THE AGE OF ENGLISH TREES.

Oaks and yews, the most venerable of our trees, are, in several instances, so old that it is difficult to form an estimate of the time which has passed since they were planted. Several oaks felled in Sherwood Forest, about a quarter of a century ago, exposed, on being sawn up, the date 1212, and the mark or cipher of King John; and it has been calculated that these trees must have been several centuries old at the time the marks were made. It is well known that the oak which is said to have proved fatal

> "To that red king, who, while of yore
> Thro' Bolder-wood the chase he led,
> By his loved huntsman's arrow bled,"

was standing, not long since, in the New Forest, in Hampshire: they who think this tree insufficient to record a fact of so ancient a date should be reminded that Sir Thomas Dick Lauder says, "Seven hundred years make no extraordinary period in the existence of an oak: some oaks blown down in Donnington Park were supposed by the interior rings to have been nearly 800 years old; and it is supposed, on good authority, that there still exist in England oaks which were in existence at the commencement of the Christian era." A venerable oak stood not long since at Tormond Wood, in Stirlingshire, under which, tradition says, William Wallace convened his followers. There are vestiges of the ancient Druids in the neighbourhood of this tree, which was 22 feet in circumference. There is another famous Scotch oak called the Wallace Oak, at Elderslie, near the place where Wallace was born. There are other oaks in Great Britain which are probably more than 1,000 years old. The most useful age of this tree, for building and other purposes, is from about 50 to 70 years.

The oldest known elm is said to have been that at Checquers, Buckinghamshire, and is supposed to have been planted in the reign of King Stephen. The elm does not seem to live so long in the vicinity of towns as in the pure country air. Queen Elizabeth is said to have planted an elm with her own hands at Chelsea: this was felled in 1745, and sold for a mere trifle. There are some fine trees of this kind in St. James's Park and Hyde Park: many of them have within the last dozen years suffered much by decay, storms of wind, &c. One of the elms planted by Sir Francis Bacon, in the year 1600, in Gray's Inn, was felled in 1725, in consequence of its commencing to decay: it was then more than 28 feet 6 inches in circumference near the root. The elms in the vicinity of the metropolis are much worm-eaten.

The mulberry seems to have been chiefly introduced into England by King James I., who was anxious to establish the culture of silk in this country. The king caused 10,000 mulberry plants to be purchased and distributed throughout the country. They were delivered in London at the rate of three farthings each. The mulberry-tree said to have been planted by Shakspeare, in New Place, was felled by the Rev. Francis Gastrell in 1756. Not longer than fifteen or sixteen years ago there were both mulberry-trees and vines growing on the spot which had been used as the garden of the Priory of St. Bartholomew the Great, Smithfield.

The horse-chestnut is a native of Northern Asia. Thence it was brought to Constantinople, Vienna, Paris; and it was, in the year 1712, first introduced into England. This tree is of very quick growth. Plants which have been raised from the nuts have grown to a large size in twelve or fifteen years.

In the days gone by, before fire-arms had put out of fashion the use of the bow, the culture of the yew was an important matter; but the growth of this tree was very slow, and the demand for wood of a tough, durable, and elastic nature, for bows, was so great, that the home supply of yew wood was found insufficient; and merchants were for a long time obliged by law to import four staves with every ton of goods coming from places where bow-staves could be brought, and ten staves with every butt of Malmsey from Venice. When we consider the very slow growth of the yew, and the large size to which some still in existence have grown, it seems probable that their age is not less than that of some of the famous British oaks. Many have been recorded of the circumference of 26 feet, and there are some even larger than this. In Fotheringale churchyard, in Perthshire, is an old yew, much shattered, and nearly dead, the trunk of which measures 56 feet 6 inches in circumferance.

There are in England about fifty varieties of the willow, all of them of rapid growth. The famous weeping willow planted by Pope came from Spain, inclosing a present from Lady Suffolk. When the covering was taken off, the poet observed that the pieces of stick appeared as if they had some vegetation. Under the idea that it might perhaps produce something which we have not in England, he planted one in his garden, and it produced the willow-tree which gave birth to so many others. So rapid is the growth of this tree that we have noticed several which have become of large size in about fifteen or twenty years from the time at which they were planted.

The Scotch fir, the silver fir, the Norway spruce fir—which was first brought to England upwards of a century ago,—the pine, in its various and picturesque forms, are all of rapid growth, and have, by the extent to which they have been planted, added much to the beauty of many parts of England.

The beautiful beech—which in point of size follows next to the oak and ash, and is found in great perfection in many parts of this country—is useful in the arts and manufactures: the wood is fine and durable, and is the best of any for turning, making toys, wheelwright's machinery, cabinet-makers' articles, Tunbridge ware, the piles for the foundations of bridges and other buildings; and, throughout the rural districts, the

> "Beech makes their chests, their beds, and their joined stools:
> Beech makes the board, the platters, and the bowls."

The hazel, if allowed time to grow, will yield poles 20 feet and upwards in length, which would be useful for various purposes. The tough bending ash, gives to the peasant part of the material for his plough, and to the prince important portions of the carriage in which he rides: wheels, palisades, hop-poles, tool-handles, walking-sticks, ladders, carts, and a hundred other articles of every-day use, are made of the wood of this tree.

The thin twigs of the birch were formerly, in connexion with education, more familiar to school-boys than they are at present. The wood of this tree is, however, useful in many other ways. In those parts of the Highlands of Scotland where pine is not to be had, the birch is the timber used for man purposes. The stronger stems are the rafters of the cabin: wattles of the boughs are the walls and the doors: even chests and boxes are made of it with rude workmanship. With the Highlander it often forms his spade, his plough, cart, and even for the harness, cordage is twisted with the small sprigs.

The maple, or sycamore, often grows to a large size: one at Knowle, in Kent, was 12 or 14 feet in girth. The original plantations of Vauxhall and Mary-le-Bone Gardens were chiefly of the great maple. It is not considered to live to a great age; yet some have been noticed at Cambridge in a flourishing state at the age of 185 years. Before the use of crockery became so general as it is at present, the wood of the maple-tree was common material for bowls and platters. It does not readily warp or splinter: it is, therefore, employed in making saddle-trees, founders' patterns, &c.

The common holly, at full growth, is generally from 20 to 30 feet high; but it has been seen of the extraordinary height of 60 feet. The timber of the holly is very white and compact: it, however, retains the sap, and takes a long time to season. The growth of this tree is very slow; it can be used in the manufacture of what is called Tunbridge ware; for some common kinds of engraving, instead of pear-tree, or box-wood; and, dyed black, it is at times worked by cabinet-makers, instead of ebony.

There are several varieties of the lime which seem to stand the smoke, &c., of cities better than other tall-growing trees. It is said that the two first lime-trees which were planted in England (1590) are still growing at Halstead, in Kent. There is, however, much difference of opinion respecting the time of the introduction of this tree. This wood is much used by mould and other carvers. Gibbons, in the time of Charles II., decorated various important buildings with it. Many lime-trees are more than a century old.

The walnut-tree grows rapidly in England. There is a record of one of those trees growing in Scotland in the year 1684. It was more valuable before the extensive introduction of mahogany and other foreign woods than it is now. During the French war, the great demand for musket and pistol stocks thinned the walnut-trees in this country. At that time so great was the demand for this timber, that a large sound tree has often been sold for 60*l.*, when cut into gun-stocks. The hawthorn is quick-growing when young; but when left to stand till it become a tree, it makes wood very slowly, and lives to a great age. The plane-tree was first introduced into England in 1623.

The cypress grows to a great age, and, in some cases, to an immense size. It is recorded that one grew in Persia which was supposed to be two thousand five hundred years old. The cypress is one of the most durable of woods.

The crab-apple, pear, and cherry-tree, afford closely-grained woods, which are used in several ways, as is the box-wood which grows in England.

HAMPSTEAD HEATH.

Each session of Parliament, notwithstanding the discouragement which the measure has received, renewed attempts are made by the lord of the manor to obtain permission to build upon this open and picturesque ground; which is every month, as the metropolis extends in this direction, becoming of greater value to the pent-up Londoners. Not many years will have passed, if building be continued to the same extent as it is at present, before the Heath will be joined to North London by houses, and surrounded on all sides by dwellings: then the value of this range of land would be greater than we can just now conceive.

Meetings have been held in Marylebone, St. Pancras, and elsewhere, for the purpose of opposing Sir Thomas Marion Wilson's Bill; and it is probable that the powers which that gentleman seeks will be refused on this occasion, as it has been on others, by the House of Commons; but, unless arrangements can be made, there is nothing to prevent the next possessor of this property from building on it if he thinks proper; and it can scarcely be expected that this right—which is of large money-value—will be waived,

without fair and reasonable compensation. It therefore becomes an important matter for serious consideration, how arrangements can be best made to secure this land for the public use. First, we should clearly understand the present value of the lord of the manor's claim, and then see what means can be best employed to raise the necessary sum of money which will secure this estate from the risk of building operations.

The views from Hampstead Heath, in one way stretching to Windsor Castle, are beautiful; and with skilful landscape gardening the bold features of this ground might be made more striking and picturesque than any of the metropolitan parks. If the margin of such a park were clearly defined, there might be still portions of ground left which could be profitably disposed of without interfering with a good general plan.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

THE nineteenth annual meeting will be held in Leicester, August 4th to 9th, inclusive.

The list of readers of papers already announced includes,—Mr. Planché, "On the Earls of Leicester;" Mr. T. Wright, "On the Ancient MSS. at the Guildhall," and "On an Inscribed Tile of the Eighth Legion, found at Leicester;" Mr. Thompson, "On the History of the County of Leicester, to the time of the Norman Conquest;" Mr. Gordon Hills, "On the Guildhall, Leicester;" Mr. Raphael Brandon, "On St. Martin's Church, Leicester;" Mr. Roberts, "On other Churches in Leicester," and "On Brixworth Church;" Rev. C. H. Hartshorne, "On Queen Eleanor's Cross;" Mr. Irving, "On the Camps, Earthworks, and Fortifications of Leicestershire;" Mr. H. Syer Cuming, "On Memorials of Richard III."

ST. MARY'S HOSPITAL, BEDDINGTON.

THIS building was opened on the 17th instant The plan of the hospital comprises a central hall, with a common kitchen attached, and eight almshouses, which, with the offices under an ambulatory, form the quadrangle first proposed to be built; but a second quadrangle can be added. The hall, with four of the alms-houses and offices, is a memorial to the late rector; and two more alms-houses are being added as a memorial to the late Sir Henry and Lady Bridges, of Beddington House. The hospital is being erected from the plans of Mr. Joseph Clarke, F.S.A. The external walls are of flint, with Bath-stone dressings; and the roofs tiled; the inner walls to the quadrangle of red brick. The hall has an open roof, with a bell-cot. The walls are panelled; and at the upper end is a bay-window. The windows in the hall have been filled with diapered glass by Mr. Charles Hudson. Over the open fire-place is a brass, recording the foundation, &c. In the centre of the hall is a massive table for the inmates to use it as a reading-table, and for dining on certain festive days.

Each alms-house has two rooms, with separate coal-places, larders, &c.; and each room carefully ventilated, and all the little requirements for domestic comfort considered. Attached are good offices, and store places for wood, coals, &c. The centre of the quadrangle is to be laid out in beds and paths, filled with flowers, which will form a pleasing feature in the general appearance, and give a place of quietude to the inmates. In the centre is a well of good water, off the chalk.

MEMORIALS AND STATUES.

Memorial of the late Bishop Villiers.—A mural and inscribed monumental tablet has just been completed in marble by Mr. Craiggs, of the Steam Marble Works, Newcastle, and which is about to be placed in the chapel at Auckland Castle. It consists of a white marble tablet on black ground. On the lower portion the mitre is carved in relief.

The Crompton Statue, Bolton.—Arrangements have been made for the inauguration of the memorial to Samuel Crompton, the inventor of the spinning-mule, and which is to be placed in Nelson-square, Bolton, on the 10th September next. There is to be a public procession, an oratorio (the "Creation"), a banquet, &c.

Model of Monument for the Well at Cawnpore. A very interesting but melancholy addition has been made to the International Exhibition; the interest of which, as a contribution to the Exhibition, is enhanced by the fact of its having been sent by Lord Canning a few days before his death. It has been placed in the English architectural gallery, and consists of a model of the monument which is being erected by the Government of India over the fatal well at Cawnpore. The monument was designed by Colonel Yule, of the Bengal Engineers, and is being executed under the superintendence of Mr. C. B. Thornhill, of the Bengal Civil Service. The original is in Chunar sandstone, and the gate giving entrance to the well within is of gun-metal. The late Lord Canning gave a piece of sculpture to be placed over the well, which is still in the hands of Baron Marochetti. When all is finished the entire monument will be surrounded by an ornamental garden watered from the Ganges Canal. The present model is finished in Agra soapstone. It was made by native stonecutters at Allahabad, and is on the scale of half an inch to the foot. Over the door giving entrance to the well is the simple and touching inscription, "These be they which came out of great tribulation;" while round the rim of the well itself (which, of course, is closed and built over) is carved the following inscription: "Sacred to the perpetual memory of a great company of Christian people, chiefly women and children; who, near this spot, were cruelly massacred by the followers of the rebel Nana Dhoondopunt of Bithoor; and cast, the dying with the dead, into the well below, on the 15th day of July, 1857."

SCHOOL-BUILDING NEWS.

Gravesend.—The chief stone of a new ragged school has been laid here by Lord Darnley.

Rochdale.—The first stone of a new church school has been laid at Hamer by Mr. J. S. Entwisle. The building will cost about 650*l.*, and the whole of it has been collected except about 100*l.* It will be licensed for divine service. Mr. Entwisle, after laying the stone, offered to give land for the erection of a church in his park. The school will consist of two wings, respectively 55 feet by 18 feet, and 52 feet by 18 feet, also a class-room 20 feet by 18 feet. The height of the school will be 12 feet from the floor to the square of the brickwork, and the roof will be an open one. The windows will have white brick dressings, and will be divided by stone mullions. There will be separate playgrounds for the male and female scholars.

Great Bromley, Colchester.—A day-school, with offices attached, is about to be erected at Great Bromley, from designs of Mr. Henry W. Hayward, of Colchester. Mr. Capon, of Manningtree, is the contractor.

CHURCH-BUILDING NEWS.

Lincoln.—A new stone figure, representing one of the early English kings, has just been placed in the west front of Lincoln Cathedral, by direction of the precentor.

West Torrington.—The church of St. Mary, West Torrington, Lincolnshire, has been reopened, after being restored by Mr. R. J. Withers, at a cost of about 650*l.* Mr. Fox, of Lincoln, was the contractor.

Widford.—The rebuilt church of Widford has been reopened. The edifice in style is Geometrical Middle Pointed. The external walls are of Kentish rag-stone, in hammer-dressed courses, with Bath dressings. The roofs and floors are of Baltic timber, and the covering of Staffordshire tiles. The whole of the seats and other fittings are of wainscot oak, excepting the organ-case, which is made of the oak from the roof of the former church. The church has a chancel 24 feet by 16 feet; nave, 48 feet by 18 feet; north aisle, 48 feet by 10 feet; south porch, 9 feet by 8 feet 6 inches; sacristy, 12 feet by 11 feet; with organ-chamber over, of the same size, on the north of the chancel; and a tower, 17 feet square and 51 feet high, with a spire, 72 feet—in all, 123 feet. There are stalls and subsellæ (for the choir), sanctuary rails, and sedilia and piscina. The arcade between the nave and north aisle is of five arches, with piers, alternately octangular and cylindrical. The chancel arch has moulded and shafted piers, the central shaft being of coloured Plymouth marble. There are also shafts of coloured marble to the traceried arches between the organ-chamber and the church. The roofs are all open, and have arched ribs springing from stone corbels at intervals of 12 feet, with intermediate principals. The walls are 17 feet high to the plates, which are moulded; and the roof rises to the height of 31 feet from the floor line. The chancel roof is somewhat lower. The ceilings are of plaster, and are formed between the rafters; the timbers being left without stain or varnish. The tower has a belfry stage, with splayed, moulded, and shafted windows. The spire is an octagonal broach, with spire lights on the cardinal faces, and pinnacles on the angles of the tower: a spiral staircase on the south face of the tower gives access to the bell stage. A small octagonal turret, with octagon roof on the north side, forms the staircase of the organ-chamber. The east window of the chancel is of three lights, and has a painted-glass window by Messrs. Powell & Son. The remainder of the glazing is in diamond quarries of cathedral glass. The paving of the chancel is of encaustic tiles. The remainder of the church is laid with plain thin tiles. There is a considerable amount of carving in the building, which has been executed by Mr. T. Earp, of London. The apparatus for warming the church has been provided by Messrs. Haden, of Trowbridge. The bells, six in number, were made by Messrs. Warner & Sons. The works have been executed by Messrs. Patman & Fotheringham, of London, builders.

Winchester.—The Dean and Chapter have resolved that the massive fragment of ancient wall which stands in front of the porch of the southern aisle of the cathedral shall be destroyed. The roadway from the square to the west front has not yet been commenced.

Pershore.—A vestry meeting for Holy Cross restoration has been held, at which resolutions were unanimously passed approving the proposed repairs and restoration. Upwards of 4,100*l.* have been subscribed, of which sum 2,000*l.* have been received. The committee appointed to carry out the work (says a local paper) have communicated with fourteen persons (whose names have been suggested to them); and the church, with the specifications and drawings, will remain open for inspection for a month. During this period the contracts must be prepared and sent in.

Nymphsfield.—The parish church of Nymphsfield having become much decayed, it was found necessary to rebuild it. All except its tower is now taken down, and preparations are being made for laying the foundation-stone on the 29th inst., by the Earl of Ducie, lord-lieutenant of the county. Such was the condition of this church, according to the *Gloucester Chronicle*, that the roof was only held together by the laths and plaster on which the heavy tiles were placed: the timbers being rotten the whole mass leaned against the tower; and, thrusting out the walls, rendered it peculiarly dangerous to the congregation. The new nave, aisle, and chancel, under the direction of Mr. Teulon, of London, architect, will be rebuilt.

Ashley.—The parish church here has been reopened. The building had become so dilapidated and unsuited to the wants of the increased population that it became ultimately indispensable to effect a change; and the restoration, or rather rebuilding, of the church commenced about two years ago. The church (says the *Staffordshire Advertiser*) is enlarged by an addition at the chancel end; and by an entire re-arrangement of the seats, which are open, many additional sittings are obtained; so that the edifice, originally calculated to accommodate 160, will now seat 360. The two mortuary chapels, that of the Lords Gerard of Bromley; or rather, at the present time, of the Meynell Ingram family; on the north side, and that more recently constructed for the Kinnersly family on the south (previously enclosed), are now thrown open to the church, with the exception of a screenwork of wood; so that the ancient monument of the Gerards and the monuments of the Kinnersly family are visible. The architect employed was Mr. Ashdown, of London. Mr. Tunnicliffe, churchwarden, voluntarily undertook the supervision of the building; and the carving has been executed by Messrs. Gladwin, of Stoke-upon-Trent, under the superintendence of Mr. F. Gladwin. The total cost will be about 3,000*l.*, towards which 2,100*l.* have been promised. In excavating beneath the window of the old chancel an embalmed body was discovered, supposed to be that of Lady Gerard, who died at Joppa, and was transferred to the family vault at Ashley.

Pendleton.—The foundation-stone of Bethesda Methodist New Connexion Chapel was laid, at Pendleton, by Mr. E. Whittaker, of Hurst. The site is that on which stood the old chapel, erected in 1806, and which has been taken down for the purpose of erecting a more commodious edifice. The new building will be in the Grecian style of architecture, with Renaissance in the details, and the side vestries will have projecting porticoes. The arrangement of the seats will be segmental in form, and radiating from the pulpit as a centre. There will be a circular gallery all round the building, and the organ and choir will be located over the front entrance. Ventilation will be secured by a series of iron panels inserted in the cove of the ceiling, through which the impure air

will escape, whilst fresh air will be conveyed through tubes and admitted through perforated ironwork in the window-seats. The chapel will be erected by Messrs. Metcalf & Waterson, of Manchester, from the plans of Mr. R. Scrivener, of Hanley, architect. It will seat 780 persons, and the estimated cost is 2,000*l.*

STAINED GLASS.

Westminster Abbey.—Messrs. Wailes, of Newcastle, have just completed a stained-glass window, to be erected in Westminster Abbey, to perpetuate the memory of the Stephensons. In the body of the window (says the *Gateshead Observer*, in describing it) some of the greatest architectural and engineering works of ancient and modern times are represented; and above these, at the top of the window, in five-foil, bust portraits of eminent engineers are appropriately arranged. The figure of Robert Stephenson is placed in the centre; above, his father, George Stephenson; on one side, Thomas Telford; on the other, John Smeaton; and below these, James Watt and John Rennie. To give to modern costume that more imposing and dignified appearance which belongs to the robes of the ancients, a scarf is thrown over the shoulders of each individual; and, though strict fidelity was not aimed at in the portraits, the artist (adds the writer) has produced striking likenesses, while the richness and variety of the colours give to the whole group a most resplendent appearance. The architectural works represented are bordered with ornamental tracery on each side. They consist of, on the one half of the window, the Ark, the erecting of the Tabernacle, the first Temple, the second Temple, and Mehai Bridge; and on the other half, the building of Nineveh, the Treasure Cities of Egypt, Aqueduct near Pygro, the Colosseum at Rome, and the High-Level Bridge at Newcastle.

Church of Divine Unity, Newcastle.—The congregation of this church have decided that the subject of the memorial window, in honour of the late Rev. George Harris, shall be "St. Paul Preaching at Athens." At a congregational meeting, Mr. Joseph Clephan in the chair, Mr. Wailes's design for the window was unanimously approved; and it was resolved that an order be at once given for its execution. The window (which will form the fifth memorial window in this church) will probably be inserted by the 24th of August next, the anniversary of the passing of the Act of Uniformity in 1662.

St. Martin at Palace, Norwich.—A stained-glass window has been erected in the south aisle of this church by subscription. The subject is the parable of "The Good Samaritan." In one light the traveller is attacked by the thieves: in the centre the good Samaritan is pouring in oil and wine; and in the third light the wounded man is being conducted to the inn. The window is less advantageously placed than those in the east end of the building, as the light is injured by the palace gateway and the trees on the south side of the church. The window was executed by Mr. J. H. Gathercole, of Norwich.

Longhope Church, Hereford.—A memorial window of stained glass has been placed in the parish church of this village, to the memory of the late pastor, Mr. Guise. The design consists of a central piece representing our Saviour giving his last charge to the Apostle Peter—"Feed my Sheep," &c.; and on either hand are arrayed his disciples witnessing the scene.

PROVINCIAL NEWS.

Worcester.—The new police station is in progress. The contractors are Messrs. Hemming & Son, builders, Lowesmoor. The building was designed by Mr. H. Rowe, the city surveyor, under whose supervision it is being erected. It comprises a superintendent's residence and private office, charge-room, and cells, with a residence for a married police officer, an office for the inspector of weights and measures, a large room over for the general use of the police, and another room for the inspection and testing of gas and gas meters. Connected with the superintendent's private office, there will be the charge room where prisoners will be received after apprehension. Next to this are two corridors, each containing three cells, one set for male, the other for female, prisoners. Each of these corridors will be fitted up with a small lavatory for the use of the prisoners. The cells will be furnished with abundance of light and ventilation. Their warmth will be supplied by hot water circulating along pipes throughout the corridors; the necessary apparatus being fixed in the basement. The foul air will pass through extraction flues in the cells; and thence be carried into a foul-air flue, continued in a vertical shaft till it gets mixed with the outer atmosphere. Light is afforded by means of a window in each cell; and in each there is a ventilator, by which the heat may be regulated.

York.—At a recent meeting of the Council, a report on the progress of the Lendal Bridge, by Mr. Page, was read. From this report it appears that the masonry and brickwork forming the increased lengths of the west ends of the abutments have been brought up to the same height as the old masonry, or 22 feet 9 inches above the summer water-level. On the west end of the archway, under the Lendal approach, the old masonry forming the face has been rebuilt, the increased length of the archway is finished, and the approach wall between it and the abutment has been carried up to nearly its full height. On the west side of the south approach the retaining wall and the extension of the side walls of the bridge under the approach are carried up to about the springing level of the iron girders. Regarding the ironwork, the east outer rib has been completed some time, and the west one only requires the key-piece to complete it also. Other portions of both iron and stone work are also in progress. On the motion for adopting the report, which was agreed to, it was stated that 23,000*l.* were spent; and, according to the estimate of Mr. Page, the bridge, when completed, would cost from 30,000*l.* to 31,000*l.* Whether he would keep within the estimate or not the committee could not say. It was thought best by the Council that Mr. Page should have a *carte blanche*, and that he should finish the bridge.

Wigtown.—Arrangements are now in progress for commencing the erection of new buildings for the county of Wigtown. The buildings are to be of two stories, and will occupy the east side of the square in the centre of the town. They comprise a room for the ordinary sheriff-court and other business of the county; besides offices for the sheriff and the other officials; and, in addition, an assembly-room for the use of the county. In connexion with the building, there will be the electric telegraph office, and an armoury-room, in which are to be deposited the arms of the volunteers. The old tower and spire of the present building will be altered and converted into a clock-tower, in the same style as that of the general design,—the Flemish. The elevation of the tower will be 80 feet. The cost of the whole will be close on 600*l.*

Inverury.—The foundation-stone of the new town-house for the royal burgh of Inverury has been laid. The new building is situate at the back of the site of the former town-house and parish schools, both of which are to be removed and the square extended. The hall forming the top of the square has a front exposure to the High-street. The style of the building is Classical, and taken from a plan by Mr. J. R. Mackenzie, architect, Aberdeen. It will have a centre building, and a wing at each side, covering a frontal of 88½ feet; a passage at each side, 10 feet in breadth, leading to the back of the building. The depth is 63 feet. The front of the centre will be of dressed granite, ornamented with pilasters of the Roman Doric order, supporting an entablature. The principal door in front will be approached by a flight of six steps; and the windows in the centre will be circular-headed. Along the top of the centre building will be placed an ornamental balustrade in granite. The spire, to be placed in the centre of the building, is to be built for a clock and bell, and will also be ornamental with finials. The height from the ground to the base of the tower will be 48 feet, and from the base to the top of the spire 40 feet, making the height 88 feet in all. The front of the wing buildings will be of dressed granite, with square windows. The market-hall is on the west side of the centre. This hall is 27 feet long by 17½ feet wide, and has three small offices, and other accommodation, for the use of cornfactors and those transacting business. On the east side, and also opening from the corridor, are the cells and constables' apartments. On the upper floor, and at the back of the building, will be the large public hall. It will measure 55 feet in length, and 30 feet in breadth. In the front of the upper floor will be the council-chamber, retiring-room, town clerk's room, committee-room, and record-room. The apartments in the west wing will be appropriated for a dwelling-house and accommodation for the sergeant of police, and weights and measures' office. The left wing will be set apart for accommodation to the town's officers. The cost will be about 2,500*l.* The inhabitants enjoy entire exemption from usual local assessments—such as for lighting, police, &c.; and the income from the town's property is so large that the magistrates will be able to pay off the loan of 2,000*l.* for this their latest public acquisition, at the rate of 100*l.* a year, besides meeting interest. The principal contractors, who some time ago began the building, are Messrs. Munro & Stewart, builders, Inverury; the others being Messrs. Warrack & Daniel, Aberdeen, for the wood work; Robertson & Son, Inverury, for the slate work; H. Gordon & Co. for the plumber work; while Messrs. Gibson & Co., Inverury, supply the plaster work.

A NEW STYLE.

HOW CAN IT BE FORMED?

IF the inevitable New Zealander who is to sketch the ruins of St. Paul's from London-bridge should be anything of an antiquary, he will be sorely troubled to eliminate the history of the English nation from its writings in brick and stone. If the history of architecture be the history of the human mind, his researches will indicate a very chaotic mental state on the part of the present generation. Giants in science, we are pigmies in art; and, until the necessity of art is brought home to every man's door, we cannot hope to attain to unity of feeling or consistency of practice. Architecture is not treated by us as a plant of indigenous growth, to flourish in every man's garden; but rather as a choice exotic nurtured in a glass-house, to be exhibited only upon grand occasions. Fine art in building is looked upon as an intellectual toy, not as an æsthetic necessity; and it is the duty of architects to promote and educate that taste for artistic refinement without which we differ from the barbarian only in commanding a higher degree of physical comfort, or in the possession of greater intellectual power. Did we possess an art the natural offspring of our wants, it would be unnecessary to consult clients respecting the style they wish to adopt, whether Gothic or Classic, Thirteenth Century or Tudor, Elizabethan or Moresque. Such pastry-cook's orders would then never be given. Style would not be considered a garment to be changed as the fashion of the hour might dictate, but the clothing of beauty on the structure of utility.

Let us, then, agree to establish some broad principles of action, that we may work in unison for the attainment of a common goal; and the creation of a new style will follow with rapidity and success. At present we possess more food than our weak digestive functions can assimilate. To invent a new combination that will attain by development to the dignity of a new style, it will be necessary to consider the exigences of modern wants, and the character that would accord best with contemporary ideas. A foundation of reason must be constructed before we can safely erect a superstructure of fancy. It is, I am aware, much easier to perceive the inconsistencies of modern practice than to point out a way to remedy them; but the discovery of defects must naturally precede the desire for improvement. The Italian style is generally recognized as the one most suited to modern requirements. As an adaptation of the Classic, it conforms and fashions itself to the common-sense arrangements usually demanded; but it does not admit of that freedom of artistic treatment desirable; for it is difficult to forget its classic progenitor. The combinations and forms requisite to retain the character of the style seem well-nigh exhausted, and they certainly are limited. Rectangularity is its distinguishing feature, to which the circle and other forms are only subjective. Square reveals, square soffits, and square openings prevail. The cornices, architraves, bands, pilasters,—all partake of this character. The cyma, cavetto, or ogee are inevitable as the crowning mould of a string or cornice; and I have frequently seen draughtsmen puzzling their brains, with no effect, to produce even a new detail or a new cornice. Must there not, then, be something very unpliable in the style as at present used? Look at our streets! Moulding after moulding, architrave after architrave, cornice after cornice, pediment after pediment, is repeated, again and again, without variation and without taste. Could some new elements be introduced into the style, what a revolution it would effect! Why not adopt the splay, the shaft, the circular head, the clustered and deeply-sunk mouldings, the varied carving, the tracery-pierced spandrel-head, and the interlacing work that gives such interest and richness to the Gothic? To apply these features, it would be necessary to give them more breadth and

strength of character, that they might fitly assist to decorate a style that would, when fully developed, be eminently distinguished by dignity, elegance, and structural truth. The splayed reveals of the openings might, instead of presenting a flat surface to the eye, be decorated with mouldings and shafts, grouped in characteristic forms; and for the enrichment there are Norman ornaments to suggest endless varieties of decoration, if worked out by refined hands. The heads of all window or door openings would admit of an infinite variety of treatment; and, by the adoption of a free style of design, the edifice may be crowned by a cornice, rich in mouldings, enrichments, carved blocks, stopped chamfers, and other spirited ornament, not admissible in the pure Classic type.

What is required is a free style, in which every architect may display individuality of detail. Upon detail the character of every style hinges; and if we once get rid of precedent, and attend only to the qualities necessary for good composition,—such as breadth, repose, proportion, richness, elegance,—originality would soon result. The little I have suggested gives only a faint glimmering of what I am convinced may be done in the way of combination; and the object to be aimed at is to adapt to our purposes the richness and versatility of the Gothic; and, while avoiding the mere repetition of Mediæval feeling, to seize upon new forms that will constantly suggest themselves to the fancy. Once the main idea of the style is fixed in the mind, the commonest object will yield materials for thoughtful application. Ornament must be selected with patience, and applied with judgment. Let every architect ponder upon the effects developed in the buildings he sees around him: he will then learn what to reject and what to apply. Let him study composition from the best examples within his reach, and he will acquire a fund of practical knowledge in art that he might in vain attempt to acquire from mere drawings. Good taste demands that ornament should be placed where it can best be seen, and where it helps to emphasize the meaning of the composition: it is intended to give life to monotonous mouldings, but should be subordinated to structure and utility: distinctness should be aimed at above, finish below. To attain to a broad, rich, and refined style, we must not copy half-developed and barbarous ornament; neither can we hope to acquire ideality and creative power, by imitating matured art. Our vast quarries of art-material should yield but the raw product for us to fashion and shape into forms of ever-varying beauty. There is not a lecture or work upon the history of architecture but the influences of one art upon another are pointed out in it; how the ideas of one race are adopted and assimilated by those of another; and how original styles have been developed therefrom. Strange that it should never have struck any of our eminent men that a similar course would lead to similar results, with the additional advantage now, that the new style would be developed, not blindly but intelligently; and that, our art-stores being so much greater, the result would be proportionate. The public looks for common sense first: to us is the task of beautifying what it demands.

T. MELLARD READE.

VENTILATE THE STAIRCASE.

FEW will deny that the passages and staircase are, to use a simile, "the lungs" of a house, which require good air and ventilation; both of which might be easily had, by simply hinging the fanlights over the outer doors, so as to open and shut; which, to my thinking, ought to be an imperative law. All would find how sweet and wholesome dwellings—before not so—are rendered by this cheap and easy expedient. But I am afraid, like my former suggestion of perforated coalplates, few will adopt it. Londoners seem to me to prefer ill health, drugs, and physic, to pure air and VENTILATION.

"WORKMEN AND CHURCHES."

SIR,—I ventured to suggest that builders, seeing the vast numbers of hands they employ, and the very small proportion who go to church, should personally interest themselves in the matter; and, as one means, should even offer the use of a workshop in which one of the men might read the church service, and perhaps read a sermon from one of the old divines. A correspondent of yours answers that the men do not go to church because they "are repelled by the modern form of sermonizing." This may be one reason; though I still think the expense of a pew is the chief reason. If any one doubts this, let him watch those who leave almost any suburban church, and he will find they are almost wholly of the middle class. The gay dresses of the ladies would quite put out of countenance the modest attire of the mechanic's wife and family. I repeat, that as churches are now built, those who cannot pay have no business there. Your correspondent says,—"Why not use mechanics' institutes and national schools?" and answers his own question by saying they cannot be had. If they could, half the difficulty would be got rid of. For want of anything better, I say let builders and large employers of labour give a workshop for the purpose.

Your correspondent, in answer to my reminding employers of their responsibility to God, answers,—"Alas! sir, my own experience proves that few, very few, trouble themselves about this responsibility;" just the very reason why I wrote on the subject.

You have set the good example, in your exposures of the lodging-houses, &c., of going a step beyond the mere material and scientific relations of building; and I merely follow where you lead by reminding employers that every one of them, or, I should say, "*of us*," has great influence over his men; and he will one day have to account for the manner in which he uses that influence.

I am happy to be able to add that a friend of mine, who has suitable premises, is about to carry out my suggestions.

J. P. W.

DECISIONS UNDER THE BUILDING ACT.

ON Thursday, at Clerkenwell police court, Mr. Metcalf was summoned, as occupier, for nonpayment of a fee. He pleaded payment of builder's account, which included fee. Ordered to pay fee, and cost of summons, as occupier.

Wooden Erections near International Exhibition.—At Hammersmith Court, Mr. Donaldson, the district surveyor of South Kensington, attended before Mr. Dayman in support of two summonses, against Mr. Charles Hubbard and another, the owners of refreshment-booths in Cromwell-road, for erecting their buildings without giving notice, as required by the 41st section of the Building Act. Mr. Lawrence, instructed by the solicitor to her Majesty's Board of Works, attended in support of the summonses; and Mr. Murphy, instructed by Mr. Morgan, appeared for the defendant, Mr. Hubbard. The proceedings created some interest on account of it being understood that steps would be taken with respect to the other wooden buildings in Cromwell-road. A number of wooden erections have been built on the vacant ground in the Cromwell-road, and they have been opened as refreshment-booths. One question in dispute was whether the erections were buildings within the meaning of the Act. Mr. Murphy said that, in the event of his worship deciding against his client, he should ask for a special case, to be argued in the Court of Queen's Bench; and he would submit that, in order to save time, a case should be granted at once. Mr. Dayman said that before he could grant a case he must hear the summons, as he was bound to state the reason of the case being granted. After some conversation, the summonses were adjourned until the 14th of August, for both sides to agree upon the facts to be argued. The present condition of things in Cromwell-road is little creditable to those concerned, and should at once be rectified. If we understand the matter rightly, the powers of the district surveyor are set aside by an Act of Parliament obtained by the Commissioners of the 1851 Exhibition.

RECOVERY OF CHARGE FOR MAKING ESTIMATE BY A BUILDER.

Goss v. The Torquay Cemetery Company.—At the Newton Abbot County Court, the plaintiff sought to recover from the defendants the sum of 4*l.* 17*s.* 6*d.*, for services rendered as a surveyor.

This was an action brought by Mr. Goss, who was a builder and surveyor residing at Torquay, to recover the sum of 4*l.* 17*s.* 6*d.* for services rendered in making an estimate of the cost of a chapel, which was proposed to be built on the unconsecrated grounds of the Torquay Cemetery. His charge was at the rate of 1½ per cent. on his estimate, which was 325*l.* He should show that a resolution was passed at a meeting of the company, by which Mr. Gribble, who was the standing architect of the company, was instructed to invite Mr. Goss and two other builders and surveyors, Mr. Mayne and Mr. Harvey, to tender for the proposed chapel. Mr. Goss always declined to tender unless the competition was limited; and it was clearly understood, in this case, that the competition was to be limited to the three builders and surveyors that had been named, and that the lowest tender of the three would be accepted. Accordingly, by the day appointed for that purpose, Mr. Goss and the others had sent in their tenders, but they were all refused. An uproar resulted at the meeting of the company, in consequence of the injustice done to those who had tendered. Mr. Goss sent in the lowest tender, and therefore he was entitled to the job; and he now sought to recover the benefit of his services which he had rendered to the company. He would admit that, if Mr. Goss's tender had been accepted, he would have made no charge for the estimate.

The Judge, Mr. Fortescue, suggested that the action should have been brought to recover damages for breach of contract.

Mr. Bennett, the secretary of the company, produced the book containing the minutes of the meeting held on the 4th of March, and read the resolution requesting Mr. Gribble to submit the plans to three builders of the town for their estimates and tenders, and to submit the same to the directors at a future meeting to be held for that purpose. At a subsequent meeting, however, it was ordered that notices should be issued inviting public competition for the erection of the chapel, and stating that the directors did not bind themselves to accept the lowest or any tender. At a meeting held on April 1st, Mr. John Angel's tender was accepted.

Mr. W. A. Goss, the plaintiff, said he remembered Mr. Gribble calling upon him and asking if it would suit witness to give a price for building a chapel. Witness asked on what terms—whether there was to be public or limited competition; and Mr. Gribble replied, "It is to be limited to three, yourself, Mr. Mayne, and Mr. Harvey; that is, supposing you all three consent. Mr. Harvey has consented; and if you consent there will be only Mr. Mayne to ask." Witness then gave his consent, with the proviso that the competition was to be limited; and added, "I am to understand that this is a private competition, and one of the three is to have the job." Mr. Gribble responded, "Most certainly." Witness took it for granted that the lowest tender would be accepted, as that was customary. He sent in a tender for 326*l.*, and it was the lowest of the three. There was 10*l.* difference between the three. One and a half per cent. was a fair charge for an estimate.

In cross-examination, plaintiff admitted having authorized the insertion of three advertisements in newspapers, in which the following words were respectively used:—"Estimates for every kind of work free of charge," "Estimates free of charge given for any kind of work," "Estimates given free of charge for all kinds of work." Witness explained that, by those expressions, he meant that if a job was guaranteed to him, he would give the estimates free, and save the party the professional fees. He said he should not think of giving an estimate free unless the job was guaranteed to him.

Mr. Carter, for defendants, contended that there was insufficient evidence.

His Honour was of a different opinion.

Mr. Carter then addressed the court for the defendants, contending that there was no legal contract between the parties.

The Judge gave verdict for the plaintiff for the full amount claimed.

RAILWAY COMPENSATION CASE.

DOCTORS DIFFER.

A REFERENCE was proceeded with last week in the Chancery Court, St. George's Hall, Liverpool, which elicited evidence even more than usually conflicting. The Birkenhead and Chester Railway Company are making a branch line from Hooton station to Helsby; and, being desirous of giving increased width at the Hooton junction, are about to have sidings between the Hooton Bridge and the one nearer Chester; so that goods wagons may be shunted upon these sidings. Mr. Robert Morris was the purchaser of the Low Fields property, in 1849, which contains 349 acres, and was at that time bisected by the railway. The company require a slice of land of about 17 yards wide on each side of the present line to make the sidings in question; and as it was only a widening of an existing line, and they required altogether a little less than eight statute acres, they offered Mr. Morris 1,578*l.* for the land. This offer was declined, and a reference was necessary. Mr. Morris was represented by Mr. Picton; the company by Mr. Culshaw; and the umpire was Mr. Harmood Banner, jun. Mr. J. Horatio Lloyd, and the recorder, Mr. Aspinall, were the counsel for Mr. Morris; and Mr. Bovill, Q.C., M.P., and Mr. Deighton, were retained for the company.

According to a report in the *Liverpool Journal*, Mr. Robert Morris stated that he had 349 acres of land, which he purchased in 1849 for 10,650*l.*, or about 30*l.* 10*s.* per acre; but that he estimated his subsequent expenditure in improving the house, building farm-buildings, drainage, and planting, at 10,000*l.* The house, distant from the station 170 yards, was let for 210*l.* per annum; and he let 180 acres of the land last year at prices averaging from 35*s.* to 40*s.* per acre, he paying all the rates and taxes.

Mr. William Cole valued the land required, which has no buildings upon it, but is purely agricultural, at 4,824*l.*, the actual quantity being 7 acres 3 roods and 36 perches. He valued the depreciation to the residue of the property at 8,682*l.*, making a total sum of 13,506*l.* 7*s.* 5*d.*, which he thought the company ought to pay. Agricultural land was worth about 60*l.* or 70*l.* an acre in that locality.

Mr. Joseph Boult, architect, valued the land and depreciation at 10,779*l.* 9*s.* 6*d.*

Mr. J. Hampson, of Manchester, valued it at 6,891*l.*

Mr. Statter valued it at 6,250*l.* 7*s.*

Mr. Horner, architect, made it amount to 13,002*l.*

Mr. Walter Scott's valuation was 5,423*l.* 12*s.*

Mr. Gee, architect, agreed with Mr. Scott, in the sum of 5,423*l.* 12*s.*

Mr. Young, land-surveyor, valued the land and depreciation at 6,502*l.* 15*s.*

Mr. Shelmerdine, surveyor, stated his opinion that Mr. Morris ought to receive the sum of 12,598*l.*, and Mr. B. Williams 10,938*l.*

Mr. Bovill addressed the referees, contending that the land was merely two narrow slips of common agricultural land; that there was no severance of the estate, for that existed, and had been paid for many years before the land was purchased by Mr. Morris; that the land would actually be benefited by the contemplated improvements of the company. On behalf of the company,

Mr. Henry White, land-surveyor of Warrington, valued the land and compensation at 1,497*l.*; his opinion being that 35*s.* per acre was the fair annual value of the land; and he gave 30 per cent. for compulsory sale, and 40*s.* for any supposed depreciation.

Mr. Charles Townsend, of Chester, surveyor, valued the land and compensation at 1,280*l.*

Mr. Hoggins, of Chester, land-surveyor, valued it at 1,460*l.*

Mr. Alderman S. Holme valued it at 1,166*l.*, giving only 30*l.* for any depreciation of the house; but stating it as his opinion that depreciation of the house was imaginary: although he gave Mr. Morris the benefit of any doubt, he had added 30*l.* to the value of the land, which he took as worth 2*l.* per acre per annum, and at 33 years' purchase. It was elicited from Mr. Holme that the land immediately abutting on the station at Crewe was now twenty times more valuable than it was before the North-Western Company commenced their buildings.

Mr. John Davies, of Mollington, land-surveyor, valued the whole purchase and compensation at 1,480*l.*

Mr. John Palin, of Chester, land-surveyor, valued the amount at 1,386*l.*

Mr. James Harrison, of Chester, surveyor, made it 1,397*l.*

Other witnesses followed to the same effect.

Mr. J. H. Lloyd having replied upon the whole case, it was concluded.—The referees have not yet made their award.

Miscellanea.

NEW MATERIAL FOR PAVEMENT.—In the Rue Druot, a street opposite the Rue Richelieu, on the Boulevard des Italiens, a powder, of the colour of ground coffee, and smoking hot, is spread down and then beaten, not violently, with a smooth flat iron at the end of a handle. Over the surface so formed a large iron is run by a man so as to remove all inequalities. In a few minutes, it is said, there is a hard substance resembling asphalte.

THE ARCHÆOLOGICAL INSTITUTE.—The Institute is holding its annual meeting at Worcester. We will give some particulars next week.

LAYING THE FOUNDATION-STONE OF THE ROMAN CATHOLIC UNIVERSITY, DUBLIN.—This ceremony was performed, on the 20th July, by Dr. Dixon. About 8,000 persons walked in procession with banners and bands. The bishops, in their robes, attended in close carriages. In the evening a banquet was given at Allhallows' College. A great meeting was to be held to renew agitation for the grant.

THE MADELEINE.—"The Madeleine, although one of the modern churches of Paris," says the *Siècle*, "is now undergoing extensive repairs. The flight of steps at the northern front has suffered so much from the infiltration of the rain water that it is found necessary to reconstruct it. The same operation was performed at the southern front some years ago. Repairs of a still more serious character have also been found indispensable. Owing to the settling of the foundations, a crack has recently made its appearance in the principal front, extending from the lintel of the grand portal quite to the top of the inner pediment."

DOVER WATERWORKS.—At the last meeting of the Dover Local Board the following tenders were received for the enlargement of the waterworks:—Contract A. There was only one tender, that of Messrs. Simpson & Co., London, for 1,400*l.*, which was accordingly accepted. Contract B:—

Stiff & Richardson	£6,923	0	0
J. Moxon & Co.	6,230	0	0
J. Millichamp	7,587	0	0
E. W. Richardson	7,075	4	0
A. Matthews	5,803	13	3½
Fry & Pepper	5,516	4	0

A question arose as to whether the Board could receive the tender of Messrs. Fry & Pepper, inasmuch as it was unaccompanied by a bill of quantities,—one of the stipulations in the tendering. After some conversation had taken place upon the subject, it was decided that the parties should be sent for; and, if not prepared with a bill of quantities, that the tender should be thrown out as being informal. Mr. Fry afterwards attended, and said he was quite ready to comply at once with the requirement of the Board, and the tender was accordingly accepted.

DIBDEN'S GRAVE, IN THE BURIAL GROUND OF ST. MARTIN'S-IN-THE-FIELDS.—Dibdin, one of the most famous of the English song-writers, rests, as we have before mentioned, in this ground. The grave is covered with a flat stone, which is shaded by a weeping willow; the whole forming a picturesque little scene. It seems, however, that this memorial of one whose name is so familiar is rapidly falling into decay; and, if not cared for, the inscription will soon become illegible. The expense of such a work as recutting this would be but trifling; and it seems only necessary to make the circumstance known to cause some of the large number of persons who admire Dibden's soul-stirring sea-songs to undertake the restoration of the monument which marks his grave. The person who is in charge of the ground would direct any visitor to the spot; and thence it is not far distant to the burial-ground of St. Giles's-in-the-Fields, in which is the tomb of Sir John Soane, the founder of the museum in Lincoln's-inn-fields. This, like the last, is well backed by the grey foliage of a willow and by shrubbery.

BESSEMER'S PROCESS IN AMERICA.—At the Franklin Institute, Mr. J. W. Nystrom exhibited some specimens of iron and steel, manufactured at his establishment, Gloucester, N.J., by the process known as Bessemer's, and made the following observations:—"The cast-iron is smelted in an ordinary cupola, from which it is run into a barrel-shaped furnace, where air is blown into the molten iron for about ten to fifteen minutes,—the time required for decarbonising it to steel or wrought-iron; after which it is run direct from the steel furnace into moulds of any desired shape. Ingots thus cast can be taken direct to a rolling-mill or steam-hammer, and worked in the one original heat. The steel furnace now in operation is for acting on 3,000 lb. cast-iron at a time, which gives about 2,500 lb. of wrought-iron or steel. By the process known as Bessemer's the ingots are rolled out to finished iron in the first original heat, and slag is hardly perceptible. A great many parts of machinery which in Europe are made of wrought-iron or steel are in this country made of cast-iron. Now, by this process, such parts can be cast direct of steel or iron, which will materially reduce the weight and increase the durability of the machinery. I consider the process to be of the greatest importance for railroad iron, such as wheels, tires, frog-plates, rails, &c."

RAILWAY BRIDGES OVER ROADS.—For the protection of the public passing under railway bridges in the course of construction, would it not be as well to have a galvanized wire-guard fixed, to prevent rivets, &c., falling on the heads of passers-by? On the 18th I was walking under the railway-bridge, in the York-road, with my son, when a large rivet, red-hot, fell about half a yard from us.—R. R. P.

ROMAN REMAINS AT MALTON.—A place of ancient sepulture has been discovered at Norton. An excavation was being made for sand; but the section of the ground showed that the site was one of a large pit which had at some remote period been thrown out and re-filled with a different material, chiefly very black soil. At a depth of about 6 feet a large stone was met with. This stone was 4 feet 6 inches long, and 2 feet 2 inches wide, and has been hewn into a diamond shape. Beneath it were found the remains of a cist, containing human bones, and much Roman pottery in fragments. A Roman road formerly passed near the place.

THE WORCESTER MODEL DWELLINGS ASSOCIATION.—The eighth annual meeting of this association has been held at the Guildhall, Worcester; Lord Northwick in the chair. The report of the governors announced a sufficient balance to pay a dividend of one per cent. on the capital stock, but did not recommend a division this year, as they were compelled to anticipate some necessary repairs for the buildings. The report stated that during the past year the dwellings had been well filled, and the rentals regularly paid, the arrears being only 3*l.* 2s. 11d. The report was adopted; and after a discussion it was decided not to declare a dividend this year.

LAMBETH SUSPENSION BRIDGE.—The progress of this new bridge (at present the only adaptation of wire ropes in the construction of bridges across the Thames) has been rapid during the last few weeks. Already half the iron roadway, with its projecting brackets at the sides for the support of the passengers' footway, has been attached to the iron-wire ropes (which latter weigh nearly 150 tons, and have cost about 6,000*l.*) by diagonal ties. The cables were manufactured by Messrs. Newall, in a small workshop at the Lambeth side of the bridge. The workmen are busily engaged upon the approaches of the bridge; the Westminster end of which is opposite Market-street; the Lambeth end being approached from Church-street. The total cost of the bridge will be 40,000*l.*

IMPROVEMENTS IN HYDRAULIC PRESSES.—For many purposes for which presses are employed, the press is required, during a considerable portion of its stroke, to exert but a comparatively small pressure; whilst, for the latter portion of the stroke a much heavier pressure is required. In such cases, Mr. M. Scott, of Parliament-street, proposes to employ a compound press, consisting of two or more concentric cylinders. The important feature in the invention is the blocking of one press, whilst a more powerful one is caused to act against it thus:—Two separate hydraulic presses, the one of small and the other of large power, may be arranged, one at each end of a frame: the material to be pressed between them is received between the two presses, and is partly compressed by the press of smaller power; then this is blocked by inclosing water in it, and the press of greater power is put in action to complete the compression. This arrangement may also be employed where mechanical blocking is used in place of, or together with, water blocking.

GAS.—The York City Corporation have determined to erect gas-works for themselves, as they consider the charges of the local Gas Company for city lamps excessive, and find the directors not open to reason on the subject. "The citizens," says the *York Herald*, "are now paying 4s. 6d. per 1,000 feet for gas; and, according to Mr. Alderman Anderson, the company is not only dividing ten per cent.; but, in addition, are so overburdened with their profits that they are actually proposing to fall back upon a clause in their Act, enabling them to make up the dividends of bygone years, when they paid less than ten per cent., to that sum; and it must also be borne in mind that they are paying this heavy dividend on two if not three capitals. Still, notwithstanding this, they refuse to listen to any remonstrance, and coolly say to the committee,—'You cannot help yourselves: we will charge you 4s. 9d.: you can get it for no less; and therefore we shall charge you no less.' The cost of erecting works in these days of scientific progress would not be great; and the 2,000*l.* now annually paid for gas would be more than sufficient to pay the interest of the money expended in buildings and plant, as well as cover the cost of the manufacture of the gas required for the public lamps."

MUSIC AND ODOUR.—Mr. Piesse believes that he has discovered a gamut of odours: he has arranged forty-six simple essences according to what may be called their tones; and he finds that concord and discord are produced as in music. Rose and geranium, for instance, says the *Literary Budget*, which has "verified this curious fact," are both C: smelt together, you at once discern that these two perfumes have the same tone; rose being an octave higher than the other. The same is true of orris and calamus, of almond and violet. There is perhaps something, after all, in the blind man's idea, that the scarlet colour must be like the sound of a trumpet!

WORKMEN'S DINNER.—On Saturday last, the workmen employed by Messrs. Dove, Brothers, builders, Islington, celebrated their annual beanfeast at the Rye House. The company consisted of a large portion of the men employed on their various London works, in number about 120, accompanied in many instances by their wives and sweethearts. Mr. F. J. Dove presided, supported by Messrs. G. and H. Dove, and several of the foremen. The dinner gave entire satisfaction. After dinner there was a variety of amusements. Tea followed; and the party left the Rye House at eight o'clock, and arrived again in London shortly after twelve, after having spent a day which was thoroughly enjoyed by all. [Notices of several similar meetings have reached us; but we cannot do more than show that such agreeable gatherings are taking place, and that good feelings between employers and their workmen are promoted.]

SOCIETY OF ANTIQUARIES, NEWCASTLE-ON-TYNE.—The country meeting of this society has just been held. The excursionists left the central station by the Newcastle and Carlisle Railway, with the 10.15 a.m. train; the first scene on the programme to be visited being the picturesque ruins of Prudhoe Castle, the residence of Mr. C. U. Laws, of Newcastle. The site of the castle is supposed to have been the Roman station of the first cohort of the Batavi. St. Mary's Church, Ovingham, the burial-place of Thomas Bewick, the father of English wood engraving, was then visited; the Rev. George Bigge, perpetual curate, accompanying the party. The ancient market-cross has disappeared, but a fac-simile, as near as could be ascertained, has been placed on the site. The head of the original cross was found here, and was in the possession of the Rev. Mr. Bigge till about three months ago, when it was stolen, and the robbery has been laid to the charge of "some enthusiastic antiquary, whose virtue could not withstand the temptation." The date of the main part of the church is about the end of the twelfth century. The parsonage-house was formerly a cell of the Abbey of Hexham. The present house contains a room in which many famous men were educated under Mr. Birkett, Thomas Bewick having been one of his pupils. The party afterwards returned to Prudhoe Castle, where they were entertained by the resident. It was found at the close of the repast to be too late to visit the other places set down in the programme.

THE NEW PARISIAN HOTEL.—The new Grand Hôtel de la Paix, situate at the end of the street of the same name, on the Boulevard des Capucines, adjoining the new Grand Opera, has been opened. It is of prodigious dimensions, many of its internal corridors running to a length of 120 yards. In external shape it exhibits an isosceles triangle, of which the base faces on to the Boulevard. The entire basement story is occupied by shops, uniformly painted and decorated in black and gold, and from which the stone building above rises. The rents in this choice business position may be estimated from the fact that the *Café Glacier*, on the side facing the Grand Opera, has been let for a hundred thousand francs, or 4,000*l.* per annum. The building itself is five stories high; and over the principal entrance are six groups of caryatides, of two figures each. In the interior are three large courtyards, upon the largest of which, covered with glass like that of the Louvre Hotel, open the principal public rooms, consisting of a *salle-à-manger*, smoking-room, reading-room, banqueting-room, and three large *salons*, serving as *restaurants*. The decoration of these apartments is exceedingly rich and tasteful. The *salle-à-manger*, which is circular, and as large as many theatres, is covered with a domed glass roof, supported by carved figures, while the sides are adorned with red scagliola columns, in two tiers, alternating with mural paintings and mirrors of gigantic proportions. A telegraphic system entirely supplies the place of all bells, and not only despatches messages over Europe, Asia, and Africa, but takes your place at the theatre at any moment.

EXHIBITION BELLS.—Showing as it does the spirit of our colonies, we may mention that the peal of eight bells exhibited by Messrs. Warner at the International Exhibition have been purchased for the cathedral at Auckland, New Zealand.

NEW SUBSTITUTE FOR SILVER.—Mr. Trauluc, of Nismes, has recently proposed, as a substitute for silver for various uses, a white alloy, which, according to the *Cosmos*, has the property of resisting vegetable acids. It is formed of 375 parts of Banca tin, 55 nickel, 50 regulus of antimony, 20 bismuth.

A SOCIETY OF SCULPTORS.—A meeting was held at the rooms of the Architectural Society, in Conduit-street, on Wednesday evening in last week, for the purpose of inaugurating a new society, to be called "The Society of Sculptors of England." The chair was taken by Mr. James Edmeston, and resolutions to the proposed effect were passed.

STOPPAGE ON A TRAMWAY.—At Darlington, one of the street railway cars coming from the station was brought to a "dead lock" in Northgate, and kept there for about half an hour, by two manure carts, the horses facing each other, while the drivers contended each for the right. At length the carconductors returned in the direction from whence they had come. Such a contingency only shows the desirableness of having tramways with cars not limited to the grooves, but capable of running either off or on. All difficulty might thus be obviated.

DINNER TO MONSIEUR GALLAIT. — A dinner was given, at Willis's Rooms, King-street, St. James's, to Monsieur Gallait, the distinguished Belgian painter, on Friday, the 18th of July; Earl Granville, in the chair. A goodly number of leading artists attended. The chairman spoke admirably, as did Mr. Gallait, Baron Taylor, and others. It has been felt that the dinner should have taken a wider form, and been given to foreign artists generally. Horace Vernet, Henry Leys, and many others have been in London. Honour is eminently due to Mr. Gallait; but the dinner, nevertheless, was a mistake.

GARDENS IN TOWNS.—The Bill for the protection of gardens or ornamental grounds in cities and boroughs, which has now reached the Commons, received considerable alterations in the course of its progress through the House of Lords. It is a Bill of some importance to many persons. It provides, as it now stands, that the local authorities are to take charge of any enclosed garden or ornamental ground set apart in any square, &c., for the use of the inhabitants thereof, where those who have the care of it have "neglected to keep it in proper order," or where, from want of any board of management, it has been neglected.

THAMES EMBANKMENT BILL.—The select committee of the House of Lords, to which was entrusted the examination of the Thames Embankment Bill, met on Wednesday and passed the preamble, thus setting aside the Duke of Buccleuch's claim for consideration. They struck out clauses 9, 33, and 36. Clause 9 ordered that the Metropolitan Board of Works should not construct the road between the east side of Hungerford-bridge and Wellington-street until the other works were completed: clause 33 gave to the first Commissioner of Works the power of vetoing buildings proposed to be erected on the lands fronting the river; and clause 36 gave power to the Board of Works to sell surplus land.

OUR BEST DEFENCE, THE RAIL.—Sir Frederick Smith, in his speech against the Fortifications Bill lately, said, "Some years ago he was employed by the late Sir R. Peel to make inquiries as to the power of moving troops by railway. He consulted Mr. Laing, chairman of the Brighton Company, and Mr. M'Gregor, chairman of the South-Eastern; and those gentlemen told him that, if an invasion were at all possible, they would undertake to provide the means of taking down 40,000 men in three hours to any point of the coast. And, even if a French army were to land at Plymouth or Portsmouth, it would never dream of sitting down before either place. In such a position it would be exposed to attack both in flank and rear, and would either be captured or cut to pieces." A few years since it was proposed in our columns, as well as elsewhere, that the otherwise less defensible parts of our coasts might have railways run along them for facility of transport of troops; and it is probable that, if a portion of the heavy cost of fortifications were expended in railway works, the money would be laid out to greater advantage than now, as regards the coast defence of the country; while such works would be looked upon with more satisfaction than costly fortifications in a time of peace.

LEAMINGTON CHURCH COMPETITION.—The design of Mr. John Cundall, architect, of Leamington and London, has been selected by the committee, for the completion of the above church, at an estimated outlay of 10,000*l.*

BUILDERS AND TENDERS.—Sir: Having been written to, to tender for some works by eminent City architects, we sent in an estimate, and were told not to attend the day of opening. In answer to a note from me, they say it is not usual with them to disclose the various amounts of tenders, but we were unsuccessful. Is this, sir, *quite* a satisfactory mode of conducting such proceedings? VERAX.

*** Certainly not. Builders have these matters in their own hands, and should make proper stipulations.

POMPEII.—Letters received by Professor Zahn from Naples and Pompeii say:—"In Pompeii the excavations are zealously carried on under a new Piedmontese contractor. In the latest excavations in a house in the immediate vicinity of the Casino of Signor dell' Aquila, a beautiful triclinium, with three richly-decorated walls and three pictures, was discovered. The first of these pictures represents the building of Troy by Neptune and Apollo; the second a drunken Hercules with numerous Cupids, who have disarmed him, and surrounded by several Fauns and Bacchantes; and in the third picture Vulcan shows Thetis the arms of Apollo, among them a shield, on which are represented the Zodiac, Apollo, and the nine Muses. The second picture, with the drunken Hercules, is said to be, as regards both drawing and colouring, one of the finest ancient frescoes yet known. Next to this triclinium is another chamber, the ground of the walls of which is black, with embellishments in the Egyptian style, and a number of small pictures. On the floor at the entrance of this house is the inscription, '*Salve Lucro.*' The next building is a tavern, with an inscription, and a painted elephant on the outer wall as a sign—the Elephant Inn."

RAILWAY MATTERS.—The report to the Secretary of State for India in Council on railways in India for the year ending 31st December last has been issued. It states that the total miles opened in India are 4,653½; and that the length opened during 1861 was 759¾. The length remaining to be finished, and probable extent in each year, are stated to be 1,181½ miles in 1862; 517½ in 1863; 729 in 1864; and 617 in 1865; the report subsequently giving a total length remaining to be finished, of 3,044½ miles.——The railway round Paris, which has been hitherto exclusively confined to the conveyance of merchandise, was opened on the 15th for passengers. The line starts from Bercy, near the Pont Napoléon, and passes over the Lyons Railway. It afterwards passes over the market gardens of Saint-Mandé, crosses the Vincennes Railway, cuts the Avenue of Bel-Air, and traverses the Grande Avenue of Vincennes, and thence reaches the station of Charonne. It passes under the heights of Père-Lachaise through a tunnel of 1,060 mètres in length. On leaving the tunnel, the line goes under the high road of Menilmontant, and reaches the station of the Rue de la Mare. It next passes through another tunnel, 1,100 mètres long, under Belleville, and arrives at La Villette. On leaving that station, it crosses the Rue d'Allemagne, the canal, and the Rue de Flandre, over viaducts; and thence proceeds to the station at Batignolles, which is the extent of the line at present opened for passengers. The distance is performed in thirty minutes. The line will be hereafter extended to Ivry.

CASTLEFORD.—The foundation-stone of a new Congregational church has been laid at Castleford, a place which of late years has greatly increased in population. The church is in the Early English style of architecture, and its site is in Carlton-street, a central place in the town. It will accommodate about 700; and its cost, and also of the schools at the back, will be about 2,000*l.*, of which 1,100*l.* have been promised; 200*l.* being given by Mr. Titus Salt, of Methley Park. The architect is Mr. J. Hogg, of Halifax; and the contractors are Messrs. Barstow & Sons, of Pontefract.

TENDERS.

For repairing and altering the parsonage house of St. Paul's, Bunhill-row. Mr. E. Christian, architect:—

Jackson & Shaw	£960 0 0
R. Whitshire	940 0 0
Pickering & Son	939 0 0
Brown & Robinson	897 0 0
Wells	880 0 0
Rhodes & Roberts	773 0 0

For the erection of a warehouse, 69, Holborn-hill, for Messrs. R. Lloyd & Sons. Mr. W. P. Griffith, architect.

Ebbage	£490 0 0
Partridge	489 0 0
Little	487 0 0
Fowler (accepted)	452 0 0

For new ragged schools, Ogle Mews, St. Marylebone, for Sir R. W. Carden and others. Mr. W. P. Griffith, architect:—

Little	£1,089 0 0
Bernister	950 0 0
Macars	943 0 0
George	937 0 0
Partridge	932 0 0
Fowler	927 0 0
Ebbage (accepted)	909 0 0
Knapp	895 0 0
Richards	793 0 0
Miny	770 0 0
Munro	770 0 0

For new Congregational chapel and schools, at Sawbridgeworth, Essex. Messrs. Poulton & Woodman, of Reading, architects. Quantities supplied:—

Perry	£1,660 0 0
Dickenson	1,595 0 0
Burton (accepted)	1,579 0 0

For the additional buildings for female patients at the County Lunatic Asylum, Brentwood, Essex. Mr. Henry Strett, architect:—

Hammond	£6,497 0 0
Trollope & Son	6,450 0 0
Rayner & Runacles	6,210 0 0
Brown	6,200 0 0
Brown & Robinson	6,157 0 0
Maurs	6,150 0 0
Jackson & Shaw	5,506 0 0
Rider	5,307 0 0

For building St. Ann's parsonage house, at Congresbury, Somerset. Mr. Norton, architect:—

Hartree	£2,164 0 0
Hughes	1,882 0 0
Wall & Hook	1,793 0 0
Palmer (accepted)	1,650 0 0

For building St. Ann's Church, at Congresbury, Somerset. Mr. Norton, architect:—

Hartree	£3,614 0 0
Wall & Hook	3,246 0 0
Hughes	2,870 0 0
Palmer (accepted)	2,780 0 0

For a house in Gloucester-crescent, Regent's-park. Messrs. Elmslie, Franey, & Haddon, architects:—

Manley & Rogers (accepted)	£615 0 0

For Wesleyan Chapel and boundaries, Compton-road, Wolverhampton. Mr. George Bidlake, architect:—

Baker	£4,460 0 0
Sims	3 915 0 0
Makepeace	3,800 0 0
Palmer	3,498 5 0
Bowater	3,460 0 0
Hartland	3,400 0 0
Addenbrooke	3,382 5 6
Cockerill	3,381 0 0
Burkitt	3,359 0 0
Horsman	3,345 0 0
Trow & Sons (accepted)	3,105 11 2

For farm buildings, at Wittersham, Kent, belonging to the Rev. E. H. M. Sladen. Mr. W. King, architect:—

Jones	£989 0 0
Bourn	870 0 0
Steddy & Co.	840 0 0
Comfort	756 10 0
Judge	721 0 0
Peters	700 0 0

For new bank, Watford, Herts. for the London and County Bank. Mr. Fred. Chancellor, architect. Quantities supplied by Messrs. Curtis & Son:—

Winfield	£2,503 1 0
Elliott	2,489 0 0
Martindale	2,384 10 6
Watson	2,355 0 0
Waterman	2,275 0 0
Richardson	2,200 0 0
Manly & Rogers	2,155 0 0
Bryant	2,143 0 0
Woodbridge	2,098 0 0
Tracey & Co.	2,050 0 0
Bromwich	2,023 0 0
Allen	2,000 0 0
Savage & Son	1,995 0 0
Boddington	1,950 0 0
J. Palmer	1,927 0 0
Rudkin	1,925 0 0
W. Palmer	1,900 0 0
Greenwood	1,900 0 0
Simms	1,898 0 0
Hassuidge & Son (accepted)	1,897 0 0
Arnold	1,875 0 0
J. Coker	1,710 0 0

For house and stabling at Beckenham, for Mr. W. Whitmore. Mr. H. Currey, architect. Quantities supplied by Messrs. Welch & Atkinson:—

	House.	Stables.	Total.
King & Co.	£3,220	£674	£3,894
W. Higgs	2,970	555	3,525
Nicholson	2,915	530	3,445
Downs*	2,896	534	3,430

* Accepted.

For stables, &c., at Ham Common. Mr. F. J. Hill, architect:—

Figg	£1,021	0	0
Gentler	965	0	0
Gadsby	947	0	0
Timewell	930	0	0

For alterations at 61 and 62, West-street, Bermondsey. Mr. F. J. Hill, architect:—

Langmead	£570	0	0
Timewell	498	0	0
Gadsby	498	0	0
Starkey	449	0	0

For alterations at 67, Shoreditch. Mr. F. J. Hill, architect:—

Timewell	£365	0	0
Brown & Son	359	0	0

For Swallow Galley public-house, Rotherhithe, for Mr. Bannister. Mr. T. R. Parker, architect. Quantities supplied:—

Tarrant	£1,694	0	0
Nutt	1,673	0	0
Longmire & Burge	1,625	0	0
Duncanson & Moultrie	1,560	0	0
Thompson	1,537	0	0
Devin	1,440	0	0
Mears	1,430	0	0
Calls & Co.	1,427	0	0

For the restoration of King's Cliffe Church, Northamptonshire. Mr. Edward Browning, architect:—

Richardson & Son	£1,304	0	0
Bradshaw (accepted)	1,217	0	0

For a residence at Orpington, St. Mary's Cray, Kent. Mr. J. G. Stapleton, jun., architect:—

Clark	£648	0	0
Sales	640	0	0
George (Plumstead)	550	0	0
Bond	522	0	0
Simmonds	497	0	0
Potter	495	0	0
George (Dover-road)	450	0	0
Hewitt	406	0	0
Penlington (after 12 o'clock)	379	10	0

For His Grace the Duke of Norfolk:—

	Residence.			Farm Buildings.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.
Ward	1,482	12	0	1,694	8	0	3,177	0	0
Rump	1,319	0	0	1,678	0	0	2,997	0	0
Curtis & Balls	1,357	0	0	1,699	0	0	3,056	0	0
Boardman	1,427	0	0	..			..		
Lofty	..			1,655	0	0	..		

TO CORRESPONDENTS.

J. H. H—R. I. S.—G. S. A.—W. S—J. W.—W. & A.—Veritas.—E. H. R—P. B. H. (can only be seen at office).—A. W—U. R.—A. C. G—Voice from the Ranks (next week's).—R. L. B. (shall be mentioned when we know who has the first).—J. W.—C. W. H. (Patent Office, Southampton-buildings).—R. R—D. P.—A. H. (not quite up to the mark).—C. O. P.—W. H. R—T. R (simply makes an assertion, and gives no information).—J. R—S. W.—R. H. T. (is an advertisement).

WELLS IN CHURCHES.—(Can one of your correspondents give me any information on the wells that are sometimes found in churches, or refer me to any book or paper on the subject?—C. N.)

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and NOT to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

"THE BUILDER."—February and March, 1862, Numbers or Parts.
A few Copies of the above dates are required.—Apply to the Publisher, at the Office, 1, York street, Covent garden, W.C.

NEW WORK ON VENTILATION.
Now ready, with Seven Plates and Thirty-five Woodcuts, 8vo. 8s. 6d. cloth (postage 6d.)
A TREATISE ON VENTILATION, Natural and Artificial.
By ROBERT RITCHIE, C.E. Associate of the Institution of Civil Engineers, London, author of "Railways: their Rise, Progress, and Construction," "The Farm Engineer," &c.
London: LOCKWOOD & Co. 7, Stationers'-hall-court, E.C.

Just published, price 9s. 6d.
MANUAL of HYDROLOGY.
By NATHANIEL BEARDMORE, Civil Engineer.
CONTAINS:—
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of upwards of 400 pages, and there are 20 large plates.
London: WATERLOW & SONS, 49, Parliament-street; 24, Birchinlane; and 65 & 68, London-wall. 1862.

On Wednesday, July 30, will be published, in 2 vols. 8vo. with several Illustrations engraved on Wood,
HISTORY of the ROYAL ACADEMY of ARTS, from its Foundation in 1768 to the Present Time. With Biographical Notices of all the Members.
By WILLIAM SANDBY.
London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

NEW ENGINEERING YEAR BOOK.
Now ready, post 8vo. 7s. 6d. cloth,
THE ANNUAL RETROSPECT of ENGINEERING and ARCHITECTURE; a Record of Progress in the Sciences of Civil, Military, and Naval Construction. Vol. I. (JANUARY to DECEMBER, 1861.)
Edited by GEORGE R. BURNELL, C.E. F.G.S. F.S.A.
LOCKWOOD & CO. 7, Stationers' Hall Court, E.C.

THE QUARTERLY REVIEW,
No. CCXXIII. is published THIS DAY.
CONTENTS:
I. THE BRUNELS.
II. DEAN HOOK'S ARCHBISHOPS OF CANTERBURY.
III. SUSSEX.
IV. THE VOLUNTEERS AND NATIONAL DEFENCE.
V. MODERN POETRY—DRYDEN TO COWPER.
VI. INTERNATIONAL EXHIBITION.
VII. SANDWICH ISLANDS.
VIII. THE CHURCH AND BICENTENARY MOVEMENT.
JOHN MURRAY, Albemarle-street.

HANDBOOKS TO THE ART COLLECTIONS, SOUTH KENSINGTON.
The following Works may be had:—
HANDBOOK to the ARTS of the MIDDLE AGES and RENAISSANCE, as applied to the decoration of Furniture, Arms, Jewels, &c. &c. Translated from the French of JULES LABARTE. Edited with Notes, and illustrated with 200 Woodcuts. 8vo. 18s.
II.
HISTORY of MEDIÆVAL and MODERN POTTERY. By JOSEPH MARRYAT. With coloured Plates and Woodcuts. Medium 8vo. 31s. 6d.
III.
ANTIQUE GEMS: their Origin, Uses, and Value, as Interpreters of Ancient History, and as Illustrative of Ancient Art. With Hints to Gem Collectors. By Rev. C. W. KING. With Plates and Illustrations. Medium. 2 vols. 8vo. 42s.
IV.
TREASURES of ART in GREAT BRITAIN. Being an Account of the Chief Collections of Paintings, Sculptures, Illuminated MSS. Miniatures, &c. Obtained from Personal Inspection during several Visits to England, 1835—56. By Dr. WAAGEN, Director-general of the Berlin Gallery. 4 vols. 8vo. 54s.
JOHN MURRAY, Albemarle street.

MR. MURRAY'S HANDBOOKS for ENGLAND and WALES.
"That unmatched Series, MURRAY'S HANDBOOKS, now comprise our ENGLISH COUNTIES, including the entire coast line from DOVER to the LAND'S END; and the Series is intended to proceed until it maps out and includes the entire Island."—*Times.*
I.
HANDBOOK—MODERN LONDON; a Complete Guide to all the Sights and Objects of Interest in the Metropolis. With a Clue Map. 18mo. 5s.
"Without a rival for intelligence and accuracy."—*Times.*
II.
HANDBOOK—KENT and SUSSEX. Map Post 8vo. 10s.
III.
HANDBOOK—SURREY, HANTS, and the ISLE OF WIGHT. Map. Post 8vo. 7s. 6d.
IV.
HANDBOOK—BERKS, BUCKS, and OXFORDSHIRE; including the University and City of Oxford, and the Descent of the Thames to Windsor. Map. Post 8vo. 7s. 6d.
V.
HANDBOOK—WILTS, DORSET, and SOMERSET. Map. Post 8vo. 7s. 6d.
VI.
HANDBOOK—DEVON and CORNWALL. Map. Post 8vo. 7s. 6d.
VII.
HANDBOOK—NORTH and SOUTH WALES. Maps. 2 vols. Post 8vo. 12s.
VIII.
HANDBOOK—SOUTHERN CATHEDRALS. Winchester, Salisbury, Exeter, Wells, Rochester, Canterbury, and Chichester. Illustrations. 2 vols. Post 8vo. 24s.
IX.
HANDBOOK—EASTERN CATHEDRALS. Oxford, Peterborough, Ely, Norwich, and Lincoln. Illustrations. Post 8vo. (Just ready.)
JOHN MURRAY, Albemarle-street.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE.
Every description of Architectural Drawings prepared, and Perspectives Outlined or Coloured, by
Mr. T. T. MARDON, Jun.;
Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c.
7, John street, Bedford-row, W.C. Office hours, Ten to Four.

GAS MANAGER.—WANTED, for the Bombay Gas Company, Limited, a good, practical GAS ENGINEER, who is also competent to take the general management of the affairs of the Company in Bombay, and to superintend the erection of the works, &c. Applicants must state age, qualifications, present employment, and salary expected. Preference will be given to one with local experience.—Apply, by letter only, to the Secretary, at the Offices of the Company, 216, Gresham House, E.C.

HALIFAX LOCAL BOARD of HEALTH.
WANTED, a SURVEYOR, for the Borough of Halifax. A copy of the duties may be had by applying to me. All applications, stating salary required, with testimonials, to be sent to me, endorsed "Surveyor," on or before WEDNESDAY, the 6th of AUGUST, 1862.
N.B.—No canvassing allowed. By order,
EDMD. M. WAVELL, Clerk to the Local Board.
Town Hall, Halifax, July 23, 1862.

MESSRS. STANDIDGE & CO. Lithographers and Draughtsmen, 36, Old Jewry, City, E.C. have a VACANCY for an APPRENTICE in the Draughtsman's Department. Terms on application.

TO ARCHITECTS' ASSISTANTS.
WANTED, immediately, an ASSISTANT, who is a good draughtsman, capable of preparing specifications, and conversant with all the duties of an office.—Address, stating age, salary, and other particulars, to H. H. H. Office of "The Builder."

TO PLUMBERS, DECORATORS, &c
WANTED, a PARTNER, a thoroughly Practical Man, in an Old-established Business a few miles from London. The offer will be on very advantageous terms.—Apply to J. H. Messrs. Frames & Co's Oil Merchants, Borough, S.E.

TO BUILDERS' FOREMEN.
WANTED, immediately, a thoroughly practical FOREMAN, to superintend the erection and repairs to Farm Buildings; also to be capable of taking out quantities for estimating, and make himself generally useful. State where last employed, salary required, and age.—Address, A. B. Post-office, Romford.

WORKING FOREMAN.—WANTED, a person to carry out the CARPENTER'S and JOINER'S WORK for some BUILDINGS, and superintend the conversion of timber at the saw-mill.—Address, W. L. Cleaver's Newspaper Office, 18, Commercial-road, Lambeth, S.

TO ARCHITECTS AND SURVEYORS.
WANTED, by the Advertiser, who has had many years' experience in Building and Drainage, a SITUATION with the above. Is a good calculator, estimator, and writer; can do plain drawing, and would make himself useful.—Address, R. R. care of Mr. Horne, 73, Newington Causeway, S.E.

TO DECORATORS, BUILDERS, &c.
WANTED, a constant SITUATION in town or country, by a first-class Plain and Decorative Paperhanger. Has also a thorough knowledge of decorative work on ceilings and cornices, oil gilding, &c. No objection to fill up time at painting if required. First-rate references can be given.—Address, E. C. No. 1, Upper Marylebone-street, Fitzroy-square, W.

TO ARCHITECTS AND ENGINEERS.
WANTED, an ENGAGEMENT, by an Assistant competent to take the Management of an Office. He is a good and very expeditious draughtsman, thoroughly conversant with quantities and construction, and the duties of an office.—Good references.—Address, L. O. F. 13, Moorgate street, E.C.

WANTED, to Place a Youth, aged 16, as an APPRENTICE, under the care of a respectable foreman, in a good Builder's business, where he could be boarded and lodged, and receive regular instruction in the business of carpenter and joiner. Terms to be stated, and unexceptionable references given.—Address, Messrs. JENNINGS & SON, Proctors and Solicitors, No. 18, Bennet's-hill, Doctors' Commons.

TO ARCHITECTS.
WANTED, by the Advertiser, who is a good Draughtsman, and well acquainted with building construction, a RE-ENGAGEMENT, either as Office Assistant or Clerk of Works. Good references, and salary moderate.—Address, A. B. Bessborough Library, Bessborough-gardens, Pimlico, S.W.

TO IRONMONGERS, &c.
WANTED, a SITUATION, in Town or Country, as BELL-HANGER, LOCKSMITH, &c. Has had three years' experience in London.—Address, H. M. STEVENS, No. 19, Grape-street, Leicester.

WANTED, by a Young Man, aged 23, a SITUATION as CLERK in a Builder's, Timber Merchant's, or other Office. Is an excellent book-keeper, accountant, &c. and has been engaged in the above trades for the last five years. First-class references can be given, and testimonials produced from his former employers.—Address, J. T. 41, St. Paul street, Arlington-square, N.

TO BUILDERS.
WANTED, PLASTER WORK, finding scaffolding and materials, or labour only. Payment by instalments. First-class references.—Address, T. S. at Mr. Stock's, 19, Elizabeth-terrace, Liverpool-road, Islington.

TO CARPENTERS AND BUILDERS.
WANTED, by a Young Man, a SITUATION as IMPROVER in the above.—Address, J. A. B. 34, York-road, Lambeth.

TO PLUMBERS AND BUILDERS
WANTED, by a steady respectable Man, of large experience in London work, a RE-ENGAGEMENT as FOREMAN of PLUMBERS. Good references from last employers. No objection to the country.—Address, Y. Z. 0, at the "The Builder."

TO BUILDERS AND CONTRACTORS.
WANTED, by the Advertiser, a SITUATION as CLERK (in town or country). Is well acquainted with bookkeeping, valuing, abstracting, and taking quantities. Good references can be given. Age 27. Salary moderate.—Address, A. B. 35, Stamford-street, Blackfriars.

TO BUILDERS AND CONTRACTORS.
WANTED, a SITUATION, as STOREKEEPER, or CLERK and STOREKEEPER. Understands the Ironmongery and blacksmith's business, in nearly all its branches. Age 30. First-class references given. Not particular to town or country.—Address, S. C. care of Mr. White, 29, Marsham-street, Westminster.

WANTED, EMPLOYMENT, in town, by a steady and trustworthy Man (by trade a carpenter and joiner), in a shop, warehouse, or factory, in any useful way where confidence and integrity in serving his employer may be relied on. Eight years' recommendation.—Address, M. G. Mr. Dickes, 12, Guildford-street, Russell-square, W.C.

TO BUILDERS, &c.
WANTED, a SITUATION, in a Builder's Office. Can keep the books, make the out-door returns, measure work, keep the books, take the line, &c. and generally acquainted with the business. Six years with last employer. Age 27.—Address, W. B. 63, Hatfield-street, Stamford-street, S.

TO BUILDERS AND PLUMBERS.
WANTED, by a Young Man, aged 30, a SITUATION as a good THREE-BRANCH HAND.—Address, H. KNIGHT, 186, Southwark Bridge-road, Newington.

TO BUILDERS AND CONTRACTORS.
WANTED, by a Young Man, aged 21, a RE-ENGAGEMENT in a Builder's Office. Has been five years in his present situation.—Address, A. Z. Mr. Mowels's, Stationer, 142, Sloane-street, S.W.

TO UPHOLSTERERS AND DECORATORS.
WANTED, by the Advertiser, who has a general knowledge of the principles of design, a SITUATION, or partial employment. Can sketch well, and has a practical knowledge of the manufacture of furniture.—Address, W. C. E. 50, St. George's-road, New Kent-road, Borough, S.E.

TO MASTER PLUMBERS AND BUILDERS.
WANTED, by a Good PLUMBER, who will finish off a job he has in the country in a few days, a RE-ENGAGEMENT, permanent or otherwise.—Address, L. B. Office of "The Builder."

WANTED, by a WORKING FOREMAN of JOINERS, a RE-ENGAGEMENT as SHOP FOREMAN, in the charge of a shop. Is well experienced in office business, and the neatly finished job business. Several years' most unexceptionable reference. No objection to the country.—Address, Q. G. Office of "The Builder."

TO PLUMBERS AND BUILDERS.
WANTED, by a First-class Plumber or Three-Branch Hand, EMPLOYMENT.—Apply, WM. LLOYD, 3, Charlotte-place, Old Church-street, Paddington-green.

TO BUILDERS, CONTRACTORS, AND ESTATE AGENTS.
WANTED, by a thoroughly active Man, a SITUATION as FOREMAN of BRICKLAYERS or PLASTERERS, or as GENERAL FOREMAN to take charge of a job, or to take piece work. Is a workman in a superior manner at 4½d. per rod; plastering equally low. Five years' character from last employer.—Address, M. H. 215, Grange-road, Bermondsey, London, S.E.

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, a SITUATION as ASSISTANT FOREMAN of WORKS. Is an excellent draughtsman. Salary and no much an object as an opportunity for improvement.—Address, H. T. W. Office of "The Builder."

WANTED, a SITUATION, by a Young Man, who is practically acquainted with working the mortise machine, or would fill up his time at the saw or machine himself otherwise useful. Wages, 22s. per week.—Address, A. B. 35, Barbican, City.

TO ARCHITECTS, SURVEYORS, OR BUILDERS

WANTED, by a Builder's Son, who has been articled to an Architect and Surveyor, and is a good draughtsman, and accustomed to quantities, a SITUATION, in any of the above offices, or would fill up his time at the saw or machine himself otherwise useful. Wages, 22s. per week.—Address, A. B. 35, Barbican, City.

TO BUILDERS, HOUSE DECORATORS, &c.

WANTED, by a respectable Young Man, constant EMPLOYMENT as PAPERHANGER, &c. No objection to the country.—Address, F. M. Lawn Cottage, Kilburn, N.W.

TO BUILDERS, PLUMBERS, &c.

WANTED, EMPLOYMENT, by a Good PLUMBER. Could fill up time at glazing and painting; also, if required, could measure and estimate, and take the management of a business.—Address, PLUMBER, Mr King's, No. 16, Charles street, Manchester-square.

WANTED, a SITUATION as ASSISTANT SURVEYOR in the country. The Advertiser has had five years' experience in a West-end firm. A moderate salary only required.—Address, H. C. T. care of Messrs. Widnell & Trollope, 2, Upper Charles-street, Westminster, S.W.

TO CARPENTERS AND BUILDERS.

WANTED, by a Youth, aged 19, a SITUATION as IMPROVER to the Carpentering and Joinery. Wages not such an object as constancy and a desire to improve.—Address, J. G 23, Norfolk-street, Middlesex Hospital.

TO CARPENTERS AND BUILDERS.

WANTED, by a Youth, a SITUATION as IMPROVER to the Carpentering, having had three years' experience.—Address, J. M J. 37, Castle-street, Long-acre.

TO PLUMBERS AND DECORATORS.

WANTED, by a Tradesman's Son (a painter by trade), a SITUATION, in the above, as FOREMAN. Willing to keep books by single or double entry. Country not objected to.— Address, G SMITH, 68, Napier street, Hoxton.

WANTED, a Principal FOREMAN in a Plastering and Decorative Business. None need apply but those of good character, and are fully competent for the situation.—Apply at the Office of Messrs. BIELLMAN & IVEY, 14, Buckingham-street, Fitzroy-square, W.

TO BUILDERS, ENGINEERS, AND OTHERS.

WANTED, by the Advertiser, a RE-ENGAGEMENT as ASSISTANT DRAUGHTSMAN. Is neat and expeditious, and a good penman. Good references and testimonials.—Address, E. A. 41, Stanford-road, Fulham-road, S.W.

WANTED, a SITUATION, by a BUILDER'S CLERK. Is a good draughtsman and accountant; can measure up works, take out quantities, and prepare estimates. Will give satisfactory reference as to character and abilities.—Address, A. M. N. 2, Denbigh-terrace, Westbourne-grove, London, W.

TO BUILDERS AND OTHERS.

WANTED, by the Advertiser, a thoroughly Practical Man, a SITUATION as PLASTERER or MODELLER, PIECE or WASTE MOULDER.—Address, J. S. 1, Hay-place, Broadway, Hackney, N.E.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a neat and expeditious Draughtsman, accustomed to prepare working, detail, and other drawings, desires an ENGAGEMENT. Thoroughly conversant with quantities and contracts, and the usual routine of business. Unexceptionable references.—Address, A. M. 40, Watling-street, E.C.

TO ARCHITECTS.

THE Advertiser, who is a neat and expeditious Draughtsman, wishes for an ENGAGEMENT. Is able to prepare competition, working, and detail drawings, &c. Satisfactory references.—Address, A. F. B. Office of "The Builder."

TO MASTER PLUMBERS AND BUILDERS.

THE Advertiser, a PLUMBER, wishes for a CONSTANCY. No objection to fill up his time with Painting or Glazing. Has been used to a City shop.—Address, G. P. 19, Nelson-street, City-road, St. Lukes.

THE Advertiser is in WANT of a SITUATION, in an Architect's Office, as ASSISTANT, junior or pupil. Can assist to prepare finished and detail drawings, perspective, &c.—Address, C. H. 50, Admiral-terrace, Vauxhall-bridge-road, S.W

TO PLUMBERS AND BUILDERS.

EMPLOYMENT REQUIRED by a PLUMBER and GASFITTER. Can fill up time with painting, if required.—Address, E. B. 105, Pmed-street, Paddington, W.

TO ARCHITECTS.

A GOOD DRAUGHTSMAN, who served his articles with one of the first Architects in London, is open to an ENGAGEMENT. Salary moderate. Age 27. Competent Land Surveyor and Leveller.—Address, Mr. OLDFIELD, 45, Finchley-road, N.W.

TO LAND AGENTS AND SURVEYORS.

A THOROUGHLY Practical Surveyor and Leveller is open to an ENGAGEMENT. Is an excellent draughtsman, and has had much experience in parish, town, and railway surveys.—Address, B. C. D. Post-office, Gloucester

TO ARCHITECTS AND ENGINEERS.

AN ASSISTANT desires an ENGAGEMENT. Is a neat and expeditious draughtsman, accustomed to prepare designs, sketches, working and detail drawings. Thoroughly understands quantities. Competent to manage business. References good.—Address, B. S. 4, Hamilton-terrace, Highbury, N.

TO ARCHITECTS AND BUILDERS.

AN Estimator of experience and standing, having a PORTION of his TIME DISENGAGED, is willing to undertake estimating for builders or architects on moderate charges.—Address, Y. Z. care of Mr. W. Brock, 33, Nicholas-lane, E.C.

TO BUILDERS.

A YOUNG MAN seeks an ENGAGEMENT as CLERK. Excellent references, and considerable experience.—Address, X. Y. care of Mr. G. Street, Advertising Offices, 30, Cornhill, London, E.C.

A STAIRCASE HAND, well experienced, is desirous of an ENGAGEMENT.—Address, E. A. 28 Grange-road, Bermondsey.

TO ARCHITECTS AND SURVEYORS.

A GOOD and expeditious DRAUGHTSMAN, in his twenty-eighth year, requires a RE-ENGAGEMENT, either temporary or permanent. Good references. Salary low. – Address, B. W. Mrs. Down's, 15, Essex-street, St. Peter's, Islington.

TO BUILDERS, DECORATORS, AND RAILWAY CONTRACTORS.

A YOUNG MAN wishes for constant EMPLOYMENT in the graining, painting, and glazing line. Country no object. Wages moderate.—Address, A. Z. 3, Crescent-street, Euston-square, N.W.

AN active Young Man is in WANT of EMPLOYMENT, to work a small circular saw-bench, or grind planing or other tools as cutters, in town or country.—Address, W. H. 16, Mansion House-street, Kennington-lane.

TO ARCHITECTS AND SURVEYORS.

A QUANTITY SURVEYOR and MEASURER, of considerable practical experience, would be glad to be TREATED with by ARCHITECTS for the TAKING OUT of QUANTITIES and Measuring Specifications, &c. upon reasonable terms; or would assist Architects and Surveyors at their own Offices, if preferred. References given; quantities guaranteed. Address, "ALPHA," care of Mr. Fisher, Stationer, Vassall-road, Brixton-road, S.

TO LAND SURVEYORS AND CIVIL ENGINEERS.

A COMPETENT ASSISTANT, provided with all field and office instruments, desires a RE-ENGAGEMENT. Is experienced in parish, estate, and railway surveying, levelling, ranging curves, &c; and is a good draughtsman.—Address, "Surveyor," 29, Acton-street, Gray's-inn road, London, W.C.

A GENTLEMAN who has been for several years actually engaged as Architect and Surveyor to a large building estate near London (the building on which is for the present suspended), is desirous of meeting with a similar APPOINTMENT; or would be glad to undertake a TEMPORARY ENGAGEMENT in Laying Out Land, Roads, and Sewers, or Preparing Designs for Buildings.—Apply, by letter, to A. B. Post-office, Smallbery-green, W.

TO HOUSE-PAINTERS AND BUILDERS.

A GRAINER, WRITER, and PAPERHANGER WANTS a PERMANENCY.—Address, W. G. 3, Tufton-street, S.W.

A QUANTITY SURVEYOR'S ASSISTANT is OPEN to an ENGAGEMENT. Is quick and accurate in abstracting and billing quantities, and can give good reference.—Address, R. E. Post-office, Birmingham.

TO ARCHITECTS AND SURVEYORS.

AN ARCHITECT and SURVEYOR'S ASSISTANT desires an ENGAGEMENT. Highest references given as to abilities, &c Country not objected to.– Address, T. J. K. care of Mr. A. Laurie, 89, St. John-street-road, Clerkenwell.

A STEADY and energetic Man, of many years' experience, a Joiner by trade, is desirous of a RE-ENGAGEMENT as CLERK of WORKS, or GENERAL FOREMAN. Has a thorough practical knowledge of stone and brick work. Satisfactory references from late employers.—Address, N. P. V. Office of "The Builder."

A GENTLEMAN of good address and first class business habits, residing near Moss Lester, is desirous of REFEREEING, in Manchester or Liverpool, an INSURANCE or other Public Company.—Address, L. 43, Post-office, Manchester.

TO CARPENTERS, &c.

A YOUNG MAN, aged 20, WANTS EMPLOYMENT as IMPROVER. Wages no object. Has been five years at the trade.—Address, W. D. 4, Paris-street, Palace-road, Lambeth.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter from SIR RAYMOND JARVIS, Bart. YENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1853.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons I am likely to meet with, and there is not the least appearance since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c, &c. Every Article for draughtsmen's use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH
Near Astley's Theatre.

Respectfully inform the public that their illustrated Price-list will be forwarded for one application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds of the best makers, always in stock.

INTERNATIONAL EXHIBITION.
JURY AWARDS TO SAMUEL HIGHLEY

Class XIII.—A MEDAL, "For Student's Microscopes, combining simplicity and good workmanship, and for excellence in other optical instruments."

Class XIV.—HONOURABLE MENTION, "For excellence of Apparatus."

Class XXIX.—A MEDAL, "For the excellence of his Educational Collections"

A Descriptive Illustrated Catalogue, post-free, four stamps.
London: 70, Dean-street, Soho-square, W.

THE IMPROVED SURVEYING and DRAWING INSTRUMENTS, as on view at the International Exhibition, Class 13, Northern Gallery (see Report of Jurors, now published), to be had at SUPPELL'S, 323, Long-acre, London, W.C. Every instrument of the finest description, and at the lowest possible price. Lists free, and at the Exhibition. Standard measures of all nations forwarded to all parts on reference or remittance.

WANTED, to PURCHASE, a strong TWO-HORSE BRICKMAKER'S VAN, on Springs.—Address, Messrs. BUCKLAND & SON, Windsor.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, lower use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.

SCAFFOLD and HEMP ROPE FALLS.

H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS.

SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.

CARY & PRIER,
DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

TO ARCHITECTS, BUILDERS, &c.

GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F ODELL & CO. 8, Bath-street, City-road, E.C.; or at the Works, 12, Grafton-mews, Fitzroy-square, W.—N.B. Prot and Church Leads sold.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

TO BUILDERS.—VILLAS to be erected on a first-class Estate in the country, with liberal advances as the work proceeds. For particulars apply at the Offices of Messrs. ELMSLIE, FRANEY, & HADDON, Architects, 43, Parliament-street, London

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet street, London. ROBERT M. LATHAM, Secretary.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, an LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter. Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-sq.

FARM-HOUSES, FARM-BUILDINGS, and LABOURERS' COTTAGES DESIGNED with due regard to economy and efficiency. Drainage and all works of Improvement planned or executed. Loans obtained for these purposes. Address, Mr. C. STUART BARKER, Farm Architect and Drainage Engineer, 12, Buckingham-street, Adelphi, London, W.C.

JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.
JEFFS, BROTHERS,
CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS
Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE FREE.

		Laths, 28s. per load.
Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		
Yellow Deals, sound and good	£19 10 0 per 120,	or 0s. 3½d. per foot.
Spruce Deals	16 10 0 ,,	0 2½ ,,
Yellow Battens, excellent quality	11 10 0 ,,	0 2 ,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 ,,	3 6 ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅝-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,
Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
⅝-inch White Matched Lining .... 13s. per square
J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.



MOULDING WORKS.
SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by
J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.
Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.
PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash
Sashes and Frames, Boxing Shutters, Doors Staircases, Hand rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

COLOURS and VARNISHES at REDUCED PRICES,
Genuine White Lead, 30s. per cwt.: Linseed Oil, 2s. 4d. per gallon; Boiled Oil, 3s. 8d.; Turpentine, 3s. 6d. per gallon; Pale Oak Varnish, 4s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES
(C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 2s. 4d. per gallon; Boiled Oil, 2s. 8d. per gallon.
Turpentine, 3s. 6d. per gallon.
Fine Pale Oak Varnish, 7s. 8d. per gallon.
For cash, at EDWARD PHILLIPS'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Colshill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 44, James street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
Also Manufacturers of the Patent India-rubber Knife-boards, Cross-cut File Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED 1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Falcon-street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.

	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1¾	2	2½
„ 2 ft. 6 in. sup.	1½	1¾	2¼	3
4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 } per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s. } per cwt.

Fine Oak Varnish ...10s.
„ Carriage ...12s.
Linseed and Boiled Oil
Turpentine ..... } per gallon.

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

HAMPSTEAD ROAD JOINERY WORKS.

21, HARRINGTON STREET, N.W.

NEVIL SIMMONDS,

MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.

SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.

Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES **FOR HIRE** OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 32 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GORDE PIAZZA, Liverpool.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

WHITE and RED SUFFOLK FACING
BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS,

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, } SOLE CONSIGNEES.
WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosely colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, NARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND
BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

PORTLAND CEMENT WORKS,
Borstal, on the Medway, near Rochester, Kent.
J. HOLLICK & CO.
Manufacturers of the best Portland Cement, are now prepared to supply an article of first rate quality on the most reasonable terms.
Shipping and Brokers' orders promptly executed.

POLYTECHNIC.—New Lecture by Professor J. H. Pepper, on Tuesday, Thursday, and Saturday, at half-past 12 and quarter-past 7, on "Some of the Chief Scientific Specialities of the Intern. Exhibition." Splendid series of Electrical Experiments with the Great Plate Machine, and Lectures by J. L. KING, Esq.—Remarkable Imitations of British Birds and Animals, by HERR SUSMAN.—Re-engagement of George Buckland, Esq. for the Musical Entertainments.—New Gorges's Prismatic Fountain Spectacle.—Concerts by the BROUSIL FAMILY. See weekly programme of 8 pages. Open from 11 to 5, and half-past 6 to 10. Admission 1s.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Great Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order

Post-office Orders payable at Vauxhall or Edgeware-road.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SPURGEON'S IMPROVED MARTIN'S CEMENT.

A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.

MANUFACTURED ONLY BY

B. W. SPURGEON, DERWENT WORKS, DERBY.

London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.

Coarse, Fine, and Superfine London-made PLASTER of PARIS.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.

Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

LONDON WHARF, BELVIDERE ROAD, LAMBETH

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.

White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one fourth the usual time, as Paris Stucco is perfectly dry and set within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS BROTHERS, & FOTT, Nine Elms, London

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:—

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.

Whereat can be obtained, of the best quality —

GREY STONE CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BRNNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING of Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.

Goods forwarded to Railways with despatch.

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast screened or unscreened, by the yard or per barge. Stocks Lime and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2,268.

The only Medal for Stoneware Pipes, &c., has been warded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

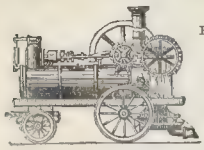
Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

PEARCE'S PATENT SANITARY PIPE, BRICK, AND TILE MACHINES,

Producing nearly double the quantity and of very superior quality to any machine yet invented. The improvement consists in the introduction of a central stem to support the core of the die, and obviating the necessity of cross-bars or bridges, hitherto found so detrimental in the manufacture of large sanitary pipes. The upper part of the Machine acts as a Pug-Mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die. The larger Machines will make sanitary pipes, from 3 inches to 24 inches. The smaller, from 2 inches to 12 inches.—Particulars on application to the

IRON WORKS, POOLE, DORSET.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, **TO LET ON HIRE**, by the Week or Month.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.

N.B. Steam Power, with Workshops, to Let

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mottars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at

W. F. WILLIAMS'S

Marble Works, 316, Euston-road, London, N.W

FOR SALE, in LARGE and SMALL BLOCKS,

BEST BLACK MARBLE.

For price, apply to

J. PERRIN, SON, & CO. Liverpool.

PURE STATUARY MARBLE and in slabs of large dimensions, can be obtained at

M. W. JOHNSON'S MARBLE WORKS,

363, EUSTON-ROAD, London, N.W.

Prices moderate.

M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and correctness. Established 1821.

MARBLE CHIMNEY-PIECES of every Description, also enamelled Slate, to be SOLD at 230, MARYLEBONE-ROAD (opposite the Yorkshire Stingo)

BATH STONE BOX CHIMNEY PIECE, with MOULDED CAP and BASE, 7s. FITTED TO ANY OPENING.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY., Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries—Earl-street, Horseferry-road, Westminster.—The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XO. The largest Marble Chimney-piece in the world.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.

THE LIZARD SERPENTINE COMPANY, LIMITED.

Works—CARLEON COVE, LIZARD, CORNWALL.

Offices—24, ST. JAMES'S-STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.

All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B. Estimates given. Country and foreign orders executed with promptness and personal attention.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trade imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a few Illustrated Catalogue of which can be had at the Pimlico Slate Works, 49 and 49, Upper Belgrave place, Pimlico, S.W.

ABERDEEN POLISHED GRANITE WORKS Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.

Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.

Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by

WILLIAM & JOHN FREEMAN,

27, MILLBANK STREET, LONDON, S.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall

SHOW ROOMS, 8, CANNON-STREET, E.C.

London Agents—TREGELLES & TAYLOR.

Manager—JAMES J. TRATHAN, Liskeard.

This Granite is selected for the New Westminster Bridge.

DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.

EDGE RUNNERS OF SUPERIOR QUALITY.

RED MANSFIELD STONE.

[WHITE MANSFIELD STONE.

YELLOW MAGNESIAN or BOLSOVER LIMESTONE.

Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.

Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.

Country orders promptly attended to.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to

OCTAVIUS N. SIMPSON, STAMFORD;

and see Specimens at the Office of

Messrs. PINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

CAEN and AUBIGNY STONE, FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN,

Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.

Depôt—GRANITE WHARF, East Greenwich.

Office—16, Three Crown-square, Borough.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.

Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE SOLD by PRIVATE CONTRACT, about 300 Tons of first-quality Rungo, Queen's, and Peaswell SLATES, assorted sizes.—Apply to CHARLES A. LEWIN, Timber Merchant, Poole, Dorset.

BELLMAN & IVEY,

GENERAL AND ORNAMENTAL PLASTERERS,

MANUFACTURERS OF SCAGLIOLA MARBLE.

N.B. A Medal was awarded Messrs. B. & I. for the beauty of their Works exhibited at the International Exhibition 1862

Show-Rooms, 14, BUCKINGHAM STREET, PORTLAND-ROAD, W.

BELLMAN & IVEY,

MANUFACTURERS OF IMPROVED PLASTER OF PARIS.

Works—3, BEDFORD-STREET, LIQUORPOND-STREET, E.C.

Office—14, Buckingham street, Portland road, W.

SCAGLIOLA WORKS, 14, SMITH-SQUARE, WESTMINSTER, S.W.

G. WARREN, SCAGLIOLIST,

Begs to inform ARCHITECTS, SCULPTORS, BUILDERS, and the Trade in general, that he is prepared to execute all descriptions of SCAGLIOLA MARBLE WORK, in the best manner, at very moderate prices. Superior Scagliola Pedestals, for busts, &c. at from 4l. 10s. to 5l. 5s. per pair.

TO BUILDERS, CONTRACTORS, and OTHERS. 4,000,000 BRICKS FOR SALE, of the best qualities, consisting of Malms, Stocks, Place, &c. at the Brickfield, near Langley Station on the Great Western Railway. For terms, apply to Messrs. BUCKLAND & SON, Windsor.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 30s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire street Station, at 20s. per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.

Red, White, and Black Cutters

Fancy Moulded Bricks of many patterns

Best hard Red and Common Bricks, in large quantities.

Do 6 inches.

Do Culvert Bricks.

Plain Tiles of kinds.

Plain and Fancy Ridge tiles, &c.

Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty, 75l.

Licences to Manufacture granted for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,810.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Stairs Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.

BRICKS, TILES, SLATES,

LIME, CEMENT,

HAIR, LATHS, PLASTER,

SAND, BALLAST,

GLAZED DRAIN-PIPES, AND RED GOODS;

TERRA COTTA;

SPLAY, JAMB, AND COPING BRICKS;

SUFFOLK AND OTHER PAVIORS;

STAFFORDSHIRE AND FIRE GOODS;

MALMCUTTERS, PICKINGS, &c.

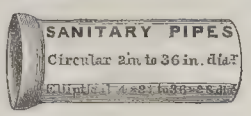
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.

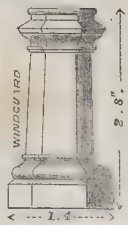


CHAM & SONS

LONDON WHARF, 64, Bankside, Southwark.



LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

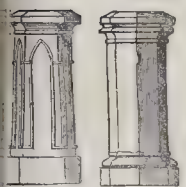
JAMES STIFF & SONS,

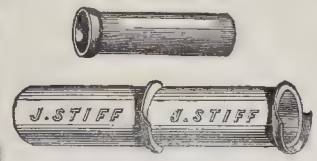
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz :—
Messrs GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & CO'S. City-road Wharf, City Basin.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danvers Wharf, Chelsea.
Mr LAVERS'S, Dowgate Wharf, Canal road, Hoxton.
Mr. HENRY TURNER'S, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,

BOTH ROUND AND EGG-SHAPED.

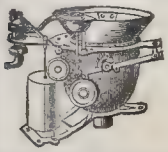
M. B. NEWTON, LONDON AGENT,

WHARF Nº 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

THOMAS LAMBERT & SON,

No. 17. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



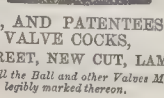
No. 6. High Pressure Bib Valve.



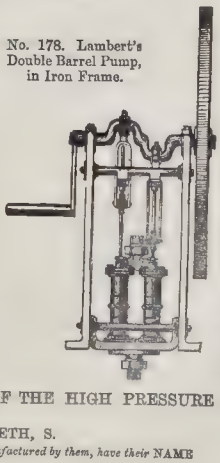
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 382, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,
242 EUSTON ROAD, ST. PANCRAS.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1763, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

BUFF & DEEP RED FACING BRICKS, Splays, Cutters, Floor-tiles, Garden Edging, &c.—Apply to R. HOOPER, Manufacturer, Southampton; or JOHN HOWSEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.

Architects and Builders requiring superior colour in bricks are respectfully invited to inspect the above.

MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

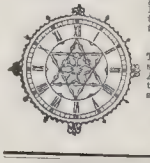
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8	Guineas.
Gentlemen's do. do.	10	"
Ladies' or Gentlemen's Gold English Lever Watches	18	"
Strong Silver Lever Watches	5	"
Gentlemen's Gold Compensation Balance Watches	40	"
Do. Silver do.	25	"
Marine Chronometers	25	"

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No 3,246.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

SALES BY AUCTION.

The Gwydir, otherwise the Bwich Slate Quarries and Works, near Llan wst, North Wales.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, JULY 31, at TWELVE, at the AUCTION MART, London, in One Lot (unless an acceptable offer be previously made by private contract), the GWYDIR (otherwise the Bwich) SLATE QUARRIES, situate at Bolwyddelen, in the county of Carnarvon, about nine miles from Llanrwst, about twenty-one miles from the shipping port of Conway, and four miles from the railway from Conway to Llanrwst will be completed in the spring of next year, and will afford additional facility for transit. The quarries are on the slope of the Carnarvon range of mountains, the slate formation lies about 10 yards beneath the surface, and has been proved to the depth of about 35 yards. The quality of the slate is uniform, equal in grain to the well-known Bangor slate, and of the original blue colour of the Welsh slate. The works were formed some years since by the Gwydir Slate Company, and fitted with costly machinery for sawing, planing, and otherwise preparing slate slab; the whole worked by an iron overshot water-wheel, 30 feet in diameter, driven by a powerful stream of water flowing from a lake in the mountains, discharging itself into the River Lledr, a tributary of the Conway, which flows past the property; but although large sums of money have been expended in fitting the machinery and in opening the quarry, it may almost be pronounced a virgin quarry, from the comparatively very limited operations hitherto performed, there being up to the present time only four bargains or workings actually formed, and these only partially worked in a small front which during the past six months has been 665 tons of slates, but by a judicious expenditure now being gradually made six additional bargains may be at work within the next twelve months, thereby increasing the yield to at the least 400 tons per month, or 4,800 tons per annum. The quarry is well placed for working, being on the slope of the mountain at a very convenient elevation, and with plenty of ground for tip room for the refuse; and a portion of the machinery, viz., the water-wheel, with winding gear, has been erected near the summit, for raising the blocks of slate from the deep workings; tramways also intersect the works. The road for the slates has been lately increasing, and there is no difficulty in finding ready markets for all the products on very remunerative terms; the profits under the present disadvantages of heavy standing charges and limited production realising 25 per cent. on the returns. The property occupies a site of 33 acres 2 roods, and 35 perches, more or less, and under 26 acres the slate formation has been proved to exist. It is held under Lord Willoughby d'Eresby, subject to a small fixed rent and royalties, which amount to about 5 per cent. on the gross returns. The wharf at Trefriw is the property of Lord Willoughby d'Eresby, and the charge of shipping therefrom is 3d. per ton. The cost of carting the slates from the works to the wharf is 6s. 6d. per ton; but when the quarries are in full working, a great saving in this charge may be effected by the construction of a tramway along the valley at the base of the mountains, facilities for which would be readily granted, and which would place these works in almost as advantageous a position as the celebrated quarries belonging to the owner of Penrhyn. Easy terms may be arranged for payment. The works may be seen at any time by cards only, which may be obtained of GEORGE HADLEY, Esq., Old Jewry; or of Messrs FULLER & HORSEY, Billiter-street, London, E.C.—Printed particulars may be obtained at the Inns, Bangor, Conway, Llanrwst, and Chester; at the "Midland Counties Herald" Office, Birmingham; of SAMUEL FISHER, Esq. Solicitor, Merchant Taylors' Hall, Threadneedle street, London, E.C.; of GEORGE HADLEY, Esq. 8, Old Jewry chambers; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO IRONFOUNDERS, SMITHS, ENGINEERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, AUGUST 7th, 1862, at ELEVEN o'clock, on the PREMISES, the IMPERIAL IRON FOUNDRY, Nos. 6, 6a, 7, 7a, Tabernacle walk, Finsbury, the PLANT, MACHINERY, TOOLS, and STOCK, of an IRONFOUNDER, comprising seven inch and a half pressure steam engine from 2-horse to 10-horse power, Cornish boiler, 2 models, a multitubular steam boiler, by Maudsley & Field; drilling machine, a 7-inch centre screw-cutting lathe, 3 engine turning side lathes, 24 inches to 9-inch centres, boring lathe, Perring pump, Gwynne's No. 3 Centrifugal pump, wrought-iron cupola, 6 iron boxes, fittings of drying stove, core-baking oven, 2 iron cranes, 2 fly presses, 2 punches, 2 vices, and bellows, smith's tools, vices, James's 11-cwt. weighing machine, 200 feet shafting, riggers, &c.; 200 feet leather bands, a large quantity of cast-iron and arms finished and partly finished, 3 kitchen ranges, several tons of castings, 2 gas meters (10 and 50 lights), gas fittings, an assortment of valuable patterns, and numerous other effects.—To be viewed on WEDNESDAY previous to which catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, Billiter-street, E.C

Horses, Waggons, Carts, Harness, Barges, 10,000 Blocks of Stone, &c. To Millers and Others.—" Watney v. Wells."

MESSRS. FULLER & HORSEY are instructed by his Honour the Master of the Rolls to SELL by AUCTION, on TUESDAY, AUGUST 12, at HERON MILLS, Wandsworth, SEVENTEEN powerful young WAGGON HORSES, including several handsome teams; two bay gig horses, one brown mag, one brown shilly, nine flour waggons, patent arms, two timber, large and two small flour-carts, three dirt carts, three gigs; waggon, cart, and gig harness; stable utensils, three open iron barges, new grating, barge poles, 2 sets of cut and uncut 50-ton timber, grapnels, anchors and chains, tarpaulings, ropes, pumps, &c; one iron punt, 20 feet long, 6 feet beam; one wood punt, one new skiff, 10,000 stone blocks, about 14 inches cube each; and other effects.—To be viewed on MONDAY previous and Morning of Sale, when catalogues may be had on the Premises; of Messrs. M'LEOD, STENNING, & WATNEY, Solicitors, London-street, E.C.; of J. E. SHEARMAN, Esq. Solicitor, Mark-lane; at Jack's Coffee House, Mark-lane; at the Eagle, Wandsworth; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C. GEORGE WHITING, Chief Clerk.

CHANCERY LANE.—To Bankers, Public Companies, Builders, and Others—Important Freehold Building Ground, with Frontages to Chancery-lane, Carey-street, and Star-yard.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed by the Directors of the Law Fire Assurance Society to SELL at GARRAWAY'S, on WEDNESDAY, JULY 30, at TWELVE o'clock (unless previously disposed of) an important and valuable FREEHOLD PLOT of BUILDING GROUND, in Chancery-lane and corner of Carey-street, having a frontage to the former of 55 feet 9 inches, and to the latter 148 feet 6 inches, and to Star-yard of 55 feet 9 inches; containing an area of 9,000 superficial feet. The central situation of this great business thoroughfare renders the site highly desirable for the erection of a branch bank, offices for public companies, restaurant, or grand hotel-chambers, or for any other commanding position. The Plot is now let to a respectable tenant on a good light on all sides, and easy access from every part of the metropolis &c. with the railroad concentrate to the west end of the town. The alternative situation of the property, its locality, future revenue, the value of all available ground and property for business purposes.—Particulars and plans may be had of Messrs. HARRISON, SEAL, & HARRISON, Solicitors, 19, Bedford-row, W.C.; of T. BELLAMY, Esq. 8, Charlotte-street, Bedford-square; GEORGE POWNALL, Esq. 60, Lincoln's-inn-fields; at GARRAWAY'S; and at the Offices of Messrs. FAREBROTHER, CLARK, & LYE, 6, Lancaster-place, Strand, W.C.

KENT. Southborough, near Tunbridge Wells. Highly valuable Freehold Building Estate.

MESSRS. CHARLTON are instructed to SELL by AUCTION, in AUGUST next (unless an acceptable offer by private contract be previously made), that attractive and truly valuable FREEHOLD ESTATE known as Stumps Farm, comprising about 21 acres of rich arable land, with the exception of the picturesque villa residences, for which it possesses more than usual advantages. This property is well situated, has a frontage of 1,000 feet to the London Road leading to the centre of the town of Tunbridge Wells, from which it is distant about two miles, and close to the beautiful village of Southborough, proverbial for its pure and bracing air; within about five minutes' walk of two churches; thus offering an opportunity of securing a country residence in a delightful and picturesque neighbourhood, with easy access to the metropolis, which will be much increased when the proposed direct railway from London to Tunbridge is completed. It opens to builders and speculators safe and profitable investments. Any information may be obtained at the Office of Messrs. CARNELL, GORHAM, & WARNER, Solicitors, Tunbridge; or of Messrs. CHARLTON, Land Agents and Surveyors, Tunbridge, where a plan of the property may be seen.

BUILDING MATERIALS, KING-STREET, CHEAPSIDE.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, AUGUST 1st, at TWELVE, in lots, all the valuable BUILDING MATERIALS of a house and premises, No. 33, King-street, Cheapside: comprising brickwork, tiles, timber, flooring boards, sashes, doors, warehouse front, lead gutters, cisterns and pipes, counter shoors, and useful fittings as May be viewed the day previous, and catalogues had of Messrs. TRESS & CHAFFERS, Architects, 27, Gower-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

CARRARA WHARF, Thames bank, Pimlico. To SCULPTORS, MASONS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Fabbricotti, Brothers, to SELL by AUCTION, on the PREMISES, Carrara Wharf, Pimlico, on TUESDAY, AUGUST 12th, at ELEVEN for TWELVE, a large quantity of MARBLE, in blocks; comprising statuary, veined, Bardilla, Sicilian, and various coloured varieties; also several thousand feet of veined, Sicilian, and statuary slabs; and a selection of garden figures, vases, balls, mortars, and bee-stores, in Sicilian Approved bills at four and six months. May be viewed two days previous, and catalogues had at place of sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

RICHMOND.—FREEHOLD PLOT OF GROUND AND COTTAGE.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on WEDNESDAY, AUGUST 27th, at TWELVE, a FREEHOLD PLOT of GROUND, now occupied by the Richmond Waterworks, having a frontage of about 41 feet by 184 feet deep on the west side of the Lower-road leading to Petersham, and extending to the towing-path on the east; a substantial brick-built Cottage thereon, and an artesian well, 400 feet in depth. The purchaser will have the option of purchasing the engine-houses and machinery, or the same will be sold in lots on the 29th AUGUST.—May be viewed ten days previous to the sale; and particulars may be had of Messrs. HARROLD, FOWLER, & BLUNT, Solicitors, 47, Parliament-street; at the Auction Mart; the Greyhound, Richmond; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W.; and 80, Fore-street, E.C.

RICHMOND.—The valuable Steam Engines, Boilers, Pumps, and Machinery, of the Richmond Waterworks, and Materials of the Engine houses

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, Lower Petersham-road, on FRIDAY, AUGUST 29th, at TWELVE for ONE, in lots, the valuable MACHINERY; comprising a 15-horse condensing engine, by Maudsley; a 20 horse ditto, by Messrs Simpson; two Cornish boilers, 16 feet and 14 feet long; a pair of 15-inch pumps and a pair of 8 inch pumps, and the shafting, steam pipes, and connexions; large cast-iron tank, iron mains, &c.; also the very excellent materials of the engine and boiler houses, comprising 100 feet sound slock bricks, timber roofs, stone paving, slates, several tons of lead, doors, sashes, and other useful materials. May be viewed two days previous. Catalogues had of Messrs. HARGROVE, FOWLER, & BLUNT, Solicitors, 47, Parliament street; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

TO ROAD CONTRACTORS, BUILDERS, and OTHERS.—Very valuable Gravel-pit, affording also excellent building sand and chalk, with facilities for carting by rail and water close at hand

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, opposite the Bank of England, on WEDNESDAY, AUGUST 20, at TWELVE o'clock, 2½ ACRES of FREEHOLD LAND, situate adjoining the New-road, close to the town of Ware, and within a few hundred yards of the railway station and the River Lee. The land affords an almost inexhaustible supply of gravel of the best quality, as well as building sand and chalk, for all of which an unlimited demand exists. Large quantities of gravel and sand have already been taken from this pit for the Government, and several of the principal road and other contractors; and responsible persons are now treating for the same for work to be done in extensive terms. The surface offers valuable sites for building; and as the land lies on the slope of a hill, its capabilities for this purpose will be improved by working the gravel. Plans on application at the Mart.—Mr BROWN, Builder, New-road, Ware; and particulars, with conditions of Sale, obtained of GEORGE GISBY, Esq., Solicitor, Ware; at the Auction Mart, and of Messrs. DEBENHAM & TEWSON, Auctioneers and Estate Agents, 8, Cheapside.

COTTENHAM PARK, near Wimbledon, Surrey.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the MART, on FRIDAY, AUGUST 15th, at TWELVE o'clock, in lots, about 24 acres of FREEHOLD BUILDING LAND, situate in Cottenham Park, near Wimbledon, in the county of Surrey. It adjoins the property lately purchased by his Grace the Duke of Wellington, and is immediately contiguous to the Church and the new Hall which have been erected on this beautiful estate. The land is nicely elevated, commanding uninterrupted views of some of the finest scenery to be met with, so near a metropolis, and is healthy, easy of access, and the roads which have been built in the neighbourhood are of the best possible description, and occupied by a highly respectable tenantry. The building frontage are upwards of 3,000 feet, by a good average depth, varying from 350 to 400 feet, and adapted for first class villas. A more detailed description of the several lots will appear next week.—Particulars and plans may be had of Messrs. LETHBRIDGE & MACKRELL, Solicitors, 25, Abingdon-street, Westminster; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 69, Old Broad-street, Royal Exchange.

VALUABLE FREEHOLD BUILDING ESTATE, in the Bow-road (formerly the Manor House and Nursery Grounds Asylum.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the MART, on FRIDAY, AUGUST 15, at TWELVE, in one lot, a Valuable FREEHOLD ESTATE, for many years occupied as the Manor House Asylum, situate in the Bow road, almost close to the Bow Station, and within a quarter of an hour by the North London Railway of the metropolis. It comprises a substantial mansion, placed in the midst of about six acres of land, every foot of which has now become most valuable building land. It possesses a frontage to the high road of about 400 feet, extending in depth about 720 feet, with a capability of being laid out in numerous plots adapted for the erection of small or moderate houses, and ultimately producing well-secured ground rents, amounting to upwards of £1,000 per annum, offering a first-rate investment for builders, or for any land society.—May be viewed; and particulars and plans, showing the entire property and a proposed scheme for laying it out in building plots, may be had of Mr. WILLIAM Surveyor, Bow road; of Messrs. LAWFORD & WATERHOUSE, Solicitors, Austinfriars; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 69, Old Broad-street, Royal Exchange.

VALUABLE CONSERVATORY, standing on land (required for building purposes) near Old London Column, Shrewsbury, to be peremptorily SOLD by AUCTION, by

MR. HALL (together with other Property), at the GEORGE HOTEL, Shrewsbury, on THURSDAY, the 31st of JULY, 1862, at FOUR o'clock p.m subject to conditions, and unless previously disposed of by private treaty, in the following lots of the following dimensions, namely, 45 feet 6 inches long, 18 feet wide, and 9 feet 6 inches high, to the springing of roof. It is elegant in design, decorated sufficiently to ornament a nobleman's demesne, is fitted with stages, beds of hot water pipes, and is heated by iron framing, with metallic sash-bars. The situation being at a very moderate distance from railways (to all parts), would render its removal an easy matter. A lithographic drawing will be sent by post to parties applying to Messrs. H. T. & G. WACE, Solicitors, Shrewsbury; from whom also any further information may be obtained.

By Order of the Secretary of State for War,

MR. GEORGE SPILLMAN will SELL by PUBLIC AUCTION, at the Royal Arsenal, Woolwich, on MONDAY, 18th AUGUST, 1862, at ELEVEN o'clock in the forenoon precisely, the following STORES:—

Metal, Iron, Steel, Zinc, Lead, and Founder's Ashes; Piles, Tools, Resin, Beige Cuttings, Wool, Lubricating Composition, Horse Shoes, Leather, Great Coats, &c.; Harness, Hank, Barrels, Wheels, and Refuse Wood, &c. &c.

May be viewed from TEN to ONE o'clock, and from TWO to FIVE o'clock, on the three working days previous to, and morning of, the Sale; and Catalogues obtained at the War Office, Pall-Mall; at the Tower; and Royal Arsenal, Woolwich.

In Bankruptcy.—Re Raby, Islington, and Stratford.—To Builders and Others.—The WORKING PLANT and STOCK of a BUILDER.

MESSRS. J. J. CLEMMANS & SON will SELL by AUCTION, by order of the Assignees, upon the PREMISES, No. 6, Oakley-road, Southgate-road, on MONDAY NEXT, at ELEVEN o'clock, the Above; comprising scaffold-poles, boards, pulleys, ladders, and usual working utensils; quantity of cuttings, building materials, and other effects. And at the Buildings, Stratford-la, on the Romford road, near the Princess Alice Tavern, on TUESDAY NEXT, at TWELVE o'clock, 30 stock and place brick, quantity of prepared Swede timber in rafters and joists, scaffold poles, boards, bricks, and utensils.—Catalogues had of Messrs. LAWRENCE, SMITH, & FAWDON, Solicitors, Bread-street, E.C.; R. H. PARPORT, Esq. 50, Leicester square, W.C.; and of the Auctioneer, 21, Holywell-row, Finsbury-square, E.C.

CAMDEN TERRACE, Camden Town.—To Cabinet and Pianoforte Manufacturers, Builders, and Others

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, as above, on MONDAY, JULY 28th, at TWELVE for ONE, 9,000 planks, deals, and battens; 700 sawn slabs; 120 squares of flooring, 7,000 feet quartering, 1,000 feet lime tree and sycamore, 1,500 feet American ash, 4,000 feet wide pine board, feather-edge and match boards, die-square slating battens, panelling, sawing machine, 7 cabinet-maker's benches, easels, scaffolding, doors, 20 well-made sashes, ironmongery, &c.—Auction Offices, 2, Cardington-street, N.W.

BAYSWATER.—Valuable Lease of 19, Inverness road, and the Builder's Stock and Plant at 17, Great Western-terrace.

MESSRS. LEREW & LEREW are directed by Mr. Moore, who is retiring, to SELL by AUCTION, on the PREMISES, 17, Great Western terrace, near the British Oak, on THURSDAY, AUGUST 7th, at TWELVE for ONE, the valuable LEASE of BUILDER'S PREMISES, 19, Inverness road, held for 18 years unexpired, at the low rent of £42 per annum, but from judicious outlay estimated at 100l. Also the STOCK and PLANT, two cart horses, pony, two brick and two light spring carts, Stanhope phaeton, &c.—Catalogues and particulars may be had.—Auctioneer Offices, 2, Carlingt n street, Hampstead road.

SALE ON FRIDAY NEXT.

EALING.—Forty Acres of Freehold Land, exempted of Land-tax, with most beautiful building sites, on an elevated healthy position, overlooking extensive inland scenery, within a few minutes' walk of the Ealing Station.

MR. MOXON will SELL by AUCTION, at the MART, on FRIDAY, AUGUST 1, in lots of from five to ten acres (unless an acceptable offer shall be previously made for the whole), a choice FREEHOLD ESTATE, pleasantly situate at Castlebar hill, Ealing, close to the former residence of the late Duke of Kent, now occupied by H. D. Austin, esq. The land comprises the several fields of pasture, in a healthy manner, sloping away from the elevated ridge which overlooks the beautiful and extensive valley watered by the Brent, with a view of Harrow spire in the distance. The district is healthy, on a gravel subsoil, and although perfectly rural, the gas and water pipes are laid up to the estate. It will be divided into large lots suitable for building villas, with land attached, for which, since the near completion of the Metropolitan Railway, there has been an increased demand. The Auctioneer feels confidence in recommending it to the attention of builders, speculators, or gentlemen wishing to build themselves a residence, having the accommodation of rail and omnibuses, with all the charms of a country house and excellent roads. Particulars and plans at Messrs. LOWES Offices, 2, Pancras-court, Temple; at the Auction Mart; and of Mr. W. MOXON, 3, St. Martin's-place.

HAILSHAM, SUSSEX. To Engineers, Steam Thrashers, Smiths, &c.

TO BE SOLD by AUCTION, by

MR. VERRALL, by order of the Assignees, on the PREMISES of Mr. F. W. HENTY, on WEDNESDAY and THURSDAY, JULY 30 and 31, at TWELVE o'clock, consisting of two portable engines and combined thrashing-machines; one eight and one seven-horse power, by Hornsby & Sons; one large stationary boiler, length 13 feet, diameter 4 feet, flue 20 inches; iron pervelyer pipes 2 inches by 5 feet 10 inches, complete, by Hornsby & Sons; an iron self-acting lathe, by Shepard, Hill, & Co. Leeds; drilling machine, by Shepard, Hill, & Co. Leeds; iron foot-lathe; patent wheat fly-sheet (by Palmer & Green, Brighton); castings of small engine, weighing about one, two new cleaning machines, two second-hand ditto, eight chaff-cutters, one thrasher, two 30-inch grindstone; oak, ash, and beech plank boards; light spring-cart, horse and harness. The HOUSEHOLD FURNITURE consists of a wal nut and iron bedsteads, two feather beds and other ditto, two mahogany chests of drawers, dressing table and swing glass, washstands, sofa, mahogany chairs, eight-day dial; Brussels, Kidderminster, and Dutch carpets; kitchen and scullery utensils. The engines and stock-in-trade will be sold on the first day, and the furniture on the second day, commencing the second day at TWO o'clock. Catalogues to be had at the place of sale; of Mr. EVERY, Ironfounder; or of the Auctioneer, High street, Lewes.

Mousley, Bridge House, a substantially built and comfortably arranged gentleman's residence, with stabling, extensive pleasure grounds, garden, orchard, shrubberies, &c. with a fine building frontage to road, also an extensive river frontage.—Preliminary advertisement.

MESSRS. DANIEL SMITH, SON, & OAKLEY have been favoured with instructions from the Trustees under a Will to offer for SALE by AUCTION, at the MART near the Bank of England, on TUESDAY, the 5th day of AUGUST 1862, in one lot, the above very valuable PROPERTY, slightly situate near to the Hampton Court Railway Station. It comprises about 2½ acres, with a frontage of upwards of 400 feet to a main road, and bounded by a good wall on the north side, and extending with plea sant walking by banks of the river Mole on the south side. The grounds are tastefully laid out, perfectly secluded, thickly planted and well stocked with fruit trees, including a fine old mulberry tree. The house contains eight bed-rooms, three sitting rooms, and offices and is to render a portion of the property available for building. The property as an entirety forms a delightful residence and is in the occupation of a good yearly tenant.—Further particulars will shortly appear in future advertisements, and may then be obtained of CHAS WELLBORNE, Esq. Solicitor, 17, Duke-street, London-bridge; and, with orders to view, of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-Mall, S.W.

MARLBOROUGH HOUSE, ST. JAMES'S-PARK.—Surplus Building Materials.

MESSRS. GLASIER & SON are honoured with instructions to SELL by AUCTION, on the PREMISES on TUESDAY, JULY 29, at TWELVE o'clock, the SURPLUS BUILDING MATERIALS: comprising about 250 feet of black marble slabs, white and other veining and shafting, in small quantities; doors, and mahogany and gold bound, plate, brass, and glass plate with plate glass, in squares, 6 feet 6 inches by 17 inches, light bars for register stoves, a quantity of iron, in sash weights, chimney-bars, iron rails, &c., slate cistern and slabs, twenty-six Moore's patent ventilators, in brass, frames, and other items. May be viewed the day prior to morning of sale, and catalogues had of JAMES PENNETHORNE, Esq. 7, Whitehall-yard; on the Premises; and of the Auctioneers, 41, Charing-cross, S.W.

C. H. T. BIKKER, 110, Bradford-street, and 102, Cheapside, Birmingham, ARTISTS in ECCLESIASTICAL DECORATIONS, HOUSE and CHURCH DECORATORS. Wall painting, diapering, and gilding in the three styles of the twelfth, thirteenth, and fourteenth centuries. Every description of ecclesiastical, domestic, and Gothic decorations; also Egyptian, Roman, and Grecian decorations truthfully carried out in accordance with the several styles. Experienced artists sent to any part of the kingdom to execute architects' designs carried out by experience decorators, or drawings furnished if required. Specimens may be seen fully carried out at the above address.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published at the said CHARLES WYMAN, at the Office of "The Builder," No. 4 York street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, July 26, 1862.

The Builder.

AN JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1017. AUGUST 2, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Exchange Buildings, Birmingham: about to be erected. Mr. Edward Holmes, Architect 531
Plan of One-pair Floor and Ground Floor of Exchange Buildings, Birmingham 530

CONTENTS.

Copemore, Bray, and Eton 541
Gossip about the International Exhibition 542
Works in Westminster Abbey 543
Mismanagement of Public Works in India 543
The Worcester Congress of the Archæological Institute 544
Magenta, Aniline, Mauve, and Magenta 545
Plant used in the Construction of the Exhibition Building 546
Southwell Church, Gloucestershire 546
Inauguration of the Mydelton Statue, at Islington 546
Use of the Dangerous Trades allowed in the Metropolis 546
Proposed National Memorial 547
Tewkesbury Abbey Church 548
Prices for Decorative Painting: The Painters' Company 549
Photographs from the Life 549
The Moon called the Golden and Immutable 549
The Cost of a Railway Accident 549
Question of Securing Lights 549
Birmingham Exchange 549
Cows from Scotland 550
Church Building News 553
Stained Glass 554
Provincial News 554
Albert Memorials 555
Competitions 555
Architectural Association 555
Builders' Benevolent Institution 555
Fire Stations in the London Docks 555
Street Architecture 555
Workmen and Churches 555
Inhabitants of Modern Work 555
Internal Arrangements of Theatres 556
The Possibility of a New Style 556
Awards at the International Exhibition 557
Trees in our Streets 557
The New Stained Glass in Westminster Abbey 557
A Voice from the Ranks 557
Recovery of Charges for taking out Quantities 557
Master Builders and their Servants 558
Decisions under the Building Act 558
Books received: Passages from Modern English Poets (Day); Ritchie on Ventilation (Lockwood); Various 558
Miscellanea 559

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS.

Sir Robert Smirke. A. J. B. Beresford Hope, Esq. M.P.

PRESIDENT—Sydney Smirke, Esq. R.A.

VICE-PRESIDENTS.

Philip Hardwick, Esq. R.A. | Charles R. Cockerell, Esq. R.A.
Geo. Gilbert Scott, Esq. R.A.

TREASURER—William Tite, Esq. F.R.S. M.P.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 52, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of THREE PENSIONERS.—TWO MALES at ONE FEMALE—will take place on WEDNESDAY, 20th NOVEMBER next. Candidates may obtain forms of application (to be returned on or before 25th AUGUST) at the Office, 23, Southampton-street, Bloomsbury. Pensions, £14 per annum for males, and £20 for females.

A. G. HARRIS, Sec.

31st July, 1862.

EXHIBITION of ROMAN PHOTOGRAPHS.—Until Saturday, August 23, at the Architectural Galleries, 9, Conduit-street, Regent-street, will be EXHIBITED DAILY, between the hours of 11 and 5, a Collection of upwards of 240 PHOTOGRAPHIC VIEWS of ROME, Sculptures of the Vatican, &c. by Mr. R. MACPHERSON. Admission 1s.; season ticket 2s.

THE LAST FOUR DAYS.—The NEW SOCIETY of PAINTERS in WATER-COLOURS.—The Twenty-eighth ANNUAL EXHIBITION of this Society, at their Gallery, 53, Pall-mall, near St. James's Palace, WILL CLOSE on THURSDAY next, 7th inst. Admission, 1s.; Catalogue, 6d. Season Ticket, 5s.

JAMES FAHEY, Secretary.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862. CLASS 35, No. 6849. THE ONLY MEDAL "FOR STONEWARE." Has been awarded to

DOULTON AND WATTS, LAMBETH POTTERY, LONDON.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2263. THE ONLY MEDAL FOR STONEWARE PIPES Has been awarded to

HENRY DOULTON AND CO. LAMBETH.

Extract from Jurors' Report:—"H. DOULTON & CO. STONEWARE PIPES & EXCELLENCE of MANUFACTURE and LOWNESS of PRICE."

ORLANDO JEWITT, Draughtsman, and Engraver on Wood, 50, Clifton Villas, Camden-square, N.W. respectfully informs his friends that he has no longer any connexion with the "BUILDING NEWS."

COMPETITIONS.

TO ENGINEERS and IRON-BRIDGE BUILDERS.—The Committee appointed for carrying into effect the ERECTION of an IRON FOOT-BRIDGE across the River Welland, at Stamford, are desirous of receiving designs and estimates for the proposed Bridge; particulars of which may be had on application to me. Plans and estimates to be sent in by the 22nd day of AUGUST next. EDWARD BROWNING.

Brond-street, Stamford, July 22, 1862.

TO ARCHITECTS.—The Committee appointed for the Establishment of the Surrey County Hospital at Guildford are prepared to receive PLANS for the ERECTION of the BUILDING. Gentlemen desirous of competing for the same will be furnished with the necessary information, on application to the Hon. Sec. J. M. CAPES, Esq. the Croft Merrow, near Guildford.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for CONSTRUCTING a GYMNASIUM, &c. at Albany Barracks, Isle of Wight

Persons desiring to Tender for this work must leave their names at this office, on or before the 12th of AUGUST next, and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Albany Barracks, 29th July, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a new block of INFIRMARY STABLES, at Hounslow Barracks, in the county of Middlesex.

Persons desiring to Tender for this work must leave their names at this office, between the 30th JULY and 2nd AUGUST, 1862, both days inclusive, from ELEVEN a.m. to THREE p.m. and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, London District, 11, James street, Buckingham gate, S.W. July 25, 1862.

TO BUILDERS, &c.—Plans and specifications for BUILDING a NEW DISTRICT CHURCH, in Newtown, Alverstoke, will be lying at the house of Mr. LACY (the Alverstoke Parish Clerk), High-street, Gosport, from the 6th to the 13th of AUGUST (Sunday excepted); and all persons desiring to contract for the Works mentioned in said TENDERS to the above-named direction, on or before SATURDAY, the 23rd. The lowest Tender will not necessarily be accepted. The Contractor must be prepared, at his own expense, to enter into the usual legal bond, with two good and approved sureties, for the due completion of his Contract.

TO BUILDERS, &c.—Plans and Specifications for part RE-BUILDING and ENLARGING the PARISH CHURCH of St. Mary, at Alverstoke, will be lying at the house of Mr. LACEY (the Alverstoke Parish Clerk), High-street, Gosport, from the 6th to the 13th of AUGUST (Sunday excepted), and no persons desiring to CONTRACT for the works must send in sealed Tenders to the aforenamed direction on or before SATURDAY, the 23rd. The lowest Tender will not necessarily be accepted. The Contractor must be prepared, at his own expense, to enter into the usual legal bond, with two good and approved sureties, for the due completion of his Contract.

TO PAINTERS and OTHERS.—The Guardians of the Poor of the Whitechapel Union will meet in their BOARD ROOM, at the Workhouse, Charles street, Mile End New Town, N.E. on TUESDAY, the 12th day of AUGUST, 1862, at SIX o'clock in the afternoon precisely, to receive TENDERS and CONTRACTS for PAINTING the OUTSIDE WOOD and IRON WORK of their INDUSTRIAL SCHOOLS, Forest-lane, West Ham, Essex. The specification and particulars of the Works to be performed may be inspected at the School, as above. The Guardians do not bind themselves to accept the lowest or any Tender.—By order,

G. ADAMS FARR.

Clerk's Office, Workhouse, 28th July, 1862.

TO IRONFOUNDERS and STONEMASONS.—Parties desirous of TENDERING for the ERECTION of a BOUNDARY WALL and RAILING, at Leddon Church, Norfolk, may obtain all information, and see the plans and specifications, at the Offices of the Architect, Mr. JAMES S. BENNI, Bank Chambers, Norwich. Sealed Tenders to be delivered to the undersigned, at Leddon, on or before SIX o'clock P.M. on MONDAY, the 18th AUGUST. The Committee do not bind themselves to accept the lowest or any Tender.—By order of the Committee,

JAMES COLE COPEMAN, Secretary.

Leddon, 29th July, 1862.

TO BUILDERS and CONTRACTORS.—Parties desirous of TENDERING for certain REPAIRS to be done at the School House, Kennington lane, for the Governors of the Committee of the Incorporated Society of Licensed Victuallers, may obtain printed specifications of the proposed works, and orders to view the premises, on application at the Office of the Architect, Mr. WILLIAM NUNN, 24, Martin's-lane, Cannon-street. The accepted Tender (if any) to be subject to the approval of a Special General Court of the above named society. The Governors and Committee do not bind themselves to accept the lowest or any Tender. Tenders to be delivered at the School House as above, on MONDAY, AUGUST 11, at ONE o'clock. WILLIAM SMALLEY, Secretary.

CONTRACTS.

NOTIFICATION.—Up to the arrival in Bombay of the first regular mail from England, expected in September, the Government of Bombay will be prepared to receive PROPOSALS from parties willing to CONSTRUCT a TRAMWAY, capable of being worked by locomotive power, from the Port of Sewaliengbur, in the Collectorate of North Canara, to the cotton districts of the Dharwar Collectorate.

1. The line to be single, with suitable sidings and passing places.

2. To be laid out and completed, to the satisfaction of the Bombay Government, with the best gradients and curves procurable, and safe for a light locomotive traffic at low speed.

3. The gauge to be the Indian standard gauge.

4. The choice of materials and the management and working of the railway to be left to the company, subject to any general restrictions which the Government of Bombay may impose, with a view to the safety of the public.

5. Government will give all land permanently required for the railway free of charge, on lease for ninety-nine years, and will admit all materials free of customs duty.

6. In the event of the line not being completed within the period specified in the agreement, or not being worked in a manner to the entire satisfaction of the Government to have power, after giving three (3) months' notice, to resume possession of the land, and to purchase the railway and all stores and movable stock, at a price to be fixed by arbitration, the arbitrators to be one Government engineer and one agent to the resident engineer of any other Indian railway company, to be nominated by the Bombay Chief Railway Company, with power to select an umpire.

Further particulars may be ascertained at the Office of her Majesty's Principal Secretary of State, Westminster, by application addressed to the Under Secretary of State, Railway Department; or at the Office of the Secretary to Government, Railway Department, Bombay.

India Office, July 23rd, 1862.

BIRMINGHAM EXCHANGE BUILDINGS COMPANY, LIMITED.—To BUILDERS.—Persons desirous of TENDERING for the ERECTION of the above Buildings are requested to communicate by letter, not later than TUESDAY, the 5th day of AUGUST next, addressed to the Architect, Mr. EDWARD HOLMES, 4, Waterloo-street, Birmingham, who will reply to such persons whom the Directors may select.

July 24th, 1862. HENRY HOWELL, Secretary.

TO BUILDERS.—Persons desirous of TENDERING for the ADDITIONS, ALTERATIONS, and General REPAIRS, proposed to be performed at CASTLE HILL HOUSE, Hinckley, in the county of Leicester, may see the plans and specification by applying to MORRIS CHAMBERS, at the offices of STEPHEN PILGRIM, Esq. Hinckley, on or after the 4th AUGUST. Sealed Tenders to be sent to the Architect not later than TWELVE o'clock on TUESDAY, 12th AUGUST, 1862. The lowest or any Tender not necessarily accepted.

28th July, 1862. ROBERT JENNINGS, Architect, Atherstone.

PRINCE CONSORT MEMORIAL, HASTINGS.—The Committee for carrying out the above will be prepared to receive TENDERS for the ERECTION at CLOCK TOWER, at the Priory, Hastings, for which purpose drawings and specification may be seen at the Office of Mr. ROBERT GROUSE, Hon. Sec. High-street; and at the Architect's Office, 10, St. Bride-street, Liverpool. Tenders to be sent in to the Secretary, at Hastings, on or before the 8th day of AUGUST next. The Committee do not bind themselves to accept the lowest or any Tender.

Hastings, July 23, 1862. ROBERT GROUSE, Hon. Sec.

TO BUILDERS.—Persons desirous of submitting TENDERS for the ERECTION of a PUBLIC-HOUSE and TWELVE COTTAGES, and REPAIRS to TWENTY other COTTAGES at Cricklewood, Hendon, can see the plans and specifications thereof on and after WEDNESDAY, the 30th inst. on application to Mr. F. F. THORNE, Dacre Park, Lee, Kent, Architect. The Tenders to be delivered upon THURSDAY, the 14th of AUGUST next.

ROCHFORD CHURCH, ESSEX.—To Builders. TENDERS are required for the RESTORATION and RESEATING of this Church. Plans and specifications may be seen on and after TUESDAY next, JULY 22nd, by application to W. GREGSON, Esq. Rochford; or the Architect, Mr. WILLIAM SLATER, 4, Carlton Chambers, 4, Regent-street, S.W.—Tenders to be sent free of expense to W. GREGSON, Esq. on or before AUGUST 8th.—The Churchwardens will not necessarily accept the lowest or any Tender.

19th July, 1862.

TO BUILDERS.—The Stockton and Darlington Railway Company is prepared to receive TENDERS for the ERECTION of a DWELLING-HOUSE, near the Darlington Station. Plans and specifications may be seen at the Railway Offices, Darlington, from MONDAY, the 28th of JULY, to WEDNESDAY, the 13th of AUGUST, 1862. Tenders to be delivered at the Station THURSDAY, the 14th of AUGUST addressed to the Secretary, and endorsed "Tender for House at Darlington." No pledge is given that the lowest or any tender will be accepted.

THOS. MAC NAY, Secretary.

Railway Office, Darlington, July 21, 1862.

TO BUILDERS.—Persons desirous of TENDERING for the RESTORATION and RESEATING of Tillingham Church, in the County of Essex, can see the plans and specification at the Offices of the Architect, on and after the 4th of AUGUST. Tenders to be delivered on or before the 14th of AUGUST. The lowest or any Tender will not necessarily be accepted.

FRED. CHANCELLER, Architect.

Pinner's Hall, Old Broad-street, London; and Chelmsford, Essex, July 24th, 1862.

TO BUILDERS.—Persons desirous of TENDERING for a detached or two small semi-detached HOUSES, situate at Erith, Kent, S.E. near the Railway Station, can have a specification and plans by applying on or after the 4th of AUGUST, at Mr. Tuffley's Office, 1, Commercial-row, Maiden-lane, Lambeth. Tenders to be delivered on the 11th inst.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS and CONTRACTORS.—The Salters' Company are prepared to receive TENDERS for the ERECTION of EIGHTEEN ALMSHOUSES, COMMITTEE ROOMS, &c., at Watford, and the direction of Mr. JOHN COLLIS, Architect. Parties wishing to Tender for the proposed works may inspect the drawings and specification, at the Salters' Hall, on application to J. F. LEE, Esq. Surveyor, 33, Craven-street, Strand, on or before TUESDAY next. The Company do not bind themselves to accept the lowest or either Tender. Tenders to be addressed to EDW. THOMPSON, Esq. Salters' Hall, St. Swithin's-lane, City, E.C.; and delivered before half-past TWO on FRIDAY, the 1st day of AUGUST.

GRANITE WANTED.—The Guardians of Mile End Old Town require about 200 TONS of the very best GUERNSEY SPALLS for breaking, to be delivered in the Stone Yard of the Workhouse, free of expense; payment to be made within twenty days after the delivery of each portion of the contract. Tenders marked "Tender for Granite," with samples, must reach me before TWO o'clock on the 31st of JULY next, on which day such parties tendering are expected to be present. The Guardians do not bind themselves to accept the lowest or any Tender.

Workhouse, Bancroft-road, N.E. E. J. SOUTHWELL, Clerk.
25th July, 1862.

SAINT MARY, ISLINGTON.—Metropolitan Local Management Act. The Vestry of this parish hereby give notice that a Committee will meet at the Vestry Offices, Upper-street, Islington, on WEDNESDAY next, the 6th of AUGUST, at TEN o'clock in the morning, precisely, to receive TENDERS for the CONSTRUCTION of about 1,320 FEET of BRICK SEWER in Modern-rive, Brandon-road, and the short new called Phœnix-place, Drip-lane, and the necessary works connected therewith. The form of Tender, which alone will be received, may be obtained and the specification and draft contract seen at the Vestry Offices (Surveyor's Department), between the hours of Ten and Four o'clock. Persons desirous of contracting must attend at the time and place above stated, with Sealed Tenders, endorsed "Tender for Sewer Works," as no Tender will be received after TEN o'clock as well as any Tender be received unless it contains a £10 Bank of England Note, which will be immediately returned to each person whose Tender is not accepted, but will be retained in the case one until the contract and bond are duly signed by the parties. The Vestry do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the works.

Vestry Offices, JOHN LAYTON, Vestry Clerk.
Upper street, Islington, 31st July, 1862.

NORWOOD, SURREY.—The Owners of the Beulah Spa Estate having resolved to DISPOSE of the remaining portion of that valuable and important PROPERTY, comprising wards of 100 acres of Building Land, in such proximity to the Crystal Palace, will meet to receive TENDERS for the whole or any or more of the lots into which the estate is divided, on WEDNESDAY, the 27th day of AUGUST, at TWO o'clock in the afternoon, at the Office of Messrs. THOMAS & HOLLAMS, Solicitors, 31, Commercial Sale-rooms, Mincing-lane, London. The land commands similar beautiful and extensive views to those obtained from the terrace of the Crystal Palace. The whole is freehold, with the exception of No. 37, 37a, more or less, at the north-eastern extremity of lot 1, which is copyhold. There is an abundance of fine gravel and brick-earth, and a metropolitan water company affords an ample supply of excellent water. The roads are good, and the estate altogether presents features of a character alike eligible for the large returns of a building property, or for genteel and picturesque residences. Plans, forming Parts 1 and 2 of the Particulars of Sale, prepared by Messrs. THOMAS & HOLLAMS, Solicitors to the Vendors, 31, Commercial Sale-rooms, Mincing-lane, London, and after the 4th day of AUGUST, 1862. All Tenders to be on the printed form, sealed and addressed to the Vendors of the Norwood Estate, and delivered at, or sent by post to, Messrs. THOMAS & HOLLAMS, 31, Commercial Sale-rooms, Mincing-lane, on or before the 26th day of AUGUST, 1862. The Vendors do not bind themselves to accept the highest or any Tender.

NEW CHURCH, HOVE, BRIGHTON.—To BUILDERS.—The Committee for the Erection of the above Church are desirous of receiving sealed TENDERS from parties who may be willing to CONTRACT for the proposed WORKS. The drawings, specifications, and conditions may be inspected at the Office of Mr. WOODMAN, Architect, 17, Prince Albert-street, Brighton, where the Bills of DEPOSIT, of FIVE pounds each, may be obtained. Tenders, under cover, addressed to the undersigned, to be delivered not later than NOON, on SATURDAY, the 23rd inst. The Committee do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due satisfactory performance of the same.

41, Medina Villas, August 1st. C. A. BAINES, Hon. Sec.

ST. MARTIN'S BATHS and WASH-HOUSES.—The Commissioners of the Baths and Wash-houses of St. Martin's-in-the-Fields are desirous of receiving TENDERS from respectable Contractors for the RE-ARRANGEMENT of ONE PORTION of the WASH-HOUSE, including a Drying Closet, with hot-water and heating apparatus complete, new washing-troughs, pipes, and connexions thereto, and sundry other works required in fixing the same. Plans and specifications may be inspected at the Offices of Messrs. EASTON, AMOS, & SONS, Grove, Southwark. Tenders are to be delivered at the Vestry Hall, St. Martin's-place, St. Martin's-in-the-Fields, on or before THREE o'clock in the afternoon of WEDNESDAY, AUGUST 13th. The Commissioners do not bind themselves to accept the lowest or any Tender.

July, 1862. J. DANGERFIELD, Clerk to the Commissioners.

TO CONTRACTORS and IRON-FOUNDERS.—DUBLIN CORPORATION WATERWORKS.—The Waterworks Committee of the Dublin Corporation hereby give Notice that they will receive SEALED TENDERS until WEDNESDAY, the 10th day of SEPTEMBER, 1862, for the following WORKS, viz.—

CONTRACT No. 1.—For making and delivering about 20,000 tons of Cast-iron Pipes and other Castings.

CONTRACT No. 2.—For making and delivering certain Stop Cocks, Sluice Cocks, Air Cocks, Pipes, Apparatus, and Appendages connected with same.

CONTRACT No. 3.—For laying and satisfactorily completing about 30,000 lineal yards of Thirty-three Inch, and about 16,500 lineal yards of Twenty seven Inch Mains, and works connected therewith.

CONTRACT No. 4.—For the construction of a Storage Reservoir, Bye Wash, Waste Weir, and other works connected therewith; a Conduit and Tunnel and a Catch-water Drain, also Filter Beds; all in the county of Wicklow.

CONTRACT No. 5.—For the construction of Distributing Reservoirs, Waste Weirs, and a Conduit, with other works near St. Jerom, in the county of Dublin.

Specifications, schedules of quantities, and forms of Tender may be had at the Office of Mr. PARKE NEVILLE, Engineer to the Corporation of Dublin, City Hall, Dublin; and at the Office of Sir JOHN MACNEILL, Consulting Engineer, 5, Eccleston-street, Victoria-street, Westminster, London, on and after the 21st of AUGUST inst., at a deposit of £2. 2s.; where may be also seen, from TEN to FOUR o'clock each day, a general plan of the works. Intending Contractors, who may have supplied themselves with printed papers, may take charge of The Waterworks Committee will not bind themselves to accept the lowest or any Tender, and hold that no Tender will be received unless it contains a £10 Bank of England Note, which will be returned to each person whose Tender is not accepted, but will be retained in the case of the successful Tender until the contract and bond are duly signed by the parties. The party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the works, and to enter into a bond in the penalty of £10,000 for the due completion of the works. The Waterworks Committee will not be responsible for any costs which may be incurred by persons who may send in Tenders, or for any expenses they may undertake in preparations for or in the course of the negotiations.

DRURY JONES DICKINSON, Sec. Waterworks Committee.
City Hall, Dublin, July 30th, 1862.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY. — NOTICE to BUILDERS and CONTRACTORS. The date for receiving TENDERS for the STATION BUILDINGS on the Arundel and Littlehampton Branches has been POSTPONED from the 4th to the 18th instant. Tenders must be delivered to the Undersigned by TWELVE at Noon.

By order, EDWARD BLAKE, Secretary.
London Bridge Terminus, July 29, 1862.

BROKEN GUERNSEY GRANITE.—The Middlesex and Essex Turnpike Roads.—Notice is hereby given, that the Trustees are desirous of receiving TENDERS for 2,200 yards of new Hue GUERNSEY GRANITE, of the best and largest quality, free from dust, broken to a gauge of two inches and a half; and also to Contract for a portion thereof broken to a gauge of one inch and a half; to be delivered as follows:—200 yards in or before the month of SEPTEMBER next, and 1,000 yards in or before the month of DECEMBER next, at Messrs. Wesson's Wharf, abutting on the river Lea, near Bow-bridge, in Stratford, Essex. The Trustees will have the expense of breaking the said broken granite from the barges on to the wharf, provided such granite be of Hewn and Rough Paving Stones for the Feeder, and between the Rails that are described. Payment will be made for the said 1,200 yards on the 30th October next; and for the said 1,000 yards at the rate of Two Shillings and Sixpence per yard, on the 31st day of December next. Tenders, marked and endorsed "Tender for Broken Granite," to be sent to this Office on or before WEDNESDAY, the 13th AUGUST next. The Trustees do not bind themselves to accept the lowest or any Tender that may be made them.

GEORGE DACRE, Clerk to the said Trustees.
Turnpike-road Office, Bow, Middlesex, 29th July, 1862.

FLINTSHIRE LEAD and ZINC COMPANY, Limited. Capital £750,000, in 15,000 shares of 10l each, with power to increase to £1,000,000; 10s. to be paid on application, 1l. 10s. on allotment. No further calls will be made at shorter intervals than three months.

Provisional Committee.
Charles Joyce, esq. Messrs. Joyce & Co. Moorgate-street, London.
George Robinson, esq. Messrs. Grant & Co. King's Arms-yard, London.
Albert Pelly, esq. Messrs. Albert Pelly & Co. Finch-lane, London.
Major Russell, 20, Dover-street, Piccadilly.
Alan Sedgwick, esq. Penarlâg.
Alfred Courage, esq. Bagillt.
Solicitors—Messrs. M. Jenkin and Pelly.
Auditors.
Charles J. H. Allen, esq. 2, Threadneedle-street, E.C.
William Mosley, esq. 10, King's Arms-yard, Moorgate-street, E.C.
Solicitor—J. H. Mackenzie, esq. 3, Johnson's-buildings, Temple.
Bankers—The Bank of London.
Works—Bagillt, Flintshire.
Offices—9, Broad-street-buildings, London.

PROSPECTUS.

This Company has been formed for the purposes of smelting ores of zinc and lead, and the manufacture of the products therefrom on a large scale, at Bagillt, Flintshire.

Probably no branch of industry is more dependent on a large capital to insure success than the smelting trade, from the command it gives of markets, both in purchases of ores and in sales of the manufactured products. No less advantages can compensate for the want of ample working capital, but where these are combined they constitute a certain basis for legitimate investment of the highest character.

It would be upon these considerations that the promoters of this company, which enables them to turn these advantages to the best account; and a notable instance of what may be effected by a public company with a large capital may be seen in the case of the Société de la Vieille Montagne, near Liége, a Belgian zinc-smelting company, which, on a share capital of 360,000l. has just declared, for the year 1861, a dividend of 225 per cent. or 90,000l. to its shareholders. In addition to 21,000l. carried to a sinking fund; and the shares of 80 francs each are now quoted at 774 francs.

It will be upon these considerations, and upon the formation of a smelting establishment, this Company will have special advantages in the exclusive right to use Mr. Bennett's patent, subject to Royalties, which have proved to be considerable. These patents were awarded a prize medal for zinc smelting at the Exhibition of 1851, since which their value has been proved by their present owners.

It is by improvements in smelting zinc whereby not only is a larger quantity of metal obtained, with a less consumption of fuel, from the ordinary ores; but other ores, hitherto deemed intractable, and hence disregarded, are worked with facility.

2. For a simple, perfect, and economical mode of pressing and tinning the interior surface of lead pipe in one operation, whereby it is rendered perfectly innocuous for water-service.

The results of both these patents are exhibited in the Eastern Annexe of the International Exhibition, Class I, No. 69, and have been awarded a prize medal.

It will be known that from the extreme softness of some waters, deemed the purest, they have such a powerful effect on lead that the use of this metal for pipes is productive of serious mischief, which the tinning is entirely obviates.

Dr. Letheby has examined specimens of Bennett's tinned pipe, and has given the following certificate:—

"41, Finsbury-square, London, 16th June, 1862.

"Bennett's Patent.

"Dear Sir,—I have submitted the two samples or tinned lead piping (which you have sent me this day) to examination, in order to ascertain if they were acted on by common water or by pure water. The results are as follows:—

"1. The two samples were tested with common water, rain water, and distilled water; and they were tried in the straight and bent forms. The water was kept in the pipes for nine days. In every case there was no appreciable production of lead in the water, by the most delicate tests called to discover the presence of lead in the water, which consisted in dropping with the same water (rain and distilled), quickly compounded, and to the water a metallic impregnation.

"It appears to me, from these experiments, that the process of coating the interior of lead pipes with tin is a valuable invention.

"I remain, dear Sir, yours truly,

(Signed) "HENRY LETHEBY, M.B. M.A., Ph.D.
Professor of Chemistry in the College of the London Hospital, and Medical Officer of Health for the City of London.

"To William Coates, esq.
"19, King's Arms-yard, Moorgate street."

As a basis of operations, and to secure every advantage to this Company, very favourable arrangements have been entered into with a well-known firm (the holders of the above patents), who undertake to hand over their extensive and commodious premises, situate at Bagillt, in North Wales, on the estuary of the Dee, at the valuation of Messrs. Fuller & Horsey, the vendor, consenting to take two-fifths of the purchase-money in shares, and not to receive any dividend until the other shareholders have received 8 per cent. out of the net profits.

The property consists of about 30 acres of land, held on lease, of which the works cover an area of 2½ acres, on which are erected lead furnaces, calcining-kilns, refining-kettles, casting-chambers, pipe-tinning-house, pipe-presses, engine-house, and crushing-mill, two powerful steam-engines, deliverying pots, hydraulic press for pipes, and all necessary plant for carrying on the business, which is in full work, but on the completion of the Company they will be carried on with

The purchase further includes about four acres of near valuable freehold land on the lower side of the works, into which short sidings will be run from the Chester and Holyhead Railway; thus placing the works in direct communication with the railway at one end, and, while coasting vessels can load and unload alongside the wharf.

As a first step towards developing more fully the resources of the district, and to carry on the works on a more extensive scale, it is intended to erect new furnaces, and to increase the present powers of the engines, and to add to the apparatus of the works generally, for which additional capital is required.

The remaining capital will be applied in working the present works, and in the purchase of ores and materials.

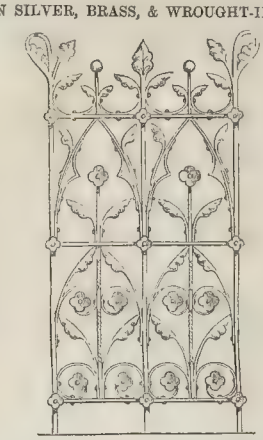
Plans, details, estimates, and full particulars, can be seen at the Offices of the Company; and in the event of no allotment being made, the deposit will be returned in full.

Prospectuses may be obtained at the Offices of the Company, 9, Broad-street-buildings, City, E.C.; of WILLIAM MOAPES, Esq. 19, King's Arms-yard, Moorgate-street, City, E.C.; of J. H. MACKENZIE, Esq. 3, Johnson's-buildings, Temple, London; and of Messrs. T. TINLEY & SON, Orange-court, Liverpool.

* Extract from Report to Shareholders at Meeting of 27th April, 1862:—Hence it results, by a comparison of the situation on the 31st December, 1860, with that of the 31st December, 1861, that the financial improvement to the 31st December, 1861, amounts to 4,451,660, 95f. (178,066l. 8s. 9d.)

POLYTECHNIC.—New Lecture by Professor J. H. Pepper, on Tuesday, Thursday, and Saturday, at half-past 12 and quarter-past 7, on "Some of the Chief Scientific Specialties of the International Exhibition." Splendid series of Terrestrial Experiments with the Giant Plate Machine, and Lecture by J. L. KING, Esq.—Remarkable Imitations of British Birds and Animals, by HERR SCHMAN.—Re-engagement of George Buckland, Esq. for his Buffo-Musical Entertainments.—New Gorgeous Panoramic, Optical, Pictorial, Fountain Spectacle—Beautiful Dissolving Views, illustrating London in Ancient and Modern Times.—Parts of it is—The Holy Land—and Concerts by the BIJOUSIL FAMILY. See weekly programme of 8 pages. Open from 11 to 5, and half-past 6 to 10. Admission 1s.

HART AND SON,
MEDIÆVAL METAL WORKERS,
IN SILVER, BRASS, & WROUGHT-IRON.



GATES, GRILLES, SHOES, GABLE TERMINALS, HINGES, HANDLES, &c.
53 to 58, WYCH STREET, STRAND, W.C.
And 20, COCKSPUR STREET, PALL-MALL.

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of FLAX, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

H. G. COOMBS, IRONFOUNDER, &c.
INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP,
PATENT WROUGHT IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—15, Union-street, Borough; and 95½, Great Guildford-street.

SMITH'S BELLOWS and PORTABLE IRON FORGES, of all descriptions, wholesale, retail, and for exportation. The cheapest house in the trade.
WRIGHT & CO. 16, LITTLE ALIE-STREET, WHITECHAPEL, LONDON, E.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call the attention to his Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at his Works. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c. KENT IRON WORKS, BRIDGE-STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

PATENT ASPHALTE CALDRON, for laying Asphalte Floors. The cheapest and best kind of floor, impervious to wet, and vermin will not touch it. Full particulars sent free, by
WOODS & COCKSEDGE,
IRONFOUNDERS, STOWMARKET.

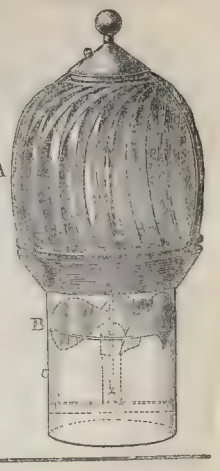
FOR SALE, a WROUGHT IRON WALL CRANE, about two tons. Also an OAK CRANE, about ten tons, suitable for a warehouse or foundry. Both are in excellent condition, and to be sold cheap.—Apply to DELANY and OKES, Victoria Foundry, Gravesend.

JOHN GILES'S STEAM BULL; a light, cheap, and efficient Engine for all purposes of Road and Agricultural Traction, at home and abroad.
Gentlemen interested in the progress of mechanical science are invited to inspect this engine in operation at 17, New Kent-road, all this week, from twelve to five, p.m.
The principle of traction by gravity on which this engine is constructed opens up a new field for engineering and capital enterprise, embracing every acre of the untilled and the unbroken world; and at the present time as "The Cotton Supply," is of vital importance to the commercial interests of the community.

CHADWICK'S

PATENT ARCHIMEDEAN VENTILATOR

AND SMOKE CONDUCTOR.



The ARCHIMEDEAN VENTILATOR is the only one constructed on strictly scientific principles, and certain in its operation in purifying the air of a crowded workshop or ordinary apartment, and in preventing smoke.

An attentive consideration of the diagram will render the action of the Ventilator intelligible, and show that it is constructed on unerring principles.

They are constructed, for Chimneys, from 10 to 13 inches; and for Buildings, from 14 to 30 inches.

The Patentee's invention consists of lifting-vanes, acting as a screw, suspended within a circular tube or shaft, as shown at B, centred upon an imperishable substance, moving without noise, and surmounted by a diagonally-formed wind-vane, A; which is hung so delicately that the least breath of air will cause it to rotate, so that a draught upwards is a necessary effect.

Combining the advantages of a perfect Smoke-Conductor and Ventilator, it is admirably adapted for all close and crowded Rooms, Schools, Churches, Chapels, Infirmaries, Music and Lecture Halls, Factories, Printing Establishments, Coffee and Smoking Rooms, Club-Houses, Kitchens, Stables, &c. particularly where gas is used and a number of people are compelled to breathe a confined atmosphere.

The most satisfactory testimonies to the value of this invention, Specimens of the Ventilators themselves, and further explanations, will be gladly furnished by the London sole Agent,

THOMAS K. BAKER, 73, FARRINGDON-STREET, E.C.

CAUTION.—The Right Hon. the Attorney-General having refused the application of J. Howorth, of Farnworth, near Bolton, for a patent, on the ground of the priority of W. Chadwick's invention, the Patentee cautions the public against purchasing fraudulent imitations of his unrivalled invention, and which are being shown in the International Exhibition under a similar designation; the purchaser, as well as the maker and vendor, being liable to an action for damages.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER,
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

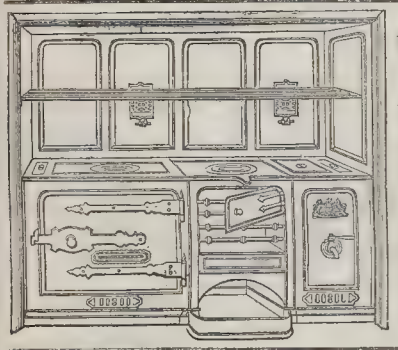
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

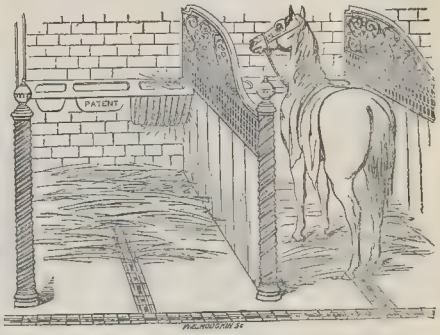
MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

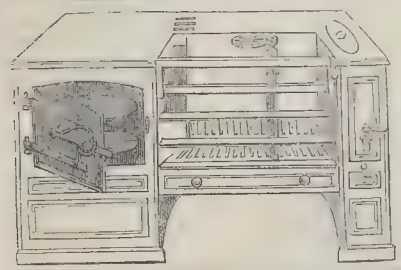
Orders requiring Despatch and Punctuality can be executed in a few days.



ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT.





CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler.	
24 inches	54s.	20 inches	72s.
30 „	56s.	32 „	84s.
38 „	58s.	34 „	96s.
42 „	60s.	36 „	98s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Carron Check Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 46s. to 100s. each.
Best Cut Clasp and Rose Nails.

1-inch.	1½-inch.	2-inch.	2½-inch.	3-inch.
14s.	16s.	18s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½-in.	3-in.
Cast Rain-water Pipe	8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

	4 in.	4 in.
O G Gutters, with Clips on	10d.	1s. per yard.

	2	3	4	5	6
Patent Line	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6-inch Ed. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light [illegible] Register 24×24, 12s. 6d. per cwt.
Dr. Arnott's Ventilators, 3s. each.
Brick Moulds kept in stock. And [illegible]

THE LEAMINGTON PRIZE [illegible]

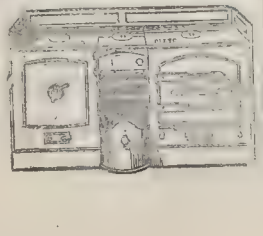
These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

Large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS.
38 and 65, York-street, Westminster.



TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the [illegible] Patent Reflecting Lamps, Patent Globes, and Patent Shades.—New Rooms and Show [illegible]

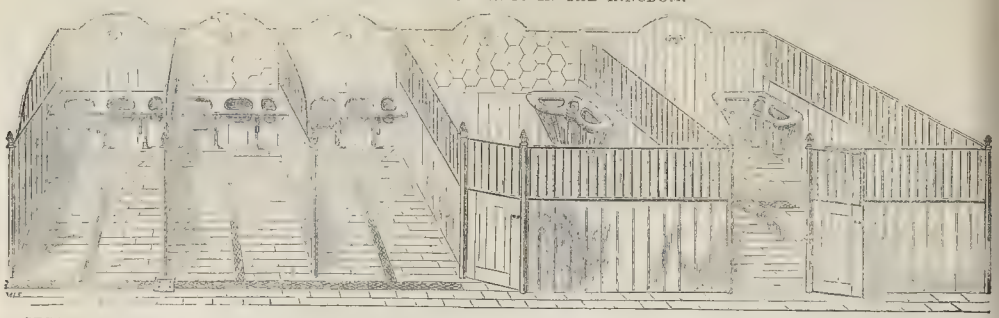
NAILS and IRONMONGERY,
from BIRMINGHAM direct.
Builders, Contractors, and Railway [illegible] Nails, Iron, and Iron wagons [illegible]
LOWEST BIRMINGHAM PRICES.
A complete List, which will be forwarded on application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham-street, London, E.C.

COTTAM AND CO. 2, WINSLEY-STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined. KNIGHTLEY'S PATENT STABLE FLOOR.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-Iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 23, Davies-street, Three Doors from Oxford street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

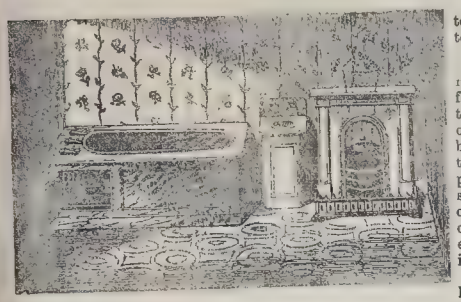
GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET LONDON

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,
BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.



THE LONDON

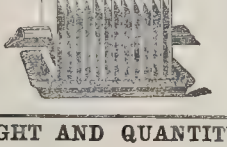
WARMING AND VENTILATING COMPANY,

LIMITED,
26, GREAT GEORGE-STREET, Westminster, S.W.
MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known Plans.



The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL the various offices of the "Department of Science and Art," and at the Architectural Societies' House, 9, Conduit street, Regent-street.

Particulars and testimonials forwarded on application.

CASTINGS, ANY WEIGHT AND QUANTITY,

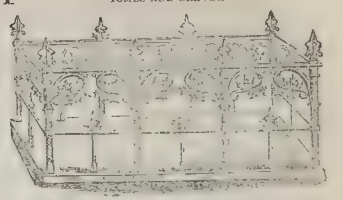
With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c
Illustrated price catalogue, with plan of site, to be had on application (free), or by post for 1d.

COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET,
LONDON, W.

HANDSOME BRASS and IRON BEDSTEADS HEAL & SONS Show Rooms contain a large assortment of Brass Bedsteads, suitable for Home use and for Export Climates, and also from Bedsteads with Bronze Mountings, and elegantly Japanned, Plain Iron Bedsteads for Servants; every description of Wood Bedstead is also manufactured, at Moderate Cash Prices. Each Warehouse is fitted and Japanned, and fitted with Bedding and Furniture complete, as well as every description of Decorative Furniture.

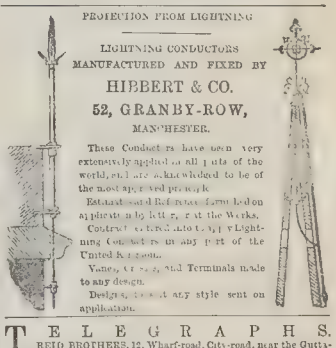
HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as Lists of the Prices of Bedroom Furniture, sent free by post. HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court-road, W

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City road, E.C. (next door to Old Street).
E. GOLLOP, SOLE PROPRIETOR.
A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Door Hinges, Brass Butts, Loose Joint Spring-hinges, Noiseless Spring-hinges, Double-acting Spring Hinges, Rising and Falling Hinges, &c.
Price List and Drawings on application as above.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS, according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of Lightning, including the Houses of Parliament, Magazines, Admiralty, Horse Guards, Office of Works, Somerset, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.
J. W. GRAY & SON, 114, Fenchurch street, E.C.

PROJECTION FROM LIGHTNING



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Extensive and References from London applicants may be had at the Works.

Contracts entered into for Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs for any style sent on application.

TELEGRAPHS.
REID BROTHERS, 12, Wharf-road, City-road, near the Gutta-percha Works,
Telegraph Contractors to the following Telegraph Companies:—
THE INTERNATIONAL,
THE BRITISH AND IRISH MAGNETIC,
THE UNITED KINGDOM,
THE UNIVERSAL PRIVATE,
THE SOUTH OF IRELAND,
THE DISTRICT,
THE SUBMARINE,
THE MEDITERRANEAN EXTENSION, &c
Are now prepared to give estimates and execute contracts for firms and private companies, for underground wires, Gutta Percha Private houses fitted up with single and sectional telegraphs, on the most economical terms. All communications addressed to the above will meet with immediate attention.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, complete with same, with the proper and all staples, complete for fixing, the following prices:—

Three-eighths inch diameter	1s. 6d.	per foot.
Half-inch diameter	1s. 6d.	"
Five-eighths inch diameter	2s. 0d.	"

R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

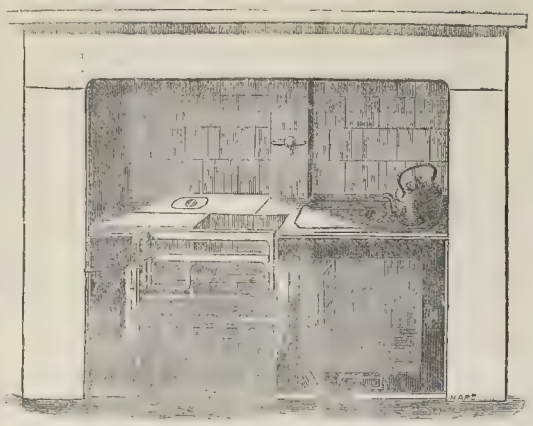
Offices—150 Fleet Street, London
" Gateshead-on-Tyne
" 27, Dale street, Manchester.
" 60, Ann street, Birmingham.
" 17, Sackville street, Dublin.
" Liverpool.
" 7, Frederick street, Edinburgh.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the newest apparatus for Warming by Hot Water, and an excellent Kitchen Range, as well as for Baking, Cooking, &c. It will heat an Office from 8 o'clock till 5 on Friday Evening, will do all this with the same fire without relighting, in both wind and day as right for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of Three-pence, and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.



Full particulars will be sent on application to the Inventors and Makers,
MUSGRAVE, BROTHERS,
Ann street Iron Works, Belfast.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.



This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Check, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6 and 15, LEICESTER STREET, LEICESTER SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

FURNESS'
PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1638.

POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

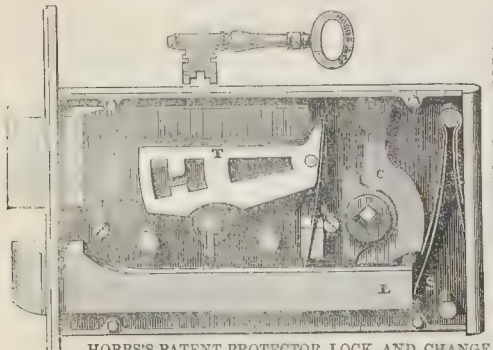
being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.
PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

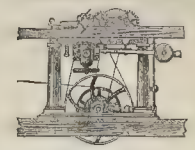
HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND DRAWINGS AND PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.
Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

S. WORSSAM & CO.'S PATENT SMALL MOULDING MACHINE.



(4 inch scale)

Will stick single mouldings of any pattern and of any width not exceeding 6 inches, at the average rate from 12 to 25 feet a minute. It will also make spindles, round sticking, or cut out eaves, toughening, &c. For priced illustrated Circulars, with full particulars, apply at the Works, 304, King's Road, Chelsea, S.W.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

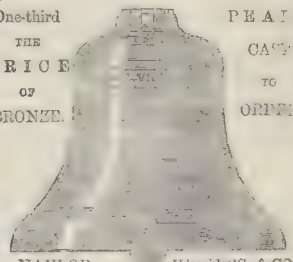
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l*.



Drawings sent on application.
MACHINERY TO BE SEEN AT WORKS, ROCHDALE
LONDON OFFICE, CANNON STREET, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.

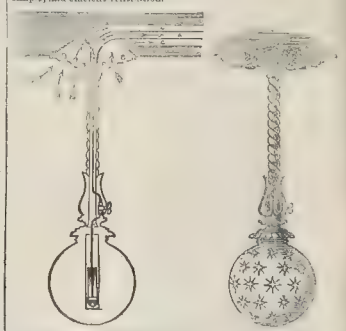


PEALS CAST TO ORDER.

TAYLOR, VICKERS, & CO.
SHEFFIELD.

RICKET'S & HAMMOND'S VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these —
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

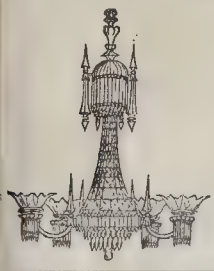
These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. to the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent cheaper than iron pipes. They are made in seven feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to
Mr. ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

W. HARMER & SON,

BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.
WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.
WROUGHT IRON TUBE and FITTINGS for GAS or WATER.
CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.

W. HARMER & SON,
3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.



INTERNATIONAL EXHIBITION, Class 31 and 34.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
THE NEW CRYSTAL STAR AND SUN LIGHT.
J. DEFRIES & SONS,
ENGINEERS, GAS-FITTERS, AND MANUFACTURERS
Of MEDIÆVAL and every Description of
GAS-FITTINGS, CRYSTAL, BRASS, and ORMOLU
CHANDELIERS, VESTIBULES, &c. &c.

Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other public and private Buildings. HOT-WATER PIPES for heating Conservatories, Warehouses, &c. &c. supplied and fitted on the most Improved and Economical Principles. Public and Private Gas-Works Erected.

Works—London and Birmingham.
Principal Depôt and Show-rooms—147, Houndsditch, City.

BOND & SCAMMELL (late Thomas Pugh & Co.)
WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, LONDON, E.C.



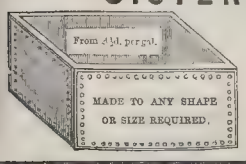
PATENTEES AND PROPRIETORS OF THE
PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61a, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.

WALSALL, STAFFORDSHIRE Established 1830.
LAMBERT BROTHERS,
MANUFACTURERS OF LAP WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,
For Steam or High-pressure Water and Gas. HIGH-PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS-FITTINGS, GASELIERS, &c.; and of the GROVE BEDSTEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam-engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, Mills, &c. at the International Exhibition, Walsall Court, Class 31, precisely as sent for exhibition, or priced as trade catalogues

DEVAUX'S VIEILLE MONTAGNE
THICK ROOFING ZINC.

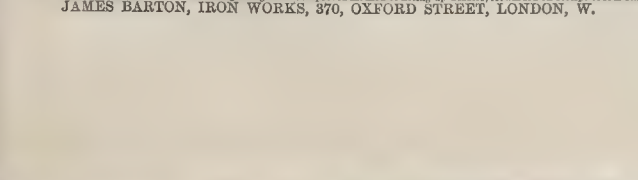
This invaluable metal, if laid by Mr. TYLER on the new principle introduced by J. EDMISTON, Esq. F.L.R.A. will last as long as lead, at one-third the cost.

For Prospectuses, Samples, Models, and Estimates of Works to be done with the Roofing Zinc, in large or small quantities, in Town or Country, apply to
Mr. J. W. TYLER, 4, WOOD-STREET, WESTMINSTER, S.W.

If the Metal is laid by Mr. TYLER, who has become so well known among Architects and Builders, superior and careful workmanship may be depended upon, and a guarantee given for its durability, if the woodwork is prepared according to directions given.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR
BARTON'S PATENT STABLE FITTINGS.
AND ENAMELLED MANGERS.

These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps
JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

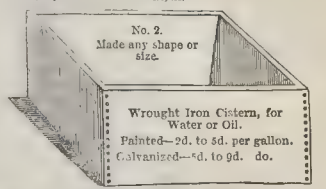
CHUBB'S LOCKS,
with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on Application.
CHUBB and SON,
57, ST. PAUL'S CHURCH-YARD, LONDON,
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

INTERNATIONAL EXHIBITION.
THIRTY-HORSE HIGH-PRESSURE CONDENSING HORIZONTAL ENGINE, Double Cylinder, driving flax machinery in the Western Annexe, FOR SALE, at the close of the Exhibition. She is sister to one erected this spring at Portslade Mill, near Brighton, for Mr. Smith, to whom reference is permitted as to her economy and their excellent qualities.—Apply at the Manufacturer's Stand, in Class 9, for information.

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in Iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging warehouses, hothouse and greenhouse stages, and heavy shutters; suspending lamps and chandeliers, either with or without bolts or hooks; fitting up reels, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose to which chain is used for.—Patterns sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

TRADE MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

IRON BUILDINGS and IRON ROOFING.
SAMUEL C. HEMMING & CO.
21, MOORGATE STREET, E.C.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW
Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

NOTICE TO BUILDERS AND CONTRACTORS.
HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Factory of Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Crab Winches, all sizes.—For further particulars apply to DOWSES & CAMERON, Springfield Ironworks, 5, Neil-street, Glasgow.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who writes the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

HUTHNANCE'S PATENT ECONOMIC LAUNDRY STOVE, and DRYING-ROOM and PURIFYING HEATING APPARATUS,
[illegible] recently exhibited [illegible] as being the most efficient [illegible] for the [illegible] of drying linen, woollen, bedding, &c.; specially adapted for GENTLEMEN'S MANSIONS, INFIRMARIES, UNION WORKHOUSES, BARRACKS, &c.; as, in a sanitary point of view, it is invaluable, the DRYING-ROOM being [illegible] while the DRYING-ROOM is [illegible] COOLED and WELL VENTILATED.
The economy of fuel is extraordinary, as, in a small union, it caused a saving of seven tons of coals in four months, whilst for simplicity [illegible] surpassed.
NO LIGHTS are [illegible] the drying room.
This principle [illegible] can be applied in a manner as UNIONS, INFIRMARIES, BARRACKS, and MANSIONS.
Testimonials [illegible] forwarded upon application to Mr. PIPE, SOLE PROPRIETOR and MANUFACTURER, 9, JERMYN STREET, REGENT STREET.
A large model of the above may be seen in Class No. 10 of the International Exhibition, South Kensington.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.
These Reflectors [illegible] to prevent [illegible] and are the most effective and durable yet presented to the public.
N.B. [illegible] to subscribers and the trade

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
BULLETT & CO. 55, High Holborn.



GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturers of Guttering, Piping, Wire Netting, Galvanized Corrugated Iron, Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
TRADE MARK. Wolverhampton, Staffordshire.

TO RAILWAY COMPANIES.—The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineers' Brass-founder, No. 9, Shoe lane, Fleet-street. Manufacturer of Steam Fittings, Lifting Apparatus, Pumps, Cocks, &c., Patent Anti-friction Metal, Gun Metal, Brass Castings, &c.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246).

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and only Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by

HER MAJESTY'S WOOLSACK CHAIRS,
HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, 12 Hanover square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and fog, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 in. wide. The price is only ONE PENNY PER SQUARE FOOT. Supplies, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them received from eminent Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the Country on application. BY HAIR FELT, for covering Boilers, &c., it also maintains it by which a saving of about 25 per cent in fuel is effected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the most direct means of being supplied with a good article, and in lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER (upwards of three Millions of Feet); also the GREAT EXHIBITION BUILDING of 1862, Queen's Own Militia Office, Whitehall. A liberal Discount allowed to the Trade.

ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF

PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL.

SEYSSEL ASPHALTE,

AND BY H.M.'S ROYAL LETTERS PATENT,

MANUFACTURERS OF

LONDON, 1851. METALLIC LAVA. PARIS, 1844

FOR PRICE AND PARTICULARS APPLY AT THE
OFFICE, 6, GUILDHALL-CHAMBERS,
BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6d. PER FOOT

AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, directs attention to his superior workmanship and elegance of design of his extensive stock of Watches and Drawing room Clocks.

Extra Gold Pocket Watches	8 Guineas.
Gentlemen's Do. do.	10 "
Superior Gentlemen's Gold Patent Lever Watches	18 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	25 "
Marine Chronometers	35 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of Gold Bracelets. Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (Adjoining Coutts's Bank); 34 and 33, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—



A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas, not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.

INTERNATIONAL EXHIBITION.

A sample of the Forty Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for a school or stable, in Class IX., No. 3248.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.





UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 20,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves, &c. Manufactory in an improved CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

REVOLVING SHUTTERS, TWO SHILLINGS PER FOOT.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

CLARK & CO. PATENTEES,

And Manufacturers to the Honourable Board of Works,

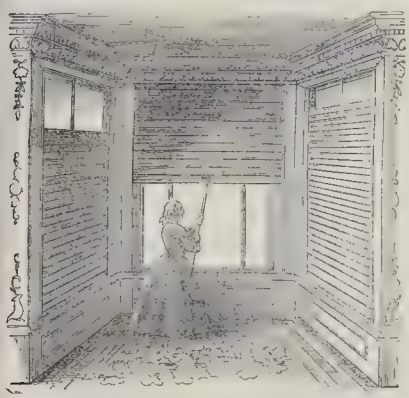
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

CLARK'S Patent Self-Coiling Iron Shutters, 3/- per Foot.



CLARK'S Patent Self-Coiling Wood Shutters, 2/6 per Foot.

The utility of Revolving Shutters for closing Shop Fronts, Windows of Private Houses, Fireplaces, and every description of opening, is universally acknowledged; but the cost has hitherto prevented their general adoption. This objection Messrs. CLARK & CO. have met by introducing their PATENT SELF-COILING SHUTTERS, in Steel, Iron, and Wood, which, in addition to being less expensive than the ordinary shutters, have the advantage of being remarkably simple, and, consequently, not liable to get out of order. The Wood Shutters are constructed of laths of wood rebated together, having numerous mortices, through which pass a series of tempered steel bands, causing the Shutters to be Self-Coiling, and rendering them proof against Burglars.



CLARK'S PATENT SELF-COILING STEEL SHUTTERS,

3/6 per Foot.



The New Patent Revolving Safety Shutters are made of *Steel, in one sheet* (without either chain, links, rivets, or pins); the steel is corrugated transversely, which gives the appearance of laths, and enables them to be coiled into a small space. The corrugations render the Shutter exceedingly rigid, transversely and remarkably pliable, and self-coiling longitudinally. They are light, and can be pushed up and drawn down without the aid of machinery of any description. It is absolutely impossible for them to get out of order.

From the strength and hardness of the material of which they are composed, and being in *one sheet*, they cannot either be cut or broken through, as there is no opening for a lever or other instrument to be inserted as in the ordinary lath shutter. Their numerous advantages, coupled with the lowness of price, must insure their universal adoption, both in SHOP FRONTS and PRIVATE HOUSES.

These Shutters are Manufactured solely by the Patentees, Messrs. CLARK & CO. and are the only Shutters made that do not require machinery or gearing apparatus, while the cost is the same as the ordinary Shutters.

BRASS SASH BARS, STALL-BOARD PLATES, AND SUN BLINDS FOR SHOP FRONTS.

PROSPECTUSES AND WORKING DRAWINGS FORWARDED FREE ON APPLICATION.

Architects should be particular in describing the description of Shutter they require used.

15, GATE STREET, LINCOLN'S INN FIELDS.

MARBLE AND STONE WORKS,

WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the South Kensington Museum, and at the Architectural Exhibition, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London fumes here.

ADULTERATIONS.—Some Paint Grinders are now selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Lithopone," or "Paint," or as the number Two or Three qualities, no work can produce good work with such material. Working Men have been misled to use the Patent Zinc Paint with ever willingness as any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per gallon, but one ton, or four hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK is STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

MODERN METRE.

A MEDIUM FOR THE POETS OF THE DAY

Now ready,

Published Monthly, Price One Shilling

CONTENTS for August.

The Spare Child.	"He saved others, Himself He cannot save"
Sent to God.	
The Song of Spring.	Divine Right of Kings.
The Wind.	Mercy.
Love's Verdict.	The Song of the Wedding Ring.
The Tower Vine.	The Dying Poet
Music.	Flowers.
Hope	An Invocation to Death
Spring	The Home of Poetry.
The Night Comerike.	The Poet.
Little Annie.	The Mother's Prayer

Many inquiries having been addressed to the Editor of "Modern Metre," respecting the objects of the undertaking, and the possibility of giving some permanent form to the scattered productions of unrecognised talent, he has considered himself as an agent for public convenience in the matter. That there has rarely been any periodical devoted exclusively to the poetical literature of this country; magazines and serials there are in abundance, but it would necessarily be for ign to their purpose to [illegible]. We appeal unhesitatingly to the present experience of individual contributors to gauge the correctness of our assertion, but the difficulty of obtaining admission for their compositions in the first-class magazines is such as to diminish the large majority of metrical writers. Fully persuaded that the [illegible] an eminently worthy of a channel through which it may flow uninterruptedly, we have adopted the "Modern Metre" for the Poets of the Day."

Contributions are invited from all. Insertion is promised to each [illegible] which [illegible] to evince [illegible] such [illegible] Media [illegible] and [illegible] the [illegible] We shall [illegible] to every proposition tending to render "Modern Metre" more worthy of both [illegible] and [illegible] the resolution to offer an annual prize of 10*l.* for competition may tend in that direction.

All communications should be addressed to the Editor of "Modern Metre," care of Messrs. Cox & Wyman, Printers, 75, Great Queen-street, London, W.C.

London: TAALANT & CO. 5, Ave Maria-lane, Paternoster-row, E.C.

THE ILLUSTRATED CATALOGUE OF THE INTERNATIONAL EXHIBITION.

THE ART-JOURNAL

for AUGUST (price 2*s.* 6*d.*) contains the Fifth Division of the Illustrated Catalogue of the International Exhibition, and comprised engraved specimens from works in the following manufactures of Art industry:—

Jewellery, Gold and Silver Work, Bronzes, Enamels, Electro-gilt, Engraved Watch-cases, Brooches, Wood Carving, Ornamental Carved Leather Work, Printed "Leather Cloth," Kamptulicon, Bookbinding, Stained and Painted Glass, Terra-cotta, Porcelain, Parian, Carved Ivory and Bone, Papier Mâché, Tapestry, Papers, "Dean's Rag Work," Cotton Fabrics, Furniture, Porcelain, Earthenware, Encaustic Tiles, Lace, Decorative Art, &c.

In the same part will be found

"Pictures of the French, Belgian, Modern, and Spanish Schools in the Exhibition;"

"James Ward," with Six Engravings from Works by that Artist;

"London Street Architecture;" "Notes and Queries in the Exhibition;"

"Public Statues in London," "Ephesus and the Temple of Diana," [illegible]

The Illustrations in the number are [illegible] graved by C. W. Sharpe, from the picture by F. Goodall, A.R.A.; "Ehrenbreitstein," by J. Couzen, after J. M. W. Turner, R.A.

London: JAMES S. VIRTUE, 26, Ivy-lane, and International Bazaar.

"THE BUILDER."—February and March, 1861, Vols. Cloth Cases

A few Copies of the above are now ready.—Apply to the Publisher, at the Office, 1, York-street, Covent-garden, W.C.

NEW WORK ON VENTILATION.

Now ready, with Seven Plates and Thirty-five Woodcuts, 8vo. 8*s.* 6*d.* cloth (postage 6*d.*)

A TREATISE ON VENTILATION, Natural and Artificial.

By ROBERT RITCHIE, C.E. Associate of the Institution of Civil Engineers, London, author of "Railways: their Rise, Progress, and Construction," "The Farm Engineer," &c.

London: LOCKWOOD & Co. 7, Stationers'-hall-court, E.C.

Just published, 12mo. 2*s.* 6*d.*

MANUAL of HYDROLOGY.

By NATHANIEL BEARDMORE, Civil Engineer.

CONTENTS.

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of upwards of 80 pages, and three engraved Copperplates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 66, London-wall. 1862.

NEW ENGINEERING YEAR BOOK

Now ready, post 8vo. 7*s.* 6*d.* cloth,

THE ANNUAL RETROSPECT of

ENGINEERING and ARCHITECTURE; a Record of Progress in the Sciences of Civil, Military, and Naval Construction. Vol. I. (January to December, 1861.)

Edited by GEORGE R. BURNELL, C.E. F.G.S. F.S.A.

LOCKWOOD & CO. 7, Stationers' Hall Court, E.C.]

KELLY'S PRACTICAL BUILDERS'

PRICE-BOOK; or, Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an Abstract of the New Building Act for regulating the Construction of Buildings. Revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by Metal Engravings and numerous Woodcuts. Royal 8vo. price 8*s.* neatly bound.

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL; and may be had of all Booksellers.

Of whom may be had, New Editions in Quarto, of the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET-MAKING, Revised by TREDGOLD: being a new and complete System of Lines, for the Use of Workmen; founded on Geometrical and Mechanical Principles. Ten parts at 2*s.* or in boards, 30*s.*; containing upwards of 120 Steel Plates, and numerous Woodcut Diagrams.

2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING (revised by TREDGOLD), both plain and ornamental; containing a new and complete System of Lines for Stone Cutting, for the Use of Workmen; the Formation of Mortars, Cements, Concrete, to which is added a variety of new designs for Mantel Pieces, Grave-stones for Cemeteries, &c. &c.; and a description of the various materials employed. Ten Parts at 2*s.* or in boards, 30*s.*; containing upwards of Ninety Steel Plates, and numerous Woodcuts.

3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the FIVE ORDERS of ARCHITECTURE; containing plain and simple Rules for Drawing and Executing them in the purest style; including an historical Description of Gothic Architecture. Illustrated by upwards of One Hundred Steel Engravings, executed by Artists of undoubted talent, including numerous Diagrams, &c. Twelve parts at 3*s.*; or in boards, 36*s.*

4. DESIGNS for COTTAGE and VILLA ARCHITECTURE; containing Plans, Elevations, Sections, Perspective Views, and Details, for the Erection of Cottages and Villas. By S. H. BROOKS, Architect. Board of Works Offices, Westminster, Architect to the Metropolitan Cemetery Company, and the estimated Cost of each Edifice. Twelve parts at 2*s.*; or in boards, 28*s.*

5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views, and Details for Churches, Chapels, Vicarages, Parsonages, Town Work, Markets, and other buildings for public purposes. By S. H. BROOKS, Architect. Beautifully engraved on steel. Ten Parts, at 2*s.* or 22*s.* boards.

6. THE HOUSE DECORATOR and PAINTER'S GUIDE: containing a series of Designs for Decorating Apartments, with the Various Styles of Ancient and Modern Architecture. By H. W. and A. ARROWSMITH, House Decorators to her Majesty. Ten Parts, at 2*s.*; or in boards, 22*s.*

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION: containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the Origin of Colour, the Laws of Harmonious Colouring, the Manufacture of Pigments, Oils, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by Practical Specimens of Plain and Ornamental Graining and Marbling. Ten Parts, at 3*s.*; or in boards, 32*s.*

8. THE ENGINEERS' and MECHANICS' ENCYCLOPÆDIA, a new and enlarged edition, comprehending Practical Illustrations of the Machinery and Processes employed in every description of Manufacture of the British Empire. Illustrated by upwards of Seven Hundred Engravings. By LUKE HERBERT, Civil Engineer, &c. Thirty-two Manufacturing Sketches developed many of the important facts since the first publication, in 1835, of the Encyclopædia. To ensure correctness and every requisite to have engaged the sedulous attention of the Editor; for, as the value of each was tested by experiment, a description was accordingly prepared. By the selection of new articles, and care in the revision of old ones, this edition has now become systematically enriched; so that it may be received as fully and faithfully expressing "the existing state of Engineering and Mechanical Science, in the Nineteenth Century." In two large 8vo volumes, cloth lettered, price 30*s.*

In 1 vol. 12mo. limp cloth, with Illustrations, price 3*s.*

AGRICULTURAL ENGINEERING.

By J. H. ANDREWS, C.E.

FORMING VOLS. LXIII. LXIX. and LXV. of WEALE'S RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

Third Edition, in 1 vol. 12mo. limp cloth, with Illustrations, price 2*s.*

RUDIMENTS of the ART of BUILDING,

in Five Sections, viz.—General Principles of Construction, Materials used in Building, Strength of Materials, Uses of Materials, Working Drawings, Specifications, and Estimates, by EDWARD DOBSON, Assoc. I. C. E. and M. I. B. A. Author of the "Railways of Belgium."

FORMING VOL. XXII. OF WEALE'S RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

New Edition, in 1 vol. 12 mo. limp cloth, pp. 140, with 103 Illustrations, price 1*s.* 6*d.*

PRINCIPLES of CONSTRUCTION in

ARCHES, PIERS, BUTTRESSES, &c. Useful to the Practical Builder. By WILLIAM BLAND, Esq.

BEING VOL. CXI. OF WEALE'S RUDIMENTARY SERIES.

J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

In 1 vol. 12mo. limp cloth, illustrated with Wood Engravings, price 1*s.*

TUBULAR and other IRON GIRDER

BRIDGES, particularly describing the Britannia and Conway Tubular Bridges, with a Sketch of Iron Bridges, and Illustrations of the application of Malleable Iron to the Art of Bridge Building.

By G. DRYSDALE DEMPSEY, C.E. Author of the "Practical Railway Engineer," &c. &c.

FORMING VOL. XLIII. OF WEALE'S RUDIMENTARY SERIES

J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

Now ready, the Sixth Edition, in 8vo. with many Plates, price 21*s.* cloth, extra gilt top,

AN ATTEMPT to DISCRIMINATE the

STYLES of ARCHITECTURE in ENGLAND, from the Conquest to the Reformation; with a Sketch of the Grecian and Roman orders.

By the late THOMAS RICKMAN, F.S.A.

Sixth Edition, with considerable Additions, chiefly Historical, by JOHN HENRY PARKER, F.S.A. and numerous Illustrations by O. JEWITT.

J. H. & JAS. PARKER, Oxford, and 377, Strand, London.

Just published, Part I. containing Five Plates, imp. 4to. price 5*s.*

MODERN ARCHITECTURE: ECCLESIASTICAL, CIVIL, and DOMESTIC. Illustrated by Views

and Plans of Gothic and Classic Buildings executed since 1850.

By JAMES MURRAY, F.R.I.B.A.

This work will consist of Lithographic Views and Plans of Churches, Town-halls, Exchanges, Warehouses, Schools, Villas, Street Houses, &c. &c. and will be completed in Twelve Parts. Published Monthly. Subscribers' names to be sent to the Author, at 9, Warwick-green South, Coventry.

SCIENTIFIC RECORD of the EXHIBITION (Practical Mechanics' Journal), Part IV. AUGUST 1,

price 2*s.* contains Mining and Colliery Work, by Warington Smyth, M.A. F.R.S.; Metallic Operations, by Dr. David S. Price, F.C.S.; Iron and Wood Ships, Boat building, &c. by E. J. Reid and N. Barnaby; Construction and Decoration of Buildings, by Geo. H. Burnell, C.E.; First Movers, Marine Engines, by Robt. Mallet, F.R.S. C.E.; illustrated by large plate engravings of Capt. Cole's Shields, applied to an Iron-cased Ship; and Muller & Ravenhill's Engines for the "Leinster" and "Connaught," with sixty woodcuts.

London: LONGMAN & CO. Ludgate-hill.

Proprietor's Offices (Offices for Patents), 47, Lincoln's-inn-fields, W.C.

This day is published, in 2 vols. 8vo. with Illustrations engraved on Wood, price 32*s.*

HISTORY of the ROYAL ACADEMY of

ARTS, from its Foundation in 1768 to the Present Time. With Biographical Notices of all the Members.

By WILLIAM SANDBY.

London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

BRYCESON'S ORGAN FACTORY,

BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scodamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TO INVENTORS.—All intending Patentees

should procure the PRINTED INFORMATION regarding Patents—the cost, and the mode of procedure to be adopted—posted gratis by the General Patent Company (Limited), 71, Fleet-street, London. ROBERT M LATHAM, Secretary.

ARCHITECTURAL and ENGINEERING

DRAWING CLASSES, for Architects, Builders, and Engineers. Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter; Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-square.

SURVEYING, LEVELLING, and CIVIL

ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ACCIDENTS ARE UNAVOIDABLE.

Every one should therefore provide against them.

THE RAILWAY PASSENGERS' ASSURANCE COMPANY

Grant Policies for Sums from 100*l.* to 1,000*l.* assuring against ACCIDENTS OF ALL KINDS.

An Annual Payment of 3*l.* secures 1,000*l.* in case of DEATH by ACCIDENT, or a Weekly Allowance of 6*l.* to the Assured while laid up by [illegible]

Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.

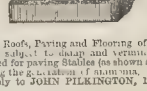
1,827 have been paid by this Company as COMPENSATION for 56 Fatal Cases, and 5,041 Cases of Personal Injury.

The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1*d.* 2*d.* or 3*d.* at all the PRINCIPAL STATIONS.

Empowered by Special Act of Parliament, 1849.

64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

The Builder.

VOL. XX.—No. 1017.

Dropmore, Bray, and Eton.



IN our last, something was said of remarkable trees of great age; but they who would see wonderful trees of comparatively no age, should make a trip to Dropmore Park, which is not far from Slough or Maidenhead; and through the good feeling of Lady Grenville, the owner, may be seen on any week-day. A pleasant and instructive morning may be spent thereabout. The house at Dropmore was built by George the Third's Prime Minister, Grenville, and the land was then part of a heather-covered common. The house itself, a low building, has no architectural features; but it is worth while noticing the good effect produced by the height of the verandah which surrounds it, suggesting a noble suite of apartments. The gardens, however, are the attraction: rare ferns and other plants are found at every step; and

> " rich flowers,
> Which look as if the gems of the old earth
> Had taken root and grown into the light."

Near to the house, some masses of natural concrete, from the neighbourhood, are disposed as archways and otherwise; and scattered about will be seen evidences of Lord Grenville's visit to China,—especially in one summer-house, where are found Chinese works of many kinds: tiles, plates, embroidery, carvings in jade-stone, cane-work doors, and a good picture. Every inch of the little place is worth examining, though at first sight it has a dusty and tea-garden aspect. The grounds are admirably cared for; the trees singularly luxuriant and beautiful; while beneath,

> " The soft herbage seems
> Spread for a place of banquet and of dreams."—*Bryant.*

There are 100 acres of such grounds, and 13 miles of paths; but you need not walk far before meeting with some of the unequalled pine-trees which form the chief glory of the place; an *Araucaria imbricata*, for example, the finest in Europe; a *Cedrus Atlanticus*, and a *Pinus Douglasii* of most startling beauty, sown only thirty-four years ago. The araucaria, which is about thirty-five years old, is 45 feet in height, and, with its snaky, or, as others might describe it, antler-like branches, forms a picture of wonderful beauty. One of the garden-houses, with overhanging eaves, is remarkably well placed, and from the mount Windsor Castle comes charmingly into view. It is marvellous how much of beauty, of variety of form and tint, is thrown together by Nature's lavish hand to form a landscape!

Not far from Dropmore is the Church of Stoke Poges, the churchyard of which is probably the scene of Gray's "Elegy." Approaching from the east, an ugly lumpy memorial of the poet is first seen in a neighbouring ground, the sides enlivened with quotations from his writings. The remains of the poet lie in a vault near the east end of the church, where he had buried his mother and aunt Antrobus, with a plain altar-tomb and inscription, wherein he mentions the former as "the careful, tender mother of many children, of whom one alone had the misfortune to survive her." The church is a venerable edifice of several periods, with an ivy-mantled tower and a wooden south porch. Close by are two large yews of great age. There is no tree more suggestive than the yew. Does its name, *Táxus*, come from *toxon*, a bow, or from *toxicum*, poison? Pliny is said to say, on the other hand, that poison was so called from this tree, which was considered poisonous. The word "yew" some derive from the Celtic "Iw," sometimes pronounced "If," and signifying verdure. *If*, it will be remembered, is the French name of the tree. It grows for a hundred years, and then remains stationary for centuries. The wood is tough and almost indestructible:

> " a living thing
> Produc'd too slowly ever to decay:
> ——— each particular trunk a growth
> Of intercepted fibres, serpentine,
> Upcoiling, and inveterately convolved."

In the days gone by, the durability, strength, and elasticity of the wood of the yew recommended it to the archer for the formation of his bow. In his hands,

> " The yew, obedient to the bender's will,"

became a most destructive instrument, and owing to the strength and skill with which it was used, in 1172, Henry II. made an easy victory of the Irish. At that time the long-bow used by the English was unknown. On such occasions, Froissart describes the English arrows as discharged so "wholly together, and so thick, that they seemed like snow:" an evidence of the great elasticity of the rebounding bough. The extensive use of the yew in the formation of bows produced a dearth in the supply; the trees were mostly destroyed, and would probably have been totally extirpated but for the superstition that had given a value to some of them in connexion with religious establishments. Supplies were sought for from abroad, and it was enacted that ships trading to Venice should, with every butt of Malmsey, import ten bow-staves for the public service. The more extensive planting of the yew-tree in England was prevented by the belief that it was prejudicial to human health, spread death or pestilence, and that

> " Nor wilding green, nor woodland flower,
> Arose within its baleful bower."

It was, nevertheless, thought to have an affinity for poisonous effluvia, and therefore to be a fit inhabitant for the churchyard, where it was supposed to act as a sort of filter in absorbing the bad airs. Master Robert Turner, who wrote a book, in 1664, on the "temperature" of plants, thus states the opinion of the times:—

"The yew is hot and dry, and hath such an attractive quality, that if it be set in a place subject to poysonous vapours the very branches will draw and imbibe them. Hence it is conceived that the judicious, in former times, planted it in churchyards, on the west side, because of those places being fuller of putrefaction and gross oleaginous vapours exhaled out of the graves by the setting sun." Master Turner further says, that by means of the yew, "have sometimes been drawn up those meteors called *ignes fatui*," by which divers have been frightened, supposing some dead bodies to walk. This author does not believe in the superstitions of the monks, but says, "Wheresoever it grows it is dangerous to both man and beast, according to some authors; how much more, then, if it be encompassed with graves into which the lesser roots will run and seek nourishment?" He also says, "that, besides other creatures, rabbits have been poisoned with it; and the very lying under the shadow hath been hurtful; yet the growing of it in a churchyard is useful, and therefore it ought not to be cut down upon what pitiful pretence soever."

Fifty years before the time of Master Turner's book, one Gerarde had declared this opinion to be a mere bugbear. The yew-tree attains a great age. Those at Fountains are said to be upwards of 1,200 years old. The yew at Ankerwyke, near Windsor, is supposed to have witnessed the signing of the Magna Charta by King John at Runnymede. St. Pierre says, "I have seen in Lower Normandy an aged yew-tree, planted in the time of William the Conqueror: it is still crowned with verdure, though its trunk is hollow and split into upright divisions, through which the daylight peeps, like the distended staves of an old cask." The bulk of many of these trees is enormous. One, at Warblington, measures 26 feet in circumference; another, at Crowhurst, 30 feet; a third, in Leeds churchyard, Kent, 31 feet; and a specimen discovered by Pennant, in a churchyard in Perthshire, 56½ feet in circumference. Most of these "monsters," as Evelyn calls them, are hollow, and put to a variety of uses: some as tool-houses for the sexton and husbandman. It is noticeable that from arrows (most probably shafts from the yew-bow) fell three kings of England: Harold, at Hastings; William Rufus, in the New Forest; and Richard Cœur-de-Lion, at the Castle of Chalons, in France.

The yews, however, have led us to a digression. The house at Stoke, where Gray's mother lived, and where he was accustomed to spend his vacations, still remains; but the Old Manor-House, the scene of the "Long Story," with

> " The rich windows that exclude the light,
> And passages that lead to nothing,"

is nearly all destroyed.

Gray, in a well-known letter to Horace Walpole (1737), describing his neighbourhood, speaks of a forest he has near him ("the vulgar call it a common"), including "most venerable beeches and other reverend vegetables," that dream out their old stories to the wind. Venerable and ghostly these Burnham beeches truly are. They are all pollarded; it must have been done years ago: tradition says, by Cromwell's soldiers; and so they have taken all sorts of wild shapes, reminding one of Hood's "blasted elm,"

> " that stands
> So like a man of sin,
> Who frantic flings his arms abroad
> To feel the worm within;"

and they provide a pillar'd shade, where, as another poet says,—

> " ghostly shapes
> May meet at moonlight,—Fear and trembling Hope,
> Silence and Foresight—Death the skeleton,
> And Time the shadow."

It is a charming place, nevertheless, for a ramble on a summer's day.

Being tired, suppose we now get to the Thames; and, after a glance at lordly Cliefden, its heights covered with luxuriant foliage, pull down the river to Bray.

The picturesque old church here is undergoing repair and renovation, especially in the nave. The chancel was attended to, and with agreeable effect, a short time ago. Two of the carved heads terminating the label moulding of the arches separating the chancel from the aisles are good likenesses of the Bishop of Oxford and the vicar. Amongst the ancient memorials here is one of W. Norreys, 1592, who was comptroller of works, Windsor Castle. The ancient and picturesque Manor-House of Ockwells, two miles off, is on land granted in 1267 to Richard de Norreys, who was cook to Queen Eleanor; and his descendants remained there until the end of the last century. The monument of W. Goddard, on the north side of the chancel, including columns, entablature, and figures, after the fashion of the seventeenth century, was re-polychromed a short time since, under the direction of the Fishmongers' Company, with good discretion and agreeable result. We know of no better specimen of such work. This excellent Goddard founded (1627) Jesus Hospital, hard by, consisting of forty houses for forty poor persons, erected round a smiling garden:—

> " Not useless are ye, flowers, though made for pleasure,
> Blooming o'er field and wave by day and night,
> From every source your sanction bids me treasure
> Harmless delight."—*Horace Smith.*

The chapel, which displays some fair Perpendicular work, would seem to be of earlier date. In it there is a small collection of books.

In coming out of the churchyard you will have noticed the lich-gate. It has over it two chambers connected with an ancient charitable bequest; or,

as others might describe it, the gate is formed beneath a small dwelling, now occupied by the sexton. The gate at Barking, in Essex, also has a chamber over it. A collection of lich-gates would show more variety of design and peculiarities in the mode of opening the gate than might be supposed. In Herefordshire they are called scallage-gates. At Troutbeck, in Westmoreland, there are three stone lich-gates in one churchyard. In Cornwall, says the last number of the "Church Builder,"* it is not customary to bear the corpse on the shoulders, but to carry the coffin, under-handed by white cloths passed beneath and through the handles (a much more healthful mode), and this partly explains the peculiar arrangement for resting the corpse at the entrance to the churchyard, common even now, in that county, and which is called the *lich-stone*. The lich-stone is often found without any building attached to it, and frequently without even a gate. The stone is either oblong, with the ends of equal width, or it is the shape of the ancient coffins,—narrower at one end than the other, but without any bend at the shoulder. It is placed in the centre, having stone seats on either side, on which the bearers rest whilst the coffin remains on the lich-stone. Lich-stones are sometimes, but very rarely, to be found at a distance from the churchyard; in this case doubtless they are intended as rests for the coffin on its way to burial.

At Lustleigh, in Devonshire, is an octagonal lich-stone, called Bishop's Stone, having engraved upon it the arms of Cotton, who was consecrated Bishop of Exeter in the year 1598.

On one of the upright timbers of the gateway at Bray is cut the date 1448, in numerals of the ancient form. This, if genuine, is a very early example of the use of the Arabic numerals in this country. The earliest known is probably that on a stone in the interior of the tower of Heathfield Church, Sussex, 1445.† Gough, in "Funeral Monuments," gives a plate of early dates in figures; the oldest being 1454, found on a brass in Ware Church; and it seems clear that the arithmetical figures did not begin to be in general use for inscriptions in this country until towards the end of the fifteenth century.

Nell Gwynne, that noticeable "horse-breaker" of 200 years ago, lived at "Filberts" (afterwards "Cresswells"), close by.

The famous Vicar of Bray, who has given the place a reputation, such as it is, was one Aleyn, who held the office in the reigns of Henry VIII., Edward VI., Queen Mary, and Queen Elizabeth, and, according to Fuller, became Papist or Protestant just as it happened to be expedient, and yet asserted that he had always kept his principle, because it was this,—"To live and die the Vicar of Bray":—

> "And this is law, I will maintain,
> Until my dying day, sir,—
> That, whatsoever king shall reign,
> I'll be the Vicar of Bray, sir."

He might have been a much better man,—a much more learned and eminent man,—and yet not so celebrated as this story and this ballad have made him. What was Fuller's authority, by the way, for his statement?

A story is quoted in Murray's "Handbook for Berks and Bucks," showing how King James I. once, when hunting, rode forward to the inn at Maidenhead, and found nothing could be had because the Vicar of Bray and his curate were up stairs, and had bespoken everything in the house. Joining them, the adventure ends in the king leaving the superior to be always Vicar of Bray, but making the curate, who had consented to pay the king's score, a canon of Windsor, so that he might look down on the vicar and his vicarage. This, however, could not have been *the* Vicar of Bray, for Aleyn died in 1588. The repute of the Vicar remained connected with the inn—the Orkney Arms; and a century and a quarter ago, the following lines were addressed to the landlord of it:—

> "Friend Isaac, 'tis strange, you that live so near Bray,
> Shouldn't set up the sign of the Vicar:
> Though it may be an odd one, you cannot but say,
> It must needs be a sign of good liquor."

To which the said Isaac replied:—

> "Indeed, my friend poet, your reason's but poor,
> For the vicar would think it a sin
> To stay, like a booby, and lounge at the door,—
> 'Tis a sign there's bad liquor within"

Pulling on from Bray, Monkey Island may be touched at, more for refection than for the oddly-painted ceiling, showing monkeys in various positions, in the pavilion built there by a Duke of Buckingham. Hither come the Eton men to refresh; and a very good character they leave behind them, if a landlord is to be believed. You will meet some of them in their trim boats as you pass on your way, if it be the right time of day, as you will also many of the stately swans—swans with "two nicks" and more, that belong to some of the City companies, and have their nests on the aits or eyghts, as the little islands thereabout are called. Have we here, by the way, any clue to the naming of Eton? Norton is a town situate in the north; Weston, a town in the west; Sandton, a town on a sandy soil; and Eton (we are dabbling with what others have perhaps made clear) may be the town near the ait; or, as eyse is a British word for water, the town by the water.

Eton will be a good place with which to terminate the trip. It offers much to interest. No one sees it without thinking of Gray, and quoting—

> "Ye distant spires, ye antique towers,
> That crown the wat'ry glade,
> Where grateful science still adores
> Her Henry's holy shade."

Not that science does anything of the sort; but the expression satisfies. It would be well if science would set to work and make the most of the foundation. The present aspect of the schools is dispiriting and unsatisfactory, in the extreme;—the lower one especially, damp, dirty, and dark. No pictures, no maps, no forms of beauty! Where are the educational appliances for which medals are elsewhere given? If the International Juries are right, Eton must be wrong. The birch, at any rate, is still used, and is exhibited, with some gusto, by the housekeeper, who explains the mode of application without reticence.

Eton College appears to have been commenced in 1441; but the death of its founder, King Henry VI., and difficulties with the dean and canons of Windsor, led to delays, and it was not till 1522 that the college was finished. The chapel is now in an excellent state, glowing with stained glass. Old customs linger in Eton and Windsor; the memory of great names is about them; and here the eyes "make pictures when they are shut." Poets, too, have aided in rendering all this part of the country famous. Gray at Stoke; Milton at Horton, where he wrote "Comus" and "Lycidas;" and Pope, whose early home was Binfield, give it an added glory, and increase the pleasure which attends a ramble in it.

* Rivingtons, Waterloo-place, London.

† Journal of British Archæological Association, vol. iii.

GOSSIP ABOUT THE INTERNATIONAL EXHIBITION.

Among things of merit connected with internal decoration of a semi-architectural character, are the articles composed of inlaid woods, shown in the Italian Division by Mr. Norchi. Some of the specimens display much ingenuity of device. There is a table-top, for instance, the design of which is formed of medallion portraits of the great poets and painters of Italy, which is very cleverly managed; the whole of the colours as well as shades being produced by the natural colours of various woods. The connecting ornament is produced in a similar manner, and is of a very suggestive character; showing what fine effects might be produced in important apartments by means of inlaid wood panelling treated in the manner just described. Decoration of this kind, both as to colour and device, might be made to supersede painting, with very good effect, and without too much extra cost, when the permanent character of the work is considered; which would not require continued renovation, as expensive as the first cost; as is the case with the tinted decorations of the paint-brush.

Similar works by Corridi Pasquale, of Leghorn, may be seen near to those just described, and are, in some respects, superior. There is, for instance, a table-top which he terms a *tavola intarsiata*, which is of very elaborate character; and the elaboration results in very satisfactory effects. The central subject is Neptune and Amphitrite. It is well designed for its purpose; and great ingenuity is displayed in the selection of tones afforded by various woods; none of the colours being produced by artificial means. Of a somewhat similar class of work, but different material, is the table-top exhibited by Tangassi, Brothers, of Volterra, situate in the midst of a district affording an unlimited supply of alabaster of various kinds, and of other similar substances suited to the fabrication of ornamental sculpture and other purposes connected with internal decoration. They have sought to turn these attractive materials to better account than the production of those quasi-ornamental vases, of various sizes, which are made there, and are to be found playing the part of second-rate chimney-ornaments all over Europe. In the present specimen of an inlaid alabaster table-top (exhibited close to the specimens of wood-inlaying just described), the Brothers Tangassi have produced a piece of inlaying, in differently-coloured alabaster,—white, orange, and brown,—which is very beautiful; the design being, moreover, very cleverly adapted to the style of work and the nature of the material. A summer-chamber, or cabinet, as the French term it, having its sides cased with a panelling of inlaid alabaster of this description, would have a charmingly cool and at the same time decorative aspect; especially if the other fittings were of suitable character. For instance, in each of the angles (or in only two of them) might be placed one of the alabaster candelabra exhibited in another part of the nave by the same artists, which would carry out the effect of the walls with admirable accordance.

These candelabra, which are of large size and massive form, are, in all their larger features, composed of dark brown alabaster, relieved by attached ornaments, in high relief, of the white variety. The effect of the contrasts so produced, in consequence of the over-profuseness of the white ornaments, and from the want of the blending tone of orange, which is so successful in the table, is rather what an American critic would call "loud;" but this defect might easily be avoided; especially by the use of inlays in addition to the reliefs. The effect, however, of such a summer cabinet as the one described, decorated with a central marble table, and also with candelabra from the atelier of the Tangassi, would, allowing for all drawbacks of occasional imperfect treatment, be singularly elegant; especially with a mosaic floor, which naturally follows as part of the arrangement.

There is also, in the nave, a glass stand and vase, both enriched with ornaments in ormolu, which would be a splendid addition to such an apartment, if borne up with a few other features of similar character. The vase and stand in question are, together, of about the same size as Messrs. Ostler's splendid glass candelabrum, but in an entirely distinct style well worthy of careful study. From the nature of the design, the work does not look so *glassy*, having more the effect of a magnificent work in rock crystal, and producing a general effect which is much more quiet and chaste than that of the eternal prismatic drops and cones which one has got so thoroughly tired of. Speaking of candelabra, the handsome Prussian works forming part of the magnificent present from the city of Berlin to our Princess Royal, on the occasion of her marriage, should not be forgotten. These candelabra are entirely of silver; certain effects of tone, if not colour, being introduced by means of burnishing, frosting, or oxidising the metal; the tones so produced being, in their relative positions, well calculated to heighten the effect of the design. There is, however, a cold classicism of style about Prussian designs somewhat similar to that which distinguishes a certain French epoch, known as *l'Ecole de l'Empire*, which is much less attractive than the more picturesque classes of design which have arisen from the recent study and appreciation of works of the different Mediæval periods.

The intricate forms, and still more intricate details, of Turkish architecture, which become so costly when conscientiously executed in stone or marble, have been well imitated in ironwork by Messrs. Barbegat & Co., in an elegant kiosk exe-

nted for the Pasha of Egypt. The drawing of his pleasing work, which is displayed among their remarkable productions in iron (which form a conspicuous object in the French Court), is sufficiently large to exhibit the details of this interesting *morceau* of iron architecture in all their delicacy. The work is entirely clothed in a garment of colours and gold; and, judging from the drawing, must have a very rich and elegant effect. Both French and English architects are almost entirely indebted to Mr. Owen Jones for their present knowledge and appreciation of the different styles of Oriental architecture; a knowledge which was inaugurated by the appearance of that accomplished artist's great work on the Alhambra. We may judge what was the English conception of Oriental art before that time by the monstrous gewgaw at Brighton—the Royal Pavilion—which was the work of some of the most accomplished artists of the day; among whom was the justly esteemed Repton, whose well-known taste in other styles is undisputed. The understanding of Eastern art was, however, at that time, a diseased artistic dream; and almost as much may be said of the professional ignorance respecting the true characteristics of our native Gothic, at the same period. The genuine characteristics and individual expressions of the different styles of Oriental art are now, however, well understood; and Moresque, Turkish, and Persian, are as well discriminated as Romanesque, Gothic, and Renaissance; as may be proved by the elegant Turkish kiosk of the Messrs. Barbegat, and many other recent works that might be cited. Among others of the kind alluded to, Messrs. Garrard's Turkish fountain may be cited; which, though merely a jewelled toy, approaches very near to the desired degree of accuracy in all that relates to general forms, as well as the lesser features, of elaborate detail.

In gold and silver works, and smaller jewelry, such as brooches and clasps, of an artistic character, Mr. Rudolphi has distinguished himself in the present Exhibition. His great niello plate, the silver and black niellos raised above the level of the gold grounds, after the manner of Russo-Byzantine works of the class, deserves high praise. The various niello subjects of this work form together a series illustrating the biblical story of Joseph. His smaller works, in oxidized silver, are full of an elegant spirit of design, some of the brooches, clasps, and other dress ornaments being of a highly artistic character, and worthy of being worn rather for their merit as works of art than for the mere intrinsic value of their material, as a precious metal.

Near to the stand of Mr. Rudolphi, the seeker after the curiosities of art, especially among the more highly wrought works of gold and silver of smaller dimensions than the vast shields and vases which alone attract the many, will not fail to notice an exquisitely wrought wreath of golden bay leaves. It will remind the Italian tourist of those wonderful specimens of ancient Etruscan jewelry which the recently discovered tombs of Etruria have yielded in such profusion to the great Italian museums. It is light, delicate, and yet full of the energy and character which the touch of the true artist can always impart even to the slightest texture, as in the case of those Etruscan jewels wrought by the Etruscan goldsmith of 3,000 years ago. The work in question is a crown of golden bays, which the town of Agen is about to present to its local poet, Jasmin, the last of the troubadours, whose story is too well known to require repetition. We English have more substantial methods of honouring our popular poets, but perhaps less graceful ones; and we have reason to know that Jasmin will be better pleased with his wreath of golden bays than with the golden rouleaux of a ministerial pension.

WORKS IN WESTMINSTER ABBEY.

The new pulpit which has been set up in Westminster Abbey, designed by Mr. Scott, and executed by Mr. William Farmer, is a handsome structure. It stands on the north side of the nave, at the sixth arch from the west; and is composed principally of magnesian limestone from the Mansfield Woodhouse quarry. It is octagonal. Round the top runs a capping of red Devon marble. The cornice is ornamented with leaves and flowers of the columbine. At the angles are figures of the four Evangelists and of St. Peter and St. Paul under canopies. In one panel is the face of our Lord, in white marble, well executed by Monroe. In the other panels are lozenges containing circular medallions of mosaic work in different-coloured marbles. The head has at present a spotty effect. The capping of the string which runs round the bottom of the panels is of grey Derbyshire marble: the string is ornamented with First Pointed foliage. The pulpit is supported on columns of Devonshire marble at the angles, and a larger one in the centre; the capitals being of Early Pointed character. The columns of the staircase are of the same. The figures of the apostles are well carved, but two are somewhat affected in attitude.——The window in memory of Robert Stephenson, of which we gave some particulars from the Gateshead paper, has since been set up on the north side of the nave, near the chancel. It has little to distinguish it as a work of art from a hundred others: indeed, if we must speak our minds, it is rather a poor affair,—mere manufacture.——One of the windows in the north transept is about to be filled with painted glass as a memorial of the late Mr. Vincent Novello. It will be executed by Messrs. Lavers & Barraud.——A plain tablet has lately been placed over the grave of the late Lord Macaulay, bearing only the following simple inscription:—"Thomas Babington, Lord Macaulay, born at Rothly Temple, Leicestershire, October 25, 1800. Died at Holly Lodge, Campden-hill, December 28, 1859. His body is buried in peace, but his name liveth for evermore." If we may judge from the thronging crowds which filled the abbey on the occasion of our visit (Saturday last), the fabric-fund will benefit by the visitors now in London. When the afternoon service began, 3,000 persons, we were told, had paid their sixpences to see the chapels.

MISMANAGEMENT OF PUBLIC WORKS IN INDIA.*

The present strength of the Public Works professional staff of the Madras Presidency numbers about four hundred engineers, sub-engineers, supervisors, &c., exclusive of the large number of writers, clerks, and other inferior assistants; the salary of the chief engineer being about 3,000*l.* per annum, and that of the district engineers about 1,200*l.* About two hundred of these are military officers of various grades: about seventy are natives, and the rest civilians. The military officers occupy all the best positions, and they all receive full military pay as well as their staff salary. Nothing is more common than to meet a young lieutenant of engineers, not twenty-five years old, and with scarcely any professional knowledge, receiving 700*l.* per annum, and 10s. a day travelling expenses, besides 30s. per month for office rent. Many of these young gentlemen, if in England, would hardly be deemed fit to occupy the place of a builder's clerk with 100*l.* per annum.

The injurious effect of this system, even in a military point of view, must be easily apparent. Officers, without sufficient influence to obtain staff appointments, or too fond of their military duties to desire a change from military to civil employ, remain with their regiments upon mere military pay; while those who possess the requisite amount of favour, and who care nothing about a soldier's life except the title,—these can for years, almost for life, leave their military duties to be performed by others, while they are receiving full military pay and a handsome civil salary as well. No objection can be offered to the plan of a certain number of military officers being employed in a civil capacity in time of peace; but all such extra appointments ought to be conferred only upon the oldest and most deserving. Their number should be limited to a few in each regiment; and while so employed only half military pay should be allowed them, and they ought to be placed under thoroughly competent civil officers, able to teach them in a proper and legitimate manner. Nothing would be considered a grosser breach of propriety than the placing civilians over military men when engaged in military pursuits; and why should half-taught soldiers be allowed to direct the operations of civil officers, far better qualified, often far more experienced and talented, than themselves, and whose whole life has been devoted to the study and practice of that science which a military officer is only superficially acquainted with?

The code of rules of the Public Works Department is contained in a book published under the authority of Government, containing about 600 pages of printing, quarto size. Nearly all these rules, which were compiled in 1857, are now obsolete, in consequence of the very many alterations that are constantly being made; and very lately a new code of rules has been drawn up which already reaches to twenty-five chapters, and is still unfinished. Besides this, there are the rules of the civil and military auditors; rules for keeping accounts, monthly returns, and forms to fill up in endless variety; the native languages to study, &c., &c. When all these are taken into account, it must at once be obvious that very little time indeed is left for the young officer to become acquainted with the duties of a civil engineer: as to architecture, such a thing is not even thought of.

The rules laid down by the Indian Government respecting the acquisition of the native languages are more mischievous in their operation than is generally supposed. By these regulations, no officer in the Department of Public Works, however talented, clever, or experienced, is ever allowed any promotion until he has learned to read, write, and speak one of the numerous languages of India. Even if he acquire this knowledge, he is often sent to another part of the country, where a new language is spoken. If he fail after eighteen months in passing an examination in the vernacular, ten per cent. is deducted from his pay; or he is sent back to his regiment; as if regimental officers were not required to know the native tongue. If he succeed in passing an examination, he is very likely to be removed to another station, and has to go over the same process again; and, as the Madras Presidency alone has some seven or eight distinct languages, his time is employed in becoming a linguist instead of learning to be an engineer. Besides this, officers whom it is desirable to accommodate are let off with a very slight examination; while those who do not possess the requisite amount of influence are most rigidly dealt with. I have known officers entrusted for many years with large and important public works quite unable to speak any native tongue; while others, quite able to converse with the natives, were rejected because unable to read and translate letters, &c. It must at once be obvious, even if the regulations were ever so impartially enforced, that their effect must be to keep out of the service those who have had the largest share of European experience, as they will be the least likely to attain a knowledge of an Asiatic tongue; while those born and almost educated in India speak it with the greatest facility. What would have been thought of such a system in Europe if our eminent engineers—our Stephensons, our Rennies, our Vignoles's, &c.—had been refused employment by the Continental States until they had acquired the language of the country? In India, plenty of natives can always be obtained sufficiently well acquainted with English to act as interpreters, and convey the orders of the superior officers to the workmen; and every one permanently stationed in India will learn as much of the vernacular as possible, merely for his own convenience; but the degree of proficiency must depend upon circumstances not having the slightest relation to engineering ability.

The system of keeping accounts is also another branch of the department open to the most serious objections. This system has been altered two or three times during the past six years, and is even now very imperfect: information of the most useless kind is required to be furnished, while items of the greatest importance are frequently omitted. The real effect of the system now pursued is to reduce all the officers to one level, not by raising the character of those lowest in the scale of ability, but by lowering all to the condition of mere machines; indeed the official forms required to be supplied by the various officers are so numerous and complex, that even the Madras Government expressed its regret that the duties of a district engineer were gradually becoming those of an accountant, instead of a scientific superintendent.

It is easy to guess the effect of this system. Attention to official forms and curious calculations are considered the standard of excellence, while practical skill, experience, and talent are completely ignored.

The late chief engineer, Col. Bell, upon leaving the department, addressed a circular to all young officers, exhorting them to devote their attention to acquiring a knowledge of the vernacular languages, and the system of accounts: designing, drawing, levelling, surveying, practical building, architecture, civil and mechanical engineering—these are considered beneath the notice of a Madras engineer officer, and are left to the native or East-India subordinates.

The districts of the Madras Presidency, twenty-four in number, are, many of them, of enormous extent: one (Bellary) comprises 13,056 square miles, with a population of 1,250,000 people: over each of these is one district engineer, and generally three or four assistants and a few overseers, the latter mostly privates or corporals from the European regiments. In some cases, from the

* See page 527, *ante*.

difficulty of travelling, a district engineer can scarcely reach some parts of his district above once in a year. Each district is subdivided into ranges, and the range-officers travel about with bullock carts, and lodge in tents or mud cabins hardly fit for an Irishman's pig. The subordinates—Europeans and East-Indians—badly paid, overworked, and with but little chance of promotion, are discontented; and, if possessed of any ability, leave on the first favourable opportunity that offers: indeed, among the overseers, &c., the Public Works Department is looked upon merely as an introduction to something else. The native subordinates manage better: by some unknown means they find opportunities of making money out of their countrymen without the chance of detection, and thereby enrich themselves at the expense of the Government; and, as the engineers are often removed to new districts, they are necessarily—for a time at least—in the hands of their native assistants.

It is certainly highly creditable to the Public Works corps, that, whatever deficiency they may exhibit on the score of professional ability, there is rarely any imputation cast upon their integrity. A more upright body of men, I believe, is not to be found in any part of the British Empire. They waste money, certainly, through incompetence or inexperience—and that often to a large extent; but, in the midst of numerous temptations and opportunities, rarely ever is an officer, or even a European subordinate, charged with peculation or dishonesty. Their faults are more the faults of the defective system under which they are employed; and while I feel bound, upon public grounds, to expose their numerous professional shortcomings, I feel equally bound to bear testimony to their high sense of honour and integrity, to their diligence, and often to their zeal in the public discharge of their duties. When a young engineer officer first takes up an executive charge, I believe in very many cases he would gladly avail himself of superior guidance and instruction; but this is rarely to be obtained: he is thrown entirely upon his own imperfect knowledge and his subordinate assistants, and compelled to do the best he can. He soon learns that attention to the official routine of red-tapeism is the great thing to recommend him to his superiors; and if his monthly returns are properly filled up, it matters but little whether his works are well done, or not. A few failures—such as the giving way of a new foundation, the falling in of an arch or a roof, the cracking of a wall, or the washing away of a supply channel or a sluice, are matters of no grave moment: such things have often occurred before; and failure and accident are common enough all round him, and he can hardly be expected to do things better than other people: besides, there is always the heavy rain, or the sudden storm, or the extra high fresh, to account for the disaster; as if rain and storms, and high freshes, were not common enough in India. If you tell him that such errors would ruin any man's professional prospects in England, he replies, that we cannot afford to do things as they are done in England,—never thinking that his mishaps cost far more than doing the work well at first. As to the natives, they are so accustomed to failures, that they look upon these occurrences as a matter of course.

It is for this reason that I advocate the importance of having proper, well-educated European civil engineers, experienced in British works, to give to the young military tyros suitable instruction. Young men from England, who have but just completed their articles, are of but little use. No respect is paid to their opinions, and no attention given to their instructions. They soon learn to do things as bad as their military brethren; and then the Government officers triumphantly point to them as a proof that engineers who have been educated in England are no better than the rest.

When a young lieutenant of the engineers comes out to India—generally at about the age of eighteen—he enters the Public Works Department as a matter of course; and is generally made a second assistant district engineer, as soon as he has passed his examination in Hindostanee; which—as he has learnt that language at school—is no great trouble to him. When an officer of infantry or cavalry wishes to join the department, and thus obtain staff employ, he has merely to make a small survey and section, and answer a few questions to a district engineer, and he receives a certificate of qualification for employment in the Department of Public Works. Such officers are rarely made district engineers; and they are liable to be called upon to join their regiments at any time, in the event of war breaking out; but, during their employment as engineers, they generally have the charge of executive ranges; and upon them very frequently devolves the duty of carrying out many very important works; and, with their limited knowledge and experience, it is a matter of no wonder that their work is so imperfectly performed. Building, to most of them, consists merely in piling stone upon stone, without the slightest regard to good workmanship. Carpentry, is nailing together a few palmyra beams; and excavation, digging a hole in the ground, carrying away the soil in baskets upon women's heads, and throwing it in disordered heaps. As to good masonry, good brickwork, or good carpentry or joinery, such things are quite unknown to them; neither do they appear to see the least necessity for making attempts at improvement. INDIAN.

THE WORCESTER CONGRESS OF THE ARCHÆOLOGICAL INSTITUTE.

THE reception of the Institute at Worcester was everything that could be desired. The return to the old custom of electing the president from the locality we visited was in this instance shown to be highly beneficial; and the cordiality with which we were welcomed was in strong contrast with that of some of the places in which we have pitched our tents, and where we have not had the advantage of the co-operation and aid of those in authority. The business commenced by the chair being taken by Lord Lyttelton, the lord lieutenant of the county. The usual complimentary speeches were made, and an address was read on the part of the corporation. When these proceedings terminated, we made a perambulation of the town, viewing the churches in our way; but they did not display many objects of interest, as they all have been patched, plastered, or added to—a process called perhaps restoration. One member said "The churches all seem to have come to grief;" and the reply was, "Yes, they have met with an architect." The principal and, indeed, the only object demanding any consideration, was "the Commandry," an ancient hospital, of which the hall remains in very good preservation. The roof, which is well preserved, was stated by Mr. Parker to be of the time of Henry VII. He also called attention to the curvature of the roof at the end of the hall, where the dais was supposed to have stood; stating at the same time that a dais meant a canopy as well as a raised seat; and the present was a good illustration.

The evening sitting commenced with a paper from Mr. Severn Walker, which was much too dry for a general audience, on the Ecclesiology of Worcestershire. He gave a catalogue and the statistics of the 252 churches in the county. Had they been required to be appraised, his paper would have been useful; but for the interest of the majority of his auditors, the number of towers at the west or at the east, or the tabular statement of the number of bells and similar particulars, were not very important.

He was followed by Mr. Freeman, who read a paper on Pershore Abbey, which we were to visit on the following day. To him succeeded Mr. Lysons, who read a notice of the rescue of Henry the Eighth "by three Gloucestershire men;" and the Hookes of Crooke, who are the descendants of one of the said gentlemen, may congratulate themselves, as the audience did, on their having "such a chronicler."

On Wednesday, the Mayor (Mr. Firkins), faithful to the traditions of corporations, and illustrative of his own liberality, invited the members to a breakfast at the Guildhall, which was responded to by "acceptance bounteous;" and, though one member had doubted the propriety of partaking of such hospitality before the labours of the day were commenced, the result showed that the worshipful the mayor was right in his appreciation of the necessity of anticipating the exhaustion arising from dry studies. We then adjourned to the sectional meetings, where the following papers were read, and upon which some discussion ensued:—

"The Life and Time of Lord Chancellor Somers," by Mr. Foss.

"The Origin and Early History of the Cathedral and Monasteries of Worcester," by the Rev. W. Stubbs.

"The Traces of History and Ethnology in the Local Names of Worcestershire," by the Rev. J. Earle.

"The Traces of the Scandinavian Language retained in Yorkshire," by Sir C. Anderson.

In the afternoon we made an excursion to Pershore, by way of Pinvin and Wire; the usual question of Saxon and Norman construction being made the subject of contention at Pinvin, without any new light being thrown on it.

In the evening, Mr. Parker read a paper "On Campden House and Town," in Worcestershire, and not the Camden-town of the metropolis; and then followed Mr. Freeman, who, in a lengthened and—must I say it?—dreary sermon, gave us an account of Simon de Montfort. Hume's history he described as rubbish, only believed in by heads of colleges and schoolmistresses. But, if Mr. Freeman intends to rewrite history, I should prefer that he did not read it, unless he could make it more interesting than this sample, which provoked the unmistakable and audible impatience of the audience.

On Thursday we proceeded to Evesham, to view the remains of the abbey. Thence we went to Buckland, a most picturesque and Alpine-like village. The church possesses many curious features,—a porch with a double gable, that nearest the aisle of the church still being surmounted with a cross and a sanctus bell-cot. In the rectory there is still to be seen the hall of the priests' house. We then went to the Church of Broadway, which is not now used for service; afterwards proceeded up the Broadway-hill, fully appreciating and enjoying the beautiful and commanding views to be had therefrom; till we came to Campden House, where the noble owner and Lady Campden received us, with the most polite attention on the part of his lordship, and the most winning grace from her ladyship and family. The house was restored by Pugin, and a chapel for the performance of the rites of the Roman Catholic Church added. At the altar are the remains of St. Victoria, brought direct from the catacombs at Rome. They were shown by the chaplain, who vouched for their authenticity; but those who viewed them at the same time as myself were of opinion, judging from the size of the bones, that St. Victoria must have been a very juvenile martyr, and must have been very precocious to suffer for her opinions at such an early age. Having partaken of the liberal and luxurious entertainment provided, we proceeded to the church at Campden, which is of late date. There are some well-preserved monuments of the early members of the Hickes and Noel families. That of the first viscount, by Stone, attracted particular attention, and called forth some remarks from Mr. Bloxham and others. In the evening there was a *conversazione* at the Museum.

On Friday morning there were the sectional meetings; and then, as usual with these congresses, came the great feature of attraction—Professor Willis on the Cathedral. He was, as on former occasions, eloquent, clear, logical, instructive, and, I must add, amusing,—an element too often neglected by our teachers; but it was evident that he had not in this cathedral the same object of inspiration as in others that he has illustrated; the frequent skinnings, patchings, repairings, and other alterations, rendered necessary by the decay of the stone of which it was built, having destroyed so many of those historical marks which it is his delight to discover and elucidate. These remarks are only meant to be comparative; for it is not for a moment to be supposed that the professor could be dull or uninteresting.

Between the lecture at the Guildhall, and the peripatetic illustration at the cathedral, Sir Edmund Lechmere, the high sheriff, entertained us at a sumptuous *déjeûner*.

In the evening, Mr. Lees read a paper on the Battle of Worcester. As a native or resident, he adopted all the traditions of the faithful and loyal city, and developed his views, founded thereon, with energy and enthusiasm. I was reminded of an anecdote that Douglas Jerrold used to tell of an Irish author, who took to writing on theology. Jerrold met him in Great Russell-street; and when asked where he was going, he replied—"To the Museum. Having written my book, I am now going to consult my authorities." Historical research, accumulation of evidence, impartial judgment, and that justice which ever attends the full development of truth, are placing Cromwell in a position that shows he may be viewed from a different point than that held by the Royalists.

On Saturday we had a healthful and exhilarating trip to Great Malvern; where the priory church was commented upon by Mr. Freeman. The peculiarity of this church is the addition of the Perpendicular style to the old Norman; which is so skilfully done as not to make the contrast too violent, or to diminish the general effect. After looking at Little Malvern Church, which contains many marks of the Roman Catholic influence in the neighbourhood, we proceeded to the top of the hill, known as the Hereford Beacon.

Some theories were propounded about this having been a British camp; and a marvellous story was told of a jewel of enormous value having been found in the neighbourhood; but as no greater authority could be given than an old local guide-book, the author of which took it from the tradition of the residents at Malvern; it did not create much belief in the minds of those who heard it. The exhilaration caused by the charming ascent, and the magnificence of the prospect, may have perhaps contributed to this; for I have often observed that cheerful spirits are a great antagonist to credulity. All thanks, then, to those who proposed and conducted this meeting in a county where, as our president remarked, "the beautics of art and nature are combined." By the influence of the latter, our judgments are rendered clearer for those objects which are the product of the former.

On Saturday evening Mr. Binns read a paper on the manufacture of porcelain in Worcester; but as it treated too much of the personal arrangements, proceedings, and history of the firm who are the manufacturers, it was not so interesting as it might have been.

Mr. Franks also offered some remarks on the general history of porcelain manufacture in England.

On Monday several papers of interest were read; and in the afternoon the members proceeded to Tewkesbury; but, as I gave you my impressions of this place when I wrote upon the meeting at Gloucester, it is not worth while repeating them here.

The Museum was very good, and illustrated many objects of local interest. The ancient Worcester porcelain was well represented; and there were many pictures of distinguished Worcestershire worthies, contributed by Lord Lyttelton, Sir John Packington, and others. There was also a fine collection of enamels. Indeed, the special taste and study of every one could be gratified with works of those arts to which they were attached. Among the general objects of interest was a very curious fan, painted in gonach, representing the drawing of a lottery in Guildhall. There were also some manuscripts by Esther Inglis, about whom there have been recently some inquiries in *Notes and Queries*.

Hospitality abounded, even after the regular period of the meeting, and invitations were given by Lord Dudley and Ward and Sir Thomas Winnington, which were accepted by many of the members.

The Worcester may be reckoned as one of the most successful meetings of the Institute; and the week spent in that city and its vicinity will be long remembered by its members. F. S. A.

BENZOL, ANILINE, MAUVE, AND MAGENTA.

An able and very interesting lecture on these subjects was delivered by Dr. A. W. Hofmann, F.R.S., and President of the Chemical Society, at the Royal Institution, in course of the last session; and we cannot pass it by without giving a few extracts from it in our columns.

The fact of the beautiful colouring matters known by the fanciful terms, mauve and magenta, being substances derived from coal, said the lecturer, must, I presume, be familiar to every one of you. These substances are obtained from a secondary product of coal, generated in the manufacture of gas; namely, coal-tar; a product long used for a variety of purposes; but which, only within the last few years, the researches of chemists have proved to be an inexhaustible mine of wealth and interest.

The starting point, then, for the production of mauve and magenta is the manufacture of coal gas by the distillation of coal, which ultimately is entirely resolved into gas and oily products; a non-volatile residue, the coke, remaining behind in the retort.

It is in the oily products, the so-called "coal-tar oil," that our interest is centred. To my mind this coal-tar oil is one of the most wonderful productions in the whole range of chemistry. The only coal derivatives which, in connexion with mauve and magenta, claim our attention, are benzol, phenol, and aniline.

The separation of the individual substances from the complex mixture called coal-tar oil appears, at the first glance, to present almost insurmountable obstacles. But the principles made use of for this purpose are very simple. The individual compounds contained in coal-tar oil may be separated in a great measure by distillation, their boiling points varying to a considerable extent. Benzol, phenol, and aniline may thus easily be separated.

Each of these three coal-tar oil constituents has received important applications in the arts and manufactures. Benzol is the most convenient solvent for caoutchouc: as an agent for removing oil and grease it has become an ordinary household article. Phenol, when treated with nitric acid, yields us a beautiful yellow dye, called by chemists carbazotic acid; but the practical interest attached to phenol you will more immediately appreciate if I tell you that this compound presents the greatest analogy with creosote; a substance, I am afraid, but too well known to most of us;—a considerable portion of the creosote of commerce being in fact simply phenol. Aniline, lastly, is the source of mauve and magenta.

The amount of aniline which exists in coal-tar is very limited: a preparation from this source upon a sufficiently large scale could never be attempted. Fortunately, chemists are in the possession of a series of processes by which aniline may be produced in any quantity. Benzol, the phenylated hydrogen, may readily be converted into aniline, the phenylated ammonia.

Very little is known regarding the chemical nature of mauve: its composition is not yet made out; and as a matter of course the process by which it is formed from aniline remains as yet perfectly unexplained.

Magenta is one of the fancy names given to the splendid crimson which is likewise generated from aniline by the action of oxidizing agents. This substance was first observed in purely scientific researches, and more especially in the action of tetrachloride of carbon upon aniline. To a French chemist, Mr. Verguin, the merit is due of having for the first time obtained this substance on a larger scale: he produced it by the action of tetrachloride of tin on aniline. Numerous other processes were subsequently suggested; among which treatment of aniline with chloride or nitrate of mercury, with arsenic acid, and many other substances, may be mentioned. Magenta, often called fuchsine, roscine, &c., soon became an article of large consumption. A great impetus to this new branch of industry was given in France by Messrs. Renard & Franc, who were the first to manufacture the new article on a commercial scale: in this country, very soon afterwards, Messrs. Simpson, Maude, & Nicholson engaged with great spirit in the manufacture of this splendid dye; the production of which has attained already colossal proportions. To Mr. E. C. Nicholson more especially belongs the credit of having developed this new industry to an unprecedented degree of perfection.

In all the processes which convert aniline into colouring matters, a considerable number of secondary products are generated, which it is rather difficult to separate from the principal product of the reaction. These difficulties have been most perfectly overcome by Mr. Nicholson, who has succeeded in obtaining magenta in a state of absolute purity. Chemists have thus been enabled to analyze this substance, and to lift, at all events, the corner of the veil which still covers the mysterious formation of the coloured derivatives of aniline.

In the pure state magenta is a fine crystalline, and, remarkably enough, a perfectly colourless, or only slightly tinted body, which is represented by the formula—

$$C_{20}\,H_{21}\,N_3\,O = C_{20}\,H_{19}\,N_3,\,H_2\,O.$$

Rosaniline (this is the name by which chemists designate the colourless body) is a base, or ammonia-derivative, which forms a series of splendid salts. With hydrochloric acid, for instance, it produces a beautifully-crystalline salt of the formula—

$$C_{20}\,H_{19}\,N_3,\,H\,Cl.$$

It is in the state of saline combination that rosaniline acts as a crimson dye. Into this shallow porcelain dish I have thrown a few crystals of rosaniline, which at a distance you scarcely perceive. I now pour upon these crystals a small quantity of acetic acid; when on gently heating the dish the crimson colour instantaneously appears. But it is only in solution that even the salts of rosaniline are crimson-coloured: on slowly evaporating their solution, the red colour entirely vanishes, and a splendid green crystalline substance remains; presenting in an extraordinary manner the beautiful metallic lustre which distinguishes the wings of the rose-beetle. Together with all the products involved in the manufacture of aniline and aniline-dyes, my friend Mr. Nicholson has placed before you the finest series of rosaniline salts which has ever been produced; and, not content with this display, he was kind enough to send us a specimen of acetate of rosaniline, such as no mortal eye has ever seen before. The specimen may literally be called the crown of magenta.* Crowns are always expensive articles, and often are the cost and trouble of getting them greater than their actual value. This remark applies in a measure to the crown of magenta. For the benefit of those who are fond of big figures—and who is not a little afflicted with this weakness?—I may state that the crown was grown in a vessel containing not less than 8,000*l.* worth of magenta; the crown itself being worth upwards of 100*l.*

Having explained the several stages of transition through which coal has to pass before it becomes either mauve or magenta, it may be of some interest to you, continued Dr. Hofmann, to know the proportion which the finished dye bears to the coal from which it is derived. A set of specimens, for which I am likewise indebted to Mr. Nicholson, is most instructive in this respect. Observe, it commences with a large mass of coal, weighing not less than 100 lb.: the bottles which follow contain the coal-tar oil, naphtha, benzol, nitrobenzol, and aniline, obtainable in succession from 100 lb. of coal. Remark how they gradually diminish in size; and how small—I might almost say insignificant—appears the bulk of magenta finally obtained. But compare the bulk of wool which this minute quantity will dye. It approximates to the bulk of coal with which we started. This comparison evinces perhaps sufficiently the extraordinary tinctorial power which this class of dyes possesses; but a very simple experiment may possibly convey to you this idea even in a more impressive manner. The white paper which covers this large frame has been dusted over with a minute quantity of mauve: a second one is treated in a similar manner with magenta. The quantity of colouring matter is so small that the paper has retained its original white colour; but observe how it changes when I dash a beaker full of spirit against these squares: immediately the lovely purple of mauve is developed upon one of them, whilst the other one exhibits the dazzling crimson of magenta.

I shall now venture to dwell for a moment on the moral of the story which I have told you, though you may feel disposed to consider this story rather a highly-coloured one.

Mauve and magenta are essentially Royal Institution colours: the foundation of this new industry was laid in Albemarle-street. Benzol, which I have so repeatedly mentioned—benzol, which may be looked upon as the raw material, capable, under the influence of chemical agents, of assuming such wonderful shapes — benzol is the discovery of our great master, may I not add of our kind friend, Mr. Faraday. This volume, "The Philosophical Transactions for 1825," contains the description of his experiments. In 1825, thirty-seven years ago, the laboratory of the Royal Institution witnessed the birth of this remarkable body. Yesterday, under the auspices of Mr. Anderson, I invaded the same laboratory: a diligent search was made; and in my hand I hold the trophies of our expedition,—the original specimens of benzol which Mr. Faraday prepared. In thus reminding you of one of the early labours of Mr. Faraday — which, owing to the number and vastness of his subsequent discoveries, appears almost to have escaped from his memory like a tradition of years gone by,—I have opened a glorious page in the glorious history of the Royal Institution. Benzol has furnished us mauve and magenta; but it has done much more than this. Ever since chemistry became endowed with this wonderful body, benzol has been the carrier of many of the leading ideas in our science. In the hands of Mitscherlich, Zinin, Gerhardt, and Laurent; in the hands of Charles Mansfield—never to be forgotten by his friends,—and many others, benzol has been a powerful lever for the advancement of chemical science. Benzol and its derivatives form one of the most interesting chapters in organic chemistry; the progress of which is intimately allied with the history of this compound.

But what has the history of benzol to do with the moral of mauve and magenta? Well, ladies and gentlemen, ask Mr. Faraday: ask him *what was his object* in examining benzol, in 1825. I have, perhaps, no right to answer this question in Mr. Faraday's presence; but I venture to say that we owe his remarkable inquiry to *the pure*

* An immense aggregate of sparkling green octohedral crystals—some of them as much as an inch in diameter—deposited upon a large wire frame having the shape of an elegant crown, was here exhibited. This crown, we believe, is the one which has excited so much interest in the Palace of Art at Brompton.

delight he felt in the elaboration of truth. It was in the same spirit that his successors continued to work.

The moral of mauve and magenta is transparent enough. Whenever in future one of your chemical friends, full of enthusiasm, exhibits and explains to you his newly-discovered compound, you will not cool his noble ardour by asking him that most terrible of all questions, "What is its use? Will your compound bleach or dye? Will it shave? May it be used as a substitute for leather?" Let him quietly go on with his work. The dye, the lather, the leather will make their appearance in due time. Let him, I repeat it, perform his task. Let him indulge in the pursuit of truth—of truth pure and simple—of truth not for the sake of mauve, not for the sake of magenta: let him pursue truth for the sake of truth!

PLANT USED IN THE CONSTRUCTION OF THE EXHIBITION BUILDING.

Some idea of the magnitude of the undertaking so successfully completed by Messrs. Kelk & Lucas might be gathered from the immense mass of materials known as "builders' plant," used in the erection of the building, and which was sold by auction during the past week by Messrs. Fuller & Horsey; including 12,000 scaffold poles, 18,000 cords, 10,000 boards, 6,000 putlogs; 1,000 loads of timber, used principally for the construction of the great domes; 5 steam-engines, 20 tons rope falls, blocks, chains, smith's tools, &c., &c. There was a large attendance of buyers, including the representatives of many of our principal contractors. The poles fetched about five farthings per foot run.; the cords about 9s. per doz.; 12ft. boards, 12s. to 13s. per doz.; putlogs, 7s. 6d. to 9s. per doz.; timber, 40s. to 55s. per load; rope falls, 25s. to 36s. per cwt. The total amount of the sale was about 10,000*l.*

DEERHURST CHURCH, GLOUCESTERSHIRE.

This church having been under restoration since the beginning of 1861, was reopened on Tuesday, July 29th. It possesses great interest, from the fact of its being one of the oldest examples of English architecture. The beginning of the eighth century (from an inscription on a stone now preserved at Oxford, and discovered in the vicinity of the church) is found to have been the date of the founding of the Benedictine priory to which the church was attached. After having been destroyed by the Danes, it was rebuilt by Edward the Confessor; and the church was built by Odda, earl of Devon, in 1056. King Edward then made it an alien priory to the Abbey of St. Denis, in France. Though aisles, arcades, and other additions were subsequently made, it still remains an unusually perfect example of the architecture of 1050.

Elphege, archbishop of Canterbury, killed by the Danes in 1012, was a monk here.

The plan of the church consists of a western tower, nave, north and south aisles, and ruins of an eastern apse.

The lower part of the tower is of the Saxon period, chiefly built of herring-bone masonry. Within, a solid wall of masonry runs up through three stories, dividing the tower into two separate parts. There are numerous doors and windows in these rooms; and the eastern window on the first-floor, opening into the church, is drawn in Parker's "Glossary." The upper part of the tower is of the fourteenth century, partly covered by a wooden roof, which took the place of a stone spire blown down in 1666; and partly by a stone barrel-vault gabled on the outside.

The nave walls are of Saxon date, and were probably unbroken in their length, but are now pierced on either side by three beautiful First Pointed arches (the Abbey of St. Denis was about this time rebuilt, and it is probable that the same workmen executed both). Between the arcades and the east wall are two small doorways on each side; one of them is triangular-headed. These were discovered in the late restorations. Over them are large circular-headed windows, now opening into the aisles. Great care was taken in conducting the restoration to leave all the old features untouched; and in cleaning off the whitewash some remains of old wall-painting were found. The chancel arch is round, with rude capitals: it is now blocked up, and forms the east wall of the church. The foundations of an arch were discovered further westward; but no other trace of it now remains, except a few stones of the arch and columns, which were walled up in the doors of the chancel. The eastern arch was probably walled up at the time when the apse was destroyed; and the rood-screen stood on the site of the ruined western arch. The clerestory walls are partly of very early date, and are pierced by Third Pointed windows. The nave was covered by a very fine Third Pointed roof; but owing to its very dilapidated condition it has been almost entirely renewed. At the east end of the south aisle is a round arch, with a small door, called the "Prior's Door," now much mutilated, but which formerly communicated with the adjoining priory buildings, traces of which are yet to be seen in the adjacent farm-house. The side aisles are of Second and Third Pointed dates, with large four-light Second Pointed windows at the west end. The roof of the north aisle has been renewed, the west gallery taken down, and the whole area of the church reseated in oak, following the pattern of the old bench ends, of which many remain. The old Puritan arrangement of seats in the chancel has been preserved, viz., a seat running round the north, south, and *east* sides, with the communion-table in the centre. All the passages have been laid with Minton's tiles, in patterns. The pulpit is of oak, with carved panels, standing on a stone base, and was executed by Mr. Forsyth. In several of the windows were fragments of old glass: these have been collected and re-arranged by Mr. Miller, of London.

The whole of the works have been carried out under Mr. William Slater, by Messrs. Collins, Cullis, & James, of Tewkesbury.

INAUGURATION OF THE MYDDELTON STATUE, AT ISLINGTON.

On Saturday last the statue and drinking fountain, of which we some time since gave an engraving, were inaugurated at Islington, in honour of Sir Hugh Myddelton. The event caused considerable excitement in the parish. The Chancellor of the Exchequer took a leading part in the ceremonial.

The site of the statue and fountain is on Islington-green, a few yards from one of the entrances to the new Agricultural Hall. The figure of the knight, executed by the late Mr. Thomas, the sculptor, is 8 feet 6 inches in height. It is carved in white Sicilian marble; and represents Sir Hugh clothed in the costume of the latter portion of the sixteenth century, with badge and chain; holding in his left hand a scroll containing the plan of his great and useful work, labelled with the words "New River." The statue is placed upon a pedestal of grey Devonshire granite, on the front face of which is the inscription, "Sir Hugh Myddelton, born 1555, died 1631." The base beneath the pedestal is of Portland stone, and on the right and left of the pedestal are two seated figures of boys, partly draped, with hair entwined with bulrushes; and beneath them pitchers, from which the water pours into the basins. The figures and basins are of Sicilian marble. The whole stands upon a base of 17 feet by 7 feet, and will cost about 900*l.* The statue itself has been given by Sir S. M. Peto, and the rest has been provided for by subscription, the New River Company having given 50*l.* towards the cost. The memorial has been erected under the superintendence of Mr. Parves.

Mr. Gladstone, after declaring the fountain open, and drinking of it to the health of those present, delivered an address, in course of which he alluded to the difficulties which Sir Hugh Myddelton had to cope with. A most amusing passage in old Stowe's work, he remarked, describes in a few words the obstacles which Sir Hugh had to encounter. They were "danger, difficulty, impossibility;" that is pretty well, but it is not done yet: "detraction, contempt, scorn, derision, yea, and desperate despite." There was another difficulty, too, he must have had; but it would not have sounded so well among all those portentous fiendlike epithets: it was of much more prosaic character, and was what is commonly known in the present day as "want of capital." Sir Hugh Myddelton was, in point of fact, driven very hard. He therefore had to appeal to King James, and offer to share the profits with the Government of the day. When the work was completed, however, and the New River water was actually brought into London, as we learn from the same chronicler; instead of scorn and desperate despite, and all those other vile epithets which it was thought that poor Sir Hugh well merited; the New River was brought in amid huzzas, the firing of mortars, the ringing of bells, the beating of drums, and the blowing of trumpets. Of course, Sir Hugh Myddelton did not want the services and the huzzas of those men who were not ready to share with him his time of difficulties. What I have said about this model man, in respect to those qualities of character upon which so much of our country's greatness depends, may, I trust, be useful in exciting your interest, and lead you to inform yourselves respecting the qualities and career of that remarkable person to whom we are now met to do honour. Sir Morton Peto, who has presented you with this statue, is himself eminently a man of the age, and has occupied a forward and a prominent place in the enterprises of the day; and I think that he has been acting in this matter thoroughly in the spirit of his own character, when he caused this statue to be erected in the very prominent place in which it now stands. It is a thing somewhat new in the history of mankind to erect in public places statues of engineers.

Sir Morton Peto stated that he was greatly pleased to have been the means of erecting a statue to a great man in so public a position in the metropolis. Reference had been made by the Chancellor of the Exchequer to the admirable work of Mr. Smiles, "The Lives of the Engineers;" and that able writer stated, in the preface to his work, that he waited upon the late Robert Stephenson, and told him that he thought of commencing with the life of George Stephenson. He was advised, however, by his son Robert to commence with Sir Hugh Myddelton, "the first man who taught us what we should do in the way of material development: his was a fine character: present that as the opening picture of your work." The pleasure that he (Sir M. Peto) experienced in connexion with the proceedings of the day was somewhat clouded by the recollection of the death of the able artist by whom the statue had been designed and modelled. Mr. Thomas was a self-made man. The first time that he saw him was while carving a lion at a shop-front in Birmingham. Sir C. Barry afterwards saw and recognized his genius, and employed him on the decorations of the new Houses of Parliament. The Prince Consort became his patron. But the labour which he bestowed upon his great work—the majolica fountain at the Great Exhibition—laid him upon the bed of death. He could not look at the memory of the men whose names must be known and loved by all present—George and Robert Stephenson, the two Brunels, Locke, and others like them—without thinking how much we owed to them with respect to the advance of our country. It was only a century since the first canal in this country was cut. For all the earlier works of engineering we were indebted almost entirely to foreigners. But at the present moment, through the genius of these men, the public works of this country were not only the first in the world, but those men to whose names he had referred were identified with the progress of civilization and social progress in every part of the world.

ONE OF THE DANGEROUS TRADES ALLOWED IN THE METROPOLIS.

Notwithstanding that the law is now said to be sufficient for the suppression of dangerous trades within the thick population of the metropolis, accidents from firework manufactories and other explosive materials are still of frequent occurrence. The other day, between twelve and one o'clock, an explosion happened in Camden's Gardens, Three Colts-lane, Bethnal-green. All these names have a rural sound; but here all appearance of the country has vanished, and now houses, &c., cover the ground. Moreover, this "lucifer" manufactory was situate within a few yards of the Mile-end railway station, a place of large passenger traffic. The accounts state that there were a number of men and boys engaged in the dipping-room, where there was a large boiler used in drying the goods, which were lying in the several compartments of the building, when an explosion took place, blowing off the roof and sides of the room, and burying several men in the *débris*. By the exertions of the police and others the injured parties were extricated, and some of those most injured removed to the London Hospital. Fortunately no loss of life is reported; but the danger of such trades in situations like this is evident; and it seems extraordinary that it should be allowed. But the mischief did not end on this day; for, after the first explosion, temporary sheds were erected, we suppose for carrying on the same dangerous work, on the same spot, when another explosion took place in the *débris* of the former accident, scattering the sheds in all directions around the premises, and blowing two men to some distance. The greatest alarm was created; and crowds of people were with difficulty prevented from foolishly rushing to the spot.

PROPOSED NATIONAL MEMORIAL.

Some weeks ago we placed before our readers the pith of the report made by the Committee of Architects to the Queen's Committee. We now print it entire:—

"Royal Institute of British Architects,
Conduit-street, 5th June, 1862.

"Dear Sir Charles,—The committee appointed by the Queen 'to advise her Majesty on the subject of the Memorial to the Prince Consort' having requested us by a letter, dated 10th May, in obedience to a suggestion from her Majesty, to give an opinion as architects as to the best means of giving effect to her Majesty's wishes, we have the honour to state, that we have fully considered the matter referred to us, and beg to report as follows:—

In your personal communication with us at our first meeting, you brought under our notice various ideas on the subject referred to us, which had occurred to the committee; but, by your letter of the 17th May to Mr. Tite, you were good enough to state that the committee were desirous that 'we should all consider ourselves free to make any suggestion we pleased, without reference to any special site or object,' indicated to us in the conference to which we have adverted.

Being thus entirely free to present our opinion, we proceed, first, to take up the suggestions you offered, and which we believe were as follows:—

That the memorial to the Prince Consort should be erected in connexion with an institution of arts and sciences:—1st, as a distinct monument, in front of it, or in the centre of a quadrangle belonging to it; 2ndly, as a monument inside a hall of the building; or, 3rdly, as a wing, or some other portion of the building, to be hereafter completed, at the cost of the public.

These suggestions naturally appear to point out the South Kensington Museum and Schools of Art, because that establishment was founded under the auspices of his Royal Highness; it received his constant personal attention, and his desire was to see it become a large central college of science and art.

There are many reasons why the memorial might be erected with propriety and advantage in conjunction with such an institution, if the funds were already provided; but these questions arise:—viz., whether the nature and style of the memorial could be safely assumed before the plan and design of the building for the institution had been finally determined? and, 2ndly, whether it would be advisable to adopt such a memorial before the Government and the House of Commons had sanctioned and voted the necessary funds for the buildings?

Considering all the doubts which at present exist with reference to the permanent extension of the buildings at South Kensington, and the difficulties and delays which would arise in the event of a recommendation by the committee of such a project, it appears more desirable to erect the memorial, not as a part of, or in immediate connexion with, a very expensive edifice not yet determined upon, but as an independent monument in Hyde Park, on or near to the site of the Exhibition of 1851, or on some other more public and central site than South Kensington, according to the expectations which have been held out, and upon which many persons subscribed to the fund.

The memorial, if erected in conjunction with any large building or institution, would lose in individual grandeur and importance; it would be difficult to treat it otherwise than as a subordinate object even outside the building; and if placed within it would be seldom seen, and would not be the national monument immediately under the public eye, which most people are expecting.

The sum available for the memorial is supposed to amount to between 50,000*l.* and 60,000*l.*, which probably would not be more than sufficient for a work of art worthy of the nation, including the cost of forming a site to receive it.

Assuming, therefore, the propriety of erecting the memorial as 'a monument,' and that it cannot be a monolith obelisk, the forms which suggest themselves are,—1st, an obelisk in several stones; 2ndly, a column; 3rdly, a Gothic cross; 4thly, a large group or groups of sculpture; and 5thly, a building; a statue of the Prince Consort being, in any of these cases, the most prominent object.

Respecting these various kinds of memorial, the following considerations arise:—

1. As it appears a monolith cannot be obtained, there is no especial reason for adopting an obelisk, which, to be effective, must be on a very large scale, and, if so, it would be more conspicuous and important than the Prince's statue; and, further, an obelisk built up in several stones would only show an inferiority to the ancients.

2. The objections above stated to an obelisk apply almost equally to a column, or any erection of that description, except that on the summit of a column might be placed the statue. But in such a position the figure would not be better seen than the Duke of York or Lord Nelson on their columns, and statues so placed have not acquired much favour with the public.

3. The objections to an obelisk, a column, or any erection of that description, apply also to structures in any style of architecture which would assume either of those forms.

4. With reference to a memorial composed of one or several groups of sculpture, surmounted by a statue of the Prince, the following considerations arise:—If in the open air, considering the climate of this country, it must be of bronze; and if placed in Hyde Park, it must be upon a very large scale to be effective. We admit that bronze, in our climate, soon acquires a dark tone, injurious to the effect of a work of art; but we are inclined to believe that there may be a mixture of metals that would acquire an agreeable permanent colour. Among the finest monuments of modern times, that of Frederick the Great in Berlin, and of the Archduke Charles in Vienna, have hitherto retained a rich, lustrous colour; or, as in the case of the Greek horses in Venice, the statue of M. Aurelius in Rome, and other classic examples, gilding, in particular parts, and under certain conditions, might be resorted to.

Leaving for the moment these particular considerations, we proceed to point out the site which appears to us to be desirable for the monument itself, and the general mode of treatment we would recommend.

We think, then, that the proper site is to be found by drawing a line from south to north, through the centre of the Horticultural Gardens, crossing the Kensington-road; and on the north side of which the ground rises sufficiently to Rotten-row to give the elevation required. At that point an extent of nearly 1,200 feet may be obtained for entrances to the park, for terraces, fountains, flights of steps or inclines; and a depth (340 feet) sufficient for all purposes. In the centre of this area we would propose to place the memorial itself. If in bronze, this may be a group of statues, without a building; or, if in marble, with a building to protect them.

We attach a sketch plan to this Report, showing generally how this idea may be worked out, by which it will be seen that the area gained has the dimensions before stated of 1,200 feet from east to west, by 340 feet from north to south, in the centre. To obtain this we propose to straighten the main road, and to make another entrance and gates to the park at the east end of the area, opposite the Exhibition-road, corresponding with that recently made, opposite the end of Prince Albert's-road. The drive in the park and Rotten-row would both remain undisturbed.

The advantages gained by such a site are these:—It is at no great distance from the area occupied by the Exhibition Building of 1851, and is in immediate juxtaposition with the Horticultural Gardens—the result of His Royal Highness's own conception—thus forming a point of connexion between the two.

Having thus given our views of the site and character of the Prince Consort Memorial, we approach with much more diffidence the consideration of the question of some building to be erected, with a view to general usefulness, in order to carry into effect to a certain extent the frequently-expressed wishes of the Prince, and particularly to realize his views as stated in his address at the opening of the Horticultural Gardens.

It appears to us that, by the generosity of the nation, apart from the learned societies, science and art are provided for in the British Museum, the Museum in Jermyn-street, and the schools at South Kensington. What seems to be wanted is some spacious hall and its necessary adjuncts, as a place for general art meetings; or for such assemblies as are about to take place in London in connexion with social science and its kindred pursuits. We have nothing in London for such an object like the great halls of Liverpool, Leeds, and Manchester.

If these views are well founded, and would be received with public or national favour, we see no reason why the vacant ground at the back of the Horticultural Gardens, south of the Kensington road, as suggested by the Queen's Committee, should not be a fitting site for such a building.

Architecturally (and apart from general questions of expediency, upon which there doubtless exists a great variety of opinions), nothing could be happier, in our opinion, than to occupy the north side of the road with the Prince Consort memorial, and the other side with a grand central hall, having approaches to the hall itself, and as at the present moment to the Horticultural Gardens; thus effectually screening from view the back of the conservatory, and the unsightly objects at present existing.

The sketch plan before referred to will show how all this could be arranged; but we only propose a general scheme, because it appears to us to be our duty rather to submit suggestions and general advice, than to presume to present anything like a detailed proposition.

If our recommendation on the subject of the actual site for the memorial should meet with the approbation of her Majesty and the committee, the individual efforts of the architect and the sculptor might be invited for its realization, without attempting, at the present, to determine the final occupation of the vacant land on the south side of the road.

William Tite.
S. Smirke, R.A.
G. G. Scott, R.A.
J. Pennethorne.
T. L. Donaldson.
P. C. Hardwick.
D. Wyatt.

To Sir Charles Lock Eastlake,
President of the Royal Academy, &c., &c.

The Queen's Committee forwarded the above to her Majesty, with a report (their second), wherein they said:—

"General testimony, and, above all, his Royal Highness's own public declarations and acknowledged views, tend to prove that there was nothing he had more at heart than the establishment of a central institution for the promotion, in a largely useful sense, of science and art as applied to productive industry.

While the Prince was ever zealous in furthering the objects of charitable institutions, while he took an active part in endeavouring to improve both the moral and material condition of the poor, his great purpose—combining a wise philanthropy with patriotism—was to devise means for affording to the skilled labour of the industrial classes the advantages of a scientific and artistic education, and, in so doing, to promote their own social welfare, together with the commercial prosperity of the country."

"When we consider that the spacious site above mentioned was secured for this purpose by the Prince's foresight and decision; when we look at the useful and popular institutions which are already rising into importance in various parts of its area; and when we remember that the whole, with its present and prospective national benefits, is the consequence of that first Great Exhibition which owed its success to his Royal Highness's wisdom and perseverance, we cannot but feel that such visible results constitute in themselves a significant and appropriate memorial to the Prince Consort; and that a monumental expression and record of his Royal Highness's admirable qualities could not be better associated than with so characteristic an example of their fruits."

"We conceived that a hall forming 'a central point of union' where men of science and art could meet; where the results of their labours, with a view to the special purposes before indicated, could be communicated and discussed; and where deputies from affiliated societies throughout the United Kingdom could occasionally confer with the metropolitan authorities, might be fitly recommended as marking, with the monument, the general object of the institutions in their vicinity. We were the more induced to come to this conclusion, as establishments for special purposes connected with industrial education could hardly be proposed for a central situation. A hall, on the other hand, would, from its general character, harmonize with every kind of institution; and, while fitly occupying such a position, might, at the same time, form the commencement of buildings to be hereafter erected for more definite purposes.

Having pointed out to the Committee of Architects this ground as a fit site for the proposed hall, we left the further consideration of the question in their hands. It was open to them to recommend that the monument should be in some part of the hall itself; or in the open space in front of it, between the hall and the road; or in Hyde Park, in an area corresponding in its central line with that of the actual and proposed buildings opposite.

Without entering into details requiring future consideration, we are prepared to submit our opinion that the Committee of Architects have come to a judicious decision on this part of the question; nor can we hesitate to express our satisfaction with a result which appears to fulfil more than one important condition. By being placed in the Park, the monument has a national character; while its position in relation to the estate sufficiently indicates the connexion which we had regarded as an essential part of our general plan.

Had the monument been placed on the south side of the Kensington-road, it would have been so near the hall as to be overpowered by it; while, by being within the estate, it would have lost something of its public importance. The latter objection would have been applicable had it been proposed to place the statues within the building. We conceive, however, that that objection would not extend to placing within the hall a marble statue of the Prince, distinguished in its composition from the statue on the monument itself.

The hall, besides its special use, would, with its corresponding lateral approaches to the Horticultural Gardens, constitute the principal front to the whole estate. It would also, on many accounts, be an essential accompaniment to the opposite monument, by completing the connexion between it and the institutions which now exist, or may hereafter be established near it. Still, we are aware that its erection, as part of the proposed scheme, must depend on the amount which may be contributed. We can, therefore, at this moment do no more than express our earnest hope that sufficient funds may be provided to ensure the completion of the hall."

"In humbly submitting this our report to your Majesty, we beg leave to state that, should the scheme we have indicated meet with your Majesty's approval, we propose, in further fulfilment of your Majesty's wishes, to invite a certain number of architects to furnish designs for the general arrangement of the monument—as regards its height, magnitude, and architectural elements,—and of the surrounding area. The general design which might, with your Majesty's sanction, be selected, would at the same time be open to subsequent modifications in its details to suit the conceptions of the sculptors who, in conjunction with the architect ultimately chosen, would be commissioned to complete the work."

The report, of which the above are paragraphs, is signed—

"Derby.
Clarendon.
William Cubitt.
C. L. Eastlake."

The following is her Majesty's reply:—

"*Osborne, July 18th*, 1862.

"My dear Sir Charles,—The Queen desires me to acknowledge, through you, the receipt of the further Report of the Committee her Majesty had asked to advise her on the subject of the proposed National Monument to the Prince Consort.

Knowing the importance attached by the Prince to the establishment of some central institution for the promotion of scientific and artistic education, the Queen is much pleased by your recommendation that the personal monument to his Royal Highness should be in immediate connexion with buildings appropriated to that object.

Your report, therefore, suggesting the erection of a central hall as the commencement of such buildings, and in connexion with the personal

✠

monument to be placed directly opposite to it in Hyde Park, meets with her Majesty's entire and cordial approval; and should public support afford the means of giving effect to your recommendation, it will be far from being a matter of regret to her Majesty that the difficulties in the way of the original suggestion of an obelisk, as the principal feature of the proposed monument, were such as to lead you to counsel the abandonment of that idea.

Few things, indeed, could now make the Queen more happy than to be allowed to witness the realization of some of her beloved husband's noble plans for the benefit of mankind. She knows how constantly he regretted that much of the good which the many institutions founded for the advancement of science and art, in some one or other of their branches, were calculated to effect, was lost by their isolation and want of connexion with each other.

But, though strongly convinced of the advantage that would follow their being brought together, he was also strongly impressed with the importance of not interfering in any way with their free and voluntary action; believing that their union, to be productive of good, must be an unforced union, brought about by a generally felt opinion of its necessity, and meeting with public support.

In fact, it was to public, as distinguished from Government or Parliamentary, support that he always looked for the means of giving effect to his plans.

He was, therefore, content to wait with patience till the conviction should have forced itself on the public mind, as it had long done on his own, of the expediency of giving to those bodies some general organization, or point of union, which should enable them mutually to assist each other in promoting their several objects; while it should leave untouched their power of independent action, and extend rather than limit their sphere of individual usefulness.

It would have gratified the Prince much, therefore, as it is now a source of some consolation to the Queen, to find that one of his great ideas for the good of the world (for his views were by no means limited to this country) forms the basis of the recommendation contained in your report; and her Majesty can have no dearer wish on this subject than that the estate purchased, as you say, by his 'judicious counsel' and wise 'foresight and decision,' should be devoted to such a purpose; that the establishments actually upon it, as well as those that may be expected to come there, should be considered as a whole,—to form one institution,—one great and comprehensive institution,—having for its object (to use the Prince's own words, as quoted by the committee) 'to increase the means of industrial education, and extend the influence of science and art upon productive industry.'

For such an institution, some appropriate title connected with the Prince's name will doubtless hereafter be found; while, from its object, and still more from the benefits which the Queen hopes would follow the development of this idea, it would be fitly connected with the personal monument, and would, itself, form the most lasting and worthy memorial of the Prince's untiring and unselfish exertions for the general good.

I remain, dear Sir Charles,
Yours very sincerely,
C. L. Eastlake, &c." C. Grey."

Since the receipt of this, the Queen's Committee have invited the seven architects whose names are attached to the Architects' Report given above, with the addition of Mr. Charles Barry and Mr. E. M. Barry, to submit designs, and have sent to them the following instructions:—

"1. A design for the memorial itself, adapted to the site indicated on the plan; and proportioned, in its height and magnitude, to the position it will occupy, and to the buildings which may hereafter be erected on the south side of the public road.

These general requisites being compatible with a variety of designs, the committee are unwilling to prescribe any particular kind of monument. They conceive, however, that as her Majesty's pleasure has, to a certain extent, been made known, and will at all times be consulted, it will be advisable for those who propose to submit designs to refer to the various letters from General Grey, dated respectively the 19th of February, the 19th of April, and the 18th of July, in which her Majesty's views are expressed.

Another important consideration will be the amount of the fund which may be available for the cost of the memorial itself; for that of the proposed straighteuing of the public road; for the arrangement of the area in Hyde Park, with its decorations; and, if possible, for the hall on the south side of the road.

The design for the architectural portion of the memorial should be regarded chiefly as a means of insuring the most effective arrangement of the sculpture which is to complete it. The position, dimensions, and material of the statues may be indicated without anticipating or interfering with the conceptions of the sculptors. It is conceived that this system of combined invention, so common among the architects and sculptors of antiquity when employed on temples and mausoleums, is no less desirable and practicable when the object is to provide an architectural base for groups of sculpture, surmounted by the statue which is required to be conspicuous.

2. As the site for the memorial indicated in the accompanying plan leaves the form and character of the monument undetermined, so the arrangement of the ornamented area in Hyde Park is merely intended to show the extent proposed to be so treated. Each architect is, therefore, free either to adopt the arrangement indicated, or to vary it as he pleases; care being taken to maintain the connexion expressed in the plan between the memorial and the proposed buildings on the south side of the public road.

A design will be required for the fountains marked on the plan. The precise site, as well as the dimensions, are not to be considered as strictly defined; more especially as it may be thought preferable that the line from east to west in which the fountains are placed should be parallel with the southern boundary of the area. It will be necessary to ascertain what facilities exist, or can be provided, for supplying the fountains with water; the requisite details for carrying this part of the scheme into execution being practically investigated.

3. It will be desirable that the general plan of the hall (about 150 feet by 80 feet) should be defined, and that a plan of the buildings which may be ultimately erected near it should be indicated; the lateral approaches to the garden of the Horticultural Society being preserved. It is suggested that the hall might be placed nearer to the public road, the buildings next it on the architect's plan being also brought forward, and, should it be thought desirable, even nearer to the road than the hall itself. A reference to the actual state of the ground on this side of the road, as seen in the plan (marked B) which accompanies the architect's plan, will show that, whatever prospective arrangements may be devised, it is only possible at present to deal with the unoccupied central portion of that ground.

A sketch elevation will be required for the hall, but not for the contiguous buildings, the indication of which is, however, left to the discretion of the architects. A copy of a correspondence between the Memorial Committee and the Commissioners for the Exhibition of 1851, respecting the site and dimensions of the proposed hall, is enclosed.

4. The designs generally will consist, according to the subjects treated, of plan alone, or of plan and elevation, sections being added when necessary. Plans showing the general arrangement should be drawn to a scale of 2½ inches to 100 feet. Detailed designs for the memorial should be drawn to a scale of 1 inch to 5 feet, the scale of other drawings being left to the choice of the architects.

5. Separate estimates will be required for the memorial (with an approximate estimate for the sculpture), for the fountains, for the general arrangement of the ground, for the straightening of the public road, and for the railings and entrance-gates. A general estimate will also be required for the hall, including the levelling of the ground, and the railings and entrance-gates on the south side of the road."

The designs are to be confined to drawings; no models will be required. If a design be approved by her Majesty, the architect offering it will be commissioned to execute the work in conjunction with the sculptor or sculptors who may be selected. The sum of one hundred guineas will be placed at the disposal of each of the architects whose design may not be chosen. The designs will be required to be ready by the 1st December next; and it is not proposed that they shall be publicly exhibited by the committee. It is understood that the committee will not invite other designs, except in the event of no one of those by the architects now selected being considered satisfactory. It has been stated that Mr. Tite and Mr. Smirke have declined competing: and here the matter now rests.

HEXHAM ABBEY CHURCH.

A meeting of the Architectural and Archæological Society of Durham was held last week in the Abbey Church, when Mr. F. R. Wilson read a paper on the history and condition of that building. We take some passages of the paper:—

It would have been well for Hexham if the Archæological and Architectural Society of Durham and Northumberland had existed a hundred years ago—even fifty years ago;—I may add, even ten years ago. For who may tell how much of this sacred fabric has been suffered to decay, or how much has been destroyed, through disregard. The ancient bells alone were an inheritance. A description handed down to us states, with tantalizing minuteness, that they were all inscribed with Latin legends; that three of them bore date 1404; and that three belonged to a much earlier period. But their antiquity was an offence a century since. So the Hexham men, 1742, melted them down, silenced their silver voices for ever, and cast the metal afresh. In this way many gems have been lost: they were deemed of no account; all for want of a due appreciation of the labours of those who have gone before us. Not but that, as it is, there is plenty of work for us still to perform. We have to make it apparent to the popular mind that there is something beyond price, beyond measure, beyond words, in the work of the men whose lives—one wrought with another—form the history of the country; and that it is imperative we should leave to posterity all that has been left to us; making, for our own time, what additions we may to the store, but taking nothing unnecessarily from it. We have each to see in our respective spheres of observation that no more bells are melted down; no more shrines with altar paintings bartered as old materials; no more Lady chapels razed to the ground; no more monuments used for drainage purposes; no more ventilating trenches cut through layers of coffins and skeletons; nor any other work that the reverence, the industry, the intelligence of former ages upreared, laid waste. The wealth of a nation is affected by the simple difference between accumulations and destructions. Let us now pay tribute to the labour, the love, the artist-feeling bestowed upon the Saxon edifice first built upon this site. Let us picture Wilfred, the founder, crossing the sea,—the gannet's bath, as it is called in the old Saxon poems,—as though scornful of sea-storms. Let us picture him travelling through France, staying in the royal village of Compiègne to be consecrated bishop—brother bishops, tonsured and robed, carrying him in a chair of gold, singing hymns of joy; next sojourning at Rome, ever gleaning wealth of ideas to expend upon the edifices he hoped to rear in his own country to the glory of God; and then raised to great eminence and power, by virtue of his rigorous piety and great learning; rearing here at Saxon Hexham, Hagulstad, so stately a building, that Queen Ermenburga saw the regal splendours of her husband, Egfad, outshone. With this context, with this view of a refined and elevated life threading the rude times when Saxon subjects were "mighty war-smiths, and Saxon kings were bracelet-givers to heroes," we should look upon the Saxon relics which are still ours. Thereupon we may raise up for ourselves a mind-picture of the structure after Bishop Acca, the confidential friend of the Venerable Bede, had collected the remains of saints from all parts of Europe, and placed them in shrines between every pillar of the edifice, and had enriched the services with costly altar vessels, rich vestments, and with the voices of trained singers;—when it was pronounced finer than any other building on this side of the Alps. Richard of Hexham describes the church as having had three distinct stories supported by columns, besides the crypt; and states that the capitals of the columns, the arch of the sanctuary, and the walls themselves, were ornamented with sculpture and paintings. We may conclude from his account that it possessed both a triforium and clerestory; as he makes further mention of curious galleries in which innumerable multitudes might stand around the body of the church and yet remain unseen by those within. Of this structure and of these times we have but the crypt, the fridstool, a few sculptured stones, and a vase full of stycas! The word crypt, crute, croute, grotte, is derived from the Greek κρυπτειν (*cryptein*) to hide. The first crypts, or holy grottoes, were cut out of the rock, or masoned underground, for the purpose of concealing the tombs of martyrs from profane eyes. As Christianity gained ground, churches were built over many of these—as at St. Peter's, Rome, which was erected over the tomb of St. Peter. The fridstool, when associated with the Saxon fugitives who, a thousand years ago, fled to it for sanctuary, is of rare interest. Moses was commanded to appoint six cities of refuge whither a man should flee who inadvertently killed his fellow; and the Christian church extended the same immunity to all offenders. The fridstool was the centre point of the privilege of sanctuary, which extended for a mile around it. We have to look back through so many centuries at the Saxon cathedral that we can see it but faintly. All is pale-tinted and indistinct, like the ink of ancient chronicles; but the fridstool and the crypt are, like the illuminations thereof, fraught with colour and forms that were once aglow with life and beauty. Mr. Wilson then proceeded to give a succinct account of the vicissitudes of the church and monastery of Hexham, from its foundation by Wilfrid, in 673, to the present time. Wilfrid, he said, died at his monastery, at Oundle, near Staniford, in the year 709, and was succeeded by Acca, who flourished till 740. Two stone crosses—one of which had been erected at the head of Acca's grave, and the other at the foot—were at present in the possession of Mr. Fairless, of Hexham, and were said to be specimens of wondrous art. This Saxon building was destroyed by the Danes in 875, the only portion now remaining of the original structure being the crypt. In due time, however—in the reign of Henry I.—a certain Thomas, Archbishop of York, looked upon the

remains of the church of Wilfrid, and conceived the resolution to restore "the wonderful work of wall stones" of the Saxon prelate to its former splendour. It was his work upon which they now gazed. The position of the crypt marked the position of the Saxon chancel: the choir was thrown out still further eastwards; and transepts were added. As to modern repairs, he said, the seal of doom was set upon the Perpendicular Lady Chapel. The shrines, the fridstool, the oaken stalls were all dismissed indiscriminately with the galleries that really needed removal. Even the ancient monuments—Early English tomb-slabs—were turned out into the churchyard. It was in the course of the removal of the Ogle shrine that a fifteenth-century altar painting was discovered. The screen work had been covered with green baize, and this work of early art was enshrouded within. The *Builder*, the *Ecclesiologist*, the *Critic*, have censured the clean sweep thus made in the severest terms. The Bishop of Durham, when he presided at the reopening of the church on the 10th October, 1860, looked on a sorrier spectacle of ravage than had been since the pillaging Scots of 1296 had left the fabric engulfed in bissing flame and lurid smoke. We must admit that more discretion might have been used. You will admit, too, I hope, that I spoke advisedly when I said it would have been well for Hexham if the Archæological and Architectural Society of Durham and Northumberland had existed even ten years ago.

PRIZES FOR DECORATIVE PAINTING.

THE PAINTERS' COMPANY.

We have before now mentioned the competitions in painting work opened by the Painters' Company, in their hall. This year they determined to give their prizes to works in the Palace of Art and Industry. In accordance with this arrangement, the Master of the Company (Mr. Comfort), and Messrs. Laing, Cobbett, & Barber (members of the Court of Assistants), on the part of the Company, and Messrs. Taylor (of Clement's-lane) and Munro (of Islington) on the part of the trade, examined Class 30, and awarded the following prizes:—

For Graining, a silver medal to Mr. J. Kensett, for No. 5,902. A bronze medal to Mr. W. A. Grant, for No. 5,888.

For Marbling, a silver medal to Mr. Read, for No. 5,917. A silver medal to Mr. I. Bradley, for No. 5,672, for tables painted in imitation of Devonshire marbles. A bronze medal to Messrs. Maslin, for No. 5,908.

For Writing, a bronze medal to Mr. W. Pitman, for the writing in No. 5,914.

For Decoration, a silver medal to Mr. J. L. Coulton, for an allegorical arabesque decoration, No. 5,883. A bronze medal to Mr. J. H. Earle, for a drawing-room decoration, No. 5,885. A certificate of merit to Mr. G. Lainson, for pilasters painted on satin, No. 5,904.

They also make honourable mention of No. 5,918 by J. & J. Rogers; and of No. 5,690 by Messrs. Cox & Co., the writing on the altar-piece; but as the principle of the Company is to give the prize to the actual performer of the work, they could not make an award, not knowing the name of the workers.

PHOTOGRAPHS FROM THE EAST.

Mr. Francis Bedford's photographic pictures taken during the Tour in the East, in which, by command, he accompanied his Royal Highness the Prince of Wales, may now be seen in the German Gallery, New Bond-street. Egypt; the Holy Land and Syria; Constantinople and Athens, are the three headings under which they are placed, and will be published for the convenience of purchasers. A descriptive catalogue accompanies them. Jerusalem is shown under several aspects. Of Hebron, one of the oldest cities in existence, where Abraham and Jacob lie buried, there are two views. There is a smaller contribution to our knowledge of interiors in Jerusalem, and to architectural knowledge generally, than is desirable. Of Baalbec and its ruins, the views are particularly interesting and beautiful. There is a general view of the ruins taken from the south-west, and showing the ruins of the two great temples; the six lofty columns on the south side of the Temple of the Sun, and the Temple of Jupiter, against the south wall of which leans a displaced column. At the extreme left of the picture may be seen the large stones in the western wall of the foundations of the Temple of the Sun.

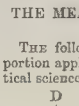
Mounting to the platform of the Temple of the Sun, and taking our position at the western end, we have, looking towards the interior of the ruins, the six still erect columns of the Temple of the Sun; and behind them, on its lower platform, the Temple of Jupiter. In this view we can see plainly the joints of the three portions of which each shaft is composed, the beautiful sculpture of the Corinthian capitals, and the immense size of the stones of the entablature, reaching in single blocks from column to column.

A view of the north-west angle of the outer wall of the Temple of the Sun, shows the stones, from which the Great Temple derived the Greek name by which it was long known of Trilithon, or three-stoned. These wonderful stones are of the lengths, severally, of 64 feet, 63 feet 8 inches, and 63 feet: together, 190 feet 8 inches. They are of an uniform height of about 13 feet, and about the same in thickness. These stones are above 20 feet from the ground, and would appear to have been brought from quarries about half a mile distant. How they were transported from their ancient bed and raised to their present elevation it is difficult to conceive. In this quarry still lies, hewn, but not quite detached, a similar block, but even of greater dimensions, its length being 68 feet, and its height and breadth 14 feet.

The great doorway of the Temple of Jupiter, of which a view is given, must have been, when perfect, one of the finest doorways in the world. It is about 42 feet high, and 22 feet wide. Round it runs a border of foliage, fruit, and flowers, beautifully carved in bold relief. The lintel was composed of three large stones, and was entire until 1759, when the earthquake already referred to so loosened the stones, that the centre one sank down to its present position. On the under surface of this centre stone, but scarcely perceptible in the photograph, is the great figure of a crested eagle, supposed to be the Oriental eagle, sacred to the sun. The critical position of the suspended stone of the lintel is more clearly seen in a view of the interior of the Temple.

THE MEAN CALLED THE GOLDEN AND IMMUTABLE.

The following is a calculus of harmonic proportion applicable to political, ethical, and æsthetical science:—



Let A B be any given quantity, and C D any other given quantity greater than A B. Take from C D a quantity C E, which shall be to A B as A B : C D. Then any other ratio that cannot be represented by A B : C D will be C F = A B, and some quantity less than C F to A B. Therefore, all the possible ratios of two quantities lie between and include equality and greatest difference.

Equality and greatest difference, then, are the two extremes of quantitative relation. We know by experience that neither equality nor extreme difference is pleasing; therefore the point of harmony must lie between them. What, then, would probably be the best or harmonic relation between two quantities? Ans. 1 : 2; for there are as many varying ratios between one and equality with two as there are between one and extreme difference with two. 1 : 2 is the mean or average of all the ratios of two quantities.

CHRISTIAN PRECEPTS.

"Let your *moderation* be known unto all men." "He that striveth for the mastery is *temperate* in all things."

Experience in reference to the Celestial Mechanics.—The planet is temporarily drawn from its orbit (its slowly varying orbit), but forthwith returns to it, to deviate presently as much the other way, while the varying orbit accommodates and adjusts itself to the *average* of these excursions on either side of it, and thus continues to present, for a succession of indefinite ages, a kind of *medium* picture of all the planet has been doing in their lapse, in which the expression and character are preserved, but the individual features are merged and lost.

The greatest departure from the *mean* axis of any planetary orbit yet recognized by theory or observation (that of the orbit of Saturn disturbed by Jupiter) does not amount to a thousandth part of its length.

Experience in reference to Time.—From such comparisons, Laplace has concluded that the sidereal day has not changed by so much as one-hundredth of a second since the time of Hipparchus. *The mean* sidereal day, therefore, possesses in perfection the essential quality of a standard unit, — that of complete invariability. The same is true of the *mean* sidereal year, if estimated on an average sufficiently large to compensate the minute fluctuations arising from the periodical variations of the major axis of the earth's orbit due to planetary perturbation.

Experience regarding Climate and Temperature.—The *temperate* zones are most favourable to civilization: the *mean* temperature is most salutary. From 1816 to 1836, the *mean* annual height of the barometer in Paris did not vary so much as the twelve-hundredth of an inch.

Experience regarding Politics.—Those states are the most contented, prosperous, and permanent, which have *moderate* governments.

Experience in regard to Ethics.—Virtue lies in the *mean* between opposite qualities. Thus, liberality is a *mean* between parsimoniousness and extravagance, &c.

Experience regarding Æsthetics.—The ratio 1 : 2 is frequently found in the proportions of Classical architecture; the *middle*, *half*, or *neutral* tint, with regard to light and shade and colours. Ideal beauty lies in the *mean*; for if it did not, it would consist in excess or defect, which is absurd. 1 : 2 is the relation of the limits of the octave in music: from 1 to 2 is a *tenor* space of an infinite series of vibrations. The discovery of Mr. Piesse in reference to a gamut of scents brings these also to proportional relations.

I have forwarded you this abstract of a work in progress, as I have been informed that the physical theory broached in the paper read at the Antwerp Art Congress; in your columns at various times; and in the book entitled "Christian Idealism," has excited some attention on the Continent.

W. Cave Thomas.

THE COST OF A RAILWAY ACCIDENT.

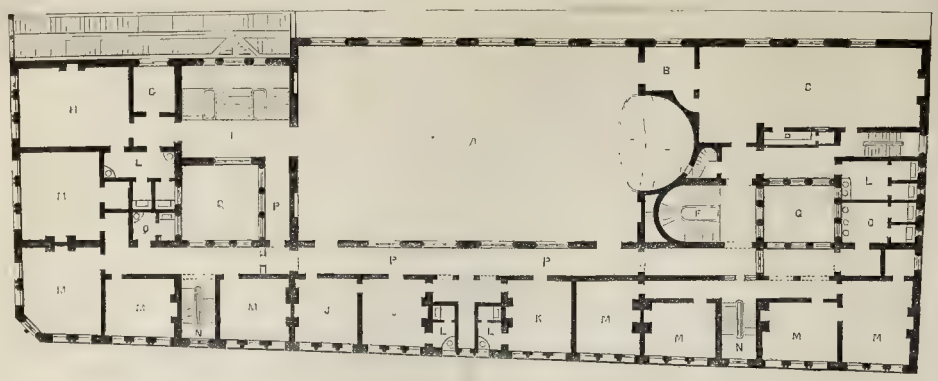
At a recent meeting of the shareholders of the London, Brighton, and South Coast Railway, in reply to a question respecting the amount of loss which had arisen to the company in consequence of the accident in the Clayton Tunnel, the chairman said that, as regarded this unfortunate affair, 11,000*l.* had been paid when the previous half-year's report was published; and in the present report 6,000*l.* was charged in respect of the accident; and a similar sum would be placed to the debit of the present half year. The total cost, therefore, might be said to be 24,000*l.* This, without taking into account the loss of life and other damage, ought to teach the necessity for not sparing the necessary expense in the employment of competent persons in connexion with railways, and using the care which is required to prevent such sad events.

QUESTION OF OBSCURING LIGHTS.

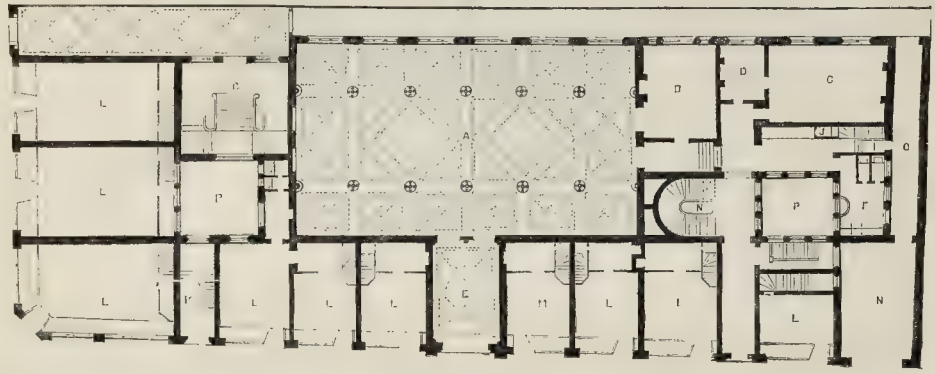
In the Vice-Chancellor's Court, on Monday, the cause of Gale *v.* Abbot came on for rehearing. The bill was originally filed for the purpose of obtaining an injunction to restrain the defendant from obscuring his ancient lights. The plaintiff was the lessee of certain premises in Holborn, in which was carried on the business of a curiosity dealer. In 1859, the defendant, who is the keeper of the Kent Tavern, in Brownlow-street, built at the back of defendant's premises a new larder. Subsequently the plaintiff, being compelled to pull down a wall which was dangerous, discovered the larder, and complained of it as darkening his ancient lights. Some negotiation took place, which was protracted a considerable time, until at length the plaintiff filed this bill. The main question appeared to be whether the plaintiff had lost his right by acquiescence. Mr. Bailey and Mr. C. Barker appeared for the plaintiff. Mr. Glasse and Mr. Pendergast appeared for the defendant. The Vice-Chancellor said he thought the plaintiff had established his right, and granted an injunction with costs.

BIRMINGHAM EXCHANGE.

In our present number we give a view and plans of the two principal floors of the New Exchange Buildings about to be erected in Birmingham, from the designs of Mr. Edward Holmes, of that town. The site selected by the directors is the finest in the borough, and adjoins the Free Grammar School, which was erected from the designs of the late Sir Charles Barry. It has a frontage of 186 feet towards Stephenson-place, the main thoroughfare to the Central Railway Station, and 63 feet towards New-street. As it is probable that the spare land between the Free Grammar School and the rear of the Exchange Buildings will never be built upon, the latter elevation will form a third front visible from New-



ONE PAIR FLOOR



GROUND PLAN

SCALE 0 10 20 30 40 50 60 70 80 90 FEET

EXCHANGE BUILDINGS, BIRMINGHAM.

street. The principal elevation fronts Stephenson-place, in which is situate the entrance to the Exchange; that to the Assembly-room being in New-street. On either side the Exchange entrance are shops, separate entrances to suites of offices, and a staircase on the lower side to the dining and refreshment rooms. This entrance also communicates with the Exchange, the Chamber of Commerce, and offices in connexion with it. The entrance to the Exchange being centrally situate, a tower, 100 feet high, is introduced, and the New-street front and corresponding end in Stephenson-place are a story higher than the intermediate parts. The design will be executed in stone and white brick facings, with the free use of coloured stone and brick, in bands, strings, arches, and cornices. Coloured stone will also be sparingly introduced in the detached columns of the windows. The roofs will be covered with slates, in bands and patterns. With the exception of dining-rooms, kitchens, &c., under the shops facing New-street, vaults and warehouse room will occupy the whole of the basement, which is one story deep.

The Exchange is 70 feet long, 40 feet wide, and 23 feet high, and is lighted by a range of six wide and lofty traceried windows. Two rows of small iron clustered columns, with wrought-iron arches and foliated spandrels, run the length of the Exchange, and carry the beams of the Assembly-room floor. A committee-room, 20 feet by 15 feet, is provided, adjoining the Exchange, with a private entrance from the lobby. The Chamber of Commerce is in close proximity to the Exchange, and situate on the ground-floor. The size of the room is about 25 feet by 16 feet: there is a small ante-room adjoining. The Assembly-room, 70 feet by 40 feet, and 28 feet high, is on the first-floor, over the Exchange. This room is lighted by a range of three-light windows, six in number. The refreshment or supper room is entered from the Assembly-room, and also from the lobby, which communicates with the corridor: it is 46 feet long and 20 feet wide. Provisions will be delivered to this room by a lift, which serves also for dining and other rooms. The dining-room, which is immediately below the refreshment-room, may also be used for the purpose of a refreshment or supper room, upon the occasion of balls. It is on the mezzonine floor, and the same size as the refreshment-room. In connexion with this department are spacious coffee and smoking rooms. The kitchen and other culinary offices are arranged on the upper floor, over the dining-rooms. The lift is connected with each floor, from the basement. Cellaring is also provided for coal, beer, and wine, in the basement; and a residence for the superintendent of this department, on the upper floor.

A room, 38 feet by 32 feet 6 inches, and 21 feet high, with dressing and ante-rooms attached, for the convenience of masonic meetings, is on the third-floor, fronting New-street. Care has been taken to keep this portion as private as possible. It is approached by the assembly-room stairs and entrance from New-street. Upon the occasion of grand masonic meetings and dinners, immediate access may be gained to the assembly or dining-room, by the stairs and corridor round the assembly-room, without coming in contact or interfering with the occupants of the offices. The hall-keeper's residence is arranged in the central tower. The remaining space for disposal, after arranging the principal rooms on the various floors, is divided into offices of convenient sizes and suites. Each office will be lighted by three large sash windows. All the rooms and offices on the various floors have water-closets, wash-stands, and urinals attached. Those in connexion with the Exchange are approached from the end door of the Exchange opening on to the lobby. Access is gained to the various floors by stone staircases, in which winders at the angles have been carefully avoided. The Exchange and assembly-room will be heated by Haden's hot-air apparatus. All the offices and smaller rooms will be warmed by fires. The floor of the Exchange and entrance will be laid with encaustic and plain tiles, and bands of stone upon brick arches. Our readers will doubtless agree with us that by this building, occupying as it will a most conspicuous site, an important feature will be added, both in an architectural and commercial sense, to the metropolis of the Midland Counties.

REFERENCES.

One-Pair Floor.

A. Assembly-room.
B. Lobby.
C. Refreshment-room.
D. Serving-room.
E. Orchestra.
FF. Staircases.
G. Hats and Cloaks.
H. Ante or Card Room.
JJJ. Ladies' Cloak and Retiring Rooms, &c.
K. Gentlemen's Cloak and Retiring Rooms.
LLLL. Lavatories and Water-closets to ditto.
MMM. Offices.
N. Staircases to Offices.
OO. Lavatories and Water-closets to Offices.
PP. Corridor.
QQ. Areas.

Ground-Plan.

A. Exchange.
B. Exchange Committee-room.
C. Chamber of Commerce.
D. Ante-room.
E. Entrance to Exchange.
F. Lavatories and Water-closets to Exchange.
G. Staircase to Assembly and Masonic Rooms.
H. Staircase to Dining-room, &c.
J. Kitchen Offices. Staircase.
J. Lift for Kitchen Offices.
KK. Staircases to Offices on Upper Floors.
LLL. Shops, with Stairs to Living-rooms, &c., in Basement.
M. Telegraph Office.
N. Entrance to Vaults, &c.
O. Passage.
PP. Areas.



EXCHANGE BUILDINGS, BIRMINGHAM: ABOUT TO BE ERECTED.—Mr. Edward Holmes, Architect.

NEWS FROM SCOTLAND.

Edinburgh.—The first stone of the new chapel to be erected by the Newington United Presbyterian congregation has been laid on the site at the corner of Grange-road and Causewayside. The chapel has been planned by Mr. R. Paterson, architect, and will be built under his superintendence. The plan consists of a south-east tower, vestibule, nave, minister's rooms, library, committee-room and lecture-hall on the ground-floor, and galleries above. The style is Early English. In the tower the corner buttresses are carried up to a height of 32 feet, between which is a large triplet window, traceried and subarcuated in the head. The fenestration of the nave and front galleries is composed of two tiers of couplet windows, painted and traceried. The back gallery will be lighted with a traceried rose window, 11 feet in diameter. The main roof is supported on iron columns, which are arched above the galleries, and form a continuous arcade the whole length of the interior. The ceiling, which will be panelled and enriched, is 42 feet from the floor of the nave. The dimensions of the building are:—Total length, 130 feet; total breadth, 70 feet; height of roof, 60 feet; height of tower, 100 feet. The cost will be 6,000*l.* The church will be seated for 900. The contractors are—for mason work, R. Hutchison; carpenter work, A. Forbes; plumber work, R. Hume & Co.; slater work, J. Low; plaster work, W. Baird.——The memorial sculpture of the fallen house in High-street, Edinburgh, has been placed. The sculptured head of the boy forms the keystone of the arch leading down to Paisley's Close, and the words, "Heave awa, chaps, I'm no deid yet," are carved on the two large stones placed above the keystone, enriched with foliage. The sculptor was Mr. Rhind, of Edinburgh.

Building Trade Decision in Edinburgh.—On 14th July, about forty mason's labourers, in the employment of Messrs. G. Paterson & Son, builders, made a demand on their employers for a rise of wages of 1*s.* per week; and this having been refused, they discontinued the work they had commenced in the morning, and deserted Messrs. Paterson & Son's service without any previous warning. Messrs. Paterson caused each of them to be summoned before the Sheriff Small Debt Court, for 7*s.* 6*d.* of loss and damage, occasioned by their desertion. Sheriff Hallard, having heard the case, gave his decision in favour of the employers, saying,—"As not unfrequently happens; in the defender and his fellow labourer's eagerness to prove their case, their contention has gone beyond it. Endeavouring to prove that they were entitled to go away when they did, they have contended that they were entitled to go away when they *liked*. The defender's view of the contract when analyzed really comes to this, that there was a contract without any period of subsistence in it—that is to say, no effectual contract at all. I cannot take this view of the matter. There is neither evidence, law, nor sense in it. It is the poor man's interest, much more than his employer's, that both parties should be bound by their contract, fixed by the rules of trade." Mr. Paterson then stated he had not brought the cases into court on account of the money, but to have it decided whether an employer was bound to submit to the loss and inconvenience of his labourers leaving his employment in the middle of a day; and he restricted the claim of damages to 2*s.* 6*d.* against each of the parties. Decree was pronounced for that sum, with 4*s.* 1*d.* of expenses against twenty-eight of the labourers.

Dumfries.—The plans and specifications for the New Court House and County Buildings for Dumfriesshire, which have been approved by the Local Commissioners of Supply, will be opened to public inspection. It is intended to erect the buildings on the vacant ground in Buccleuch-street, Dumfries. According to the local *Courier*, the elevation shows a pile in the Franco-Scottish style. The plan provides accommodation for the various county officials. The edifice will consist of a main building of three stories, and sunk flat. The principal entrance will be by an arched doorway in Buccleuch-street. Projecting from the wall, above the doorway, a turret rises to a height of 75 feet from Buccleuch-street. On each corner of the building there are smaller turrets; that on the corner nearest the bridge being connected by a battlement with the central tower. The court-hall, on the first floor, is 50 feet by 30 feet 6 inches, extending the breadth of the building. The court-hall has two windows on the east and one to the west: it is also lighted from the roof, and provision is made for ventilation. The second floor does not extend over the court-hall.

Renfrew.—The new parish church here has just been completed, and opened for worship. The new edifice, erected on the site of the old parish church, and of which the first stone was laid on May 24, 1861, is in the Early English style, and has a spire 180 feet in height. The church is seated for 1,000 persons.

Banff.—The works connected with the new cemetery at Banff are now finished, and the cemetery is ready for its intended use. The site is on the south side of Firwood Hill, and distant about three quarters of a mile from Banff. Its area within the walls by which it is inclosed measures 5 acres 30 poles 27 yards. Of this area, 1 acre, 3 roods 25 poles and 20 yards have been set apart for free burial; and 1 acre 3 roods 12 poles 18 yards for disposal to those who may incline purchasing ground in perpetuity. The free ground contains ample space for 2,928 graves, and that for select or purchase graves 1,733, besides two plots which have been set apart for vaults, and which contain space for 184 interments. The area inclosed has been laid out in accordance with the design furnished by Mr. Reburn, Edinburgh. The keeper's house contains a record chamber for the cemetery purposes; but there being no church service at funerals in Scotland, there are of course no mortuary chapels. The map and working plans were drawn by Mr. Bisset, of Banff, architect, and the mason-work was executed by Mr. Lawrence, also of Banff. Mr. John Grant executed the gardening works. The cost of the whole has been about 2,700*l.*

Crathie.—The foundation-stone of a new Free church has been laid at Crathie, Balmoral, by the Earl of Dalhousie, in presence of a large assemblage.

Aberlour.—The new church here has been opened. The *Elgin Courant*, in describing it, says:—The tower stands, as it escaped the fire, on the south end, as it did in the old church; and, in order to harmonize with its architecture, the new place of worship has been built in the Norman style. The building is 66 feet long by 47 feet broad,—7 feet shorter, but 14 feet wider, than the former church. As seen from the Square of Charlestown, the building wants the airiness of Gothic architecture. Both the side walls of the church are exactly the same. There are four breaks in each, and in every one of the breaks a window. In the prominent breaks, which project 6 inches, the windows are ornamented, having columns and zig-zag mouldings on the sides, and interlaced mouldings running round the arches from the capitals. The windows in the receding breaks are plain, having only some common mouldings. In the north end of the church there are three windows, two of which are of the same shape as the side windows, but smaller; the third being high up and circular. Here there are also two doors, not of large size, intended as a means of egress from the lower area, but not to be used for entering the church. The only entrance is through the tower on the south end, as in the former building. The lower part of tower has been undergoing repairs. The church is seated for 750. The walls are coloured dark brown in imitation ashlar. The windows are diamond-paned, of obscured glass, with margin of tinted glass, red and yellow, with blue panes in the corners. The tower was too heavy for the old church. It is, if anything, light for the new one; or, as the roof of the church goes up some 10 feet higher on the tower, the dials of the clock should be raised, in order to give the villagers the full advantage of seeing the time. The wall of the church on the north end has been built with a view to the erection of a vestry there.

CHURCH-BUILDING NEWS.

Aubourn (*Lincolnshire*).—On Thursday, the 17th of July, the new Church of St. Peter, Aubourn, was consecrated by the bishop of the diocese. The edifice was commenced by the late Mr. Henry Nevill, of Wellingore, owner of great part of Aubourn and Haddington; and was continued and completed by his widow, and presented to the parish. The character of the church is that of the Transition period. It consists of a nave, transept, chancel with apse, and a tower and spire on the south side of the chancel. The walls are built of the local stone, with Ancaster stone for all the wrought work, and for the inner surfaces of all the walls. The roofs are open timbered, with the exception of the apse, which has a semi-dome, of stone. The fittings are of oak, from the estate. The architect was Mr. J. H. Hakewill; and the builder, Mr. Huddleston, of Lincoln.

Lincoln.—Considerable alterations and improvements have been lately effected in the interior arrangements of the parish church of St. Mary Magdalene. The old reading-desk, clerk's desk, and one or two square pews, which obstructed the view of the altar, have been removed, and open benches and reading-desk of stained deal substituted. Several new sittings are obtained. The pulpit has been lowered some feet, and four carved oak panels inserted in the place of the former plain ones. The greater part of the cost of these improvements is provided for by the liberality of Mrs. Fowler. A font, designed in some measure by the Rev. G. T. Harvay, curate of the parish, and executed in Ancaster stone by Mr. W. Huddlestone, has been presented by Miss Hutton, East-gate. Mr. Martin, cabinet-maker, Bail-gate, has been employed to carry out these alterations.

Louth.—The chief stone of the new church for the district of St. Michael's, Louth, has been laid. The site is on the east side of Long-lane, and just opposite the new road leading out of Newmarket. The site has been purchased by the Rev. W. Wright, rector of Brattleby, who also contributes 1,000*l.* towards the fabric. The design has been supplied by Mr. James Fowler, of Louth. The dimensions are as follows, viz.: nave, 62 feet long by 19 feet wide; aisles, 63 feet long by 12 feet 6 inches broad; chancel, 30 feet long by 17 feet wide; vestry and organ-chamber, 20 feet by 12 feet wide. The height of the chancel will be 38 feet; of nave, 43 feet; and of bell-turret, 75 feet.

Weymouth (*Dorset*).—A vestry meeting, presided over by the Rev. H. C. Pigou, rector of Wyke, has been held here, to receive and consider the report of Mr. Wyatt, the architect for the diocese, on the condition of the piers and arches of Wyke Church. It is stated, according to the *Dorset Chronicle*, that little harm had, as yet, ensued from the cracks which had taken place in the pillars; but, that unless remedial measures were at once adopted, serious injury might be apprehended. The recent alterations in the church had also weakened the masonry. He advised that a block of concrete, 4 feet square and 3 feet deep, should be placed under each pillar, and on the concrete two large stones, each 3 feet thick. The chairman said that the cost of strengthening each pillar would be about 8*l.* or 10*l.*; and as there were eight pillars to be strengthened, the cost might be stated at 80*l.* Mr. Wyatt had also pointed out a settlement in the south-east part of the chancel. Some of the ratepayers present thought that the defective state of the church arose from imperfect drainage of the roof. A Weymouth committee was formed, to confer with the Wyke committee.

Stafford.—The new Roman Catholic Church of St. Augustine, at Stafford, has been opened. The building, which adjoins the old church, and is at the same time connected with the priests' house, is a brick erection in the Decorated style. The cost has been little more than 2,500*l.* The architect was Mr. W. E. Pugin. The interior of the structure consists of a nave and two aisles, the nave terminating in a semi-octagonal apse, and being separated from the aisles in the usual manner by arches and columns. The centre of the columns consists of a shaft of granite marble, supported on a base of white Sicilian marble, and this again on a support of Yorkshire stone. In the apse at the farther end of the nave there are three stained windows, by Hardman, of Birmingham, each containing three figures. In the centre is a representation of the Crucifixion, with the Virgin and St. John on either side; upon the right are the Saviour, St. Augustine, and St. Gregory, with three of the children known as "non Angli sed angeli;" while on the left are "the Good Shepherd," St. Peter and St. Paul; the figures being surmounted by the tiara. In the centre of the apse is of course the high altar, of Caen stone. The "gradus" on each side of the tabernacle is elevated above the "table of the altar," and the tabernacle itself also stands at a considerable height above the "gradus." It is surmounted, as usual, by a large crucifix. The aisles terminate in chapels, that on the left being dedicated to the Virgin Mary. Here is an altar covered with blue and white silk, and bearing at its front an oft-repeated inscription, "Sancta Maria, ora pro nobis." The images of the Virgin and Child stand on a pedestal upon the left, under a canopy of blue and gold; while in a corresponding position, on the opposite side of the church, is a figure of St. Augustine, bearing his crosier. At the western extremity of the church the organ is situate, in a small gallery fronting the high altar. The builders, Messrs. Hill & Son, of London, have constructed it for about 200*l.* In the west front of the church, and to some extent concealed from the congregation by the organ, is a large window of stained glass taken from the old building. In the

window itself, with its geometrical tracery, there are perhaps more distinctive marks of the Decorated style than in any other part of the building; but the glass it contains exhibits a diversity of design. In a short time it is hoped that a sufficient sum will be raised to allow the completion of the architect's design by the erection of a spire. The builder is Mr. Jeffreys, of Stone.

Upton Bishop (*Herefordshire.*)—The church here has been reopened. Mr. Scott was the architect employed in the restoration, and Mr. Chick, of Hereford, the builder. The restoration has been mostly in the interior; the only exterior work worthy of notice here being the underpinning of the foundations, and the making of the drainage good around the walls. To make the floor high and dry, formerly the flags were more than once taken up, and some hundreds of loads (perhaps) of rubbish carted there to raise the level. All that was thus done to keep the floor of the church up with the continually increasing level of the churchyard has been undone, and the stuff wheeled away. By removing the superfluous soil the bases of the pillars, which are of early date, have been exposed, and the floor has been laid throughout with concrete. In the chancel two lancet lights have been reopened, and the original central light has been filled with stained glass by Messrs. Hardman, of Birmingham. A small window in the north side of the chancel has also been filled with stained glass. The gallery in the south aisle has been removed, and the aisle otherwise restored. A window in the south side of the church has been filled with geometric tracery; and another small window, discovered beside the pulpit in the north aisle, has been filled with stained glass. Various other improvements and restorations have been effected, and the church reseated with open sittings of white pine, and floored throughout with encaustic tiles by Mr. Godwin, of Lugwardine. About 1,200*l.* have been expended.

Birkenhead.—Mr. Jackson, M.P., and Mr. Thomas Brassey, have announced their intention to build a church at Claughton, Birkenhead, where it is said to be much required. Mr. Jackson, in addition, gives the site.

Bromborough.—The foundation-stone of a new parish church for Bromborough has been laid, according to the *Liverpool Albion*. The new building will, when completed, accommodate 600. It is to be in the Gothic style of architecture, with a spire, and will be built of red sandstone from one of Mr. Mainwaring's quarries in the neighbourhood. It will cost between 5,000*l.* and 6,000*l.*; towards which the late Mr. Charles Mainwaring gave the sum of 2,000*l.* Mr. Scott is the architect, and Messrs. Holme & Nicol are the builders.

Crosby (*Liverpool*).—Mr. Schofield having offered to erect a Wesleyan chapel at his own cost, and also to build some cottages and devote the rents towards the endowment, the offer (says the local *Courier*) was gratefully accepted; and plans have been drawn by Mr. C. O. Ellison, of Liverpool, architect, for a building in the Norman style of architecture; which, when completed, will be capable of accommodating a congregation of 300 persons; school and vestry accommodation being provided underneath. The cost of the land was 700*l.*; and the contract for the building has been taken by Messrs. W. & F. Witter, of Liverpool, for 2,400*l.* The cottages will cost 1,200*l.* or 1,400*l.*; and as Mr. Schofield intends to provide an organ and furnish the chapel completely in every respect, he will incur an expenditure of about 5,000*l.* The foundation-stone of the chapel was recently laid by Mr. Schofield.

Warrington.—The first stone of a new Congregational chapel has been laid at Lymm. The site selected is within five minutes' walk of the railway station. The building will be in the Gothic style, built entirely of Lymm stone. One of the chief features outside will be a bell-turret. There will be accommodation within for about 400 people. There is to be a gallery at one end. The roof will be open, and the pews also on the same principle. It is to cost 3,000*l.* Mr. Walters, of Manchester, is the architect; and Mr. S. Bramhall, of Hulme, the builder.

Saddleworth.—The Bishop of Manchester has laid the foundation-stone of a new church to be erected at Denshaw, in Friar Mere, Saddleworth, at the sole expense of Mr. and Mrs. Henry Gartside, of Ashton-under-Lyne. The church will accommodate 400 persons. It will be of stone; the roofs open-timbered. Dimensions—extreme length, 88 feet; width, 46 feet 8 inches; height, from floor to ridge, 40 feet; tower, nave, and chancel of equal width outside, viz., 23 feet 8 inches. The clerestory will be lighted by quatrefoil windows. The entrance is through a porch near the west end of the south aisle, and the aisles extend halfway along the sides of the tower and chancel, forming transeptal chapels on each side of the latter. The north transept wil be prepared for the organ, and the south transept fitted up as a private chapel. There will be a five-light traceried window in the east end of the chancel filled with stained glass. Mr. J. Eaton, of Ashton-under-Lyne, is the builder. It is estimated that the erection and endowment will cost 10,000*l.*

Hunslet.—The foundation-stone has been laid for the rebuilding of the parish church. The estimated cost of the erection is 5,000*l.*; and the contractors for the various departments of the work are—For the masonry, Mr. J. Hardwick; joinering and carpentering, Mr. W. Britton; plastering, Mr. P. Mountain; plumbing, Mr. T. Bedford; slating, Mr. J. Lawson; and painting, Mr. W. Nelson. The architects are Messrs. Perkin & Backhouse, from whose design a stone church is to be built capable of containing seats for eight hundred and fifty persons; upwards of three hundred seats being free. The style of architecture will be the Early English; and the edifice will consist of a nave, two side aisles, two transepts, organ chapel, and vestry, but no galleries.

Leek.—The foundation-stone of a new Independent church has been laid here, on a central site in Derby-street. The style of the new church will be Gothic, of the fourteenth century. The site is of insufficient width to admit of such a disposition of plan as the architect would otherwise have adopted. The Derby-street elevation, according to the plan, comprises a porch on one side, and a tower and spire on the other. At the base of the spire is an octagonal lantern, with buttresses at the angles, terminated with carved and crocketed pinnacles, with perforated tracery in the side openings, and with panelled and cusped parapet. The spire is finished with an ornamental iron terminal, at a height of 110 feet from the street level. A principal feature in this elevation will be a large five-light window with tracery, and hood moulding with carved bosses; and round the hood moulding a radiating arch, alternating in courses slightly varied in colour. The side is divided by buttresses into six bays, with a two-light lancet-head coupled and traceried window in each, with hood mouldings and alternating arches. Under these are three-light windows, with traceried heads, lighting a boys' Sunday school beneath the church. The floor of the church is raised 4½ feet above the street level; and this, with the declivity of Russell-street, has enabled the architect to obtain the room referred to beneath the church, which will accommodate 500 to 600 persons for lectures or public meetings. Between the entrances is a corridor separated from the church by a glazed screen, excluding cold draughts, and affording the attendants command over the entrances without disturbing the congregation. The entire length of the church within the walls will be 72 feet, and width 34 feet. Including the orchestra, the interior length will be 85 feet. The hammer-beam roof of the church has carved ribs, springing from moulded and carved corbels. The principal timbers will be exposed, the spandrels filled with perforated tracery, and the constructive ironwork of the roof will be painted in colours. The horizontal portion of the ceiling, slightly curvilinear in form, will be stopped at some distance below the apex of the roof, and formed into panels by moulded ribs. The seats will be open. There will be a gallery at one end of the church, only approached by a staircase in the tower. At the rear of and attached to the church will be the girls' school building, comprising; on the ground-floor, corridor, class-rooms, infant school, &c.; and over the whole the girls' Sunday school. The turret stairs, between the schools and the church, are surmounted by a spire 66 feet in height, with ornamented iron terminal, and covered with slate in coloured bands. The whole of the interior woodwork will be stained and varnished. The church will be lighted by star or sun light suspended from the roof, and the whole of the building ventilated, the spires being made available as outlets for vitiated air. The works have been designed by Mr. Sugden, of Leek, architect, and will be carried out under his superintendence by the following contractors, namely:—Mr. J. Naden, the stonemason and bricklayer's works; Messrs. W. & J. Nixon, the carpenter, joiner, slater, and plasterer's works; Messrs. J. & J. Hudson, the carpenter and joiner's works of the school building; and Mr. J. J. Howard, the plumber, glazier, and painter's works—all of Leek; and the warming by Messrs. Haden & Son, of Trowbridge. The total outlay, including land purchased, lighting, heating, new organ, and other incidentals, will be close upon 4,000*l.*

Shirley.—The unsightly roof and parapet walls of St. James's Church, Shirley, are now about to be removed, and a new open roof substituted. The church is deficient both in light and ventilation, having a flat, low ceiling under the tie-beams: this is to be removed, and a tier of dormer lights, five on either side, introduced in the new roof, additional light being thereby obtained. The rafters and principa's will be exposed, wrought, stained, and varnished, and boarded on upper side with diagonal boarding, which will also be stained. The walls and pews are also to be coloured and painted. Plans have been made upon a more extensive scale for the enlargement of the building, but the funds of the committee will not for the present permit them to carry out more than the new roof. A new organ is also to be provided by Mr. Halmshaw, which will be ready for the reopening of the church about the middle of August next. The work is being carried out from designs of Mr. Edward Holmes, by Mr. Hardwick, of Birmingham.

Cheshire.—The reopening of Middlewich Church took place on the 4th July, after a present outlay of nearly 3,000*l.*, towards which the lord of the manor contributed more than 1,000*l.*, and the rest has been collected through the exertions of a very indefatigable churchwarden, affording a strong contrast to the way in which churchwardens used to restore their churches. This church has been undergoing a gradual course of restoration for many years, from the plans and under the superintendence of Mr. Joseph Clarke, F.S.A., architect. The former works included the entire reseating and restoration of the interior, with the Lady and Kinderton Chapels. The works now comprise a very elaborate oak roof on the nave; the entire rebuilding of the modern clerestory, with a restoration and completion of the external masonry (excepting the tower), and other works, which have been carried out by Mr. Jones, of Liverpool, builder. A considerable amount of decoration is contemplated; besides which, several painted windows have been added, including one entire side of the clerestory. The main works now remaining, and for which the plans have been prepared, are new roofs to the aisles, and these will probably be commenced before long.

STAINED GLASS.

Boxgrove Church.—A painted window, by Messrs. O'Connor & Son, of London, has just been put up in Boxgrove Church, near Chichester, in memory of the late Duke of Richmond. It consists of three lights. The centre compartment contains the Nativity, Crucifixion, and Ascension of our Lord; and the side lights are also filled with scriptural subjects. The window was purchased by subscription among the tenants on the Goodwood estate.

Mount Carmel Church (*Redditch*).—The east window of stained glass has been removed, and a memorial window of like material, from Mr. Hardman's, of Birmingham, substituted, containing full-length figures of St. Gregory the Great and St. Augustine; the centre piece being the Virgin and Child. The window was inaugurated by Mozart's Grand Mass, No. 12.

PROVINCIAL NEWS.

Bury St. Edmund's.—The Bury new Corn Exchange has been opened. The design, by Messrs. Ellis & Woodard, of London, was selected out of thirty-five; and the contract having been obtained by Mr. Lot Jackaman, of this town, the first stone was laid on the 18th of June, 1861. The building covers an area of nearly 10,000 feet. The portico, and some of the internal decorations, yet remain to be finished. The new exchange is a parallelogram, measuring 119 feet from south to north, and 82 feet from east to west; the south front abutting on Abbeygate-street; the north facing the old exchange; the west side nearly ranging with that building and the town-hall; and the east side so placed that when (in 1867) the leases of the old houses fall in, there will be sufficient space to be cleared for a roadway in place of the present "Traverse," with some offices or other accommodation attached to that side of the exchange. The walls are of Woolpit brick, with stone portico and columns, pilasters, balustrades, and dressings. There are two entrances in the south front, and one on each side. The angles of the building are surmounted by stone balustrades, having three urns of Ransome's silicious stone on each. The west front has six round-headed windows; those at the extremities being of

smaller size than the other four, in consequence of their occupying the intended places of the door and the corresponding arch of the design. The east side has only one "side-light," at the southern end, to correspond with the door, the interval being blocked by the old houses. The east aisle is lighted from the roof by three lanterns, extending over the whole of it; whilst the west aisle is covered with tile creasing. The nave or middle roof is supported by seven arches on each side, of Ancaster and Hollington stone, laid alternately to relieve the colour; these being carried by six iron columns. The roof itself is elliptical, formed by cast-iron ribs, each of which weighs about five tons; the centre of the arch, for about one fourth of its width, being ceiled with three panels between each pair of ribs, having a *papier mâché* ventilating rosette in the centre one; the remainder of the arch, about 20 feet on each side, being covered with Hartley's patent ribbed glass, in panes of 5 feet length, two of which are straight and two bent. The ribs of the roof are supported by stone trusses carved with foliage and shell ornaments, and the keystones are also carved. The carving throughout the building has been executed by Mr. Barnett, of Norwich; Mr. Wiggett, of Bury; and Mr. Tolmie, of London. The floor was laid with asphalte by Messrs. Armani & Co., of London. Messrs. Ransomes & Sims supplied the iron-work. Mr. Darkin superintended the works.

Horbury.—The foundation stone of the House of Mercy has been laid, and the new burial-ground consecrated, by the Bishop of Ripon, at Horbury. The House of Mercy was established about three years ago, for the purpose of reclaiming fallen women, and training them in the pursuit and practice of industry, virtue, and Christian principles. The plans for the building have been prepared by Mr. Woodyer, the architect of the Houses of Mercy at Clewer and Ditchingham. It is proposed to accommodate about forty or fifty inmates.

ALBERT MEMORIALS.

City of London Memorial.—We are glad to hear that the corporation of London have commissioned Mr. Joseph Durham to execute in marble his fine bust of the Prince Consort, to stand with his bust of the Queen, which was presented to the City some years ago by Sir Francis Graham Moon.

Bridgwater.—A townhall is to be erected at Bridgwater, as a memorial of the Prince Consort. The cost will be about 1,500*l.* Plans have been submitted to the council by their surveyor.

Kirkwall (Orkney).—At a public meeting of the inhabitants of Kirkwall, a large and influential committee has been appointed, to consider the best form of carrying out the object of a general subscription in this town and parish for a national memorial in honour of the late Prince.

Coburg.—A number of the most influential inhabitants of Coburg have held a meeting in order to concert measures for the raising of a monument to the late Prince Albert in his native town. The meeting resolved to request the magistrates of Coburg to undertake the conduct of the matter.

COMPETITIONS.

The Oxford Workhouse.—The Local Board of Guardians,—as one of their number, Alderman Grubb, expresses it,—are "in a muddle" on the subject of their workhouse plans. A special meeting of the Board was held last week, to receive the report of the building committee on letters of complaint from various architects in reference to the recent competition and its re-opening on the 19th of August, as per new advertisement. One of these letters was from Mr. S. L. Seckham; stating that, as one of the competitors, he considered it unfair and unjust to ask further labour to be expended, until an adjudication shall have been made on the plans already procured. In reply, the Board allege misapprehension on the part of Mr. Seckham; and say that his first plan was revised and corrected by him, and submitted anew in competition with Mr. Fisher's, when the latter was selected. Mr. Bruton protested against the mismanagem nt of the late competition, and reviewed the proceedings. In reply, the Board inform him that his plan was rejected from its estimated cost exceeding the maximum stated. A joint letter was sent to the Board by Messrs. Bramwell, Bruton, Buckeridge, Castle, Seckham, and Shirley, all Oxford architects, also protesting against the conduct of the Board, and stating certain conditions which ought to be observed. To this the Board replied that they could not adopt the suggestions of their correspondents, but must adhere to the conditions already announced for the fresh competition, and could not exclude any plan complying with those conditions; but they add, it will be evident that none of the plans previously sent in would compete without large alterations, owing to the increased requirements under the new instructions, in which the suggestions of the Poor-law Board have been embodied.

ARCHITECTURAL ASSOCIATION.

A special meeting was held on Friday, the 25th ult., the President, Mr. Blashill, in the chair. The report from the delegates appointed to attend the meeting of the proposed Architectural Alliance was read, and after some discussion it was resolved, on the motion of Mr. Paraire, seconded by Mr. Reeves, to defer the consideration of the question to the next session.

Professor Kerr attended by request and gave explanations upon various points in the programme of the Royal Institute of British Architects for an Architectural Examination; and a resolution, thanking the Institute for its action in the matter, and strongly recommending the subject to the attention of the younger members of the profession, was carried unanimously.

BUILDERS' BENEVOLENT INSTITUTION.

The Fifteenth Annual Meeting of the subscribers and friends of the above charity was held on Thursday last, at the London Tavern, for the purpose of receiving the report for the past year; to elect the president, auditors, treasurer, and directors for the year ensuing; and other matters connected with the welfare of the Institution. Mr. George Plucknett, treasurer, occupied the chair.

Mr. A. G. Harris, the secretary, read the report, which stated that the events of the past twelve months, having reference to the financial interests of the Institution, presented so few features differing from those of the preceding year, that the directors, in issuing their new list of subscribers, contented themselves with thanking their kind friends and supporters, and briefly stating that the position of the charity was still satisfactory, although they could have wished, and expected to have seen it better, so that a larger number of the applicants might have been placed upon the funds of the Institution at the elections which were held in November, 1861, and May, 1862.

The sum of 506*l.* 11s. 11d. had been invested in the Three per Cent. Consols, being 440*l.* 13s. 8d. stock purchased for the Relief Fund, and 100*l.* 6s. 2d. for the Building Fund; making a total of 8,353*l.* 11s. 2d. stock belonging to the Institution, divided as follows:—6,006*l.* 0s. 5d. Relief Fund, and 2,347*l.* 10s. 9d. Building Fund.

The annual ball, under the able superintendence of the Hon. Secretary, Mr. Joseph Bird, had realized to the institution a profit of 103*l.* 15s.

The financial statement showed that the total receipts of the past year, including interest, amounted to 2,304*l.* 12s. 4d.; and after all expenses were defrayed, a balance was left in hand of 490*l.* 13s. 9d.

Various resolutions, thanking the officers for their performance of the particular duties, including one to the Lord Mayor, the president for the past year, for his assistance in their work of charity, having been put and carried, the election and re-election of the necessary officials were duly completed.

The Chairman then said that he begged to inform the meeting that Mr. Henry Lee, of Crown Wharf, Nine Elms, had consented to become their president for the ensuing year. He concluded by proposing Mr. Lee as their president for the ensuing year.

Mr. J. Bird seconded the proposition, which was unanimously carried. A vote of thanks to the chairman concluded the proceedings.

FIRE-SHIPS IN THE LONDON DOCKS.

Considering all the warnings we have had, and all the mischief which has been done, it seems extraordinary that so much carelessness is still shown in the stowage of inflammable materials, not only in the docks, but also on ship-board. As an instance,—the other day a fire broke out in a fine vessel of upwards of 600 tons burden. The vessel was a general trader, and was loaded with miscellaneous stores. The accident occurred from the explosion of a bottle of ether: becoming ignited, the flame rushed to twelve cases of *lucifer matches;* setting them also on fire, the sulphureous fumes and smoke created so much alarm, that it was thought that the ship would have been entirely destroyed; but, owing to the exertions of the men connected with the fire-engines, the damage was stopped before it spread to any great extent.

We do not know how many other equally dangerous matters there were in the hold of this ship; but those articles alone, particularly when crossing the tropical seas, would be likely to risk the lives of all on board more than the storm of waters. The stowage of such commodities requires more care than gunpowder; and measures should be taken in ships for the provision of fire-proof space, in which they could be kept separate from other parts of the cargo, and to which access could be readily had for the purpose of extinguishing any fire which might break out. Vessels loaded in the same way as that to which we have referred are unpleasant neighbours, and not much less dangerous than the fire-ships which formerly were used in naval warfare.

STREET ARCHITECTURE.

Our Parisian neighbours exclaim, "London is indeed an ugly city." With the finest situation in the world, why do we allow our buildings to be deficient in style and taste, especially the shops in the principal thoroughfares? I was glad to see, on my way to the Exhibition the other day, passing along Oxford-street, a handsome structure lately erected by Messrs. Laurie & Marner, the well-known coach-builders, who availed themselves of the services of Mr. O. Parnell, as architect, and Myers & Son, as contractors, who, in the short space of six weeks, completed the work. The front consists of a lofty Corinthian colonnade, the columns resting on massive rusticated piers, and supporting a bold entablature; the example for the order being taken from the Temple of Jupiter Stator at Rome. The intercolumniations present a series of flat arcades, divided by pilasters; the intermediate floor-spaces being filled in with relieved panels and other embellishments. It has altogether a good effect. M. P.

WORKMEN AND CHURCHES.

Sir,—I think that, so far, all your correspondents on this subject have missed the true source of the evil. Of course it is pretty plain that, if every one went to church, as they ought, there would not be room enough; but it seems to me that the true source of the evil is in the pew-rents: a workman cannot afford to pay them, and does not like to be put into a seat labelled "Free." There are now plenty of churches in which all or most of the seats are free, and where an offertory is collected; so that a man may contribute according to his means or inclination to the support of the services. As regards services in workshops, I should think there were few churches at which, upon application, a clergyman could not be found to conduct them; or, still better, to open the church at a stated time for them. E. D.

ON THE SPIRIT OF MODERN WORK.

All good work in the present day must be a protest against the triviality, money-worship, and machine regularity of our time. It does not follow that such should be the spirit of work in another age; but in ours it is plain that art must fight the ease, elegance, and sensuality of modern society, because in themselves they are detestable traits of character. Designers are now chiefly occupied in drawing patterns for articles to be made by machinery—not a very noble occupation for human minds; and their designs never can be anything but geometrical patterns or symmetrical foliage,—also not a lively prospect. Now, surely, a wall with a flight of birds painted on it, and half a dozen of them having a good fight in the Japanese manner, is more interesting and contains more life than a million diapers. But this work cannot be done by machinery: you cannot throw life into anything made by machinery: a hanging or carpet, with some violent grotesque dragons, animals, fish, doing something, not in a state of modern lethargy, is more amusing than the incipient, chilling, flat patterns one is treated to now. The spirit of Japanese work is right—full of life, vigorous, and severe. I cannot see anything approaching this in modern English machine patterns: we must either put up with cold mediocrity of design, or else restore handwork. Modern furniture is full of every type of sensuality: there is no severity about it: the woodwork, without any reference to construction,

is twisted into shapes for sensual posture: to avoid this, woodwork ought to be rigidly straight, and the cushions cut and made into the shapes you require for ease, but not the framework. However, no material shows the effect of modern old-maidish trimness, or of measured exactness, like our painted glass windows: here the surface is covered in now with French conventional foliage, as stiff and as unmeaning as possible. What do you want in a glass window? An intelligible picture, of brilliant gemlike colours, with the background filled in with any quantity of bits of glass to make up a noble mass of colour. Now, I ask, what can be the use of filling in such spaces with black lines representing foliage? You do not want black lines: you want colour. What can be the use of drawing a stiff border? Surely a lot of bits of glass, put in indiscriminately, will insure more effect; and the glass must not be too even in colour: it is the unevenness of tone of old glass, and of oriental textile fabrics, that gives them such lifelike effect. If at the Exhibition, I would call on your readers to notice the difference between the glass of good and bad design. The latter is mathematically cold and accurate; all over foliage drawn in black lines and finicky borders: the former has a noble pictorial mosaic design; which, were the glass better, would be of splendid colour; but this is no fault of the designer: the back is filled in with rough irregular glass, bits of diapers—anything, in fact, to get the desired effect of breadth of rich colour; but throughout the whole there is an absence of useless labour and finicky patterns, and no sign of that disgusting geometrical regularity in arrangement of pattern, of lead lines, common in the backgrounds of most windows. Another point, and I have done. Painters that do nothing but run after pretty faces to paint, are not artists. If there is a fault even in early Italian art, it is its slight hankering after the ideal. Now, early Flemish is far nobler. Matsys, Memling, Joseph of Ghent, &c., had no ideas of classical straight noses, or of freezing machines generally: they painted the people they saw: they painted the colours they saw. What noble, manly, characteristic work it is! and what a noble painter the same feeling and country have produced now,—Leys, one of the very few men who paint wholly right in this vulgar, pot-house age—age of iron railings; age that hates hedges; age that loves the cold formality of Greek form in preference to the honest, manly, rough, old Flemish! A great test of the excellence of Flemish mind and painting is the fact that it withstood the influence of the *renaissance* of Classical art longer by two hundred years than Italy. About late Belgian work there is a quaintness of great manliness; and that quaintness of character in a great degree exists to this day: it has produced Leys; just as, in England, Queen Anne's time saw some excellent quaint architecture, pottery, and furniture; particularly in country towns beyond the reach of the civilizing element.

There is a beauty in Flemish art which is not noticed by our "classics;" and it is a beauty which gives intense natural life to work: I mean the crowds of figures: how they are all huddled together, the numbers coming up from the back to the front: this foreshortening has a wonderful natural effect. I do not think too many figures can be crowded into a painting: the more the merrier, is thoroughly true when said of Flemish art. In Limoges work it is to be found too: it is so jolly and unacademic. Again I ask for crowds of figures huddled together, and plenty of them coming up from the back to the front. There is a glass window in the Exhibition full of this.

A. W.

INTERNAL ARRANGEMENTS OF THEATRES.

Some months ago I drew your attention to Tietz's Berlin Victoria Theatre as a building of rather novel construction. I now give, in form of a list, certain especial points that should be taken into consideration by architects. They are not all that is necessary; but they are points not generally understood except by those who have seen the working of theatres in various countries.

Front of the House.

1. Each tier should have a separate staircase, to facilitate the exit. The principle of drawing people on to one staircase is fallacious, as also that of crush-rooms.

2. The external form of house should be the same as the internal, as at Dresden, or Coliseum at Rome.

3. The lighting should be effected without chandeliers or stars, or anything to impede the view of the spectators in the gallery.

Stage.

1. At the side of the wings there should be a wide, clear passage; then, beyond this, docks for temporary placing of wings; and in these docks lifts to take carpenters from the very bottom cellar to roof of house, and grooves in the walls for counter-weights.

2. Beyond these docks, on each side of house, must be passages the whole length, and parallel with the stage from front to back; and out of these passages, dressing-rooms for principal artists, and waiting-room for chorus—ladies one side of house, gentlemen the other. Immediately on the tier above or below are to be dressing-rooms for artists, chorus, ballet, supernumeraries, children, and military band; men and women on different sides of the house. At each end of passage, staircase leading to floor above. Munich is a good theatre to study for this arrangement.

3. The mezzonine floor must be high. It is the custom abroad to have the wings on ladders, which come through and run on wheels on the mezzonine floor: this is a good arrangement for opera; but for pieces where there are constant changes of scenery, they do not work fast enough for England, as in this country it is not customary to drop the curtain; and wings at the best are but barbarous make-shifts for set scenes, which cannot always be used. As to general working, hydraulic pressure ought to be introduced if possible.

3. The house should be high enough to allow the scene cloths to go right up without doubling.

4. The wardrobes, and tailors or dress-makers' shops, on floor above dressing-rooms, with lifts to let up and down the costumes.

5. The magazine for properties must be close to the stage, at the back, leading immediately on to it, in order that the properties may not be brought on the stage before wanted. Above this, or near it, the carpenters' shop, with staircase leading to painters' room, which should be at back of stage, so that the painters may paint upright against back wall of stage, and the cloths let down on to stage when finished, as at Covent Garden.

6. The solo, chorus, and ballet rehearsal rooms should be situate somewhere not too distant from the stage.

7. The music, library, copying-room, and orchestra waiting-room, near the orchestra.

8. The manager's apartments near the stage, with connecting doors to front of house and stage; separate staircase to outside; and waiting-room; the whole as inaccessible as possible, and mysterious; as no one is ever so troubled with importunate and useless talkers and acquaintances as a manager; his great difficulty being to get peace and quiet.

9. Secretary's and treasurer's rooms, near manager's.

10. Porters' apartments, with good kitchen for house-dinner.

At both sides of the house, with straight passage leading horizontally from back of stage, should be magazines for wings and scene cloths; the great object being to get these away without going round corners, or in any manner bending the cloths. Magazines should be fitted with racks to place cloths on, and wings with grooves to slide into easily, to be got out at any moment.

Questions for the machinist are—to consider the point of flat or inclined stage, and the possibility of working the drops from the stage in the docks, instead of up in the flies.

A. W.

THE POSSIBILITY OF A NEW STYLE.

It is of importance, in considering the subject of the possibility of creating a new architectural style, that its avenues and immediate precincts be kept clear of whatever would tend to mislead or confuse, in order that, its principles being distinctly recognized, and our duty in relation to it clearly apprehended, we may entertain the one and act out the other.

This remark suggests itself on perusal of your correspondent "S. G. C.'s" letter in the *Builder* of Saturday's issue.

Agreeing with that writer in spirit, but differing on the issue sought to be established, I shall, with your permission, make a remark or two thereupon.

The general tenor of the letter is, I apprehend, that of a disposition of reverence for the architectural achievements of the past, assigning them a place from which it is neither desirable nor possible to remove them.

This reverence for the past and its works is natural and essential to the well-being of art, as furnishing incentives for us to go and do likewise. It is furthermore dutiful, and bespeaks by analogy a certainty of reverent and careful working in those who entertain it. And again, since the spirit which animated the works that prompt such reverence can by this means alone be imbibed and wrought out,—a spirit common to all times, and without which art cannot flourish,—most heartily do I indorse the sentiments of the writer in the tribute of respect accorded to eminent modern practitioners, the faithful and successful workers in past styles.

The purpose they fulfil is high and requisite; for how more certainly revive and perpetuate a lost or almost extinct taste than by the study and reproduction of past works of beauty, which, in the process of resuscitation, shall disclose the secret of their life and power.

Thus far, in harmony with the writer, I maintain the integrity of past works, and justify their careful study and reproduction in the infancy of a reviving art; but here we begin to pursue divergent routes.

That the future of architecture shall be as the present, with no material change in its phases—nothing but ebb and flow between the two great present existing styles—is an idea I cannot for a moment entertain: the law of progress is supreme as heretofore, still working its work, baffled now and again, yet always advancing its conquests and leaving us without the least vestige of guarantee that present art shall stagnate.

Our art-wealth may be sufficient, but the human soul is ambitious, and will not be content, fetter it as we may.

But, assuming that contentment is the characteristic sentiment with which our present architectural practice is regarded, does that argue the necessity of a standstill?—does it justify us in violating, if we could, the natural law of progress by arresting the powers of art-conception and execution, saying to them, thus far may ye come, and no further? It were an indignity even to the most inferior commercial pursuit to demand from it a contentment which, if accorded, would, in its legitimate application to the highest commercial transactions, stultify commerce and weaken its power—much more so to exact this from art.

Two styles of exquisite beauty we unquestionably have and these with depths yet unfathomed, but wherein from this the inference that they so compass sea and land of the world of art, that a third shall find no resting-place? These, however, "representative of the feelings and requirements of the 19th century," I cannot with propriety presume as so all-sufficient and prevailing as to afford no place for a future representative style—nay, from the very fact that two styles so antipodal to each other are equally appreciated and sympathized with, we cannot but admit the *possibility* of another arising and recommending itself on the strength of credentials as valid and worthy. And should such a style arise, I believe that admiration for the old will not disdain to associate with respect for the new, both having their common origin in the beautiful and the good.

While at this stage, I may be allowed to correct a fallacy of argument in the closing remarks under the first of the two heads the writer professes to prove — this correction the more necessary, inasmuch as our statements will be thereby strengthened.

While quite right as to the absurdity of the man refusing to avail himself of an advantage on the scruple of the merit of its origin resting with another, a vital defect in the enforcement of the subsequent illustration suicidally invalidates the argument, for the material on which the worker in metal employs his skill, and the words as media for the expression of an author's ideas, have their counterpart not in the styles in which the architect embodies his conception, but in the forms on which these styles are based, and of which they are the characteristic expressions.

Style may be defined as a characteristic combination of forms in harmonious relation to each other; forms being the base, and therefore of greater importance than the superstructure, are what we have primarily to deal with; and as they are the special property of no style in particular, except by virtue of their harmony with the principles upon which that style is based, the limit to their use it is absolutely impossible to determine: where then is the argument against new harmonious combinations which shall have as their issue the formation of a "new style?"

The last question of your correspondent, namely, "Whether a new style could be founded or not if one was required?" is met with a dogmatic ne-

gative which I think is associated with reasons as questionable as the proposition they are intended to support.

That we have had no experience of a thing does not argue the impossibility of its occurrence; hence the fallacy of the dogma that "centuries of thought and labour have taught us that but two styles suit us—Classic and Gothic—"an assertion wrong in its anticipating the future, and pronouncing a deliverance upon what does and what does not exist. It is true that classic and gothic are the styles in which we are most pleased to practise, as of all others best suited to our sentiments and wants; at the same time a corresponding argument was as applicable, and possibly had its reasoners in the period when gothic was as yet undreamt of: the new style nevertheless arose, waxed and waned: how then can we pronounce with authority upon the unfoldings in the future of architecture?

The great change of style may come by a slow or by a sudden process: hard thinkers, profiting by the earnest labours of the venerated revivers of antique forms, may urge it into vitality ere long; or it may, on the other hand, be as hitherto in the laws of progress, that its birth shall be heralded in by the culmination and gradual decay of the great styles of old. G. S. A.

AWARDS AT THE INTERNATIONAL EXHIBITION.

We are asked to insert the following letter, which has been addressed to Sir John Rennie, as President of Section A, Class 10; and to which no reply has been received:—

"July 23.

"Sir: There is a very uncomfortable feeling, as well among the exhibitors in Class 10, as in the trade, about the awards of medals to Messrs. White, Brothers, for Portland Cement, and to the Silliceous Stone Company for stone, neither of which firms are exhibitors, or have occupied space. It is felt that some explanation is due where the contributions of these firms may be seen.

Begging respectfully your immediate information on this subject,

We remain, &c.,

Knight, Bevan, & Sturge,
Lee, Son, & Smith,
John & Wm. Eastwood,
J. Cumberland Pabt,
F. & G. Rosher,
Freen & Co."

Terra Cotta.—Sir,—I beg leave to say you have inadvertently done me a wrong in giving a list of awards in Class 10, in which I have the flattering unction of Hon. Mention only; whereas I am awarded a prize medal; but in consequence of my principal object being omitted by the jury of 10, and this being discovered on the 1st of July, when too late, my works were then examined for Class 35, and the medal awarded accordingly. I recollect the Editor of the *Builder* was one of the jury who conferred full honours on me at the 1851 Exhibition, when my works were far inferior to those I now exhibit.

Jas. Pulham.

TREES IN OUR STREETS.

Your remarks on trees, in the last number of the *Builder*, induce me to hand you a few observations on town plantations.

It would be hard to find, even in Asiatic Turkey or Persia—where the Oriental plane is indigenous—finer specimens, for their age, of this tree than those growing in some of the West-end squares of London. Considering the enormous size to which the plane, in ordinary circumstances, is capable of attaining; and the vigorous way in which it grows in this country; it is evident that the day will come when the plane-trees of our metropolis will constitute one of its most remarkable features; for there is nothing whatever to hinder them acquiring the dimensions of some of the famous Eastern *chunars*. What a magnificent grove, for instance, may not the planes of Berkeley-square at some future day present! With fair play, they will yet rival in stature such trees as the celebrated plane near the ancient Nicæa, which I found by measurement to be 36 feet in circumference at a yard above the ground, without a single spot of decay in trunk or branch. This peculiar suitableness of the Oriental plane to the climate of London must render it always the principal stock for metropolitan plantations; with which, however, other species should be intermixed for the sake of variety. It is a great misfortune that a prejudice has arisen in this country against the planting of trees even in wide streets and town roads. The general want of elevation and mean character of the houses in many of the main lines of traffic, in and about London, would be at once counteracted and concealed by rows of trees along the curb-stones. There are not a few lines (Mile-end-road, for instance) which might be supposed to have been planned for the reception of trees, and which would entirely lose their vulgar and hideous aspect by well-regulated planting. Let the imagination represent this or any of the other wide avenues of London, now so uninteresting and dreary, lined with rows of such trees as are to be found in some of the West-end squares, and what a change of scene is at once conjured up!

The chief cause of the prejudice against curb-stone trees is that they cause damp. A little reflection will, however, show that there is no foundation in fact for this idea. Trees, as a general rule, absorb more moisture than they give out. The period of the year when alone they can intercept the sun's rays and create shade (namely, that during which they are in leaf) is precisely the one in which water is constantly and largely used for allaying the dust, and, of course, to some extent, producing damp. In winter, when shade might be a disadvantage, deciduous trees have no leaves, and consequently can throw no shade on the ground. But there are in London just sufficient street trees practically to prove how groundless is the prejudice entertained by the authorities against kerb-stone trees. Who suffers in Piccadilly, Cheyne-walk Chelsea, or those detached parts of Highgate, Hampstead, Hackney, &c., in which the ignorant vandalism of modern London builders has spared the superior arrangements of older times? Does not every one feel that those spots where the curb-stone trees remain are pleasant oases in a wilderness of slovenly abominations in brick and cement? Were it impossible to point for practical proofs of the advantages of trees in wide town streets to anything in the metropolis itself, we should still be able to decide the question in their favour by reference to such country towns as Cheltenham, whose principal charm is derived from its planted streets. But the very prevalent practice in London, in respect to the use of trees near houses, completely meets all objections to them when placed at the curb-stone, on the score of damp. If they cause drip and damp to an extent which would prove injurious when placed close to the kennel, how is it that trees are suffered and encouraged inside the railings of private enclosures, and often adjoining the walls of houses? The truth is, that the prejudice which excludes trees from the public ways in broad streets has no deep root in the general population, but is a mere vestry tradition, which took its rise in the modern English dark age of the last great wars. It is part and parcel of that sterile Georgian system which permitted the destruction of fish in rivers; made no provision besides the beer-shop for thirsty wayfarers; and encouraged the so-called pleasures of "night houses" and "finishes" in preference to music and dancing. An association for the promotion of street plantation, or the transforming of our dull and tedious metropolitan highways into gay and pleasant *boulevarts*, is much wanted.

An artistic plea might be put forward for what I am urging. There is a defect in the appearance of trees as seen behind a fence, however slight, which is inherent in such an arrangement: they do not even partially form part of the immediate foreground, but belong by their position to the middle distance of a street scene. Trees, in order to appear to advantage, must be so placed that some of them come into the foreground. A very pleasing example of this exists in Brompton Crescent, behind Michael's Place, where many, who have never cared to think of the cause, must have felt the effect. The curb-stone trees there are horse-chestnuts, and very fine types as regards form; but it is distressing to observe how badly they have been treated, although it is to them that the locality owes its principal charm.

J. B. M.

THE NEW STAINED GLASS IN WESTMINSTER ABBEY.

Sir,—A large quantity of stained glass is now used in the windows of our churches for memorial purposes; and, when well managed, this is a commendable practice; for it not only gracefully fulfils this purpose, but also adds to the beauty of the building. It is necessary, however, in these matters, to use discretion in adapting the designs to the peculiar situations and to the style and character of the buildings.

Both in St. Paul's Cathedral and Westminster Abbey there have been recent additions of stained glass; and when we think of the marvellous effect of the glowing but harmonious tints of the windows in part of York Cathedral, and glance at the bare aspect of most of those in the above-named places, it seems evident that a great deal more of this work is required. This, however, is a matter which will cause anxiety to the lovers of art; for the decoration of the windows will either add greatly to the beauty and interest of such a place as Westminster Abbey, or else be a cause of damage. Moreover, the ornamentation of those windows will be permanent evidence of the skill and taste of the present generation.

These remarks have been in part suggested by reading in the *Builder* a notice, copied from a local paper, of the window in Westminster Abbey to the memory of the late Robert Stephenson. The idea of busts of eminent engineers, with "a scarf over the shoulders of each individual," for the purpose of giving "to modern costume that more imposing and dignified appearance which belongs to the robes of the ancients," causes some misgivings. In the first place, I doubt if the modestly-natured and kindly-hearted Robert Stephenson would have approved of the arrangement of the portraits of his father, Telford, Smeaton, Watt, and Rennie, in inferior situations, in connexion with his own portrait; and to array an engineer who has been famous in our own days in a scarf appears to be somewhat ridiculous.

The introduction of portraiture to stained glass will always be a matter of difficulty, for such introductions will always cause a comparison with paintings in oil and water colours, the latter of which can be worked with so much greater ease, and with more certain effect; and the views of the ark, the building of the tabernacle, the first and second Temple, the High-level Bridge at Newcastle, &c., will be likely still further to cause us to contrast, with disadvantage, this kind of painting on the glass with that which is executed on an opaque substance.

In many instances a marked improvement is shown in the arrangement of the colours used in these works. The great masses of dull, heavy red and brownish tints have given place to hues of a more pearly description, which fails the more intense colours; but generally there seems to be a tendency to excessive light, and a want of depth and repose.

Before stained-glass windows are admitted into such important buildings as Westminster Abbey, the designs should be submitted for approval to competent persons.

An Artist.

A VOICE FROM THE RANKS.

Sir,—Being a weekly subscriber of your most valuable paper, and knowing you are always willing to insert a few lines to state a private soldier's grievances, and to open the eyes of the public at large, I am about to say a few words which will most likely be looked at by many. In the first place I am alluding to what is called barrack damages? It is but a few weeks back since each man in my corps paid one shilling out of his paltry pay. Now this week we have again the sum of sixpence to pay for the same thing; namely, for sand to throw upon the rooms after being cleaned out; blacklead, mops, brushes, and even 2s. 6d. for a common window fastening. Now, sir, I ask the public at large if these things are not enough to drive a private soldier to do what he would not think of doing, providing he had not such paltry imposing people thrusting their hands continually in his pocket to draw the last penny out? If our petty officers wish for sand and blacklead, why don't they pay for it, and not keep a man upon what is called low pay, that is, one large penny per day; and that sum has to find him in all his shining kit. If he is in the habit of using a little tobacco, where and how is he to find it? But, sir, when all is paid for, I can say with the truth a private soldier does not receive full pay above four months out of twelve. I, as well as many more of my comrades, will feel much obliged if you will insert this letter in your valuable paper, and hope I am not trespassing too much upon your valuable columns.

Justick and Full Pay.

RECOVERY OF CHARGES FOR TAKING OUT QUANTITIES.

Lansdown, Brothers, v. *Parish of St. Pancras.* This case was tried at Guildhall, on the 11th ult., before Mr. Justice Keating, and was an action brought by the plaintiffs, who are surveyors, of Bedford-place, Bloomsbury, for work and labour done, and expenses incurred, &c., in preparing quantities for proposed Industrial Schools at Finchley. The defendants pleaded never indebted. Plaintiffs' counsel,—Mr. Bovill, Q.C. (who did not appear); Hon. G. Denman, Q.C.; and Mr. S. Prentice. Defendant's counsel,—Mr. Overend, Q.C.; Mr. D. D. Keane; and Mr. L. Smith. Plaintiffs' attorney,—Mr. A. L. Edmonds. Defendant's attorney,—Mr. W. D. Cooper.

It appears the defendants, being desirous of erecting schools at Finchley, borrowed money to build them, and advertised for tenders; each builder to pay 2*l.* 2*s.* deposit for form of tender, &c. (to be returned when a *bona fide* tender was sent in), but stating that the quantities would not be supplied; but that builders might appoint a surveyor to prepare the quantities. Several builders responded and paid their two guineas to the parish, and were then requested to appoint a surveyor to take out the quantities on their behalf.

The plaintiffs having the majority of votes were selected, and in due course prepared the bills of quantities (no one else being appointed on behalf of the parish), and tenders were sent in; but being all above the amount proposed to be expended, were rejected; and after considerable discussion and delay the schools were finally abandoned. The plaintiffs', after several applications, then brought an action to recover their professional charges; and after hearing the evidence of

the plaintiffs, and of several eminent surveyors as to the custom of the profession, the jury gave a verdict for the plaintiffs, being for 1½ per cent. on the amount of the lowest tender, viz., on 14,900*l.*, and the lithography expenses.

MASTER BUILDERS AND THEIR SERVANTS.

A case affecting the interests of the building trades was heard at the Clerkenwell Sessions House, on Friday last, before the Assistant Judge, Mr. W. H. Bodkin. The prosecutors were Messrs. Duncanson & Moultrie, builders, of Upper Charlton-street, Fitzroy-square, who charged their estimating clerk, William Lawrence, with embezzlement. It appeared in evidence that the prisoner, upon entering their employ, was the means of introducing several customers, and works were carried out and superintended generally by the prisoner, who drew moneys on account, portions only of which he paid over to one of the partners, Mr. Moultrie. Defalcations to a serious amount soon showed themselves, and the prosecutors brought the present charge. It was proved that the prisoner was paid a weekly salary; but the prisoner's defence was that he was an agent and not a servant, and his counsel argued that it was a matter of indifference whether the moneys he received were paid at once and at the time he received them or not.

The jury held he was a servant, and brought in a verdict of guilty. The judge concurred in the verdict returned, and, after commenting on the conduct of the prisoner, sentenced him so three years' penal servitude.

DECISIONS UNDER BUILDING ACT.

At the Clerkenwell police court, Mr. Terrey, builder, of Bowling Green-lane, Clerkenwell, was summoned for raising the front external wall of a house, 10, Corporation-row, and erecting thereon a brick superstructure, without giving notice. Fined 10s., and 12s. 6d. costs to surveyor.

Books Received.

Passages from Modern English Poets. Illustrated by the Junior Etching Club. London: Day & Son.

In this handsome volume we have forty-five etchings by the happy little band of workers who take for their motto, "*Labor ipse voluptas.*" They have not confined themselves, as on previous occasions, to the illustration of a single author, but have roamed about for subjects; and a friend has been at "some pains and pulling down of books," to associate with the respective etchings not merely the passages which suggested or *might* have suggested each scene or group, but such poems as seemed calculated to illustrate the sentiment of the design. The volume is therefore a book of pleasant reading, irrespective of its needlework. The latter is certainly of varied degrees of merit; and two or three of the specimens perhaps have none; but these are the exceptions, and may be passed over. "Hagar and Ishmael," by J. Clark (if it were called by another name); "Summer Indolence," by J. E. Millais (another version of his pretty girl with the piece of grass in her mouth, from "Apple Blossoms"); H. S. Marks's "Rustic;" H. C. Whaite's "Head;" W. Severn's "Sea-boy" *à la* Hook; and others by Lewis, Smallfield, Lawless, Rossiter, and others, will give most pleasure. Amongst the amateurs who lend their aid are Viscount Bury (some Eastern Sketches) and Lord Gerald Fitzgerald, who is accomplished in more arts than one.

A Treatise on Ventilation, Natural and Artificial. By Robert Ritchie, C.E. London: Lockwood & Co. 1862.

The groundwork of this useful book on a most most important and practical subject formed the matter of an article for the "Cyclopædia" of the late Professor Nichol, of Glasgow, who thought well of it as a full and scientific analysis and criticism of what has been done and proposed on the subject of ventilation.

The first chapter is devoted to the consideration of ventilation in its chemical and physiological relations: in the second, natural or spontaneous ventilation is treated of; and in the third, fourth, and fifth chapters, forced ventilation, and a number of the artificial and mechanical agents employed to effect this, are described. In other works on ventilation where a systematic arrangement is made, it has been the buildings or other places which have been so described; but in this, the different agents or instruments to effect ventilation have been classified, whilst a description of the buildings, &c., has not been overlooked. The subjects treated of are illustrated by numerous plates and woodcuts; and for convenience, a summary of the whole treatise is subjoined.

The summary itself is too long for our limited space; but we shall select a few of the more important passages from it in order to show the nature and scope of the author's views.

"A copious supply of fresh or pure air is indispensable for sustaining life.

Salubrity of site is all-important as respects health, which is evidenced by the rate of mortality in different places.

Various analytical processes have been proposed for detecting atmospheric impurities. A very delicate test is required. Dr. Angus Smith has used permanganate of potash successfully; and it has been applied at various places, so as to bear upon the discovery of the hidden sources and finest shades of contamination. He has shown that the air in a crowded railway carriage is as impure as the effluvia from a sewer.

In ordinary domestic dwellings, advantage should as much as possible be taken of the natural movements of the atmosphere by the use of doors and windows, to aid in the expulsion of the vitiated air, and to effect a renovation of it within the apartment; and in summer, as well as winter, the common fire-place becomes a useful auxiliary; though an imperfect one, unless combined with other means.

Where artificial atmospheres are required, the heating medium to be employed is a matter of importance. Stoves of all kinds, which do not provide against the entire separation of the products of combustion from the air which they heat, are generators of poisonous gases; and stoves in which there exists the liability of overheating the air, and roasting the particles of matter floating in it, are pernicious to health.

In crowded apartments, spontaneous or natural ventilation cannot be relied on; and, in many circumstances, no thorough ventilation can be obtained unless forced ventilation is applied.

Although much difference of opinion exists as to whether an ascending or a descending removal of vitiated air is the best method to adopt; still, as the ascending movement of the air is the natural one, advantage should be taken of it to remove impure air as it is generated.

Of the many artificial contrivances the choice must be limited, in most instances, to a process which does not require a motive power to drive it.

Of the modes which require little attention in management, or where no motive power exists, forced ventilation may be obtained, and an uniform current by rarefaction created, by the heat of water or of steam. The same or even a more powerful effect is produced by the steam-jet; and these means avoid the products of combustion being mixed with the ventilating current; but, in the application, care must be exercised to adopt a safe and proper position for the apparatus.

Open fires, or gas-heat at the roofs of buildings, can be applied to effect this purpose; but by these the risk is incurred of the products of combustion being refluxed into the apartment, and being inhaled.

All artificial plans, such as smoke-pipes placed in ventilating conduits, and other contrivances, which run the risk of tending impure gases into houses, are pernicious and should be avoided, because they are in principle objectionable, and frustrate the object of removing the vitiated air.

Any method having a tendency to send back or return the exhaled air into an apartment is pernicious in principle: hence the sending of fresh air into a room from the ceiling, mixed with the products of respiration, is injurious to health.

Where a motor exists, such as steam-power or water-power, at a factory, a public building, a mine, or in a steam-ship, the fan-blower and screw present simple and readily available agents to produce a determinate movement of the air, which can be easily regulated and applied advantageously both for impelling air inwards or extracting it outwards."

The author deprecates the negligence which has so long existed, and still exists, in having a proper and thorough system of ventilation incorporated with the structure of a building, where many people are crowded together in close apartments; and remarks that the great advance which practical science has made since physical principles in modern times have become so generally recognized, calls for attention to a systematic arrangement being made in the construction of every building, whereby a pure supply of atmospheric air may be provided, regulated in temperature, and without annoyance to those in it.

First, however, so far at least as regards private dwellings, a strong public opinion, we suspect, must be formed in favour of ventilation,—just such an opinion as already exists against draughts, which are, unfortunately, a bad thing, and very much in the way of an amendment of the public opinion *quoad* ventilation; but it is one of the useful offices of pioneers to bring about this very modification of public opinion; and we are hopeful that our long-continued efforts are materially promotive of that very desirable end; and that shortly the result will show itself all at once in overwhelming force, as the new light of public opinion in favour of town and house drainage has of late years being doing. Meanwhile Mr. Ritchie's efforts will doubtless also have their influence towards the end in view; and he is quite awake to the necessity of bringing about the change in public opinion of which we have just been speaking.

Were people, he remarks, generally impressed with a knowledge of the simple facts enunciated, and were they to try to maintain pure air for the purposes of respiration, and justly view it as important as the food they eat; they would be mindful that without it good health could not be enjoyed. Were parents or heads of families, mothers in the nursery, clergymen, teachers, masters and foremen having people under their charge,—were clerks and servants and workmen, impressed with these truths, how different might be the attention paid to this subject, and how much more beneficial the results as regards the health of the community!

But, above all, we are persuaded, the efforts of sanitary pioneers ought to be directed towards the enlightenment of public opinion on the subject of ventilation of bed-rooms by night. As we have before remarked, fresh air *will* come in by day, in spite of the worst endeavours of stupid people to exclude it even in the most unventilated of dwellings; but by night every door and window, and too often every fireplace and every crevice, is closed for many hours continuously; and the unconscious sleepers are inhaling chiefly all that time the foul waste from their own and other lungs, and laying the sure seeds of ill health, disease, and premature death. Could the public only *see*, in their true aspect, the invisible exhalations which they thus reinhale; and trace their doings in the blood and throughout the body; they would be far more horrified than they so generally are at present at the risk of draughts from the mere opening of a window from the top.

The ventilation of bed-rooms is a branch of the subject which Mr. Ritchie has not neglected; although we think the portion of a single page he devotes to it might with advantage have been considerably extended. He says:—

"There cannot be a doubt that the ventilation of bed-rooms has been far too much overlooked. When it is considered that a third part of every day's existence is generally spent in the bed-room, where pure air is most necessary, it is surprising that the importance of a constant supply of fresh air for respiration, as well as the necessity of having the air of the room thoroughly renovated when unoccupied, is often overlooked. A free and continuous circulation of pure air in the bed-room during the night is essential for every one,—the more so where a number of persons sleep in one apartment, as in an hospital, barracks, or in a nursery-room. Persons will sleep much sounder where the air is fresh, and they will rise more invigorated. In general, fires, even in winter, are not much used in bed-rooms, except in the houses of the wealthy; hence ventilation is dependent entirely upon the windows."

Typhoid fevers are extending amongst the upper classes; partly, we are persuaded, from the increasing luxury and snugness of their dwellings, and especially of their bed-rooms. The modern luxury, shall we call it, of having water-closets within dwellings, and even close to the bedrooms, when not thoroughly ventilated, must immensely increase the mischief arising from snug bed-rooms.

With the quotation of a few words more particularly applicable to the rich and well to do, and especially as regards bed-rooms, we must conclude our notice of Mr. Ritchie's work:—

"One great fault often pointed out in the construction of rooms is that they are made too tight. Fresh air is shut out from the houses of the rich as well as of the poor;—for no air can get into the rooms but by the crevices of doors and windows. It presents the idea to the mind that people can live without air; for the inmates of some houses are not satisfied unless the perceptible entrance of air is prevented. In a bed room which came under observation, not only was the fresh air kept out by means of a double door; but every crevice was air-tight; whilst a smoke-board effectually occluded the chimney. Such a room would require to contain as much air as would keep the sleeper alive till morning. It is to be presumed that it was not known by the occupier that a man may be poisoned by the breath from his own lungs."

VARIORUM.

"Sussex Archæological Collections relating to the History and Antiquities of the County: published by the Sussex Archæological Society. Vol. XIII. Sussex: G. B. Bacon, Lewes." Some delay has occurred in the issue of this volume. It contains a variety of interesting matter. The first paper, "Some Memorials of Old Lewes. By William Figg, F.S.A.," is amongst the best in the volume. There are also papers on "Waldron: its Church, Mansions, and Manors," by W. H. Blaauw, M.A.; on "The College and Priory of Hastings and the Priory of Warbleton," by the Rev. E. Turner, M.A.; on the "Mural Paintings in Slaugham Church," by the Rev. C. H. Campion, M.A.; on "Monumental Inscriptions, East Blatchington," communicated by the Rev. R. N. Dennis, rector; and various others. The volume is also illustrated by a good many fair engravings.——"Fifth Annual Report of the Board of Commissioners of the Central Park, New York. Bryant, Nassau-street. 1862." It is pleasant to find that "horrid war" is not obliterating every peaceful pursuit at New York. This elaborate report shows that progress is still being made with the Central Park of that city, and that no expense is being spared in its construction and adornment. The park was visited during the past year by 2,404,659 persons. There is a ride round a lake as in Hyde-park, and a conservatory very much like our own at Kew: the picturesque scenery of the park is adorned by

various rustic structures, forming shaded seats and vine-covered walks; by ornamental bridges, and of course innumerable trees, shrubs, and flowers, as well as by a multitude of statues and *bas reliefs*: one lady alone has presented no less than eighty-seven casts of statues, from the works of her late husband, Mr. Thomas Crawford, sculptor, besides twenty-two *bas reliefs* and a number of statuary and monumental sketches. A statue of Flora, by Mr. Haight, long known as one of his best works, has been presented by that gentleman; and many fine birds of the swan, peacock, crane, and eagle tribes, as well as deer, gold-fish, &c., have also been presented by the citizens to their fine park. The report before us is illustrated by various engravings, including a map of a portion of the park, diagrams of bridges, roads, &c.——"The Quarterly Review: No. 223: July, 1862. London: Murray," contains a well-written paper on the Brunels, partly based on the memoir of the elder Brunel, by Mr. R. Beamish, F.R.S.; and a very severe one on the International Exhibition building and its management; with the usual extent of other matter of less immediate interest to our professional readers. The author of the paper on the Brunels says of the younger,—

"Notwithstanding Mr. Brunel's great engineering skill, it is to be doubted whether he possessed much of the genius of an original inventor. He took up a principle already established, and pushed it further, exhibiting in a striking light the development of which the ideas of others were capable. His ruling idea was magnitude; he had an ambition to make everything bigger than he had found it. Thus he found the railway gauge 4 feet 8½ inches, and he increased it to 7 feet, thereby involving wider tunnels, more expensive works, and a heavier equipment in working stock. So in the atmospheric railway, he found the tube in use on the Dalkey Railway 15 inches in diameter, and on the South Devon line he doubled it. Then in steam ships, his *Great Western* was nearly double the power and tonnage of any previous steamer; the *Great Britain*, which followed, was double the tonnage of the *Great Western*; and the *Great Eastern* exceeded in size all that the most imaginative shipbuilder had conceived to be possible. It was a race of bigness run against himself as well as others. But in the case of the *Great Eastern* steam-ship, as of the Great Western Railway, it is not probable that Mr. Brunel's example will be followed; for it is now pretty well understood that ships, like railways, may be made *too* big, at least for those who own them. . . . . It is unquestionable that both railway travelling and steam-navigation were greatly advanced by the speculative ability of Mr. Brunel, and the spirit and liberality with which he was supported by the shareholders of the great undertakings for which he acted as engineer."

——"A Practical Treatise on the Cultivation of the Grape-vine. By William Thomson, gardener to the Duke of Buccleuch, at Dalkeith Park, Scotland. Blackwood & Sons, Edinburgh and London. 1862."—This very well written volume is intended more especially for the use of amateurs and tenants of villas. It treats briefly of the construction of vineries and the general management of vines. The varieties of the grape-vine must be very numerous. The French Government, on one occasion, made a collection of 1,400 varieties in one nursery at the Luxembourg, and this was supposed to be only a moiety of those in cultivation in France alone. The late Sir Robert Peel's wise measure, removing the duty off glass, has, it seems, had an immense influence in extending the formation of vineries in this country.——"A Handbook of Volumetrical Analysis. By R. H. Scott, M.A., Sec. G.S., Dublin, Longman & Co." has been issued with the assistance of the Board of Trinity College, Dublin; and appears to be a reliable book of its kind; of use in mineralogy, mining, and various manufactures, as well as in other cases where chemical analysis is requisite.

Miscellanea.

Metropolis Local Management Act Amendment Bill.—This Bill has been read a third time, and passed in the House of Lords.

Thames Embankment Bill.—The amendments on this Bill have been agreed to in the Lords; and the Bill has been read a third time and passed.

Great Engineering Works.—When the Marple Aqueduct, near Stockport, was erected, says the *Macclesfield Courier*, it was considered a masterpiece of engineering skill, worthy of a Telford or a Stephenson. Within 200 yards, a rival is rapidly springing up, in the shape of an immense viaduct of fourteen or sixteen arches, carrying across the Hyde and Compstall Railway, at a much greater altitude than the canal, along with which it runs parallel, on the easterly or Compstall side. It is of stone; and the piers are so far advanced that the framework is being erected, preparatory to commencing the arches. The railway is completed as far as Hatherlow.

Railway Returns.—The traffic receipts of railways in the United Kingdom amounted, for the week ending the 19th of July, on 10,304 miles, to 607,555*l.*; and for the corresponding week of last year, on 9,961 miles, to 582,335*l.*: showing an increase of 343 miles, and of 25,220*l.* in the receipts.

New Motive Power.—The new power invented by Mr. Lenoir, for which a medal has been awarded at the International Exhibition, has, it is said, been tried with success in the printing-office of the *Moniteur Universel*. The new system— a model of which is on view in the machinery department of the International Exhibition—consists of the expansion of air by gas, lighted by means of electricity.

Spectral Analysis.—Rubidium, the rare alkaline metal discovered by Mr. Bunsen, in certain mineral waters, by means of the spectrum analysis, has been recently found by Mr. Grandeau in the ashes of beetroot, tobacco, coffee, tea, and grapes. The spectrum of tobacco gave bands characteristic of lime, lithium, potassium, and rubidium. The facts show that rubidium is one of the most widely-diffused bodies in nature, since vegetables of the most diverse kinds are found to take it up from the soil. Though widely distributed, however, the quantities must be very minute, since it has required the subtle and delicate operation of spectral analysis to discover the new metal.

Kensington-gardens.—In reply to a question put by Mr. Lewis in the Commons, Mr. Cowper said that in one of the central parts of Kensington-gardens, under the trees, there had been, during the late wet weather, an accumulation of water that could easily be got rid of by drainage; but he was afraid the drainage would also get rid of the trees. Many trees had been killed in former times in Kensington-gardens by the drains; and he rightly considered that one of the duties of his office was to take care of the old trees. With respect to the works at the upper end of the Serpentine, the contractor who was sinking the well had brought up a considerable supply of water, and was now occupied in boring into the chalk; and it was expected that a still larger supply might be obtained from the extended works.

Self-acting Organs: a refractory one.—In a small church at a little village near Brighton, the congregation recently bought a self-acting organ; a compact and convenient instrument, playing forty tunes. The sexton had instructions how to set it a-going and how to stop it; but, unfortunately, he forgot the latter part of his business; and, after singing the first four verses of a hymn before the sermon, the organ could not be stopped; and it continued playing two verses more; then stopped for a little; but just as the clergyman had completed the words "Let us pray," the organ clicked and started a fresh tune. The minister waited patiently; and, on its stopping once more, repeated the words "Let us pray;" when click went the organ again, and started off on another tune. The sexton and others continued their exertions to find out the proper spring; but no one could stop it; so four stout men were got to shoulder the perverse instrument; and they carried it down the centre aisle of the church playing away all the while, into the churchyard; where it continued clicking and playing until the whole forty tunes were finished.

Northern Architectural Association.—At the usual quarterly meeting of the Northern Architectural Association, on Wednesday, July 24th,—Mr. T. Moore occupying the chair,—the minutes of the previous meeting having been read, a report of the proceedings of the proposed Architectural Alliance, held in London on July 2nd (to which we have already alluded) was submitted by the delegates appointed at the last meeting to represent the Northern Association. A discussion on the minutes of the meeting *seriatim* took place; and on the motion of Mr. Haswell it was resolved that the association should send in their adhesion to the alliance. The subject of the annual excursion meeting also came on for discussion, and the locality fixed on was Richmond, providing satisfactory arrangements might be made with the railway company; and failing in this, arrangements would be made for an excursion to Warkworth. Some conversation took place on the propriety of memorializing the Town Council of Newcastle in reference to the employment of public officers on architectural works. Mr. Oliver thought that the subject should be referred to the committee, and moved a resolution that the committee should be instructed to reconsider the matter; and, if they thought it necessary, to prepare a memorial by the next meeting. Carried unanimously.

Royal Academy.—Lord Bury, Treasurer of the Household, has brought up the reply of her Majesty to the address of the House, praying for the appointment of a royal commission to inquire into the constitution of the Royal Academy. Her Majesty stated that she had given directions for the appointment of a commission for that purpose.

"The Martyrdom of Huss."—This picture, by Lessing, now on view at the Egyptian Hall, is a work of very high class, somewhat tame in parts it may be, but full of sentiment rightly expressed. It should be seen by all who desire to know the position of the German school,—not thoroughly represented in the Palace of Art and Industry.

The Rome and Naples Railway.—The railway which is to unite Rome to Naples is now entirely completed. The section from Rome to the Pontifical frontier was to be opened, by last accounts, in a few days. Although this part has been finished since the end of last year, it has required six months to induce the Government to put the line in operation. However, the Pontifical Government requires that the Pontifical employés of the railway from Rome to Naples shall not in any case pass the frontier. Even the rolling stock is to be special. After having arrived at Ceprano travellers will have to change trains. There is no junction of the rails on the frontier; and it will, therefore, be necessary to make a bit of the journey from one train on foot in order to reach the other.

Ulster Bank, Longford.—A new bank is in progress of erection at Longford, for the Ulster Company. The front of the building is three stories high, and about 42 feet to the cornice, having a frontage of 38 feet, connected with the adjoining houses by low screen walls on each side. The entire of the front is of chiselled limestone, and Italian in character. The ground-floor windows (three in number), which have circular heads with carved keystones, light the cash-office; the entrance door to which, at the left side, corresponds in height with the windows. The arms of Ulster are inserted in the panel between the doorhead and cill of semicircular window, over. On the ground-floor, the cash-office is entered by the public to the left of hall; the manager having a private entrance, and also to his house. The cash-office is 25 feet square and 18 feet high. The walls are divided into pilasters, with base and impost moulding, from which spring arches corresponding to the windows. A modillion cornice, and the ceiling divided into nine coffers, give a rich appearance to the general effect. At the end of the office a coved recess, with ornamented panelled ceiling, provides for entrance to the space allotted for the cashier and clerks; also to the safe, manager's room, and lavatories. The architect is Mr. James Bell, jun., Dublin; contractor, Mr. Walter Doolin, of Dublin. The total outlay will be about 2,000*l.*

The Prince Consort's Mausoleum at Frogmore.—The mausoleum now in course of erection, and which we have previously noticed, consists of a central cell, with four transepts branching north, south, east, and west, with a porch adjoining the western transept, according to a description which has reached us. The whole floor is supported by brick vaults of massive work, which at the same time form chambers, with loopholes for the purposes of ventilation and the prevention of damp rising to the superstructure. They are entered by a small flight of stone steps. The central cell will be lighted by three-light semicircular-headed windows in the clerestory, which will be externally decorated with Aberdeen granite shafts and heads. The copper roof of the central cell (which is on an octagonal plan) rises from the wall to the apex with a flat pitch in the manner of an Italian campanile, and will be surmounted with a gilt cross. Under this roof will be the sarcophagus for the remains of the Prince Consort. The reclining statue of the Prince will be executed by Baron Marochetti. The four transepts are square on plan, are lighted by windows similar to those in the clerestory of the central cell, and will have pedimented copper roofs. The porch, which will be entered by a flight of stone steps, will be lighted with circular-headed three-light windows, with shafts and heads of Guernsey granite; and the front will be supported by monolithic granite columns, similar to those already finished in the mausoleum of the Duchess of Kent. The whole of the exterior will be decorated with Aberdeen and Guernsey granite, and with red Mansfield and various stones. The interior will be in different coloured marbles and stone. The building is in the Italian style, and stands upon a base of concrete, 6 feet in thickness. The erection, which is 70 feet in length, and will be about the same height, will be adorned by several statues.

The Loan Collection, South Kensington.—The first part of the catalogue is now printed, and will be found a very interesting and useful companion.

The Cost of the Battersea Meeting.—The show-yard, with horse-boxes at 4*l.* each, 4,500*l.*; the stock prizes and medals about 4,000*l.*; the forage for stock nearly 2,000*l.*; the land for steam ploughing at Farningham, 600*l.*; the police, 300*l.*: in all 15,000*l.* have been expended; whilst the receipts amount to about 12,000*l.*; so that the Agricultural Society is a loser of some 3,000*l.*

The Coventry School of Art.—At a meeting of the committee of the Coventry School of Art, it has been decided to commence the new building for the school in Ford-street forthwith. The building fund requires the strenuous support of every friend of art education in the district. The first fruits of the old School of Design are now apparent in the Coventry ribbons shown at the International Exhibition, most of which were designed and draughted by students.

Fall of a Church Tower.—The *Bury Post* reports the fall of the tower of Isleham Church, Suffolk. The entire edifice, which may be dated as of the 14th century, has for some time past been considered in an insecure state; plans and specification for its restoration were therefore obtained a short time since from a London architect; and Mr. Thomas Brown, of Isleham, became the contractor, under Mr. William Brinkley, of London, a native of Woolpit, Suffolk, as clerk of the works. The tower was considered to be the most dangerous part of the fabric; and in a conversation with Mr. Brinkley, only two hours before the tower fell, that gentleman stated his opinion that it had, at some time or other, been struck by lightning; and the appearance of the ruins fully bears out the conjecture. Indeed, Messrs. Cowell & Hook, contractors, of Soham, had actually prepared an estimate, but, foreseeing the danger, wisely forbore to send it in. Every precaution had, however, been taken: direct shores had been placed inside and out, and also double raking shores, framed and bolted together, of immense proportions, to a height of 60 feet, which appeared sufficient, even if the lower part of the tower did give way, to hold the bells and frame together with the upper part of the tower in their proper position; notwithstanding which, the workmen on the scaffolding (one of whom saw a mullion fall from the west window, and gave the alarm) had just time to escape, when the whole mass came perpendicularly down, happily without the loss of a single life or the fracture of a limb; neither are the bells broken; indeed, the steeple appears to have sunk down on its own site.

Removal of St. Thomas's Hospital.—The select committee of the House of Commons has taken evidence in reference to the Bill for conveying the site of the hospital to the Charing-cross Railway Company, and acquiring a new site for the hospital. Mr. Tite, M.P., and Mr. H. A. Hunt, were amongst the witnesses in favour of the Bill. Mr. Drew, on the part of the parish of Bermondsey, sought to insert words in the preamble which should limit the governors in their selection of a site to the south side of the Thames, and that it should not be at a greater distance than a mile and a half from the Elephant and Castle, at Newington. The committee were of opinion that the words proposed should not be inserted, and that the preamble was proved. The Bill was ordered to be reported to the House. We learn from the *Lancet* that at the Surrey Gardens matters are progressing with rapidity. There are nearly 500 men at work, and no time is being lost in fitting up and preparing the large music-hall for at least 250 patients. The ground-floor will be chiefly devoted to a large accident ward, with operating theatre and other conveniences: the first-floor, with a division running down the centre, will afford accommodation to medical and surgical patients; whilst the second-floor, which is remarkably lofty, will be appropriated exclusively to female patients. On both these floors, equally with the ground-floor, will be arranged operating theatres, and proper rooms for the nurses and servants. North of the building devoted to the in-patients is a single-story edifice, forming the dispensing department; and another contains divisions for the out-patients. Near this are the dormitory and other rooms for the Nightingale nurses, for the comfort and convenience of whom all necessary arrangements are being effected. In another part of the gardens is a large building set apart for the purposes of a library and museum. Near this are to be the school-rooms, dissecting-room, and other compartments, which, it is expected, will be built and completed for occupation and use before the 1st of October.

A Railway up a Mountain.—The Dun Mountain Company, in the province of New Zealand, have constructed a railway, 14 miles in length, rising in that distance 2,800 feet, or 1 foot in 19. The cost of construction was 2,000*l.* a mile. The rail is described as coiling, like a huge snake, around the face of the almost precipitous mountain. One thousand tons of chrome are brought down it weekly by the power of gravitation; the empty trucks being taken up again by horse-power. [Might not the force of the full descending trucks have been used to carry up the empty ones?] The railway terminates at the outskirts of the town, whence it is drawn by horses to the port of shipment.

Utilizing the Waste Heat of Furnaces.—In the re-burning of animal charcoal in revolving retorts much heat has hitherto been wasted: for this, Mr. P. Cowan (of Cowan & Sons), of Barnes, proposes a remedy; having just patented an invention the object of which is to utilize this lost heat. He proposes to apply to, or combine with, the furnace or flues, a boiler, or generator, in such position as to be exposed to the action of the waste heat of the furnace; so that, if desired, steam shall be generated in such boiler, or generator, simultaneously with the carrying on the process of re-burning the charcoal. The steam so produced may be carried off for use as required. The claim includes partially-revolving chambers also.

Her Majesty's Theatre.—The regular season having closed, Mr. Mapleson has issued an address, wherein he says, after tendering thanks for support and patronage, "It is my intention, during the next six months, to make myself acquainted personally with any talent that exists abroad, in order that I may be able, next season, to place before you a galaxy of talent unrivalled in London, supported by an orchestra and chorus complete in every particular. In the production of operatic spectacle I shall be greatly assisted by some very extensive alterations that are to be made in the theatre, which will render the stage more capacious, and the task of producing each opera with completeness more easy of accomplishment."

Lunatic Asylum for the City of London. On Tuesday last, in the presence of several of the aldermen, and many of the rest of the Common Council, some of the lunacy commissioners, and of the magistrates of Middlesex, the foundation-stone of a Pauper Lunatic Asylum for the City of London, intended to accommodate 250 patients, and estimated to cost nearly 50,000*l.*, was laid at Stone, near Dartford. The site chosen for the intended asylum consists of upwards of 30 acres of ground between Dartford and Greenhithe, and has been bought for the purpose of Mr. Charles White, a citizen and a landed proprietor in the neighbourhood, for about 3,300*l.* The building will be erected from designs prepared by Mr. Bunning, the City architect, and approved by the Commissioners in Lunacy.

The Frescoes in Parliament.—In reply to questions put by Mr. C. Bentinck, last week, Mr. Cowper said the decay was quite enough to excite apprehension. Fresco had been adopted in preference to oil, at the recommendation of the Fine Arts Commission; and a commission of eminent artists were inquiring into the causes of decay. There was nothing in the walls injurious to the frescoes: the defect arose from the formation of a thin pellicle of carbonate of lime upon the surface of the picture; or from its being affected by deleterious agencies in the colouring matter employed. He believed the decay was owing to preventable causes, and would be avoided in future. Lately the water-glass method had been adopted, with very satisfactory results. He quite concurred in approbation of the diligence and accuracy with which Messrs. Maclise, Cope, & Ward had fulfilled their engagement. With regard to Mr. Dyce, the Fine Arts Commission unfortunately neglected to stipulate that the payment to that gentleman should depend upon the work being performed. The money was therefore paid; but the work was not completed, though fourteen years had elapsed. He (Mr. Cowper) could offer no explanation of this conduct. Mr. Dyce had not only deprived her Majesty of the use of the robing-room, but had injured his own interests by shutting out his frescoes from notice and observation. No more had been paid to Mr. Herbert than he was entitled to. The delay in his case was owing to the high standard of excellence which he had adopted. Mr. Hennessy asserted that Mr. Herbert had destroyed 446 square feet of his works in consequence of dissatisfaction with them. The value of one square foot of his works was 8*l.*: he had therefore destroyed over 3,000*l.* worth of his works, in order that he might produce what would be more valued by the public.

Drainage of a Lake in Algeria.—The *Akhbar* of Algiers states that the Lake Halloula is now completely drained; and that the mud at the bottom is similar to that deposited by the Nile; which is considered a good omen of the future fertility of the 1,800 hectares (4,450 acres) reclaimed by this operation. Apprehensions were at first entertained that dangerous consequences might result from the putrefactions of the immense quantities of eels and fish contained in the lake; but, fortunately, vultures flocked in thousands from all parts of the country, and soon devoured them all.

The Exhibition.—On Monday last the various men and boys in the employ of Messrs. R. Watts & Son, of Motcomb-street, builders, to the number of 120, were by them presented with a day's holiday and entrance-ticket to the International Exhibition. Matters of this kind show that harmony of sentiment is again being established between employers and employed; and not having seen a similar instance in the London trade is our excuse for troubling you. On behalf of the men.

R. A.

TENDERS.

For building new chapel for the United Methodist Free Church, Longton, Staffordshire. Mr. R. Scrivener, architect:—

Challinor & Inskip	£1,695 0 0
Shenton	1,500 0 0
Shaw	1,200 0 0
Collis & Hudson (accepted)	1,150 0 0

For the erection of a shop, cellars, &c., at the corner of Gower-street North and Euston-road, for Mr. Ebenezer Jackson. Mr. James Harrison, architect. Quantities supplied by Mr. A. W. Q. Nicoll:—

		Extra Mahogany Sashes and Doors.
Taylor	£835 0 0	£15 0 0
Downs	830 0 0	67 0 0
Hodges	714 0 0	47 0 0
A & J. Smith	687 0 0	52 0 0

For extending the Bakers' Almshouses, Lea Bridge-road. Mr. T. E. Knightley, architect:—

Pritchard & Son	£2,772 0 0
Piper & Wheeler	2,710 0 0
Marrs	2,610 0 0
F. & F. Wood	2,580 0 0
Downs	2,530 0 0
Hart	2,473 0 0
Foster	2,469 0 0
Warskitt	2,385 0 0

For fever wards, Edmonton Union. Mr. T. E. Knightley, architect:—

Warskitt	£1,523 0 0
Bond	1,456 0 0
Kerry	1,354 0 0
Devereux	1,299 0 0
Hodges	1,284 0 0
Patman	1,267 0 0
Humphrys	1,250 0 0
Palmer & Yates	1,230 0 0
Lingell (accepted)	1,193 0 0
Harradine	1,192 0 0
George	1,150 0 0

For schools at West Ham. Mr. T. E. Knightley, architect:—

Foster	£1,357 0 0
Pritchard & Son	1,349 0 0
F. & F. Wood	1,324 0 0
Rivett	1,300 0 0

For house at Biggleswade, Bedfordshire, for Mr. Lindsell. Mr. S. J. Jackson, architect:—

Bryant (accepted)	£2,964 0 0

For Lecture-hall to Union Church, Putney. Mr. Charles R. Gribble, architect:—

Aries (accepted)	£510 0 0

For the erection of a greenhouse range at Hollywood House, Wimbledon Park (first contract). Mr. Gribble, architect:—

Gray	£375 0 0
Adamson & Sons (accepted)	350 0 0

For additional story to No. 26, Brompton-square. Mr. Gribble, architect:—

Stimpson (accepted)	£152 10 0

Accepted for four dwelling-houses, in De Grey-road, Woodhouse-lane, Leeds, for Mr. C. Ellison. Mr. William Hill, architect:—

Boothman, for excavator, bricklayer, and mason's work	£1,327 14 0
Nicholson & Son, for carpenter and joiner's work	998 0 0
Simmons & Blakeley, for plasterer's work	195 0 0
Story, for plumber and glazier's work	365 0 0
Watson & Wormald, for slater's work	70 0 0
Jackson, for painter's work	52 10 0

Accepted for two dwelling-houses in De Grey-road, Woodhouse-lane, Leeds, for Mr. Dixon. Mr. William Hill, architect:—

Boothman, for excavator, bricklayer, and mason's work	£676 0 0
Pearson, for carpenter and joiner's work	509 0 0
Barker, for plasterer's work	130 15 0
Braithwaite & Myers, for plumber and glazier's work	197 18 0
Heavyside & Son, for slater's work	36 0 0
Wood & Son, for painter's work	25 5 0

For house at Iver. Mr. T. E. Knightley, architect:—

Foster	£996	0	0
F. & P. Wood	990	0	0
Brooks	927	0	0
Fassnidge & Son	893	0	0

For National Provincial Bank, Bristol. Mr. W. Bruce, architect:—

Sawyer	£9,990	0	0
Sanders	8,940	0	0
Brooks	8,360	0	0
Hughes	7,928	0	0
Wilcox	6,893	0	0
Lewis	6,802	0	0
Jones & Sons	6,465	0	0
Diment	6,437	0	0
Davis & Son	6,335	0	0
Broad (accepted)	6,030	0	0
Harris	6,021	0	0
Beavan & Son	5,605	0	0

For the erection of a Bank at Spalding, Lincolnshire, for the Stamford, Spalding, and Boston Banking Company. Mr. William Eve, architect:—

Booth & Sons	£2,100	0	0
Dawson	2,098	0	0
Dolman	2,087	0	0
Sneath	2,067	15	0
Moore & Son	2,005	0	0
Hobson & Taylor	1,919	0	0
Young	1,890	0	0
Burkitt	1,574	3	3

For painting and other work at the "Cedars Houses," Putney. Mr. C. J. Phipps, architect:—

Piper	£307	0	0
Green & King (accepted)	256	0	0

TO CORRESPONDENTS.

J. R. & Co (we shall be glad to see the specimen and have further information).—R. C. G. (not new).—T. B.—A. P. G.—R. C. (the names of several towns will be found in a paper read by Mr. Hawkings at the Society of Arts, printed in an earlier number).—Madnasse.—E. D.—J. H.—T. E. H. (apply to Weale, Holborn).—W. L.—R. B. (send specimen).—S. B. (go into a builder's establishment).—L. & S.—K. & B.—J. & H.—W. B. G.—G. C. (there are several such books. We cannot specify).—W. E.—J. B. M.—T. Y. K. (we cannot give addresses).—J. C.—R. A.—A. L.—W. H.—J. D. W.—Mr. A.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

AN Architect, with a first-class Connexion, has a VACANCY in his Office for an ARTICLED PUPIL who has a taste for drawing. One with superior qualifications will be received without premium.—Address, A. B. care of Mr. Steel, Stationer, Spring gardens, S.W.

CLERK of the WORKS.—WANTED, a thoroughly experienced CLERK of the WORKS, to take the charge of a building about to be erected in London shortly, three guineas per week. Address, stating where and under whom last employed, and to whom references can be made, to K. Q. Office of "The Builder."

HALIFAX LOCAL BOARD of HEALTH.
WANTED, a SURVEYOR, for the Borough of Halifax. A copy of the duties may be had by applying to me. All applications, stating salary required, with testimonials, to be sent to me, endorsed "Surveyor," on or before WEDNESDAY, the 6th of AUGUST, 1862.
N.B.—No canvassing allowed.—By order,
EDMD. M. WAVELL, Clerk to the Local Board.
Town Hall, Halifax, July 22, 1862.

SALESMAN WANTED, for a timber-yard. He must have a knowledge of the requirements of the building trade.—Apply by letter, stating salary required, to J. W. 32, Bouverie-street, Fleet-street.

TO LONDON SMITHS' FOREMEN.
WANTED, in a small General Factory, a FOREMAN. He must thoroughly understand every description of kitchen work, hot water, steam, and the general routine of a smith's shop.—Apply, by letter only, to R. A. care of Messrs. Kennards, 67, Upper Thames-street.

TO PAINTERS AND PAPERHANGERS.
WANTED, in a Country shop, for a constancy, an experienced Man, as PAPERHANGER and PAINTER, and if competent to do some Graining, would be preferred.—Address, stating wages and all particulars, to A. Z. 138, Grange-road, Bermondsey, London S.E.

TO BUILDERS.
WANTED, a MANAGER'S or GENERAL FOREMAN'S SITUATION. Is used to extensive works, including measuring, estimating, &c.—Apply by letter to R. O. Office of "The Builder."

WANTED, a Youth, as JUNIOR CLERK in an ARCHITECT and BUILDER'S Office.—Address, stating age, salary required, &c. to Mr. R. C. GREATOREX'S Office, 21, Westbourne Street mews, Hyde Park Gardens, W.

TO FOREMEN OF CARPENTERS.
WANTED, a FOREMAN, to superintend jobbing repairs.—Address, immediately, stating age, whether married, and where last employed, to F. at Herbert's Library, Cheapside, E.C. None need apply whose character will not bear the strictest inquiry.

TO FOREMEN OF PAINTERS.
WANTED, a good practical FOREMAN of PAINTERS, to take charge of a large job in the country.—Address, stating age, salary required, and experience, to O. S. Office of "The Builder."

WANTED, an experienced WORKING FOREMAN (joiner by trade preferred), to superintend the alterations of and additions to a house a few miles from London.—Letters, stating age, wages, previous employment, &c. accompanied by references, may be addressed to G. T. care of Mr. W. H. Miller, Stationer, 6, Westminster Bridge-road, Lambeth.

WANTED, a Principal FOREMAN in a Plastering and Decorative Business. None need apply but those of good character, and are fully competent for the situation.—Apply at the Office of Messrs. BELLMAN & IVEY, 14, Buckingham-street, Fitzroy square, W.

TO BUILDERS
WANTED, PLASTER WORK, finding scaffolding and materials, or labour only. Payment by instalments. First-class references.—Address, T. S. at Mr. Stocks's, 15, Elizabeth-terrace, Liverpool-road, Islington.

TO ARCHITECTS
WANTED, by the Advertiser, who is a good Draughtsman, and well acquainted with building construction, a RE-ENGAGEMENT, either as Office Assistant or Clerk of Works. Good references, and salary moderate.—Address, A. B. Beaumont Library, Beaufort-gardens, Paddico, S.W.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.
WANTED, an ENGAGEMENT, by an experienced Quantity Taker, Estimator, and Draughtsman, in town or country. Age, 32. Or as Clerk of Works.—Address, W. A. L. 17, Zoar street, Gravel-lane, Southwark, London.
N.B. Would attend to a measuring up or estimating job, or prepare a set of drawings.

WANTED, by a Young Man, a SITUATION in an ARCHITECTS or BUILDER'S Office. Is a good draughtsman; can make out detail working drawings; set out and superintend works; keep books, &c. Good testimonials and reference can be given.—Address, B. A. 46, Museum-street, Bloomsbury.

TO CARPENTERS AND BUILDERS.
WANTED, by the Advertiser, aged 22, a SITUATION as IMPROVER at the BENCH. Has been five years in the trade. Wages not so much an object as employment.—Address, A. B Post-office, Hackney Wick, N.E.

WANTED, by a Working Foreman of Joiners, a RE-ENGAGEMENT as SHOP FOREMAN, or to Take Charge of a Job. Is a good staircase hand, and thoroughly understands his business. Good references can be given.—Address, J. B. care of J. Rea, Baker, 3, Church-street, Hackney.

TO SURVEYORS AND BUILDERS.
WANTED, to ARTICLE a YOUTH, aged 18, for three years. A moderate premium will be given. Country preferred.—Address, with terms, E. H. 44, High Holborn, W.C.

TO ARCHITECTS AND CIVIL ENGINEERS.
WANTED, by an Assistant, a neat and quick draughtsman, aged 22, an ENGAGEMENT. For terms, references, &c. apply to C. T. D. care of Mr. W. Lee, Bookseller, Darlington.

WANTED, a RE-ENGAGEMENT, as SHOP or OUT DOOR FOREMAN, in town or country. Has just finished a large job for one of the largest firms in London. Satisfactory reasons for leaving last employer.—Address, E. A. 44, Charlotte-street, Portland-place, Regent's-park.

TO BUILDERS AND CONTRACTORS.
WANTED, by a Young Man, aged 22, a RE-ENGAGEMENT in an office of the above. Understands book-keeping, and has a good knowledge of drawing. Satisfactory references as to character and capabilities from last employers, with whom he was engaged four years and a half.—Address, W. J. B. 88, Charlotte-street Fitzroy square.

TO BUILDERS AND DECORATORS.
WANTED, by a Young Man, a practical Paper-hanger, a constant SITUATION as above. No objection to fill up time in painting, &c.—Address, E. P. 67, George-street, Portman square.

TO ARCHITECTS, BUILDERS, &c.
WANTED, by an Assistant, a SITUATION in either of the above offices. Capable of getting out every description of drawing, specifications, &c. and superintending buildings. Has been five years with a builder, and three with an architect.—Address, F. M. at H. N. Gouly's, Esq. Architect, Brighton.

TO BUILDERS, &c.
WANTED, by a steady, practical Young Man, a Joiner by trade, a SITUATION as FOREMAN or General Foreman. Several years' London experience. Country job preferred. Good references.—Address, M. N care of Mr. R. Richardson, Mill-street, Fair-fields, Kingston, Surrey.

WANTED, by the Advertiser, a SITUATION as a MILL SAWYER. A thin-cut frame-worker. Has been in the mill line for many years. Town or country.—Apply to W. H 13, West street, Neckinger-road, Bermondsey.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.
WANTED, a SITUATION as CLERK of WORKS, or General Foreman, by a practical and steady Man, aged 36. Can have good references.—Address, T. B. P. 1, Alfred-terrace, Gloucester-street North, Haggerstone, N.E.

TO ARCHITECTS AND BUILDERS
WANTED, by the Advertiser, a Belgian, aged 26, well conversant with the English language, a SITUATION as FOREMAN or Superintendent of Works. He is a practical hand at setting out and working joinery drawings, and of the ornamental as the constructive, and is besides a first-rate draughtsman, entirely well up in architectural art. Salary moderate.—Address, R. H. 24, Salisbury-street, Strand.

TO ENGINEERS AND CONTRACTORS.
WANTED, by a well-experienced Man, the FIXING of IRON BRIDGES, IRON BUILDINGS, TANKS, &c. Can supply tackle. Satisfactory testimonials when required.—Address, F. H. Office of "The Builder."

WANTED, by a thoroughly practical Man, a SITUATION as FOREMAN of MASONS, or to Take the Management of a Wharf, or any large Building. Has filled the above situations for many years. Five years' good character from last employers. No objection to go abroad.—Address, T. R. 6, Gloucester-street, Theobald's road, Holborn.

TO ARCHITECTS, BUILDERS, &c
WANTED, a RE-ENGAGEMENT, by a most industrious person, either as Builder's Foreman, Clerk of Works, or to conduct a builder's business; having filled similar situations. Good testimonials, and reference to present employer. Salary moderate. No objection to the country.—Address, A. J. EDGHILL, 16, Charlotte-street, Fitzroy-square.

WANTED, by a Young Man, a Constant SITUATION, in a Builder's or a Plumber's Shop, as PLUMBER. Has been used to the best of work, and can give a good reference, if required, as to ability. Will take charge of a painting job, when slack. Is a good glazier.—Address, J. O. M. 86, Margaret-street, Cavendish-square.

TO BUILDERS.
WANTED, by a Youth, aged 19 years, a SITUATION in a Builder's Office. Is quick at dimensions, can write a good hand, and has a good knowledge of architectural drawing. Wages moderate.—Address, H. H. in care of Mr. Royer, 25, Frederick-street, Caledonian road, N.

TO CONTRACTORS AND BUILDERS.
WANTED, by a respectable Mechanic, a SITUATION to SUPERINTEND BUILDINGS or REPAIRS, and work, if required. Has been accustomed to the building line for the last twenty-five years; is a good accountant. Age, about 40; married, without incumbrance. Can produce sixteen years' undeniable testimonials.—Address, G. D. 80, Queen's-road, Royal Oak, Bayswater.

TO BUILDERS AND OTHERS.
WANTED, by the Advertiser, a thoroughly practical Man, a SITUATION, as Plasterer, Modeller, or Piece or Waste Moulder.—Address, J. S. 1, Hay-place, Broadway Hackney, N.E.

TO BUILDERS, &c.
WANTED, a SITUATION as CLERK, in the above office. Has been five years with present master.—Address, C. E. 22, Princes-street, Chelsea, S.W.

TO LANDLORDS AND HOUSE AGENTS
WANTED, by a steady Man, EMPLOYMENT to do the general repairs of house property, and to collect rents. Town or country. Good references.—Address, CHAPPELL, 284, Portland-place, Islington, N.

TO LAND SURVEYORS.
WANTED, to APPRENTICE, a YOUTH, for a period of five years, to a Land and General Surveyor, in a good way of business, in a country town; the youth to reside with the family.—Apply by letter, stating terms, to Messrs. DE JERSEY & MICKLEM, Solicitors, 13A, Gresham-street West, London, E.C.

TO BUILDERS AND CONTRACTORS.
WANTED, by an energetic Young Man, a SITUATION in a BUILDER'S or CONTRACTOR'S Office, to prepare estimates, working and finished drawings, take out quantities, measure up work, or to superintend generally.—For particulars address, R. W. H. 7, Upper York-place, St. John's Wood, N.W.

TO BUILDERS OR CONTRACTORS.
WANTED, by a persevering, energetic MAN, a Bricklayer, aged 38, a RE-ENGAGEMENT as FOREMAN. Thoroughly competent to set out work and to take the entire management of a job. Good references can be given.—Address, W. B. Post-office, Spring Grove, Middlesex, W.

WANTED, by a respectable steady Man, a PERMANENT SITUATION as PLUMBER, GLAZIER, PAINTER, SIGN-WRITER, and PAPERHANGER; and can do a little Graining. Well qualified for a foreman's place in a small shop. Satisfactory reasons for leaving last employer.—Address, by letter prepaid, to X. Y. Z. at Mr. Halliday's, Plumber, &c. Kirk Ella, near Hull

WANTED, by an ASSISTANT, a RE-ENGAGEMENT in an Architect's or Surveyor's office. Is a good draughtsman, and can have an unexceptionable reference from his late employer. For further particulars, address J. C. C. care of Mrs Coats, at Messrs. Hill & Sons', bankers, 17, West Smithfield, City, E.C.

TO CARPENTERS AND JOINERS.
WANTED, by a Young Man, EMPLOYMENT as IMPROVER to the above trade. Wages not so much an object as a desire to improve.—Address, A. B. 19, Dunston-street, Kingsland road.

TO BUILDERS AND PLUMBERS.
WANTED, a SITUATION as THREE-BRANCH HAND, by a steady, single young man, aged 26. Has had good experience in town and country work. A good reference, if required.—Address, C. W. W. Office of "The Builder."

TO ARCHITECTS, BUILDERS, &c.
WANTED, by an experienced Clerk of Works, a RE-ENGAGEMENT. Is a fair draughtsman; quick at measuring and taking off work, and well up in every branch of the building trade. No objection to the country. Undeniable references. Salary moderate.—Address, A. ECHERT, 52, Greek street, Soho-square, W.

WANTED, by the Advertiser, an ENGAGEMENT in an Architect's office, is a good Draughtsman and general assistant.—Address, A. X. A. "Builder" Office.

WANTED, a SITUATION as WHARF FOREMAN, or TIME KEEPER. Good reference from last employer, or security, if required.—Address, M. P. Post-office, Millbank-street, Westminster, S.W.

TO BUILDERS AND PLUMBERS.
WANTED, by a first-rate PLUMBER and GASFITTER, a SITUATION. Would not object to fill up time painting, &c. Good reference or security.—Address, T. M. Office of "The Builder."

TO GAS AND RAILWAY COMPANIES.
WANTED, EMPLOYMENT by a first-class Gas Fitter and Brass Finisher, or to take charge of a small gas works. Good reference from last employers.—Address G. F. 2, Grange-court, Carey-street, Lincoln's-inn-Fields,

TO ARCHITECTS AND SURVEYORS.
WANTED, by a good DRAUGHTSMAN, used to quantities and the routine of an Office, a SITUATION in either of the above offices, in town or country. Temporary or otherwise.—Address, A. V. 13, King Edward-street, Westminster-road, Lambeth, London, S.

WANTED, by a Builder's Son, aged 22, a SITUATION. A good draughtsman, book-keeper, &c. Accounts to fill up immediately, but not objected to. Salary moderate, and country preferred.—Address, A. KELLY, 22, St. James's-terrace, Southgate-road, Islington, London, N.

WANTED, by an experienced Man, a RE-ENGAGEMENT as GENERAL FOREMAN, or to superintend the erection of buildings. Good testimonials and references can be given.—Direct, A. T. 36, Hugh-street, Belgrave-road, Pimlico, S.W.

TO BUILDERS, PLUMBERS, &c.
WANTED, EMPLOYMENT as First-class PLUMBER, or THREE-BRANCH HAND.—Address, W. T. Mr. Faulkner's, 6, Chapel street, Edgware-road.

WANTED, a RE-ENGAGEMENT, by a fully qualified CLERK of WORKS, of great experience; can be well recommended. Address, CLERK of WORKS, Elvetham Hall, Winchfield, Hants.

TO ARCHITECTS AND SURVEYORS.
THE Advertiser wishes to be ENGAGED in COPYING DRAWINGS, &c. Address ALPHA, Mr. Bowden's, 314, Oxford-street, W.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who has had the management of an office in the City, is desirous of a RE ENGAGEMENT, in pursuit of civil [illegible] thoroughly understands [illegible] practice, [illegible] and [illegible] [illegible] [illegible]



INTERNATIONAL PRIZE



1862.

EXHIBITION MEDAL,



"FOR EXCELLENT WORKMANSHIP, AND INGENUITY APPLIED IN CHIMING BELLS BY MACHINERY."—SEE JURORS' REPORT.

JOHN WARNER & SONS, BELL & BRASS FOUNDERS TO HER MAJESTY

Beg to announce that the PEAL of EIGHT BELLS exhibited by them in the South-east Transept of the INTERNATIONAL EXHIBITION is chimed daily at TWELVE, THREE p.m. and HALF PAST SIX p.m. by their Attendant, with their new CHIMING APPARATUS, ONE MAN being able to produce the same effect usually accomplished by Eight Ringers.

8, Crescent, Cripplegate, London.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country

"The best Brickmaking Machines in the International Exhibition."—*Vide Jurors' Report.*

BRICK-MAKING BY STEAM POWER.

THE "CHAMPION PRIZE" BRICK MACHINES OF ALL NATIONS.

HENRY CLAYTON'S PATENT "UNIVERSAL" MACHINES,

(Each producing from 120,000 to 150,000 Bricks per week), making Bricks for the following eminent Firms and Public Works, viz.:—

Messrs. PETO & BETTS, London.
" BRASSEY & CO. London.
" BAKER & SON, Isle of Wight.
" ROBT. SHARPE & SONS, London.
S.-E. RAILWAY COMPANY, Folkestone.
Mr. GEORGE FURNESS, London.
Messrs. HENRY LEE & SON, Isle of Wight.
Messrs. WEBSTER, VARNEY, & CO. Burham.

FOR CONSTRUCTION OF THE NEW FORTIFICATIONS, THE METROPOLITAN RAILWAYS, THE MAIN DRAINAGE, AND OTHER EXTENSIVE WORKS.

Machines can be inspected at the Works; at the Great Exhibition, South Kensington; or at their Show Rooms, Upper Montague-street, Montague-square; or descriptive catalogues sent free by post, by

HENRY CLAYTON & Co., Patentees, Engineers, &c.

ATLAS WORKS, UPPER PARK-PLACE, DORSET-SQUARE, LONDON, N.W.

SMITH & WOODS
SHOP FRONTS

WORKS, HARTS-HILL IRON FOUNDRY, Near Dudley. MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.

LONDON OFFICE, 75, CANNON-STREET WEST, LONDON, E.C. Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.



BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c Candlesticks, Lamps, Lecterns, Fire Guards, Gas Brackets Standards, Gaseliers, Coronas, &c. in brass and iron, forwarded on receipt of six postage stamps.
Specimens at the Architectural Exhibition, Conduit-street.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for securing wholesome and uniform lights, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

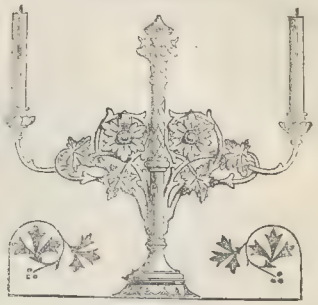
CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 62, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

J. HARDMAN & Co.
MEDIÆVAL METAL WORKERS
In Silver, Brass, and Wrought Iron;
ENGRAVERS OF
Memorial Brasses, Artists in Stained Glass
ECCLESIASTICAL DECORATORS.

Chalices, Patens, and Flagons
Altar Rails and Standards;
Alms Basons and Desks;
Coronæ, Candlesticks, and Branches;
Gas Fittings of every Kind;
Lecterns and Book Desks;
Hinges, Handles, Locks, &c.
Spire Crosses and Vanes.

AN ILLUSTRATED PRICE-LIST, AND ESTIMATES FOR SPECIAL DESIGNS, Furnished on application.
London Offices and Show Rooms,

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND CASTERS.



Manufactory, 190, High Holborn, London.
Exhibits at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE, DOWGATE DOCK, LONDON.

HEATING BY HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS,
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.
3s. 9d.



The ONLY MEDAL for SLOP WARE awarded to
DOULTON & WATTS, LAMBETH POTTERY, LONDON.
In consequence of greatly increased sale, D. & W. have determined to introduce the improved patent [illegible] SLOP WARE (First-Class NEWARK (First-Class Pans, of the form of the present design of earthenware Pan and Trap.
Experience has shown that this shape is the most perfect efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the [illegible]
DOULTON & WATTS, LAMBETH POTTERY, LONDON.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

(JUROR CLASS XXVI.) PAPIER MACHE AND CARTON PIERRE WORKS, FIRST-CLASS MEDAL

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1760)

GREAT EXHIBITION, LONDON, 1851.

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their extensive assortment of Enrichments for Ceilings and Cornices, in the Greek, Elizabethan, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining rooms, Libraries, &c for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest reputation, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent addition of steam power and machinery, enable them to offer every superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

EXPOSITION UNIVERSELLE, PARIS, 1855.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE-PLACE, LONDON, W.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE, ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and of every size. The Trade supplied with Chimney Mantel Pieces, Tablets, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W

MARBLE CHIMNEY-PIECES of every Description, also enamelled Slate, to be SOLD at 269, MARYLEBONE ROAD (3 doors the Yorkshire Stingo). BATH STONE BOX CHIMNEY PIECE, with MOULDED CAP and BASE, to FIT DITTO ANY OPENING.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries—Earl-street, Horseferry-road, Westminster.—11 large Studios of Master-pieces in Sculpture for London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney-piece in the world.

TWO MEDALS IN CLASSES 7 AND 10, INTERNATIONAL EXHIBITION.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now in operation, and will be happy to forward, estimates, or to execute in the best manner any work intrusted to them.

All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Countess-road, Pimlico, London.
JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with a Complete SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country carriage or orders executed with promptness and personal attention.

VALE of WARDOUR FREE STONE, TISBURY QUARRIES, WILTSHIRE—Geologically this stone is identical with the Portland Oolites; the beds vary in texture, the upper being a stiff roach, of which large blocks are readily obtained, and is suitable for paving work, such as bedding for engines, grinders, machinery, &c. or for waterworks. The under beds produce a stone of free working, which is well adapted for carving, tracery, balusters, pilutrs, cornices, copings, sills, sashes, and for building purposes generally, also for rough shafts, chimney pieces, steps, &c. Many of the finest and most ancient buildings of considerable antiquity attest the durability and texture of the stone of this district. Amongst these may be noted Salisbury Cathedral, Tisbury Church, the Poultry Cross at Salisbury, Wilton Abbey, &c., erected from Chilmark and other quarries immediately adjacent to these works.—Specimens of the stone may be seen at Messrs. POOLE & SON, Marble and Stone Works, Great Smith-street, Westminster, S.W. and in the Museum of Practical Geology, Jermyn-street, No. 28, and 29, Cornwall, London; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Tisbury Quarries. Orders for workmanship carefully executed at the Quarries. Samples forwarded, and further information may be obtained of Mr. T. P. LILLY, Gillingham, Dorset

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 1, Warwick-court, Holborn, W.C.
EDWARDES, BROTHERS, & BURKE, PROPRIETORS.
The largest and most superior Stock of Chimney pieces in Europe ever exhibited, and which can be viewed free of cost.
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehall, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Paving Block Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE SILICEOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices
Filtering Filtering Slabs for Domestic or Manufacturing purposes
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster, or Patent Stone Works, Ipswich.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than ten tons. Price and sized list and estimates on application as above.
No. 1, BOLD-TERRACE, CHESTER.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
To any inhabitant of a house in which are being fitted upon the principle Artists have the opportunity to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. Show Illustrated Catalogues (post free) can be had at the Finsbury Slate Works, 20 and 21, Upper Belgrave-place, Pimlico, S.W.

RED MANSFIELD STONE.
(WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in blocks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free in any part of the country.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, &c. Fire Clay, STORES & WOOD for the storage of Merchants, Builders, Railway Companies, &c. their Stocks above, which every thing will be kept and sold at wharf prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 9, CANNON STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is used for the New Westminster Bridge
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

ABERDEEN POLISHED GRANITE WORKS. Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
Apply to Mr. MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Chainster, Somerset.

SCAGLIOLA WORKS, 14, SMITH SQUARE, WESTMINSTER, S.W.
G. WARREN, SCAGLIOLIST,
Begs to inform ARCHITECTS, SCULPTORS, BUILDERS, and the Trade in general, that he is prepared to execute all descriptions of SCAGLIOLA MARBLE WORK, in the best manner, at very moderate prices. Superior Scagliola Pedestals, for busts, &c. at from 4l. 10s. to 5l. 10s. per pair.

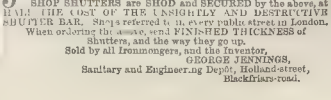
BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 9-Inch Pavings, at 67s. 6d. per 1,000.
" Kiln Bricks, at 26s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire-street Station, at 26s. per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard Burnt Common Bricks, in large quantities.
Do 6 inches
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at the hands of the working expenses of other machines
Price, including royalty, 75l.
Licenses to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machine may be seen at work at Smithborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,810.

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send PINS-HED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SPURGEON'S IMPROVED MARTIN'S CEMENT.

A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.

MANUFACTURED ONLY BY

B. W. SPURGEON, DERWENT WORKS, DERBY.

London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.
Coarse, Fine, and Superfine London-made PLASTER of PARIS.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. — Orders received at Great Scotland-yard, Whitehall; and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Basinghall-street, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERRY WHARF, Or at Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A first quality produces a beautiful and hard sculptola imitation of marble. — Manufacturers, FRANCIS BROTHERS, & POTT, Nine Elms, London

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TAYLHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Where may be obtained, of the best quality:—
GREY STONE CHALK, FLARE and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, TILES, &c.
DOOR JAMBS.
Delta and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PAVIORS, SECONDS, BLACK, BLOCKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CHANNEL and BEVEL CLINKERS.
RED, BLUE, ORNAMENTAL ROOFING and RIDGE TILES.
CRESTS, LEFT, RIGHT, and CENTRE.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS &c.
BLUE LIAS LIME, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

O. MCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PATENT PORTLAND and ROMAN CEMENT,
AND PLASTER OF PARIS WORKS,
FRINDSBURY, on the MEDWAY, KENT, and
CANAL ROAD, KINGSLAND ROAD, N.
MESSRS. FREEN & CO.

Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER of PARIS, in any quantity, fresh from the Kilns.
Orders addressed to their LONDON WORKS, Canal road, Kings and N. will meet with prompt attention.

WHITE and RED SUFFOLK FACING
BRICKS and other KILN GOODS.
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Leadstone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK BURNING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS,

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, } SOLE
WELLINGTON WHARF, Belvedere-road, } CONSIGNEES.
Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Pressed Blue Paving BUILDING and SEWER BRICKS
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Pelvedere-road, Lambeth, and Kent-road Bridge.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANES INN WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT
STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Slates, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND
BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES; also superior ENCAUSTIC TILES, 6 inches and 4 inches, &c., in white, red, buff, black, blue grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porches, verandahs, &c.; as also for external decoration, as plinths, cornice string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.: also, the Architectural Pottery Company's patent orange tree Boxes. Visitors are sure of the above may be seen, and every information obtained at the Office of the Company, No. 26, Parliament-street, S.W. Specimens may be seen at the Galleries of the Architectural Exhibition, 9, Conduit street, Regent-street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham. Address, The Architectural Pottery Company, 26, Parliament-street, S.W.; or Poole, Dorset.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by
J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.
JEFFS, BROTHERS,
CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS
Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		Laths, 28s. per load.	
Yellow Deals, sound and good	£19 10 0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	16 10 0 ,,	0 2½ ,,	
Yellow Battens, excellent quality	11 10 0 ,,	0 2 ,,	
Pine Planks, dry, 12 feet 9 inches by 11 feet	21 0 0 ,,	3 6 ,,	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅝-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	16s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,
Yellow Deals, 3 by 9	£19 10s. per 120.	Pine Planks (Dry), 3 by 11	24l. per 120
Yellow Battens	£11 10s. ,,	Pine Deals do. 3 by 9	19l. 10s. ,,
Spruce Deals	£16 10s. ,,	⅝-inch White Matched Lining	13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 8s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅝ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash
Sash and Frames, Bay and Shutters, Doors, Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glue sheds Cases, &c.
Steam-houses, Hot houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
ROMAN CEMENT made at the above works may be had fresh from the kilns daily. A great advantage to dealers and sewer contractors, especially in winter time.
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any other cements, a much of which is now used in the manufacture of Portland
PLASTER OF PARIS, both coarse and fine, of very superior quality
LIME. Grey Stone, Chalk, and Blue Lias Lime well burnt, by the cargo, ton, or bushel, may be had fresh from the kilns daily, by steam power, at
RICK from our fields in Kent, by the barge alongside, in the river canals, or by cart from the above wharf, of good quality and
A large Assortment of Glazed Stoneware Drain pipes, Yorkshire Paving Tiles, Hair, Lath, Chimney pots, &c. always on hand.
BRICK FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

STAINED-GLASS WINDOWS and PICTURES on GLASS for churches and private buildings.—Messieurs MARECHAL, of Metz, who have obtained Two Medals for their specimens now on view at the International Exhibition, French Court, Nos. 3,914 and 3,915, wishing to leave off business in this country, beg to inform the nobility and gentry that Mr. CH. MARECHAL will remain in London until 1st DECEMBER, at 31, Grove-place, Brompton. He will attend to any orders and communications that may be forwarded to him.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.
(PRIZE MEDAL, INTERNATIONAL EXHIBITION 1862)



Illustrated Treatise, Post free, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:—
Cardington Street, Hampstead road, London.



PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford-street, Manchester. Prize Medallists, Class 31 A, 1862.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, and various forms cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS. JAMES HEELEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of plans and sizes furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

TO ARCHITECTS, BUILDERS, &c.
GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F. ODELL & CO. 8, Bath-street, City-road, E.C.; or at the Works, 12, Grafton-mews, Fitzroy-square, W.—N.B. Fret and Church Leads sold.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

SOHO PLATE and GENERAL GLASS WAREHOUSE, 36, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

TO BUILDERS.—200 best manufactured TERRA COTTA CHIMNEY-POTS TO BE SOLD a bargain, as they must be cleared.—Apply to J. HENDERSON, Builder, 43, Upper Berkeley-street West, and 20, Albion-mews, Hyde Park.

THOMAS MILLINGTON,
GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.
REDUCED SHEET GLASS TARIFF.
In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.

	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¾	1½	2	2½
„ 2ft. 6in. sup.	1½	1⅝	2¼	3
4 ft. super...	1⅞	2	2½	3¼

Orchard House Sizes.

		15 oz.	21 oz.
20 by 12	per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13		3rds 15s. 0d.	3rds 21s. 6d.
20 by 14		2nds 18s. 0d.	2nds 28s. 0d.
20 by 15		1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.
Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.
16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d. } per cwt.
Patent Dryers .....28s. to 42s.

Fine Oak Varnish ...10s.
„ Carriage ...12s.
Linseed and Boiled Oil } per gallon.
Turpentine .....

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

HAMPSTEAD ROAD JOINERY WORKS.
21, HARRINGTON STREET, N.W.
NEVIL SIMMONDS,
MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.
SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIRCASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.
Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp

TO BUILDERS, CARPENTERS, AND OTHERS.
KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
Call the attention of the above to their
WELL-SEASONED STOCK OF FLOORING DEALS, MAHOGANY, &c.
SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

BARTLETT BROTHERS & CO.
DEVONSHIRE WHARF, CAMDEN TOWN, N.W.
Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.
Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,
INTERNATIONAL EXHIBITION, 1862.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JOHN DOULTON, BROTHERS, & CO.
LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs. GLADDISH'S, Pedlar's-acre, Lambeth; Dockhead Wharf, Bermondsey; Pratt Wharf, Camden-town.
Messrs. BLACKMORE & COX, City-road Wharf, [illegible].
Messrs. CUBITT, SHADWELL, and COX'S, St. John's Wharf, Hampstead-road, Pentonville.
Mr. A. RITCHIE'S, Ravensbourne Wharf, Greenwich. Mr. GEORGE ALLEN'S, Danvers Wharf, Chelsea.
Mr. [illegible], Deptford Wharf, Creek-road, Deptford.
Mr. HENRY TURNER'S, 2, North Wharf, Peckham, Middlesex.

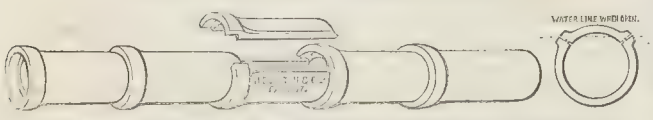
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

PEARCE'S PATENT SANITARY PIPE, BRICK, AND TILE MACHINES,

Producing nearly double the quantity and of very superior quality to any machine yet invented. The improvement consists in the introduction of a central stem to support the core of the die, and obviating the necessity of cross-bars or bridges, hitherto found so detrimental in the manufacture of large sanitary pipes. The upper part of the Machine acts as a Pug-Mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die. The larger Machines will make sanitary pipes, from 3 inches to 24 inches. The smaller, from 2 inches to 12 inches.—Particulars on application to the

IRON WORKS, POOLE, DORSET.

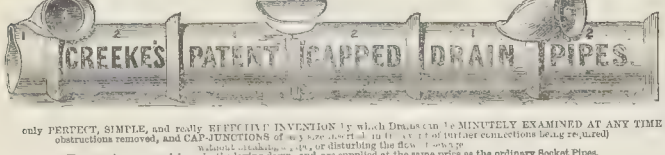
DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fixed in one piece with the Pipe, is perfect. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.



only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size inserted in the event of further connections being required) without breaking up, or disturbing the flow of water.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.

Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

CARSON'S
ORIGINAL ANTI-CORROSION PAINT.

Patronised by

THE BRITISH GOVERNMENT, THE FRENCH GOVERNMENT, THE RUSSIAN GOVERNMENT, | H.R.H. THE PRINCE CONSORT, MOST OF THE NOBILITY & GENTRY, THE DOCK COMPANIES, | RAILWAY AND CANAL COMPANIES THE PRINCIPAL COLLIERIES, MILL OWNERS, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also

IRON ROOFING, BRIDGES, HURDLING,

AND EVERY DESCRIPTION OF IRON WORK;

FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone. The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.

OIL, TURPENTINE, AND BRUSHES.

Prices, Patterns, and Testimonials sent upon application to

WALTER CARSON AND SONS,

(SUCCESSORS TO THE INVENTORS,)

9, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

A PAN-CLOSET, BLUE BASIN, SUNK
DISH, and APPARATUS, complete,
TWENTY FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 19s. 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

FERGUSLIE FIRE CLAY WORKS,
PAISLEY.



PATENT GLAZED SEWER-PIPES, according to Jenning's Patent and the GLAZED SEWER-PIPES with SOCKET JOINTS. Also all articles made of Fire Clay. The Sewer-Pipes are in sizes from 2 inches up to 2 ft. in bore, and are of the most superior quality. Prices very moderate. The subscriber, from the position and great extent of the Works, has every facility and advantage for executing shipping and other orders, however large they may be.

ROBERT BROWN.

T. KENT'S PAINTING-BRUSH
MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENTS BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

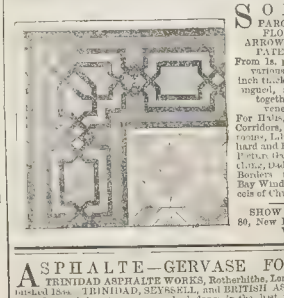
COLOURS and VARNISHES a
REDUCED PRICES,
Genuine White Lead, 20s. per cwt.; Linseed Oil, 2s. 4d. per gallon; Boiled Oil, 2s. 8d.; Turpentine, 8s. 6d. per gallon; Fine Pale Oak Varnish, 8s. 6d. per gallon, for cash, at F. LANGTON'S Colour Ware house, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES
(C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

IMPORTANT to BUILDERS an
PAINTERS. Genuine White Lead, 20s. per cwt.
Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s 8d. per gallon.
Turpentine, 8s. 6d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 46, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—
TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWA COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW PATENT GRAINING APPARATUS, for producing an imitation the various woods. They are very extensively used, and with gre success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying interest would not be without them. A prospectus will be sent up the receipt of a stamped directed envelope addressed to T. KERSHA Patent Graining Tool Manufacturer, 33, High-street, Marylebo London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIE
with THOMAS KERSHAW'S COLOURS, prepared thick graining every description of wood in all their purity of tone a colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.



SOLI
PARQUET
FLOORS.
ARROWSMITH'
PATENTED,
From 1s. per foot
various woods,
inch thick, groove
ngued, and ke
together, not
veneered
For Halls, Staircas
Corridors, Recepti
rooms, Libraries,
hard and Ball Roo
Picture Galleries, P
chaic, Dados, (ele
Borders to Carp
Bay Windows, Ch
cels of Churches,
SHOW ROOMS
80, New Bond-str
W.

ASPHALTE—GERVASE FOOTT
TRINIDAD ASPHALTE WORKS, Rotherhithe, London. E
established 1838. TRINIDAD, SEYSSELL, and BRITISH ASPHALT
laid if found by steam power, laid down in the best manner
supplied in any quantity. Information for using forwarded
material. Post-office orders or reference in London promptly atte
to. Estimates given for every kind of the above work.

BENJAMIN FOWLER & CO., WHITEFRIARS ST., FLEET ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

TO BE WORKED BY STEAM, HORSE, OR HAND POWER, FOR TEMPORARY OR PERMANENT USE; ALSO OF SINGLE OR DOUBLE PURCHASE CRABS, PULLEY BLOCKS, SCREW AND HYDRAULIC JACKS, &c.



PORTABLE STEAM ENGINES,

IN GOOD SOUND WORKING ORDER,

WITH or WITHOUT PUMPS, to DISCHARGE a LARGE or SMALL QUANTITY OF WATER FROM ANY DEPTH, ready for delivery to order at a DAY'S NOTICE, or, upon very reasonable terms, ON HIRE.

FOWLER'S PULLEY AND SNATCH BLOCKS,

of every size and description. These are strong, well-made blocks, and will be found in all points as good in quality and as low in price as those made by any house in London.

RUBBISH WHEELS OF VARIOUS SIZES.

FOWLER'S USEFUL SINGLE, DOUBLE, and TREBLE PURCHASE CRABS.

B. F. & Co. have a variety of Patterns, strong and light, at prices which will meet any requirement.

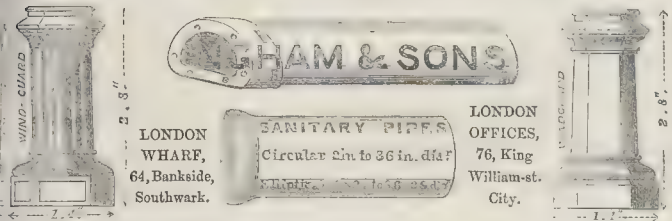
WESTON'S PATENT DIFFERENTIAL BLOCKS,

To lift from half a ton upwards, with chain to suit, at the LOWEST PRICES.

A LARGE STOCK IS KEPT READY FOR PROMPT DELIVERY, AND CAN BE INSPECTED AT THE WORKS.

Price Lists of Pumps, &c., forwarded on application.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



LONDON WHARF, 64, Bankside, Southwark.

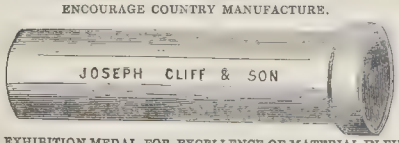
LONDON OFFICES, 76, King William-st. City.

MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.

LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF Nº 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

IMPERIAL POTTERIES, LAMBETH.

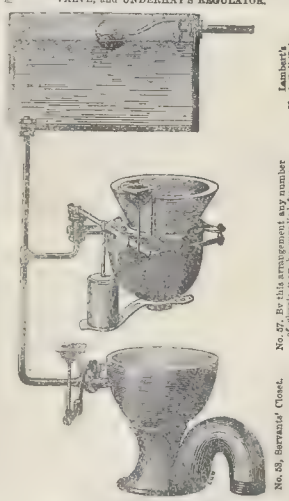
JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED  SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

AN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,

FOUNDERS, HYDRAULIC AND GAS ENGINEERS, SHORT STREET, LAMBETH.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in forwarding the following Testimonial FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have already examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are building here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

CARRARA WHARF, Thames Bank, Pimlico.—T. SCULTORS, MASONS BUILDERS, and OTHERS

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Fabbricotti, Brothers, to SELL by AUCTION, on the PREMISES, Carrara Wharf, Pimlico, on TUESDAY, AUGUST 12th, at ELEVEN for TWELVE, a large quantity of MARBLES, in blocks; comprising statuary, veined, Bardilio, Sicilian, and various coloured varieties; also several thousand feet of veined, Sicilian, and statuary slabs; and a selection of garden figures, vases, baths, mortars, and fountains, in Sicilian Approval bills at four and six months May be viewed two days previous, and catalogues had at place of sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

EXTENSIVE SALE OF BUILDING MATERIALS, PENCHURCH-STREET AND 20 MINUTES' WALK.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL BY AUCTION, on the PREMISES on FRIDAY, AUGUST 8, at TWELVE, the whole of the valuable BUILDING MATERIALS of spacious Offices, Warehouses, and Premises, No. 20, Penchurch-street, late Old Bank of England, and the rear and back premises, Fenchurch-buildings, No. 5, and No. 3, Philpot-lane, Architect, East India Chambers, Leadenhall-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

RICHMOND.—FREEHOLD PLOT OF GROUND AND COTTAGE

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on WEDNESDAY, AUGUST 27th, at TWELVE, a FREEHOLD PLOT of GROUND, lately occupied by the Richmond Waterworks Company, having a frontage of about 40 feet by 184 feet deep, in the most desirable part of the leading thoroughfare, adjoining to the towing path, with a substantial brick-built Cottage thereon, and an artesian well, 400 feet in depth. The purchaser will have the option of purchasing the engine-houses and machinery, or the same will be sold on the 27th AUGUST. May be viewed one week previous to the sale; and particulars had of Messrs. HARGROVE, FOWLER, & BLUNT, Solicitors, 47, Parliament-street; at the Auction Mart; the Greyhound, Richmond; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W.; and 80, Fore-street, E.C.

RICHMOND.—The valuable Steam Engines, Boilers, Pumps and Machinery, of the Richmond Waterworks, and Materials of the Engine-house.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, Lower Petersham-road, on FRIDAY, AUGUST 8, at TWELVE PRECISELY, in lots, the valuable MACHINERY; comprising a 15-horse condensing engine, by Maudsley; a 20-horse ditto, Messrs. Simpson; two Cornish boilers, 16 feet and 14 feet long; a pair of 15 inch pumps and a pair of 8 inch pumps, and the shafting, steam pipes, and connections; large cistern tank, capable of holding 10,000 gallons; iron mains, &c.; also the very excellent Engineer's and Fitter's Shop and Premises, comprising lathes, vices, drills, tools, and other useful materials. May be viewed two days prior. Catalogues had of Messrs. HARGROVE, FOWLER, & BLUNT, Solicitors, 47, Parliament-street; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

Freehold Building Sites, on Ferry Hill, Sydenham, about five minutes' walk from Crystal Palace Station, and one from Forest Hill Station.

MESSRS. DEBENHAM & TEWSON will SELL at the MART, on WEDNESDAY, AUGUST 20, at TWELVE, several PLOTS of FREEHOLD BUILDING LAND (in one or two lots), lately forming the kitchen garden to Ferry Hall, Crystal Palace Station to Lower Sydenham, including a valuable corner plot having a frontage of 100 feet to Ferry-road, and 150 feet to Ferry-hill. Also a plot to Ferry-road, containing about 5 per cent.—Particulars and plans of Messrs. DE JERSEY & SIMEON, Solicitors, 13a, Gresham-street West; and of the Auctioneers, 88, Cheapside.

By Order of the Secretary of State for War,

MR. GEORGE SPILLMAN will SELL by PUBLIC AUCTION, at the Royal Arsenal, Woolwich, on MONDAY, AUGUST 11, at ELEVEN o'clock to the first lot, and THURSDAY following, at TWELVE o'clock to the second lot, the following

Metal, Iron, Steel, Zinc, Lead, and Founder's Ashes; Files, Tools, Resin, Sole Cuttings, Wool, Lubricating Composition, Shoe Leather, Coal Coals, &c.; Harness, Plank, Barrels, Wheels, and Refuse Wood.

May be viewed from TEN to ONE o'clock, and from TWO to FIVE o'clock on Saturday previous to the day of sale; and Catalogues obtained at the War Office, Pall-Mall; at the Tower, and at the Royal Arsenal, Woolwich.

UNDER A POWER OF ATTORNEY.—STOCK OF A PAPER-STAINER, &c.

MR. EWINS will SELL by AUCTION, at his ROOMS, 15, Upper-street, Islington, on WEDNESDAY next, at TWELVE, the capital STOCK of Paper-hangings, Borders, PAPER HANGINGS, &c. Also a Set of Shop Fittings, Counters, Marbles; 60 Kegs White Lead, Dryers, and other effects. May be viewed the morning of sale, and catalogues had at the Rooms.

ESTATE of the late Duncan Dunbar, Esq.—SHIP Sale. The Shipwrights' and general STOCK and PLANT, at Buckwell, including timber, deals, valuable masts and mast pieces, a powerful wharf Crane, &c.

MR. JOHN WALLEN has received instructions from the Executors of the late Mr. Robert Stewart to SELL by AUCTION, on the Premises, Nos. 1 and 2, Cross-road, near Orchard House, Blackwall, on TUESDAY, AUGUST 5, and three following days, the entire Stock of the valuable Leasehold EFFECTS; including teak, English oak, pine, fine, and American timber; various valuable mast pieces, masts, and spars; large assortment of Rigging, Canvas, Sails, 2 80-feet deck dry docks, patent slips, 2 capital Cranes, 2 Steam Engines, Boilers, Smith's Forge, Anchors, Iron of new rod and bar, and 50 tons of serviceable secondhand of all descriptions, and old iron; powerful crab, several smaller ditto, Trotman's and other Lighters, Punts, Boats, Oars, &c. Also the Property of Mr. Downton's fire-engine, ventilators, 300 blocks, dead eyes and hearts, 40,000 lo.nut and stringybark treenails, valuable joiner's work, plumbers' stock, copper, tin, 300 water casks, quantity of stores and tools, large quantity of firewood, bricks, granite and Yorkstone; the working plant and tools, including a 4-horse power steam-engine, nearly new boiler, lathes, drill shafting and riggers, a cosy and well-built counting-house, the materials of the building, numerous effects, &c. Dock viewed two days previously and morning of sale. Catalogues on the Premises; at No. 9, Forest-road, Limehouse; and of Mr. JOHN WALLEN, 68, Old Broad-street, London, E.C.

DAYSWATER.—A VALUABLE LEASE and BUILDER'S PLANT and STOCK. 2 Cart horses, Pony, Stallage, Planks, 4 Carts, Harness, &c.

MESSRS. LEREW & LEREW are directed by Mr. E. Moore, who is retiring, to SELL by AUCTION, at 17, Great Western-terrace, near the British Oak, on THURSDAY, AUGUST 7, at TWELVE o'clock, the LEASE of BUILDING PREMISES, 19, Inverness-road; also the STOCK, viz.: large quantity of dry stuff; 1,000 feet mahogany, 2,000 feet wide pine; 25 s pairs of flooring; scaffolding, cords, 2 crabs, 10 benches, &c.—Catalogues and particulars may be had of J. P. SWEETLAND, Esq. Solicitor, 59, Lincoln's-inn-fields; on the Premises; and of the Auctioneers, Cardington street, Hampstead-road.

BUILDERS' IRONMONGERY.

MR. BETTS will SELL by AUCTION, at his Rooms, 684, Leadenhall-street, City, on TUESDAY, AUGUST 26, at TWELVE, the valuable STOCK in TRADE of BUILDER'S IRONMONGERY, removed from Ipswich and the West End, for positive and unreserved sale; comprising about 60 modern register and other stoves, 2 expensive kitchen ranges, furnace pans, pipes and gutters, two tons of nails, thirty-one dozen rim locks; and a large and general assortment of bright fittings, brass furniture, &c.; also flies, horse nails, carpenter's tools, glue, sash line, spades and shovels; two beam-mills, a sugar-mill, sash weights, lead pipe, sheet zinc boiling &c. May be viewed morning of sale; and Catalogues had at the Rooms, 684, Leadenhall-street, City.

TO IRONFOUNDERS, SMITHS, ENGINEERS, AND OTHERS

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, on THURSDAY, AUGUST 7th, at ELEVEN, on the PREMISES, the IMPERIAL IRON FOUNDRY, 61 and 62, Tabernacle-walk, Finsbury, the PLANT, MACHINERY, TOOLS, and STOCK, of an IRONFOUNDER, comprising 6-in. bush. pressure steam engines from 2 h.p. to 14 h.p. new power Cornish boiler, 2 models, a multitubular steam boiler, by Maudsley & Field; 3 drilling machines, 3-inch punching machine, 2 screw-cutting lathes, 7½ and 10½ inch centres, 10 engine turning slide lathes, 6 to 9 inch centres, boring lathe, proving pump, Gwynne's No. 3 centrifugal pump with 6-in. iron spirals, 8 iron boxes, fitting-out dying stove, two smoking furnace, ladles, stove truck, 30-inch fan, forges and bellows, smith's tools, vices. James's 11-cwt. weighing machine, 300 feet flat rig rigging, &c.; 200 feet leather bands, a large quantity of axle-trees and arms finished and partly finished, 4 copying presses, 2 kitchen ranges, several tons of castings, 2 gas motors (10 and 50 l.ight), gas fittings, quantity of valuable patterns, and numerous other effects.—To be viewed on WEDNESDAY previous. Catalogues may be had on the Premises, and of Messrs. FULLER & HORSEY, Leadenhall-street, E.C.

Barges, Wherry, Cutter, Harness, Barges, 1,000 Blocks of Stone, &c.

MESSRS. FULLER & HORSEY are instructed by his Honour the Master of the Rolls to SELL by AUCTION, on THURSDAY, AUGUST 12, at ELEVEN, at the WILLS, Wandsworth, SEVENTEEN powerful young WAGGON HORSES, including several handsome teams; two bay gig horses, one brown mare, one brown mare filly, nine flour waggons, patent arms, two large and two small four cwts., three dirt carts, three gigs, 1 waggon, cart, and gig harness; stable utensils, three open iron barges, now about four years since, two of 63 tons and one of 50 tons burden (engines, anchors and chains, together or separate), 2 iron punts, &c.; one iron punt, 20 feet long, 6 feet beam; one wood punt, one new skiff, 10,000 stone blocks, about 14 inches cube each; and other effects.—To be viewed 3 days previous, and Catalogues may be had on the Premises; of Messrs. M'LEOD, STENNING, & WATNEY, Solicitors, London-street, E.C.; of J. E. SHEARMAN, Fee Solicitor, Mark-lane; at Clark's coffee House, Mark-lane; at the Eagle, Wandsworth; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

GEORGE WHITING, Chief Clerk.

COTTENHAM PARK, near Wimbledon, Surrey.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the MART, on FRIDAY, AUGUST 15th, at TWELVE o'clock, in lots, an Estate of FREEHOLD BUILDING LAND, situate in Cottenham Park, near Wimbledon, in the county of Surrey. It adjoins the Park Estate, and is in the parish of the Duke of Wellington and Lord Cochrane. The land is about half-an-hour's walk from the Wimbledon Station, and is within a short distance of the Richmond and Kingston Roads, and the Wimbledon and Epsom Railway. The estate is of the first quality for building purposes, and has a frontage to Cottenham Park-road of about 1,000 feet, which will be laid out in plots suitable for the best description, and occupied by a highly respectable class of tenants. The building leases are to be for 99 years, at the average depth of 120 feet, and adapted for first-class villas.

Lot 1 will comprise a valuable Plot of Freehold Building Land, having a frontage of about 1,760 feet to Cottenham Park-road, by a depth of 120 feet, and containing 4a. 3r. 37p.

Lot 2. A Plot of Freehold Building Land, next to Lot 1, having a frontage to Cottenham Park-road of about 360 feet, by the same depth of about 386 feet, and containing 2a. 2r. 11p.

Lot 3. A Plot of Freehold Building Land, having a frontage of about 360 feet to the Cottenham Park-road from Wimbledon to Epsom, and containing 2a. 1r. 22p.

Lot 4. That valuable Plot of Freehold Building Land, close to Lot 1, having a frontage of 264 feet to the Cottenham Park-road, Dukes Avenue, and Copse-road.

Lots 5 to 17 inclusive, Plots of Building Land, each having a frontage to Cottenham Park-road of 175 feet, and containing 1a. 1r. 30p.

Lot 18. A Plot of Freehold Building Land, having a frontage of 175 feet to the Copse-road.

Particulars and plans may be had of the Auctioneers, Ridgmount, Bedford-square; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange

VALUABLE FREEHOLD BUILDING ESTATE, in the Borough.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer FOR SALE, at the MART, on FRIDAY, AUGUST 15, at TWELVE, in one lot, a Valuable FREEHOLD ESTATE, in Union-road, Trinity-square, Borough, the Mansion Steward's Office, and Premises, adjoining, having been occupied by the Metropolitan Police Force, and within a quarter of an hour by the South London Railway of the Metropolis. It contains a commodious mansion, placed in the midst of about seven acres of land, every foot of it having been secured most valuable building land. It possesses a frontage to the high road of about 370 feet, extending in depth about 720 feet, with capability of being laid out in handsome, detached Villa Residences and Shops, and which property, if so laid out, would ultimately producing well-secured ground rents, amounting to upwards of £900 per annum, offering a first-rate investment for builders, or for any land society.—May be viewed; and particulars and plans, showing the entire property and a proposed scheme for laying it out in building plots, may be had of Mr. WILSON, Surveyor, Bow-road; of Messrs. LAWFORD & WATERHOUSE, Solicitors, Austinfriars; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

MARK LANE.—Highly important Freehold Property in the centre of the Corn and Colonial Markets, and occupying an area of upwards of 6,000 square feet.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the Mart, on WEDNESDAY, AUGUST 27, at TWELVE, and by order of the Trustees, a very valuable FREEHOLD PROPERTY, most eligibly situate, Nos. 80, and 61, Mark-lane, immediately adjoining the Corn Exchange Hotel, and forming the Corner Premises, at the East of the City of London. The whole of the dwelling houses are let at rents, which, with the shops, offices, and warehouses, fronting on the basement, having a frontage to Mark-lane of about 42 feet, and extending in depth about 70 feet, to Wonder-court, and extending about 80 feet in depth to Fenchurch-buildings, which will expire in 1863 and 1864, and No. 60 is let to a yearly tenant, whose tenancy will expire at Lady-day next, the yearly possession may be augmented on a property possessing capabilities rarely to be met with in such a very important locality.—May be viewed by leave on the tenants, and particulars, with lithograph plans, had of the Auctioneers, Ridgmount, Bedford-square; of Messrs. DOWDING & BURNE, Solicitors, Vineyards, Bath; at the Mart, and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange

KENNINGTON.—Important Freehold Property, comprising Sale by RAILWAY CONTRACTORS, BUILDERS, and OTHERS

MR. MARSH has received instructions to SELL by AUCTION, on the PREMISES, Pearson's-yard, Kennington-green, on TUESDAY next, at ONE o'clock punctually, the valuable PLANT and MATERIALS, consisting of 2 powerful PERMANENT PATENT TRAMWAYS, as used in the New Junction Bridge to Kensington Park; a branch line of Rails to the Borough-road; and the residue of the Victoria-street Tramway: comprising 1,000 yards of rails, weighing 35 lbs. per yard, in lengths of 18ft. and 24 feet, with chairs, keys, and fastenings complete; 200 cast-iron transoms, averaging 6 inches by 5½ inches, in 6 feet 6 inches lengths; 1 ton of Pearson's patent fastenings; 2 Contractors' Trucks; 1 of the Houses of Correction, at Tothill-fields, capacious for new work in the new Victoria-street Westminster. May be viewed the plant and stores now lying on the premises, and the Permanent Way laid down in Victoria-street Westminster. Catalogues may be had on the premises; at the Auctioneer's Offices, 4, Bridge-street, Westminster; and at Mr. MARSH'S Offices, Charlotte-row, Mansion House, E.C.

TO CARPENTERS, PLASTERERS, PAINTERS, and OTHERS.—Several Seven-roomed CARCASES TO BE SOLD, or LET at a ground-rent, together or separate. The purchaser will be required to pull down the premises, Nos. 4 to 10, Whittle, tone-street, Upper Holloway, N.

TO BUILDERS. — FREEHOLD LAND TO BE LET, for Building purposes, at Nine-Elms.—A plan may be seen at the Brewery, Nine-Elms.

BUILDING LAND.—TO BE LET, at Castle Hill, Dover, on Building Leases for 99 years, Good Sites, on made roads, for Houses, Villas, &c. The ground commands good views of the sea, Shakespeare's Cliff, &c. and is in one of the most picturesque spots in Dover. The new church of St. James is on the estate.—For full particulars and plan apply to JAMES STILWELL, Esq. Solicitor, Dover; or of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo place, Pall Mall, S.W.

TO ENGINEERS, FOUNDERS, and IRONMONGERS.—TO BE LET, on very desirable terms, extensive MANUFACTURING and ENGINEERING PREMISES, with numerous Warehouses, well lighted, and Counting-house, the whole, situated in a principal street in the centre of London. The Premises are freehold, excepting a small part, which is leasehold. The business is now carried on most successfully for many years, and the plant and stock have just been valued. The present Manager, with a staff of workmen, is willing to continue under a new employer. Every information can be obtained on applying, in the first instance by letter, with the real name and address, to THOMAS SMITH, Young's, the Hardware Trade, 11 and 15, St. Swithin's-lane, London, E.C.

BUILDING SITE for a Warehouse TO BE LET, within five minutes' walk of the Bank, having an area of more than 6,000 square feet, with frontage in a leading thoroughfare, and well adapted for any trade. Particulars may be had of Mr ST. QUINTIN, Auctioneer, Surveyor, &c. Royal Exchange.

FREEHOLD BUILDING LAND, at HIGHBURY, about 3 acres, most eligibly situate, TO BE LET, on advantageous terms, in one plot or in allotments, with liberty to use the valuable brick earth.—For particulars and inspection of plans, &c. address, PROPRIETOR, Office of "The Builder."

NEAR RICHMOND PARK, and the new Church erecting on Sheen Mount. FREEHOLD BUILDING LAND, la. 0r. 10p. FOR SALE.—Apply to Mr. PIGGOTT, Auctioneer, Richmond, Surrey.

HARROW, Middlesex.—TO BE SOLD, by PRIVATE CONTRACT, the DAIRY FARM a valuable and highly important freehold estate, situate in the parish of Harrow, upon Oxhey-green, lodge, be-used for many years by the large general leading from Harrow to London, and close to the Stanmore and the Watford stations, on the London and North Western Railway, consisting of a farm cottage, garden, farm-yard, and agricultural buildings, and several pieces of fine pasture and meadow land, in a high state of cultivation, containing together 17a. 1r. 0p. The situation of the property is extremely beautiful, and valuable for building purposes; it has a most important frontage to the high road of upwards of a mile, and may be subdivided into building plots with very considerable advantage, and part or the whole viewed, and particulars with terms, had of Messrs. DAWES & SONS, Angel-court, Throgmorton-street; of Mr GEORGE LOW, Surveyor, 20, Poultry; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

ACTON, MIDDLESEX. — FREEHOLD BUILDING LAND TO BE LET or SOLD, in plots.—For particulars, apply to W. W. POCOCK, 35, Craven-street, Strand.

WATERSIDE PREMISES.—TO BE LET, THREE extensive WARE-ROOMS, near the terminus of the London and North Western Railway; with use of cranes, &c. Apply No 1 Wharf, Bridge-street, Paddington.

TOOTING, Surrey.—14 Acres of valuable FREEHOLD BUILDING LAND FOR SALE, beautifully situated on high ground near the Common, about one mile from the London and Wimbledon Bridges, and 1¼ mile from the Balham and Streatham Stations. The land is all in pasture, has a gravelly subsoil, lapps to two roads, commands extensive views, and offers a desirable opportunity for the profitable investment of capital.—For particulars apply to Messrs. DEBENHAM & TEWSON, Estate Agents, 80, Cheapside, where a plan may be seen.

TO BUILDERS.—FOR SALE, FREEHOLD LAND, in Seven Acres and a Quarter, with House at the rear of West-terrace, in the Middle Arch, and a quarter of a mile from the North and South Junction Railway Station. Well-gravelled approach, frontage to Uxbridge-road, also to the Harrow-road, and water pass the premises. May be viewed from TEN to FIVE.—Green House, Acton, Middlesex.

TO BUILDERS, CONTRACTORS, and OTHERS.—TO BE LET, or the LEASE to BE SOLD, extensive Manufactory Premises, known as TREDGOLD'S WORKS, Bow Machine Shop, 61 feet by 54 feet; two ranges of workshops, 73 feet by 23 feet; steam engine, boilers, forge, sheds, stabling, counting-houses, and all other conveniences suitable for a large factory.—For further particulars and cards to view, apply to Messrs. FULLER & CO. Estate Agents, Cornhill.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway station, containing about 12 acres, which, for the most part, is well wooded, and has a picturesque undulating surface. The mansion, called Haling Park House, is elevated, and has handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in lots of from two to two acres.—For terms, apply to Messrs BLAKE, Croydon

CHEAPSIDE.—VALUABLE BUILDING SITE.—Notice is hereby given, that the time for receiving TENDERS for the ENTIRE PLOT of FREEHOLD LAND, with the Premises thereon, situate in Friday-street, Cheapside, and numbered 15, 16, and 17, in the Ward of Cheap, lately in the occupation of Mr. GEORGE SIDDONS, Outfitter, will be extended to the 15th July, 1862.

WOOD-CARVING.—INTERNATIONAL EXHIBITION.—PRIZE MEDAL awarded to R. J. TUDSBURY for the "artistic excellence" of his specimens of WOOD-CARVING. Every description of Carving executed and designed, in any style, for the Architect, Builder, Cabinet-maker, &c. Sketches given, and designs furnished, free of charge. Examples may be seen at the above-named Exhibition, in the Class for Carved Wood-work, and at the Exhibition of Carved and Inlaid Furniture, at the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

TO LET, a DREDGING BOAT, in excellent repair, fitted with machinery combining all the latest improvements with design and power, and well calculated for river-work. Her width does not exceed 11 feet, and draught of water 4 feet. May be seen at Deptford on and after WEDNESDAY, the 30th inst., and further particulars known of Mr. W. M. LEAD, 9, Scotland-yard, E.C. between TEN and FOUR.

FREEHOLD SITES for BUILDING and LEASEHOLD Residences and Business Premises, in the best part of Pimlico, Abbey-road, St. John's-wood, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, August 2, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1018. AUGUST 9, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

Proposed Site of the Memorial of his Royal Highness the Prince Consort 569

Dwellings for the Industrial Classes, Kingston-upon-Hull. 569

Mr. H. M. Eyton, Architect 569

CONTENTS.

Stones, Metals, and Maps in the French Division of "The Exhibition" 561

British Architects: New Materials for their Lives 562

Thomas Becket's Candlestick 563

On Triviality in Modern Work 563

The Surrey Side Thames Embankment 564

On Ancient Mosaics found in Britain 564

Mosaics versus Frescoes for the Houses of Parliament 565

State of Metropolitan Canals 565

The Picturesque in Architecture: a New Clock Tower in Paris 565

The Overcrowding of Railway Stations 565

Connexion of Metropolitan Railways 566

The Beelah Viaduct 566

New Church for Battersea 566

Guildford County Hall, Surrey 566

Music in Brussels 566

Note on the Exhalations from Wood 566

Thames Embankment 567

Neglected Workhouse Children 567

A Mediæval Parthenon 567

Proposed Memorial of the Prince Consort 568

The New Comet 568

The Hull Dwellings for the Industrial Classes 571

Paris 571

Guernsey Intelligence 571

Competitions 571

Sewage of Towns 571

Provincial News 571

School building News 571

Stained Glass 572

Church building News 572

Mismanagement of Public Works in India 573

"The Spirit of Modern Work" 573

Oxford Workhouse Competition 573

Canada: Association of Surveyors, Civil Engineers, and Architects 573

Houslow Local Government Act 574

Brickmaking a Nuisance 574

Compensation Case: Charing Cross Railway 574

Cases under the Metropolitan Building Act 574

Books received: Glomale dell' Ingenere-Architetto ed Agronomo 574

Miscellanea 574

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of THREE PENSIONERS—TWO MALES and ONE FEMALE—will take place on WEDNESDAY, 19th NOVEMBER next. Candidates may obtain forms of application (to be returned on or before 25th AUGUST) at the Office, 23, Southampton-street, Bloomsbury. Pensions, £24 per annum for males, and £20 for females.

31st July, 1862. A. G. HARRIS, Sec.

EXHIBITION of ROMAN PHOTOGRAPHS.—Until Saturday, August 23, at the Architectural Galleries, 9, Conduit-street, Regent-street, will be EXHIBITED DAILY, between the hours of 11 and 6, a Collection of upwards of 400 PHOTOGRAPHIC VIEWS of ROME, Sculptures of the Vatican, &c. by Mr. R. MACPHERSON. Admission 1s., season ticket 2s.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862. CLASS 38, No. 6849. THE ONLY MEDAL "FOR STONEWARE" Has been awarded to DOULTON AND WATTS, LAMBETH POTTERY, LONDON.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268. THE ONLY MEDAL FOR STONEWARE PIPES Has been awarded to HENRY DOULTON AND CO. LAMBETH

Extract from Jurors' Report:—"H. DOULTON & CO. STONEWARE PIPES, &c. EXCELLENCE of MANUFACTURE and LOWNESS of PRICE."

INTERNATIONAL EXHIBITION. BROWN & GREEN'S KITCHEN RANGES have obtained THE PRIZE MEDAL for general excellence. LONDON WAREHOUSE, 81, BISHOPSGATE STREET WITHIN.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1795.—Apply for PRICED CATALOGUE of St. Cecilia, Seraphine, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoked, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

COMPETITIONS.

TO ARCHITECTS, SURVEYORS, and OTHERS.—THREE HUNDRED POUNDS PREMIUM.—The Proprietor of the Ashton Court Estate, near Bristol, offers the above amount by way of Premiums of 200l. and 100l. for the two best Block Plans, and Designs for first-class Villa and other Residences, with the necessary Approaches Roads, Footpaths, Drains, &c. on that portion of land extending from the Somersetshire bank of the River Avon to the turnpike road leading from Bristol to Abbot's Leigh, and comprising Nightingale Valley and the most romantic portion of the Leigh Woods, which by the completion of the suspension bridge will be brought into immediate connexion with Clifton.—Conditions and particulars will be forwarded through the post, free of charge, on application by letter, to Mr. FREDERICK EASTON, Long Ashton, near Bristol.—Long Ashton, August, 1862.

FOR COMPETITION.—The Committee of the Suffolk "Albert Middle Class School" invite Architects to prepare PLANS for a BUILDING to accommodate 300 Boys as Boarders, and to be capable of enlargement. Two School Rooms required, and Four Class-Rooms. Rooms for Four Masters, two for each Master, with a semi-detached House for the Head Master, and the necessary accommodation of Offices and Servants' Room. A Chapel to be included in the Plan. The building to be of brick, tiled or slated. These and all other buildings required for the School to be built for a sum not exceeding 10,000l. exclusive of the Chapel. A Prize of 50l. will be given for the best Plans and Specifications, provided a responsible Contractor is prepared to undertake the work for the estimate given. The Committee do not bind themselves to employ the architect to whom the prize is awarded. The Plans to be sent in before the 1st of OCTOBER, directed to R. GARRETT, Esq., Carlton Hall, Saxmundham.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for CONSTRUCTING a GYMNASIUM, &c. at Albany Barracks, Isle of Wight.

Persons desiring to Tender for this work must leave their names at this Office, on or before the 12th of AUGUST next, and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Albany Barracks, 29th July, 1862.

WAR DEPARTMENT CONTRACT.—To BUILDERS and CONTRACTORS.—TENDERS are required for the performance of the ADDITIONS to the HUT, opposite the East Permanent Infantry Barracks, for Quarters for the A.S. General, at Aldershott, Hants; the plans and specification for which may be seen at this Office.

Persons desiring to Tender for this work must leave their names at this Office on or before TUESDAY, the 12th AUGUST next, and pay the sum of half a guinea for the bills of quantities, which may be had at the same time, as also forms of Tender and general conditions of contract.

The Tenders to be addressed, under cover, to the Director of Contracts, War Office, Pall-mall, London, S.W. endorsed in the left-hand corner, "Tender for A. A. [General's Quarters, Aldershott," and delivered by TEN o'clock a.m. on SATURDAY, the 16th AUGUST next.

Royal Engineer Office, Aldershott, July 31, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the following service, at Chatham, viz.:—ERECTING a HOSPITAL for FEMALES, with Kitchen, Offices, Stores, &c. for Twenty-three Patients.

Parties desiring to Tender for the execution of these Works must leave their names at this Office, on or before SATURDAY, the 16th day of AUGUST, 1862, and pay the sum of half-a-guinea for the bills of Quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Chatham, August 5, 1862.

NEW CHURCH, HOVE, BRIGHTON.—To BUILDERS.—The Committee for the Erection of the above Church give notice, that they are prepared to receive TENDERS from parties who may be willing to CONTRACT for the proposed WORKS. The drawings, specifications, and conditions may be inspected at the Office of Mr. WOODMAN, Architect, 17, Prince Albert-street, Brighton, between the hours of TEN a.m. and FIVE p.m. on and after TUESDAY next, the 5th inst. Tenders, under cover, addressed to the undersigned, to be delivered not later than NOON, on SATURDAY, the 23rd inst. The Committee do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due satisfactory performance of the works.

41, Medina Villas, August 1st. C. A. BAINES, Hon. Sec.

TO PAINTERS and OTHERS.—The Guardians of the Poor of the Whitechapel Union will meet in their BOARD ROOM, at the Workhouse, Charles-street, Mile End New Town, N.E. on TUESDAY the 12th day of AUGUST, 1862, at SIX o'clock in the afternoon precisely, to receive TENDERS and CONTRACT for PAINTING the OUTSIDE WOOD and IRON WORK at their INDUSTRIAL SCHOOLS, Forest-lane, West Ham, Essex. The specification and particulars of the Works to be performed may be inspected at the School, as above. The Guardians do not bind themselves to accept the lowest or any Tender.—By order,

G. ADAMS FARR.

Clerk's Office, Workhouse, 28th July, 1862.

TO BUILDERS.—Persons desirous of submitting TENDERS for the ERECTION of a PUBLIC-HOUSE and TWELVE COTTAGES, and REPAIRS to TWENTY other COTTAGES, at Chislehurst, Kent, can see the drawings and specification as there from and after WEDNESDAY, the 6th inst. on application to Mr. F. P. THORNE, Dacre Park, Lee, Kent, Architect. The Tenders to be delivered upon THURSDAY, the 14th of AUGUST next.

CONTRACTS.

TO CONTRACTORS and IRONFOUNDERS.—DUBLIN CORPORATION WATERWORKS.—The Waterworks Committee of the Dublin Corporation hereby give Notice that they will receive TENDERS, on or before WEDNESDAY, the 10th day of SEPTEMBER, 1862, for the following WORKS, viz.—

CONTRACT No. 1.—For making and delivering about 20,000 tons of Cast-iron Pipes and other Castings.

CONTRACT No. 2.—For making and delivering certain Stop Cocks, Sluice Cocks, Air Cocks, Pipes, Apparatus, and Appendages connected with same.

CONTRACT No. 3.—For laying and satisfactorily completing about 30,000 lineal yards of Thirty-three Inch, and about 16,500 lineal yards of Twenty seven Inch Mains, and works connected therewith.

CONTRACT No. 4.—For the construction of a Storage Reservoir, Bye Wash, Waste Weir, and other works connected therewith; a Conduit and Tunnel and a Catch-water Drain, also Filter Beds; all in the county of Wicklow.

CONTRACT No. 5.—For the construction of Distributing Reservoirs, Waste Weirs, and a Conduit, with other works near Stillorgan, in the county of Dublin.

Specifications, schedules of quantities, and forms of Tender may be had at the Office of Mr PARKE NEVILLE, Engineer to the Corporation of Dublin, City Hall, Dublin; and at the Office of Sir JOHN MACNEILL, Consulting and Advising Engineer, 24, Cockspur-street, Charing-cross, London, on and after the 4th AUGUST, 1862, on payment of £1.5s.; where may be also seen, from TEN to FOUR o'clock each day, copies of the working plans, of which intending Contractors, who may have supplied themselves with specifications, may make tracings. The Waterworks Committee will meet on the 11th day of SEPTEMBER, to open such Tenders as may be sent in; at which day such parties as will have sent in Tenders are requested to attend. Tenders will be received for each or any of the above Contracts, or one Tender may be sent in for the whole of the works. The Waterworks Committee will receive no Tender after FOUR o'clock on WEDNESDAY, the 10th day of SEPTEMBER, 1862. All Tenders to be under seal, addressed to Sir DRURY JONES DICKINSON, Secretary to the Waterworks Committee, City Hall, Dublin, and endorsed, "Tender for Waterworks." The Waterworks Committee do not bind themselves to accept the lowest or any Tender; and should they accept a Tender, the party whose Tender or Tenders may be accepted will be required to provide two approved sureties for the due and satisfactory completion of the works. The Waterworks Committee will not be responsible for any costs whatever which may be incurred by parties who may send in Tenders, or for any expenses they may undertake preparatory to, or in connexion therewith.—Signed by order,

DRURY JONES DICKINSON, Sec. Waterworks Committee.

City Hall, Dublin, July 26th, 1862.

TO BUILDERS.—Persons desirous of TENDERING for the RESTORATION and RESEATING of Tillingham Church, in the County of Essex, can inspect the plans and specification at my Offices, at Chelmsford, after the 7th of AUGUST. Tenders to be delivered to me on or before the 17th of AUGUST. The lowest or any Tender will not necessarily be accepted.

FRED. CHANCELLER, Architect.

Pinner's Hall, Old Broad-street, London; and Chelmsford, Essex, July 30th, 1862.

TO PAVIORS, CONTRACTORS, and OTHERS.—Notice is hereby given, that the Highways, Sewers, and Public Works Committee of the Vestry of the parish of St. Pancras will meet at the Office of the Department of Works, 10, Edward-street, Hampstead-road, on MONDAY, the 11th AUGUST next, at SIX o'clock p.m. to receive Tenders from persons willing to CONTRACT as follows, viz.:—

1st Contract.—For PAVING WORKS to be executed in Guilford-street, Guilford-place, Lamb's Conduit-place, Lansdowne-place, Calthorpe-street, and Tavistock-place.

2nd Contract.—For Paving Works to be executed in Seymour-street, North-west side of Euston-square, and Gollington-crescent.

And a 3rd Contract.—For Paving Works to be executed in Grove-street, Wellington-street, James-street, Mornington-road, and Greenland-place. The whole of the works to be executed agreeably with the specifications to be seen daily at the Office of Mr. W.M. BOOTH SCOTT, C.E. Chief Surveyor, No. 10, Edward-street, Hampstead-road, where all further particulars, together with the printed forms of Tenders, may be obtained on depositing the sum of 1l. for each Contract, the Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be received unless made out on the printed form. Good security will be required for the due performance of each contract. Tenders to be delivered at the Office of the Department of Works, by or before TWELVE o'clock at noon, on the said MONDAY, the 11th AUGUST inst.—By order,

CHAS. WORRELL, Chief Clerk of the Department of Works.

10, Edward-street, Hampstead-road, August, 1862.

STRATFORD-UPON-AVON LOCAL BOARD of HEALTH.—CONTRACT No. 9.—SEWERAGE WORKS.—TO CONTRACTORS.—The Local Board of Health for the District of Stratford upon Avon hereby give notice that they are prepared to receive TENDERS for supplying PIPES and executing the following works:—Supplying and constructing about 471 yards lineal of 15-inch Pipe Sewer, also Iron Castings, Gullies, and other works in connexion therewith. The plans, section, and specification may be seen, and Forms of Tender had, on application at the Office of Mr. THOMAS TAYLOR ALLEN, Surveyor to the Local Board, Brunstreet, Stratford-upon-Avon, after the 14th instant. Sealed Tenders, endorsed "Tender for Improvement Works," must be sent to the Office of the Local Board, Scholars-lane, Stratford upon-Avon, addressed "To the Clerk of the Local Board of Health," not later than Monday, the 25th instant. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY O. HUNT, Clerk to the said Local Board.

4th August, 1862.

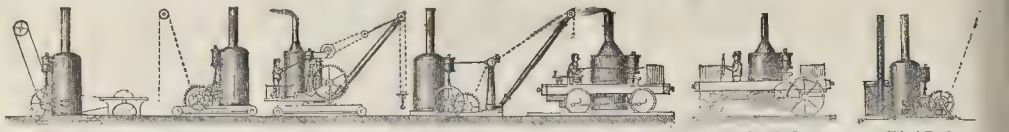
TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a VILLA, at Croydon, Surrey, may see the plans and specification and obtain copy of the bills of quantities, on and after SATURDAY, the 16th instant. Tenders to be addressed to the Architect, at his Office, and endorsed, "Tender for Villa at Croydon." The lowest or any Tender will not necessarily be accepted. WILLIAM PAICE, Architect,

11, Great James-street, Bedford-row, W.C.

[For remainder of Contracts see next Page.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane.* 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

* These Cranes were selected by Her Majesty's Commissioners to receive and deposit the heavy machinery in the International Exhibition.

Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

CRANSTON-HILL ENGINE WORKS, GLASGOW;

Or LONDON DEPOT, AT LAMBETH, NEAR STEAM-BOAT WHARF.

Parties are cautioned against using or purchasing imitations or infringements of these Patent Manufactures.

CONTRACTS.

METROPOLITAN IMPROVEMENTS.—SOUTHWARK and WESTMINSTER COMMUNICATION—WAREHOUSE in WORCESTER-STREET, SOUTHWARK, TENDERS for LEASE. The Metropolitan Board of Works hereby give notice, that they will meet at their Office, on WEDNESDAY, the 13th inst. at TWELVE o'clock at noon precisely, when it will be prepared to OPEN TENDERS, by persons who may be willing to take on lease a large WAREHOUSE, in Worcester-street, Southwark, consisting of five floors and conveniences, well adapted for a hop or general merchant's business. The term to be twenty-one years from 29th SEPTEMBER, 1862; the lessee is to covenant to pay the rent half-yearly, clear of all rates, taxes, or other duties of every kind, and to covenant to insure to the satisfaction of the lessor, in the sum of 3,000l to repair, not to assign, or underlet, without licence, and the lessee to obtain all other usual stipulations. The lessee to pay for the lease and counterpart to be prepared by the lessor's solicitor, and the lessor not to be required to produce any title.—Particulars and a plan of the premises can be had at the Office of the Metropolitan Board of Works, Spring-gardens, Superintendent or Architect's Department, between the hours of NINE a.m. and FOUR p.m. Tenders to be sent in addressed to the Clerk of the Board, on or before TUESDAY, the 12th day of AUGUST next at. The Board do not bind themselves to accept the highest or any Tender, and they reserve to themselves the right to require security for the payment of the rent and performance of the covenants. JOHN POLLARD, Clerk of the Board.

Spring-gardens, August 1, 1862.

TO BUILDERS.—Builders desirous of TENDERING for certain WORKS connected with Removing the present Roof to the Church of St. James's, Bury St. Edmund's, and Preparing and Fixing a new one, according to the designs and specification prepared by Mr. G G SCOTT, Architect, No 20, Spring-gardens, London, may on application to GEORGE SEARS, of College-street, the Sexton) inspect the said drawings and specification at the Vestry Room of the Church, where they will remain for the purpose until the 9th day of SEPTEMBER, inclusive. The Committee do not bind themselves to accept the lowest or any Tender. In the event of a Tender being accepted, the contractor must enter into proper securities for the due performance of the work, and be prepared to undertake a portion only at first, if necessary, and also only to the terms of the specification, reserving the rest to be done at a future time

Bury St. Edmund's, August 5, 1862.

TO BUILDERS and OTHERS.—Plans and Specifications for PART REBUILDING the RECTORY HOUSE and OFFICES at Creeting, in the County of Suffolk, near the Needham Market Railway Station on the Eastern Counties line will be lying at Mr. TAYLOR'S, Stationer, Needham, from the 18th to the 23rd instant, inclusive. Persons desirous of Contracting for the execution of the said works must send in sealed Tenders, directed to the Rev. WILLIAM LIOT, the Cloisters, Eton College, Bucks. on or before the 30th instant. The lowest or any other Tender will not necessarily be accepted. The contractor must be prepared to enter into the usual bond, with two good and approved sureties for the due performance of the contract.

Eton College, August 2nd, 1862.

WORM BROOK IMPROVEMENT.—The Commissioners of Sewers for the Worm Brook Valley are prepared to receive TENDERS for DEEPENING, WIDENING, and STRAIGHTENING the above-named BROOK or RIVER, with other WORKS connected therewith. Plans, sections, and specifications may be inspected at the School-house, Wormbridge, on and after the 7th instant. Mr. CURLEY, the engineer for the works, will meet intending contractors at the Train Inn Station, at 8.30 a.m. on SATURDAY, the 30th of AUGUST, for the purpose of walking over and explaining the intended improvements. Quantities will be supplied from the Office of Mr. T. CURLEY, C.E. Ludlow. The Commissioners do not pledge themselves to accept the lowest or any Tender. Tenders to be addressed to me not later than TEN o'clock a.m. on the 6th day of SEPTEMBER next.

Hereford, 1st August, 1862. THOMAS LANWARNE, Clerk.

CONSERVATIVE LAND SOCIETY.—COLCHESTER ESTATE.—TENDERS are invited for the EXECUTION of DRAINAGE and ROAD WORKS, on the Society's Estate, in the parish of St Botolph, at Colchester, Essex. The following rough quantities are stated in order to indicate approximately the extent of the proposed works, but parties tendering will have to ascertain for themselves the true quantities:—

15-inch Pipe Drain	.....	550 feet run.
12-inch do.	.....	410 do.
9-inch do.	.....	1,970 do.
6-inch do.	.....	130 do.
New Roads, 30 feet wide, including footpaths	.....	1,390 do.
Widening existing Roads, including footpaths	.....	1,230 do.
Public Footpath intersecting the estate, 6 feet wide	.....	600 do.
Gulley cesspools, including gratings in boxed frames, sixteen in number.		

The plan, sections, and specifications will be seen on and after WEDNESDAY, AUGUST 13th, at the Offices of the Society's Surveyor, Mr JAMES WILSON, 33, Norfolk-street, Strand, London, W.C.; also at the Offices of Mr. PHILIP SMITH, 3 SPARLING, Solicitor, St. John-street, Colchester. Tenders, sealed, and endorsed "Tenders for Works at Colchester," to be sent in to the Surveyor on or before SATURDAY, AUGUST 23. The Committee do not bind themselves to accept the lowest or any Tender submitted.

33, Norfolk-street Strand, London, W.C. Aug. 7, 1862.

CONSERVATIVE LAND SOCIETY.—ROEHAMPTON PARK ESTATE.—TENDERS are invited for the EXECUTION of DRAINAGE and ROAD WORKS on the Society's Estate at Roehampton, in the parish of Putney, Surrey. The following rough quantities are stated in order to indicate approximately the extent of the proposed works; but parties Tendering will have to ascertain for them-selves the true quantities.

9-inch Pipe Drain	.....	860 feet run.
6-inch do.	.....	100 do.
New Road, 40 feet wide, including footpaths	.....	1,960 do.
Gulley Cesspools, with gratings in boxed frames, ten in number.		

The plan, sections and specifications will be seen on and after MONDAY, AUGUST 11th, at the Offices of the Society's Surveyor Mr JAMES WILSON, 33, Norfolk street, Strand, W.C. Tenders sealed, and endorsed "Tenders for Works at Roehampton," to be sent in to the Surveyor on or before SATURDAY, AUGUST 16th. The Committee do not bind themselves to accept the lowest or any Tender submitted.

33, Norfolk-street, London, W.C. August 7th, 1862.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the



admission of Pure Air through an

EXTERNAL WALL.

With single pulley, from 6s. each, with leading pulley, from 6s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the inmates; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union street, Borough, London; and of all respectable ironmongers, Builders &c.

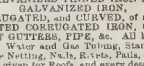
MOREWOOD & CO. (late Morewood & Rogers), Dowgate Dock, Upper Thames street, London; and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.

Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS PLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN. PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

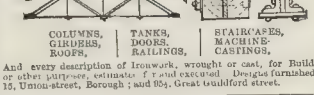
IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES now in use, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Rope makers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.

PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,

And every description of Ironwork, wrought or cast, for Builders or other purposes, estimates free and executed. Designs furnished.—15, Union-street, Borough; and 95A, Great Guildford street.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,

A complete List of which will be forwarded upon application to FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 1d, Gresham street, London, E.C.

LOSH, WILSON, & BELL, NEWCASTLE on TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-Iron Goods, and STEWART'S PATENT CAST-IRON GAS and WATER PIPES. Office, No. 7, Size-lane, London.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to RANDAL STAP, Contractor, No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE.

REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz great strength, great durability, and perfect in oxidability; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. in the square inch (equal to 500 feet head of water), and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the Office of the Company, on application to Mr ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

IRON BUILDINGS and IRON ROOFING. SAMUEL C. HEMMING & CO. 21, MOORGATE STREET, E.C.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 99, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.

N.B.—The usual discount to builders and the trade.

TO IRONMONGERS, BUILDERS, &c. PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators. HULETT & CO. 55, High Holborn.



THE SMELL of PAINT, SIZE, PLASTER, &c. May be perfectly NEUTRALIZED by the FUMIGATING RIBBON, ONE SHILLING Per Yard.

Made by PIESSE and LUBIN, 2, NEW BOND STREET.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Piping, Wire Netting Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

EDWARD DAVIES, SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

TO RAILWAY COMPANIES.—The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineers' Brass-founder, No. 9, Shoe-lane Fleet-street; manufacturer of Steam Fittings, Diving Apparatus Pumps, Cocks, &c.; Patent Anti-friction Metal, Gun Metal, Brass Castings &c.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D HULETT & CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES.
TOMB RAILING.

VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



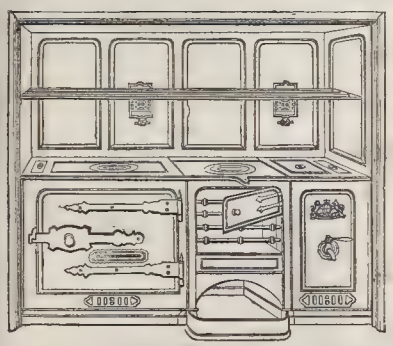
ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



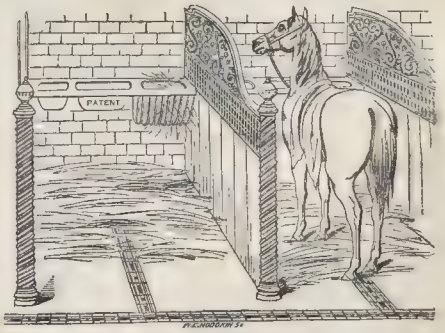
CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT.



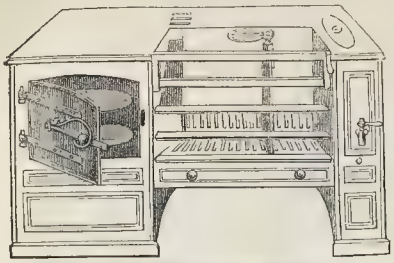
TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Birmingham, and Limehouse.
Every description of Iron Work Galvanized.
LONDON OFFICE—61A, MOORGATE STREET, E.C.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished, Real and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c. 159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.
34 inches ..... 54s.
36 „ ..... 56s.
38 „ ..... 58s.
42 „ ..... 60s.

Self acting Cottage, with Oven and Back Boiler.
30 inches ..... 22s.
32 „ ..... 24s.
34 „ ..... 26s.
36 „ ..... 28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 42s. to 100s. each.

Best Cut Clasp and Rose Nails.
1-inch. 14s. | 1½-inch. 14s. | 2-inch. 18s. | 2½-inch. 12s. | 3-inch. 11s. 6d. per cwt

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

2-in. 2½ in. 3-in.
Cast Rain-water Pipe....8d. 10d. 1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

4-in. 4½-in.
O G Gutters, with Clips on.... 10d. 1s. per yard.

2 3 4 5 6
Patent Line..3s. 6d. 4s. 5s. 7s. 9s. per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock. Any size made to order.

THE ALPHA TUBE & FITTING WORKS.

WALSALL, STAFFORDSHIRE.—Established 1830.
LAMBERT BROTHERS,
MANUFACTURERS OF LAP-WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,

For Steam or High pressure Water and Gas. HIGH-PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS-FITTINGS, GASELIERS, &c.; and of the GROVE BEDSTEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam-engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, Mills, &c at the International Exhibition, Walsall Court, Class 31, precisely as sold from engravings and prices in trade catalogues.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of
FIRST-CLASS WOOD-CUTTING MACHINERY,
being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

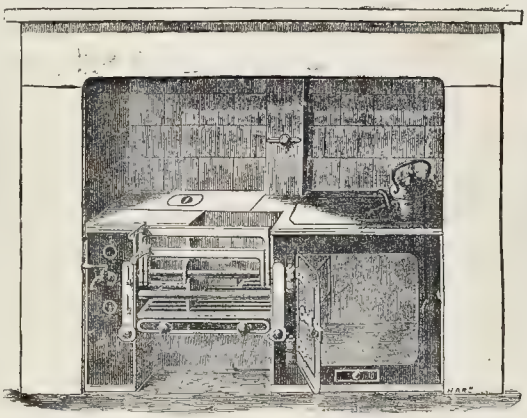
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,
WILLIAM ADDIS,
6 and 15, LEICESTER STREET, LEICESTER SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.



BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

CASTINGS, ANY WEIGHT AND QUANTITY,
With the utmost despatch, at Country Prices.
HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.





FIRE-PROOF CONSTRUCTION.—
FOX & BARRETT'S PATENT.
This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great consideration of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,
Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

MUSGRAVE'S PATENT STABLE
FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made



At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended;" being the only prizes conferred on any competitor in this class.

Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

CANNON IRON FOUNDRY, 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Stabboard, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Basn-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths inch diameter..... 1s. 6d. per foot.
Half-inch diameter ..... 2s. 6d. „
Five-eighths inch diameter ..... 3s. 0d. „

R. S Newall & Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
„ Gateshead-on-Tyne.
„ 27, Dale-street, Manchester.
„ 68, Anderson-quay, Glasgow.
„ 17, South Castle-street, Liverpool
„ Exchange-buildings, Dundee
„ 7, Frederick-street, Aberdeen.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.



These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

A PRIZE MEDAL for SUPERIOR LOCKS
was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

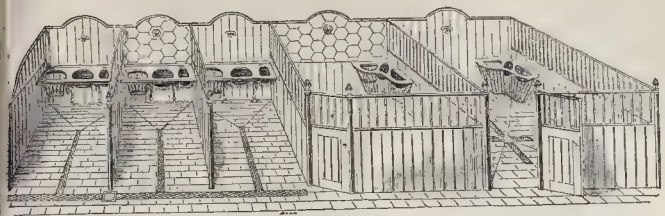
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

COTTAM & CO. WINSLEY STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS

COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation preventing foulness in the rack, facility in fixing, safety from accident, durability in construction and cleanliness in use.

STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.

COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

ILLUSTRATED CATALOGUES FREE, on application to

COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.

COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.

N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

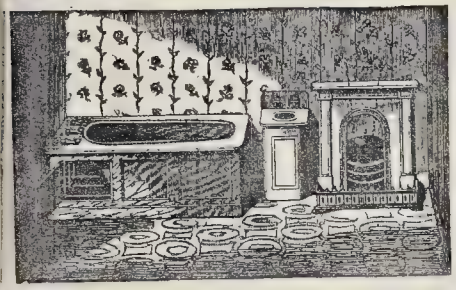
EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers.

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

OF VARIOUS SIZES, FOR STRONG ROOMS,

AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W

Drawings and Estimates furnished.

HART AND SON,

MEDIÆVAL METAL WORKERS,

IN SILVER, BRASS, & WROUGHT-IRON.



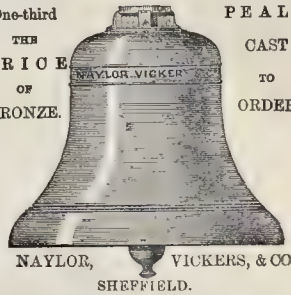
GATES, GRILLES, SHOES, GABLE TERMINALS, HINGES, HANDLES, &c.

53 to 58, WYCH STREET, STRAND, W.C.

And 20, COCKSPUR STREET, PALL-MALL.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.

THOMAS ROBINSON

and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.



IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*

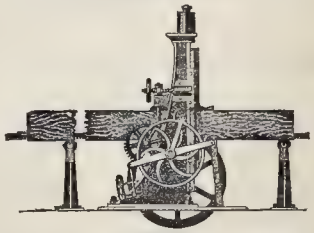
Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, CANNON STREET, E.C.

S. WORSSAM & CO.'S PATENT

PORTABLE DEAL FRAME.



(¼-inch Scale.)

This machine is so constructed as to require no foundations for fixing; it can be driven either from an underground or overhead shaft, or from a portable engine, and is peculiarly useful for builders and contractors.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,

STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.



PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE-ACTION DOORS.





PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

GOTHIC, DROP, AND OTHER DOOR HANDLES.



PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.





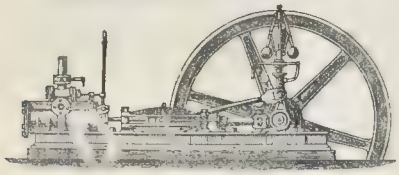
Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

MANUFACTURERS, BIRMINGHAM.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,

AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF

HORIZONTAL

AND

VERTICAL

STEAM-ENGINES,

From 2 to 30-horse power and upwards.

PORTABLE ENGINES, CRAB WINCHES, &c.

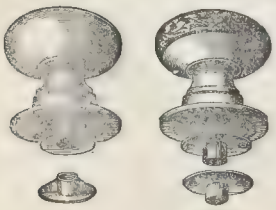
SEVERAL ALWAYS READY FOR DELIVERY.

Price List forwarded on application

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)



NUT PLATE.

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in brass, china, brass, bronzed, gilt, carved woods, inlaid, &c &c. ornamental design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and price lists sent upon application.

SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE-CUT SCREW GEARING, 2s. 6D. PER FOOT

AT HIS STEAM WORKS, 135, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC-DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE.

No. 24, Davies-street, Three Doors from Oxford-street.

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade generally, at wholesale prices, in connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

SMITH & WOODS

SHOP FRONTS

WORKS, HARTS-HILL IRON FOUNDRY, Near Dudley. MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.

LONDON OFFICE, 76, CANNON-STREET WEST, LONDON, E.C. Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES.

COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY STREET,

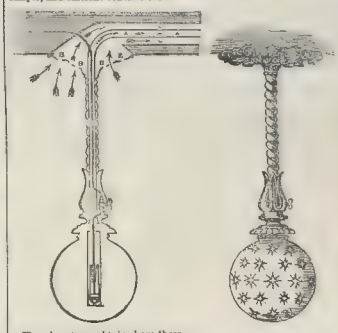
OXFORD STREET, LONDON, W.



RICKET'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

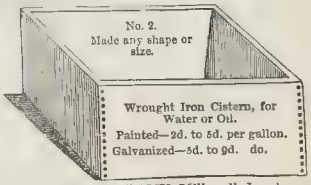
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour

5, AGAR STREET, STRAND, LONDON, W.C.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London

TRADE MARK.

CROWN TUBE WORKS,

WEDNESBURY, STAFFORDSHIRE.

Warehouse—81, Upper Ground-street, London, S.

JAMES RUSSELL & SONS,

The Patentees and first Makers of Wrought-iron Tubes.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246),

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening sound.

Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.



WINDOW BLINDS,
first-rate Quality, at Reduced Prices.

E. ADKINS,
HIGH-STREET, ST. JOHN'S WOOD,
REGENT'S PARK, N.W.

Illustrated List of Prices on receipt of one postage stamp.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London

These pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,
242 EUSTON ROAD, ST. PANCRAS.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,
QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,
WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES BROTHERS, & BURKE, PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London Atmosphere.

ADULTERATIONS. Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

AN EXTRAORDINARY PHOTOGRAPH.

Messrs. DAY & SON have just published a reduced copy of a Large Photograph of nine MEMBERS OF THE BRITISH ASSOCIATION, which has been executed by Mr. A. Brothers, Photographer Manchester, for William Fairbairn, esq. LL.D. F.R.S. &c. President of the Association for the year 1861. The group contains twenty-two portraits, among which are those of Dr. FAIRBAIRN; the ASTRONOMER ROYAL; Sir RODERICK I. MURCHISON, Sir DAVID BREWSTER, Lord WROTTESLEY, General SABINE, and other scientifically celebrated men of the age

"ALL ARE EXCELLENT LIKENESSES."—*Manchester Examiner*

Price one Guinea each, mounted on Plate-paper.

As only a limited number of copies will be produced, subscribers' names should be forwarded at once to Messrs. DAY & SON, Gate-street, Lincoln's-inn Fields; or to Mr. A. BROTHERS, Photographer, 14, St. Ann's-gate, Manchester

Just published, price 2l. 2s.

MANUAL of HYDROLOGY.

By NATHANIEL BEARDMORE, Civil Engineer.

CONTENTS:—

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 66, London-wall. 1862.

NEW ENGINEERING YEAR BOOK.

Now ready, post 8vo. 7s. 6d. cloth,

THE ANNUAL RETROSPECT of ENGINEERING and ARCHITECTURE;

a Record of Progress in the Sciences of Civil, Military, and Naval Construction. Vol I. (January to December, 1861)

Edited by GEORGE R. BURNELL, C.E. F.G.S. F.S.A.
LOCKWOOD & CO. 7, Stationers' Hall Court, E.C.

Now ready, the Sixth Edition, in 8vo with many Plates, price 21s. cloth, extra gilt top,

AN ATTEMPT to DISCRIMINATE the STYLES of ARCHITECTURE in ENGLAND,

from the Conquest to the Reformation; with a Sketch of the Grecian and Roman orders.

By the late THOMAS RICKMAN, F.S.A.

Sixth Edition, with considerable Additions, chiefly Historical, by JOHN HENRY PARKER, F.S.A. and numerous Illustrations by O. JEWITT.

J. H. & JAS PARKER, Oxford, and 377, Strand, London.

This day is published, in 2 vols. 8vo. with Illustrations engraved on Wood, price 30s.

HISTORY of the ROYAL ACADEMY of ARTS,

from its Foundation in 1768 to the Present Time. With Biographical Notices of all the Members.

By WILLIAM SANDBY

London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER

to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks

Ladies' Gold Foreign Watches	8 Guineas
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	13 "
Strong Silver Lever Watches	5 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do. do.	25 "
Marine Chronometers	25 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—



A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.

INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,248.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

TO BUILDERS and CONTRACTORS.—

For SALE, SIX NEW 500-BRICK CARTS.—To be seen at T. A. JORDAN'S, 20, Pump-row, Old Street Road.

INTERNATIONAL EXHIBITION, CLASS 32, No. 6,521.
ENGLISH AND FRENCH PATENT.

WESTON'S NEW PATENT TORSION SPRING,

For closing or keeping open doors, gates, &c. &c. at different strengths, specially suited for all climates, and adapted for general purposes.

Price, Three Shillings.

To be had of the principal Merchants and Factors in Birmingham and Wolverhampton; also at No. 62, Coleman-street, City.

F. COLYER & CO. Engineers and Millwrights,

St. Mary's Iron Works, 6, Leman-street, E. Manufacturers of Steam Engines and Boilers, Jackass and other Smoke-Consuming Furnaces, Cranes and Lifting Machinery for Railway and steam power, Hydraulic Presses, Pumps, Valves, and Cocks; Water-Wheels, Overshot, Breast, and Pendant.—F. C. & Co. undertake repairs to all classes of millwork and machinery.

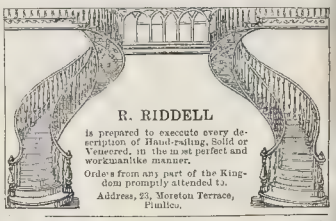
PRIZE MEDAL—INTERNATIONAL EXHIBITION, 1862.

CONDY'S PATENT FLUID is adopted by

the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying impure water, sweetening musty casks, retarding and preventing taint in meat, game, fish, &c. as well as by use in the bath for promoting and maintaining personal purity. Obtainable of all first-class Chemists, in Bottles at 1s. 2s. or 4s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.

Wholesale of the Patentee, Battersea, Surrey, S.W.

HAND-RAILS BY MACHINERY.



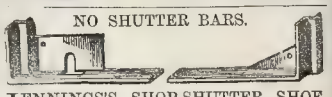
R. RIDDELL

is prepared to execute every description of Hand-railing, Solid or Veneered, in the most perfect and workmanlike manner.

Orders from any part of the Kingdom promptly attended to.

Address, 23, Moreton Terrace, Pimlico.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

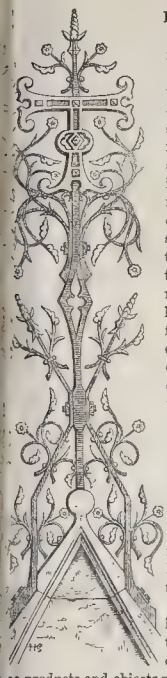
POLYTECHNIC.—New Lecture by

Professor J. H. Pepper, on Tuesday, Thursday, and Saturday, at half-past 12 and quarter-past 7, on "Some of the Chief Scientific Specialities of the International Exhibition."—Splendid series of Electrical Experiments with the Giant Plate Machine, and Lecture by J. L. KING, Esq.—Remarkable Imitations of British Birds and Animals, by HERR SUSMAN.—Re-engagement of George Buckland, Esq. for his Ruffo-Musical Entertainments.—New Gorgeo s Scenic, Musical, and Pictorial Fountain Spectacle. Beautiful Dissolving Views illustrating London in Ancient and Modern Times—Paris as it is—the Holy Land and Concerts by the BROUSIL FAMILY. See weekly programme of 8 pages. Open from 11 to 5, and half-past 8 to 10. Admission 1s.

The Builder.

VOL. XX.—No. 1018.

Stones, Metals, and Maps in the French Division of "The Exhibition."



THE products of mines, quarries, and metallurgic factories, forming Class 1 of the French Division of the Exhibition, cannot be considered in the least *representative* of the mineral wealth of France, and of the branches of industry that are connected with those products. The display of such riches of the country is inferior not only to that of the British minerals and metallurgy; it is greatly inferior to that of several of the other foreign divisions. Having, however, said this much, by way of emphasizing our caution against generalizing from classes and sections of the Exhibition that are incomplete, we are able to find several specimens of materials and manufactures in Class 1 of the French Division, which may call for notice.

Following the original idea of arrangement, rather than that which exists in the building, the products and objects we have referred to, may be comprised in seven sub-classes; as, 1, Products of quarries, called by the generic name *rocks*, serving for the construction or decoration of edifices, and employed in the industrial arts; 2, Mineral combustibles, and matters derived from them, as coal, lignite, turf and bitumen, coke and agglomerates; 3, Metal-producing minerals, as those of iron, lead, copper, &c.; 4, Machines, tools, and apparatus of mining *exploitation* and extraction; 5, Metallic products furnished by the treatment of minerals in manufactories, as pig-iron, bar-iron, iron wire; steel, puddled, cast, &c.; lead, silver, aluminium, &c.; 6, Mineralogical collections, comprising particular types, or different mineral substances of a locality united together; and 7, Geological maps and topographical plans of veins of minerals or of coal formations. It is in the two mineral substances which play the most important part in modern industry, namely, coal and iron, that the French Division makes the least approach to completeness. That this part, in France, is important, may be gathered from inspection of models in Class 10, some of which we have spoken of, and from other manufactured articles as well as maps in that class, to which we shall refer shortly: but as there are only ninety-six exhibitors from all France, in Class 1, nearly thirty of them being from the capital and the departments close to it, and seven from Corsica, the information to be acquired of the resources of the country is very inadequate.

The French juries for the admission of specimens to the Exhibition, indicated as amongst improvements in the course of the past ten years, in the extraction and fabrication of the products belonging to Class 1,—First. The development given to the production of coal, and the persevering efforts made in different localities to discover and realize the value of new beds of combustible material; 2. The various perfectionments in the sinking of pits through the most difficult water-bearing strata, in the machinery of extraction and ventilation, and in the *exploitation* of thick beds of coal; and the processes for the agglomeration of small coal; 3. The development of the *exploitation* of pyrites of iron and copper for the fabrication of sulphuric acid; 4. Increase in the extraction of *kaolin*, and also in the manufacture of cements and hydraulic limes; 5. A notable augmentation in the quantity of wrought and cast iron produced; the use of hot-air become almost general in the high furnaces; utilization more and more frequent, of the gas and heat otherwise lost, in reverbatory and other forms of furnace; and the improvements, numerous and varied, in the rollers for the fabrication of special forms and dimensions of wrought iron; 6. The more active search for manganesic and spathose minerals for the fabrication of cast iron, using wood; and the tendency of this special fabrication to develop itself; 7. Increase in the fabrication of puddled, cast, and other steel, from cast iron, by new processes, with the aid of wood of the locality,—methods of which the use extends more and more every day; 8. A certain amount of progress in the treatment of the minerals of lead and copper, and in the elaboration of those metals; and 9. The creation in France of the production of aluminium, and the remarkable progress in the manufacture of a multitude of objects of this metal and its alloys; and the perfection of the treatment of the mineral of platinum and in the fabrication of objects in which the metal is used.

It will be useful to add notes of the principal improvements which we find amongst those mentioned as having accrued during the same time in products of the kind comprised in Class 2, "Chemical and Pharmaceutical Products and Perfumery;" which includes colours. Such improvements are the use, already alluded to, of pyrites in place of sulphur, which has caused reduction in the price of sulphuric acid; extension of the indigenous production of potash by the calcination of the residues of the distillation of beet-root juice; and the preparation of the *potasse du suint;* the developments in the process of extraction from the waters of salt-marshes, of the sulphate of soda and the salts of manganese which are contained in them; the improvements in the production of ammonia, and its salts, from the condensed fluid collected during distillation of coal; the development of the industries of the distillation of coal-tar, and the preparation of benzine and certain acids; the application, more and more frequent, of the silicates of soda and potash, to the conservation of monuments and sculpture; the new industry of the salts of alumina with a soda-base, and of pure alumina; the experiments for the industrial production of the prussiates and ammoniacal salts by ammonia and carbonate of barytes; increase of the production of pyroligneous acid and its compounds; development given to the fabrication of the vegetable alkaloids; extension in the manufacture of white lead, and artificial ultramarine; introduction of the yellow, red, violet, and blue colouring matters, resulting from the transformations of aniline; and the use of sulphuret of carbon for the extraction of fatty substances and perfumes.

The products and objects exhibited in Class 10—"*Constructions Civiles*"—comprise five sub-classes; 1, Materials of construction, as mastics or stuccoes, cements, bricks, tiles, and artificial stones; and, 2 to 5, models, drawings, and maps, to which we shall return in some future article in continuation of what we have given on the Public Works of France. Amongst the gains of the last ten years, in this class, the juries mention the more general use of calcareous cements, and progress realized in their fabrication and application.

It will be convenient to us to deviate in some measure from the classification, above mentioned, and follow the order of our notes on Class 1 of the British Division. We alluded in these, to the French geological maps. We find several maps of departments of France, in Classes 1 and 10 of the French Division. They include the admirable map by Mr. A. Delesse, showing the hydrology of the department of the Seine, just now particularly interesting; one by Mr. E. Dormoy, of the coal district of Valenciennes and the neighbourhood of Mons, designed to assist explorers in choosing the spots for borings and pits; one of the coal district of the Pas-de-Calais, by Mr. E. Sens; and one of the department of the Puy-de-Dôme, by Mr. H. Lecoq. These are catalogued as in the Annex; but the chief of them will be found in Class 10, in the court next the nave, or with the products, Class 1. The illustration of the Pas-de-Calais includes a valuable "Statistique" or atlas, showing in numerous sheets, the position of veins of coal. In the nave-court will be found an atlas of twelve sheets, forming a map of the ancient principality of Dombes in the department of the Ain, a curious district of about 100,000 hectares, of which area, more than one-sixth has been converted into fish-ponds, which are in number about 1,600, and are emptied every two years to obtain the fish, and to be planted for cereals, and afterwards again filled with water and stocked with young fish. The insufficiency of the population and other causes, led to the method of cultivation. The method has, however, as might have been expected, been most injurious to health in the district. The present map, made by the engineers "des ponts et chaussées," is the first step to a remedy by the Government, of the disastrous condition of things, here alluded to. It is very minute in its representation of details. Mr. Dormoy's map, in the same court, is contained in an atlas of thirty-four sheets, which put together would measure 8 mètres by four mètres, representing 80 kilomètres by 20 kilomètres, including part of Belgium and stretching to the Pas-de-Calais. In the construction of the map, the upper strata are supposed removed. All the pits and borings and their results are indicated, as well as the height of the top-soil above the sea-level, and the depth of the coal, the inclination of the veins, and much besides in the way of information. Here also is an atlas, and volume of text, by Mr. Gruner, "ingénieur en chef des mines," executed at the Imprimerie Impériale in 1857, devoted to the department of the Loire, to which is to be added a special volume for the coal basin. A summary of this latter division of the work, however, appeared in advance, in 1847. Besides the geology, and concerning the physical character of the whole district between the Rhône and the Allier, the present work contains much other information, as on the relation between the configuration of the soil and the geology, the *régime* of the river Loire during the years 1846 to 1855, the situation of mines, works, lime-kilns, and tileries. A geological map of the department of the Haute-Marne, commenced by Mr. Duhamel, and finished by Mr. Elie de Beaumont and Mr. de Chancourtois, should also be looked at. It may, we believe, be made to form part of a geological map of France, by Mr. de Beaumont and Mr. Dufrénoy, of which a portion, of the north of France, appeared in the Exhibition of 1855. The present map supplies much information, which should also be said of the map of the department of the Meurthe, which is due to Mr. Levallois. Besides the hydrological map of Paris, there is one by the same engineer, Mr. Delesse, representing by a new method the geology. It shows both the subsoil to the greatest depth reached, and the levels. In the hydrological map, the subterranean sources of water-supply are shown; the levels of water in ordinary and artesian wells are figured; the degrees of hardness as found by the hydrotimeter of Messrs. Boutron & Boudet are given; and the nature of the soil bathed by these waters is indicated by tints. Of the atlas comprising the plan of Paris underground, the quarries and catacombs, and of seve-

ral plans of the same capital we will not now speak. We must mention, however, the "Carte Agronomique de l'Arrondissement de Toul (Meurthe)." A *carte agronomique* is intended to represent surface-soil, or the differences of condition which have to be noted in agriculture. In 1852, the greater number of the departmental geological maps being terminated, suggestion was made through the prefects, to the "Conseils Généraux," that advantage would accrue to agriculture from the execution of *cartes agronomiques*, as it had in respect of industrial researches from the geological maps. The general council of La Meurthe determined on having such a map, *carte agronomique*, of the department; and produced the first instalment of their design and the first work of the kind in France, in 1858, and the descriptive text in 1860. The map and text were prepared by Mr. E. Jacquet, engineer in chief "des mines." This author regards the super-soil of the earth as independent formations, rather than the materials of decomposition of the subsoil or rocks, as taught in treatises on agriculture: so that the reason for agronomical maps lies in this capital distinction of what has to be shown in them, from what would be geological. A *carte agronomique* ought to show the soil proper, the subsoil, and the nature of the cultivation. As to the subsoil, all that is attempted in the map we are noticing, is the marking, by hatchings of different colours, whether substrata are permeable or impermeable. The quarries are indicated. In the text, the climate, the analysis of the different soils, the system of culture, the population, building materials, water-supply, and means of communication are treated of; and agricultural statistics are given. What is being done for the other arrondissements of La Meurthe and in the rest of France, we are not informed; but the example is worth holding up to our country; and those who are anxious to see a good system of "Agricultural Statistics" should much approve of it.

We must also mention an atlas which affords an instalment of a great work, that of ascertaining the levels of principal spots over the whole of France continental. This work, "Nivellement général de la France," was suggested in 1857, by Mr. Bourdaloue, who had already completed a similar work for the department of the Cher. The object was to render more easy and certain, the operations having relation to new routes, water-courses, drainage, and irrigation. Great detail and exactness therefore were required, which would involve much expense. The first part of the undertaking, comprising the fixing the principal points, was commenced at the end of September 1857, and will be finished before the end of the present year. A map shows the condition of this branch of the undertaking on the 31st of March, 1862. Great care has been taken to secure accuracy; and with such success that it can be said the levels for all France are exact to within three centimètres. The datum will be the mean level of the sea at Marseilles.

Those who would understand something relating to the climate and products of France, should examine the maps of the three regions, the wheat, wine of exportation, and silk producing, and the specimens of the principal types of animals and birds, useful or considered hurtful, belonging to those regions, and the botanical and geological collections, which are exhibited by Messrs. Éloffe, of Paris. They deserve the attention of our Educational Committee of Council. Very interesting also is the collection of specimens of useful minerals which are *exploités* in the new department of the Savoy, and which are exhibited by the Chamber of Commerce of Chambery. They include marbles, lime and cement stones; stones for building, and objects of ornament; minerals of iron, lead, and copper, some of them argentiferous, and their products; minerals of antimony, zinc and arsenic; specimens of the *rocks* traversed by the Mont Cenis tunnel; clays and clay manufactures; anthracite and other combustibles; and slates. A catalogue, which may be obtained, contains much useful information.

In our notice of the materials and products in the Eastern Annex, we gave prominent place to the specimens of the metals aluminium and platinum and their applications. For the means of utilizing each of these metals, the world is indebted to one French chemist, Mr. St. Claire Deville; and each is represented in the French Division of the Exhibition, applied in various forms. The aluminium and its alloy with copper, are shown chiefly by Messrs. P. Morin & Co., of Nanterre, near Paris, whose specimens will be found in one of the passages of entrance to the French Court from the nave. The *decorative* and *ornamental* adaptability of the metal and alloy have been more satisfactorily illustrated in Paris, than here, in London; but Messrs. Morin exhibit a sufficient number of articles of utility, and specimens in different stages of manufacture, to allow to be appreciated the value of the incorrodible, light, malleable, ductile and easily-cast, strong and cheap, material which may be substituted, and with the advantages which are obvious, for silver and gold. We believe the price of aluminium, by weight, is less than half that of silver; but the specific gravity is so much less than that of silver, that three or four times the quantity or volume can be obtained for such less price: the economy therefore is very great. The alloy called aluminium-bronze, resembling gold, we are told, has not more than one-eighth the cost of aluminium itself. Many of the cases in the centre of the French Court, show the application of the metal in ornaments for the person. The principal exhibitors of platinum are Messrs. P. & A. Chapuis, and Messrs. Desmoutis, Chapuis & Quennessen. Both of these firms exhibit crucibles and other vessels for experimental and manufacturing chemistry, in great variety of dimension; and one of them, if not the other, has specimens of the metals palladium, iridium, rhodium, osmium, and ruthenium,—the same case containing an alembic, or retort, which is very much larger than that valued at 465*l.* exhibited in the British Division of the building. If Mr. St. Claire Deville's name be not in the list of awards, there is something wrong in the principle of them.

Clays exhibited may be found in Class 35, "Produits Céramiques," with certain manufactures allied to Class 1, as refractory bricks and crucibles. Drainpipes are shown by Messrs. Duméril & Lewis, of St. Omer (Pas-de-Calais), and by Mr. Fiolet of the same place. Objects of this character will be found, with some of the others interesting to architects and builders, in the recesses marked Db and Eb on the northern side, within the great French Court; but the absence of all order in numbering, which prevails as much in the foreign divisions of the Exhibition as the British, sadly interferes with useful recollection of those and other objects. Clay-ware pipes by Messrs. Zeller, of Ollwiller (Haut-Rhin), enamelled, and bituminized paper pipes by Messrs. Jalourcau, of Paris, of good manufacture, for conveyance of water and gas, will be found, besides excellent copper pipes and welded-iron pipes. The bituminized pipes are favourably reported upon in Paris, as regards durability, after four years' trial; and elasticity is one advantage of them. Tinned lead pipes are exhibited by Mr. Ch. Sebille of Nantes. The importance of procuring a supply of an article, if efficient, of this latter character, cannot be too much insisted upon. It appears that an English patent for a somewhat similar description of piping (Bennett's) was sealed in 1861. The French manufacture has been carried on five or six years; and the town of Nantes is served with the pipes. The English method is described as one of pressing and tinning the interior surface of lead pipe in one operation; and Dr. Letheby, reporting the results of experiments, continued during nine days, with common water, rain-water, and distilled water, tried in straight and bent forms of tube, says that there was complete protection from corrosive action; the most delicate tests failing to discover the presence of lead in the water; whilst common lead-piping with the same water (rain and distilled), quickly communicated to the water a metallic impregnation. We believe piping manufactured according to Bennett's patent may be found in the Eastern Annex, in Class 1 of the British Division. Mr. Sebille's piping, however, is tinned both sides. Equally interesting to us is another description of piping exhibited by Mr. Sebille. Neither kind is named in the catalogue. The pipes last referred to, are manufactured from pulverized slate-refuse, or cinders, and about one-fifth part coal-pitch. The compound, called slate-paste, having been heated and well mixed in an iron pan, can be moulded into the shape of pipes, bricks or slabs. The material constitutes the least portion of the expense: comparatively unskilled labour, however, is adequate to the work. The material is so hard, whilst free from cracks, that it has been suggested as well adapted for paving stables, and we are assured it has been found that such hardness is preserved in water heated to 180°, and that no cold has any effect upon it. A 3-inch pipe, of usual substance, will stand an internal pressure of ten atmospheres. When a bend is required, it suffices to hold a straight pipe to the fire, till heated to about 200°, when the curve can be made without effort. Joints are formed, by the aid of a tool resembling ordinary pincers; which is made red hot, and clasping the pipe, is rubbed over it to form the seam; the material itself, which can be at all times re-melted, being used as solder. There is some contrivance for "imparting sufficient flexibility to jointed pipes for underground works." When the pipes are intended for gas, the inventor fills them with common sheet-iron tubing, galvanized; but what is the argument for this arrangement in contradistinction to mere iron-piping, we are not informed. Bricks, of the material, can be laid, using the same material to bed them; so that water-tight reservoirs could be thus formed. The manufacture is already carried on in France, at Nantes, and on several railways; and the ever-active Mr. Jennings has got hold of the scheme of a similar manufacture in England. Should the exertions succeed, our demand for the removal by utilization, of the cumbrous and unsightly refuse of many quarries and works, may be to a considerable extent answered. Would it not be possible, before the close of the Exhibition, to ferret out all the specimens of pipes of different materials, for the conveyance of water, and subject them all, or duplicates, to similar experiments, chemical and mechanical; the latter including not only experiments to ascertain the resistance to bursting, but others on the resistance to collapse, as from a weight of superincumbent earth. The results being tabulated, with prices, a record would be left, the value of which after the Exhibition, in every question of supply of water to town or house, would be immense. Record of this kind should surely be made to result from some appointment of juries or reporters; and we know that what we looked for, from at least one foreign government directing the exertions of a large staff, will be produced, that is, if bad arrangement of the objects exhibited and the excessively-crowded state of the building admit of it.

BRITISH ARCHITECTS.

NEW MATERIALS FOR THEIR LIVES.

I PROPOSE to supply at such intervals as your space, Mr. Editor, and duty to your readers, will allow me, memoranda of moment, hitherto unknown, or not easily accessible, relating to the lives and works of some of the greatest men of our English school of architecture. In what I send you, I will now and then correct received accounts and accepted statements, supplying materials that will prove welcome, I make little doubt, to architect and builder, contractor and paymaster, master mason and master carpenter; to clerks of works, district surveyors, working men, skilled apprentices, and the general reader. For what I send you, I shall give chapter and verse, saying what I have to say in as few words as I can well use.

In Hertfordshire, that "peculiar" of lord high chancellors, and within a ring-fence of the mitred Abbey of St. Alban, two of Sir Christopher Wren's assistants are buried—his most celebrated pupil, and his master mason at St. Paul's, from the first stone to the very last. Members of the Institute of British Architects, and holders of Soane and Institute medals, need hardly be told that I refer to Nicholas Hawksmoor, architect, of Shenley, in Herts, esq., and to Edward Strong, mason, of New Barnes, in St. Alban's, Herts.

During a year's residence in St. Alban's, the disfranchised borough of the corrupt Lord Bacon, I have made more than one pleasant pilgrimage to the graves of Hawksmoor and Strong,—a pilgrimage, as my readers will see, not unmixed with pain; for the inhabitants of Hertfordshire would seem to care little or nothing about Wren's assistants or Wren himself.

This Nicholas Hawksmoor with whom we have first to do was born—so received authorities aver—in the year 1667, and died March 25, 1736, "aged near seventy." This is incorrect. The able architect of St. Mary Woolnoth, in London; of the church on the Thames banks, at Limehouse; and of the towers at All Souls', at Oxford, died, so his gravestone informs us, at the age of seventy-five, and in the year, I think, 1736: I say I think; for on a recent pilgrimage to his grave, in the churchyard of Shenley, in Hertfordshire, I found the figure "6" and the month of the year illegible; with little more to be gathered from the stone that protects the body of the "poor inhabitant below" than the forlorn *hic jacet* of Wordsworth, and the words:—

NICHOLAUS HAWKSMOOR, Armr.
ARCHITECTUS
Obijt vicesimo quinto die
Anno Domini 173..
Ætatis 75.

Worse still, I found the 5-inch-thick blue leger

which covers his remains broken in two,—wantonly broken, I suspect, during the recent reparations of the church. Wren's celebrated pupil, and Benson's predecessor, lies buried close to the chancel window of Shenley Church, under a splendid yew of the Plantagenet and Robin Hood period. The grave of a man so eminent in his art calls for protection and restoration. May I ask your aid, Mr. Editor, and the aid of your readers, in accomplishing so reverential a piece of work?

The grave of Edward Strong, master-mason to Sir Christopher Wren, and to St. Paul's Cathedral, is within the church of St. Peter, in St. Alban's. The place of Strong's interment is marked, we are led to suppose, by a blue leger-stone, partly visible, and only in part legible, and by a mural monument of white marble, excellently wrought, but concealed by the organ-gallery, under which it was most improperly buried when the chancel was shortened by a thoughtless vicar and two penurious churchwardens. Wren's master-mason lived at New Barnes, on the banks of the Ver, and died 8th February, 1723, in the seventy-second year of his age. His widow died two years later, on the 15th June, 1725, and at the same age,—seventy-two. New Barnes, a very pretty place, is now the property of a widow lady of wealth, who has done, without ostentation, and without asking, more than one pious act in and about St. Alban's. Is she aware, I often ask myself, of the ill fate her predecessor's gravestone and monument have come to? It is vexatious to see thus set aside and stowed away, as of no value and of no manner of interest, a work of art, for such it is, erected to the memory of a man whose name will remain inseparably associated with Wren's great masterpiece of Protestant church architecture. Your calling attention to this buried monument will, I have no doubt, prompt an excellent widow to the pious act of rebringing into light Wren's master-mason's grave and monument. There is a blank wall on the north side of the chopped-down chancel, which would receive the monument admirably, and improve at the same time the appearance of the church. A word with the worthy vicar would possibly effect so good a work. I will see our vicar, and let your readers know, *Mr. Builder*, to what end.

Quitting St. Alban's, I will now turn to other sources for materials of moment. Here is Ripley's estimate for building the present Admiralty at Whitehall, *minus* Adam's handsome screen of concealment:—

"*To the Lords of the Admiralty, 4th March*, 1729.

Pursuant to your lordships' directions, I have drawn a plan and considered the charge to rebuild the Admiralty, and find that, if it be built in a plain and substantial manner, that is, the out as well as the in walls with the best brick and mortar, with stone in proper places, to preserve and make the said building durable, and to arch and groyne all the ground story, and to cover the building wholly with lead, the charge will be about the sum of 22,400*l.*

(Signed) THOMAS RIPLEY."

Make a survey of the Admiralty, Mr. Editor, and let your readers know what you think of Ripley and his estimate. From what I can learn, Ripley actually built *within* his estimate,—a rare virtue now-a-days.

Yet another bit about "Ripley and his rule" made immortal by Pope. Thomas Ripley, of Wormwood-street, in London, was admitted to the freedom of the Carpenters' Company by virtue of an order of the Court of Aldermen dated 14th March, 1705. He died, as is well known, in 1778. That Ripley put good materials into his houses, Houghton, built by him for Sir Robert Walpole, is still a lasting testimony. No better or more massive drawing-room and withdrawing-room doors are to be seen in England.

Kent-and-Nature Kent died in 1748, leaving property to the amount of about ten thousand pounds, which he divided, we are told, "between his relations and an actress with whom he had long lived." What actress? I often asked myself, and learnt, at the cost of one shilling; for a single shilling, I saw in Doctors' Commons the last will and testament of William Kent. The actress, whose name has escaped the biographers of Kent, was Elizabeth Butler, of the parish of St. Paul, Covent Garden. That Kent divided his money between his relations and the actress is not borne out by his will. To Mrs. Butler he bequeathed six hundred pounds; and to her son and daughter, three hundred pounds each. One legacy came too late, "a bust of Raphael to Alexander Pope, esq.," of Twickenham." A last request in the will of the same architect is tainted with his well-known vanity: "I desire to be buried in the vault belonging to the Earl of Burlington, in the parish church of Chiswick, and request of my executors that leave be asked of his lordship for that purpose." That leave was granted, the burial register of Chiswick, in Middlesex thus informs us: "William Kent, esq., from London, buried in a vault in the chancel, April 17, 1748."

In my next communication I shall have something to relate, new and of moment, touching Wren and his works:—"Great Christopher takes all the room."

PETER CUNNINGHAM.

THOMAS-À-BECKET'S CANDLESTICK.

PERHAPS there are few countries in Europe that were "once upon a time" richer in works of art than Old England. No country possessed, at one time, finer plate, jewels, tapestries, embroideries, carved work, &c., than England. Where are they now? The Reformation must be the echo that answers "Where?" To it, and to the Revolution that succeeded, making a period of about one hundred and twenty-nine years, must, it is feared, be attributed the destruction, sale, and breaking up of those glorious specimens of gold and silver work, so rich in chasing, or with inlaying of jewels, the production of the cunningest artisans of that or any other time. We have only to peruse the inventories of the valuables given in and surrendered at the dissolution of the religious houses at the Reformation; and the still more wanton destruction of what remained during the Civil Wars, to become acquainted with the vast quantity of costly and magnificent articles now lost to us for ever. It is true the great and increasing wealth of our country has caused the disappearance of our old picturesque, but perhaps somewhat inconvenient, houses, with their rich and quaintly-carved exteriors and interiors. The same may be said to have been the case with the stately and rich furniture of our ancestors.

It is, then, or ought to be, a subject of congratulation to us when we can welcome back to our our country any such object peculiarly English, and a jubilate should be sung out as a welcome to the beautiful and most interesting specimen now safely housed in the Kensington Museum, and for the possession of which we are mainly indebted to Mr. Webb, of Grafton-street.

The candlestick in question is what is usually termed a pascal one, and is the workmanship of the twelfth century. This celebrated luminary was made in England, by order of Thomas-à-Becket, and intended by him as a present to the once splendid Abbey of Gloucester, still so renowned amongst cathedrals, for its matchless cloisters, lofty and magnificent choir, grand Norman nave, and cunningly-devised whispering-gallery — the only one in this country, that of St. Paul's excepted. In consequence of the quarrel between Henry II. and Becket, the archbishop left England and retired to Mans, and remained there from 1164 to 1170, taking with him many valuables, and among them this celebrated candlestick, which he eventually presented to the church at Mans, where it remained up to the period of the Revolution, about the year 1792. To save it from the universal destruction then going on, or from the rapacity of the *sans coulottes*, it was concealed in a granary, where, a few years since, it was discovered, and purchased by the Marquis d'Espaulant, in whose possession it remained till again sold to the Prince Soltikoff, at whose late sale it was secured for England by Mr. Webb, for the sum of 680*l.*, he having previously offered the prince 1,000*l.* for it. This candlestick is of fine old laten richly gilt, and most elaborately chased. It was cast in a mould of *cire perdue*, which implies that the model is destroyed in releasing the casting from it. It is composed of a pillar, divided into two compartments by ornamental bosses, supporting a grand patera or cup, resting on three chimeræ. The pillar descends into a triangular base, which is profusely enriched with figures, foliage, and monsters, in the most varied and whimsical attitudes, resting on a ground of pierced work. On a ribbon twisted round the pillar of the candlestick are the following inscriptions:—

"Lucis onus virtutis, opus doctrina refulgens prædicat, ut vicio non tenebretur homo.
Abbatis Petri gregis et devotione mitis, me dedit Ecclesiæ Sancti Petri Glocestre.
Hoc Cenomanensis res ecclesiæ Pociensis Thomas dicavit, cum sol annum renovavit."

In Mr. Webb's interesting collection is a dyptic, or portable altar, usually suspended by a chain to the girdle. This was always available for devotional purposes. The present beautiful specimen belonged to Thomas Baylis, the last grand pryor of Wenlock Abbey. It is of translucid enamel, with raised silver-gilt Gothic canopies, under which are figures of saints in silver, beautifully chased. It is inscribed, "Ora pro Thomas Baylé."

OF TRIVIALITY IN MODERN WORK.

It would be much easier to explain what I have to say by reference to existing works, than by mere explanation of principles; but as modern men are full of vanity and conceit, and little able to understand pure, disinterested love of art, it is, perhaps, as well not to mention names. If their hearts are not entirely absorbed by selfish conceit, nature may yet have influence on their thought.

In a modern Gothic building—and I speak of the most popular work, not the work of ten years ago, but of the years 1861 and 1862—there is a continued straining after effect and "sensation;" a continued trying to make it tell by some eccentricity, which is positively by most people considered to be originality. This finickyness or vanity may be noticed in the continued attempts at trying to break up the outline of buildings; the useless dormers in roofs; tranverse gables on spires; imaginary windows and gables in turrets; useless buttresses and pinnacles; things that work not; arcadings on walls: all these things are ornaments misapplied: they are out of place, because they do no work. I maintain that anything put in for effect, which has no purpose or work to do, is wrong in all art. This is very plain when useless turrets are introduced: nothing offends the eye more; the desire to break up the roof, somehow, is so glaringly apparent. On this point I must call attention to the Renaissance chateaux of France, and the Queen-Anne houses in England: the roofs of the former are so picturesque and wonderfully free from sham, when the age they were built in is considered; their turrets, &c., have all a visible purpose; and the general vigour and breadth of internal arrangements, as well as the simple massive appearance of the outside, are worthy of careful study. And here I may proceed to speak of timber and brick construction, formerly so common in England, and so good and whole some when rightly applied. It would not be massive to build a house in this way; but a projecting window may be most admirably done in this fashion, if the base of it, the supporting bracket part, is only built of strong masonry; and in this work coloured round and square tiles may be admirably introduced as surface decoration; and this leads me to think of patterns on tiles, for I have never yet had time to consider metephysically the cause of that mental disease and its nature which prefers quatrefoils to circles. There is something bordering on imbecility in the mind that delights in the finickyness of a quatrefoil. The old timber and brick buildings must be studied; and here is also a chance for polychrome of a severe kind done in tiles. There is nothing finicky in a love of detail, of rendering nature carefully: on the contrary, it requires great manliness and hard work. We observe in Dürer's engravings the most minute finish and softening down of edges by fine, delicate, minute lines; and then in his woodcuts a firm, thick, minute outline, and no attempt at shading down; hence Mr. Ruskin, in his "Principles of Drawing," recommends the practice of that fine shading and softening down of edges, knowing that the man who can do that rightly, as Dürer did, will also be able to draw with the nervous, firm, thick line of a Dürer or Van Eyck when necessary. In former notes I have complained of the vile copyism of modern conventional foliage. First it is Third Pointed, then Italian Gothic, then French Gothic. What is it to be next? I wish for Heaven's sake men would not draw at all, if they cannot conventionalize for themselves. I know of one excellent school of conventionalism, now, at this moment; and it is adapting Indian, Oriental, and Japanese work to English plants, animals, &c. It is wholly original, because it is not copied: it simply works in the spirit of Oriental work, and is full of fine colouring, vigour, and life; but it is not necessary for everybody to do this. I want to see everybody conventionalize in his own manner, without copying any former style. When you have settled the form of construction—and only one form can be right—then it is only in the ornament that an artist can show his originality and individuality. This cannot be gained by eccentricity, but must be simple and natural. We must have *natural* conventionalism. I have also spoken against the finickyness of mouldings; but in Norman work there is great depth and feeling in some. This is a trait that can never be obtained in turned work. Mouldings from the lathe must be simple, massive projections; and there should be no attempt at that sentiment of light and shade produced by the rough inequalities of good hand-work. Some of the Queen Anne furniture fulfills this principle to a great extent; and it is

only then bad when the strength of post is decreased by too deep cutting. In fact, as a rule, we should never cut in beyond the main width.

Now, in all work we must first think what we have to do, and then do it in the simplest, most natural, and most English manner. To be English we have only to be natural. We may learn things elsewhere; but we must, as a whole, show and take a pride in our nationality. The mere building of roofs run to seed, which we call spires, is not a good national trait: it is a mere vanity, and is unnatural, because all we want is a plain roof to a tower. To be an Englishman it is necessary to be honest, and to be honest we must be natural. My desire is to see a true, natural, and national spirit pervade our work,—a true individuality, and no copyism. The revival of any lost material and invention, of any new method of work, I leave to cleverer heads than mine: the archæologist and chemist must do this.

As regards music, we find the same triviality general throughout the Italian Rossini school, the one on which all English ideas of singing are founded. It consists of an over-polish of execution, which Wagner and young Germany oppose: they desire a rough vigour of voice. In musical composition triviality consists in the bravura of Rossini and in the "sensation" noise of the Verdi school, with its waltz melodies of excessive eartickling quality, sensual to the last degree. Wagner brings against this the earnest descriptive music of Beethoven's D Mass, where the orchestra expresses the sentiment by counterpoint,—a descriptive harmony, in fact;—and with Wagner himself the singer is simply a declaimer of the operatic poem, and the sentiment is given entirely by the orchestra. There is no vocal melody, but a melody of counterpoints. The sound charms the ear; but there is no repeating this descriptive harmony, any more than you can retain in your mind all the colours that make up a lovely landscape. It is no melody to be whistled. It does not signify how genuine, massive, or excellent any ornament is; but if it has no purpose, no work, it is out of place—it is a conceit and vanity: if it has no moral worth, it is useless. The man to appreciate severe work,—the vigour of Leys,—is the mind to love Wagner's music; and modern opera audiences are as far removed from this as modern art-love is removed from an earnest interest in severe work generally: it does not suit the ease-loving sensuality of this age. A. W.

THE SURREY-SIDE THAMES EMBANKMENT.

The report of the Thames Embankment Commission (Surrey Side) has been issued. The commission submit,—

That an embanked roadway of about two miles in length should be formed between Westminster Bridge and Battersea Park; commencing at the east abutment of Westminster Bridge, on a viaduct of an ornamental character, opposite the Houses of Parliament, as far as Bishop's-walk; thence on a solid embankment to the north side of the London Gasworks; continued under Vauxhall Bridge, as far as Nine Elms, on a viaduct; and thence upon a solid embankment, passing under the land arch of the railway bridge; and terminating at the approach road of the new suspension-bridge at Battersea.

Dredging of the foreshore in the front of the embankment to a level of 5 feet below low water will (particularly at Lambeth and Nine Elms) improve the navigation; compensate to a great extent for the loss of tidal water displaced by the solid portions of the embankment; and, as the foreshore will be formed, under the viaduct, of solid material, and on a suitable incline; it will tend to prevent accumulations of mud where the shores are flat or uneven.

Communications with the embankment would be made at Stangate, by prolonging Palace Newroad, and widening Bishop's-walk on the western side, Church-street, Broad-street, Vauxhall-row, High-street, Battersea-road near Nine Elms Goods Station, New Park-road leading to Wandsworth, and the station of the London, Chatham, and Dover Railway Company.

The estimated cost of this work, including land and compensation, is 1,100,000*l*. With reference to the means by which the cost is to be defrayed, the commissioners consider that the coal and wine dues should be appropriated for such a further period as may be necessary for the purpose.

Such is the plan which the commissioners have proposed, and it is hinted that delay in carrying it into execution will increase the cost, in consequence of the constant increase in the value of the property.

On considering this plan, it seems clear that it will cause a great improvement to that part of the southern metropolis lying between Westminster Bridge and Battersea Park; but it leaves the large space between Westminster and Deptford with but little chance of improvement; and we fear that the carrying out of this embankment by piecemeal will prevent the good that could otherwise have been done by improving the current of the Thames, and securing a permanent flow, which would be a means of preventing shoals and other accumulations. Supposing that a uniform and satisfactory method be arranged, so that persons who wish it may be allowed, at their own charges, to push their premises so far into the river as would, under the present circumstances, be necessary in connexion with any effective embankment, such projections would be sure to cause obstructions and the formation of mud-banks; and it must be borne in mind that the property here will also increase in value, and that every year of delay will add to the difficulty and cost of an undertaking which must eventually be thoroughly carried out.

ON ANCIENT MOSAICS FOUND IN BRITAIN.

At the recent meeting of the Archæological Institute, at Worcester, Dr. Wollaston made some remarks on this subject, in lieu of a paper he had prepared,—time failing. He gave a brief account of the origin of mosaics in Greece, and the adoption of the art by the Romans. While ancient paintings in fresco and on canvas have generally perished long since, mosaics have resisted the encroachments of time, the decomposition of chemical agency, and the invasion of insects. Protected by "mother earth," and buried for ages, they have come to life at various stages of their existence, and have thus afforded a collateral testimony to the truth of those historical records which have been bequeathed to posterity, inscribed on papyrus, vellum, or tablets. The mosaics have thus given evidence of the state of art in ancient times, and preserved the lineaments of the physiognomy of Greeks and Romans as distinctly as sculptured marble. While the paintings of Apelles and Zeuxis have "left not a trace behind," the marbles of Phidias and Praxiteles remain for ever, and are now, after 2,000 years, perfect models of the art and taste of the Greeks,—models which modern art has never surpassed, and seldom approached.

The beautiful art of mosaic, fabled to have been taught the Greeks by Apollo and the Muses, was practised in all the Greek cities and islands; in Asia Minor, at Halicarnassus, Cnidus, Carthage, and along the coast of the Mediterranean. The Romans were instructed by the Greeks, and decorated their public buildings, their temples of worship, theatres, palaces, halls of justice, and baths, in rich and splendid designs. The wealthier citizens also tesselated their houses with these ornamental pictures: they embellished the walls of the principal apartments and their pavements. To this day, the superb tesselations of Rome exhibit the genius and skill of the mosaicists. It is, however, among the ruins of Pompeii, happily preserved in a marvellous manner, that the mosaic art has been found in the highest perfection. Here the tesseræ are so minute, and shaded with so much delicacy of colour, as to evince the manipulative skill of the artist, and exhibit pictures equal to any ever painted in oil or fresco. From the Augustan age to the dissolution of the Western Empire, soon after Constantine,—a period extending to nearly 400 years,—the mosaic art flourished in Rome and Italy. The magnificent baths of Titus, Caracalla, Diocletian, Constantine, and others, were richly decorated with pictorial designs on the walls and on the pavements; and successive emperors vied with each other in ornamenting their private villas and public edifices in the costliest manner. The Romans carried this art wherever their triumphant arms led them,—to France, Germany, Spain, and Britain. Britain was mainly indebted for the works of art to Hadrian, who had distinguished himself preeminently as a great promoter of architecture, sculpture, and painting. His splendid villa near Tivoli, the Mausolenm at Rome, the Temple of Jupiter at Athens, attest his encouragement of all the arts which minister to magnificence and elegance.

Other emperors were benefactors to the country. To Titus, Vespasian, Agricola, Constantine, the people were most indebted for their munificence. When the Romans left the country, at the end of the fourth century, it was over-run by the semi-barbarous Saxons, who eradicated everything Roman,—the laws, language, the arts,—and destroyed almost every vestige of their predecessors. What the fanatical and rough Saxon left untouched, the benign protection of the tomb shrouded, and the remains of Roman art were preserved for the admiration of posterity.

London was even then a place of importance; and numerous mosaics have been discovered, but everywhere broken by the ignorance of the labourers, and beautiful fragments carried off by depredators. There are a few specimens in the British Museum, taken from beneath the Bank of England, from Leadenhall-street, Broad-street, Thames-street. The public is essentially indebted to the researches of Mr. Roach Smith, for his valuable work on Roman London.

Dr. Wollaston was present at the excavation of the mosaics dug out from under the church in Threadneedle-street, by Mr. Moxhay, and remembers the thrill of delight which pervaded the spectators who saw the pavement of the supposed baths gradually being exposed to the light of day, as spadefulls of earth followed each other, until the whole splendid mosaic burst into view, which had been hidden from the sight of man during the long night of sixteen centuries.

Dr. Wollaston then took a rapid review of the superb mosaics at Horkston, Woodchester, Cirencester the ancient Corinium, at Wroxeter the ancient Uriconium, and other places, especially those in Gloucestershire, Wiltshire, Somerset, Hampshire, and Sussex. The extraordinary variety and beauty of these mosaics surpass belief: nothing can exceed the interesting theory of Orpheus, delineated no less than four times at Barton, Woodchester, Winterton, and Withington. Orpheus, the son of Apollo, in the centre of the picture, is taming the wild animals of the forest, which surround him, by the melody of his harp; thus foreshadowing the influence of music in the progress of civilization and social enjoyment.

The "Seasons of the Year," and the "Days," are favourite subjects. A fine specimen is now in the museum of Lord Bathurst, at Cirencester. Spring, Summer, and Autumn are portrayed with the appropriate symbols of the time of the year—Spring, with flowers and the swallow; Summer, with ears of corn around the head and a sickle in her hand—symbols of Ceres,—precisely like one found recently at Carthage, by Dr. Davis, in a representation of the seasons, in the Temple of Æsculapius: Autumn was indicated by fruit, which garlanded the head like a wreath. Winter was entirely perished, but fortunately has been found at Bognor, in Sussex, where the other three seasons were entirely in fragments. Winter is displayed in a characteristic manner: the head and shoulders are muffled up with a close-fitting cap and dress, like a monk's cowl; and a leafless branch is held in the hand, as a sign of the cold season. In another mosaic, at Littlecote, the four seasons are depicted by four females riding on animals in full chase: Spring, a female riding on a leopard, with a rose in hand; Summer, a female riding on a deer, with a swan on her lap; Autumn, a female riding on a bull, with grapes in her hand; Winter, a female riding on a goat, with a leafless stick. At Bramdean, the "Horæ" or "Days" were represented by figures, in an octagonal frame, of Apollo, Luna, Mars, Mercurius, Jupiter, Venus, Saturnus, and Cybele—the Romans reckoning eight days to the week.

Mr. Roach Smith mentions that a bronze forceps was dug out of the mud of the river Thames, having figures of the "Days" upon it as those in the Bramdean mosaic.

It is impossible to describe all the various allegories and symbols of Greek and Roman mythology delineated in the mosaics of Britain; but I cannot conclude without expressing my surprise and admiration of the splendid mosaic of the four seasons, now in the Great Exhibition, designed by Mr. Wyatt, and executed at Broseley by Mr. Maw with great skill. The exquisite manipulation and brilliancy of colouring and effect prove that the finest mosaics may be produced in this country. It is worthy of the direct patronage of the Government to perpetuate the record of great historical events by means of imperishable mosaics.

The frescoes of the House of Lords are rapidly crumbling to pieces: they are a perfect failure; but now the Government has an opportunity of promoting the ancient method of mosaic painting—an art which has brought the past history of man before our eyes with all the freshness of a recent production. The mosaics of Halicarnassus, of Carthage, of Constantine, and of Pompeii, recently excavated, demonstrate the utility and beauty of the mosaic art.

MOSAICS *VERSUS* FRESCOES FOR THE HOUSES OF PARLIAMENT.

Now that the question of the permanency of fresco decorations is being discussed, with, I fear, very little chance of a definite or satisfactory conclusion, I would ask the favour of a few lines of your valuable space to suggest the advantages of another decorative medium for walls, of unquestionable stability, and of a nature capable of representing the highest art. The circumstances under which fresco decorations can be rendered permanent appear never to have been thoroughly understood. The permanency of frescoes of all ages has been singularly capricious. Taking the Italian frescoes for example, here and there we have instances of their remaining almost as fresh as when executed; and, again, other examples, under apparently precisely similar circumstances (*e. g.*, the beautiful Leonardo da Vinci at Milan), which are rapidly falling to decay. Admitting the possibility of a thoroughly permanent fresco, is not the very narrowness of the limits (as to climate, local peculiarities, &c., &c.) under which such permanency can exist a weighty argument against employing it as a medium for such expensive art as that forming the wall-decorations of the Houses of Parliament?

Nothing could be more deliberate and careful than the consideration that was given to the mechanical part of the work before the Westminster frescoes were commenced; and yet in ten years they are falling to decay. We may experiment again and again, but have we now any additional data which will lead us to expect better results? And, under any circumstances, a whole lifetime must elapse before even the narrowest limits of permanency can be proved. Mosaics for the last 2,500 years have, in an infinite variety of forms—from the coarsest tesselation of the Roman pavements, to the beautiful and delicately fine wall mosaics of Pompeii, and the almost microscopic mosaic inlay of the Mediæval and modern Italians—been the only absolutely indestructible medium for pictorial art. The wall mosaics of Venice, Ravenna, and other Italian cities, though coarse in mechanical execution, impart to their buildings a glory and richness peculiar to them alone. Why should not mosaic be adopted as a medium for both internal and external decoration in our own public buildings, and some form of it be substituted for the perishable frescoes in course of execution at Westminster? A committee of noblemen and gentlemen, including the Marquis of Salisbury, Mr. Layard, M.P., and others, are now engaged in investigating the subject of mosaic manufacture, with a view to encourage its use for internal and external decoration. The examples already produced under the auspices of the committee, as also the other specimens of English pictorial mosaic in the International Exhibition, give abundant promise of its success as a new branch of British industry; and whilst accuracy of form and finish of the tesseræ, and infinite range of colours, are characteristics of the British manufacture, the cost of its production is very much below that of any other description of mosaic; indeed, the means are at command of producing exact reproductions of the most detailed cartoons, at a cost scarcely exceeding that of frescoes; and the beautiful reticulation of fine lines defining the individual tesseræ gives the design a richness of effect which no fresco or hand drawing can possess. Another great advantage of mosaic over fresco for the Houses of Parliament would be, that the mosaics need not be executed on the spot, as they can be formed into slabs at a distance, and fixed *in situ* in a few days. The committee above referred to are more particularly engaged on the subject of external mosaics for the Exhibition building; but the result of their experience will be equally applicable to the Houses of Parliament; and it is to be hoped that, before the Fine Arts Commission come to any determination respecting the alleged decay of the frescoes, they will wait the results of the experiments that are in progress at South Kensington, and fairly consider the relative merits of mosaic and fresco for the yet incomplete decorations of the House of Lords. It is, perhaps, a fortunate circumstance that most of the artists who have promised cartoons for the South Kensington mosaics are those that have in hand the frescoes at Westminster; so that, should a decision in favour of mosaics be arrived at, the artists whose assistance would be called for will be well versed in the specialities of the new material.

It is proposed to compose the mosaics at South Kensington of ¼-inch by ¼-inch cubes; but of course much smaller would be suitable for internal work of lesser proportions; and these, and any special sizes and forms, can be readily executed by the process followed in the manufacture of the tesseræ used in the experimental mosaics at the International Exhibition. G. M.

STATE OF METROPOLITAN CANALS.

At this season of the year—in fact, at all seasons—it is of consequence to keep as pure as possible the streams of water in the canals which pass for a considerable distance through populous districts of the metropolis; and yet there is frequently great reason for complaint. The water moves very sluggishly, as may be seen by noting some of the objects which are left to float upon the surface. For instance, for two days a large dead dog continued to move to and fro, for about 50 yards below the same windows, in a basin (of large size) of the Regent's Canal, near the York-road, Islington. The water is as nearly as possible stagnant. There is doubtless difficulty in the dry summer-time in giving the stream such an amount of current as would change the water with sufficient quickness. Considering this, the greatest care should be taken to prevent all offensive matters from flowing into the canals. An extraordinary number of dogs, cats, &c., are thrown into the Regent's Canal; and at times a boatman may be seen collecting these offensive objects, and conveying them from the view; but now, when this operation would be most useful, it seems to be less carefully performed than at other times.

The steam traffic on the Regent's Canal continues to increase; and steam barges may be constantly seen towing after them three, four, and sometimes five and six loaded vessels, at a much quicker rate than can be managed by the horse power.

THE PICTURESQUE IN ARCHITECTURE.

A NEW CLOCK-TOWER IN PARIS.

It would appear, judging from the effect of a recent erection in Paris, that the very plainest modern style may, by judicious treatment, be made to develop such features as will necessarily render it "picturesque," in the ordinary acceptation of that term; that is to say, by causing it, in the first place, to present an unusual variety of outline, through the medium of projections and recessions, as will essentially vary the main form of the mass, and impart to it certain broad effects of light and shade.

Secondly, to enrich it with appropriate details, which, while they pleasingly attract the eye, at the same time arouse curiosity, and cause the attention of the spectator to dwell with satisfaction on the effect of the general design, while it is induced to seek for other remote features; being tempted forward by those prominent ones which first caught the eye.

The *muraille d'enceinte* with which Louis Philippe enclosed Paris, along with large tracts of suburban land as yet not built upon, and also several detached suburban villages, gave a great and sudden impulse to building beyond the old limits of Paris. The vacant spaces were rapidly filled up, detached villages grew rapidly forward in the direction of the solid masses of the city, and new districts were formed, each with its *mairie*, as in the arrondissements of the old city. Among these Le Petit Mont-Rouge became the fourteenth arrondissement; and on its *place*, bordered with a quadrangle of limes, a suitable site was found for the erection of a mayoral residence, suitable to the increased dignity and importance of the place. The building then erected was of sufficient size, and presented a certain originality of treatment, the more worthy of remark, as the originality was achieved by the simplest means, and without the aid of any so-called decorative features. It was severely simple, and yet it bore evidence, though as plain as an ordinary house, that it was the work of a thoughtful and tasteful architect.

Le Petit Mont-Rouge again increased and prospered; and it was thought, the other day, that, as a public clock was required, it afforded the opportunity of adding a clock-tower to the pretty but simple mayoralty. A certain impress of taste in the building, plain as it was, appeared to lend itself to this decorative addition; and the result has shown that appearances were in that case not deceptive. From a raised perron, in the centre of the principal front, a pavilion of three arches now rises, forming an appropriate porch to the principal entrance. These arches are very sparingly enriched with appropriate and delicately designed ornament. From this arched pavilion rises a square tower, on the front side of which is the clock. This part of the tower is, with severe simplicity, enriched with four high, and nearly detached, reliefs, representing the four principal epochs of civic life, in a military country;—infancy—the conscription—marriage—death. The first epoch is represented by a woman carrying an infant; the second by a youth, in a civic blouse, seizing the national standard; a veiled girl, wearing a bridal wreath, represents marriage; while the last is represented by a woman placing a wreath of *immortelles* upon a tomb; all these figures possess considerable merit as works of sculpture. The square tower is surmounted, above the clock, by a circular turret crowned with a gallery of columns supporting a small dome;—the effect of the whole composition being exceedingly pleasing. It must be added, too, that the new feature is made to accord so well with the main building in general simplicity of feeling, that it hardly seems an extraneous addition, not provided for, nor even contemplated, in the original design of the work to which it is attached. A time is coming when successful imitation of former styles—Mediæval or Classic—will not be sufficient to found the reputation of an architectural artist, or even to sustain a repute already established. We shall be glad to see an English clock-tower grow up somewhere, in which this same kind of illustrative decoration as that which we have mentioned may be carried out.

THE OVERCROWDING OF RAILWAY STATIONS.

It is impossible, while travelling by railway, to avoid noticing the increased bustle and seeming confusion and danger which are presented at the chief stations; and, without referring to statistics, it is easy, by the eye alone, to form some opinion of the vast and constantly-increasing numbers who avail themselves of this means of transit. In these Exhibition times, the crowds which throng the London termini form an extraordinary sight.

At King's-cross, the Great Northern Railway Company have extended their premises; and at London Bridge and elsewhere it has also been necessary to increase their accommodation. Nevertheless, there is a great deal of confusion, particularly in the arrangements for receiving money and issuing tickets. As regards the platforms and the lines, the complication is constantly increasing; owing to the opening out of the iron road in new directions. At King's-cross terminus, trains are filled and emptied of passengers in the midst of the numerous crossings, and away from platforms altogether; and we have seen three excursion trains and an ordinary train, at one time, waiting their turn at Holloway to follow others to King's-cross, clear of express trains. At the junctions of branches with main lines, there is constant cause of delay and risk of some terrible accident.

At the Fenchurch-street station of the North London, Blackwall, and other railways, there is good management with plenty of space on the platforms; and the thousands of passengers who arrive here daily pass out with ease. The places where the money is received, and the entrance, are not so well planned; and it is not unusual to see as much struggling here for tickets as there is at the pit entrances of the best theatres. At the Stepney station on this railway, where there is formed a junction of several lines, although some changes have been made lately, the arrangements are insufficient for the traffic, which is increasing in this direction. From Kentish-town, Camden-town, Islington, Hampstead, and parts further west to Kew, multitudes flock this way to the City: from Loughton, the Docks, and Blackwall, the passengers also come; and North London is continually growing in population, and the open spaces are becoming covered with houses and business premises.

Before long the numbers who pass this way to the heart of the metropolis will be, in all probability, more than double the present amount; and without greatly increased accommodation, the railway business must be brought to a dead lock.

It is an unfortunate fact in connexion with some of these junctions, that there seems to be a practice of throwing the responsibility from one authority to another. For instance, in consequence of having to change trains at Stepney for Blackwall, and to wait until certain other trains have passed, and the right one arrive, the passenger is often delayed twenty minutes or upwards on this account alone, in a journey from Islington to Blackwall,—a delay which might have a serious effect in the proper management of business; and if complaint be made, there is difficulty in getting attention paid to it: the North London managers say they cannot help the delay at Stepney: at Blackwall they have nothing to do with

it; and at Fenchurch-street they cannot prevent the delay of trains coming from the east. In such a state of matters as this, the lives and limbs of many depend entirely on the perfect working of the telegraphic and other signals, and on the most vigilant attention on the part of the drivers and guards.

A "bird's-eye view" of the approaches to the stations of the chief railways shows courses of lines which are bewildering to the eye; and these, with switch turnings, &c., are constantly being added to. A sight of these suggests the idea that ere long a reform *must* be made in the arrangements of railway junctions and stations, in order to insure the safety of the public.

CONNEXION OF METROPOLITAN RAILWAYS.

A model, by Mr. Asprey, illustrating a plan devised by that gentleman for connecting all the railways north and south of the Thames, relieving London Bridge entirely of all traffic going to or from the various railway stations, has been recently placed in the International Exhibition, Class 10.

Mr. Asprey proposes to run a line of railway from the London Bridge station to the Fenchurch-street station, crossing the Thames by the side of London Bridge on the east, with branch on the south side to the Charing-cross line, and a passenger station near the Monument, either with or without an hotel connected.

The through traffic might thus be accomplished without changing carriages. This plan would render unnecessary the bridge and extension from the Charing-cross line to Cannon-street, for which an Act of Parliament has been granted and the works commenced: the same objects being obtained at a saving of cost, with the important advantages gained of not only carrying the West-end traffic into the City, but right through to the Blackwall and all other lines in connexion, without changing carriages: forming a connecting link between the whole system of railways north and south of London. This would entirely effect the one great necessity of the day, viz., the relief of the traffic of London Bridge. Not one person, or conveyance of any kind for goods or passengers, would be required to cross the bridge for either of the railways, whether the destination were far or near, home or continental; the stations remaining as they now are, with the addition of one new passenger station on the Monument side, between Thames-street and the river, or at any other more convenient point.

Our metropolitan railway system is but a fortuitous concourse of ill-placed lines, very discreditable to the age.

THE BEELAH VIADUCT.

In mentioning the model of this viaduct in the Palace of Art and Industry we expressed a desire to have some particulars of the mode in which it was erected in such a remarkably short time—four months: these have been afforded us by Messrs. Tregelles & Taylor.

The viaduct is situate about four miles from the town of Brough, in Westmoreland, and carries the South Durham and Lancashire Union Railway over one of the wild mountain gorges of Westmoreland. The engineer was Mr. Thomas Bouch.

It consists of fifteen piers of varying heights, according to the section of the valley; each pier being composed of six hollow columns, placed in the form of a tapering trapezium, and firmly braced together with cross-girders, at distances of 15 feet perpendicular, and by horizontal and diagonal wrought-iron tie-bars.

The columns are 12 inches external diameter, and of varying thickness, from 1¼ inch to ⅜ inch, according to the height of the pier and their position in it. The columns are placed at distances of 50 feet centre to centre, in the breadth of the pier at the base, and taper towards each other, until at the top, immediately under the platform girders, they are 22 feet apart, from centre to centre.

The weight of the whole viaduct was—Cast-iron, 776 tons; wrought-iron, 398 tons; and the superstructure contains 12,343 cubic feet of Memel timber.

The mode of erection adopted by Messrs. Gilkes, Wilson, & Co., was novel. They used no scaffold; but, having prepared a crane, with a gib of sufficient length to reach from the abutment over the first pier; and, of course, from the first pier over the second, and so on; they commenced the erection by setting the first pier from the abutment, on the Brough side of the valley. The crane was balanced by a shifting weight-box, so that each piece of the pier, whether light or heavy, was counterbalanced as it swung; and they were thus enabled to lower it slowly and steadily to its place whilst it was swinging round from the point of its first suspension. As soon as the first pier was erected, they placed two balks across from the abutment to the pier, and ran the girder (which was placed on two low bogie waggons) over, dropping it into its place with the assistance of the crane, by which each end of each girder was lifted and lowered.

On the completion of the first span the crane was moved forward, and the erection of the second pier was commenced,—not a single accident occuring during the whole erection, and not a man receiving any injury.

Some planks were placed upon the cross-girders, which, with some hand-ladders, enabled the workmen to go up and down readily. In the erection of this important work there were about 130 men engaged.

The wrought-iron work cost 22*l.* per ton, and the cast-iron work 11*l.* per ton.

NEW CHURCH FOR BATTERSEA.

The foundation-stone of the Church of St. John, Union-road, Battersea, was laid by the Ven. Archdeacon of Surrey, on Wednesday last. The church is designed in the Early English style, with nave and north and south aisles; the chancel being formed by the continuation of the nave, and terminated by a semi-octagonal apse. Accommodation is provided for 600 adults and 100 children: the greater part of the latter are situate in a small gallery at the west end of the nave. *All the sittings are free.*

The nave roof is open to the collars, and supported on hammer-beam trusses, with curved braces and wall-pieces resting on moulded stone corbels.

The piers of the nave are of Bath stone, and all window and door heads and jambs are also of Bath stone. The exterior is faced with picked grey stocks, relieved by red brick bands and arches, with intervening courses of block bricks and Bath key-stones, sunk and moulded. The three gables of the west front are terminated by crosses, and divided by a pair of octagonal bell-turrets of Bath stone, 66 feet in height to the top of the finials. The internal dimensions are as follows:—Nave, 58 feet in length; chancel, 26 feet; aisles, 73 feet; total width between aisle walls, 61 feet; height of nave to roof collars, 34 feet; height of aisles, 25 feet 6 inches.

The church is being erected by voluntary contributions, assisted by the Incorporated Society, and the Surrey Association for Building Churches. Mr. E. C. Robins, of London, is the architect; and Messrs. Sharpington & Cole, the contractors.

GUILDFORD COUNTY HALL, SURREY.

The new County Hall in Guildford has been opened. It is Late Gothic in style, and was built from the designs of Mr. Thomas Goodchild, architect, by Mr. Swayne. The *West Surrey Times* gives some particulars of the structure. The external walls are of Bargate stone from the pits near Godalming—a grey gritstone, partaking of the nature of the Kentish rag. The quoins and dressings are of Bath stone, from the neighbourhood of Corsham Downs. The frontage to North-street is 82 feet in extent, and to the Leapale-road 152 feet; whilst the total area covered by the building is 11,026 superficial feet. The building comprises a hall, to be devoted to the Criminal Court during the assizes; and to balls, assemblies, entertainments, public meetings, and the like, at other periods; a smaller court, to be devoted during the assizes to the civil business, and at other periods to less-important gatherings; a variety of commodious apartments, available for robing, consultation, and so forth; a spacious square room, intended for the grand jury; and large and appropriate rooms for museums, libraries, reading-rooms, class-rooms, and the like, constructed with a special view to the accommodation of the Literary and Scientific, and the Working Men's Institutes, should satisfactory arrangements be arrived at for their hire.

The great hall is 80 feet long by 37 feet wide. The roof is a semi-duodecagon; and from the floor to the centre of the roof there is a height of 40 feet. The hall is lit at night by seven star-lights suspended from the ceiling, twelve three-light brackets, and three nine-light brackets, supplied by Messrs. Defries & Co., of Houndsditch. The heating is accomplished by hot-water pipes, supplied from a boiler in the basement, by Weekes & Co., of Chelsea, and cost 122*l.* The roof, and all the woodwork, are composed of stained and varnished deal.

The small hall before referred to is intended for the Civil Court during the assizes. It is 50 feet long by 35 feet wide, and 25 feet high.

The iron-work of the building has been supplied by Messrs. Filmer & Mason; and the ornamental hinges have been produced by Mr. C. Page.

The contract for this work was signed on the 20th of August, 1861, the price agreed upon being 3,500*l.*, which was to include the warming and lighting, and a portion of the assize fittings.

MUSIC IN BRUSSELS.

An invitation has been issued by the Burgomaster of Brussels to the Philharmonic Societies, both of Belgium and other countries, as well as to the several *corps de musique* of the civil and military guards, in order that they may participate in the great musical festival organized by the town of Brussels, in conjunction with the Government, for the approaching fêtes of the thirty-second anniversary of the national independence.

The solemnity is to take place on Thursday, the 25th September, on the Place de l'Hôtel de Ville, at 10 a.m. The musical fête, to be continued throughout the day, with intervals of an hour, will be performed by the several societies, and concluded the same day.

On the 24th, there will be a *cortège* and procession for presenting the various bodies to the municipal authorities, who will offer them the wine of honour. Every society or *corps de musique* wishing to take a share in the programme is expected to write to the Burgomaster of Brussels to that effect before the 1st September, and to indicate the pieces proposed to be executed by them. If the number of societies be very great, this trial of musical strength can be carried on simultaneously in different points of the town.

NOTE ON THE EXHALATIONS FROM WOOD.

Everything in London continues to assume more and more gigantic proportions. The quantity of lucifer matches for one day's metropolitan consumption has often excited surprise: it is daily on the increase, as is also the quantity of firewood, which is enormous. Besides the parts of decayed merchant vessels, and other battered "old hulks;" the timbers and boards of demolished buildings which cannot be again worked into new ones, the salvage from fires, &c.; there are immense quantities of pine wood brought from over the sea as mere firewood. It is cut into pieces of about 3 feet in length, and of convenient thickness; so that, by means of steam-sawing machinery, they can readily be cut into the usual length of the bundles of firewood sold in the shops: they are then chopped, sorted, and tied up by boys, ready for sale.

During the summer months, the planks of wood, as they are unshipped, are brought in barges to convenient wharfs along the margin of the canals; and are stacked until needed for use. Some of these collections of firewood are cleverly built up, and are of gigantic proportions: one or two of these may be seen in the wharf of Mr. Humphries, in the York-road: one stack is at least 50 feet high, and is ingeniously constructed, so that the chief bulk of the materials is sheltered from the weather, and allowed to dry. The *architect* of this wooden work, with an eye towards effect, has caused it to assume something of the appearance of a military fortress, by leaving holes for imitation cannon, which point in a threatening manner towards the road. The building up of these towers, as barge- after barge-load of timber arrives, gives employment to a large number of youths and boys; and, during the whole year, the chopping and preparation of the firewood—not only here, but also in other parts of London—keeps busy some hundreds of boys, many of them connected with the reformatory and other schools.

The manufacturing of the patent firewood—an invention by which the wood is cut into very small pieces, and joined together in a circular form by means of resin—is chiefly managed by boys; and it is astonishing to see the rapidity with which the process is carried forward by the nimble fingers and the machinery employed on the material, and the quantities of this prepared firewood which are constantly passed into the London market.

There are other large stores of wood for building and other purposes along the sides of the canal; and, as space is valuable, these also are built up to a great height, and the planks are so

arranged that they are but little exposed to the wet, while the air is allowed to ventilate through all parts.

We have just now more particularly mentioned these collections of timber for the purpose of directing attention to a peculiarity connected with them. Often, in certain neighbourhoods, especially if the place be closely confined, the writer has noticed a smell which he had attributed to imperfect drainage; but finding, in one or two instances, that there were no derangements of this kind to be complained of, he looked for other reasons, and found that there were stores, either greater or smaller, of green and other wood, in the localities where this peculiar smell was to be met with; and he has since found that from these collections of wood a considerable quantity of gas is thrown off, which pervades the atmosphere to some distance around. We do not say anything just now about the unwholesomeness of this, but simply mention the fact, so that it may explain a circumstance which might otherwise puzzle the sanitary inquirer.

THAMES EMBANKMENT.

An opportunity for beautifying the metropolis now presents itself, which, if neglected, never can recur. The question of the north side is already settled; and it is to be hoped that the Surrey bank will be also completed simultaneously with the other. What may now be dreaded is, that, through evil influence or jobbery, or want of judgment, the wide range of embankment to be gained, may not be planned and laid out so as to secure the most utilitarian, the most ornamental, and the most healthful results for the commerce and population.

That there is to be a causeway and some reserves for plantation, seems to be settled; but the mode of laying out and appropriating over 60 acres of land in this most valuable centre must probably await the creation of the terra firma. This is most certainly the course which any private person would adopt in reclaiming a waste or morass. In the outline already shadowed forth, it appears that all the streets branching from the Strand are to have an issue upon the grand rival route. Such an arrangement will immensely increase the value of such ranges as Norfolk, Surrey, Arundel, and Cecil streets, besides that it will afford great accommodation to the whole vicinage, as well as relief to the Strand itself; but it has gone forth that the noble proprietors of these urban estates are to be endowed or gifted with the privilege of extending their street ranges, in continuation, to the very verge of the main esplanade.

Any such concession would be manifestly wrong and inequitable: the enhancement in value of their house property by the new route; and, above all, by the opening and ornamentation of the reserves to be gained from slime and stercor, will be more than ample compensation; so that in no case ought the authorities to allow more than the addition of a single house plot, and that only upon a plan to be approved by them, for the purpose of giving a suitable character of elevation, as presented to and seen from the esplanade.

That wharfingers have rights which must be requited is apparent; but even these concessions should not be allowed to interfere with the general aspect and character of the grand design; for, compared with the magnitude and public importance of the scheme, such individual claims are insignificant, and ought to be settled by a money value.

The planted squares of London were hitherto denominated its lungs: the real breathing organ of the metropolis will hereafter be the noble Thames and the grand esplanade. Naturally along the river's course there is in the stillest atmosphere a moving current: the ebb and flow of the tide, and action of the stream, all tend to keep up the aërial action; and it is well known that shade trees, *when not massed too densely*, sustain an animating, healthy, and most grateful influence.

It would not be desirable to see the margin planted with straight lines of forest trees, such as Hampton Court, or the vistas of Kensington Gardens. These would, when grown to maturity, give the appearance of an alley or canal; and, if planted in close ranges, would harbour vapours and malaria; so that, what ought to be a cool, inspiring, and invigorating promenade, must become a dangerous, although, perhaps, an inviting retreat. No; the lines should be broken in detached groups, presenting openings to grounds such as the Temple and Whitehall, as also to the principal structures along the rivage. The new alluvial soil and river breeze must invigorate every species of vegetation; and limes, of all other trees, would be the most appropriate. What a luxury would grounds laid out as the Park-lane borders prove to pent-up Londoners! This need not occupy much space either; and still there would remain sites enough for *stores of substitution*, wharfs, and even public buildings, in some of the wide reaches; as between Whitehall and Hungerford, and other portions not interfering with Somerset House, the Temple, or the Adelphi. Trees, however, in apposition with those buildings, judiciously placed, would bestow a grace that any person of taste may appreciate.

The eyes of the public are now turned towards the proper and tasteful practication of all these projected works; nevertheless, there is misgiving, not to say a dread, that great functionaries, in their liberality, may pervert or mar this advent of a great boon to the metropolis, and, indeed, to all who inhabit or frequent London. The *mal-appropriation of a single building site would destroy the unity of the whole.* To build ranges of warehouses, or stacks of terraces and shops, would convert the river into a lagune, which, though wider many times than the canals of Venice, must in such case wear the same sombre and triste aspect. The temptation to sell ground by the foot, so as to realize (for somebody) even 50,000*l.* an acre, is too great to be resisted by cunning accountants. In this instance it would be profanation to alienate a single rod,—not even although the price paid for some City spaces were offered; and there the rate of 200,000*l.* per acre has been realized in some instances.

In the parliamentary debates on this question, just when the official strifes began, Mr. Ayrton cited an example of the *disposal* of Crown lands at Epping and Hainault Forests. There some 2,000 acres of land, within ten miles, and even seven, of the metropolis, were conveyed away to lucky purchasers in freehold at 11*l.* an acre!—less than the selling price of the commonest waste in remote localities!!

Is not this account of *stewardship for the State* enough to cause distrust in men who assume the management of public property?

The sale of all public lands or properties ought in all cases to be put up for sale by public auction. Not that there can be any suspicion of favouritism; but, by throwing open the competition to all, the possibility of that imputation is avoided.

Tender is a dangerous mode of disposal; and yet this practice obtains in all Governmental departments; generally, too, with the reservation that the highest tender shall not of necessity be accepted! A tender conscience ought to avoid such procedures.

To accomplish the great object in view with reference to the Thames, no precaution should be omitted. This embellishment of the river is but the commencement, as it would be the stimulus towards other improvements. New streets would open out the Borough, and add 50 per cent. to the value of property now slumbering there. The improvement of the Surrey side could in no degree depreciate the value of houses in the old City: on the contrary, its prosperity must have the effect of buoying up and increasing a healthy circulation of capital. The toll-bridges—those antiquated strictures on commerce—would soon give place to unfettered traffic; and the spirit of advance would soon make London what she might and ought to be,—the Queen of Cities.

NEGLECTED WORKHOUSE CHILDREN.

In a little book, entitled, "A Home for the Homeless," &c., by the Hon. Mrs. Wray, that lady refers to a phase of our workhouse system on which we have bestowed some thought, and have before now directed the attention of our readers: this is, the unsatisfactory results of the rearing of both male and female children in these establishments. Mrs. Wray notices that in our unions and workhouses there are said to be 27,523 orphan children—cheerless, friendless beings—who have to battle against the sins and evils of life unaided and unadvised; and over whom no friendly hand is stretched to save them from ruin, when driven forth to the world; and several cases are given which show the depraved and shocking condition into which young girls, who have been reared in the workhouses, have fallen. In one penitentiary are two girls, not yet thirteen years of age, who have been reared under the guardianship of their parishes, who have both gone astray. And it has been stated before the committee of inquiry on education, by Mr. Tufnell, that in one parish in London, on inquiry having been made as to what had become of eighty girls, brought up in the workhouse, it was discovered that, without one exception, they were all on the streets. Such facts as these are monstrously disgraceful.

We cannot, however, wonder at these results, when we consider the general management of those children, and the early age and disadvantageous circumstances under which they are cast, without friends properly to overlook them, to earn the means of living. These children, in many instances, are sent out as servants while mere infants in the knowledge and practice of all that is necessary for them to pass through life with credit to themselves and usefulness to others. Mrs. Wray truly says,—"They go into the world, with all its temptations and dangers, utterly unprepared to meet them. Once out of the union school, these orphan girls are sent forth from the workhouse totally unprotected and friendless: no hope stimulates them: they are looked upon as a degraded class, for the brand of pauperism is upon them. With some very rare exceptions, they are taken only by the very poorest householders—those who are glad to get a household slave, to whom they need give no pittance, or the very lowest."

Without a friend to see to them, and often ill fed, badly clothed, and harshly treated, it can scarcely be expected that these girls should turn out well.

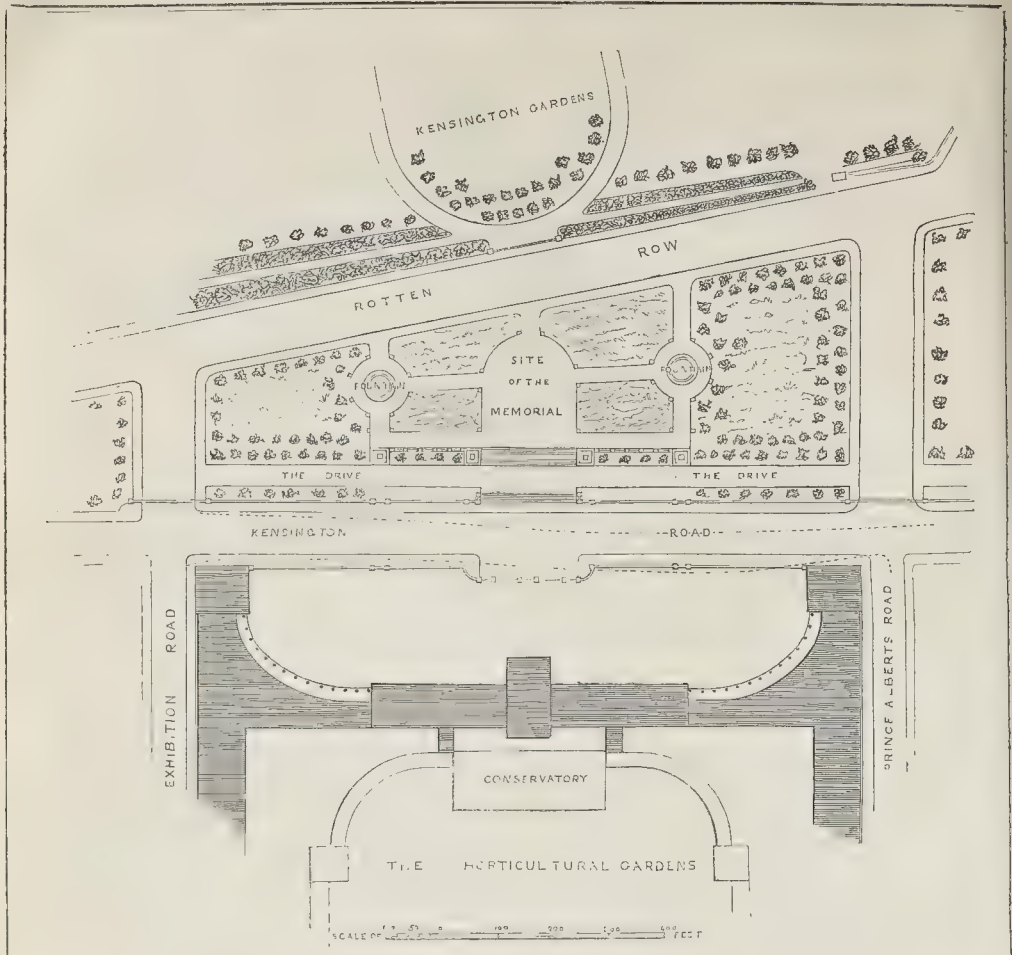
For the purpose of protecting these young girls, when they have been taken from the workhouse, Mrs. Wray has opened the Brockham Home, which is within about two miles of the Betchworth Station, and where a number of children can be trained and fitted for service; and will be afforded a fostering care throughout the early years of their career. For each orphan child withdrawn in this way from the workhouse the parish authorities pay three shillings per week: the remainder of the cost of maintenance, and also of a practical and useful education, is defrayed by voluntary subscriptions. We would recommend those of our readers who are interested in this work to Mrs. Wray's book for details; but while acknowledging, in the present circumstances, the great necessity which exists for this kind of assistance, we must go to the origin of this very sad abuse, and once more complain of the bad system under which thousands of children are brought up in workhouses; for, by an ill-advised policy, with a view towards saving expense, these children are caused to be the pests of society, instead of useful members of it. The children are frequently not sufficiently fed; and this renders both boys and girls physically unfit for properly meeting the requirements of after years. But another great cause of mischief is leaving the training of children, to a considerable extent, to the pauper inmates of those workhouses, who are both mentally and morally unfitted for the performance of such duties. We require intelligent and well-principled persons for this work; and it will be found by experience that money spent in this way will in the end prove a vast saving. If pauper children are properly reared, respectable persons would be as glad to receive the girls as servants as they are now to take young women from the Foundling Hospital and other well-conducted establishments.

A MEDIÆVAL PARTHENON.

The Church of St. Mary at Bury, built in 1424, on the site of a former church of 1002, appears, from its chief dimensions, to have been intended as a copy of the Parthenon at Athens; taken, of course, from a written description, without the aid of drawings.

The extreme length of the temple and the church is 214 feet. The extreme width of the temple coincides with the outer boundaries of the church, apparently reserved for chantries, measuring from the north side of the tower to the street fence. This tower belonged to the old church, and most likely formed the limit of the church westwards. The length of the nave would then have corresponded with the east cell of the temple. The internal and external width of the church and Parthenon, exclusive of the peristyle, is identical, being respectively 62½ feet and 67½ feet. Measuring from the south face of the tower to a responding point on the other side of the church, we have a width of about 42 feet, equal to that between the columns of the Parthenon.

With regard to heights, the rise of the roofs in each case is the same; and the clerestory of the church is equal in height to the entablature of the temple. The entire heights of the two buildings are also equal. W. Scargill.



PROPOSED SITE OF THE MEMORIAL OF HIS ROYAL HIGHNESS THE PRINCE CONSORT.

PROPOSED MEMORIAL OF THE PRINCE CONSORT.

To make complete the information on this subject which we, exclusively, laid before the public in our last,* we append the sketch plan referred to in the reports. It shows the proposed site of the memorial, and the arrangement of the ground next it in Hyde Park; also the position of the suggested Central Hall, between the memorial and the conservatory. The dotted lines show the present direction of the Kensington-road.

It seems necessary for us to point out that the Committee of Architects did not *suggest* the erection of a public hall in connexion with the memorial; and it will be observed that, in their report, they offer only a very guarded opinion upon it: leaving out of view the question as to the expediency or desirability of such a building in that situation, they simply say it could be erected there with perfect fitness, and would serve to screen the back of the conservatory and unsightly objects at present existing. It has been assumed that the scheme of the committee will fall through, unless the hall can be built. This, however, would seem to be erroneous. A design for the memorial, and the arrangement of the park around it with terraces, fountains, and flights of steps, are what the competing architects are specially called on to provide.

It is not correct, moreover, to suppose that the designs are to be restricted to groups of sculpture: reference is made in the architects' report to the necessity for a building to protect them, if of marble; and we still confidently look for just such a result as we proposed immediately on the appointment of the Queen's committee,—a memorial temple in which all the arts will combine to honour the memory of the Good Prince, and which will thus become also a record of the condition of the art amongst us in the nineteenth century.

One portion of the proceedings of the Queen's committee we receive with unqualified commendation, and, indeed, gratitude; namely, the admission of the principle that everything belonging to the general effect of a monument, and its relations to surrounding objects or edifices, is likely to be better considered and treated by an architect than by a sculptor. We are disposed to believe this will also be the case even when the simplest monuments are required. The public fountain at Nismes, which we illustrated some time ago, the joint production of an architect and sculptor, Questel and Pradier, and the monument to the late Emperor of Russia, of which we more recently gave an engraving, are instances in proof of what we are saying. By this means alone can our public monuments be well adapted in their general features to what surrounds them, and be likely to be satisfactory to the public in other respects. The enforcement of this principle on the present occasion, we have reason to believe, may be attributed to Sir Charles Eastlake; and the public, no less than the profession, owe him thanks for it. We sincerely hope that the result in this case will prove confirmatory of the goodness of the principle, though even a failure would not weaken our own belief in it.

We repeat, it is always advisable, when a monument, great or small, is to be erected, to consult competent architectural experience; in conjunction with that of the sculptor.

* See p. 547.

THE NEW COMET.

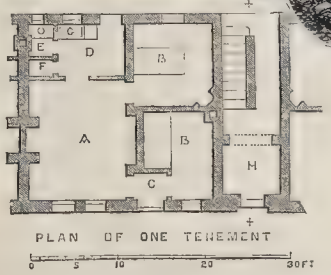
The comet, which now blazes in the sky with constantly-increasing brightness, is the third of those mysterious visitors which have been visible to the naked eyes of all in England within the short period since 1858—a circumstance most remarkable;—for, so far as we know, there is nothing similar to this recorded: and there have been troubles and confusion, great and sudden wars, in this short time, which might renew the superstitious belief in the portent of comets. During this brief time there has taken place the short but great war of Italian independence; and, since the appearance of the last comet, a terrible war, which reflects its consequences throughout the whole civilized world, has broken out; while, now that the new comet—which was first discovered at Florence—has appeared, there are indications in Italy which may connect this recent appearance with momentous events. But, however this may be, in looking back to the accounts which have been given of the circumstances attending comets, they seem to have been associated with increased heat of the atmosphere; so that, as a general rule, we may expect a continuance of weather which will require us to use all sanitary precautions for the preservation of health. On clear nights, at ten o'clock p.m., the comet may now be seen, nearly due north, at a little distance below the polar star.

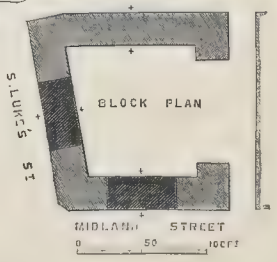


DWELLINGS FOR THE INDUSTRIAL CLASSES

KINGSTON UPON - HULL

H. M. EYTON ARCH[T]





THE HULL DWELLINGS FOR THE INDUSTRIAL CLASSES.

The Dwellings for the Industrial Poor of Hull, which form the subject of our illustration this week, were erected by a gift of 5,000*l.* from Miss Turner, of Hull, to the Right Hon. the Earl of Shaftesbury, for the purpose of enabling his lordship, as president of the Society for Improving the Condition of the Labouring Classes, to establish at Hull an example of suitable dwellings for the labouring poor of that town. The foundation-stone was laid on the 25th of February of this year, and the building is now nearly completed. It forms three sides of a square, with a court-yard in the centre, as will be seen by reference to the block plan, and is situate at the junction of Midland-street and St. Luke's-street, close to the terminus of the North-Eastern Railway in Paragon-street. It consists of two stories, with a centre of three stories in each of the before-mentioned streets, and contains separate and distinct dwellings for thirty-two families, of which five have one bedroom, nineteen two bedrooms, and the remaining eight three bedrooms. Each dwelling on the ground story has an entrance from the street, and one also from the court-yard, as shown by the plan of one of the tenements, of which A is the living-room; B, the bed-rooms; C, the porch; and D, the scullery, containing a sink and board, with coal-box under, marked G; a larder, F; and w.c., E, which has a dust-shaft on one side, with Hart's self-acting shoot boxes, through which all the dry rubbish is conveyed into pits in the quadrangle. Water is laid on to the sculleries and w.c.

The dwellings on the first story are similar to those on the ground story, with the exception of having only one entrance from an external stone gallery, constructed against the building in the quadrangle, and approached by stone stairs in the centre of each frontage, marked H on the plan.

Perforated valves, opening into flues carried up with the smoke flues, are provided for ventilation. Fox & Barrett's fireproof floors have been employed throughout the building; and all the division walls are of brick, no timber divisions being used. All the living-rooms and bedrooms are plastered, and coloured with a composition so as to render them washable. Gas is laid on to the external gallery and the stairs, and also to an ornamental standard in the centre of the quadrangle. The building is faced with white Trent bricks, with bands, cornices, &c., of red bricks, and Mexborough stone. The cost has been nearly 4,600*l.*, exclusive of the land. Mr. H. M. Eyton, of London, was the architect; and Messrs. Simpson & Malone, of Hull, builders, have carried out the works.

PARIS.

On the 8th of August, the inhabitants of Paris are promised the demolition of three theatres—the Cirque Impériale, the Folies-Dramatiques, and La Gaieté. Shortly after, the houses expropriated for the completion of the Boulevard du Prince Eugène will be cleared away. Another notice announces the fall of the Couvent des Barnabites, on the line of the Boulevard de Sebastopol, opposite the Palais de Justice. In the Avenue de Saint-Cloud demolitions are taking place, to disengage some of the fine hotels of the Avenue de l'Impératrice and circular street which surrounds the Place de l'Étoile. The Boulevard du Roi de Rome, which was carried some ten or twelve mètres below the surrounding surface, and terminated by a flight of thirty steps, is now in course of execution throughout its entire length. Hundreds of labourers are employed levelling and removing the heavy escarpments of sand and gravel, the earth from which is carted off to the low ground of the Seine.

At the corner of the Rue de la Parcheminerie, a short distance from the Boulevard Saint-Germain and the square of the Palais des Thermes, an edifice three stories high, with eighteen windows on each story looking upon the two streets, is rising. This structure is destined for a "Bureau de Bienfaisance," and a "Maison de Secours;" also important charity schools of all sorts.

In the principal thoroughfares in Paris, active progress is manifest in substituting, for the ancient candelabra, new ones bronzed by galvanic process, and surmounted by a round lantern of improved model.

The ancient lamp-posts, interspaced by 40 mètres diagonally, were 3 mètres 50 centimètres high, without the cock and burner; so that the flame was about 4 mètres (13 feet 1 inch) above the pavement. The new luminaries are placed only at 25 mètres from each other in the direct line: their height is 2 mètres 70 centimètres; the flame being only 3 mètres above the ground. The lantern is formed of curved panes, framed together by light brass ribs. A conical reflector crowns the whole, so as to throw a reverberated light on the pavement. Instead of the usual white metal lining, the reflector is internally covered with some new incorrodible coating.

GUERNSEY INTELLIGENCE.

Worked Granite.—Several slabs of worked granite, addressed to the "Farnbro' Station," have just been sent to England. They are intended to be used in the erection of a sepulchral monument. There seems to be some demand for worked granite, as now the Messrs. Bisson, of the Vale, are in England, engaged in erecting a monument from granite worked in their own establishment in Guernsey.

Rocquettes Church.—The foundation-stone of this church is near upon being laid. The Messrs. De Putron are the contractors. The local *Star* has the following intelligence on this church:—"Mr. May, in addition to a previous donation, has given the sum of 50*l.* British to the church now building at the Rocquettes, with a view to the substitution of a larger and more effective east window in place of three small lancets originally designed."

St. Sampson's Harbour.—There has been considerable agitation on the affairs of this harbour. 8,245*l.* are to be spent in improving its condition.

Harbour at Rousse.—A proposition has been made for erecting a harbour at Rousse, in the north of Guernsey; but it has been met with general disfavour.

Public Education.—Some discussion has been carried on in the local papers on the subject of public education. Influential persons in the island had designed to lay a duty on stone at St. Sampson's Harbour; and from the revenue thus created they proposed to appropriate 1,000*l.* towards public education. Such a step was resisted by the shipowners and others of St. Sampson's, who saw that their commerce would suffer by an additional duty, and the proposition up to this time has failed.

COMPETITIONS.

Bishop Hooper's Memorial.—We understand that the second premium has been awarded to Mr. R. L. Boulton, sculptor, of Worcester, for his model sent in competition for the statue of Bishop Hooper, to be erected in St. Mary's-square, Gloucester, on the spot where he was burnt. Seventeen models were sent in competition from London and other parts. Several competitors complain of inattention. Mr. Thornhill, of Dublin, obtained, we believe, the first premium.

Tunbridge Wells.—The provisional committee of the Public Hall Company have received, in reply to their advertisement, eleven sets of plans, from which one will be selected for the proposed new building.

SEWAGE OF TOWNS.

The select committee on the sewage of towns has just concluded its inquiries, and the report may be soon expected. The following is a summarized analysis of the evidence. As regards the value of town sewage, in reference to its ingredients, as compared with other manures, liquid and solid, the evidence proves that it contains the elements of every crop that is grown: it does not lose anything by evaporation: it comes into immediate action on the crop, and possesses an amount of heat which stimulates vegetation; and even its water is of great benefit for agricultural purposes. The Belgians consider the excretion of each person worth 1*l.* per ton. The sewage permanently improves the land, and has been applied, most economically by hose and jet, with great advantage to common grass, Italian rye grass roots, and grain crops. The grass so stimulated is grateful to cattle, improves their constitution, and increases the quantity and richness of the milk of cows, as the earth not only absorbs, but also deodorizes it, if it be not applied in too large quantities. Indeed, to be profitably used it must be applied in slight dressings; and so employed it will supersede the use of guano and artificial manures. It may be applied at any time of the year, except during hard frosts, to every description of soil which is naturally or arcificially drained; and the most profitable returns, as in the case of all other manures, will be obtained, when it is applied to the best soil. There are in it matters of themselves injurious to vegetation, but they bear so small a proportion to the entire bulk as to be perfectly harmless. If applied as recommended—*i.e.*, in slight dressings—no nuisance would be created by its use; the earth, as has been said, deodorizing it; but it cannot with profit be manufactured into a solid manure.

PROVINCIAL NEWS.

Mickleover, Derby.—The old Manor House has been entirely demolished, and a new residence is now in course of erection on an elevated site, commanding a more extensive view of part of the estate as well as the surrounding counties. The style adopted is Old English, executed with red bricks and stone dressings. The foundations have been put in, and the contract for the carcase of the building has been taken by Messrs. W. H. & J. Slater, of Derby, builders. The whole is being carried out from a design and under the direction of Messrs. Giles & Brookhouse, architects.

Elvaston Castle, Derbyshire.—The Home for Aged Poor, erected and endowed by the Countess of Harrington, is now approaching completion. It is situate in the Park. The principal frontage faces the carriage-drive: the other frontage faces the village, and will contain a clock for general use. The institution will accommodate about twenty inmates. The style is Gothic, executed in best red bricks with stone dressings. The design was prepared by Messrs. Giles & Brookhouse, architects, under whose direction the works have been carried out.

SCHOOL-BUILDING NEWS.

Stradbroke.—New schools are about to be erected in this parish, upon somewhat the same system as those established at Helmingham, when Mr. Ryle held that living. At Stradbroke there will be an upper school for sixty boys, and a lower school for 140 children: the two schools are capable of being thrown into one when required. The style of the buildings will be Tudor; the walls being of red brick, relieved with ornamental patterns in grey. The roofs will be open timbered and stained, the floors deal, and the fittings birch. Attached is a residence for the master and mistress. The cost of the schools (independent of the master's house, which will not be erected at present) will be under 700*l.* The architect is Mr. R. M. Phipson, of Ipswich.

Stourbridge.—Boys and girls' schools and master's residence have lately been completed at Enville, near Stourbridge, at a cost of upwards of 2,000*l.*, which has been defrayed by the Countess of Stamford and Warrington. The site upon which the buildings stand, and also the land for the play or recreation grounds, were presented by Lord Stamford. Messrs. Wilson & Walker, of Nottingham, were the architects; and the design is Decorated. The schools, which are to accommodate about 100 scholars, are constructed with light cream-coloured brickwork, dressed with a local dark red sandstone. The roof is of open-timbered construction, boarded to keep out the extremes of heat and cold. All the interior woodwork is stained and varnished. The exterior is covered with slating, in green and grey bands alternately, each slate being cut to an ornamental pattern. Porches have been placed at the two entrances. In the western gable is inserted a three-light window, the upper part being arched, and filled in with three trefoils: detached columns are placed in front of each mullion with carved and moulded caps and bases. The central or main window projects from the rest of the building, thus forming a sort of bay recess in the interior, and is terminated by a gable. Every gable is capped with wrought foliated iron finials, manufactured by Mr. T. Brawn, Mediæval metal-worker Birmingham. The desks, forms, and master's and mistress's tables, have also been designed by the architects, and are carried out in style to correspond with the rest of the building. Mr. John Mee has executed the carving. The grounds are surrounded by dwarf walls, with wrought-iron railing in which the quatrefoil is a principal feature. Mr. R. Thompson, of Kidderminster, has been the contractor for the buildings; and the whole of the works have been carried out under the supervision of Mr. Walker.

Woodbridge.—The local trustees selected a plan from several others for the new grammar school, and allowed their choice to be exhibited for public view. Each of the trustees agreed amongst themselves to select three plans from the number sent in, and to compare their choice; and on comparison it was found that ten of the thirteen trustees had selected as one of those three plans the one now

adopted by the whole. The building will be in the Tudor style of architecture, of red brick with white quoins, in keeping with the new Seckford Almshouses. The basement contains a school-room, 44 feet by 24 feet; a class-room, 13 feet square; five rooms for senior scholars; an under-master's room, 9 feet 6 inches by 9 feet; a dining-hall, 25 feet 6 inches by 18 feet; head-master's study and library, 17 feet by 15 feet 6 inches; head-master's drawing-room, 21 feet by 14 feet; head-master's dining-room, 19 feet by 13 feet 6 inches; a kitchen, 18 feet by 16 feet; scullery, 13 feet by 9 feet 6 inches; and offices. On the first-floor are bed and other rooms. The front elevation has three rounded gables and a minaret with clock, and consists of two wings and centre—the servants' rooms and offices occupying one wing. The designers and architects are Messrs. Elmsby, Franey, & Haddon, of London.

Frome.—The foundation-stone of a block of buildings for a day-school, minister's house, and master's house, for the Wesleyan body, has been laid here. The site is near the police-station, fronting Bath-street. Only 200*l.* of the sum required to complete the erection remains to be collected. The architect is Mr. W. J. Willcox, formerly of Bath, and now of London. The builder is Mr. Ashman, of Leigh-on-Mendip.

STAINED GLASS.

St. Leonard's, Hythe.—The large east window in St. Leonard's Church, Hythe, has just been filled with stained glass, by Messrs. Pilkington, of St. Helen's. It consists of three lancets: the centre contains, in three medallions, from cartoons of H. Casolani, the Crucifixion, Resurrection, and Ascension, upon a diapered ground. The same treatment, with slight alterations, is adopted in the side lights; a single medallion occupying the centre of each, representing the Raising of Lazarus and of Jairus's Daughter. This window is the gift of Mr. Alderman Finnis.

St. Mary Magdalen's, Oxford.—A stained-glass window has just been inserted in the east end of the south aisle of St. Mary Magdalen's Church, in memory of the late Mrs. Baker Morrell. The subject represents incidents preceding the birth of our Saviour and St. John the Baptist; the Angel Gabriel appearing to Zacharias; Zacharias attesting the Birth of St. John; the Annunciation of the Virgin; and the Angel appearing to the Shepherds. The window was executed by Messrs. O'Connor.

St. Peter's, Sudbury.—A new window (executed by Messrs. Hardman) is being placed in the north aisle of St. Peter's Church, in memory of the late Isabella Louisa, only daughter of the Rev. J. W. H. Molyneux, the incumbent. It is to form one of a series of four windows, typical of Humiliation and Exaltation;—two on the north, representing Christ's Agony and Crucifixion; two on the south, representing the Adoration of the Magi and the Transfiguration. The east window, Christ sitting in Glory, presented by Mr. E. Stedman, some time since, completes the subject.

Hereford Cathedral.—A stained-glass window has been placed in this cathedral, as a memorial to the Very Rev. T. Musgrave, D.D., late Archbishop of York. The window in question is the large window immediately north of the choir altar. Architecturally considered, this window is of a Transitional character, of the latter part of the thirteenth century; and the glass is in keeping: it is a window of four bays, surmounted with trefoiled tracery, which contains in the upper one the armorial bearings of her Majesty as head of the Church. In others, beneath these, occur the arms of the see of Hereford, impaled with Musgrave's pastoral staves and mitre, as bishop thereof. In like manner, in the succeeding one, his arms are impaled with those of York, to which place he was translated, as archbishop. These are surrounded by other tracery. The main portion of this window, beneath these, contains eight subjects from the life of St. Paul; and, reading them horizontally, they occur thus: The "Stoning of Stephen,"—"Conversion of St. Paul,"—"Imposition of Hands,"—"Elymas the Sorcerer,"—"Sacrifice at Lystra,"—"Paul before the Elders and Apostles at Jerusalem,"—"Paul before Agrippa,"—and "Martyrdom of St. Paul." These are all bounded by columns, and surmounted by tabernacle work. Beneath this window is the Chapel of Bishop Stanbury. It contains two windows, which have been made to constitute part of the memorial in question, as they are embraced in the same view. These windows, like the chapel itself, are of the Tudor character, and bear a heraldic impression. This chapel abounds in its detail with shields, emblazoned with Christian emblems, also of the see, deanery, Stanbury, &c.; and the glass embodies the same character and feeling, by incorporating emblems of the Passion of our Lord, Stanbury impaled with the see of Hereford, his monogram, &c.; all surmounted with mitres. Mr. Warrington, of London, who is the author of the Clutton memorial in this cathedral, is the artist also of these works. The next work from his hands will be the Huntingford memorial, to be placed in the window at the east end of the south aisle, at the instance of Lord Saye and Sele.

Holy Cross (R.C.) Church, St. Helen's.—A stained glass window has lately been erected by the Messrs. Pilkington, of St. Helen's, in Holy Cross Roman Catholic Church, in the same town. It is of three lights, divided by a transom, each containing, under canopies, full-length figures of the Virgin, SS. Peter, Margaret, Alexander, Richard, and Queen Esther. The figures are after cartoons of H. Casolani, of London. Mr. Edward Johnson, of St. Helen's, is the donor of the window.

CHURCH-BUILDING NEWS.

Loughborough.—The fabric of All Saints' Church, including the tower, is to be restored. Mr. Herrick has offered to restore the tower, which it is estimated will cost about 1,000*l.* Miss Herrick will supply a new west window, which is estimated at 500*l.* Mr. Herrick and his sister, we may here remark, have built an infirmary here, at their sole expense.

Stoughton.—The church of Stoughton, Leicestershire, one of the prettiest village churches in the county, and a good example of Perpendicular ecclesiastical architecture, has during the past eighteen months undergone extensive repairs, at the sole expense of the Hon. Major H. L. P. Keck, the proprietor of Stoughton and other estates in its locality. The tower and spire have been taken down and rebuilt, and so have the north aisle, &c. A good new roof has been put on the north aisle; but an unpardonable and bungling deformity has been perpetrated, and one which will be a lasting eyesore and complaint to even casual observers, in the east and west windows of this aisle having been placed some 15 or 18 inches out of their proper central position; the consequence of which is, that the exquisitely-carved wooden bosses of the low cambered wrought principal of the new roof, instead of being, as they ought on architectural principles to be, immediately over the apex of each window (the boss being true to the central part of the principal), are 15 or 18 inches lopsided of it. The new stone work which it was found necessary to introduce in the rebuilding of the tower and spire has been washed over with a liquid made from the manure of cows: it is presumed to give it the hue of age, but which is a failure, and might have been advantageously dispensed with. Mr. John Firn, stonemason, of Leicester, has executed the stonemason's work and the architectural part of the business; Mr. Wm. Clifton, builder, of Leicester, the carpenter's work; Mr. M. Irving, of Leicester, the wood-carving; and Mr. Adlard, of Leicester, the plumbing and glazing.

Cheshunt.—The new church of St. James, Cheshunt, has been consecrated. The foundation-stone was laid on the 20th of July, 1860. The site is near Goff's Oak. The new building, according to the *Herts Mercury*, is in the Early Pointed style; erected in the form of a cross; and consists of a nave, and apsidal chancel, transepts, a south chapel, and a tower. The roof is open, with stained and varnished timbers, supported by carved stone buttresses. The seats are open, with inclined backs. The building is of brick, with Bath-stone dressings. Accommodation is provided for 421 persons, 286 free, and 50 reserved for children of schools. The architect, under whose superintendence the works have been executed, is Mr. W. G. Habershon, of London; and the builder is Mr. E. Clarke, of Tottenham.

Little Amwell.—The first stone of the new church at Little Amwell has been laid. The site, which has been given by the Marquess Townshend, is in the rear of the Townshend Arms Inn. The edifice will be a simple structure, built almost entirely of brick, and faced externally with red bricks. It will consist of a nave, 54 feet 6 inches long, by 24 feet 5 inches wide; and a chancel, 24 feet long, by 21 feet wide, terminated by a semi-circular apse. The arch between the nave and chancel will be of red and white brick, springing from pillars having carved stone capitals, bases, and detached shafts of Devonshire marble. The entrance to the nave will be through a north porch of open oak timber work, resting on brick walls. There will be a vestry on the north side of the chancel. The roof of the nave will be of open timber work, and that of the chancel of moulded wood ribs and ornamented plaster panels. The roof will be covered with tiles, and surmounted by a light timber bell-cot placed over the chancel arch and terminated by a shingle-covered spire. The seating will be of the simplest character, of open woodwork varnished. The cost of the church, with fittings complete, will be about 1,400*l.*; and it will afford accommodation for about 198 adults, and 57 children. The architect is Mr. Ewan Christian; and the builder, Mr. Walter Hitch, of Ware.

Bathwick.—St. John the Baptist's Church, Bathwick, has been consecrated. The architect is Mr. C. E. Giles, of London; and the builder, Mr. C. G. Mann, of Bath. The church consists of nave and chancel, with porch at the north-east angle, which forms the basement of the tower (at present unfinished); two small transepts on the south side, and vestry opposite. The length from east to west is 85 feet; breadth of nave, 21 feet. The church is designed to accommodate 300 persons, including children, for whom a place is specially reserved. The architectural style is First Pointed: the chancel end is apsidal. The windows are chiefly single narrow lancet lights; the west window being in three lights. The edifice is built of Bath freestone, from the Combe-down quarries. The outside wall-facing is disposed in bands of smooth dressed stone, alternate with an axe-picked dressing, which relieves the uniformity of the surface. The east and west windows are embellished, both inside and outside, at the spring of the arch, with carved capitals, surmounting small shafts of red Mansfield stone; similar shafts being placed at the centre of the relieving arch of the windows of the nave. The church is furnished with uniform open benches of plain deal, stained and varnished, except those of the chancel, which are of pitch pine. The three single-light windows of the apse are furnished with coloured glass, by Messrs. Clayton & Bell, representing three subjects appropriate to St. John the Baptist. This window is the gift of a lady to the memory of her mother. The church will be warmed by one of Haden's stoves, fixed contiguous to the vestry. The roof is slated in bands of grey and reddish slate, surmounted by a crest edging. The roof inside, between the timbers, is coloured with a deep blue. The church is badly situate for effect, being below the level of the road leading to the Cleveland Bridge; but the road is an embankment.

Pontardawe.—The church erected here has been opened and consecrated for divine service by the Bishop of St. David's. It was erected at the expense of Mr. Wm. Parsons, the ground having been given by Mr. F. E. Lloyd, of Killybebyll. The length of the church in the clear of the walls internally is 111 feet 9 inches; the width of the nave and side aisles together, 54 feet. Moulded stone piers, or columns and arches divide the nave from the side aisles. The capitals of the piers or columns are carved to imitate natural foliage. The height of the nave from the pavement to the tie-beams of the roof is 35 feet 9 inches; and to the top of the roof (which is an open-timber roof, stained and varnished) is 54 feet 7 inches. The width of the chancel is 22 feet 3 inches, and the height 28 feet. The height of the tower and steeple from the base to the top of the *fleur-de-lis* crowning the steeple is 197 feet 2 inches. The style is Decorated. The cost, inclusive of boundary walls and gates, warming-apparatus, and gas-fittings, was 5,357*l.*; and extra amount for certain works not previously contemplated, amounting to 230*l.* odd. Mr. J. H. Baylis, of Swansea, was the architect; and Mr. J. Holtham, the builder.

Warrington.—Trinity Church tower, which was taken down about eight months ago on account of its unsound state, is about to be rebuilt. When completed, the new tower will be 12 feet higher than the old one. The expenses, which will amount to about 200*l.*, will be defrayed partly by the corporation, and partly by the commissioners of the church.

Kersall Moor, Manchester.—A reredos has just been put up in St. Paul's Church, at the sole cost of a member of the congregation. It is the length of the east wall of the chancel, and about 7 feet high. The materials are Bath stone, Caen stone, and marble. Over the lower part is worked a simple incised diaper. Above this, in the centre, are three square panels, divided by polished marble columns with foliated capitals, and whose bases are carried on richly-carved corbels. Moulded quatre-foils are sunk in these three panels, each containing a ribbon with a legend, interwoven with elaborately carved foliage. In the centre panel are the words—"This do in remembrance

of me;" with the passion flower, symbolizing Christ's sufferings. On the left side is the inscription—"Jesus said, 'I am the bread of life;'" with a handful of wheat-ears, their natural size. On the right hand the scroll reads—"He that believeth on me shall never thirst;" with a branch of the vine bearing grapes, figuring Christ and His people. On the extreme length of the altar-piece, in incised letters, are the first four Commandments of the Decalogue; and on the right the remaining six Commandments, with the prayer—"Lord have mercy upon us, and write all these Thy laws in our hearts, we beseech Thee." Over the central panel rises an equilateral pediment, surmounted by a foliated cross, and containing the sacred monogram I.H.C. A boldly-carved cornice above the panels completes the reredos, which has been executed by Mr. Evan Williams, of Manchester, from the designs of the architect, Mr. J. Medland Taylor.

MISMANAGEMENT OF PUBLIC WORKS IN INDIA.

In the three last numbers of the *Builder*, your correspondent, "Indian," very properly calls attention to the mismanagement and failure of the public works in the Madras Presidency, and rightly points out the causes from which these failures spring.

Having for several years past been engaged professionally in the execution of railway works in that presidency; and having had many opportunities of witnessing the annual failure of the Government bridges, canals, roads, &c.; I beg to add my testimony to the general correctness of the statement put forward by "Indian;" and to inclose you an extract from a leading Madras newspaper, reporting the total failure of a large bridge at Paulghaut, called Culputry Bridge, which cost the Government 30,000 rupees (3,000*l.* sterling), by a flood, caused by a heavy fall of rain, in one night.*

Want of water-way causes many of the Government bridges to fail; but defective workmanship and bad materials are also a frequent source of failure.

The root of the evil, however, is in the corruption of the Indian Government itself, both here and in India.

Instead of employing experienced civil engineers in the Public Works Department, infantry officers, the relations of members of Council and of the civil service, are preferred; and professional men are completely ignored, and treated as "interlopers," by the authorities who have the power to make the engineering appointments to the Public Works Department.

This is especially the case at Madras, where I have lately seen in the *Government Gazette* the appointment, as assistant district engineer in the Public Works Department, of an infantry officer, the brother-in-law of one of the members of the council.

I trust that an effort will be made to bring before Parliament next session the whole question of the administration of the Public Works Department, and to expose the jobbery and mismagement of the Indian Public Works. C. E.

"THE SPIRIT OF MODERN WORK."

Out of several communications in reply to "A. W." we take some passages from one signed "Veritas." The writer says:—

Strange it is, that after all that has been written, all that is before our eyes, there should still be any who can doubt of our advancement in this century. "An age that has fallen to such a bathos of ignominy!" Strong language. Mark the writer's ire, and assist him to express his contempt for an age that produces its carpets by machinery! I confess I expected the word "sausages," and my fear subsides when it is only carpets. Yet such do exist! and this is my apology for bringing a few well-known facts again before the intelligent reader. First and greatest, as "knowledge is power," are the improvements in the art of printing, the price of books and journals, produced by the steam-engine, or the presses and machinery produced by such; when the poorest man may store his mind with knowledge or entertainment; where his soul receives the breath of master-minds, purifying its dross as fire purifies metal. What intellectual recreation had the artisan of the fifteenth century? when "there were very few chimneys even in capital towns: the fire was laid to the wall, and the smoke issued out at the roof, or door, or window. The houses were wattled and plastered over with clay, and all the furniture and utensils were of wood." In the writings of the immortal Shakspeare, words and sentiments appear which would scarcely pass in the literature of our day. And many examples still remaining speak for themselves, bearing testimony neither to the plenitude of the article, nor the honesty of the people, when the Bibles were chained in the churches; and I would refer this writer on the degeneracy of the moderns to some extracts on p. 891 of the *Builder* for 1861, for what the state of knowledge was in the days of the first George.

The lectures, classes, and museums,—all fruits of this peculiar age, all tending to make the intellectual predominate over the animal, the godlike over the brute,—all giving increased power of research, increased appetite for it, must be remembered. Then the mammoth of the time, the birth of the age, under Providence, the producer of our advancement and comforts, the comforts of the artisan, that gives him his "carpets" at all; and he would have an unenviable spirit who could grudge him this or any of his comforts,—would deny his *railway* ride to rural scenes, where he may enjoy the free breath of heaven as a relaxation to his daily work. That has been as a reservoir of good to the man of science, crying aloud, Persevere in your research, that further discoveries may be yours, that further blessings be showered on your fellow-man! This brought into the regions of possibility the present International Exhibition; and the advent of such an event, in the day-dreams of the artworker of the last century, may have seemed as impossible as that of a new style of architecture to many now seems; and he who asserts that the present or late gathering of the art and industrial produce of the nations is unfavourable to progress, and is not evidence of the advancement of the age, requires being put under restraint. "And to what a state of imbecility is the man reduced that has to set the steam-engine a-going!" George Stephenson, for instance. And the public will judge whether they are better served by men who travel by cold winter nights, by burning suns, by drenching rains, and amidst the electric war of the elements, holding our lives by hundreds in their hands; or by the London cabmen?

"Are your men any happier or nearer heaven?" And one is scarcely prepared to meet this question after the epithets bestowed a few lines before. There have been such times as those of the early Church, of Nero, of the Waldenses, of Louis XIV., when the Protestants were tortured, their wives and daughters abused before their eyes; "of the Irish massacre in the time of Charles I., when 40,000 individuals were slain without distinction of age or sex;" of Queen Mary, of the Covenanters, of the Inquisition, and the times of our so-called Christian architecture. Were our men any happier or nearer heaven? when in the twelfth century St. Bernard writes,—"The insolence of the clergy troubles the earth and infests the church." "They are the ministers of Christ, but they serve Antichrist." And we may gather from other writings that "the laity were glad to secure their families in any way from the attacks of priestly lust, and favoured, or even furthered, the permanent connexion of their priests with concubines:" in the beginning of the sixteenth century, when

> "Into the church then comes another sotte
> Without devotion, getting up and downe,
> Or to be seene and to shew his garded cote;
> Another on his fiste, a sparhawke or fawcone,
> Or else a cokow, and so wasting his shone,
> Before the aulters be to and fro doth wander
> With even as great devotion as a gander.
> * * * *
> There are made bargaynes of divers maner thinges:
> Buyinges and sellinges scarce worth a hawe;
> And there are for lucre contrived false leasinges;
> And while the priest his mass or matin singes,
> These fooles which to the church do repayre
> Are chatting and babbling as it were in a fayre."
> *Barclay's "Ship of Fools."* 1509.

He who doubts our advancement, would do well to look to the numberless charities peculiar to the age,—the societies, insurance offices, the savings banks, and the penny post; and he does gross injustice to the social workers who ignores such acts as the collection for the late Hartley Colliery accident, when but one feeling pervaded the land (when, had human assistance been of any avail to save the unfortunate men, it would have come from the end of the land, in one day); and the crusades in the *Builder* against all uncleanliness and sanitary evils, with a view to longevity, happiness, cleanliness, and so to godliness.

Surely the path to heaven is more open. Darkness has cleared away, with witchcraft and many superstitions; but still, with an antiquarian and superstitious feeling, many cling to the relics of these times. But to come to the pith of the advice as to "what should be the spirit of modern work," hear and admire,—"Rigidity." And he who gives the advice would do well to attend to consistency, as he teaches us to attain rigidity by laying aside the tape and rule, and having heart and eye work. "Rigidity!" We must then lay aside our admiration of the qualities which strike us in the high-bred horse as he gracefully curvets,—freedom! power! beauty! subtlety of lines! as utterly wicked; and see the qualities which ought to be the consummation of our aim, in his domestic namesake yclept of clothes. Becoming "rigidity!" nay, the spirit of modern art, should be free as our thoughts: freedom! and freedom in art is the child of power—is power! Our endeavours ought to be, with investigation working in all truth towards power: in proportion to the power of mind displayed is the intrinsic value of the art, and the freedom; but as rigidity is opposed to all freedom, it can never give power, and must be avoided. Veritas.

OXFORD WORKHOUSE COMPETITION.

Sir,—The "muddle" of the Oxford Board of Guardians on the above subject, to which allusion is made by an alderman of that city, may possibly arise from these facts:—

The principal architects of Oxford were invited to send in designs for the new workhouse, in accordance with the printed instructions of the Board. When the time for adjudication on the designs submitted arrived, it was found that the majority of competitors showed to the Board that the cost of the accommodation required by them in their proposed new workhouse would somewhat *exceed* the sum named.

The Board, therefore, put aside these plans, and chose the plans of Mr. Fisher (builder), which, requiring alteration, were sent back to him for that purpose. The alterations having been made, the Board—the Oxford Board—retained the services of an architect of the Poor Law Board (some say a friend of Mr. Fisher's) to report on Mr. Fisher's plans. The report (for which a good round sum was paid) was favourable, and suggested a few *more* alterations in Mr. Fisher's plans.

These occurrences took place a few months ago. Why the Oxford Guardians cannot carry out Mr. Fisher's plans seems odd. One cause may be that the competing architects having now taken away their plans, the Board is possibly somewhat in the dark from not having taken copies of them. Hence the "muddle."

"Bona Fide."

CANADA: ASSOCIATION OF SURVEYORS, CIVIL ENGINEERS, AND ARCHITECTS.

This Association met in Montreal, on Wednesday, May 21st, at the Mechanics' Hall, for the election of officers and the transaction of other business. Mr. George Browne was called to the chair. The secretary read thirty-eight letters from absent members approving of the object of the meeting. The following gentlemen were elected for 1862-63:—

George Browne (Montreal), President.
Charles Baillergé (Quebec), James Stewart (London, C.W.), F. Rastuck (Hamilton), Vice-presidents.
W. A. Austin (Ottawa City), Recording Secretary.
John Tully (Toronto), Corresponding Secretary.
Augustus Laver (Ottawa City), Treasurer.

Council: Surveyors' Division.—A. Wallace, Quebec; D. Sinclair, Ottawa City; G. F. Austin, Ottawa City; Samuel Peters, London, C.W.; H. M. Perrault, Montreal; J. Hamel, Quebec; J. L. P. O'Hanley, Ottawa City.

Engineers' Division. — Walter Shanly, Montreal; George H. Perry, Ottawa City; W. B. Gallway, Ottawa City; G. L. Reid, Robert Shanley, W. H. Napier, F. W. Cumberland, Toronto.

Architects' Division.—F. Lawford, Montreal; James Spriggle, do.; T. S. Scott, do.; Thomas Fuller, Ottawa City; W. Kauffman, Toronto; T. Stent, Ottawa City; C. P. Thomas, Toronto.

Board of Examiners: Surveyors' Division.—D. Sinclair, Ottawa City; H. M. Perrault, Montreal; A. Wallace, Quebec.

Engineers' Division.—Walter Shanley, Montreal; F. W. Camberland, Toronto; G. H. Perry, Ottawa City.

Architects' Division —F. Lawford, Montreal; T. Stent, Ottawa City; Thomas Fuller, do.

HOUNSLOW LOCAL GOVERNMENT ACT.

Pursuant to notice, an inquiry was held at the Town-hall, Hounslow, on Tuesday last, by Mr. Rawlingson, the inspector appointed for that purpose by the Secretary of State, to inquire into the genuineness of "a petition under the Local Government Act 1858, duly signed by inhabitant ratepayers within the boundaries proposed, for a district to be styled the Hounslow District, and comprising parts of the parishes of Isleworth and Heston, Middlesex."

The meeting was numerously attended by owners and ratepayers of the proposed district.

The inquiry having been opened by the inspector, numerous inquiries as to the working of the Act in places where it was already in force were made by different persons present.

It transpired during the investigation that the

* "Ootacamund. (From the *Neilgherry Star.*)—We learn from a correspondent that the large bridge at Paulghaut, known by the name of 'Culputry,' and which cost the Government nearly thirty thousand rupees, was completely washed away, in one night, by a heavy fall of rain,—assisted by the strong current of water over which it stood. Our correspondent states that the monsoon has partly set in, which renders the place very agreeable and pleasant."—*Athenæum and Statesman.*

whole of the water from which the pumps in the proposed district were supplied was surface water, obtained at a distance below the surface of not more than 11 or 12 feet; and that, although the West London Waterworks Company had a main running through part of the district, the inhabitants generally did not avail themselves of the facility thus afforded of obtaining pure water. In addition to this, the only system of drainage consisted of that into cesspools or into open ditches: circumstances in themselves calling loudly for the establishment of some local authority competent to deal with the subject of drainage.

The superficial area of the proposed district was understood to be 275 acres, or thereabouts; the population about 6,000, and the rateable value of the property within its limits about 12,600*l.* The necessities for the adoption of the Act seemed so apparent and so well understood, that scarcely any feeling of opposition was manifested during the inquiry.

From inquiries made upon the spot prior to the inquiry, it was ascertained that during the last two years, or thereabouts, a low fever had been prevalent, which had proved fatal in many cases, but more particularly amongst children—the fever being occasioned, as was believed, by the defective drainage.

BRICKMAKING A NUISANCE.

Telford v. *Child.*—This action, tried at Maidstone July 31st, before Baron Bramwell, was brought to recover damages for a nuisance occasioned by an extensive brick manufactory belonging to the defendant at Bromley.

Mr. Bovill, Q.C., Mr. Denman, Q.C., and Mr. Prentice, were for the plaintiff; Mr. Lush, Q.C., Mr. J. Browne, and Mr. Matthew, for the defendant.

The plaintiff in the action is a gentleman residing at Bromley, where he has recently built a large mansion; and he alleged that the defendant, by the manner in which he carried on his manufacture of bricks in the neighbourhood, and the smells and other nuisances occasioned thereby, was guilty of a nuisance. The defence that appeared to be set up was that the place in question had always been used as a brickfield, and that the plaintiff was perfectly well aware of that fact before he came to the neighbourhood.

The jury, after long inquiry, returned a verdict for the plaintiff. It was held that distance was no answer if nuisance could be proved.

COMPENSATION CASE.

CHARING-CROSS RAILWAY.

At the Sheriffs' Court, Red Lion-square, before Mr. Under-Sheriff Burchell and a special jury, a compensation case was tried on the 30th ult.

Messrs. Holdsworth & Douce, wine merchants, the successors of Messrs. Cutler, of Hungerford-street, made a claim of 6,650*l.* on the Charing-cross Railway, in respect of premises required for the railway. Messrs. Holdsworth had removed, in consequence of a notice from the company, to Pall-mall. The removal of the business was a material circumstance, as also the removal of their stock of wine, which amounted to about 5,000 dozens. The loss by damage, deterioration, and leakage of the wine, was estimated at from 3*s.* to 3*s.* 6*d.* per dozen. Evidence was given that port and claret wine became "sick" by removal, and it was some time before such wine was in a settled state. It was suggested that port wine, when sent to a customer, was injured; and the answer was that the sum was agreed upon before it was sent.

Mr. Montagu Chambers, Q.C., for the claimants, called a number of witnesses to show the loss Messrs. Holdsworth would sustain by the removal. Mr. Lloyd, Q.C., for the company, complained of the large amount claimed, especially in respect to the alleged deterioration of wine by the removal, when the claimants had taken more fashionable premises in Pall-mall, where the business would no doubt increase.

The jury gave a verdict for 3,500*l.* as compensation to Messrs. Holdsworth & Douce.

CASES UNDER THE METROPOLITAN BUILDING ACT.

Size of Warehouses.—At the Greenwich Police Court, Sir Charles Fox, bart., appeared to a summons, issued against the National Boat-building Company, to answer the complaint of Mr. Browne, district surveyor, of having erected a building containing more than 216,000 cubic feet, and not being divided by party-walls in such manner that the contents of each division thereof shall not exceed the above-mentioned number of cubic feet, as required by the Act.

The building in question, which covers an area of 894,000 cubic feet, has been erected by the above company in Greenwich marshes for the purpose of carrying on the construct on of ships' boats by machinery.

Sir Charles Fox explained that the building in question had been erected under the supposition that a bill to do away with the restrictive clause of the Metropolitan Buildings Act would have been passed during the present session of Parliament. A bill had been drawn for this purpose by the servants of the Metropolitan Board of Works and submitted to Sir G. Grey, who had likewise approved of the principle; but unfortunately there had been a loss of time occasioned in discussing in whom certain discretionary powers should be vested; some being for placing such powers in the hands of the Home Secretary; others for Sir R. Mayne, the Chief Commissioner of Police; and others for leaving such powers in the hands of the Metropolitan Board of Works;—the consequence of which had been that the session had become so far advanced that there was no possibility of obtaining the bill this year. He (Sir Charles Fox) would also mention that before the erection of the building was commenced the plan and drawings were sent in to the Metropolitan Board of Works, and were approved of by that body; and he might also add that if the company did not obtain a bill in the next session of Parliament, the Metropolitan Board of Works was prepared and intended to introduce a bill for the alteration of that clause in the present Act restricting the erection of buildings beyond the area named without party-walls being provided.

Mr. Traill said that the district surveyor had simply done his duty in bringing the case before the court; and if he was called upon to give a decision, he could only decide that the building as at present constructed was illegal. As the matter had before been placed under the consideration of the Metropolitan Board of Works, to which body the surveyor was alone responsible for carrying out his duties, he (Mr. Traill) would suggest an adjournment of the summons, for the purpose of allowing both sides to communicate with that Board further on the subject.

The summons was accordingly adjourned.

Not giving Notice.—At the Clerkenwell Court, before Mr. Barker, Mr. Ebenezer Conquest was summoned by Mr. Godwin, district surveyor, South Islington, for having erected a shop, being No. 1, Little Cross-street, without giving notice. When discovered by the surveyor a letter had been sent to the defendant, informing him that unless notice was immediately given, he would be summoned for the penalty provided by the Act. To this no attention was paid.

The defendant asserted that the shop-front was put up (between two other houses and on a brick wall) as an inclosure or hoarding only.

Fined 21*s.*, and 12*s.* 6*d.* costs.

Books Received.

Giornale dell' Ingenere-Architetto ed Agronomo. Numbers for May and June, 1862. Milan.

This publication, issued monthly, under the direction of Signor Raffaelle Pareto, deserves to be known in England. It is exceedingly well conducted, and discusses projected improvements in Italy with ability. The present numbers contain, amongst other things, an elaborate account of the mineral riches of Sardinia. Articles from the *Builder* appear in its pages very well translated.

Miscellanea.

Photograph of some of the Members of the British Association.—A reduced photograph has been published, by Day & Son, of the commemorative picture which Mr. Alfred Brothers, of Manchester, was commissioned to execute for Dr. William Fairbairn, president of the British Association for the year 1861. The group comprises twenty-two portraits of the principal members of the Association, in an apartment in Dr. Fairbairn's residence at Ardwick. Amongst them are Mr. Bateman, C.E., Sir R. I. Murchison, Sir David Brewster, Professor Airy, Lord Wrottesley, General Sabine, Mr. Newmarch, Dr. Fairbairn, Professor Sedgwick, and Professor Willis. The portraits were each taken separately, the picture being compiled afterwards from the materials so obtained, involving no less than forty separate printings; and from this original the reduced photograph is taken at a single printing. Mr. Brothers has been exceedingly successful both in the likenesses and the arrangement of the group, and has produced a most interesting souvenir of the meeting of a number of eminent men. It is, in fact, a very remarkable work.

Marble Chimney-piece.—Messrs. Edwardes, Brothers, & Burkey, have just now completed a carved statuary marble chimney-piece, intended for Dorchester House, Park-lane, of more elaborate character and beauty than usual. It includes two caryatid figures, sculptured by Mr. Jackson, and cost about 1,000*l.*

The Norwich School of Art.—At the half-yearly meeting of the friends and supporters of this school, the Mayor presided, and delivered the prizes. A Queen's medallion was given to one of the pupils (Miss Rose); and nineteen medals were distributed; nine of them to young women. Numerous prizes were also given to pupils connected with various local schools.

Hardening Stone.—Messrs. Jesse Rust & Co., of the Lambeth Glass-works, state that they have discovered a simple method, by means of a single solution containing silica, lime, alumina, and potash, of indurating soft stone to an extent greater and more complete than has yet been otherwise attained. Caen stone they speak of polishing like marble for interior work after induration. The composition, they say, forms a hard, tough, and insoluble mass, a glass cement, or glass concrete, in fact, in the pores of the stone; and may be brushed in effectively by a child, without any attention to chemical quantities, double decompositions, &c.

Photographic Progress.—A curious discovery has been made by a photographer of Paris; namely, the means of photographing the bottom of the sea to a great extent.

The Philosopher's Stone.—While making some chemical experiments, a French engineer has lately discovered two combinations of copper imitating so well gold and silver, that one cannot fail to be misled at the first glance. These alloys appear to have the characters of the precious metals;—a malleability which renders them capable of being bent or hammered into any shape; a sufficient degree of hardness; lastly, the property of non-oxidation by the atmospheric air or other oxygenated gases. The price per kilogramme of this substance will not exceed 15*f.*; while a kil. of gold (coined) is 3,040*f.*, and that of silver 200*f.*

The late Robert Robson.—We have to record the death of Mr. Robert Robson, who, for the last six years, has been a frequent contributor to publications connected with architecture. Mr. Robson was originally an architectural modeller of considerable ability, brought up under the late Mr. Bernasconi; and was employed on the decorative plaster-works at Windsor Castle, Stafford House, &c. Latterly, his failing health compelled him to relinquish the practice of modelling, and to devote himself to writing for the press. Mr. Robson was working laboriously upon a series of articles on the International Exhibition, up to five weeks before his death, which took place on the 29th ult. (in his fifty-seventh year), at his residence, No. 13, Little James-street, Bedford-row. We regret to add that his widow is left unprovided for.

Sale of Somerleyton.—We understand that Mr. Frank Crossley, M.P., has purchased from Sir S. Morton Peto the mansion and estate of Somerleyton, near Lowestoft, Suffolk. We believe that one of the objects of Mr. Crossley in making this purchase is to provide, in conjunction with his brothers John and Joseph, by a charge upon the Somerleyton estate, for the endowment of the "Crossley Orphan School and Home," Skircoat Moor, near Halifax—a splendid institution now in course of erection at the cost of the three brothers. In this institution it is intended to accommodate about 300 orphans of both sexes, a considerable portion of whom will be wholly maintained and educated, and ultimately placed out in situations. We believe it is also intended that this purchase shall in like manner provide a permanent endowment for the 22 almshouses which were erected by Mr. Frank Crossley in 1855, and also for a similar number of almshouses now in the course of erection by his brother, Mr. Joseph Crossley.—*Leeds Mercury.*

Health of London.—The report on the health of the metropolis, which appears weekly in the newspapers, is in many ways of great value; for it not only shows us the general state of the health of this vast city, but traces the diseases which rage in particular neighbourhoods; and in many instances directs that degree of attention to them which at times leads to their remedy. The last return shows that the health is, on the whole, satisfactory; for the deaths in the week were less by a hundred than they would have been under the average rate of mortality, and the births exceeded the deaths in the same time by 621. If such circumstances continue, the increase of the metropolis in one year would be 32,292. Typhus was returned in 74 cases: 32 of these were returned as typhus, 18 as "typhoid fever," and the remainder as "gastric fever." There were 48 deaths from scarlatina and diarrhœa, and English cholera carried off 77, the most of whom are children. In considering the extent of typhus fever, which depends on sanitary arrangements, those who refer with care to the registrar-general's weekly report will have noticed the large number of deaths which occur weekly in the London Fever Hospital. In the week above referred to thirteen deaths occurred in this institution. This is about a tenth of the whole amount of deaths happening from fever in the whole London district. Taking into account the number of cases which are cured in this hospital, the death figures enable us to judge of the extent of its usefulness. No disease requires more careful and distinct treatment than the various phases of fever. In many instances to remove the poor when thus afflicted from their wretched homes gives the only chance of saving their lives. In other ways it is difficult to over-estimate the benefits which are conferred by this institution; and it is with regret that we hear accounts of the difficulty which there exists in obtaining sufficient money for its support, and that the medical attendants and nurses are so over-taxed as to cause danger and damage to their health. This should not be so.

The Middle Level Inundation.—The water on the fen is gradually diminishing, but not by means of the syphons: these have not yet arrived, but they are expected to be in action about the middle of August. Various opinions are current as to the practicability of draining by this means. The breach in the bank is being filled up, but the work proceeds slowly. The ruins of the sluice are in course of removal. Several law actions against the Level Drainage Commissioners are in progress.

Commencement of the Railway Bridge at Blackfriars.—The preliminary works for the construction of the railway bridge at Blackfriars have been commenced by the contractors, Messrs. Peto, Brassey, & Co. The operation of pile-driving is being carried on at low water, two rows of strong piles having been already driven into the shore on the Surrey side of the intended bridge. A steam-engine will be used in hoisting the pile-hammers.

The Fall of Isleham Church Tower.—The tower, it is stated, will be rebuilt, with an additional elevation of 27 feet, and as much of the old material will be used as possible. A correspondent of the *Bury Post* says, however, that the tower must have been built of the worst materials imaginable,—nothing scarcely but chalk and very badly worked mortar. There is no doubt the tower was struck by lightning about six years ago. The nave, side-aisles, and transepts of the church are said to be in a very dangerous state.

The Baxter People's-Park, Dundee.—A meeting was recently held at Dundee for the purpose of erecting a monument to Mr. David Baxter, of Kilmaron, and having pictures taken of the Misses Baxter. The monument is to be placed in the Baxter People's-Park, and the pictures in its pavilion. This park has been lately granted and fitted up for the people of Dundee by Mr. and the Misses Baxter; and the people have resolved thus to show their appreciation of the gift. About 1,200*l.* will have to be collected. The first subscription received by the chairman of the meeting was "too heds" from a mill-worker; and we know what postage-stamps in England have already done in raising large subscriptions.

Monumental.—The pedestal of the Newcastle monument to George Stephenson has now been reared to nearly its height. The monument, by Mr. Lough, will, ere long, therefore, be complete.——A Gothic tomb has been erected in Burntwood churchyard, Lichfield, to the memory of the late Mr. Samuel Pole Shawe, of Maple Hayes. The form of the tomb is an oblong, the lower platform being of Hollington stone, and the upper structure of Mansfield magnesian limestone. At the angles are four octagon shafts, surmounted by capitals with various decorations of leaves and flowers. The sides and ends are panelled, and the inscription is in the Mediæval style. The tomb is surmounted by a horizontal cross, decorated, and the whole has been executed by Messrs. John & James Hamlet, of Lichfield.——The committee appointed by the Town Council of Edinburgh to confer with Mr. J. Ballantine on his proposal to repair Burns's monument met recently at the building, and Mr. Ballantine informed the committee that he had upwards of 50*l.* in bank for the repairing of the structure and the erection of a keeper's lodge. Important relics would be contributed, so that the monument might be rendered interesting and attractive. The work of renovation will be begun without delay.——Coincident with the nuptials of Princess Pia and the King of Portugal in autumn is the grand international festival of navigators, convoked at Genoa, for the 12th October, on occasion of unveiling the statue of Christopher Columbus. The monument is already erected, and the bassi relievi are alone wanting.——The model for the Wellington Statue, which is to surmount the column in erection on the site of the old Islington Market, at Liverpool, is now in a forward state in the studio of Mr. Lawson. The duke is represented in the undress uniform of a field-marshal, wearing a short military cloak. In his right hand he wields a baton, and his left rests upon his sword. The *Journal* considers the model a satisfactory one. It is to be immediately cast in bronze, and the model is to be taken to London for that purpose. The column when completed will have four bronze panels on its base, and upon these Mr. Lawson is now engaged. The front one will represent the Battle of Waterloo; and the design includes ornamental and emblematical accessories. The height of the statue is 14 feet.——A monument, in the Early English style, has been erected in Mansfield Cemetery, to the memory of the late Colonel Wildman, of Newstead Abbey, the friend and schoolfellow of Byron.

The Temporary Road across Hyde Park, and the Marble Arch.—In reply to Sir M. Peto, in the Commons, Mr. Cowper says he does not feel authorized to keep the new road open after the Exhibition. He thought the experience of this road might aid in any consideration which the House might give to the establishment of a permanent road. The Marble Arch, like other public monuments exposed to the atmosphere of London, required periodical cleansing. He had tried water from a fire-engine without any very decided result. He thought it necessary that the arch should be cleansed more thoroughly at the end of every ten years.

Wrought-Iron Plates.—Two of the largest wrought-iron plates ever yet made were recently rolled at the Butterly Company's Codnor Park Iron Works, near Alfreton, Derbyshire. The dimensions of one of these are 42 feet long by 7 feet 2 inches wide in the middle, and 4 feet 10 inches at the ends by 2 inches thick; containing 252 superficial feet, and weighing 9 tons. The largest plate in the Exhibition is from these works, and contains 163 square feet, being 89 feet less than the above. The plates recently rolled are for a beam pumping-engine of 84-inch cylinder, 10-feet stroke, and upwards of 300-horse power, for the Clay Cross Colliery Company.

Putney Bridge.—We are glad to observe that in the *Times*, and other papers, the disgrace of allowing this bridge to continue in existence is at length urging the public to get rid of it. Our efforts, therefore, are not likely to be fruitless. A correspondent of the *Star* thus reiterates the facts of the case:—"Why, in this age of bridges, such a structure is allowed to remain is inexplicable. It is the terror of all who navigate that part of the river; and its tolls are, in the case of carriages and horses, 200 per cent. higher than other bridges. The river there is but 150 yards across; and yet this bridge has over twenty arches or piers, through only three of which any craft can pass. The consequence of this is, that, below the bridge, the river has gradually become so shoal that at low tide it can almost be forded, and the centre arch only is available for navigation."

The Sheerness Surveyorship.—At a recent meeting of the Local Board of Health, tenders for the office of surveyor were opened, forty-one having been sent in. The highest salary required was 250*l.* per annum, and the lowest 1*l.* 1s. per week, with residence. The tenders were referred to a committee of the whole Board. A letter was then read from Mr. Beale, the present surveyor, in which he requested the Board to retain him in their service. He stated that he had served the Board for twelve years, and had done his duty faithfully, and remarked that it was an impossibility for one man to do the duty of the town and the public works at the same time. No comment was made on this letter. At a subsequent meeting the report of the committee was read. They recommended Messrs. A. Dawney, W. C. Rowell, T. White, D. Colder, J. Hall, and W. Stutely, as those most suitable, both in respect to salary and qualifications, as represented in their testimonials. The further consideration of the subject was deferred.

Brickmaking Machines.—"Some Old Brickmakers" say, in the course of a long communication,—"We have noticed that awards have been made to Messrs. H. Clayton & Co., for the best brickmaking machinery; to Messrs. Bradley & Craven, for a superior dry-clay brickmaking machine; to Mr. Whitehead, for well-constructed brick machinery. Respecting the merits or demerits of brickmaking machinery, we have no inclination to make any invidious comparisons. There is nothing astonishing in reading what is stated about turning out 1,200,000 bricks per week, at Burham, by eighteen machines; that is, 66,666 per week each. Having some knowledge of the machines at Burham, and several other places, we are prepared to state that we have known upwards of 100,000 of bricks made in one week with one of the "Ainslie" wire machines, such as are in use at Burham, instead of the 66,666, as stated. But we are a little surprised at what is said to be done at the Victoria Docks. The large brickmaking machine at the Victoria Docks is stated to make 27,000 bricks per day of ten hours. We fancy this machine is overrated, and have been informed that 21,000 is the most that has ever been made in one day of ten hours. An acquaintance of ours has at work one of these brickmaking machines, similar to the one at the Victoria Docks; and we find that for upwards of six months the same has not exceeded making 15,000 bricks per day of ten hours, and the same has been worked by thoroughly practical men."

Country Excursion.—Messrs. Worssam & Co. entertained their workmen and others at Hampton Court, a few days ago. At the dinner, which followed, Mr. Worssam took occasion to object strongly to some observations which had been published in a scientific journal, on the "Wood Working Machinery" in the Great Exhibition.

Gas.—The Chertsey New Gas Company's Works are rapidly progressing towards completion, notwithstanding repeated attempts of the old company to interfere, by their workmen, with the laying of the new company's pipes by filling up the trenches opened for the purpose.——The Glasgow Gaslight Company's report states that, notwithstanding the lowering of the price of their gas from 5s. to 4s. 7d., they are prepared to pay a dividend of 10 per cent. on old stock, and 7½ on new. The company have a reserve fund of 26,761*l.*, from which, however, they propose to aid the dividend with a sum of 1,518*l.* They express a confidence in the reduced rate of charge, notwithstanding outlay requisite for keeping the works in a state of efficiency.——The report of the Stirling Gas Company stated that a large sum had been expended on the improvement and extension of the works. A dividend of 7 per cent. was resolved on.——The Worcester Company have declared a dividend of 8 per cent., and the Sherborne Company one of 7½ per cent., reducing the price of their gas at the same time to 6s. 3d., with 5d. discount for cash.

Sèvres and Wedgwood.—If the French can lay claim to the parentage of the Sèvres pottery, we can also show another kind, which is purely English work, and quite equal to it; indeed, in some respects, far superior. There are few works of native art of which we have better reason to be proud than of the exquisite productions of Wedgwood. About the middle of the last century he began to make experiments. After many years of labour and endurance, equalled only by that of Palissy himself, he produced the admirable facsimile of the Portland or Barberini vase, of which there are three copies in this collection. When this vase (now in the British Museum) was offered for sale by auction, Wedgwood was anxious to possess it, thinking that many persons would be willing to pay a liberal price for a good copy. For some time he continued to offer an advance upon each bidding of the Duchess of Portland, until at length, his motive being understood, he was offered the loan of the vase if he would consent to withdraw his opposition, and the duchess became the possessor for 1,800 guineas. But Wedgwood did not confine himself to copies: he produced many fine original works, a large number of which are now brought together. He was materially assisted by the classical learning and elegant taste of his early partner, Bentley, a descendant of the famous critic. Subsequently, Flaxman was employed to model the more important works, when they assumed the elevated and refined form of the Grecian school.—*Once a Week.*

The Bristol School of Art.—A meeting was held at the Fine Arts' Academy on 30th ult., Mr. P. W. S. Miles in the chair, for the distribution of local medals and prizes to the students of the above school. There was a numerous attendance. The Chairman, in opening the proceedings, said that this was the first occasion on which the prizes had been publicly distributed. The prizes amounted to twenty local medals, seven other rewards, fifteen works marked "fair," and eleven sufficiently good to be sent to London for the national competition. In addition, there were six prize students, the excellence of whose productions had entitled them to the right of receiving gratis instruction at the school for the next year, the South Kensington Institution paying 1*l.* for that purpose. Latterly, the committee had thought fit to appoint a new master, Mr. J. A. Hammersley, F.S.A., who would, he hoped, carry out the objects of the school to the satisfaction of all. Those present who had been to the Exhibition, and closely examined the various articles displayed there,—the productions in glass, furniture, china, metal work,—would see the astonishing improvement which had been made in the manufacture of these goods. He did not wish to cry down the Exhibition of 1851; but, certainly, clumsy and bad designs were one of its prominent characteristics, and the reverse was the case now. The chairman then referred to the debt of 700*l.* upon the school. It was wearisome and trying to the committee to be perpetually struggling to wipe off that debt; and now that they had succeeded in putting the school in the position it ought to occupy, they hoped that the public would assist them in liquidating the claims upon them. Mr. Hammersley delivered an address on the value of the School of Art in Bristol.

THE HYDRAULIC ENGINEERS OF MANCHESTER. The warehouse hydraulic engineers in this city have formed a society, the objects of which are the pecuniary assistance of its members in time of scarcity of employment; likewise their mutual instruction in all that pertains to the safe and economical working of steam-engines and boilers.

COVENTRY SCHOOL OF ART.—The new school, for which subscriptions have been raised amounting to 2,400*l.*, is about to be commenced. A contract for the work has been entered into by Mr. Mault, builder, for 2,165*l.* The total cost of the new building, it is understood, will be about 2,800*l.*

METROPOLITAN DRAINAGE TENDERS.—At the last ordinary weekly meeting of the Metropolitan Board of Works, tenders were opened for the construction of the main drainage works of the western district, and were as follows:—Dethick, 70,123*l.*; E. Thirst, 68,287*l.*; Hill, Keddell, & Robinson, 46,644*l.*; Walker & Co., 71,090*l.*; W. Moxon & Co., 68 314*l.*; J. Savage, 58,353*l.*; and J. Marriott, 57,000*l.* The estimate of the engineer was 57,000*l.* The Board accepted the tender of Messrs. Hill, Keddell, & Robinson, subject to the usual conditions. Since, Messrs. Hill & Co. have withdrawn their tender.

THE METROPOLITAN UNDERGROUND RAILWAY. The half-yearly report of the directors states that the report of the engineer shows the railway to be now practically completed, and that the opening has become a question only of weeks. The Great Northern have nearly completed their hotel curve at King's-cross. The Great Western have made great progress with the construction of a station at Bishop's-road, Paddington. The corporation of London have passed their Markets Bill, and authorized the purchase of the lands necessary for the stations of this and the Great Western Companies, and also for the new meat-market and its approaches in Smithfield. It has now become necessary that this company should forthwith execute the eastern curve at King's-cross, and make the extension line and station works at Smithfield. The directors have not yet made any definite arrangements with regard to the Finsbury extension capital.

THE INTERNATIONAL EXHIBITION BUILDING FOR AN INDUSTRIAL UNIVERSITY.—It is said to be no longer uncertain (?) that the scheme for an Industrial University will be pushed. If the Exhibition even nearly pays—a matter of which there is now little question—there will be laid before the public *in limine* the plan of an Industrial University, to be founded within the walls of the building. As yet there is some doubt as to the details; but the plans for the improvement of the Exhibition, with a view to the establishment of an "Industrial University," have been drawn and laid before her Majesty's commissioners, according to our contemporary, the *Morning Herald*. The domes, says our authority, are to be made less squat: there is to be a structure of glass in the centre of the building; not unlike, though on a larger scale than, the roof of the conservatory in the Horticultural Gardens; and, while the Cromwell-road front is to be ornamented with mosaic pictures, the garden front is to be redecorated.

LOCH KATRINE WATERWORKS.—A report by the engineer of the Glasgow Waterworks on the supply of the water and state of the works was submitted to the ordinary monthly meeting of the Glasgow Water Committee on Monday. It stated that in Loch Katrine, Loch Vennachar, and Loch Drunkie, there was at present 137 days', or four and a half months' water, including the compensation of the river Teith; and in the Mugdock Reservoir, 32 days' supply for the city in addition. At the Gorbals works there are 183 days', or six months' water, also inclusive of compensation. The average quantity of water sent into the city during April, May, and June, from the Loch Katrine Works, was 16,300,000 gallons a day; from the Gorbals Works, 3,400,000 gallons; together, 19,700,000 gallons a day; being 200,000 gallons a day more than during the corresponding three months of last year; previous to which time the consumpt had taken a start of about two million gallons a day. In addition to the 3,400,000 gallons a day sent from the Gorbals works, there were at present being sent over to the south side of the river about 1,000,000 gallons from the Loch Katrine Works, making the total supply to that side 4,400,000 gallons a day. The aqueduct was thoroughly examined in the end of May, while the water was stopped off at the loch, and found in good order. The quantity of water sold in the city to factories and public works, by meter, during last year, averaged 1,435,000 gallons a day, against 1,253,000 for the previous year; being an increase of 232,000 gallons a day.

MINOR MEMORIALS OF THE PRINCE CONSORT. At Whixley the parishioners have placed a new clock in the church tower as a memorial of Prince Albert. Photographs of the tower with the clock face were forwarded to her Majesty, who kindly replied, through Sir C. P. Phipps, approving of the memorial.

THREATS TO EMPLOYERS ABROAD.—Mr. Hack, the English engineer directing the construction of the railway bridge over the Tiber, has received an anonymous letter from his workmen, threatening him with assassination if he do not immediately dismiss his three foremen.

DUNFERMLINE ABBEY.—The work of renovating and restoring is going on. The stairs leading to the bartizan of the steeple are in course of repair: the dwarf pillars at the sides of the windows of the clerestory have been restored; and the Romanesque pillars and zig-zag arches which line the wall on the north and south sides and west end of the nave have been reproduced; whilst most of the unsightly beams between the pillars have been removed. An open oaken roof is considered to be now the only thing wanted for an exact reproduction of the structure of the twelfth century.

ROYAL ITALIAN OPERA-HOUSE.—If we may trust to report, and the fact that whenever, without previous arrangement, we have sought to visit the house to report progress, there was not room for a mouse, Mr. Gye has had a most successful season without any extraordinary expenditure. Madlle. Patti has continued to be the great card of the manager; and in Meyerbeer's sparkling music of "Dinorah," on Tuesday last, achieved a success of a remarkable kind—the greatest that has yet attended any of her efforts. "Mussaniello" is to be produced this week, for the first time in the present theatre, with entirely new scenery and appointments: Mario, Graziani, and Madlle. Battu supporting the principal parts. The theatre is announced to close positively on the 16th.

"STEAM-POWER SUPERSEDED" BY "A NEW PRINCIPLE IN NATUEAL LAW."—Mr. George Rydell, of Castle-street, Holborn, has invented and patented "an apparatus," which he also calls "a wonderful mechanical appliance," and of which he speaks when he "declares to the world that he has found out a mode of raising water from an unlimited depth to an unlimited height, without being in the least dependent upon steam-power," and "no matter what the quantity might be." He asserts that, although the *Great Eastern* has a steam-power of 3,000 horses, he can "not only propel this monster vessel over the Atlantic at the speed it now travels by steam agency; but, *from cisterns of cold water*, he can obtain even a greater power than it now possesses, without using any coal for navigation purposes; thereby leaving the 12,000 tons space open for additional cargo." The use of this new (hydraulic?) agency, however, Mr. Rydell seems mainly to contemplate using for the raising of water from mines. Shakspeare has something about protesting "too much."

TENDERS.

For the enlargement of the Wandsworth and Clapham Union Workhouse. Mr. G. H. Page, architect:—

Bond	£4,145 0 0
Child & Co.	4,140 0 0
M'Lachlan	4,100 0 0
Fish	4,011 0 0
Aries & Son	3,886 0 0
Thompson	3,885 0 0
Piper & Wheeler	3,860 0 0
Nicholson & Sons	3,824 0 0
Maeers	3,777 0 0
Adamson & Sons	3,699 0 0
Bass	3,650 0 0
Chinnock	3,650 0 0
Rudkin	3,625 0 0
Hart	3,545 0 0
Sims	3,491 0 0
Palmer	3,422 0 0

For the erection of a chapel and vestries at Stepney. Messrs. Searle, Son, & Yelf, architects:—

Axford	£10,210 0 0
Macey	9,937 0 0
Howlett & Brown	9,895 0 0
Hill & Co.	9,658 0 0
Higgs	9,655 0 0
Turner & Sons	9,643 0 0
Little	9,598 0 0
Dove, Brothers	8,875 0 0

For schools, Kilburne, Derbyshire. Messrs. Giles & Brookhouse, architects:—

Bridgart	£527 0 0
Norman	512 10 0
Kerry (accepted)	480 0 0

For re-building premises in the market-place, Derby, for Mr. J. H. Lee. Messrs. Giles & Brookhouse, architects:—

Bridgart (accepted)	£950 0 0

For new wing to Wilderslowe House, Derby. Messrs. Giles & Brookhouse, architects:—

Dusantoy	£873 0 0
Bridgart (accepted)	841 0 0

For the erection of farm buildings for Mr. James Elmhirst, at Thorne. Messrs. Brundell & Arnold, architects:—

Liller	£650 0 0
Revill & Noble	640 0 0
Hawkins	640 0 0
Wood & Son	576 0 0
Thorley	541 15 0
Armitage	515 0 0
Hinchcliff & Coltier	478 0 0
Stephenson & Johnson	473 0 0
Bleasley	445 0 0
Middleton	409 10 0

For Shipton National School and House. Quantities supplied by the architect, Mr. Thos. Jeckell:—

French	£778 0 0
Bullock & Son	777 10 0
Gray & Son	777 0 0
Williams	755 16 10

For new Congregational Chapel, Colchester. Mr. F. Barnes, architect:—

Grimes	£4,785
Shepherd	3,893
Lee & Baker	3,884
Hunt & Dobson	3,785
Smith	3,633

} and the old chapel.

For St. John's National School, Ipswich. Mr. F. Barnes, architect:—

Haxell	£845 10 0
Luff	719 0 0
Dalby	674 0 0
Girling	650 0 0
Trew	648 10 0
Dannant	646 15 0
Grayston	627 0 0
Pells	597 0 0

For inn, at Romilly, Cheshire. Mr. J. Medland Taylor, architect. Quantities supplied by Messrs. O. J. & J. Showell:—

Metcalfe & Waterson	£1,295 0 0
Thackrah and Peirce	1,240 0 0
Farrell	1,236 0 0
Swindells	1,200 0 0
Fairbrother	1,025 0 0

For house near Rochdale. Mr. J. Medland Taylor, architect. Quantities supplied by Messrs. O. J. & J. Showell:—

Thackrah & Peirce	£4,127 12 5½
Metcalfe & Waterson	3,894 0 0
Clay	3,819 10 0
Bowden, Edwards, & Forster	3,733 6 6
Neill	3,517 0 0
Cochran & Co.	3,383 3 10

For Hyde-road Schools, Manchester. Mr. J. Medland Taylor, architect:—

Moody	£2,456 0 0
Genney	2,400 0 0
Farrell	2,250 0 0
Henry & Samuel Warburton	2,220 0 0
Edgar	2,218 0 0
B. & W. Hoyland	2,100 0 0
Barnes & Howe	2,063 0 0

For Christ Church Parsonage, Bradford-cum-Beswick, Manchester. J. Medland Taylor, architect:—

Grason (accepted)	£600 0 0

For alterations and additions to the rectory house and premises, Bulwick, Northamptonshire. Messrs. Goddard & Son, architects:—

Jeffs & Roberts	£897 0 0
Richardson & Sons	880 0 0
Elliott	825 0 0
Stanyard	726 0 0
Neale	720 0 0
Halliday & Cave (accepted)	699 14 0

For new farm house and building, on the Tring Park estate. Messrs. Wigg, Son, & Oliver, architects. Quantities supplied:—

Longmire & Burge	£2,948 0 0
Holland & Hannen	2,894 0 0
Patman & Fotheringham	2,875 0 0
Durley & Son	2,793 0 0
Andrews	2,700 0 0
S. & T. Honour	2,668 0 0
Cooper (accepted)	2,534 0 0

For the erection of a pair of villas at New Wandsworth, for Mr. Thomas Cleave. Mr. C. R. Gribble, architect:—

Aries (accepted)	£1,294 0 0

For brickwork of two malt kilns at Wandsworth. Mr. Herbert W. Taylor, architect:—

Mulliner & Cooper	£264 0 0
Brighton	247 0 0
Adamson & Son	209 0 0

For a watermill at Earsham, on the estate of his Grace the Duke of Norfolk. The trees fallen oak for girders in floors. Mr. Thomas Jeckell, architect. Quantities supplied:—

		Time.
Rump	£1,147	
Balls	1,115 ..	Four months.
Darby	1,110 ..	Mill, three months; house, four months.
Smith & Bull	1,069 ..	Mill, ten weeks; house, fourteen weeks; mill, next spring, two months.

For the erection of a new inn at Swindon, Wilts. Mr. Wm. Brown, architect:—

Woodruffe	£858 0 0
Barnett	798 16 0
Phillips (accepted)	785 10 0

For the erection of stores at Reading, Berks, for Messrs. Simons. Mr. Wm. Brown, architect. Exclusive of fireproof flooring, smith's, plumber's, and glazier's works:—

Bricklayer and Mason.

Wheeler	£425 0 0
Strong (accepted)	317 0 0

Carpenter.

Poole	£148 0 0
Woodruffe (accepted)	112 15 0

For the reformatory and ragged school, Islington. Mr. Higgins, architect:—

Carter	£2,895	0	0
Axford & Co.	2,799	0	0
Abbott & Hopwood	2,797	9	0
Dove, Brothers	2,775	0	0
Hill, Keddell, & Co.	2,643	0	0
Rowe	2,640	0	0
Hill & Son	2,560	0	0
Williams	2,538	0	0
Wheen (accepted)	2,098	10	0

For additions and alterations to St. Aldate's Church, Oxford. Mr. John T. Christopher, architect. Quantities supplied by Mr. Thomas T. Green:—

Dover	£4,233	0	0
Castle	3,589	0	0
Young & Co.	3,269	0	0
Symm	3,189	0	0
Jones	3,068	0	0
Selby	2,917	0	0
Bartlett	2,749	0	0
Curtis (accepted)	2,739	0	0

For the erection of Baptist chapel and schools at Rhyl, North Wales. Mr. F. D. Johnson, architect:—

	Chapel.	Schools.	Total.
Barnsley	£1,550	£650	£2,2 0
Morris	1,485	499	1,999
Bennett (accepted)	1,360	535	1,895

National Provincial Bank.—The architect is Mr. W. Bruce Gingell.

TO CORRESPONDENTS.

Provincial (if architects will not take the trouble to see that we are fully informed they must rest contented when there are omissions We will not recapitulate).—G. A. H. (shall have further consideration).—J. H.—R. W.—E. C. R.—W. H.—J. H. (Messrs. Longman's).—J. L. (go to an architectural publisher's).—G. W., Cape of Good Hope (design of the pulpit is very bad).—H. C.—H. de M.—W. H. S.—W. & W.—J. B.—H. L.—H. H.—J. C.—C. E. D.—Mr. B.—R. B. M. (write to ask them what they are doing in the matter).—S. W.—J. S. (we use all we receive).—W. A. G.—J. J. B.—N. McH.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

"THE BUILDER."—February 22nd, March 1st and 15th, 1862

A few Copies of the above dates are required.—Apply to the Publisher, at the Office, 1, York-street, Covent-garden, W.C.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 15, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE. Every description of Architectural Drawings prepared, and Perspectives Outlined or Coloured; by Mr. T. T. MARDON, Jun.; Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c. 7, John-street, Bedford-row, W.C. Office hours, Ten to Four.

PARTNERSHIP.—WANTED, a PARTNER, with 3,000*l.* to 4,000*l.* capital, to join the Advertiser in an established manufacturing business, with a good trade and large connexions. The material manufactured has been long known to the public, but recently undergone great improvement and its general usefulness extended. At the International Exhibition, Medals have been awarded in two different classes for its merits. The material manufactured is used in the Fine Arts as well as for the common purposes; it is employed in Government works, and is patronised by all classes.—For particulars apply to HERBERT STURMY, Esq., Solicitor, Hibernia Chambers, London Bridge

TO PARENTS AND GUARDIANS.

AN AUCTIONEER and SURVEYOR in good practice, about four miles from London, has VACANCIES for a resident and non-resident PUPIL, who would have opportunities of gaining a practical knowledge of every branch of the profession. A premium in either case would be required.—Address, BETA, 42, Chancery-lane, London.

AN Architect superintending and directing a large building business, has VACANCIES at his Office for ONE or TWO OUT-DOOR PUPILS, who would fully learn the real practice and responsibilities of their profession. They could reside with the head clerk if necessary.—Apply, J. F. 24, Walpole-street, King's-road, S.W.

TO ASSISTANTS.

AN ARCHITECT requires a thoroughly competent ASSISTANT.—Apply by letter, giving references and stating terms, to F. H. Messrs. Griffith & Farran's, St. Paul's-churchyard, London.

TO ENGINEERS, SMITHS in GENERAL, &c.—The Trustees of Mrs. Ann Newton's Charity for placing out every year ONE BOY belonging to the Parish of St. James's, Westminster, APPRENTICE to some respectable trade, with a Premium of Thirty-one Pounds, will meet at the Workhouse, in Poland-street, Oxford street, on FRIDAY, the 15th day of AUGUST instant, at SIX o'clock in the evening precisely, to receive applications for such Apprentice (aged 15 years) from persons carrying on the above-mentioned or other like trades. Any further information required may be obtained daily between TEN and FOUR o'clock, at the Parochial Office, next the Workhouse, in Poland-street. Every applicant for the apprentice must attend the above meeting in person, and bring a card containing his name, address, and business, with two references as to character, &c. None but householder need apply.

By order of the Trustees, GEORGE BUZZARD, Clerk.

WANTED, a Practical MAN of BUSINESS, a Carpenter or Bricklayer preferred, who can command 500*l.* or his own, to join the Advertiser in a lucrative building speculation with mutual interest and good security.—Address, H. O. Office of "The Builder."

TO PLUMBERS AND BUILDERS.

WANTED, by a good Plumber, a permanent SITUATION. Has no objection to the country. Can fill up time in painting and glazing if required.—Address, L. V. Office of "The Builder."

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, by an Architect of good practice, an ASSISTANT, fully competent to take the management of his office. He must be thoroughly conversant with Gothic art, as applied to ecclesiastical and domestic work, in all its numerous branches; a good line draughtsman, and have a sound practical knowledge of construction. Age, not less than 25. As the situation will probably be permanent, a proportionate salary only can be given.—Address, with full particulars as to age, qualifications, references, and salary required, to ARCHITECT, care of Mr. Pilcher, News-agent, Gray's-inn-lane, W.C.

TO DRAUGHTSMEN.

WANTED, a First-Class DRAUGHTSMAN, competent to make finished and working drawings. The hours of attendance will be from 6 a.m. to 8 p.m. A liberal salary given. Apply to JOHN WEEKS & CO. Horticultural Builders, King's-road, Chelsea, S.W.

WANTED, in the country, for a permanency, TWO GOOD JOINERS; a GOOD PAINTER, capable of taking lead of men. He must be able to write. Also a PLASTERER. Must be steady men, and thoroughly efficient.—Address, with particulars, to S. G. F. Office of "The Builder."

TO IRONMONGERS' PORTERS.

WANTED, in a Factory, a MAN accustomed to the Iron Trade, to KEEP the STORES, &c. Must be able to read and write.—Apply, stating age, former employment, and wages required, to M. D. T. Office of "The Builder."

WANTED, immediately, a thoroughly-practical CARPENTER and JOINER, as a WORKING FOREMAN, to set out, get out, and take account of work, and make himself generally useful. Must be a good staircase hand, and familiar with manufacturing joiners' work by machinery.—Address, stating age and references, to CHAS. HUTCHINSON, Builder, Hull.

WANTED, a YOUNG MAN, who has had some experience in a Surveyor's Office, and who is capable of preparing estimates of and superintending general repairs. If part of his time be engaged with a practical surveyor, it would be desirable, but if not a permanent engagement would be made. Particulars, as to efficiency and salary expected, to be forwarded to Mr. HAYNES, Palace Chambers, St. James's-street

TO BUILDERS' FOREMEN.

WANTED, by a London Firm, an experienced, active, respectable person as GENERAL WALKING FOREMAN.—Address, stating age, particulars, salary required, and where last engaged, to W. T. Office of "The Builder."

WANTED, a PLUMBER, PAINTER, GLAZIER, and GASFITTER, to TAKE CHARGE of a BUSINESS in the vicinity of London. As it is for a permanency, references as to character will be required.—Address, A. B. 63, Coleman-street, City, E.C.

TO STONEWARE POTTERS AND SANITARY PIPE-MAKERS.

WANTED, in a healthy part of the country, a competent, practical, and trustworthy Man, either to contract for the making of stoneware bottles, jars, sanitary ware, &c. or to take the superintendence of the works as foreman.—Address, POTTER, care of Mr. Steel, 2 Spring-gardens, S.W.

WANTED, EMPLOYMENT, by a Young Man, aged 25, as a HANDY MAN in Plumbing, Painting, and Glazing. Well able to make himself generally useful in anything required, and principally at jobbing work. Wages, 25*s.* per week.—Address, P. C. 33, Paddington-street, Fortman-square, Marylebone, W.

WANTED, by a Practical Man, aged 40, a SITUATION as FOREMAN of PLUMBERS, PAINTERS, and GLAZIERS, or to take the Management of a Business or a Branch Establishment, or the same on an Estate. Town or country. Eleven years' good character. — Address, W. H. Office of "The Builder."

TO BUILDERS AND GENERAL CONTRACTORS.

WANTED, by an experienced Practical Man, a SITUATION as MANAGER or GENERAL FOREMAN. Is a good estimator and measurer, and has a thorough knowledge of the trade generally.—Address, with full particulars, to C. C. S. 3. Office of "The Builder."

TO CARPENTERS AND JOINERS.

WANTED, by a Young Man, a SITUATION as IMPROVER, to the above trade. Low wages will be taken.—Address, A. R. care of Mr. Huckett's, 6, Cardigan-street, Shepperton-street, Islington.

WANTED, by a respectable Young Man, a SITUATION as an IMPROVER, in a Builder's Shop. Has had a good insight and a few years' practice, and will give a small premium if required.—Address, N. Y. M. Office of "The Builder."

TO BUILDERS AND MASTER PLUMBERS.

WANTED, a SITUATION, by a Young Man, where he can improve in the Plumbing. Has had five years' experience, and can fill up his time by painting and glazing, if required.—Address, T. W. No. 3, St. James's-court, Bury-street, Aldgate, City.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION, by a First-class Plumber, Gasfitter, Glazier, and Painter.—Address, K. R. 43, Lower Sloane-street, Chelsea.

TO ENGINEERS AND CONTRACTORS.

WANTED, by a thoroughly practical Man, the FIXING of IRON BRIDGES, IRON TANKS, and IRON ROOFS, and Iron Buildings of every description, by the ton or otherwise. Can supply tackle if required. Satisfactory testimonials.—Address, E. S. 50, St. Paul-street, Union-square, New North-road, Islington, N.

TO BUILDERS AND PLUMBERS.

WANTED, by a good practical Plumber, who has been used to large and extensive jobs, a RE-ENGAGEMENT, permanent or otherwise. Has no objection to make himself useful.—Address, B. N. Office of "The Builder."

TO PLUMBERS AND BUILDERS.

WANTED, by a first-class Plumber, as Three-Branch Hand, EMPLOYMENT.—Address, WILLIAM LLOYD, No. 3, Charlotte-place, Old Church-street, Paddington-green.

TO BUILDERS, PAINTERS, &c.

WANTED, by a respectable Young Man, a SITUATION as GRAINER, WRITER, PAINTER, and PAPER-HANGER. Can do glazing.—Address, Y. Z. at Mr. Cutbush's, Newsagent, Highgate, Middlesex, N.

TO ARCHITECTS.

WANTED, by a Gentleman of great practical experience, an APPOINTMENT as CLERK of WORKS upon any large work, where he would devote his services in making the detail drawings. A country engagement preferred. Highest references.—Apply, P. P. Mr. Dutton's, 25, Compton-street, Brunswick-square.

TO BUILDERS.

WANTED, by the Advertiser, a Carpenter and Joiner by trade, a SITUATION as FOREMAN, to superintend the Erection of New or the Repairs to Old Buildings, &c.—Address, A. B. 48, Clarendon-street St. Pancras, N.W

TO BUILDERS, &c.

WANTED, by a Young Man, aged 23, a SITUATION as TIMEKEEPER or CLERK in a Builder's Office. Well acquainted with the business. Can make out estimates, draw plans, &c. Salary not so much an object.—Address, A. B. Mr Reubshaw's, 33, Carey-street, London, W.C.

WANTED, a SITUATION as FOREMAN of BRICKLAYERS, by a practical man, in town or country. Good references.—Address, A. J. Mr. Riddlington, 10, Adam-street East, Manchester-square, London.

WANTED, by a first-class Writer and Grainer, a constant SITUATION, in a respectable shop.—For terms, &c. address, M. A. M. at Mr. Kendall's, Arstall, near Worcester.

WANTED, by an experienced Foreman, PIECE-WORK, JOINER'S WORK, FIXING, or CARPENTER'S WORK. Good reference.—Address, G. S. 78, Great Suffolk street, Borough

TO PLUMBERS, BUILDERS, AND OTHERS.

WANTED, by a Young Man, a SITUATION as PLUMBER and GASFITTER. No objection to fill up his time painting or glazing.—Address, T. S. 1, Somerset-terrace, Church road, Battersea

TO BUILDERS, CONTRACTORS, &c.

WANTED, an ENGAGEMENT, by the Advertiser, who is a first-class draughtsman and excellent accountant. Age, 29. Unexceptionable references.—Address, A. B. 26, Vine-street, Stretford-road, Manchester.

TO ENGINEERS.

WANTED, an ENGAGEMENT in an Engineer's or Surveyor's Office. The Advertiser has had great experience in railway work, town improvements, and surveying, in England and abroad. First-class testimonials can be given. Address, S. P. Office of "The Builder."

TO ARCHITECTS AND BUILDERS.

WANTED, by a Belgian, well conversant with the English language, a SITUATION as DRAUGHTSMAN, FOREMAN, or SUPERINTENDENT of WORKS in the city or the country. He would prefer any position in which much of architectural art is to be displayed. Terms moderate.—Address, T. HELLER, 24, Salisbury-street, Strand.

TO ENGINEERS, CONTRACTORS, AND BUILDERS.

THE Advertiser, having had considerable experience in the construction of works, surveying, levelling, setting out, measuring up, estimating, &c. desires an ENGAGEMENT to SUPERINTEND WORKS. Is a good draughtsman and accountant. Address, L. F. Post office, Milford, South Wales.

TO GENTLEMEN, ESTATE AGENTS, AND BUILDERS.

TO SUPERINTEND ERECTIONS and REPAIRS on an Estate, or as GENERAL FOREMAN, by a thoroughly Practical Man. Can prepare plans, set out and measure up work. Good recommendation from last employer. Age, 30. Joiner by trade.—Address, PLUMBER, 3, South Ville, Wandsworth-road, London, S.

TO TIMBER MERCHANTS, &c.

THE Advertiser having had three years' experience as Collector and occasional Traveller, is desirous to obtain a SITUATION in a similar capacity.—Address, K. P. Deacon's News rooms, 154, Leadenhall street, E.C.

TO LAND SURVEYORS AND CONTRACTORS.

THE Advertiser, who has just finished his articles with a first-class firm in the country, is desirous of an ENGAGEMENT. No objection to go abroad.—Address, O. U. Office of "The Builder."

TO ARCHITECTS AND BUILDERS.

THE Advertiser solicits an ENGAGEMENT in the Office of an Architect or Builder (the Northern or Midland Counties preferred). Is accustomed to the routine of a professional practice; or would not object to confine his attention to quantity taking and estimating. Can produce unexceptionable testimonials, &c. Address, H. B. 33, Queen-street, Sheffield.

TO RAILWAY COMPANIES, SHIP BUILDERS, AND OTHER COMPANIES

THE Advertiser, aged 36, is desirous of securing an APPOINTMENT as MANAGER, STOREKEEPER, or AGENT. Has had ten years' experience in the most extensive iron ship-building yards and iron works, and seven years on trunk railways. Duty in each place consisted chiefly in ordering and superintending the receipt and issues of stores and materials. Has a thorough knowledge of book-keeping, accounts, and correspondence; also acquainted with shipping business. Testimonials of the highest character.—Address, R. O. Post-office, Upper Bangor, North Wales.

TO ARCHITECTS, &c.

THE Advertiser is open to an ENGAGEMENT as ASSISTANT or as CLERK of WORKS. Is a good draughtsman, well up in taking out quantities and estimating, and has had considerable experience in designing. Can give fifteen years' first-class testimonials.—Address, R. E. care of Mr. Hubbard, 56, St. Paul's-road, Kennington-park.

OCCASIONAL ASSISTANCE. An experienced Architect's Assistant would be happy to give OCCASIONAL ASSISTANCE on moderate terms.—Address, O. G. care of Mr. Houghton, Stationer, 30, Poultry, E.C.

CLERK and BOOK-KEEPER.—The Advertiser, aged 26, wishes for a SITUATION. Has had many years' experience in builders' offices. Is a thorough accountant, and can assist in drawing and estimating. Excellent references.—Address, S. T. P. 7, Grove-place, Lisson-grove, N.W.

BUILDER'S APPRENTICE, IN-DOORS. WANTED, to PLACE an educated Youth with an established Firm. The country preferred.—Apply by letter, addressed to No. 30, South Wharf road, Paddington.

TO BUILDERS.

A SURVEYOR of great experience offers TEMPORARY ASSISTANCE to BUILDERS, in town or country, in taking off quantities, estimating, measuring up extras and omissions upon contracts and other works, making drawings, writings, specifications, and making up builder's accounts, upon moderate terms.—Address, S. V. R. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

A QUANTITY SURVEYOR and MEASURER, of considerable practical experience, would be glad to TREAT with ARCHITECTS for their Quantities and Measuring, Writing Specifications, &c. upon reasonable terms; or would assist Architects and Surveyors at their own Offices, if preferred. References given; quantities guaranteed. Address, "ALPHA," care of Mr. Fisher, Stationer, Vassall-road, Brixton-road, S.

A MECHANICAL ENGRAVER of some standing would be happy to be ENGAGED as above, or Assistant Draughtsman to an Engineer.—Address, W. B. 11, Frederick-street, Caledonian-road, Islington.

TO LAND SURVEYORS AND CIVIL ENGINEERS

A COMPETENT ASSISTANT, provided with all Field and Office Instruments, desires a RE-ENGAGE-MENT. Is experienced in parish, estate, and railway surveying, levelling, ranging curves, &c. and is a good draughtsman.—Address, SURVEYOR, 29, Acton-street, Gray's-inn road, London, W.C.

AN Experienced Perspective DRAUGHTSMAN and COLOURIST, well acquainted with Italian and Mediæval design, OFFERS HIS SERVICES on moderate terms. Address, X. M. N. Curtis, 5, Library, 5, Merton-terrace, Pimlico, S.W.

TO CIVIL ENGINEERS AND SURVEYORS.

AN ENGINEERING SURVEYOR of many years' standing, who has just completed a very extensive survey, is now UNDERTAKE RAILWAY or PARISH WORK in any part of England. Address, SURVEYOR, care of Mr. Chadwell, Stationer, Peterborough.

TO ARCHITECTS, SURVEYORS, ENGINEERS, BUILDERS, ESTATE AGENTS, AUCTIONEERS, &c.

A YOUNG MAN, who understands arithmetic, book keeping, algebra, geometry, mensuration, trigonometry, land surveying (practically), drawing, plotting, and mapping, and who is otherwise well educated, desires a SITUATION. Address, X. Y. Z. Mr. Harvey's, Bookseller, Balham-hill, S.

TO ARCHITECTS AND SURVEYORS.

A GOOD LAND SURVEYOR is desirous of obtaining a RE-ENGAGEMENT. Is thoroughly conversant with the drainage of towns, and can produce first-class testimonials. Address, W. G. W. Post-office, Great Coram-street, W.C.

TO ARCHITECTS, &c.

A THOROUGHLY PRACTICAL CLERK of WORKS is open to a RE-ENGAGEMENT. First-class testimonials.—Address, M. N. 21, Alfred street, Bow road, E.

TO BUILDERS, OWNERS OF PROPERTY, AND RAILWAY COMPANIES.

A RESPECTABLE STEADY YOUNG MAN wishes for constant EMPLOYMENT in the Grain or Painting, and Graining line. Wages moderate. Country no object.—Address, P. Q. 45, Goldington-street, Old St. Pancras-road, N.W.

A GOOD GRAINER wants a constant SITUATION. Has no objection to filling up his time in Painting.—Address, A. B. 6, Surrey-place, Old Kent-road.

TO MASTER PLUMBERS AND PAINTERS.

A RESPECTABLE YOUNG MAN, having served about four years to the above trade, is desirous of IMPROVING himself in the PLUMBING business. Would take a situation for two or three years at low wages, and would make himself generally useful.—Apply to W. A. W. 2, Fiora Villas, St. Ann's-road, Wandsworth.

TO ARCHITECTS.

WANTED, by a thoroughly-efficient and practical Man, a SITUATION as CLERK of WORKS. Good references. Salary moderate.—Address, F. F. Littlebourne, Sandwich, Kent.

TO BUILDERS AND CONTRACTORS.

A YOUNG MAN of business habits and good address wants a SITUATION as CLERK in a Builder's Office. Eight years with present employer.—Address, I. O. F. 181, Minories, E.

AS FOREMAN of JOINERS, or GENERAL FOREMAN. Good references.—Address, Y. Z. Post-office, Brompton-crescent.

TO ARCHITECTS AND OTHERS.

AN experienced and quick DRAUGHTSMAN, in every style of architecture, and who will guarantee his neat style if wished, measurements, &c. requires an ENGAGEMENT.—For terms, &c. which are reasonable, address, A. B. B. 39, Gower-place, London University, W.C.

TO PLUMBERS, BUILDERS, &c.

A YOUNG MAN, who has had considerable experience in the Plumbing trade, is in WANT of a SITUATION as HANDY MAN, &c. Is a good painter, and willing to make himself generally useful. In town or country. With good reference, &c. Address, F. G. 16, Orchard-hill, Lewisham road, Lewisham, S.E.

AN experienced CLERK of WORKS wishes for a RE-ENGAGEMENT. Unexceptionable references can be given.—Address, A. B. No. 9, Vincent-square, Westminster.

TO ARCHITECTS.

A GENTLEMAN is desirous of a RE-ENGAGEMENT. Unexceptionable references.—Apply to Q. E. D. Kimpton's Circulating Library, Great Russell-street, Bloomsbury.

TO ARCHITECTS, &c.

A FULLY QUALIFIED ASSISTANT, who is a neat and expeditious Draughtsman, is desirous of meeting with an ENGAGEMENT. References will be given to some of the leading men in the profession. Terms moderate.—Address, J. C. 16, Acton-street, Gray's-inn road, W.C.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Gallery — East street, Horseferry-road, Westminster.—The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney-piece in the world.

PURE STATUARY MARBLE and in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS, 363, EUSTON-ROAD, London, N.W. Prices moderate.
M. W. J. has also an immense stock of beautiful British and Foreign MARBLE CHIMNEY PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Design carried out with great care and exactness. Established 1821.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at

W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W

MARBLE CHIMNEY-PIECES of every Description also enamelled Slate, to be SOLD at 240, MARYLEBONE ROAD opposite the Yorkshire Stone. PATH STONE BOX CHIMNEY PIECE, with MOULDED CAP and BASE, 7s. FITTED TO ANY OPENING.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLYON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.

All communications to be addressed to the Secretary, 24, St. James's-street, London, S.W.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER SIMPSON & SONS, 23, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

RED MANSFIELD STONE. (WHITE MANSFIELD STONE. YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENTS PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of Architectural constructions, decorations, monuments, and general purposes.
Apply to Mr MACDONALD, Quarriers; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 9, CANNON STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. H. TREATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by WILLIAM & JOHN FREEMAN, 27, MILLBANK STREET, LONDON, S.W.

BELLMAN & IVEY, GENERAL AND ORNAMENTAL PLASTERERS, MANUFACTURERS OF SCAGLIOLA MARBLE.
N.B. A Medal was awarded Messrs. B. & I. for the beauty of their Works exhibited at the International Exhibition, 1862.
Show-Rooms,—14, BUCKINGHAM-STREET, PORTLAND-ROAD, W.

BELLMAN & IVEY, MANUFACTURERS OF IMPROVED PLASTER OF PARIS.
Works,—3, BEDFORD STREET, LIQUORPOND-STREET, E.C.
Office,—14, Buckingham-street, Portland-road, W.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested, prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

ON SALE—TWELVE UNSAWN SLABS of the finest Pentuing SLATE ROCK, measuring on the average about 10 feet by 4 feet and about 3 inches thick.—Apply to Mr. JOHN ROBINSON, Portmadoc, Carnarvon.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons. Price forwarded and estimates given on application. Address,
No. 1, BOLD-TERRACE, CHESTER.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

SCAGLIOLA WORKS, 14, SMITH-SQUARE, WESTMINSTER, S.W.
G. WARREN, SCAGLIOLIST,
Begs to inform ARCHITECTS, SCULPTORS, BUILDERS, and the Trade in general that he is prepared to execute all descriptions of SCAGLIOLA MARBLE WORK, in the best manner, at very moderate prices. Superior Scagliola Pedestals, for busts, &c. at from 47. 10s. to 5l. 10s. per pair.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

NORWOOD, SURREY.—The Owners of the Beulah Spa Estate having resolved to DISPOSE of a remaining portion of that valuable and beautiful PROPERTY, comprising upwards of 100 acres of choice land, on the high ground near the church, and station, and within an agreeable distance of the Crystal Palace, will meet to receive TENDERS for the whole or any of such of the lots into which the estate is divided, on WEDNESDAY, the 27th day of AUGUST, at TWO o'clock in the afternoon, at the Offices of Messrs. THOMAS & HOLLAMS, Solicitors, 31, Commercial Sale-rooms, Mincing-lane, London. The said grounds afford beautiful and extensive views to those obtained from the terrace of the Crystal Palace. The whole is freehold, with the exception of 1a. 3r. 37p. more or less, at the north-eastern extremity of lot 1, which is copyhold. There is an abundance of fine gravel and brickearth; and a metropolitan water company affords an ample supply of excellent water. The roads are good, and the estate altogether presents features of a character alike eligible for the large returns of a building society, or the more solid and permanent return of family investment. Plans and form of Tender may be procured at the office of Messrs. THOMAS & HOLLAMS, Solicitors to the Vendors, 31, Commercial Sale-rooms, Mincing-lane, on and after the 4th day of AUGUST, 1862. All Tenders to be sent in the printed form, sealed and addressed to the Vendors of the Norwood Estate, and delivered at or sent by post to, Messrs. THOMAS & HOLLAMS, 31, Commercial Sale rooms, Mincing lane, on or before the 26th day of AUGUST, 1862. The Vendors do not bind themselves to accept the highest or any Tender.

VALUABLE BRICKFIELD TO BE DISPOSED OF, forming part of an estate of several hundred acres, situate in the neighbourhood of Southend, Essex, and possessing every advantage for carrying on a most desirable trade. About 40 acres have already been tested, and found to contain almost from the surface, at 10 the depth of at least 7 feet) clay in every way suitable for the manufacture of first-class bricks, tiles, &c. The owner (who has already commenced operations) would either let on lease, or would take a substantial share in a private limited company.—Further particulars may be obtained of Messrs. VIZARD & ANBLE, 56, Lincoln's-inn Fields; or of Mr. G. A. CAPE, Accountant, 3, Adelaide-place, London-bridge.

TOOTING, Surrey.—14 ACRES of valuable FREEHOLD BUILDING LAND for SALE, beautifully situate on the high ground near the Common, about six miles from the London and Westminster Bridges, and 1/4 mile from the Balham and Streatham Stations. The land is in pasture, has a gravelly subsoil, slopes to the south, commands extensive views, and offers a desirable site for residences or farm allotments. Apply to Messrs. DEBENHAM & TEWSON, E-tate Agents, 80, Cheapside, where a plan may be seen.

BUILDING LAND, MILE-END.—TO BE LET, on Building Lease, a valuable Plot of Freehold Land, situate in North-street, Mile-end, suitable for the erection of either shops, dwelling houses, or manufacturing premises. It occupies an area of nearly two-thirds of an acre, and has an extensive frontage.—For terms and other particulars, apply to Mr. N. S. JOSEPH, Architect and Surveyor, East India Chambers, 23, Leadenhall street, E.C.

WATERWORKS FOR SALE.—Shortly will be SOLD, by the direction of the Court of Chancery, in a suit of Gunning v. Gunning, the WATERWORKS at Charlcombe, Bath, as established and carried on for many years by the late Colonel Gunning, together with the usual rights for continuing the water supply from the unsold portions of the colonel's estate, but subject to certain obligations for fulfilling the engagements entered into by him for the supply of water to certain parts of the estate sold by him, and also for the supply of water to houses which may be built hereafter on the unsold portions of his estates. These Waterworks are most advantageously situate at Lansdown, close to the city of Bath; and the reservoir is at an elevation which is capable of supplying the whole of the city; but as the primary object of them was merely to supply Colonel Gunning's own lots with water, they have never been worked to their full extent; but from their position, from the nature of the water, and the increase of buildings on the Lansdown side of Bath, they are capable, at a comparatively small outlay, of great improvement and extension. The present net income exceeds 200l. a year. Any parties desirous of purchasing such an undertaking, and wishing to be furnished with particulars as soon as they are ready, are requested to apply to Messrs. PALMER, NETTLESHIP, & ELAND, Solicitors, 4, Tokefield-chambers, London, W.C.; or to Messrs. LITTLE & SON, Solicitors, Bladud-buildings, Bath.

THE ARCHITECTS', BUILDERS', CIVIL ENGINEERS', and MACHINISTS' DRAWING CLASSES, conducted by Mr. T. HILL, Architect, at his Offices, 70, Old-street, E.C. Architectural, Mechanical, Ornamental, and Perspective Drawing Taught; Taking out Quantities, and Abstracting, &c. For prospectuses, apply at the Offices, as above.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted issued gratis by the General Patent Company (limited), 71, Fleet-street London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, and LEWIS, Civil Engineers, Surveyors, &c. for giving instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras. 24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Pupils, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter. Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

FOR IMMEDIATE DISPOSAL.—ONE HUNDRED GOOD NAVVIE BARROWS with ash frames and inch elm tops, at 10s. each; also, at very low prices, 12 Dobbin Carts, 4 One-horse Brick Carts, 2 Two-horse ditto, Joiner's Cart, 2 Timber Carriages, Builder's Van, &c. &c. all new.—Apply to GEORGE Ede, Euston Works, 36 & and 363, Euston-road, London, N.W.

POLONCEAU and LIMMER ASPHALTE.



For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above) the absence of which preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIFFERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING, Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c. RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.

" " " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SPURGEON'S IMPROVED MARTIN'S CEMENT.

A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.

MANUFACTURED ONLY BY

B. W. SPURGEON, DERWENT WORKS, DERBY.

London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.

Coarse, Fine, and Superfine London-made PLASTER of PARIS.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIME-STONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Fary's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. — Orders received at Great Scotland-yard, Whitehall; and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.

White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stuccowork may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble. — Manufacturers, FRANCIS BROTHERS, & POTT, Nine Elms, London

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.

Wherever can be obtained, of the best quality:—
GREYSTONE CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Bath, Landers, Dairies, Shops, Kitchens, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA-COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND CEMENT WORKS,
Borstal, on the Medway, near Rochester, Kent.
J. HOLLICK & CO.
Manufacturers of the best Portland Cement, are now prepared to supply an article of first-rate quality on the most reasonable terms.
Shipping and Builders' orders promptly executed.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co., Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hiten & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Benacre, near Walsall, South Staffordshire.
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS,

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

BUILDING LAND.—TO BE LET, at Castle Hill, Dover, on Building Leases for 99 years, Good Sites on made roads for Houses, Villas, &c. The ground commands good views of the sea, Shakespeare's Cliff, &c. and is on one of the most picturesque spots in Dover. The new church of St. James is on the estate.—For full particulars and plan apply to JAMES STILWELL Esq. Solicitor, Dover; or of Messrs. DANIEL SMITH, SON, & OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall Mall, S.W.

THOMAS MILLINGTON,
GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.
REDUCED SHEET GLASS TARIFF.
In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1¾	2	2½
„ 2ft. 6in. sup.	1½	1¾	2¼	3
4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 } per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13 }	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14 }	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15 }	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.
Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.
16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

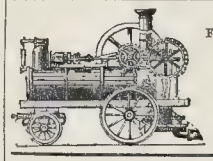
Genuine White Lead .....30s.	per cwt.	Fine Oak Varnish ...10s.	per gallon.
Anti-corrosian Paint 28s. to 34s.		„ Carriage ...12s.	
Linseed Oil Putty .....7s. 6d.		Linseed and Boiled Oil	
Patent Dryers .....28s. to 42s.		Turpentine	

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

WELL-SEASONED STOCK OF FLOORING DEALS, MAHOGANY, &c.
SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.
KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

HAMPSTEAD ROAD JOINERY WORKS.
21, HARRINGTON STREET, N.W.
NEVIL SIMMONDS,
MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.
SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.
Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp

BARTLETT BROTHERS & CO.
DEVONSHIRE WHARF, CAMDEN TOWN, N.W.
Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.
Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,
INTERNATIONAL EXHIBITION, 1862.



PORTABLE STEAM PUMPING-ENGINES,
From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

BUILDING LAND in Harp-lane, Great Tower-street, City.—The owners of this valuable property, situated at the corner of Cross-lane and Harp-lane, will meet on MONDAY, the 1st day of SEPTEMBER next, at the Offices of Messrs. RUCK, PENWICK, & RUCK, No. 19, St. Dunstan's-hill, at TWO o'clock p.m. to receive TENDERS for a BUILDING LEASE of the same for a term of eighty years. A plan of the site, and conditions, may be inspected at the Offices of Messrs. YOUNG & SON, Architects, No. 35, King-street, Cheapside, to whom the Tenders are to be delivered.
August, 1862.

CHEAPSIDE.—VALUABLE BUILDING SITE.—Notice is hereby given, that the time for receiving TENDERS has been EXTENDED to AUGUST 23.—Plans, particulars, and credit can of Tender may be seen, on application to the Clerk, Saddlers' Hall, E.C.; or to Mr. F. W. PORTER, Architect, 16, Russell-square, W.C. between TEN and FOUR.

FOR SALE, several PLOTS of FREEHOLD BUILDING LAND, on the Benhill Estate, Sutton, Surrey, from 2s. to 30s. per foot frontage, land t.x. redeemed, conveyance free, five minutes' walk from the Sutton Railway Station, half-hour's ride from the London Bridge Terminus, good roads, good water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Agent, Sutton, S.

NORWOOD SURREY, near GIPSY HILL STATION.—First-class BUILDING LAND TO LET, in 80 feet frontages, at 5s. per foot, 320 feet deep. Houses of not less value than 1,000l. allowed on the estate. Two responsible parties fifty thousand bricks will be allowed for every house.—For particulars address A. B. care of Mr. Pratt, Station Master, Gipsy Hill, Norwood, Surrey.

TO BE DISPOSED OF, the BUSINESS of a CARPENTER, JOINER, and UNDERTAKER.—For particulars apply, personally or by letter, to Mr. T. THORP, care of Messrs. Field & Roberts, 254, High street, Southwark.

TO SAW-MILL PROPRIETORS and OTHERS.
HUMPHREY & HASLER (late H. Fairbank), Engineers and Machinists, 69, Old-street, E.C. beg to call attention to their IMPROVED SAW BENCH.
Planing, Boring, Turnery, and Screw Cutting done for the Trade.

JOINERY OF EVERY DESCRIPTION

TAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

40, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		Laths, 28s. per load.
Yellow Deals, sound and good	£19 10 0 per 120,	or 0s. 3½d. per foot.
Spruce Deals	16 10 0 „	0 2½ „
Yellow Battens, excellent quality	11 10 0 „	0 2 „
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 „	3 6 „

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¼-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1¼-inch „	—	18s. 0d.	19s. 0d. „

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. „
Spruce Deals ..... £16 10s. „

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. „
¾-Inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



STAINED-GLASS WINDOWS and PICTURES on GLASS for churches and private buildings.—Messrs. MARECHAL, of Metz, who have obtained Two Medals for their specimens now on view at the International Exhibition, French Court, Nos. 3,304 and 3,313, wishing to leave some of their works in this country, beg to inform the nobility and gentry that Mr. CH. MARECHAL will remain in England until the 15th of SEPTEMBER, at 50, Grove-place, Brompton. He will attend to any orders and communications that may be forwarded to him.

TO ARCHITECTS, BUILDERS, &c.

GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F. ODELL & CO. 8, Bath-street, City-road, E.C.; or at the Works, 12, Grafton-mews, Fitzroy-square, W.—N.B. Fret and Church Leads sold.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. METTAM & CO.

30 and 31, PRINCES STREET, SOHO, LONDON, W.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

311, REGENT STREET, W.

(Adjoining the Polytechnic Institution).

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho square, W. and George yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 13, St. Martin's-le-Grand, E.C. late of 54 Stamford-street, S

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made

COLOURS and VARNISHES at REDUCED PRICES,

Genuine White Lead, 30s per cwt.; Linseed Oil, 2s. 4d. per gallon; Boiled Oil, 2s. 8d.; Turpentine, 8s. 6d. per gallon; Pine Pale Oak Varnish, 8s. 6d. per gallon, for cash. at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.

PAINTING BRUSH MAKERS,

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

And of their Agents,

SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

IMPORTANT to BUILDERS and PAINTERS Genuine White Lead, 30s per cwt.

Linseed Oil, 2s. 4d. per gallon; Boiled Oil, 2s 8d. per gallon.

Turpentine, 8s 6d per gallon.

Pine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Eburry-street, and 45, Coleshill-street, Pimlico, S W.

Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 43, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 2s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

30, LONDON WALL, E.C.

Where also may be obtained their

CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,

Together with all Kinds of Colours and Varnishes,

Warranted of the purest quality and at the lowest prices.

Agents for Kershaw's Graining Machines.

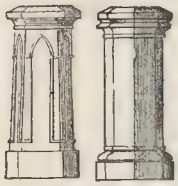
JAMES STIFF & SONS,

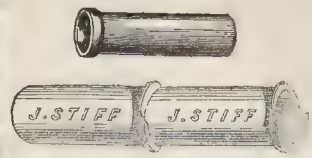
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

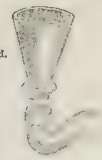
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

PEARCE'S PATENT SANITARY PIPE, BRICK, AND TILE MACHINES,

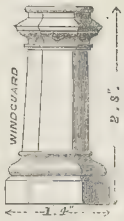
Producing nearly double the quantity and of very superior quality to any machine yet invented. The improvement consists in the introduction of a central stem to support the core of the die, and obviating the necessity of cross-bars or bridges, hitherto found so detrimental in the manufacture of large sanitary pipes. The upper part of the Machine acts as a Pug-Mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die. The larger Machines will make sanitary pipes, from 3 inches to 24 inches. The smaller, from 2 inches to 12 inches.—Particulars on application to the

IRON WORKS, POOLE, DORSET.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.







LONDON WHARF, 64, Bankside, Southwark.

LONDON OFFICES, 76, King William-st. City.

MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. Todd Carr, Agent.

LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

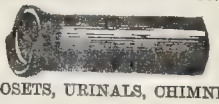
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W., and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.

BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where requ red.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
„ 8-inch Pavings, at 27s. 6d. per 1,000.
„ Kiln Bricks, at 36s. per 1,000.
„ Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks on London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire street Station, at 25s. per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.

Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. do. inches
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge tiles, &c
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of soli.l or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty, 75l.

Licences to Manufacture granted for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southborough (about one mile from the station), Kingston on Thames; and also in action, at the International Exhibition, Class 8, No. 1,210.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macleod-street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

PRIZE MEDAL TO MAW & CO INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary forms of that perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, friars, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 17.4, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

BUFF & DEEP RED FACING BRICKS, Splays, Cutters, Floor-tiles, Garden Edging, &c.—Apply to E. HOOPER, Manufactory, Southampton; or JOHN DOWNEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.

Architects and Builders requiring superior colour in bricks are respectfully invited to inspect the above.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS, TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Fine Plank, from 8s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 10s. 3d.; 1 White, from 11s. 6d. Carriage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.
BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



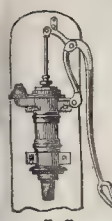
No. 36.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead, gutta percha or cast iron flanged pipe, as required.	1 1 0
2½ „ long	3 3		1 10 0
3 „ ditto	3 6		2 4 0
3½ „ ditto	3 6		2 9 0
4 „ ditto	3 6		2 16 0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			2 0 0
2½ in. long ditto	ditto		2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.



No. 69.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	6	0	0
3 „	7	5	0
3½ „	8	0	0

} Larger sizes when required.

Fitted to the best Plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	4	15	0
3 „	5	15	0



WARNERS' BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

A PRIZE MEDAL FOR BELLS Was awarded to JOHN WARNER and SONS, AT THE GREAT EXHIBITION IN 1851.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384.



No. 383.

WARNERS' HIGH PRESSURE COCKS are made with gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re-leathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

JOHN WARNER & SONS,

BELL and BRASS FOUNDERS to HER MAJESTY.

INTERNATIONAL EXHIBITION

Class 8. WESTERN ANNEXE. Pumps, Beer Engines.
Class 9. EASTERN ANNEXE. Garden Engines, Syringes, &c.
Class 10. Near EASTERN DOME. Water-closets.
Class 31. SOUTH EAST TRANSEPT.—A Peal of Eight Bells and Chiming Apparatus.
Class 31. HARDWARE COURT. Bells, Urns, Lamps, Braziery Goods, Baths, Steam Fittings, Plumbers' Cocks.

Illustrated Catalogues forwarded on application at the Manufactory, 8, Crescent, Cripplegate, London.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No. 145½.—Warners' Spring Valve Closet on Iron Frame, with vulcanized India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 6
Sunk handle extra 0 2 6
Blue basin, extra 0 1 6



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £3 0 0
Sunk Handle, extra 0 2 6
Blue Basin, extra 0 1 6

The above Prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

Two Prize Medals for Bells have been awarded to John Warner & Sons, at the Great Exhibitions in 1851 and 1862.

THOMAS LAMBERT & SON,

No. 57. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



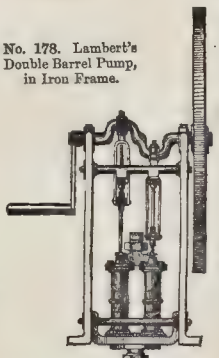
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON Near LEEDS.



ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

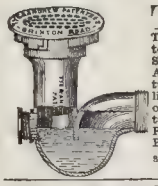
SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.

A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.

PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.

W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 21-inch, 3s. 6d. and 5s. 6d.; 12-inch, 2s. 3d. and 4s.

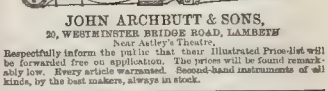
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use. Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMPERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH

Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

RAILWAY COMPANIES, CONTRACTORS, and AGENTS SUPPLIED with KEYS, TREENAILS, BUSHES, SLEEPERS, BARROWS, and all descriptions of RAILWAY PLANT and STORES by W. P. FRANCE, GREAT WESTERN SAW-MILLS, Bridge Wharf, Paddington.—Debentures taken in payment if required.

SALES BY AUCTION.

CARRARA WHARF, Thames-bank, Pimlico. T. SCULPTORS, MASONS, BUILDERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Fabbricotti, Brothers, to SELL by AUCTION, on the PREMISES, Carrara Wharf, Pimlico, on TUESDAY, AUGUST 12th, at ELEVEN and TWELVE, a large quantity of MARBLE, in blocks; comprising statuary, veined, Bardilla, Sicilian, and various coloured varieties; also several thousand feet of veined, Sicilian, and statuary slabs; and a selection of panels, vases, baths, mortars, and headstones, in Sicilian. Approved bills at four and six months.—May be viewed two days previous, and catalogues had at place of sale, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, and 80, Fore-street, City.

EXTENSIVE SALE OF BUILDING MATERIALS.—MINCING-LANE and FENCHURCH-STREET.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on FRIDAY, AUGUST 15, at TWELVE, in lots, all the excellent BUILDING MATERIALS, PICTURES, and FITTINGS-UP of the spacious OFFICES, WAREHOUSES, and PREMISES, No. 5, Mincing-lane, extending to the rear to Medford-court, Fenchurch-street: comprising 100,000 excellent sound bricks, rafters, joists, girders, and other useful timber; a large quantity of pan and plain tiles, glazed sashes, doors, marble chimney-pieces, and interior fittings; 100 squares of sound floor-boards, Portland stone front, stone sills, and coping, York paving; several tons of lead in gutters and pipes, warehouse front, loophole doors, iron columns, crane and jib, stoves, cisterns, a 600 gallon oak spirit vat, and other effects.—May be viewed the day previous. Catalogues had of Mr. N. S. JOSEPH, Architect, East India-chambers, Leadenhall-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

RICHMOND.—FREEHOLD PLOT OF GROUND AND COTTAGE.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on WEDNESDAY, AUGUST 27th, at TWELVE, a FREEHOLD PLOT OF GROUND, lately occupied by the Richmond Waterworks Company, having a frontage of about 45 feet by 184 feet deep, on the west side of the Lower Road leading to Petersham, and extending to the towing-path, with a substantial brick built Cottage thereon, and an artesian well, 400 feet in depth. The purchaser will have the option of purchasing the engine-houses and machinery, or the same will be sold in lots on the 29th AUGUST.—May be viewed ten days previous to the sale; and particulars had of Messrs. HARGROVE, FOWLER, & BLUNT, Solicitors, 47, Parliament-street; at the Auction Mart; the Greyhound, Richmond; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W.; and 80, Fore street, E.C.

RICHMOND. The valuable Steam, Engines, Boilers, Pumps, and Machinery, of the late Richmond Waterworks, and Materials of the Engine houses.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, Lower Petersham-road, on FRIDAY, AUGUST 29th, at TWELVE for ONE, in lots, the valuable MACHINERY, comprising a 15 horse condensing engine, by Maudslay; a 20 horse ditto, by Messrs. Simpson; two Cornish boilers, 16 feet and 14 feet long; a pair of 15 inch pumps and a pair of 8-inch pumps, and the shafting, steam pipes, and connexions; large cast-iron tank, capable of holding 13,000 gallons; iron mains, &c.; also the very excellent materials of the engine and boiler houses, comprising 100,000 sound bricks, timber roofs, stone paving, slates, several tons of lead, doors, sashes, and other useful materials.—May be viewed two days prior. Catalogues had of Messrs. HARGROVE, FOWLER & BLUNT, Solicitors, 47, Parliament street; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, S.W. and 80, Fore street, E.C.

TO ROAD CONTRACTORS, BUILDERS, and OTHERS.—Very valuable Gravel pit, affording also excellent hollding sand and chalk, with facilities for carriage by rail and water close at hand.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, opposite the Bank of England, on WEDNESDAY, AUGUST 20, at TWELVE o'clock, 24 ACRES of FREEHOLD LAND, situate adjoining the New road, close to the town of Ware, and within a few hundred yards of the railway station and the River Lea. The land affords an almost inexhaustible supply of gravel of the best quality, as well as building sand and chalk, for all of which an unlimited demand exists. Large quantities of gravel and sand have already been taken from this pit for the Government, and several of the principal road and other contractors in the neighbourhood are now ready to take a lease and work it on remunerative terms. The surface offers valuable sites for building; and as the land lies on the slope of a hill, its capabilities for this purpose will be improved by working the gravel.—May be viewed on application to Mr. BROWN, Builder, New road, Ware; and particulars, with conditions of Sale, obtained of GEORGE GIBBY, Esq., Solicitor, Ware; at the Auction Mart; and of Messrs. DEBENHAM & TEWSON, Auctioneers and Estate Agents, 80, Cheapside.

Freehold Building Sites, on Ferry Hill, Sydenham, about five minutes' walk from Catford Bridge station, and a mile from Forest Hill Station.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on WEDNESDAY, AUGUST 20, at TWELVE, several PLOTS of FREEHOLD BUILDING LAND (and two enclosed, dwarf-wall built, fronting the main road from Catford Bridge Station to Lower Sydenham, including a valuable corner plot for a pair of semi-detached villa residences—a shop and private residence. Two-thirds of the purchase-money can remain at 5 per cent.—Plans, orders and cards to view may be had of Messrs. DE FRISBY & MICKLEM, Solicitors, 19a, Gresham-street West; and of the Auctioneers, 80, Cheapside.

CITY OF LONDON.—Unreserved Sale of a Freehold House and Plot of Building Land, near West Smithfield.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on WEDNESDAY, AUGUST 20th, at TWELVE for 1 o'clock precisely, without the slightest reserve, a FREEHOLD DWELLING HOUSE, No. 22, Middle-street, Cloth-fair, in the vicinity of the Smithfield Improvements. Let to weekly tenants at rentals amounting to 24l. per annum, but which, by a moderate outlay, may be largely increased. Also a PLOT of FREEHOLD LAND, being the site of No. 8, Middle-street, adapted for the erection of a House and Shop. Particulars of Messrs. PATRICK & UNDERWOOD, Solicitors, 83, Chancery-lane; and of the Auctioneers, 80, Cheapside.

SHOOTERS' HILL, KENT.—Eligible FREEHOLD BUILDING LAND, adapted for the erection of superior Villa Residences.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the Town Hall, Woolwich, on FRIDAY, AUGUST 22nd, 1862, at SIX for SEVEN o'clock in the Evening, Twenty-nine lots of eligible FREEHOLD BUILDING LAND, on the south side of Herbert-road, near to the Royal Military Academy, Woolwich Common, commanding some of the best and most extensive views in the neighbourhood, and being the seventh portion of the Estate known as the "Potteries." Nine-tenths of the purchase money may remain on mortgage or contract at 5 per cent, to be paid in nine years, by half-yearly instalments; but the whole or any part of the balance may be paid off at any time, without notice. Particulars, plans, and conditions of sale may be obtained about ten days before the sale, of Messrs. RUSSELL & DAVIES, 79, Cornhill; and 3, London-street, London, E.C.; and of the Auctioneer, 14, Mortgate-street, London, E.C.

SPACIOUS FACTORY AT CAMDEN-TOWN, nearly equal to Freehold. Absolute Sale, by order of the Mortgagees.

MESSRS. HAMMOND & ELLOART will SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, SEPTEMBER 1st, 1862, at TWELVE, the very eligible and commodious PREMISES known as Murphy's Pianoforte Factory, at Albert-street, Camden-town, comprising a most substantial and recently erected pile of buildings, having four lofty and well-lighted floors, each about 130 feet long by about 40 feet wide, with offices, showrooms, dwelling, stables, cart houses, &c. and a smaller detached workshop; the whole standing in a large inclosed yard of over 25,000 superficial feet, in which are sawpits, timber-stages, &c., with side entrance in Georgiana-street. The premises are held for about 8 years to come, at a peppercorn; are suitable for a large firm employing 600 or 700 hands, or are capable of being subdivided and let to various tenants, whereby a large rental might be secured.—Particulars of Messrs. SHARPE, JACKSON, & PARKER, Solicitors, 41, Bedford-row; and of the Auctioneers, 28, Chancery-lane W.C.

Horses, Waggons, Carts, Harness, Barges, 10,000 Blocks of Stone, &c. To Millers and Others.—"Watney v. Wells."

MESSRS. FULLER & HORSEY are instructed by His Honour the Master of the Rolls to SELL by AUCTION, on TUESDAY, AUGUST 12, at ELEVEN, at the MILLS, Wandsworth, SEVENTEEN powerful young WAGGON HORSES, including several handsome teams; one brown filly, nine four waggons, patent arms, two large and two small floor carts, three tumbrils, one three gigs; stable utensils; three open iron barges, new about four years since, two of 35 tons and one of 20 tons burden; grallings, anchors and chains, tarpaulings, ropes, pumps, &c; one iron punt, 20 feet long, 6 feet beam; one wood punt, one new skiff, 10,000 stone blocks, about 14 miles cube each; 3,800 flour barrels, and other effects. To be viewed on MONDAY previous and Morning of Sale, when catalogues may be had on the Premises; of Messrs. M'LEOD, STENNING, & WAINEY, Solicitors, London street, E.C.; of J. E. SHEARMAN, Esq. Solicitor, Mark-lane; at Jack's Coffee House, Mark lane; at the Eagle, Wandsworth; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

GEORGE WHITING, Chief Clerk.

TO IRONMONGERS, BUILDERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Tiddeman & Co. (whose premises are required for the purposes of the London, Chatham, and Dover Railway), to SELL by AUCTION, on TUESDAY, AUGUST 12, at ELEVEN, at ST. ANNE'S WHARF and VICTORIA WHARF, Battersea, Blackfriars, in lots, without reserve, 200 tons of BUILDERS' CASTINGS, including 10,000 yards of 4-inch and 6-inch water guttering and pipes, from 2 to 6 inches; rain-water heads and shoes; 5,000 yards hot-water pipes, connexions, syphons, bends, T-pieces, and valves, hot-water boilers, double doors and frames, flanged and socket pipes, 40 tons of sash-weights, 100 cast-iron furnace-pans, furnace-doors, copper-bottoms, ash-pit doors, coal-plates, air-bricks, horse and mare pans, mangers, racks, stall posts, sewer grates, iron pumps, hay barrows, wheels, tires, axles, head and railing bars, cast-iron columns, galvanized pans, large cast-iron cistern, garden-rollers, pig troughs, register stoves, forty Dantzic planks, two spring water carts, numerous other items.—To be viewed on Monday previous and morning of Sale; where catalogues may be had, on the Premises; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

STAFFORD-PLACE, PIMLICO (near Buckingham-gate).

MR. R. W. MANN (for Messrs. Trollope) will SELL, on the PREMISES, as above, on TUESDAY, AUGUST 12, 1862, at ELEVEN for TWELVE o'clock, in consequence of the number of lots, the MATERIALS of Ten Houses, Nos. 13 to 22, inclusive, Stafford-place, Buckingham-gate, comprising a large quantity of well-seasoned timber, sound stock brickwork, with the lead, tiled, slate, and zinc covering to roofs; sound timbers in rafters, plates, tie-beams, joists, and quarter partitions; deal panelled doors and framing, moulded sashes and frames, deal flooring, staircases, doors and fittings to closets, marble and stone chimney-pieces, window-sills, coping and steps, York and Yeoft tile paving, lead eaterns and pipes, iron and 3-in. rainwater pipes and heads, iron gratings, ranges, stoves, coppers and furnace-work, bells, cranks, and a variety of useful materials. The whole to be taken down and cleared away immediately. Particulars and conditions of sale may be had of the Auctioneer, 18, Grosvenor-street, Eaton-square, and 15, Parliament-street, S.W.; and of Messrs. SIMPSON & DIMOND, 10, Henrietta-street, Cavendish-square.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 20th day of AUGUST, 1862, at ONE o'clock precisely. Luncheon at Half-past Twelve o'clock.

For account of Importers and others:—

13,000 Staves Deals, Battens, Scantling, and Ends	
9,000 Quebec Pine Deals	
5,000 St. Petersburg Red and White Wood Deals	
5,000 Onega Red Deals, Battens, and Boards	
1,500 Gothenburg Redwood Battens	
3,000 Memel Redwood Deals	
600 Loads Quebec Yellow Pine (New Timber)	
100 Loads Quebec Red Pine	
70 Loads Quebec Spruce Deal	
60 Loads Quebec Oak	
200 Loads Fresh Memel Timber	
130 Loads Fresh Canada Red Timber	
80 Logs Fresh Birch	
70 Fresh Waimscot Logs	
400 Loads Swedish Timber	
1,000 Mems. Pipe Staves	
1,000 4 to 6-inch 200 4-inch	Fresh Norway Spars
20 Fathoms Hemlock Lathwood	
50 Loads East India Teak Logs and Plank Flooring	

With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, August 6th, 1862.

BEULAH SPA, NORWOOD.—Valuable FREEHOLD BUILDING LAND.

MESSRS. GLASIER & SON are instructed to SELL by AUCTION, at Garraway's, on WEDNESDAY, AUGUST 20, at TWELVE for ONE, in 47 lots, 47 Plots of valuable FREEHOLD BUILDING LAND, eligibly situate in White Horse-road, and Decimus Burton-road, Beulah Spa, Norwood, within ten minutes' walk of the Norwood Junction Station, and suitable for the erection of first and second-class villa residences.—May be viewed; and particulars, with plan, had of G. W. ABBOTT, Esq. Solicitor, 64, King William-street, City; at Garraway's; and of the Auctioneers, 11, Charing-cross.

MARK LANE.—Highly important Freehold Property in the centre of the Corn and Colonial Markets, and occupying an area of upwards of 6,000 square feet.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on WEDNESDAY, AUGUST 27, at TWELVE, in one lot, by order of the Trustees, a very valuable FREEHOLD PROPERTY, most eligibly situate, Nos. 59, 60, and 61, Mark-lane, immediately adjoining the Corn Exchange Hotel, and close to the Corn Exchange, in the heart of the city of London. It consists of three dwelling houses, now let out in offices and counting-houses, with extensive cellarage on the basement, having a frontage to Mark-lane of about 42 feet, and extending in depth about 126 feet; the whole occupying a most extensive area of upwards of 6,000 feet. Nos. 59 and 61 are let on leases, which will expire in 1863 and 1864, and No. 60 is let to a yearly tenant, whose tenancy will expire at Lady-day next, so that early possession may be obtained of a property possessing capabilities rarely to be met with in such a very important locality.—May be viewed by permission of the tenants, and particulars, with lithograph plans, had at the Corn Exchange Hotel; of Messrs. DOWDING & BURNE, Solicitors, 15, Vineyards, Bath; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

IMPORTANT SALE ON TUESDAY next, at TWO precisely.

MR. EDWIN WHITE will SELL, at 12, HOLBORN BARS, as above, nearly 10,000 PIECES of good modern PAPERHANGINGS, in extraordinary variety; about 100 statuary, vein, Sicilian, black, St. Ann's, grey, rouge royal, dove, rouge-lalumont, Garland, and other marble chimney-pieces; some enamelled slate chimney-pieces, Robinhood stone chimney pieces, and other items.—View and catalogues Monday and morning of sale.

DURABILITY of GUTTA PERCHA TUBING.

—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND ARCH. DAVIS, VENTNOR, ISLE OF WIGHT.—Second Testimonial:—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATERS of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

FLINTSHIRE LEAD and ZINC COMPANY (Limited). Capital 150,000l. in 15,000 shares of 10l each, with power to increase to 250,000l.; 10s. to be paid on application, 1l. on allotment. No further calls will be made at shorter intervals than three months.

DIRECTORS.

Charles Joyce, esq. Messrs. Joyce & Co. Moorgate street, London.
George Kinnear, esq. Messrs. Glyn & Co. King's Arms-yard, London.
Albert Pelly, esq. Messrs Albert Pelly & Co. Finch-lane, London.
Major Russell, 14, St. James's square.
Arthur Schultes, esq. Southampton.
Alfred Cottage, esq. Bagilt.

SECRETARY.—Mr Justinian Pelly.

AUDITORS.

Charles J. H. Allen, esq. 52, Threadneedle-street, E.C.
William Moates, esq. 19, King's Arms-yard, Moorgate-street, E.C.
Solicitors.—J. H. Mackenzie, esq. 3, Johnson's-buildings, Temple.
Bankers.—The Bank of London; the Union Bank, Manchester; the National Provincial Bank of England, Holywell, Wrexham, and Mold.
Brokers.—Messrs. T. Tinley & Sons, Liverpool; T. Warner, Manchester; John Perry, Birmingham; Charles Smithers, Leeds; Dudgeon & Chayter, Dublin; J. Cunningham & Co. Belfast.
Bankers.—Bagilt, Flintshire.

OFFICES.—9, Broad-street-buildings, London.

This Company has been formed for the purposes of smelting ores of zinc and lead, and the manufacture of the products therefrom on a large scale, in addition to Bennett's patent tinned lead pipes for water-service.

It is well known that the principal smelters in this country are men of great wealth; and a notable instance of what may be effected by a public company with a large capital may be seen in the case of the Société de la Vieille Montagne, near Liége, a Belgian zinc-smelting company, whose entire capital of 360,000l. has just declared, for the year 1861, a dividend of 25 per cent, or 90,000l. to the shareholders in addition to 21,000l. carried to a sinking fund; and the shares of 80 francs each are now quoted at 774 francs.*

This Company will have special advantages in the exclusive right to use Mr. Bennett's patent, subject to Royal leave, with power of purchase on equitable terms. These patents were sealed in the autumn of 1861, since which their value has been proved by their present owners.

One of these is for improvements in smelting zinc whereby not only is a larger quantity of metal obtained, with a less consumption of fuel, from the ordinary ores, but other ores, hitherto deemed intractable, may be disregarded, are worked with facility.

The products of this patent are exhibited in the Eastern Annexe of the International Exhibition, Class I. No. 69, and have been awarded a PRIZE MEDAL.

Dr. Letheby has examined specimens of Bennett's tinned pipe, and has given the following certificate:—

"41, Finsbury-square, London, 16th June, 1862.

"Bennett's Patent

"Dear Sir,—I have submitted the two samples of tinned lead piping (which you sent here on the 6th inst.) to examination, in order to see what they were acted on by common water or by pure water. The results are as follows:—

"Both of the samples were tested with common water, rain water, and distilled water, and they were tried in the straight and bent forms. The water was kept in the pipes for nine days. In every case there was complete protection from corrosive action, and the most delicate tests failed to discover the presence of lead in the water, whereas common lead piping with the same water (rain and distilled), quickly communicated to the water a metallic impregnation.

"It appears to me, from these experiments, that the process of coating the interior of lead pipes with tin is a valuable invention.

"I remain, dear Sir, yours truly,

(Signed) "HENRY LETHEBY, M.B. M.A. Ph.D.
Professor of Chemistry in the College of the London Hospital, and Medical Officer of Health for the City of London.

"To William Moates, esq.

"19, King's Arms-yard, Moorgate street."

As a basis of operations, and to secure every advantage to this Company, very favourable arrangements have been entered into with a well-known firm (the holders of the above patents), who undertake to hand over their extensive and commodious premises, situate at Bagilt, in North Wales, on the estuary of the Dee, at the valuation of Messrs. Fuller & Horsey, the vendors consenting to take two fifths of the purchase-money in shares, and not to receive any dividend until the other shareholders have received 8 per cent. out of the net profits.

The profits deduced from actual results and at the present prices may be estimated at not less than 15 per cent on the 150,000l. after deducting 8 per cent. for administrative expenses and a reserve fund, and as a considerably increased rate as further capital may be employed.

The neighbourhood abounds in minerals, particularly lead and zinc ores and coal.

Plans, detailed estimates, and full particulars, can be seen at the Offices of the Company; and in the event of no allotment being made, the deposit will be returned without deduction.

Prospectuses may be obtained at the Offices of the Company, 9, Broad street-buildings, City, E.C.; of WILLIAM MOATES, Esq. 19, King's Arms-yard, Moorgate-street, City, E.C.; J. H. MACKENZIE, Esq. 3, Johnson's-buildings, Temple, London; and of Messrs. T. TINLEY & SON, Orange-court, Liverpool.

* Extract from Report to Shareholders at Meeting of 27th April, 1862. Hence it results, by a comparison of the situation on the 31st December, 1860, with that of the 31st December, 1861, that the Société has improved in the year the 31st December, 1861, amounts to 4,451,660, 95f. (178,066l 8s. 9d.)

THE LIVERPOOL AND LONDON FIRE AND LIFE INSURANCE COMPANY.

OFFICES.—1, Dale-street, Liverpool; 20 and 21, Poultry, London; Manchester, Sheffield, Glasgow, Sydney, Melbourne, New York, and Montreal.

Fire Income £360,120
Life Income £135,974

The numerous boards and agencies of this company throughout Europe, Asia, Australasia, South Africa, and America afford peculiar advantages to life policy holders visiting or residing in foreign countries.

The life bonuses are guaranteed, and therefore neither contingent nor fluctuating.

SWINTON BOULT, Secretary to the Company.
JOHN ATKINS, Resident Secretary, London.

June 17th, 1862.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
PIGGOTT,
39, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CURRY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, August 9, 1862.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1019. AUGUST 16, 1862. PRICE FOURPENCE.

ILLUSTRATIONS.

"The Glen," Peebles-shire. Mr. David Bryce, Architect..... 587
Poisoning the Springs: Sittingbourne..... 586

CONTENTS.

Stained Glass in the International Exhibition 577
Leicester Congress of the British Archæological Association 578
"Henri Deux" Ware: The Loan Museum, Brompton 580
Layer Marney, Essex 581
Portland Stone 582
St. Clement Danes Holborn Estate Schools 582
Ventilate your Cellars 582
St. Alban's Abbey 582
Foreign News 582
The Clerkenwell Sessions House 583
Rolled Iron: Girders 583
The Evils of Careless Tenants 583
Cruikshank's "Worship of Bacchus" 583
London and Paris Streets 583
Ipswich Mechanics' Institution: Reopening of Lecture-Hall 584
Royal Italian Opera 584
Dinner to Mr. Downs, Contractor 584
Royal Horticultural Society 584
Architectural Rewards: Society of Arts 584
The Maeshowe and Runes in Orkney: Society of Antiquaries, Newcastle 585
Wilts Archæological Society 585
Opening of the New Hotel at Malvern 585
Sheerness and Sittingbourne: Deficient Drainage of Small Towns 585
"The Glen," Peebles-shire 586
"Christian Idolatry" 586
The Grave of Hawksmoor 590
Thoughts of a Mechanic about a New Style 590
"The Fall of the Leaf" 591
The Hours and the Weeks 591
English Antiquities 591
The late Robert Robson 591
Landlord and Tenant 591
Metropolitan Board of Works 591
Church-building News 591
Stained Glass 591
Books received: Simmonds on Waste Products, &c. (Hardwicke); Varorum 592
Miscellanea 592

EXHIBITION of ROMAN PHOTOGRAPHS.—Until Saturday, August 23, at the Architectural Galleries, 9, Conduit-street, Regent-street, will be EXHIBITED DAILY, between the hours of 11 and 5, a Collection of upwards of 400 PHOTOGRAPHIC VIEWS of ROME, Sculptures of the Vatican, &c. by Mr. R. MACPHERSON. Admission 1s.; season ticket 2s.

COMPETITIONS.

TO ARCHITECTS.—ALMSHOUSES at Watford.—The Court of Assistants of the Salters' Company, having decided on the erection of the plan of Mr. JOHN COLLIER, of Putney, for their proposed almshouses, adopt this mode of informing the gentlemen who forwarded plans to Salters' Hall, in consequence of the advertisement in the public prints, that their plans will now be returned on application at the Hall; and the Court avails themselves of the opportunity of acknowledging the distinguished talent and taste exhibited by the plans forwarded for their inspection.

THE DESIGNS for CARLISLE BRIDGE, DUBLIN.—Competitors and others are informed that a complete description of all the Designs submitted is being given in the "BUILDER" for AUGUST 1st and 15th, and SEPTEMBER 1st; together with Illustrations of two of the principal Designs. Single copy, 4d.; post, 5d. Publishing Office, 42, Mabbot-street.

*** The attention of Architects is invited to this handsomely illustrated bi-monthly Journal. Established January, 1859.

TO ARCHITECTS, SURVEYORS, and OTHERS.—THREE HUNDRED POUNDS PREMIUMS.—The Proprietor of the Ashton Court Estate, near Bristol, offers the above amount by way of Premiums of £200, and £100 for the two best Block Plans, and Designs for first class Villas and other Residences, with the necessary Approaches Roads, Footpaths, Drains, &c. on that portion of land extending from the Somersetshire bank of the River Avon to the turnpike road leading from Bristol to Abbot's Leigh, and comprising Nightingale Valley and the most romantic portion of the Leigh Woods, which by the completion of the suspension bridge will be brought into immediate connection with Clifton.—Conditions and particulars will be forwarded through the post, free of charge, on application by letter, to Mr. FREDERICK EASTON, Long Ashton, near Bristol.—Long Ashton, August, 1862.

FOR COMPETITION.—The Committee of the Staffle "Albert Middle Class School" invite Architects to prepare PLANS for a BUILDING to accommodate 200 Day Boarders, and to be capable of enlargement. Two School Rooms required, and Four Class-Rooms. Rooms for Four Masters, two for each Master, with a semi detached House for the Head Master, and the necessary accommodation of Offices and Servants' Room. A Chapel to be included in the Plan. The building to be of brick, tiled or slated. These and all other buildings required for the School to be built for a sum not exceeding 10,000*l.* exclusive of the Chapel. A Prize of £40 will be given for the best Plans and Specifications, provided a responsible Contractor is prepared to undertake the work for the estimate given. The Committee do not bind themselves to employ the architect to whom the prize is awarded. The Plans to be sent in before the 1st of OCTOBER, directed to R. GARRETT, Esq. Carlton Hall, Saxmundham.

LEICESTERSHIRE.—QUARTERS for the MILITIA STAFF.—The Committee re-appointed at the last County Sessions, with powers to obtain Plans and Estimates for the Erection of Quarters for the Militia Staff, and other proposed buildings, give notice that they are prepared to receive PLANS for the ERECTION, on the Land adjoining the Armoury, situate in the Newarke, Leicester, of the following BUILDINGS:—

1st.—31 Cottages (separate or in Flats), each containing 2 Living Rooms and 3 Bed Rooms (4 to be superior to the others). The area of the Living Room not to be less than 130 feet, and no Bed Room to have less area than 90 feet. Every Room to be at least 9 feet high.

2nd.—1 Wash House, Laundry, and Hot Closet.

3rd.—1 Orderly Room.

4th.—1 Paymaster's Office.

5th.—1 Lecture Room and Sergeants' Library.

6th.—1 Armourer's Shop.

7th.—1 Entrance Gateway for Carts in New Yard.

The ground-floors to be 1 foot above the level of the ground. Each room to have a fire-place, and the windows to be large.

A Lithographed Plan of the ground, with instructions, may be obtained on and after MONDAY, the 18th instant, at the Office of the Clerk of the Peace, New-street, Leicester.

Plans, in accordance with the above terms, may be sent in to the Clerk of the Peace's Office as above, on or before the 18th day of SEPTEMBER next; but the Committee do not pledge themselves to the adoption of any plan

Each Plan should be distinguished by a number or a motto, and should be accompanied by a sealed letter containing the name and address of the sender.

By order of the Committee,
WILLIAM FREER,
Clerk of the Peace.

Leicester, August 12th, 1862.

CEMETERY, HARROGATE.—TO ARCHITECTS.—The Burial Board of the District Parish of Christ Church, Harrogate, are desirous of receiving Plans, Estimates, and General Specifications for the ERECTION of TWO CHAPELS, Lodge, Gates and Wall at entrance. Also, for the Fencing, Laying-out, and Constructing Roads and Footpaths, in the proposed Cemetery Ground, the whole cost not to exceed 1,800*l.* A premium of 20*l.* will be given for the most approved plans, estimates, and specifications; and 10*l.* for the second best. The plans selected to become the property of the Board. Should the number of the best plan be employed in carrying out the work, the premium of 20*l.* will be deducted from the architect's commission. A lithographed plan of the site, and any further information, may be obtained on application to Mr. JAMES POWELL, Land Agent, Harrogate, on and after the 12th AUGUST instant; and the plans, &c. are to be sent to the undersigned, on or before the 15th SEPTEMBER next.—By order,

SAMUEL POWELL, Clerk to the Burial Board.

Harrogate, August 9, 1862.

CONTRACTS.

TO CONTRACTORS and IRON-FOUNDERS.—DUBLIN CORPORATION WATERWORKS.—The Waterworks Committee of the Dublin Corporation hereby give Notice that they will receive TENDERS, on or before WEDNESDAY, the 10th day of SEPTEMBER, 1862, for the following WORKS, viz.:—

CONTRACT No. 1.—For making and delivering about 20,000 tons of Cast-Iron Pipes and other Castings.

CONTRACT No. 2.—For making and delivering certain Stop Cocks, Sluice Cocks, Air Cocks, Pipes, Apparatus, and Appendages connected with same.

CONTRACT No. 3.—For laying and satisfactorily completing about 30,000 lineal yards of Thirty-three Inch, and about 16,500 lineal yards of Twenty seven Inch Mains, and works connected therewith.

CONTRACT No. 4.—For the construction of a Storage Reservoir, Bye Wash, Waste Weir, and other works connected therewith; a Conduit and Tunnel and a Catch-water Drain, also Filter Beds; all in the county of Wicklow.

CONTRACT No. 5.—For the construction of Distributing Reservoirs, Waste Weirs, and a Conduit, with other works near Stillorgan, in the county of Dublin.

Specifications, schedules of quantities, and forms of Tender may be had at the Office of Mr. FARRE NEVILLE, Engineer to the Corporation of Dublin, City Hall, Dublin; and at the Office of Sir JOHN MACNEILL, Consulting and Advising Engineer, 21, Cockspur-street, Charing cross, London, on and after the 4th AUGUST, 1862, on payment of 5*s.* 5*s*; where may be also seen, from TEN to FOUR o'clock each day, copies of the working plans, of which intending Contractors, who may have supplied themselves with specifications, may make tracings. The Waterworks Committee will meet on the 11th day of SEPTEMBER, to open such Tenders as may be sent in; on which day such parties as will have sent in Tenders are requested to attend. Tenders will be received for each or any of the above Contracts, or one Tender may be sent in for the whole of the works. The Waterworks Committee will receive no Tender after FOUR o'clock on WEDNESDAY, the 10th day of SEPTEMBER, 1862. All Tenders to be under seal, addressed to Sir DRURY JONES DICKINSON, Secretary to the Waterworks Committee, City Hall, Dublin, and endorsed, "Tender for Waterworks." The Waterworks Committee do not bind themselves to accept the lowest or any Tender; and should they accept a Tender, the party whose Tender or Tenders may be accepted will be required to provide two approved sureties for the due and satisfactory completion of the works. The Waterworks Committee will not be responsible for any costs whatever which may be incurred by parties who may send in Tenders, or for any expenses they may undertake preparatory to, or in connexion therewith.—Signed, by order,

DRURY JONES DICKINSON, Sec. Waterworks Committee.

City Hall, Dublin, July 29th, 1862.

TRANMERE LOCAL BOARD WATER-WORKS.—CONTRACT No. 9. TO IRONFOUNDERS, CONTRACTORS, and OTHERS.—The Local Board for the District of Tranmere are prepared to receive TENDERS for the CONSTRUCTION of a CAST-IRON WATER-TANK, with Iron Plate, Stairs, Roof, &c. connected therewith. Drawings and specification may be examined, and form of Tender and bill of quantities obtained, on and after WEDNESDAY, the 13th instant, on application to the Resident Engineer, at the Office of the Local Board, in Tranmere, between the hours of NINE and ELEVEN a.m. and THREE and FIVE p.m.; or at the Office of ROBERT RAWLINSON, C.E. 34, Parliament-street, Westminster. Sealed Tenders, endorsed "Tender for Water-tank," to be left at the Office of the Local Board, on or before THURSDAY, the 28th instant. The Local Board do not bind themselves to accept the lowest or any Tender.—By order,

W. A. RICHARDSON, Resident Engineer.

Public Office, Holt-hill, Tranmere, 11th August, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the following service, at Chatham, viz.:—CONSTRUCTING a SEWER from Fort Pitt to the River Medway.

Parties desiring to Tender for the execution of these works must leave their names at this Office on or before SATURDAY, the 23rd day of AUGUST, 1862, and pay the sum of half a guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Chatham, August 12, 1862.

TO SEWERS-CONTRACTORS and OTHERS.—The Sewers Committee of the Vestry of St Mary, Newington, will meet at the Vestry-room of the Parish Church, on FRIDAY, the 29th AUGUST instant, at SEVEN o'clock in the Evening, to receive TENDERS for the EXECUTION of JOBBING and MEASURED WORKS in connexion with the Drains and Sewers in the parish. Printed schedules and forms of Tender can be obtained at the Office of Mr. HENRY JARVIS, the Surveyor of Sewers, 29, Trinity-square, Newington, on payment of Five Shillings, which money will be returned to the parties tendering when the Tenders are opened. No other Tender will be received. Sureties will be required for the due performances of the Contract; and the Committee do not bind themselves to accept the lowest or any other Tender.

H. & F. CHESTER, Joint Clerks to the Vestry.

1, Church-row, Newington-butts, August, 1862.

WORM BROOK IMPROVEMENT.—The Commissioners of Sewers for the Worm Brook Valley are prepared to receive TENDERS for DEEPENING, WIDENING, and STRAIGHTENING the above-named BROOK or RIVER, with other WORKS connected therewith. Plans, sections, and specifications may be inspected at the School-house, Wormbridge, on and after the 18th instant. Mr. CURLEY, the engineer for the works, will meet intending contractors at the Tram Inn Station, at 8.30 a.m. on SATURDAY, the 30th of AUGUST, for the purpose of walking over and explaining the intended improvements. Quantities will be supplied from the Office of Mr. T. CURLEY, C.E. Ludlow. The Commissioners do not pledge themselves to accept the lowest or any Tender. Tenders to be addressed to me not later than TEN o'clock a.m. on the 8th day of SEPTEMBER next.

Hereford, 1st August, 1862. THOMAS LANWARNE, Clerk.

WYCOMBE UNION. — BOROUGH of CHIPPING WYCOMBE, in the said Union.—To HOUSE and LAND VALUERS, ESTATE AGENTS, ENGINEERS, and OTHERS.—Notice is hereby given, that the Guardians of the Poor of the Wycombe Union are prepared to receive TENDERS up to the 6th SEPTEMBER next, for a SURVEY and VALUATION of the whole of the RATEABLE PROPERTY of the Borough of Chipping Wycombe, pursuant to an order passed by a Special Meeting, held for the purposes of the 6th & 7th Wm. 4, c. 96, for the purpose of assessing the poor rates within the said parish, and the following are among other conditions imposed by the Guardians:—That the valuer is to be entered into, upon the acceptance of any Tender, shall be subject to the approval of the Poor Law Board. That the valuer shall be bound to complete his valuation within six calendar months from the date of his contract. The valuer shall also be bound to support his valuation in cases of appeal before the special and quarter sessions, for seven years from the date of his contract, he being paid only by the scale of allowances provided by the regulations of the courts in case he is required to attend. The valuer to have the use of the title continuation map belonging to the churchwardens and overseers, which is deposited in the vestry of the parish church. The census of the borough is about 120; population, according to the last census, 4,223; number of houses, 850.—Tenders intended to be sent in are not later than SATURDAY, the 6th SEPTEMBER next, endorsed "Tender for the Survey and Valuation of Wycombe Borough." The Guardians do not bind themselves to accept the lowest or any Tender. By order of the Board.

THOS. J. REYNOLDS, Clerk to the Guardians.

High Wycombe, July 28, 1862.

STRATFORD-UPON-AVON LOCAL BOARD of HEALTH.—CONTRACT No. 9.—SEWERAGE WORKS.—TO CONTRACTORS.—The Local Board of Health for the District of Stratford-upon-Avon hereby give notice that they are prepared to receive TENDERS for supplying PIPES and executing the following works:—Supplying and constructing about 2 miles of 9 inch Stoneware Pipe Sewer, also Iron Castings, Gratings, and other works in connexion therewith. The plans, section, and specification may be seen, and Forms of Tender had, on application at the Office of Mr. THOMAS TAYLOR ALLEN, Surveyor to the Local Board, Bree-street, Stratford-upon-Avon, after the 14th instant. Sealed Tenders, endorsed "Tender for Improvement Works," must be sent to the Office of the Local Board, Scholars-lane, Stratford-upon-Avon, addressed "To the Clerk of the Local Board of Health," not later than MONDAY, the 25th instant. The Local Board do not bind themselves to accept the lowest or any Tender.

HENRY O. HUNT,
4th August, 1862. Clerk to the said Local Board.

COLLYER MEMORIAL SCHOOLS, PECKHAM.—Builders desirous of TENDERING for the ERECTION of these SCHOOLS, are invited to apply to the Architect, Mr J. G. STAPELTON, Jun. 72, Cannon-street, E.C., where the plans, &c. may be seen, and all necessary information obtained, on and after the 30th instant. Tenders to be delivered to the Vestry of Hanover Chapel, Peckham, on the 27th AUGUST, at SIX p.m.—The Committee do not bind themselves to accept the lowest or any Tender.

TO ROAD CONTRACTORS, BUILDERS, and OTHERS.—Parties desirous of TENDERING for MAKING ROADS and supplying and laying Drain Pipes on an estate adjoining the Gipsy Hill Station, Norwood, can see the plans and obtain particulars at the Offices of Mr J. MEDLAND, Architect, 78, Lombard-street, E.C. The Tenders to be sent in at or before TWELVE o'clock on MONDAY, the 25th inst. The Architect reserves to himself the right of rejecting the lowest or any other Tender.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO PAVIORS, MASONS, and OTHERS.—The Board of Works for the Westminster District hereby give notice that they are prepared to receive TENDERS from persons willing to CONTRACT for executing the several Works required to be done in and about the PAVING, MAKING, and REPAIRING the CARRIAGE WAYS and FOOTWAYS of the several streets, roads, and place within and under the jurisdiction of the said Board for the term of three years, commencing from MICHAELMAS DAY next. Printed conditions of Contract, and forms of Tender, may be obtained upon application at the Offices of the Board, Great Smith-street, Westminster, where a draft of the Contract may be seen. The Contractor will be required to enter into a bond, together with two approved sureties, in the penal sum of £1,000. Sealed Tenders, to be delivered, endorsed "Tender to Pave and Repair Streets," &c. at the said Offices, by FOUR o'clock in the afternoon, on WEDNESDAY, the 10th day of SEPTEMBER next, at which time and place parties tendering, or some authorized agent, must be in attendance.—The Board do not pledge themselves to accept the lowest or any Tender.
By order, W. F. JEBB, Clerk.
Great Smith-street, Westminster, 11th August, 1862.

TO BUILDERS.—The Directors of the Hampton Court United Gas Company are ready to receive TENDERS for ADDITIONS to their WORKS at Hampton Wick; comprising Purifying Shed, Boiler and Engine House, Store-room, Smith's Shop, &c. &c. The plans and specifications may be seen at the Office of the Company's Engineer, Mr. R. F. SPICE, County Chambers, Cornhill, on and after TUESDAY, the 19th instant, between the hours of ELEVEN and TWO o'clock. Tenders to be delivered on MONDAY, the 25th instant, sealed and endorsed "Tender for Works." The Directors do not bind themselves to accept the lowest Tender.—By order,
R. F. SPICE.

TO BUILDERS.—Parties desirous of TENDERING for the ERECTION of a BOAT HOUSE, &c. at HAMPTON WICK can see the drawings and obtain particulars at the Offices of Mr. J. MPSSENGER, Architect, 78, Cannon street, E.C. The Architect reserves to himself the right of rejecting the lowest or any other Tender

NOTICE to BUILDERS.—TENDERS are required for ERECTING DAY-ROOM, READING-ROOM, &c. for the Troops at Shoeburness. Parties desiring to Tender for the erection of these works must leave their names at the Office on or before the 28th AUGUST instant, and pay the sum of half-a-guinea for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor. The Secretary of State does not bind himself to accept the lowest or any Tender
Royal Engineer Office, Shoeburness, 12th August, 1862.

BREEZE TENDERS.—To BRICKMAKERS and OTHERS.—The Directors of the Chartered Gas Company are desirous of receiving TENDERS, at per chaldron, for the PURCHASE of BREEZE (from 800 to 2,000 chaldrons), to be removed from their Station in Horseferry-road, Westminster, during a period of two or three months. Payments to be made monthly. Proposals to be sent in on or before MONDAY next, the 18th instant, addressed to the Secretary, Horseferry-road, Westminster, S.W. and endorsed "Tenders for Breeze."
JOHN ORWELL PHILLIPS, Secretary.
12th August, 1862.

TO BUILDERS and BRASS SASH FITTERS.—Persons willing to CONTRACT for putting in a new SHOP-FRONT, Sash Windows, and other works, for Mr. BALLARD, Draper, High street, Bedford, may see the plans and specifications at the Architect's Office, on MONDAY next, from NINE till FIVE daily, until WEDNESDAY, the 27th day of AUGUST, on which day the Tenders are to be sent in. The lowest or any Tender will not necessarily be accepted.
JAMES HORSFORD, Architect.
Bedford, August 12, 1862.

TO BUILDERS & OTHERS.—Persons desirous of TENDERING for the ERECTION of a CHURCH, at Milton, next Sittingbourne, Kent, can inspect the plans and specification at Mr HARRIDGE'S, the churchwarden at Milton; and also copies thereof at Mr. GEO. LEGG'S Offices, 61, King William-street, London-bridge, the architect appointed, between the hours of TEN and FOUR o'clock. Sealed Tenders to be delivered at the Architect's Offices on or before the 29th day of AUGUST next. The Committee will not be bound to accept the lowest or any Tender unless approved
GEO. LEGG, Architect.
61, King William-street, London-bridge.

PLASTER OF PARIS.—The GREAT NORTHERN PLASTER COMPANY, Manufacturers of Superfine, Italian Fine, Builders' Fine and Coarse Plaster of Paris. Guaranteed a FIRST-CLASS ARTICLE AT MODERATE PRICES.
Head Office, Swift's-court, 13, Castle-street, Liverpool; Works, Newark-on-Trent.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sadly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and Sadly, that the "Reports of the Juries," page 561, of the Great Exhibition, note the grant of a First-class Medal, and rank the Many factories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

PRIZE MEDAL TO MAW & CO INTERNATIONAL EXHIBITION 1862

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of tiles or inlaid coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, fireze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions. &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H BLANCHARD & CO Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA COTTA.
An illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

BUFF & DEEP RED FACING BRICKS, Splays Cutters, Floor-tiles, Garden Edging, &c.—Apply to E. HOOPER, Manufacturer, Southampton; or JOHN DOWNEY (sole agent for London), Victoria Wharf, Nine Elms, S. where they are always kept in stock.
Architects and Builders requiring superior colour in bricks are respectfully invited to inspect the above

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED,
MANUFACTORY, STOKE-UPON-TRENT.

CROGGON and COMPANY, Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,
For Damp Walls and Lining Iron Houses.
DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

VENTILATION—PURE AIR.



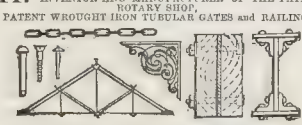
Sheringham's Ventilator for the admission of Pure Air through an EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP,
PATENT WROUGHT IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MUNICH-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—15, Union-street, Borough; and 564, Great Guildford street.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham street, London, E.C.

LOSH, WILSON, & BELL, NEWCASTLE ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

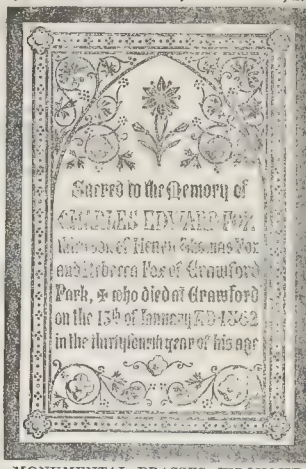
STEAM-ENGINE, three horse-power, townmade, to order, and highly finished. Was only used a short time. Has fly-wheel, regr, pump, piping, steam chest and gauge, capital boiler, furnace, fittings, tools, &c. complete.—Price, the lot, 50l.—94, Gloucester-street, Queen-square, Bloomsbury, W.C. Cost 160l.

STEAM SAWING, PLANING, and MOULDING MILLS FOR SALE. These Mills are well situated, having a large wharfage on the Regent's Canal, with every convenience for carrying on a large business. They can be seen in full work daily, and further particulars obtained from MESSRS. FISHER & SONS, Solicitors, 193, Aldersgate-street, E.C.

IMPORTANT to BUILDERS.—W. GORSE, EAGLE WORKS, Minworth, near Birmingham, Patentee and Manufacturer of FLOORING BRADS and JOINERS' BRADS by his new Patent Machinery, INSURING UNIFORM GOOD QUALITY at a LOW PRICE.
FLOORING BRADS DELIVERED IN BIRMINGHAM AT
2s. 6d. per Cwt.
Post office Orders to be made payable in Birmingham.
W. G. begs to call the attention of nail manufacturers to his Patent Machines, which he is now exhibiting here.—All applications to view to be made by letter. Principals only admitted.

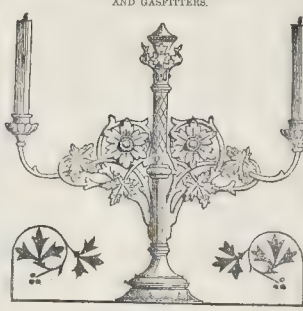
TO ARCHITECTS, BUILDERS, &c.—HEATING and VENTILATING LARGE PUBLIC BUILDINGS, HOTELS, MANSIONS, &c.—Your inspection of ZIMARA'S MODEL of Improved Patent STOVE and ACTARAEUS for these purposes, in the Gallery of the British Court, International Exhibition, is particularly requested. A Descriptive Pamphlet and Drawings will be sent on application to Messrs. TONGUE & BIRKBECK, Patent Agents and Engineers, 34, Southampton-buildings, Chancery-lane, W.C.

HART AND SON,
58 to 58, WYCH STREET, STRAND, W.C. and 20, COCKSPUR STREET, PALL-MALL, S.W.



MONUMENTAL BRASSES, WROUGHT-IRON TOMB RAILING, BOUNDARY RAILING, GATES, VANES, &c. &c. CORONÆ, PENDANTS, STANDARDS, CHURCH PLATE, GLASTONBURY AND OTHER ALTAR CHAIRS, ALMS BOXES, FONT COVERS, &c.

JOHNSTON, BROTHERS, MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

IRON BUILDINGS and IRON ROOFING.
SAMUEL C. HEMMING & CO.
21, MOORGATE-STREET, E.C.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No 24, Dover street, Three Doors from Oxford street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.

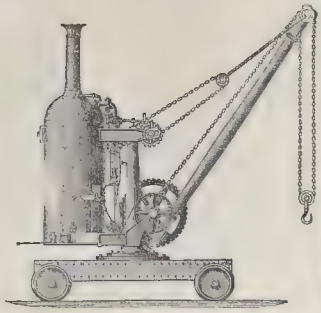
TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mechanical Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

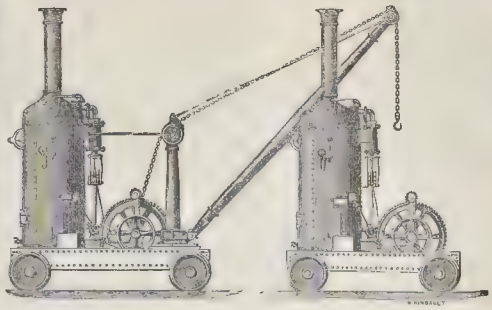
HEATING BY HOT WATER.
JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have erected their Hot-water Apparatus.
Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 88, Charles-street, City-road, E.C. near the Canal Bridge.
E. GOLLOP, SOLE PROPRIETOR.
A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising spring-hinges, Non-rising Spring-hinges, Double acting Spring-hinges, Rising and Non-rising Door Back-springs, &c.
Price List and Drawings on application as above.

NEW PATENT PORTABLE STEAM CRANES, &c.

Of Increased Power, Hoisting Greater Weights, and Delivered Free





In Glasgow, Liverpool, or London, at Ordinary Prices.

Fig. 1. Steam Crane. Fig. 2. Hoisting Engine, with Pillar and Jib. Fig. 3. Hoisting Engine.

No. 1.—PORTABLE STEAM CRANE, for a Wharf or Railway, on Wrought-iron Carriage and Roadway or Railway Flanged Wheels, with Link Motion, Foot Brake, &c. all under the easy control of one man. The Engine and Boiler swing completely round on the central pillar, and counterbalance the load. The Jib is adjustable, and the larger-sized Cranes are made to hoist, lower, and turn round in either direction by Steam; the smaller sizes hoist and lower by Steam, and twist by Hand. THESE MAY ALSO BE WORKED AS HAND CRANES WHEN THE STEAM IS DOWN.

Most of the improvements so successfully introduced into J. B. BROWN & CO.'S NEW IMPROVED STATIONARY ENGINES have also been introduced into the Cranes and Hoisting Engines. They are made of the best material, finished in the best style, and are guaranteed to work in every case satisfactorily. The Hoisting Engines have another great advantage over others, that the larger sizes are provided with a pair of Cylinders instead of only one,—thus making them work more effectually and easily. The combined power of the pair of Cylinders is also greater, hoisting much heavier weights; and they are sold at the usual prices, as quoted under, delivered free in Glasgow, Liverpool, or London, and fitted with improved Steam Pressure Gauge, without extra charge.

PRICES, delivered Free in Glasgow, Liverpool, or London.

4-Horse Power, to hoist, with Return Chain and Block,	35 cwt.	pair of Cylinders,	4¾ in.	diameter	×	10 in.	stroke	£190
5	,,	,,	,,	,,	50 cwt.	,,	5 in.	,,	×	10 in.	,,	235
7	,,	,,	,,	,,	70 cwt.	,,	6 in.	,,	×	10 in.	,,	285
8	,,	,,	,,	,,	6 tons	,,	7 in.	,,	×	10 in.	,,	380

Larger sizes in proportion.

Fig. 2.—PORTABLE HOISTING ENGINE, on Carriage of Wood or Iron, and Roadway or Flanged Railway Wheels, with Pillar and Jib to swing about three-quarters round by Hand. The Engine, Brake, and Disengaging Clutch under the easy control of one man.

PRICES, delivered Free in Glasgow, Liverpool, or London.

2-Horse Power, one Cylinder,	4½ in.	diameter	×	9 in.	stroke, to hoist, with single Rope or Chain, about	12 cwt.	£115
3	,,	,,	5½ in.	,,	×	11 in.	,,	,,	,,	,,	17	,,	145
4	,,	,,	6½ in.	,,	×	13 in.	,,	,,	,,	,,	23	,,	175
5	,,	pair of Cylinders,	5½ in.	,,	×	10 in.	,,	,,	,,	,,	28	,,	195
7	,,	,,	6½ in.	,,	×	10 in.	,,	,,	,,	,,	40	,,	240

Fig. 3.—PORTABLE HOISTING ENGINE, on Wood Carriage and Roadway or Flanged Wheels, with Crab Winch on front of Carriage, as in Fig. 2, but without Post or Jib. The Engine, Brake, and Disengaging Clutch, are under the easy control of one man.

PRICES, delivered Free in Glasgow, Liverpool, or London.

2-Horse Power, one Cylinder,	4½ in.	diameter	×	9 in.	stroke, to hoist, with Single Chain or Rope, about	12 cwt.	£95
3	,,	,,	5½ in.	,,	×	11 in.	,,	,,	,,	,,	17	,,	120
4	,,	,,	6½ in.	,,	×	13 in.	,,	,,	,,	,,	23	,,	135
5	,,	pair of Cylinders,	5½ in.	,,	×	10 in.	,,	,,	,,	,,	28	,,	155
7	,,	,,	6½ in.	,,	×	10 in.	,,	,,	,,	,,	40	,,	195

By a simple modification of the Gearing, any of the above Engines may be made to hoist more or less weight at a slower or faster rate, according to the requirements of the case; or they may be adapted for doing other work when required.

STATIONARY ENGINES

Requiring no Chimney-Shaft, nor Building whatever, a Cast-Iron Ash-Pit forming the Sole-Plate, and may be set up anywhere, and started at once.

PRICES of Engines and Boilers complete, delivered free in Glasgow, Liverpool, or London.

1-Horse Power, Cylinder	3½ in.	×	6½ in.	Stroke	£45	9-Horse Power, Cylinder	9½	,,	×	16 in.	Stroke	£180
2	,,	,,	4½	,, × 9	,,	65	11	,,	,,	10½	,, × 18	,,	210
3	,,	,,	5½	,, × 11	,,	85	13	,,	,,	11¾	,, × 20	,,	240
4	,,	,,	6½	,, × 13	,,	105	16	,,	,,	13	,, × 22	,,	275
5	,,	,,	7½	,, × 14	,,	125	20	,,	,,	14½	,, × 24	,,	310
7	,,	,,	8½	,, × 14	,,	150	25	,,	pair Cylrs.	11½	,, × 20	,,	370

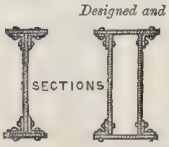
Engines Mounted on Flanged Railway or Plain Roadway Wheels, at 10 per cent. extra to the prices quoted. All Engines are fitted with Improved Steam Gauge without extra charge.

J. B. BROWN & CO. 18, CANNON STREET, CITY, LONDON, E.C.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

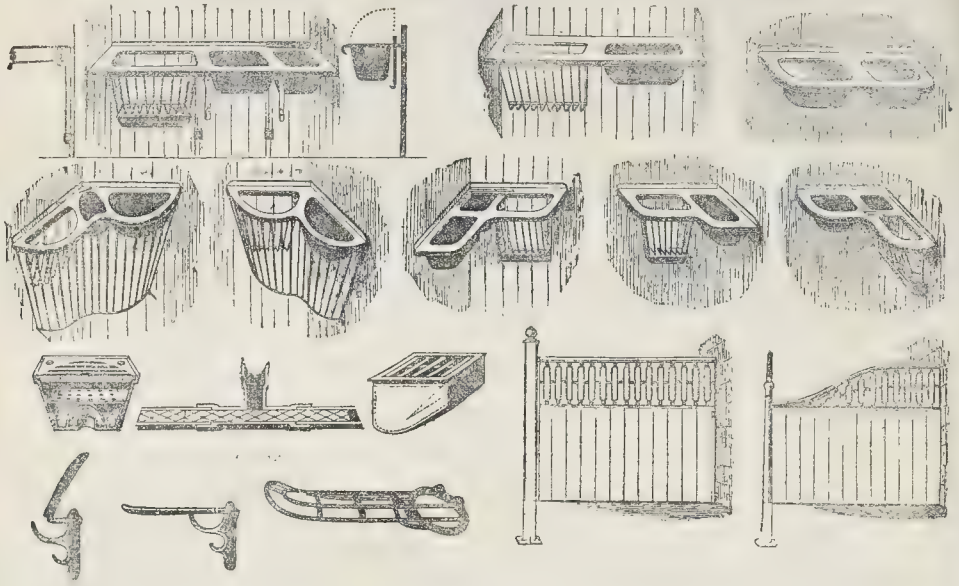
Orders requiring Despatch and Punctuality can be executed in a few days.



THE PRIZE MEDALS,
LONDON, 1851. PARIS, 1855. LONDON, 1862.
Awarded to
COTTAM & COMPANY,
No. 2, WINSLEY-STREET, LONDON, W.
For Progressive and General Improvements in
STABLE FITTINGS AND HARNESS BRACKETS.
ORIGINAL INVENTORS OF THE PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, FITTED TOGETHER AS ONE FIXTURE.

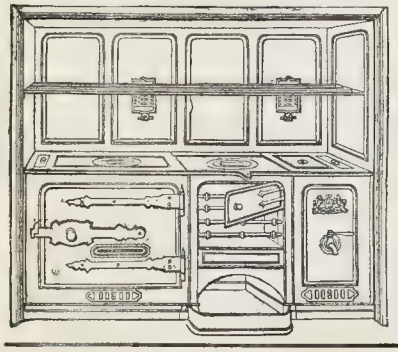


PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.

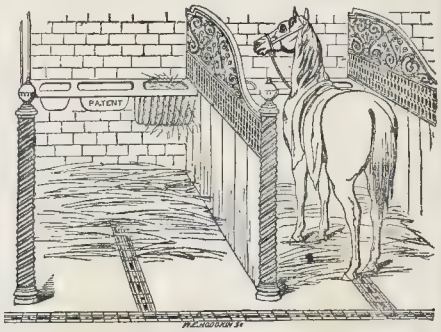


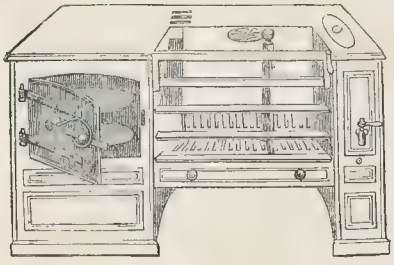
The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM, arranged for inspection in full-sized Stalls, Loose Boxes, &c. (a portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to
COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.
COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.
N.B.—Winsley Street is the Street opposite the Pantheon.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT.





CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler.	
34 inches	55s.	30 inches	27s.
38 ,,	66s.	32 ,,	24s.
38 ,,	68s.	34 ,,	26s.
42 ,,	60s.	36 ,,	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Cheek Register, with strong Bars and Drivets, 4d per inch.
Best ditto, with Fire-brick Back, from per inch, 6d.
Bright Stoves, with Two Fires, 46s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	1½-inch.	2 inch.	2½-inch.	3-inch.
14s.	11s	13s.	12s	11s 6d per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½-in.	3-in
Cast Rain-water Pipe	8d	10d.	1s per yard.

Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on	10d.	1s. per yard.

	2	3	4	5	6
Patent Line	3s. 6d.	4s.	5s.	7s.	9s. per gross.

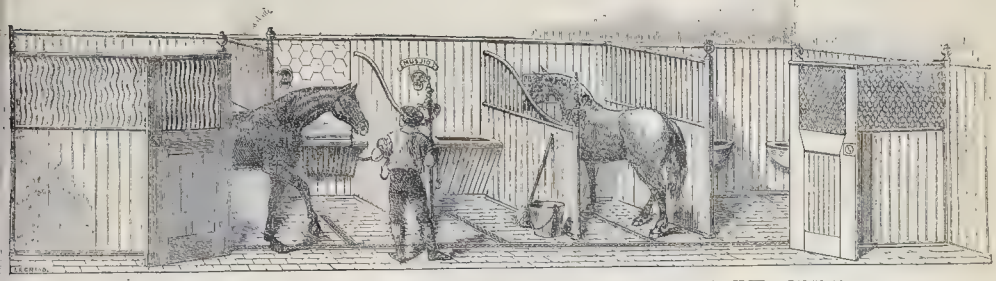
6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 5s. each.

Brick Moulds kept in stock. Any size made to order.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



INTERNATIONAL PRIZE



EXHIBITION MEDAL,



1862.

"FOR EXCELLENT WORKMANSHIP, AND INGENUITY APPLIED IN CHIMING BELLS BY MACHINERY."—See Jurors' Report.

JOHN WARNER & SONS, BELL & BRASS FOUNDERS TO HER MAJESTY,

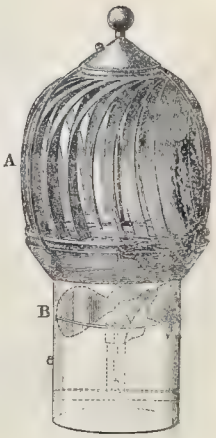
Beg to announce that the PEAL of EIGHT BELLS exhibited by them in the South-east Transept of the INTERNATIONAL EXHIBITION is chimed daily at TWELVE, THREE p.m. and HALF PAST SIX p.m. by their Attendant, with their new CHIMING APPARATUS, ONE MAN being able to produce the same effect usually accomplished by Eight Ringers.

8, Crescent, Cripplegate, London.

CHADWICK'S

PATENT ARCHIMEDEAN VENTILATOR

AND SMOKE CONDUCTOR.



The ARCHIMEDEAN VENTILATOR is the only one constructed on strictly scientific principles, and certain in its operation in purifying the air of a crowded workshop or ordinary apartment, and in preventing smoke.

An attentive consideration of the diagram will render the action of the Ventilator intelligible, and show that it is constructed on unerring principles.

They are constructed, for Chimneys, from 10 to 13 inches; and for Buildings, from 14 to 30 inches.

The Patentee's invention consists of lifting-vanes, acting as a screw, suspended within a circular tube or shaft, as shown at B, centred upon an imperishable substance, moving without noise, and surmounted by a diagonally-formed wind-vane, A; which is hung so delicately that the least breath of air will cause it to rotate, so that a draught upwards is a necessary effect.

Combining the advantages of a perfect Smoke-Conductor and Ventilator, it is admirably adapted for all close and crowded Rooms, Schools, Churches, Chapels, Infirmaries, Music and Lecture Halls, Factories, Printing Establishments, Coffee and Smoking Rooms, Club-Houses, Kitchens, Stables, &c. particularly where gas is used and a number of people are compelled to breathe a confined atmosphere.

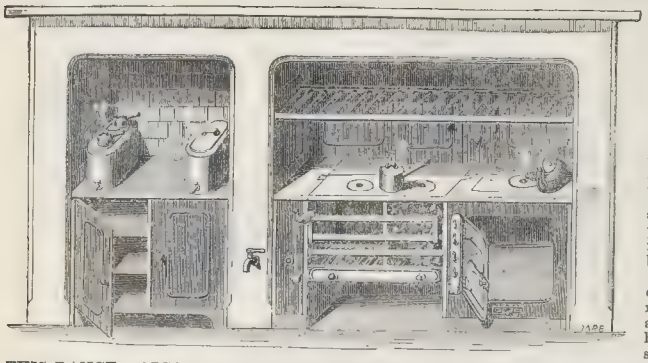
The most satisfactory testimonies to the value of this invention, Specimens of the Ventilators themselves, and further explanations, will be gladly furnished by the London sole Agent,

THOMAS K. BAKER, 73, FARRINGDON-STREET, E.C.

CAUTION.—The Right Hon. the Attorney-General having refused the application of J. Howorth, of Farnworth, near Bolton, for a patent, on the ground of the priority of W. Chadwick's invention, the Patentee cautions the public against purchasing fraudulent imitations of his unrivalled invention, and which are being shown in the International Exhibition under a similar designation; the purchaser, as well as the maker and vendor, being liable to an action for damages.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

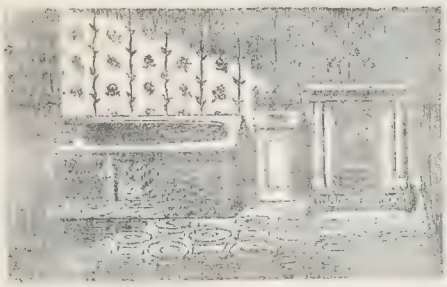
WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

Nos. 6 and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES, AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*

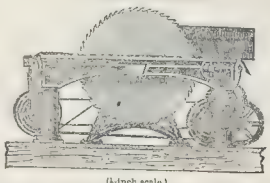


Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, CANNON STREET, E.C.

S. WORSSAM & CO.'S PATENT SELF-ACTING SAW-BENCH.



(1-inch scale.)

This Bench will take a Saw up to 42 inches in diameter, and is adapted for splitting deals, reducing down, shall timber and all the purposes of an ordinary saw bench. It is fitted with a reciprocating motion for bringing the stuff up to the saw, at rates varying from 30 to 60 feet a minute.—For priced Illustrated Catalogue, with full particulars, apply at the Works, 3rd, Kingsland, Clerkenwell, N.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent Add in Ventilation.



It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. It will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty four hours, at a cost of threepence, and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

Full particulars will be sent on application to the Inventors and Makers,

MUSGRAVE, BROTHERS,

Ann street Iron Works, Belfast.

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW,

Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. B. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, Cabin, Glass, and Wood Furniture, of all kinds, with Patent Sliding Spindles; Dr. Arnott's Ventilators, 1s.; and the New Registered Venetian Ventilator, so much admired, 8s. 6d. each.

J. B. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare-market, London.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.

POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,

Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class.

OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

STEAM AND GAS TUBE & FITTING WORKS.

WALSALL, STAFFORDSHIRE. Established 1830.

LAMBERT BROTHERS,

MANUFACTURERS OF LAP WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE.

For Steam or High pressure Water and Gas. HIGH PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER CLOSETS, IRON and BRASS GAS FITTINGS, GASELIERS &c.; and of the GROVE BEDSTEAD WORKS, WALSALL. A GENERAL selection of current Manufacture for the Steam engine, Water Supply, Gas works, Distilleries, Brewery, Chemical Works, Mills, &c. at the International Exhibition, Walsall Court, Class 31, precisely as sold from engravings and prices in trade catalogues.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

CASTINGS, ANY WEIGHT AND QUANTITY,



With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.

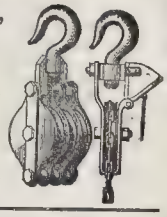
IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

W. HARMER & SON,

BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.

WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.

WROUGHT IRON TUBE and FITTINGS for GAS or WATER.

CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.

W. HARMER & SON,

3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.

ESTABLISHED 1817.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61A, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

SMITH & WOODS

SHOP FRONTS

WORKS, HARTS-HILL IRON FOUNDRY, Near Dudley. MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.

LONDON OFFICE, 76, CANNON-STREET WEST, LONDON, E.C. Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.

IRON RAILINGS, for enclosing

TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.

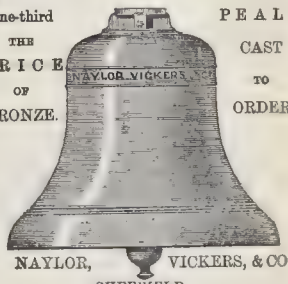
Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.



THE SMELL of PAINT, SIZE, PLASTER, &c. May be perfectly NEUTRALIZED by the FUMIGATING RIBBON, ONE SHILLING Per Yard.

Made by PIESSE and LUBIN,

2, NEW BOND STREET.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, cut ready to size &c.

Manufacturer of Guttering, Pipes, Wire Netting Galvanized Cisterns, and every description of Sheet Hollow Ware. All kinds of Iron work Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

TRADE MARK.

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire

TO RAILWAY COMPANIES.—The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineers' Brass-founder, No. 9, Shoe-lane, Fleet-street; manufacturer of Steam Fittings, Diving Apparatus, Pumps, Cocks, &c.; Patent Anti-friction Metal, Gun Metal, Brass Castings, &c.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

PAPIER MACHE AND CARTON PIERRE WORKS,
49, RATHBONE PLACE, W.
GEORGE JACKSON AND SONS
(Established in 1780)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Cops, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining Rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS
PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE PLACE, LONDON, W.

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.
AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,
ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,
QUARRYMEN AND STONE-MERCHANTS, BATH.
List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to
BATH STONE OFFICE, CORSHAM, WILTS.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

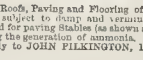
STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

Just published, price 2l. 2s.
MANUAL of HYDROLOGY.
By NATHANIEL BEARDMORE, Civil Engineer.
CONTAINS
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of upwards of 400 pages, and there are 20 large plates.
London: WATERLOW & SONS, 49, Parliament street; 24, Birchin-lane; and 65 & 68, London wall. 1862.

NEW ENGINEERING YEAR BOOK.
Now ready, post 8vo. 7s. 6d. cloth,
THE ANNUAL RETROSPECT of ENGINEERING and ARCHITECTURE; a Record of Progress in the Sciences of Civil, Military, and Naval Construction. Vol. I. (January to December, 1861)
Edited by GEORGE R. BURNELL, C.E. F.G.S. F.S.A.
LOCKWOOD & CO. 7, Stationers' Hall Court, E.C.

Now ready, the Sixth Edition, in 8vo. with many Plates, price 21s. cloth, extra gilt top.
AN ATTEMPT to DISCRIMINATE the STYLES of ARCHITECTURE in ENGLAND, from the Conquest to the Reformation; with a Sketch of the Grecian and Roman orders.
By the late THOMAS RICKMAN, F.S.A.
Sixth Edition, with considerable Additions, chiefly Historical, by JOHN HENRY PARKER, F.S.A. and numerous Illustrations by O. JEWITT.
J. H. & JAS. PARKER, Oxford, and 377, Strand, London.

POLYTECHNIC.—New Lecture by Professor J. H. Pepper, on Tuesday, Thursday, and Saturday, at half-past 12 and quarter-past 7, on "Some of the Chief Scientific Specialities of the International Exhibition."—Splendid series of Electrical Experiments with the Grand Plate Machine, and Lecture by J. L. KING, Esq.—Remarkable Imitations of British Birds and Animals, by HERR SCHMAN. Re-engagement of George Buckland, best of the Buffo-Musical Entertainments. New Gorgeous Scenic, Optical, and Prismatic Fountain Spectacle—Beautiful Dissolving Views illustrating London in Ancient and Modern Times—Paris as it is—The Holy Land and Concerts by the BROUSIL FAMILY. See weekly programme of 8 pages. Open from 11 to 5, and half-past 6 to 10. Admission 1s.

POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED  1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN FILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

THE ARCHITECTS', BUILDERS', CIVIL ENGINEERS', and MACHINISTS' DRAWING CLASSES, conducted by Mr. T. J. HILL, Architect, at his Offices, 70, Old-street, E.C. Architectural, Mechanical, Ornamental, and Perspective Drawing Taught; taking out Quantities, and Abstracting, &c.—For prospectuses, apply at the Offices, as above.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford st. Russell-sq.

ACCIDENTS ARE UNAVOIDABLE.
Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100l. to 1,000l. assuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 2l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by Injury.
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
1,247 Claims have been paid by this Company as COMPENSATION for 59 Fatal Cases, and 5,041 Cases of Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1795.—Apply for PRICED CATALOGUE of St. Cecilia, Sondmore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

The Builder.

VOL. XX.—No. 1019.

Stained Glass in the International Exhibition.

THE painted window display in the present Exhibition is a large one, and the first of the kind that has been seen in this country. It will probably teach each manufacturer what others are doing, and strengthen tendencies which are beginning to appear, here and there, with very good effect, gradually breaking through the system of servile copying of epochal styles and methods of execution, and pointing towards that kind of original treatment which is always the first symptom of real progress.

When glass-painting on a monumental scale was first re-attempted, a few years ago, with the view of actually rivalling the excellence of the greatest Mediæval examples, there was no hope of progress but through the medium of positive imitation. But, now that nearly all practical and technical difficulties have been to a certain extent overcome, it is time to leave off the bad drawing, and the grotesquely laborious leading which surrounds, not only every object, but every tone of colour, with a black leaden line; and aim at such improvements as the facilities of our present advanced state of general civilization place within the reach of both artist and artisan in this noble branch of industrial art.

Among French exhibitors, Mr. Gloner, of Nancy, exhibits a good window, in the style of the twelfth century, the quatrefoil medallions, with figure subjects, and the connecting scroll-work peculiar to the period, being both very good as imitative art. He also exhibits a window in the style of a later period (the beginning of the sixteenth century), in which he has not slavishly copied any especial model, or even very closely the general style of the period. The principal subject is, "Christ crowned with Thorns;" and it is in the treatment of the figures that progress is more especially aimed at. The leaded joinings have been made as inconspicuous as possible; and in most instances a series of general transverse joints have been made to supersede the necessity of more abundant and more complicated lead-work. The artistic treatment is not, however, of a high class, though it points the way to progress of the right kind.

Mr. Bougens, of Rheims, has a good example of imitative twelfth-century work, and another specimen in which the Renaissance period has been taken as the model; but neither are remarkable, though, technically speaking, the execution is good. He has, however, another specimen which exhibits peculiarities well worthy of thoughtful examination. Throughout the entire treatment, of both figure subject and ornament, no brilliant colours are made use of; all the effects being produced through the medium of subdued tones of comparatively pale colour. The rich ruby-crimson is not there, nor the dazzling scarlet, nor the refulgent purple. It may be hastily advanced, therefore, that the most legitimate means of obtaining a splendour of effect suitable to this kind of decorative art have been uselessly abandoned. But it is not certain that the effect produced by these translucent half tints is not truer to its purpose than that sought by means of richer colours. A painted window, although a picture, is yet the accepted medium for the admission of light; while, in sober truth, those window pictures, treated with all the luxury of rich and powerful colours, greatly tend to exclude the very light which they profess to admit; and this is an axiom well worth the consideration of our accomplished glass-painters.

Messrs. Laurent & Gsell, of Paris, well known for several important works executed in that capital, exhibit a window in the latest of the acknowledged styles—that of the early part of the seventeenth century. The workmanship is excellent, and probably the style of the building for which it is intended has regulated that of the ornamental details of the window; but the general effect, artistically speaking, is not satisfactory.

Mr. Lusson has some powerful imitations of old glass.

Some of the cleverest of the foreign glass is exhibited by Maréchal & Co., of Metz; but their works are rather pictures *on* glass than glass painting. Signor Bertini, of Milan, exhibits a Virgin and Child, to which a medal has been justly awarded "for colour, design, and execution."

Messrs. Hardman & Co., as was to be expected, are among the most profuse of English exhibitors; and they sustain their repute with credit, though many producers are now fully their equals. Their large window did not impress us very favourably: we were more struck with a series of small windows for All Souls', Oxford. Each window of this series is entirely filled with a characteristic group of figures, rising one above the other by natural grouping so as to fill the whole space without any canopy work, or any other kind of completing ornament. The subjects are, "Kings and Rulers," "Priests and Deacons," "Soldiers," "Maidens," "Queens and Wives," "Widows and Poor," &c. The style assumed is a toned-down version of that prevalent about the close of the fifteenth century; the drawing and grouping being very characteristic, and in many respects excellent. This series, and the window for the Norwich crypt, gained for Messrs. Hardman their medal. The Norwich window is peculiarly rich in ornamental design, while excessively cool and subdued in colour. Blue and grey predominate; but this is far from producing a poverty of effect, for the absence of the usual prevalence of rich colour is more than redeemed by graceful intricacies of detail in the ornamentation, the lacy richness of which always forms one of the distinctive features in the best works of this establishment. Their twelfth-century window for Canterbury Cathedral must not be passed over.

The immense window, by them, for the east end of Doncaster Church is the largest piece of painted glass work in the Exhibition, and occupies a most prominent position at the end of the east transept. It consists of eight lofty lights, each containing three pictures, one above the other, connected by Gothic ornament. The series of pictures, representing the life of Christ, are commonplace and poor. The system of servile imitation of Mediæval examples of the thirteenth and fourteenth centuries is wearing itself out, and becoming a mere trick, which a trained staff of artists are beginning to perform so carelessly that it is easily detected, and fails to give any kind of pleasure. The ornament is better than the figure subject; but there is in the whole window far too great a prevalence of cold blue tones. The same may be said of another work, placed next to this,—the Unett memorial window,—the prevailing blue tones of which leave an icy chill upon the spectator, which its merits in other respects fail to redeem.

Near to these works is a small three-light window, by Messrs. Chance, Brothers, the high finish of which is striking, and it is free from the defects of colour which are generally remarkable in attempted close imitations of Early Mediæval work. This small window (the Adoration) is in the style prevalent at the close of the fifteenth or beginning of the sixteenth century. The subject of the middle light is the Virgin and Child, of which the treatment is pleasing. The painting of the small lights is very inferior. The chief work of the Messrs. Chance is, however, the Robin Hood window, which, as a whole, may, perhaps, be considered the most noticeable piece of glass-work of the collection. It is an encouraging proof that, when our glass-painters are once freed from the present ecclesiological trammels which bind them down to certain early styles, our glass-painting may reach a point of excellence never attained even by the greatest Mediæval artists. The Robin Hood subject is designed in the Albert Durer feeling; or, rather, in that of a still later German style, when the grotesqueness of the earlier epochs had nearly, if not quite, disappeared. The colour of the flesh is disagreeable. The canopy-work of this composition, in the most florid of the Flamboyant styles, is remarkably good of its kind; and its execution is both finished and effective. This work gained a medal for its exhibitors; and it is further distinguished by being one of the examples selected by the Messrs. Day for their magnificent work on the present International Exhibition.

Returning to that part of the building especially devoted to the exhibition of painted glass, the first works accidentally meeting our eye were those of J. Ballantine & Son, of Edinburgh, who exhibit three windows for the National Commercial Bank of Glasgow. They are in the Italian style, of the later portion of the Cinque-Cento period. This kind of design, with small modification, has the advantage of harmonizing with architecture founded upon the Italianized Roman, the numerous varieties of which include even the French Renaissance. After the abundant harvest of reproductions of every phase of the Gothic styles, the introduction of this kind of art in our stained glass forms at any rate a variation from the too beaten track. Whether it would be successful in an enormous east window, in a church of suitable style, is another question. It certainly does not lend itself to the filling of very large spaces with the same plasticity as the Gothic styles. The comparatively small windows of the Glasgow Bank, executed by Messrs. Ballantine & Son, are in many respects good. The figures representing Commerce, Agriculture, Mechanics, &c., are well treated, as are the details of the Italian ornament. We cannot say as much for the window, also in a modern style, executed for a private residence near the spot where the battle of Falkirk was fought in 1745. In this work the figures of Prince Charles Edward, Lord G. Murray, and Lord D. Drummond, with their glaring tartans, are positively vulgar. Messrs. Ballantine have also a window, on a large scale, executed for Prestonlee Church, Lancashire. The subject is the Crucifixion. Christ, crucified, occupies the central compartment; and the crucified thieves occupy the two next; while the outside compartments are filled with groups of Roman guards. These compositions are so managed that no leadwork joinings are visible,—not always an advantage. The fillings-up of the smaller compartments of this window are by no means equal to those of the grand divisions.

A window for Lavenham Church, by Lavers & Barraud, has some good points about it; but we prefer the two small windows; one illustrative of profane poetry, treated in the rich style of the beginning of the sixteenth century. The subject is taken from Tennyson's "Idyls of the King." The quotation—

> "so loved Geraint
> To make her beauty vary day by day,"

is richly illustrated: the embroidered robes of the graceful Enid are very successfully wrought; and

the drawing of both figures is picturesque and graceful. A series of such windows would find their appropriate situation in a hall decorated with the busts or statues of our poets;—a kind of poetic Walhalla. The subject, however, which gained for Messrs. Lavers and Barraud their medal is the most intricate piece of stained glass-work in the present Exhibition. The subject is the "Last Judgment;" and the immense number of figures, on a comparatively minute scale, which are all distinctly defined in so small a space, is really marvellous, when the elaborate and minute character of the *leading* is taken into consideration. The work is, in fact, a transparent mosaic.

Messrs. Alexander Gibbs & Co., of Bedford-square, have a large and well-executed window for Aylesbury. The subjects of the leading compartments are, "The Temptation," "The Expulsion," "Abraham offering up Isaac," &c., &c. The execution is bold and rich, but the drawing is not altogether satisfactory.

Messrs. Cox exhibit a window in which some brilliant effects are obtained by means of the irregular thickness of the glass. By this method the rich blues of the skies are made to show what Mr. Ruskin has termed "palpitation of light" in a very sparkling manner. This effect is often produced by glazing together a number of small pieces of glass, each of a different tone of blue. Seen closely, such a net-work of lead joinings produces the hard effect of the very earliest Mediæval painted glass-work; but at a certain distance, at which the joinings are only faintly perceptible, the effect of "palpitating light" thus obtained is very brilliant and pleasing. In the window under description nearly the same effect is obtained by the different thicknesses of the glass. The canopies at the upper part of the three principal divisions are of very original design, being composed entirely of interlacing branches of flowers. A window, reproducing the style of the twelfth century, by Messrs. Cox, is good as to the treatment of the characteristic ornament of that period; but the figure-subjects outdo in grotesqueness the most distorted original examples of that period. The large window by Messrs. Ward & Hughes sins as much by poverty and flatness in the reproduction of a bad style, as that by Messrs. Cox does in over-energetic grotesqueness while imitating an early and good one. Messrs. Ward have done some good things, nevertheless. Messrs. Claudet and Houghton steer a very uninteresting medium course in a work of no marked character whatever, which bears the announcement that it "will be for sale after the close of the Exhibition."

Messrs. Heaton, Butler, & Bayne do not hold the high place in this Exhibition which we fully expected from the conscientious labour which they ungrudgingly bestow upon their art. Nevertheless, they have done sufficient, it seems, to win a medal from their jury. Their three-light "Adoration" window, which they advertise as of the value of 75*l.*, is not worth a penny more. The face of the Virgin Mary, in the central light, is as flat and mechanical as those faces of the sun or moon one sees upon the better kind of swinging sign-boards of the better class of public-houses. It is what may be termed grossly Mediæval. The blue drapery, too, studded with *crown*-pieces, is still more vulgar; as is the red and green drapery of one of the adoring kings in one of the side lights. Messrs. Heaton & Co. come out better in a group of the three national saints, St. George, St. Andrew, and St. Patrick. In this work, the drawing is characteristic and good, without being too modern; and the colouring is both sober and rich. In heraldic glass, of a superior character, for halls, vestibules, corridors, &c., Messrs. Heaton are very successful. They have a medal for a window for St. Alban's Abbey.

A portion of an "Adoration" window by Messrs. Baillie & Co., executed for Morton Church, Lincoln, produces a picture-like effect. The colouring is sober, yet extremely rich, the warmth of tone being kept up even in the labels, which are of a warm tone of subdued yellow, instead of white. The shading in this work is sufficiently abundant to give full definition to form, and full value to high lights, without ever becoming heavy or opaque. This is a quality to be sought for, when we find so much of our modern stained glass, especially where imitating the earlier periods, so much too transparent that the spectator looks through it, instead of at it. The treatment of the canopy-work in Messrs. Baillie's window is not equal to that of the figure-subjects.

The window exhibited by Messrs. Morris, Marshall, & Faulkner puzzles the majority of spectators, to whom it appears irredeemably bad; and yet, to their amazement, they find it honoured with a medal. Much of it is, indeed, very bad. The diaper-work seems to us introduced in unmeaning patches. The figure-subjects, nevertheless, have spirit and sentiment, which make one wish to look at it again. It is a clever sketch, rather than a painting.

Messrs. Clayton & Bell's window, in the style of the thirteenth century, judged from the stand-point assumed by the artists, has very excellent qualities. A certain quasi-classical elegance, mingling with the severe simplicity which distinguishes the style of that epoch, has been well caught. The compartment to the left, the subjects of which commence with the "Temptation," and extend to the "Death of Abel," has merit of the kind alluded to. But they, perhaps, fill the allotted spaces too scantily; and the nearly total absence of ornament is a defect, in a work in any of the Mediæval styles, inasmuch as Mediæval art of all epochs is more completely successful in ornament than in figure-subjects. Messrs. Clayton & Bell stand very well.

The work exhibited by Mr. Forrest, of Liverpool, savours too much of the manufactory. It is too mechanical, and is wanting in the true spirit. The same may be said of the specimens exhibited by Messrs. Rees & Baker. If we are to be so very mechanical, we may as well have at once the "patent illuminated glass" of Messrs. Prince & Co.; for really superior subjects may be transferred permanently to glass with the same ease as the little fancy pictures which they have preferred to exhibit as specimens of their work. While speaking of effects produced mechanically, we ought to notice the rich and, in many points of view, excellent effect produced in ornamental work by embossed glass of different colours. In ornament of the style of the twelfth century, for instance, a remarkably jewel-like effect is obtainable in this manner. The embossed forms of the foliage in relief preclude the necessity of any painting; as the light passing through the different thicknesses of the glass not only defines the veinings and forms the shadows which are produced by extra thickness of the glass, but gives a sparkling brilliancy to the light that could not be obtained by any other means. As these ornaments are merely *cast* in the form required, and have only to be mounted in their proper places to form the required patterns, the process must be a very cheap one, and in many situations it would actually produce a better effect than could be obtained by painting.

Messrs. Field & Allan have been distinguished by the award of a medal; and their little Italian window is certainly brilliant and effective.

Mr. H. M. Barrett's window is not to our liking. A sameness and monochromy are produced by the large spaces between the pictures, which are all filled up by interlacing vine-branches of precisely the same character. This interlaced work is, however, good in itself; and, used in more moderation, would be pleasing. The pictures inclosed by this over-profuse and monotonous ornamentation are poor. But what shall we say of the vast display made by Messrs. Warrington? Is it above or below the average? We fear it is below. But it is ambitious, and has not to any great degree missed the mark. It is intended to display all the gradations of this class of art during the whole of the Pointed period; but, as we think, it fails to do so; though no labour or expense has been spared, several of the examples being of large dimensions; and all the work is of a sound and conscientious character. Among additional specimens, of a less ambitious character, exhibited by this firm, there is some excellent work, especially in the heraldic style, and a small window in that of the Italian Renaissance, in some respects highly successful.

Messrs. Powell, of Whitefriars, are medal-holders; and, their works being looked at as exceedingly skilful reproductions of Mediæval examples, they are fully entitled to such distinction; their mechanical excellences in the colour of their glass and in several other particulars, being unapproachable. A specimen of Grisaille, in a small and elegantly-elaborate pattern, is the very perfection of that style.

Messrs. O'Connor's large window has a grandeur of its own, and is in other respects very praiseworthy; but it is not made to let in light, and is much disfigured by the ugly series of angels in spandrels above the lower lights.

Taken as a whole, our display of stained glass is respectable, but not more. It is not up to what we had a right to expect. It has, however, distanced foreign competition, so far as the international collection is concerned; and we have to thank our exhibitors for that, while regretting that they have not yet done what is looked for.

LEICESTER CONGRESS OF THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

The Congress was opened in Leicester, on Monday, the 4th, as arranged, and was closed on Saturday, the 9th, the week having been spent in a most agreeable and successful manner. The Mayor (Mr. Viccars) received the members; the Town Clerk read a note of congratulation from the corporation; and the President of the Association for the year, Dr. John Lee, F.R.S., delivered a lengthened and able address. We do not propose to give a complete report of the meeting, but shall note such points as may serve to give a general idea of what was seen and done. In going round the town under the guidance of Mr. James Thompson, the Jewry Wall was of course visited: a well-known pile of ancient Roman architecture, near St. Nicholas's Church, and which has been supposed to have formed the gateway to the Roman city. Mr. Thompson said: The name, "Jewry Wall," had been given in consequence of that portion of the town having been the Jews' quarter in the Middle Ages—the Christians refusing to mingle with them more than they could possibly help. The wall had evidently been constructed during the Roman occupation of this island. It had, as would be seen, four arches, but two only of them were open on the opposite side. Many conjectures had been hazarded as to the purpose for which the building had been constructed; but all that was really known of the wall was, that it was of Roman construction, and that it was about the most unique specimen extant in this country. Whether it had originally been a portion of a temple, or part of a bath, or a basilica,—a building devoted to the administration of justice,—could not be determined. His own impression was that it formed part of a much larger building. They found sometimes portions of baths and basilica of Roman cities erected in close proximity, and sometimes there was also a temple; so that the purposes of justice, the performance of religious rites, and the sanitary customs of the peple were all attended to under one roof. That was all the explanation he had to offer.

At the evening meeting, Mr. Gordon Hills read a paper on the Guildhall. He said:—

"The Guild of Corpus Christi was founded in 1350. It was an association for the regulation of commercial affairs, similar in character to others mentioned in the history of every town or city in the kingdom enjoying a commercial reputation in that age. Other guilds were founded in Leicester. The Guilds of St. John, St. George, and St. Margaret, and the Guild Mercatorium are constantly mentioned in the Hall Books. In the great work of Nichols, the historian of Leicester, the site of the Guildhall of St. George is erroneously stated to have been where the present Town-hall stands; that he wrote this under a mistake will be evident from what follows:—An entry in the Hall Book of the tenth year of Henry VII. shows that a Common Hall was then holden in the Hall of Corpus Christi Guild. In the twenty-first year of Henry VIII. we have the account of the meeting of the town body in Corpus Christi Hall. Other instances occur showing it to have become a matter of ordinary practice to use Corpus Christi Hall; and when, in the fifth year of Queen Eliza-

beth, the mayor and burgesses came into possession of the present hall, the deed describes it as lately in the occupation of Corpus Christi Guild.

The Guild of Corpus Christi dates from 1350. No part of the buildings belonging to the present Guildhall possesses any architectural features entitling it to a higher antiquity than the reign of Henry VII.; so that of the nature of the buildings which accommodated the commercial body for more than two hundred years no account can be given; but the first known meeting of the municipal body in the Hall of Corpus Christi Guild, above referred to, occurs at a date which makes it just possible that the hall there spoken of may be the one in which we are now assembled. The features which may be referred to this period are the two timber-framed arches in the west part of the hall, and the windows in the grand jury room."

Over the seat of the president, at the west end of the hall, in a little niche, occurs the date 1586, between the initials E. R. (Eliz. *Regina*).

At the date given on this niche, extensive renovations seem to have been effected, of which there remain the windows of the two western bays of the hall, and the whole of the library windows in the east wing. About this period, according to local tradition, the hall was the scene of the performances of Shakspeare in his earliest plays. The hooks upon which the scenes were suspended are pointed out in one of the beams.

Mr. T. Wright read a paper on a Roman roofing tile, found in Bath-lane, Leicester, in the year 1854. This tile bears on one side the stamp of the eighth Roman legion, which was not before known to have ever been in England. Mr. Wright remarked on the peculiar force of the letter L in the stamp, and said it was one which occurred usually in the third century; and, after giving a sketch of the movements of the various legions employed in Britain, he conjectured that the *eighth* legion might have been brought hither by Constantius, the father of Constantine the Great, who came over to Britain, in 292, to restore the island to the empire, after the usurpation of Carausius and Allectus. He (Mr. Wright) supposed that the eighth legion (the previous headquarters of which appear to have been on the borders of Germany) may have been established by that emperor at Ratæ, as a check upon the turbulence of the towns in the Midland Counties.

Mr. Vere Irving then delivered an address upon the Earthworks of Leicestershire. He remarked upon the classification of earthworks, stating that no subject had advanced more lately than this classification of the early fortifications. They had been able to classify the British camps before the Romans, into three separate and distinct divisions. First, they had in the southern counties a camp, including cattle, and, consequently, of large extent, defended by the natural features of the country, woods and marshes, strengthened by a rampart of trees. They then found in the British warfare, among the Iceni, a very faint rampart, surmounted by a quickset edge. They had, connected with the same period, plenty of evidence of their British ancestors being able to create earthworks in the shape of their large tumuli. The third class of British fortifications consisted of very formidable stone-works. When the Romans first came to this country as an invading army, of course moving in large bodies of men, according to their custom, they fortified their positions, night by night and day by day. Of course, if they remained long at one place, they made the fortifications more formidable, depending upon the exigencies of the campaign. He had been able to trace the march of the western column into Scotland by those camps. When the Roman army became, not an invading army, but one of occupation, they made roads, and established along those roads a certain class of small fortifications, much smaller than the legionary camp. The legionary camp was rectangular, wherever it was possible; and always showed high military talent in selection of position, being at the top of hills, occupying the plateau, so that there was no possibility of the enemy ascending the sides without detection. When the country became more settled, the towns had civil and military populations, generally defended by considerable earthworks. Then they had towns which were purely commercial, purely civil; and these, during the first part of the Roman occupation, were not defended at all. Then came the closing period of the Romans, called the Romano-British period, which, he was afraid, their older antiquarians had overlooked. In this period, on the eastern coast particularly, the Romans were attacked by pirates of the North Sea. It was also well known that the Picts and Scots broke over the northern walls, which caused the open towns to be fortified; and it was very curious that a different mode of fortification was now adopted—stone and lime being used instead of earthworks. Uriconium was to be referred to this period. These Romano-British camps came to be of very large size, and there was evidence to prove that cattle were kept in them. The only other marked introduction of a different class of fortification must be dated about the time of the great Saxon and Danish struggle. This fortification consisted of central mounds with numerous barbicans and other earthworks thrown round them. That he had occasion to mention to them at the Castle, that day, was one of the types of it. They were often founded upon the sepulchral tumuli of a former date, and turned into fortifications. Of course, when that style of fortification became popular, where they could not get existing tumuli, they created an artificial one; and not only that, to save labour, in many cases, at old Sarum, for instance, they created a hollow crater tumulus, so as to save an amount of earth. They were invariably named "Dane Johns." Many of them were built by Alfred and his daughter. Of course, they became very naturally the sites of the Norman castles; and under their magnificent structures the old Saxon works had been, in many cases, lost sight of. They had, certainly, still more modern earthworks occasionally to be met with, constructed at the time of the civil wars. In those cases, they generally had very little difficulty in ascertaining their nature, because tradition generally handed it down to us.

Mr. J. R. Planché said, a letter had been read that day from Mr. Pettigrew, expressing his great regret that he could not be with them. It had been a matter of conversation among a great many members of the Society, that some notice should be taken of that letter in the way of reply to him. Therefore, he had great pleasure in proposing that the letter he would read should be sent to him from the Congress. The letter expressed the sincere regret of the Congress that the state of Mr. Pettigrew's health should have prevented his attendance, and stated that they deeply sympathized with him, and sincerely trusted that he would speedily recover and enjoy the restoration of his active abilities, which had made his presence so valuable at former Congresses, and in all the pursuits and duties of the Association.

On Tuesday, an excursion was made to the Forest. The chapel was visited, and the effigies of Lord Grey and his lady examined; the bowling-ground was looked at; the trees said to have been planted by Lord Guildford Dudley and Lady Jane were pointed out.

At Ulverscroft, Mr. Gordon Hills, after walking by the moat, addressed the party at some length, explained pithily the differences between the various bodies of ecclesiastics in early times, and called attention to parts of the structure, which, he said, was chiefly of the fifteenth century. He also exhibited a plan of the building, prepared by him after careful previous inspection of the remains.

In the evening a *soirée* was given by the President and Council of the Literary and Philosophical Society at the Museum, which was specially lighted up for the occasion. The Rev. C. C. Coe presided, and the room was filled. After addresses, Mr. J. R. Planché read an interesting paper on the "Genealogy of the Earls of Leicester."

Mr. Coe followed with a paper on a "Carthaginian Slab," presented to the Museum by the late Duke of Rutland; and Mr. George Wright read a paper by Mr. Cuming, on "Memorials of Richard III.":—

"Richard Plantagenet was born about the year 1450, of the Lady Cecilia, wife of Richard Duke of York, in the ancient castle of Fotheringhay, Northamptonshire; but his natal abode was swept away by order of our first James, and we have perhaps no earlier relic of the Prince than his official seal as Admiral of England, the date of which is fixed by Mr. Pettigrew between the years 1471 and 1475. It is engraved in our *Collectanea* (i. pl. 15, fig. 1), and bears on it a large vessel, the mainsail blazoned with the arms of France and England, crossed by a label of three points; similar charges appearing on a flag held by a greyhound at the aft-castle. The verge represents a collar of roses, and within it is a legend setting forth that it is the seal of Richard, Duke of Gloucester, Admiral of England, for the counties of Dorset and Somerset—*S' Ricī: Dvc' Glouc': Admiralli: Angl: I: Com: Dors' et Som.*

It tradition is to be believed, King John and Queen Elizabeth must have had as many palaces as there are counties in England; and though the name of Richard III. is less frequently connected with old mansions, there are still plenty of antiquated houses which are said to have been his abiding-places for more or less lengthy periods. Among others may be mentioned the Black Boy Inn, Chelmsford, where were formerly to be seen two carved bosses on the ceiling of its great room: one being painted with a blue boar on a deep red field, surrounded by a collar of seven stars or mullets; the other, with a full-blown rose, once entirely white, but subsequently white and red, indicative of the union of the houses of York and Lancaster. Both these bosses were communicated to the *Gent. Mag.* (May 1840, p. 469) by our late associate, John Adey Repton; but the editor of that serial contended that the boar is the insignia of Vere, Earl of Oxford, and that the tradition regarding Richard must therefore be rejected, forgetful of the fact that after the attainder of the earl for high treason his vast possessions in Essex and other counties were given to the Duke of Glouce-ter, so that the Black Boy Inn may, after all, have served as a hunting-lodge of the Plantagenet. Of Richard's two London residences one has altogether vanished, and the other has lost much of its antique aspect, but Shakspeare has given a world-wide and lasting fame to both. Baynard's Castle stood on the northern banks of the Thames, and was destroyed in the Great Fire of 1666. It was in the court of this fortress that Stafford, Duke of Buckingham, offered the crown to the Duke of Gloucester, and where the dramatist makes the latter say:—

> 'Since you will buckle fortune on my back,
> To bear her burden, whe'r I will or no,
> I must have patience to endure the load.'
> (*Richard III.*, ii., 7.)

The other dwelling alluded to is Crosby Place, Bishopsgate, built by Sir John Crosby about the year 1467; and, in spite of alterations and renovations, is still one of the finest examples of Early Domestic architecture in England. Hither Shakspeare makes Gloucester invite the Lady Anne; and bid the murderers repair after the assassination of Clarence and the young princes in the Tower."

On Wednesday the proceedings were under the arrangement of the Leicestershire Archæological Society, and about fifteen or sixteen carriages started from the market-place, and proceeded without halting to Kirby Muxloe Castle, a brick-built edifice of 1474, where a paper was read by Canon Trollope:—"It will not be necessary, he remarked, now to search into the more remote history of Kirby Muxloe, because our object in coming here is an architectural one, viz., to inspect a charming old specimen of ancient brickwork that is well worthy of study; so that we need confine our attention only to the features of the building now before us. Happily its date is known from the evidence of a grant made to William, the historically famous Lord Hastings, by Edward IV., and dated April 17th, 1474, wherein he gives leave to his chamberlain, the said Lord Hastings, to wall in and inclose his manor-house of Kirby Muxloe with a stone wall, to fortify and embattle it, as well as to inclose and impark 2,000 acres of land and wood, with the appurtenances of his demesne at Kirby Muxloe, together with the right of free warren."

The next stage was Market Bosworth. The Rev. N. P. Small met the excursionists at the church, of which a description was given by Mr. Edward Roberts. He said the building anciently belonged to the Earls of Leicester, and that the church was founded in 1316. Some parts of the church bore out that record. The lower part of the nave was certainly what they called the Decorated style, or second period in the system of Pointed architecture. The arches appeared to have been constructed about the date of the origin. The roof sprang from just above those arches, and was extremely pointed. The building was dedicated to St. Peter, and he had looked round outside for some statuettes, but had not been able to find any. Other particulars of the church were given, and Mr. Roberts concluded by stating that the restorations appeared to have been very fairly and properly done to retain the character which the church possessed.

Shortly before three o'clock the carriages were again prepared, and at the sound of the bugle the excursionists remounted and proceeded to the battle-field. A considerable accession to the number was received at Bosworth, and the procession extended upwards of half-a-mile in length. Sir A. B. C. Dixie and family were amongst the number accompanying them. On arriving at the field, large numbers of people had preceded the procession and congregated round the platform, and altogether there could not have been fewer than a thousand persons present. The platform was decorated with banners. A facsimile of the crown of Richard III. was shown on a cushion in front of Major Wollaston, who presided on the occasion. A flag marked the place where King Richard died, near a small pond, and a white flag pointed out the position of Richmond's army.

The Rev. Canon Trollope then read a paper "On the Battle of Bosworth Field," giving a distinct and admirable notion of the events that occurred. At the evening meeting the Rev. Canon Trollope repeated his paper upon Bosworth Field. Mr. Roberts read a paper "On St. Martin's Church, Leicester," to which Mr. Raphael Brandon contributed some notes.

"This church is said to have been built on the site of a Roman temple, but there is no proof whatever of it as a fact, unless tradition be accepted as such; but as archæologists do not deal in traditions except as poetical adjuncts to their drier works, we must look for other confirmations of the supposition.

It happens that in the church under consideration there is some evidence of a Roman building pre-existing on the spot, and also of its having been appropriated to animal sacrifice, for when, some forty years ago, excavations were being made for the purpose of adding masonry to strengthen the then failing central tower, large quantities of bones and horns of animals were dug out; and although we may, between the suggestions of sacrificial

or domestic purposes, be on the horns of a dilemma, we may to some extent be relieved from that uncomfortable position by the discovery made last year, when the old tower was taken down. On their digging deeper for the purpose of making the foundations of the new tower, two bases and part of the shaft of some Roman columns were found. I am not informed whether they were *in situ*, but I have looked at them in your excellent Museum, and I think I may safely say that they do not appear to be such as would be used in a slaughter-house; besides, the abattoirs would in those days be outside of the town, and it is not unlikely that tradition is somewhat near the truth when it asserts that the church was continued on the site of the former place of worship."

"We must deal with probabilities for a short time longer, and also in generalities. This much, however, is certain, that the *present* church is of Norman origin, and the last trace remaining of that style is to be found on the north side of the north arcade to the nave. At the eastern end there is a portion of a Norman string, showing the billet very distinctly; and, necessarily, part of the wall in which it is embedded is also Norman. The tower which was recently taken down was of the same date, though (Mr. Brandon says) devoid of any features of architectural interest."

Mr. Edward Levien read a paper "On the Life and History of Lettice, Countess of Leicester," who was born in 1539 or 1540.

On Thursday, there was an excursion to Castle Donington.

On arriving at Ashby, the party examined the Castle and Church, under the guidance of the Rev. C. H. Hartshorne. The castle is known to have been erected about the year 1474. From Ashby to Staunton Harold, then to Breedon, and so to Castle Donington, passing through the park to the house.

In the evening, at the Guildhall, a paper "On King Richard's House," by Mr. Goddard, was read. It told that,—

"Among the architectural relics of Leicester now no more, was standing, some years ago, an old building, which was properly called 'King Richard's House.' It was known to have been part of the Old Blue Boar; as, at the commencement of the last century, it was used as an inn, and known by that sign, though originally it bore the name of the 'White Boar,' the cognizance of King Richard III.; but, after his defeat, this sign was torn down by the infuriated populace, and the owner or landlord compelled to change its title. Popular tradition has always identified the building with the ill-fated monarch, and the inquiries of our local antiquaries confirm the tradition. It was taken down in the month of March, 1836; but, fortunately, before its destruction, a drawing was made of the front by the late Mr. Flower, artist; and that has been copied in many shapes in architectural works and various publications with which the reading public are familiar."

It was a half-timbered house of oak, the intersticses filled it with plaster. The foundations, to a certain height above the level of the ground, were composed of stone and brick. The lower story was one large room, about 41 feet long and 24 feet wide within.

Mr. T. Wright then described a manuscript in the muniment-room at the Guildhall; translating parts of it.

At the close of this paper, which created considerable interest,

Mr. James Thompson read a paper on "The History of the County of Leicester before the Norman Conquest." Mr. Thompson, in the course of his observations, remarked upon the fading away of the Roman influence in this locality (as he regarded it) in the abandonment of the Roman name of Leicester [*Ratæ*], and the substitution of the Saxon name, *Ligora-ceaster*.

Mr. T. Wright said that probably at all times Roman towns in the provinces were often (if not generally) known by an official Roman name to their inhabitants, and to the Romans in general, and by other names to the inhabitants of the districts around. This was early the case in Gaul, where the population appear to have spoken of the principal Roman towns by the name of the tribes in whose districts they were situate. Thus, to take a well-known example, the great city we now call Paris was called by the Romans *Lutetiæ*; but the inhabitants of the surrounding districts still called it the *civitas Parisiorum*, or city or town of the Parisii, the tribe to whom this territory had belonged when it was taken possession of by the Romans. The Franks, when they conquered this part of the Roman territory, appear to have taken the name from the rural population, and not from the Romans; and it is more than probable that both continued to exist, until the name of Lutetiæ became obsolete, and the other took its place. This was the case also in Britain; and we might quote two or three curious cases proving not only the continuance at the same time of the Roman and Anglo-Saxon name of the town long after the Anglo-Saxons had established themselves in our island, but that the inhabitants continued still to talk Latin. Thus, Carlisle was called by the Romans *Legiolium*, and this is the name which it certainly bore at the close of the Roman power here towards the middle of the fifth century. Now Bede, who lived in the earlier part of the eighth century, more than 250 years afterwards, still speaks of Carlisle as Legiolium, adding that the Anglian population of the northern districts had corrupted the name into Luel. We can only identify a Roman town with a modern town by a deduction from its situation in the Itinerary of Antoninus, or some such document, compared with the circumstances of the locality; but it is not likely that Bede ever saw such a document as the Itinerary of Antoninus; and if he had seen it, he did not possess the antiquarian knowledge to make such deductions. Bede, therefore, can only have known the name from the townsmen themselves, and it must have continued to exist among them. Why the country people added *caer* instead of *ceaster* (or chester) to the name, Mr. Wright would not on this occasion attempt to explain; but as the Roman blood and character of the citizens became more and more mixed and diluted, the name of *Legiolium* was forgotten, and the country name of *Caer-luel*, or Carlisle, took its place. So in the case of the town in which they were assembled, the Roman name of *Ratæ* continued in all probability to exist among the townsmen long after the Anglo-Saxons had obtained possession of the land; but this latter people, who at first probably had little intercourse with the inhabitants of the town, called it simply *Ligora-ceaster*, the city on the river *Ligora*.

Mr. Levien having read a paper on the Leicester Guilds, the meeting broke up.

On Friday, the members of the Association went to Brixworth, where the Rev. C. F. Watkins entered into a minute and elaborate account of that very interesting church. Leaving Brixworth, they reached Northampton about one o'clock, where the Rev. C. H. Hartshorne read a paper, which we shall give in full on another occasion. At the close of it the Mayor said, Mr. Hartshorne had mentioned several villages in this county in which Edward I. had resided. He would find they were all on a clay soil, and he thought he would learn that all old mansions of any repute were built on a clay soil. Whereas it was the great aim of gentlemen now to get away from the clay, all our old mansions were erected near woods and on clay soils. It would be for the gentlemen before him to say whether that was done for the convenience of making moats for defence.

The party afterwards proceeded to St. Sepulchre's Church, where Mr. Roberts made some very interesting observations on the "Round."

On Saturday, various churches were inspected, Mr. Roberts again acting as commentator; and in the afternoon votes of thanks and interchange of courtesies brought the agreeable meeting to an end.

"HENRI DEUX" WARE.

THE LOAN MUSEUM, BROMPTON.

There are few cases in the remarkable collection of works of art now on loan at the South Kensington Museum that have incited more inquiry, on the part of those who look with the mind, than that containing the quietly coloured, quaint, and, to some extent, twisted specimens of pottery, known as *Faïence de Henri Deux*, or Henry the Second ware. We have been asked by more than one reader, led to an examination of the general collection by our previous notices of it, for some particulars of this curious variety of earthenware, the present value of which is startling. In proof of this we need only say that the Ewer No. 1201, the extreme height of which to the top of the handle is 13½ inches, would probably realize at a sale 1,500*l.*; and that the ewer next it, No. 1200 (the finest specimen of the ware now extant), is thought to be worth 500*l.* more. In other words, if Mr. Magniac, the owner of it, can make 5 per cent. of his money, it costs him 100*l.* a year to keep the ewer in his cabinet. Desiring, then, to comply with this request, we are glad to be enabled to do so by Mr. J. C. Robinson, the superintendent of the art collections.

The ware was produced somewhere in France during the later years of Francis the First's reign, and the reign of Henry the Second, as its name imports. Although for twenty or thirty years past it has excited the keenest interest and curiosity amongst amateurs and collectors, and in consequence the pecuniary value of the specimens has attained, as we have said, to a fabulous ratio,—very far, indeed, beyond that of any other variety of decorative pottery,—nothing is known with certainty respecting either the producer or the place of its origin. With the exception of certain indications of the ownership of some of the pieces, evidenced by armorial bearings and initials, everything respecting this ware is still shrouded in mystery. Its great pecuniary value has arisen from several causes, but especially from its intrinsic artistic merit; for it cannot be denied that the style of design is singularly original and beautiful. Whilst displaying great variety in their forms and decorative details, the pieces are all conceived in the same characteristic general style; which, though strongly and unmistakably national, and even typical of a well-known and brilliant epoch, is also in the highest degree both personal and local: in fact, there can be little doubt that, as in the case of the Palissy ware, this famous pottery was the work or invention of one individual artist, whose labours were evidently anterior to those of the famous "*artiste en terre*."

This ware is, moreover, scarcely less remarkable from a technical point of view. Its fabrication displays novelties of a singularly interesting nature: every circumstance, indeed, denotes that the producer was an original genius—one of those representative men who arise only at rare intervals in the province of art; as, indeed, in any other sphere.

The rarity of the Henri Deux ware at the present day has, doubtless, had a great share in inducing its extraordinary pecuniary value; and yet, when it is considered that upwards of fifty of these fragile pots have come down to us, through the chances and changes of three centuries, all apparently from the hand of the artist himself,* their number, even, is surprising; and is, at least, an evidence that the producer must have been a most industrious worker. To all appearance the art died with its author, or was continued only for a brief period after his time; the inherent difficulties attending the production of the ware being probably too great to allow of any remunerative result to the mere industrialists of the day, even had they been capable of continuing the complex and difficult technical processes of the master. Lastly, somewhat of historical or romantic interest attaches to it from the fact that, like the Sèvres porcelain of the age of Louis XV. and XVI., it was apparently the "poterie de luxe" of the brilliant courts of Francis I. and Henri Deux, as evidenced by the ciphers, armorial bearings, &c., which occur on so many specimens. The theories respecting the origin of this ware have hitherto, for the most part, been of a rather crude and unsatisfactory kind: one, which has been often repeated, in spite of its obvious want of verisimilitude, and which, at the same time, in the most gratuitous way, transferred from a Frenchman to an Italian the glory of having produced this pottery, was, that it was the work of Girolamo della Robbia, who settled in France during the first half of the sixteenth century. This supposition was entertained by the occurrence of the letter G in the diapered pattern on one of the specimens now exhibited (the Magniac ewer, No. 1200), supposed to be the initial of the Florentine artist. This theory, however, scarcely deserves notice: the pottery itself has no analogy with any of the products of the Della Robbia family: it has a distinct non-Italian character; and, on the contrary, a most characteristic and typical French Renaissance one, of itself quite sufficient to decide the point of the nationality of the artist.

First in date, amongst the principal writers who have noticed the Henri Deux ware, is Willemin (1839), or, rather, Mr. André Pottier, of Rouen, the author of the text to Willemin's book ("Monuments inédits pour servir à l'Histoire des Arts;" Paris, 1839, tome ii., p. 65; description de la planche 289). He supposed it to be fabricated by Florentine artists working in France, and states that Mr. Dusommerard (père) recognized a mark of Beauvais on one of the pieces.† A fact of importance adduced by this writer, who, indeed, has anticipated nearly all that was to be said on the subject, is, that of the four-and-twenty pieces, or thereabouts, then known, about one-half came originally from Touraine, and notably from the town of *Thouars*. It is unfortunate that more precise indications on this point were not adduced. This fact, however, has been quoted and adopted by all subsequent writers; and is, probably, substantially correct.

Mr. Jules Labarte (1847), in "Catalogue rai-

* It may be doubted whether three or four of the specimens are not imitations of the manufacture by a contemporary or follower of the original producer: these exceptions, however, supposing them to be so, only seem to support the main fact, that the ware is substantially the invention or speciality of an individual artist.

† M Pottier was unable to verify this mark: in all probability it was that on the "Espoulart" plateau, now in the South Kensington Museum; see No. 1218. No other maker's mark or signature occurs on any of the known specimens. Unfortunately this mark does not seem susceptible of any valid interpretation: most assuredly it would be an entirely gratuitous supposition to connect it in any way with the ancient potteries of Beauvais.

sonné du Cabinet Debruge-Dumenil; Introduction, Art Céramique," p. 305, notices the analogy which this pottery offers to the chiselled and damascened goldsmith's work of the same epoch, and states that the greater number of the pieces came from Touraine and La Vendée.

Mr. Henri Delange (1847), in a brochure entitled "Girolamo della Robbia," &c., &c., endeavoured to prove that this celebrated Florentine artist was the author of the Henri Deux ware: his only evidence was the occurrence of the initial "G" on the "Odiot" ewer (now Mr. Magniac's, No. 1200 in this collection). Mr. Delange appears, even at present, disposed to adhere to this opinion as a probable supposition.

Mr. de Laborde (1855), in a note in the work entitled "Le Château de Boulogne," shows the want of verisimilitude of Mr. Delange's theory, and states the far more probable inference, that the initials are those of the first possessors of the pieces, and have no reference to the artist.

In 1861-2, came the important illustrated work of the Messrs. Delange, containing chromo-lithographic engravings of all the known specimens.* Mr. Henri Delange, in the text to this work, reprints *in extenso* all the notices by previous writers, and gives an appendix of his own, which, however, adds but little to our previous stock of knowledge. He endeavours to establish three epochs or classes of the ware; and, as has been already noticed, still seems to adhere to his original hypothesis, ascribing the authorship to Girolamo della Robbia. The Messrs. Delange have, at all events, rendered a most important service in practically bringing the various pieces together for comparison, by the means of these illustrations.

The very remarkable and original process of manufacture of the Henri Deux pottery is not easily described: for its complete understanding a certain acquaintance with the "*technique*" of the potter's art in general, is essential. Neither in the body of the ware, glaze, nor enamel colours, is there anything mysterious; and the actual method of building up or constructing the pieces, though complex and very ingenious, is obvious to the practical potter, and can be imitated step by step most exactly. Two principal processes have been followed;—first, the modelling of portions in relief, which were made separately, generally in moulds, afterwards carefully modelled up by hand, and finally stuck on or "*appliqué*" to the body of the piece, before it was fired; and the flat ornamentation, consisting of interlaced scroll-work, rosettes, initial letters, &c. (in which is the greatest novelty). This, instead of being painted on the surface of the piece in enamel colours, as in ordinary wares, is encrusted or inlaid, like niello-work or "*damasquinerie*" on metals, the coloured inlays being of the same substance as the body of the ware, namely, ordinary clay, but of different colours. In most of the pieces will be noticed, in addition to the brown, dark reddish, or yellowish inlays, transparent enamel tints of purple, green, blue, and yellow; these are used very sparingly and floated into the glaze, which covers the entire surface of the pieces; this glaze is very thin, transparent, and of a slight greenish-yellow tint, being probably an ordinary "lead-glaze," whilst the body or "*pâte*" of the ware is a simple creamy-white pipeclay, very light, yet compact, and harder than the usual red or buff clays of the common French *faïence*.

The inlaid details, of which there is a great variety of patterns of rosettes, knotted frets, guilloches, foliated arabesques, initial letters, &c., nearly always arranged in repeating series as strings, ornamental bands, enriched mouldings, diapered grounds, &c., have been produced by mechanical means, viz., by metal punches or matrixes, many of which (perhaps, indeed, the greater part) appear to have been bookbinders' tools, or type-metal ornaments used in printed books. With these instruments the patterns were stamped into the clay,† forming cavities or "intaglio" patterns, afterwards filled in with the coloured clays.

There are no duplicate pieces of the Henri Deux ware. Although the ewers, candlesticks, tazze, salt-cellars, &c., have a sufficiently close general resemblance to each other, they all vary widely in their outward forms and details; each specimen, indeed, seems to have been virtually unique of its kind. The same inlaid patterns or stamps, and also many of the details in relief, it is true, re-occur over and over again in numbers of specimens; but on comparing the pieces with the corresponding or similar ones, the actual facts of detail will be found to be entirely different.

With respect to the date of the ware, there can be little doubt that its fabrication took place mainly during the course of the reign of Henri II. (1547—1559). Not only is the style of the pieces precisely that of the prevalent and most beautiful French Renaissance of that period, but the period is confirmed by the fact, that a considerable proportion of the specimens seems to have been actually made for this king, inasmuch as his well-known monogram, the H, the ambiguous double D (or H interlaced with two C's), commonly supposed to be the monogram of Henri and his mistress Diane de Poitiers, but in reality that of the king and his queen Catherine de Medicis, the interlaced C's, or crescents, &c., are found on so many of the pieces,—on one only (Mr. George Field's salt-cellar, in this collection) occurs the salamander, the device of Francis I., whilst there are no indications referable to the reigns of the successors of Henri Deux (François II. and Charles IX.), or to any later period. It may be fairly presumed, then, that the fabrication commenced towards the end of the reign of Francis I., and most probably ceased, probably by the death of the artist, during that of Henri II. If, then, we allow, at the outside, twenty years (1540—60) as the duration of the manufacture, we are pretty sure to have embraced the entire period, which, however, was most likely much shorter.

The armorial bearings, found on several of the pieces, are those of royal or noble French personages of the period stated; the arms, however, do not throw much light on the subject in any other respect.

The writer believes that, with the exception of two or three specimens, all are from the hand of the original artist; the exceptional pieces are also apparently by one person; and as they are very similar in style, showing the same inlaid patterns, produced from the original matrixes, but are in every respect ruder and inferior, both in design and execution, he would infer that they were the work of an immediate successor or imitator; perhaps a relative or pupil, whose labours had but little duration, and, from their marked inferiority, no success.

The original artist-potter, then, the inventor of this ware, was apparently in much the same position as Bernard Palissy, whose labours occupied a somewhat later period, and who (Palissy) may or may not have been acquainted with the productions of his predecessor.*

That the Henri Deux ware, then, was mainly the speciality or invention of an individual artist-potter, may perhaps be taken for granted; that it was produced in Touraine, the stronghold of the French Renaissance, seems also most probable; that the artist was a Frenchman, and not an Italian, is the writer's strong opinion; he also adheres to the belief that he was originally a goldsmith, or at least a worker in metal. The combination of ornamentation in relief and incrustation, taken in connexion with the peculiar lightness of the forms and fragility of the pieces, suggests, indeed, the idea, that the damascened metal ewers and candlesticks of the early Cinque-cento period were the real prototypes of these exquisite specimens of pottery.

Finally, it may be observed, as regards the actual process of inlaying or incrusting clay of one or more colours into a common ground or recipient of another colour, though it was an entirely novel one as applied to the curved surfaces of earthen vessels, it had long been carried out in France, and England in a ruder manner, in the flat encaustic tiles of the Middle Ages.

There are in all fifty-three pieces of Henri Deux ware now known to be extant. Of these twenty-four are in England, and are all in the Museum.

LAYER MARNEY, ESSEX.

At the annual meeting of the Essex Archæological Society, held on the 7th instant, when the society visited Layer Marney, Mr. C. F. Hayward, one of the hon. secs. of the Institute of Architects, gave a description of the building, the history of which is contained exactly in the first quarter of the sixteenth century—1500 to 1525. He would observe that history was as great an illustration of architecture as architecture was of history, and in speaking of one the other must be continually referred to. For instance, they had in this building a peculiarly strong instance of transition, or change from one style of architecture to another, owing, principally, to the events of the time. The general characteristic of the whole building was Gothic, of a very late and debased, though still flourishing, style; while certain details, such as the mouldings of the upper cornice and ornaments on the parapet, together with the larger mullioned windows, were of a style prevailing at that time in Italy, being a revival of Classic art. This was owing to the intimate connexion then existing between the court of Rome and that of King Henry VIII.; and he had no doubt whatever that these particular portions, if not brought over from Italy itself, were from the hand of some Italian artist working in England, as many Italians were then engaged upon the tomb of Henry VII., in Westminster Abbey, and other buildings in England. He felt indebted to Mr. Digby Wyatt for some valuable notes on this subject, which went to prove this fact. He was also obliged to the same gentleman for the loan of some drawings, which he exhibited, of a complete building of about this date,—viz., Compton Wyniate, in Warwickshire, and which would help to show what Layer Marney would have been if completed. Layer Marney differed from this, however, in having a far more magnificent gateway, with much more extensive buildings for the accommodation of retainers, stabling, &c.; and the whole plan, if carried out, would have been upon a grander scale. In opposition to what was stated in most of the county histories, that a great portion of the edifice had been destroyed, he was satisfied, from certain indications in the brickwork, &c., that very little, if anything, had been built beyond what was now existing. It would be observed that the tower, as it is called,—which, however, was really only the magnificent entrance gateway to an intended court-yard of corresponding grandeur, and which contained two spacious apartments, besides nearly twenty smaller ones, — afforded access by a broad winding staircase of oak in one of the corner towers to the west wing as it at present exists. No corresponding east wing was ever intended; and therefore this feature was not the centre of the general mass, as might at first be imagined. Mr. Hayward exhibited drawings in illustration of the noble character of the subordinate buildings for retainers already referred to, which occupied the place of an east wing, extending nearly 150 feet, and which, with the exception of the dressings of the doorways and ground-floor windows of Purbeck stone, were entirely of moulded brick partially covered with plaster. The roofs, &c., were of an equally substantial character, being of massive oak, open to the ridge, and with ornamental trusses. A portion of the upper floors of one of these buildings was used as a dormitory, the windows being glazed, while those below were merely closed with shutters, and were, probably, used as stabling. The other building was evidently divided into five large apartments, as was proved by the construction of the roof and the position of the doors and windows: a range of fine buttresses would be observed on the south side of the exterior of this building, which were not found in the opposite one, the necessity for which obviously arose from the fall of the ground on that side; and which showed that the ground in front of the gateway had been considerably raised.

The upper apartments of the west wing, now inhabited by the owner, the Rev. S. Farman, were then visited, and Mr. Hayward pointed out the beautiful details of the terra-cotta windows of Italian design, and the ceilings formed of oak ribs filled in with white plaster work.

The corresponding windows of the large apartments in the gateway exhibit even now, though in a sadly dilapidated condition, some of the oak

---

* "Recueil de toutes les Pièces connues jusqu'à ce jour de la Faïence Française dite de Henri Deux," &c., par MM. Henri et Carle Delange. Paris, Quai Voltaire, No. 5.

† It is important to observe, however, that these stamps were not applied directly to the surfaces of the piece by hand, or one by one, as it were; on the contrary, the pattern, by their means, was first stamped in the hollow surfaces of terra-cotta or plaster moulds, from which entire portions of the encrusted details were produced at once, by the process called by potters "pressing." These portions, forming thin "plaques" or bands of clay, carved to correspond exactly with the shape of the portion of the piece to which they were to be applied, were then encrusted bodily or applied to the surfaces of the vessel in process of being built up. It is, unfortunately, almost impossible, without diagrams or models, to explain more clearly the ingenious process here shadowed out.

* The probability is that Palissy did not see any specimen of Henri Deux ware, till his own fabrication had been brought to a successful issue. It is not unimportant to remark that there was no novelty whatever in either the clay body, glaze, or enamel colours, of either of these artist-potters, all of which had been known and in use for centuries before, both in Italy, and perhaps also in Germany. Palissy at all events, however, was unaware of this fact, and consumed years of time, and took an infinity of trouble, to re-discover for himself, what the humblest potter of Faenza or Urbino could have taught him in a single day. In technical respects, indeed, the French potters were but the merest tyros by comparison with their Italian brethren, whose processes and results, exhibited in the endless varieties of their enamelled earthenwares, are at this day unrivalled and unapproached. The real and great merit of both the potter of "Henri Deux" and Bernard Palissy, is the admirable taste and originality in design of their famous wares.

finishings, and the chimney-pieces retain their exact position and original character.

It is to be regretted that these noble apartments should have been allowed to fall into complete decay, the original floors being entirely gone, and only some of the beams remaining; while all the windows are built up. If restored to their original condition, these apartments would form the most beautiful as well as the most important features of the edifice as a modern residence.

Leaving the domestic building, the visitors proceeded to the church adjoining, which, from the similarity of its architecture as well as its position, forms an important feature in the entire group. Mr. Hayward observed that, although nothing now appeared of a date anterior to the mansion itself, there could be no doubt that an earlier building once existed, as it appeared that, in the time of Edward III., William de Marney founded a college for a warden and two chaplains, to two chantries attached to the church. In the choir is a handsome marble monument, with recumbent effigy, to Sir William Marney, High Sheriff of Essex and Herts, who died in 1414, and desired by his will to be buried in this spot. A canopy tomb, within an arch between the chancel and the chapel on the north side (with recumbent effigy), is that of the first Lord Marney (Henry), who died in 1524, the details of which correspond exactly with the Italian details of the windows, &c., of the mansion before referred to.

The tomb of Lord John Marney, son of the above, who died in the following year (1525), is placed, according to his will, in the middle of the same chapel behind the screen, and exhibits the striking peculiarity of an altar placed at the foot of his effigy, also by his own direction. The stone slab of the altar does not now exist, being probably destroyed a few years after its erection, as soon as the doctrines of the Reformation obtained the ascendency.

PORTLAND STONE.

The Parliamentary Commission for inquiring into the condition of the Houses of Parliament, and the description of stone best qualified to resist our London atmosphere, having reported favourably to that of Portland for use in future public buildings in the metropolis, it may be well to draw the attention of our readers to an ably executed column in the International Exhibition, by Mr. Field, of Parliament-street, which, from being placed in the Architectural (Class 10) instead of the Quarrying Department, and termed in the catalogue, moreover, "a marble column," may otherwise escape notice.

This column combines fine samples of the three beds of stone in the island of Portland; which, according to the description affixed to the column, have been raised from extensive quarries on the private property of Mr. W. H. P. Weston. The stone from these quarries appears to have been much used in the public buildings of London, as, in addition to those mentioned in the description attached to the column, viz.—Somerset House and the British Museum, we find, on inquiry, that it has also been employed in the erection of Bridgwater House and the Treasury.

ST. CLEMENT DANES HOLBORN ESTATE SCHOOLS.

In but few districts of the metropolis have the clergy done such good service in the promotion of education and social advancement as in the ancient parish of St. Clement Danes; a locality which contains in its population a large amount of the poorer classes, and also of persons who are very difficult to deal with. The parishioners have joined in this laudable work. Two centuries or so ago, an institution called the "Holborn House and Estate Fund" was established, which has contributed to various useful purposes connected with this parish. In Milford-lane and Clement's-lane there are excellent schools—for infants and others—in which there are upwards of 400 children. The charges of admission to these schools are very small; and they are intended for the use of the families of the working classes. These schools are most necessary; but there is also, as we have before remarked, a great need, in almost every district of the metropolis, of educational establishments for those belonging to a higher grade in society. These should be in suitable situations, carefully provided with the requisites for health. They should be well managed, and under careful and responsible inspection. In St. Clement Danes, a public school has been opened in Houghton-street, Newcastle-street, which meets the requirements to which we have referred. The object of the new school is explained by its name, "The St. Clement Danes Commercial Grammar School and Middle-class Girls' School." It is most desirable, in order that this example may be imitated in other parts of London, that the tradesmen and others of the neighbourhood should give it encouragement by sending their children to it. Here, at a very moderate cost, a good commercial and classical education, it is understood, will be given; and, what is so much to be desired, a right middle-class education for girls.

The new building is handsome, and well adapted for its intended purposes. Notwithstanding many evident advantages, it is by some considered that these places are charities, and they therefore object to them for this reason: but these schools have no more right to be called charities than Eton, or the "Grammar Schools" which were commenced in many towns throughout England in the reign of Queen Elizabeth.

The establishment has two frontages in Houghton-street, separated by other houses. These are faced with stone, Italianized Gothic in style; and include, on the ground story, granite columns with foliaged capitals in stone. The buildings include schools for 150 or 200 boys, about 100 girls, and 200 infants, and three residences. Mr. Hesketh was the architect. From 14,000*l.* to 15,000*l.* have been expended.

VENTILATE YOUR CELLARS.

In few of our household arrangements is there so little care taken as there is of the under portions of our dwellings. In many instances our cellars are not only unwholesome themselves, but are also the cause of danger in other apartments It must be acknowledged that there is difficulty in the way; for as regards the storing of both ale and wine, it is necessary to preserve an equal degree of temperature during both the summer and the winter; and in order to effect this it is a common practice for persons to shut out by all possible means the heat of the summer sun and the frosts of the winter: in this way the bottles and casks and their contents are cared for; but, by the process, poisonous gases are stored up which from time to time are distributed throughout dwellings. In connexion with many of the taverns, both in the metropolis and throughout the country, this defect is very evident; and on entering those places there is a strong, unwholesome smell of stale fermentation, which pervades the air. To add to this evil, there is often in the cellars the leakage of drains; which, being pent up, is likely to be most injurious to health.

The ventilation of cellars is a most important subject, to which we may refer by and by at greater length; but just now we may hint that in the summer, ventilation can be managed without the admission of heat; and in the winter there might be much good effected by ventilating in connexion with internal doors and chimneys.

ST. ALBAN'S ABBEY.

In the course of a paper on St. Alban's, read at the Barnet Institute, by Mr. J. F. Earle, the reader said:—

Let us pay a visit to the town of St. Alban's. We will make for the venerable Abbey, and trudge through the Roman city. I may mention that the Abbey was founded by King Offa; but truly our martyr is little indebted to the founder of the Abbey for attaching his, St. Alban's, name to his remorseful attempt to bribe Heaven for the murder of Ethelbert, the Anglican king, who, in the year 792, came to Offa's court as suitor for his daughter's hand, when he had received a promise of security, and was entertained with lavish hospitality; but was foully murdered on the very night of his arrival. Offa, with one hand, coolly annexed the kingdom to Mercia, and with the other founded St. Alban's Monastery, to atone for his crime; and, perhaps, also to afford a resting-place for travellers between London and York. This Offa was called the Magnificent in those dark days.

Had our martyr been living he would have declined this magnificent Offa's magnificent offer to erect an abbey to his name, to be at once a monument of the glory of Alban and the guilt of Offa. History is more faithful than to allow such an attempt to succeed. It records that Offa died four years after his victim, and that none of his family prospered.

The Abbey, since the foundation, has been entirely reconstructed by succeeding generations: in fact, it presents a history extending from its foundation to the present time, and is like, if I may so say, a book written and engraven with Roman, Norman, and English history in every line. Look at its pinnacles, parapets, and arches of old Roman bricks: notice next its Norman tower; then its later lighter architecture; then its modern gaiety of stone foliage and flowers: and you have a book worth looking at. While you are gazing on this noble structure, a shovelfull of rubbish is thrown down from the roof they are repairing: for a moment it catches the sunlight, and makes a tiny golden cloud against the blue sky, then falls at your feet. It is not every-day rubbish. See, amongst it are bits of brick which Roman hands have built into Roman walls, before the Saxon or the Norman pulled down the walls of Verulam, and made of them Saxon and Norman walls; rather interesting rubbish that; forming as it did part and parcel of that old city of Verulam, or Warlemchester; once the stage of human affairs where men went seriously and industriously about their business.

That rubbish came from the "pavement on which the Romans trudged; or the shop in which they worked; or the exchange in which they crowded; or the hall in which they sued; or the court where they solicited;" or perhaps the school where they disputed.

So the old Abbey tells a tale of the yet older town. But we have more than this handful of rubbish to guide us in forming an idea of what old Verulam was. There are yet the remains of the walls with which the Romans used to enclose an oblong square area for laying out their cities; which cities, in Britain, consisted of two main streets crossing each other at right angles, and having exit by four gateways in the walls at their extremities.

The remainder of the streets, besides these two, were probably a vast number of narrow inhabited thoroughfares opening into them.

Never let us suppose that we are back again at the place where Alban suffered;—where after generations have delighted to rear, age after age, St. Alban's Abbey, that vast monument with which many noble names are associated: but of them all the protomartyr is the noblest. We should no doubt sketch his life before we regard this monument to his death; but, as we have had occasion already to refer to the Abbey, we will again glance at it, and then go to the man to whose memory it is raised.

We have seen that old task-master, Time, hand over to Norman builders the bricks which Roman fingers had formed for these Norman builders to turn their arches and build their towers withal; then we have seen him send the Normans rattling down their ladders, and up run our Early English forefathers till it is their turn to run down again, and give place to the next school of masons, who decorate with every form of life the dead stone, and disappear.

But the work cannot stand still: the building must be completed; and Time employs the last lot of labourers, who consider their predecessors too free and easy in their style; and so they begin with the dignity of perpendicular arrangement; but the old taskmaster lays these perpendicular parties alongside their ancestors. Last of all, he calls for (not Michael, but) Gilbert Scott; teaches him out of this old architectural lesson-book of ages. Having learnt his lesson, he repeats it by rote; by everywhere preserving St. Alban's monument, which old Time has given his favourite son to take care of in this nineteenth century.

FOREIGN NEWS.

The passenger traffic commenced for the Paris Chemin de Fer du Ceinture on the 17th of July. Starting from Bercy, this portion, now opened, passes over the Lyons Railway, traverses the gardens of Saint Marcennes, traverses the Avenue, and arrives at Charonne, where the first station is. Thence the line passes under Père la Chaise by a tunnel 1,080 mètres (about 5 furlongs and 4 chains) in length, and arrives at the railway terminus of La Mare, where there is a second station. On quitting this latter, another tunnel, 1,100 mètres (nearly 5 furlongs 5 chains) in length, and the Villette station is reached. After the third station, the line traverses the Rue d'Allemagne, the Saint Ourcq Canal, and the Rue de Flandres, on viaducts; then, passing under the Chemin de Fer de l'Est, crossing La Chapelle, it runs behind the Buttes de Montmartre, and joins the station of Batignolles-Clichy, near the junction of the Saint Ouen line. This is the extreme point of the passenger circulation. The distance is 14 kilomètres (8¾ miles); and the time of journey, 30 minutes. Very little extension will take place beyond this point. As far as the left bank

of the Seine, in Ivry, the works are progressing; and it is proposed to establish there a passenger terminus.

The Lyons Railway Company has reduced its tariff to one half the usual rates, for the carriage of agricultural implements sent to the general Exhibition of Algiers.

The Cathedral of Notre Dame has been again closed for repairs to be carried on. Service is held in the chapel of Saint Jubar-le-Pauvre, situate in the centre of ancient Paris, between the Rues Gallarude and de la Bûcherie.

It appears that the Brussels Convention of 30th June, 1858, with regard to the transmission of telegraphic despatches from one country to the other on the Continent, has been adhered to by most of the European Powers.

In the middle of June last, an important treaty for the same purpose was concluded between the Governments of Austria, Turkey, Roumania, and Servia. The above Powers reserve the right of concluding telegraphical conventions between themselves and with other states; nevertheless, they bind themselves to adopt in these conventions, as a basis for the manipulation of the despatches, the rules contained in the convention of Brussels, the 30th June, 1858, or any other rules introduced by those who signed that convention.

THE CLERKENWELL SESSIONS HOUSE.

This place, as our readers know, has in its external appearance been much altered for the better; but it is difficult to change a large and very unsightly building into one pleasant to the sight; so still, notwithstanding the considerable expense which has been expended upon it, it is not, architecturally, a worthy house of justice for the populous and wealthy county of Middlesex.

In the interior, however, the arrangements, ventilation, &c., have been much improved; and there are space and considerable accommodation for the large number of persons who are called here on various kinds of business. The principal court-room is lofty and well arranged; and the ornamentation of the roof is made to aid the ventilation. The means of heating in the cold weather is well managed; but in the summer-time, when the windows are open, the noise of the surrounding neighbourhood is a cause of interruption. During the business of an important trial, there may be heard the loud voices of the motley crowd which assemble here for the purpose of getting a glimpse of some friend in trouble; the sounds of bands of music; organs; the roll of railway vans and other carriages. Those street noises cannot be helped; but this circumstance shows that buildings in such situations, intended for such purposes, should not depend for their effective ventilation on the windows.

In glancing at this interior, one cannot fail to be struck with the want of harmony between the excessive ornament of the roof and the bareness of the other parts. Some of the pictures which crowd other parts of this building might with advantage be hung on the wall, and suitable portraits added from time to time. Where is Mr. Pownall's portrait?

ROLLED IRON: GIRDERS.

Improvements in rolling iron, and the provision of rolled beams and girders affect our readers greatly. The *Times*, in one of its recent articles on the International Exhibition, gives some information of which we may usefully quote a part:—

Specimens of boiler-plate are shown, doubled hot and doubled cold, and punched under various trying conditions. The Butterley Company exhibit a rolled boiler-plate, 12 feet 9 inches long, 7 feet 6 inches wide, and 1¼ inch thick. This company has a truly magnificent collection of rolled iron, which does honour to the country. It is stowed away under a miserable shed adjoining the Eastern Annexe; and though, undoubtedly, one of the most important in the whole Exhibition, may, we fear, from the obscurity of its position, have escaped general attention. The Shelton Bar Iron Company exhibit a boiler-plate of considerable length (No. 322), which is placed vertically. It is not easy to roll so large a plate; as, owing to its thinness, the iron cools very rapidly. The edges are left unshorn; but, in this respect, will not bear comparison with the Lowmoor plates; nor, indeed, is its surface all that could be desired; though, on the whole, the article is very creditable to the manufacturers.

For the edification of British ironmasters, we may state that we have recently been apprized, on good authority, that Krupp proposes to construct rolls not less than 17 feet in width, and to manufacture therewith a boiler plate sufficiently large to form of itself an entire boiler. And from the great things which Krupp has already achieved, we have little doubt that he will effectually accomplish what he proposes in earnest.

The Exhibition contains many very interesting illustrations of welding under difficult conditions; and of these we will point out a few, without attempting, for want of space, any description of the processes employed. The Butterley Company's large girders, of which one is in the form of a double T, 12 inches across each end, and 3 feet deep, is welded longitudinally. The label is not sufficiently explicit, and has led some persons, even engineers, to conclude that the girder was made entirely by rolling. In No. 1,285 of the English department is shown a stamped, solid, wrought-iron wheel, made by an ingenious process invented by Mr. Arbel, a Frenchman.

The French appear to have made great progress in the manufacture of iron; and we are indebted to them for many ingenious mechanical contrivances. Two instances in the case of railway wheels have just been mentioned; and to these might be added a third—the process of Messrs. Pétin, Gaudet, & Co., of making "weldless tires," of which the Blaenavon Company exhibit specimens manufactured by themselves. The French have actually exported bars of beam iron to England as an article of commerce, which hardly seems to indicate the necessity of their present tariff with respect to iron.

The Belgians have also imported into England similar descriptions of manufactured iron; and, in proof of this, we insert the following communication from a large mercantile house in Liverpool, which may not a little startle our ironmasters and astonish the British public:—

"July 14, 1862.

For several years past we have been in the habit of importing from France and Belgium rolled beams or girders, which the *British* ironmasters declared it was impossible to produce. By great personal exertion during the last few years, we have induced several ironmasters in this country to undertake to produce this kind of iron; but even now, if we require any very *light* or difficult section of iron, we have to procure it from Belgium, for our own ironmasters still tell us such *cannot* be produced. We are in this country (or were two or three years ago) half a century behind the French and Belgian makers in the manipulation of rolled iron; and a great disgrace it is to our ironmasters. It is only last year that the great house of —— contracted to furnish us with a parcel of girder iron, 8 inches × 4 inches × 4 inches, and 8 inches × 5 inches × 5 inches, within a given time. After bungling over the order for double the stipulated period, they had to confess their inability to produce it; and, as the contractor was waiting for the material, we had to send the order to Belgium, and it was executed instantly. This transaction we recollect especially, because we offended our customer, who was injured by having to wait for the iron; and the —— took umbrage at not being able to do what they deliberately undertook with a full-sized end section before them. Since then, we presume, they must have improved; for we see that they have received a medal for this form of iron. We sell the Belgian girders at about 12*l.* 10*s.* per ton for 12 inches × 5 inches × 5 inches, delivered at Hull or London. Small sizes are cheaper. The French make is rather dearer than the Belgian. The Belgian tariff *excludes* British iron. So much for the progress of free trade!"

Years ago we urged in the *Builder* the desirability of offering a large premium to induce the improved production of rolled iron girders.

THE EVILS OF CARELESS TENANTS.

While examining into those neglects of sanitary arrangements by landlords of which thousands of tenants, with much justice, complain, many shortcomings on the part of a large number of the tenants themselves will be noticed; or tenants who, by carelessness and want of attention, do much damage to the premises which they occupy. This arises from various causes: one is the entire dependence on the landlords for trifling matters which might, by a little patience and contrivance, be attended to by the parties themselves. Hundreds of drains and sinks are choked by putting tea-leaves, potato parings, and similar matters into them instead of the dust-bin. They who are called in to clear those obstructions find scrubbing-brushes, bottles, broken crockery, children's playthings, the cuttings from hair-dressers' shops, old shoes, kittens and puppies, lumps of tile and brick, fire-wood, rags, and even more extraordinary materials.

In houses where the water is properly laid on, it is often so much neglected that the drains become stopped; and many times those stoppages, which could be removed by the use of a cane, are allowed to remain until the whole place becomes overflowed, and so unhealthy that complaints are made: the workmen are sent for, the pavement and drain taken up, and a considerable expense is incurred.

Formerly it was common, and it is so now in the country, for tenants of the working and middle class to attend, themselves, to little and necessary repairs; but in London we have seen,—by the slipping of a tile in a situation where it could be easily replaced by any one,—the ceilings and walls spoilt and disfigured by the rain-flow through the roof: there is no end to the damage which is caused by the damp which arises from the neglect of the timely cleansing of rain spouts and pipes.

Where there are children, the want of attention to doors is often a cause of mischief; for by allowing them to bang in windy weather, the plaster of the staircases and ceilings is cracked and destroyed. In houses let in tenements, it is not unusual to find the hearths in every room broken, in some instances into a hundred pieces, by the ill practice of breaking coals and chopping fire-wood upon them; and this has also an effect on the ceilings below. In these rooms the injury done by carelessness in spilling water, &c., is often considerable. By smoky chimneys the walls and ceilings are dirtied. This frequently cannot be helped; but there are many cases of this being caused by the want of timely sweeping.

Children should be taught to keep their fingers from picking wall papers, and poking holes in plaster; but even when damage has been done, in many instances it can often be neatly hidden by a little paste and a pennyworth or two of paper of a pattern to match. But what we complain of is that these little contrivances are not thought of, and matters are allowed to go on until the place is not fit to be seen; and then complaints are made to the landlord, who grumbles and sets the place right, at a cost, the tenant being put to great discomfort during the operations. Notwithstanding the neat appearance of papered walls, there are some reasons to regret their introduction: it has almost put an end to the wholesome custom of spring-time and autumn wall-colouring; but even still there is opportunity for this; and in little kitchens, wash-houses, closets, &c., wonders may be done with very little trouble, by borrowing a brush, if the housewife has not one, and some materials from the oil and colour shop, which would come to about sixpence altogether.

CRUIKSHANK'S "WORSHIP OF BACCHUS."

The large temperance picture thus entitled, on which Mr. George Cruikshank has been at work two or three years, is now to be seen at No. 21, Wellington-street, and will be found a very remarkable work. A canvas, 13 or 14 feet in length, and perhaps 8 feet in height, is crowded with groups separated from and yet, to some extent, connected with each other, showing all the circumstances under which drinking is indulged in, and the frightful evils and crimes which drinking leads to: the happy wedding party, where the champagne circulates moderately; the Irish wake, where drunkenness and evil follow; the officers' mess-table; the private soldier tied up to the halberds hard by, suffering punishment for bad deeds, the result of drink. Murder, robbery, and arson are illustrated; and in the centre of the picture is a monument to Bacchus; while around it, as into a pit, fall a lost and frightful rabble,—all the vice, crime, disease, destitution, and misery of the world: houses are on fire: ships are being wrecked; and breweries and distilleries form a background to the picture, on one side; the workhouse, the lunatic asylum, and the prison, on the other.

Not the least remarkable circumstance connected with the picture, and not the weakest claim for public admiration of the painter, is the fact that, after achieving a world-wide reputation as a caricaturist and sketcher, by etchings and drawings produced before many present eminent artists were born, Mr. Cruikshank, at an age when rest would be excusable, should set himself to overcome the difficulties of painting in oil, in order to place before society in a permanent and striking form this ghastly record and vivid warning. It is about to be engraved, so that the sermon it preaches will be heard far and wide.

LONDON AND PARIS STREETS.

While the praises are being sung of what has been done in Paris, it is as well to hear what an intelligent Frenchman has to say about it. Mr. St. Girardin thus writes in the *Débats* on some of the changes made:—

"We are told that the fashion of our new streets in Paris has considerable resemblance to the new streets in London. There are, indeed, streets in which I confound the two capitals when I see the

long perspective of stones all in a straight line. I do not reproach our streets with being too English: I rather reproach them with not being sufficiently so. And, first of all, who shall give us in Paris the pleasure of having, each of us, our own house, instead of the brutal *pêle-mêle* of the common staircase? And who shall give it to me cheap, as in London? For 3,000f. or 4,000f. I have in London a house or a mansion complete. In Paris, for the same sum, I have hardly a garret—gilded, to be sure. In London, what an excellent fitness in the management for every-day life! I complain that while we imitate these large and noble streets in front, we do not imitate them in the rear; and, though we have servants' staircases in our houses, we have not behind our own great and noble streets, streets of service, as there are in London. It is in these streets in London that are placed the kitchens and the stables: it is in them that the working people and the retailers are lodged. There the tradesman pays a low rent; and he is not forced, as with us, to make his customers pay the price of his magnificent frontage in the magnificent street. I am sometimes tempted to believe, when I walk in the Rue de Rivoli or the Boulevard de Sebastopol, that we have all of us, or nearly all of us, an income of 100,000f. In fact, we want it with our fine streets, and our fine houses, which contain only rich apartments and a commerce of luxury, with our macadam, which obliges us to keep a carriage, or to walk on stilts as they do in the Landes. People say that we are a society of democracy and equality: now I know nothing which less shows equality than the macadam. To bring the poor man to the rich, to make room for them in the same quarter, if not in the same house, is the great commencement of charity, and of Christian equality; but the Paris of our day does exactly the reverse. The luxury of our streets and our houses, and the dearness of our lodgings, drive the poor man far away from the rich. Paris is divided into tribes, differing in life, in manners, in ideas, and in sentiments. The tents of these tribes cannot in our day approach each other any more than their hearts. I speak of tents, because with the ardour for demolition, which the ardour of building has begun to equal, Parisians have been for the last ten years reduced to the condition of a nomad population. The Parisian does not know in June where he may be lodged in October. One of my friends has been forced to change his lodging three times in two years. The last time he did so I advised him to buy a tent, and ask for permission to pitch it in the square of the Hôtel de Ville."

IPSWICH MECHANICS' INSTITUTION.

REOPENING OF LECTURE-HALL.

The Lecture-hall of the Ipswich Mechanics' Institution has been reopened, after undergoing extensive alterations and improvements. At the opening meeting, Mr. Charles Austin, the president of the Institution, who was in the chair, gave the following account of what had been done for the improvement and embellishment of the hall. To the good judgment and active intelligence of Mr. T. S. Gowing, he said, they really owed all that had been done. They would observe that the principal improvement in the room was in the ceiling, which was formerly closed, rendering the room close below, stifling the air, and, to some extent, excluding the light. The hall, in its former state, was by no means of the first order for the purposes for which it was intended. He was now learning to practise acoustics, to test the improvement in the construction of the room; and, so far as he had gone, it seemed to him that he spoke and made himself heard with ease and facility (to which the audience very appropriately responded with "Hear, hear"). He did not feel that pressure upon the chest he had experienced on former occasions. The improvements were not confined to the clearing away of the old ceiling: the room had been ornamented in a very judicious way—sparing in expense, and at the same time very satisfactory to the eye. But he thought the main observation to be made on the matter next to the acoustic improvement was, that they had added no less than 14,000 cubic feet of air to the interior of the room. That was most important, because the room was before too close. He would not enlarge further upon the alterations, except to allude to the great improvement in the gallery front. He had gone over the whole building, and he was struck with the great renovation and improvement that had been effected. He would now say a word or two as to the expense. The estimate was about 300*l.* in round numbers, and the total expense a little exceeded 400*l.* He would say the total cost of the alterations would be 450*l.*

The thanks of the meeting were warmly accorded to Mr. Gowing, and gracefully acknowledged by that gentleman.

ROYAL ITALIAN OPERA.

"Masaniello" has been produced with admirable appointments, some charming scenery—to which Beverley, Grieve, and Telbin contribute—and a completeness in respect of musical arrangement, which will command for its next season a large share of popularity. There might be a better *Elvira* than Mdlle. Battu; but in other parts, Mario, Graziani, and Polomini are admirable. The first scene of the third act, the market-place, is a remarkable work; effective and beautiful.

Even this scene, beautiful as it is, shows how much needed some fresh arrangement is, in respect of skies. If Mr. Foucault's system, of which we hear from Paris, effects all that is said of it, it will bring a great improvement. The sky being often required, he has made the upper part of it fixed, of a dome-like shape, as in nature: the lower or perpendicular part is of canvas stretched on frames, and arranged cylindrically, so as to form a panorama, the end of which cannot be perceived from any point of the house. His mountains or towns of the background are independent of the sky, and stand forth in real relief; so do his trees or shrubs, which are made to rise from or descend below the floor. As for those objects which are nearer the foreground, they are made of two pieces—the lower one to sink down; the upper one, a fly, to be drawn upwards when a change of scene is required. If what is said be true, his views of the sea or of interminable plains display a vast expanse never yet seen on a stage: rich architecture is also cut out, and shows beautifully on the fixed sky of the background, which, however, is so contrived that all the phenomena of storms, sunset, approaching night, travelling clouds with varying illumination, &c., are imitated with surprising fidelity.

Perhaps some of our own excellent scene-painters will look into this. We know there is a difficulty in the construction of the flies, but this must be overcome. The lime-light, as improved by Mr. Gye, has been exhibited on the staircase of the Opera House for some nights past. A company, it seems, has purchased Mr. Gye's patents; and, in conjunction with Captain Bolton's system of day and night telegraphy, intend to work them.

DINNER TO MR. DOWNS, CONTRACTOR.

A few days ago the Vestries of St. Saviour, Southwark, and Christ Church, assembled to view the new street in Southwark, and more particularly the subway formed in it, which had been illuminated for the occasion, from the Borough High-street to Bridge-street. Those who were present expressed great satisfaction, as well as to the skill of the engineer, Mr. Bazalgette, as with the very efficient manner in which the works had been carried out by Mr. William Downs, the contractor; and, in order to convey this to the latter, it was resolved to invite him to a dinner. A committee, to carry out the intention, was formed, including Messrs. A. Gwilt, Charles Harris, Wm. Hayward, B. Isaacs, J. W. Monnery, G. Riley, Eli Richards, J. Robertson, and J. White.

On Wednesday last the dinner came off, at the Bridge House Hotel, when Mr. Harris (their representative at the Metropolitan Board of Works) presided; and the gentlemen we have named, with Messrs. May, Baily, Pegg, Hinton, and other "elders" and members of the vestry, to the number of about seventy, were present. Mr. John Thwaites, the chairman of the board; Mr. Bazalgette, and Mr. Grant, were also present as guests.

In proposing the health of Mr. Downs, the chairman referred to aid given by that gentleman to the vestry as long ago as 1843 and 1845, and expressed the great satisfaction the way in which Mr. Downs had done his work on the present occasion had given the board and its officers.

Mr. Downs, in reply, said the officers, in truth, deserved all the credit. He had simply carried out their plans and specification. It filled him with gratitude, that his fellow-parishioners should have thus expressed their satisfaction with his work.

Mr. Thwaites, Mr. Bazalgette, Mr. Grant, and others also spoke in reply to warm commendations.

It was a gratifying thing to find employers, employed, and the public, who pay, all in accord. The dinner passed off in the most agreeable manner. Mr. W. Hayward, we should say, acted as hon. secretary in arranging it.

ROYAL HORTICULTURAL SOCIETY.

The fountains and works of art in the garden, exhibited by certain foreign artists, it is proposed to purchase, by means of a subscription to be raised for the purpose; an object which probably the exhibitors had in view in placing them there. But if it be desired to have fountains and works of art for the garden, why not employ English artists? Would it not be well, for example, to purchase the great majolica fountain in the Exhibition building for one thing? and surely there are other works of British artists, either modelled or completed, which could be selected; and which would adorn the gardens quite as tastefully as the foreign works exhibited on the spot. There is another subject to which we wish for a moment to advert. There was a glaring error in judgment with reference to the prizes for floral decorations for the dinner-table last year, when Mrs. Walter Fawcett failed to obtain the prize to which she was clearly entitled. We observe that a similar prize is offered this year for standard plants for the dinner-table; and it is to be hoped care will be taken not to err again in the decision. The standards must be ornamental, either for their foliage, flowers, or fruit; and must be grown in pots not exceeding 6 inches in diameter: the foliage, flowers, and fruit must not be less than 20 inches nor more than 24 inches clear from the bottom of the pot. Of course it is considered that 20 inches above the table will suffice to obviate all objection as regards intersight amongst the guests at table. Elegance of form, slenderness of stem, and variety of colour, will be the tests of excellence.

ARCHITECTURAL REWARDS.

SOCIETY OF ARTS.

Looking into some of the former volumes of the "Transactions" of the Society for the Encouragement of Arts, Manufactures, and Commerce, I noticed that there were two gold medals specially appropriated for rewarding designs for subjects connected with architecture. This reminded me of the attempts in the days of my studentship to gain at least one of them; and having my curiosity excited to learn who had lately been the recipients of these rewards, I searched some of the later "Transactions" and "Journals" of the Society, without success. But while turning over several volumes about 1835 and 1840, I read in that for 1838:—

"We end this address with gratefully recording, on the part of the Society, the liberality of Mrs. Acton, widow of the late Samuel Acton, esq., for many years one of our members. This lady has placed in the hands of trustees, appointed by herself and by the Society, the sum of 500*l.*, the interest of which is to be, in part, applied to defraying the cost of medals offered for original designs in constructive architecture."

In the list of premiums offered a few years later, this legacy is noticed as a gift "for the purpose of enabling the Society to offer an annual reward for the promotion of practical carpentry, applicable to civil, naval, and military architecture."

In this same list is mentioned another legacy, of 100*l.*, given so far back as 1781, by John Stock, esq., of Hampstead, "to be applied by the Society in the encouragement of the fine arts." This, I remember, used to be offered in the shape of a gold medallion, for an original design in architecture; and was so given, 1838-9, to Mr. Allan Bailey,—the same year that the above-named "Acton" medal was presented to Mr. R. W. Billings, for his elucidation of the tracery of the great window of Carlisle Cathedral.

I also find in their "Statement of Accounts" for 1838-9, that the "Acton" Fund is put down at 536*l.* 3s. 10d. in the Three-per-Cent. Consols; and the "Stock" fund as 100*l.* in the same Consols.

I believe neither of these trusts has been carried out for many years;—under which circumstance, are they not forfeited? At any rate, should we not call upon the Society to continue their trust? and if, with their numerous other engagements and now somewhat-altered views or modes of encouraging the fine arts, it should appear to be inconvenient; might not that Society request the council of the Royal Institute of British Architects to co-operate in the disposal of these gold medals? one of which might be alternately placed for the recommendation of the Institution of Civil Engineers. At any rate, professional rewards of this character are not so numerous as to be allowed to fall into desuetude; and I should hope that some professional member of the Society of Arts will inquire into the matter; and that we shall soon see these gold medals again offered for competition among the junior members of our Art.

W. P.

THE MAESHOWE AND RUNES IN ORKNEY.

SOCIETY OF ANTIQUARIES, NEWCASTLE.

At the last monthly meeting of this society, Dr. Charlton read an interesting paper on the Orcadian Runes, which of late have excited so much interest amongst archæologists. Dr. Charlton's paper is fully reported in the *Gateshead Observer*. At the close of it he gives his conclusions, as follows:—

"Earl Ronald, of Orkney, joined the Crusades in 1151; and in that year was in Orkney with his men. From the inscriptions left in Maeshowe, we conclude that the mound was opened by a party of pilgrims or crusaders, 'Jorsalafarar,' on their way to or from the Holy Places. They found, however, that they had been anticipated; for that another party, probably composed of some other crusaders, had three nights before carried off the treasure. One of them, O'Conachan, they name, and expressly state that he carried off treasure. The name is one still existing in Ireland; and we saw an individual so called the other day. Professor Rafr supposes it may have been meant for O'Donaghan, but the 'D' to give the sound is very doubtful. There has evidently been a tradition that this was the tomb of the Lodbroks, the famous *half-fabulous heroes of early Scandinavian times*. Lodbrok's sons were as famous as Lodbrok himself, or even more so; and the word Lothbrokat being feminine, may easily, after the lapse of two or three hundred years, have caused the mistake as to the sex of the hero, for the inscription plainly speaks of Lodbrog as a female. It is not, however, impossible that a Norse witch of that name may have uttered her incantations in this gloomy cavern, but we have no date whatsoever for this assertion. We believe the greater part, if not all, of the Runes to have been cut at one and the same period. As to the expression 'to the North-West there is much treasure hidden,' we may state that *a year or two ago* a vast find of silver ornaments, brooches, gorgets, &c., *was* discovered in that direction, and was fortunately secured for the museum of the Edinburgh Society of Antiquaries by the active exertions of Mr. George Petrie. The silver weighed altogether about 20 lb., and some of the brooches were 8 inches in diameter.

We regard the discovery at Maeshowe as one of the most important that has taken place within the present century. The situation of the mound, the wondrous architecture of the interior chamber, and the Runic inscriptions on its walls, all contribute to render it an object of surpassing interest. The zealous labours of Mr. Farrer have been at length gloriously rewarded; and Mr. Petrie, to whom we always owed so much, has it now in his power to boast that he can exhibit in his far-away isle an archæological treasure beyond any that we know of in the British kingdom."

It is very remarkable, considering the close identity of the two barrows, that no archæologist has as yet made any comparison of the Maeshowe with New Grange, in Ireland. Both are immense barrows, covering a central chamber; entered, in both cases, by long, narrow, and low tunnels or "transes" as they would have been called in Scotland. The internal chamber is domed or vaulted in both cases, and in precisely the same way; namely, by great stones, each lapping over the other towards the centre. The very ground-plan of the chambers is identical: both are cruciform; the transe or tunnel forming the stalk of the cross, and each of its arms constituting a separate cell. At New Grange one of these cells is dedicated, in Ogham characters, to the Great Mother Ops, and is called the House of the God; and the other, the tomb of the Hero. Although the Runes, or most of them, at least, are less ancient than the barrow; we may here remark that Dr. Charlton alludes to the Cryptic style of one of the Runic inscriptions, "a very curious" one, he calls it, at Maeshowe; and he remarks that "it is very similar to some that have been found near Baffin's Bay;" and that "it is well known that this Cryptic style of writing is identical in arrangement with that of the Irish Ogham." By a strange oversight, too, as Mr. Petrie remarks in giving an account of the various (and, we may add, not very satisfactory) readings of the Runes at Maeshowe, in the *John o'Groat's Journal*; "in one of the cells, that on the left side of the chamber, a few letters had been indistinctly written: by accident they were forgotten, and no casts were taken of them." This is unfortunate; because this very inscription, in one of the side cells, may perhaps accord with one of the inscriptions in the side cells at New Grange. It is worthy of remark, too, that the word "haelr," which one Runologist translates a "sorcery hall," has been rendered by another as the "hero or heroine."

The similarity of the curious Cryptic Runes in the "Sorcery Hall" at Maeshowe to those of Baffin's Bay appears to bear favourably upon the probability of the truth of our suggestion, that the Maeshowe is of Pictish origin; and that the Picts were descendants of a tribe of little men comprehending the forefathers of the Laps (and perhaps those of the Esquimaux) at a time when the glacial envelope which still encircles the poles spread far farther south in the winters, and formed the glacial and drift era which spread over the northern continents and islands (our own as well), and amid the wreck of which era the flint and stone arrow-heads and hatchets of this very tribe of men have of late years been found. The modern Laps are still a strange race of dwarfs, whose native priests are magicians, of whom curious tales are told; and so susceptible to nervous impressions are the Lap people, it is said; that the sudden clapping of the hands, or a startling noise of any kind, will cause them instantly to fall off into a state of entrancement.

WILTS ARCHÆOLOGICAL SOCIETY.

The annual gathering of this Society, which was one of more than ordinary interest, has been held during the past week, at Malmesbury. The proceedings commenced on Tuesday, when the annual meeting was held at the Town-hall. There was a large attendance, including many ladies. The chair was taken by Mr. E. D. B. Estcourt, who addressed the meeting; and, after the usual report was read and adopted, and the officers re-appointed for the ensuing year;—

An address on Malmesbury Abbey was given by Mr. E. A. Freeman. He said he considered Malmesbury Abbey one of the earliest instances of the use of the Pointed arch, with ornamentations exclusively Norman. It, therefore, clearly marked the commencement of a transition period in Church architecture. In adverting to the details of the building, he spoke particularly of the west front, which was the first instance he knew of sham Norman architecture. The west fronts of Salisbury Cathedral, Newstead Abbey, and other buildings were the merest shams—walls being built up for the sake of appearance, with nothing whatever behind them. He called particular attention to the fine Norman doorway, and the Decorated clerestory, put up in the fourteenth century.

The company afterwards adjourned to the Abbey, where nearly an hour was spent, under Mr. Freeman's guidance, in examining its principal features, both within and without. The remainder of the time was occupied in an inspection of the ancient Abbey House.

At five o'clock, a party, numbering about a hundred ladies and gentlemen, sat down to dinner at the King's Arms Hotel.

At seven o'clock, a *conversazione* was held in the Town-hall, which was attended by most of the *élite* of the town and neighbourhood, and by a large number of visitors from a distance. The Rev. Canon Jackson, F.S.A., read a paper "On the History of Malmesbury."

During the morning and evening, a large number of persons were admitted to the temporary museum, which was held in one of the anterooms of the Town-hall, where a large number of objects of local interest were deposited by various persons resident in the town and neighbourhood.

On Wednesday, an excursion took place under the guidance of Mr. Forrester, one of the honorary secretaries. About fifty members and friends of the Society left Malmesbury, at half-past nine o'clock, for Charlton. After inspecting the parish church, they proceeded to Charlton House, where they were courteously received by the Earl and Countess of Suffolk, Viscount Andover, M.P., and several members of the family. The company left Charlton about eleven o'clock for Tetbury, halting at Newnton Church on their way thither. After visiting the old and new churches at Tetbury, they went on to Beverstone Castle. The old castle, with its chapels, was here the principal object of interest. Luncheon was provided in the National School-room, after partaking of which a paper "On the History of Beverstone Castle," written by Canon Jackson, was read to the meeting by the Rev. E. Awdry. The company afterwards repaired to Beverstone Church, where two curious monuments attracted considerable notice. The party then left for Estcourt House. In the absence of the owner (Right Hon. T. Sotheron Estcourt), they met with a hearty reception at the hands of his brother, Mr. E. D. B. Estcourt; and after spending a short time in examining the interior of Estcourt House, the parish churches of Shipton Moyne and Brokenborough were visited, and the party reached Malmesbury about six o'clock.

In the evening a *conversazione* was held in the Town-hall, the attendance being again both large and influential. Mr. E. D. B. Estcourt presided. The Rev. W. Jones, F.S.A., read a paper "On Bishop Aldhelm and his Times," and the Rev. A. C. Smith one titled "A Plea for the Rooks." Mr. Cunnington then made a few observations on a portion of the geology of Wiltshire.

An excursion to Somerford Parva, Somerford Magna, Sutton Benger, Stanton, and Leigh Delamere churches, and from thence to Grittleton, returning by Hullavington to Malmesbury, was arranged for Thursday.

OPENING OF THE NEW HOTEL AT MALVERN.

The Imperial Hotel at Malvern has now been opened, though not quite complete. The building is of red brick, with Bath and Forest stone dressings, and has cost about 25,000*l*. It is situate on the east side of the West Midland Railway Station, and connected therewith by a covered way. The building is L-shaped on plan, six stories high, with a sub-basement for heating apparatus, coal, cellars, &c., &c. The basement story contains kitchen, 40 feet by 30 feet, and 16 feet high, with adjacent culinary departments, servants' halls, sleeping-rooms, &c.; and on the same floor are arranged separate sets of baths and dressing-rooms for ladies and gentlemen, with private entrances.

The ground-floor has a large entrance-hall, with a coved, ribbed, and panelled ceiling: from it leads, north and east, two corridors, paved with Maw's tiles; and at the end of the north corridor is a public coffee-room, 64 feet by 30 feet, and 27 feet high, with a ribbed, panelled, and carved ceiling. This room is intended to be decorated; and arrangements are pending with Messrs. Clayton & Bell for the purpose. Leading from this is a large reading-room, with billiard and smoking rooms adjacent, and separate private entrances. There is also on this floor a *table-d'hôte* room, ladies' coffee-room, and board-room, together with a suite of apartments for a private family, containing sitting, bed, and dressing rooms, with closets, &c.

The first, or principal floor, contains six complete suites of rooms for private families; each suite having the same accommodation as the one on the ground-floor. The second and third floors are arranged for bed-rooms, and the fourth-floor is devoted to servants' bed-rooms, store-closets, &c. There are five stone staircases, three of which reach from basement to top story, with closets and lavatories on each floor, approached from each landing.

The style of the building is Gothic, of the period of Charles VI. of France. It has two principal fronts, south and west. On the south front, and immediately over the principal entrance, is a large oriel window, three stories high, and filled with tracery. On the same front is a tower, 146 feet high, which contains the principal staircase, the top story of which is at an altitude of 100 feet, and is intended for a belvidere and summer smoking-room. The roofs are covered with green and purple slates, laid in bands; and the ridges, formed of the same, have ornamental iron cresting. The boundary-walls are built of blue lias stone, with Bath-stone dressings, and finished with ornamental iron railing. The gates are of wrought-iron, richly foliated.

The building has been executed by Mr. T. Perkins, from designs and under the superintendence of Mr. E. W. Elmslie, of the firm of Elmslie, Franey, & Haddon.

SHEERNESS AND SITTINGBOURNE.

DEFICIENT DRAINAGE OF SMALL TOWNS.

If it had been possible in the old coaching and stage-wagon days for the metropolis to have reached its present proportions, the state of things would have been unbearable; but Providence leads man to accommodate himself to circumstances; so that, by the use of railways and other means of transit, a great part of the population has spread (even within the last ten years) over suburban districts; and now the pent-up Londoner, by rail and water, can, at moderate cost, breathe the pure air, and enjoy the clear sky and sunny landscape. If he choose, he may embark in well-appointed vessels from Hungerford and other piers, and go to the eastern extremity of "Father Thames," and places along the coast. To a stranger, in fine weather, the voyage is delightful; and few who are even accustomed to it tire of the passage of this great water-road to London, amid fleets of ships at anchor, and the constant flow, inwards and outwards, of the various vessels of all nations,—steamers, ships of war, yachts, picturesque barges,—all blending with the large extent of water, and the clouds and sunshine, which are so pleasant to most eyes.

As we get away by the Thames from London city, and its smoke and impurities, the tints of the sky change, and the air becomes more wholesome: there are also many points of historical and other interest which are worthy of note, amongst which may be especially noted the old Thames Embankment, which (particularly east of Blackwall) is to be distinctly seen stretching along each side of the river from Richmond to near the Channel.* There

* See notes on this embankment in earlier volumes.

is also the long pier stretching from Southend,—a spot which, with sanitary care, may become an important and favourite place.

A sight of this main entrance to the Thames shows very clearly that, with even all our improvements in artillery, we should not depend for the protection of this river from any hostile fleet on the costly stone defences which have been proposed. Before Sheerness there is a group of war-like ships,—amongst them the formidable steam-ram, the flag training-ship, and some other monsters of the deep,—which in this harbour now look like "sheer hulks," but which at a very brief notice could be rigged, armed, and manned, and be made, with other vessels, a strong defence.

In the flag-ship are seen both the blue jackets and caps of the sailors and the red ones of the marines, through the port-holes and on the deck of this splendid vessel. This is a most important establishment, to which we may hereafter have occasion to direct attention. The good condition of the schools on board these ships, and the other opportunities which are offered for the improvement of youth, must have the effect of strengthening the nation, by giving intelligence to guide the willing hands on which our naval supremacy greatly depends.

The close connexion of this training-vessel and other war ships with Sheerness; its association with a considerable garrison; and other considerations, cause anxiety respecting its social and sanitary arrangements, which are, unfortunately, most deploreable. A brief glance will show that in this population of about 15,000 there exist a power of evil and source of contamination which are perhaps not to be equalled in the midst of the same number of people in the kingdom. Here, particularly in the Blue Town, as one portion of Sheerness is called, Vice walks with shameless effrontery. Several of the houses are hotbeds of depravity and a means of contamination. The police act with ability and intelligence, and carry out as well as they can the regulations which they at present have the means of enforcing; but these are insufficient. It appears that in this town there are but few influential inhabitants who are guided by a public spirit to assist in putting an end to the abuses to which we have referred. It is, however, a duty which in such a case should devolve upon the authorities. So glaring are some of the evil conditions of Sheerness, that they only require to be described in order to bring about reformation.

From Sheerness, the pleasant little Kentish town of Sittingbourne, about eight miles distant, is soon reached by railway. This small rural town contains, with the parts immediately surrounding, a population of about 6,000, and is admirably situate for all purposes of health: it is, notwithstanding, neglected in a sanitary point of view, as are hundreds of other places.

In most of the large cities and towns, attempts (which are, unluckily, in certain instances, inadequate) have been made to establish some system of drainage, water-supply, &c.; but an inspection of several of the smaller places shows how life is sacrificed where it should be, to the extent of its natural duration, safe.

Sittingbourne is chiefly composed of a very long



POISONING THE SPRINGS: SITTINGBOURNE.

street, with here and there certain back slums and lanes, lined with small houses, leading from it. The main street is well raised above an extensive plain; and fresh wholesome air sweeps from the sea and in other directions. The place also abounds in springs of what should be excellent water. Formerly there was a great traffic of coaches and post-carriages through the town; but this has been stopped by the introduction of the railways; and, in consequence, the large inn-yards, which were capable of accommodating many horses, are now either disused or devoted to other purposes. In some, small houses, which are occupied by working people, have been built. There is still some traffic along the road; but persons refer to bygone days, when hundreds of carriages daily passed that way, and the place was lively with the bugle-horns of the coach-guards and the rattling of horses. Amongst those who often came this way was the late Duke of Wellington; and it is related that the Duke, for a long time, travelled with four horses; and that he most liberally paid the postillions, provided that they punctually performed the stage at an appointed time. If the "boys" did not succeed in this, they had nothing. On one occasion there had been some extraordinary demand for horses, and only two could be provided at this point for the Duke of Wellington's carriage; but it was found that the two horses performed the stage quite as well and in the same time as the four had usually done. From that day his Grace used a pair of horses instead of four.

The shops and most of the houses in the chief thoroughfare are very neat, and have a somewhat smart and modern appearance; but a practised eye detects that the frames of several of them are of considerable antiquity. Some of the hostelries stood here before Henry the Eighth's reign.

There is a new building for the use of the volunteers of this district, to which is attached a reading-room, &c.; and the public rooms, which are used as a court of justice connected with the Isle of Sheppey, and as a lecture, assembly, and concert room, are, with the exception of the church, the only public building. The church is large, with a square massive tower surmounted by a turret. The exterior has been repaired, after three accidents by fire, in very bad taste. The mullions of most of the windows are destroyed; and, here and there, clumsy stone facings have been introduced. The interior has also a bare appearance, except the chancel, which has been partly restored; and the east window is filled with stained glass. It is proposed, as rapidly as circumstances will permit, to carry out the restoration of the other parts. The church dates from the fifteenth century. In the tower there is a good peal of bells; but there are no striking monuments, either in the interior or in the adjoining churchyard.

There are some pleasant old-fashioned gardens attached to some of the better sort of houses, which are well stocked with fruit-trees, and gay with roses and seasonable flowers, backed by the dense dark green foliage which is peculiar to the county of Kent. Round about the town, in parts, are cherry-trees and orchards. All these are matters of enjoyment for persons who are obliged to live for the chief part in London. There is, however, a less agreeable side of the picture; for in many of the houses there is that dense, oppressive, and dangerous atmosphere which arises from cesspools and the want of drainage. In certain instances, on the occasion of our visit, the cesspools were neglected and overflowing; heaps of refuse were allowed to remain close to houses; and other matters were left which have the effect of poisoning the air; and, as a natural consequence, by filling the soil with impurities, spoil the water in the wells, on which the inhabitants depend for their daily use.

In the western part of Sittingbourne there is a remarkable head of what ought to be the purest and finest water. In a sort of hollow roadway, within the distance of about 150 yards, there are numerous springs, from which the water gushes forth in immense quantities, and soon forms a considerable stream, which flows towards the manufactory that has been erected by Mr. Lloyd, to make the paper required for printing the Sunday newspaper published by that gentleman. There is here enough water, probably, for the supply of the town, if it were raised to a proper position. It is, however, painful to see how this bountiful provision of one of the main necessaries of life is used. At one part there is an extensive piggery, from which the refuse passes into the water: in another there is a steep hill of soil, which at the bottom mixes with the spring. At the time of our visit, washing and other surface water from the neighbouring houses clouded the spring water, which, but for these admixtures, would have been as clear as crystal.

The situation of this town is very favourable to drainage, and there are points to which the sewage might be safely passed, and then applied usefully to the land; and there can be no doubt that, if this necessary improvement were carried out, the inhabitants would be largely benefited in both health and comfort. There are some good schools here. Several of the townspeople regret the imperfections to which we have referred; and it is to be hoped that energy and intelligence may be brought to bear on the sanitary improvement of the place.

In various directions, small comfortable houses have been built by an eminent London contractor, and seem to be readily let; and it may be that the establishment of the railway station here will atone for the loss caused by the withdrawal of coaches. This will, in a great measure, depend on the introduction of some new branches of industry; for the chief trade of the locality is the manufacture of bricks; and those who anticipate the exhaustion of the clay supply, look forward with anxiety for something else to turn up. To the north of Sittingbourne is Milton, well known; and on the banks of the water here is a small ancient ship-of-war, which has been used as a police-station, but has historical interest in connexion with the escape of Charles II.

The London, Chatham, and Dover Railway, passing by the venerable keep of Rochester Castle, through the Kentish hop-gardens, and some very pretty scenery, soon brings the traveller this way to the Victoria Station.

What has been said respecting the sanitary state of Sittingbourne applies to many other places; and it is much to be desired that more attention should be given the drainage and water-supply of small towns than is at present shown.

"THE GLEN," PEEBLES-SHIRE.

The view we have engraved of "The Glen" is that from the north-east. The house is erected in a beautiful valley in Peebles-shire, and has the principal rooms, consisting of dining-room, library, drawing-room, and boudoir, facing the south-east. The principal entrance to the house is from a court-yard formed by the north part of the house and one side of the stable offices, to which the archway shown on the view enters. The bridge is over a small ravine, through which a burn from the hills in the immediate vicinity runs, and the road on the side of the burn leads to the servants' offices. The building stands on a steep slope, and is picturesquely laid out with terraces and sloping banks, flights of steps, &c. The house is in the Scotch Baronial style, and is an effective example. It is built of white freestone from a quarry at a very considerable distance. Great pains have been taken by the proprietor to have the interior fitted up in a style corresponding with the period to which the architecture belongs, at the same time embodying modern comforts and conveniences. The contractors for the execution of the works were the Messrs. Hall, of Galashiels, who have performed their part in a satisfactory manner.

Mr. David Bryce was the architect.



"THE GLEN," PEEBLES-SHIRE.——Mr. David Bryce, Architect.

"CHRISTIAN IDEALISM."*

Not only do we believe, with Mr. Cave Thomas, that the material is conformed by the spiritual—and not the spiritual by the material;—but we are persuaded it would be much more correct to say that *the body exists in the soul* than that the soul exists in the body. There is an obvious distinction, however, between Soul and Spirit which ought never to be confounded. The precise nature of this distinction may be clearly seen by a little consideration of the two great mental principles, attention and memory; as to which Dugald Stewart and other metaphysicians remark, that it is only what we have given *attention* to that we can *remember*. The attention is concentrative, while the memory is radiative. Such is the nature of that distinction which exists between the Soul and the Spirit at large. The Soul is concentrative: in it resides the central Ego with all its concentrative surroundings, in a microcosmic sphere of Force, concentrative from that circumference whence it draws all outward experience, to the centre of consciousness and personal identity itself, in which all its mental experience concentres. Such is the Soul of man. But there is a "light which lighteneth every man who cometh into the world," and which "bringeth all things to our remembrance." This "light," unlike the concentrative Soul, is Radiative; but though not comprehended within the personal sphere of the Soul as belonging to the selfhood, it emanates from the one common centre of Soul and Spirit; radiating forth through the concentrative sphere of the Soul; and shedding, throughout, the light of re-member-ance, whereby the objects of the Soul's attention can alone be, even momentarily, re-identified. This "Radiancy divine," then, is, in truth, "the Spirit," which ought ever to be distinguished from the concentrative, which is the Soul; and it is this distinction which St. Paul holds up to view where he speaks of the threefold nature of man, as Soul, and Body, and Spirit. Soul and Spirit, however, *are* often confounded together, as one and the same thing: occasionally, too, the one is regarded as merely a lower region of the other; but the Soul is clearly as different from the Spirit in action as the root of a tree is from the branch; the one being concentrative and the other radiative in action; and the form of a tree is emblematical of the conjunction of Soul and Spirit in ONE entire whole; although "the Spirit" or "the Branch," like an arterial system, only retraces back, as it were, the venous or concentrative course of the Soul or Root itself; both constituting one common concentrating and radiating, twofold but intermingling, sphere of life, mental and corporeal.

This very slight outline of the concentro-radiative nature of man we have felt it desirable to give our readers before entering upon the subject of Mr. Thomas's remarkable discourse. Although the views he entertains are not altogether new to our readers, as he has himself stated them in our columns; still, they are much more completely developed than heretofore in the volume under notice; and we shall best indicate these views by using his own words.

In the Preface he says, in the outset:—

"The purpose of the following discourse is to prove by text and argument that physical nature is to be restored to wholeness, to perfection, by a renewed spirit in man; that a material renovation is to be the natural sequence of the spiritual; that the outward and visible is to be conformed to, and by, the inward and spiritual conception of rectitude and well-being; that man is to be conformed to the *measure* and *stature* of perfection of the Word made Flesh; and that the whole outward and visible creation is to be reconciled to Him who is *the very sun and centre of moral being, the light of the world*. Another purpose of this work is to demonstrate that there is an exact science of proportion referred to in the sacred writings, which measures† and quantifies physical perfection and beauty. Christianity, as comprehended by Christian Idealism, is the science of sciences, which reveals the moral ideal—that moral ideal to which human science and art should conform the material world."

"The present work resulted from an investigation, commenced and prosecuted in order to obtain principles of taste, of greater certitude, of a more scientific and definite character than the hazy opinions which pass current in talking of and writing upon art."

"The doctrine of this work, as far as it can be deduced from science, independently of revelation, is this,—that in the progress of knowledge we gradually become acquainted with those conditions of human being which are physically the best; with the normal organization and form of man; and with the best means of educing them by diet, exercise, clothing, and by climatic, social, and political influences; with the best conditions in surrounding nature in harmony with humanity. To know all this, is to know in theory the natural moral law—that moral law which would be inferred by spontaneous religion to be the perfect will of God. But it has been many times confessed by philosophers, that knowledge alone is insufficient to convert theoretical into active formative virtue. Hence the necessity of a faith in a Divine power able to reward or punish, in proportion as we approach or fall short of *the perfect example*, Christ, *to awaken a holy spirit in the soul of man*, to quicken his knowledge. Thus it is that revelation declares that 'the Spirit giveth life,' and that 'the peace of God passeth all understanding.' Through the Christian faith, therefore—and the Christian faith alone—the *reinstatement of nature to perfect being* becomes possible. *Christian Idealism maintains that the restoration of physical nature to perfection, which is discerned and desired by science*, but which science itself is inadequate to effect, is a portion of the Christian doctrine and dispensation, to be accomplished *by a new and living way*; that the Scriptures teach a material resurrection or re-embodiment of nature from the corruption of evil by the power of a holy spirit, as well as a re-surrection to an eternal life."

In the Introduction the author treats chiefly of "The decadence of beauty through sin," and of "The restoration of beauty through RIGHTEOUSNESS." This divine work, he urges, must be "carried out in precise, definite, *quantitative* laws..... And to the earnest inquiry,—What is the *measure* of physical *rectitude*, perfection, beauty, and permanence,—revelation and science unequivocally respond,—THE MEAN;—that mean which has been called '*the* Golden' and the Immutable."

Now, that "the Lord our Righteousness," at "the restitution of all things," in "Paradise *regained*," or the kingdom of Heaven COME, will "finish the work, and cut it short, in righteousness;" by "laying judgment to the line, and righteousness to the plummet," there is profuse evidence in Scripture; and much of that evidence the author quotes; but one of the most remarkable passages of all he seems strangely to have lost sight of;—"Be not righteous *over much*" (Eccles. vii. 16). Here a *measured* MEAN is implied, of a very remarkable but somewhat mysterious order. How is it possible to be "righteous over much"? St. Paul makes a no less remarkable distinction between "a righteous man" and "a good man" (Rom. v. 7); showing that these are *not* identical; and he also makes a no less clear and decided distinction between "our own righteousness" and "the righteousness of God": moreover, it is manifest, from these and many other passages, that "our own righteousness" does not imply anything derogatory to the man, as a moral or a "good man," who "seeks after his own righteousness": the contrast only shows that there is a transcendental "righteousness," a divine principle of *rectification*, of a lost *balance* of "uprightness,"—a state of divine righteousness, subject to measure and degree; and capable, not only of restoring a lost balance, as if set by help of plummet and line; but of doing so even "over much"; and, like vaulting ambition, overleaping itself, and *falling* on the other side. Such may have been the fall of angels, to the *spiritual* side of "the golden mean"; but man's fall has been to the natural or animal side, or side of the anima or Soul; whose influence is in excess, while that of the Spirit is deficient; and the way to restore his balance of "uprightness" is "to awaken a Holy Spirit in the *Soul* of man," as Mr. Thomas expresses it, with verbal accuracy, but not, we fear, with a deep and right understanding of the grand distinction between "a good man" and "a righteous man." THE "Holy Spirit," dormant in all men naturally, and requiring to be "stirred up" and AWAKENED in the Soul, in order to bring both soul and body to a state of beauty and perfection, as the sun of summer does the flower and the fruit of the garden, Mr. Thomas speaks of as "a holy spirit" and "a renewed spirit,"—studiously depriving this "holy spirit" of those capital letters which would indicate THE "Holy Spirit" *par excellence*, and "THE LORD, for the body" who "*is* that Spirit,"—that "Holy Spirit" and "Holy Ghost," whose temple "the body" is;—a hitherto desolate temple, which no mere "spirit of rectitude" short of "the Holy Ghost," "the Lord for the body," "the Lord our righteousness" ever can either *illuminate* or bring to "the beauty of holiness" and "the beauty of perfection." Mr. Thomas declares that "doing that which is right *is* righteousness";—and this is in complete accordance with what he says of the "renewed spirit," the "spirit of rectitude," by means of which he anticipates that man's body will be "modelled" like that of Triptolemus, or that of the Taliesin, in the temple of the Goddess, into the deathless or immortal form of "a pure man" and "a perfect man";*—but "the Lord *our righteousness*" is something more than merely "doing that which is right." It would certainly be "doing that which is right" were man to "seek the Lord," to "haste unto" His "coming," and not only to *seek* but to *find* Him, and restore to Him his human "temple"; but this is something more, we fear, than Mr. Thomas clearly contemplates; and yet there is a verbal accuracy in his discourse which is wonderfully near the truth; and were he only to loose hold of mere moral excellence as a *cause* of physical perfection, and look upon all the virtues as but "the *fruits* of the Spirit" first "stirred up" from its dormancy within us, he might assist in disclosing that mysterious and wonderful "way of RIGHTEOUSNESS" in which "there is life;" and in the pathway whereof "there is no death;" but in which, on the contrary, there is "the power of an endless life," and "the fulness of the measure of the stature of Christ," the grand exemplar of "the perfect man" and of "the beauty of perfection."

If physical beauty and perfection depend upon the evolution, the abiding presence, and the physical influence, of the divine life of "the Holy Ghost" in the body of man, which body is his temple; then *this is a strictly* PHYSIOLOGICAL *question*; and it remains to be considered what organ in the human body it can be whose grand and noble destiny it is to constitute the more immediate seat of this "Lord for the body," this "Holy Spirit," who is to sit in his temple "as a refiner and a purifier," and to "rise" and shine" throughout the microcosm, as "a day-star on our hearts," as a "sun of righteousness, with healing in his wings," and "like clear heat upon herbs;" to "make fat the bones;" and to cleanse the tabernacle by a purifying influence "like fuller's soap;" so that "his flesh shall be fresher than a child's," and "he shall return to the days of his youth;" a "glorious church not having *spot* or *wrinkle* or any such thing . . . . holy and without *blemish*." And that this *is* a strictly physiological question may be also deduced from the intimation that the absent Lord and Master of that body we erroneously imagine to be ours "is the true light which lighteth *every man* that cometh into the world;" and hence *must* be a *constitutional* and physiological principle inherent in the very nature of all men—good, bad, and indifferent; and whether that light shine only as the moonlight of "the life that now is," or as the open sunlight of "the life TO COME."

The organic and physiological seat of this "Crown of Life," this Nimbus, Halo, or "Crown of Glory," and Divine Light of Remembrance and of Truth; "in whom are hid all the treasures of wisdom and knowledge," must be the noblest organ in the whole body, the holiest place in the whole temple or tabernacle, and the still convoluted, or not yet unfolded, flower of life, and crown of all creation: that organ—that Solar or "Golden Bowl" which holds "the Spirit," can be no other than the Great Brain which fills the Temples and the Crown of the Head; and of whose mysterious functions so little is known.* Gall, the founder of phrenology, alleged it to be "the organ of memories," and probably he was right; but if so, his disciples are wrong. That it is *not* directly the seat of the conscious *Soul* seems evident; because it is a well-known though astounding fact, that the great brain may be severely injured, and even pieces taken out of it, or the greater part of it wasted away by disease, without destroying life, and even often without any very obvious detriment to consciousness and vitality at all; while the slightest lesion of *other* parts of the nervous centre will instantly kill.

The Great Brain appears to be the Head of one distinct nervous system pervading the whole body; while the cerebellum, or Smaller Brain, behind and below it, is the centre or Head of another distinct nervous system, also pervading the whole body; so that the nervous organism centering in the head is *twofold*, or there are two distinct nervous bodies in one; and it is a remarkable coincidence, in this view that while "the Lord for the body" is said to be "Our

* "The Conformation of the Material by the Spiritual: to Imperfection by the Spirit of Error; to Perfection and Beauty by the Spirit of Truth: Christian Idealism." By W. Cave Thomas. London: Printed by Strangeways & Walden, Castle-street, Leicester-square. 1862.

† 'Judgment also will I lay to the line, and righteousness to the plummet.'

* See Review of Wilson's Lost Solar System, in *Builder* of 16th August, 1856; and also Articles on Symbols, by J. E. Dove, in *Builder* of 16th October, 1858, and 15th January, 1859.

* This idea of the transcendental office or function of the Great Brain is one of extreme antiquity, as may be gathered from what is said on the subject of "The Illumined," from the Dnyaneshvari of the Hindoos, in a note on the review of Tennent's "Ceylon," in the *Builder* of 28th January, 1860. The scriptural allusion to "the Golden Bowl" which holds "the Spirit" of God in man also bears evident reference to the same view. Gold was anciently called Sol; so that the golden bowl was the *solar* bowl; being the temple-seat of the internal *Sun* of righteousness.

The noblest of organs, with its "Radiate Crown,"
And its treasures of memory and wisdom,
Though a light to our Soul, is the Holy Spirit's own,
And awaits its development in Bliss dom.

strength;" and the leader of "Angels who excel in strength;" it was discovered by Sir Charles Bell, that the anterior nervous system or body, which runs into the Great Brain above, is that through which the muscular strength of the body is exercised; while the posterior, which runs into the Smaller Brain behind, is that through which the Soul becomes conscious of its bodily impressions, or the sensations of corporeal pain and pleasure, or *life in the flesh*. Both systems are mutually co-operative, however; and the one cannot properly perform its functions without the other; but the two bear a clear analogy to the two sexes into which the human race, comprising each both of these two, are also divided; and it is a practically important question,—bearing closely on Mr. Thomas's views as to physical perfection and the physiological as well as theological *way* to obtain it,—Whether to be "dead in the flesh but quickened by the Spirit," or to be "not in the flesh but in the Spirit," which constitutes the evolution of the divine or angelic life in man, do not physiologically and simply imply that the life of the Soul, or sensitive life, pervades the posterior or cerebellar nervous system only; while the life of the Spirit, or the divine life, pervades the anterior or cerebral nervous system only; and that the divine life, or "life to come," can only manifest itself in an exalted state during the dormancy, humiliation, and suppression, or virtual death, of the sensitive life, or life of the Soul; as the life of the Soul, or "this life," manifests *itself* in the dormancy of the divine life, or only while we are "spiritually dead"; each life, moreover, the Concentrative and the Radiative, being a *rest*, and a complement, or rather a substitute, for the other; so that the body may be either Soul-possessed, or Spirit-possessed; or may lie *between* these two measured contraries, in a region of misrule and confusion of life such as Sleep is, in which it is neither Soul-possessed nor Spirit-possessed; nor in real *rest* at all, either to Soul or to Spirit; the life of the Spirit, or the IRRADIATER, being the Soul's ecstatic, entrancing, and only true and perfect daily Rest or Repose. "This is the Rest wherewith ye may cause the weary to rest; and this is the refreshing" and "the Comforter." "In returning and in rest shall ye be saved." "Return to me and I will return to you, saith the Lord." "Return to thy rest, O my Soul."

In Sleep nightly wander the world of mortal men,
Through a wilderness of fruitless desolation;
But its tangl'd thickets, shortly, shall as Eden bloom again;
Clear'd and planted by a teeming population.

Why, O men! in Sleep's misrule do ye revel and delight?
To the god of death thus *prostrating* for ever!
Unto HIM *alone* give place, who to Holy Rest gives Night;
You from death and desolation to deliver.

Now here come in, and in a tangible and practical way, those definite, precise, and *quantitative* laws, and that *law* and *measure* of the golden mean, "oscillating between fixed limits," and constituting the source of physical as well as moral beauty and perfection, of which Mr. Thomas speaks; and now, too, we can comprehend how it is that man may even be "righteous *over much*," and what may constitute the actual distinction between a righteous man and a merely good man; the good not necessarily comprising the righteous, though the righteous necessarily comprises the good.

But we fear we shall be held by our readers to have gone far enough in this direction; if not rather too far for the *Builder*. We must, therefore, conclude, with a recommendation to them to peruse Mr. Thomas's volume for themselves, and to give his peculiar views as to "Christian Idealism" their best consideration; but warning them, at the same time, not to identify such views with "muscular Christianity;" for "*bodily exercise* profiteth little; but *Godliness* [or God-possession] is profitable unto all things;" and constitutes the true "superhuman Phidian influence" spoken of by Mr. Cave Thomas as "moulding plastic matter to beauty and perfection;" and forming that beau ideal of the human form at which the ancient Greeks, in their godlike efforts, clearly aimed; and which such artists as Mr. Thomas keep also in view as their ideal and exemplar; in contradistinction to those *naturalists* who seek no higher model than that which may be any day found in the highways and byways of actual life, among the fallen and mortal wanderers from the internal Paradise of the past,—who, nevertheless, are still but the immature immortals of the glorious "restitution," and the Paradise "to come."

The "straiten'd" WAY we've lost, to our nightly home of homes,
Lur'd by Sleep's siren Spirits at the portals;
With false bliss beguil'd, till the grave seal our doom;
We who else would be glorious Immortals.

But the time, let us hope, is at hand when we shall no longer "sleep as do others," but shall "awaken a Holy Spirit in the Soul," and be henceforth "children of the Light and children of the Day, and no more of the Night nor of Darkness," but "Light in the Lord;" "this vile body changed into the likeness of his glorious body,"—luciform,—a "body full of light as when the bright shining of a candle giveth thee light;" and converting the "night," then "spent," into "a new day,"—the DAY of REST and of refreshing. Then shall man be as a branch of the Lord's planting, beautiful and glorious, the work of his hands, that He may be glorified in it for *aions* of *aions*. And thus shall "the chief end of man," and of the planet he inhabits, be accomplished in the new and opening "summer" of its "great year" of ages.*

THE GRAVE OF HAWKSMOOR.

MR. PETER CUNNINGHAM, in a somewhat jaunty article in your last week's *Builder*, alludes to the tombstone of Hawksmoor, in Shenley churchyard; and "suspects" that the stone was wantonly broken during recent repairs. I beg to forward a notice which I took of Hawksmoor's tombstone in 1846, and suggested its preservation. We are all obliged to Mr. Peter Cunningham for any new light he can throw upon our early architects; but he must be taught that architects have been beforehand in discovering and suggesting the preservation of their brethren's monuments. You will also perceive that Mr. Cunningham has not copied the inscription correctly, and that the stone was *broken* in 1846, consequently his *suspicion* of its being *wantonly broken* during *recent repairs* was most uncalled for.

Your remarkable tenacity for truth will, I am sure, induce you to correct the mis-statements, and give credit to whom credit is due. The inclosed extract is taken from a pamphlet, which was presented to the Institute and the Antiquaries in 1846. W. P. GRIFFITH.

Mr. Griffith stated,—"That, during an antiquarian tour in Herts, he visited Shenley Church, and discovered, at the east end of the churchyard, near the yew tree, a large stone slab, 6 feet 6 inches, by 3 feet 9 inches, containing the following inscription:—

P. M. S.
L.
Hic Jacit
NICHOLAUS HAWKSMOOR, Armr.
ARCHITECTUS
Obiit vicesimo quinto die
Anno Domini 1736.
Etatis 75.

This stone was found underground about fifteen years ago, and a brick vault was built to receive it: it is now broken in two; and Mr. Griffith suggested, that it be placed in St. Paul's Cathedral, in the floor adjoining the stone in memory of Hawksmoor's great master—Sir Christopher Wren."

THOUGHTS OF A MECHANIC ABOUT A NEW STYLE.

IF we understand, and can explain, why such a thing as a new style is wanted and felt by so many architects of England and other countries, we shall be very near answering whether we shall have a new style or not.

The taste of architects and their feelings are under perpetual change, as well as those of any other artist, or any other men. That perpetual change we cannot avoid. It is not in the power of men to arrest it. Where one has tried to check it, the people stood stationary: no advance in art and science, religion and politics, was made. This perpetual change is a law of nature pervading all its system; and it is, besides, the great and essential condition of life. Without it there is death.

If there are architects whose mind and heart are longing far a new style, it is but a very natural thing. Their longings are but the cry of nature, and by no means of fancy-sick and sickly minds, wanting to put houses upside down—the ground-floor at the place of the chimney-stalks. This kind of men were, at all times, the pioneers towards everything new, the promoters of the beautiful into the domain of arts. These gave to the Greeks their fine and comprehensive art; to Rome, its grand structures; and to the Middle Age, its original and so often varied conceptions. Those men have always stimulated progress.

But, though all moved by a common feeling, we may consider them as divided into two distinct camps (if we may say so). The one, feeling themselves pushed forward by the cry of nature—which never fails to be heard in their soul when things are worn out—go to dig up ancient things, and at every fragment found and explained fall into ecstasy, and a little while after cry aloud that they have found the right style, and say right off to all their contemporaries that they will be lost unless they should follow them like lambs. The other, less fanatic, but more dreamy, feel uneasy, and have all the time a disgust of what is existing. Notwithstanding this, in them is the real longing after progress. They, too, dig up old things, but never with the prospect to serve it again, unchanged, to the people. The knowledge of archæology is for them a duty. With it they shall gain the knowledge of human history, since its first exertion in the building art. With it they shall learn, too, to know where we stand in this nineteenth century. And then, they can have a glance at the future.

The restlessness of these men is a real good for mankind, though in many cases their attempts to go forward have entirely failed. But they are sufferers. Their natural feelings ache considerably at the chaotic scenery exhibited in architectural productions; for these men, with their cry for a new style, have the *grand sense of unity*.

What are we to think of the English, the French, the Germans, the Americans—each of these nations considered as a whole—when we compare their architectural productions, created or set forth in one same year and in one same city? Surely, the traveller who knows a little about archæology must think that most of the architects want to serve to their customers a relish of all sorts of old finery. For the last fifty years we had dishes in all styles—from the most barbarian to the best refined architecture. Such inconsistency, and so much incoherence, were never witnessed before. Was it not a great sign of the times, we would think the architects were mad. But architecture has ever been the faithful picture of every stage of civilization, and so we have ours!

We, of these times, are the offspring of two different civilizations—the ancient, and that of the Middle Ages. But we cannot be said to be alike to either of these two. The nineteenth is a transition one, though our hopes in the future are but vaguely expressed. But how much change do we witness since thirty years?—and how much more will we see?

No one, perhaps, has perspicacity enough to tell us where we run to. But what we can say is, when change and progress in society, in sciences, in philosophical principles, in politics, are going on at such fast rates, it is not possible to have a new style, before all the great international and domestic pending questions will be settled to the general satisfaction. Can we think that we, or the French, or any other civilized nation, shall in the nineteenth century have a style—a new style, an English style, an American style—a style apart, entirely distinct from others? It is not possible. Already, in the Middle Ages, we witness the Unitary Christian movement going steadily forward, at a time when intercourse with different countries was very little; and no means at all, such as printing and publishing, were at hand. This tells us that the Christian architecture was not an invention of an architect, nor a nation; but grew out of the Christian principle, as a manifestation of its spirit. We witness nearly the same effects in the different countries where it flourished, though everywhere a little modified, by language, character, climate, and materials of each.

But now that the means of intercourse are considerable, and increase every day; now that progress is about to be written on every flag; now that peoples on earth are marching towards unity; now that countries begin to meddle so much with each other's affairs, just for general welfare; now that the governments, scientific men, artists, manufacturers, and mechanics of different countries shake hands with each other, just wondering how it was possible they were kept so long apart;—now, do we say, is it possible *that we, here* on this spot of earth, shall find out a new style of architecture, just as easily as buy a new dress at any of the tailors' shops?

* Amos, what seest thou? And I said, A basket of SUMMER fruit. Then said the Lord unto me, THE END is come upon my people. (Amos viii. 2). Now learn a parable of the fig-tree. When his Branch is yet tender, and putteth forth leaves, ye know that SUMMER is nigh. So likewise ye, when ye shall see all these things ["distress of nations, with perplexity," &c.], know that IT is near, even at the doors. (Matt. xxiv. 32). When ye see these things come to pass, know ye that THE KINGDOM OF GOD is nigh at hand. (Luke xxi. 31). When these things begin to come to pass, then look up; and *lift up your Heads*; for your redemption [from death] draweth nigh. (Luke xxi. 28).

No! A new style can, and shall, only be an international thing, though every active people, and even individuals, may have their tune in it. God created the human family to be one. A style of architecture is, and has always been, a collective production.

Let the time come that the human family shall have but one faith, one aim, one heart, and we shall have the new style, just as well as the Christian nation had theirs in the Middle Age.

It is not given to the men actually alive to see that new style. The collective life of mankind reckons by centuries, while that of the individuals is but of years. To have a new style is a long affair, and only possible by the continual progress of civilized countries. All those who wish it, and long after it, must work to it. Progress must be their motto; but progress in its full meaning,—nothing to be left behind. All that which can progress no more must be thrown away as dead matter. Progress in arts, industries, moral and social sciences,—all must move at once, that we get out of the transition time called the nineteenth century; and then we shall have the new style,—a bright one, which shall neither be the sensual Italian nor the stiff Gothic; but the style convenient to man when he shall have conquered his ultimate destiny,—that is, to rule over earth as the true representative of God.

G. A. Heller.*

"THE FALL OF THE LEAF."

"Fall as the leaves do, in the month of October," is the burden of a well-known old-fashioned song; and in most rural and wholesome districts, no matter what other changes have happened, the leaves do still fall in this month; but in the North London suburb in which I live, near a cement manufactory, and some other works which smoke from morning till night, and Sundays and week days, the leaves fall in July, and by October our trees are as bare as they are in other parts at Christmas. This is a sad disfigurement to our neighbourhood, and ere long the trees will cease to bloom altogether. And when, sir, I just now see those leaves falling, and the trees withering, I cannot but think, while the children are singing and playing about, that under such influences, their lives, like the leaves, will be likely to fall before the appointed time. J. B.

THE HOURS AND THE WEEKS.

Permit me to inquire if the *Builder* of last week, p. 564, is correct in reporting Mr. Roach Smith as a believer in the doctrine that the Romans had a week of eight days; and whether the *Builder* wrongly reports the remarks made by Dr. Wollaston; or whether he is responsible for considering the Bramdean mosaic of eight figures as capable of representing indifferently the "hours" and the "days"? It is difficult to suppose that both those archæologists are ignorant that the Romans did not divide the twenty-four hours into three parts, had no octave of months, and spoke of weeks of seven (not *eight*) days. It is very desirable that such loose writing should be discouraged as much as possible. P.

ENGLISH ANTIQUITIES.

While the International Exhibition is open, it may not be uninteresting to your readers to hear that, in 1818, the author of the "Monumental Effigies" discovered those monuments from Fontevrond (casts of which are now in the Crystal Palace). He also discovered at Mans the enamelled tablet of Geofrey Plantagenet, the father of Henry II.; and on his shield he bears six leopards: half, or three, are only seen. On his showing it to the then Grand Marshal of England, the late Lord Molyneux Howard, his lordship represented it to the King (then George IV., but not crowned, for his father had only recently been dead): he was ordered to appoint the late Charles A. Stothard, at the Heralds' College, to rectify the books, in the lions being there instead of leopards, which is an error. His unfortunate accidental death prevented that correction. In the Peninsular war, Marmont stated "he would drive the Leopard" (meaning the English) "into the sea."

It is a curious fact, that during some excavations that have been made on the site of Chertsey Abbey, under Mr. Angel, the architect, in whose grounds it happened to be, tiles of a very curious kind were discovered, evidently of that early period. The peaked cap, the pattern of the ermine (only allowed to be worn by royal personages), and the shield containing the three leopards described on it, the same as on the enamelled tablet, together with all the subjects being from legends or romantic history and acts of that time, and none of an ecclesiastical or scriptural history, are remarkable circumstances. The beauty of the disposition of the drapery, and the sharpness of the outlines (for the subjects are generally white upon red), are accounted for by leaving a groove where it is chipped out, showing the tile to have been impressd with a type figure; and in the recesses the white put in, and the whole passed through the kiln, are very remarkable; and the saddles are high, both in front and back, as seen in the early seals. In the South Kensington Museum there are many specimens, as I am informed by Mr. Thurlock, who has bestowed great pains and care in making drawings from them, although the originals are in a disjointed state. And now, while I am upon the subject, may I solicit your interest in impressing upon all those persons who have brasses in their possession to restore them? I am sure a well-known antiquary, whose walls leading to his printing offices are lined with them, will, upon reflection, consider, although he bought them, they were not the property of any but Government, and should be sent (before they are too long subjected there to capricious mistreatment by journeymen or apprentices) to the South Kensington Museum, as a repository for such interesting remains.

I cannot but still regret that the arts do not partake in the early formation of the minds of all youth, or the clergy would have a higher relish for such objects, not on account of the display they may aid in providing him, but for the purpose of teaching the churchman to venerate everything which is apparently of no value, but which will, by amusing the boy, engage his attention until his mind is open for higher thoughts, and creating a habit of being industrious. Had I been myself desirous of having such things, opportunities, while walking through forty-two counties in England and Wales, were numerous; but never have I accepted the least article from any church. At Cobham, once, whilst I was drawing a helmet in the church, the sexton said,—"Why take such time to draw it, sir? You may have it for a quart of beer." I replied, he was not appointed to sell but to protect the property. "But, sir, my salary is so small." "I am much inclined to report you," was my rejoinder. The Itinerant Antiquary.

* The writer, a foreigner, describes himself as a carpenter and joiner.

THE LATE ROBERT ROBSON.

Sir,—Trusting that you may not mind the trouble of seeing to the proper application of the enclosed trifling contribution of 1*l.* 1*s.* from me, and possibly of many similar donations from other friends, for the benefit of poor Mrs. Robson, I venture to forward you the above-mentioned amount. What would be, of course, most desirable, would be to place Mrs. Robson in such a position that, having got over her immediate necessities, she might be enabled to earn her own living.

M. Digby Wyatt.

*** We willingly comply with the request.

LANDLORD AND TENANT.

Hawkins v. *Nixon.—Before Baron Bramwell.*—This was an action, tried at Guildford on the 11th instant, to recover damages for a breach of an agreement that had been entered into by the defendant, the sum in dispute, as it appeared, being one of about twenty shillings. Mr. Laxton was for the plaintiff; and Serjeant Parry and Mr. Needham, were for the defendant. The plaintiff, it appeared, was the tenant of the defendant, and occupied one of his houses at a certain rent, with the understanding that the latter was to pay all rates and taxes. It seemed that a sum of fifteen shillings was not paid for property tax, and the consequence was that a seizure took place, and the plaintiff had to pay about five shillings expenses, and for this trumpery matter the present action was brought against the defendant.—Serjeant Parry, at the close of the case for the plaintiff, submitted that there was nothing to go to the jury, and that property tax was not one of the taxes included in the agreement. He contended that it only applied to the usual rates, and that the property tax was a tax created by a special Act or Parliament, and the plaintiff ought to have paid it and deducted it from his rent.—Baron Bramwell said he was very glad that he felt himself justified in giving effect to the objection that had been taken by the learned counsel. It was scandalous, nay, almost infamous, that such an action should have been brought, and he was very glad that he was able to say that the plaintiff could not recover the guinea, which was the whole amount in dispute, because he was of opinion, that by his agreement defendant only undertook to pay the usual taxes, and that property tax was not included in them.—The plaintiff was then nonsuited.

Population of Counties.—Lancashire, the premier county of England for numbers, and five other counties,—Durham, Monmouth, Stafford, Surrey, and Warwick,—have more than doubled their population in the last forty years. Three more—Middlesex, Chester, and the West Riding—have nearly doubled theirs in the same period. One Welsh county,—Glamorgan,—has more than trebled its population.

METROPOLITAN BOARD OF WORKS.

At the ordinary weekly meeting held last week the Board received tenders for the construction of the Bermondsey branch of the Southern Low-level Sewer. The tenders offered were as follows: Messrs. Peto & Betts, 97,523*l.*; Mr. William Davis, 119,430*l.*; Messrs. John Aird & Son, 107,000*l.*; Mr. W. Webster, 119,500*l.*; Mr. J. Dethick, 126,077*l.*; Mr. W. Lavers, 124,000*l.*; and Mr. W. Moxon, 99,875*l.* Messrs. Peto & Betts's tender was accepted.

Mr. Deputy Harrison then moved, "That a committee of the whole Board be appointed to consider what steps it will be necessary at once to take for the purpose of putting in force the provisions of 'The Thames Embankment Act, 1862.'

Mr. Freeman moved as an amendment, "That the Thames Embankment Act be referred to a committee now to be appointed, with so much and so many of the powers and authorities and discretions by this Act given to and reposed in the Board, as that Board shall think fit or proper to delegate to such committee; and that such committee, upon their appointment, be authorized to put in force the powers in the aforesaid Act."

A long discussion ensued, when the Board divided, and the numbers were 17 on each side. The chairman (Mr. Wilkinson) declined to give a casting vote. The result was that the amendment dropped.

Mr. Doulton then again moved the amendment; but Mr. Smith, the solicitor to the Board, expressed an opinion that there would be some legal difficulties in carrying it out if agreed to, and Mr. Doulton thereupon withdrew it. The motion was then agreed to unanimously.

Mr. Carpmael then moved, "That it be an instruction of this Board to take such preliminary steps as it may consider necessary to prepare plans and specifications of the works necessary for the construction of an embankment on the north side of the Thames, between Blackfriars and Westminster bridges, and for the construction of part of the Low-level Sewer therein, in order that tenders may be obtained at the earliest period for the execution of such works." The motion was agreed to.

After a great deal of discussion it was decided that the engineer be instructed to prepare such a model of the Thames between London and Westminster bridges as may be necessary for the information of the Board.

Mr. Doulton then called attention to the report of the Royal Commission on an embankment for the south side of the river, and moved, "That it be referred to the Main Drainage Committee to consider the course which this Board ought to pursue in reference thereto." It was a question whether Mr. Cowper would become the promoter of that bill, and therefore the Board ought to take the matter up at once, in order to get an Act of Parliament next session. This motion was also agreed to.

CHURCH-BUILDING NEWS.

Oxford.—At St. Martin's Church, the old block which formed the reading-desk, pulpit, and clerk's seat, has been removed; and a new desk of perforated and carved oak has been placed on the north side, and a pulpit of oak, with ebony columns, erected in front of the altar. The pulpit rests on a stone column with carved capital and base, the shaft being of red Mansfield stone, and the base and capital of Bath stone. The pulpit is approached by a light winding staircase, of oak, and the space occupied by the old block floored with encaustic tiles. The work has been executed by Messrs. Margetts & Eyles, from the designs of Mr. E. G. Bruton.

Reading.—Christ Church, Reading, has been consecrated. The architect was Mr. Henry Woodyer, of Grafham, near Guildford. The edifice is designed to hold 700 persons, and in plan consists of a chancel and nave, with north aisle to each, together with a vestry and organ chamber over the chancel aisle. It is intended that, eventually, a south aisle should be added to the nave, and that a tower should be surmounted by a stone spire, 150 feet in height. The style adopted is Middle Pointed; the materials principally brick, faced with grey pennant; the dressing being all of Bath stone. There is a somewhat marked clerestory to the nave, the arcade of which is supported on cylindrical piers, surrounded by grey forest shafts, and terminating under carved canopies, which compose the capitals to the main piers. The pulpit, which is of stone, is circular in plan, and supported upon grey shafts; the parapet to the stairs being enriched with panel-work filled with

roses. This flower is used as the enrichment throughout the church. Mr. Nicholl was the sculptor. The fittings in the chancel are of oak, and have been worked by Mr. James Matthews, Reading. Open timber roofs, except the eastern bay of chancel, which is panelled, are used for the whole church, that to the nave being of tie-beam construction. There is a five-light east window to the chancel, its side windows being of three lights: the nave and aisle windows are of two lights; the former being available for the second aisle, when constructed. The upper portion of the tower and spire is omitted. The paving in the interior is of the cheapest material, and all the windows are destitute of painted glass. Messrs. Wheeler, of Reading, were the contractors. The plumbing and glazing were done by Mr. Freeman; and the whole was carried out under the superintendence of Mr. J. Walker, clerk of the works.

Arborfield.—The first stone of a new parish church has been laid at Aborfield, near Reading. The ancient parish church having become dilapidated, Captain Hargreaves undertook to give the land for a new site, and, with his friends, to defray the entire expense of the erection, towards which Colonel Brown has contributed 2,500*l.* The church is a Gothic structure, consisting of a nave with five bays, chancel with apsidal east end, south porch, and west end tower and spire for five bells. The exterior is faced with flints, with white stone quoins and dressings. The site is on the brow of an eminence commanding an extensive view over the Vale of Sodden; Mr. Walter's mansion at Bearwood, with the church and plantations, directly opposite. Mr. J. A. Picton, of Liverpool, is the architect; and Mr. E. Hughes the contractor for the works.

Frampton. — The restoration of the parish church has been completed, after designs by Mr. B. Ferrey, of London, architect. The edifice is in the Decorated style, with hammer-beam roof of oak, in two bays, subdivided by four floriated panels in each bay, and carved cornice. The walls are faced with Portland stone, banded with courses of Ham Hill stone. In the east end is inserted a three-light window, the mouldings of the arch being supported by pilasters of Purbeck marble; and the lights are filled with designs of stained glass by Messrs. Lavers & Barraud, representing the Annunciation, the Crucifixion, and the Nativity. There are also two lights on each side of the chancel, filled with stained glass by the same artists; one, representing the wise men of the East bringing presents to the infant Jesus; the second, representing the presentation in the Temple; the third, representing the flight into Egypt; and the fourth, representing the miracle of wines. The body of the church is in the Perpendicular style, and consists of a nave, with north and south aisles, connected by three arches of Ham Hill stone, having clustered pillar shafts. The roof of the former is in red deal, varnished. The floor is paved with tiles from the Poole Potteries. There are low open seats of varnished deals. The organ, which is by Walker, of London, is thrown back in a recess in the north side of the nave. A window in the north aisle has been filled with stained glass by Messrs. Lavers & Barraud, in the *cinque-cento* style. The design represents the visit of the women to the tomb after the resurrection, with the appeal, "Why seek ye the living among the dead?" A kind of medallion in the upper part contains a representation of the Royal Psalmist. Several other windows are also filled with coloured glass, as well as the west window in the tower, which opens into the nave by an arch similar to that which separates the nave from the chancel. A new vestry has been added, beneath which there is an apparatus for heating the church with hot air. The staining, varnishing, and decorations were done by Mr. Pouncy, of Dorchester.

STAINED GLASS.

Peterborough Cathedral.—A memorial window in the south transept of Peterborough Cathedral has been filled with stained glass, in memory of the late Sir Chapman Marshall, knight, alderman of the City of London. The subjects of the two principal lights are—"Abraham's Srcrifice" and "Joseph cast into the Pit." The smaller lights contain figures of Abraham, Isaac, Jacob, and Joseph, surmounted by the head of our Lord. At the base are shields with the armorial bearings of the cities of London and Peterborough, the guild of the Innholders, and of the late Sir Chapman Marshall. The work has been executed by Messrs. Morris & Co., of London.

Gloucester Cathedral.—The east window of this cathedral, the largest and one of the most peculiar windows in England, has been recently restored to its original condition by Messrs. Hardman, of Birmingham. The glass was wonderfully perfect, considering its extreme age; but it was much obscured by a thick coating of dirt; and the rotten condition of the mullions and lead rendered the fabric exceedingly insecure. The enormous surface now presents a curious silvery appearance, from the large quantity of white glass in its composition. The cost of this restoration has been 2,000*l.*; of which the stonework absorbed 1,400*l.*; the remaining 600*l.* being employed in merely cleaning and releading the glass. This work forms part of the entire restoration of the cathedral, including the library and chapter-house, which has been progressing for some years past, under the direction of Mr. Waller, the cathedral architect. No resort has, however, as in other places, been had to public subscription. The whole expense has been defrayed from a special perpetual fund, producing more than 1,000*l.* a year.

Books Received.

Waste Products and Undeveloped Substances; or, Hints for Enterprise in Neglected Fields. By P. L. Simmonds. London: Robert Hardwicke, Piccadilly. 1862.

We have before now quoted from lectures on this subject, read by Mr. Simmonds at the Society of Arts, and shown the value of the field in which he was working. In the volume now published he has brought these papers together and elaborated the subject more fully. We extract a passage on the uses made of *sawdust*:—

"The waste made by the sawyer or turner, wood dust of various kinds, has several economic uses. Mahogany dust is employed for smoking fish; box dust for cleaning jewelry. The shavings or refuse in making cedar pencils from the wood of the Virginia or American cedar, is used to make the otto of cedar-wood; a hundred-weight of shavings producing about twenty-eight ounces of the otto of cedar.

Besides its employment as a packing material for use in wine-cellars, for sprinkling the floors of taprooms, butchers' shops, the arenas of our amphitheatres, riding-schools, &c., there are other applications for sawdust. Mahogany, birch, and rosewood sawdust is used by furriers in cleansing and dressing furs. Sawdust is also used by many manufacturers, as by the needle-makers, and by the nail and screw makers.

It will interest the proprietors of saw-mills and carpenters in general, to learn that the ingenuity of Parisian cabinet-makers, in the Faubourg St. Antoine, has found a use for common sawdust which raises the value of that commodity far above the worth of solid timber. By a new process, combining the hydraulic press and the application of intense heat, these wooden particles are made to reform themselves into a solid mass, capable of being moulded into any shape, and presenting a brilliant surface, a durability and a beauty of appearance not found in ebony, rosewood, or mahogany.

Our forefathers used sawdust for littering their stables, cow-houses, sheep-pens, piggeries, and poultry-houses, the whole being afterwards mixed together and used as farm-yard manure. Sawyers and carpenters, again, who had none of the above provisions, mixed it in their dung-hills for growing potatoes; while fishermen used it for smoking fish, and mixing in their ash-pits along with fish refuse, selling the compost to farmers. With these practices many localities are familiar to this day, and have been so from time immemorial. Of these plans, the mixing of sawdust with sheep's dung, urine, slaughter-house and fish offal, is, perhaps, the most deserving of consideration, because the fermentative qualities of such articles are the best adapted to overcome the comparatively indestructible nature of the dust. Hitherto the great objection to sawings of wood, as manure, has been their slow decomposition. Immediate activity is necessary to give value to manure, and this is what sawdust does not possess. Excrementary and offal matters, on the contrary, are from their nature subject to rapid decomposition, so much so, that half their fertilising value is not unfrequently lost. Indeed, it is impossible to estimate the loss arising from this source. Now, if the mixing of the two together will effect the decomposition of the former, while it avoids the loss sustained in the latter, the gain must consequently be great. What gives peculiar value to composts of this kind is their disintegrated state: they are fit for drilling in along with the seed by corn and turnip drills at once. Their freeness from sand and other heavy and comparatively useless mineral substances is another merit. The prime cost of the article would be little more than the carriage, while in most localities the supply would obviously be great. We have only to examine our timber-yards for evidence of this. How many ingenious plans have even been contrived for carrying the sawdust down the stream which drives the saw-mill, or into the fire of the steam-engine, where steam-power is used. Now that artificial manures have become an agricultural necessity, it is the duty as well of the interest of every one to look, first, to the resources within his own reach for a supply; and, lastly, to the market for any balance required. To neglect the former, relying entirely upon the latter, for Peruvian guano, &c., and then complain of high prices, is inconsistency and folly. Were every farmer to procure annually so many tons of sawdust, ground peat, or charred vegetable matter of any kind, which could be had for little money, and to mix them with the excrements of horses, cattle, sheep, pigs, poultry, &c., adding such other articles as peculiar circumstances required, it would exercise a very salutary effect upon the extravagant prices now paid for all kinds of artificial manures. If a farmer can thus manufacture at home as good an article for 20*s.* as he can purchase for 5*l.* (and this can be done in many cases), the course which he ought to steer is plain."

As mere reading, this volume is most interesting and instructive; but we must go farther in our commendation, and say there are fortunes to be got out of it by those who rightly work some of its suggestions.

VARIORUM.

Recent numbers of the *Gentleman's Magazine* have contained some good articles on the International Exhibition, and the Loan Museum at South Kensington. "Mr. Urban" appears to have made a fresh start into active life.——Templeton's "Engineer's, Millwright's, and Machinist's Practical Assistant" (Lockwood & Co., Stationers' Hall-court). The first edition of this little book is known as a useful collection of tables and data for reference. The present edition is enlarged and improved.

Miscellanea.

Death of Mr. Ross, C.E.—This gentleman, who was a member of the Institution of Civil Engineers, and many years connected with some of the earliest and largest railway works in this country, but more recently with railway enterprise in Canada, where he constructed the great bridge over the St. Lawrence at Montreal, died on Friday last, at Kensington, at the age of 58.

The Distress in Preston and Blackburn. The Preston guardians relieved 11,669 persons last week; the relief committee, 20,337. The number of recipients of relief steadily increases. In the corresponding week of last year the Preston guardians relieved 1,610 persons. The workroom in Preston now employs 365 young women. The number relieved in the Blackburn Union last week was 11,974, or 400 more than in the previous week. The number of persons out of employment in the borough of Blackburn alone is 12,587.

Masters and Men.—The excursion which Messrs. James Stiff & Sons, of the London Pottery, Lambeth, gave their workmen and wives, to the number of 170, to Rosherville, on the 4th instant, is entitled to a word; because, after the dinner, Mr. Stiff introduced his two sons as his future partners in the new firm, and asked that support from the men which had always been accorded to himself. The new partners then addressed a few words of good will and sympathy to the men, and asked for their hearty co-operation, to which some of the oldest servants of the firm replied genially. —— On Saturday last, about seventy of the men employed by Mr. George Myers in erecting Baron Rothschild's new mansion, Piccadilly, held their excursion-dinner at the Cardinal Wolsey Inn, Hampton Court. The party arrived by train; and, after amusing themselves with various games, sat down to dinner. Mr. Howe, the foreman of works, occupied the chair; and facing him was Mr. G. Wiles, joiner. The baron was not forgotten amongst the toasts.

Improvements at the Guildhall, London. It cannot but be a satisfaction to us, who have so often urged the want of improvement in the Guildhall, to state that the flat ugly ceiling is to give place to an open one, in accordance with the architecture of the edifice, and that other good changes are to be effected. The proposal to make some such improvements having been referred by the Council to Mr. Bunning, the City architect, this gentleman reported that it was, in his opinion, desirable to remove the roof, which would necessarily involve the substitution of Gothic windows on the north and south sides of the hall. The cost of the new roof, with the extra sixteen windows, he estimated at 18,000*l.* He likewise was of opinion that the hall and porch should be repaired with Portland stone, and the steps reinstated; and the eastern and western windows and Gothic tracery of the hall should be cleansed, scraped, and repaired; and that the stone front next Guildhall-yard would require a large sum to repair it. These, together with the cleansing, repairing, and painting the different rooms in the Guildhall, would cost about 26,700*l.* Mr. Bunning also directed attention to the state of the north wall of the Council Chamber, which had for many years bulged outwards, next Church-passage; a defect that had considerably increased since the construction of a sewer in the passage; and he considered that, from certain indications in the ceiling of the Council Chamber and in other places, a movement was taking place that would require serious attention. Mr. Bunning's report has been adopted by the Court of Common Council, who have referred it back to the City Lands Committee for execution.

Telegraphic.—At the half-yearly meeting of the shareholders of the Mediterranean Extension Telegraph Company, a dividend at the rate of eight per cent. per annum on the preference shares was declared, and a dividend of 4s. per share, or at the rate of four per cent. per annum, free of income tax, on the ordinary share capital, was also declared.

The late School of Art at Wolverhampton.—A memorial, signed by twenty-two lady students and thirty-six male students and artisans, has been addressed to the subscribers to the late institution, stating that they had agreed to pay double the usual fees; and praying for their co-operation and support, as well as commending their cause to all the friends of education and progress. We heartily wish the memorialists may be successful in their application. It is gratifying to find that, notwithstanding the adverse influences to which they have been exposed, no less a number than fifty-eight of the late students are thus making an effort to ensure the continuance of their artistic instruction.

Trees in Kensington-gardens.—When you give publicity to a statement it may do a good deal of mischief if it be not *quite correct*, though no fault of yours; for the *Builder* has long enjoyed public confidence, and the advice it gives from time to time is extensively acted on. In your impression of August 2nd, Mr. Cowper, in reply to a question by Mr. Lewis, in the House of Commons, is stated to have said that many trees in former times had been killed in Kensington-gardens by drains. This can only apply to certain trees, and those a limited number. Almost all trees will suffer from water standing near or under them, on the surface of the ground, the oak and the lime especially. I have frequently seen the water standing under the trees in Kensington-gardens, and regretted to see it. The lime-trees are nearly all decaying at the top from this cause, and some of the oaks. Surface drainage, not too deep, or too near the roots, is the *cure*. In fact, a great portion of Kensington-gardens appears to want surface drainage. B.

A Learned Disquisition on Photography.—The following was delivered by Mr. J. L. Toole at the Royal Dramatic College Fancy Fair and Fête at the Crystal Palace during the operations conducted by him and Mr. Paul Bedford in their photographic hut:—"Amber, or oxide of cadmium, is a vegetable substance obtained from mustard and cress grown in a warm situation, or a blacking bottle constantly kept damp with paregoric elixir. In three days it forms into small berries: these are then subjected to the gas evolved in the decomposition of the ferro-sesquiquadrate of the cyanuret of potassium; and, if carried further, become a dry crystallized bicarbonate in the shape of a small white powder, which forms the Epsom salts of commerce; and, when calcined with equal portions of gunpowder and cold cream, is known in the arts as photo! To produce our rapid pictures you must get a spoonful of geremin ifluous, mixed with a few fried postage-stamps, together with a little klatuka. Hold the glass to the fire for five seconds, then gaze earnestly on it for one minute: the picture is then perfect. You can '*see it at a glance;*' and then, to use the words of Lord Byron, '*There you are.*'"

The Middle Level Inundation.—An official report states that the expenses, incident to the disaster, already paid and incurred, are estimated at from 23,000*l.* to 25,000*l.*, to meet which 20,000*l.* have been taken up by way of temporary loan. Mr. Hawkshaw, C.E., has recommended that for the next twelve or eighteen months, in addition to such drainage as can be obtained through Salter's lode sluice, syphon-pipes should be laid over the recently-constructed coffer-dam, and that nothing should be done as to the erection of a new sluice until the syphons have been fairly tried. The expense of fifteen syphons, with air-pumps, steam-engine, and necessary apparatus, is estimated at from 13,000*l.* to 14,000*l.* Six syphons only have at present been ordered by the engineers, and are expected to be shortly fixed. The fifteen syphons will have a diameter of 3 feet 6 inches each, which will give the water the same scope as it had in the three openings of the ruined sluice. The whole expenses of the late casualty cannot yet be definitely estimated; but the commissioners have determined on exercising their loan powers to the further extent of 40,000*l.* On the suggestion and recommendation of Mr. Hawkshaw, Mr. A. G. Linn has been appointed resident engineer of the works for one year, at a salary of 1,000*l.*, as Mr. Hawkshaw has heavy and important works under his charge, both at home and abroad.

New Lighthouse at Gibraltar.—The erection of a lighthouse on Cape Spartel, at the entrance of the Strait of Gibraltar, has been commenced at the urgent instance of the French Government. The first stone of the spiral stair was laid with some ceremony on the 5th inst., in the presence of the Emperor of Morocco's commissioner, Si Mahommed Bargache, the officers of the French mission, and the French engineer charged with the works.

Effect of Patterns. — Sir David Brewster, writing in *Good Words* on the illusions produced by the two eyes of a person combining the pictures of objects formed on their retina, says:—"In the decoration of our apartments, and in dresses, male and female, small recurring patterns should be avoided, and particularly small squares. The observer can hardly avoid uniting these squares, or analogous figures in female dresses, thus causing part of the dress either to bulge out or sink into hollows, a result which, while it gives pain to the eye of the observer, does not improve the person who is observed."

The Dock Works at Liverpool and Birkenhead.—A statement has been submitted by Mr. G. F. Lyster, the dock engineer, to the Mersey Docks and Harbour Board. It shows the general state and progress of the dock works, and expenditure in his department for the year ending 24th of June last. The amount expended on the Liverpool side under the act was 84,342*l.*; on new works ordered by the board, 34,374*l.*; for repairs and maintenance, 64,973*l.*; and for increase of stock, 9,306*l.*; making a total of 212,995*l.* In respect of Birkenhead, the amount expended on new works under the act was 368,382*l.*; on new works ordered by the board, 89,085*l.*; for the restoration of walls, 2,873*l.*; and for maintenance and repairs, 7,250*l.*; making a total of 466,892*l.*

Scientific Ballooning.—The highest point reached in the Sydenham ascent by Mr. Glaisher was 7,350 feet, at which the thermometer fell to 41 degrees, or 27 degrees lower than on the surface of the earth, and a cubic foot of air weighing 526 grains on the earth weighed only 429 grains at that highest point. The dew-point observations, which showed 4 grains of water in the cubic foot of air at Sydenham, showed 3 grains at 1,300 feet, 2½ grains at 5,000 feet, and 2 grains at the height of 7,300 feet. A horizontal magnet took a longer time for a certain number of vibrations than on the surface of the earth, contrary to Gay Lussac's experiment sixty years ago; and magnetic phenomena will probably receive some important illustrations from future aëronautical research. There was no indication of the presence of ozone.

Giachosa's Ventilator, or Gas Expeller.—In a tract, printed at the *Leamington Courier* office, and titled "Giachosa's Patent Foul-air, Smoke, and Gas Expeller; adapted to Coal and other Mines, Wells, &c.; and also to the Ventilation of Public and Private Buildings, Ships of War, Ship-holds, &c.," a description of this apparatus is given. It consists mainly of a multiplied bellows, on the concertina principle, with valves, tubes, and trumpet-shaped funnels, for the collection and expulsion of foul air. The apparatus, according to its size and purpose, can be worked by steam or other power, or by hand; and we do not see why it might not be worked in dwellings on the jack principle, or by weights or springs, with the aid of simple mechanism applied to it. The *Leamington Courier* states that one of these apparatuses was experimented with lately at Leamington, and that it was very efficient in its operation.

The York City Gas Question.—From the company's balance-sheet, laid before the half-yearly meeting of the proprietors, it appears, says the *York Herald*, that the actual amount realized by the sale of gas and coke, during the past six months, has been 10,878*l.* 14s. 6d., whilst the cost of coals and lime has only been 2,350*l.* 19s. 1d. The sum "available for dividend and working capital," is put down as 8,926*l.* 8s. 4d., which will not only pay a dividend of ten per cent. per annum, but leave a surplus of at least 5,000*l.*, which the directors will be sorely puzzled how to apply, since the company have no borrowed capital, and no present means of spending a few thousands, although they seem to have hitherto had a pleasant mode of getting rid of surplus cash by paying for extensions of mains, new buildings, and, in fact, everything that they might require for the extension of their business, out of revenue instead of capital. Six years back the company owed a 16,000*l.* mortgage debt, and they have since not only paid all this off, but increased their dividends from six to ten per cent., and given bonuses, besides paying all current expenses out of revenue!

Portable Gas Apparatus for Domestic Use.—A correspondent describes an apparatus of this kind, which, he says, is effective as well as simple, and not expensive. It consists of furnace, vertical retort, washer, and gasholder, and burns all kitchen refuse containing fatty or oily matter. One, he says, may be seen in operation at No. 4, Canal-terrace, St. Peter-street, Islington.

Accident in Manchester.—Two bricklayers have been dangerously injured by falling from a scaffolding in Swan-street. They were employed on the rebuilding of M'Kenna's vaults, at the corner of Oak-street. The scaffolding would seem to have been overladen, or of too slight construction. A portion of the parapet and cornice also gave way.

A "Bay" Washed Away.—A singularly unfortunate calamity has been added to the cotton famine at Carlisle. About a mile from the city a large "bay" has for years intercepted the river Caldew, and turned the water along a damcourse, by which about a dozen places of business were more or less kept going. For some time the bay had been in a dilapidated state, and the owners were only waiting for favourable weather to put it into substantial repair. But the river meantime made a breach in the "apron" of the bay, and eventually the entire structure was swept away. Efforts will be made to lay down a coffer-dam to direct the water into the old damcourse.

The Holy Sepulchre. — The *Monde*, in speaking of the arrangements entered into for repairing the Church of the Holy Sepulchre, says:—"Our correspondent at Constantinople mentions that France and Russia had resolved to rebuild the cupola at their joint expense, and had formally rejected the pretension of the Porte to bear one-third of the expense of that Christian work. The Porte, however, insisted, and threatened to make the question a European one, by inviting Austria, Spain, Belgium, and all the Catholic powers to take part in it. According to our correspondent, France and Russia gave way before this menace, and have consented that the Sublime Porte shall share with them the honour of rebuilding the cupola in question."

Road-making. — A French inventor has recently built, or at least designed, a steam roller to consolidate gravel and macadamised roads. The *Mechanics' Magazine* says,—A pair of cylinders, inclined at forty-five degrees, act on an outside crank on one end of the axle of the main roller or drum. The front axle has wheels as broad as can be, and is controlled by steering-gear similar to that used on steam-carriages and traction-engines. It is said that this machine will be better than horse-drawn rollers, because it can run both backwards and forwards with equal facility, be easily reversed, and work on a short piece of road until it is sufficiently consolidated; and it does not impair its own work by digging it up, as horses' feet do.

The Drinking Fountain Movement.—Preparations for the reception of a public drinking fountain, to be presented by Mr. A. Randall to the town of Maidstone, are now being made in the High-street. It is said that the building will be 30 feet in height. —— The Rev. E. Prest, rector of Gateshead, has given a fountain, which has lately been erected near the entrance to a new cemetery at Gateshead. The design, according to the local *Observer*, is of Gothic character, with arch in front; the whole carried out in freestone, and fitted with a cast-metal basin sunk into the stone with brass finishings. Upon the arch and over the tap the following inscription is cut and painted: "We must needs die, and are as water spilt on ground, which cannot be gathered up again. 2 Samuel xiv. 14." The remainder of the inscription is cut beneath the tap as follows:—"Civibus Dedit. E. P. Rector. MDCCCLXII."

Putrid Slop for Mortar.—Dr. Thomson medical officer of health for Marylebone, states in a recent report that his attention had been frequently called to a practice indulged in by builders of mixing up putrid slop from the streets with their mortar, instead of using sand, which has chemical relation to the lime. A case of this kind had been reported in Hamilton-terrace, and he found the putrid slop used to consist of putrid organic matter, 8·72; water, 36·6; and inorganic matter, 54·68. Being of opinion that such mixture, used in plastering the interior of a house, is deleterious, he requested the builder to discontinue it, but not in time to prevent the fall of an arch and injury to three men. The proprietors were of opinion that the fall of the arch was due to the character of the mortar; but the district surveyor attributed it to improperly striking the centre of the arch, and not to the use of bad mortar.

Weston's Patent Spring for Doors and Gates.—The peculiarity of this spring is, that it will not only close a door at different strengths, but it will, by reversing the action, keep it open in the same manner for summer use, thereby rendering it a valuable spring for persons living where they are subject to the two extremes of climate; further, the door may be deprived of either force by merely turning the movable socket round sufficiently for the notch at the back of it to be in a line with the face of the door.

Mr. Henderson, of Montrose, Architect. We have to record the death of Mr. Henderson, who has been long connected with the progress of church-building in Scotland. His chief work is, perhaps, Trinity College, Glenalmond. He was architect for the Montrose Museum and for St. Peter's Episcopal Church, Montrose; for St. Mary's Church and the steeple of the Established Church, Arbroath—two of the characteristic ornaments of that town; also for some of the public buildings in Brechin, the Burntisland Pier, and a large number of churches in various parts of Scotland.

Bad Work.—The condition of the South Shields Baths and Washhouses was brought under the consideration of the council of that town, on Wednesday last, by Mr. Sutherland; and a very deplorable account he gave of them. They were built upon the cheap principle, under contract; and the town surveyor, though it is quite a new building, reported that he had examined the beams of the roof of the washhouse, and found them very bad indeed, especially where the ends were inserted in the internal walls. The timbers would require renewing at a not very distant day.

The Water Supply of Hertford.—At a special meeting of the Town Council recently, it was resolved that the plan of Mr. Gravatt, for the extension and improvement of the water supply of the borough, as sanctioned by the Lords of the Treasury, be carried out, and that the tender of Mr. Bugbird, of Enfield, for the following works be accepted, provided he give satisfactory references and security; viz., the reservoir, pipes, laying of pipes, joints of pipes, carting, and bends. The tender of Messrs. Ekins & Son was accepted for the erection of a cottage at the sum of 198*l.* 10s. The engine was arranged for, and also a loan of 3,000*l.*

Patent "Maretzo."—Mr. E. J. Bridell has patented "Improvements in the manufacture of substances artificially coloured, veined, or mottled, like marbles or other substances." In carrying out this invention the patentee employs in the production of the artificial substances made according to this invention, and which he calls maretzo, cements and other similar materials: by preference a cement or material that will form a hard compact substance, and afford a smooth surface capable of receiving a polish may be employed. According to the colours of the veins or figures required to be imparted to the artificial substance, corresponding colours are mixed with the requisite amount of liquid in flat trays made shallow, in which are spread fibres of floss silk or silk waste, or other fibrous materials which will readily absorb the colouring matters, and readily impart the same to the substances treated as hereinafter described. The silk or other suitable material is fixed in the form of the veining or figure required by means of light frames of various sizes made of wood or wire, or the material may be also used at times without such frames. The silk is well saturated in the before-named trays of colour, and is then spread open with suitable instruments; and it is afterwards carefully taken up and laid, with or without a frame, upon a piece of glass, either flat or curved, as may be required, or upon some other smooth or polished surface made of suitable form, such as metal or plaster. When it is required to give a varied appearance to the substance, patches of suitable coloured cement are laid upon the glass: a layer of suitable coloured or tinted cement is then superadded. The cement is carefully spread, so as to be about one-eighth of an inch thick; and, after being allowed to remain a sufficient time to allow the saturated silk to part with its colour or colours, the silk fibres are removed either by raising the frames, or by using suitable instruments. The glass or other smooth surface is then shaken or agitated, so as to blend or harmonize the colours, and a light coat of dry cement is sifted on for the purpose of extracting the superfluous water, and is afterwards gently removed by a plasterer's trowel. The material so prepared is then smoothed or trowelled all over, so as to form a slab or other required form. To consolidate and strengthen the slab he employs a backing of canvas, or other suitable fabric, which he applies to the slab.

Suffolk College.—The sum subscribed for the Suffolk Middle-Class College in memory of the Prince Consort amounts to 14,000*l.*

Congregational Chapel for Paris.—One feature of the Bicentenary movement is the proposal to erect a Memorial Chapel by the Congregationalists in Paris. At present they have only a room capable of holding 100 people. The cost is to be 6,000*l.*, of which one-half has been already promised.

Archæological Discovery at Ayott St. Lawrence.—Some labourers employed in digging foundations at the Sunday school of Ayott St. Lawrence, in Herts, discovered an ancient Roman coffin, or sarcophagus, with a lid firmly secured. Force being applied, the lid was raised, and found to cover a perfect male skeleton, in all the accoutrements of a Roman general, having about his head a *corona* of bronze, finely worked; upon his feet, sandals of iron, but very much corroded; and by his side an ancient Roman wine-strainer, of horsehair, the most perfect specimen of its kind known. The Antiquarian Society have already offered 150*l.* for the sarcophagus and its contents. The proceeds, we understand, are to go to the funds of the Sunday school, unless it shall appear desirable to invest the same in further excavations.

Testimonial in Stained Glass at Leicester.—The parishioners of St. Mary's, Leicester, have presented a testimonial to Mr. T. Nevinson, for his services as churchwarden, and his liberality in completing the restoration of their parish church, at his own expense. The glass has been inserted in the two Norman windows at the east end of the chancel. Mr. Wailes, of Newcastle, was the artist. Each window contains, on circular medallions, three representations of the last and most solemn incidents in the life of our Saviour—those in the northern window being, the Last Supper, the Crucifixion, and the Entombment; and those in the southern the Resurrection, the Ascension, and Our Lord seated in glory. The groundwork is formed of a diaper pattern in colours, and the whole is surrounded by a coloured border. A portrait of Mr. Nevinson was also purchased for presentation to Mrs. Nevinson, sen.

TENDERS.

For a parsonage house at Bylchan, near Denbigh. Messrs. Lloyd-Williams & Underwood, architects:—

Bellis	£1,230 0 0
Morris	1,220 0 0
Hughes (accepted)	1,050 0 0

For a new front to wine vaults, High-street, Denbigh, for Mrs. Bramwell. Messrs. Lloyd-Williams & Underwood, architects:—

Wynne & Jones	£196 0 0
Hughes	146 0 0
Roberts	140 0 0
Bartley (accepted)	118 0 0

For the erection of a rectory, at Denbigh. Messrs. Lloyd-Williams & Underwood, architects:—

Messrs. Beauland	£1,470 0 0
Morris	1,353 0 0
Jones	1,348 0 0
Hughes	1,319 0 0
Bellis (accepted)	1,140 0 0

For alterations to the George Tavern, Commercial-road East. Mr. James Harrison, architect:—

Hill, Keddell, & Robinson	£960 0 0
Carter	889 10 0
Messrs. Smith	830 0 0
Little	798 0 0
Emor (accepted)	761 0 0

For alterations to the Royal Sussex Arms, Broadway, Hammersmith. Mr. James Harrison, architect:—

Messrs. Bird	£542 0 0
Patman & Fotheringham (accd.)	525 0 0

For ship-building works, shops, engine-house, forge, stores, offices, stables, &c., in Baffin-street, Liverpool, for Messrs. W. H. Potter & Co. Brickwork, stonework, and slating, pulling down old buildings, and re-using materials. Mr. T. Mellard Reade, architect. Quantities supplied:—

Messrs. Potter	£688 0 0
Glaister	595 0 0
Hook	590 0 0
Denton	523 0 0
Thomas	500 0 0

For alterations to business premises, Market-place, Reading. Mr. Joseph Morris, architect:—

Sheppard	£253 0 0
Woodroffe	247 0 0
Matthews	223 0 0

For the erection of a public clock-tower and drinking-fountain, at Plymouth. Mr. Henry Hall, architect:—

	Portland.	Bath.
Earp	£400	£376
Willcocks	386	329
Adams & Son	380	367
Elliott	313	298
Call & Pethick (accepted)	314	285

For the erection of new premises, in Broad-street, Hereford, for the National Provincial Bank of England. Messrs. Elmslie, Franey, & Haddon, architects. Quantities supplied by Messrs. Balstone & Brunt:—

Pearson & Son	£5,526 0 0
Kirk	5,495 0 0
Wood & Son	5,098 0 0
Niblett & King	5,040 0 0
Biggleston	4,990 0 0
Parnell	4,850 0 0
Welsh (accepted)	4,846 0 0
M'Cann & Everal (too late)	4,844 0 0
Jones & Son	4,595 0 0
Edwards	4,590 0 0
Wilson	4,280 0 0
Bowers	4,100 0 0

For restoration and reseating the parish church, Bicester. Mr. C. N. Beazley, architect. Quantities supplied by Mr. Thos. T. Green:—

Coney	£3,720 0 0
Wyatt	3,700 0 0
Castle	3,306 0 0
Fassnidge & Son	3,140 0 0
Davis, Brothers	2,986 0 0
Young & Co.	2,872 0 0

Amended estimates were asked for, and that of Fassnidge & Son accepted.

For additions to Westfield House, Reigate, Surrey, including alterations to staircase. Mr. F. J. Dibble, architect:—

Holdsworth	£1,084 0 0
Perry	945 0 0
Thornton (accepted)	922 0 0

For repairs, alterations, and additions to Castle Hill House, Hinckley. Mr. Robert Jennings, architect.—

Bricklayer, Plasterer, and Mason's Work.	
Fox, Brothers	£948 10 0
Harrold and Brother	905 0 0
Spencer	895 0 0
Burkitt	890 0 0
Plumber, Painter, and Glazier's Work.	
Stanton	164 14 0
Morley	157 0 0
Pullin	151 10 0
Burkitt	105 0 0

For the reconstructing a portion of the St. Martin's Washhouse:s:—

Wilkinson & Torkington	£1,050 0 0
Fraser & Sons	1,025 0 0
Healy	995 0 0
May (accepted)	890 10 0

For the erection of a chapel at Eastbourne, Sussex. Messrs. Searle, Son, & Yelf, architects:—

Peerless	£1,850 0 0

For repairs at the Licensed Victuallers' Schools, Kennington-lane. Mr. W. Nunn, architect:—

Stead	£2,237 0 0
Simms	1,520 0 0
Saunders	1,444 0 0
Bryant	1,350 0 0
Rentmore	1,325 0 0
Wells	1,287 0 0
M'Pherson	1,270 0 0
Notley	1,249 0 0
Fitch	1,245 0 0
Leonard	1,215 0 0
Chuter	1,200 0 0
Whitehead	1,175 0 0
Chapel	1,170 0 0
Bishop	1,105 0 0
Rudkin	1,095 0 0
Bottom	1,090 0 0
Blanchard	1,020 0 0
Cocke	999 0 0
Simpson	897 0 0

For alterations, Regency-square Schools, Kennington. Mr. Francis H. Fowler, architect:—

Heath	£504 10 0
Arris	504 5 0
Nottley	459 0 0
Saunders (accepted)	415 0 0

For two new cottages and farm premises, at Whissendine, Rutland, on the farm occupied by Mr. Stanhope:—

Stafford & Sherwin	£790 4 11
Wearer & Barnes	747 4 0
Fast	692 0 0
Halliday & Cave (accepted)	672 11 7

For enlarging dining-hall and dormitories, at Temple Grove, East Sheen, Mortlake, for Mr. O. C. Waterfield, Mr. Sim, architect:—

Cowland	£482 0 0
Fish	437 0 0
Bowling	378 0 0
Goodall	320 0 0

For alterations and additions, at Norfolk House, Westbourne-grove West. Mr. Sim, architect:—

Fish (accepted)	£664 0 0

For stations on the Arundel and Mid-Sussex Branch of the London, Brighton, and South Coast Railway. Mr. R. Jacomb Hood, engineer. Quantities supplied by Messrs. C. Davis and C. Poland:—

	Contract No. 1. Little-hampton.	Contract No. 2. Arundel, &c.	Contract No. 3. Hough-ton.	Total Amount of Tender.
	£.	£.	£.	£.
Williams	6,663	5,655	3,543	15,462
Aviss & Sons	6,512	4,958	2,422	13,893
Simms	5,400	4,480	2,100	11,980
Perry, jun.	—	4,230	—	—
Westley	5,594	4,076	1,968	11,642
Bushby	5,126	4,099	1,947	11,172
Reynolds	4,918	4,038	1,913	10,669
Bull (accepted)	4,442	3,627	1,579	9,648

TO CORRESPONDENTS.

H. T. C.—J. W. (the building may not be erected so that neighbour can prove damage from deprivation of light).—T. M. R.—K. & R.—J. P. E.—J. R.—G. C.—J. W.—R. R.—H. H.—P.—N.—C. O. P.—A Lover of Art.—Mr. W. (in type).—C. H. D.—F. & B.—J. M. (we are not able to inform him).

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No.* 1, *York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

[*Advertisement.*]

TO THE EDITOR OF "THE BUILDER."

SIR,—In your memorandum of the Agricultural Show at Battersea, I see attention is directed to the Reading Abbey Concrete, or Rubble Stone Brick, and other ornamental work. You are quite correct in the observation, "It is ordinary concrete, and that in many cases it might be used above ground advantageously." The Inventor and Patentee of this simple and durable material has completely anticipated your correct judgment by the introduction of Moulds, and an admixture of prepared Lime, of greater adhesive durability than any cement yet known, used in certain proportions, with Gravel, Shingle, Stone, Chalk, Sand, Clinkers, or fragments of old Bricks. The Bricks produced are most perfectly formed, and present a surface and arris quite unique. Of its durability ample tests are shown at the manufactory, in blocks, which explosive material only can destroy. The surface is equal (I think I may add superior) to any building stone; and its cheapness of cost is a desideratum in the construction of masonry. The intense interest it created in the minds of architects and builders, English, Scotch, Austrian, and Italian artists, especially for ornamental garden works and fountains, is a proof of the value of its application. I understand works are in progress for an extensive supply, and that licences will be granted for the manufacture, by which it can be introduced into any part of the United Kingdom, the Colonies, and such part of the Continent as has been secured by Patent. The tubes for the electric wires are most simple and secure, whilst the pipes for sewage, water, and agricultural uses, testify to the importance of the discovery, and its adaptation to the works now so extensively going on. Having watched its progress for three years, I shall be glad to give testimony to its efficiency, for which purpose I enclose my card, and remain, Sir, yours respectfully,

OBSERVER.

ADVERTISEMENTS.

"THE BUILDER"—January 25th, February 22nd, March 1st and 15th, 1862.
A few clean Copies of the above dates are required.—Apply to the Publisher, at the Office, 1, York-street, Covent-garden, W.C.

PURSUANT to a Decree of the High Court of Chancery, made in a cause Loat *v.* Loat, the creditors and also the incumbrancers upon the real and leasehold estates of William John Loat, late of Clapham, in the county of Surrey, surveyor, who died in or about the month of August, 1856, are, by their solicitors, on or before the 29th day of OCTOBER, 1862, to come in and PROVE their DEBTS or CLAIMS, at the Chambers of the Master of the Rolls, Rolls-yard, Chancery-lane, Middlesex, or in default thereof they will be peremptorily excluded from the benefit of the said decree, THURSDAY, the 6th day of NOVEMBER, 1862, at TWELVE o'clock at noon, at the said Chambers, is appointed for hearing and adjudicating upon the claims.—Dated this 8th day of August, 1862.

GEO. HUME, Chief Clerk.

Merriman & Brewin, 25, Austin-friars, plaintiff's solicitors.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

AN Architect superintending and directing a large building business, has VACANCIES in his Office for ONE or TWO OUT DOOR PUPILS, who would fully learn the real practice and responsibilities of their profession. They could reside with the head clerk if necessary.—Apply, J. F. 24, Walpole-street, King's-road, S.W.

TO PARENTS AND GUARDIANS

A SURVEYOR has an OPENING in his Office for a PUPIL. No premium required. One having a taste for drawing preferred.—Address, N. O. T. 3, Duke-street, Adelphi, W.C.

FOREMAN of CARPENTERS and WHEELWRIGHTS WANTED. Must have been accustomed to large works, and be conversant with the conversion of English timber.—Apply, prepaid, to Messrs. SAMUELSON & CO. Agricultural Implement Makers, Banbury.

WANTED, immediately, an ASSISTANT who has been used only to Early Pointed work.—Apply, stating terms and references, to Messrs. WALTON & ROBSON, architects, Durham.

WANTED, a FOREMAN, in a Plastering and Painting Business. A good character, and a thorough knowledge of the trade indispensable.—Address, Messrs. LEWIS & SONS, Clifton, Bristol.

TO PAINTERS, DECORATORS, AND BUILDERS.

WANTED, by a first-class FOREMAN of PAINTERS and DECORATORS, a SITUATION, to take charge of Jobs, or act as FOREMAN. The advertiser has had much experience for many years. Good reference can be given from late employers. No objection to the country.—Address, R. A. Office of "The Builder."

TO SMITHS.

WANTED, a thoroughly good WORKMAN of experience, and accustomed to set out work and take the lead in a general Fitting-shop.—Apply, by letter, to G. S. 53, George-street, Euston-square, N.W.

WANTED, a respectable and well-educated YOUTH, as IN-DOOR APPRENTICE to the PLUMBING, PAINTING, &c. Would be required to assist in estimating and general accounts, with every opportunity of gaining a thorough knowledge of the business.—Also a VACANCY for an IMPROVER in a Branch Establishment. Good references indispensable.—Apply to A. WHEELER, Plumber, Dealer in Lead and Glass, 16, Queen-street, Oxford.

TO ARCHITECTS AND SURVEYORS' ASSISTANTS.

WANTED, for a short time, immediately to take charge of an Estate Office, an ASSISTANT of Christian character, capable of drawing, from instructions, elevations of second class houses.—Address, stating salary, which must be moderate, E. at Cribb's Library, Westbourne-grove, Bayswater.

TO BUILDERS' CLERKS.

WANTED, an energetic Man, as CLERK in a Builder's Office, well up in book-keeping, prime costs, &c. To one seeking improvement, this is a good opportunity.—Address, stating age, where last employed, and salary, to O. S. Office of "The Builder."

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, a good DRAUGHTSMAN.—Address, with full particulars as to age, qualification, experience, and salary required, A. WATERHOUSE, Mount-street, Manchester.

TO ENGINEERS

WANTED, a First-class SUPERINTENDENT over the Engineers' Department in a large Building Establishment in London. He must combine a knowledge of founder's, smith's, and engineer's work, and be able to make drawings for iron constructions and machinery.—Address, Mr. THOMAS ROBINSON, 1, Calthorpe-place, Gray's-inn-road, London, W.C.

TO BUILDERS' FOREMEN.

WANTED, a thoroughly efficient WORKING SHOP FOREMAN, to take charge of the joiner's work to some first-class houses. He must fully understand setting out work and converting materials. Good references indispensable.—Apply, in the first instance, by letter, to A. P. Post-office, High-street, Notting-hill, W.

TO CARVERS

WANTED, a clever WOOD CARVER, as FOREMAN in a Cabinet Manufactory.—Apply, by letter, naming salary, to W. M. care of Mr. Reed, 5, Great Portland street, Oxford-street, W.

TO ASSISTANTS.

WANTED, immediately, a clever ASSISTANT, thoroughly accustomed to designing in the Italian style.—WANTED, also, a YOUTH, as IMPROVER, at a small salary only.—Apply to the Housekeeper, 3, Walbrook-buildings, Walbrook, E.C.

WANTED, a Gentleman to take the MANAGEMENT, practical and commercial, of Gunpowder Mills in Great Britain. A preference would be given to one who could take a small interest in the concern. Address, G. M. care of Messrs. Drake & Son, Solicitors, 38, Walbrook, London.

WANTED, a Young Architectural Draughtsman, who has some knowledge of mechanical drawing and writes a good hand. A permanent SITUATION for a suitable person.—Address, Box 169, Post office, Belfast, stating salary and where last employed.

WANTED, in a Builder's Office, in London, a thoroughly experienced ARCHITECTURAL DRAUGHTSMAN.—Address, stating age, salary required, and where last engaged, to X. L. Z. Office of "The Builder."

WANTED, a steady and intelligent Man, as TIMEKEEPER and FOREMAN, for a SAW-MILL. Must be thoroughly acquainted with the business, and industrious and persevering. Strictest references for honesty and sobriety required.—Address, with full particulars, stating age and wages expected, to D. S. Office of "The Builder."

WANTED, in the South of Ireland, an ARCHITECTURAL ASSISTANT. Must be a good draughtsman, conversant with the general duties of an office.—Address, stating age, salary, and other particulars, to W. F. No. 97, George-street, Limerick.

TO BUILDERS, &c.

WANTED, by the Advertiser, a Joiner by trade, a SITUATION as FOREMAN, or to Superintend the Erection of Buildings, &c. Can take off, cost, and work to drawings.—Address, Z. No. 5, Queensbury-place, Richmond, Surrey.

TO ENGINEERS AND CONTRACTORS.

WANTED, by a thoroughly practical Man, the FIXING of IRON BRIDGES, IRON TANKS, and IRON ROOFS, and Iron Buildings of every description, by the ton or otherwise. Can supply tackle if required. Satisfactory testimonials.—Address, R. S. 50, St. Paul-street, Union-square, New North-road, Islington, N.

TO COUNTRY CARPENTERS AND BUILDERS.

WANTED, to APPRENTICE (IN-DOOR) a YOUTH, aged 17 years. A moderate premium will be given.—Address, with terms, &c. S. X. 8, Little Moorfields, E.C.

TO CONTRACTORS, &c.

WANTED, a RE-ENGAGEMENT in a Contractor's Office. The Advertiser is well acquainted with the duties of the same, having had ten years' experience. Public stands building, drainage, &c. Good references.—Address, R. M. care of Mr. Tucker, Fishmongers, 9, Walworth-road, S.

WANTED, a SITUATION, by a thoroughly practical Man, well acquainted with, and fully capable of carrying out the general routine in a builder's or contractor's office. Age 45. Salary not so great an object as permanent employment.—Address, R. F. Warren's Library, London-street, Tottenham-court-road

TO BUILDERS.

WANTED, PLASTER WORK, finding scaffolding and materials, or labour only. Payment by instalments. First-class references.—Address, T. S. at Mr. Stocks's, 19, Elizabeth-terrace, Liverpool-road, Islington.

TO ENGINEERS, LOCAL BOARDS, AND CONTRACTORS.

WANTED, a SITUATION, by the Advertiser, who has eighteen years' test monials and experience in superintending the construction of railways, docks, water-works, and sewerage, in all their various branches, both at home and abroad.—Apply to C. D. 3, Prospect-place, Brook-green, Hammersmith.

WANTED, by a Young Man, a constant SITUATION as PLUMBER in a Builder's or a good Plumber's Shop. Has been used to the best of work. Will take charge of a plain painting job when stuck. Reference as to ability can be given.—Address, T. H. 12A, West-street, Regent-street.

TO BUILDERS.

WANTED, by the Advertiser, a SITUATION as MANAGER or GENERAL FOREMAN.—Address C. R. Office of "The Builder."

WANTED, by a Married Man, a constant SITUATION as CARPENTER and JOINER, or as House and Estate Carpenter on a Gentleman's Estate, having filled a similar situation, or any place where trust and confidence are required. Can be well recommended. The country preferred.—Address, OILMAN, 78, Hall-park, Edgware-road, W.

TO BUILDERS, CONTRACTORS, &c.

WANTED, EMPLOYMENT as FOREMAN, by a steady Mason, aged 42. Used to soft and hard stone. Twelve years as foreman with one employer near London, and the last four years near Manchester. Wages moderate. Locality immaterial. References if required.—Address, Z. care of Mr. Joseph Hallam, Portwood, Stockport, Cheshire.

TO BUILDERS AND PLUMBERS.

WANTED, by a respectable Young Man, a SITUATION as good PLUMBER. No objection to fill up his time in painting if required. A good reference can be given.—Address, A. B 123, Bermondsey-street, Southwark.

WANTED, by a Builder's Son, aged 22, a SITUATION. Is a good draughtsman, book-keeper, &c. Useful at the bench to fill up time, or overlook jobs. Country not objected to. Salary moderate.—Address, KELLY, 22, St. James's-terrace, Southgate-road, Islington, N.

TO BUILDERS AND CONTRACTORS.

WANTED, by a thoroughly practical Builder's Foreman, as Carpenter by trade, a RE-ENGAGEMENT as GENERAL FOREMAN, or to Take Charge of Works, either in town or country. Good reference from last employer.—Address, R. W. 23, Effingham-street, Pimlico.

WANTED, a RE-ENGAGEMENT as FOREMAN of MASONS, by a good practical Man, aged 35. Good reference.—Address, W. C. 13, Little College-street, Westminster.

TO CARPENTERS AND JOINERS.

WANTED, by a Young Man, a SITUATION as IMPROVER. Wages not so much an object as a desire to improve.—Address, T. J. 289, Great Titchfield-street, Oxford market, W.

TO IRONMONGERS AND BUILDERS.

WANTED, by an experienced Person, a SITUATION as LOCKSMITH, BELLHANGER, KEY-CUTTER, and GENERAL HOUSESMITH.—Address, J. CRESSWELL, No. 7, White Hart-court, Bishopsgate, London, E.C.

TO ARCHITECTS, SURVEYORS, BUILDERS, &c.

WANTED, by the Advertiser, aged 22, a SITUATION in either of the above offices. Is a neat draughtsman, good accountant, and can assist in taking out quantities, measuring up work, estimating, &c. Unexceptionable references can be given.—Address, M. N. General Post-office, Worcester.

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, a SITUATION as CLERK. Is well acquainted with book-keeping, measuring, abstracting and billing quantities, and the usual business of an office. Good references can be given. Aged 27. Salary moderate.—Address, R. H. D. Office of "The Builder."

TO SMITHS, &c.

WANTED, by a steady Young Man, aged 26, a JOB as FIREMAN. Can do general jobbing.—Address, A. B. 9, Whitefriars street, City, E.C.

TO BUILDERS, &c.

WANTED, by a thoroughly practical Builder's Foreman, an ENGAGEMENT, to take the charge of building or the general management of a job. Can prepare working drawings and measure up work.—Address, S. N. Britannia Coffee-house, Tothill street, Westminster, S.W.

TO SAW-MILL PROPRIETORS, BUILDERS, AND OTHERS.

WANTED, by the Advertiser, a respectable Young Man, aged 26, a SITUATION as SAW SHARPENER, or to TAKE CHARGE of the CUTTING DEPARTMENT. Is a good saw sharpener either in hard or soft woods, and has a thorough knowledge of all kinds of sawing machinery. Seven years' character.—Address, A. B. 16, George street, New Town, Deptford.

TO BUILDERS, PLUMBERS, AND OTHERS.

WANTED, by a Young Man, a SITUATION as PLUMBER, GAS-FITTER, &c. Would not object to fill up his time with Glazing. Good references.—Address, S. A. G. 57, Wellington-street, Victoria Park, N.E.

TO SCULPTORS AND OTHERS.

WANTED, a SITUATION, by a first-class Ornamental Modeller and Carver. Can undertake busts and draped figures. No objection to the country, or as Designer and modeller to any firm.—Address, F. W. Office of "The Builder."

TO BRICKMAKERS

WANTED, by the Advertiser, after Michaelmas next, a RE-ENGAGEMENT as FOREMAN and MANAGER of a BRICKFIELD. Has had considerable experience in the manufacture of bricks for many years, both in stock and fancy, and can produce references of the highest respectability.—Address, A. B. care of Mr. EALES, Stationer, &c. 2, De Beauvoir-terrace, Kingsland-road, London, N.

TO BUILDERS AND PLUMBERS.

WANTED, by a Young Man, a SITUATION as PLUMBER, or PLUMBER and GAS-FITTER, either in town or country. Has had great experience in the trade.—Address, E. C. No. 7, Yardley-street, Clerkenwell.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Practical Young Man, a RE-ENGAGEMENT. Can prepare drawings, and understands the general routine of the business.—Address, A. B. A. Office of "The Builder."

TO PLUMBERS, BUILDERS, &c.

WANTED, by the Advertiser, a SITUATION as PLUMBER or Three Branch Hand.—Address, C. H. 5, Camden-row South, Camden-town, N.W.

TO CARPENTERS, &c.

WANTED, EMPLOYMENT, by a good CARPENTER and JOINER, thoroughly acquainted with the jobbing business. Wages moderate.—Address, W. B. Post-office, Duke-street, Oxford street, W.

BUILDER'S CLERK.

WANTED, by a Young Man, a SITUATION as GENERAL BUILDER'S CLERK and BOOK-KEEPER.—Address, B. C. care of Mr. G. Street, 30, Cornhill, E.C.

TO MASTER PLUMBERS, &c.

WANTED, by a Young Man, who has been five years at the Painting and Glazing, a SITUATION for a term of TWO YEARS, where he would have an insight of the Plumbing. Wages 21s. per week.—Address, F. S. C. 4, Berwick-street, Gillingham-street, Pimlico.

TO BUILDERS, PAINTERS, &c.

WANTED, an ENGAGEMENT (town preferred) by a Young Man, as PAINTER, GLAZIER, and GLASS-CUTTER. Can take the jobbing plumbing. Good reference. Address, R. A. 12, Duke's road, Euston-square.

WANTED, by a Young Man, a SITUATION as IMPROVER to the PLUMBING. Has a very good knowledge of the above.—Address, F. P. 33, Wardour-street, Soho, London.

WANTED, to Place a Youth, aged 16, as an APPRENTICE, under the care of a respectable foreman, in a good Builder's business, where he could be boarded and lodged, and receive regular instruction in the business of carpenter and joiner. Terms to be stated, and unexceptionable references given.—Address, Messrs. JENNINGS & SON, Proctors and Solicitors, No. 18, Bennet's hill, Doctors' Commons.

TO IRONMONGERS AND BUILDERS.

THE Advertiser, a steady Young Man, wishes for a RE-ENGAGEMENT, as GASFITTER, BELLHANGER, and SMITH. Good references.—Address, A. B. 29, Basker street, Sloane-street, Brompton, S.W.

TO BUILDERS.

THE Advertiser, a Carpenter by Trade, is desirous of an ENGAGEMENT as OUT-DOOR FOREMAN, having just completed a large job. Can have a good reference.—Apply to S. A. 9, Little Charles-street, Hampstead-road.

TO ENGINEERS, CONTRACTORS, BUILDERS, &c.

THE Advertiser, of sixteen years' experience in the construction of railways, docks, sea, waterworks, drainage, &c. who can level, set out, measure up, and is a good draughtsman and accountant, desires an ENGAGEMENT as SUPERINTEND WORKS.—Address, T. S. 8, Clarence road, Hackney

TO TIMBER MERCHANTS.

THE Advertiser, who has had sixteen years' experience in the mahogany and timber trade, is desirous of making an ENGAGEMENT, with some respectable firm, as TOWN TRAVELLER, or to take the MANAGEMENT of a YARD, both for which he has been accustomed to.—Address, T. G. Mr. Williams, Stationer, Walbrook, City.

TO CIVIL ENGINEERS AND SURVEYORS.

THE Advertiser, who is a good SURVEYOR, DRAUGHTSMAN, and PLAN WRITER, is open to an ENGAGEMENT. References to present employ. Terms very moderate.—Address, R. A. 489, Oxford-street, W.C.

TO ARCHITECTS.

THE ADVERTISER desires a RE-ENGAGEMENT. Can survey and level. First-class testimonials.—Address, Y. Z. Y. Office of "The Builder."

TO GILDERS, DECORATORS, &c.

THE Advertiser, a first-class OIL and WATER GILDER,—can join in the gold if required, accustomed to the usual routine of a country establishment, a good paperhanger and broad tinter. Wages, &c., for an ENGAGEMENT.—Address, ALPHA, Post-office, Theale, Berkshire.

TO ARCHITECTS, &c.

THE Advertiser, a first-class DRAUGHTSMAN and DESIGNER in Ecclesiastical and Domestic Work, and practical man, requires an ENGAGEMENT in or near Birmingham or that neighbourhood preferred. First-class references. Address, L. Z 121, Alfred-street, Regent's Park.

TO BUILDERS, LANDLORDS, AND HOUSE AGENTS.

THE Advertiser, aged 35, wishes for a SITUATION as HANDY MAN in painting, glazing, colouring, &c. Has a knowledge of jobbing plumbing. Will make himself useful. Wages, 25s. per week.—Address, SIAR, 22, Pratt street, Great College street, Camden town

TO LAND SURVEYORS AND CIVIL ENGINEERS.

A COMPETENT ASSISTANT, provided with all field and office instruments, desires a RE-ENGAGEMENT. Is experienced in parish, estate, and railway surveying; levelling, ranging curves, &c.; and is a good draughtsman.—Address, "Surveyor," 29, Acton-street, Gray's Inn-road, London, W.C.

REQUIRED, by a Gentleman, aged 29, a RE-ENGAGEMENT with an Architect or Engineer. Salary, 200l. per annum.—Address, D. H. N. Post-office, St. John's-hill, Wandsworth, S.W.

PLUMBING. — WANTED, EMPLOYMENT, constant or otherwise. Undeniable references.—Address, PLUMBER, 2, Bird-street, Oxford-street, W.

TO BUILDERS.

A SURVEYOR of great experience offers TEMPORARY ASSISTANCE to BUILDERS, in town or country, in taking off quantities, estimating, measuring up extras and omissions upon contracts and other works, making drawings, writings, specifications, and making up Builders' accounts, upon moderate terms.—Address, S. V. R Office of "The Builder."

TO CIVIL ENGINEERS AND SURVEYORS.

AN ENGINEERING SURVEYOR of many years' standing, who has just completed a very extensive survey, is open to UNDERTAKE RAILWAY or PARISH WORK in any part of England.—Address, SURVEYOR, care of Mr. Chadwell, Stationer, Peterborough.

AN Assistant, of upwards of eight years' professional experience, and thoroughly proficient in perspective, ornamental, detail, and working drawings, wishes a SITUATION in an Architect's Office in London. First-rate certificates and references can be furnished.—Address, Q. R. Office of "The Builder."

A THOROUGHLY practical and otherwise fully qualified Man, with 25 years' experience, desires a RE-ENGAGEMENT as AGENT, Clerk of Works, Foreman, or to Manage a Business.—Address, G. T. No. 9, Hanley-road West, Hornsey-road, London, N.

TO ARCHITECTS AND SURVEYORS.

AN Architect and Surveyor's Assistant desires an ENGAGEMENT. Highest references given as to abilities, &c.—Address T. J. K. care of Mr. A. Laurie, 80, St. John's-street-road, Clerkenwell.

TO CABINET MAKERS AND OTHERS.

A YOUNG MAN, a General Hand and Wood Turner, seeks EMPLOYMENT in town or country. He has held a situation of responsibility, is an excellent draughtsman, and can sketch and tint with effect.—Address, W. C. E. No. 50, St. George's-road, New Kent-road, Borough, S.E.

TO ARCHITECTS.

AN ASSISTANT, aged 23, and who is competent to make drawings from rough sketches, copy and trace, and colour perspectives, is open to a RE-ENGAGEMENT.—Address, B. J. 19, East-street, Red Lion-square, W.C.

TO RAILWAY CONTRACTORS AND SURVEYORS.

A YOUNG MAN, well educated, is desirous of OCCUPATION. Has a knowledge of levelling and surveying, is a good draughtsman, with a knowledge of plotting and mapping, and is thoroughly up in mathematics. Salary secondary consideration. Open for home or foreign work.—Address, X. Y. Z. No. 1, Cheltenham-terrace, King's road, Chelsea.

AN Architect's Assistant, who has had nearly nine years' experience, and is thoroughly acquainted with general office routine, detail drawings, perspective, &c. and can draw specifications, is open to an ENGAGEMENT, either temporary or otherwise, on moderate terms.—Address, K. S. News-rooms, 151, Cornhill, E.C.

AN Architect and Surveyor's Assistant requires a SITUATION. London preferred, but the provinces not objected to, if the office be a good one.—Address, W. B. S. Post-office, Stoney Stratford, Bucks.

AN ARCHITECTURAL DRAUGHTSMAN and DESIGNER wishes an ENGAGEMENT in an office, or for work at his own rooms. Terms, 2l. 2s. per week. Age 28.—Address, O. Q. Office of "The Builder."

TO TIMBER MERCHANTS, BROKERS, AND OTHERS.

A YOUNG MAN, aged 32 (married), is desirous of obtaining a SITUATION as CLERK or COLLECTOR. Thoroughly acquainted with book-keeping. Is a good correspondent and penman. First-class references. Country preferred.—Address, M. H. 78, Grafton-street, Mile-end Old Town, E.

A STAIRCASE HAND, of twenty years' experience, who is finishing a large contract, will be open for an ENGAGEMENT to Builders for any quantity of stairs or handrails at 25 per cent. less than ordinary prices.—Address, G. B. 12, Church-st. east, Islington, N.

A GLAZIER.—WANTED, by the Advertiser, a permanent SITUATION as above; in town or country, or on an estate. Willing to fill up his time with painting. Good references.—Address, A. Z. Mr. Chew's, Post-office, Crawford-street, Bryanston-square, W.

TO ARCHITECTS

A GOOD DRAUGHTSMAN offers his SERVICES in Making Perspectives, Working and Detail Drawings, &c. Drawing attended by country if desired. Terms moderate. Address, M. R. C. care of Mr. Pilcher, News Agent, 71, Gray's-inn-lane, W.C.

TO ARCHITECTS AND SURVEYORS.

A READY DRAUGHTSMAN, in any style of architecture, who tints with effect, requires an ENGAGEMENT. Is accustomed to quantities, specifying, &c. &c. Terms moderate. Reference good.—Address, A. D. 64, Clarendon-square, N.W

TO BUILDERS AND PLUMBERS.

A PLUMBER is in want of a SITUATION. Would fill up his time with painting and glazing. Good references, if required.—Address, A. B. 8, Queen-street, Edgware-road, W.

TO BUILDERS AND CONTRACTORS.

A YOUNG MAN, of business habits, is desirous of meeting with a SITUATION with a BUILDER. He has a good knowledge of drawing, getting out quantities, and the general office routine. Salary not so much an object as permanency. Address, A. S. C. Post-office, Churton-street, Pimlico.

TO ARCHITECTS.

A GENTLEMAN, age 22, desires a RE-ENGAGEMENT in an Architect's Office, as GENERAL ASSISTANT. He is a good draughtsman, capable of preparing specification, or measuring up all the usual routine of an office, and can produce a most satisfactory testimonial from his former employers, with whom he remained five years, three as managing clerk. A moderate salary required.—Address, DILIGENS, Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

A QUANTITY SURVEYOR and MEASURER, of considerable practical experience, would be glad to TREAT with ARCHITECTS for their Quantities and Measuring, Working Specifications, &c. upon reasonable terms; or would assist Architects and Surveyors at their own Offices, if preferred. References given.—Address, "ALPHA," care of Mr. Fisher, Stationer, Vassall-road, Brixton road, S

TO ARCHITECTS.

A YOUNG MAN, who has had above eight years' constant employment in an Architect's Office, desires a RE ENGAGEMENT.—Address, B. LEE, 49, St. John-street, Oxford.

A SURVEYOR'S ASSISTANT, who has had five years' experience in a London Office, is open to an ENGAGEMENT in town or otherwise. Is quick and accurate in abstracting and billing quantities, and a fair draughtsman. Can give good reference.—Address, P. P. Post-office, Birmingham.

TO ARCHITECTS

AN ASSISTANT, well up in the requirements of the profession, has been accustomed to the Gothic and Italian styles, is excellent draughtsman, wishes to RE-ENGAGE MENT. Good testimonials.—Address, H. H. Office of "The Builder."

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
" Kiln Bricks, at 30s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 45s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire-street Station, at 30s. per 1,000

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Letters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. 6 inches.
Do. Culvert Bricks.
Plain Tiles of kinds
Plain and Fancy Ridge tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.
Price, including royalty, 75l.
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 3, No. 1,510.

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

HAND-RAILS BY MACHINERY.



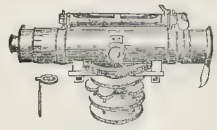
R. RIDDELL
is prepared to execute every description of Hand Railing, Solid or Veneered, in the most perfect and workmanlike manner.
Orders from any part of the Kingdom promptly attended to
Address, 23, Moreton Terrace, Pimlico

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42 inch, 5s. and 7s. 6d.; 21-inch, 2s. 6d. and 3s. 6d.; 23-inch, 3s. 6d., and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—
"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent different since the first laying down, now seven years, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD and HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PIBEL,
DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do.	18 ,,
Ladies' or Gentlemen's Gold English Lever Watches	12 ,,
Strong Silver Lever Watches	5 ,,
Gentlemen's Gold Compensation Balance Watches	40 ,,
Do. Silver do.	25 ,,
Marine Chronometers	35 ,,

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—
A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,248.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINE, and SPIRIT WARRANTS. BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Balance-sheets Prepared, and Meetings of Creditors Convene Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Mourgate-street, Bank, London.

TO BUILDERS, CABINETMAKERS, and OTHERS.—TO BE DISPOSED OF, the desirable LEASE of PREMISES in the best part of Bayswater, which have been about thirty years in the occupation of a builder. Price, including fixtures, will not exceed 500l. For cards to view, and further particulars, apply to Messrs. LEREW, Auctioneers and Valuers, 2, Cardington-street, Hampstead-road, near the Euston Station.

TO LANDLORDS and BUILDERS.—WANTED, a HOUSE and SHOP, in London or Suburbs (or a Country Town or Village not objected to), where there is an opening for a Chemist.—Address, Mr. GILL, at Mr. Larman's, 64, Bishopsgate-street Without, London.

BUILDING LAND, for Villas, in a very eligible position and first-class neighbourhood, near Wimbledon Park, Surrey. The roads are formed, and gas and water mains laid Apply to Mr. MORRIS, Architect, 12, Regent-street, St. James's, S.W.

HOLLOWAY.—ELIGIBLE FREEHOLD LAND TO LET, for the purpose of building Private Residences, detached, semi-detached, or otherwise. Term, 99 years. At moderate ground-rents This highly eligible Freehold Land (generally known as the Crown Estate) is situated close to the main road, Upper Holloway, where the omnibuses pass to and from the City, East and West-ends, and the different Railway Stations every few minutes, at very cheap fares. The land is all properly drained, and the roads made. For particulars, apply to Mr. JOHN THOMAS, Architect and Surveyor, 10, Denmark-street, Cold Harbour-lane, Camberwell, S.

BUILDING LAND, UPPER HOLLOWAY, near Highgate, TO BE LET, on Lease, for a Hundred Years. A SMALL PLOT for SIX HOUSES. Money advanced if required.—Apply to Mr. WILLIAM ELLISON, Architect, 13, Fenchurch-buildings, E.C.

BARKING, ESSEX. — To BUILDERS, TIMBER MERCHANTS, and OTHERS requiring SPACIOUS PREMISES. — TO LET, a desirable FAMILY RESIDENCE, with servants' cottage, coach-house, large carpenter's workshop, stabling, sawpit, and sheds, and three workmen's cottages, all in excellent repair, together with flower-garden, and large open yard for the storage of bricks, timber, and other building materials, situate in the High Street, Barking, five minutes' walk from the railway station, and close to the church and market. Rent, 50l. per annum.—For cards to view, apply on the Premises; and to WILLIAM JONES, Esq. Solicitor, 3, Serjeants'-inn, Temple.

MANUFACTURING PREMISES TO BE LET, about 120 feet deep by 20 feet, with shaft and plentiful supply of water, near the City; Also a Manufactory and Ten-roomed House, with large walled garden, twenty minutes by rail from Fenchurch street.—Address, A. Z. 4, Idol-lane, Tower-street, City.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is only 5 minutes' walk from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time —Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street

FREEHOLD BUILDING LAND, at HIGHBURY, about 3 acres, most eligibly situate, TO BE LET, on advantageous terms, in one plot or in allotments, with liberty to use the valuable brick-earth.—For particulars and inspection of plans, &c. address, PROPRIETOR, Office of "The Builder."

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's road, W.

BETWEEN STREATHAM and BALHAM. 14 Acres of valuable FREEHOLD BUILDING LAND FOR SALE, beautifully situate on the high ground near the Common, about six miles from the London and Westminster bridges, and 1/4 mile from the Balham and Streatham Stations. The land is all in pasture, has a gravelly subsoil, slopes to the south, commands extensive views, and offers a delightful site for residences or for a public institution. Apply to Messrs. DEBENHAM & TEWSON, 80, Cheapside, where a plan may be seen.

TEN ACRES of FREEHOLD, lying alongside the public road and the South Western Railway, with 746 feet frontage, 100 yards only from the Fleet Pond Station. TO BE LET on LEASE, at 32. an acre. Term, 100 years. No restriction as to class of buildings. There is no tavern of any kind near the station. Also FIVE ACRES of FREEHOLD on the King's-road, Peckham, 100 yards from the station about to be erected on the London and Brighton Extension Line.—Apply to THOMAS SINGLE, Esq. Bath House, Queen's-road, Peckham.

CATERHAM, on the Surrey Hills, 17 miles from London.—LAND TO BE SOLD or LET, in Plots of from four to twenty acres, for first-class Residences, either on the hill or in the valley. Healthy soil; ample supply of the best spring water to the tops of the houses.—Apply to Mr. R. MARTIN, Estate Office, Caterham, Redhill.

IPSWICH.—TO BE LET, on Building Leases, at very moderate ground rents, several extremely desirable PLOTS of LAND, suitable for the erection of villa residences, for which there is a great and increasing demand in the vicinity of Ipswich. The land is situate near the Ipswich Railway Station, with frontages to the London and the Heath roads, and to the new Station road, and is within about a mile from the Town Hall.—Applications for particulars to be made to Mr. F. BARNES, Lower Brookstreet; or to Mr. W. W. HUTCHINSON, 4, Soane street, Ipswich.

WIMBLEDON.—FREEHOLD BUILDING LAND—TO BE SOLD by PRIVATE CONTRACT, in this favourite locality, several eligible PLOTS, situate on an eminence commanding extensive and picturesque views over the Surrey Hills. For particulars apply to Mr. D. MASON, Land Agent, Wimbledon.

TO BUILDERS.—About 350 feet Frontage of BUILDING LAND for SALE, at SOUTHSEA, Portsmouth, the most rapidly-rising watering-place on the south coast. This is a portion of the only remaining sea-frontage unbuilt on, and is within twenty yards of the beach, with fine views of the Isle of Wight. Terraces and villas are being built around, and the land will soon double in value. Price 10l. 10s per foot frontage. About 1,000 feet of other LAND, with side views of the sea, for SALE. A House may be built in exchange for Land.—Apply to Mr. E. GALT, Granada-road, Southsea.

NORWOOD, SURREY.—The Owners of the Beulah Spa Estate having resolved to DISPOSE of the remaining portion of that valuable and beautiful PROPERTY, comprising upwards of 100 acres of choice land, on the high ground near the church and station, and within an agreeable distance of the Crystal Palace, will meet to receive TENDERS for the whole or any or more of the lots into which the estate is divided, on WEDNESDAY, the 27th day of AUGUST, at TWO o'clock in the afternoon, at the Office of Messrs. THOMAS & HOLLAMS, Solicitors, 31, Commercial Sale-rooms, Mincing-lane, London. The land commands similar beautiful and extensive views to those obtained from the terrace of the Crystal Palace. The whole is freehold, with the exception of 1a. 3r. 27p. more or less, at the north-eastern extremity of lot 1, which is copyhold. There is an abundance of fine gravel and brick-earth, and a metropolitan water company affords an ample supply of excellent water. The roads are good, and the estate altogether presents features of a character alike eligible for the large returns of a building society, or the more solid and permanent return of family investment. Plans and form of Tender may be procured at the Office of Messrs. THOMAS & HOLLAMS, Solicitors to the Vendors, 31, Commercial Sale-rooms, Mincing-lane, on and after the 4th day of AUGUST, 1862. All Tenders to be on the printed form, sealed and addressed to the Vendors of the Norwood Estate, and delivered at, or sent by post to, Messrs. THOMAS & HOLLAMS, 31, Commercial Sale-rooms, Mincing-lane, on or before the 28th day of AUGUST, 1862. The Vendors do not bind themselves to accept the highest or any Tender.

BUILDING LAND, MILE-END.—TO BE LET, on Building Lease, a valuable Plot of Freehold Land, situate in North-street, Mile-end, suitable for the erection of either shops, dwelling-houses, or manufacturing premises. It occupies an area of nearly two-thirds of an acre, and has an extensive frontage.—For forms and other particulars, apply to Mr. N. S. JOSEPH, Architect and Surveyor, East India Chambers, 23, Leadenhall-street, E.C.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

BUILDING LAND in Harp-lane, Great Tower-street, City.—The owners of this valuable property, situated at the corner of Cross-lane and Harp-lane, will meet on MONDAY, the 1st day of SEPTEMBER next, at the Office of Messrs. RUCK, FENWICK, & RUCK, No. 19, St. Dunstan's-hill, at TWO o'clock precisely, to RECEIVE TENDERS for BUILDING LEASE of the same for a term of eighty years. A plan of the site, and conditions, may be inspected at the Offices of Messrs. YOUNG & SON, Architects, No. 25, King-street, Cheapside, to whom the Tenders are to be delivered.
August, 1862.

CHEAPSIDE.—VALUABLE BUILDING SITE.—Notice is hereby given, that the time for receiving TENDERS has been EXTENDED to AUGUST 25.—Plans, particulars, and conditions of Tender may be seen, on application to the Clerk, Saddlers' Hall, E.C.; or to Mr. F. W. PORTER, Architect, 16, Russell-square, W.C. between TEN and FOUR.

FOR SALE, several PLOTS of FREEHOLD BUILDING LAND, on the Benhill Estate, Sutton, Surrey, from 20s. to 30s. per foot frontage, land-tax redeemed, conveyance free, five minutes' walk from the Sutton Railway Station, half-hour's ride from the London Bridge Terminus, good roads, good water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Agent, Sutton, S.

NORWOOD SURREY, near GIPSY HILL STATION.—First-class BUILDING LAND TO LET, in 80 feet fronted lots, at 7s. per foot, 120 feet deep. Houses of not less value than 1,000l. allowed on the estate. To responsible parties fifty thousand bricks will be allowed for every house.—For particulars address A. B. care of Mr. Pratt, Station Master, Gipsy Hill, Norwood, Surrey.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29, 30, and 31, Warwick-street, W.
EDWARDES, BROTHERS, & BURKE, PROPRIETORS.
The largest and most superior Stock of Chimney-pieces in Europe on view at the above named Establishment.
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

VICTORIA MARBLE WORKS, 88, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

MARBLE CHIMNEY-PIECES of every Description, also enamelled Slate, to be SOLD at 260, MARYLEBONE-ROAD (opposite the Yorkshire Stingo). BATH STONE BOX CHIMNEY-PIECE, with MOULDED CAP and BASE, 7s. FITTED TO ANY OPENING.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.
THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
All communications to be addressed to the Secretary, 24 St. James's-street, London, S.W.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries—Earl-street, Shoreditch-road, Westminster The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney-piece in the world.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices, Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. FINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 29 and 40, Upper Belgrave-place, Pimlico, S.W.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.
Grindstones, Slips, Slits, Coping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

RED MANSFIELD STONE. [WHITE MANSFIELD STONE
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Blue Lias, &c. &c. Lime, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
Apply to Mr. MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

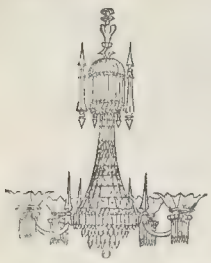
ROBERT WHITE, SLATE MERCHANT, SHEFFIELD.
ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor Mold Junction and Garston.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application.—Address,
No. 1, BOLD-TERRACE, CHESTER.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connexion generally throughout the Kingdom, that they have now ready their
NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

SLATES.—A Quantity of Second-hand SLATES FOR SALE.—Apply to H. B. LITTLE, Builder, Baker's Buildings, Liverpool street, City.

RANSOME'S IMPERISHABLE SILICEOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster, or Patent Stone Works, Ipswich.



INTERNATIONAL EXHIBITION, Class 31 and 34.
NOTICE TO ARCHITECTS, BUILDERS,
AND THE TRADE.
THE NEW CRYSTAL STAR AND SUN LIGHT.
J. DEFRIES & SONS,
ENGINEERS, GAS-FITTERS, AND MANUFACTURERS
Of MEDIÆVAL and every Description of
GAS-FITTINGS, CRYSTAL, BRASS, and ORMOLU
CHANDELIERS, VESTIBULES, &c. &c.

Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other public and private Buildings. HOT-WATER PIPES for heating Conservatories, Warehouses, &c. &c. supplied and fitted on the most Improved and Economical Principles. Public and Private Gas-Works Erected.

Works—London and Birmingham.
Principal Depôt and Show-rooms—147, Houndsditch, City.

DEVAUX'S VIEILLE MONTAGNE
THICK ROOFING ZINC.

This invaluable metal, if laid by Mr. TYLER on the new principle introduced by J. EDMISTON, Esq. F.L.S.A. will last as long as lead, at one-third the cost.

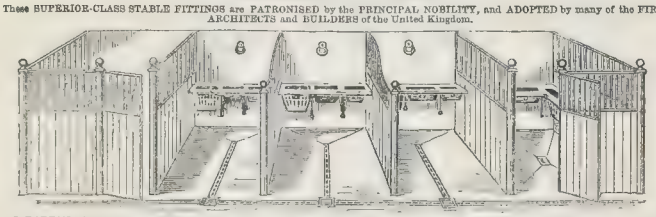
For Prospectuses, Samples, Models, and Estimates of Works to be done with the Roofing Zinc, in large or small quantities, in Town or Country, apply to

Mr. J. W. TYLER, 4, WOOD-STREET, WESTMINSTER, S.W.

If the Metal is laid by Mr. TYLER, who has become so well known among Architects and Builders, superior and careful workmanship may be depended upon, and a guarantee given for its durability, if the woodwork is prepared according to directions given.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR
BARTON'S PATENT STABLE FITTINGS.
AND ENAMELLED MANGERS.

These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

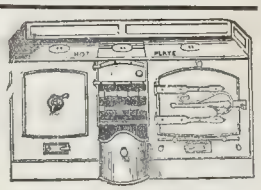
THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire range.

large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.



BURT AND POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS.
38 and 65, York-street, Westminster.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call the attention to Rae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr Letheby, Dr Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRIDGE-STREET, GREENWICH, S.E.—Illustrated Price List Catalogues, post free, on application.

PATENT ASPHALTE CALDRON, for laying Asphalte Floors. The cheapest and best kind of floor, impervious to wet, and vermin will not touch it. Full particulars sent free, by

WOODS & COCKSEDGE,
IRONFOUNDERS, STOWMARKET.

TO SAW-MILL PROPRIETORS and OTHERS

HUMPHREY & HASLER (late H Fairbank), Engineers and Machinists, 65, Oldstreet, E.C. beg to call attention to their IMPROVED SAW BENCH

Planing, Boring, Tarnery, and Screw-Cutting done for the Trade

---

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fixing up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

CHUBB'S LOCKS, with all the recent Improvements,
STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.
Complete Lists of Sizes and Prices may be had on Application.

CHUBB and SON,
57, ST. PAUL'S CHURCH YARD, LONDON.
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lights, equalizing the pressure, and preventing any irregularity in the Supply of the Flame

D HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanised; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London

TRADE MARK.

CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-Iron Tubes.



WINDOW BLINDS,
first-rate Quality, at Reduced Prices.
E. ADKINS,
HIGH-STREET, ST. JOHN'S WOOD,
R. GENT'S PARK, N.W.
Illustrated List of Prices on receipt of one postage stamp.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS, according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 114, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS. R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:

Three-eighths-inch diameter	1s. 0d. per foot.
Half-inch diameter	1s. 6d. „
Five-eighths-inch diameter	2s. 0d. „

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
„ Gateshead-on-Tyne
„ 27, Dale street, Manchester.
„ 68, Anderson-quay, Glasgow.
„ 17, South Castle-street, Liverpool
„ Exchange buildings, Dundee.
„ 7, Frederick-street, Aberdeen.

PROTECTION FROM LIGHTNING.





LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

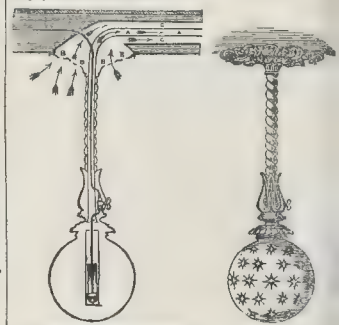
Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

RICKET'S & HAMMOND'S VENTILATING GLOBE LIGHT, combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour

6, AGAR STREET, STRAND, LONDON, W.C

PATENT BITUMENIZED PIPES for WATER, GAS and DRAINAGE
REDUCTION in PRICE, on account of the Exemption from Duty on Paper.

These pipes possess all the properties necessary for the conveyance of Gas, Water, and also for drainage purposes, viz. great strength, great durability, and perfect incombustibility; and being non-conductors, are not affected by frost like metal pipes. They are proved to resist a pressure of 220 lbs. on the square inch equal to 500 feet head of water, and can be made up to any greater strength if required. They are only one-fourth the weight, and when laid down are 50 per cent. cheaper than iron pipes. They are made in seven-feet lengths, and the joinings are simple and inexpensive. These pipes have been in use nearly three years, and have given the most perfect satisfaction.

Further particulars as to Joints, &c. and Specimen Pipes, may be obtained at the office of the Company, to whom application to Mr ALEXANDER YOUNG, 14a, Cannon-street, London, E.C.

MOREWOOD & CO. (late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham, Heath, Birmingham,
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of
SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER-TIGHT WATER BAR; and
SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246),

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

CARSON'S
ORIGINAL ANTI-CORROSION PAINT.

Patronised by

THE BRITISH GOVERNMENT, THE FRENCH GOVERNMENT, THE RUSSIAN GOVERNMENT, | H.R.H. THE PRINCE CONSORT, MOST OF THE NOBILITY & GENTRY, THE DOCK COMPANIES, | RAILWAY AND CANAL COMPANIES THE PRINCIPAL COLLIERIES, MILL OWNERS, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

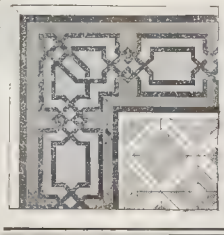
And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also

IRON ROOFING, BRIDGES, HURDLING,
AND EVERY DESCRIPTION OF IRON WORK;
FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone. The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.
OIL, TURPENTINE, AND BRUSHES.
Prices, Patterns, and Testimonials sent upon application to
WALTER CARSON AND SONS,
(SUCCESSORS TO THE INVENTORS,)
9, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.
NO AGENTS THROUGHOUT THE UNITED KINGDOM.



SOLID PARQUET FLOORS,
ARROWSMITH'S PATENTED,
From 1s. per foot, in various woods, inch thick, grooved, tongued, and f. Keyed together, not renewed
For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 80, New Bond-street, W.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS
CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices
MESSRS. HERBERT, MODELLERS,
242 EUSTON ROAD, ST. PANCRAS.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz.			
	4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1⅝	2	2½
„ 2ft. 6in. sup.	1½	1¾	2¼	3
4 ft. super...	1¾	2	2¾	3¼

Orchard House Sizes.

		15 oz.	21 oz.
20 by 12	per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13		3rds 15s. 0d.	3rds 21s. 6d.
20 by 14		2nds 18s. 0d.	2nds 28s. 0d.
20 by 15		1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.
} per cwt.

Fine Oak Varnish ...10s.
„ Carriage ...12s.
Linseed and Boiled Oil
Turpentine .....
} per gallon.

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,

GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

HAMPSTEAD ROAD JOINERY WORKS.

21, HARRINGTON STREET, N.W.

NEVIL SIMMONDS,

MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.

SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.

Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES **FOR HIRE** OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

PEARCE'S PATENT SANITARY PIPE, BRICK, AND TILE MACHINES.

Producing nearly double the quantity and of very superior quality to any machine yet invented. The improvement consists in the introduction of a central stem to support the core of the die, and obviating the necessity of cross-bars or bridges, hitherto found so detrimental in the manufacture of large sanitary pipes. The upper part of the Machine acts as a Pug-Mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die. The larger Machines will make sanitary pipes, from 3 inches to 24 inches. The smaller, from 2 inches to 12 inches.—Particulars on application to the

IRON WORKS, POOLE, DORSET.

GREATER REDUCTIONS.—Yellow Deals, from 2s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 10s. 3d.; ¼ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford street, Manchester. Prize Medallists, Class 34 A, 1862.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.
(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Postfree, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:—Cardington Street, Hampstead road, London.



THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS. JAMES HETLEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

STAINED-GLASS WINDOWS and PICTURES on GLASS for churches and private buildings.—Messrs. MARECHAL, of Metz, who have obtained Two Medals for their specimens now on view at the International Exhibition, French Court, Nos. 3,304 and 3,315, wishing to leave some of their works in this country, beg to inform the nobility and gentry that Mr CH. MARECHAL will remain in England till the 15th of SEPTEMBER, at 50, Grove-place, Brompton. He will attend to any orders and communications that may be forwarded to him.

TO ARCHITECTS, BUILDERS, &c.
GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F. ODELL & CO. 8, Bath-street, City-road, E.C.; or at the Works, 12, Grafton-mews, Fitzroy square, W.—N.B. Fret and Carved Leads sold.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution)

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

BEVAN & SON, Lithographers, Architectural Draughtsmen, and Colourists (late hands to the late Geo. Hawkins), 77, PETER GATE, and at East Mount Parade, YORK.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		Laths, 28s. per load.	
Yellow Deals, sound and good	£19 10 0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	16 12 0	„	0 2½ „
Yellow Battens, excellent quality	11 10 0	„	0 2 „
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0	„	3 6 „

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¼-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1¼-inch „	—	18s. 0d.	19s. 0d. „

Yellow Deals, 3 by 9 ..... £19 10s. per 120. | Pine Planks (Dry), 3 by 11 ..... 24l. per 120

Yellow Battens ..... £11 10s. „ | Pine Deals do. 3 by 9 ..... 19l. 10s. „

Spruce Deals ..... £16 10s. „ | ⅜-Inch White Matched Lining ..... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

190 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

MOULDING WORKS.



SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash

Sash and Frames, Boxing Shutters, Doors, Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings of any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Shades, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.



PATENT PORTLAND and ROMAN CEMENT,

AND PLASTER OF PARIS WORKS,

FRINDSBURY, on the MEDWAY, KENT, and CANAL ROAD, KINGSLAND ROAD, N.

MESSRS. FREEN & CO.

Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER of PARIS, in any quantity, fresh from the kilns.

Orders addressed to their LONDON WORKS, Canal-road, Kingsland, N. will meet with prompt attention.

STRINGFIELD and BLYTH,

SOLE CONSIGNEES OF

NELSON'S BLUE LIAS LIME.

ORDERS ADDRESSED TO MESSRS. S. & R. BANGOR WHARF, CAMDEN TOWN, N.W.

will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, AND BRICK MERCHANTS,

PLASTER OF PARIS MANUFACTURERS.

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.

Country orders forwarded with despatch.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours.

GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.

Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.

No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

GREY STONE LIME.

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS:

19, UPPER GROUND STREET, BLACKFRIARS, S.

7, NORTH WHARF ROAD, PADDINGTON, W.

PORTLAND CEMENT.

GREAVES & KIRSHAW,

14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND CEMENT WORKS,

Borstal, on the Medway, near Rochester, Kent.

J. HOLLICK & CO.

Manufacturers of the best Portland Cement, are now prepared to supply an article of first-rate quality on the most reasonable terms.

Shipping and Brokers' orders promptly executed.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER & CO.

(Contractors to Government),

24 WHARF, HARROW ROAD, PADDINGTON, W.

Every Article manufactured at their own Works and Mines, Brierly Hill.

FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.

Shipments on the shortest notice.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,

LIME BURNERS,

BRICK MAKERS,

SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,

ST. JAMES'S and THORNHILL WHARFS,

CALEDONIAN-ROAD, LONDON.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS, from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Woodbury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Dudley; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP PLACK BUILDING and PAVING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS,

COWLEY, KENT, and ESSEX BRICKS,

IN ANY QUANTITIES, BY BARGE OR RAILWAY.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, SOLE CONSIGNEES.

Telegraphic address [illegible]

N.B.—Every Description of the Building Goods of the Trade always in Stock.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Drabing, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, FAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONEPAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,
186, DRURY-LANE, LONDON, and at DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.
EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)
FIRE BRICK AND TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.
DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SPURGEON'S IMPROVED MARTIN'S CEMENT.

A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.

MANUFACTURED ONLY BY

B. W. SPURGEON, DERWENT WORKS, DERBY.

London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.
Coarse, Fine, and Superfine London-made PLASTER of PARIS.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS.
BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTING FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.
LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

GREAVES'S BLUE LIAS LIME
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TAYLHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLDSMAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality:—
GREY STONE CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF, for GARDEN EDGINGS
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS and TILES, of every description and size
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

O. MCCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above in lump or ground packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVANS. EVANS, Manager, Parys Mine Works, Holywell, Flintshire
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

PORTLAND CEMENT WORKS
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall; and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, at the lowest ADVANTAGEOUS TERMS, either direct from the Manufactory or from their Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BRIVIDERE ROAD, LAMBETH

PORTLAND CEMENT.—JOHN GOFFE & CO. are prepared to supply PORTLAND CEMENT, of best quality, and in any quantity, on advantageous terms.—PEEL WHARF, Great Scotland Yard, Westminster, S.W. Manufactory, Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

PARIAN CEMENT for INSIDE WORK
With this Material Houses may be finished and decorated one fourth the usual time, as Parian Cement may be painted or papered within forty-eight hours. A finer quality produces a beautiful hard scagliola imitation of marble.—Manufacturers, FRANCIS BROTHERS, & FOYT, Nine Elms, London

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

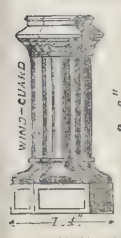
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.







LONDON WHARF, 64, Bankside, Southwark.

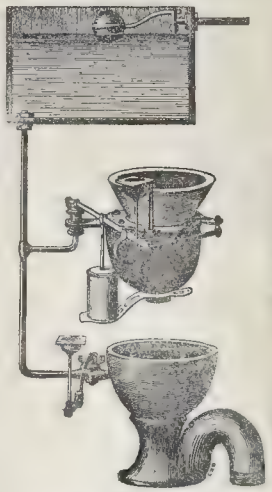
LONDON OFFICES, 76, King William-st. City.

MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.

LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.
A SELF CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s. 3d.; Turpentine, 8s. 6d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

TO BUILDERS, DECORATORS, &c.
FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of
HAMILTON & CO.
PAINTING BRUSH MAKERS,
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
And of their Agents,
SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s 9d. per gallon.
Turpentine, 8s. 6d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 32, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

RAILWAY COMPANIES, CONTRACTORS and AGENTS SUPPLIED with KEYS, TREENAILS, BUSHES, SLEEPERS, BARROWS, and all descriptions of RAILWAY PLANT and STORES by W. P. FRANCE, GREAT WESTERN SAW-MILLS, Bridge Wharf, Paddington.—Debentures taken in payment if required.

SALES BY AUCTION.

Government Stores, Westminster.

PULLEN, HORNE, & EVERSFIELD are instructed by the Commissioners of her Majesty's Works and Public Buildings to SELL by AUCTION, at the Store-yard, Great Smith-street, Westminster, on WEDNESDAY, AUGUST 20th, at TEN for ELEVEN, a quantity of OLD STORES; comprising office fittings, presses, drawers, and chairs; floor-cloth, cocoa-matting, and kamptulicon; carpets, brooms, blinds, cloth cuttings, fifty iron bedsteads, blankets, sheets, and coverlids; ironwork, and other effects.—Catalogues at the Office of her Majesty's Works, &c. 12, Whitehall-place; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-Westminster, and 80, Fore-street, E.C.

RICHMOND.—FREEHOLD PLOT OF GROUND AND COTTAGE.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on WEDNESDAY, AUGUST 27th, at TWELVE, a FREEHOLD PLOT of GROUND, lately occupied by the Richmond Waterworks Company, having a frontage of about 40 feet by 184 feet deep, on the west side of the Lower-road leading to Petersham, and extending to the towing-path, with a substantial brick-built Cottage thereon, and an artesian well, 400 feet in depth. The purchaser will have the option of purchasing the engine-houses and machinery, or the same will be sold in lots on the 26th AUGUST.—May be viewed ten days previous to the sale; and particulars had of Messrs. HARGROVE FOWLER, & BLUNT, Solicitors, 47, Parliament-street; at the Auction Mart; the Greyhound, Richmond; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W.; and 80, Fore-street, E.C.

RICHMOND.—The valuable Steam Engines, Boilers, Pumps, and Machinery, of the late Richmond Waterworks, and Materials of the Engine-houses.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, Lower Petersham-road, on FRIDAY, AUGUST 29th, at TWELVE for ONE, in lots, the valuable PLANT and MACHINERY; comprising a 15-horse condensing engine, by Maudsley; a 20-horse ditto, by Messrs. Simpson; two Cornish boilers, 16 feet and 14 feet long; a pair of 16-inch pumps and a pair of 8-inch pumps, and the shafting, steam-pipes, and connections; large cast-iron tank, capable of holding 13,000 gallons; iron mains, &c; also the very excellent materials of the engine and boiler houses, comprising 100,000 sound stock bricks, timber roofs, stone quoins, plates, several tons of lead, doors, sashes, and other useful materials.—May be viewed two days previous. Catalogues had of Messrs. HARGROVE, FOWLER, & BLUNT, Solicitors, 47, Parliament-street; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

MILLBANK.—To MARBLE MASONS, BUILDERS, and OTHERS.—SICILIAN MARBLE for absolute Sale, to clear a portion of the Premisef.

PULLEN, HORNE, & EVERSFIELD beg to announce that they are instructed to SELL by AUCTION, at BRIDGE WHARF, Millbank, Pimlico, in the ensuing month, SIXTY BLOCKS of SICILIAN MARBLE, a portion of which will be for absolute sale; also an assortment of ENGLISH SAWN SLAB, and several HUNDRED MARBLE SQUARES, for hall paving.—Approved bills at six months.—40, Parliament-street, Westminster, and 80, Fore-street, E.C.

TO CONTRACTORS, BUILDERS, and OTHERS.—Important SALE of Surplus MATERIALS and PLANT used in the Works of the Metropolitan Railway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractor, JOHN JAY, Esq. to prepare for SALE by AUCTION, the First Week in SEPTEMBER, at the WHARFS, City-road Basin, and Old St. Pancras-road, and at the Works, Bagnigge-wells-road, the very valuable and extensive Surplus MATERIALS and PLANT used in the construction of the Eastern Division of the Metropolitan Railway. Detailed particulars of this immense mass of property will appear in a few days. It includes 8 portable steam-engines, by Ransome & Sims, and only a few months in work; 7 capital iron mortar-mills, a 35 horse-power high-pressure steam-engine, 100 nearly new ballast-waggons, mostly on spring; 400 tons of rails, railway-sleepers, contractors' pumps, pile-driving engines, overhead travellers and cranes, scaffold-poles, boards and cords, powerful blocks, pipes and tools, gins and frames, weighing machines, a large quantity of useful timber, wrought and cast iron, navvy barrows, mortar-boards, ladders, patent brick-making machines, 2 canal boats, and numerous other effects.—Catalogues are preparing, and may shortly be had on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C.; and 40, Parliament-street, S.W.

CAPITAL BUILDING MATERIALS of SIXTEEN HOUSES, WORKSHOPS, and STABLING

MR. GAIRDNER will SELL by AUCTION, on MONDAY, AUGUST 18th, and following day, on the PREMISES, Commercial-road, Pimlico, to clear the ground for completing the new Passage; comprising several tons of lead, 700,000 stock bricks, 70 square of slating, York and Portland stone, sound timber roofs, joists and floors, iron railing, 100 stoves, baker's oven, grates, &c.—On view; and catalogues had of Messrs. R. J. & H. CLUTTON, Whitehall-place; and of Mr. GAIRDNER, 159, Tottenham-court-road, W.

BUILDERS' IRONMONGERY

MR. BETTS, Auctioneer and Valuer to the Ironmongery, Metal, and Builders' Trades, will SELL by AUCTION, at his ROOMS, 684, Leadenhall-street, City, on MONDAY, AUGUST 18th, 1862, at TWELVE o'clock, an extensive and varied assortment of BUILDERS' IRONMONGERY, BRASS GOODS, &c. removed for absolute Sale, comprising about 120 modern Register Stoves and Ranges, case of mahogany 1 ft. grate, 78 dozen rim locks, and a large variety of bolts, hinges, sash-line, glue, spades and shovels, castings, japanned goods, brass-foundry articles, and an assortment of useful articles suitable for ironmongers and others. On view in morning of the Sale, and catalogues had at the Rooms.

PEREMPTORY SALE.—T. TIMBER MERCHANTS, CONTRACTORS, BUILDERS, and OTHERS.—No 2%, TOOLEY-STREET, SOUTHWARK, the Premises being required for the Charing-cross Railway.

MR. PEAKE is directed by the proprietor, who is compelled to vacate, to SELL by AUCTION, upon the PREMISES, on WEDNESDAY, SEPTEMBER 3, 1862, and following day, at TWELVE for ONE each day, the whole of the superior dry and well-seasoned STOCK: comprising about 7,000 yellow, white, and pine planks, deals, and battens, sawn and unsawn, 5,000 feet wainscot pine planks, 1,000 scantlings prepared flooring boards, matched linings and mouldings, 100 loads timber, and a great variety of stock; also the substantial timber staging, erection of counting-house, mahogany 3-flap desk and numerous effects.—May be viewed the day previous and morning of sale. Catalogues obtained on the Premises, and at Mr PEAKE'S Office, 44, Tooley-street, Southwark.

AT GARRAWAY'S COFFEE HOUSE, Cornhill, FRIDAY, 22nd AUGUST, at TWO o'clock:—

Timber, 500 Loads, Foreign and Colonial.
Deals and Battens, 50,000 ditto ditto.
And other wood goods.

HY. FREEMAN & CO. Brokers, 3, Crooked-lane, Cannon-street, E.C.

CHARING CROSS RAILWAY.—Twenty-second Clearance Sale.—Building Materials. Sixth Portion of the Hungerford Market.—To Builders, Contractors, Pastors, and Others.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW is favoured with instructions from the Directors to SELL by AUCTION on the PREMISES, on FRIDAY, the 29th of AUGUST, 1862, at ONE o'clock punctually, in lots, the sixth portion of the very valuable and useful MATERIALS of the HUNGERFORD MARKET; consisting of a portion of the long ranges of shops, with cellarage under the whole; and a range of stabling, comprising capital stock brickwork, Bangor slating, sound timber, in roofs and floors; good flooring boards, panelled and other doors, plate-glass shop fronts, skylights, lead in pipes and gutters, iron girders, quantity of granite and York Paving, granite pitching, York landings, and a variety of useful fixtures and fittings-up.—May be viewed the day previous to sale, and catalogues had of Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices in the London Bridge Terminus.

PRELIMINARY ADVERTISEMENT.—CHARING-CROSS RAILWAY. Twenty-third Clearance Sale.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is instructed to prepare for immediate SALE, the BUILDING MATERIALS, FIXTURES and FITTINGS of ST. THOMAS'S HOSPITAL. Further particulars will be announced, and the days of sale fixed, as soon as the contemplated is taken. Catalogues, when ready, may be had of Mr. MARSH, Charlotte-row, Mansion House; Messrs. WILLIS & HARROW, Auctioneers and Surveyors, Newman's-court, Cornhill, E.C.; and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices, in the London Bridge Terminus.

TO IRONMONGERS, BUILDERS, and OTHERS.

MESSRS. FULLER & HORSEY are instructed by Messrs. Tiddeman & Co. (whose premises are required for the purposes of the London, Chatham, and Dover Railway), to SELL by AUCTION, on TUESDAY, AUGUST 19, at ELEVEN, at ST. ANNE'S WHARF and VICTORIA WHARF, Earl-street, Blackfriars, in lots, without reserve, 200 tons of BUILDERS' CASTINGS, including 10,000 yards round and O G rain-water gutter-ing and pipes, from 2 to 6 inches; rain-water heads and shoes; 5,000 yards hot-water pipes, comprising elbows, bends, T pieces, and valves, hot-water boilers, domed feeders and frames, flanged and socket pipes, 10 tons of sash weights, 1 ton cast iron furnace pans, furnace-doors, copper-hole and ash doors, coal-plates, air-bricks, horse and mare pots, mangers, racks, stall-posts, sewer grates, iron pumps, navvy barrow-wheels, truck-wheels, newel and railing bars, cast-iron columns, galvanized pans, large cast-iron cisterns, garden-rollers, pig troughs, register stoves, forty Dantzic planks, two seasoning cranes, and numerous other items. To be viewed on Monday previous and morning of sale; when catalogues may be had, on the Premises, and of Messrs. FULLER & HORSEY, Billiter street, London, E.C.

SPACIOUS FACTORY AT CAMDEN-TOWN, nearly equal to Freehold. Absolute Sale, by order of the Mortgagees.

MESSRS. HAMMOND & EILOART will SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, SEPTEMBER 1st, 1862, at TWELVE, the very extensive and commodious PREMISES known as Murphy's Planoforte Factory, at Albert-street, Camden-town, comprising a most substantial and recently erected pile of buildings, having four lofty and well lighted floors, each about 130 feet long by about 40 feet wide, with offices, showrooms, dwelling, stabling, cart house, &c. and a smaller detached workshop; the whole standing in a large inclosed yard of over 25,000 superficial feet, in which are sawpits, timber-stacking, &c. with also entrance to Georgiana-street. The premises are held for about 80 years to come, at a peppercorn; are suitable for a large firm employing 300 or 500 hands, or are capable of being subdivided and let to several tenants, whereby a large rental may be secured.—Particulars of Messrs. SHARPE, JACKSON, & PARKER, Solicitors, 41, Bedford-row; and of the Auctioneers, 38, Chancery-lane W.C.

BEULAH SPA, NORWOOD.—Valuable FREEHOLD BUILDING LAND.

MESSRS. GLASIER & SON are instructed to SELL by AUCTION, at Garraway's, on WEDNESDAY, AUGUST 20th, at TWELVE for ONE, in 47 lots, 47 Plots of valuable FREEHOLD BUILDING LAND, eligibly situate in White Horse-road, and Deimus Boron-road, Beulah Spa, Norwood, within ten minutes' walk of the Norwood Junction Station, and suitable for the erection of first and second-class villa residences.—May be viewed; and particulars, with plan, had of C. W. ABBOTT, Esq. Solicitor, 64, King William-street, City; at Garraway's; and of the Auctioneers, 41, Charing-cross.

TO CARPENTERS, BUILDERS, CABINETMAKERS, AND OTHERS.

MESSRS. GLASIER & SON will SELL by AUCTION, at GARD'S WHARF, Commercial-road, Lambeth on THURSDAY, AUGUST 28, at TWELVE for ONE, 3,165 lineal feet to 22 feet best and second well seasoned CROWN MEMEL PLANKS, 2,400 feet and 1,200 feet ditto yellow PINE PLANKS, and 863 12 feet to 22 feet well seasoned YELLOW DEALS. Catalogues on the Premises; at Garraway's, Change-alley, Cornhill; and of the Auctioneers, 41, Charing-cross, S.W.

TO ROAD CONTRACTORS, BUILDERS, and OTHERS.—Very valuable Gravel pit, affording also excellent building sand and chalk, with facilities for carriage by road and water close at hand.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, opposite the Bank of England, on WEDNESDAY, AUGUST 20, at TWELVE o'clock, 2a ACRES of FREEHOLD LAND, situate adjoining the New road, close to the town of Ware, and within a few hundred yards of the railway station and the River Lea. The land affords an almost inexhaustible supply of gravel of the best quality, as well as building sand and chalk, for all of which an unlimited demand exists. Large quantities of gravel and sand have already been taken from this pit for the Government, and several of the principal road and other contractors; and responsible persons are now open to treat for the whole work on reasonable terms. The surface offers valuable sites for building; and as the land lies on the slope of a hill, its capabilities for this purpose will be improved by working the gravel.—May be viewed on application to Mr. BROWN, Builder, New road, Ware; and particulars, with conditions of Sale, obtained of GEORGE GISBY, Esq. Solicitor, Ware; at the Auction Mart; and of Messrs. DEBENHAM & TEWSON, Auctioneers and Estate Agents, 80, Cheapside.

GASOMETER FOR SALE, at APPULDURCOMBE PARK, Isle of Wight. TO BE SOLD BY AUCTION, by

MESSRS. FRANCIS PITTIS & SON, at the Star Inn, in Newport, Isle of Wight, on THURSDAY, the 21st of AUGUST, 1862, at THREE o'clock in the afternoon precisely, the GASOMETER recently erected by the Appuldurcombe Park Hotel Company, in the Isle of Wight, comprising, a gas-holder, 23 feet diameter, 10 feet deep, with iron guide columns, cisterns, valves, syphons, and stand pipes; also a cast-iron dry lime purifier, a condenser, three cast-iron retorts, and 700 yards of 3-inch cast iron main pipe. The above are from the manufactory of Anon Beckley, Dudley. May be viewed previously, and particulars obtained of FRANCIS PITTIS & SON, Newport, Isle of Wight.

ROYAL ENGINEER DEPARTMENT, PORTSMOUTH.

MARVIN & KING beg to announce that they will SELL by AUCTION, at the ROYAL ENGINEERS' DEPARTMENT STORES, Mill Dam, on TUESDAY, AUGUST the 19th, 1862, commencing at TWELVE o'clock punctually, by order of Her Majesty's Principal Secretary of State for War, a large quantity of valuable STORES and MATERIALS; amongst which will be found two tons of iron weights, a five-ton crane, wooden crane, 198 grates, several ranges, 20 cast-iron boilers, 79 sashes, several tons of sheet, scrap, and cast iron, castings, seasoning and pipe, flues, ventilators, stone and other jambs, 300 pieces of paper, sundry carpenters', masons', and other tools, mud boats, scoops, four carts, stone truck, barrows, floors, sashes, and other stores.—Particulars will appear in catalogues, to be had upon application to MAJOR HALL, Barrack Master, at his Office, St. Thomas-street, Portsmouth; or at the Offices of MARVIN & KING, Auctioneers to H. M. War Department, 143, Queen-street, Portsea.

TO RAILWAY AND EARTH-WORK CONTRACTORS, and OTHERS

HILSEA, close to Cosham Railway Station.

MARVIN & KING beg to announce the receipt of instructions from the assignees of Mr. Wheeler, the Contractor for the Earth Works at Hilsea Fortifications, to SELL by AUCTION, on THURSDAY, AUGUST 21, 1862, at TWELVE o'clock precisely, in lots, the whole of the capital WORKING PLANT, comprising about 950 navvy barrows, nearly new and in capital condition, 26 carts of various descriptions, several panniers waggons, a timber carriage, a stone carriage, a small barge and boat, about 12,000 feet of wheeling plank, large quantity of manufactured and unmanufactured iron, wheeling planks, 100 planks, 100 trestles, 20 pairs of blacksmith's forges, tools, quantity of quartering, pile ends, firewood, &c. &c. Catalogues will shortly be ready for delivery on application at the Auctioneers' Offices, 143, Queen-street, Portsea.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, near the North-London Railway Station at Camden-town, on MONDAY, AUGUST 18th, at TWELVE for ONE, a large STOCK of TIMBER; viz. 1,750 planks, deals, and battens; 640 cut ditto; 105 squares of flooring; 3,000 feet quartering; 3,000 feet wide pine boards; 800 feet mahogany; poplar die-square laths, &c.—Auction Offices: 2, Cardington-street, Hampstead-road, N.W.

HIGH-STREET, MARYLEBONE.—Capital sound Building Materials

MR. JOHN WALLEN is instructed to SELL by AUCTION, on the PREMISES, High-street, Marylebone (near the church), to clear the ground for the erection of additional new schools, on THURSDAY, AUGUST 21st, 1862, at TWELVE, the useful sound MATERIALS of a commodious HOUSE and large BUILDING at the rear; consisting of lead in gutters, ridges, flaps, &c.; 18 squares of slating, with rafters, &c.; 22 rods of superior stock brickwork; sound fir in girders, joists, and plates; 60 squares of flooring; and numerous doors, sashes, fittings, and fixtures.—To be viewed one day previously and morning of sale. Catalogues on the Premises, and of Mr. JOHN WALLEN, 68, Old Broad street, E.C.

TO MODELLERS and OTHERS BROXBOURNE, HERTS.

Five minutes' walk from the Broxbourne Railway Station.

MESSRS. REE, SON, & BENINGFIELD will SELL by AUCTION, on THURSDAY, AUGUST 21, 1862, at TWELVE o'clock, on the PREMISES, by order of Mr. Brien, who is leaving the neighborhood, all the STOCK-IN-TRADE of a Modeller and PLASTERER; comprising a large variety of Moulds for Cement Vases, Pedestals, Chimney-shafts, Brackets, Trusses, and Figures, including Statues of the "Dancing Girl" after Canova, "Flora," "The Neapolitan," and other well-known works; a few garden vases, coutre flowers, bracket, &c. in cement. Also a quantity of scaffold-boards, poles and cords, slating, battens, oak quartering ladders, barrows, trucks, light spring cart with cover, few lots of furniture, and numerous effects.—May be viewed on the morning of Sale, and catalogues had at the Inns in the neighbourhood; place of Sale, and of Messrs. REE, SON, & BENINGFIELD, Auctioneers, Ware, Herts.

SHOOTER'S HILL, KENT.—Eligible FREEHOLD LAND, adapted for the erection of Villa Residences.

MR. WHITTINGHAM has to announce that the sale of the seventh portion of the Potteries Estate advertised for sale at the Rown Hall, Woolwich, on the 22nd inst. is unavoidably POSTPONED till FRIDAY evening, the 12th SEPTEMBER, 1862, at SEVEN o'clock.

SALE OF SURPLUS BOARD.—

R M Dockyard, Deptford, 8th August, 1862.—Notice is hereby given, that there will be SOLD by AUCTION, on THURSDAY, the 28th instant, at ELEVEN o'clock precisely, several lots of Surplus well-seasoned BOARD, in good condition, well adapted for the use of shipbuilders, carpenters, cabinet makers, and railway carriage builders; consisting of,

Teak	from 1½ to 4 inch ..	1,512 feet running
Hons. Mahogany ..	,, ,, 4 inch ..	1,008 ,,
African ,, ..	,, 1½ to 1 inch ..	1,661 ,,
Fir Pitch Pine	,, 1 inch ..	9,185 ,,

C. H. M. BUCKLE, Captain Superintendent.

TO PLUMBERS, PAINTERS, DECORATORS, &c.—A good BUSINESS, with fixtures, &c. for 50*l.* in a thriving town, eighteen miles from London. Good shops and premises. Rent low. Ill health sole cause of letting.—Apply to N. CARTER, News Agent, Rickmansworth, Herts

CITY BUILDER'S BUSINESS, with Lease of Premises, TO BE SOLD.—Apply, by letter, R. C. B. Office of "The Builder."

TO BE LET, a BUILDERS' BUSINESS, or else to a railway station, with large yard, stabling, and sheds sufficient to carry on a large retail business, in timber, coals, &c. &c. or, if better taken coming in from 200*l.* to 300*l.*—Address, J. H. Office of "The Builder," 1, York-street, Covent Garden.

THE NORTH LONDON PARK and LAND COMPANY (Limited). Incorporated under the Joint Stock Act, 19 and 20 Vict. cap. 47, whereby the liability of each shareholder is strictly limited to the amount of the shares. Capital, 250,000*l.* in 50,000 shares of 5*l.* each. Deposit, 1*l.* per share on application, and 1*l.* per share on allotment. In case of non-allotment the deposit will be returned without deduction.

DIRECTORS

The Right Hon. the Lord FERMOY, M.P. (Chairman), 5, Pembridge-square, W.
Mr. Alderman Allen, Waterloo-place, S.W.
Mr. Joseph Appold, Secretary to the Metropolitan and Provincial Bank, 5, Westbourne-street, Upper Hyde Park Gardens, W.
George Cook, esq. (Messrs. Bradbury & Cook), 17, Braunghall-street, E.C.
Peter Graham, esq. (Messrs. Jackson & Graham), Oxford-street, W.
William Makins, esq. 10, Chepstow Villas, Bayswater, W.
Lightly Simpson, esq. Chairman of the East Anglian Railway, No. 25, Gower-street, Bedford-square, W.C.
Solicitors.—Henry Wellington Valance, esq. 12, Furnival's-inn.
Bankers.—The Metropolitan and Provincial Bank (Limited), 75, Cornhill, E.C.
Brokers.—Messrs. Huggins & Rowsell, 1, Threadneedle-street, E.C.
Auditors.—Messrs. Cotterell, Turquand, Youngs, & Co. 16, Token-house-yard, E.C.
Secretary (pro tem.) F. K. Parkinson, esq.
Temporary Offices—1, York-House-yard, E.C.

This Company is promoted by those who consider it necessary that the overgrown and rapidly increasing population of London should have a well-timbered park within the easiest possible distance of the City, at the smallest possible cost.

There is an acknowledged want of a place for the healthful recreation of the people on the North side of London, the population of which is three times more numerous than that on the south.

Arrangements have been made by which possession has been secured to the Company of magnificent estate, comprising upwards of 458 acres of land splendidly timbered, well supplied with water, and commanding picturesque views of the surrounding country.

The property is within 4 miles of the metropolis, and close to Hornsey village. The Wood-green station of the Great Northern Railway, by which the park will be reached in about 10 minutes, is on the estate.

The Metropolitan Railway, which already has its station opened on the 1st October next, will afford direct means of access to the park from the very heart of London.

On the estate, which requires very little to develop its natural beauties, it is proposed to enclose a park of about 200 acres, to form gardens and ornamental grounds, and erect such buildings as may be required.

About 250 acres of land around the park will therefore remain for first-class building purposes; and if it should prove only half as valuable as the surplus lands of the Crystal Palace Company at the present time, a profit from this source alone will be realized of upwards of 200,000*l.* thereby enabling the Directors to return to the shareholders the whole of the paid-up capital, in addition to the acquirement of 200 acres of park land, free of cost.

A provisional contract is made for the land at 183,000*l.* including the mansion and outbuildings; three entrance lodges, timber and building, upon terms highly advantageous to the shareholders, and extending the period of completion until June, 1864. In the mean time, the land may be held on a rental of 5*l.* per acre per annum, inclusive of the occupation of the mansion, which is convertible immediately into a second appendage, into a first-class hotel.

In estimating the probable profits to be derived by shareholders in this Company, it may be observed that the receipts of the Crystal Palace Company exceed 120,000*l.* a year. If the receipts from the park amount to only one third of that sum, there will be available (after deducting the working expenses at the rate of 25*l.* per cent.) a sum sufficient to yield a dividend of upwards of 12*l.* per cent. per annum on the entire capital of this Company, with no further account of the profit that will arise from that portion of the estate devoted to building purposes, which amounts to more than one half of the entire acreage.

Prospectuses and forms of application for shares may be obtained from the Bankers, or from the Secretary, at the temporary Offices of the Company.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, August 16, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1020. AUGUST 23, 1862. PRICE FOURPENCE. By Post, 5d.

ILLUSTRATIONS.

London and County Bank, Lombard-street. Mr. C. O. Parnell, Architect 605
Old Lead work a Cistern 604
A Poor Woman's Garden in the City 604

CONTENTS.

The Building Materials and Manufactures in the French Division of "The Exhibition" 597
Queen Eleanor's Cross at Northampton 599
British Architects New Materials for their Lives 600
The Sanitary State of Islington 601
Salviati's Mosaics and Chalcedony-Agate 602
Fulham, Kew, and Kingston Bridges 603
Foreign Railways 603
From Paris 603
The Security of our Bridges 603
Old Lead-work a Cistern 604
A Poor Woman's Garden in the City 604
Design for the National Albert Testimonial 604
London and County Bank, Lombard-street 604
The Art-Union of London 607
Improvements and New Buildings in Nottingham 607
Fever in Rotherham 607
Slip at New Lambeth Bridge 607
Rapid Bridge-building 607
Encouragement to Foreign Capitalists in Spain 607
The Fountains in Trafalgar-square 608
Bath Theatre Competition 608
Church-building News 608
Stained Glass 609
School-building News 609
Society for Improving the Condition of the Labouring Classes 609
How get rid of Ants? 609
Chiming Church bells for Divine Service 609
Art Criticism 610
Miscellanea 610

TO MERCHANTS, FACTORS, MANUFACTURERS, and OTHERS.—WHEREAS certain persons carrying on the business of Lock and Spindle Manufacturers, have fraudulently used the name of "Day & Son," and stamped the locks and spindles with such trade mark, we hereby give notice that no person whomsoever is entitled to use such trade mark, or any imitation thereof, or to sell any Locks or Spindles bearing such signature, except "Charles Aubin," of the Guardian Works, Great Hampton-street, Wolverhampton, or such person or persons who may be authorized by him to sell the same. And we further give notice that we shall immediately institute such legal proceedings as may be necessary to restrain the use of such trade mark, or any imitation thereof, and to recover damages from the manufacturers and vendors of the articles so fraudulently stamped.

H. & J. E. UNDERHILL, Solicitors.

Exchange Chambers, Wolverhampton, August 4th, 1862.

BRITISH ASSOCIATION for the ADVANCEMENT of SCIENCE.—The NEXT MEETING will be held at Cambridge, commencing on WEDNESDAY, OCTOBER 1, 1862, under the presidency of the Rev. R. WILLIS, M.A. F.R.S. Jacksonian Professor of Natural and Experimental Philosophy in the University of Cambridge. The reception room will be at the Town Hall. Notice of communications intended to be read to the Association, accompanied by a statement whether or not the author will be present at the meeting, may be addressed to JOHN PHILLIPS, M.A. LL.D. F.R.S., Assistant Curator of the University Museum, Oxford; or to Professor BABINGTON, M.A. F.R.S.; Professor LIVEING, M.A.; and the Rev. N. M. FERRERS, M.A. Local Secretaries, Cambridge.

WILLIAM SPOTTISWOODE, M.A. F.R.S. General Treasurer, 19, Chester-street, Belgrave-square, London.

BANK OF ENGLAND NOTES.—1,500*l.* REWARD. Whereas the Directors of the Bank of England have recently discovered that some of the Paper manufactured for their Notes has been feloniously taken from the Mills of Messrs. Portal & Co. at Laverstoke, near Whitchurch, in Hampshire, and that such paper has been used in the fabrication of Forged Notes, Notice is hereby given that a REWARD of 500*l.* will be paid to any one who shall give such information as will lead to the apprehension and conviction of any person concerned in the stealing of the paper; and a FURTHER REWARD of 1,000*l.* will be paid to any one who shall give such information as will lead to the apprehension and conviction of any person concerned in the fabrication of Forged Notes by means of such paper. Information to be given to Mr. superintendent HODGSON, Police Office, Old Jewry, London; or to Messrs. FRESHFIELDS & NEWMAN, 5, Bank Buildings, London. By order of the Directors. E. WELSH, Assistant Secretary.

Bank of England, 16th August, 1862.

CAUTION. — BANK OF ENGLAND NOTES.—The Directors of the Bank of England hereby give notice, that it has recently come to their knowledge that some of the Paper manufactured for their Notes has been feloniously taken from the Mills; and they desire to caution all Bankers, Money Changers, and other persons, in taking payment by Bank of England Notes, not to depend upon the apparent genuineness of the Paper alone, but to examine with increased care the PRINTING also; and in all cases, for their own protection, to obtain and preserve the Names of Persons from whom the Notes are received. By order of the Directors, E. WELSH, Assistant Secretary.

Bank of England, 16th August, 1862.

STEWKLEY CHURCH, Bucks.—This most interesting church, the "Rival of Iffley among the most ancient and most perfect Norman structures in England," is now in process of restoration, under the superintendence of Mr. Street. An earnest appeal is made to all lovers of ecclesiastical architecture, as well as to conservators of our old historical monuments, to help in the work, which will have to be abandoned in a very incomplete state unless a sum of 150*l.* be raised over and above all sources at present applied to or anticipated. The plans include the new roofing, reseating, and general restoration of the whole fabric; but no alteration whatever of the original proportions of the building. The parish, a poor one, has come forward with over 400*l.* and the estimated cost of the whole amounts to over 1,200*l.* Contributions, however small, will be most thankfully acknowledged, and any information given by the Vicar, Stewkley, Leighton.

INTERNATIONAL EXHIBITION.
BROWN & GREEN'S
KITCHEN RANGES
have obtained
THE PRIZE MEDAL
for general excellence
LONDON WAREHOUSE,
81, BISHOPSGATE STREET WITHIN.

COMPETITIONS.

TO ARCHITECTS, SURVEYORS, and OTHERS.—THREE HUNDRED POUNDS PREMIUMS.—The Proprietors of the Ashton Court Estate, near Bristol, offers the above amount by way of Premiums of 200*l.* and 100*l.* for the two best block Plans, and Designs for first-class Villas and other Residences, with the necessary Approaches, Roads, Footpaths, Drains, &c. on that portion of land extending from the Somersetshire bank of the River Avon to the turnpike road leading from Bristol to Abbot's Leigh, and comprising Nightingale Valley and the most romantic portion of the Leigh Woods, which by the completion of the suspension bridge will be brought into immediate connection with Clifton.—Conditions and particulars will be forwarded through the post, free of charge, on application by letter, to Mr. FREDERICK EASTON, Long Ashton, near Bristol.—Long Ashton, August, 1862.

FOR COMPETITION.—The Committee of the Suffolk "Albert Middle Class School" invite Architects to prepare PLANS for a BUILDING to accommodate 100 Boys as Boarders, and to be capable of enlargement. Two School Rooms required, and Four Class-Rooms. Rooms for Four Masters, two for each Master, with a semi-detached House for the Head Master, and the necessary accommodation of Offices and Servants' Room. A Chapel to be included in the Plan. The building to be of brick, tiled or slated. These and all other buildings required for the School to be built for a sum not exceeding 10,000*l.* exclusive of the Chapel. A sum of 50*l.* will be given for the best Plans and Specifications provided a responsible Contractor is prepared to undertake the work for the estimate given. The Committee do not bind themselves to employ the architect to whom the prize is awarded. The Plans to be sent in before the 1st of OCTOBER, directed to R. GARRETT, Esq., Carlton Hall, Saxmundham.

CEMETERY, HARROGATE.—To ARCHITECTS. The Burial Board of the District Parish of Christ Church, Harrogate, are desirous of receiving Plans, Estimates, and General specifications for the ERECTION of TWO CHAPELS, Lodge, Gates and Wall at entrance. Also, for the Fencing, Laying-out, and Constructing Roads and Footpaths, in the proposed Cemetery Ground, the whole cost not to exceed 1,800*l.* A premium of 21*l.* will be given for the most approved plan, estimates, and specifications; and 10*l.* for the second best. The plans selected to become the property of the Board. Should the author of the best plan be employed in carrying out the work, the premium of 21*l.* will be deducted from the architect's commission. A lithographed plan of the site, and any further information, may be obtained on application to Mr. JAMES POWELL, Land Agent, Harrogate, on and after the 12th AUGUST instant; and the plans, &c. are to be sent to the undersigned, on or before the 15th SEPTEMBER next.—By order,

SAMUEL POWELL, Clerk to the Burial Board.

Harrogate, August 9, 1862.

TO ARCHITECTS.—The Corporation of the Borough of Bridgwater intend ERECTING a TOWN HALL, with Committee Rooms and Offices adjoining, on the site of the old Assize Courts at Bridgwater, and are prepared to receive PLANS, SPECIFICATIONS, and ESTIMATES for the same. The cost of the building is not to exceed 1,500*l.* Persons desirous of competing are invited to send the Plans, specifications, and Estimates on or before MONDAY, the 15th SEPTEMBER, next, to JOHN H. B. CARSLAKE, Town Clerk.

Bridgwater, 11th August, 1862.

TO ARCHITECTS.—The Committee of the North Staffordshire Infirmary are prepared to receive complete sets of DESIGNS for a NEW INFIRMARY, to be erected at Hartshill, near Stoke-upon-Trent, at a cost not exceeding 12,000*l.* for the entire building. A premium of 100*l.* will be awarded to the author of the set of designs approved by the Committee, unless he be employed to superintend the erection of the building, when the above premium will be merged in his commission. Printed particulars of what is required, with a plan and section of the site, may be obtained on application to the Secretary, Mr. HORDLEY, North Staffordshire Infirmary, Stoke-upon-Trent. The designs to be sent in to the Secretary on or before DECEMBER 1st next.

CONTRACTS.

TO BUILDERS.—An INFANT SCHOOL-ROOM being WANTED for the Parish of St. Matthew, Bethnal green, the plans and specifications may be seen at St. Matthew's National School-House, Church-row, Bethnal Green-road; and TENDERS to be sent in, addressed to the Rev. Dr. GIBSON, at the Rectory, Bethnal-green, N.E. on or before the 1st day of SEPTEMBER next.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS and OTHERS.—TENDERS are required for the following service, at Portsmouth, ERECTING a MILITARY GYMNASIUM.

Parties desiring to Tender for the execution of this Work must leave their names at this Office, on or before the 2nd SEPTEMBER next, and pay the sum of half-a-guinea for the bills of quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, August 19, 1862.

TO BUILDERS and CARPENTERS.—WINSCOMBE CHURCH, SOMERSET.—Builders are invited to submit TENDERS for NEW ROOFS, RESEATING, and otherwise RESTORING the PARISH CHURCH of WINSCOMBE, near Weston-super-Mare, Somerset. The plans and specifications may be seen at the Vestry-room, on and after MONDAY, the 25th inst. Tenders to be forwarded on or before the 1st SEPTEMBER, addressed to the Rev. WILLIAM HARKNESS, Winscombe Vicarage. For further particulars, apply to the Architect, Mr. NORTON, 24, Old Bond-street, London, W.

CROYDON LOCAL BOARD of HEALTH.—TO DUST CONTRACTORS and OTHERS.—Any persons willing to CONTRACT for the REMOVAL of ASHES and other REFUSE, from the houses and roads comprised within the special district of the Town of Croydon, may see the specification at the Engineer's Office, at the Town Hall, any day between the hours of TEN o'clock and FOUR o'clock. Tenders are to be delivered at the Office of H. RICHARDS, Esq. 99, High street, on or before MONDAY, the 1st SEPTEMBER, endorsed "Tender for Refuse." The Board do not pledge themselves to accept any Tender.

Town Hall, Croydon, August 20, 1862.

TO BUILDERS and OTHERS.—Any persons willing to CONTRACT for the CONSTRUCTION and MAINTENANCE of a BRICK CULVERT, on the Mitcham road, near Mitcham Common, about 1,440 feet long, an 2 feet 10 inches clear diameter, may see the plan, section, and specification at the Town Hall, Croydon, any day, between the hours of TEN and FOUR o'clock.—Tenders, endorsed "Tender for Culvert," to be delivered at the Office at the Office of H. RICHARDS, Esq. on or before MONDAY, the 8th of SEPTEMBER. The Board do not pledge themselves to accept the lowest or any Tender.

Engineer's Office, Town Hall.

TO BUILDERS and BRASS SASH FITTERS.—Persons willing to CONTRACT for putting in a new SHOP FRONT, Sash Windows, and other works, for Mr. BALLARD, Draper, High street, Bedford, may see the plans and specifications at the Architect's office, on MONDAY next, from NINE till FIVE daily, until WEDNESDAY, the 27th day of AUGUST on which day the Tenders are to be sent in. The lowest or any Tender will not necessarily be accepted.

JAMES HOBSFORD, Architect.

Bedford, August 12, 1862.

TO SUB-CONTRACTORS.—TENDERS are required for the LABOUR of ERECTING about 1,800 FEET of FENCING, and a PAIR of GATES, for the Grand Surrey Dock Company. The drawings and specifications can be seen at the Offices of the Company's Engineer, 31, Langham street, W., or Grand Surrey Docks, Rotherhithe. The Tenders to be delivered at the Dock Offices, St. Helen's place, Bishopsgate street, before TWELVE o'clock on THURSDAY, the 28th instant.

TO PAVIOURS and OTHERS.—MAIDSTONE PAVEMENTS.—Persons willing to CONTRACT with the Commissioners of Maidstone Pavements for the RE-PAVING of EARL'S-WERE STREET, Maidstone, about 1,000 square yards in extent, with Mount Sorrel granite pitchers, 5 inches by 6 inches, including about 1,200 feet run of channel, 9 inches by 6 inches, are required to send TENDERS for the WORK, to Messrs. BEALE & HOAR, Maidstone, on or before the 1st SEPTEMBER, 1862.—A specification of the work may be seen at the Office of Messrs BEALE & HOAR, and further particulars obtained from Mr. JAMES HARRISON, Boxley road, Maidstone, the Surveyor to the Commissioners.

By order of the Committee, BEALE & HOAR, Clerks.

Maidstone, August 15, 1862.

SOUTH LEIGH, WATER SUPPLY.—Persons willing to LAY about 2,500 feet of IRON PIPE, and construct other works, may, on or before 26th AUGUST, address TENDERS, to be had of the undersigned. Plans and specifications may be seen at Messrs DRUCE'S Offices, Eynsham, Oxon, on the 26th and 27th instant, and on Lord Lon on the 28th. The Trustees are not bound to accept the lowest or any Tender

WILLIAM YATES FREBODY, C.E.

3, Trafalgar place West, Hackney-road, London, N.E.

BIRMINGHAM BOROUGH CEMETERY, To BELL FOUNDERS and OTHERS.—The Burial Board Committee are desirous of receiving TENDERS for the SUPPLY and FIXING complete of TWO BELLS, one in each of the towers of the Cemetery Chapels, at Witton, near Birmingham.—Particulars as to notes, &c. may be had on application to the Borough Surveyor, Public Office, Moor street. The Tenders to be sent in to me on or before the 8th of SEPTEMBER, and the Committee do not pledge themselves to accept the lowest or any Tender

THOMAS STANDBRIDGE, Town clerk.

Unity Buildings, Temple-street, Birmingham, Aug. 20, 1862.

TO ENGINEERS and OTHERS.—CARDIFF GAS LIGHT and COKE COMPANY.—The Directors of the above Company are prepared to receive TENDERS for the MAKING and FIXING of a WROUGHT IRON ROOF for a RETORT HOUSE. Plans and specifications may be seen, upon application at the Company's Offices, Cardiff. Sealed Tenders, addressed to the Chairman, of the Directors, and endorsed "Tender for Iron Roof," to be forwarded to the undersigned, on or before the hour of SEPTEMBER next. The lowest or any Tender not necessarily accepted.

Cardiff, 9th August, 1862 H. BOWEN, Engineer.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO CONTRACTORS and IRON-FOUNDERS.—DUBLIN CORPORATION WATERWORKS.—The Waterworks Committee of the Dublin Corporation hereby give Notice that they will receive TENDERS, on or before WEDNESDAY, the 10th day of SEPTEMBER, 1862, for the following WORKS, viz.—
CONTRACT No. 1.—For making and delivering about 20,000 tons of Cast-iron Pipes and other Castings.
CONTRACT No. 2.—For making and delivering certain Stop Cocks, Sluice Cocks, Air Cocks, Pipes, Apparatus, and Appendages connected with same.
CONTRACT No. 3.—For laying and satisfactorily completing about 30,000 lineal yards of Thirty three Inch, and about 16,500 lineal yards of Twenty seven Inch Mains, and works connected therewith.
CONTRACT No. 4.—For the construction of a Storage Reservoir, Bye Wash, Waste Weir, and other works connected therewith; a Conduit and Tunnel and a Catch-water Drain, also Filter Beds; all in the county of Wicklow.
CONTRACT No. 5.—For the construction of Distributing Re-servoirs, Waste Weirs, and a Conduit, with other works near Stillorgan, in the county of Dublin.
Specifications, schedules of quantities, and forms of Tender may be had at the Office of Mr. PARKE NEVILLE, Engineer to the Corporation of Dublin, City Hall, Dublin; and at the Office of Sir JOHN MACNEILL, Consulting and Advising Engineer, 24, Cockspur-street, Charing-cross, London, on and after the 4th AUGUST, 1862, on payment of £2 2s.; where may be also seen, from TEN to FOUR o'clock each day, copies of the working Plans of what is intending Contractors, when they have sent in their Tenders with specification, if desirable thereto. The Waterworks Committee will meet on the 11th day of SEPTEMBER, to open such Tenders as may be sent in; on which day such parties as will have sent in Tenders are requested to attend. Tenders will be received for each or any of the above Contracts, or one Tender may be sent in for the whole of the works. The Waterworks Committee will not entertain any Tender after 10 o'clock A.M. WEDNESDAY, the 10th day of SEPTEMBER, 1862. All Tenders to be under seal, addressed to Sir DRURY JONES DICKINSON, Secretary to the Waterworks Committee, City Hall, Dublin, and endorsed, "Tender for Waterworks." The Waterworks Committee do not bind themselves to accept the lowest or any Tender; and should they accept a Tender, no party whose Tender or Tenders may be accepted will be required to provide two approved sureties for the due and satisfactory completion of the works. The Waterworks Committee will not be responsible for any costs whatever which may be incurred by parties who may send in Tenders, or for any expenses they may make or tasks preparatory to, or in connexion therewith.—Signed, by order,
DRURY JONES DICKINSON, Sec. Waterworks Committee.
City Hall, Dublin, July 26th, 1862.

TO SEWERS-CONTRACTORS and OTHERS.—The Sewers Committee of the Vestry of St Mary, Newington, will meet at the Vestry-room of the Parish Church, on FRIDAY, the 29th AUGUST instant, at SEVEN o'clock in the Evening, to receive TENDERS for the EXECUTION of JOBBING and MEASURED WORKS in connexion with the Drains and Sewers in the parish. Printed schedules and forms of Tender can be obtained at the Office of Mr. HENRY JARVIS, the Surveyor of Sewers, 29, Trinity-square, Newington (a payment of Ten Shillings, which money will be returned to the parties tendering when the Tenders are opened). No other Tender will be received. Sureties will be required for the due performance of the Contract; and the Committee do not bind themselves to accept the lowest or any other Tender.
H. & F. CHESTER, Joint Clerks to the Vestry.
1, Church-row, Newington-butts, August, 1862.

WORM BROOK IMPROVEMENT.—The Commissioners of Sewers for the Worm Brook Valley are prepared to receive TENDERS for DEEPENING, WIDENING, and STRAIGHTENING the above-named BROOK or RIVER, with other WORKS connected therewith. Plans, sections, and specifications may be inspected at the School house, Wormbridge, on and after the 7th inst. Mr. HILL, C.E., the engineer of the works, and meet intending contractors at the Penn Inn Station, at 8.30 a.m. on SATURDAY, the 30th of AUGUST, for the purpose of walking over and explaining the intended improvements. Quantities will be supplied from the Office of Mr. T. CURREY, C.E. London. The Commissioners do not pledge themselves to accept the lowest or any Tender. Tenders to be addressed to me not later than TEN o'clock a.m. on the 9th day of SEPTEMBER next.
Hereford, 1st August, 1862. THOMAS LANWARNE, Clerk.

TO BUILDERS.—TENDERS are required for the ERECTION of FOUR CARCASES at Hornsey. Plans and specification to be seen at Messrs. CARRITT & SONS, Solicitors, Basinghall street, City.

STRADBROKE, Suffolk.—To BUILDERS. Persons desirous of CONTRACTING for the ERECTION of upper and lower SCHOOLS, for the accommodation of 200 children, in the parish of Stradbroke, may see the plans and specifications at any time, Mondays excepted, at Mr. ALLEN'S, on and after MONDAY, the 28th inst. and all Tenders are to be delivered to me, sealed, and endorsed "Tender for Stradbroke Schools," on or before WEDNESDAY, the 3rd of SEPTEMBER. The Promoters do not bind themselves to accept the lowest Tender. R. M. PHIPSON, Architect.
Ipswich, August 21st, 1862.

METROPOLITAN BOARD of WORKS.—MAIN DRAINAGE of METROPOLIS, WESTERN SEWERS. To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give notice, that they will meet at the Office of the Board, Spring-gardens, S.W. on FRIDAY, the 26th of SEPTEMBER next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by Parties who may be willing to CONTRACT for the CONSTRUCTION of BRICK SEWERS, 4 miles 2,175 feet in length, or thereabouts, with other works in connexion therewith, commencing at a point near the river Thames and the West London Extension Railway, at Chelsea, and terminating near to Chiswick Mall, and in the Kings Road, near Sand's end sewer, to Fulham Bridge, situated in the respective parishes of Fulham and Hammersmith, in the county of Middlesex. Parties desiring to submit Tenders may, upon payment of £1, obtain plans, sections, specification, form of tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m.; or on SATURDAYS between the hours of NINE a.m. and TWO p.m. on and after THURSDAY, the 21st of August, and THURSDAY, the 25th day of SEPTEMBER next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last-mentioned day, and no Tender will be received after that hour. The parties Tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender may be accepted will be required to provide two approved sureties for the due satisfactory performance of the works.
JOHN POLLARD, Clerk of the Board.
Spring-gardens, S.W. August 18, 1862

LEEDS CORPORATION WATER-WORKS.—TENDERS WANTED for about 2,000 TONS of CAST-IRON SOCKET PIPES, for extensions of mains within the Borough of Leeds. The specification may be obtained by persons wishing to Tender for the same, at the office of Mr. EDWARD PILLITH, C.E. Borough Surveyor, Town Hall, Leeds. Sealed Tenders addressed to "The Waterworks Committee," Town Clerk's Office, Leeds, endorsed "Tenders for Pipes," to be sent on or before the 1st of SEPTEMBER next.—By order,
JOHN EDWD. SMITH, Town Clerk.
Leeds, 12th August, 1862

WEYHILL CHURCH, near ANDOVER. To Builders.—Persons desirous of giving in TENDERS for BUILDING A NEW AISLE, REPEWING, and REPAIRING the above CHURCH, can see the plans and specification, and form of Tender, upon application to JOHN SMITH, Esq. Solicitor, Andover. The work to be completed by the 31st of May, 1863. The Tenders to be sent in to JOHN SMITH, Esq. by the 7th of SEPTEMBER next.—The Committee do not bind themselves to accept the lowest or any Tender.
T. H. HAKEWILL, Architect, 50, Maddox-street, London.
August 18th, 1862.

TO CONTRACTORS and OTHERS.—TO BE SOLD, a quantity of EARTH-WAGGONS, Sleepers, and Temporary Rails.—For cards to view and particulars, apply to J. J. BENNELL, No. 14, Hatton Garden, London.

FOR SALE, in LARGE and SMALL BLOCKS,
BEST BLACK MARBLE.
For price, apply to
J. PERRIN, SON, & CO. Liverpool.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with comm. Ious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

PURE STATUARY MARBLE
and in slabs of large dimensions, can be obtained at
M. W. JOHNSON'S MARBLE WORKS,
363, EUSTON-ROAD, London, N.W.
Prices moderate.
M. W. J. has also an extensive Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821

TWO MEDALS IN CLASSES 1 AND 16, INTERNATIONAL EXHIBITION.
THE LIZARD SERPENTINE
COMPANY, LIMITED
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
All communications to be addressed to the Secretary, 24 St. James's-street, London, S.W.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries—Earl-street, Horseferry-road, Westminster.—The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney-piece in the world

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. A New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

RED MANSFIELD STONE.
(WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Also communications with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 37, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

BELLMAN & IVEY,
GENERAL AND ORNAMENTAL PLASTERERS,
MANUFACTURERS OF SCAGLIOLA MARBLE.
N.B. A Medal was awarded Messrs. B. & I. for the beauty of their Work exhibited at the International Exhibition, 1862
Show Rooms,—14, BUCKINGHAM STREET, FORTLAND ROAD, W.

BELLMAN & IVEY,
MANUFACTURERS OF IMPROVED PLASTER OF PARIS.
Works,—3, BEDFORD STREET, LIQUORPOND-STREET, E.C.
Office,—14, Buckingham street, Portland-road, W.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
37, MILLBANK STREET, LONDON, S.W.

ABERDEEN POLISHED GRANITE WORKS Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, decoration, paving, and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 4, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connexion generally throughout the Kingdom, that they have now ready their
NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

SLATES.—A Quantity of Second-hand SLATES FOR SALE.—Apply to H. B. LITTLE, Builder, Baker's Buildings, Liverpool-street, City.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application.—Address,
No. 1, BOLD-TERRACE, CHESTER.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested, prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

POLYTECHNIC.—New Lecture by Professor J. H. Pepper, on Tuesday, Thursday, and Saturday, at half-past 12 and quarter past 7, on "Some of the Chief Scientific Specialities of the International Exhibition."—Splendid series of Electrical Experiments with the Giant Plate Machine, and Lecture by J. L. KING, Esq.—Remarkable Imitations of British Birds and Animals, by HERR SUSMAN.—Re-engagement of George Buckland, Esq. for Les Ruffi Musical Entertainments. New Gorgeous Scenic, Optical, and Dramatic Fountain Spectacle—Beautiful Dissolving Views illustrating London in Ancient and Modern Times. Farewell visit to The Holy Land—and Concerts by the BROUSIL FAMILY. See weekly programme of 8 pages. Open from 11 to 5, and half-past 6 to 10. Admission 1s.

MACHINERY and BOILERS for SALE.—30 stationary and portable engines, 60 steam-boilers, new and second hand, with fittings and furnace work; plate-bending rolls, tanks, jacket pans, coil pans, saw frames, bone mills, mortar mills, edge runners, hydraulic and screw presses, hydro-extractors, strap-pulleys, shafting, and other useful machinery.
N.B. Portable engines, pumps, crabs, jacks, blocks, &c. on sale or hire.—T. TAYLOR, 41, White-street, Long-lane, Borough.

EXTRAORDINARY BARGAINS, FIRE-PROOF SAFES AT HALF-PRICE.—A Provincial Insurance Company having lately amalgamated with a London office, and having no further use for a considerable number of Wrought Iron Fire-proof Safes and Iron Chests, lying at the chief and branch offices, have returned them to the manufacturers to be sold for half their original cost. They were all made to order for the Company, at the Vulcan Safe Works, Birmingham, in 1861, have only been in use eight months, and are warranted FIRE AND BURGLAR-PROOF. A printed description of the various sizes, inside fittings, cost and present price of each safe and chest, sent post free with M'Kenna, Morris, & Co.'s Illustrated Price List. To parties in want of a really good safe the advantages here offered must be obvious, as they may secure an article of the manufacturers' guarantee, QUITE EQUAL TO NEW, AT HALF ITS REAL VALUE; and to remove the doubt naturally felt in purchasing a second hand article unseen, it is expected that in most instances remit the money until the safe is received and approved. They will be *sent carriage paid* to any station, and if not found in every respect perfect and satisfactory, *may be returned* without any cost whatever to the party ordering them. For full particulars address, M'KENNA, MORRIS, & CO. Vulcan Safe Works, Cumberland street, Birmingham.

INTERNATIONAL EXHIBITION, CLASS 32, No. 6,521.
ENGLISH and FRENCH PATENT.
WESTON'S NEW PATENT TORSION SPRING,
For closing or keeping open doors, gates, &c. &c. at different strengths, specially suited for all climates, and adapted for general purposes.
Price, Three Shillings.
To be had of the principal Merchants and Factors in Birmingham and Wolverhampton; also at No. 69, Coleman-street, City.

TO JOINERS AND BUILDERS.
IRONMONGERY at FIRST COST.—A List of Prices may be had on application to the BRITISH HARDWARE COMPANY, Phœnix Works, Wolverhampton

TO BUILDERS and OTHERS.—TO BE SOLD, a bargain, for 16l. cost 36l. a very strong double action 3½ LIFT PUMP, quite equal to new, with brass barrels and iron frame, and a fly-wheel, weighing two cwt. suitable for a well any depth. Can be seen at No. 4, Brompton-grove, opposite the White Lion, Pinchley.

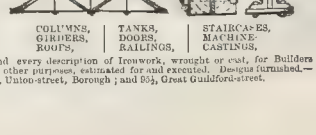
NORTH LONDON IRON WORKS, Southampton-street, Pentonville-road. London and Staffordshire Manufactured Iron Work of all kinds, for Builders and Engineers, made and supplied by
JOHN BALLARD, Smith and Engineer,
Late Foreman to Smiths and Fitters at Messrs. W. Cubitt & Co.'s, Gray's Inn road, 7 years; also Foreman of Smiths, Messrs. Maudslay, Sons, & Field, Lambeth, 3 years; Principal Smith in the Royal Dock Yard, Woolwich, 3 years; also Principal Smith to the late Thomas Cubitt, esq. Builder, Belgravia, and Thames Bank, 12 years.

PORTABLE SCHOOL-ROOMS.—WANTED to PURCHASE or HIRE, a WOODEN or IRON and GLASS BUILDING, suitable for a small Village School-room.—Address, stating price and full particulars, the Rev. S. I, South Cliff-terrace, Walton, near Colchester.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 80, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.
PATENT WROUGHT IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—15, Union-street, Borough; and 85½, Great Guildford-street.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

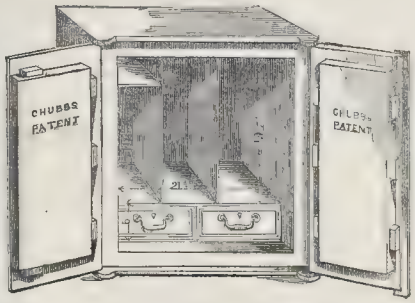
CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes."—Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS.

The most secure from picklocks and false keys, are strong, simple, and durable, and made of all sizes, and for every purpose to which a lock can be applied.

CASH, DEED, AND PAPER BOXES OF ALL SIZES.
TRAVELLING BAGS,
LETTER BAGS, WRITING BOXES, AND DESKS,
All with the DETECTOR LOCKS.

It will be observed that no locks of inferior quality are made by Chubb & Son. The whole of their locks sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES,

Afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best-known fire-resisting and non-conducting composition.

The doors are all secured by CHUBB'S PATENT DRILL-PREVENTIVE and their Patent

GUNPOWDER PROOF LOCKS.

Illustrated Price Lists Gratis and Post-free.

CHUBB & SON,
No. 57, St. Paul's Churchyard, London;
28, Lord-street, Liverpool;
16, Market-street, Manchester;
and Horseley-fields, Wolverhampton.



THE PRIZE MEDALS,

(LONDON, 1851. PARIS, 1855. LONDON, 1862.)

Awarded to

COTTAM & COMPANY,
2, WINSLEY STREET, LONDON, W.

For progressive and general improvement in

STABLE FITTINGS AND HARNESS BRACKETS.



A varied a prize at the Paris Exhibition,
Patronized by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the Kingdom.
In use at her Majesty's Stables, Aldershott and Balmoral.



COTTAM & COMPANY, Winsley-street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Watertrough, and Wrought-iron Rack, in tel to an iron top plate, and fitting the complete useful fixture, having COTTAM'S Patent Noiseless Hayer to slide and Collar Rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the gi lestay.

COTTAM'S NEW PATENT SEED BOX, an important addition to the above fittings, being simple in construction, light, and durable, produces economy, and is economical in its results.

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, is a most essential addition to their fittings; it is never in the way; can be placed and replaced in an instant; wards its cheapness, simplicity, and utility in keeping the contents of the trough secure, and regulating the quantity to be taken, is quite sufficient to insure its use.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED

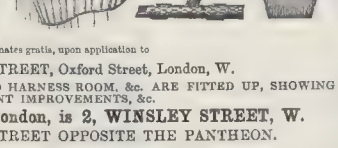
can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT-IRON VENTILATING BRACKET preserves the shape and allows a free admission of air to the under parts of the saddle.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.



Illustrated Catalogues and Estimates gratis, upon application to

COTTAM & CO. 2, WINSLEY STREET, Oxford Street, London, W.

WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

FIRE-PROOF CONSTRUCTION.—
FOX & BARRETT'S PATENT.

This improved system of fireproof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the Kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

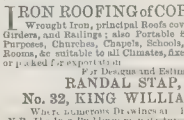
MR. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is usually fitted, i.e. Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 130 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, STAND 6139.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW HOUSE FITTINGS and IRON PIGGERIES.



These Fittings are combined with room, meshed as possible, with a view to the health of the animal, and in all other respects unrivalled.

At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended," being the only prizes conferred on any competitor in this class.

Full particulars will be sent on application to the Inventors and Makers, MUSGRAVE, BROTHERS, Ann-street Iron Works, Belfast.

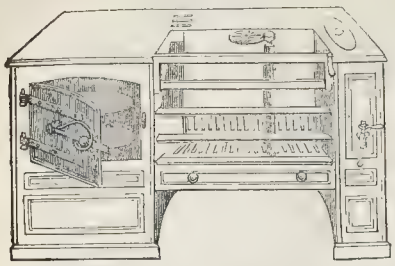
CANNON IRON FOUNDRY, 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Diamond Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Wind w Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings of Buildings may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self acting Cottage, with Oven and Back Boiler.	
34 inches	54s.	30 inches	22s.
36 ,,	58s.	32 ,,	24s.
38 ,,	58s.	34 ,,	26s.
42 ,,	60s.	36 ,,	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 45s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	1½-inch.	2 inch.	2½-inch.	3-inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½ in.	3 in.
Cast Rain-water Pipe	8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

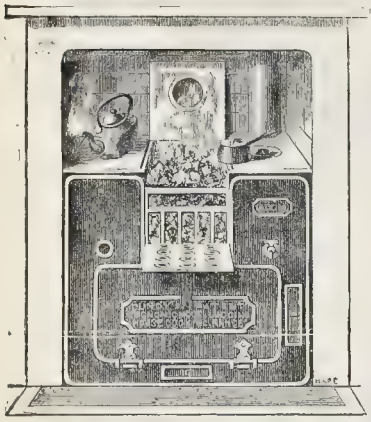
	4-in.	4½ in.
O G Gutters, with Clips on	1 d.	1s. per yard.

Patent Line.	2	3	4	5	6
	3s. 6d.	4s.	5s.	7s.	8s. per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2 6d each. Light Elliptic and Repeater Metal, 12s. 6c. per cwt.

Dr. Arnott's Ventilators, 4s each
Brick Moulds kept in stock. Any size made to order.

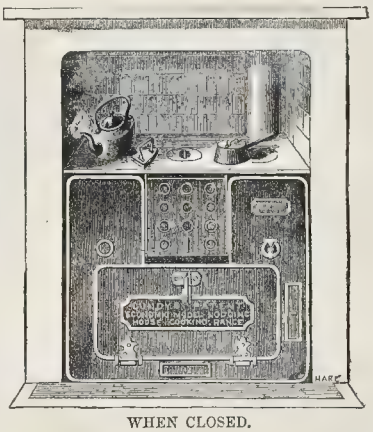
CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of

THE MANUFACTURER,



WHEN CLOSED.

WILLIAM ADDIS, Nos. 6 and 15, LEICESTER-ST. LEICESTER-SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.



NUT PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

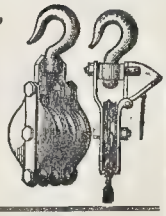
*** Illustrations and particulars sent upon application.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.



CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

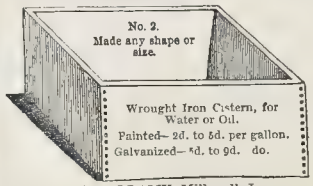
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES.
COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY STREET,
OXFORD STREET, LONDON, W.



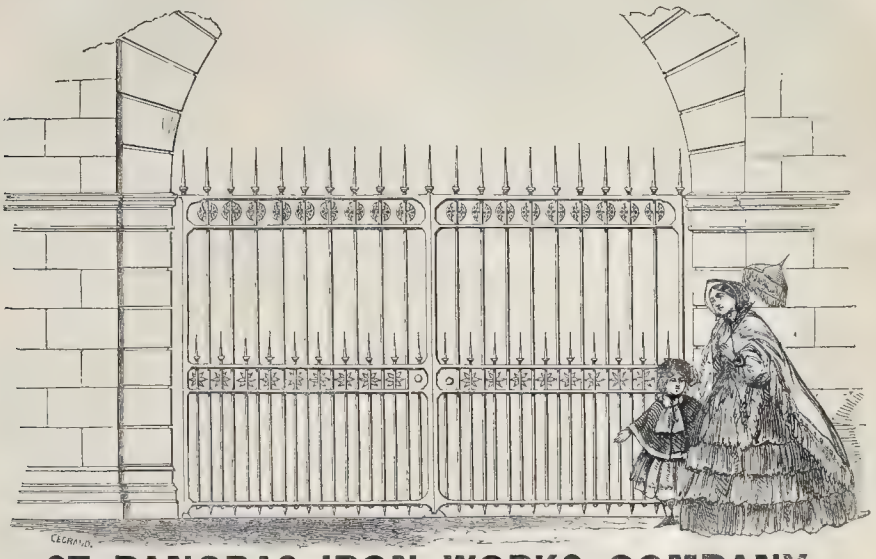
WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, Lond[illegible]

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, Chains, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 20 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE
14, Stanhope-street, Clare-market, London.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES.
TOMB RAILING.

VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers.

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET LONDON.

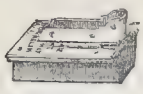
INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.



PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.





PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



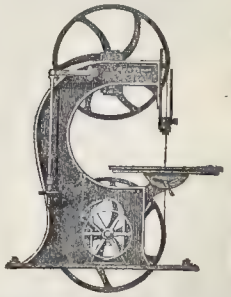
Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit street, W
Drawings and Estimates Gratis

S. WORSSAM & CO.'S PATENT
IMPROVED BAND SAW MACHINE.



(1 inch scale)

S. Worssam & Co. have recently made new patterns for band saw-machines of two sizes, and introduced all the latest improvements to obviate the breakage of saws, and can with the greatest confidence, recommend their new machines as the best yet out. For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.



WINDOW BLINDS,
first-rate Quality, at Reduced Prices.

F. ADKINS,
HIGH STREET, ST. JOHN'S WOOD,
and REGENT'S PARK, N.W.

Illustrated List of Prices forwarded on one post-office stamp.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

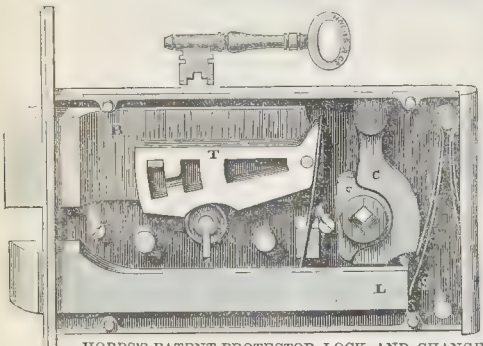
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.

38 & 65, YORK-STREET, WESTMINSTER.

CLAYTON, SHUTTLEWORTH, & CO.

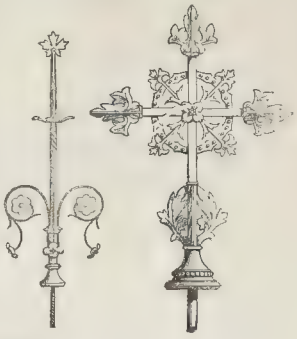
ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,

STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.

HART AND SON,

53 to 58, WYCH STREET, STRAND, W.C. and 20, COCKSPUR STREET, PALL-MALL, S.W.



MONUMENTAL BRASSES, WROUGHT-IRON TOMB RAILING, BOUNDARY RAILING, GATES, VANES, &c. &c. CORONÆ, PENDANTS, STANDARDS, CHURCH PLATE, GLASTONBURY AND OTHER ALTAR CHAIRS, ALMS BOXES, FONT COVERS, &c.

[illegible] & WOODS

SHOP FRONTS

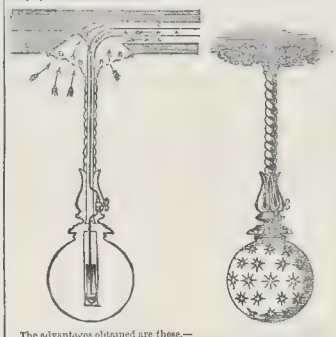
WORKS, HARTS HILL IRON FOUNDRY, Near Dudley. MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.

LONDON OFFICE, 76, CANNON-STREET WEST, LONDON, E.C. Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.

RICKETS & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

THE MEDAL FOR 1862.
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE MARK.

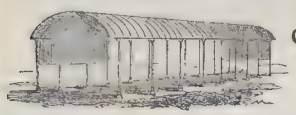
CROWN TUBE WORKS,

WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.

JAMES RUSSELL & SONS,

The Patentees and first Makers of Wrought-iron Tubes.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Birmingham, and Limehouse.

Every description of Iron Work Galvanized.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

THE ALPHA TUBE & FITTING WORKS.

WALSALL, STAFFORDSHIRE.—Established 1820.

LAMBERT BROTHERS,

MANUFACTURERS OF LAP WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,

For Steam or High-pressure Water and Gas. HIGH-PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS-FITTINGS, GASELIERS, &c.; and of the GROVE BEDSTEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam-engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, Mills, &c. at the International Exhibition, Walsall Court, Class 31, precisely as sold from engravings and prices in trade catalogues.

LOSH, WILSON, & BELL, NEWCASTLE-ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Rods, and STEWART'S PATENT CAST-IRON GAS and WATER PIPES. Office, No. 7, Size-lane, London.

IMPORTANT to BUILDERS.—W. GORSE, EAGLE WORKS, Minworth, near Birmingham, Patentee and Manufacturer of FLOORING BRADS and JOINERS' BRADS by his new Patent Machinery, INSURING UNIFORM GOOD QUALITY at a LOW PRICE.

FLOORING BRADS DELIVERED IN BIRMINGHAM AT 9s. 6d. per Cwt.

Post-office Orders to be made payable in Birmingham.

W. G. begs to call the attention of nail manufacturers to his Patent Machines, which he is now exhibiting for sale.—All applications to view to be made by letter. Principals only admitted.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-list, 12s.—Nos. 55 and 56, High Holborn.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Piping, Wire Netting Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

EDWARD DAVIES, SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

PRIZE MEDAL. INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON, ROCHDALE, near MANCHESTER, PATENTEES, AND Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.



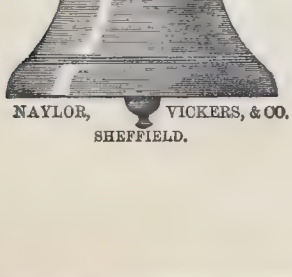
IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles.

Price 20*l.*

Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE. LONDON OFFICE, CANNON STREET, E.C.

CAST STEEL BELLS, One-third THE PRICE OF BRONZE. PEALS CAST TO ORDER.



NAYLOR, VICKERS, & CO. SHEFFIELD.

ROBERT MACLAREN & CO EGLINTON FOUNDRY, GLASGOW.

Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,

A complete List of which will be forwarded upon application to FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street, London, E.C.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

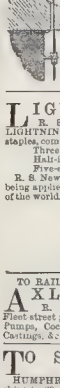
JAMES HAYWOOD, JUN. PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 24, Davies-street, Three Doors from Oxford-street.

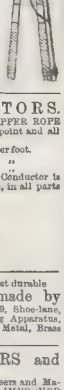
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY

HIBBERT & CO. 52, GRANBY-ROW, MANCHESTER.



These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

LIGHTNING CONDUCTORS. R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d.	per foot.
Half-inch diameter	1s. 6d.	,,
Five-eighths-inch diameter	2s. 0d.	,,

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
,, Gateshead-on-Tyne
,, 27, Dale-street, Manchester.
,, 68, Anderson-quay, Glasgow.
,, 17, South Castle-street, Liverpool
,, Exchange-buildings, Dundee
,, 7, Frederick-street, Aberdeen.

TO RAILWAY COMPANIES.—The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineers' Brass-founder, No. 9, Shoe-lane, Fleet-street; manufacturer of Steam Fittings, Diving Apparatus, Pumps, Cocks, &c.; Patent Anti-friction Metal, Gun Metal, Brass Castings, &c.

TO SAW-MILL PROPRIETORS and OTHERS

HUMPHREY & HASLER (late H Fairbank), Engineers and Machinists, 89, Old-street, E.C. beg to call attention to their IMPROVED SAW BENCH.

Planing, Boring, Turnery, and Screw-Cutting done for the Trade.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

MOREWOOD & CO. (late Morewood & Rogers), Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON, PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

INTERNATIONAL EXHIBITION, 1862 CLASS 13.

Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42 inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 3s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTEES, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS, 20, WESTMINSTER BRIDGE ROAD, LAMBETH Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

PELICAN LIFE INSURANCE OFFICE, ESTABLISHED IN 1797, 70, Lombard-street, E.C. and 57, Charing-cross, S.W.

DIRECTORS.

Octavius E. Coope, Esq.	Henry Lancelot Holland, Esq.
Wm. Cotton, Esq. D.C.L. F.R.S.	William James Lancaster, Esq.
John Davis, Esq.	John Labbock, Esq. F.R.S.
Jas. A. Gordon, Esq. M.D. F.R.S.	Benjamin Shaw, Esq.
Edward Hawkins, Jun. Esq.	Matthew Whiting, Esq.
Kirkman D. Hodgson, Esq. M.P.	M. Wyvill, Jun. Esq. M.P.

ROBERT TUCKER, Secretary and Actuary.

Examples of the amount of Bonus awarded at the recent division of profits to Policies of 1,000*l.* each effected for the whole term of life at the undermentioned ages:—

Age when Assured.	Duration of Policy	Bonus in Cash.	Bonus in Reversion.
20	7 years	£29 7 0	£36 0 0
	14 years	36 2 0	73 10 0
	21 years	44 8 0	82 0 0
40	7 years	49 19 6	84 10 0
	14 years	61 2 0	96 10 0
	21 years	75 2 6	108 0 0
60	7 years	95 4 6	127 13 0
	14 years	117 2 6	144 10 0
	21 years	144 1 0	165 10 0

*** For Prospectuses, Forms of Proposal, &c. apply at the Offices as above, or to any of the Company's Agents

---

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT.

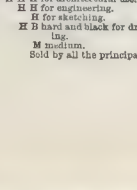
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Clocks in his Showing-room Clocks.

Ladies' Gold Foreign Watches	8	Guineas.
Gentlemen's do. do.	10	,,
Ladies' or Gentlemen's Gold English Lever Watches	18	,,
Strong Silver Lever Watches	5	,,
Gentlemen's Gold Compensation Balance Watches	40	,,
Do. Silver do.	26	,,
Marine Chronometers	25	,,

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas: adapted for the village church or school



INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock may be seen in action, and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,343.

JOSEPH FAIRER, Turret Clockmaker to Her Majesty's War Department, 188, St. George-street East, London.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade.

H H H H	for drawing on wood.	F F	light and shading.
H H H	for architectural use.	F	for general use.
H H	for engineering.	B	black for shading.
H	for sketching.	B B	ditto ditto.
H B	hard and black for drawing.	B B B	ditto ditto.
M	medium.	B B B B	ditto ditto.

Sold by all the principal Stationers in town or country.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS,

QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES, BURKE, & CO. PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

Now ready, post 8vo. price 7s. 6d. cloth,

THE ANNUAL RETROSPECT
OF
ENGINEERIRG AND ARCHITECTURE;
A RECORD OF PROGRESS
IN THE
Sciences of Civil, Military, and Naval Construction.
VOL. I. JANUARY TO DECEMBER, 1861.

EDITED BY

GEORGE R. BURNELL, C.E. F.G.S. F.S.A.

It is believed that an annual review of our progress in the Sciences of Construction is a work the want of which has long been felt by professional men. No doubt there are already in existance publications which to a certain extent discharge this function; but the dates of their publication are, near to the discoveries they record, that they necessarily bear, more or less, an ephemeral character, on account of the prominence which must be given to the topics of the day. An ANNUAL REVIEW of the state of an art or science at a certain extent removed from its danger, and should present the most important results of the years labours in a more concise and more carefully arranged form. It is presumed, by the publication of the "RETROSPECT of ENGINEERING and ARCHITECTURE," to supply the want of a Review such as has been described.

London: LOCKWOOD & CO. 7, Stationers' Hall Court, E.C.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq

DRAWING ESTABLISHMENT, 70, Old-street, City-road.—The Evening Classes of this Establishment will in future be conducted by Mr. G. W. WALTON, who will continue to give Instruction in Architectural, Perspective, Mechanical, and Ornamental Drawing; Mechanics, Mathematics, &c. Hours of attendance, Seven till Ten. Prospectuses may be had post-free on application.

THE ARCHITECTS', BUILDERS', CIVIL ENGINEERS', and MACHINISTS' DRAWING CLASSES, conducted by Mr. T. J. HILL, Architect, at his Offices, 70, Old-street, E.C. Architectural, Mechanical, Ornamental, and Perspective Drawing Taught; taking out Quantities, and Abstracting, &c.—For prospectuses, apply at the Offices, as above.

THEODOLITES, LEVELS, TRANSIT THEODOLITES, DRAWING INSTRUMENTS, SCALES, &c. C. BAKER, of 243 & 244, High Holborn, begs to inform Surveyors, Architects, and others, that having recently made extensive additions to his manufacturing premises he is now enabled to supply any quantity of first-class instruments of every description, upon the shortest notice, at a price very much lower than is usually charged for the best workmanship. Every article manufactured on the premises, and alterations, repairs, and adjustments, will receive immediate attention. A large assortment of SECOND-HAND THEODOLITES, LEVELS, &c. in stock at low prices, which are warranted. Inferior instruments taken in exchange. Catalogues free by post. Established 1765.

TO ENGINEERS, MILLWRIGHTS, &c.

Lately published, with new Illustrations, 13th Edition, corrected and improved, to which is added a new Table of Fractional Numbers, 12mo. 5s. cloth,

THE MILLWRIGHT and ENGINEER'S POCKET COMPANION: containing Decimal Arithmetic, Tables of Square and Cube Roots, Practical Geometry and Mensuration, Pumps, Pumping, and Steam-Engines; with Tables of Circumferences, Squares, Cubes, &c.

By WILLIAM TEMPLETON. Revised by S. MAYNARD.

"A more useful addition to the engineer's library cannot well be conceived."—*Mechanic's Magazine.*

"The present edition having undergone the careful revision of so competent an editor as Mr Maynard, is worthy of special recommendation."—*Athenæum.*

"Will be found of great use to those for whom it is designed."—*Builder.*

Also, by the same Author,

TEMPLETON'S ENGINEER'S COMMONPLACE BOOK: consisting of Practical Rules and Tables adapted to Factory and Steam-Engines, &c. Fifth Edition, with several new Illustrations. 12mo. 3s. cloth.

TEMPLETON'S LOCOMOTIVE ENGINE POPULARLY EXPLAINED. Illustrated by new Designs. Second Edition. 12mo. 4s. cloth

London: SIMPKIN, MARSHALL, & CO. Stationers'-hall-court.

PRINCE CONSORT MEMORIAL.

A NATIONAL HALL of MONUMENTS, as a Memorial to the Prince Consort.

See THE LITERARY BUDGET for August 23rd.

Price 3d. weekly.

7, Burleigh-street, Strand; and all Newsmen.

Just published, price 2l. 2s.

MANUAL of HYDROLOGY.

By NATHANIEL BEARDMORE, Civil Engineer.

CONTAINS

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 68, London-wall. 1862.

Now ready, the Sixth Edition, in 8vo. with many Plates, price 21s cloth, extra gilt top,

AN ATTEMPT to DISCRIMINATE the STYLES of ARCHITECTURE in ENGLAND, from the Conquest to the Reformation; with a Sketch of the Grecian and Roman orders.

By the late THOMAS RICKMAN, F.S.A.

Sixth Edition, with considerable Additions, chiefly Historical, by JOHN HENRY PARKER, F.S.A. and numerous Illustrations by O. JEWITT.

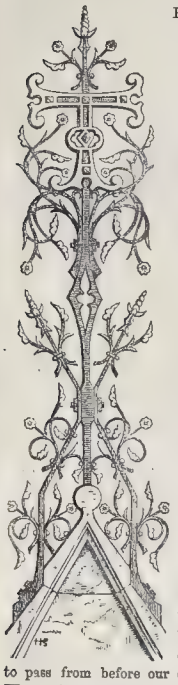
J. H. & JAS. PARKER, Oxford, and 377, Strand, London.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1798.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

The Builder.

VOL. XX.—No. 1020.

The Building Materials and Manufactures in the French Division of "The Exhibition."



THE mineral products, and the manufactured articles and contrivances designed for use in buildings and construction, which are contained in some of the eastern and northern recesses of the French Court of the Exhibition building, or may be found in the gallery next Cromwell-road, and in the Machinery Annex, and are catalogued in Classes 1, 2, and 10, though as we have said, quite inadequate to represent the resources of France, or the application of products to the uses of practical architecture by the French, deserve nevertheless careful examination. Indeed, it is more immediately desirable that we should look at such foreign portions of the Exhibition, than that we should lay before our readers, notes of those home-produced exhibited articles, the merits of which are less likely to pass from before our eyes in October next. We continue therefore, at least for a short time, our examination of one of the courts in the foreign division of the building.

Mr. Ledier, of Auffay, beyond Dieppe, exhibits bricks of good quality, which are made by pressure without use of water, and baked with coal, by what is called a new process, but is not clearly described. They have been used in the breakwater of Dieppe and the hospital of the same place, the two hospitals of Cherbourg, and other buildings; and many of them have been exported, not only to French, but to British colonies.

Roofing-tiles of peculiar pattern, "*tuiles castillon*," adapted for a light covering on a low pitch of roof, are exhibited by Messrs. Faconnet & Co., of Paris. Much attention has been given lately in France, to forms of tiles for roofs. There are some other exhibitors of articles of the same class, but different in form: Mr. C. A. Gastellier, of Montanglaust (Seine-et-Marne), and Mr. E. H. Dumont, of Roanne (Loire), are amongst them.

Mr. P. de Tinseau, of Saint-Ylie, Jura, exhibits, besides the column in the Eastern Annex Court, specimens of the Jura marble, as in the form of a polished slab about 16 feet in length, and in three portions of balustrading similar to the balustrades of the Pont au Change, Pont de Solferino, and new Pont Louis Philippe, Paris, the two last designed by Mr. Savarin, and the first-mentioned by Mr. Vaudrey. The varieties of the material here shown are two, of a yellow and a red tint. This marble was not used in Paris till within the last five years. The Algerian Onyx marble is displayed in several stalls and cases of the French Court, including the space devoted to Algeria; so that, commencing with the stall for the special exhibition of the material by Messrs. Alphonse Pallu & Co., the translucidity and general beauty, and the variety and ornamental adaptability, are well set forth. The marble was discovered by Mr. Delmonte in 1849; though doubtless the locality in which it was found, had furnished the material to the Romans. It may however be regarded as one of the acquisitions of the last ten years, not having been brought to France in large quantities till after the formation of the "Compagnie des Marbres Onyx de l'Algérie" in 1858. Pure white, brilliant red, golden yellow, or hues of green, with every variety of striation and flocculence, exist in this beautiful material. The art-manufactory in Paris, in the Rue Popincourt, well deserves a visit. The establishment includes *ateliers* for the production of ornaments in bronze. One of the characteristics of French art, is the union of two or more materials, in an object of art-manufacture, in such manner that each may, so to speak, send forth the full expression of the beauty of the other. The cost of the small staircase, of this marble, of a house in the Champs Elysées, which we mentioned last year in one of our articles on Paris, was 200,000 francs (8,000*l.*). The effect there, is in our opinion scarcely proportionate to the cost. For balusters, as well as articles of small dimension, the material will doubtless be in demand in London, where it should be obtainable as cheaply as in Paris.

Roofing slates are exhibited by Mr. E. Maire of Plessis-en-Coësmes (Ille-et-Vilaine), and Mr. X. Marie of Moisdon (Loire-Inférieure); as well as from Savoy, as already mentioned. Slate for billiard-tables is exhibited from the quarries of Riadan, near Bourg-des-Comptes (Ille-et-Vilaine).

The mill-stones from the quarries of La Ferté-sous-Jouarre (Seine-et-Marne) shown by several exhibitors, appear to have preserved their reputation since 1851, when their material was reported on as superior to granites and sandstones, both on account of the hardness, and the little cavities; which last caught the grain momentarily whilst the stone revolved, and allowed the grain to be more quickly crushed. The stones, called *moulages*, are composed of several pieces, strongly cemented or fastened together and the whole bound with hoops. They represent the originals, on the same principle, of mill-stones which we noticed in speaking of the British Division. The mode of quarrying plaster-stone is shown by drawings in Class 1, and near them is a model of the mill for grinding, in use at Chelles (Seine-et-Marne), "Système Parquin" as it is called. Stones, in this case set upright, are so contrived as to roll over hard and deleterious substances without crushing them, so that the latter can be picked up by a workman who has the duty. Thus, pure and well-burnt plaster is ensured.

The artificial stone called "béton aggloméré," of Messrs. F. Coignet, *Frères*, of Paris, is evidently a material of considerable importance: but does not differ from some similar compositions used in England. The "béton" in the Exhibition, is compounded of ten parts sand (for which ashes may be substituted), one part slacked lime, and three-quarters of a part of cement. The composition in the state of a paste, is introduced into a mould in thin layers, which are each, so to speak, *punned in*, by quick strokes of some species of rammer, so as to render the artificial stone very hard and compact, and insensible, as represented, to action of the atmosphere, or that of fresh or sea water. The commonest and cheapest lime, any kind of sand available or required for colour, and comparatively unskilled labour, may be used. Not only is the composition used in pavements, steps, balustrades, sculpture, panels and ornaments, and in small structures as *fontaines;* but large buildings, bridges, and roadways, combined with the *trottoirs* and sewers, are proposed to be moulded of it, entire, and reservoirs and dock-basins to be formed of it. Buildings of this character, "*constructions monolithes*," indeed, have been completed at St. Denis, and elsewhere in the environs of Paris. More information than is obtainable at the Exhibition, may perhaps be had of the agents in London, Messrs. Duché & Chevassus of Little Carter-lane. The larger kind of "constructions" are exemplified in a model of a vault of a theatre, and its supporting walls, and in one of a "rue souterraine," or subway, and sewers and channels for water and gas, each model apparently intended to represent the *béton* formed as above described, or as in block, of the size of the theatre, or the width and length of the street. Judging from what is exhibited, there would be difficulty in the case of ornament, as usual in processes of the kind, in getting the undercutting and relief. It is contended that the material is not only very durable as compared with stone, and perhaps brick; but that it is much cheaper than either. Dressings for a 3 feet 9 inches window-opening may be had for 150 francs (6*l.*). Slabs suited for kitchen pavement cost 3*s.* 3*d.* the French mètre superficial; and "monolith slabs," suited for stables, 4*s.* 10*d.*; and "monolith constructions of all kinds" may be 16*s.* to 2*l.* 8*s.* the cubic mètre. Some of the prices are too high, even supposing the distortion of the lines in terra-cotta to be avoided in this "*béton.*" Of that defect referred to, there is little in the terra-cotta exhibited by Mr. E. F. Garnaud, *fils*, of Paris, which was honourably mentioned in 1851.

Messrs. Lippmann, Schneckenburger & Co. of Paris, exhibit various arrangements of architectural details to show the advantages of their, so-called, *similimarbre-similipierre*. This material, though spoken of as one, may be finished to have the appearance of scagliola, or the best quality of Keene's cement, or fine-grained stone. It is put forward as excelling some other imitative materials, because, besides being incombustible and repellent of moisture, it has not to be burnt after having been worked into form, and can therefore give lines of architecture and forms of sculpture without distortion: moreover it need not be painted. It is considered preferable to either wood or iron, for the construction of portable houses in warm countries, and as more favourable to decoration of such houses. In those buildings, the material would be used in slabs, fixed in iron or wooden framing. A considerable number of forms and ornaments, architectural and sculpturesque, are obtainable in this material, as to the nature and durability of which, further information would be desirable. Its resistance to crushing however is given, or as 161 kilogrammes 8 hectogrammes per "square" centimètre; and it appears to us to be used successfully as of late, in the illuminated "colonnes Vespasiennes" on the Boulevard de Sebastopol. Not less deserving attention, for their ornamental character at least, are the "works in stucco," a model of the side of a room panelled in scagliola, and a table top, and a column and capital, beautifully ornamented, by Mr. J. Crapoix of Paris.

Mr. Léon Dalemagne, of Paris, who was much restricted in space, has filled a compartment in Class 2, with about one hundred specimens of stone of various kinds, some carved as ornament, to show results in stone, to which his *silicatisation* process has been applied. The specimens, as they can be seen under glass, form an important collection; though, generally, they are very small fragments placed in a bad light. We may here, once more repeat, that all specimens of building materials, submitted to the weather, should have a date *cut* upon them, when so exposed. Specimens of the same stone, one of which is treated according to a particular process and the other left in the natural state, for comparison, should be not only from the same block, but left broken, as are some of Mr. Delamagne's, in the form which may be best for this identity to be at once seen. The present collection is, we say, interesting: but it is necessarily insufficient for the demonstration of what the jury of admission regarded as a conclusion—already mentioned by us. It is not our fault if we have not long ago given our readers some information of the latest experience,

or state of opinion in France, on the silicatisation process. We have however seen it in application at Amiens, where we have noticed the present state of those parts of the restored masonry on which it was first employed, and have heard what was to be said by workmen. The masons engaged on the cathedral works, under Mr. Massenot and Mr. Viollet-le-Duc, say that having happened to have to work stone which previously had been treated by the process, they have found the hardness very great in comparison with that of the stone as ordinarily worked before application of the solution; and an examination by us, of the most exposed parts of the towers, terminated now several years, corroborated statements as to the alteration of the external portion at least, of the stone, into a protecting crust, and failed to disclose any decay. Amiens however, though looking like a manufacturing town, has not the atmosphere of a smoky English one. The buildings to which the silicatisation has been applied in France, are very numerous. They include the cathedral of Notre Dame, Paris, where the process was first applied in 1851; the cathedrals of Chartres, Lizieux, Périgueux and Amiens; the palaces of the Louvre, Versailles, the Luxembourg, Fontainebleau, and St. Cloud; the Arc de Triomphe de l'Étoile; the École des Beaux Arts (the older portion only, we believe); the Conservatoire des Arts et Métiers; the Palais de l'Institut; the Palais de Justice, Rouen; and many other buildings. The process is also mentioned as having been employed in London, at the Houses of Parliament, Henry VII.'s Chapel, and Westminster Abbey. The application of the solution is as easy as watering plants in a garden. The reports of architects, and the decisions of different ministers which led to the present extensive use of Mr. Delamagne's *silicatisation*, date from 1853 to 1855: we could wish for later conclusions on the subject. The process failed to elicit commendation from the English Parliamentary Committee appointed to inquire as to the Houses of Parliament. In the same class Mr. Kullmann, of Lille, exhibits certain chemical products, and new applications of them in the manner of painting; and, in his case, are two or three specimens of stone-carving, one of them of a green colour, which no doubt have been treated with a silicate. Information by the exhibitor, however, is wanting; and in the absence of that, we may mention that Mr. Dalemagne is careful to discriminate between the imbibition characteristic of his process rightly used, and a mere coating, which latter seems to be the character of Mr. Kuhlmann's application of Fuchs' "soluble glass," as imputed in a report to the "Académie Nationale, Agricole, Manufacturière, et Commerciale," printed this year in Paris.

The French are apt at the manipulation of cement; owing much to the early investigations of Vicat. A namesake of the French engineer and experimentalist exhibits specimens of an artificial cement from Grenoble (Isère); and there are water-pipes of the material from the same place, exhibited by Messrs. Algoud, *frères*, Dupuy de Bordes & Co. Cement called *du bassin de Paris* is exhibited by Messrs. Lingée & Co. But the most important material of this sort, seems to be the "Ciment Hydraulique de la Valentine" exhibited by Messrs. Désiré Michel & Co. of Marseilles. With the *béton* made with it, houses and a church have been built, and the sewers have been formed in the latter town; and in the fence-walls or copings of the breakwaters at Marseilles and Cette, the same material is used. In the construction of sewers, by the aid of a simple arrangement of boarding, as on the principle of *pisé* construction, the whole vault is laid so as form one piece; as also may be the sides and invert. The sewer in the Avenue des Ternes, Paris, which was in progress last year, was constructed somewhat on this system,—or not in regular masonry, as were the larger sewers, or at least the sewer commenced in 1860, in the Rue Château d'Eau, portions of which we have walked along. Slabs for filling in between floor joists, if not for paving, are cast in a frame, comprising a dozen squares in a row, the whole being tightly keyed at two of the angles, and as easily taken to pieces when the slabs are set. The cement of Montcerf (Seine-et-Marne) exhibited by Messrs. Liénart & Charpentier, may be added to the list of materials, of which pipes for drainage and water-supply may be manufactured.

The "Ciment-Porcelaine" exhibited by Mr. Candelot is applied on walls of rooms, and floors, as a protection against moisture and saltpetre, replacing oil-painting. It is said to stick well to iron and glass; to stand washing; to keep the brilliancy of varnish, to receive any addition of tint and decoration, and to dry three coats in one day, and to be approved by the Société Centrale des Architectes. The *Ciment Encaustique*, and *Ciment Pierre*, are modifications of the other cement; the latter being designed to replace bitumen for *trottoirs* and terraces.

The "mastic" exhibited by Mr. L. Machabée, of Paris, and bearing his name, is a bituminous material, intended to counteract humidity, and to preserve wood and metals. A vessel formed of thin paper may be so coated with it as to be watertight. It may be well adapted for use in building in water. A metallic varnish, put forward as adapted for preservation of metals, and as drying very rapidly even in water, is exhibited by Mr. P. H. Dupont of Cherbourg. It is said to come to 4 to 5 centimes the superficial mètre, and to have been favourably reported on by the chief public departments.

We have already named the specimens of rolled iron, in numerous forms of section, of Messrs. Dupont & Dreyfus, of Ars-sur-Moselle. Their "fers à double T" extend to 40 mètres length. Messrs. James Jackson, Son & Company, of Saint-Seurin-sur-l'Isle (Gironde), exhibit bars, carriage-springs, and cannons, of Bessemer steel. Messrs. de Dietrich & Co. of Neiderbronn (Bas-Rhin) have a large collection of cast and wrought-iron, and puddled steel, in various forms, including a large crucifix. The forms are wanting in finish; but one of the lamp pillars is good in design. Messrs. Bonnor, Degrond & Co. of Eurville (Haute-Marne); Mr. E. O. Martin, of Sireuil (Charente); Messrs. Durand & Guyonnet, of Perigueux (Dordonne), and several others, are exhibitors of iron obtained with use of wood as fuel in various operations of refining and casting. Algeria is one of the countries where iron ore is found. Copper manufactured, as mentioned in our last, in the form of pipes and wire, is shown; and by Messrs. Létrange & Co., in the form of an evaporating-dish, 8 feet 1 inch in diameter, weighing upwards of 13 cwt.

Messrs. le Baron de Rostaing & Baudouin *Frères*, exhibit results of applications of a process of Mr. de Rostaing, for obtaining different kinds of fine granulation of metals by the action of centrifugal force upon the metals in a state of fusion, and the method of obtaining oxides and salts. Some of the results appear to be important to engineers, as concerning the pigments used in the painting of iron-work, as well as the production of steel. Amongst the applications mentioned, is one for the aëration of liquids. Would this be available for improving the quality of water supplied to a town? The patent, sealed in England, may give information. We learn from the report of the "Société d'Encouragement pour l'Industrie Nationale," dated 23rd November, 1859, that the mechanism of dispersion consists mainly of a circular plate, slightly concave, and adjusted and set perfectly horizontal, which is made to revolve at the rate of 2,000 turns a minute, and of a funnel by which the fused metal drops on to the plate, these two principal parts of the apparatus being lined with refractory brick. It is suggested that the metal might be dispersed in water instead of air, and other useful results obtained.

Referring to articles of one description exhibited in Class 1, evidence has been quoted to show that wrought-iron girders of such forms and scantlings as would be commonly required, have not been easily procurable in this country, and that orders had consequently been sent to France and Belgium. The great variety of forms in the Eastern Annex, which we lately spoke of, certainly, is seen most in angle-bars and casement bars, or articles of like small-sized pattern; but there are a sufficient number of rolled joists and girders, to have made us receive the statement in question with surprise. We cannot however doubt the accuracy of it. It may be questionable, whether manufacturers should display articles of extraordinary dimensions, unless prepared to supply them in quantity, and of quality equal to the specimens exhibited. Indeed some of these persons have overreached themselves. The rolled iron girder of considerable length, which occupies the most prominent position within the Eastern Annex, is not a good piece of work; and in fact, it exhibits a blister or protuberance that ought to be a beacon or warning to any architect or engineer thinking of using girders rolled at the works where the specimen was produced.

The display of castings which may be ranked with works of fine art, we spoke of in early articles, and it has assuredly not been overlooked by any visitor to the Exhibition passing along the nave, or entering the French Court, or walking in the Horticultural Gardens. Groups of sculpture and single figures, fountains, candelabra, or lamp-pillars, such as are in common use in the streets of Paris, park-gates, *perrons* and conservatories, rails for squares, balconies, staircases, and altars in churches, everywhere show the appreciation which there is of art in France, and testify to the skill in the production of it in those materials which, having much of the effect of bronze, combined with low cost, allow of the decoration of the foreground and accessories of edifices, as the terraces and gardens, by sculpture, and by minor but important adjuncts to the regular architecture. Messrs. Durenne, Barbezat, Ducel, Baudrit, Thiébaut, Ducros, and Miroy, and Oudry for the coating of iron with copper, are the principal names.

Those who are interested in the subject of artesian-well-sinking, may with advantage look at the models and tools which are in Classes 1 and 10; though some of them are so placed that they cannot be completely examined. Messrs. Mulot, *père* and *fils*, & Dru, of Paris, show with their models and specimens, a section of the well at Grenelle, which we suppose was their work. Messrs. Degousée & Laurent, of Paris, authors of the "*Guide du Sondeur*" and of a *brochure* relating to the subject of wells in Algeria, exhibit besides a large collection of apparatus, models showing the mode of proceeding in the Sahara, and photographs depicting the *astonishment* of "the natives" at the rising-water. Each exhibition includes cylindrical pieces of stone which were raised, giving some idea of the labour involved in passing through rock. The illustration of the sinking of the Passy well, in the court next the nave, comprises besides models of the tools, and a drawing of the engine-house and *atelier*, a section including the products themselves as extracted. The chief ingenuity displayed in the case of this well, was in the construction and sinking of the tube or tubes; the tools may be said to have been but two, a trepan, or great toothed chisel, moving vertically and breaking the soil or rock, and reducing it to dust, and a valved scoop serving to raise the dust. The work was carried on thus by percussion, or without torsary or screw movement. The variety of tools shown by Messrs. Degousée & Laurent is much greater. The expense of boring the Passy well was about a million francs (40,000*l*.). This well, at the date of the last account before us, was giving forth 16,300 cubic mètres of water per day of twenty-four hours, at the level of the soil, but only 6,200 at the height of 24 mètres above that level. The desired supply was found at 586 mètres 50 centimètres depth. A large model, and a portion full size of the tube, or iron lining, of the Passy well, will be found in the Machinery Annex. Messrs. Mulot & Dru include in their exhibition, a block of *béton* produced by the injection of hydraulic cement through a bore-hole, into a mass of gravel or pebbles, showing a method of underpinning foundations.

In examining the cases in Class 2, attention should be given to those containing the numerous specimens of mineral waters. This part of the French Division is interesting on account of the drawings of the "Établissement Thermal de Baréges" which is in course of execution, and for the "Plans des travaux d'architecture et d'hydraulique del'Établissement Thermal" of Bagnères-de-Luchon, displayed in one of the recesses of the court, along with albums, guide-books, and dictionaries, which besides containing information useful to the English physician, will give some idea of what forms one branch of a French architect's or engineer's practice.* More however to this effect may be learned from the models in the nave, to which we have to return. Mr. François, engineer "en chef des mines" and Mr. E. Chambert, architect, managed the reconstruction of the Bagnères-de-Luchon establishment, which is now very complete.

In our last article we alluded to the division of the area of continental France into three regions of agriculture, as shown by maps. In effect, the whole of the products in the second division of Class 3 in the French department of the Exhibition, are grouped under the heads: 1, Region of wheat (not having wine of exportation, or silk); 2, Region of wheat and wine of exportation (not having silk); and, 3, Region of wheat, wine of exportation, and silk. We could wish that the instructive collection of products agricultural and alimentary, thus arranged, might be acquired by one of our museums, in addition to a similar illustration of the mineral resources of France, each in exchange

* The "Dictionnaire Général des Eaux Minérales" of Messrs. Durand-Fardel; Eugène le Bret; and J. Lefort, assisted by Mr. Jules François, contains much useful matter.

for duplicates of a similar collection which should now somewhere exist devoted to this country. If want of space be allowed to prevent the acquirement of any such collection, as we hear it has in the case of the valuable collection of minerals of the Zollverein, our administrators surely do not understand national interests, or care much about the benefits they can talk of from treaties of commerce. In the items of gain in the last ten years, in the industries comprised in Class 3, the French juries of admission set down, the progress in the fabrication of manure derived from towns and farms, and the elevation of the proportion of azote in such manure. In the Cromwell-road gallery, we find exhibited by Mr. Chodzko, a model of a timber-framed building, called by him "bâtiment de graduation," near Romainville, Paris, and erected in duplicate at the camp of Chalons-sur-Marne, which is described as for the complete disinfection of towns by the instantaneous transformation of the human *excreta*, solid and liquid, into perfect manure, and called the atmospheric system, and which seems to consist in the absorption of the liquids by faggots, shavings, or bones, on which the *excreta* have been placed. One exhibitor fills a considerable space with plans of land-drainage; and another shows, partly by specimens of the vegetable products and the animals, the condition of a district previous and subsequent to its cultivation. The juries also mention the bringing into cultivation the regions of the Landes, and the Sologne. The Landes of Gascony are remarkable for pine-trees, which are cultivated for the resin, and as a means of retaining the otherwise shifting sand. The resin-industry is due to Colbert, the Minister of Louis XIV., who in 1658, sent certain natives of Sweden to instruct the inhabitants: but the commencement of the fixation of the *dunes* was made by the engineer Bremontier in 1787. In 1801 under the Consulate, and in 1810 under the first Emperor, laws were enacted with the view of extending the system to the whole coast of the Landes. The work has been completed under the present Emperor; and great progress in the *assainissement* and cultivation of the country, has been made. Mr. Chambrelent, of Bordeaux, and Mr. Javal of Arès, near Arcachon, the latter especially, illustrate what is now the produce and industry of the Landes. As illustrative of the progress for which so much is due to the present ruler of France, the particulars which may be gathered from Mr. Javal's contribution and his separate catalogue, claim attention. The manner of collecting the resin from the growing pine is shown; and there are also specimens showing the use of the wood, injected with sulphate of copper, for shingles of roofs, water-piping, railway-sleepers, and paving. For the paving of stables, the branches or small stems are cut in the requisite short lengths, and not squared. The question whether wood is adapted for such paving, perhaps has not presented itself. The exhibition of products from the coal district of the Loire, about St. Étienne, is the most noteworthy display having value of a similar kind in the illustration of mineral-producing France. The drawing exhibited by Mr. F. Dehaynin of the machine for compressing fuel, improved by him, after the original invention by Mr. Evrard, engineer of the Chazotte mines in the district just named, deserves examination; though it were true, as announced in the French journals, that the numerous attempts to discover or develop a new motive power, have met with success in an application of force requiring scarcely any coal, the immediate importance of such machinery for compression and utilization of small fuel, would be much lessened.

The miner's safety-lamps of Mr. Dubrulle, of Lille, which cannot be opened without extinguishing the light, may be compared with those in the Eastern Annex. Men engaged in mining, in France, require to be protected by curious devices, as in England. Mr. Dubrulle says his lamp gives double the light of the Davy lamp; and that it will continue burning for sixteen hours, twelve hours of that time without the necessity of snuffing.

The French way of stacking wine is not undeserving the attention of architects. In place of stone shelves built in brick walls, and saw-dust, a light iron rack or cage holds the bottles, which rest on rods bent in this form ~~~~~~~~~~~~~~~~~~~~; and the bottles are thus arranged with the least possible loss of space. To these "*porte-bouteilles en fer*" may be added, a light gate; and the whole stack of bottles can thus be placed under lock and key, and kept in any part of the house that may be best suited for the wine. In Class 10, British Division, there is a wooden rack or cage shown, similarly to be used in substitution for stone shelves and sawdust. Messrs. Barbou are the French exhibitors.

QUEEN ELEANOR'S CROSS AT NORTHAMPTON.

At the meeting of the British Archæological Association (elsewhere referred to), the Rev. C. H. Hartshorne, when the Association went to Northampton, read the following paper on the Cross there:—

In offering to the notice of the Archæological Association a few remarks on the cross erected to the memory of Queen Eleanor, I fear I can bring forward but very little that is already unknown to them. But it may sometimes happen that a few observations uttered on the spot, recently brought together, may have the advantage of recalling what has slipped from the memory. I cannot assume much beyond doing this at the present moment. It is the usual practice with myself and others, who attempt to explain architectural monuments, to view them, in the first instance, through the medium of those historical documents which remain, such as records and chronicles, and then to apply these materials to the objects themselves. With respect to the remarkable one we are shortly about to visit, there have fortunately been preserved some Expense Rolls, which give us nearly all the information that can be desired. These were printed by Mr. Botfield, in an extremely interesting volume, for the Roxburghe Club, in 1841. As, however, the volume was limited to private distribution, it is of such difficulty of access that I must necessarily use it more freely than one in general circulation. And here, again, I may probably repeat observations I have myself made on Queen Eleanor's Cross in the Historical Memorials of Northampton. But a repetition of this kind is unavoidable, since it is impossible to obtain fresh facts on every occasion. We must, therefore, be content, by means of the increasing knowledge we have of Mediæval architecture, to apply more closely the extracts I shall bring forward; and in that respect, more particularly as we are on the spot, a little may, I think, be added to the general history of this truly beautiful work of antiquity.

During the reign of Henry III. the English possessions in Gascony were much disturbed, and he found it necessary to support himself both against Simon de Montfort, who had treacherously given up some of the principal fortresses; and also against Gaston de Bearn, the chief person who opposed him. This prince had indeed gone to implore the assistance of Alphonso, King of Castile. The royal debts were heavy: there were difficulties in raising supplies for a war; and with the prospect of the King of Castile also being in arms against the English, Henry thought it would be more prudent to attempt negotiation with him, to propose a league, and to secure his friendship by the marriage of Prince Edward, his eldest son, with Eleanor, the half-sister of the King of Castile. He accordingly sent ambassadors to the Spanish Court to request her in marriage for his son. He had already settled upon Edward the sovereignty of Guienne. Alphonso complied with this request, on condition that the prince should be sent into Spain to complete it. To this Henry, after some hesitation, assented; and in 1254, Edward proceeded to Burgos, where he was graciously received by Alphonso, who knighted him, and celebrated the marriage with great pomp. The Prince and his bride returned to Bordeaux, bringing with them a charter, bearing a golden seal, by which the Spanish sovereign relinquished, in favour of them and their heirs, all claims upon the province of Guienne. The English did not regard this alliance with favour. They said the king knew the habits and religion of the Spaniards, who were the very refuse of mankind; hideous in their persons, contemptible in their dress, and detestable in their manners. According to the statements of Matthew Paris, it was a most unpopular match, though there can be no doubt it was a source of the greatest domestic happiness to the prince.

Henry left Guienne in 1254: the prince and his wife remained till the following year. The apprehensions of the English with regard to this marriage were shortly verified. For soon after, Eleanor's brother and a Spanish nobleman came over as ambassadors, as it was currently supposed, under the expectation of receiving valuable presents from the king. It does not, however, appear that they were personally any great gainers by their mission.

Eleanor landed at Dover in October (39 Hen. III.) and on the 17th reached London, where she was welcomed by Henry with much kindness. He presented her with a silver alms dish, besides pieces of arras and gold cloth, the latter being sent to her for her arrival at Dover. These, with golden perenails and brooches, were intended for the princess to present at the shrines of St. Thomas at Canterbury and St. Edward at Westminster, on her way to the metropolis. The preparations that had been made for her reception were very unpopular with the citizens, who, as the chronicler says, were deeply grieved on a careful consideration of the pleasure manifested by the king at the presence of any foreigners.

From the year 1256 to the time when Eleanor accompanied Prince Edward to the Holy Land, but little is known of her. She probably resided at Guildford, or one of the royal castles;—most likely at Guildford; as apartments were ordered to be constructed here for her use in 1268. In 1271 she sailed with her husband for the Holy Land. It is almost superfluous to mention the affectionate care she evinced over her husband whilst he was occupied in this great crusade;—for the story of her endeavour to extract the poison from the wound he had received from an assassin is too well known to require repetition. It may, however, be stated, as this circumstance has been disputed on slight grounds, that its truth seemed fully established by the narrative of Wikes and Heminford, two contemporary historians. It was in consequence of the crusade preached at Northampton by Ottoboni, in 1268, that Edward took up the cross and passed over to the Holy Land with 104 knights, besides 18 nobles, who assumed it from the legate at the same time.

Edward returned to England on August 1st, 1274, and a fortnight afterwards was crowned in Westminster. In 1286 the affairs of Guienne required his presence. He remained absent three years, two months, and fifteen days.

The chronicle of Lanercost states that, whilst he was abroad on this occasion, he and his queen sitting on the bedside together and conversing, they narrowly escaped being killed by lightning. The electric fluid, passing through a window, struck two females behind them, and caused their death.

We hear very little of Queen Eleanor from this time until her death, a circumstance that shows how entirely she devoted herself to her husband and her domestic duties. No doubt she accompanied him in his various movements during the protracted wars with the Welsh and the Scotch. Edward arrived in England in August, 1289. In the same month in 1290 we find him in Northamptonshire. I will not trace from the itinerary of his reign that I have drawn up his residence day by day at Silverstone, Blisworth, Yardley, Northampton, Geddington, and Rockingham; I will merely state that he was at Northampton, no doubt resident in the Castle, From August 17th to August 29th, when he passed northwards to King's Clipstone, in Nottinghamshire. On the 20th of November we find him at Hardby, where he remained until the 28th, on the evening of which day Queen Eleanor died in the house of Richard de Weston.

The queen died of a lingering fever. The latest date on which we find any mention of the king and queen being together is when they were here in the month of August, on which occasion a messenger was paid for carrying their joint letters to Clare, Earl of Gloucester. On the 28th of October there is a payment of one mark to Henry Montpellier, for syrup and other medicines, purchased at Lincoln, for the queen's use. During her illness she was attended by her household physician, Master Leopard, to whom she bequeathed a legacy of twenty marks. For three days after her decease no public business was transacted. Her body was immediately opened and embalmed. I well remember reading in her wardrobe account, sold a few years ago in London, the entries relating to this process;—the cost of the myrrh and frankincense; and, what struck me as more remarkable, a charge for barley for stuffing the body. The viscera were deposited in the cathedral at Lincoln. Her heart was conveyed, by her own desire, for sacred interment in the church of the Blackfriars, in London. The Expense Rolls of the executors give full particulars of the cost of executing the monuments erected at each of these places.

The king himself was at Lincoln on the 2nd and 3rd of December; at Northampton on the 9th; at St. Alban's on the 14th; at Lincoln on the following day. The account left us by the annalist of Dunstable of the circumstances attending the arrival of the funeral train at this monastery represents generally what occurred at every place

where the funeral procession halted. After noticing the death of the queen, he says, her body passed through our town, and rested one night. Two precious cloths, bandekyns, were given unto us. Of wax we had 80lb. and more; and when the body of the said queen was departing from Dunstable, the bier rested in the centre of the market-place until the king's chancellor and the great men then and there present had marked a fitting place where they might afterwards erect a cross of wonderful size, our prior being present and sprinkling holy water.

The queen was buried with great magnificence at the feet of her husband's father, in Westminster Abbey, on the 17th of December; and on the 12th her heart was deposited in the church of the Black Friars, where a chapel was afterwards built for its reception. The king remained at Westminster for a week afterwards, and then went to Ashridge, where he remained in solitary seclusion for a month.

According to the usage of the time, splendid and perpetual commemorations of her death were enjoined in several places. Her anniversary was celebrated also at Peterborough and other abbeys with great liberality.

It has been stated by Walsingham that crosses were erected at the spots where the body rested on its way from Hardby to London. Thus we have mention made in the Expense Rolls of a cross at Lincoln, at Northampton, Stony Stratford, Woburn, Dunstable, and St. Alban's, all of them the work of John de Bello. These were all erected between 1291 and 1294. As the entries of payment for these works mingle them together, it is difficult to ascertain what was the cost of any one; but, proceeding by way of equal distribution, John de Bello would receive 134*l.* for the cross at Northampton, exclusive of the payment for statues, which were the work of William de Ireland, who received five marks for each of them. Robert, the son of Henry, a burgess of Northampton, received 40*l.* and sixty marks for laying down a causeway from Northampton to the cross, as it is said, *pro anima reginæ*, the construction of such a work being deemed an act of devotion. There are also payments of 25*l.* and seven marks to Robert de Corfe and to William de Ireland for a vinga, a head, and ring (*pro virgis, capitibus et annulis*)—architectural terms which involve some difficulty in explanation.

The exquisite representations of the queen were sculptured in London by William de Ireland, "imaginator," or the sculptor. William de Barrack, mason, received 73*s.* 4*d.* for their carriage and that of the head and lance of the cross, from London.

Doubts have often been raised as to the manner in which the cross was terminated. But an entry on the accounts leads me to suppose it was finished by a figure, most likely that of the Virgin, as William de Ireland was paid 6*l.* 3*s.* 4*d.* on one occasion for making five images for the cross at Northampton. Therefore, it is evident that a figure of some kind was imposed above the four of the queen now remaining. A desire has been often expressed to see the summit completed; but as long as it is highly uncertain what was the original termination, it would be injudicious to attempt what must necessarily be a fanciful and unsanctioned restoration.

Lincoln Cross was built by Richard of Stowe (*cementarius*); Northampton, Stony Stratford, Woburn, Dunstable, and St. Alban's, by John de Bello; Waltham, by Roger de Crundale and Dymenge de Leger; Cheap, by Michael de Canterbury, who died before it was finished by Roger de Crundale, joint builder of Waltham Cross. The decorative parts of some of these monuments were worked in London.

In conclusion, it may be desirable to make a few remarks on the effigies of Queen Eleanor herself, that are so graceful in their draperies, and so replete with dignity and classical beauty. Flaxman said that the statues of Henry III. and Eleanor in Westminster Abbey partook of the character and grace particularly cultivated in the school of Pisano; and it is not unlikely that these statues may have been done by some of his numerous scholars. The Executorial Rolls printed by Mr. Botfield bear out this conjecture, as they state that the designer of the effigies of Eleanor at Westminster and Lincoln was William Torel, a goldsmith. Her statue was modelled in wax, and there is an entry for bringing 726 lb. from the house of Torel. This enables us to account for the resemblance that exists between the queen's effigy in Westminster Abbey and the countenances as exhibited in the crosses of Northampton and Geddington.

The features of all these figures are precisely the same. They bear indisputable marks of coming from the same chisel. This remarkable resemblance was evidently the result of all of them being sculptured by the same artist.

Three of these crosses still remain: those at Northampton and Waltham are included in the expense rolls: the one at Geddington is not mentioned. This is still in excellent preservation. As a work of art, however, it is scarcely equal to the two others, though in itself admirable in its design and workmanship. The diapered pattern running up the shaft is singularly elegant. The figures of Eleanor, at Geddington, as has been already mentioned, partake of the same elegance as those at Northampton; being clearly the work of the sculptor who was employed elsewhere. We must accept all of these as faithful copies of the copper-gilt effigy at Westminster. The placid expression that is stamped on the queen's countenance could have been no imaginary creation; and, in looking upon it, we may believe we have before us as faithful a resemblance of this illustrious lady as it was possible to produce at the period. These monuments must always be regarded as the most beautiful specimens of British sculpture we possess. For refinement and serenity, for the feeling of majesty and repose they exhibit, they can scarcely be surpassed. Unquestionably they are the faithful reflexion of Eleanor herself.

It would be difficult to conceive more suitable memorials than these to testify the feeling of regret that has pervaded all England under the recent loss it has sustained in the death of its most illustrious Prince. Those who come after us would gaze upon them as we do, but with still higher associations, and deeper sentiments of admiration. Because, whilst the crosses of Eleanor call merely to remembrance her domestic graces, a monument to Prince Albert would be a beacon to posterity, to show how cherished has he ever been in his adopted country, how sincerely beloved for his spotless character and his public virtues.

BRITISH ARCHITECTS.

NEW MATERIALS FOR THEIR LIVES.

Sir Christopher Wren.—That Wiltshire worthy—for so old Fuller would, without fail, have called him—was born at Knoyle, in Wiltshire, on the 20th of October, 1631.* Beyond the birth of Wren, that Anno Domini 1631 was an "*Annus Mirabilis*" in English biography. Dr. Donne, the satirist, died that year; Dryden, the satirist, was born that year: two men whose lasting influence on English literature is still felt. Nor are these the only remarkable coincident events in the life of Wren: in the year, month, and on the very day on which Sir Peter Lely died, Sir Christopher Wren was elected President of the Royal Society.

Little thought the mother of Wren that her new-born infant (like Sir Isaac Newton, at his birth small enough to be put into a tea-pot) was to rebuild the great city of London, and die in his ninety-first year. Our great architect, ere he descended in "sorrow to the grave,"† was to live through many eventful reigns. He was in his eighteenth year when King Charles I. was beheaded before Inigo's fine palace at Whitehall; he was a man when Inigo died, and might have shaken hands with his illustrious master in architecture. He survived the state funeral of Cromwell—the Protectorate of Richard—the Restoration of Charles II.—the abdication of James II.—the Revolution of 1688—the deaths of King William and Queen Mary—the death and exile of James—the death of Anne, childless, after many children; saw the accession of the House of Hanover, and lived nine years into the reign of King George I.! O for a Boswell to have sat by his side! Wren, "qui vixit annos ultra nonaginta," as his tomb records, retained his fine intellects to the last, and had rich mental resources of his own to support him, till death ended all, and "subtus conditur hujus Ecclesiæ et Urbis" was placed upon his grave.

The twin rival Universities of England produced at the same time two very great men; so great, indeed, that capable judges, clothed in judicial fur, hesitate to name the greater of the two: Cambridge educated Sir Isaac Newton—Oxford educated Sir Christopher Wren. That Cambridge has been more alive to the greatness of Newton than Oxford has been to the greatness of Wren, the Trinity statue, by Roubiliac, is a well-known proof. Cambridge possesses a statue of Newton—Oxford has been content with a bust of Wren; and by the same sculptor. Both were Presidents of the Royal Society: will the Royal Society decide and adjudge, not their medal alone, but the apple, between them?

That the names of the schoolmasters of great men deserve to be mentioned in the lives of their illustrious scholars, we are told emphatically by a schoolmaster "at Edial," named Samuel Johnson, who had Garrick for his pupil. Wren's master was his future brother-in-law, the husband of his sister, Susannah Wren; his name was William Holder. A few words about him (not to be found—where it should be found—in the Life of Wren) will not be out of place

Holder was in holy orders, and held the living of Bletchington, in Oxfordshire, where his hospitality and learning, "mixed with great courtesie easily conciliated," we are told, "the love of all his neighbours to him." Hither—to Bletchington—came the Dean of Windsor, with his son Christopher; and here Holder was of service in directing and assisting the studies of his illustrious brother-in-law. The father of Wren, of St. John's, in Oxford, died at Bletchington, and is buried there. We should know more of the Dean—just as the twig is bent the tree is inclined;—hereafter I may have something to say about him, and of the great man to whom he was chaplain—the pious and witty Lancelot Andrews, Bishop of Winchester.

Two facts about Holder will be here in place: he survived his wife, and dying in 1697, aged 95, was buried beneath the dome of Wren's unfinished St. Paul's. Susannah Holder died on a memorable day in English history—Saturday, the 30th of June, 1688, the day of the acquittal of the Seven Bishops.

From "the parsonage-house at Bletchington," his "home and retiring-place," Wren was removed to Wadham College, in Oxford, where he obtained the friendship of the Warden—no less a person than John Wilkins, Oliver Cromwell's brother-in-law, King Charles II.'s Bishop of Chester. Wilkins was a ripe mathematician. A better warden for young Wren there could not have been. His influence was all important. The story is curious. That illustrious chemist and fiddler, statesman and buffoon, the second and last Duke of Buckingham of the Villiers family (who would have excelled in anything he turned his attention to), "affected the mathematics," but in no mood of affectation, induced King Charles II. (mathematically inclined himself) to make Wilkins Bishop of Chester, and Wren surveyor of the works to the Crown. This fact of good service to Wren, to science, and to all time, has been made known to us by no less a person than Pepys, whose means of information were ample and reliable.

The Great Plague of London (1665) drove Wren abroad; and the Great Fire of London (1666) hurried him home again. That he was not idling, with "thoughts close and looks loose" (Wotton's advice to Milton on his travels), we need not be told. Of what he saw and thought, a few memoranda have recently reached us, through the diary of a son of Sir Thomas Browne (Religio Medici), who saw him at Paris, busy comparing and copying materials to affect hereafter, not his style of architecture only, but the architecture of the whole island. The Louis Quatorze style at Paris, caught and imported by Wren, may be traced from Wren to Vanbrugh; from Hawksmoor to Gibbs; from Gibbs to Lord Burlington; from Lord Burlington to Sir William Chambers; and from Chambers to Sir John Soane and Mr. Regent Street Nash. Would Inigo's correct taste have been alike corrupted?

Wren had two wives: Faith Coghill, daughter of Sir John Coghill, of Bletchington, in Oxfordshire, was the former; Jane Fitzwilliam, daughter of William, Lord Fitzwilliam, Baron of Lifford, in Ireland, the latter. When and where his first marriage took place no one has told us. Doubtless at Bletchington, and in the church of Dr. Holder. What does the marriage register say? Did Dr. Holder marry them? The *Builder* is sure to have many readers in Oxfordshire: will some "constant reader and admirer" search the registers of Bletchington, and enrich our materials for a new, full, and illustrated Life of Wren?

Touching his second marriage, we can find in print, but not in any life, memoir, notice, or account of Wren, when, where, and by whom Sir Christopher was married. We have no Shakespeare and Anne Hathaway difficulty, or Vandyck and Mary Ruthven difficulty, with Wren's second marriage. It was a Chapel Royal affair, and within St. James's Palace. The service was performed by the sub-dean of the chapel, on the 24th day of February, 1676. The sub-dean who married them was the bridegroom's brother-in-law, Dr. William

* See, as recently known *confirmatory* proofs, Aubrey's "Wiltshire," by Britton, p. 80; and "Catalogue of Ashmolean MSS.," by Black, p. 80.

† See Pope's "Dunciad."

Holder. This "date-mark" (is there such a word?) I find in Mr. Burn's "Parish Registers," p. 121.

In the Life I wrote of Inigo Jones I had occasion to correct and set right the nature and amount of the emoluments he received as Surveyor. A payment to Wren for the like office is new to our materials for his life. Here it is:—

"To Sir Christopher Wren, Knt., Surveyor of the Works, for his Entertainment at Eight Shillings per diem, for recompence of his availes at Eighty Pounds per Annum, and for an increase of his entertainment at Five Shillings and Two Pence per diem, which said Allowances were granted to Sir John Denham, Knight of the Bath, late Surveyor of the Works, by the Orders and Instructions of the 4th February 1662, during his life only, and continued to the present Surveyor by His Majesty's warrant under His Royal Sign Manual and Privy Signet dated 27th September 1675."

Contrast, if you please, Mr. Editor, Sir Christopher Wren's remuneration with the sums paid to Sir William Chambers for Somerset House, to Sir John Soane for the Bank, to Sir Jeffery Wyattville for Windsor, nor overlook Sir Charles Barry's much canvassed and grumbled at percentage for the new Houses of Parliament.*

That Wren, in his old age and on the accession of the House of Hanover, was set aside as Surveyor to the Crown and in favour of Benson ("to oblige Benson"), is a well-known fact, made additionally touching by the pathetic and sarcastic turn given to it by the poet of Twickenham and "all time." The date of deprivation (omitted by his biographers) was the 14th of April, 1718. Another fact, first *published* in 1837, that Vanbrugh might have had Wren's place, and refused it "out of tenderness to Sir Christopher Wren," as Van himself informs a friend, is not so well known as it deserves to be. Shadwell had no such generous feeling towards Dryden, and was rewarded accordingly. This is characteristic, nay more, confirmatory of every known act in the life of "a man of wit and of honour," for such was Vanbrugh, as the twin satirists (Pope and Swift) publicly in print freely acknowledge him to have been.

An "estimate" framed by Wren—the only one I have ever seen of his—will be read with interest, not by architect, antiquary, and advertiser alone, but by all who admire the noble building it relates to:—

"*Estimate of finishing part of Hampton Court.*

To the King's Most Excellent Mtie.

May it please yr Mtie your Mtie having been graciously pleased to signifie yr Comandes to me, that I should give an Estimate of the expense of fitting the Inside of the Roomes of State at Hampton Court, from the Entrance out of the Portico to the roomes already finished aboue staires, containing the Great Staires, the Guard Chamber, the Presence Chamber, Privy Chamber, Drawingroome, Anteroome, Great bedchamber, Lobby and Gallery for the pictures; in pursuance of this comand I humbly represent—That although a perfect estimate of Finishing the Inside of any house is as uncertain as the charge of furnishing, and is more or lesse according to the intention of the Owner; yet upon supposition that your Mtie would finish as decently as the greatness of the Roomes seemes to require, and having consulted your Mtie's Officers of the Workes what is requisit to be don & the charge of Each Roome, I have represented the Worke of Each Roome, and the totall Expense as followeth:—

1. The great staires to be made with steps of the Irish stone, such as are at Kensington, but longer and easier, with iron Rayles of good worke; the floor and harthplace to be well paved with marble; the walls to be wanscoted 20 foot high with fine dorecases.

2. The Guard-chamber to be fitted for Armes as at Windsor, and other Houses.

3. The Presence-chamber to be fitted for Hangings, with Marbles in the Chimney and Stooles of the Windowes and proper Ornaments.

4. The Privy-Chamber in like manner.

5. The Drawing-Roome with some variety as having the best Furniture.

6. The Anteroome well finished.

7. The Great Bed-Chamber to be perfected.

8. The Gallery to be fitted for the Cartoones with Wanscote on the Windowe-side and below the Pictures, and between them, and with Wanscote behind them to preserve them from the Walls, and with a Marble Chimney and Marble Soyles in the Windowes, and other things proper to complete the same.

9. The Lobby between the Presence and the Gallery to be ceeled and finished.

10. The boardes of all these Roomes (being allready provided very good and drie) are to be laid after the best manner, without Nayles, and with battens under the joyntes.

The Expense of this Work thus performed by good Artists will amount to the sum of 6,800*l.*

All the insides of these Rooms have been long since designed, and shall be presented to your Mtie for your approbation and correction, and accordingly the expense may prove more or lesse, but I am humbly of opinion the Worke may be decently performed to your Mtie's satisfaction for the sume above mentioned.

It may be farther considered, that other things will be required for the accommodation of those who are to be neer your Royall person, and that the Courtes must be paved, more Sewers made, and the Water brought to more places; and other things necessary for your Mtie's service; which may be estimated as they are directed: all wch is most submitted. CHR. WREN.

April 28, 1699."

The careful reader will observe that there is in the estimate no E.E., or errors excepted; nor will he omit observing how the "may be" of the concluding paragraph may be said to foreshadow, not an amended, but a supplementary estimate.

The admirer of Wren—and what man with an eye in his head is not an admirer?—will turn time to good account by studying, with reverential care, the collections of drawings, elevations, &c., made by our great architect, and preserved to us through the zeal and admiration of Sir William Blackstone ("Commentary" Blackstone) and Sir John Soane. The former collection, by far the more valuable of the two, is to be seen in the library at All Souls' College, in Oxford. The latter is in the Soane Museum. They are the pick and sweepings from young Christopher Wren's sale of what must have been a noble accumulation of great fulfilled and unfulfilled designs. It is with architects as with poets, if we may trust Waller:

"Poets lose half the praise they should have got,
Could it be known what they discreetly blot."

The All Souls' Collection forms three atlas-sized volumes, and contains many first thoughts and finished combinations for St. Paul's, for Bow and St. Antholin's, for the Monument, and Whitehall. No. 39 of vol. i. is a very fine west front to St. Paul's; No. 76 of vol. ii. is Bow, complete and fine; No. 106 of vol. iii. is a river front to Whitehall, with Inigo's Banqueting House worked in—extremely grand. The whole series should be framed and glazed, exhibited, and finally engraved. What say you, Mr. Editor?

We have few personal memorials immediately connected with our great men. A reflecting telescope made by Sir Isaac Newton's own hands may be seen in the Museum of the Royal Society, and the compasses used by Wren seen in the Soane Museum. To touch memorials so full of associations requires courage and even ignorance. "With reverence look," as Dryden looked on Kneller's present to him of Shakspeare's portrait, "proud to be less but of his godlike race." We have no such familiar fireside memorials of Shakspeare or Milton, of Bacon or Clarendon. Where is Shakspeare's second-best bed? Where is the "Sic sedebat" chair of Lord Chancellor Bacon? The manuscript of young Wren's "Parentalia" is in the library of the Royal Society; the MS. of the "Principia" in the same resting-place. The MS. of Milton's "Lycidas" is at Cambridge. But where are the original MSS. of any one line of any of "Mr. William Shakspeare's comedies, tragedies, histories," &c., or any scraps of his handwriting, his name excepted, other than the farewell words of his last *will*, "*By me*, William Shakspeare"? PETER CUNNINGHAM.

* Wren himself told Aubrey that his predecessor, Denham, in his short surveyorship (seven years, at the utmost), got seven thousand pounds by his office. ("Aubrey's Lives," ii. 319.) One thousand a year in 1662 was equal to how much in 1862? Three thousand?

THE SANITARY STATE OF ISLINGTON.

THE Medical Officer of Health for the parish of St. Mary, Islington (Dr. E. Ballard), has made his sixth annual report, an elaborate and instructive one, to the Vestry. This report has been printed, and deserves consideration.

In the outset Dr. Ballard states that by means of information obtained from the Registrar-General, he has been enabled to map out his parish into thirty-five separate districts, the sanitary state of each of which he can thus to a certain extent observe; and he not only makes good use of the information thus afforded him, but has prepared a map of these districts with various statistical particulars marked on it; and the map has been printed along with his report. This map indicates a very important step towards a thorough knowledge of the actual and local nests of disease and the probable causes of increased or diminished mortality. The report also shows an increasing knowledge of the amount of sickness as well as of death from disease in the several localities. This constitutes another important step in advance, for which the public are indebted to Mr. Edmonds.

"Two thousand nine hundred and forty-one persons (exclusive of strangers in hospitals) died in the parish between January 1st and December 31st, inclusive. Assuming our rate of increase last year to be the same as during the ten previous years, our population in the middle of the year would be 157,130. The death-rate of the year then was 200 in each 10,000 persons. That of London at large is stated by the Registrar-General to have been 232.

One thousand four hundred and five of the deaths were of children under five years of age: they constituted thus 47·7 per cent. of the whole number of deaths. This is a somewhat smaller proportion than in the previous year, but the full value of the number cannot be estimated until the Census tables are published, which will contain the population under five years of age.

From these numbers we are now in a position to calculate approximatively the amount of sickness prevalent in Islington during the year by the application of the law recently laid down by Mr. Edmonds. The law is, that 'the numbers *constantly* suffering from *acute sickness* at any year of age (from fifteen years upwards) will amount to double the number of yearly deaths, and the number of *invalids or permanent sufferers* from *past* sickness will be equal to the number of annual deaths.' Consequently, during the past year, in Islington, there were on an average *constantly on the sick list*, unable to work at their occupations, unable to gain their living, unproductive, thrown upon the resources of their former providence, upon the kindness and means of their friends, or compelled to seek relief from the poor-rates, as many as 4,119 adult persons, of whom one-third, or 1,373, were persons permanently disabled, who will never be able to support themselves again out of earnings of their mental or bodily labour. What proportion of our adult population this number forms will appear at some future time. Mr. Edmonds's law does not apply to children; but it is to be observed that much of the permanent disability of adult age, and the liability to attacks of sickness which interfere with the working power of the adult, is a legacy of infantile disease.

Here, then, is the significance of my mortality table. It means something more than that our population has been reduced by so many: it has a political and social meaning, which is capable of a *money valuation*. Every death of an adult is a *money* loss: every sickness is a *reduction of wealth*; represents an additional *burthen upon a family*, often ill fitted to bear it; or an imperative *demand upon the purse of the ratepayer*. Every one of the persons referred to is, on the estimate of Dr. Farr, disabled for an average period of thirty-six days, or loses one-tenth part of his yearly earnings in consequence of sickness. Adult sickness represents a ten-per-cent. income-tax,—a tax, too, which does nobody any good."

The death-rate for the whole parish being 20·0 per 1,000, that of the several sanitary districts set out varied from 8·5 in Hornsey Rise district to 33·5 in Balls Pond district. Assuming, with Dr. Farr, a mortality of 15 per 1,000 as a standard mortality for a healthy district, there were ten out of the thirty-five districts in which it was lower than this; viz., Hornsey Rise, Hornsey-road, Tufnell, Market, Highbury-hill, Belle Isle, Rydon, Highgate-hill, Archway, and Park-street districts.

Referring to a table of the districts, dividing them into three classes, the third of which comprises chiefly the poorer localities, the reporter says:—

"In this *third* group there were probably to be found, at any moment during the last year, 1,109 families in which one of their few working adult members was unable, on account of sickness, to assist in supporting the family which depended upon them for subsistence; and of these, one-third were persons not only unable to work, but who never will be able to work again. And, considering the improvident habits of this class of people, the burthen of making up the deficiency from this cause has fallen mainly, directly or indirectly, upon the poor-rates. If we only calculated the earnings of such people at a shilling a day (and twice that amount would be nearer the truth), the amount which it has been necessary to make up, either from this source or from private or public charity during the year, could not have been less than 17,355*l.* To this may be added, at least, half as much again, for those parts of the districts of the first and second groups which shelter a similar population. And, even then, we shall have arrived at an amount of loss which must be regarded as far below the truth. I do not say that all this sickness and all this public loss of money is due to causes over which a vestry has control, but some of it is."

On the subject of infant mortality, he says:—

"The children who died in the parish under five years of age were 1,405. Of these, 748 had not reached the termination of the first year of their existence. I do not know, as I have at present no means of calculating, what proportion these 1,405 bear to the number of children within the age of five years living in the parish; but it is apparent that, as there were 35,230 families in the parish on the 8th of April, one in every twenty-five of these lost a child by death during the year. Again, as there were 5,355 children under one year of age, born in the parish, and alive at some time during the year, it may be estimated that about every seventh of them died before their first year of life was out. If you consult the table on the map, you will see how differently this mortality was distributed throughout the several districts. In some, it was only 1·8, 2·9, 3·6, 3·7, in the 1,000 who died thus young. In others, the number varied from 10 to 18 in the 1,000. Is it credible that, in the extremes of the two classes, there is a difference such as exist between 1 and 10, or even 1 and 5? Probably, before the period of my next report, I shall have some definite information on this

point,—one on which it is of the highest importance I should be informed. In the mean time, I have instituted a limited inquiry as to the proportion of children under five years in several streets occupied by the labouring classes; and I find them to amount to about 20 per cent. of the entire population of those streets; that is, out of a population of 4,759, there were 961 children under five years of age. At the census of 1861, the children under five years of age formed about 12 per cent. of the entire population of the parish. In these same streets, 83 children died during the year under five years of age, being about 17 per 1,000 of the whole population, and 84 per 1,000 of the population under five years. In some of the streets entering into this enumeration, the mortality was, last year, much higher than I have stated. Thus, in Nelson-place, Nelson-buildings, and Nelson-cottages, City-road, it was at the rate of 187* per 1,000; in Halton-place, 161 per 1,000; in Newhall-street, 140 per 1,000; in Albany-place, Queen's-road, 173 per 1,000; in Bemerton-street, 166 per 1,000; in Clayton-street, 112 per 1,000, of those living under five years of age."

Referring to a table showing the proportion of families to each death of a child under five years of age in the several sanitary districts and groups of districts, Dr. Ballard says:—

"This table is to some extent trustworthy, as indicating differences of sanitary condition in the several districts, or, at any rate, among the districts in the same group. Thus, we have at the two extremes, Hornsey Rise presenting us with only one infant death in every 94·6 families, and the Irish courts showing one in every 12·7 families, and Balls Pond in every 12·9 families. In the first group we have the infant deaths ranging from one death in 94·6 to one in 25 families, with a mean of one in every 36·3 families; in the second group, from one in every 55·6 to one in every 17·4 families, with a mean of one in every 29·2 families; and in the third group, ranging from one in every 27·8 to one in every 12·7 families, with a mean of one in every 19·3 families; and it is to be recollected that it is *home* conditions which, above all, regulate infant health. Where I find a high infant mortality, it is to that street or district my principal attention is always directed for the discovery and removal of local conditions of ill health, the abatement of overcrowding, dirt, and the occupation of kitchens as sleeping-rooms.

And in respect to kitchen occupation, I have a word to say about two of the districts in the first group. It will be observed that Shepherdess and Mildmay districts stand very high in their infant mortality, and last year they stood nearer in character to some of the better districts in the third group than to some of the worst in their own. I do not wish it to be understood that the practice I am about to mention is the main cause of this; but it is well known that most of the new houses in these districts are constructed with what are termed breakfast parlours in the basement; otherwise, what would be front kitchens are metamorphosed into sitting-rooms, in which the younger members of the family spend much of the day. This practice is reprehensible. Such rooms are usually imperfectly ventilated: if there be any dampness in the house, it is there that it will be found; and if there are any noxious exhalations from the drains or foundation of the house it is there that they will be most concentrated. When visiting sick persons in houses thus arranged, and also when making official visits to them, I have constantly taken the opportunity of expressing this opinion in private by way of warning: I now state it publicly. From what I have myself seen of the use of such rooms, I am satisfied that the health of the children would be better were it abandoned."

On the subject of local diseases, the reporter wisely remarks that "Among adults the natural changes of advancing age are too often accelerated by intemperance and the wear and tear of ceaseless toil and anxiety. Both with a view to lessen the mortality from these groups of maladies, as well as from consumption, it is the duty of a sanitary officer, by the expression of his opinion, to encourage and commend all efforts for the abridgment of the hours of work; especially of desk, of office, and of shop-work, any rational and practicable scheme that may be proposed for diminishing Sunday labour, for promoting healthy recreations, for providing public parks, and for facilitating access to the quiet and soothing influence of the country. For our own parish, I regret yearly the slow progress of the scheme for providing such an invaluable health-resort for our population as the Finsbury Park promised to become."

* The continuance of such a death-rate as this would involve the almost entire extinction of the rising generation in the course of five years; or, in other words, there would be almost no increase of population by the births occurring there.

SALVIATI'S MOSAICS AND CHALCEDONY-AGATE.

On more than one occasion we have spoken of the gold and coloured mosaics manufactured by Lorenzo Radi for Dr. Salviati, and of the establishment for their production founded and most energetically advocated by the latter in Venice. Some further particulars, however, at this time, when fresh means of decoration are being looked for, will probably interest many of our readers; and we advise them, with reference to the subject, to look to the works sent by Dr. Salviati to the International Exhibition. In 1861, a commission appointed by the Imperial and Royal Academy of the Fine Arts, in Venice, reported,—

"That the gold enamels for mosaic work, submitted to the judgment of the commission, were superior, from the brilliancy and transparency of the crystalline or vitreous layer, not only to those previously manufactured by Radi, but even to some of the ancient ones; that the crystalline portion had reached the highest degree of perfection, being much finer and more delicate than that formerly made by Radi, and perhaps even than that in the ancient mosaics, by exhibiting a compactness and an adhesiveness to the underlying layer, so as to secure the greatest possible durability; that this last quality resulted, likewise, from the nicety and exactness of the cutting, from the sharpness of the angles, and from the fineness of the edges, just because crystals, less compact and adhesive, would have cracked at their edges, or would have become detached from the gold leaf at the moment of cutting—though the instruments employed for that purpose by Radi appear to be perfect.

That the commission consider the pieces, now supplied by Radi, to be superior to those previously made by him, both on account of the lustre and continuity of the gold leaf, and from their presenting neither scratches nor swellings."

What they found of new on their visit was, in the first place, the mode of cutting the enamels for mosaics; and, in the second place, the manufacture of the chalcedony-agate. The cutting of the enamels, has reached a high degree of perfection. The gold and silver enamels are cut and reduced to every possible form, ornamental as well as geometrical, as if the materials could be worked with the greatest ease, instead of being, as they are, very hard, and most difficult to cut; and this extreme nicety in the cutting they regarded as a special characteristic of the present establishment, because, hitherto, it has been obtained by no other craftsman, nor in any other place.

Hence the idea of Dr. Salviati to extend the application of gold, silver, and coloured enamels, hitherto limited to mosaics for churches and mosques, by employing them not merely for such purposes, but likewise in the decorative arts, and in the fitting-up of dwelling-houses. No one can well imagine beforehand, how large and fertile a field is opened up to these most important arts by the employment of this new species of material. The attractiveness, the vivacity of the tints, infinitely superior even to those employed in fresco painting; the transparent colour of the material; all these present new modes of ornamenting, in the most artistic manner, any building. The specimens of pavements, of wall and roof decorations, of basements, of borders for doors, exhibited, give a good idea of what might beeffected by mosaics as a decorative art.

Some of our readers know, but others do not, the difference between coloured enamels and those of gold or of silver, whether as regards their nature, or the mode of manufacturing them. Coloured enamels are made of vitreous paste: paste being the term by which, in glass-making, artificial stones are familiarly known. They are formed of the same siliceous and other materials of which common glass is made; but to these materials are joined other mineral elements, which, when fused along with them in the furnace, impart to the vitreous paste its density and its colour. In this way, the greater or less degree of opaqueness, of purity, and of solidity of the enamel, the quality and beauty of its colour, and even the most varied and endless shades of the same tint, are all dependent on the quantity and quality of the mineral elements aforesaid, in union with those of common glass, and on the degree and continuance of the heat to which the whole composition is subjected in the furnace.

Gold or silver enamel, on the contrary, is the result of a very different operation. On a thick layer of glass, or of enamel—according as it is intended to render the gold enamel transparent or the reverse, or to impart to it a warm and varied colour—there is laid and attached by the action of fire a sheet of gold or silver leaf; then a coating is added, almost as thin as a hair, of the purest glass, which may be either colourless, or of any shade of colour wished for. Thus, these three layers, poured and fused together, remain perfectly united with each other, so as form a single body. Should it so happen that the fusion is completely successful, then the metal will be protected for ever against all possibility of injury, from exposure to the action of the air and of the atmosphere, from dust, from gas, from smoke, from insects, in such a way as to lose nothing of its purity and its splendour. When this most delicate upper coating of glass possesses the requisite fineness and purity, and when the entire extent of the sheet offers no inequalities of thickness, the gold or silver appears in all its natural beauty; and the glass, with which it is covered over, is scarcely discernible at all. When the reverse of this occurs—when the gold remains, so to speak, entombed between the upper and under layers, and cannot present a proper surface (and this invariably happens in the attempt to manufacture mosaics by simply placing the gold between two sheets of glass, instead of thoroughly blending the three layers by a process of fusion), the consequence is that the eye is arrested by the glass instead of by the metal, and the mosaic has the unattractive appearance of being varnished over. The like happens with coloured enamels, especially when they are used for monumental mosaics, if they are not made sufficiently opaque; that is to say, if they present to the eye the shining appearance peculiar to common glass.

With these data, it is easy to understand that the manufacture of enamels in general, and especially of those in gold and silver, is attended with very great difficulties and inconveniences.

Amongst the difficulties is the peculiar character of the material on which the artist in mosaics must work, and, consequently, to extreme liability of breaking, especially at the sides and at the corners. It is impossible, therefore, to use the ordinary instruments employed in the cutting and perforation of wood, of marble, and even of *pietre dure*. Great excellence has been attained in this cutting of the gold and silver enamels.

By means of the new process, pieces of gold enamel are obtained of a tolerably large size, and of a surface so variously curved and moulded as to be capable of receiving the most varied forms, and to be employed in almost every species of ornamentation. They are thus enabled to produce, with gold enamel in relief, frames of various sizes and patterns, for pictures or for mirrors, cornices for curtains, curtain hangers, ornamental leaves, rosettes, heads and figures of animals, fluted and spiral columns, &c., &c. This process, therefore, gives us all articles of ornamental furniture in imperishable gilding, because the gold in the same remains always covered with an inseparable glass film. It is thus applicable, in combination with coloured enamel, to the inlaying of furniture of every kind, as well as to the decoration and ornamentation, both internal and external, of houses, of public halls, or of private rooms, of theatres, of cafés, of cemeteries, of tombstones, of ornamental fountains.

We may also call attention to another invention which is a speciality of the Salviati establishment. It consists in obtaining, from the tablets of gold enamel (the gold leaf being cut in different forms and fashions), inscriptions, names, numbers, words, lines, and large alphabetic ornaments. The innumerable applications of this peculiar invention are evident at a single glance.

The manufacture of chalcedony-agate—a peculiar species of paste or composition of great beauty—is another speciality of the mosaic and enamel establishment of which we are speaking. They reproduce many varieties of the numerous family of agates; for example, jasper, onyx, sardonyx, lapislazuli, and cornelian.

In this composition, like that of the other enamels, the basis is vitreous; but it contains, in addition, a large quantity of metallic elements. It is by the difference in the number and in the proportion of these metallic elements, as well as by the difference in the period of their exposure to the action of fire, that the quantity, quality, and variety of tints are obtained.

The original invention of this composition is ascribed to Domenico Miotti, a celebrated worker in glass, in the island of Murano, in the thirteenth century.

Radi, animated by his great enthusiasm for whatever relates to the art of glass, proposed to himself the task of re-discovering the secret; and, after twenty years, succeeded in producing artificial chalcedony-agate. For so doing, he obtained a medal from the Imperial and Royal Institute of Sciences, Letters, and Fine Arts, of Venice.

The chalcedony-agate, now produced at the Salviati establishment, has attained a high degree of perfection. Not only are there formed by ordinary glass-blowing, vases and other articles mixed with patches or veins of avventurine, as in the ancient specimens, with tints and types on so large a scale, and with forms and dimensions so large, that the ancients never produced anything similar, but even more important results have been secured. They obtain, by casting or moulding, pieces or tablets of a considerable size and thickness, and of whatever form may be desired. These tablets, after having been polished, burnished, and cut, are admirably adapted to all works of mosaic, inlaying, or marqueterie.

We have referred at greater length to these mosaics, because of the praiseworthy endeavours now being made, by Mr. Cole and others, to obtain mosaic decorations for the permanent portion of the Exhibition building. The clay mosaics have an opacity and deadness which render them not wholly satisfactory; and it is worth consideration whether or not vitreous mosaics should not be used with them to give vivacity and sparkle.

We view the attempt at South Kensington with the greatest possible interest, and would aid it any way we could. We hope, therefore, we shall not be misunderstood when we say that the cartoons now exhibited in two of the compartments are very unsatisfactory; and that it would be altogether a waste of money to produce them in mosaics. They are no better than paperhangings, and give pleasure to no one. Strong outlines are needed for works of this kind, without fine shading; and, above all things, there must be a strong human expression. We re-assert, that to reproduce these cartoons in mosaics would be an unfortunate waste of money. We have waited, hoping that others would have saved us from the necessity of speaking a disagreeable truth; but, as it is not so, we may not longer remain silent, and so allow judgment in favour to go by default. Fresh cartoons should be obtained.

FULHAM, KEW, AND KINGSTON BRIDGES.

Mr. Oliveira, as chairman of the select committee of Metropolitan Bridges of 1854, has published a letter on the subject of the Thames bridges, in the course of which he says:—

"Fulham Bridge, to which public attention is at present directed, was built in the year 1729, at a cost of 23,975*l.*, including 8,000*l.* paid as compensation to the owners of horse and foot ferries then existing. This capital was afterwards transferred to thirty subscribers of 1,000*l.* each; and, looking to the high tolls that have prevailed for one hundred and thirty-three years, it is fair to presume that the proprietors have received both capital and interest long since. The average revenue for the seven years from 1844 to 1850 inclusive was 3,542*l.* 19s. 9d., which, at twenty years' purchase, would give 70,859*l.* 15s., or 2,361*l.* 19s. 10d. for each share, originally computed at 1,000*l.*

It is calculated that a new light bridge might be built near the present antiquated deformity at a cost of 50,000*l.*, judging from the estimates and contracts made for the new Lambeth Bridge, designed by Mr. Barlow, now under construction, where property, most likely, has a higher value than at Fulham.

I would venture to suggest that the heavy unsightly water-pipes which form so disagreeable an object across the river, just above the present Fulham Bridge, might be incased in some ornamental ironwork, and form the lower portion of the new bridge, if there be no engineering difficulties.

Assuming the above calculations to be correct, a very low toll would suffice to pay a fair dividend; and the present dangerous, ugly structure, might be left to its fate.

Another mode of dealing with the subject presents itself,—namely, to make terms with the proprietors of the existing Fulham Bridge; giving them a proportion of the capital in the new bridge; thus saving any outlay in approaches. In this alternative the new bridge might be built half the width at a time, as in the case of Westminster, by which no interruption of the traffic would take place. * * * *

Kew Bridge is a bad case for the public. It belongs to one individual, a Mr. Robinson, who purchased it for 20,700*l.* some years ago. The gross receipts in 1843 were 2,121*l.*, and in 1853, 2,750*l.* 10s., the annual outgoings being about 210*l.* So that, if the two years of revenue given are about an average, there would be a clear minimum dividend of about ten per cent. There is no clause in the Act of Parliament to enable the Government to purchase. The inhabitants of the neighbourhood appear to desire its being thrown open, which they think would have the effect of enhancing materially the value of the adjacent property.

Kingston Bridge was built by Mr. Lapidge, the surveyor for Surrey, in 1828, the money being raised by loan from the Exchequer, amounting to 45,000*l.*, which is paid off by annual instalments; and in 1854 there remained due to the Government 31,000*l.* The average annual payment to the Government on account of the loan is 700*l.* or 800*l.*; and it was calculated by witnesses examined before my committee that the whole debt would be paid and the bridge thrown open about 1879.

It appears, by charters and other documents affecting Kingston Bridge, that, from at least the period of the reign of Queen Elizabeth until the year 1829, the said bridge was free of toll to all persons having occasion to pass over the same between the counties of Middlesex and Surrey; and the opinions of the inhabitants, by petitions and witnesses examined, were unanimously in favour of opening the bridge free; stating 'That the tolls are very vexatious in their collection, and in their obstruction of the public, and very detrimental to trade and to free communication; and instances have been adduced without number of the mode in which people put themselves to considerable inconvenience to avoid the tolls—inconvenience, probably, of ten or fifty times the amount of the actual toll, as many persons will consider it.'

The gross revenue of Kingston Bridge is about 2,500*l.* annually.

It would be judicious even, referring to the value of Crown property in that locality, for Government to remit the debt and throw the bridge open."

FOREIGN RAILWAYS.

The concession of the railways of the Island of Sardinia has been given to Mr. Semenza, of the well-known firm of Semenza, Mazzini, and Comber, silk merchants, of London.

Subsidies have been voted for experiments to be made on the invention of Signor Agudio, the object of which is to enable ordinary trains to overcome steep railway gradients.

The railway from Moscow, as far as Nijni-Novgorod, was opened to the public on the 13th inst. The journey is performed in sixteen hours.

FROM PARIS.

The new buildings of the Théâtre Français, nearly finished, have been stripped of their inclosure of planks. The façade of the Rue Saint Honoré is composed of a projecting centre portion of thirteen openings in front, flanked on either side by wings. The centre portion forms, on the ground floor, a long colonnade, of the Tuscan order, under which are the offices, vestibules, and other dependencies of a theatre. Above this runs a cornice, on consoles, serving as a base to a row of Composite pilasters: these pilasters adorn the first floor, over which is a half-story or *entresol*, and support the first entablature. Above these stand an attic story, decorated with pilasters, supporting the second entablature: it is crowned by a balustrade ornamented with vases and trophies, and encircling another story of mansards.

On the first floor the architraves of the windows are richly carved: on the second floor they are adorned with garlands: all the consoles are delicately chiselled, and the tympana adorned with subjects. This façade, seen from the Rue Saint Honoré, presents pretty harmonious lines; but the building is described as too heavy for the slender columns below.

On the Boulevard du Temple the demolition of the theatres has been commenced: most of the trees which shaded the fronts of these theatres have been carefully transplanted to the Boulevard des Filles-du-Calvaire, before the Cirque Napoléon.

At the terminus of the "Nord" railway the works of the new station have been carried on with activity, so that at present one can judge of the *ensemble* of its immense façade. In the axis of the Rue de Denain stands the centre semicircular opening: on the right and left are two others, also semicircular, but of smaller dimensions, forming appendages to the centre one. These three arches will be grouped together by an ornamental gable, and will constitute the most salient portion of the edifice. On each side of this central pavilion an octastyle colonnade will be carried: the first floor will be adorned with statues of the principal manufacturing towns of the north. These colonnades will be joined to the pavilion at the angles, which are encased by coupled pilasters, ornamented by columns on the ground and first floors, and surmounted by triangular pediments, whose projections will correspond with that of the great central gable.

As to the ornamentation, the style, with the exception of the statues of the acroteria, will be very sober in details; and the columns will be of the Doric order. The architectural style of the façade will be suitable to a monument of such importance. It is to be regretted that it is impossible to obtain a view of it except at a short distance. In the interior the long gallery, which stretches at the right of the departure-court, opposite the new buildings of the Administration, is mainly terminated: the roof is just finished. This portion consists of a ground floor only, 24 intercolumniations in length, with corresponding pavilions at each end. Behind this gallery, and in a parallel direction, appears the left side of the new station: this is a long series of arches surmounted by discharging arches, which support the roof. Each of these latter arches embraces two of the lower ones. In the departure-court, opposite the entrance-gate, the pavilion is nearly finished: it consists of three semicircular arcades: that of the middle is surmounted by a pediment, with a circular window or opening for a clock-dial.

The works for the establishment of the Napoleon III. Museum, at the Louvre, not being terminated, the exhibition of this museum at the *Palais de l'Industrie* will continue open till the 1st of November.

THE SECURITY OF OUR BRIDGES.

It is needless for my purpose to advert further to the observations which were lately made in the House of Commons, as to the shaky state of the new Suspension Bridge at Battersea; but I would say one word upon the statement of a friend (for I have myself not yet walked over it), that the new Westminster Bridge shakes so much that he felt very uncomfortable when standing to look at the passing river traffic; and that this has been endorsed by another, who remarks that "it is too shaky for permanence;" and, being a C.E., his opinion may be thought of more value than that of the first, a visitor only. These observations, however, are merely preliminary to the object of this communication, which is to draw some attention to the mode of carrying the roadway of the new Railway Bridge at (Hungerford Market, I suppose, we must not say any more, but) Charing Cross. Having lately had occasion to cross by the old, and now by the assistance of a portion of the new, bridge, I have been greatly interested in the progress of the construction of the works. On the south side, the engineer having commenced the formation of the roadway, I eagerly looked to find to what use those peculiar angle-irons which drop below the two main girders were devoted. These angle-irons consist of two on each side of each girder, that is, there are *four* on each side the roadway. They are each fastened to the side of the bottom iron of the girder by *five rivets:* they are each about 4 inches wide on the inside (I say *about*, because they cannot be reached from the temporary roadway to be measured, but they do not look even 4 inches), and have *seven rivet*-holes in the portion below the girder. To my astonishment I now see that they are intended to carry the iron beams which are to form the roadway: these are made in one piece, to go past the angle-irons and project beyond the girder, to form, I presume, the footpath outside of it. Thus the roadway, and of course the railway trains, are carried by $7 \times 4 = 28$ rivets! and this same weight is secured to the girders by $5 \times 4 = 20$ rivets,—a simplicity of construction to which, as an architect, I should have never thought of trusting. In my simplicity I had always presumed that these same road beams would at least have been carried on the lower flange or plate of the girder, as is usual; and never for once imagined that those huge constructions now spanning the river were only required to drop ropes with some nails stuck through them (in comparison of size), to carry the main way and traffic of the bridge. I have only to add that these road-beams are placed at distances of eleven feet; and that, whilst expressing not my own feelings only of an insecurity of construction in this matter, I would respectfully ask the eminent engineer of this bridge, to afford the public some assurance on this point.

I have noticed that the trains, when going over the new railway bridge at Battersea, generally abate their speed considerably; and have been informed (not authoritatively, of course) that it is on account of the great vibration which would be caused by the proper rate of travelling.

I have also noticed that a similar, or somewhat similar, system of construction to that just now described is being carried out in the plate-iron railway bridges crossing some of the public roads on the south side of the river. Their appearance is anything but satisfactory; a level line with a lot of projections under it; the projections being the road-beams hung up to the girder, by, I suppose, a proportionate number of rivets to those named in the river bridge. Is not all this, cutting construction a little too fine? Has not a celebrated engineer declared that all rivets, sooner or later, would give way? And, although it may be considered in the scientific world a decided advantage to quit the use of cast-iron in bridges, is it wiser, in a practical view, to trust so entirely to such assistance as rivets?

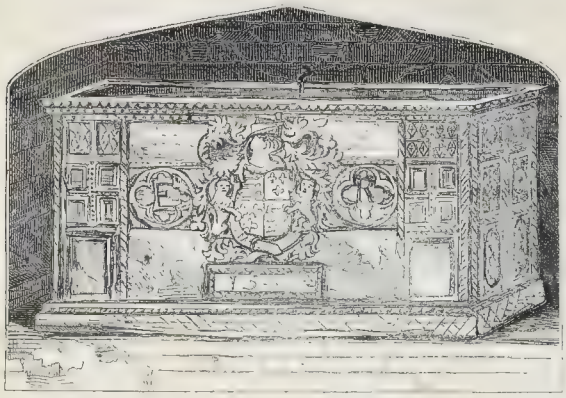
W. P.

P.S. What is doing in the matter of Blackfriars Bridge? I have heard that the whole affair is again put aside, and the bridge to be left as it is.

OLD LEAD-WORK: A CISTERN.

Science has condemned the use of leaden tanks for water; and, indeed, leaden pipes also. Fifty or sixty years ago, leaden cisterns—some of them of large size, and ornamented in various styles and degrees—were to be found in houses of condition, often belonging to the time of Charles II.; and for a considerable period, both before and after, the plumber showed more art than he does now. In parts of England, leaden coffins of great antiquity have been found, which are highly ornamented.

Much as we dislike destroying relics of the past, it is not to be regretted, considering the danger attending leaden cisterns, that within the last half century some thousands of these have been sold and melted in this metropolis alone, not to speak



of those which have been removed from country mansions. In Red Lion-square, Ormond-street, and the places surrounding, examples may still be found of the leaden cisterns of Queen Anne's days, or even older: on these there are armorial and other devices, panels, and monograms.

When recently making some inquiries in the east of London, we met with the curious example of which we give an engraving. The commencement of a date is still legible; 15** and the initals E.R. would seem to point to the reign of Edward VI. or Queen Elizabeth as its date; though the supporters of the royal arms have an aspect of even greater antiquity. The cistern was on the premises of a dealer in building materials, who said that it had been brought from some old premises in Crutched-friars; perhaps the Drapers' Almshouses.

A POOR WOMAN'S GARDEN IN THE CITY.

Reference has been made in our pages to a movement which has taken place in certain metropolitan parishes, to encourage the culture of flowers and plants in such situations as can be found for this purpose; and we are glad to learn that, in consequence of the success which has attended the first attempts, efforts are being made in other directions for a similar promotion of the means of adding a beauty to the homes of the poor. Much is to be done in this way, even under difficult circumstances, where there is an inclination.

As an instance, we give a sketch, made on the spot, near Cripplegate Church, Milton's neighbourhood; which in his day was famed for pleasant houses and gardens: now, the population has become dense, and, for the most part, poor; and the greenery has almost vanished from the view. Our view shows an attempt to bring the freshness of the country into a dark and smoky region of the town. The site of this garden is the flat part of the roof of a small out-house or wash-house. A window of a room projects upon it. This apartment is occupied by a poor but seemingly respectable woman; and in the spring-time it is surprising to notice, although the brightness of Hatfield or Blenheim is not to be found, how pleasant these flowers look by contrast with what is around. The means are very humble. A large bushy wall-flower is planted in part of old an butter-tub: in a common wooden box, a hollyhock is coming up: in an old cracked red jar, which has been obtained from some Italian warehouse, is a lilac, — small and sickly, it must be confessed: near the window is a mignionette-box; and in a cracked teapot are some stocks. There is southern-wood, in fair condition; a creeping plant, which shades round the window; a *fleur-de-lis*, and some other matters. "And, sir," said this gardener, "I have, notwithstanding the cold, had some primroses this season." This scene, which, while it is pleasant, is rather touching to look at, is enhanced by the notes of the blackbird that hangs in its cage against the wall. A little boy near said that, in the mornings, it sung so well, that it was almost as good as being in Highgate Woods; and, as the song of this bird could be heard at a considerable distance, it would not be easy to say how many thoughts of other and pleasanter places might be brought to the minds of neighbours by those notes. A taste similar to this we have illustrated might be very extensively cultivated, particularly amongst the children of the national schools.



DESIGN FOR THE NATIONAL ALBERT TESTIMONIAL.

Now that the public have a definite idea of the Great Albert Memorial, they will be enabled to compare its merits with those of other designs suggested by journalists and correspondents. Amongst the many projects put forward within the present year, there is one so precisely analogous to, so entirely identical with, the committee's decision, only differing by possessing *unity*, that the author's letter would possibly (in the language of certain essayists) be deemed "*post-prophetic*," did not the date of its publication (23rd April, 1862) distinctly negative any such charge. The letter is too long for insertion here, but the following is an extract from the *Frome Times*, of the date specified:—

"Erect an obelisk, a little more lofty than the arithmetical *mean* between the extremes of the most celebrated *civic* columns or obelisks existing. Inclose a place or area around it (the spot on which the first Crystal Palace stood). Raise in front of the column an *abacus*, on which should stand an effigy of the lamented Prince, in bronze or marble. On either hand, or at the four angles of the inclosure, erect porticoes or colonnades, semicircular, like those of St. Peter's at Rome, which are eminently beautiful. Within these open corridors or arcades let mural tablets be inserted and carried all along their length; recording, in characters of marble, the benefits conferred on the arts, sciences, agriculture, and literature of the land, during the too brief life of the eminent man and virtuous Prince to whose honour this expressive testimonial would have been raised. Those who remember the grand entrance to St. Peter's at Rome, with Bernini's glorious sculptures, will at once comprehend the design suggested; and the 'Place de la Concorde' is probably familiar to many of our readers.

Hence, in taking St. Peter's as our great original, let it be added, to anticipate objection, that the proposed graceful obelisk and its accompaniment ought to be a *vestibule* to future hopes, if not to future and lasting evidence, of a nation's admiration and gratitude;—yes, to a permanent *Hall of Science*, to be hereafter erected by wide-spread but *limited* subscriptions, for the result of which little apprehension need be entertained. Prince Albert's virtuous, amiable, and useful character will long live in the hearts of the British people; and most happily has the most popular lyrist of the Georgian era registered such sincere sorrow as that which the nation feels:—

'The tear that we shed,
Tho' in secret it rolls,
Will long keep his memory green in our souls.'"

Fromensis.

LONDON AND COUNTY BANK, LOMBARD STREET.

Our illustration shows the front of the Head Office of the London and County Banking Company, recently erected in Lombard-street, from the designs and under the superintendence of Mr. C. O. Parnell, architect to the company. The bank is unfortunate in its site, owing to the central point being taken up by the adjoining premises that form the angle of Lombard-street with Nicholas-lane. The design, as a whole, had necessarily to be abandoned; and the architect has given his ornament to the elevation in Lombard-street; keeping the front towards Nicholas-lane of a less ornate and more sober character. It should be remembered that the London and County Bank differs in its requirements from almost every other bank in London, in not only having a large town business, but in conducting the agencies of more than a hundred of its own branches. In order to render the whole of the space on the ground-floor available for the working of the establishment, the architect has used in the upper floor steel girders, which occupy one-half the depth iron would have required. Two of these, manufactured by Messrs. Brown, Bragg, & Co., of Sheffield, deflected, we are informed, only 1 inch each with a distributed weight of 200 tons. With the external walls, one large column in the centre sustains the superstructure, containing twenty-five rooms, some of large dimensions. This column is calculated to bear 270 tons. The principal staircase is constructed with reference to economy in space. It is circular on plan; and, with its domed vault and arcaded sides, forms an interesting feature. The bank is lighted by sun-burners, and paved with encaustic tiles, as is also the first-floor. The ground and first floor are both built fireproof. The whole of the Portland stone used in the construction came from old Westminster Bridge; and the upper portion of the front, in Nicholas-lane, is faced with Jennings's patent facing bricks. The basement, with its strong-rooms, having been completed by Messrs. George Myers & Sons (who also supplied the fittings to the bank), the first stone was laid by Mr. W. Champion Jones, the vice-chairman, on the 12th of November, 1860; and the bank was opened for business on the 7th of October following; the work having been carried through by Messrs. Jackson & Shaw. The expense incurred in the erection was something under 21,000*l*.



LONDON AND COUNTY BANK.—Mr. C. O. Parnell, Architect.

THE ART-UNION OF LONDON.

The exhibition of pictures and statuary selected by the prizeholders of 1862 is now open, in the Suffolk-street Galleries. It includes Mr. Hughes's picture, "Bed Time;" Mr. Vacher's "Salvator Rosa in the Abruzzi;" "Rotterdam," by Mr. G. Jones, R.A.; "Bedouins in the Lybian Desert," by Mr. W. Luker; "Sunshine," a bust, by Mr. W. Brodie, and many other very excellent works. The intimation that the life-size marble statue, "The Dancing Girl Reposing," by Mr. Calder Marshall, R.A., will form the chief prize in the coming distribution has already excited very lively interest, and will doubtless lead to a great subscription, especially as every member will receive, irrespective of his chance of a prize, an engraving, after Dicksee, of "A Labour of Love," and a set of sixteen designs, in outline, by P. Priolo, illustrating Tennyson's "Idylls of the King." The "Dancing Girl" is now in the International Exhibition: and it may be worth while mentioning that any member having paid his subscription for the current year may have an additional chance of a prize (but without other prints) for every half-guinea subscribed for that purpose.

IMPROVEMENTS AND NEW BUILDINGS IN NOTTINGHAM.

Amongst other works in Nottingham, a new street is being formed from the Poultry to Carlton-street, with a sub-way for the gas and water mains. A new culvert near the Cork Holes, known as the Leen Culvert, has been built. The length of the tunnel is 3,000 feet; the outer diameter, 12 feet; and the inner diameter, 9 feet 2 inches. The object of the tunnel being simply the conveyance of the Leen water and a portion of the town drainage, the structure throughout its whole length does not present much variation. The contractors are Messrs. Thums, Haw, and Wool: they commenced their work on Whit-Monday, and the time for completing the work is next October; though it is hardly expected that the whole will be completed by that date, as the obstacles already encountered have occupied more time than was anticipated. The cost of the culvert will be between 4,500*l.* and 5,000*l.*

Both these works having reached a certain stage, they were visited, on the 15th, by a large party, invited by the mayor and the committees. A luncheon in the culvert followed; when, amongst other toasts, the health of Mr. Tarbotton, the corporation surveyor, under whose advice the sewerage is being done, was drunk; and that of Mr. T. Simpson, the architect of Mr. Fox, who is building in the new street.

Private enterprise accomplishes in this country what imperial resources are required to perform in others. In few towns has this been more strikingly exemplified than in Nottingham within the past few years. The spirit of improvement has been exerted in a laudable manner: old unsightly slums have been swept away or improved: new streets have been projected and built; and the town, formerly confined within narrow limits, has thrown out offshoots over commons and across reclaimed marshes, in shapely and picturesque forms. But it is in the architecture of the business precincts that the greatest improvement has been made. Two instances of this agreeable fact are now afforded in the formation of the new street to which we have alluded, and in the dwelling-houses at the corner of Clarendon and Goldsmith streets. The former has been designed and is being carried out by the firm of Messrs. Simpson & Lynam, architects.

We avail ourselves of some particulars of these works recently given in the *Nottingham Guardian*.

As far as can be judged of the general effect from what has been already done, the new street bids fair to be highly ornamental. We are willing to hope that the example set will be emulated in the other portions of the street. The whole building will consist of three warehouses. Those to be occupied by the successors of Mr. Fox occupy a full half of the new street. Ashlar quoins divide the pile into three sections, and there are sculptured capitals, projecting heads, encaustic tiles, the polychromatic tints of which contrast with the tone of the stonework. The windows of the first-pair floor have pedimented heads, and enriched consoles with pendent festoons of fruit and flowers, supported by a denticulated frieze. Handsome balconies project. "At first sight, it would seem a subject of regret that Victoria-street has not taken a direct line; but, should the south side be made in a corresponding curve, a crescent effect will be produced, with those splendid vanishing lines and bold shadows which more than justify the departure from the popular predilection in favour of straight streets. We believe we are justified in anticipating that Victoria-street, if carried out in conformity with its commencement, will be a palatial avenue erected on the ruins of slums."

The second work consists of Gothic residences, which are being erected by Mr. Tyers, under the superintendence and from the plans of Messrs. Arthur Wilson and S. Dutton Walker, at the corner of Clarendon and Goldsmith streets. The group consists of eight houses, and is already named the Terrace Royal. The style is the Geometric Gothic of the period of the fourteenth century. The principal and largest house fronts Goldsmith-street; and the chief feature of the elevation is an oriel window, carried through the two stories. The Clarendon-street front is broken into four gables, each of which runs back into a mansard roof; and the elevation is further enriched by two banded columns with richly-carved capitals at the angle, over which springs a gable. At the apices of the gables are foliated iron terminals, with gilt leaves. The spouting is of peculiar design, not having been used, that we are aware of, previously in Nottingham, except in the design for the Grammar School, for which Mr. Arthur Wilson was the successful competitor. When this latter edifice will have been completed, it will strike the eye from a distance as being in connexion with the Terrace Royal; and this idea has been acted upon by the architect as very conducive to the enhancement of the picturesque appearance of that part of the town; and, consequently, to the value of the property in the vicinity. Ornamental iron cresting surmounts the spouting, and adds considerably to the aspect of the cornice. The doorways are in pairs, and the spandrels are sculptured.

It is the intention of Mr. Wilson to make the decorations emblematical of the different arts and sciences; and already four figures have been chiselled representing Music, Painting, Sculpture, and Poetry. The windows of the first story are to have representations of the principal members of the Royal Family; and the heads of the Queen and the late Prince Consort will decorate the oriel window facing Goldsmith-street; the portraits of the other royal personages being placed in appropriate positions in other parts of the buildings. Over the windows of the first story is a label which ramps up and forms a sill under those of the second story. Here the windows are similarly treated, but the ornamentation is obtained by foliage. The top row of windows are, if anything, richer than the rest. The dormer windows are both new in design and rich in effect. They combine the square-headed window—which may be a sash if preferred—with tracery; and on the finials, the monogram V. & A. will be shown in ornamental letters, the device being surmounted by a cross and crown, emblematical of the union of Church and State.

The sculpture, both in Clarendon-street and Victoria-street, is described as being well executed.

FEVER AT ROTHERHAM.

The history of sanitary progress at Rotherham is somewhat peculiar. The local board of health, soon after its establishment, adopted a general scheme of drainage and water supply, which, as the *Sheffield and Rotherham Independent* remarks, "if carried out to the full extent originally contemplated, would probably have placed the town in an excellent sanitary position." Unfortunately, the board pressed on their drainage and water system, without having first secured a good supply of water. The works, both of drainage and of water supply, were constructed, but the water supply on which they had depended failed them; and eventually they found themselves at the end of their pecuniary tether, without having provided a sufficiency of water for flushing either the new sewers or the house drains opening into them. Dread of the popular clamour against farther outlay appears to have prevented the local board from insisting on completing the work they had thus begun; and the consequence was that, water-closets having in many cases been substituted for the old cesspools, the drains and sewers, now far more extensive than heretofore, became choked with filth; and the unwillingness of the inhabitants of the town to expend more money in providing the means of cleansing the drains and sewers by a more abundant flow of water, has led to the inevitable consequence—fever, which has for some weeks prevailed to a fatal and alarming extent. The *Independent*, to whom we are indebted for a review of the past and present state of matters, says that the present number of fever patients cannot be less than from 600 to 700. In six weeks there have been fifty-six deaths from fever alone. Low fever was smouldering for months ere it broke fairly out; and its first victims were by no means of the lowest classes of society—a circumstance easily explainable, considering that it would be the well-to-do who would first have their houses connected with the new sewers, and water-closets substituted for cesspools. These classes, it appears, are still severe sufferers; but the fever soon spread among the classes beneath them, and it is now especially rife in such districts as the Orchard at Masborough. The form of fever at first was what is called "low fever," but it has since become more decidedly typhoid and more virulent, being in some cases fatal in a few days, with excessive discoloration; and where the patient survives it is only in a state of complete prostration. Typhoid fever, we need scarcely remind our readers, is now well known to arise from precisely such a cause as foul drains, while typhus fever arises from such causes as overcrowding and sleeping in close rooms.

The local authorities are thoroughly awake to the true causes of the disease, and are urging on the removal of nuisances and cleansing of ashpits, the deodorization and disinfection by chloride of lime, and the collection of water for increased supply.

Now is the time, however, to bring the local obstructives to their senses as regards the cost of an additional supply of water; and surely the moral courage of the members of the local board will now rise to the requisite pitch to induce them to insist on the effectual completion of the good work so well begun.

SLIP AT NEW LAMBETH BRIDGE.

The accident to the suspension bridge over the Thames, now being constructed at Lambeth, occurred through the slipping of one of the iron saddles over which the wire ropes pass at the abutment, on the Middlesex side. It was, in short, forced out of its place. The road is thrown out of level and the suspenders are slightly out of upright; but the engineer, Mr. Barlow, considers it a trifling matter, and that a very short time will suffice to remedy the accident. We must confess that, but for this assurance, the accident would seem to us likely to entail more troublesome consequences.

RAPID BRIDGE-BUILDING.

At a recent entertainment given to the men at the Viaduct Works, Crumlin, Mr. Maynard, one of the suprintendents, said,—"A stone railway-bridge in Portugal had fallen down: Messrs. Kennard were applied to to replace it with an iron bridge, in the shortest possible space of time. The order was received at the Crumlin Works on the 12th July; and the bridge was designed, made, and on its way to the shipping port, on the 1st of August,—that is, in eighteen working days from the receipt of the order. A few particulars respecting the bridge will show the extent of the work thus accomplished. The bridge consisted of three spans, for a railway, the total length being 230 feet: it was to be fixed on iron cylindrical pillars of 6 feet diameter, and it weighed about 300 tons. It contained 2,500 bars and plates, 530 castings, 30,000 rivets, and 8,500 bolts, the whole of which had to be manufactured from the raw material. The plates and bars, having been rolled in Staffordshire, were brought to Crumlin, where 67,000 holes had to be drilled and punched. The rivets were put in, and the parts fitted together, painted, marked, and packed for export; and the whole was accomplished in eighteen working days."

Well done, Messrs. Kennard!

ENCOURAGEMENT TO FOREIGN CAPITALISTS IN SPAIN.

A correspondent of the *Conseiller* of Paris writes, from Madrid, stating that a French company, formed about twelve years ago, had undertaken and executed vast works of embankment in the Bay of Santander. They had reclaimed from the sea lands destined to serve for the enlargement of the town, and on which the railway terminus was to be erected. The concession, perfectly *en règle*, had been approved by two royal orders,—viz., of June, 1850, and August, 1851.

The plan of the new town, which the company were bound to submit to the authorities, had been approved by two other royal orders of January, 1860, and September, 1861; when, on a sudden,

the Council of State puts forth, a few days ago, an opinion (*s'avise*) that the Minister of "*Fomento*," who had made this concession, had no right to do so; and that it was the province of his colleague, the Minister of "*La Gobernacion*."

It proposes, therefore, to annul the concession; or, in other words, "*depouiller*" the company; which now finds itself a victim to the conflict of competition between the two ministers.

It is impossible to assign any reasonable motive for such a decision; and it only remains to be hoped that the Spanish Government will not adopt the measure; for, if it is to be maintained that a company acting with good faith can be plundered, brigand fashion, of the fruit of their labours, in consequence of an error committed by a minister, there will be no future security for the property of any one; and the progressive movement, so profitable to Spain, which has attracted towards important enterprises foreign capitalists, especially from England and France, will find its supply dried up at the very source.

THE FOUNTAINS IN TRAFALGAR SQUARE.

We have made no allusion hitherto to the so-called "improvements" effected in Trafalgar-square, simply because it is disagreeable to find fault; but if our silence is to be misconstrued into approval, we must say at once that the money, as it seems to us, has been spent very unsatisfactorily. Mr. Cowper promised some splendid effects; and the accounts given of sixty-eight jets throwing the water this way, and other groups of jets that way, sounded well, and led to expectations. The result, however, we are forced to say, is exceedingly trumpery. There was a certain air of quiet dignity about the granite basin, with its simple jet, insufficient as the whole was for such a position, and it seemed to say, "I am not more attractive because I don't choose to be so." But the present agglomeration of squirts is at once pretentious, obtrusive, and shabby.

BATH THEATRE COMPETITION.

We understand the directors of the New Theatre Company have selected the design with the motto, "A Midsummer Night's Dream," which proved to be that of Mr. C. J. Phipps, F.S.A., of Bath and London. The second plan, which secured the premium of twenty guineas, had the motto, "Inveniam virtute vincam," and was sent in by Mr. W. Green, of London. The third plan, to which a premium of ten guineas was awarded, was sent by Mr. C. Hansom, of Clifton. The other competitors were—Mr. C. E. Davies, Bath; and Messrs. Hill & Paraire, of London. Mr. Phipps says in his statement:—"Having visited the principal theatres in France, Germany, and Italy; and, specially for the purpose of this competition, all the principal theatres of London; I have come to the conclusion that the model of the old house, with very slight alteration, is the correct one, both as regards beauty of form and convenience of arrangement. The plan of the auditory is slightly varied only from that of the old house. The width on the axis of the diameter is 36 feet, instead of 34 feet; the curtain-opening being 30 feet, instead of 25 feet; the sides inclining from the circle in a line to the proscenium-opening. So, by taking a point 35 feet from the back of the proscenium-wall, I obtain the correct angle of sight; and, as will be seen on the plan, there would not be a bad seat in the house."

CHURCH-BUILDING NEWS.

Victoria Docks.—St. Mark's Church, Victoria Docks, has been consecrated by the Bishop of London. The population has become known pretty generally to the public under the name of "Londoners over the Border." The district has rapidly grown into a large town. At first an iron church was erected, and schools established. A school church was afterwards built, at a cost of 2,500*l.*, defrayed by Mr. Morrison, one of the directors of the Victoria Docks. The Rev. Mr. Douglas, the incumbent, having made an appeal to the public for funds to relieve the physical destitution of his district, so vast an amount flowed in that he determined upon the erection of a church, and the establishment of glove factories, wood-cutting depôts, and other industrial societies, all of which have been successful. The church, built from the designs of Mr. Teulon, has cost 7,000*l.* The Victoria Dock Company gave the site and three or four acres of ground for parsonage, schools, and general church purposes.

West Malling.—Extensive alterations are now being carried on in the parish church here. The stucco by which the external walls of the old church were disfigured has been removed, and the stonework cleansed and pointed: an old doorway, which had been blocked up and concealed, has been reopened, and it is again to be used for the north entrance to the chancel: a window on the same side, which was partially destroyed to make way for a modern doorway, is to be restored to its former condition: the arch over the east window and the upper parts of the mullions are being cleansed from whitewash: hot-air stoves have been fixed: the earth is being removed for concrete, and the floor is to be paved: the old square pews have been removed, to be replaced by free and movable benches. The Archbishop of Canterbury has decided that this may be carried out without a faculty. "The subject which you propose," wrote his Grace, "the securing the free and unappropriated character of the seats for ever, is already the law of the church, and *requires a faculty to set it aside*, not to establish it." The church being closed for a time, the ordinary Sunday services are held in the large quadrangle of Malling Abbey, between the ruins of the old Abbey Church and cloisters; the chapel at the Abbey-gate, which is believed by antiquarians to have been the chancel of a parish church in the fourteenth century, being used for the administration of the Sacrament and for the daily service.

Tenterden.—The foundation-stone of Boar's Isle Church has been laid. The new church is dedicated to St. Michael. The architect is Mr. Gorden Hill.

Winchester. — The chief stone of Cheriton Congregational Chapel has been laid. The edifice will cost from 400*l.* to 500*l.* The site is in the centre of the village. The design was furnished by Mr. Poulton, of Reading, architect, and subsequently adapted to meet the special requirements by Mr. Hunt, of Alresford. The contract for erection was taken by Mr. W. Steel, of Winchester, builder; Mr. H. White executing the stonework. The building will accommodate 200.

Bridport.—Shipton Gorge Church has been consecrated. The new building is named Christ Chapel. It is on a steep hill, south of the village street. The only part of the old chapel that remains is the tower, the outside of which has been newly pointed, and the yellow stone facings rubbed up. The new chapel consists of a nave, north aisle, and chancel. The extreme length is 59 feet, and the breadth 30 feet. The walls are of stone, quarried in the parish, with Ham-hill and Bath-stone dressings. The roof is covered with small dark tiles, and both the chancel and porch are surmounted by ornamental stone crosses. The roof is open, and plastered between the rafters. The building will accommodate 200 persons. The windows, which are somewhat small, but numerous, are filled with semi-transparent glass. The chapel has been built after the designs of Mr. Hicks, of Dorchester, architect, under whose superintendence the whole of the work has been done. Messrs. Swaffield, of Shipton, were the contractors, and did the masonry. The carpenter's work was done by Mr. Hayward, of Burton. Mr. Brown, of Bridport, was the painter and plumber.

Bulcote.—The church at Bulcote has been completely rebuilt on the site of the old structure, and reopened for divine worship. Messrs. Nichols & Bower, of Nantwich, were the architects. The building is in the Pointed style of the thirteenth century. The general plan comprises a nave, chancel with circular end, south porch, and sacristy, surmounted by a bell-gable at the west end. It is constructed principally of Bulwell stone, with carved work, and ornamental bands of red bricks. The interior is fitted up with plain open benches, of pitch pine, and will seat about 130 adults and 30 children. The nave is pierced with plain double-lancet windows. The chancel-arch springs from double shafts, with capitals of carved stonework. The carving was executed by Mr. Irving, of Leicester. Mr. Palmer, of Lowdham, was the contractor. The contract for the building-work amounted to upwards of 900*l.*; but extras, &c., have raised the amount to nearly 1,100*l.*

Cirencester. — At a public meeting held at Cirencester, in connexion with the proposed repair and restoration of the parish church, a report from Mr. Scott was read, to the effect that a general reparation of the whole fabric was requisite, and resolutions were unanimously voted to the effect that Mr. Scott be instructed to prepare the necessary plans and specifications; and, when funds are provided, to procure tenders for the work, including Mr. Haden's for warming the church; that efforts be made to raise 12,000*l.*; that coloured windows and other improvements be accepted as special offerings, &c.

Bristol.—The tower of St. John the Baptist's Church, Bristol, being considered in an unsafe state, the churchwardens and vestry have deemed it their duty to direct a survey to be made of it, which has been done under the direction of Messrs. Pope, Bindon, & Co., architects. The tower will, it is said, have to be taken down and rebuilt.

Taunton.—The opening of St. Mary's Tower has been postponed owing to the work not being in a sufficiently forward state. The day now fixed for the ceremony is Monday, the 8th of September. Several peals have been rung on six of the eight bells, and endeavours are being made to procure a silver cup to be presented to the company of ringers who shall give the best peal on the inauguration day.

Kington.—The Cemetery, situate about a mile from Kington, on the Hay road, has been consecrated by the bishop of the diocese. The ground, an area of about four acres, one half of which is apportioned to Dissenters, was purchased at a cost of 420*l.* The chapel and lodge, which are in the Egyptian style of architecture, were built by contract, by Mr. Roberts, of Pembridge; the architect being Mr. Acock, of Shrewsbury.

Leominster.—The parish church of Leominster has been reported on by Mr. Scott, who states that, to preserve and restore its true character, it will be needful to reconstruct the porch; remodel the debased windows of the south aisle; rebuild the great western window; secure the western tower with its parapets and pinnacles; modify the internal roofs; remove the numberless coatings of whitewash from the walls; and thoroughly repair the external stonework. To effect these works, and refit the interior with oak seats, the estimate is between 8,000*l.* and 9,000*l.* The report has been adopted, and the restorations are to be proceed with.

Eardisley.—Under the direction of Mr. W. P. Herrick, who, we are informed, has subscribed about 2,000*l.* towards the restoration funds, the ancient church of Eardisley has been for the past five months undergoing a restoration. Mr. Dick, who deciphered a number of the inscriptions connected with the prison in the Tower of London, superintends the restoration on behalf of Mr. Christian, the architect to the Ecclesiastical Commissioners. The builder employed is Mr. Williams. The whole of the church, with the exception of the tower, has been taken down, and is to be rebuilt in the style of the former building. A number of corbels of the Norman period, and several Mediæval paintings, have been found.

Llanfihangel Y'nhowyn.—The church of this place has been reopened. The old edifice had become very dilapidated; and some time ago the rector of the parish, the Rev. J. Williams, Rhoscolyn, set about its restoration, which was effected according to the plans and directions of Messrs. Kennedy & Rogers, architects, of Bangor. The building consists simply of a nave, 41 feet long by 17 feet wide, internal dimensions, and has an average height of 9 feet 6 inches to the eaves, and of 18 feet 6 inches to the under-side of the ridge piece. A bell turret rides the western gable. The roof, which is constructed with five principals framed with arched collars, is covered with Bangor slates, and has all the timbers stained and varnished internally. The internal fittings, which are new throughout, are also stained and varnished. The interior is lighted by two square-headed double windows and one single-lighted in the north wall, one treble and one double-lighted window in the south wall, and a treble-lighted arch-headed window, with label outside, in the eastern gable. The cost of the restoration has been from 270*l.* to 300*l.*, and the works have been carried out by Mr. O. Thomas, of Holyhead.

Bromsgrove. — Wythall Church, which has been rebuilt by Mr. Preedy, of London, architect, at a cost of 2,000*l.*, principally raised by local subscriptions, has been consecrated by the Bishop of Worcester.

Stroud.—A vestry meeting has received and considered the report of the committee appointed to rebuild the parish church. The report set forth that the committee was empowered to rebuild at a cost of 5,000*l.*, of which upwards of 4,000*l.* was promised in subscriptions; that the committee had accepted the plans of Mr. Bland, of Birmingham, architect; but that, on tenders being advertised for, the lowest amounted to 7,000*l.* Under these circumstances the committee resigned their trust. A brief discussion ensued, in the course of which it was stated that all the plans professed to be for a 5,000*l.* church; that others were sent by architects of greater experience than

t Bland; and that those of Mr. Wilson, of ,h, and Messrs. Medland & Maberly, of Glou- ter, which stood second and third, were guaran- d not to exceed the estimate. The faculty for rebuilding has already been obtained; and it is stated that the Consistory Court would have approve any fresh plans which might be sub- ted. The report was received and adopted, d the meeting dissolved; it being understood t another vestry would be convened if the ish should think proper to take any further ps in the matter.

East Leake.—the foundation-stone of a new esleyan Methodist Chapel has been laid at East ake. The new chapel is to seat 340 persons. will be a Gothic structure, and will be erected e from debt. The architect is Mr. Henry mas; the builder Mr. W. Ellis; both of Notting- m.

STAINED GLASS.

Gloucester Cathedral.—We are asked to say, d do so with pleasure, that the work at the st window was done by Messrs. Ward & Hughes, d not by the firm already mentioned in con- xion with it. The window was simply re- ired and releaded. "A 'restoration' of the ndow was at one time contemplated by the an and Chapter; but the scheme was aban- oned at the earnest request of several antiquaries; d the window has been preserved in its original ate at considerably less than half the estimated st of a restoration."

St. Mark's, Wrexham.—Miss Bennion has or- ered stained glass for the centre light of the east indow in the newly-erected church of St. Mark, this town, as a memorial of the Prince Consort. he work, we understand, has been entrusted to Ir. Wailes, of Newcastle.

Christ Church, Hamilton, Canada West.—A emorial window to John and Elizabeth David- on has been executed by Messrs. James Ballantine Son, of Edinburgh, for this church. It contains gures of Zechariah and Elizabeth. In the base is troduced an escutcheon, containing monograms f the deceased, with inscription underneath.

Episcopal Church, Agra, India.—A memorial indow to Mr. James Steuart, M.D., has been xecuted by Messrs. Ballantine, of Edinburgh. he subject selected is "Christ raising the Vidow's Son." The under portion of this window occupied by the family arms and inscription, hile the portion above the subject contains Early anopy-work.

SCHOOL-BUILDING NEWS.

Backwell (Worcestershire).—The newly-erected ational schools at Backwell have been opened. Ir. Lysaght, of Bristol, was the architect; Mr. Vilcox, the builder; and Mr. Harris, the mason. he building is semi-Gothic in style, the stone eing supplied from the neighbouring quarries. he exterior is faced with Bath freestone, and the uilding is roofed with Bridgwater tiles. It con- ains a large room, which will accommodate a ixed school of 100 children, in addition to class- ooms, and boys' and girls' playground, and ad- oining it is a residence for the master. The otal cost of the erection was 800*l.*, of which bout 500*l.* had been collected prior to the pening.

Sedgley.—The new Congregational day, Sunday, nd infant schools, which Mr. Darby, of Sedgley, as just erected at his own expense, have been pened. The cost of the erection, apart from the and, was between 500*l.* and 600*l.* The buildings re on the ground adjoining the Congregational hapel, in Bilston-street, and contain six rooms. hree rooms are on the ground-floor; one mea- uring 40 feet by 20 feet for boys; another, 6 feet by 16 feet for infants; and the third, 4 feet by 12 feet for a class-room. There are imilar rooms on the second-floor for girls; a ibrary, and class-room.

Colton.—The erection and maintenance of a ree reading-room for the inhabitants of Colton, y Mr. T. B. Horsfall, M.P., has been followed by n offer to erect at his own expense new schools for he parish. This offer was accepted, and a com- nittee was formed, of whom the Earl of Lichfield as appointed chairman. The site for the new chools is nearly opposite the parish church. They ill be built from designs by Mr. Wm. Culshaw, f Liverpool, architect. Each room will be 30 feet ong by 18 feet wide inside, divided by a screen, ith a class-room 15 feet by 11 feet 6 inches, and eparate porches and playgrounds to each school. he building will be of brick with stone quoins, ith open oak porch and open roofs, and turret clock and bell—the estimated cost being about 700*l.*

Rainhill (Liverpool).—The foundation-stone of a new school to be erected in connexion with, and contiguous to, the Wesleyan chapel at Rainhill, has been laid. The new building, which at first will be used merely as a Sunday school, will be 45 feet long by 21 feet wide, and the estimated cost is 300*l.* The school, in harmony with the style of the chapel, will be of Gothic character, built of Rainford stone with Rainhill dressings, and will accommodate about 200 children. The architect is Mr. George Harris, jun., and the builder Mr. G. Harris, sen., both of St. Helen's.

Marsh Lane (Liverpool).—The schools attached to the Roman Catholic Church at this place are now completed. Accommodation is provided for 100 scholars. The building is of brick; the quoins, window-jambs, &c., being dressed bricks. The roof is open-timbered and boarded, stained dark; the gables finished with barge boards; and the entrance protected by a framed ornamental wood porch. The total cost, exclusive of yards and walling, is 200*l.* The architect, was Mr. George Holme, of Liverpool; and the contractor, Mr. Jump, of Bootle.

Manchester.—The chief stone of the Hyde-road schools has been laid. The building, says the local *Courier*, stands on a plot of land near Devonshire-street, Ardwick. The outside dimensions are 26 yards by 20 yards; and there are, besides, open courts and offices at the rear. On the ground story is a room 56 feet by 50 feet, and 16 feet high, with cloak-rooms, class-room, and kitchen and heating chamber adjoining, at the west end: at the other end are the infants' schoolroom, and the main entrance lobbies and staircases by which the several stories are approached. On the next floor is the Sunday schoolroom, 74 feet by 40 feet, and 38 feet from floor to ceiling. Down each side are class-rooms, and above are galleries, running round three sides, with more class-rooms running out of them. There are in all twenty-four class-rooms, which are seated round. The elevation fronting the Hyde-road contains one large window, lighting the principal school, with small ones for the staircases and infants' school. The staircase at the north-east corner is carried up as a tower, and is furnished with a quadrilateral slated roof: the extreme height of this will be about 100 feet. The side elevations show on the lowest story the large three-light windows of the day school, and above two tiers of coupled windows, lighting the class-rooms; and above these again, just under the eaves of the main roof, is a continuous clerestory window, shedding full light into the large Sunday schoolroom. The building is proceeding rapidly under the hands of the contractors, Messrs. Moody, Hoyland, & Shaw, who respectively are doing the bricklaying, carpentry, and masonry, from the designs and under the direction of the architect, Mr. J. M. Taylor, of Manchester.

Dundee.—A set of school buildings erected in Annfield-road by Miss Henderson, as a memorial of her late father, Sheriff-Substitute Henderson, have been formally opened by the Bishop of Brechin. The school-house is constructed with an open roof in the English style. It accommodates 100 children, and a teacher's house is annexed.

SOCIETY FOR IMPROVING THE CONDITION OF LABOURING CLASSES.

The eighteenth annual report of this society has been printed; but we look in vain through it for anything capable of showing how the property of the society is paying; or whether it yields any profit at all, or is a losing concern; although we have always been led to believe that one of its main purposes was to hold out to others evidence of the possibility of improving the condition of the working classes with pecuniary profit to the improvers. The various properties of the society must surely produce some profit, unless they are grossly mismanaged; and those interested in the improvement of the condition of the working classes expect to have a clear and distinct report of the progress of the society as a solvent and profit-yielding speculation. "The society's houses," it appears, "are resorted to not less now than formerly;" but the report no more indicates that any pecuniary profit arises to the society from this circumstance than if there were no rents to realize. In an appendix, certainly, one finds a "balance-sheet" and "an abstract of cash account;" but even from these it would take a clever accountant to draw up a clear statement of the ultimate profit or loss either on any one or on all of the society's houses. But, even were it otherwise in this instance, why is there so ominous a silence on such a subject in the report itself?

Looking to the "abstract of cash account," it would seem that the rents received from the houses during the year amount to 4,696*l.* 14s. 4d., and the "current expenses (including repairs and arrears)," 4,429*l.* 3s. 6d.; besides "interest on loans," mainly used, we suppose, in building or repairing the houses, amounting to 1,063*l.* 13s. 8d.

HOW GET RID OF ANTS?

Sir,—I should be obliged if any of your correspondents could inform me the best means of destroying ants in a building. I have a room infested with them, and two years ago attempted to get rid of them. For this purpose the boards were taken up, and the ground covered with concrete. This seemed to stop them out last year; but with the return of summer they have now appeared in as strong force as ever. C. J. L.

*** We have before now asked this question, and obtained some replies, which we printed. It still comes to us, however, so often, that if a thoroughly efficacious remedy for the annoyance be known, we shall be glad to have it.

CHIMING CHURCH BELLS FOR DIVINE SERVICE.

The manner of chiming the bells at many churches is so irregular and immethodical, and the effect so offensive to the ear, that the wonder is how such jangling can be suffered even for a few minutes. Take the following case as a specimen of what occurs in various towns and villages every Sunday:—In the centre of an important town, in the Midland Counties, stands a large church, possessing a peal of eight powerful bells, hung in the chamber of a lofty tower, which is admirably constructed for the exit of sound. Here it is the custom to begin by *ringing*—not chiming—and raising the great bell alone. Then two, three, four, or more of the other bells are chimed according to the fancy of the performers; the great bell—still rung—coming in at the end of every alternate round with a tremendous clang, considerably louder than the sound of all the rest. Thus we have a noisy, unmeaning jangle for about half an hour, to the annoyance of numerous parishioners; whereas the bells which call us to church, being in some respects to the whole parish what an organ is to an assembled congregation, ought regularly to give out somewhat subdued, melodious, and soothing music.

What, then, can be done, or how can sweet and appropriate Sabbath bell-music be produced? "Why," some will say, "we can get a machine by means of which a man or a boy can chime a full peal." Now, I am aware that certain machines for chiming have been used, now and then, for many years, and that others have been lately introduced to the public. But these contrivances can only be recommended when a set of persons cannot be depended upon to attend regularly and chime as they ought to do; for good chiming by hand is preferable to any by machinery. And I beg to add, upon high authority—the Rev. W. C. Lukis—that methods of chiming by tying the clappers—except that mentioned below—ought never to be practised, or incalculable mischief may be done to both clappers and bells. We know that the clapper of a church bell is suspended from the staple in such a manner as to move backwards and forwards, and strike the bell each way in the same place, having no lateral motion. If we tie the clapper and pull it directly towards the striking place, well and good; but if we pull it sideways from the ground-truck, we strain it and injure it greatly. Yet this is the common mode of chiming when the clappers are tied. Thus the bells soon get out of order, and ringers find that the clappers do not strike as they used to do. The only way to have chiming without injury, if you will tie the clappers, is to have a small block fixed in the floor in the direct line of their motion, with a second rope to be used for chiming only.

If I might venture to offer an arrangement for chiming methodically, I would suggest the following, which has been practised regularly at various churches, and fully approved. It gives some repose to a musical ear, and warns the parishioners at certain periods of time:—

Begin by chiming softly the first three bells—1, 2, 3, 1, 2, 3, and so on, for ten minutes; then pause five minutes. Then chime, with the utmost regularity and precision, the full peal—1, 2, 3, 4, 5, 6, 7, 8—for ten minutes. All being now silent, at five minutes before the time appointed for the commencement of divine service, ring or chime

the first or treble bell only, being careful to cease before the clock strikes. Some, however, have preferred the solemn tolling of the great bell during these last five minutes.

A similar arrangement can, of course, be applied to a peal of 4, 5, or 6 bells. In all cases 1, 2, or 3 bells may be sufficient for chiming for ordinary week-day services; but, whatever scheme of chiming may be chosen for the respective occasions, provided that it be methodical and pleasing to the ear, it should be strictly adhered to as regards time and manner; because, says another experienced campanologist, the Rev. H. T. Ellacombe, "Everything connected with the ministrations of our church should be conducted *regularly* and *always the same*." THOMAS WALESBY.

ART-CRITICISM.

WHAT appears to me to be a matter of far greater moment than the disputes about a handbook of art, which occurred some time ago,—one which must form a serious obstacle to the advancement of art in this country, and is a very significant circumstance,—is this;—that our artists should betray such exceeding impatience of criticism, of correction, or advice. I say nothing now as to the occurrence itself: that has gone by. I refer only to the fact, that the moment any one has the honesty and courage to hazard an unfavourable judgment on a work of art—public property, so to say, and set up in a public place expressly for the purpose of being submitted to the criticism of every eye—down come upon him a host of artists who desire praise rather than blame. Of course we all like praise, but truth should be dearer to us than our individual credit; for what is the object of art? Not to promote the praise of individuals, but the advancement of truth and the cultivation of the intellect. One would think that half the artists of this country had gone mad. Selfishness, it has been well said, is a bar to all improvement, and is the secret of all our mistakes. What can it signify *who* the writer of a criticism may be, so that he speaks truth, or raises a point for honest criticism? So that truth is unfolded, it cannot matter who it is who assists in this great work.

It seems, however, that our grand object must be "not to hurt people's feelings," which is all quite right, only it is not encouraging art. If we refrain from saying anything that may lead artists to scrutinize more severely their own works for fear of hurting their self-love, and on a grand occasion like the present—which cannot occur again for ten years—ignore the express intention of the late Prince Consort in getting together the art treasures of the world,—viz., the improvement and instruction of the individual artists of the country,—we must be content to be distanced by foreigners, who are not so silly as we are. One might have hoped that all true artists would avail themselves of such an opportunity with delight, instead of indulging in childish personalities, and pique, and jealousy. But I fear, sir, we are not yet sufficiently advanced to bear to hear the truth: we are too thin-skinned for noble emulation, and to bear the brunt of criticism. Our artists like to be thought masters of an art which will ever be the master of them; and I, for one, do feel that, as long as dust is thrown in their eyes by this bowing and apologetic system, we can scarcely advance beyond the sort of art of which the Wellington statue, and many works of the same calibre in London, are the type; and which so justly excite the ridicule of foreigners. As long as vanity and selfishness, and pounds, shillings, and pence, are dearer to artists than the achievement of perfection in their profession, in the nature of things there can be no art worthy of the name.

A LOVER OF ART FOR ITS OWN SAKE.

Miscellanea.

EPITAPHS.—The following inscription, it is said, may be found in an Italian graveyard:—"Here lies Estella, who transported a large fortune to heaven in acts of charity, and has gone thither to enjoy it."

SUSSEX ARCHÆOLOGICAL SOCIETY.—The annual meeting of this Society has been held at Hastings. Amongst other places visited at Hastings were some old houses, one the residence of the mother of Sir Cloudesley Shovel, another that of the infamous Titus Oates, in All Saints'-street, and a quaintly-carved house, No. 82, High-street. The castle, the churches, the caves, and the old town wall were, of course, seen.

AN UNDERGROUND RAILWAY FOR PARIS.—When the Prince Napoleon was in London lately, he went over the underground line; and, on his return to Paris, he reported so strongly in favour of it that the Emperor has already, it is said, ordered a subterranean line from Montmartre to the Louvre, to be commenced forthwith, and has appointed Mr. Fowler consulting engineer to the undertaking.

BURSTING OF THE CHATHAM RESERVOIR.—The reservoir which was recently completed by the Brompton and Gillingham Waterworks Company at great expense, for the supply of the towns of Chatham and Rochester with water, has suddenly burst. The water issued out near the north angle, and forced its way over the land into the turnpike-road leading from Canterbury to London, several feet in depth. The reservoir was so capacious that when filled it contained one million of gallons; and at the time of its bursting it was nearly full. The damage is estimated at about 5,000*l*.

DRINKING-FOUNTAINS IN LONDON AND PARIS. The *Temps* has received a "communicated" note from the Ministry of the Interior in reference to a recommendation which it had published to have drinking-fountains established in Paris, similar to those which are increasing so rapidly in London. The note declares that no comparison can be established between the two capitals on the point, inasmuch as, in Paris, there are not only 1,200 small fountains at the corners of the streets, giving water gratuitously at certain hours to every one that chooses to take it, but likewise 87 large public fountains, open to the world at all hours of the day and night. The same necessity, therefore, for drinking-fountains does not exist in Paris as in London.

"LAMMAS LANDS."—The London-fields, Hackney, were offered to auction on the 11th inst., by Messrs. Edwin Fox & Bousfield. It appears that the fields in question are the property of private individuals, who have an undisputed right to the use of the same during four months of the year; while certain freeholders and copyholders of the manor have a right of "lammas," or pasturage, during the remainder of the year. The consequence of this divided ownership is, that the fields, once a healthful and agreeable place of recreation, have lapsed into such a deplorable condition as to be a nuisance, rather than an advantage, to the locality. The auctioneer suggested that, by the introduction of a Private Bill into Parliament, arrangements could doubtless be made for the freeholders, and those interested in the "lammas," to effect a partition of the land, so that each might obtain the undisturbed and entire control of his own portion: thus the freeholder could develop a successful building enterprise, and the parish acquire a public garden and playground. A spirited competition ensued; but the biddings not reaching the reserved price, the property was declared by the auctioneer to be bought in.

VENTILATORS OR VALVES.—Letters patent have been taken out by Mr. Neil McHaffie, 16, Summer-street, Mile-end, Glasgow, for the invention of "improvements in ventilators or valves for regulating the passage of air or other fluids, whether of a gaseous or liquid form." The specification thus describes Mr. McHaffie's invention:—"According to my invention, when applying a ventilator or valve for admission of external air, I cause the current of air entering to impinge on a surface so arranged that, when the current of air exceeds the velocity considered desirable, the surface may be able to yield to it, and on yielding may close or partially close the valve. When the force of the current diminishes the valve again opens, it being so weighted as always to tend to do so. The arrangement I prefer consists of an inlet valve turning on an axis at the centre of its width. This valve is connected by a suitable connecting-rod to a surface mounted on a horizontal axis at or near its lower end. The said surface is weighted beneath the axis, so that it tends always to assume a vertical position. It is placed at a short distance from the before-mentioned valve within a trunk or passage, which obliges the air or other fluid entering by the said valve to pass the before-mentioned surface. This current of air or other fluid throws the surface into a more or less inclined position according to its strength; and the more inclined the position of the surface the more nearly will the valve be closed. For the passage of liquids this last-mentioned surface should be mounted on a horizontal axis; but instead of being at or near its lower it should be at or near its upper extremity, on account of the greater density of the fluid, the passage of which is sought to be regulated.

THE CHATHAM AND DOVER RAILWAY.—T vestry of St. Mary, Newington, have obtained injunction to restrain the construction of a bri over the Walworth-road, now erecting, wit headway of 18 feet over the roadway. The r way company intend at once to have the inju tion set aside, as they are advised that it can be maintained.

ASCENT OF SALISBURY CATHEDRAL SPIRE.—Thursday, the 14th instant, James Matthew workman in the employ of Mr. Frederick Richa Fisher, of the High-street, builder, performed annual feat of ascending from the small weath door, up the iron handles, to the summit of t spire of Salisbury Cathedral, for the purpose oiling the vane. Before descending, he got astri the iron crossbar above the vane, which is at altitude of more than 400 feet from *terra firma*.

SANITARY STATE OF CROYDON.—At a rec meeting of the local Board of Health, Dr. Suth land informed the Board that Dr. Westall h received the quarterly returns from the Registr General, comparing the mortality of Croydon w other parts of England. Dr. Sutherland reme bered that, when the returns were last produc Mr. W. Drummond remarked that Croydon h beaten all England. The returns for the pres quarter showed that Croydon more than beat England, having this quarter beaten the count districts of England. In the town districts, t mortality for the quarter ending June 30th w 2·282; in the country districts, 1·968; all En land, 2·124; in the parish of Croydon, 1·796. much for the system of pipe-drainage; carri out, too, with the express purpose of improvi the sanitary condition of a town once notori for fever and ill health.

HALIFAX BOROUGH ENGINEER.—The Hali Corporation is entering upon quite a revised s tem for the superintendence of the works un its care. Up to the present time, all the pub works have been under the sole management superintendence of the borough engineer, G. W. Stevenson, whose salary has been 300*l*. annum. Now, however, the departments are be brought more under separate management, manager of the gasworks has been appointed 150*l*. a year. A surveyor of the streets, &c., to be appointed. The work of the borough gineer will, consequently, it is said, be almost The Corporation, however, do not propose to d charge him, but his duties are to be materia modified. It has been decided that he may pr tise privately as an engineer; that he shall atte the meetings of the committees, when request to do so; to have an office at the town-hall for t deposit of plans, &c., belonging to the Corpo tion; to give precedence to the business of t Corporation; and to be paid a salary of 1 guineas a year, and 2½ per cent. upon all n works entrusted to him for execution.

UTILIZATION OF THE TIDES.—This is a subj to which attention has occasionally been poin in the *Builder*; in one instance, it may be membered, with reference to the working of We minster Palace clock. Our purpose at pres nt merely to quote some remarks on the subject fr the *Chemical News*. Let us suppose (remarks t writer) that by the action of the tides the diff ence of level of the surface of the ocean at certain spot is 21 feet between high and low wat Omitting for the present all consideration of t power of the subjacent liquid, what is the m chanical value of a space of 100 yards square of t water? 100 yards square by 21 feet deep equ 70,000 cubic yards of water, which is lifted to height of 21 feet, or to 1,470,000 cubic ya lifted to a height of 1 foot. Now, since one cu yard of water weighs about 1,683 lb., 1,470,0 cubic yards weigh 2,474,010,000 lb., which lifted in six hours. This is equivalent to lifting weight of 412,335,000 foot lbs. in one hour; a since one-horse power is considered equivalent raising 1,800,000 foot lbs. per hour, we ha locked up in every 100 yards square of sea surfa a power equal to a 230 horse-power steam-engi acting, be it remembered, day and night to t end of time; requiring no supervision; and co ing nothing after the first outlay but the wear a tear of machinery. By means of appropri machinery connected with this tidal moveme any kind of work could be readily perform Water could be hoisted, or air compressed, to a desired extent; so as to accumulate power future use, or for transport to distant statio Light of surpassing splendour could be generat by means of magneto-electric machines; and, wi a very little exercise of ingenuity, every lighth on the coast could be illuminated with sun-li brilliancy, and with absolutely no expenditure fuel.

New Application of Coal Oil.—Messrs. don & Henderson, of Gateshead, propose to rate yarn and ropes with coal oil, either alone ixed with tar, instead of with boiling tar, as al. It appears that the invention possesses two ortant advantages: it diminishes the risk of ; and at the same time ensures the rope re- ing the best possible protection from decay.

Electricity as a Weapon.—An odd idea (says ontemporary) has been suggested to the War ce of Italy,—that of making the lancets of the er regiments convey a powerful charge of tricity, so that at the merest touch the foe be killed by the shock. The first suggestion lectricity as a weapon was made in a paragraph ours on the coronet of electric light which the nch Empress was said to have ordered. In the a here suggested, however, surely electricity ld be somewhat supererogatory if the lance- ats were in contact with the bodies of the foe.

The Hotel Mania.—"Give these fellows a d thing," says *Mr. Puff* in the "Critic" (we quoting from memory), "and they never w when they have had enough of it." And so, morning-guns are let off instead of one. The te occurs with more things than morning-guns. eral large hotels have been wisely built, and eral are about to be built. The cry, however, till "they come." Langham-place, it is ar- ged, shall have one. Forthwith a company is ted to take Lyons Inn, in the Strand, nearly f an acre of ground, and turn it into an hotel. d, as that would be insufficient, we find nego- ions are going on for the purchase of Adelphi- race, in the Strand, for a similar purpose.

The Electric Light for Streets.—Serrin's paratus for street-lighting by means of elec- city has of late formed the subject of an in- esting lecture by Professor Pepper, at the lytechnic Institution. The lecture was illus- ted by Mr. Serrin's apparatus; and the inventor nself conducted the experiments. According the lecturer, Mr. Serrin's improvements promise effect the long-desired object of producing a tained light which can be depended on: the paratus is what he calls automatic, or takes care itself, so that the charcoal points, after the ttery is once charged, are retained at a measured tance apart, and consumed in the proportion of nty-two of the positive to ten of the negative. streets the light was exhibited with Defries's matic lanterns, and with ground glass; thus ing a diffused and pleasant light. Mr. Serrin received the medal of the International Exhi- ion.

Stained Glass in the Exhibition.—We are minded that we did not mention in our notice glass, last week, that Messrs. O'Connor had eived the honour of a medal for their work. had previously stated it; but, as we repeated statement of reward in connexion with other ists, we gladly do so in this case. We under- nd, by the way, that the position for which ssrs. O'Connor's window is destined is one ex- sed to the full glare of a western sun, and more an 20 feet from the ground. Under these cir- nstances, the defect in it we mentioned may be felt. The window is very badly placed in Exhibition, not receiving any direct light. In t, it is scarcely possible to judge of stained ss in the position assigned it in the building. arly all the stained glass is very badly treated. Sebastian Evans, M.A., the designer of the obin Hood" window, wishes us to mention t that window was excluded from competition a medal, owing to Mr. Chance being a juror in ss 34. The statement that it had received a dal was, therefore, erroneous.

The New Law on Parochial Assessments.— e Act of Parliament to secure uniform and rect valuations of parishes in the unions of gland has been printed, and in 46 sections the de of procedure is detailed. The boards of ardians, as soon as convenient after the passing the Act, are to form themselves in certain num- s into an "Assessment Committee;" and the hority of the committee appointed for any on is to extend over every parish in such union. e overseers are to prepare valuation lists, and estimated rental is to be the rent at which the editaments might reasonably be expected to from year to year, free of all rates and taxes. e valuation lists are to be deposited for in- ction, and objections may be made to the same. til a valuation list is made, every parish is to assessed to the poor-rate under the 6 and 7 n. IV. The object of the new law is to obtain roper assessment of every house in every parish England, and to prevent complaints that one se is rated beyond another of the same size.

The Albert Harbour for Greenock.—The foundation-stone of a new harbour, to form a local memorial of the late Prince Consort, has been laid with masonic ceremonial at Greenock. The engineers of the work are Messrs. Bell & Miller; the resident engineer, Mr. J. Thompson; and the constructors, Messrs. W. & J. York.

Destruction of the Church of St. Martin, Courtrai.—The journals of Courtrai state that the cause of the fire which destroyed the fine old Church of St. Martin in that town was the electric fluid which fell on the woodwork of the steeple. The church was a very early structure, but was partially reconstructed in the fifteenth century. The spire was assured for 130,000 f., and the other parts for 300,000 f.

The late Mrs. Valentine Bartholomew. We have to record the death of Mrs. Valentine Bartholomew, wife of the well-known artist of that name, herself an artist and poet of ability. It occurred on the 18th inst. We mention this with no slight regret. The advertisement says,—"Her talents and unbounded kindness of heart endeared her to a large circle of friends;" and this we can endorse unreservedly. She inspired affection in all who knew her; and many will miss with pain, on "private-view" days, at artistic *conversazioni*, and in the social circle, the genial and excellent woman who has departed.

Bath.—The Greyhound Hotel has undergone extensive alteration, including an entirely new façade. The style is founded on the Italian Romanesque of the thirteenth century, embracing the free use of constructional polychromatic decoration. The windows of the ground floor have detached shafts of red Mansfield stone and carved caps. On the first floor is an ornamental iron balcony and verandah; and above that are two stories; the couplet windows of the first being divided by marble shafts. The works have been executed by Mr. S. G. Mitchell, from the designs of Mr. C. J. Phipps, F.S.A., architect.

The Prince Consort Memorial.—We understand that the Prince of Wales has addressed a letter to the Earl of Derby, as chairman of the committee appointed to advise her Majesty in reference to the Prince Consort Memorial, expressing the great pleasure with which his Royal Highness had read the recommendations contained in the report of the committee; and intimating his intention of subscribing, at the proper time, the sum of 2,000*l.* towards the erection of the Central Hall suggested as one portion of the general plan.

Proposed Park for North London.—A project has been set on foot for providing a park for the northern districts of the metropolis, on the joint-stock principle. An estate of about 450 acres, within an easy distance of the metropolis, it is said, has been secured. Of this about 200 acres will be set apart as a park, with gardens and ornamental grounds, and such buildings as may be required for recreation and amusement. The surplus land adjoining the park it is proposed to let off for building purposes. The scheme will require good management.

The English Plate-Glass Trade.—Deputations from all the English plate-glass companies, with the president of their association, Mr. R. W. Swinburne, of South Shields, had recently an interview at Mivart's Hotel, London, with Mr. Rouher, the French Minister of Commerce and Agriculture, on the subject of the present high duty on English plate-glass imported into France. The result of this interview will be that a deputation from the English plate-glass manufacturers, with the president of their association, will shortly proceed to Paris to negotiate with the French Government for a modification of the recent commercial treaty, so far as relates to the duties on plate-glass imported into France.

The Ducal Fireman and Steam Fire-Engines.—The Duke of Sutherland, who, from his constant attendance with the engines at London fires, and his general active association with the fire brigade, may be regarded as an experienced authority in such matters, has come to the conclusion that the engines at present in use are very inadequate in power; and, with the aid of the Earl of Caithness, has formed a committee of gentlemen eminent for practical mechanical knowledge, to promote improvements in the construction of these machines. It is to more efficient application of steam as a motive power that the committee will direct their special attention; and it is proposed to offer a number of substantial prizes for the best new inventions. The first meeting of the committee was recently held at Stafford House, and a list of subscriptions towards a fund out of which to pay the premiums for the designs was opened.

Thames Tunnel.—The Tunnel has, of course, benefited by the influx of visitors. In the week ending 16th August, 31,218 passengers passed through, and paid 130*l.* 1s. 6d. in tolls.

The Tenders for Repair of the Licensed Victuallers' Schools, Kennington.—A firm who sign themselves Saunders & Field write to say, with reference to the list we gave last week, that their tender, which was the lowest (560*l.*), was omitted; and that, if accepted, they could have carried out the work for the amount. As the amount of the highest tender sent us was 2,237*l.*, and the lowest 897*l.*, we conclude that the parties to whom we were indebted for the information left out the tender of S. & F. purposely, to lessen the odium attaching to such a list. The stupidity or ignorance of some of the parties who made these discreditable estimates, if we omit any harsher imputation, must be considerable.

Accidents.—By the fall of a scaffold in Swan-street, Manchester, two workmen and a child have been seriously injured. The workmen were on the scaffold when it gave way, and both fell a distance of 30 feet. The child received a scalp wound from a falling brick. One of the men has since died.——At the Walthew House Colliery, Pemberton, near Wigan, a man was seated in the main airway, with four other miners, when a portion of the roof, 12 feet in length and 3 feet 6 inches in thickness, fell, killing him on the spot. ——The roof of a cottage at Sunderland, in which there resided a sailor and about half a dozen other persons, suddenly gave way, and fell in, immuring the inmates in the ruins. By strenuous exertions, the prisoners were released, but all of them had received injuries of a more or less serious character. The building was in a very dilapidated condition.——A rumour has been going about that Mr. George Jennings had been killed by an accident; but we are glad to be able to state that this is not the case. On Tuesday in last week he was passing over Waterloo Bridge on his way to Mill Hill Schools, Hendon, with two of his children, when a cab, driven at a furious rate, struck the wheel of his gig, and that with such force as to break both the shafts. The horse, finding the vehicle on his haunches, dashed violently towards the Strand, kicking to release himself; and at the toll-house Mr. Jennings and his children were pitched out. Although much hurt, all are in a fair way of recovery.

TENDERS.

For villa residence, No. 11, Hungershall Park, Tunbridge Wells, for Mr. Burden. Mr. Henry H. Cronk, architect:—

ACCEPTED TENDERS.

Bricklayers.			
Mercer & Camfield	£651	9	0
Carpenter.			
Pink	541	0	0
Plasterer.			
Mason	398	5	0
Plumber.			
Strange	210	16	8
Stonemason.			
Harland	51	0	0
Smith, &c.			
Catt	52	17	6
	£1,905	7	8

Accepted tender for stabling in connexion with the above, £510.

For villa residence, Tunbridge Wells, for Mr. Edwards. Mr. Henry H. Cronk, architect:—

ACCEPTED TENDERS.

Bricklayers.			
Mercer & Camfield	£676	0	0
Carpenter.			
Noakes	607	18	0
Plumber.			
Strange	270	0	0
Plasterer.			
Twort	451	9	6
Stonemason.			
Jeffery	98	0	0
Smith.			
Catt	29	0	0
	£2,132	7	6

For villa residence for Mr. Churchill, Sand Rock-road, Tunbridge Wells. Mr. Henry H. Cronk, architect:—

Pink	£1,971 0 0
Strange	1,967 0 0
Noakes	1,848 0 0
Widdicombe (accepted)	1,800 0 0

For building a public-house and six houses and shops, in Crucifix-lane, Bermondsey. Messrs. Newman & Billing, architects. Quantities supplied by Messrs. Enoch & Edsall:—

Turner & Sons	£4,035 0 0
Axford & Co.	4,005 0 0
Brass & Son	3,880 0 0
Patrick & Son	3,842 0 0
J. J. & F. Coleman	3,669 0 0
Wells	3,600 0 0
Peake	3,563 0 0
Thompson (accepted)	3,558 0 0

For shop-front, High-street, Deptford. Mr. H. J. Lanchester, architect:—

Penny	£257	0	0
Lester	239	0	0
Pearson (accepted)	173	2	8

For the erection of a warehouse, in Stone-street, Maidstone, for Mr. Charles Arkcoll:—

Bridge & Grensted	£1,288	0	0
Sutton & Vaughan	1,145	0	0
Goodwin	1,143	0	0
Naylor	1,132	0	0
Anscomb (accepted)	1,050	0	0

For the enlargement of Mr. Ballard's shop and premises, High-street, Bedford:—

Reynholds & Son	£600	0	0
Young & Co.	538	0	0
Houghton	528	4	0

For the erection of a pair of semi-detached cottages, for the British Land Company, to be built on their Bower Estate, at Maidstone. Plans prepared by the Company's surveyor:—

Chambers	£640	0	0
Anscomb	595	0	0
Wallis & Clements	560	0	0
Davis	545	0	0
Videau	527	10	0
Fell	523	0	0
Norris (accepted)	513	14	0

For taking down and rebuilding the water-mill, Little Parndon, Essex, for Captain Slark. Quantities supplied by the architect, Mr. W. Wilds, Hertford:—

Glasscock	£1,425	0	0
Rayment	1,290	0	0
Dickerson	1,248	0	0
Hampton	1,213	12	0
Hitch (accepted)	1,135	10	0

And the old materia's.

For building shop and dwelling-house at High-street, Notting-hill, for Mr. P. N. Lee. Mr. W. Ward, architect. Quantities supplied:—

Upson	£854	10	6
Moore	740	0	0
Patman & Fotheringham	735	0	0
Elston	697	0	0
Blower (accepted)	646	0	0

For farm-buildings and additions to farm-house, at Obthorpe, near Bourn, on property belonging to the Hon. C. H. Cust. Mr. Edward Browning, architect:—

Pearson	£2,031	0	0
Jeffs & Roberts	1,799	0	0
Storey & Newman	1,723	0	0
Dawson	1,671	0	0
Richardson & Son	1,655	0	0
Mowbray & Bradford	1,627	0	0
Hinson	1,576	0	0
Swann & Carrington	1,490	0	0
Hobson & Taylor	1,435	0	0
Wilson (accepted)	1,403	0	0
Pattinson	1,360	0	0
Gant	1,343	0	0

For farm-buildings at South Hyckeham, near Lincoln. Mr. E. Browning, architect:—

Timms	£1,871	0	0
Shelbourne & Hare	1,741	0	0
Kirk	1,611	0	0
Hobson & Taylor (accepted)	1,364	0	0

For the nave and aisles, lower part of tower, and vestry, Christ Church, Pentonville. Mr. Edgar P. Brock, architect Quantities supplied:—

Brass	£6,235	0	0
Maers	5,600	0	0
Downs	5,570	0	0
Carter	5,540	0	0
Sawyer	5,389	0	0
Perry & Judson	5,205	0	0
Sharpington & Cole	4,797	0	0
Matthews	4,791	0	0
Manley & Rogers (accepted in part)	4,677	0	0

For alterations and repairs to a villa at Herne-hill, for Mr. J. D. Welch. Messrs. Tillott & Chamberlain, architects:—

Ryder	£622	0	0
Brass	548	0	0
Piper & Wheeler (accepted)	525	0	0

For a new church at Llanwarne, Herefordshire. Messrs. Elmslie, Franey, & Haddon, architects:—

Wilson	£2,500	0	0
Mason	2,375	0	0
Lee	2,218	0	0
Jones & Son	1,870	0	0
Welsh	1,850	0	0
Beavan	1,850	0	0
Edwards	1,710	0	0
Morgan	1,695	0	0
Nibiett & King (accepted)	1,670	0	0

For the erection of premises, No. 3, Mincing-lane, City. Mr. N. 8. Joseph, architect. Quantities by Mr. Meakin:—

Lucas, Brothers	£5,290	0	0
Lawrence & Sons	5,183	0	0
Axford	5,112	0	0
Trollope & Sons	5,084	0	0
Ashby & Horner	5,080	0	0
Ashby & Son	5,025	0	0
Newman & Mann	4,997	0	0
King	4,995	0	0
Mansfield	4,987	0	0
Piper & Wheeler	4,932	0	0
Brown & Robinson	4,931	0	0
Brass (accepted)	4,693	0	0

For alterations to the Penton Arms, Islington. Messrs. Hill & Paraire, architects:—

Clark & Marnock	£670	0	0
Macey	616	0	0
Langmead	565	0	0
Scott	550	0	0

For warehouse, Little Carter-lane, St. Paul's, for Mr. J. K. Farlow. Mr. William Nunn, architect. Quantities furnished:—

Downs	£7,132	0	0
Newman & Mann	6,695	0	0
Patrick	6,642	0	0
Ryder	6,540	0	0
Brass	6,498	0	0
Fish	6,390	0	0
Coleman	6,369	0	0
Lawrence & Sons	6,340	0	0
Wills	5,694	0	0
Hart (accepted)	5,655	0	0

For houses at Clapham-common, for Mr. Reed. Mr. l'Anson, architect:—

Axford	£3,419	0	0
Conder	3,350	0	0
Little	3,244	0	0
Rider	3,134	0	0
Macey	2,888	0	0
Adamson	2,838	0	0
Maclachlan	2,695	0	0

For repairs to 24, Old Jewry, City:—

Carter	£507	0	0
Sharpington & Co.	497	0	0
Patman & Co.	489	0	0
Macey	469	0	0
Ramsey	467	0	0

For alterations to concert-room, Eagle Tavern, City-road:—

Macey	2,598	0	0
Ashby & Co.	2,538	0	0
Bishop	2,430	0	0

For rebuilding Victoria public-house and house adjoining, and a warehouse in rear of the same, King-street, Snow-hill, for Mr. W. Smith. Mr. T. Muncey, architect:—

Duncanson & Moultrie*	£2,800	0	0
Tracey & Co.	1,850	0	0

* Accepted.

For alteration to house, for Mr. Lush, Q C. Mr. Roger Smith, architect:—

Patman & Fotheringham	£1,596	0	0
Colls & Co.	1,586	0	0
Carter	1,570	0	0
Roberts	1,280	0	0

For additions to the Middlesex House of Correction, Cold Bath-fields. Mr. F. H. Pownall, architect:—

Downs	£23,500	0	0
Macey	22,633	0	0
Brown & Robinson	22,500	0	0
Higgs	22,350	0	0
Mansfield	22,345	0	0
Lucas, Brothers	21,349	0	0
Dove, Brothers	21,255	0	0
Hill & Co.	21,240	0	0
Axford	20,265	0	0
Piper & Wheeler	20,200	0	0
Perry & Co.	18,875	0	0

For building a pair of semi-detached villas, at Penge, in Surrey, for Mr. Henry Woollven. Mr. Charles Dunch, architect:—

Baugh & Bryant	£1,749	0	0
Pritchard & Son	1,652	0	0
Perry & Judson	1,492	0	0
Thompson	1,460	0	0
Hearle	1,439	0	0
Curtis	1,345	0	0
Jacobs	1,285	0	0
Brown (accepted)	1,269	0	0

For alterations at No. 271, Three Colt-street, Limehouse, for Mr. Isaac Snape. Mr. Charles Dunch, architect:—

Ebbage	£556	0	0
Hearle	525	0	0
Wood, Brothers	510	0	0
Brown (accepted)	458	0	0

In the list of tenders for the Arundel and Mid-Sussex stations, for quantities were supplied by "Messrs. C. Davis & C. Poland," read "Messrs. C. *Driver* & C. Poland."

TO CORRESPONDENTS.

J. F. C.—W. W.—C. E. D.—C. L. (must make his own deductions as to the best means of ventilation from what is said from time to time in the *Builder*. We have not observed any "earth closets" in the Exhibition.)—J. G. K.—G. H.—E. & B.—F. K. P.—Carbon Rouge (look to Rickman's "Attempt to Discriminate.")—B. C.—P.—G. C.—E.—T.—W. S.—F. R. W.—T. W. G. (send the photographs: they shall be returned.)—London Householder.—"Albert the Good."—H. B. & B.—E. E.—C. G Sen.—C. & B.—R. M. P.—W. M. M. (shall hear.)—J. C. H.—H. N. M.—J. B.—Mr. M.—J. H. C.—Mr. H.—J. R.—T. B.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

PURSUANT to a Decree of the High Court of Chancery, made in a cause Lost v. Lost, the creditors and also the incumbrancers upon the real and leasehold estates of William John Lost, late of Clapham, in the county of Surrey, surveyor, who died in or about the month of August, 1858, are, by their solicitors, on or before the 29th day of OCTOBER, 1862, to come in and PROVE their DEBTS or CLAIMS, at the Chambers of the Master of the Rolls, Rolls Yard, Chancery lane, Middlesex, or in default thereof they will be peremptorily excluded from the benefit of the said decree. THURSDAY, the 6th day of NOVEMBER, 1862, at TWELVE o'clock at noon, at the said Chambers, is appointed for hearing and adjudicating upon the claims. Dated this 9th day of August, 1862.

GEO. HUME, Chief Clerk.

Merriman & Brewin, 25, Austin-friars, plaintiff's solicitors.

"THE BUILDER."—January 25th, February 22nd, March 1st and 15th, 1862

A few clean Copies of the above dates are required.—Apply to the Publisher, at the Office, 1, York street, Covent-garden, W.C.

MR. WILLIAM ELLISON
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE
Every description of Architectural Drawings prepared, as Perspectives Outlined or Coloured, by
Mr. T. T. MARDON, Jun.;
Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c. 7, John-street, Bedford-row, W.C. Office hours, Ten to Four.

AN Architect superintending and directing a large building business, has VACANCIES in his Office for ONE or TWO OUT-DOOR PUPILS, who would fully learn the practice and responsibilities of their profession. They could reside with the head clerk if necessary.—Apply, J. P. 24, Walpole-street, King's-road, S.W.

CLERK of the WORKS. — WANTED immediately, a thoroughly experienced CLERK of the WORKS to take charge of a building about to be erected about twenty miles from London.—Address, stating reference, and where last employed, J. S. C. Office of "The Builder."

TO ARCHITECTS' ASSISTANTS
REQUIRED, in an Architect's Office, a MANAGING ASSISTANT, immediately if possible. Address with full particulars as to qualification, age, experience, and salary required, to B. S. Mr. Rosbuck, Stationer, Darlington-street, Wolverhampton.

WANTED, a Gentleman to take the MANAGEMENT, practical and commercial, of Gaspwood Mills in Great Britain. A preference would be given to one who could take a small interest in the concern. Address, G. M. care of Messrs. Drake & Son, Solicitors, 38, Walbrook, London.

TO TIMBER MERCHANTS CLERKS.
WANTED, a Young Man who has had some experience in the Timber Trade, with a knowledge of book-keeping.—Address by letter A. B. care of Messrs. Yates & Alexander, Horsemonger-court, Lindgate-hill, stating last or present employment, and salary required.

WANTED, a good SMITH and BELL HANGER, for a permanency.—Address, Mr. G. GILBERT, Tunbridge Wells.

WANTED, a WORKING FOREMAN in a Jobbing Shop. Must be a good hand.—Apply, by letter, to E. C. Hatchet's, Stationer, Moorgate street, City.

TO BUILDERS' CLERKS
WANTED, an energetic Man as CLERK. Address, in a Builder's Office. Will up in bookkeeping, prime cost, &c., stating age, where last employed, and salary, to O. P. Office of "The Builder."

WANTED, a thoroughly-experienced SHOP FOREMAN of JOINERS, for a London firm, to take the entire management of the shop and yard. None but thoroughly experienced men need apply.—Address, A. B. Trimmer's Post office, Brecknock-place, Camden town.

WANTED, as FOREMAN, a Person practically acquainted with the Building Business. The strictest Inquiries will be made as to ability, punctuality, and sobriety. Address, with full particulars, and stating salary required, to M. C. of C. Freeman, esq. 14, Buckingham-street, Adelphi, W.C.

WANTED, a respectable Youth, as an APPRENTICE to the GENERAL IRONMONGERY BUSINESS.—For particulars, apply, Mr. WHITE'S, 14, George-yard, Lombard-street.

TO PLUMBERS AND GLAZIERS
WANTED, to PLACE a YOUTH, aged 16, as an IMPROVER with a master for three years, at a small premium.—Address, E. H. 21, Cocks par street, London.

WANTED, by a Working Foreman Joiners, a RE ENGAGEMENT as SHOP or OUT-DOOR FOREMAN. Is thoroughly competent to set out work, convert material, and is a good strong hand. Can have several years' unexceptionable references as to ability and sobriety.—Address, J. B. care of J. Rea, Baker, 3, Church-street, Hackney.

TO PLUMBERS, &c.
WANTED, by a Young Man, a SITUATION as PLUMBER, aged 21. Can turn his hand to sheet working, and would fill up his time with painting and glazing. No particular as to wages. Good references if required. Address, E. care of Mr. Perkins, 45, King-street, Camden Town.

TO BUILDERS AND CONTRACTORS.
WANTED, by a Bricklayer, with 25 years' experience in Town and country, a SITUATION as FOREMAN, or Painting and Gauze work by the Piece. Will put in estimate out work. Good references.—Address, B. 25, Durham street, Upper Kennington lane, Lambeth.

TO PLUMBERS, BUILDERS, AND OTHERS.
WANTED, by a first-class PLUMBER a constant SITUATION. No objection to fill up his time with glazing, &c. Town or country. Good reference.—Address W. B. No. 8, Lawrence street, Bloomsbury.

WANTED, EMPLOYMENT, in an ARCHITECT or BUILDER'S OFFICE, by a highly respectable Young Man, who is willing to make himself generally useful. He has served a short time in an Architect's Office, and has good taste for architecture.—Address, for particulars, A C Office of "The Builder."

TO HOUSE PAINTERS AND GRAINERS
WANTED, a SITUATION in the above line, by a Youth from the country, as IMPROVER. No objection to be bound a few years if a permanency is required. A premium will be given.—Apply to Mr. R. MUMFORD, Builder, Billericay, Essex.

TO ZINC-WORKERS AND OTHERS.
WANTED, by a Young Man (married), SITUATION as ZINC-WORKER'S LABOURER (has a good insight of the trade), or any other place of constancy. Has two years' good character.—Address, M. A. 19, Augustus-street, Cumberland Market, Regent's Park, N.W.

TO ARCHITECTS AND BUILDERS.
WANTED, by a Person of 25 years' experience, a SITUATION as CLERK of the WORKS or BUILDER'S CLERK. Fully competent to take out quantities and measure up work, &c.—Address, E. W. 16, Holywood-terrace, Kingsland-road, London, N.

TO BRICKMAKERS.
WANTED, by the Advertiser, after Michaelmas next, a RE-ENGAGEMENT as FOREMAN and MANAGER of a BRICKFIELD. Has had considerable experience in the manufacture of bricks for many years past in an extensive firm, and can produce references of the highest respectability.—Address, A. B. care of Mr. EALES, Stationer, &c. 2, De Beauvoir-terrace, Kingsland-road, London, N.

TO PAINTERS, PAPER-HANGERS, AND GLAZIERS.

WANTED, by a Young Man, aged 22, a constant SITUATION. Country preferred.—Address, T. W. H. obe-road, Mile-end road.

TO BUILDERS, PAINTERS, &c.

WANTED, by a Steady Man, a constant SITUATION. Has had 21 years' practical experience in ng, graining, writing, paperhanging, and glazing. Country red. Address, A. F. No. 6, Marshall-street, near Golden- e, London, W.

TO CARPENTERS AND OTHERS.

WANTED, by a Young Man, aged 20, a SITUATION in a Carpenter's Shop. Has been five years at rade. Wages, 18s. a week. — Address, G. M. 16, Bridge-row, co.

TO SMITHS.

WANTED, by the Advertiser, a SITUATION as IMPROVER. Has been four years in the trade urther particulars address, W. B. 6, Royal-place, Royal Hill, wich.

TO BUILDERS AND PAINTERS.

WANTED, by the Advertiser, in town or country, CONSTANT EMPLOYMENT as PAINTER, INER, and GENERAL WORKMAN. -Address, B. B. 34a, York- , Portman s quare, London, W.

TO BUILDERS, HOUSE DECORATORS, &c.

WANTED, by a Young Man, a SITUATION as Paper-hanger and Decorator, in town or country. ojection to fill up his time at painting, &c.—Address, F. G. Lawn ge, Kilburn.

TO BUILDERS AND OTHERS.

WANTED, a constant SITUATION as PLUMBER or Three-branch hand; has been 12 years with employer, a builder, who is now retired from business where he ave an unexceptionable reference; or from clerk of works that t worked under.—Address, O. D. 29, Queen's Head-lane, Lower- Islington, N

WANTED, an ENGAGEMENT in an Architect's Office in London. Terms, 2l. 2s. Age 26.—Address, A. X Office of "The Builder."

WANTED, by a practical BRICKLAYER, a SITUATION as FOREMAN, or by the ROD. Any class of ings or builder's work done by the rod or foot. Unexceptionable rence given.—Direct, J. H. 19, Broadley-terrace, Blandford-square, n, N W.

TO BUILDERS, ENGINEERS, AND OTHERS

WANTED, a RE-ENGAGEMENT, by an ASSISTANT. In neat, expeditious, a fair draughtsman and rist, writes a good hand, and is desirous of rendering his services l. Salary small. A permanency the primary object. Good nces.—Address, A. D. 44, Stanford-road, Fulham road, S.W.

TO BUILDERS AND CONTRACTORS.

WANTED, by a respectable Young Man, aged 24, a SITUATION as CLERK and ASSISTANT to the . He has a thorough practical knowledge of the business; is an nt draughtsman and good accountant; can take out quantities, ate up work, and set out and superintend the erection of ings. Terms moderate. Town or country. Good reference.— ss, N. W. Office of "The Builder."

TO PAINTERS, DECORATORS, AND BUILDERS.

WANTED, Constant EMPLOYMENT, by a Young Man, a thorough Painter, Glazier, Decorative Paper- r, and Distemperer Also can do plumbing and zinc-work. The ry preferred. Good reference. Address, R. S. Office of "The er."

TO MASTER PLUMBERS, BUILDERS, &c.

WANTED, by a steady Young Man, a Constant SITUATION as good PLUMBER. Is willing to fill time with Gasfitting, Glazing, and Painting. Three years' re- e from last employer, if required.—Address, A. B. 31, West- s-street, Pimlico, S.W. No objection to the country.

TO BUILDERS.

WANTED, PLASTER'S WORK, by a Practical Man. Material and labour, or labour only. Town ntry.—Address, A. B. 142, Lillington-street, Pimlico.

TO BUILDERS AND PLUMBERS.

WANTED, by an experienced PLUMBER, a SITUATION, in town or country. He has also had consid- le experience in gasfitting and zinc work.— Address, G. H. 10, Sloane-street, Chelsea.

TO BUILDERS, LAND AGENTS, AND OTHERS.

WANTED, by a Practical Man, a SITUATION as CLERK of WORKS, GENERAL FOREMAN, or SUPERINTENDENT on an Estate. Has a thorough knowledge of ding's work in all its branches, can prepare drawings and specifica- ns, and measure up work.—Address, ALPHA, 5, Hawley-place, ish-town.

WANTED, by a Young Man, a SITUATION as IMPROVER in Plumbing, Painting, and Glazing. s been five years in the trade. Wages not so much an object as tinuity. Address, J. S 7, Shipper-place, Rotherhithe.

TO ARCHITECTS, BUILDERS, &c.

WANTED, a SITUATION as CLERK of WORKS or GENERAL FOREMAN, by a thoroughly practical well up in every branch of the building trade.—Address, R. Z. Y. of "The Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, by a thoroughly practical BUILDER'S FOREMAN, a CARPENTER by trade, a RE- GEMENT as GENERAL FOREMAN, or to take charge of , either in town or country. Good reference from last em- —Address, M. J. 44, Admiral-terrace, Vauxhall Bridge-road,

TO BUILDERS AND DECORATORS.

WANTED, by a first-class SIGN and GLASS WRITER, ORNAMENTAL DESIGNER, &c., a nt SITUATION. Terms moderate.—Address, T. T. E. B. 73, oreland-place, City-road, E.C.

WANTED, a SITUATION, as CLERK of WORKS, or to TAKE CHARGE of the ERECTION of DINGS. Has just completed the build ng of two churches. references given from architects and builders.—Direct, A. Buildings, Romford, Essex.

TO BUILDERS AND CONTRACTORS.

WANTED, EMPLOYMENT, as GENERAL FOREMAN of Works, or Walking Foreman. fection to the charge of sjoiner's shop. Good references can n. Well acquainted with country jobs. — Address, E. A. 37, ster-terrace, New road, Commercial-road, London, E.

TO CIVIL ENGINEERS AND LAND SURVEYORS.

WANTED, a RE-ENGAGEMENT by a Competent Assistant, provided with all field and office nents. Is experienced in parish, estate, and railway survey- veiling, tanging curves, &c. and is a good draughtsman.— s, SURVEYOR, 19, Acton street, Gray's-inn road, London.

TO BUILDERS AND PLUMBERS.

WANTED, by a Plumber, a constant SITUATION, or on a Job. Has been used to the best of and will turn his hand to plain zinc work. Can do painting ng if required. A reference can be given as to ability.—Address Margaret-street, Cavendish square.

WANTED, to Place a Youth, aged 16, as an APPRENTICE, under the care of a respectable foreman, in a good Builder's business, where he could be boarded and lodged, and receive regular instruction in the business of carpenter and joiner. Terms to be stated, and unexceptionable references given.—Address, Messrs. JENNINGS & SON, Proctors and Solicitors, No. 18, Bennet's hill, Doctors' Commons.

TO BUILDERS.

WANTED, PLASTER WORK, finding scaffolding and mat-rials, or labour only. Payment by instalments. First-class references. — Address, T. S. at Mr. Stoke's, 19, Elizabeth terrace, Liverpool road, Islington.

TO BUILDERS AND CONTRACTORS.

THE Advertiser is desirous of a RE-ENGAGEMENT as CLERK. Is a thorough book-keeper, and well acquainted with measuring, abstracting, and making out bills. Good references can be given. Age, 37.—Address, B. W. 61, Forston-street, Shepherdess-walk, City-road, N.

TO MASTER PLUMBERS & BUILDERS.

THE Advertiser wishes for a Permanent SITUATION as PLUMBER; is a good Gas-fitter. and Zinc-worker. First-rate references as to ability.—Address, A. B. 4, Seymour-place, John-street, Upper Holloway, Islington, N.

TO ARCHITECTS, &c.

THE Advertiser, who has had considerable experience as an architect and surveyor, would be willing to RENT a PORTION of the OFFICES of an ARCHITECT, requiring occasional assistance in the preparation of drawings, specifications, quantities, &c.—Address, J. S. Mr. Earle's, 8, Cannon-row, Westminster.

TO ARCHITECTS AND BUILDERS.

THE Advertiser is desirous of an ENGAGEMENT, to SUPERINTEND the ERECTION of a MANSION, PUBLIC WORKS, or other BUILDINGS, either in town or country. Has had considerable experience in drawing, estimating, and carrying out works, and is practically acquainted with the business in all its branches.—Address, A. B. 23, Stanhope street, Hampstead road, N.W.

TO ARCHITECTS AND BUILDERS.

THE Son of a Builder, aged 25, desires an ENGAGEMENT in an Architect's or Builder's Office. He has had eleven years' experience, chiefly at the bench. Can get out either working or finished drawings, take out quantities, and is thoroughly acquainted to the trade in all its branches. Country town preferred to London. Salary moderate. — Address, J. C. S. Office of "The Builder."

TO ENGINEERS, CONTRACTORS, AND BUILDERS.

THE Advertiser, having had considerable experience in the construction of works, surveying, levelling, setting out, measuring up estimating, &c. desires an ENGAGEMENT to SUPERINTEND WORKS. Is a good draughtsman and accountant. Address, L. F. Post-office, Milford, South Wales.

TO ARCHITECTS, &c.

THE Advertiser, a first-class draughtsman and designer, good perspective hand, and fair colourist, is open to an ENGAGEMENT in the Provinces First class references.—Address, J. Z. 121, Albany street, Regent's Park.

PLUMBING.—EMPLOYMENT WANTED, by a respectable experienced man, thoroughly conversant with water-closets, baths, pumps, &c. No objection to town or country. Willing to make himself useful. Respectable reference. Address, T. W. 31, North-street, Hercules-buildings, Lambeth.

TO BUILDERS

ONE who has had considerable experience in superintending the erection and alterations of buildings, WANTS a RE-ENGAGEMENT. In town or country. Reference good. — Please address, JOHNSON, 5, West-square, Southwark, London, S.E.

GLASS-PAINTING.—A Young Man, of steady habits and fair experience, as an Ornamental Hand in Ecclesiastical Work, seeks Permanent EMPLOYMENT; in consideration of which he would be content with but a moderate salary. Country preferred.—Apply to T. H. 235, Euston road, N.W.

TO BUILDERS AND DECORATORS.

EVENING or PARTIAL EMPLOYMENT—AVANTED, by a Practical Young Man, EMPLOYMENT as above, to prepare estimates, working and finished drawings, and specifications, and to take out quantities; or he would not object to a share up builders' or decorators' accounts.—For particulars address, A. B. C. 443, New Oxford-street, W.C.

TO ARCHITECTS AND SURVEYORS.

A QUANTITY SURVEYOR and MEASURER, of considerable practical experience, would be glad to TREAT with ARCHITECTS for their Quantities and Measuring, Writing Specifications, &c. upon reasonable terms; or would assist Architects and Surveyors at their own Offices, if preferred. References given.—Address, "ALPHA," care of Mr. Fisher, Stationer, Vassall-road, Brixton-road, S.

AN Architectural Draughtsman, about to leave one of the principal Building Firms in London, wishes for an ENGAGEMENT in either an Architect's or Builder's Office.—Address, T. C. M. Office of "The Builder."

A WHARF CLERK, where Building Materials are Sold. A steady middle-aged man is in want of a SITUATION, or in some other capacity.—Address, B. C. D. 44, Hall-street, City-road, E.C.

TO ARCHITECTS, &c.

A YOUNG MAN wishes for EVENING EMPLOYMENT at an Office, or his own rooms, in Preparing Drawings from Rough Sketches, Copying Specifications, &c.—Address, Z. J. H. 18, Fenton-place, Walworth, S.

TO BUILDERS, HOUSE AGENTS, AND SURVEYORS.

A YOUNG MAN, aged 25, is desirous of obtaining a SITUATION as CLERK and DRAUGHTSMAN. Can measure, take out quantities, with a good knowledge of perspective, drawing, and the usual routine of a builder's office.—Address, H. B. 5, London-street, Paddington, W.

TO BUILDERS AND PLUMBERS.

A RESPECTABLE YOUNG MAN, who has served seven years to painting and glazing, wishes for two years' experience to the plumbing, in town or country. Wages 25s. per week.—Address, A. J. C. 13, Arthur terrace, Caledonian-road, Islington, N.

A YOUNG MAN wishes to ARTICLE himself to the CARPENTERING and JOINING for Eighteen Months. Has served five years. Aged 21.—Address, A. B. Soares's, Stationer, Kew.

A YOUTH, aged 19, of Christian character, who has come to London for improvement, seeks an ENGAGEMENT where he can cultivate a natural gift for drawing and painting. By trade a carpenter. No objection to the country.—Address, J. G. W. 66, Milton-street, Dorset-square, N.W. where a few drawings can be seen.

TO ARCHITECTS AND SURVEYORS.

A FULLY QUALIFIED ARCHITECT'S and SURVEYOR'S ASSISTANT offers his SERVICES on moderate terms. Good references.—Address, A. B. care of Mr. Pedder, 2, Bloomsbury-street, W.C.

TO ARCHITECTS.

A GOOD and expeditious Draughtsman, who is perfectly capable of getting work it and finished drawings, perspectives, &c.; is a good colourist, and understands the routine of an office, is desirous of meeting with an ENGAGEMENT Terms moderate.—Address, C. B. R. 10, Acton-street, Gray's-inn-road, W.C.

TO BUILDERS.

A SURVEYOR of great experience offers TEMPORARY ASSISTANCE to BUILDERS, in town or country, in taking off quantities, estimating, measuring up extras and omissions upon contracts and other works, making drawings, writings, specifications, and making up builder's accounts, upon moderate terms.—Address, S. V. R. Office of "The Builder."

TO BUILDERS, &c.

AN ENGAGEMENT is WANTED by a GENERAL FOREMAN of BUILDING WORKS, in town or country, or to take the general MANAGEMENT of a JOB. Good reference to last and previous employers.—Address, F. S. 114, York-road, Lambeth, S

APPRENTICE.—A Young Man, aged 19, wishes to be BOUND, four or five years, to a SMITH, BELL-HANGER, &c. A moderate premium given Address, R. C. No. 19, Theobald street, New Kent road.

TO BUILDERS AND CONTRACTORS.

A YOUNG MAN out of employment wishes for a Permanent SITUATION as WHEELWRIGHT. Good reference.—Address, G. D. No. 7, The Grove, Lewisham, Kent.

TO ARCHITECTS, &c.

AN experienced Clerk of Works wishes a RE-ENGAGEMENT. Is fully qualified, and can be well recommended.—Address, CLERK of WORKS, Elvetham Hall, Winchfield, Hants.

AN APPRENTICE WANTED, for a light mechanical business. A moderate premium will be required. Address, J. M. 4, Gibson street, Lambeth, S.

A FIRST-CLASS THREE-BRANCH HAND WANTS a constant SITUATION. Is a good gasfitter, understands general repairs in all its branches, can measure up and estimate work.—Address, X. Y. Z, 11, Henry street East, Avenue-road, St. John's-wood, N.W.

TO CIVIL ENGINEERS AND SURVEYORS.

A CLERGYMAN'S SON, who has been 3½ years with a civil engineer and surveyor, is desirous of obtaining a SITUATION in a Firm where his services would at first be considered equivalent to his board, or a small salary. Is a fair draughtsman and printer, and has assisted in surveying several railway lines. Can have a good testimonial from the party with whom he is just completing his pupilage. No objection to go abroad.—Address, Rev. T. T. CRESSWELL, Maldon, Essex.

TO BUILDERS AND CONTRACTORS.

A BUILDER'S SON, aged 22, REQUIRES a SITUATION. Has been accustomed to make plans and working drawings, measure, and estimate, and to superintend workmen.—Address, J. H. B. Post-office, Brixton hill, S.

TO CABINET-MAKERS AND OTHERS.

A YOUNG MAN, a General Hand and Wood Turner, seeks EMPLOYMENT in town or country. He has held a situation of responsibility, is an excellent draughtsman, and can sketch and tint with effect.—Address, W. C. E. No. 50, St, George's-road, New Kent-road, Borough, S.E.

TO PLUMBERS, PAINTERS, and GASFITTERS.—A Chance not often to be met with.—An old-established BUSINESS in the above line TO BE DISPOSED OF, the present proprietor retiring The whole of the rent let off, and over 30 l taken from one estate per annum. Price 350l.—Apply to T. BURNS, Sen. Builder, Wilson street, Finsbury

TO ARCHITECTS, BUILDERS, &c.

GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F. ODELL & CO, 9, Bath-street, City-road, E.C.; or at the Works, 12, Grafton-mews, Fitzroy-square, W.—N.B. Fret and Church Leads sold.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Flatted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price lists forwarded free on receipt of business card addressed to

R. METTAM & CO.

30 and 31, PRINCES STREET, SOHO, LONDON, W.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

311, REGENT STREET, W.

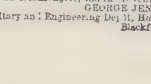
(Adjoining the Polytechnic Institution).

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square., W. and George yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

POLONCEAU and LIMMER ASPHALTE.



ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for laying Slates (as shown above), the thickness of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c with instructions to lay it down.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops preferred in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and to swing one group.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

THOMAS MILLINGTON,
GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.
In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. — 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1¾	2	2½
„ 2 ft. 6 in. sup.	1½	1¾	2¼	3
4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

	per 100 ft.	15 oz.	21 oz.
20 by 12		4ths 12s. 6d.	4ths 17s. 0d.
20 by 13		3rds 15s. 0d.	3rds 21s. 6d.
20 by 14		2nds 18s. 0d.	2nds 28s. 0d.
20 by 15		1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosive Paint 28s. to 34s. } per cwt.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.

Fine Oak Varnish ...10s.
„ Carriage ...12s. } per gallon.
Linseed and Boiled Oil
Turpentine .....

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.
SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.
KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

HAMPSTEAD ROAD JOINERY WORKS.
21, HARRINGTON STREET, N.W.
NEVIL SIMMONDS,
MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.
HOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.
Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp

PEARCE'S PATENT SANITARY PIPE, BRICK, AND TILE MACHINES,
Producing nearly double the quantity and of very superior quality to any machine yet invented. The improvement consists in the introduction of a central stem to support the core of the die, and obviating the necessity of cross-bars or bridges, hitherto found so detrimental in the manufacture of large sanitary pipes. The upper part of the Machine acts as a Pug-Mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die. The larger Machines will make sanitary pipes, from 3 inches to 24 inches. The smaller, from 2 inches to 12 inches.—Particulars on application to the
IRON WORKS, POOLE, DORSET.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for the SALE is REMOVED to No. 2 Wharf Macclesfield-street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Report of the Jurors," page 331, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

PRIZE MEDAL TO MAW & CO INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, veranah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit street, free
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA-COTTA WORKS, BLACK-FRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1763, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.
An Illustrated Price Catalogue will be forwarded upon the receipt of eight postage-stamps.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACK-FRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation. CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 368 and 368, EUSTON-ROAD, N.W.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. 6 inches
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two thirds of the working expenses of other machines.
Price, including royalty, 75l.
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,510.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
9-inch Pavings, at 87s. 6d. per 1,000.
„ Kiln Bricks, at 26s. per 1,000.
„ Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line of the Eastern Counties Railway. About 30,000 Bricks lying at Ely-place, Cambridgeshire street Station, at 26s. per 1,000.

A NEW BRICK and LIME WHARF and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank row, Westminster, and Lucas, Lighterman and Wharfinger, of Hermitage Bridge Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

PARIS PERMANENT UNIVERSAL EXHIBITION
TO BE OPENED IN 1863.
For many years National Exhibitions have been held in various cities, within universal access in stimulating industry and developing trade between the countries represented by the Exhibitions.
The central position of Paris, and the vast number of strangers that nightly throughout every year, have suggested the establishment there of a Permanent Exhibition; where specimens of the manufactures and products of every country will be collected together in a spacious building, in order that dealers and consumers from all parts of the world may see them, and base their orders upon the quality and cost of the articles exhibited.
The project has met with the entire approval of the Emperor Napoleon III. and a special license has been granted by the Minister of Finance and Commerce for admission to the Permanent Universal Exhibition, during the entire period that it is open, of all Foreign Products, Free of Duty, with liberty to re-export them without payment of duties, or to sell them on the spot, on paying the duties imposed by the new International Tariff.
The wants of the capital, amounting to 600,000, has been subscribed in France, and the Palace now in course of construction will be opened early in the summer of 1863.
The amount of space allotted to France and several other Continental countries has already been taken up.
Admission will be gratuitous on at least five days of the week.
The British Exhibitors will be represented by a Committee of their members, who, with those appointed by other countries, will form a General Committee, to organize the distribution of space, and to frame a code of rules for general observance; and agencies will be established in Paris to receive orders.
All products and manufactures will be classified, so that those of the same nature from different countries, being placed in juxtaposition, may be easily compared.
Two rates of rental (payable annually in advance) will be charged for the space being taken for six years.
1l. first rate (25 francs per square mètre per annum) will apply to products and manufactures.
The second rate (1l. per square mètre per annum) will apply to the surface for advertisements.
N.B. Five square mètres are equal to six square yards English.
Drawings of the Building can be seen at the principal Railway Stations and Exchanges in London and the country; in the Refreshment rooms of the present London Exhibition; and at the Offices of the Commissioners.
J. HUDDY LEIGH & CO. 27, Leadenhall-street, London, Agents for Great Britain, Ireland, and the Colonies, from whom forms of application and full information may be obtained.

THE KEYNSHAM BLUE LIAS LIME AND CEMENT COMPANY, Limited, are prepared to Supply their celebrated Blue Lias Lime and Cement (manufactured by Captain Johnson's patent process) in any quantity. Special Contracts made for Public Works.—All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement at the International Exhibition; and this Company received "honourable mention" for the good quality of their Lime.

TARPAULINS, MARQUEES for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PHIER,
DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL ROAD (opposite Spencer-street), LONDON, E.

PRIZE MEDAL—INTERNATIONAL EXHIBITION, 1862.
CONDY'S PATENT FLUID is adopted by all the Leading Hospitals and by most Government Departments. It contains OZONE, a Disinfectant (OXYGEN), possesses the extraordinary properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and destroying all chemical OZONE. Condy's Fluid, therefore, the most powerful purifier and deodorizer for sick rooms, slaughter houses, dissecting rooms, house-drains, sewers, cesspools, graveyards, &c., and is perfectly useful for numerous domestic purposes, for which all other disinfecting agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying pure water, sweetening musty casks, removing and preventing mould, mustiness, &c. as well as by use in the bath for promoting healthy personal purity.—Obtainable of all first-class Chemists in Bottles at 1s. 2s. or 4s each; or per Gallon, 1s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.
Wholesale of the Patentee, Battersea, Surrey, S.W.

FRONTS of HOUSES.—GREENE & PORTLAND CEMENT WASH is a superior colouring not vegetate or wash off. Equal to paint in durability and much less in cost. In casks of 1 cwt. for 10s. cash.—22, Norfolk-street Road, Islington.

F. COLYER & CO. Engineers and wrights, St Mary's Iron Works, 6, Lemon street, Factors of Steam Engines and Boilers, Lifts and other Consuming Furnaces, Cranes and Lifting Machinery on steam power, Hydraulic Presses, Pumps, Valves, and Works. Where, Overhead, Breed, and Pet-nom. F. C. & Co. undertake to Erect Cases of Millwork and machinery.

RAILWAY COMPANIES, CONTRACTORS, and AGENTS SUPPLIED with KEYS, TIPPETTS, BUSHES, SLEEPERS, BARROWS, and all descriptions of WAY PLANT and STORES by W. P. FRANCE, GREAT WESTERN SAW MILLS, Bridge Wharf, Paddington.—Debentures taken if required.

JOINERY OF EVERY DESCRIPTION

AIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

ETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

UILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.			Laths, 28s. per load.	
Yellow Deals, sound and good	£19	10 0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	16	10 0 ,,	0 2½	,,
Yellow Battens, excellent quality	11	10 0 ,,	0 2	,,
Fine Planks, dry, 12 feet 3 inches by 11 feet	21	0 0 ,,	3 6	,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
1-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1¼-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1½-inch ,,	....	18s. 0d.	19s. 0d. ,,

w Deals, 3 by 9 ..... £19 10s. per 120.
w Battens ..... £11 10s. ,,
e Deals ..... £16 10s. ,,

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
⅝-inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

eg to inform their Friends and the Trade generally that, having extended their Premises and increased their inery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every descrip- f WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD LDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest le notice, to supply any quantity they may require.

ASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

E LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Work-rooms, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, all that he is now prepared to supply the Trade with first-class goods at the lowest possible rate of prices—for cash

Sash and Frames, Boxing Shutters, Doors, Staircases, Hand rails, and Water-closet Fittings, well-seasoned Flooring, Moulded Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



GREATER REDUCTIONS.—Yellow Deals, from 2s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 2s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD

(successors to THOS. KENT & CO.), the celebrated

PAINTING and GENERAL BRUSH MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Cuttlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

KENT'S PAINTING BRUSHES

are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO.

at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s. 8d.; Turpentine, 8s. 6d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, 36, Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest price.

TO BUILDERS, DECORATORS, &c.

FIRST-CLASS PAINTING BRUSHES (C. A. Watkins's Patent), warranted secure, best bristles, and of superior manufacture, at moderate prices. Varnish Brushes, Stipplers, and Graining Tools of the most improved construction. To be had only of

HAMILTON & CO.

PAINTING BRUSH MAKERS,

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

And of their Agents,

SMITH & HILL, Varnish Makers, 13, Raven-row, Mile-end, E.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.

Linseed Oil, 3s. 9d. per gallon; Boiled Oil, 3s. 8d. per gallon.

Turpentine, 8s. 6d. per gallon.

Fine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.

Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

20, LONDON WALL, E.C.

Where also may be obtained their

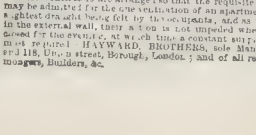
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,

Together with all kinds of Colours and Varnishes,

Warranted of the purest quality and at the lowest prices.

Agents for Kershaw's Graining Machines.

VENTILATION—PURE AIR



EXTERNAL WALL.

With single pulley, from 6s. each, with leading pulley, from 6s. 6d. These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by those present, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of pure air is most required. HAYWARD BROTHERS, Sole Manufacturers, 117 and 118, Upper-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246).

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from **2s.** per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from **3s** per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY
BEING
MOST SIMPLE AND SECURE
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of superiority over other Patents

Blind Makers to her Majesty by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
HEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt stone put on board at Swansea or Cardiff for shipment
CEMENTS, Roman, Portland, Keene's, Parian, and Lias
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
FLOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, SAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Penant's Quarries.
STAFFORDSHIRE PAVEMENTS and EDGING. Blue, Red, and Buff Terra metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental. Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED BLOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS.

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.

SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.

SCOTT'S PATENT PLASTER.

GREY STONE LIME, of very superior quality. CHALK LIME.

Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c. RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.

" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Despatch.

SPURGEON'S IMPROVED MARTIN'S CEMENT.

A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.

MANUFACTURED ONLY BY

B. W. SPURGEON, DERWENT WORKS, DERBY.

London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.

Coarse, Fine, and Superfine London-made PLASTER of PARIS.

GREAVES'S BLUE LIAS LIME

GREAVES & KIRKSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS,

LONDON WHARFS:

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.

LIMEKILN-HILL, LIMEHOUSE, E.

Wherseat can be obtained, of the best quality:—

GREY STONE CHALK FLARE and BLUE LIAS LIME

ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.

COWLEY and KENT BRICKS.

WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.

Ditto and ditto WALL COPING BRICKS and TILES.

YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.

WHITE, BLACK, and RED RUBBERS.

STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS.

TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS

Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CREST-S BLUE, RED, and GREEN

DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c

WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS and TILES, of every description, and size

GLAZED STONEWARE DRAIN PIPES, TRAPS &c

RED DRAIN PIPES, TILES, and CHIMNEY-POTS

TERRA-COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.

HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.

Goods forwarded by Railway with despatch.

LIME WORKS, CHALK FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Blue Lias Lime, and Oil Drops. Dry pit Sand screened, per hodge, in any quantity alongside the shipping.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIME-STONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

THE HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in Lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No application attended to without a banker's reference.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. — Orders received at Great Scotland-yard Whitehall; and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Barbside, London

N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise,

LONDON WHARF, BELVIDERE ROAD, LAMBETH

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms. PERRY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.

White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

PARIAN CEMENT for INSIDE WORK.

With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard sculpola imitation of marble. — Manufacturers, FRANCIS BROTHERS, & FOTT, Nine Elms, London

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
19, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierley Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosely colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and PACING BRICKS, by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

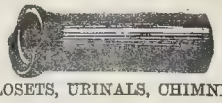
The entire MAKE of BRICKS by Mr William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

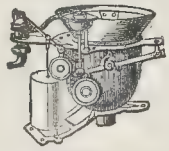
The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Carnock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS,

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

PLASTER OF PARIS.
The GREAT NORTHERN PLASTER COMPANY, Manufacturers of Superfine, Italian Fine, Builders' Fine and Coarse Plaster of Paris. Guaranteed a FIRST-CLASS ARTICLE AT MODERATE PRICES.
Head Office, Swift's-court, 13, Castle-street, Liverpool; Works, Newark-on-Trent.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of fine art architectural pieces.
MESSRS. HERBERT, MODELLERS,
242 EUSTON ROAD, ST. PANCRAS.

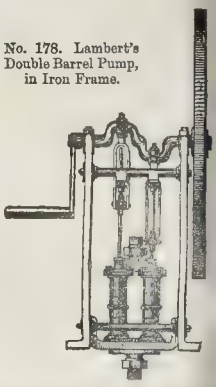
IMPERIAL POTTERIES, LAMBETH.
JOHN CLIFF & CO.
(Late STEPHEN GREEN & CO.)
GLASS-LINED AND SALT-GLAZED

SANITARY GOODS.
FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

THOMAS LAMBERT & SON,
No. 37. Self-Regulating Pan Closet.

No. 1. Lambert's Ball Valve.

No. 6. High Pressure Bib Valve.

No. 36a. Bath Valves.


High Pressure Stop Valve.

No. 178. Lambert's Double Barrel Pump, in Iron Frame.

FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,
SHORT STREET, NEW CUT, LAMBETH, S.
T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

ENCOURAGE COUNTRY MANUFACTURE.
WORTLEY,


Near LEEDS.
ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.
SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,
BOTH ROUND AND EGG-SHAPED.
M. B. NEWTON, LONDON AGENT,
WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.
From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.


INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 20 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.
BELL AND BRASS FOUNDERS, TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel.	Height.		£	s.	d.
2½ in. short	1 ft. 7 in.	Fitted for lead,	1	1	0
2½ „ long	3	gutta percha	1	10	0
3 „ ditto	3	or cast iron	2	4	0
3½ „ ditto	3	flanged pipe,	2	9	0
4 „ ditto	3	as required.	3	18	0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			2	0	0
2½ in. long ditto ditto			2	14	0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.

TWO PRIZE MEDALS FOR BELLS Have been awarded to JOHN WARNER and SONS,



AT THE GREAT EXHIBITIONS IN 1851 AND 1862.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in peals.

TUNED BY MACHINERY

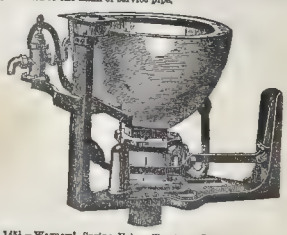
Old Bells recast or taken in exchange.

An experienced Bellhanger sent to inspect, report, and advise on the state of peals out of repair. Estimates furnished for new Oak Frames and Fittings, and for repairing old ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.

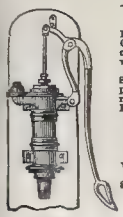


No. 1454.—Warners' Spring Valve Closet on Iron Frame, with vulcanised India rubber valve, and patent supply valve attached, plain handle, and white basin £3 15 0
Sunk handle extra 0 2 0
Blue basin, extra 0 1 6



No. 1464.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, plain handle, white basin £3 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

The above Prices are subject to a liberal discount.



No. 69.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£2 0 0	Larger sizes when required.
3 „	2 5 0	
3½ „	3 0 0	

Fitted to the best Plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4 15 0
3 „	5 15 0

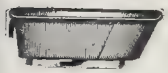


No. 384. No. 383.

WARNERS' HIGH PRESSURE COCKS are made with gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re-leathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.



WARNERS' BATHS can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

JOHN WARNER & SONS,

BELL and BRASS FOUNDERS to HER MAJESTY.
INTERNATIONAL EXHIBITION.

Class 8. WESTERN ANNEXE. Pumps, Beer Engines.
Class 9. EASTERN ANNEXE. Garden Engines, Syringes, &c.
Class 10. Near EASTERN DOME. Water-closets.
Class 31. SOUTH-EAST TRANSEPT.—A Peal of Eight Bells and Chiming Apparatus.
Class 31. HARDWARE COURT. Bells, Urns, Lamps, Brazier Goods, Baths, Steam Fittings, Plumbers' Cocks.

Illustrated Catalogues forwarded on application at the Manufactory, 8, Crescent, Cripplegate, London.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

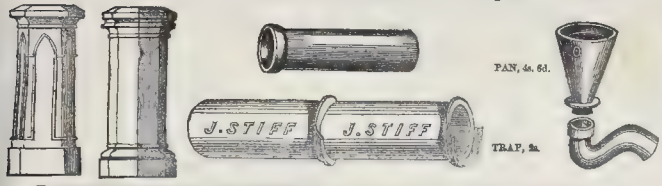
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.





LONDON WHARF, 64, Bankside, Southwark.

LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.

3s. 9d.



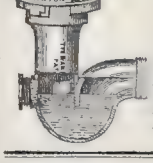
The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c
W. PATTEN, Patentee and Manufacturer, Old Fish street, St. Paul's, London, E.C.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many Builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

BUILDING MATERIALS.—CLAPHAM COMMON.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on TUES DAY NEXT, AUGUST 26th, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FIXTURES of a HOUSE and SHOP, Nos. 21 and 22, Pavement, Clapham Common, near the Plough; comprising sound brickwork, tiles, sashes, doors, partitions, wainscoting, plate-glass shop-front, chimney-pieces and interior fittings, sound timber and floor boards, lead, flat gutters, cisterns and pipes, a quantity of loose timber and materials, and various useful fittings up.—May be viewed on Monday; and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament-street, Westminster, S.W.

RICHMOND.—FREEHOLD PLOT OF GROUND AND COTTAGE.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on WEDNESDAY, AUGUST 27th, at TWELVE, a FREEHOLD PLOT of GROUND, lately occupied by the Richmond Waterworks Company, having a frontage of about 40 feet by 184 feet deep, on the west side of the Lower-road leading to Petersham, and extending to the towing-path, with a substantial brick-built Cottage thereon, and an artesian well, 400 feet in depth. The purchaser will have the option of purchasing the station-houses and machinery, or the same will be sold in lots on the 29th AUGUST.—May be viewed and particulars had of Messrs. HARGROVE, FOWLER, & BLUNT, Solicitors, 47, Parliament-street; at the Auction Mart; the Greyhound, Richmond; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W.; and 80, Fore-street, E.C.

TO ENGINEERS and OTHERS.—The Valuable Steam-engines, Boilers, Pumps, and Machinery, of the late Richmond Waterworks, and Materials of the Engine-houses.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the Premises, near the Bridge, Richmond, Surrey, on FRIDAY, AUGUST 29th, at TWELVE o'clock, in lots, the VALUABLE PLANT and MACHINERY, comprising a 20 horse high-pressure expansive, condensing beam-engine, by Maudslays; a 20 horse high-pressure expansive, condensing beam-engine, by Simpson; 3 Cornish boilers, 16 feet and 14 feet long, in good condition; two 15-inch and two 8 inch bucket-lift pumps, with suction-pipes and rising main; 250 feet of socket pipe; screw valves and metal cocks; spur and bevil wheels, with turned shafting and plummer blocks; cast-iron tank, 44 feet long, 18 feet wide, and 6 feet deep, capable of containing about 13,000 gallons; iron girder supports, of brass-sheaved blocks, &c. Also the excellent BUILDING MATERIALS of the Engine and Boiler Houses, comprising about 100,000 superior stock bricks, sound timber roofs, stone paving and steps, slates, lead, doors, sashes, and other useful materials.—May be viewed four days previous, and catalogues had of Messrs HARGROVE, FOWLER, & BLUNT, Solicitors, 47, Parliament-street; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, and 80, Fore street, City.—Note: The machinery will be in motion on the day preceding and morning of sale.

TO CONTRACTORS, BUILDERS, AND OTHERS.—Important Sale of Surplus Materials and Plant used in the Works of the Metropolitan Railway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractor, John Jay, esq. to SELL by AUCTION, at the WHARVES, City-road Basin, and Somers-lane, King's Wells-end at the Works, Bagrigge Wells-road, on TUESDAY, SEPTEMBER 16, and three following days, at TWELVE, in lots, the very valuable and extensive SURPLUS MATERIALS and PLANT used in the construction of the eastern division of the Metropolitan Railway; comprising eight portable steam-engines (some nearly new), by Ransome & Sims, Clayton & Shuttleworth, and others; a 25 horse power high-pressure tubular engine; 70 trucks, with iron runners and shafting; 400 loads of capital timber, in sticks and balk, planks, deal-square, struts, sleepers, &c.; powerful travelling crane, with jury; large iron drums and rollers, double and single purchase crabs, blocks, and falls; large spur, bevil and rigger wheels and shafting, 500 lineal feet of cast-iron rails, large quantity of chairs, sleaps, wire and hemp rope; crowbars, sledges, picks, spring gauges, and other drivers; 16 press, pile-driving engines, five large gins, with iron work complete, 100 tons of wrought and cast iron, 25 tons of pig, 10 waggons, iron and wood skips, navvy, crowding, and other barrows, 15 tons of cast-iron fish-bedding-plates; dobbin carts; 100 nearly new ballast waggons, mostly on springs; two expensive brick-making machines by Ingram & Co. scaffold poles, and 1,000 planks, 15 ladders, joiners' and smiths' benches, two canal boats, a barge, and numerous other effects.—May be viewed on SATURDAY and MONDAY previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament-street, S.W.

MILLBANK.—To MARBLE MASONS, BUILDERS, and OTHERS.—SICILIAN MARBLE for absolute Sale, to close a portion of the Premises.

PULLEN, HORNE, & EVERSFIELD beg to announce that they are instructed to SELL by AUCTION, at Bridport Wharf, Millbank, Pimlico, on the Premises, in all, SIXTY BLOCKS of SICILIAN MARBLE, a portion of which will be for absolute sale; also an assortment of ENGLISH SAWN SLAB, and several THOUSAND MARBLE SQUARES, for hall paving.—Approved bills at six months.—40, Parliament street, Westminster, and 80, Fore-street, E.C.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—20th Clearance Sale.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, in the early part of the ensuing month, in lots, all the excellent BUILDING MATERIALS and FITTINGS-UP of about Thirty Houses, Factories, Warehouses, and Premises, in Essex-street, Price's-street, Gravel-lane, New-street, and Keppel street, Southwark Bridge-road, and in front of the Blackfriars-road.—Further particulars in a few days; when catalogues may be had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

TO CARPENTERS, BUILDERS, CABINETMAKERS, AND OTHERS.

MESSRS. GLASIER & SON will SELL by AUCTION, at WARD'S WHARF, Commercial-road, Lambeth, on TUESDAY, AUGUST 26, at TWELVE for ONE, in lots 1,165 19 feet to 22 feet 9 at average and well-seasoned CROWN MEMEL PLANKS, 2,000 18 feet and 11 feet best bright dry yellow FINE PLANKS, and 864 12 feet to 25 feet well seasoned YELLOW DEALS. Catalogues on the Premises; at Garraway's, Change-alley, Cornhill; and of the Auctioneers, 41, Charing cross, S.W.

CHARING CROSS RAILWAY.—Twenty-second Clearance Sale.—Building Materials.—Sixth Portion of the Hungerford Market.—To Builders, Contractors, Paviors, and Others.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, the 29th of AUGUST, 1862, at ONE o'clock punctually, in lots, the sixth portion of the very valuable and useful MATERIALS of the HUNGERFORD MARKET; consisting of a publichouse, two long ranges of shops, with passage under the whole; and a range of stabling, comprising capital stock brickwork, Bangor slating, sound timber, in roofs and floors; good flooring boards, panelled and other doors, plate-glass shop fronts, skylights, lead in pipes and gutters, iron girders, quantity of granite and York Paving, granite pitching, York landings, and a variety of useful fixtures and fittings-up.—May be viewed the day previous to sale, and catalogues had of Mr. MARSH, Charlotte row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at the Offices on the London Bridge Terminus.

CITY OF LONDON.—VALUABLE FREEHOLD BUILDING LAND.

MR. MARSH will SELL by AUCTION, at the MART, on THURSDAY, 4th SEPTEMBER, at TWELVE, in one lot, Two Plots of FREEHOLD BUILDING LAND, suitable for the erection of houses, warehouses, offices, &c. situate in Sussex-place, Leadenhall-street.—May be viewed, and particulars at plan obtained of Messrs. KENT & SON, Solicitors, Hampton Land 20, Essex-street, Strand; of J. B. KNIGHT, Esq. Solicitor, 39, Lime-street, City; and at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion House

ADDISCOMBE, CROYDON.—EXCELLENT BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, within a few minutes' walk of the town of Croydon, on MONDAY next, 25th of AUGUST, 1862, at ONE for TWO o'clock in the afternoon, the excellent BUILDING MATERIALS of some of the buildings belonging to the Addiscombe Military College, consisting of about 80,000 stock bricks, 2,000 slates, a large quantity of superior York paving, copingstone, and sills, excellent deal principals, joists, rafters, flooring, and other boards, steps and risers, doors, windows, brickbats, stoves, old irons and firewood; also a quantity of old oak pale fencing, and about 100 yards of flint walls and sand.—May be viewed on Friday and Saturday preceding the sale. Catalogues may be obtained of the Foreman on the Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

LEYTON, ESSEX, FREEHOLD LAND and MODEL COTTAGES, five miles from the City, and a mile and a half from Stratford.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on MONDAY, SEPTEMBER 1st, 1862, at TWELVE for ONE o'clock, the REMAINING PORTION of that part of the GRANGE ESTATE, that is immediately opposite the Church; consisting of 46 lots of FREEHOLD BUILDING LAND, and two pairs of MODEL COTTAGES. The land fronts on to good roads, and is within five minutes' walk of the Low Leyton Station. The Stratford and Lea Bridge Stations are about a mile and a half distant, and omnibuses running to Stratford pass the estate. Nine-tenths of the purchase money may remain on mortgage or contract, at five per cent. to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans and conditions of sale may be obtained of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; at the Inns in the neighbourhood, and the place of sale.

TYNLEY HALL ESTATE, WANSTEAD, ESSEX.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the GEORGE INN, Wanstead, on FRIDAY, SEPTEMBER 5, 1862, at SIX for SEVEN o'clock, in 21 lots, the REMAINING PORTION of this Estate, situate in George-lane, about ten minutes' walk from the Wanstead Station on the Loughton Railway, in the immediate vicinity of the Forest, and adapted for the erection of cottages.—Particulars, plans, and conditions of sale may be obtained at the Eagle, Snaresbrook; of Messrs. RUSSELL & DAVIES, Solicitors, 59, Coleman-street, London, E.C.; and of the Auctioneer, 14, Moorgate street, London, E.C.

SHOOTER'S HILL, KENT.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the TOWN HALL, Woolwich, on FRIDAY, SEPTEMBER 12th, 1862, at SIX for SEVEN o'clock, the SEVENTH PORTION of the POTTERIES' ESTATE, consisting of twenty nine lots of Freehold Building Land on the south side of Herbert-road, near to the Royal Military Academy, Woolwich Common, commanding some of the best and most extensive views in the neighbourhood, and admirably adapted for the erection of superior villa residences. Nine-tenths of the purchase money may remain on mortgage or contract, at five per cent. to be paid in nine years, by half-yearly instalments; but the whole or any part of the balance may be paid off at any time, without notice.—Particulars, plans, and conditions of sale may be obtained about ten days before the sale, of Mr. JOHNSON, on the estate; Messrs RUSSELL & DAVIES, 59, Coleman street, London, E.C.; and of the Auctioneer, 14, Moorgate-street, London, E.C.

PEREMPTORY SALE—To TIMBER MERCHANTS, CONTRACTORS, BUILDERS, and OTHERS.—No. 206, TOOLEY-STREET, SOUTHWARK, the Premises being required for the Charing-cross Railway.

MR. PEAKE is directed by the proprietor, who is compelled to vacate, to SELL by AUCTION, upon the PREMISES, on WEDNESDAY, SEPTEMBER 3, 1862, and following day, at TWELVE for ONE each day, the whole of the superior dry and well-seasoned STOCK of TIMBER, about 700 yellow deals, 1,000 blue planks, deals and battens, sawn and unsawn, 5,000 feet wide dry pine planks, 1,000 squares prepared flooring boards, matched linings and mouldings, 200 feet of mahogany, 200 feet of oak, 2 lots of elm, also the substantial timber staging, erection of counting house, mahogany 3 flap desk, and numerous other effects. May be viewed the day previous and morning of Sale, and Catalogues had on the Premises, and at Mr. PEAKE'S Office, 44, Tooley-street, Southwark.

HIGH WYCOMBE.—To Railway Contractors, Iron Founders, Builders, Smiths, and Others.—To be SOLD by AUCTION by

MR. VERNON, on the Contractor's Premises, near the Railway Station, High Wycombe, on THURSDAY, SEPTEMBER 4th, 1862, at TEN for ELEVEN o'clock in the morning, in small and convenient lots, by direction of Messrs Treadwell, who have completed their contract on the Wycombe Railway Extension to Thame, about 1 ton of Cast and Wrought SCRAP IRON, broad gauge iron wheels and axles, trolleys, earth waggons, quantity of timber, pitfall doors, landing and plank bridges, about 100 wheelbarrows, weights and scales, water tank, 3 iron pickling tanks, 2 iron pumps, 2 crabs, 7 dobbin carts, 2 broadwheel carts, 3 Yorkshire carts, 2 waggons, 3 timber carriages, timber frame, cart harness, all the Building Materials, including the timber, bricks, tiles, and felt, comprised in the erection of cottages and offices, stabling, and smith's shop; with forge, bellows, screw jacks, anvil, smith's tools, pulley blocks and ropes, &c.; a Cart Horse; about 10 tons of coke, with various other lots.—May be viewed on the day previous and morning of Sale. Catalogues may be had one week before the Sale, on the Premises; of Mr. F Slade, West Wycombe; at the Railway Tavern; and at the Office of the Auctioneer, High Wycombe, who will send them post free on application.

TO BUILDERS, CARPENTERS, CABINET-MAKERS, AND OTHERS.—STOCK AND MATERIALS, CAMBERWELL.

MR. JOHN R. FOWLER will SELL by AUCTION, on the GROUND opposite the Kerfield Arms, Grove Land, Camberwell on TUESDAY next, AUGUST 26th, 1862, at TWELVE for ONE o'clock, the Surplus STOCK and MATERIALS of a Builder; comprising about 1,000 feet mahogany, 200 feet oak planks, oak cills and joists, 300 feet wide pine, quantity of dry cut stuff, yellow and white pine boards cut in various thicknesses, 200 squares dry yellow inspired flooring, 100 doors and cutter plates, 150 scaffold poles, 200 scaffold boards, 150 putlogs, cords, 40 running-planks, ladders, six navvy barrows, screens, builder's truck, mortar boards, tubs, carpenter's saw-bench and vice, York landings, steps and paving, 300 feet granite curb and pitching, Portland-stone sinks, glazed drainpipes, 4,000 slates, 20,000 stock and other bricks, quantity timber slabs, useful stuff, firewood, &c.—May be viewed the day prior and morning of sale; and catalogues had at the Kerfield Arms; on the Ground; and at the Auctioneer's Offices, 24, St. Swithin's-lane, E.C.

GUILDFORD, SURREY.—First-class Building Land, close to the Town and Railway Station; also certain Freehold Tolls, arising from the River Wey Navigation from Guildford to the Thames.

MESSRS. BEADEL & SONS are instructed to OFFER by AUCTION, at the MART, Bartholomew-lane, London, on TUESDAY, OCTOBER 21, at TWELVE for ONE, in numerous lots, the highly valuable first-class BUILDING LAND, close to the favourite town of Guildford, possessing extensive and capital frontages to the high road for building to the West and South. The proposed new road intersecting the property. The land fronting the Woodbridge-road is laid out in plots suitable for the erection of detached or semi detached villa residences, and another plot has also good frontage to the proposed new road; the remainder of the land is divided into plots of about half an acre, and the whole forms a most desirable property, the land for building being free from any building thing in the neighbourhood. A portion of the land is freehold, the remainder leasehold for 900 years, from Lady day, 1737, at 26l. groundrent, and the whole is believed to be free from land-tax. The Freehold Tolls arising from proprietary or preference shares in the River Wey Navigation comprise the one-fourth or 5s parts in 22 of the groats or toll of 4d. and the 89-120ths and 3 10ths of another 120th of nine parts in 22 of the same toll of 4d. The income of the navigation is steadily increasing, and the proprietors of these tolls are not liable for the expense of maintaining the navigation.—Particulars, with plans and conditions of sale, may be obtained of Messrs H. U. & N. COULTHURST, Solicitors, 13, New Inn, W.C.; of Messrs. FLADGATE, YOUNG, & JACKSON, Solicitors, 19, Essex-street, Strand, W.C.; at the Mart; and of Messrs. BEADEL & SONS, 25, Gresham-street, E.C.

SALE OF SURPLUS BOARD.—

H.M. Dockyard, Deptford, 8th August, 1862.—Notice is hereby given, that there will be SOLD by AUCTION, at this Yard, on THURSDAY, the 28th instant, at ELEVEN o'clock precisely, several lots of Surplus well-seasoned BOARD, in good condition, well adapted for ship-builders, carpenters, cabinet-makers, and railway carriage-builders; consisting of—

Teak.....	from 1¼ to 4-inch	45,612 feet running
Hons. Mahogany ..	„ 1¼ to 4-inch	9 888 „
African „ ..	„ 1¼ to 4-inch	1 869 „
Fir Pitch Pine	„ 4-inch	5,184 „

C. H. M. BUCKLE, Captain Superintendent.

HOLLOWAY.—ELIGIBLE FREEHOLD

LAND TO LET, for the purpose of building Private Residences, detached, semi-detached, or otherwise Term, 99 years. At moderate ground-rents. This highly eligible Freehold Land (generally known as the Crown Estate) is situated close to the main road, Upper Holloway, where the omnibuses pass to and from the City, East and West ends, and the different Railway Stations, every five minutes, at very cheap fares. The land is all properly drained, and the roads made. For particulars, apply to Mr. JOHN THOMAS, Architect and Surveyor, 10, Denmark street, Cold Harbour-lane, Camberwell, S.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 300 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Kingston; and some very eligible SITES in the Groveroad, Mile end, a few of which are adapted for shops.—App'y to Mr. KNIGHTLEY, Architect, 26, Cannon-street.

CATERHAM, on the Surrey Hills, 17 miles from London.—LAND TO BE SOLD or LET, in Plots of from four to twenty acres, for first-class Residences, either on the hill or in the valley. Healthy soil; ample supply of the best spring water to the tops of the houses.—Apply to Mr. R. MARTIN, Estate Office, Caterham, Redhill.

IPSWICH.—TO BE LET, on Building Leases, at very moderate ground rents, several extremely desirable PLOTS of LAND, suitable for the erection of villa residences, for which there is a great and increasing demand in the vicinity of Ipswich. The land is situate near the Ipswich Railway Station, with frontages to the London and the Hadleigh roads, and to the new Station road, and is within about a mile from the Corn-hill.—Applications for particulars to be made to Mr. F. BARNES, Lower Brookstreet; or to Mr. W. W. HUTCHINSON, 4, Soane-street, Ipswich.

TO BUILDERS.—About 350 feet Frontage of BUILDING LAND for SALE, at SOUTHSEA, Portsmouth, the most rapidly-rising watering-place on the south coast. This is a portion of the only remaining sea frontage unbuilt on, and is within twenty yards of the beach, with fine views of the Isle of Wight, Terraces and villas are being built around, and the land will soon double in value. Price 10l. 10s. per foot frontage. About 1,000 feet of other LAND, with side views of the sea, for SALE. A House may be built in exchange for Land.—Apply to Mr. R. GAIT, Granada-road, Southsea.

NORWOOD, SURREY.—The Owners of the Beulah Spa Estate having resolved to DISPOSE of the remaining portion of that valuable and beautiful PROPERTY, comprising upwards of 100 acres of choice land, on the high ground near the church and station, and within an agreeable distance of the Crystal Palace, are receiving TENDERS for the whole or any or more of the lots into which the estate is divided, on WEDNESDAY, the 27th day of AUGUST, at TWO o'clock in the afternoon, at the Office of Messrs. THOMAS & HOLLAMS, Solicitors, 31, Commercial Sale-rooms, Mincing-lane, London. The land commands similar beautiful and extensive views to those obtained from the terrace of the Crystal Palace. The whole is freehold, with the exception of 1a. 3r. 27p. more or less, at the north-eastern extremity of lot 1, which is copyhold. There is an abundance of fine gravel and brickearth, and a never-failing water company affords an ample supply of excellent water. The roads are good, and the estate altogether presents features of a character alike eligible for the large returns of a building property, or the more solid and permanent return of family investment. Plans and form of Tender may be procured at the Offices of Messrs. THOMAS & HOLLAMS, Solicitors to the Vendors, 31, Commercial Sale-rooms, Mincing-lane, London, and after the 4th day of AUGUST, 1862. All Tenders to be on the printed form, sealed and addressed to the Vendors of the Norwood Estate, and delivered at, or sent by post to, Messrs. THOMAS & HOLLAMS, 31, Commercial Sale-rooms, Mincing-lane, on or before the 26th day of AUGUST, 1862. The Vendors do not bind themselves to accept the highest or any Tender.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

VICTORIA PARK.—LAND TO BE LET, on long leases, on advantages terms, suitable for the erection of dwelling-houses. Roads and sewers made Materials on the estate.—Apply to HOPENDEN & HEATH, Surveyors, 4, Broadstreet Buildings, E.C.

TO BUILDERS.—HOMERTON.—TO BE LET on Building Lease, a square PLOT of LAND, in the High-street, Homerton, containing nearly three acres, close to the new church, well calculated for the erection of fourth-rate houses.—Apply to Mr. WM. MOXON, Auctioneer and Surveyor, 3, St. Martin's-place, Trafalgar square.

EXTENSIVE MANUFACTURING PREMISES, Southwark.—TO BE LET, on LEASE, EXTENSIVE MANUFACTURING PREMISES, occupying a very large area, situate in the Borough-road, Southwark. The Buildings, which are very substantially erected, comprise a very large factory, of three lofty floors, with another factory, of four floors, adjoining; a very spacious and lofty ground-floor factory, yard, a capital family residence and offices, two gateway entrances, and three dwelling-houses fronting the Borough Road, Nos. 7, 75 and 173, which can be readily let off if desired.—For further particulars apply on the premises; or to Messrs. FULLER & HORSEY, Billiter street, Fenchurch-street, E.C.

FOR SALE.—An eligible PIECE of FREEHOLD BUILDING LAND, having frontage of 61 feet and 132 feet depth, in Park-road, adjoining the Clapham and Wandsworth Railway Station.—For particulars apply to Mr. J. S. BOLEYN, Agent, 2, Hatton court, Threadneedle-street, City.

FOR SALE, several PLOTS of FREEHOLD BUILDING GROUND, in an improving neighbourhood at the West-end, London, suitable for first-class houses.—Apply to J. S. BOLEYN, 2, Hatton-court, Threadneedle-street, City.

WATERSIDE PREMISES.—TO BE LET, THREE extensive WARE-ROOMS, near the terminus of the Great Western Railway; with use of cranes, &c. These premises would be very suitable for a wholesale ironmonger, or any country firm requiring a London depot.—Apply No. 1 Wharf, Praed-street, Paddington.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, August 23, 1862.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1021. AUGUST 30, 1862. PRICE FOURPENCE. *By Post, 5d.*

ILLUSTRATIONS.

Proposed Town Hall, Preston.—Mr. G. G. Scott, R.A. Architect.. 621
Plan of principal Floor of Town Hall, Preston 620

CONTENTS.

Box Hill and its Bath Stone Quarries 613
Trees in Kensington Gardens 615
Brixworth Church 616
The Architectural Publication Society 616
Freemasons 617
Bank of England Notes 617
Wells Cathedral: the Bristol Society of Architects 618
Destruction of the Works at Plymouth 619
Early British Structures: Berwickshire Naturalists' Club 619
Sculpture in the Palace of Art and Industry 619
Carlisle Bridge, Dublin, Competition 619
Noxious Vapours 619
Police 619
New Town Hall, Preston, Lancashire 620
House Architecture of the Provinces: Leeds 623
Bad Advice 623
Church-building News 623
Stained Glass 624
Mr. Fagon Watson's Pictures 624
The Embankment of the Thames 624
Arrangements to prevent Fire 624
Church Seats 625
Middle-class Residences in London 625
Built, Sell 625
Destroy Ants, Black Beetles, &c. 625
The Lakes round the Victoria Drinking Fountain 625
Books received: Stubbs on Sketching (Day); Hale on Elementary Drawing (Longman) 625
Miscellanea 626

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1863, be open to public competition.

A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the conditions which candidates will be admitted to the Examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter. (Signed) T. C. RARING.

India Office, 28th June, 1862.

N B All communications to be addressed to the "Under Secretary of State for India."

FREE EXHIBITION.—ART-UNION OF LONDON.—The EXHIBITION of WORKS selected by the prizeholders of 1862, and of works submitted in competition for premiums offered by the Society, will be open to the public, without tickets, at the SOCIETY of BRITISH ARTISTS' GALLERY, outside street, from TEN till SIX, from MONDAY, SEPTEMBER 1st, till SATURDAY, the 6th. GEORGE GODWIN, } Hon.

August, 1862. LEWIS POCOCK, } Secs.

TO MERCHANTS, FACTORS, MANUFACTURERS, and OTHERS.—WHEREAS certain persons carrying on the business of Lock and Spindle Manufacturers, have fraudulently used the name of "Price & Son," and stamped the locks and keys made by them with such name, we hereby give notice that no person whomsoever is entitled to use such trade mark, or any imitation thereof, or to sell any Locks or Spindles bearing such signature, except "Charles Aubin," of the Guardian Works, Great Hampton-street, Wolverhampton, or such person or persons who may be authorized by him to sell the same. And we further give notice that we shall immediately institute such legal proceedings as may be necessary to restrain the use of such trade mark, or any imitation thereof, and to recover damages from the manufacturers and vendors of the articles so fraudulently stamped.

H. & J. E. UNDERHILL, Solicitors.

Exchange Chambers, Wolverhampton, August 4th, 1862.

STEWKLEY CHURCH, Bucks.—This most interesting church, the "Rival of Iffley among the most ancient and best preserved Norman structures in England," is now in process of restoration, under the superintendence of Mr. Street. An earnest appeal is made to all lovers of ecclesiastical architecture, as well as to conservators of our old historical monuments, to help in the work, which will have to be abandoned in a very incomplete state unless a sum of [illegible] be raised over and above all sources at present applied to or anticipated. The plans include the new roofing, reseating, and general restoration of the whole fabric; but no alteration whatever of the original proportions of the building. The parish, a poor one, has come forward with over 400*l.* and the estimated cost of the whole amounts to over 1,200*l.* Contributions, however small, will be most thankfully acknowledged, and any information given by the Vicar, Stewkley, Leighton.

COMPETITIONS.

TO ARCHITECTS.—The Corporation of the Borough of Bridgwater intend ERECTING a TOWN HALL, with Committee Room and Offices adjoining, on the site of the old Assize Courts at Bridgwater, and are prepared to receive PLANS, SPECIFICATIONS, and ESTIMATES for the same. The cost of the building is not to exceed 3,000*l.* Persons desirous of competing are invited to send the Plans, Specifications, and Estimates on or before MONDAY, the 15th SEPTEMBER, next, to JOHN H. B. CARR-LAKE, Town Clerk.

Bridgwater, 11th August, 1862.

TO ARCHITECTS.—The Committee of the North Staffordshire Infirmary are prepared to receive complete sets of DESIGNS for a NEW INFIRMARY, to be erected at Hartshill near Stoke-upon-Trent, at a cost not exceeding 12,000*l.* for the entire building. A premium of 100*l.* will be awarded to the author of the set of designs approved by the Committee, unless he be employed to superintend the erection of the building, when the above premium will be merged in his commission. Printed particulars of what is required, with a plan and section of the site, may be obtained on application to the Secretary, Mr. HORDLEY, North Staffordshire Infirmary, Stoke-upon-Trent. The designs to be sent in to the Secretary on or before DECEMBER 1st next.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS and OTHERS.—TENDERS are required for the following service, at Portsmouth:—ERECTING a MILITARY GYMNASIUM.

Parties desiring to Tender for the execution of this Work must leave their names at this Office, on or before the 2nd SEPTEMBER next, and pay the sum of half-a-guinea for the bills of quantities.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, August 19, 1862.

TO CONTRACTORS and IRON-FOUNDERS.—DUBLIN CORPORATION WATERWORKS.—The Waterworks Committee of the Dublin Corporation hereby give Notice that they will receive TENDERS, on or before WEDNESDAY, the 10th day of SEPTEMBER, 1862, for the following WORKS, viz.—

CONTRACT No. 1.—For making and delivering about 20,000 tons of Cast Iron Pipes and other Castings.

CONTRACT No. 2.—For making and delivering certain Stop Cocks, Sluice Cocks, Air Cocks, Pipes, Apparatus, and Appendages connected with same.

CONTRACT No. 3.—For laying and satisfactorily completing about 30,000 lineal yards of Thirty-three Inch, and about 16,500 lineal yards of Twenty seven Inch Mains, and works connected therewith.

CONTRACT No. 4.—For the construction of a Storage Reservoir, Bye Wash, Waste Weir, and other works connected therewith; a Conduit and Tunnel and a Catch-water Drain, also Filter Beds; all in the county of Wicklow.

CONTRACT No. 5.—For the construction of Distributing Reservoirs, Waste Weirs, and a Conduit, with other works near Stillorgan, in the county of Dublin.

Specifications, schedules of quantities, and forms of Tender may be had at the Office of Mr. PARKE NEVILLE, Engineer to the Corporation of Dublin, City Hall, Dublin; and at the Office of JOHN MACNEILL, Consult-ing and Advising Engineer, 23, Cockspur-street, Charing-cross, London, on and after the 4th AUGUST, 1862, on payment of 5*l.* 5*s.*; where may be also seen, from TEN to FOUR o'clock each day, copies of the working plans, of which intending Contractors, who may have supplied themselves with specifications, may make tracings. The Waterworks Committee will meet on the 11th day of SEPTEMBER, to open such Tenders as may be sent in; on which day such parties as will have sent in Tenders are requested to attend. Tenders will be received for each or any of the above Contracts, or one Tender may be sent in for the whole of the works. The Waterworks Committee will receive no Tender after FOUR o'clock on WEDNESDAY, the 10th day of SEPTEMBER, 1862. All Tenders to be under seal, addressed to Sir DRURY JONES DICKINSON, Secretary to the Waterworks Committee, City Hall, Dublin, and endorsed, "Tender for Waterworks." The Waterworks Committee do not bind themselves to accept the lowest or any Tender; and should they accept a Tender, the party whose Tender or Tenders may be accepted will be required to provide two approved sureties for the due and satisfactory completion of the works. The Waterworks Committee will not be responsible for any costs whatever which may be incurred by parties who may send in Tenders, or for any expenses they may undertake preparatory to, or in connexion therewith.—Signed, by order,

DRURY JONES DICKINSON, Sec. Waterworks Committee.

City Hall, Dublin, July 28th, 1862.

CROYDON LOCAL BOARD of HEALTH.—TO DUST CONTRACTORS and OTHERS.—Any persons willing to CONTRACT for the REMOVAL of ASHES and other REFUSE from the houses and roads comprised within the special district of the Town of Croydon, may see the specification at the Engineer's Office, at Town Hall, any day between the hours of TEN o'clock and FOUR o'clock. Tenders are to be delivered at the Office of H. RICHARDS, Esq. 99, High-street, on or before MONDAY, the 1st SEPTEMBER, endorsed "Tender for Refuse." The Board do not pledge themselves to accept any Tender.

Town Hall, Croydon, August 29, 1862.

TO BUILDERS and OTHERS.—Any persons willing to CONTRACT for the CONSTRUCTION and MAINTENANCE of a BRICK CULVERT, in the Backbridge road, near Mitcham Common, about 1,400 feet long, an 2 feet 10 inches clear diameter, may see the plan, section, and specification at the Town Hall, Croydon, any day, between the hours of TEN and FOUR o'clock. Tenders, endorsed "Tender for Culvert," to be delivered at the Office at the Office of H. RICHARDS, Esq. on or before MONDAY, the 8th of SEPTEMBER. The Board do not pledge themselves to accept the lowest or any Tender.

Engineer's Office, Town Hall.

NEW SOUTH WALES.—Department of Public Works, Sydney, 21st June, 1862.—Government Railways.—The Government of New South Wales, having decided upon LEASING the RAILWAYS in this Colony, notice is hereby given, that TENDERS for the above will be RECEIVED at this Office, until NOVEMBER, 1863, addressed, under sealed cover, to the Secretary for Public Works, New South Wales, and marked outside "Tender for Leasing Railways."

W. M. ARNOLD, Secretary for Public Works.

Persons desirous of Tendering may obtain copies of general conditions and specifications, with sketch of the line, at the Office of Mr. JOHN FOWLER, 2, Queen-square-place, Westminster; or of Messrs. W. L. MERRY & CO. 36, Cannon-street, London, E.C. on payment of one guinea.

It will be seen from the above that Tenders must be sent from England not later than the Mail that leaves, via Marseilles, on the 26th September next, and they must be delivered at the Office of the undersigned on or before the present Tender.

WM. L. MERRY & CO. Commercial Agents for the Government of New South Wales.

CONTRACTS.

TO BUILDERS.—Persons desirous of TENDERING for one or two VILLAS at Erith, Kent, can have a copy of the drawings and specification by applying at Mr. H. FORD'S Office, 1, Charlotte-row, Mansion House, E.C.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a NEW SCHOOL-ROOM and MASTER'S RESIDENCE, at Althorne, in the county of Essex, can inspect the plans and specification at my offices, at Chelmsford, after TUESDAY, the 2nd day of SEPTEMBER. Tenders to be delivered to me at Chelmsford on or before THURSDAY, the 11th day of SEPTEMBER next. The lowest or any Tender will not necessarily be accepted.

FRED. CHANCELLOR, Architect,

Pinners' Hall, Old Broad-street, London, and Chelmsford.

Chelmsford, August 23, 1862.

WEYHILL CHURCH, near ANDOVER. To Builders.—Persons desirous of giving in TENDERS for BUILDING a NEW AISLE, REPEWING, and REPAIRING the above CHURCH, can see the plans and specification, and form of Tender, upon application to JOHN SMITH, Esq. Solicitor, Andover. The work to be completed by the 31st of May, 1863. The Tenders to be sent in to JOHN SMITH, Esq. by the 7th of SEPTEMBER next.—The Committee do not bind themselves to accept the lowest or any Tender.

T. H. HAKEWILL, Architect, 30, Maddox street, London.

August 18th, 1862.

BIRMINGHAM BOROUGH CEMETERY. TO BELL-FOUNDERS and OTHERS.—The Burial Board Committee are desirous of receiving TENDERS for the SUPPLY and FIXING complete of TWO BELLS, one in each of the towers of the Cemetery Chapels, at Key Hill, near Birmingham.—Particulars as to notes, &c. to be had on application to the Borough Surveyor, Public Office, Moor-street. The Tenders to be sent in on or before the 8th of SEPTEMBER; and the Committee do not pledge themselves to accept the lowest or any Tender.

THOMAS STANDBRIDGE, Town-clerk.

Unity Buildings, Temple-street, Birmingham, Aug. 20, 1862.

CONTRACTS FOR WORKS.—The Local Board of Health for the District of West Ham, in the county of Essex, are prepared to receive separate TENDERS for each or any of the following UNDERTAKINGS, namely:—

First.—The Laying and Connexion of House Drains to the Public Sewers, and other Works.

Second.—The Supply of Materials for the ordinary Repair of the Highways.

Third.—The Collection of Dust from the Habitations.

Fourth.—The Removal of Ashes and Rubbish.

The whole of the Tenders and Contracts are to be in accordance with the conditions, specifications, plans, sections, and details, which may be examined any day after the 25th inst. at Rokeby House, in Stratford; at the Office of Mr. MARSHALL, the Surveyor to the Board; and the Tenders must be delivered at my Office, at Rokeby House, not later than MONDAY, the 8th day of SEPTEMBER next.—By order of the Board, CHAS. WILSON, Clerk.

Rokeby House, Stratford, E.

TO BRICKMAKERS, DUST COLLECTORS, and OTHERS.—The Works, Buildings, and Sanitary Committee of the Vestry of the Parish of St. Mary Abbotts, Kensington, in the County of Middlesex, will meet at the Vestry Hall, Kensington, on FRIDAY, the 12th day of SEPTEMBER next, at SEVEN o'clock in the evening, to receive TENDERS, and to CONTRACT for the SALE and REMOVAL of the COAL DUST, Cinders, Ashes, and Rubbish from the houses and premises within the said parish, from the 30th day of SEPTEMBER, 1862, to the 30th day of SEPTEMBER, 1865, both days inclusive. The contractor will have to enter into a written contract and bond, and to provide two good and sufficient sureties for the due performance of his contract. The contractor to pay immediately one-fourth part of the money offered by him, the three succeeding payments in advance quarterly. The Vestry have divided the parish into two districts, which can be Tendered for jointly or separately.—Forms of Tender and particulars may be obtained on application at the Vestry Offices, Vestry Hall Scavenging Stables, Mill Row, and Earl's Court-road. No Tender will be received unless made upon one of the said printed forms. Tenders to be sealed, and endorsed "Tender for Dust," and to be delivered at my Office, by or before FOUR o'clock in the afternoon of the 12th day of SEPTEMBER next. The Vestry do not bind themselves to accept the lowest or any Tender. The expenses of the contract or bond to be paid by the contractor.—By order,

REUBEN GREEN, Clerk to the Vestry.

Vestry Hall, Kensington, August 27, 1862.

TO SCAVENGERS, CARTERS, and OTHERS.—The Works, Buildings, and Sanitary Committee of the Vestry of the Parish of St. Mary Abbotts, Kensington, in the county of Middlesex, will meet at the Vestry Hall, Kensington, on FRIDAY, the 12th day of SEPTEMBER next, at SEVEN o'clock in the evening, to receive TENDERS, and to CONTRACT for CARTING and CARRYING AWAY, daily, from all streets and places within the said parish of Kensington, all the DUST, Dirt, Filth, Road Scrapings, Sweepings, Slops, Mud, Snow, and Refuse that may from time to time be collected by the servants of the said Vestry, and that may be directed by Mr. JAMES BIDDLE BRIDGE, the Vestry's Surveyor, from the 30th day of SEPTEMBER, 1862, to the 30th day of SEPTEMBER, 1863 (both days inclusive), and also to receive Tenders, and to Contract for the Supply of Horses and Carts, with proper Carters, at per day and per load. The Vestry has divided the parish into two districts, which can be Tendered for jointly or separately. Forms of Tender and other particulars may be obtained on application at the Vestry Offices, Vestry Hall aforesaid. No Tender will be received unless made upon one of the said printed forms. Tenders to be sealed, and endorsed "Tender for Scavenging," or "Contract for Carting," as the case may be, and to be delivered at my office on or before FOUR o'clock in the afternoon of the 12th day of SEPTEMBER. The Vestry do not bind themselves to accept the lowest or any tender. The expenses of the Contract or Bond to be paid by the contractor. By order,

REUBEN GREEN, Clerk of the Vestry.

Vestry Hall, Kensington, August 27, 1862.

[*For remainder of Contracts see next Page.*

CONTRACTS.

LEEDS CORPORATION WATER-WORKS.—TENDERS WANTED for about 2,500 TONS of CAST-IRON SOCKET PIPES, for various Trials within the Borough of Leeds. Plans and Specification may be obtained by persons wishing to Tender for the same, at the Office of Mr. EDWARD PILLITER, C.E. Borough Surveyor, Town Hall, Leeds. Sealed Tenders addressed to "The Waterworks Committee," Town Clerk's Office, Leeds, endorsed "Tender for Pipes," to be sent on or before the 4th day of SEPTEMBER next. By order, JOHN EDWD. SMITH, Town Clerk.
Leeds, 15th August, 1862.

TO CONTRACTORS, BUILDERS, &c.—Notice is hereby given that the Highways, Sewers, and Public Works Committee of the Vestry of St. Pancras, will meet at the Office of the Department of Works, on MONDAY, the 8th day of SEPTEMBER, 1862, at 9½ o'clock p.m. to receive and consider TENDERS from persons willing to contract for the EXECUTION of GENERAL WORKS (sewers, gullies, and building, &c.) during the ensuing twelve months with the terms I specification, required Tender to be obtained on the deposit of 1l. at the Office of Mr. WM. BOOTH SCOTT, C.E. Chief Surveyor, as under. Good security will be required for the due performance of each contract. The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be accepted unless the rates made out in the prescribed form. Tenders must be delivered by Noon on the said MONDAY, 8th SEPTEMBER, 1862. By order,
CHAS. WORRELL, Chief Clerk of the Department of Works.
10, Edward-street, Hampstead-road, August, 1862.

DELAMERE, CHESHIRE.—The Commissioner in charge of her Majesty's Woods and Royal Forests hereby gives notice, that TENDERS will be received for the ERECTION of a BAILIFF'S HOUSE and TWENTY LABOURERS' COTTAGES at Delamere, near Hartford, in the county of Chester. Drawings and specifications may be inspected on application to Mr. MOODIE, at the Abbey Arms Inn, Delamere, on and after the 30th instant., at which further particulars obtained on application to Mr. JOHN CLUTTON, 9, Whitehall-place, Westminster. Tenders to be sent free or before the 11th day of SEPTEMBER addressed to the Honourable JAMES K. HOWARD, Office of Woods, Whitehall-place, Westminster, S.W., endorsed "Tender for Works at Delamere." The Commissioner does not bind himself to accept the lowest or any Tender.

TO STONEMASONS and OTHERS.—The Local Board of Health for the District of the City of Ely give notice that they will be prepared at their next meeting, to be held at the Grand Jury Room, in the Shire Hall, Ely, on WEDNESDAY, the 10th day of SEPTEMBER next, at TWELVE o'clock at Noon (or at some adjournment thereof) to receive TENDERS from, and to enter into a CONTRACT with, any company or person willing to undertake the REPAVING of the north side of the Forehill, in Ely, in length 235 feet. The plans and specifications may be seen at the Surveyor's Office, Forehill, Ely; and sealed Tenders must be sent to me on or before TWELVE o'clock at noon on the said 10th day of SEPTEMBER next. Security will be required for the due performance of the Contract; and the Board do not pledge themselves to accept the lowest or any of the Tenders.—By order of the Board,
Ely, August 27th, 1862. WM. MARSHALL, Clerk.

THE GRAND SURREY DOCKS.—REBUILDING ENTRANCE LOCK.—To CONTRACTORS—The Directors are prepared to receive TENDERS for the EXECUTION of the above WORK, and will meet for the purpose of opening them at the Company's Offices, at Rotherhithe, on THURSDAY, the 18th day of SEPTEMBER, at HALF PAST TWO o'clock p.m. The plans may be inspected at the Engineer's Office, 11, Lansham-street, Langham-place, W. between the hours of NINE and FIVE; and bills of quantities and forms of tender (which must be used) will be issued to parties who shall send in Tenders. The Directors do not bind themselves to accept the lowest or any Tender.
JOSEPH JENNINGS, } Engineers.
Aug. 28, 1862. W. J. KINGSBURY, }

TARPAULINS, MARQUEES, &c.
for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS,
WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

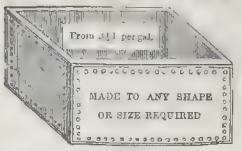
ESTABLISHED 1774.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES,
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

PATENT ASPHALTE CALDRON, for laying Asphalte Floors. The cheapest and best kind of floor, impervious to wet, and vermin will not touch it. Full particulars sent free, by
WOODS & COCKSEDGE,
IRONFOUNDERS, STOWMARKET.

HEATING BY HOT WATER.
JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus.
A visit is respectfully solicited at the Premises, [illegible] Road, Chelsea.

CISTERNS AND TANKS.

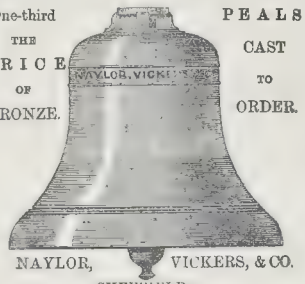


GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61A, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,
OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,
MOREWOOD & CO.,
DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

THE ALPHA TUBE & FITTING WORKS.
WALSALL, STAFFORDSHIRE.—Established 1830.
LAMBERT BROTHERS,
MANUFACTURERS OF LAP-WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,
For Steam or Hot-water, Water and Gas. HIGH PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS-FITTINGS, GASELIERS, &c.; and of the GROVE BEDSTEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, Mills, &c. at the International Exhibition, Walsall Court, Class 31, precisely as sold from engravings and prices in trade catalogues.

CAST STEEL BELLS,
One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.
NAYLOR, VICKERS, & CO.
SHEFFIELD.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 2½, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, 119 Regent-street, Baker-street, Portman-square, London, W.

THE MEDAL FOR 1862.
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.
TRADE MARK.
CROWN TUBE WORKS
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rae's Patent Self cleansing DOMESTIC CISTERN and FILTER, which Dr. Lethby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new pedestal w.c.'s, or can be fixed to any wood-lined cistern of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRIDGE-STREET, GREENWICH, S.E. Illustrated Price List sent free on application.

TO RAILWAY COMPANIES.—The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineers' Brass-founder, No. 9, Shoe-lane, Fleet-street; manufacturer of Steam Fittings, Diving Apparatus, Pumps, Cocks, &c.; Patent Anti-friction Metal, Gun Metal, Brass Castings, &c.

TO SAW-MILL PROPRIETORS and OTHERS
HUMPHREY & HASLER (late H. Fairbank), Engineers and Machinists, 69, Old street, E.C. beg to call attention to their IMPROVED SAW BENCH.
Planing, Boring, Turnery, and Screw-Cutting done for the Trade.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only perfect instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER-TIGHT WATER BAR; and
SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 60, Princes-street, Leicester-square, London, and CAN ONLY BE HAD FROM

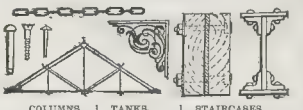
TO JOINERS AND BUILDERS
IRONMONGERY at FIRST COST.—A List of Prices may be had on application to the BRITISH HARDWARE COMPANY, Phœnix Works, Wolverhampton.

PORTABLE SCHOOL-ROOMS.—WANTED to PURCHASE or HIRE, a WOODEN or IRON and GLASS BUILDING, suitable for a small Village School-room.—Address, stating price and full particulars, the Rev. S. I. South Cliff-terrace, Walton, near Colchester.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

H. G. COOMBS, IRONFOUNDER, &c.
INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP,
PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—15, Union-street, Borough; and 95½, Great Guildford-street.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

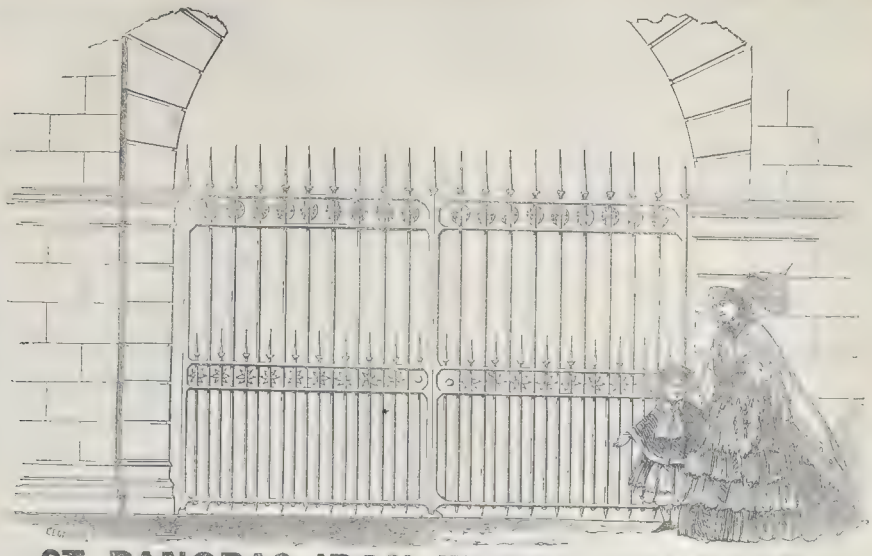
IRON ROOFING of CORRUGATED IRON,
Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDALL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City-road, E.C. near the Canal Bridge.
E. GOLLOP, SOLE PROPRIETOR.
A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising Spring-hinges, Not-rising Spring-hinges, Double-acting Spring-hinges, Rising and Sash-rising Door Bolt-springs, &c.
Price List and Drawings on application as above.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES
TOMB RAILING.

VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.



INTERNATIONAL PRIZE



EXHIBITION MEDAL,



1862.

"FOR EXCELLENT WORKMANSHIP, AND INGENUITY APPLIED IN CHIMING BELLS BY MACHINERY."—SE. JURY REPORT.

JOHN WARNER & SONS, BELL & BRASS FOUNDERS TO HER MAJESTY,

Beg to announce that the PEAL of EIGHT BELLS exhibited by them in the South-east Transept of the INTERNATIONAL EXHIBITION is chimed daily at TWELVE, THREE p.m. and HALF PAST SIX p.m. by their Attendant, with their new CHIMING APPARATUS, ONE MAN being able to produce the same effect usually accomplished by Eight Ringers.

8, Crescent, Cripplegate, London.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



IMPORTANT to BUILDERS.—W. GORSE, EAGLE WORKS, Monmouth, [illegible] Patentee and Manufacturer of FLOORING BRADS, [illegible] NERS' BRADS, his New Patent Machinery, INSURING UNIFORM GOOD QUALITY at a LOW PRICE.

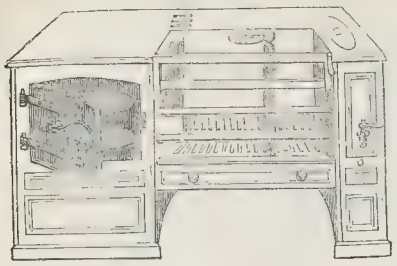
FLOORING BRADS DELIVERED IN BIRMINGHAM AT 9s. 6d. per Cwt.

Post-office Orders to be made payable in Birmingham.

W. G. begs to call the attention of [illegible] Manufacturers to his Patent Machines, which for [illegible] Workmanship, Ease, and Application to view to be made by letter. Principals only admitted.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler.	
24 inches	54s.	30 inches	22s.
30 "	50s.	33 "	24s.
36 "	58s.	34 "	26s.
42 "	60s.	36 "	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 46s. to 100s. each.
Best Cut Clasp and Rose Nails.

1-inch.	1½-inch.	2 inch.	2½-inch.	3 inch
14s.	14s.	14s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½-in.	3-in.	
Cast Rain water Pipe....	8d.	10d.	1s.	per yard.

Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½-in.	
O G Gutters, with Clips on....	10d.	1s.	per yard.

	2	3	4	5	6	
Patent Line.	3s. 6d.	4s.	5s.	7s.	9s.	per gross.

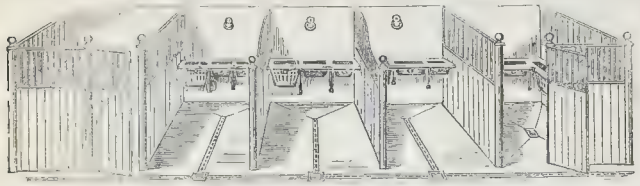
6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 12s. 6d. per set.

Dr Arnott's Ventilators, 2s. each.

Brick Moulds kept in stock Any size made to order.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR
BARTON'S PATENT STABLE FITTINGS.
AND ENAMELLED MANGERS.

These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford street, where an extensive Assortment of all Kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

The new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

DEVAUX'S VIEILLE MONTAGNE
THICK ROOFING ZINC.

This invaluable metal, if laid by Mr. TYLER on the new principle introduced by J. EDMISTON, Esq. F.I.B.A. will last as long as lead, at one-third the cost.

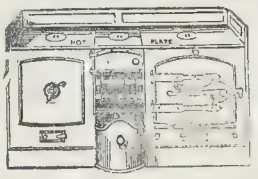
For Prospectuses, Samples, Models, and Estimates of Works to be done with the Roofing Zinc, in large or small quantities, in Town or Country, apply to

Mr. J. W. TYLER, 4, WOOD-STREET, WESTMINSTER, S.W.

If the Metal is laid by Mr TYLER, who has become so well known among Architects and Builders, superior and careful workmanship may be depended upon, as a guarantee given for its satisfactory, if the woodwork is prepared according to directions given

---

THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire range.

large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

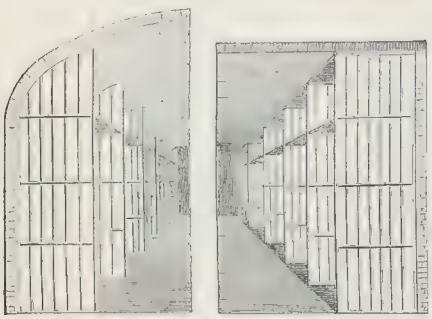
All Goods delivered free within five miles.

BURT AND PORTS,

WHOLESALE AND MANUFACTURING IRONMONGERS.

38 and 65, York-street, Westminster.

WROUGHT IRON WINE BINS.



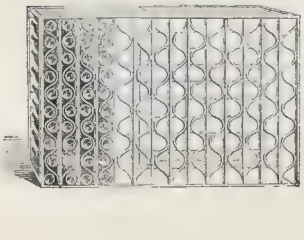
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,

18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

TO ARCHITECTS, BUILDERS, &c

HEATING and VENTILATING LARGE PUBLIC BUILDINGS, HOTELS, MANSIONS, &c.—Your inspection of ZIMMAN'S MODEL of Improved Patent STOVE and APPARATUS for the Purposes, in the Gallery of the Russian Court, International Exhibition is particularly requested.—A Descriptive Pamphlet and Drawings will be sent, on applica on to Messrs. TONGUE & BIRKBECK, Patent Agents and Engineers, 34, Southampton Buildings, Chancery Lane, W.C.

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

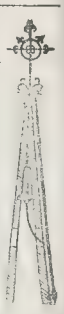
BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS, according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 114, Fenchurch street, E.C.

PROTECTION FROM LIGHTNING.





LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

LIGHTNING CONDUCTORS. R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:

Three-eighths inch diameter	1s. 6d.	per foot
Half-inch diameter	1s. 6d.	"
Five-eighths inch diameter	2s. 0d.	"

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being adopted by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" Gateshead-on-Tyne
" 27, Dale street, Manchester.
" 68, Anderston Quay, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange Buildings, Dundee
" 7, Frederick-street, Aberdeen.

EXTRAORDINARY BARGAINS, FIRE-PROOF SAFES AT HALF PRICE. A Fire-proof Iron-safe Company having lately amalgamated with a London office, and having no further use for a considerable number of Wrought Iron Fire-proof Safes and Deed-Chests, lying on the shelves and in the hallways, have returned them to the manufacturers to be sold for half their original cost. They were all made to order for the Company, at the Vulcan Safe Works, Birmingham, in 1861, have only been used eight months, and are warranted. FIRE AND BURGLAR PROOF. A printed description of the various sizes, made to take, and well proved, per post, on application, and a list of the whole of Messrs. Morris, & Co's Illustrated Price List. Parties in want of a really good safe the advantages here offered must be obvious, as they may secure an article with the manufacturer's guarantee, QUITE EQUAL TO NEW, AT HALF ITS REAL VALUE, and to none is this more fully felt in purchasing a second-hand safe than to those who have needed their purchase into immediate use, the names with the safe is received are all approved. They will be sent carriage paid to any station, and if not found as every respect perfect as represented, may be returned within any part we never to be any charge for them. For full particulars address M'KENNA, MORRIS, & CO. Vulcan Safe Works, Cumberland street, Birmingham.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles, Dr Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare-market, London.

LOSH, WILSON, & BELL, NEWCASTLE-ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Columns, and STEWART'S PATENT CAST-IRON GAS and WATER PIPES Office, No. 7, Size-lane, London.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

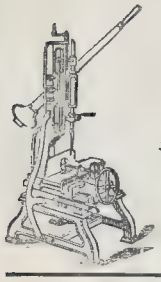
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

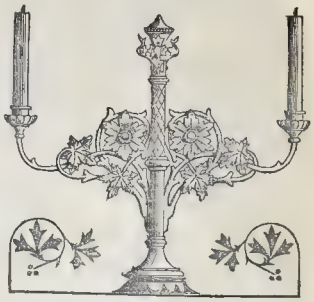
Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,
73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

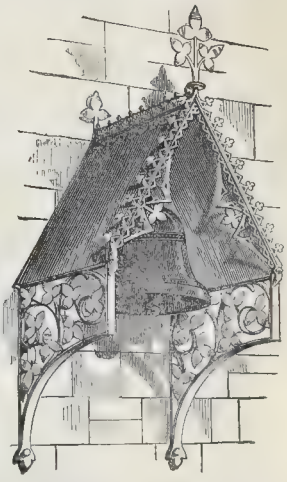
JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London;
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

HART AND SON,

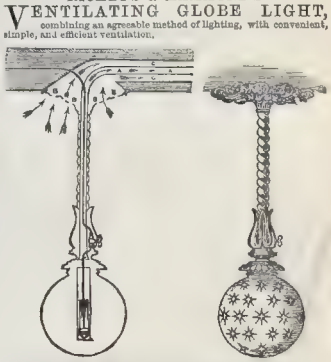


53 to 58, WYCH STREET, W.C.; 20, COCKSPUR STREET, S.W.

RICKET'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

NAILS and IRONMONGERY,

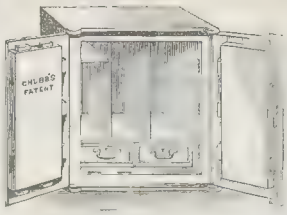
from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham street, London, E.C.

CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS,
The most secure from picklocks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the DETECTOR LOCKS.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire-resisting and non-conducting composition.

The doors are all secured by CHUBB'S PATENT DRILL-PREVENTIVE, and their Patent

GUNPOWDER PROOF LOCKS.

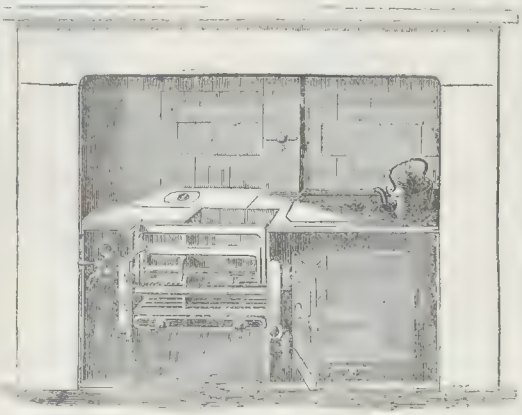
Illustrated Price List Gratis and Post Free.

CHUBB & SON,
No. 57, ST. PAUL'S CHURCHYARD, LONDON;
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.

PFEIL AND STEDALL,
IRON MERCHANTS AND WHOLESALE IRONMONGERS,
5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.

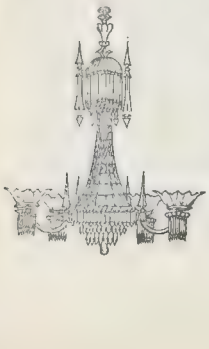
CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.
The Hob over the top of the Oven forms HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.
The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.
The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.
This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.
This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilatin. Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,
WILLIAM ADDIS,
6 and 15, LEICESTER STREET, LEICESTER SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

W. HARMER & SON,
BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.
WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.
WROUGHT IRON TUBE and FITTINGS for GAS or WATER.
CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.
W. HARMER & SON,
3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.



INTERNATIONAL EXHIBITION, Class 31 and 34.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
THE NEW CRYSTAL STAR AND SUN LIGHT.
J. DEFRIES & SONS,
ENGINEERS, GAS-FITTERS, AND MANUFACTURERS
Of MEDIÆVAL and every Description of
GAS-FITTINGS, CRYSTAL, BRASS, and ORMOLU CHANDELIERS, VESTIBULES, &c. &c.
Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other public and private Buildings. HOT-WATER PIPES for heating Conservatories, Warehouses, &c. &c. supplied and fitted on the most Improved and Economical Principles. Public and Private Gas-Works Erected.
Works—London and Birmingham.
Principal Depôt and Show-rooms—147, Houndsditch, City.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.

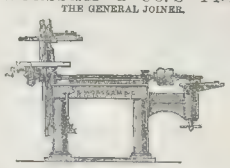


COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, of numerous designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

SMITH & WOODS
SHOP FRONTS

WORKS, HARTS HILL IRON FOUNDRY, Near Dudley. MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.	LONDON OFFICE, 76, CANNON-STREET WEST, LONDON, E.C. Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.

S. WORSSAM & CO.'S PATENT
THE GENERAL JOINER.



(1/12 inch scale)
This exceedingly useful and novel machine is adapted for sawing, cross-cutting, grooving, tenoning, rebating, planing, moulding, and turning, all by the same machine in any order of building established. It is also specially useful for box making, and is fitted with a circular saw for squaring the ends of drawers, &c.—For priced illustrated reports, with full particulars, apply at the Works, 344, King's road, Chelsea, S.W.

PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.
THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, CANNON STREET, E.C.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851.

BUNNETT & CO.

ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT.

BUNNETT & CO.

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246),

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851.

BUNNETT & CO.

ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,

COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.

STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.



ORIGINAL PATENTEES.

SNOXELL & CO.'S

REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, **WITHOUT EXTRAS.**

IRON OR WOOD ONLY, AND IRON EDGED, OFFERING ALL THE SECURITY OF SOLID METAL.

SASH BARS, AND STALL-BOARD PLATES, OF EVERY DESCRIPTION.

THIS PATENT IS WITHOUT MACHINERY,

BEING MOST SIMPLE AND SECURE, AND IS WORKED FROM WITHIN EASILY BY A BOY, AS SHOWN

Messrs. SNOXELL

Possess ample testimonials of its superiority over other Patents.

Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses. BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

FOR SALE, several PLOTS of FREEHOLD BUILDING LAND, on the Benhill Estate, Sutton, Surrey, from 5s. to 9s. per foot frontage, land-tax redeemed, conveyance free, five minutes' walk from the Sutton Railway Station, half-hour's ride from the London Bridge Terminus, good roads, good water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Builder, Sutton, S.

ROTHERHITHE.—To BUILDERS and OTHERS.—FREEHOLD PROPERTY, belonging to St. Bartholomew's Hospital, TO BE LET, on a building lease, with a frontage of 160 feet to the river. The plan may be seen at Mr. HARDWICK'S Office, No. 1, Henrietta-street, Cavendish-square, where further particulars may be ascertained.

WILLIAM WILBY, Clerk.

St. Bartholomew's Hospital, August, 1862.

WANTED, to RENT, on LEASE, or to PURCHASE, on the Surrey side of Blackfriars Bridge, and within half a mile of it, STABLING, or PREMISES that may be easily converted to that use, for thirty horses.—Full particulars and plan to be sent to Mr. POWNALL, 40, Lincoln's-inn-fields, W.C.

UPPER THAMES-STREET.—SAINT BARTHOLOMEW'S HOSPITAL.—To BUILDERS and OTHERS.—TO BE LET, on a Building Lease, for 70 years from Michaelmas, 1862, the whole of a FREEHOLD ESTATE belonging to this Hospital, comprising the premises Nos. 148, 149, 150, and 151, Upper Thames-street, with a frontage of 93 feet towards Thames-street, and 79 feet towards Suffolk-lane.—For further particulars, apply at Mr. HARDWICK'S Offices, No. 1, Henrietta-street, Cavendish-square. Tenders are to be sealed up and delivered at the Clerk's Office, within the Hospital, on TUESDAY, the 9th day of SEPTEMBER, at a quarter before ELEVEN precisely.

WILLIAM WILBY, Clerk.

St. Bartholomew's Hospital, August, 1862.

FREEHOLD BUILDING GROUND TO BE LET or SOLD, situate on an eminence commanding beautiful views, three minutes' walk from a Station on the Brighton line, in one of the healthiest spots in the kingdom, 14 hours' ride from London.—Address, Mr. DOUBLEDAY, Sydenham-rise, Isleworth.

BUILDING LAND TO BE LET, for a term of 99 years, in the Electric-road North, Holloway, for the erection of seven roomed houses, which are in great request. Liberal advances made.—Apply to Mr. CLARKSON, Surveyor, 93, Great St. Helen's, Bishopsgate-street.

TO BUILDERS and CONTRACTORS.—There is a considerable demand for Residences at Caterham, but neither the persons wanting the houses nor the landowner are disposed to build. Any Builder willing to BUY or LEASE LAND for BUILDING may make arrangements with the persons requiring houses, and with the landowner, by application to Mr. MARTIN, Estate Office, Caterham, Red-hill.

BUILDING LAND, near London Bridge, TO BE LET, direct from the freeholder; river frontage about 70 feet; area, upwards of 10,000 feet; reached by a carriage-way from Upper Thames-street.—Offers will be received by Messrs. WILSON & SCOBLE, 114, Leadenhall-hall-street, where a plan can be seen.

CITY OFFICES TO BE LET, near the Bank (lately occupied by an architect), with long drawing office and good light.—Apply to HOUSEKEEPER, 1, Walbrook-buildings, City.

ALTON, HANTS.—TO BE LET, with immediate possession, EXTENSIVE PREMISES, with good House and Garden, where for many years a builder's business has been carried on.—For particulars apply to Messrs. CLEMENT, Solicitors, Alton, Hants; or to Mr. E. HELLIS, Woodside, Alton.

BUILDING LAND TO LET, SAVILLE-ROW, WALWORTH, SURREY, within five minutes' walk of the Elephant and Castle, contiguous to the Railway Station, and abutting on the high road from London to Camberwell.—The Parishioners of Saint Mary are prepared to receive proposals for the whole or any part of their Estate lying between Saville-row and Gloucester-row, the same having been laid out in streets and frontages for the erection of dwelling-houses, shops, or other buildings, on a Building Lease or Leases for 80 years, land-tax redeemed. The streets are formed, the roads and sewers made, footpaths laid, and drained, so that the Estate is now ready for immediate building operations. For particulars inquire of Mr. W. S. TOWSE, the Clerk of the Company, Fishmongers' Hall, London Bridge; and at the Office of Mr. RICHARD SUTER, Architect and Surveyor, 28, Fenchurch-street, where plans and conditions may be seen.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's-road near Kennington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

TO BUILDERS & OTHERS.—Notice is hereby given, that the Trustees of the Rev. Dr. Scorire's Charity Estate at Hoxton have several PLOTS of LAND TO LET, to build on, eligible for villas and other respectable private dwellings. The land will be direct from the freeholder, and free of land tax and tithe commutation rent charge. The above estate offers an excellent opportunity to persons desirous of building houses to reside in themselves.—For further particulars inquire of Mr. GLIDDON, Surveyor, No. 2, Old Church-yard, Hackney; or of Mr. C. H. PULLEY, of Upper Homerton, and 28, Great Winchester-street, Old Broad-street, City, Solicitor.

HOLLOWAY.—ELIGIBLE FREEHOLD LAND TO LET, for the purpose of building Private Residences, detached, semi-detached, or otherwise. Term, 99 years. At moderate ground-rents. This highly eligible Freehold Land (generally known as the Crown Estate) is situate close to the main road, Upper Holloway, where the omnibuses pass to and from the City, East and West-ends, and the different Railway Stations, every five minutes, at very cheap fares. The land is all properly drained, and the roads made. For particulars, apply to Mr. JOHN THOMAS, Architect and Surveyor, 10, Denmark-street, Cold Harbour-lane, Camberwell, S.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station adjoins one of the roads out in the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Ringston; and some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

EXTENSIVE MANUFACTURING PREMISES, Southwark.—TO BE LET, on LEASE, EXTENSIVE MANUFACTURING PREMISES, occupying a very large area, situate in the Borough-road, Southwark. The Buildings, which are very substantially erected, comprise a very large factory, of three lofty floors, with basement; a smaller factory, of four floors, adjoining; a very spacious and lofty ground-floor factory, yard, a capital family residence and offices, two gateway entrances, and three dwelling-houses fronting the Borough-road, Nos. 77, 78, and 79, which can be readily let off if desired.—For further particulars apply on the premises; or to Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-street, E.C

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l*. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge. OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,
QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

A VACANCY FOR AN OUT-DOOR APPRENTICE.

Now ready, post 8vo. price 7s. 6d. cloth,

THE ANNUAL RETROSPECT
OF
ENGINEERIRG AND ARCHITECTURE;
A RECORD OF PROGRESS
IN THE
Sciences of Civil, Military, and Naval Construction.
VOL. I. JANUARY TO DECEMBER, 1861.

EDITED BY

GEORGE R. BURNELL, C.E. F.G.S. F.S.A.

It is believed that an annual review of our progress in the Sciences of Construction is a work the want of which has long been felt by professional men. No doubt there are already in existence publications which to a certain extent discharge this function; but the dates of their publication are so near to the discoveries they record, that they necessarily bear, more or less, an ephemeral character, on account of the prominence which must be given to the topics of the day. An ANNUAL REVIEW of the state of an art or science is to a certain extent removed from this danger, and should present the most important results of the year's labours in a more concise and more carefully arranged form. It is proposed, by the publication of the "RETROSPECT of ENGINEERING and ARCHITECTURE," to supply the want of a Review such as has been described.

London: LOCKWOOD & CO. 7, Stationers' Hall Court, E.C.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINE, and SPIRIT WARRANTS. BANKRUPTS' and INSOLVENTS' CASES CONDUCTED Balance-sheets Prepared, and Meetings of Creditors Convened Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

MONEY ADVANCED on MORTGAGE, or in the PURCHASE of FREEHOLD, LEASEHOLD PROPERTY, and GROUND RENTS; Mines in Work, Reversions, Life Policies, Advowsons, Dock Warrants, Bills of Sale, &c. Bills discounted.—Apply to Mr. ATKINSON, Solicitor, 20, Cecil-street, Strand, W.C.

POLYTECHNIC.—New Lecture by Professor J. H. Pepper, on Tuesday, Thursday, and Saturday, at half-past 12 and quarter-past 7, on "Some of the Chief Scientific Specialities of the International Exhibition."—Splendid series of Electrical Experiments with the Giant Plate Machine, and Lecture by J. L. KING, Esq.—Remarkable Imitations of British Birds and Animals, by HERR SUSMAN.—Re-engagement of George Buckland, Esq. for his Rifle Musical Entertainments.—New Gorgeous Scenic, Optical, and Pyrotechnic Pantomime Spectacle Beautiful Dissolving Views illustrating London in Ancient and Modern Times Parts as it is—The Holy Land—and Concerts by the BROUSIL FAMILY. See weekly programme of 8 pages. Open from 11 to 5, and half-past 6 to 10. Admission 1s.

PRIZE MEDAL, 1862.

HAMILTON & CO.
No. 10, GREEK STREET, SOHO SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE BOUND ROUND and OVAL
PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Graiuers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms Price Lists forwarded on application.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s. 8d.; Turpentine, 5s. 6d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 145, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s 8d. per gallon.
Turpentine, 3s. per gallon.
Fine Pale Oak Varnish, 8s. 6d. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 49, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all Kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

Forwarded free on receipt of Thirty Postage Stamps,
ARCHITECTURAL BOTANY: setting forth the Geometrical Delineation of Foliage, Flowers, Fruit, &c. as applied to Mouldings, Friezes, Panels, Diapering, Cornices, Spandrils, Crosses, Corbels, Capitals, Bosses, Panels, &c.
By W. F. GRIFFITH, F.S.A.
London: 16, Guildford-street, W.C.

Just published, in demy 8vo. cloth, price 18s. illustrated by Sixteen Plates,
EXPERIMENTS ON WROUGHT IRON AND STEEL;
RESULTS of an EXPERIMENTAL INQUIRY into the COMPARATIVE TENSILE STRENGTH and other Properties of various kinds of WROUGHT IRON and STEEL.
By DAVID KIRKALDY, 4, Corunna street, Glasgow.
London: SIMPKIN, MARSHALL, & CO.; and HAMILTON ADAMS, & CO.; Glasgow: M. OGLE & CO.; Edinburgh: JOHN MENZIES; and all Booksellers.

Just published, price 2*l*. 2s.
MANUAL of HYDROLOGY.
By NATHANIEL BEARDMORE, Civil Engineer.
CONTAINING—
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION
The Work consists of upwards of 400 pages, and there are 20 large plates.
London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 68, London-wall. 1862.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Ecclesiastic, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Chapel Organs of any size built, enlarged, or revoked, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

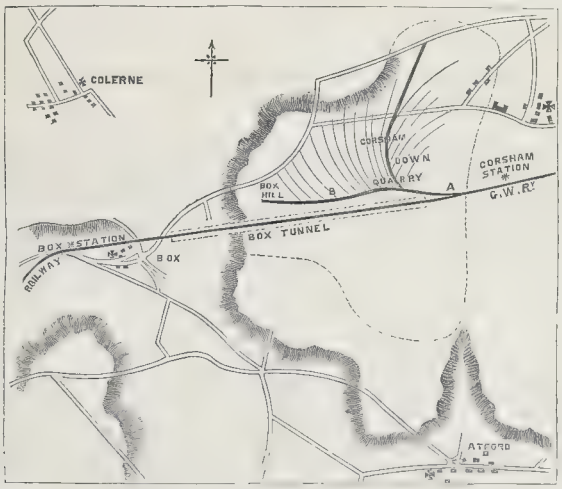
The Builder.

VOL. XX.—No. 1021.

Box-Hill and its Bath Stone Quarries.

BOX TUNNEL, that great supererogatory work of Brunel, cuts a straight line, running nearly due east and west, through one of the most important members of the Jurassic group of strata in England, geologically named the Lower Oolite, but here more commonly known as Bath or Free Stone. Box-hill itself forms the centre of the oolitic district, roughly triangular in outline, and comprising an area of about three square miles. Many parts of this and the neighbouring locality have been worked for stone, with more or less activity, from a very early date; but, though quarries were opened here as many as 300 years ago, it was not until after Brunel's tunnelling operations had demonstrated how large an amount of good material might be got out of the district, that the workings began to receive any adequate development. The construction of the Great Western Railroad, however, gave a great impulse to this previously limited industry, and the remarkable facilities for transit which its completion afforded soon attracted the attention of practical men. Indeed, it could hardly have been otherwise: here was an almost unlimited supply of a material whose usefulness for many constructional purposes had been established by use; and cutting almost through the sites of future workings was this great broad-gauge line. The present proprietors of the Box and Corsham Quarries, Messrs. Randell & Saunders, were not long in seizing upon the opportunity which these circumstances appeared to offer for the establishment of a large trade, and in the year 1845 they commenced the undertaking which has since attained its present large proportions. Having recently paid a visit to these quarries, where we spent some pleasant hours watching the work and investigating the methods in use for getting out the stone, we propose to describe what we saw, and explain to all whom it may interest the manner in which this building material is obtained. Nothing can be more unlike the ordinary experiences of mining excursions than a visit to the Corsham Quarries. Those who, like ourselves, have suffered in various parts of the country from hot, damp, and dirty scrambles through underground passages, whose narrowness and darkness were both alike incapable of the slightest alleviation, either by persevering stooping, or liberal illumination, will have a sense of surprise and pleasure when they first set foot within the wide, lofty, and well-ventilated roads which ramify for miles through the bowels of Box-hill.

Before conducting our readers into the workings, however, we will first examine a little into their general lie and disposition by the aid of the accompanying map, a few minutes' attention to



which will probably save us, by and bye, from that feeling of utter bewilderment too often the visitor's only companion in the subterranean regions given over to the miner's craft. All the workings which have yet been opened are situate on the northern side of the tunnel. They are divided into two districts, called respectively the Corsham Down and Box-hill quarries, the former occupying the eastern, and the latter the western, side of the hill. Entrance to both of these is obtained at the Corsham end, where the main road (A) joins the Great Western Railway on a level; a communication between the two sides being established by means of the road (B), along which all the Box stone is hauled to the railway trucks. Both these roads run parallel with the tunnel, the former debouching, as we have seen, upon the main line, and puzzling visitors strange to the locality with the apparently anomalous phenomenon of a double entrance to Mr. Brunel's great work. The dimensions of this approach almost rival those of its neighbour, permitting the ingress of two rows of waggons for some distance, but presently narrowing to one line of broad-gauge rails, which are continued as far as the first of the Corsham workings, where they terminate opposite the discharging-platform, to be more fully described hereafter. Greatly as these ample roads contrast with the straitened passages of ordinary mines, their size is not only convenient, but profitable. Unlike coal or other similar minerals, there is no object here in keeping the excavation within the narrowest possible limits. All the material taken out is commercially valuable, and hence the wealth of space throughout the whole quarries so pleasantly surprising to those whose underground experiences have previously been confined to some less favoured locality. From the main roads the workings spread northwards and westwards, as shown upon the plan, into complex reticulations of great and yearly-increasing extent, all of which communicate by means of gently-falling tramways with the discharging-platform. The utilization of gravity as a means of locomotion is carried out with much completeness throughout the works. In drawing from the Box side horses are employed to haul the stone only through a portion of the distance; more than half of it being accomplished by gradients. The natural disposition of the strata has greatly assisted in laying out the quarry thus; and nature is supplemented by art in the arrangements for economizing horse-traction, wherever such economy is at all practicable.

We shall make no attempt to follow the windings of all the workings shown upon our map, since the methods employed for getting stone are everywhere similar, and we shall learn more by confining our attention to one spot than by rambling with desultory aimlessness through the whole of the quarry. Changing our point of view, then, from one of general observation only, let us enter the right-hand one of the two tunnel-mouths which meet us on our walk down the main line from Corsham. Pausing inside for a few minutes to go through the preliminary ceremonies of lighting candles and tallowing our fingers—melancholy rites only too painfully characteristic of all subterranean explorations—we presently get our eyesight, and are able, without risk of stumbling, to step out on our journey.

A hundred paces along the main road suffice to dispel any apprehensions of discomfort that we may have anticipated from ordinary mining miseries. The path is dry enough, wide enough; and, above all, there is air enough, and to spare. Instead of the sluggish current of hot and carbonized air with which one fights for breath among the stalls or headings of a coal-pit, there is here a cool breeze flying past us at a great rate on its way to the distant workings towards which we are progressing. Those of our readers who are not acquainted with the methods commonly in use for the ventilation of underground works will probably be glad of such an explanation of the first principles on which these depend as will enable them to understand the reasons for the efficiency of the processes in action here.

The well-known difference in the specific gravities of warm and cold air is made use of in all mines for the production of a current through their workings. Thus, if two pits be sunk at some distance apart, and then connected at the bottom by a passage, any rise in the temperature of one shaft will be followed by an upward movement of the air contained within it, and a corresponding downward flow in the other, through which the colder atmosphere rushes to supply the partial vacuum that would otherwise be formed by the ascent of the rarefied column in the upcast. Now, if we suppose all the workings of a mine to be situate somewhere between an upcast and a downcast shaft, this simple principle can be made sufficient to keep the workmen well supplied with oxygen. In all collieries the natural warmth within the pits generates a current of more or less intensity, though this is seldom strong enough to fulfil the requirements of good ventilation without artificial assistance. Hence it is usual to heat the upcast by means of fires, which, increasing the volume and decreasing the weight of the atmospheric column within it, assists in producing a sufficient draught. At Box, however, no artificial stimulus is needed to keep up the circulation. The downcast shaft being here represented by a wide and lofty road entering the hill upon a level, admits air so readily, that a few "upcasts," here and

there communicating with the surface, suffice to establish an abundant current. Nowhere throughout the whole quarries is there anything approaching to a scant supply of oxygen; and the visitor is never conscious of breathing under conditions at all different from those of ordinary life, though he is often likely to be made aware of the rapidity with which the wind traverses these subterranean passages by the coolness of his person, and the difficulty he will sometimes find (in the larger roads especially) to keep his candle from being blown out by the draught.

A walk of about a furlong brings us opposite the point where all the stone taken out is loaded into railway trucks, a process effected with great simplicity and economy. The single line of broad-gauge rails which we have hitherto followed stops here, but it is met and accompanied through the last few hundred yards of its length by a narrow tramroad about 2½ feet gauge, running parallel with the main line, but laid at such a level as to bring the little trollies forming its "rolling stock" to the same height as the larger waggons, into which the blocks are readily shifted by means of two powerful cranes, without any lifting whatever. By this arrangement, a large amount of work is got through in the course of a day, one crane alone being capable of loading up some 6,000 feet of stone, or nearly 400 tons in ten hours. This discharging-platform, as we have previously named it, is in direct communication with the whole of the workings, every one of which has its own branch of narrow-gauge rails; and along some of these feeder lines the small trucks are constantly passing with their burdens. Immediately opposite where we now stand is an entrance to the first of the Corsham side workings, lying a little off the main road, and approached by a narrower passage cut almost at right angles to it. Turning into this, we shortly find ourselves in a large open space, lighted with tolerable brilliance by many candles, and occupied by a group of workmen all busily engaged in various quarrying operations—some sawing, others hoisting; some prizing great blocks on rollers towards the trollies in waiting, and others manning the handles of a crane occupying the centre of this little amphitheatre. We will make this working our pattern card; in describing it we describe all its fellows, and there is no reason to prolong our walk for the sake of seeking information which can be had here for the asking. One uniform system of getting stone prevails, suggested and occasionally slightly modified by the natural peculiarities of the rock itself, which it will be necessary to understand before we can gain any definite notion of the object to be attained by the different processes we see going on around us.

Like almost all other stratified deposits, the Bath oolite lies in "beds," as they are named both by geologists and quarrymen. In other words, the total depth of the stratum is made up of many successive layers of stone, varying very much in their respective thicknesses, and separated from each other by natural joints or "partings." In the oolite these partings are extremely thin; they appear as if marking certain periods in the formation of the rock, during which the process of deposition was arrested, and the stone allowed to harden before fresh accumulations of calcareous sediment were thrown down upon it. Out of the whole mass of freestone forming the core of Box-hill, only those beds are quarried which are known to produce good stone. The number, lie, and position of these were ascertained with considerable accuracy during the progress of the tunnel, whose shafts, penetrating through the whole formation, afforded the best possible opportunities for an examination of its constituent members. The average depth of the workable beds varies from 8 feet to 30 feet, and their respective thicknesses range from 6 feet to 1 foot. The uppermost of them is only about 10 inches through, and this is called the "picking bed," for a reason which will become clearer as we proceed. The actual getting of all minerals differs greatly with the character of the materials to be dealt with, depending of course upon their respective hardness, softness, toughness, or friability. Granite, for example, is torn by main force of gunpowder from the parent rock; while coal is won by the pricker and the pick. Portland stone—a harder form of oolite—is blasted out, like granite, in shapeless masses, which are afterwards reduced to form by the chisel and bar; but the freestone, from its soft nature and the regular occurrence of the joints, to which we have alluded, permits a very different mode of treatment. Those of our readers who are acquainted with the methods ordinarily employed by colliers will understand our description the better for being told that these processes represent an almost exact inversion of those in use at Box and Corsham. In the former every successive measure is thrown down from above by continued excavations at the floor level of the mine, which, removing the support from one mass of mineral after another, suffers each to separate itself by its own gravity from the overlying strata at one of the partings, which characterize the carboniferous equally with the oolitic formation. In the latter, "undercutting" is replaced by what we might aptly designate "overcutting;" and operations precisely similar in principle, though different in detail to those employed in the winning of coal, are commenced at the roof instead of at the floor of the mine. The accompanying sketches will help to render our explanations more intelligible. Here

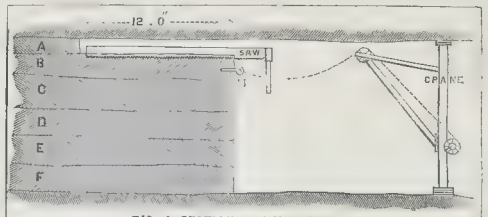


FIG. 1. SECTION OF WORKING.

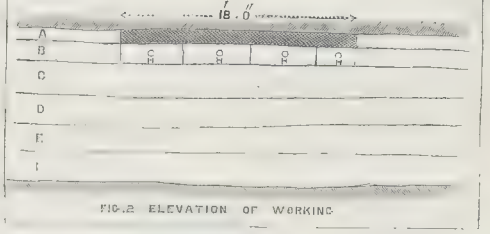


FIG. 2 ELEVATION OF WORKING

Figs. 1 and 2 represent the section and elevation of a working recently opened; its various beds of stone being shown at A, B, C, D, E, F. In the uppermost of these (A), previously denominated the picking bed, an excavation is made, as indicated by the shaded portion of the sketch throughout the whole width of the working, a distance averaging from 18 feet to 30 feet: a dimension wholly dependent on the nature of the overlying stratum or "ceiling," the strength of which regulates the size of opening that may be worked without fear of settlement. In these quarries the roof is generally very strong, and the system of commencing to excavate in the topmost member of the beds affords an absolute security from falls—that most common and fatal of the miner's many dangers. The removal of only 9 or 10 inches of material beneath the ceiling deprives the overlying strata of support as effectually as cutting away all the stone from roof to floor would do; hence, should there be any tendency to settle, it is always shown at a period when human life is not exposed to its influence, and when an actual drop could do no possible injury to the workmen.

The picking is effected by means of tools shaped something like an adze, the heads of which can be shifted on to longer handles as the work gets out of reach; and thus the men carry the narrow hole shown upon the section a distance of about 12 feet back into the rock. This completes the first process; and an entirely new agency now comes into action for the final removal of the blocks.

Every one at all acquainted with Bath stone knows that it can be readily cut up by means of an ordinary saw. This is the case, even after its whole substance has become hardened by exposure to the air; but it is specially so in the quarry, where the stone is rendered softer by the large amount of moisture diffused throughout the beds. The front elevation, Fig. 2, shows a number of thickish black lines extending downwards from the pick-hole to the next recurring "parting." These represent saw-cuts; and they are made by a tool differing little in shape and appearance from an ordinary "cross-cut," but having a handle at one end only. The position of this saw during work is shown upon the section; and no further explanation is needed to make its operation clear to the most unmechanical reader. After the bed has been divided down to the natural joint, and the blocks thus separated from the parent rock on all sides but one, levers are introduced into the parting, and the whole detached by forcibly breaking off at the back, when the stone is ready for immediate removal to the discharging-platform. We have already mentioned that a branch of the narrow-gauge line runs through each of the workings, connecting them with the railway waggons; and it is now time to speak of the manner in which stone is loaded on the trollies after being quarried. Immediately after opening out a face of work, a five or ten ton crane is erected in such a position as to sweep it all over. One of these is shown in Fig. 1, fixed in bearings let into both roof and floor. These cranes are ingeniously contrived to suit variations in headway, such as are caused by differences in the depths of the valuable beds. The post is telescopic, being capable either of sliding out to the loftiest, or contracting to the lowest, space afforded. A large expense in continual alterations

is thus avoided, and the periodical shifts from worked-out to new localities is made without trouble or loss of time. After the blocks have been loosened a lewis bolt is let into the face of each stone at H, and the chain of the crane made fast to it: one piece after another is thus dragged out, assisted by the crowbars of the men, and falls to the floor, whence it is soon conveyed by the trollies to the discharging-platform. The next and all the remaining beds are taken out by a modification of the processes which we have just described. By the removal of the layer immediately below the picking-bed sufficient space is obtained to allow the workmen an entrance

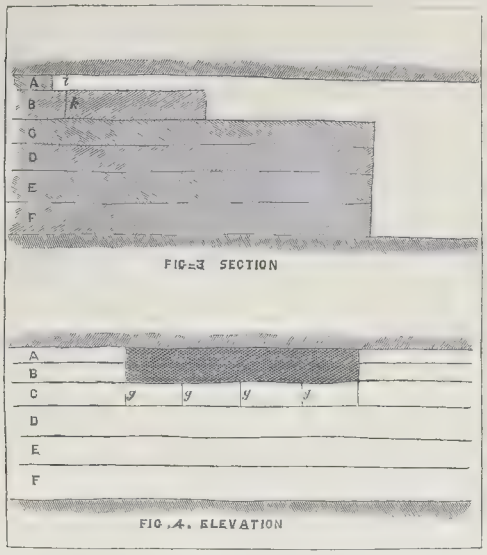


FIG. 3. SECTION

FIG. 4. ELEVATION

under the roof; and Figs. 3 and 4 show the manner in which they make use of this advantage. Vertical cuts (*g*, *g*, *g*) are again carried down to the next succeeding parting; but, as there is now room at *i* to work the saw transversely as well, another cut (*k*) is made, which, separating the blocks from their hinder attachment, renders any further breaking off behind unnecessary. Meanwhile the cutting is continued in the picking-bed, and stone got out in layer *a*, just in the same way as before; every thing below this point, however, is quarried with all sides sawn excepting those abutting on the natural joints. Hence there is very little loss or waste; each piece comes out square, finished, and ready to pass at once into the hands of the dealer or builder. Continued repetitions of these several operations produce a terraced profile in the workings; and this is the form in which they are usually found by the visitor. At such times their aspect is quite picturesque. On all sides there are lights, which, unlike those of the dim colliery lamp, whose rays are all absorbed by the black mineral they vainly strive to reveal, are reflected from the white surfaces of stone, and give a really respectable amount of illumination.

Each of the platforms is occupied by groups of men, all healthy, cleanly, and cheerful-looking fellows, busily occupied either with pick, crowbar, or saw, and shouting occasional directions one to another in a tongue whose determined provincialism none but a born Wiltshire man could hope to interpret. Piecework prevails throughout the quarries; every crane being let to a ganger, who contracts with the proprietors to supply stone at a given price per foot delivered into the trucks. Each ganger pays his own men, generally by the piece also; and when tolerably fortunate in the lie and nature of the stone, all the workmen make good wages, earning enough to enable those who are careful to put by something for a rainy day, after paying for the support of themselves and their families. Accidents to life and limb are almost unknown throughout the works: a few casualties have occurred since they were first opened; but these are unimportant in comparison with the large quantity of material which is got out yearly in safety. The two special perils of miners are entirely absent. Gas, of course, there is none; and falls of roof are prevented, as we have seen, by the methods employed in working. When we remember that in the subterranean world of Staffordshire, Lancashire, or Wales, some three-fourths of the disasters of which we hear so much every now and then are directly due to one of these two agencies, we shall cease to be surprised at the wide differences exhibited in this respect by two classes of works apparently so similar in every thing except the character of the mineral with which they deal.

Several of the ventilating shafts serving to produce a circulation of air through the workings rise to the surface of the ground by a tolerably gentle ascent, and are furnished with steps from top to bottom. These are made use of by the workmen for access to the quarries, and they form a designedly valuable arrangement for their health and comfort, bringing the men by short cuts to and from their work in the morning and evening.

The average daily produce of stone from these quarries is about 150 tons, being nearly double the quantity got out from all the other Bath-stone quarries taken together. The length of underground tramways leading to the several workings, exclusive of those which have been worked out and abandoned, is something over five miles; and the direct line running east and west through the length of the quarry is very nearly two miles. The number of cranes in constant use at the several workings is about fifty, each one of which keeps two or three of the narrow-gauge trollies fully employed; while the rolling stock comprises forty-six broad-gauge waggons actually belonging to the quarries, and exclusive of the Great Western Railway trucks, in which a large part of the traffic is carried on. The busy time extends from May to Christmas, though stone is got out for stock throughout the whole of the year; and the quarrymen are thus seldom thrown out of employ at a time when they most require work and wages.

Having by this time gained all the information which is likely to interest us, it will be well, while our candles are burning closer and closer to our fingers, to return once more along the ample subterranean roads to open air and daylight: feeling glad, at the same time, to know of one branch of industry at least whose operations, necessarily conducted under ground, are free from imminent risk to the workman's health and life, and yet not therefore unprofitable to its conductors.

TREES IN KENSINGTON GARDENS

An idea has got abroad, and has been noticed in the press, that great decay and havoc have occurred amongst the timber trees of the Gardens and Park, because some score of them have lately fallen and been eradicated. One of the complainants alleges that such decay is owing to the want of drainage, and to the plashy condition of the forest level; while another imputes the fatality to the absorption of the moisture by drains and culverts. There may be some reason in both conclusions; but the condition of the timber grown on this space is due to other causes; the first being, that the plantation was originally spaced too close; and, secondly, that the trees had not been sufficiently thinned out while growing, and before they arrived at maturity.

In the management of plantations intended for forest growth, it is a great mistake to crowd them too closely; for, if young trees are not thinned out early, nothing more than a coppice can be the result; and unless, in due progression, space be given for the due development of ramification, the stems will spring up stalky and more like canes than robust British arborage. The existing state of the Kensington woods plainly demonstrates that the thinning process was wholly neglected. There are, throughout the whole expanse, but few examples of finely proportioned and full-grown timber trees. In fact, the distinctive character of the several blended species is almost lost in the ungraceful length of naked stems which, from their propinquity, whip and starve each other.

It is a great mistake to suppose that, on such a table of inclined land, drainage, or the neglect of it, under the shade of thick groves, should occasion decay. Judicious drainage would improve the young aspirants, which are always found to flourish upon table-land with a fair incline, *if the soil be congenial*. But the destruction of the largest trees was occasioned by the deep tunnel along the Serpentine, which not only cut the roots of five of the noblest elms near the water-works, but drew off their natural supply of moisture. There are also a few old trunks in the Park, most of them stunted and rampiked, which perished from the influence of subterranean absorption caused by the main sewer that traverses Hyde Park. Beyond these, there are not over a score of trees in the Gardens which have decayed within the last four or five years; and that, under the unfavourable condition of the woods, as before cited, is not in excess of ordinary forest waste.

The fall of the five elms at the head of the Serpentine is certainly no loss, since the whole space is too much overshadowed, and the points of view are obstructed; the scenic effect being destroyed by overcrowding, and the consequent unnatural and less-graceful growth; whilst the atmosphere, which, amongst trees properly placed, ought to be refreshing, becomes heavy and unwholesome. At this moment, the greatest service that could be done to the plantations would be to permit a judicious woodman to cut away at least *one-fourth part* of the standing timber throughout; for they overbear and poison each other.

The soil of Hyde Park is certainly not very favourable to the growth of giant trees: the condition of those now standing—veterans of one to two hundred years—sufficiently proves that fact. It is not the stagnant waters complained of by the passenger through the gardens that occasion their decrepitude, but rather the drought, and poverty of the staple in Kensington; although moderate drainage, say 18 inches deep, could not harm them; neither does the surface-water after rainfall do much damage, since the super-stratum is gravel. Still, surface-drainage in this soil would carry off the ferruginous properties which would be ungrateful to young plantations, as the plashy footpath is to the plaintive "Viator" of the *Times*. To satisfy him, however, the Chief Commissioner might direct that traverse footpaths should be cut from every entrance wicket-gate,—bending from those at Queen's Gate and Porchester-terrace to the corner of the gardens at Rotten-

row, leading to Prince's Gate. Those walks through the wood ought not to be straight lines, but a little serpentined, for effect. A slight winding would not add 30 yards to the whole length.

Although much taste and skill were evinced by the designers and planters of those grounds in the reign of William III. and Anne; still the true science of arborage was then unknown. They had in those days, and over a century before, introduced some varieties of trees and plants from foreign countries; but within the last century, the number of trees indigenous to Great Britain has been multiplied by the importation, from various parts of the globe, of ten times their amount, and by their acclimatization in our gardens, parks, and forests. Originally, the forest standards were few beyond oak, ash, elm, beech, birch, alder, yew; and even these have, in their varieties, been extended fourfold; while, again, the busy arborists of England have transferred to British colonies, and other countries, the forest products of this island.

The rarest of all our acquirements appear to have been derived from America; and the colonies of Victoria and New Caledonia will enrich our stock in kinds and qualities, even beyond all that has been attained hitherto. The fir, "Abies Douglasii," evergreen, which attains the height of 200 feet, and makes the most durable as well as odorous timber, would seem to be the most valuable; the Platanus, or Plane—occidentalis, from America, and orientalis, from Asia—the most free-growing and ornamental.

It is proved that trees formerly considered peculiar, because indigenous to certain countries, will thrive and flourish, when transplanted to other regions, provided the conditions of soil and climate be not altogether violated; as by transference from the torrid to the frigid zone; or from a dry, sandy, to a spongy alluvial soil. As, for example, many specimens of the British forest, and also of horticulture, have been transferred to Australia with wondrous success, and so *vice versâ*.

To return to the question of park drainage. To a fair extent it will improve but never kill a tree. The stagnation of water, however, about the stems will naturally rot the roots; for this excludes atmospheric action, which is quite as essential to vegetable as to animal life. The tree breathes through every leaf—inhales and exhales; therefore, overcrowding stints the growth, and leaves no room for the graceful expansion of the plant; which, when left to nature, arrives at true perfection.

BRIXWORTH CHURCH.

At the recent meeting of the British Archæological Association, as we have already mentioned, the Rev. C. F. Watkins gave some particulars of Brixworth Church. In the course of his observations he said:—

It is now thirty years since I took possession of this living, and I was naturally struck with the singular appearance of this building—its arches formed of Roman bricks, and every subsequent style of architecture interposed up to the time of Henry VI. The only notice that had previously been taken of the church was by Mr. Britton, that energetic and useful pioneer in archæological matters; and Rickman, the writer on Gothic architecture; both of whom had their attention called to the building by Mr. Baker, the late historian of the county, and his sister. Through the exertions of the latter, some of the brick arches were scraped and laid bare, and the foundation of the outer wall to the north aisle ascertained; but nothing was done to develop the original plan of the building; nor was any plan suggested. Mr. Britton concluded it to have been an Anglo-Roman building—Mr. Rickman a Norman: it appears, however, as deduced by Mr. Roberts, from the edition of his book in 1835, eleven years after he had visited Brixworth, that he then classed it amongst the Saxon buildings of the country, though not earlier than those of Barton-on-Humber and Earl's Barton.

After long, careful examination, and mature consideration, I concluded it to have been originally built for a Roman basilica or hall of justice, or rebuilt by the early Saxons after the Roman type. I met with little encouragement and much opposition in proposing this view. There was at that time a prevailing prejudice against the supposition of the existence of early remains of Saxon architecture of any account, or of anything prior to the Norman period. A hundred years ago prejudice ran the contrary way. If an arch was discovered with any tracery, especially with any chevron work, it was immediately attributed to the Saxons. When that error was exploded, the prejudice ran in a contrary direction, as is usual with mankind; and the Saxons were reported as incompetent for any considerable work. The late Marquis of Northampton, and the late rector of Orten Longueville, who had examined all the architectural remains in Italy and the rest of the Continent, alone encouraged me in this view.

The first thing I did was to take occasion of the burial of a parishioner in the chancel to make excavations there. I observed in the north-western corner of the exterior two sides remaining of a former polygonal structure, and noticed that the interior of that part curved a little. This led me to infer that it was part of an original apse, polygonal without, and semicircular within, and probably with an underground crypt, as in the oldest forms. I therefore made the masons prolong their excavations till they reached, as I suspected, a subterranean wall, 10 feet deep, which I made them lay open in its whole extent, till it came to view, a perfect semicircle; and I left it open for public inspection from two to three months. But, being obliged to close it up for the performance of sacred rites, I determined to work in a different quarter. Having observed an opening at the east end of the subterranean wall, I concluded there must have been also a subterranean chamber or corridor on the outside of the wall for this source of communication; and if a corridor, or ambulatory, as it is sometimes called, a descent to it from the east end of the church. Accordingly, I had the wall at the north-east corner, behind where now the organ stands, pierced and opened; and, after some labour and risk, succeeded in laying bare a circular-headed doorway, from which, I doubted not, there had been descent to the cavity below. A serious obstacle presented itself to any investigation without, in the form of a solid embankment as high as the present window; but, after removing about 200 loads of earth, I had the satisfaction of revealing the outer wall of the crypt; the doorway and original steps of descent; an outer low subterranean wall encircling the corridor in parallel lines with the original apse,—*i. e.*, polygonal without and semicircular within, with a recess in one of the sides, receiving a vaulted roof which sprung from the string-course of the wall of the crypt. My next object was to lay open what I concluded would prove to be the north aisle with its apsides, which the respective arches seemed to indicate as having existed. Another embankment of earth, up nearly to the windows, again proved an obstruction; but I at length succeeded in laying open the whole aisle, conterminous with the nave, subdivided into cells, with a terminal square apse at the east end, and a rectangular one at the west,—the latter formed by the recess from the nave to the square porch. On the south side, where greater obstructions presented themselves in more recent buildings, I made sufficient investigations to assure myself of corresponding parts to those on the north. Thus, abstracting the circular tower at the west, which, by its straight joint and other features is proved to have been a later appendage to the building, I at length ascertained and developed, what I had always inferred and suggested to others, a complete basilican form in the original building; viz., a square porch, with a main west entrance opening into apsides north and south, and into a nave with four arches of a side, these arches opening into corridors; and with clerestory windows above, between each two of the four arches; a compartment at the east end of the nave leading into a semicircular apse, and opening into square apsides or terminals to the aisles, at its commencement from the nave.

And now with respect to this compartment. It is evident that the walls on either side were originally without openings. The first that was made was the smaller arch on the south side, excavated for the purpose of communicating with the present south aisle, which was built in the early part of the fourteenth century, as a chapel for Sir John de Verdun, lord of the manor, whose effigy is now inclosed in an arched recess of the south wall of that aisle. Fifty years later the larger arch was opened, and a clerestory window above. In the north wall of this compartment a Decorated and a Tudor window were afterwards inserted: the latter is now superseded by a Decorated window, substituted at the time of rebuilding the wall in that part.

If you look up to the commencement of the large arch which leads from the nave, you will perceive the spring of an early brick arch, which was supposed to have spanned the whole width of the church; but it is evidently too small for such a compass; neither is there sufficient pier to support such an arch. I suspected that it was only a small clerestory arch, corresponding to the opposite one at the east end, for the purpose of throwing light into the choir from the clerestory of the nave, as those at the east end did from without the building; and that there must have been a central or triumphal arch corresponding to that which leads into the chancel, with side walls and round-headed doors, and clerestory windows over them, in counterpart to the east end. On burying a corpse near to the crossing, I had the excavation continued, till I arrived at the bases of the central piers, thus verifying all that I had inferred respecting this building. I shall not detain you at present by any particular account of the Basilica in general, but simply state that it was originally a building in which the royal and sacerdotal functions, as united in one person, were exhibited; the civil and religious authorities exercised by the same individual; the "Rex Anius atque sacerdos" having its type (as I can aver from long research) in the earliest periods of most ancient nations, and necessitating such a construction in this form of building.

When Mr. Poole, several years ago, read a paper on Brixworth Church, before the members of our Architectural Society, at the George Hotel, Northampton, I added *vivâ voce* observations of a supplementary character, and some of them to this purport, that I was convinced we should some day find the origin not only of the circular brick arch, called the Roman, but of the basilica itself, in the plains of Shinar. Some time afterwards, on going to the British Museum to inspect the slabs from Nineveh, I discovered the type of one of our Saxon arches on one of the blocks, and beside it a type of the Norman arch, with its chevron work. And I had the satisfaction of subsequently hearing Mr. Layard describe, at a meeting in the Mechanics' Institute, the foundation of a basilica in the ruins of Nineveh, corresponding in its several details to that of Brixworth.

THE ARCHITECTURAL PUBLICATION SOCIETY.

Since our last notice of the works issued by this Society, two parts have been delivered to the members this year,—one containing the letter F; the other fourteen plates of illustrations to "The Dictionary of Architecture." The remarks we gave on the previous occasion were somewhat *in extenso*, and such as tended to direct the attention of our readers to the object and scope of the work, whilst urging on those who were not already subscribers to join in the production of this elaborate publication. We will refrain, therefore, at this time, from doing more than noticing the fact, as the pages can readily be referred to in the last year's volume, and proceed at once to comment upon the contents of the new parts before us.

Prefixed are a couple of pages containing the "List of Terms" proposed to be inserted under the letter G and part of H, and "forwarded for the object of inducing communications from members and others, having notes referring to the several subjects, and also drawings to serve as illustrations." A copy of this list would, no doubt, be forwarded to any of our readers who might feel induced to take that interest in the work, even if not assisting with that other essential to the "sinews of war," the subscriptions. We mention the titles of articles;—as Felling; Felspar; Fence; Ferrara; Festiniog Slate; Fibrous Slab; Figlinum Opus; Filter; Firenze; Fischers; Fives Court; Flamboyant; Flemish Architecture; Flintwork; Floor; Flue; Flute; Fontaine; Foot; Foundation; Freemason; Freiburg; Fruit-room; Fusibility,—merely to show the scope of the work and the general contents of the part, comprising nearly one hundred folio pages. We have lately heard some remarks upon the insertion of so many Spanish and Italian names, as well as other articles; and this was likewise animadverted upon at the annual meeting, and subsequently in a communication which we printed. There is some force in the observation; and it would certainly be desirable to shorten the work as far as is consistent with completeness. Some few of the headings already admitted would probably never be looked for in an English cyclopædia; for example, in the present part, Foris, one of the Latin names for a door; or Fosse d'Aisances, the French term for a cesspool: nevertheless, we are glad to have the information given in both these cases, and are forced to say the same, after a somewhat careful examination, of the greater part of what might reasonably have been omitted.

To remind some of our readers of the style in which the articles are written, we print at the end of this notice what is said under the heading

Freemason, and shall not be sorry if it lead to discussion. The matter under the headings Figlinum Opus, and Flute, amongst others, is new and valuable.

The second part, lately forwarded, though dated in May, includes illustrations to the letters F to P. The first, "Farm Buildings," is a plan of the Imperial farm (Pastoral) at Vincennes, useful for comparison with the systems adopted in England. The "Fountain" in the court of the Mosque of the Sultana Valides, at Stamboul, is lithographed by Messrs. Kell, after a drawing by John W. Walton. "Groined Roof" includes an example from an old house, formerly a chapel at Ratisbon, with plan and section. A whole plate is devoted to a view of the chapel in the Hospital of St. John, at Angers, under the same title, from a drawing by Mr. R. A. Johnson, lithographed by F. Bedford. "Half Timber House," at Bacharach and Angers; "Lichgate;" "Metal Work" (two useful plates of knockers, hinges, locks, towel rack, &c.); "Mosque;" "Porch" illustrated by two specimens from Lisieux and Bayeux Cathedrals, are amongst the other subjects. The most important, however, are two plates of "Marble Pavements," taken from various parts of St. Mark's, at Venice. These are given, not only in colours, after careful drawings by Mr. H. Bowman, but also accompanied by two plates of the outlines, which we presume are only impressions from the "key" stone of the coloured ones; and therefore costing only the expense of printing; giving the student the means to exercise his skill and taste in varying the colours. Regarded as pavements, however, the designs are mostly very bad, presenting the appearance of all sorts of uncomfortable angles to walk upon. These plates have been carefully printed in colours by Vincent Brooks.

FREEMASONS.*

The designation Freemason (Fr. *Maçon; tailleur de pierre*) was formerly in use in the building trade for a stone-cutter, and is now merged into the general term, mason. The earliest use of this word at present known is in a record of 1396 for works at Maidstone, as "*Lathomos vocatos ffre macons—Lathomos vocatos ligiers,*" Rymer, *Fœdera*, Syn. xvii. The Fabric Rolls of Exeter Cathedral, dating 1396-7, are said to contain the word 'fremason.'

The word *latomos*, derived from the Greek, is seen in an inscription, dating 1257, on the cathedral of Notre Dame at Paris (Inkersley, *Inquiry*, 8vo., London, 1850); but it is not found in England until the end of that century, nor until the middle of the following century, in general use. The term previously employed was the Latin word '*cementarius*,' as in the London Assize of 1212 (Brit. Mus., *Add. MS.*, 14,252, fo. 133 b, and in Turner, *Dom. Arch.*, 8vo., London, 1851), which has likewise the title '*sculptores lapidum liberorum.*' As exhibiting the connexion of 'freemason' with 'freestone,' and its probable derivation therefrom (although some writers assert its origin from 'free' of the company of masons), the following may be stated; an indenture of 1314 in the French language, is to the effect of a '*masoune*' having to erect a house '*de pere fraunche*'; Parker, *Dom. Arch.*, 1853, ii., 5; *freestone*; and though the statute of 1349 uses the word '*cementarius*,' that of 1350-1 contains the words '*mestre mason de franche peer*'; that of 1360-1 has '*de fraunche pere ou de grosse pere*,' wherein the workman is called '*maceon*'; and that of 1444-5 mentions a 'frank mason,' and 'un rough mason.' Thus four classes are probably obtained, viz., the freestone mason (Fr. *l'appareilleur*); the rough or rubbie waller (Fr. *le limousin*); the layer or setter (Fr. *le poseur*); and the common workman (Fr. *le debardeur*). The above derivation of freemason would be supported also by the fact that the term freemason was not adopted in Scotland, where the stones in general do not enter into the class of freestones as in England.

A fraternity or guild of masons existed in the city of London in 1375, 49th Edward III.; and in the following year, another of freemasons is noticed. The latter body is said to have merged into the former: this certainly took place before 1421, and probably about 1411, the date recorded in the usual subscription to the coat of arms of the company of masons, as the period of its charter of incorporation. Halliwell, in *Archæologia*, 1838-9, xxiii., 447-9, states that a company of 'under-masons' was formed in London in 1473, 12 Edward IV. The guild is called 'cementarii' in 1422 and 1423. Others existed in the corporate towns. The statute of 34 Edward III., 1360-1, declares "that all alliances and covines of masons and carpenters, and congregations, chapters, ordinances, and oaths betwixt them made or to be made, shall be from henceforth void and wholly annulled," etc.—an act enforced by many of later date, especially by the often-quoted one of 3 Henry VI., 1425; and even as late as 1548 the confederacies continued illegal. The general statute of 5 Elizabeth, 1562-3, further restricting workmen, continued until 1813, when that portion which empowered justices to rate the wages of artificers and labourers was repealed; and in 1814 a further portion was repealed, as forbade exercise of trades by persons not having served an apprenticeship, and as regulated the mode of binding, etc., at the same time the customs and privileges of cities and boroughs were saved. Statutes to a similar effect as those above mentioned were passed in Scotland, which country had guilds corresponding to those of England.

The masons' guilds or companies, like those of other trades, had a legendary history of the origin of their trade: this, together with the supposed 'constitutions' or by-laws, have been printed many times: a good specimen is given in the *Gentleman's Magazine* for 1815, pt. i., 489. One in manuscript, on parchment, dating the latter part of the fourteenth century, exists in the British Museum, Bib. Reg., 17, A. 1, ff 32, and is peculiarly interesting from being written as a poem of 575 lines, the versifier being probably a priest. This MS. was first noticed by Halliwell, in the *Archæologia*, xxiii.; and edited by him as *Constitutions of Masonry*, 8vo., London, 1840; 2nd ed., 1844. Another manuscript of the latter part of the fifteenth century, bought for the same library in 1859, Addit. MS. 23,198, has been edited as a facsimile by Cooke, *History and Articles of Masonry*, 12mo., Lond., 1861. These, with the later manuscripts and texts, are all in English. It is noticeable that no two copies are alike, while none afford any clue as to the date of compilation.

As regards the interesting question of a supreme guild directing the systematic working of these corporations, nothing has yet been discovered in England; for the text of the above legends, etc. may be applied for and against such a decision. In respect of Germany, however, Grandidier, *Essai sur le Cath. de Strasbourg*, 8vo., Stras., 1782, shows that, besides other companies of masons, the masters of the lodges (*hütten*) of masons employed in the erection of buildings and cutting of stone, in several cities of Germany, assembled at Ratisbon, so late as 1459, when they drew up an act of fraternity, which established the chief mason of the cathedral of Strasbourg (then Jost Dotzinger) and his successors, as sole and perpetual grandmaster, a predominance which lasted until 1707. This society, he states, received the sanction of the emperors (probably in a similar manner to the charters granted to the English guilds); and, to distinguish themselves, the members adopted words, tokens, and signs, and instituted certain ceremonies on the reception of new members. Although its jurisdiction was early sanctioned in matters relating to building, and the archives of Strasbourg are full of such documents (*hütten-briefe*), the magistrates withdrew the privilege in consequence of the bad use made of it. It is to this lodge at Strasbourg (the cathedral was begun in 1277, by Erwin von Steinbach) that Stieglitz, *Geschichte der Baukunst*, 8vo., Nur., 1827, p. 428, observes that Pope Nicolas III. gave, in 1278, a letter of indulgence, renewed by his successors, and by Benedict XII. in the fourteenth century. Heideloff, *Die Bauhütte*, 4to., Nur., 1844, also contains some documents apparently to a purport similar to the English constitutions. Lodge.

But little appears to be known of a building fraternity in France. Ordinances of the carpenters and masons are, however, still preserved in the *Registres des Métiers et Merchandises*, at Paris, printed in the *Réglemens sur les Arts et Métiers de Paris, rédigés au xiiie siècle*, edited by Depping, 4to., Paris, 1837, which exhibit rules and regulations. In Italy still less is known of the customs of this trade.

The monopoly exercised by fraternities of all trades in the chartered towns of England becoming abridged or intruded upon, as well by the increase of new towns as by the settlement in this country of large numbers of foreign artists and workmen in other towns, a system was adopted of accepting members not exercising trades, to the benefit of the privileges of the chartered companies. This commenced early in the seventeenth century, if not before; the traditional history and forms being kept up, those of the masons more especially spreading (from political causes probably), may account for the retention in scattered localities of 'Lodges of Freemasons;' it being alleged, moreover, that from traditional usage, any five, or even one, mason could make a brother mason. Four, at least, of such lodges existed in London in 1717, when a meeting was held and a grand lodge constituted, from which, in England, has resulted the present 'Society of Free and Accepted Masons.' A similar grand lodge was formed for Ireland in 1730; for Scotland in 1736; and the lodges extended throughout the world. What is now understood by 'practical and speculative freemasonry' will be best known from the many publications issued by the members of that respected fraternity: these works, however, put forward a large claim to an antiquity that is not sufficiently supported by historical evidence.

As regards this nation, comparatively so few Fabrick Rolls and other documents relating to buildings have been printed, that but few of the actual designers, as the master masons most probably were, of the edifices are known. In this work it has been attempted to arrange those recovered, under the cities, and under their names, in all countries. For England, also, it has been attempted by W. Papworth, *The Superintendents of Buildings*, etc., given in the *Transactions* of the Royal Institute of British Architects, 1859-60 and 1861-2; previous to which, Dallaway, *Collections for an Historical Account of Master and Free Masons*, 8vo., Lond., 1833, had treated the subject in a professional view. Otherwise, nearly all other writers have felt the influence of the publications relating to the Friendly Society above mentioned: such as, Anderson, *The New Book of Constitutions of the Ancient and Honorable Fraternity*, etc., 4to., Lond., 1723, and its enlarged editions by Noorthouck, by Preston, and by Oliver, for England; of Laurie, *The History of Freemasonry*, etc., 8vo., Edinburgh, 1804, and 2nd ed., 1859, for Scotland; and by Sprat, *The New Book of the Contitutions*, etc., 8vo., Dublin, 1751, for Ireland. Krause, *Dei Drei aeltesten Kunsturkunden der freimaurer bruderschaft*, etc., 2nd ed., 8vo., Dresden, 1821, is a collection of works relating to this society.

* We give the following as a fresh view of the early history of the Freemasons, without admitting its conclusiveness.

BANK OF ENGLAND NOTES.

Some uneasiness has been caused by the statement made by the Bank of England authorities, that a seemingly-unknown quantity of the paper on which their notes are printed has been stolen from the mill in which this material is made; and that forged notes, printed on the Bank paper, are now actually in circulation. In the caution which has issued from the Bank of England the public are advised not to trust to the well-known and peculiar quality of the paper, "but to examine with increased care the printing also;"—further, "in all cases, for their own protection, to obtain and preserve the names of the persons from whom the notes have been received." This, of course, is the best step. The necessity for these precautions shows that, notwithstanding all the care which is taken in the production of the notes, chief dependence has been placed upon the paper, which certainly is a wonder of manufacturing skill. As a work of art, the real note is not so good that the difference between the forged and genuine notes can be detected at once. This is unsatisfactory. Measures should at once be taken for rendering this circulating medium more secure; and one of the best means would seem to be to render the Bank of England note perfect in design and exquisitely beautiful in execution, so that forgery would be so difficult and so expensive, that imitation would be far less possible than is the case at present. The cost of the production of the plates for the notes should not be taken into consideration: our most able artists should be invited to furnish designs; and the best of our engravers should, with their own hands, cut the pictorial and other portions of the plate.

To prevent the application of photography to aid the forger, it would be only necessary to use *yellow* paper, as Mr. Claudet pointed out to us a few days ago; for then nothing printed on it could be reproduced: the whole surface of the photograph would be black.

It may be worth mentioning that, in some of the forged notes lately issued, the sky and background of the Britannia are of one uniform tint; whereas, on the genuine note, there are *three* tints. And this is the only difference observable by out-of-door examiners.

WELLS CATHEDRAL.

THE BRISTOL SOCIETY OF ARCHITECTS.

On the 16th instant this society made an interesting excursion to Wells and Glastonbury, stopping on their road at Whitchurch (lately restored by Mr. Street) and Chewton Mendip. Mr. Fripp conducted the party over the church at the latter place, and pointed out the peculiar features in this church, which is truly Somerset in character.

At Wells Cathedral, Mr. E. W. Godwin acted as guide. After supplying the dates of the various parts of the building, especially the four developments of the Early English or First Pointed style, he proceeded to analyze the architecture itself. We have here, he said, three, or, rather, four styles of Early English architecture, the first or original design appearing in the presbytery and transept; the second, a development and enrichment of this design, in the nave and its aisles; the third, a totally different phase of the same style; so different, indeed, that it might almost be taken as a distinct style, in the west end; and the fourth, almost transitional, in the crypt. I scarcely need remind you that one of the great distinctions between the Early Gothic work of England and France is to be found in the plan of the abacus. In France nearly all abaci are square: in England, on the contrary, they are nearly all circular. In France the development of the Romanesque was more gradual than with us; and the Early Gothic grew so subtilely out of it that, but for the round arch, there is little or no difference between the Early Pointed and the late Romanesque. With us it was altogether different: we were of course influenced much by the Continent; and, instead of working out our own style, we adopted their fashion of building, without slavishly adhering to their detail. The result was that while France preserved all the grand and powerful features of the Romanesque—such as the square abacus, the square nook for the angle shafts, and the square as the basis of their pier sections—we, on the contrary, got rid of this powerful element as rapidly as we could; setting even our square piers diagonally; changing the square abacus for the round; and melting the angle shaft into a chamfer or a group of mouldings: here, in the new piers, we have the square scheme, or French development; and here, adjoining, in the west tower, we have the English development, or round scheme. I may just mention that at first sight most large Early English piers appear as clusters of mouldings or shafts, but in reality they are always of one or the other of two, from a square or a circle; the square being more generally set diagonally. In the presbytery at Pershore Abbey is a very fine example of this, the number of surrounding shafts being the same as in the piers here, and of much the same section, except that the cardinal lines which we find at Wells are at Pershore all diagonal. It is almost impossible to conceive the change which results upon the same section of moulding by this substitution of the hypothenuse for the two sides. If you wish to compare the great schools of Early Gothic in this neighbourhood, I would suggest for your selection the interior of the north porch of this cathedral, and the north chapel of Bristol Cathedral. I have already pointed out the French or Romanesque planning of Jocelyn's piers. If we look at the early windows, we shall see they were governed by the same influence. Here again we know the French lancets were broad to an excess, whilst our builders could scarcely ever make them too narrow. Had these windows, which are now filled up with Perpendicular tracery, been round-headed they would be even more Romanesque in proportion than the late Romanesque windows of Glastonbury. If we turn to the buttresses, we see precisely the same principle applied as compared with English work of the same date, or even earlier: at Lincoln they are quite Norman in expression: instead of the far-projecting, the narrow, and the lofty, we have the broad, the shallow, the low, the massive. In the entrance to the porch this Romanesque feeling is still more emphatic: not only does the disposition of members remind us of the earlier style, but here the very enrichments are essentially Norman. Thus the martyrdom of St. Sebastian, or the capitals of the eastern jamb, and the playful zigzags in the arch, look so much like earlier work that I have sometimes thought this archway must have been one of the works executed before Jocelyn's time,—perhaps just before,—and that, being both good and new, Jocelyn retained it in his new building. I have said the transepts are older than the nave. If you take a bay of each and carefully examine them, you will readily see this; for, although the main lines and great arches and piers, and the vaulting, are the same, the work of the nave is much richer, and the scheme of the triforium altogether different in idea, although not so unlike in form as to create any discord. This change in the triforium results from simply substituting the horizontal idea for the vertical. In the older work you will see that the vaulting shafts come down through the triforium space to the string-course of the main arcade, and so divide the triforium into bays of two coupled openings; thus carrying up the vertical line of the main pier to the roof. In the nave the vaulting shaft is made nothing of, but is reduced to a mere corbel, while an extra opening is given to each bay of the triforium, which now appears a continuous arcade, leading the eye irresistibly from end to end instead of from floor to roof. This arrangement, though expressing greater length, has been most destructive to the height, which is about 68 feet. You will, of course, see there are minor differences between the nave and the transept triforium; therefore, though we lose verticality in the nave, it is, perhaps, taken altogether, a decided improvement on the old design. Passing by the west end for the present, we come to the last development of the Early English style, as it appears in the passage and crypt beneath the chapter-house. I would call your attention to the corbels, as being particularly fine: the ironwork is original, and full of thirteenth-century conceits. In the presbytery, although we have the arches of three bays, we only have the intermediate and the western piers: the eastern half of the last arch rests, as you will readily see, on a totally different pier; and the arch mouldings are cut away, the better to fit the new capital. This entire destruction of a pier, without disturbing the arch, shows that the pier must have been of such a form as to demand removal in lengthening the church; and if you consider that on the outside at this point there appear two of Jocelyn's early buttresses, much wider than any of the others, I think you will have little difficulty in agreeing with Professor Willis that these piers mark the upper termination of Jocelyn's Church; while below the aisle returned along the east wall, and a Lady Chapel probably extended eastward, in the form I have shown in the plan. It is to be remarked, that the carving of these first capitals of Jocelyn's work is very inferior to that of his later work in the nave. The capitals in the transepts are also so superior, both in design and execution, that I have little doubt the only carved work done at the time of opening the transepts and eastern part for divine service was what we now see in the four capitals of the presbytery; and that when the nave was added, the carving of the transepts was proceeded with. Now, I dare say some of you have noticed what may have appeared to you a great mistake on my part; viz., that I have continually alluded to these three oldest arches as the arches of the *presbytery*; but I have done this deliberately, because I feel satisfied that the old choir was beneath the tower. We know that this was a rule in Norman or Romanesque cathedrals; and we have seen enough to show that the designer of this church was thoroughly Romanesque in feeling. Moreover, the eastern piers of the tower remain, with the projecting shafts, stopped on corbels, at such a height as to allow a flat wall for the woodwork of the stalls to be set against. This and the large buttresses, with the resulting conjecture of Professor Willis, as to the extent of the presbytery eastward, is abundant evidence, I think, for his conclusion. When the cathedral was lengthened, and the new presbytery and Lady Chapel built, then the screen was moved, as was almost always the case in later times, to the eastern arch of the tower or crossing. You will remember the tower was finished in 1321, and the new presbytery in 1325; so that, when the settlements and cracks appeared, which frightened the canon in 1337, there was already in the eastern arch a complete abutment to resist the inward bending of the piers, in the form of a solid rood-screen, of stone. This at once explains why only three of those peculiar double arches were inserted; and, at the same time, gives us occasion for questioning the economy of those heavy internal flying buttresses. The graceful manner in which the Lady Chapel is opened to the presbytery is probably taken from Jocelyn's Church. The motif is altogether Early English; and even the proportions of the arches remind one of earlier works. With this exception, there is nothing here worth calling your attention to. Abbot Knowle's work, in Bristol Cathedral, which is only a year or two earlier, is altogether superior in design, detail, and execution. I have here, in the Lady Chapel, to call your attention to the intersecting plan of the vaulting. A mysterious kind of effect is produced by this repetition of pillars which no other architectural feature can supply. The crypt of Worcester Cathedral is, perhaps, the finest specimen of this class of work. It is a perfect forest of columns; and, when lit up as I saw it three weeks ago, it has an effect not easily forgotten. With the single exception of the way in which the vaulting is managed, I look upon this Lady Chapel as no better than the other work of the same date. There is a weakness about the constant recurrence of the same form in the tracery of the windows; the lines of the vault are, in some cases, clumsy to a degree; and the capitals have lost their constructional character altogether. The growth and vitality, the change and joyfulness so visible in the earlier caps, especially those with figures, are no longer to be seen. Leaves are now stuck on; or, at the best, wreathed round the bell of the capital; and so the function of the capital—the upbearing principal—is lost. Certainly the most picturesque part of this cathedral is the approach to the chapter-house; and, perhaps, the most elegant is the chapter-room itself. I may be wrong in supposing this approach to be some years earlier in point of date than the room; but I cannot help thinking it must be so, from the character of the tracery, which consists of nothing but the pure circle and the bold sections of the mouldings: to a critical eye it may be perhaps a trifle too heavy; but, taking it altogether, I look upon this vestibule as one of the best studies the neighbourhood of Bristol possesses. In the chapter-house it would appear almost impertinent to grumble at anything, but yet I cannot help regretting that on this glorious development of window and vault the architect should have come so short of his earlier brethren in the capitals and carving. It strikes me, too, that the window over the door is a mistake; for the function of that massive arch is lost, and it occurs to me that had this part been solid, and the window filled in with a noble group of sculpture instead of tracery; and had the carving been so nobly thought out as that in the nave; there would have been nothing to complain of. It only now remains to make a survey of the exterior. One of the most striking features of the clerestory of this church is the absence of flying buttresses, which I need not tell you is another evidence of the Romanesque feeling. The general design of the porch is very defective, especially the central shaft of the window over the doorway. As a contrast to this porch, that at Salisbury, of a little later date, stands out very nobly; here the doorway is everything: there all is grouped with equal thought, and the result is as grand as this is weak. We come now to the west end, and here I must confess I am rather nervous; for, if I am to be blamed for criticising the chapter-room, I scarcely know what will be thought of me for the heresy I am afraid I must be guilty of in condemning some parts of this front, which has so long been the great lion of the West of England; or, as Britton calls it, "the miracle of art." First, then, nothing can be much worse than the three portals, which are quite unworthy of the name. They have been compared—and I think very fairly—to rabbit-holes on a mountain side. Here, too, the arch of the central doorway fails in the same way as that of the chapter-house doorway. The crowding in of the niches over this doorway is in the highest degree clumsy; indeed, the whole thing looks like an afterthought, and as if the original architect had nothing to do with it. In the principal windows the shallowness of the reveals gives a bald and flat appearance to the openings. This, though a common defect in all French windows of the early period, is rarely seen with us; while here it is more apparent than it would otherwise be from the bold projection of all the other features. Perhaps, too, if you will not think me over critical, I might take exception to the sub-gablets in the first arcade. They look to me crowded, although they serve as canopies and cast a charming shadow. Then, too, I cannot quite understand the beauty of the solid work of the base, suddenly cropping out at the very summit of the buttresses with their empty niches, not altogether unlike dog-kennels of the modern Gothic school; nor is the sky line the most pleasing I have seen. Indeed, the central pinnacle is an addition of later date, the only use of which is to make what was ugly before still more emphatic. To turn from this unpleasant but still necessary work to point out the beauties, tempts me almost to forget that I am speaking to a body of men better able than myself to grasp the charms of this storied front; the elegant angle shafts, the seated figures, to give breadth to the narrow face of the buttresses; the figures in

pedestals on the top, to give height and lightness to the square termination, are all features which I am sure it is unnecessary for me to dwell upon.

At the conclusion Mr. J. B. Atkinson called attention to the two distinct schools of sculptors which appear to have been engaged in this front —the Lombardic, with the broad and massive folds of the drapery on the upper statues; and the Byzantine, with its classic folds, so numerous and so delicate, on the lower statues and small groups, especially in the mutilated group over the doorway.

After luncheon Mr. Lysaght read a paper "On the History of Glastonbury Abbey," communicated by Mr. R. W. Warren.

DESTRUCTION OF THE WORKS AT PLYMOUTH.

On the 25th instant the works erected here, inside the Breakwater for constructing the new fort, were entirely carried away. They consisted of a circle of 70-feet piles with 5-feet iron shoes, sunk in the rock round the foundation, to form the framework for the travelling cranes by which the blocks of concrete were to be lowered into their places. The works had occupied six months in erection, and were approaching completion. The foundation is to be a massive piece of masonry formed of large blocks of concrete made to dovetail in each other in courses, faced with proportionate blocks of stone, also dovetailed together, and to be carried up to within a few feet of low-water-mark. Large works have been erected at Laira, on the border of the Catwater, about three miles from the site of the fort, for the preparation of these blocks of concrete and stone, which were to be taken out to the site, all ready to be lowered into their places. For several months a large number of workmen, sometimes amounting to 190, have been employed in preparing the rock; and in February last the erection of this scaffolding which has been destroyed was commenced. The contractors are Messrs. Lee & Son, of London.

EARLY BRITISH STRUCTURES.

BERWICKSHIRE NATURALISTS' CLUB.

On the 19th instant this club visited Yeavering Bell, one of the highest of the Cheviot range of hills. The ancient manner of building was examined by the club with much curiosity. Great stress appears then, as in all early ages, to have been placed on the value of thick walls; and the circular form seems to have been adopted for most structures. Three or four courses of very large stones, arranged in a circle, 10 or 12 feet in thickness, formed the groundwork upon which the walls, made of smaller stones, were raised to a height of about 7 feet. In the instance of one fort, a circle of this description was 30 feet in diameter. Within it, also built in circles, were the habitations of those who defended them. In towns, or large assemblages of the same huts, the diameter of the circumvallation was correspondingly greater. Encircling the summit of the bell, a strong wall of the kind mentioned inclosed a space of twelve acres. There is no evidence, *in situ*, to prove the materials of which the roofs were constructed. On account of this absence of proof, bygone antiquaries assumed that they must have been made of a rude perishable thatch. But this seems scarcely probable. In the island of Uig, ancient stone huts of this description are still occupied, in the summer time, by the hardy and scant population; and these huts are roofed, conically, with flags of stone. As stone was in abundance on the spot, we may conclude it would be used, by a people who prized strength and security, in preference to a fragile and combustible material like thatch. The entrance of one fortlet is divided into two by a large upright stone, placed jamb-ways in the centre of it; and in the thickness of the wall, to the right of this entrance, there is a guard-chamber. At the highest elevation of the bell, within the ring of masonry mentioned as inclosing twelve acres, there is a smaller circle which has been known as the Temple. Within this mystic ring, which, in clear weather, can be seen for miles, sacrifices are supposed to have been offered to Baal.

The club next made for Old Yeavering, for the purpose of viewing a building of a later era—the reputed palace of the Saxon king, Edwin. This is a low, oblong, quadrangular building, now occupied as a hind's cottage. A few courses of large stones at the base of the masonry, and a fragment of walling, built up with the modern superstructure, are the only evidences of a very early building, except the strength of the walls, which are 5 feet thick. In the account of the life and labours of Paulinus, Bede mentions that he came with the king and queen to the royal country seat, which is called Adgefrin (Yeavering), and stayed there with them thirty-six days, fully occupied catechising and baptising; during which days, from morning to night, he did nothing else but instruct the people, resorting from all villages and places, in Christ's saving word; and, when instructed, he washed them with the water of absolution in the river Glen, which is close by. This town, he adds, under the following kings was abandoned, and another was built instead of it at the place called Melmin (Millfield). This account favours our acceptance of the tradition, that the ancient masonry indicated formed part of the country palace of the Christian king; and it can only be a matter of regret that so small a portion remains of it.

SCULPTURE IN THE PALACE OF ART AND INDUSTRY.

Before the opening of the International Exhibition building, a number of the leading English painters and sculptors expressed dissatisfaction with the tone of the drapery used as a background to the statuary in the picture galleries, as being not only unsuited to the marble figures themselves, but most injurious to the adjacent pictures. There has been already some correspondence with the Royal Commissioners on this subject; which, however, having failed of the effect the artists desired in obtaining an alteration of the objectionable drapery, the artists themselves have made a memorial protest to the Commissioners, which is signed by eighty-five British artists, including both sculptors and painters of more or less eminence. The drapery, they complain, from its dark tone, contrasts ill with the white marble of the sculpture, and destroys the warmer tints of the pictures. With reference to the prayer of this memorial, Mr. Oldfield, late superintendent of the sculpture department, has since stated that the present arrangement was made temporarily; that a proposal made by him to form a large panel immediately behind the sculptures, covered with the porphyry-coloured paper used on the pedestals of statues in the middle of the gallery, and to hang green cloth along the top and at each side of this panel, was approved of by the sculptors; and that Mr. Crace arranged to carry it out. For some unknown reason, however, it has never been done.

CARLISLE BRIDGE, DUBLIN, COMPETITION.

We have received several statements of objections to some of the proceedings in this matter; but we do not yet find ourselves in a position to interfere. The sixty and more designs submitted are under the consideration of the chairman of the Board of Public Works, and two other referees appointed by the committee. They are not likely to be influenced by the "dodges" pointed out to us.

NOXIOUS VAPOURS.

The report of the Lords' committee appointed to inquire into the injury resulting from noxious vapours evolved in certain manufacturing processes has been published. The committee think that it would be most desirable that the laws respecting nuisances generally should be consolidated and made uniform throughout the country; but whether this be practicable or not, there are certain points on which amendment appears to them to be urgently required. They recommend that the provision of the Smoke Prevention Act respecting offensive trades should be made of universal application; that gases evolved in manufacturing processes from furnaces or chimneys should be placed on the same footing as smoke from furnaces; that full effect should be given to the 23rd and 24th of Victoria, cap. 77, sec. 13. Looking to the very serious injury caused by alkali and other chemical works of a like description, to the great extent of those trades, and to the proved and admitted preventability of any nuisance by proper precautions, they concur with the manufacturers engaged in those trades, that they ought to be dealt with by special legislation. They do not hesitate to express their opinion that the Legislature should not attempt to prescribe the specific process by which the nuisance should be prevented, but that a substantial penalty should attach to the escape of gas or vapour during the process of manufacture; and that any person should be at liberty to sue for such penalty. But the committee feel bound to record their opinion that, for the effectual suppression of this nuisance, it will be necessary that inspectors, properly qualified, should be appointed, who should at all times have free access to the works, with or without notice, so far as may be necessary for ascertaining that nuisance is effectually prevented, and who should be officially charged with the duty of enforcing the law; and, without desiring to imply any suspicion of the local authorities, they concur in the opinion, expressed by more than one witness, that such inspectors, by whomsoever appointed and paid, should be wholly independent of all local control, and removed as far as possible from all local influence.

POLICE!

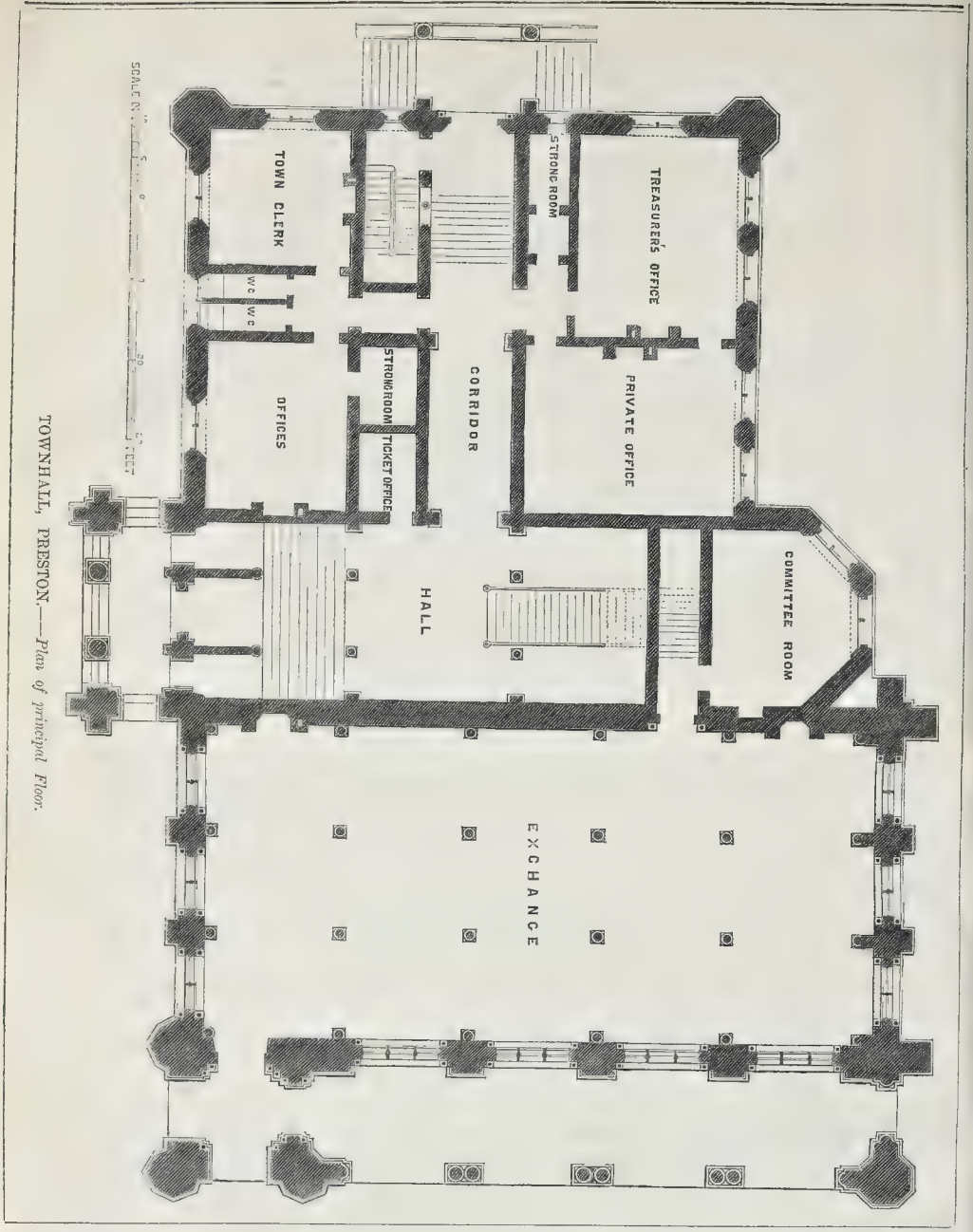
The accounts of robberies, attended with violence, which are now again daily occurring in the thoroughfares of the metropolis, would justify the idea that—as regards the sturdiness of the rogues and the inefficiency of the "*watch*"—we are returning to those conditions which were so notorious in the days of Queen Elizabeth and the dark days before them; when such places as the Clink, in the Borough, and the woods of Middlesex, harboured those dangerous hordes of robbers who made such frequent and desperate raids upon London. In those days the rogues had all the advantages of the darkness of the streets and the want of police regulations. When royalty, however, had been placed in danger, then the Recorder, with a warlike band, made a demonstration against the rogues; and, on capturing them in "shoals," made quick work with them, and treated them according to "their deserts."

In Queen Victoria's reign, with all the aid of brilliant gas-lighting, which even pervades the most miserable courts and alleys; and with the establishment of Sir Robert Peel's police, reinforced by detective establishments; it seems extraordinary, and even disgraceful, that deeds of violence, almost as bad as those committed by the professional stranglers of India, are of nightly and even daily occurrence in the metropolis and its suburbs.

This subject is worthy of the most grave and careful consideration. Those who have noted as carefully as we have done the dangers to be guarded against from the large mass of criminal and half-starving persons who lurk under the shadows of this great city, will not feel surprise at the planning and commission of the most terrible crimes; for in the neighbourhood of Drury-lane, and twenty other places which might be mentioned, there are still "shoals of rogues," who are even more desperate, and better trained to their bad purposes, than those who gave the ancient Recorders of the City so much trouble; but in these times, considering the enormous expense of the police, prisons, &c., it is but reasonable to expect that order should be kept, and the continual commission of highway robberies and garotting prevented, in the streets of the metropolis.

There are several causes which evidently lead to the results complained of; but the chief cause is the "ticket-of-leave" system, which is constantly throwing among the public, before the time, numerous dangerous characters, who, mostly by a system of artful hypocrisy, manage to induce the authorities to discharge them before the term of their punishment has expired. This is a fruitful source of mischief.

There is difference of opinion respecting the management of tickets of leave, but there can be none about the extent of the mischief which is caused by returned convicts; and it is clear that some other system of penal punishment than that of Dartmoor and other convict establishments is requisite. There has been much discussion respecting the present method of sentencing criminals to frequent and short terms of imprisonment by the magistrates. We will not enter into this matter; but there is also a defect in the police arrangements to which we must call attention. We have always maintained that an effective police force is the best means of preventing crime; and it is well known that the thieves commit the chief part of their depredations in those districts where there is a deficiency in this respect. A large proportion of robberies, and other crimes, happen in new neighbourhoods; and to these places the attention of the police should be directed; but, according to present arrangements, the supply of the police depends in a great measure on the extent of the



TOWNHALL, PRESTON.—*Plan of principal Floor.*

rate raised in a locality for the support of this force. In suburban districts, so few are the number of men on duty, and so wide are their beats, that at night the houses are left in a manner without protection at all; and it is not easy to find a policeman when he is wanted. Thieves know this, and infest the roads, rob and violently assault passengers, and plunder person and property in all directions.

As regards street robberies of watches and chains, which are of such common occurrence, it must be admitted, that there is great temptation in the vain and flashy way with which these ornaments are displayed: it is like the practice so often objected to of tradesmen exposing their goods in the streets of a poor and hungry neighbourhood.

NEW TOWN-HALL, PRESTON, LANCASHIRE.

The proposal to erect a new Town-hall in Preston was mooted several years ago, and some steps were taken towards its accomplishment; but these were, of necessity, after a time, abandoned. The passing of an Act, however, recently, revived the subject, the Town Council being empowered to include this among other improvements to be made in the town. The assistance of Mr. G. G. Scott was secured in preparing a design, and the new building is to be carried out entirely under his superintendence. The site is a detached one, so that the edifice will be well seen from several points of view. Along the principal front is a bold arcade carried by coupled columns, and at the end is a lofty clock-tower. The ground-floor comprises a large exchange-room, with treasurer's, town clerk's, and other apartments, as shown in the annexed plan. The upper floor has (over the exchange) a large room for public meetings, with gallery and orchestra, a council-room, committee-room, mayor's parlour, &c.

The walls are to be built of local stone, and the roofs covered with Westmoreland slates. Granite and marble columns are interspersed among others of stone, so as to relieve the colours constructively. Sculptured decorations, too, will be extensively introduced, in numerous foliated capitals, panels, and statues.

The foundation-stone is to be laid with some ceremony, we understand, on Tuesday next, the 2nd of September. Tenders for the erection of the building have not yet been applied for.



PROPOSED TOWNHALL, PRESTON.—Mr. G. G. Scott, R.A., Architect.

HOUSE ARCHITECTURE OF THE PROVINCES.

LEEDS.

In many of our provincial towns, meanness and ugliness prevail, and houses are run up with utter disregard of beauty, sanitary requirements, or healthful situation. The efforts of a man of taste on the spot, not afraid to speak out, can do much in this cause. At Leeds, Mr. Walter Smith, warmly aided by the Editor of the *Leeds Mercury*, is making some endeavours to bring about a better style of house-building. In that town, the most brainless new buildings of a Domestic character that can be conceived have been set up. Expensive houses are being erected in every direction,—perfect abortions. The increase in population has led to a brick-and-mortar crusade which is defiling every green spot near the town. Some of the sites are magnificent; and are being spoilt by the erection of houses only fit for grooms and railway porters. Mr. Smith, in the course of some communications on the subject, writes thus:—

The character of the architecture of a locality will be determined by the climate, and the trade or manufactures of it, if any character exists. But, in considering how this should affect the designs suitable to any special localities, we must not forget that in some cases there may be an artificial climate as well as a natural one. Thus the manufactures of Leeds, producing great quantities of smoke, and, to a certain extent, changing the atmosphere, thereby affect the climate of the town. It is worthy of thought, therefore, what materials will best stand the test of the smoke, and fog, and rain of a manufacturing town like Leeds. Experience seems to be adverse to stone, and in favour of brick, both on account of the softening of the stone and the loss of the effect of any enrichment by carving, through the gradual discoloration of any but perfectly smooth surfaces.

It becomes, therefore, a question of some importance as to what materials should be used externally, without running the risk of loss of beauty by discoloration and decay. With reference to the main body of a building, this may easily be answered. Good hard brick does not lose its colour, but rather improves in colour. Red, blue, and black bricks may be obtained for external use, which will retain any design worked in them for any length of time; and the effect of the damp and the smoke will only be to tone down and improve the colour of the structure. Encaustic tiles and string-courses, in bright colours, will relieve the heaviness of the sombre tone of the whole; and every shower of rain will cleanse the highly glazed surface of these tiles, as well as the brickwork, if the bricks be of the right quality. Instead of stone-carving enrichments, terra-cotta should be introduced, and moulded brickwork, which is terra-cotta of a rough kind. Mr. Broderick has done good service by introducing the use of this moulded brickwork into his King-street warehouses. Thus, with red, blue, and black brick, moulded brick string-courses and mouldings, encaustic tiles, and terra-cotta enrichments, we have a stock of materials which no climate will touch or destroy; and with them a field for design, both in form and colour, that will give our architects opportunities for exercising every artistic faculty they possess. There is one more material, the use of which will contribute materially to the enrichment of a building, as permanent as those I have before mentioned: this is wrought-iron. Cast-iron is now becoming extensively used as a building material; but for external use, the more noble form of wrought-iron is the most appropriate way in which to use a most noble metal. The objection to wrought-iron is its costliness; and, where economy is a consideration, cast-iron will serve the purpose. But those who can afford to obtain beauty in material, as well as form, should certainly make use of wrought-iron only, externally.

There is one feature in modern house-building which I have not before noticed, and which is productive of much of the sameness and ugliness of it. This is the almost universal concealment of the roof. Now the roof is naturally one of the finest features in a building, and may be made the vehicle of much beauty. Its concealment, therefore, shows a radical ignorance of the artistic elements in house-building. It may be said to be a rule that the flatter the roof the uglier the house; and I question whether it is possible to produce a thoroughly pleasing design for a house or street, without making the roof or roofs a prominent and important feature in the design.

If, in the erection of the first few villa residences on the site of the new streets towards Burley, men of means, who have the taste and public spirit, determine to build really good houses, architecturally speaking, it will give the key-note to the character of the whole neighbourhood. One fine example of Domestic architecture, in or very near to Leeds, would revolutionize the house-building of the town. And I would again impress upon those who pay for the building of houses, that it is their own fault and their own punishment, when they furnish the means to an architect to build them good and substantial houses, if they also allow their architect to build ugly houses. The same sum of money which builds a substantial and ugly house will build a substantial and beautiful house; and it depends entirely on the proprietor which of the two he will have for the same money—comfort and ugliness, or comfort and beauty.

I presume it is unquestionable that the taste and skill exhibited by architects in designing houses are infinitely beneath the standard displayed by the same men in public buildings. If you take, as illustrations, a block of private houses and a public building designed by any one architect in Leeds, it will be seen that, whereas the latter in many cases has many decided claims to originality, and traces of thought and care in the design; the former will be a reproduction of former ugliness, and have the effect of being made to order, by the dozen or the gross. Now I utterly repudiate the idea that the cause of this is the difference in *cost* of the two, which may indeed result in very great difference of treatment and of materials employed; but the cost has nothing whatever to do with the character or amount of true art displayed in the design. It has no connexion with, nor does it in the smallest degree control, the quality of thought in the design: it *does* affect the means whereby thought and taste are expressed, but it does *not* preclude the exercise of them. Thought, taste, and originality may be made as evident in the appearance of a cheap house as in an elaborate and expensive public building; and that they are not as characteristic of one as the other, results from the two causes noticed;—that, in the first place, people do *not* demand the exercise of these qualities in the production of a design for a house, whilst they *do* demand it in a public building; and in the second, that architects, finding this to be the case, are very willing to be relieved from the exercise of these qualities. That there are architects in Leeds capable of designing beautiful house-fronts, at the ordinary cost of the present ugly ones, I am willing to believe; but that there are many who are inclined to spend more time and thought over a design than is expected of them, or than will satisfy their clients, the present state of house-building will decide.

This leads me to the belief that architects regard the designing of houses as beneath them, except in a few special instances; and that, though they have art power, they think it is not worth putting out in the design for a mere house—when the proprietor knows nothing of good taste, and will be very well content with the "usual thing." It is very natural that it should be so. Nothing is so troublesome as to have to think very deeply and to call up all one's powers of memory, and knowledge of difficulties conquered, and examples of successful design, and then turn to for many a weary hour and meet the special difficulties of the case, and alter, and re-arrange, and calculate the cost, and design finally a much better house than would have perfectly satisfied one's client. All this is very troublesome, and, being so, is not often resorted to by our architects. But the public demand for good taste is on the increase in England; and in many towns in Yorkshire is very far ahead of the Leeds demand. I need only refer to the New North-road, in Huddersfield, for an example of pleasing Domestic architecture. In this street there is great variety in point of style in the different houses: both Gothic and Classic examples are to be seen, frequently juxtaposed, and with an effect which is eminently satisfactory. One instance of a detached Classic villa is perhaps the most perfect specimen of Classic house architecture in England. But no two houses are alike where they are quite detached; and this is productive of a charm which, as far as my own experience goes, is without example in England. Yorkshire may well be proud in the possession of the New North-road in Huddersfield. The existence of that one street alone would relieve the county from a charge of want of appreciation of good Domestic architecture. Nevertheless, though Leeds is very far behind Huddersfield in this matter, there are not wanting indications of vital changes and unquestionable improvements in Leeds. In buildings erected within the last two years a revolution has been made. It is true that even now good buildings or even fair buildings are the rare exception; but that they exist at all is evidence of a feeling that we want something better than houses manufactured to order.

I have seen no house-front in Leeds which does not exhibit a certain amount of money spent on ornament, *i.e.*, in architectural features not necessary in the construction of the house. However cheaply a house is built, there will be a certain sum spent in an effort to relieve it from plainness. Now what I wish most emphatically to impress upon house-builders is this:—that, if they intend to spend but little on ornament, it should be spent *in* the construction, and not be added *to* the construction; and if so spent, the money which now adds heavy cornices to plain doors and windows, which carves a vulgar heavy keystone head in a front where nothing is in harmony with it, would, if judiciously applied in constructional ornament, pay for a chaste and beautiful, if not a highly elaborate, design. But this will necessitate much thought and much labour from the architect. Instead of the ornamentation being run by the plasterers over the doorway, or cast in their shop and then applied to the front, the bricks themselves would be made, by skilful arrangement and well-chosen variety in colour, highly ornamental; and this would be legitimate decoration, proceeding from the architect's brain, and not issuing from the plasterer's workshop. When stone cornices are used, they are too frequently an imitation of plasterer's work. Thus meanness begets ugliness, and ugliness perpetuates itself by frequent reproduction and close imitation.

BAD ADVICE.

A correspondent of a morning paper urges that the police or the public, in the event of a fire in the upper part of a house threatening the safety of the inmates, should at once ascend "the *next* house; on one or either side, if necessary, of the fire; and with crow-bar, pick-axe, or anything come-at-able, make an aperture or opening into the burning house through the partition walls, which at the upper part of a house are not very thick, and might quickly and easily be accomplished." Very likely: and the result would probably be, if the advice were thoroughly carried out, the destruction of the whole street, instead of one house. It is to be hoped that no one will act on the advice. The "party-wall" is the greatest safeguard the public has; and it must be preserved intact. If the machinery of the Building Act effected nothing more than the complete separation of every house from its neighbours by sufficient party-walls, it would pay for its cost.

CHURCH-BUILDING NEWS.

Highbury.—The memorial stone of Park Church, in Grosvenor-road, Highbury New Park, was laid on Monday, the 18th August, by Mr. John Henderson, of Park, near Glasgow. The church is being erected for the United Presbyterian congregation now worshipping in Myddelton Hall, Islington. It is in the Italian style, with a spire of about 160 feet high, and will be seated for 1,000 people. It is estimated to cost about 7,000*l.*, and is expected to be opened before the close of the present year.

Ilford.—Capt. Ibbetson has just erected, at his own expense, a chapel-of-ease at Chadwell, near Ilford, Essex, at a cost of 4,000*l.* The edifice was planned by himself, and built by his own labourers.

Oxford.—The new church in the hamlet of Whitty (attached to St. Giles's parish) has been consecrated by the bishop of the diocese. The edifice was built from designs supplied by Mr. H. Woodyer, of Grafham, near Guildford, and will accommodate nearly 700 persons.

Windsor.—The parish church has been re-opened for divine service. The whole of the walls and pillars have been painted by Mr. Cooper, much of the labour gratuitously, as his contract was for plain painting only. The old iron stoves are removed, and apparatus for warming the church with hot water introduced. A system of ventilation has been adopted by an open cutting the whole length of the ceiling, with an air-chamber or flue above, carried up into the belfry tower, under the superintendence of Mr. Edgington. The churchwardens contemplate re-pewing the body of the church with open low sittings as soon as they have funds sufficient for that purpose. The pillars and arches of the church are painted of a lighter colour than before, and the walls in imitation of stonework. At the east

end this imitation has been substituted for the heavy oak-colour which was above the picture, and the glory which surrounds the sacred letters I.H.S. regilt.

West Cowes (*Isle of Wight*).—Within the last four months, at a cost exceeding 700*l.*, a new chancel, having three stained windows, has been erected in Holy Trinity Church; the whole of its mean and unsightly pews are removed; and their places supplied by uniform stained and open seats.

Wednesbury.—The foundation-stone of a new chapel, to be used by the Methodist Free Church congregation here, has been laid. The site selected is the junction of Stafford, Albert, and Dudley Streets, near the Great Western Railway Station. The edifice, which is designed in the Italian style, will be built of ornamental brickwork, with stone dressings, and is intended to accommodate about 250 persons. There will be no side windows, the chapel being principally lighted from the roof; but the front windows will be filled in with stained glass. The roof will be carried on columns, from which will spring circular ribs; and these, together with all the other timber used in the building, will be stained and varnished. The pews are arranged in circular form, and are raised one above the other from the centre of the building to the walls. The plans were prepared by Mr. S. Jellyman. The architect, however, is Mr. J. Taylor; and the builders are Messrs. W. Trow & Sons.

Hanford.—The chancel of the small church at Hanford has been rebuilt. The new chancel is 28 feet long, and 15 feet 7 inches wide. The east window is triplet, the centre light only of which is yet filled with stained glass, representing in three distinct pictures the Scourging, the Crucifixion, and the Entombment of our Lord. Beneath it is a reredos of marble and alabaster, divided into three compartments, the centre of which is occupied by a white marble cross, standing out from a background of green marble. The architect of the new chancel was Mr. Rushforth, of London; and, under him, the carving was executed by Mr. Earp; and the stained glass by Messrs. Clayton & Bell. The total cost of the work will be about 600*l.*

Barbourne.—The new church of St. Stephen's at Barbourne, founded by the late Miss Lavender, has been consecrated by the bishop of the diocese. The edifice has been a considerable time in course of erection, owing to an unavoidable delay in the execution of the contract. Mr. Preedy was the architect. The edifice will seat about 530 persons. The style is Decorated. The east window is filled with stained glass, in memory of Miss Lavender, who founded the church, and died while it was in course of erection, as we have heretofore mentioned. The subjects of the window are Moses lifting up the Serpent, Abraham about to sacrifice Isaac, the Crucifixion of our Lord, and His Resurrection, with angels, &c.

Publow.—About a year ago, the tower of the parish church was struck by lightning, and much damage done. The tower has been now restored by Mr. Streeter, of Bath, contractor, under the direction of Mr. B. Ferrey. The two broken bells have been recast by Messrs. Llewellyn & James.

Norton sub-Hamdon (*Somerset*). — The parish church here has been re-opened. The whole of the walls, piers, arches, and windows were covered with coat upon coat of dirty whitewash. This has been all scraped off, and the stonework exposed. The pews are replaced in the nave and aisles by open benches. The floors are paved with Keinton stone. The chancel is paved with Maw's tiles. There is a two-light pointed window in each side of the chancel. In the east end is a four-light window divided across the middle by a transom of tracery work, thus making the window into eight compartments, which are filled with stained glass, by Mr. Wailes, of Newcastle-on-Tyne In the lower compartments are "The Birth," "The Dedication," "The Going up to Jerusalem," and "The Blessing of Little Children." In the upper compartments are "The Bearing of the Cross," "The Crucifixion," "The Resurrection," and "The "Ascension." The tracery of the head is filled with stained glass of a symbolical character. In the cill under the window is a brass plate, with an inscription to the memory of Maria, wife of Mr. J. M. Quantock, and her son, who was buried along with her, on the same day. The roofs of the chancel and nave are barrel-shaped and panelled. The ribs, which are of moulded oak, were covered with whitewash, and partially plastered over. This has been removed, and they are now oiled and diapered, according to the ancient intention, and bosses placed at their intersections. The old plastered panels have been taken down and replaced with new work, those in the nave of a buff colour, and those in the chancel of a grey colour. The roofs, both of the nave and aisles, are of oak open work, with moulded panels. Only about one-half of these roofs were completed before the restoration. The other parts are now made good and restored. The whole of the diapering, painting, and gilding, has been executed by the rector and his wife. Mr. Dendle, of Barnstaple, was the contractor. All the Ham stonework was executed by Mr. C. Trask. The architect was Mr. A. Blomfield. The glazing was done by Mr. Toleman, of Crewkerne.

Kington.—The architect of the new cemetery requests us to say that the chapels and lodge are *not* "in the Egyptian style," as first stated in the *Hereford Times* and communicated to us. If he had said at the same time what style they *are* in, he would have shown more consideration. Architects who desire their works should be correctly recorded should see that correct information be sent.

Mountain Ash.—St Margaret's Church, Mountain Ash, in the diocese of Llandaff, has been consecrated. Mountain Ash is an outlying part of the parish of Aberdare. The edifice is built on an elevated piece of ground, on the north side of the river. It is inclosed on the south side by iron palisading surmounted on stone, and there are two entrances west and south. The latter is approached by a flight of seven or eight steps, at the top of which is a porch in character with the French Gothic architecture of the building. There are a nave, south aisle, and chancel, which is terminated by an apse. Messrs. Prichard & Seddon were the architects; and Mr. Williams, of Llandaff, the builder.

Nantyglo. — A Calvinistic Methodist chapel and house have just been commenced at Nantyglo, Monmouthshire, under the superintendence of Mr. Hancorn, architect, Newport, Monmouthshire. The buildings are designed in the Italian style, rather freely treated, and will be erected of sandstone, the external courses being random ranged, with ornamental brickwork also introduced: the dressings will be of freestone. The roof is ceiled above the collar beam, which shows in the chapel wrought and moulded trusses extending under the same some way below the wall-plate, where they are supported by carved freestone corbels. A moulded wood cornice will run along both sides of the chapel. The seats will be low, with sloping backs. A reading-desk and platform, instead of the usual pulpit, are contemplated. The woodwork throughout the chapel and house will be of red deal, stained. A gallery at one end only of the chapel is intended. The contractor is Mr. Philip Watkins, of Brynmawr.

STAINED GLASS.

St. George's Chapel, Windsor.—The stained glass in the eastern window of St. George's Chapel is being removed, preparatory to the reworking of the old jambs, mullions, &c., for the reception of the memorial window to the memory of the late Prince Consort. Mr. Scott is the architect, and the window will be in the Gothic style. The artists selected for the stained glass are Messrs. Clayton & Bell. There will be fourteen new mullions in addition, making fifteen lights. The window will thus be similar to that at the west end of the chapel. The window has been hoarded from the chapel, with felt, to prevent sound or the weather entering during the process of the work.

Presbyterian Church, Islington.—Eight stained glass windows, by Messrs. Heaton, Butler, & Bayne, of London, have been placed in the new Presbyterian Church, Upper-street, Islington, which was opened on Wednesday, the 20th. Two of the four three-light windows in the transepts were presented by Mr. Chamberlayne. The subjects are the "Parable of the Talents" and the "Good Samaritan." The two others illustrate the "Faithful Steward," and "Christ blessing Little Children." These are the gift of Mr. Alderman Lawrence and Mr. Warren, respectively. The west window has four lights, and is to commemorate the expulsion of the two thousand clergy. The principal subjects are "Christ's Charge to the Apostles," and the "Calling of Peter, James, and John." Above these are four of the principal events from the life of St. Paul; and below, the "Martyrdom and Burial of St. Stephen," "Peter and John imprisoned," and "Peter released by an Angel." In the tracery are the "Crucifixion," the "Agony in the Garden," and the "Three Marys at the Tomb." In the chancel are the four Evangelists, and over the reredos a Decorated rose-window. Mr. T. Clarke was the architect. The windows were designed by Mr. R. T. Bayne.

Llanelian Church, near Rhyl, North Wales.—The east and west windows of this church have been filled with stained glass by Messrs. Ballantine & Son, of Edinburgh. The east is a three-light window, and is erected in memory of Mr. J. L. Wynn, of Coed Coch. In the centre light is our Saviour on the Cross; and in the side light are the Marys, St. John, and other spectators of the Crucifixion. In the base of the subject, several monograms are introduced. The west is a four-light memorial window. The lights contain the figures and emblems of the four Evangelists. One of the side windows has also been filled with stained glass of a simpler character.

MR. FACON WATSON'S PICTURES.

In Mr. Watson's Gallery, opposite St. James's Hall, in Piccadilly, will be found what must be considered a very remarkable collection of pictures,—the more remarkable because none of Mr. Watson's works have been exhibited before; so that even those best acquainted with what goes on in art works may hear of Mr. Watson for the first time. The works, landscapes, are for the most part in water-colour; and, according to the painter, in "a new style of art;" no body-colour being used. Painted on the spot with such minute care that every tree, as in "The Woodland Well" (the hazel, the oak, and the birch); and every wild flower, as in "Light and Shade" (the dandelion, the red-dock, the buttercup, and groundsel), may at once be recognized; they display a power and brilliancy quite extraordinary. Exceptions may of course be taken; but we are not at all disposed to speak of short-comings in the face of such remarkable industry and perseverance. The artist worked in the woods for many months to prepare some of these pictures for the International Exhibition, but was shut out, to his great disappointment, by the rule which admitted only pictures that had been previously exhibited elsewhere. He was therefore driven to exhibit them himself.

We would, in the best spirit, suggest to Mr. Watson that he should let some discreet friend revise his descriptive catalogue, if only out of deference to the prejudices of critics, who always read high-flown language with doubt. The pictures are quite clever enough to make their own way.

THE EMBANKMENT OF THE THAMES.

The Royal Commission for inquiry into the best mode of embanking the Thames, and improving the communications between the east and west ends of the metropolis, has been re-appointed. This time the object is to connect the western end of the road at Westminster Bridge to Milbank, and to consider the best mode of making a road from the eastern end at Blackfriars to the Mansion House, which was part of the original scheme, but which was left out of the Bill of last session. The *Observer* says, the Metropolitan Board of Works have decided to proceed at once, and with spirit, with the great work intrusted to their care. It is in this way that they will earn the best reputation for activity, and redeem the character which they lost by delay or indifference to works of undoubted public utility. They will proceed with the construction of the sewerage and the embankment, and also the streets and roads leading thereto, which they are empowered—and therefore enjoined—to construct.

Oddly enough, Sir J. V. Shelley, M P. for Westminster, has come out simultaneously with a letter advising the Metropolitan Board to avoid making the street from Hungerford Market to Lancaster-place, which is provided for in the Act, and which Sir J. Shelley in the committee vainly attempted to defeat. But the Metropolitan Board will not only make this street, as they are bound to do, but we understand that they are also disposed to consider favourably a suggestion of Lord Redesdale, supported by evidence, but not in the plan, of a street in continuation of Duncannon-street to the embankment across Villiers-street at the west end of the Adelphi-terrace.

ARRANGEMENTS TO PREVENT FIRE.

Mr. M. Allen, of Shoreditch, has taken out a patent for the "construction of buildings for the prevention of fire." The patentee proposes to construct buildings in an improved manner by economizing the space which the staircases usually occupy, and to render them fireproof by dividing or insulating the staircases from the building of which they form a part. This he proposes to accomplish by arranging the stairs (which are to

made of incombustible materials) in a recess med in the outer wall of a building; which re- is is to extend from the foundation to the roof, d have no opening whatever on its inner side; t it is to be provided, where necessary, with enings or doorways on its outer face, leading to dconies (which are also to be formed of incom- stible materials) fixed at the level of, and wing access to, each of the floors or flats of the ilding. By means of this arrangement of stair- se and balconies, each floor will be rendered tally distinct from, and independent of, that e below or above it, so far as regards any inter- al communication therewith or therefrom. The vention also consists in obtaining and forming a w material for building purposes, by the combi- ation of cinders, slags, coke, culm, clinkers, or her calcined substances of similar character ereto, possessing an irregular, uneven, or porous rface, with Portland or other cement. Long go it was suggested in this journal that the rmation of circular staircases projecting from the ack or side of the houses, as is not uncommon in cotland, with stairs of incombustible material, ould tend materially to lessen the spread of re, besides ensuring safe means of transit for the ccupants of a house on fire.

CHURCH SEATS.

Sir,—Without wishing to depreciate the merits f Mr. Brown's clever design for a "comfortable hurch pew," as set out in the diagram published n your nnmber for July 12, p. 496, I must beg eave to protest against it as a design to be copied n any *church* on this side the Tweed, wherein he congregations are all supposed to "worship nd fall down and *kneel* before the Lord our Maker." As *kneeling* is not the use in the Scotch Kirk, it is plain enough that the occupant of such a pew as the one represented will find the con- truction as comfortable and composing as a do- mestic easy-chair in his own parlour. The foot- boards of two heights are evidently not intended for knees: plumbing, as they do, with the edge of the book-board above, any person attempting to use them for knees would soon find himself pain- fully wearied.

In the large three-aisle church of Braunton, North Devon—rich in beautifully carved bench- ends of the fifteenth century—the backs of all the old seats are sloped; and the usual level book-shelf, and open space under the seats, afford every accom- modation for sitting, kneeling, and standing, as can be desired by the most consistent member of the English Church.

H. T. Ellacombe, M.A.

MIDDLE-CLASS RESIDENCES IN LONDON.

Pray permit an old subscriber space to ask a question of the intelligent profession of which you are the esteemed organ, on a subject which nearly concerns me and many similarly circumstanced.

How is it that, in the prodigious advance made by that enlightened body in architecture in Lon- don, no one of them has thought of building a house such as those who have lived in warm coun- tries, and, indeed, I may add, such as men of refinement and common sense, would wish to in- habit, having a rental proportioned to an income of 1,500*l.* or 1,600*l.* a year?

The number of this class is very large,—suffi- cient to people a whole district, and well worth securing the patronage of. Those from India, China, and Australia, alone, would fill a consider- able town.

I have been seeking a house to purchase for the last two months; and such as I want I shall de- scribe. I require a residence of not more than 200*l.* or 250*l.* a year rent, with four rooms on the ground-floor; a small or business room near the entrance; a breakfast-room or study; a dining and a drawing room—the last named of at least 33 feet × 22 × 16, and surrounding a hall so broad —say 12 feet—as to be a reservoir for the pure fresh breezes of summer and the warmed air of winter. Above, five or six chambers, 14 feet high; and over these, rooms for servants, a lift, tank, lumber, &c. The basement, if such must exist, incommunicable with the house, except at back; and this region, as well as the whole upper part, made as perfectly fireproof as science permits.

It is indispensable that every one of the princi- pal apartments should be large and lofty, and of the most perfect proportions, as a matter of eco- nomy; for, while the simplest adornments set off a fine room, the most costly fail to beautify an ugly one; and all must be blest with as profuse a supply of light as England's sun will allow. Such a house would answer a man of moderate fortune, say 1,500*l.* or 1,600*l.* a year, out of which he could fairly afford 200*l.* or 250*l.* a year for rent. I would greatly prefer having the kitchen offices at back, for the servants' sake; and over the door of such a house I think the word "comfort" might be written.

Of the several dozens of houses I have examined I have not met with a single one that possesses a single requirement of those I have specified; and surely the fault does not lie either in want of knowledge or lack of remuneration. The first is every day supplied in the plans of our country houses; and the second, I infer, does not exist, from a circumstance of which I am cognizant. Upwards of twenty years ago the "building fore- man" and the "decorating foreman" of a large firm in London joined to build two houses on their own account, and on partly borrowed capital, in a neighbourhood then close to London. These they sold at a profit, and built others; and eight years since, one of the partners having died, the other retired with a clear annual income of 50,000*l.*, representing a million of capital.

If it be impossible not to admire the beauty of the decorations of the outside of houses recently built and a-building on the outskirts of London, it is equally impossible not to condemn the inside arrangements. Fancy a hall, in a house price 4,500*l.*, of 6 feet wide, and blocked up at the end; a drawing-room 45 feet long, 16 feet wide, and 12 feet high, and of course all the rest in propor- tion. Another, taking 102 steps to reach the top- most rooms. Another, with a drawing-room 45 feet square and 13½ feet high, with a heavy cross-beamed ceiling, in squares (which seems to be the *ne plus ultra* of English decoration); and only one having the slightest provision of water against the sudden outbreak of fire; the upper stories of some of lath and plaster; and few, except those of from 600*l.* to 900*l.* a year, having stone steps throughout.

There is not the slightest difficulty that I see in making a house fireproof at the present day, and at a cost absolutely insignificant to the builder, or at least to the buyer. Every ceiling can be arched (to support almost any weight) by the Italian method, without expense; stone or terra-cotta, or brick faced with tile, will supply the stairs; floors of siliciated wood, which is ab- solutely incombustible; door-frames of terra- cotta, and doors (kitchen, &c.) of sheet iron, and shutters of the same; lobbies and passages of tile; and the ceiling of the whole upper story of Italian arch, or of common brick, on curved iron rods. Builders say the increased expense would deter purchasers—that it could not be done, &c. The most instructive observations on iron girders in your journal of August 16th give the clue to another and, I believe, truer answer. Builders, like ironmasters, are satisfied with their present immense profits. Change is bad. Fire-proof lofty rooms cannot, like the iron girders, be made, and won't pay: everybody is too poor, including those who give 8,000*l.* and 9,000*l.* for houses, that did not appear to me to cost even the half in building, &c. Yet, sir, from my own instance I know that an architect never laid out his money better than in building middle-class houses, the plan of which cannot be improved upon, and in which health is secured, safety gua- ranteed, and taste and refinement continually gratified.

A Returned Emigrant.

BUILT TO SELL.

Sir,—As few countrymen who settle in London are up to the sham materials and workmanship of the "Duffing Builder," will you kindly place the following hints before your numerous readers, to save them from being duped?—

1. Let them see that the house is not built on made soil, where the gravel has been dug out and sold.

2. That it has concrete foundations of proper depth.

3. That *all* the materials are new, and the bricks not place.

4. That no iron chimney-bars supporting the arch are absent.

5. That the drainage is connected with the main sewer.

6. The strength of joists, uprights, thickness of floor-boards; in short, quality and quantity of timber used.

7. Whether the grates, ironmongery, and other fittings are of the very cheapest description, and unfit for wear.

8. Avoid zinc gutters and cisterns. Zinc, as usually laid, is a very temporary affair. Insist upon lead or stone cisterns, &c.

9. Find out if it is an estate where any scamp- ing is allowed to create heavy ground-rents.

10. Insist upon a warranty from the builder or seller, with specification attached, subject to penal- ties if false.

Being a daily witness of the scamping manner houses burdened with ninety years repairing leases and heavy ground-rents are run up by the "duffing" builder, merely for sale, to dupe the unwary, who invest a life's toil oftentimes in pro- perty daily needing repairs and rebuilding, likely at any time to fall (a very common occurrence of late), I would warn and caution all against "sale houses." I can point out "villas," not four years old, where you can see cracked window arches, bulging walls, sinking soil, and the most rapid decay; but I will not trespass on your space, as I am sure you must perceive that even this slight exposure may lead to better works. W. T.

TO DESTROY ANTS, BLACK BEETLES, &c

For the information of your correspondent of last week, and your numerous readers, I beg to state that I have used the following simple remedy for the destruction of ants and black beetles, for many years, and I have never known it to fail:—Take some unslaked stone lime (say half a bushel): lay in a heap upon a stone or brick floor; then take about a pound of sulphuric acid, and put into it a pint of water. With this liquor sprinkle the lime gently until the whole drops into a dry powder; throw this powder plentifully down the holes and about the places where the vermin come. If every householder in London were to use this powder, there would not be a black beetle in London. A Poor Man.

THE LAKES ROUND THE VICTORIA DRINKING FOUNTAIN.

Sir,—I have but little doubt that nearly all who have seen the beautiful drinking-fountain in Victoria-park have admired it; and I do consider the effect from a little distance very good. But upon advancing, the paltriness (in my opinion) of those "fancy lakes" round it soon becomes apparent. The shape of them, and the way in which they are arranged, is not bad; but they are shallow and quite stagnant. They appear to be about 2 feet deep in the deepest part; and the bottom is nothing but clay, and not fine gravel, as in the large lakes. The last time I saw them (about three or four days ago) the water was thick and yellow, and a kind of oily scum floating on the surface.

I should think it would be far better to have flower-beds tastefully arranged, or else the water to run quite round the fountain, and to have small bridges. As it is now it looks very bad. An Old Subscriber.

Books Received.

An Illustrated Lecture on Sketching from Nature in Pencil and Water Colour. By George Stubbs. With 17 Plates, tinted. London: Day & Son, Gate-street.

Handbook of Elementary Drawing. By Robert Hale, Head Master of the Burnley School of Art. London: Longman, Green, & Co. 1862.

Mr. Stubbs's lecture and illustrations are in- tended chiefly for masters to use in their schools; but they may serve also as a work of pre- paratory instruction for those who would en- deavour to obtain, without the assistance of a master, the power of sketching from nature. The suggestions are sensible and tolerably clear. It is to be hoped, however, that students will not content themselves with copying the studies given as examples, bold and good as they are, but will really go to nature and represent what they see. To copy what somebody else has drawn is, after all, but a very trumpery affair, and must only be regarded as preparative.

Mr. Stubbs mentions a fact we have often ob- served, and which may serve to encourage the young sketcher from nature: "If the drawing is unsatisfactory, which it very likely will be, do not destroy it, but take it home and put it by. In a few days, on referring to it away from nature, it will appear to have improved, and will look less discouraging, because everything done carefully and conscientiously after nature will always con- tain some degree of truth, and, consequently, possess some value and merit."

The Elementary Handbook contains some prac- tical suggestions for the promotion of drawing classes in public schools; and all that tends that way does good. It consists mainly, however, of a set of outline studies as copies, chiefly from leaves of plants; and there are so many of such outlines already obtainable that the necessity for the pub- lication of this volume is not very obvious.

Miscellanea.

Proposed Exhibition in Spain.—The committee appointed by the Queen of Spain to organize at Madrid a Universal Exhibition, similar to those which have been held in London and Paris, has issued a notice that it will receive plans for the construction of the building.

Loughton, Essex.—Schools for boys, girls, and infants, to contain 200, are about to be erected from the designs of Mr. Thomas Henry Watson, architect; the style Early English, and the cost about 1,200*l.* A fancy-fair was held in the rectory grounds on the 6th and 7th instant, at which nearly 300*l.* were collected.

Cheap Alcohol.—A method of extracting alcohol from coal gas is said to have been discovered at St. Quentin by a young chemist named Cotelle. The report of this discovery created a sensation among the manufacturers, and large sums are said to have been offered by various parties to the inventor for his patent. The *Progrès de l'Oise* asserts as a matter of fact that a joint-stock company has been formed with wonderful rapidity, with a capital of 400,000f., to carry out the patent. The inventor announces that he can sell his alcohol at 25f. the hectolitre, while the most inferior spirit produced from other articles is selling for 75f. the hectolitre.

Somerset Archæological Society. — The fourteenth annual meeting of this society commenced on Wednesday week at Wellington. The usual temporary museum was held at the National School. The major portion of the contributions were sent by Captain W. A. Sanford, of Nynehead Court. Amongst his numerous articles was a collection of some "200 Roman coins found on the beach at West Australia, about thirty miles above Freemantle." The business meeting took place at mid-day, under the presidency of Mr. E. A. Sandford. The meeting passed a resolution to promote the interests of the British Association at Bath. The Rev. Mr. Hugo read a paper "On Cannington Priory;" and Mr. J. H. Parker one entitled "Gleanings from Antiquities at Wells."

Laying Wooden Floors.—Mr. R. Bellis, of Chester, builder, has recently patented "An improved method of laying wood floors." The invention consists in fixing, at one side of the joists on which the floor is to be laid, angle iron, one face of which is made to project from the joist below the level thereof; and in inserting into the underside of each deal or board composing the floor, T-headed screws, one arm of which, on the boards being laid, becomes engaged under the projecting flange of the angle iron. The ends of the boards are wedged up against the side of the room or building being floored. By adopting this method the joints, through the shrinking of the boards, it is remarked, can be easily closed. They can be taken up for the purpose of laying in gas, water-pipes, or bell-wires; and as nails are not required in the fastening, the floors will be equal to a dowelled one, and much cheaper. The boards need not be laid until the ceilings and plasterings are finished, as the fastenings are T-screws and angle iron, screwed to the joists.

Building Prospects at Aldershott.—There is great want of house accommodation at Aldershott, it appears. Married officers, with their families, have to put up with the most wretched accommodation, at prices which in the most fashionable part of London, and in the height of the season, would be considered exorbitant; and for those few houses or apartments which are to be let in the neighbourhood the competition is so very great that extravagant demands of all sorts are readily complied with. There is talk, however, according to the *West Surrey Times*, of the formation of a company for the purchase of land indicated, and the erection of suitable villa and other residences. "If the plan in its integrity should be carried out," says our authority, "it will probably embrace the building of cottages also for the labouring classes. There are from 800 to 1,000 of these employed at the Camp; and as much as 4s. a day is constantly paid to farm labourers, owing to the distance between their homes and the place of their employment. Within the last five years, the population of Aldershot proper has increased from 400 to upwards of 5,000; and we venture to prophesy that, in a few years, there will be a town established with not less than 10,000 or 12,000 inhabitants." We observe that this and other papers usually mis-spell the name of Aldershott, which till now has always been spelt with two t.s. Why spell it wrongly now? The name has nothing to do with the "shot" which is doubtless very lavishly expended there.

The Albert Memorial Window at Leominster.—Sufficient subscriptions (including a single light from the clergy, amounting to 30*l.*) have been received to place in the church at Leominster a stained east window, to the memory of the late Prince Consort. The cost of the window will be about 700*l.*

Consumption of Nails.—The number of nails manufactured in Bromsgrove is so enormous, averaging about ten millions weekly, that the wonder is that such vast quantities should be wanted. As an example of the numbers required, the *Worcester Chronicle* states that in the erection of the Great Exhibition building 200 tons were used; which, upon a fair computation, would give about thirty-three millions and a half of nails.

Rating in the International Exhibition. An important question came on Monday before the board of trustees for the parish of Kensington. The contractors for the supply of refreshments at the International Exhibition have been assessed to the parochial rates—Messrs. Morrish & Co. on a rateable value of 14,217*l.*, and Messrs. Veillard & Co. on a rateable value of 14,653*l.* Both parties appealed against the rating, partly on the ground that the Commissioners of the Exhibition were the proper parties to be assessed, and partly because of an informality in the rate. It was stated that the amount of rates in Messrs. Morrish's case would be 918*l.* 3s. 7d.; and in the case of Messrs. Veillard & Co., 946*l.* 6s. 9d. The board decided that the assessment should be confirmed.

The New Workhouse for Oxford.—At a special meeting of the local guardians, to receive a report from the building committee, and to select a plan for a new workhouse, the chairman stated that they had three plans from gentlemen who had endeavoured to submit designs for an efficient and good workhouse; and the committee were really not in a position to report its opinion on the merits of those plans; but, whatever the result of the competition might be, he might congratulate the board on having received three superior plans to any sent in before. When competition was severe there was the greater necessity for the discussion of details; for a race was often won by a nose, but it required an accurate eye to detect that nose. It was ordered that the further consideration of the plans be entered upon at an adjourned meeting of the board.

An Ancient Baker's Last Batch.—We learn from *Galignani*, and other sources, that a curious discovery has just been made at Pompeii. In a house in course of excavation an oven was found, closed with an iron door, on opening which a batch of eighty-one loaves, put in nearly eighteen hundred years ago, and now somewhat overdone, was discovered; and even the large iron shovel with which they had been neatly laid in rows. The loaves were but slightly overbaked by the lava heat, having been protected by a quantity of ashes covering the door. There is no baker's mark on the loaves: they are circular, about nine inches in diameter, rather flat, and indented (evidently with the baker's elbow) in the centre; and are slightly raised at the sides, and divided by deep lines radiating from the centre into eight segments. They are now of a deep brown colour, and hard, but very light. In the same shop were found 561 bronze and 53 silver coins. A mill, with a great quantity of corn in excellent preservation, has also been discovered.

Schools of Art in Scotland.—From the returns relating to institutions for the promotion of science and art in Scotland for the year 1861, we take the following:—The total number receiving instruction in drawing in or through the agency of the School of Art at Dundee, during 1861, has been 2,558, showing a total increase of 196 since last year. This number includes 2,062 children of public schools, paying 51*l.* 10s.; 125 school teachers and pupil teachers, paying 8*l.* 7s. 3d.; and 371 students, who have attended the central school, from whom 301*l.* 15s. 4d. has been received. The total amount of fees has been 361*l.* 12s. 7d., showing an increase of 95*l.* 7s. 5d. over the sum received last year. The total number receiving instruction in drawing in or through the agency of the School of Art at Aberdeen, during 1861, has been 1,576, showing a total increase of 72 since last year. This number includes 1,140 children of public schools, paying 61*l.*; 170 students of private schools, paying 120*l.*; 9 school-teachers and pupil-teachers, paying 1*l.* 16s. 8d.; and 257 students who have attended the central school, from whom 105*l.* 16s. 6d. have been received. The total amount of fees has been 288*l.* 13s. 2d., showing an increase of 9*l.* 16s. 7½d. over the sum received last year.

Gallery of Illustration.—Mr. and Mrs. German Reed, with Mr. John Parry, are giving their entertainment, "The Family Legend," with increasing success. Time has enabled them to remove little incongruities, and has added finish to the whole. It is very clever; and, better still for the purpose, very amusing.

Foreign Workmen in England.—Mr. Blanchard Jerrold states that the visits of foreign workmen and of foreign industrial students which have been paid up to this time, have been attended with the most gratifying results. Our French visitors of the industrial and manufacturing classes, he says, are delighted with the cordiality, the frankness, and the liberality with which British manufacturers have met them. There are to be four banquets to foreign workmen in the Great Exhibition Building. The first of these banquets took place on Tuesday last, in the British Refreshment Department, and was chiefly addressed to French workmen. The tariff was 4s. per head.

Filthy State of the Edinburgh Streets. No one who witnesses the filthy state of some of the streets in Edinburgh, says the local *News*, will be surprised at the extent of disease amongst the lower classes of our population. Rubbish and filth of all sorts are allowed to accumulate, principally in the narrow streets and lanes of the city; and there it lies unheeded till the smell of putrified matter becomes to keen even for the scavenger himself, who then removes it by a sort of compulsion. The High-street itself is often by no means an exception to this rule; and when such a state of matters is tolerated under the very nose of the authorities, fancy the smells and annoyance which must be endured by the inhabitants of the lanes and byways. It is indeed time that some measures were adopted to keep the streets in a more cleanly condition; for if fever, cholera, or any other form of disease once break out, its progress will not speedily be arrested.

Monumental. — A monument to the late Richard Oastler has just been erected in Woodhouse Churchyard, Huddersfield. The memorial is Gothic in design, and from a base of 3 feet 6 inches rises to a height of 14 feet. It is decorated with moulded panels, with carved spandrels, crockets, and finials. The work has been designed and executed by Mr. R. Garner, of Huddersfield. The monument has been raised almost entirely by the working classes; and the subscriptions collected by a committee of working men.——The Wallace Monument, at Stirling, has now attained an elevation of about 30 feet. It is expected that before the close of the season at least fifteen feet more will be added.——The public drinking fountain, erected as a memorial in Dublin of the late Sir P. Crampton, surgeon, has been inaugurated. It bears the following inscription, written by the Earl of Carlisle:—"1862.—This fountain has been placed here, a type of health and usefulness, by the friends and admirers of Sir Philip Crampton, bart., Surgeon-General to Her Majesty's Forces. It but feebly represents the sparkle of his genial fancy, the depth of his calm sagacity, the clearness of his spotless honour, the flow of his boundless benevolence." Somewhat strong this?

The Drinking-Fountain Movement. — A drinking-fountain, the gift of Mr. H. B. W. Wynn, of Llanforda, has been formally presented to the inhabitants of Oswestry. The fountain, in the Italian style of architecture, is in the form of a cross. Below are three troughs for dogs, and above the bowls is the pedestal, enriched with carvings of the water-lily, from flowers of which the water runs. On the frieze of the cornice is the inscription.——A fountain has been opened at Nailsworth, which has been erected by public subscription in memory of the late Mr. William Smith. The cost will be nearly 100*l.* The design was by Mr. G. F. Playne, and the fountain was built by Messrs. Daniel Baker & Sons, of Brinscombe.——A drinking fountain has been set up in the Strand, on a small piece of ground taken out of the St. Clement Danes' churchyard, on the south side, at the expense of Mr. Joseph Bond, many years an inhabitant of the parish. It is intended as a memorial of the donor's wife. It includes a kneeling female figure with wings, in Sicilian marble, pouring water into a basin below, and a pedestal of polished red granite. In the panels on either side are engraved in gilt letters the words, "In memoriam," and round the upper part "Presented by Joseph Bond." The fall of the water (which seems to be a difficult thing to manage properly) is not quite what it should be, as it is difficult to get a cup full without wetting the hand. Although not a work of high art, this fountain is superior to many that have been put up.

The New Guard-room in Windsor Castle.—The exterior of the new Guard-room in the lower ward is now completed. In addition to the Guard-room for private soldiers, the Garter Tower at the north end has been carried up to the top of the coping from the ground line of the Castle-yard; and the height of the tower altogether, as seen from Thames-street, is now 64 feet. The architecture is said to be in strict keeping with the Early English style of the ancient tower. Above the officers' apartment is a room 32 feet by 30 feet, intended for a museum, to contain memorials of antiquity and interest in connexion with the castle.

Tranmere Land Society.—The Tranmere Working Men's Freehold Land Society, Cheshire, held their second annual meeting on the 18th inst. All the shares have been taken up, and a sufficient sum is subscribed to enable the trustees to obtain the title of half the estate. Some of the shareholders have already commenced to build on their lots, and others are preparing to do so. The estate is divided into 387 lots, averaging 100 square yards each, excepting 19 lots facing Old Chester-road, which, from the superior nature of the site, it was deemed advisable to make into double lots of the value of 40*l.* instead of 20*l.* The streets are laid out 12 and 10 yards wide; the latter having a setting back of six feet on each side; making the width between the houses 14 yards. The surveyor of the society, Mr. T. Mellard Reade, is arranging plans for several classes of property to be erected upon the estate.

Ogle Mews Ragged Schools, London.—On the 26th, the foundation-stone of these schools was laid by Sir Robert Walter Carden, in the presence of a large number of visitors. The site of the new schools is in Ogle-mews, St. Marylebone, and has been granted by the Duke of Portland at a nominal rental. On this the new building is now being erected, and will accommodate 300 children. It will consist of boys' and girls' school-rooms, each 33 feet by 19 feet, and 15 feet high; library and committee rooms, 23 feet 6 inches by 13 feet, and 12 feet high; governess's room, washhouse, 17 feet by 7 feet, and all the usual appurtenances. The building, designed by Mr. W. P. Griffith, F.S.A., architect, will be of brick with stone dressings, and will cost, with attendant expenses, 1,000*l.* Sir R. W. Carden said it was impossible to over-rate the value of ragged schools; and, would it be believed that, twenty years ago, there was not one in existence in London? Since that time their value had been discovered, and there were now 175 ragged school buildings in London. There were also 202 Sunday schools, with 25,000 scholars; 172 day schools, with 18,000 scholars; and 211 evening schools, with 9,000 scholars. They had also latterly established 3,600 industrial schools, and had 2,800 voluntary teachers, mostly women.

Gas.—The fifty-first half-yearly meeting of the Cardiff Gaslight and Coke Company has been held. The report stated that they had reduced the maximum charge for gas in the borough of Cardiff from 4s. 3d. to 3s. 10d. per 1,000 cubic feet: they had also made a very considerable reduction in the charge for meters hired from the company. The directors trusted that the reduced charge would lead to an increase in the consumption of gas, and hoped they would, at no distant period, be enabled to announce a still further reduction. The usual dividend on the old and new shares was declared.——The Liverpool Gaslight Company's report showed a surplus, after payment of the year's dividend, of 6,970*l.* 19s. 7d., from which sum there will be taken 4,124*l.* 5s. 10d. to the reserved fund. Owing to the continued increase in the consumption of gas, and the present state of the company's accounts, the directors recommended that the prices be reduced 2d. per 1,000 cubic feet, and in the out-townships, 3d. per 1,000 cubic feet. This reduction will make the price, within the borough, 3s. 7d., and in the out-townships, 4s. The report was adopted, and a dividend for the half-year of 5 per cent. declared. ——The Lewes Gas Company's report was "of the most gratifying nature," showing that the profit to the dividend account during the year had amounted to 1,362*l.* 15s. 1d. They recommended 300*l.* to be transferred to the reserve fund, and that 1,032*l.* 6s. be divided among the shareholders, which would be at the rate of 9 per cent. The introduction of clay retorts, instead of iron, it was thought would be a permanent advantage. They recommended the shareholders to reduce the price of gas burnt by meter from 5s. 5d. to 5s. per 1,000 feet, and the public lamps from 65s. to 60s. each. There had been an increase in the consumption of gas. This was owing no doubt to the reduction of price. The report was adopted.

Caistor Church.—As the work of the removal of the pews, preparatory to the restoration of the church, progresses, evidences of the antiquity and pristine beauty of the edifice are continually being brought to light. During the earlier part of the work the remains of a carved chancel screen were discovered, inclosed between two pews near the pulpit; and remains of another, of the series of Hundon monuments, have turned up near the font. Under one of the mullions in a window in the porch a curious, and apparently ancient, carved stone was discovered.

Jerusalem.—The *Journal de St. Petersbourg* gives details respecting the works now in course of execution in Jerusalem and Palestine under the auspices of the Russian Government. A piece of ground outside the walls, on the Meidan, belonging to Russia, and containing nearly 16,000 square yards, has been inclosed by a stone wall, several houses erected in it, and four tanks constructed for a supply of water. The Cathedral of the Holy Trinity is ready to receive its cupolas; and a large house for the Russian ecclesiastical mission has been nearly completed. A hospital to receive sixty beds has reached the first floor: the next story will be finished during the year; and the foundations are laid for an asylum, capable of receiving 300 male pilgrims. Inside the city, the ground belonging to Russia, near the Holy Sepulchre, has been cleared of the rubbish which covered it to the height of 35 feet. During these excavations remains of porticoes and pillars were found, which formed part of the principal entrance to the Temple of the Holy Sepulchre in the time of Constantine.

Bucks Architectural Society.—The annual meeting of this society has been held. The members and their friends assembled at the Brick Kilns, near Hartwell, where Professor Morris met them. They then visited the various clay, sand, stone, and other pits on Dr. Lee's estate; and in their progress the professor explained the various geological strata, their formation, and the causes of them; and after a walk of three hours and a half they arrived at Hartwell House, where they inspected the museum and other parts of the mansion. Dr. and Mrs. Lee entertained the party (about sixty) at luncheon. They then returned to Aylesbury, and met with an accession to their numbers in the assembly-room of the White Hart Hotel. Here a temporary museum had been formed of curiosities, principally of antiquities found in the county. Archdeacon Bickersteth, V.P., took the chair, and after the formal business of the society was transacted, introduced Professor Morris, who gave a lecture on the geology of Aylesbury, Hartwell, &c. The Rev. Mr. Travers then read a paper on Stukeley Church (Norman), now in course of restoration, under Mr. Street. Several other papers were deferred, owing to the lateness of the evening.

The Pneumatic Despatch Company.—The second ordinary meeting of this company has been held, the Duke of Buckingham in the chair. The report of the directors stated that arrangements had been come to with the London and North-Western Company for the carriage of parcels at a speed not less than fifteen miles per hour, and at a rate of charge not exceeding the present rate. The railway company are also to grant sites for stations at Camden and Euston rent free. The Despatch Company will have to lay down a 4-feet tube to connect the Camden and Euston stations; also a line from the latter station to a station in High Holborn; also a line thence to a station at the intended new market in Smithfield; and thence to a station in Gresham-street. The directors regretted that they had not been able to make arrangements with the Post-office or the Government departments. The experimental tube now at Battersea would be laid down between Euston-square and Eversholt-street, Somers Town, in two or three months. The estimated cost of the proposed works, plant, and machinery, is 131,260*l.* The annual receipts would be about 20,800*l.*, and the expenses 10,900*l.*, leaving a net profit of at least 7 per cent. per annum. The report was adopted, but not without an opinion being expressed that the system would not answer, and that it would be better to wind up the concern, and divide the money in hand.

The Salters' Almshouses.—Sir: I should feel obliged if you would correct an error that was advertised by the Salters' Company in your columns. The design selected in competition for the Salters' Almshouses, out of the thirty-five submitted, was prepared by Mr. J. Collier and *myself* (not as advertised); and is now being carried out at the sum of 5,150*l.*, including some additional work ordered by the court.

Thos. T. Sorby.

Institute of British Architects.—Mr. F. T. Dollman has been appointed to the vacant office of librarian. There were nine or ten candidates.

The Crompton Memorial Statue for Bolton. Great preparations have been in progress for the inauguration of this statue. The stone base has been dressed and placed on its site in Nelson-square, about half of the area having been covered with the asphaltum coating. For the stonework of the eight ornamental lamp pillars about the square Mr. Pickersgill's tender of 4*l.* 15s. was accepted. The great stone base was taken from a block 24 feet long by 14 broad, and 8 feet 6 inches deep; estimated to weigh 180 tons, and to be capable of yielding eight stones such as that for the base of the Crompton statue.

The Reservoir at Chatham.—We are glad to hear from parties connected with the waterworks that the accounts given of the accident to the new reservoir are much exaggerated. It seems that this reservoir is near to and in connexion with another, which is daily in use for the supply of the towns, by means of a branch on the service main, on which is a sluice-cock. This cock being opened, water could flow into the new from the old reservoir by way of the town-service mains; and it appears that by this channel it became filled before it was quite finished, through some misapprehension. The damage, however, it is stated, is very small.

The Indian Inland Steam Traffic.—We are glad to observe, from the twelfth report of the directors of the Oriental Inland Steam Company, that the progress of this traffic is very satisfactory. The company's steamers are now at work in various directions, both on the Indus and Sutlej, and on the Ganges; and the prospects are said to be most encouraging, notwithstanding the withdrawal by Sir Charles Wood of the subsidy of 5,000*l.* a year, in consequence of the letter of the agreement having failed by accident to be kept, although in spirit and endeavour the company had done all that seemed to be requisite in sending out vessels to meet the requirements of the agreement with the Government.

Great Fire.—On the 26th inst., a very extensive conflagration took place on the premises of Messrs. C. Cave, Williams, & Co., railway and coach contractors, New Cross, Deptford. The fire was discovered in their large manufactory, where they construct the carriages for the London and Brighton Railway, a brick building, nearly 300 feet in length, by 40 feet and 70 feet wide, two stories in height, and surrounded with other buildings. The fire was not extinguished until the premises were entirely destroyed. The buildings covered more than an acre of ground. When the roof fell in, some of the side walls followed, with a crash resembling in noise the discharge of a piece of ordnance. Tons in weight of bricks were hurled down in all directions, as well as some of the massive iron girders. These girders rested upon substantial iron pillars, firmly fixed upon brick and stone columns, which rested upon the ground of the basement: but, strong as the girders were, they were twisted by the intense heat into sundry forms, and kept continually falling into the burning mass.

Mitchel's Type Composing and Distributing Machines.—In the Machinery Department of the International Exhibition are two machines which we have examined cursorily, but with considerable interest. The "Compositor" is a triangular machine placed horizontally, and having a key-board along the base, and endless bands crossing to the hypothenuse or apex of the triangle. These bands, when the keys are worked, carry types to another running along the apex or hypothenuse, and which conducts the types to their destination, where they are arranged in long lines for subdivision by hand into lines of the required length. The "Distributor" is a small circular machine, which excites even more interest than the "compositor." It is self-acting, and requires only the attention of a boy. The "compositor" is said to do the work of four men when two are engaged upon it; and the "distributor," it is said, re-arranges 8,000 letters an hour. Both machines have been worked for several years in America, and have recently been introduced into the establishments of Messrs. Spottiswoode and others in this country. Various books have been set up by the "compositor"; and it is stated that by it one boy can do as much work as two journeymen by hand; and that by the "distributor," a boy, after a week's practice, can distribute as much type as a journeyman by manual labour. The machines, therefore, can be worked with considerable pecuniary profit.

HALIFAX BOROUGH ENGINEER.—To prevent any wrong inference from the paragraph under this heading in our last, we may say that the additional appointments that have been made were recommended by the borough engineer, Mr. Stevenson, himself, as much for his own comfort as the good of the town; and that even the definition of duties of each officer was prepared by him.

THE ALLEGED DISCOVERY AT AYOTT ST. LAWRENCE, HERTS.—The detailed account of Roman remains found at Ayott St. Lawrence, it appears, is a stupid falsehood imposed upon the press by some idle scamp, who must be practising forgery as an introduction to the colonies; for he did not hesitate to give a truthful gloss to his silly lie by forging the signature of Mr. Walcotte, the curate of Ayott St. Lawrence.

FATAL EXPLOSION OF A METAL CASTING.—At Kirkstall, near Leeds, an explosion of metal has occurred at the Kirkstall Forge, in casting an anvil block. About twenty men were engaged in the work, and seven were burnt and one killed. The casting would have been 9 tons 5 cwt. in weight, and it was destined as an anvil block for a steam hammer. The "core" appeared to be dry, and the mould was 4 feet in depth, and composed of green sand. At the inquest a moulder said he believed that the "vent" had got "struck." At the bottom of the mould there were vents to allow the foul air to escape. The jury were of opinion that some further evidence of a scientific nature was required.

ORNAMENTATION OF CHURCHES.—"You will say, 'What has the house of God to do with ornament?' My answer to that is this:—'Go to your mountains and pick me up a flower that is not an ornament.' God never made a thing that was not beautiful. And up in that great International Exhibition, what are all your beauties there, but poor imitations of the beauties of the Divine work? The finest loom the most ingenious man ever made never wove a carpet such as I see in Lochlee, the Highland glen where I spend two months in the year: the finest work ever man made is not to be compared with the simple lily, with the blushing rose, with the golden broom! Yes, God has poured beauty on everything he made; and I say it is a right and proper thing that the House of God should be such as not to offend the taste that God has given me."—*Rev. Dr. Guthrie at Blair Athol.*

A STORM IN ALGIERS.—A hurricane took place, on the 10th instant at mid-day, doing much damage to the town of Algiers. The military hospital of the Dey had the walls cracked and some of the beds scattered 150 mètres off. The dormitory of the Sisters of Charity was completely destroyed, and nearly all the trees in the garden uprooted or broken. The loss is estimated at 40,000f. The undertakers' plant for burying the dead (rather an important matter in Africa) is destroyed;—value, 21,000f. Twenty diligences were crushed in the establishment of the Messageries Générales, by the fall of the sheds. The Jardin Marengo has suffered considerably: the trees and shrubs, remarkable for the luxuriance of their growth, have been destroyed, and the bust of Napoleon I. broken to pieces. The storm only lasted twenty minutes, but the full extent of damage done during that short period cannot at present be ascertained. Some injury was done to persons, and one was killed. Since the 15th inst. the passenger service has been opened on the line from Tarbes to Bagnères-de-Bigorre.

COLLYHURST, MANCHESTER, ALBERT MEMORIAL SCHOOLS.—The foundation-stone of these schools was laid on the 23rd inst. The main building contains, on the ground-floor, the boys' school; and the girls's school on the first-floor; each 46 feet by 30 feet, and having class-rooms; 22 feet by 19 feet 6 inches; height, 29 feet 6 inches to ridge. The infants' school, adjoining, is 50 feet by 20 feet, and 22 feet 9 inches height to ridge, with class-room, 15 feet by 15 feet 6 inches. The building is Gothic, with open-framed roofs. The elevations are in brickwork, with bands of blue Staffordshire bricks; the principal one being relieved by an ornamental belfry, with the inscription "Albert Memorial Schools." These schools will accommodate 195 boys, 205 girls, and 150 infants, with spacious play-grounds for each. The site, which contains 1,500 square yards, has been given by Sir Oswald Mosley, bart., as well as land adjoining for a church, which will shortly be erected. The buildings are being erected by Messrs. Clark & Jones, builders, Manchester, for the sum of 2,100*l.*, under the superintendence of Mr. John Lowe, architect, of Manchester.

THE FIRE OBSERVATORY AT HODGES' DISTILLERY.—This engineering work, designed by Mr. C. B. King, the consulting engineer of the firm of Hodges & Co., distillers, has been completed and inaugurated. By ascending the observatory, as we some time since noted in the *Builder*, the reflection of a fire can be seen from the Surrey side for miles distant, and the exact locality easily picked out. The building is 130 feet high, and is ascended by a set of "differential pulleys" which haul up a cage; and the balcony at the top will hold six persons: this balcony was hoisted to the top of the building in one piece, and then dropped into similar lengths, and there secured to a wrought-iron foundation plate. The builders were Messrs. Lewis & Stockwell, of the Barking-road.

SAWING DOWN TREES.—A machine has been invented by Mr. L. S. Alder, of Cleona, Indiana, for sawing down trees, which can be readily adjusted to suit different occasions. The invention consists in the arrangement of a longitudinally sliding-frame, provided with a steam cylinder, a feed motion, and the necessary pulley to give motion to the saw in combination with a truck running on wheels, in such a manner that the frame can be readily brought to the desired locality and position; and that, by the action of the steam-cylinder, the saw receives its desired motion. It consists, further, in combining with each longitudinally sliding-frame a series of rotary adjustable discs, in such a manner that the saw, together with the driving-pulley and feed-motion, can be set to any desired angle.

EFFECTS OF A FALSE ALARM IN CHURCH.—A dreadful scene of confusion has just taken place at Saint-Nicholas, in Belgium, while the church of Notre Dame was crowded with persons attending divine service. A noise of broken glass was heard, and a panic at once seized on the congregation, every one imagining that part of the building was falling. They rushed to the only door that was open, and there a terrible crush took place. The passage was speedily blocked up by persons falling and getting trampled on, the pile of bodies soon reaching to almost half the height of a man. The number of persons injured is considered large, and one woman died soon after. The alarm appears to have been caused by a stone, thrown from the outside, having broken through a pane of glass, and then fallen into the church.

TENDERS.

For alterations at Kent House, Blackheath. Mr. H. J. Lanchester, architect. Quantities supplied:—

Sands	£1,025	0	0
Adams & Son	893	0	0
Penny (accepted)	868	0	0

For house and shop, 104, High-street, Camden Town, for Mr. A. Sidney. Messrs. Gardner & Co., architects. Quantities supplied:—

Oughton	£376	11	0
Rowe	373	0	0
Westrope	357	0	0
Scrivener and White	334	0	0
Stevenson (accepted)	320	0	0

For building warehouse, Little Carter-lane, City, for Mr. Farlow. Mr. W. Nunn, architect:—

Downs	£7,132	0	0
Newman & Mann	6,695	0	0
Pattrick	6,542	0	0
Rider	6,540	0	0
Brass	6,498	0	0
Fish	6,390	0	0
Coleman	6,369	0	0
Lawrance & Son	6,340	0	0
Wills	5,694	0	0
Hart	5,666	0	0

For rebuilding premises, No. 3, Mincing-lane, City, for Mr. E. H. Moses. Mr. N. S. Joseph, architect:—

Lucas, Brothers	£5,290	0	0
Lawrance	5,183	0	0
Axford & Co.	5,112	0	0
Trollope & Sons	5,084	0	0
Ashby & Horner	5,080	0	0
Ashby & Sons	5,025	0	0
Newman & Mann	4,997	0	0
King	4,995	0	0
Piper & Wheeler	4,932	0	0
Brown & Robinson	4,931	0	0
Brass	4,693	0	0

For alterations and additions to No. 37, Tufnell-park-road, Holloway, for Mr. McLaren. Mr. Jasper Cowell, architect:—

Glenn	£396	0	0
Newman & Mann	372	0	0
Barnes	180	0	0

For additional room and warehouse at rear of house, 29, South-street, Bethnal-green, for Mr. T. Bradbrook. Quantities not supplied:—

Murdock	681	0	0
Forrest	533	0	0
J. Perry, jun.	430	0	0
Wire	397	0	0
Cave	377	0	0
Lummore	372	0	0
Kirk	335	15	0

For the erection of an infant school at South Hackney, Middlesex; Mr. G. H. Simmonds, architect:—

Turner	£497	0	0
Glaskin	493	0	0
Norris	467	0	0
Fox	450	0	0
Perry	425	0	0

For the erection of a building, with a shaft, in Whitechapel. Mr. G. H. Simmonds, architect:—

Ashby & Horner	£2,420	0	0
Read & Son	2,289	0	0
Jacobs	2,257	0	0

For schools and teachers' residence at Billington, near Leighton Buzzard. Mr. Frederick Gotto, architect:—

Bowden & Cheshire	£533	10	0
Dawson	510	0	0
Adams	495	0	0
Garside	489	5	0
Holdstock	438	14	0
Edwards	435	19	0

For the Girls' School in the London-road, Tonbridge Wells, in continuation of the Boys' School, recently built. Mr. W. Bond, architect:—

Pink	£565	0	0
Noakes	555	0	0
Wells	546	18	6
Putellesden & Walker	517	6	4

For alterations at St. Ethelburg Church, Bishopsgate. Mr. R. J. Withers, architect:—

Tracey & Co.	£406	0	0
London	404	0	0
Axford & Co.	397	0	0
Sanders, Brothers	394	0	0
Pritchard & Sons	391	0	0
Sharpington & Cole	383	0	0

For a werehouse in Perry's-place, Oxford-street, for Messrs. Jackson. Mr. F. Herring, architect:—

Mansfield	£1,792	0	0
Clements	1,719	0	0
Tracey & Co.	1,534	0	0

For Public Offices, for the Basford Local Board. Mr. J. B. Heard, architect:—

Johnson	£2,080	0	0
T. & F. Simpson	1,922	0	0
Simpson & Layman	1,920	0	0
Slight	1,866	0	0
Barker	1,825	0	0
Cargill	1,750	0	0
Dennett	1,725	0	0
Acton	1,677	0	0

For taking down and re-erecting No. 117, High-street, Marylebone, for Mr. George Greenbill. Mr. Gordon Stanham, architect. Quantities supplied:—

Sage & Panter	£1,354	16	0
Henson	1,111	0	0
Bird	962	0	0
Faulkner (accepted)	917	0	0

For external painting, &c., to the St. George's Workhouse, at Little Chelsea. Mr. Gritten, architect:—

Smith & Co.	£426	0	0
Morris, Brothers	350	0	0
Sapwell	319	0	0
Woodruff	300	0	0

Repaving the yards at Mount-street Workhouse:—

Smith & Co.	£140	0	0
Morris, Brothers	100	0	0
Sapwell	88	0	0
Woodruff	85	0	0

For roads and drains, Gipsy-hill, Norwood. Mr. Messenger, architect:—

Bridges	£1,230	0	0
Summs	990	0	0
Baker	988	0	0
Leeks	900	0	0
Carter	899	0	0
Rogers	865	0	0
Pound	853	0	0
Mallows	800	0	0
Shawn	770	0	0
Harland	760	0	0
Symes	750	0	0
Porter	747	0	0
Bull	690	0	0

For work in alterations, fittings, &c., at the Jews' Hospital, Lower Norwood, Surrey. Messrs. Tillott & Chamberlain, architects. Quantities supplied:—

Myers & Sons	£2,134	0	0
Ashby & Sons	2,064	0	0
Rider	2,054	0	0
Brass	2,007	0	0
Piper & Wheeler	1,965	0	0
Wills	1,892	0	0
Fish	1,858	0	0

For Hove Church, Brighton. Mr. James Woodman, architect:—

Ellis	£4,761	0	0
Cheesman	4,640	0	0
Sharpington	4,587	0	0
Fabian	4,580	0	0
Reynolds	4,490	0	0
Barnes	4,487	0	0
Cane	4,197	0	0
Simms	4,000	0	0
Sawyer	3,989	0	0
Anscombe	3,815	0	0

For the extension of the gasworks at Hampton Wick, for the Hampton Court United Gas Company. Plans prepared by Mr. R. P. Spice, gas engineer:—

Sawyer	£900	0	0
Partridge & Crutch	864	17	0
Simms	840	0	0
Hall	832	0	0
Jacklin & Towers	825	0	0
Wheatley	788	0	0
Bradley & Roberts	756	18	0
Reedkin	735	0	0
Macrostie	721	0	0

For a villa at Croydon, Surrey, for Mr. J. J. Segar. Jr. W. Paice, architect:—

Chutter	£976	0	0
Sharpington & Co.	915	0	0
Harwood	900	0	0
Sawyer	890	0	0
Dawson	890	0	0
Wilkins & Bottom	887	0	0
Partridge & Crutch	887	0	0
Donnelly	880	0	0
Simms	850	0	0
Rudkin	825	0	0
Jarrett	820	0	0
Cook	798	0	0
George	797	0	0
Hart (too late)	760	0	0

For the erection of six houses in Douglas-street, Vincent-square, Westminster; Mr. J. G. Smither, architect:

Mann	£2,599	0	0
J. & W. Sanders	2,330	0	0
Wardle & Baker	2,256	0	0

For repairs to twenty-eight houses, Admiral-terrace, Vauxhall Bridge-road. Mr. James G. Smither, surveyor to the estate:—

J. & W. Sanders (accepted)	£361	16	0

For Rochford Church:—

Wardle & Barker	£2,235	0	0
Rider	1,780	0	0
Ganad, Carter, & Asbey	1,648	0	0
Beale & Boot	1,578	0	0
Simms	1,553	0	0
Malcolm & Wright	1,304	0	0
King	1,275	0	0
Nutt & Co.	1,087	0	0

For small villa and fence wall, at Dorking, for Mr. John Goddard. Mr. F. J. Dibble, architect:—

Inkpen	£854	9	7
Peters & Clear	838	4	0
Lynn & Dudley	736	5	0
Hamblin	675	0	0

"*Victoria Public House.*"—H. Tracey & Co. wish it said they did not send a tender for this work.

TO CORRESPONDENTS.

Moulds for Plaster.—Will one of your correspondents give a recipe for *elastic moulds* for plaster casts which will not colour the casts? The mixtures of glue and treacle get mouldy, and lose their shape by shrinking. W. H. B.

T. R. L.—J. C. C. (we shall be glad to hear again.)—J. L.—P. G.—E. H jun. C. H. C J. H. (MS. has been received. All previously sent has been printed: and copies were forwarded.)—Inspector.—F. R. W. (too late. And we shall not care to be second.)—R. E.—J. P.—W. D.—R. F. S.—T. & C.—G. S.—Constant Reader.—R. L.—H. N. H. (shall hear)—Clerencester (next week).—W. L.

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

"THE BUILDER."—January 25th, February 22nd, March 1st and 15th, 18.2.

A few clean Copies of the above dates are required.—Apply to the Publisher, at the Office, 1, York-street, Covent-garden, W.C.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

TO GENERAL CONTRACTORS, PLUMBERS, PAINTERS, &c.

A VERY DESIRABLE OFFER for PARTNERSHIP presents itself to any respectable practical man, either with capital or otherwise, situated a few miles from London, and very old-established Business.—Apply to J. H. Messrs. Franks & Co.'s, Oil Merchants, London-bridge, Borough, Southwark.

AN Architect superintending and directing a large building business, has VACANCIES in his Office for ONE or TWO OUT-DOOR PUPILS, who would fully learn the real practice and responsibilities of their profession. They could reside with the head clerk if necessary.—Apply, J. P. 24, Walpole-street, King's-road, S.W.

A LONDON ARCHITECT and SURVEYOR, in good practice, has a VACANCY in his Office for an IMPROVER.—Address, for an appointment, by letter only, to W. X. Office of "The Builder."

CLERK of WORKS WANTED, to Superintend the Erection of a large Gothic Church.—Apply, personally, between TEN and TWELVE, at my Office.—N. BASSETT KNELLING, Architect, 1, Verulam-buildings, Gray's-inn.

TO BUILDERS.

WANTED, a MANAGER'S or GENERAL FOREMAN'S SITUATION. Is used to extensive works, measuring, estimating, &c.—Address, O. C. Office of "The Builder."

TO PLUMBERS AND BUILDERS.

WANTED, by a Young Man, a SITUATION as THREE-BRANCH HAND, or make himself generally useful. Country not objected to.—Address, C. C. 3 Bush-lane, Cannon-street, City

WANTED, a SITUATION with an Architect, Surveyor, or other, where an extensive knowledge of matters connected with Building, Drainage, &c. combined with being a good plain draughtsman, calculator, and writer, might be turned to account.—Address, C. C. care of Mr. Warin, 41, Blackman-street, Borough, S.E.

WANTED, by a thoroughly practical Mason, a SITUATION as FOREMAN, or to take any amount of Masonry at a price.—Address, R. A. 23, Cornwall-street, Pimlico, S.W.

TO CABINET-MAKERS AND UPHOLSTERERS.

WANTED, EMPLOYMENT, by a Young Man, aged 20, as IMPROVER in the above. Wages low.—Address, J. S. 39, Kensington-place, Notting-hill.

WANTED, by a good steady JOINER, CONSTANT EMPLOYMENT in the country.—Address, stating full particulars, to W. J. No. 1, Francis-street, London-street, Paddington, W.

TO CARPENTERS.

WANTED, to APPRENTICE, a YOUTH, 14 years of age.—Apply to B. DEACON, Bottle Merchant, Scotland-yard, S.W.

TO BUILDERS, ESTATE AGENTS, AND OTHERS.

WANTED, a RE-ENGAGEMENT, by an efficient Builder's Foreman. Can give good reference. Age, 37.—Address, A. B. at Jessup's Dairy, 12, St. Alban's-place, Edgware-road, Paddington, W.

TO CARPENTERS AND BUILDERS.

WANTED to ARTICLE, a Strong YOUTH, aged 17, to the above.—Address, S. ARTHURS, No. 38, Little Pulteney-street, Golden-square, W.

TO BUILDERS AND OTHERS.

WANTED, by an Experienced Man, a Carpenter, a SITUATION as FOREMAN, either in the shop, buildings, alterations, or general repairs. Has filled the situation of foreman these last five years to a builder and decorator in the West End.—Address, T. TANNER, 107, Brook-street, Kennington-road.

TO PLUMBERS AND BUILDERS.

WANTED, by a Young Man, aged 19, a SITUATION as IMPROVER to the PLUMBING. Has had good experience. Town or country.—Address, G. W. 43, Drury-lane, London.

TO BUILDERS AND CONTRACTORS.

WANTED, by an energetic Young Man, a SITUATION as FOREMAN OF JOINERS, or General Foreman, who understands the theoretical as well as the practical part of the business. Good reference as to ability and sobriety.—Address, B. C. A. Office of "The Builder."

TO SMITHS.

WANTED, by the Advertiser, a SITUATION as IMPROVER. Has been four years in the trade. For further particulars address, W. B. 6, Royal-place, Royal Hill, Greenwich.

TO BUILDERS.

WANTED, PLASTER WORK, finding scaffolding and materials, or labour only. Payment by instalments. First-class references.—Address, T. S. at Mr. Stoke's, 19, Elizabeth-terrace, Liverpool road, Islington.

WANTED, by a Married Man, a constant SITUATION as CARPENTER and JOINER, or as House and Estate Carpenter on a Gentleman's Estate, having filled a similar situation; or any place where trust and confidence are required. Can be well recommended. The country preferred.—Address, OILMAN, 78, Hall-park, Edgware-road, W.

TO RAILWAY COMPANIES, CONTRACTORS, &c.

WANTED, by the Advertiser, who is married, and twenty-nine years of age, a SITUATION as MANAGER, INSPECTOR of WORKS, or ESTIMATING and COST-PRICE CLERK. Has a general knowledge of the building trade in all its branches, fully acquainted with the making of plans, specifications, &c. having been with one house six years engaged in large works. The highest testimonials both as to position and ability. No objection to the country.—Apply, stating salary, to G. Office of "The Builder."

TO BUILDERS AND DECORATORS

WANTED, by a good OIL GRAINER, a permanent SITUATION in town or country. Can do plain writing, or turn his hand to the brush, if required.—Address, J. G. R Office of "The Builder."

TO GENTLEMEN, ESTATE AGENTS, AND BUILDERS.

WANTED, a SITUATION, by a thoroughly-practical Man, to Superintend Erections and Repairs; or as a Leading Man on a Gentleman's Estate. Can prepare plans, measure up, and set out work. No objection to go abroad. Good recommendation.—Address, SADDLER, care of Mr. House, No. 20, Chapel-street, Stockwell, London.

TO CONTRACTORS AND GENTLEMEN.

WANTED, by an experienced Foreman of Bricklayers, a RE-ENGAGEMENT, or by the rod. Good reference from last employers.—Address, A. B. 6, Newington grove, Union-road, Trinity-square, Borough.

TO BUILDERS AND OTHERS.

WANTED, a RE-ENGAGEMENT as FOREMAN BRICKLAYER. Has a practical knowledge of plans and setting out work. Has no objection to piecework or by the rod. Testimonials and all particulars may be had by addressing S. S. Office of "The Builder."

TO NOBLEMEN, GENTLEMEN, &c.

WANTED, by a Married Man, 28 years of age, a SITUATION as UNDER-STEWARD, INSPECTOR of WORKS, &c. having a full knowledge of surveying, measuring, preparing of plans, &c. and a general acquaintance with all building materials, &c. the Advertiser having filled one situation seven years, and possesses the highest testimonials.—Address, giving all particulars, to A. J. M. Office of "The Builder."

TO BUILDERS OR PLUMBERS.

WANTED, by a PLUMBER, a constant SITUATION. Has been used to the best of new work, having just left a large builder's firm. Is open for another engagement, town or country. Will turn his hand when slack.—Address, W. W. No. 12A, West-street, Regent-street, W.

WANTED, by a thoroughly practical Man, aged 40, without incumbrance, a SITUATION as PLUMBER, GLAZIER, and PAINTER, at a nobleman's or gentleman's house or estate, having filled a similar situation, and can give first-class references; or, to TAKE the MANAGEMENT of a BUSINESS. Town or country.—Address, H. R. 19, Hart-street, Bloomsbury-square.

TO CIVIL ENGINEERS AND LAND SURVEYORS.

WANTED, by the Advertiser, who is a first rate draughtsman, and understands surveying and levelling, a SITUATION in the office of either of the above. He is also an excellent tracer of mechanical and architectural drawings, and fully acquainted with office routine. Five-and-a-half years in his last engagement under a civil engineer and land surveyor. Testimonials and references.—Address, S. D. 5, Cottage-grove, West-street, Walworth-road, London, S.

TO CIVIL ENGINEERS AND CONTRACTORS.

WANTED, an ENGAGEMENT, by a gentleman, aged 26, who has served an apprenticeship to a Civil Engineer and Surveyor, as well as to a practical Engineer and Millwright, having just returned from the montagne russe of railway works in India.—Address, T. S. F. Scadding's Library, Belgrave-road, S.W.

TO BUILDERS, &c.

WANTED, by a Young Man of long experience, a RE-ENGAGEMENT as FOREMAN of PAINTERS and GLAZIERS. Satisfactory reference from last employer, with whom he has been fifteen years.—Address, R. Z. Office of "The Builder."

TO BUILDERS AND PLUMBERS.

WANTED, by a PLUMBER, a constant SITUATION or Job; town or country. No objection to fill up his time.—Address, C. W. 14, East-street, Manchester square, W.

TO BUILDERS, ENGINEERS, AND OTHERS.

WANTED, a RE-ENGAGEMENT, by an ASSISTANT. Is neat, expeditious, a fair draughtsman and colourist, writes a good hand, and is desirous of rendering his services useful. Salary small. A permanency the primary object. Good references.—Address, A. D. 41, Stanford-road, Fulham-road, S.W.

WANTED, by the Advertiser, a SITUATION as a MILL SAWYER, a Thin Cut Frame Worker, or can work a circular saw. Has been in the mill line former years.—Address, W. K. 73, West-street, Neckinger, Bermondsey.

BUILDERS' APPRENTICE IN DOORS.

WANTED to place a strong active Youth, aged 15, with a respectable Master or Foreman, where he would be fully instructed in the business of Carpenter and Joiner. The country preferred. Terms to be stated, and references given.—Address, N. L. 30, South Wharf road, Paddington.

CLERK OF WORKS, or MEASURING and QUANTITY CLERK.

WANTED, a SITUATION as above, by an experienced and competent Man. Can survey and plot land, take levels, &c.—Address, J. N. 16, Sutterton-street, Caledonian-road, N.

WANTED, EMPLOYMENT, by a Carpenter and Joiner, with a good knowledge of plans, specifications, and accounts, in the office or otherwise. Capable of taking charge of a small shop or a job.—Address, T. D. C. 8, Douro Cottages, Circus-road, St. John's-wood, N.W.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a BRICKLAYER, a RE-ENGAGEMENT as FOREMAN. Could take the entire charge of a job, or has no objection to take piecework. Good references.—Address, N. D. No. 7, Hasker-street, Walton-street, Chelsea.

TO BUILDERS, HOUSE DECORATORS, &c.

WANTED, by the Advertiser, constant EMPLOYMENT as GRAINER. Could take charge of work if required. No objection to fill up his time at painting.—Address, L. B. 23, Broad-street, Golden-square

WANTED, by a thoroughly Practical CARPENTER and JOINER, a SITUATION as SHOP or GENERAL FOREMAN, or to take charge of a job. Town or country. Address, R. S. 24, Underwood-street, City-road.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Bricklayer, with 25 years' experience in Town and country, a SITUATION as FOREMAN, or Pointing and Gauge-work by the Piece. Well up in setting out work. Good references.—Address, B. 25, Durham-street, Upper Kennington-lane, Lambeth.

TO BUILDERS, CONTRACTORS, AND ESTATE AGENTS, &c.

WANTED, EMPLOYMENT, by a steady Man, aged 24, Joiner and Carpenter by trade. Is a good fixer. Wages not so much an object as a chance of a permanent situation. Must be in town.—Address, W. R. 1, Carlton-road South, Mile-end, E.

WANTED, a RE-ENGAGEMENT as OUT-DOOR FOREMAN of CARPENTERS, and to Take Charge of Works. No objection to the country or abroad. Can give first-rate reference Address, A. Z. Post-office, Moorgate-street, City, E.C

TO ARCHITECTS, &c.

THE Advertiser, a first-class DRAUGHTSMAN and DESIGNER, good perspective hand, and fair colourist, is open to an ENGAGEMENT, either in town or the provinces. First-class references.—Address, J. Z. 121, Albany-street, Regent's park.

TO PLUMBERS, BUILDERS, AND OTHERS.

THE Advertiser, a good PLUMBER, PAINTER, GLAZIER, and GAS-FITTER, wishes for a PERMANENCY.—Address, E. P. 1, White Hart-court, Bishopsgate street, Without, E.C.

TO ARCHITECTS AND BUILDERS.

THE Advertiser is desirous of an ENGAGEMENT, to SUPERINTEND the ERECTION of a MANSION, PUBLIC WORKS, or other BUILDINGS, either in town or country. Has had considerable experience in drawing, estimating, and carrying out works, and is practically acquainted with the business in all its branches.—Address, A. B. 23, Stanhope-street, Hampstead-road, N.W.

TO ARCHITECTS, &c.

THE Advertiser is open to an ENGAGEMENT as CLERK of WORKS. Has had great experience in the building trade in town and country. First-class reference as to character and ability.—Address, X Y Z Post-office, Stoke-Newington.

TO MASTER PLUMBERS AND BUILDERS.

THE Advertiser is in want of a constant SITUATION as good PLUMBER; he has no objection to fill up his time in painting or glazing if required. A good character can be given.—Address, A. B. B. 3, Woldbine Cottage, John-street, Upper Holloway, N.

TO BUILDERS, &c.

AS GENERAL FOREMAN, CLERK of WORKS, or to MANAGE a BUSINESS in the country.—WANTED, by the Advertiser, who has fifteen years' experience, and a thorough practical knowledge of the trade in all its branches, a SITUATION as above Address, with full particulars, amount of salary, &c. &c. to W. W. Post-office, Stony Stratford, Bucks.

TO BUILDERS, SURVEYORS, &c

A CLERK desires a RE-ENGAGEMENT. Is thoroughly conversant with prime costs and accounts, measurements and surveys. Has been used to superintend works.—Address, S. Y. Blanesby's Post-office, 179, Sloane-street, S.W.

INDIA or the EAST A WORKING FOREMAN, in the plumbing, glazing, and painting, just returned from the East, is open to a RE-ENGAGEMENT on railway or public works. First class references.—Address, R. 6, Great Castle-street, Regent street, W.

TO BUILDERS AND OTHERS

EMPLOYMENT WANTED by a Young Man, as WOOD-TURNER, &c. Accustomed to the Circular Saw. Town or country. Good reference.—Address, C. C. 104, Dorset-court, Salisbury square, E.C

TO ARCHITECTS

A GOOD and Expeditious DRAUGHTSMAN, who is perfectly capable of getting up working and finished drawings, perspectives, &c. is a good colourist, and understands the routine of an office, attends to all matters of meeting with an ENGAGEMENT. Terms moderate.—Address, C. B. B. 47, Frederick-street, Gray's-inn-road, W.C.

TO ARCHITECTS AND SURVEYORS.

A QUANTITY SURVEYOR and MEASURER, of considerable practical experience, would be glad to TREAT with ARCHITECTS for their Quantities and Measurings, Valuations, &c., upon reasonable terms. References given. Address, "ALPHA," care of Mr. Fisher, Stationer, Vassall-road, Brixton-road S.

TO COUNTRY AUCTIONEERS, SURVEYORS, AND ARCHITECTS.

A GENTLEMAN, aged 31, with twelve years' experience, and fully competent to undertake either department, wishes to meet with a PARTNERSHIP in a well-established practice. References exchanged. Principals or their solicitors only treated with.—Address, S. R. 8, Little Argyll-street, Regent-street, W.

TO ARCHITECTS, SURVEYORS, AND OTHERS

A YOUNG ARTIST wishes to meet with a Gentleman who would receive him in his Office as CLERK, or otherwise. Salary at first not a consideration. Security if required.—Address, F. B. W. care of Mr. Stevens, 223, Goswell-road.

TO CARPENTERS AND BUILDERS.

A YOUNG MAN wishes for IMPROVEMENT. No objection to the country.—Address, S. B. Office of "The Builder."

A PLUMBER in a provincial town, whose present employer is giving up business, wishes an ENGAGEMENT to serve the remaining ten months of his apprenticeship in London. Will be highly recommended by his present employer. Address, D. M 219, Caledonian-road, N.

TO IRONMONGERS AND BUILDERS.

A STEADY YOUNG MAN wishes for a SITUATION as BELLHANGER, GASFITTER, and SMITH. Good references.—Address, A. 29, Hasker-street, Chelsea, S.W.

AN ASSISTANT, thoroughly versed in Early Pointed Design and Detail, and Medieval Art generally, and a good and rapid draughtsman, desires an ENGAGEMENT. A London office will be preferred.—Address, X. X. 19, St. John-street, Oxford

TO ARCHITECTS, ENGINEERS, AND CONTRACTORS.

AN experienced ASSISTANT, 30 years of age, desires an ENGAGEMENT, either in an Office or to superintend the execution of works. London or Manchester preferred. Good references.—Address, A. Z. 58, Fleet-street, London, E.C.

AN Experienced CLERK of WORKS desires a RE-ENGAGEMENT. Unexceptionable references can be given.—Address, A. B. No. 1, Gilbert-street, Oxford-street, W.

TO SAW-MILL PROPRIETORS AND OTHERS.

A RESPECTABLE MAN of twenty-five years' practical experience, is open to an ENGAGEMENT either in that capacity, as WORKING FOREMAN, or SUPERINTENDENT of SAW-MILLS. Is thoroughly acquainted with every branch of saw-mill machinery, also well versed in mensuration, and conversion of timber. Testimonials and references given.—Address, L. M. N. Office of "The Builder."

TO BUILDERS.

A SURVEYOR of great experience offers TEMPORARY ASSISTANCE to BUILDERS, in town or country, in taking out Quantities, Measuring, Measuring up Extras and Omissions upon Contracts and other works, making drawings, writings, specifications, both parties to build if necessary, and in Disputed Items. No charge for estimating if unsuccessful.—Address, A. V. R. Office of "The Builder."

TO CIVIL ENGINEERS, SURVEYORS, &c.

AN experienced Surveyor, provided with requisite field and office instruments, is open to render ASSISTANCE in getting up Parliamentary and other Surveys, Sections, &c. upon moderate terms. Is expert, accurate, and a good draughtsman. First-class testimonials.—Address, SURVEYOR, 61, High-street, Cowes, Isle of Wight.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c. For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Day or Evening Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

THE ARCHITECTS', BUILDERS', CIVIL ENGINEERS', and MACHINISTS' DRAWING CLASSES, conducted by Mr. T. J. HILL, Architect, at his Offices, 70, Old-street, E.C. Architectural, Mechanical, Ornamental, and Perspective Drawing Taught; taking out Quantities, and Abstracting, &c.—For prospectuses, apply at the Offices, as above

DRAWING CLASSES for the STUDY of ARCHITECTURAL, MECHANICAL, PERSPECTIVE, and ORNAMENTAL DRAWING, at the LONDON MECHANICS' INSTITUTION; conducted by Mr W. DAVY. Members of the Institution, 5s. 6d. per quarter; the public, 6s. Monday and Friday Evenings, from Eight to Ten. New quarter now commencing.
29 Southampton-buildings, Holborn.

TO PAVIORS.—WANTED, to PURCHASE a quantity of OLD PEBBLES, fit for paving stableyards. Address, with particulars as to quantity, quality, and price, to Mr DYE, 2, Southampton-place, Chalk Farm, N.W.

TO BUILDERS and the TRADE.—JOSH STOFFEL allows 40 per cent on English and French PAPERHANGINGS and DECORATIONS selected from his Stock and New Designs, at 13, Alfred-terrace, Queen's-road, Bayswater, W

TO RAILWAY CONTRACTORS, COAL MERCHANTS, and OTHERS. TO BE DISPOSED OF, 30 BROAD-GAUGE TRUCKS. They have been used in working the ballasting the permanent way between Wycombe and Thame, and are in a good state of repair. They bear the Great Northern Railway Company's engraved plates, and could be used for conveying coals to and from the railways. Also a BROAD-GAUGE LOCOMOTIVE ENGINE, 16½ inch cylinder, 2 feet 2 inch stroke, and 4 feet 8 inch driving wheels, complete. She has not been in use for thirteen months. For further particulars, apply to Mr. SLADE, High Wycombe, Bucks.

WHARFAGE, LIGHTERAGE, and CARTAGE. — Goods of every description Warehoused, Shipped, or Carted, on moderate terms. Powerful cranes for heavy weights.—G. HILLMORE, St. Peter's and Western Wharves, Millbank-street, S.W.

TO ARCADE BUILDERS.—Some Modern SHOP FRONTS, with circular ends, brass bars, plate glass, and sashes, complete, To BE SOLD cheap.—Apply at Mr. C. R. SMITH'S Building Works, Belgrave-road, Pimlico.

INTERNATIONAL BAZAAR, South Kensington.—If architectural effect can be marred by various Window Blinds, Visitors are invited to inspect, in the Central Hall of the Bazaar, a new PATENT BLIND, whereby that necessity of civilization, ornament in use, is realized.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up. Sold by all Ironmongers, and the Inventor, GEORGE JENNINGS, Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c.
LENT ON HIRE
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do 6 inches.
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.
Price, including royalty, 75l.
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,810.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" Stitch Pavings, at 27s. 6d. per 1,000.
" Kiln Bricks, at 28s. per 1,000.
" Floor Bricks, 40s. per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire-street Station, at 26s. per 1,000.

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Lucas's Lighterman and Wharfinger, of Hermitage Steam, Wharf, Wapping, has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN PIPES AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMO PIPERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete.
Also a Simple Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,248.
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and general design of his extensive Stock of Watches and Drawing-room Clocks

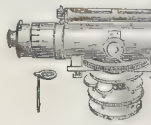
Ladies' Gold Foreign Watches	8	Guineas.
Gentlemen's do. do.	10	"
Ladies' or Gentlemen's Gold English Lever Watches	18	"
Strong Silver Lever Watches	5	"
Gentlemen's Gold Compensation Balance Watches	40	"
Do. Silver do. do.	25	"
Marine Chronometers	35	"

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

A POWERFUL STEAM-DREDGER FOR SALE, in good working order.—Address to No. 313, Office of "The Builder."

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT, For Damp Walls and Lining Iron Houses. DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

THEODOLITES, LEVELS, TRANSIT THEODOLITES, DRAWING INSTRUMENTS, SCALES, &c.
C. BAKER,
243 & 244, HIGH HOLBORN,
Begs to inform Surveyors, Architects, and others, that having recently made extensive additions to his manufacturing premises he is now able to supply any quantity of first-class instruments of every description, upon the shortest notice, at a price very much lower than is usually charged for the best workmanship. Every article manufactured on the premises, and alterations, repairs, and adjustments, will receive immediate attention. A large assortment of SECOND-HAND THEODOLITES, LEVELS, &c. in stock at low prices, which are warranted. Inferior instruments taken in exchange. Catalogues free by post. Established 1765

INTERNATIONAL EXHIBITION, 1862.—CLASS 13
Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 43-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

THE NORTH LONDON PARK and LAND COMPANY (Limited). Capital, 250,000l. in 50,000 shares of 5l. each. Deposit, 1l. per share on application, and 10s. per share on allotment. In case of non-allotment the deposit will be returned without deduction.
DIRECTORS.
The Right Hon. the Lord FERMOY, M.P. (Chairman), 5, Pembridge-square, W.
Mr. Alderman Allen, Waterloo-place, S.W.
Thomas Campbell, esq. Director of the Metropolitan and Provincial Bank, 7, Wentworth-street, Upper Hyde Park Gardens, W.
George Cook, esq. (Messrs. Bradbury & Cook), 17, Basinghall-street, E.C.
Peter Graham, esq. (Messrs. Jackson & Graham), Oxford-street, W.
William Makins, esq. 10, Chepstow Villas, Bayswater, W.
Lightly Simpson, esq. Chairman of the East Anglian Railway, No. 25, Gower-street, Bedford square, W.C.
Solicitor.—Henry Wellington Vallance, esq. 12, Token-house-yard, E.C.
Bankers.—The Metropolitan and Provincial Bank (Limited), 75, Cornhill, E.C.
Brokers.—Messrs. Huggins & Rowsell, 1, Threadneedle-street, E.C.
Auditors.—Messrs. Coleman, Turquand, Youngs, & Co. 16, Token-house-yard, E.C.
Secretary (pro tem.)—F. K. Parkinson, esq.
Temporary Offices—12, Tokenhouse-yard, E.C.
ABRIDGED PROSPECTUS.
For full particulars see detailed prospectus.
The estate is freehold, and contains 458 acres in a ring fence, within half an hour's drive of the Regent's Park, and adjoins the Wood-green Station of the Great Northern Railway.
The purchase money is 183,000l. which is to be paid partly in cash, and partly in shares.
The cash portion need not be paid until the 24th June, 1864; no interest is to be paid in the mean time.
Preparations are being made for opening the Park on the 1st May next.
The rent of the Park up to the 24th June, 1864, is at the rate of 8l. per acre per annum.
Full prospectus and forms of application for shares may be obtained from the Bankers, the Brokers, or from the Secretary, at the temporary Offices of the Company.

THE LIVERPOOL and LONDON FIRE and LIFE INSURANCE COMPANY.
Invested Funds, 1,500,000l.
London Board:—
SIR JOHN MUSGROVE, Bart. Chairman.
FREDERICK HARRISON, Esq. and WM. SCHOLEFIELD, Esq. M.P.
Deputy Chairmen
John Addis, esq.
C. S. Butler, esq. M.P.
Hugh C. E. Childers, esq. M.P.
Sir William P. de Bathe, bart.
Henry V. East, esq.
Edward Huggins, esq.
John Labouchere, esq.
William Macnaughtan, esq.
Ross D. Mangles, esq.
James Morley, esq.
Sir Charles Nicholson, bart.
William Nicol, esq. M.P.
Swinton Boult, esq.
Secretary to the Company.
In 1857, the duty on Fire Insurances in Great Britain paid to Government by this Company was 32,829l.; and in 1861, it was 61,833l.; being an increase in five years of 29,951l.
In 1860, the Fire Premiums were 313,724l.; in 1861 they were 364,130l.; being an increase in one year of 46,405l. The losses paid amount to 2,500,000l.; and all claims are settled with liberality and promptitude. JOHN ATKINS, Resident Secretary.

ACCIDENTS ARE UNAVOIDABLE. Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100l. to 1,000l. assuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C
1,838/7 have been paid by this Company as COMPENSATION for 95 Fatal Cases, and 5,641 Cases of Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

THOMAS MILLINGTON,
GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.
In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

ut Squares, in 100 and 200 Feet Boxes.

	15 oz.			
	4ths	3rds	2nds	1sts
nder 1 ft. super ...	1½	1⅞	2	2½
,, 2ft. 6in. sup.	1⅞	1⅞	2½	3
4 ft. super...	1¾	2	2½	3½

Orchard House Sizes.

per 100 ft.	15 oz.	21 oz.
20 by 12	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.
Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.
16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.
} per cwt.

Fine Oak Varnish ...10s.
,, Carriage ...12s.
Linseed and Boiled Oil
Turpentine .....
} per gallon.

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

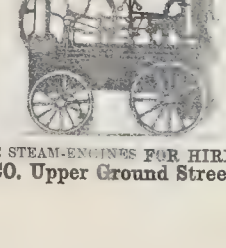
WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.
SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.
KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

HAMPSTEAD ROAD JOINERY WORKS.
21, HARRINGTON STREET, N.W.
NEVIL SIMMONDS,
MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.
SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.
Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp

BARTLETT BROTHERS & CO.
DEVONSHIRE WHARF, CAMDEN TOWN, N.W.
Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.
Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,
INTERNATIONAL EXHIBITION, 1862.

BEST "PENRHYN" ROOFING SLATES,
SLATE RIDGING, GLAZED SOCKET-PIPES,
TILES, PAVINGS, &c.
Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads.
Prices and particulars may be had by applying to
HENRY BROWN & SONS, MERCHANTS,
GENERAL WOOD-CUTTING MILLS, LUTON, BEDS.
A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 9d.; Spruce, from 2s. 8d.; Pine Plank, from 8s. 3d.; Mahogany, 6d.; 3½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¼ White, from 11s. 6d. Carriage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & E. KNIGHTS, Lathwood Merchants, Imperial, &c Bath Wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Sash work, Doors, Wharf, Bath, &c., &c.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

TO ARCHITECTS, BUILDERS, &c.
GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F. ODELL & CO. 8, Bath-street, City road, E.C.; or at the Works, 12, Grafton-mews, Fitzroy-square, W.—N.B. Free and Church Lands sold.

PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford-street, Manchester. Prize Medallists, Class 34 A, 1862.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.
(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Post free, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:—Cardington Street, Hampstead road, London.



GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability, absence of rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS. JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now in use.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.			Laths, 28s. per load.	
Yellow Deals, sound and good	£19	10 0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	16	10 0 ,,	0 2½	,,
Yellow Battens, excellent quality	11	10 0 ,,	0 2	,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0 0 ,,	0 3 6	,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 6d. ,,

Yellow Deals, 3 by 9	£19 10s. per 120.	Pine Planks (Dry), 3 by 11	24l. per 120
Yellow Battens	£11 10s. ,,	Pine Deals do. 3 by 9	19l. 10s. ,,
Spruce Deals	£15 10s. ,,	¾-Inch White Matched Lining	13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring from	12s.	12s. 6d.	13s. 6d. per squares.
¾ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD LAMBETH, S.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Works-hope, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—For cash.

Sash and Frames, Boxing Shutters, Plain Staircases, Hand rails, and Water closet Fittings, well-seasoned Pine Deals, Matched Linings, Skirtings and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



PATENT PORTLAND and ROMA

CEMENT,

AND PLASTER OF PARIS WORKS,

FRINDSBURY, on the MEDWAY, KENT, and

CANAL ROAD, KINGSLAND ROAD, N.

MESSRS. FREEN & CO.

Beg to inform their friends, contractors, and builders, that hav completed the enlargement of their works, they are prepared supply their PATENT PORTLAND and other CEMENTS, a PLASTER of PARIS, in any quantity, fresh from the kilns.

Orders addressed to their LONDON WORKS, Canal-road, Kin and N. will meet with prompt attention.

THE KEYNSHAM BLUE LIAS LIME ar

CEMENT COMPANY, Limited, are prepared to Supply their Fi class Blue Lias Lime and Cement (manufactured by Captain Scot patent process, in any quantity. Special Contracts made for la works.—All communications to be addressed to the Company, at th Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

N.B. A Prize Medal was awarded to Captain Scott, for his Came at the International Exhibition; and this Company received "HONOURABLE MENTION" for the good quality of their Lime.

PLASTER OF PARI

The GREAT NORTHERN PLASTER COMPANY, Manuf turers of Superfine, Italian Fine, Builders' Fine and Coarse Plaste Paris (Guaranteed a FIRST-CLASS ARTICLE AT MODERA PRICES.

Head Office, Swift's-court, 13, Castle-street, Liverpool; Wor Newark on Trent.

ROMAN, PORTLAND, PARIAN, a

KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cott Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, & No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND CEMEN

GREAVES & KIRSHAW,

14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND BATH, and LIAS CEMENTS of the BEST QUALI

GREY STONE LIM

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS:

19, UPPER GROUND STREET, BLACKFRIARS, S.

7, NORTH WHARF ROAD, PADDINGTON, W.

STOURBRIDGE FIRE-CLAY WORK

E. BAKER & CO.

(Contractors to Government),

24 WHARF, HARROW ROAD, PADDINGTON, W.

Every Article manufactured at their own Works and Mines, Belerly Hill.

FIRE-BRICKS, Lumps, Squares, Tiles,

Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, no

for hardness and durability, being perfectly non absorbent.

Shipments on the shortest notice.

COLES, SHADBOLT, & C

CEMENT MANUFACTURERS,

LIME BURNERS,

BRICK MAKERS,

SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOO MERCHANTS,

ST. JAMES'S and THORNHILL WHARFS,

CALEDONIAN-ROAD, LONDON.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALL WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

STAFFORDSHIRE RIDGING and RO

ING TILES, Plain and Ornamental, in Blue or Broseley c PAVING TILES in various colors and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, ways, warehouses, &c.

Dra ed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACI

BRICKS and other KILN GOODS,

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BR from the DIPPENHALL WORKS, FARNHAM, SURREY

The YELLOW and PALE MALM CUTTERS and FACING BR by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BR SEWER PAVIORS, and BRIGHT COLOURED STOCKS, fr the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the and Lower Halstow Fields; and Messrs. J. Butcher & Son, of ham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BR by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Ta Co. of Cannock, near Walsall, South Staffordshire

The EWELL DEEP BLACK RUBBING and BUILDING BR and the EWELL and CHALFONT dark and bright RED RUB

COWLEY, KENT, and ESSEX BRICKS,

IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNE

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building G of the Trade always in Stock.

STRINGFIELD and BLY

SOLE CONSIGNEES OF

NELSON'S BLUE LIAS LIME.

ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WH CAMDEN TOWN, N.W.

will receive prompt attention.

STRINGFIELD and BLY

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, AND

BRICK MERCHANTS,

PLASTER OF PARIS MANUFACTURE

Thames Sand and Ballast by the Yard or Barge, and Buildi Materials generally.

Country orders forwarded with despatch.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Farian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Drabbing, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

SPURGEON'S IMPROVED MARTIN'S CEMENT.

A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.

MANUFACTURED ONLY BY

B. W. SPURGEON, DERWENT WORKS, DERBY.

London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.

Coarse, Fine, and Superfine London-made PLASTER of PARIS.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS.

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.

Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.

" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

GREAVES'S BLUE LIAS LIME
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS.
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
W. & G. ROSHER, GROVE, the best quality:—
GREYSTONE CHALK, FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, and DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK PITS, and BALLAST WHARFS, NORTHFLEET, KENT.

O. MCCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per large Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parp's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. — Orders received at Great Scotland-yard, Whitehall; and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

PORTLAND CEMENT.—JOHN GOFFIN & CO. are prepared to supply PORTLAND CEMENT, of the best quality, and in any quantity, on advantageous terms.—PERCY WHARF, Great Scotland Yard, Westminster, S.W. Manufactory—Great Yarmouth.
White Suffolk Facing Bricks, Tiles, &c. Shipping Orders promptly executed.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard seaglida imitation of marble. — Manufacturers, FRANCIS BROTHERS, & POTT, Nine Elms, London



The ABOVE INVENTION WILL RECOMMEND ITSELF to Architects, Engineers, and others interested in Drainage, for its SIMPLICITY of construction; there being NO COMPLICATION OF PARTS.

The "Manhole" is sufficiently large to admit of the DRAIN being THOROUGHLY CLEANSED WITHOUT A SINGLE PIPE BEING REMOVED.

It DOES NOT at all INTERFERE WITH THE FLOW OF WATER in the Drain.

It IN NOWISE WEAKENS THE PIPE; and

It ADMITS of the ready INSERTION OF A JUNCTION by removing the "Manhole" cover, and replacing it with a loose Junction Arm.

Manufactured solely by

JOSEPH CLIFF & SON, WORTLEY, near LEEDS;

For MARCUS BOURNE NEWTON,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON, N.

CARSON'S
ORIGINAL ANTI-CORROSION PAINT.

Patronised by

THE BRITISH GOVERNMENT, THE FRENCH GOVERNMENT, THE RUSSIAN GOVERNMENT, H.R.H. THE PRINCE CONSORT, MOST OF THE NOBILITY & GENTRY, THE DOCK COMPANIES, RAILWAY AND CANAL COMPANIES THE PRINCIPAL COLLIERIES, MILL-OWNERS, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also

IRON ROOFING, BRIDGES, HURDLING,

AND EVERY DESCRIPTION OF IRON WORK;

FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone.

The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.

OIL, TURPENTINE, AND BRUSHES.

Prices, Patterns, and Testimonials sent upon application to

WALTER CARSON AND SONS,

(SUCCESSORS TO THE INVENTORS,)

9, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

VICTORIA MARBLE WORKS,

38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most recent designs and superior workmanship, and at the lowest possible prices.

N.B. Estimates given. Country and Foreign orders punctually executed with promptness and personal attention.

THE BRITISH and FOREIGN MARBLE

GALLERIES, Warwick House, 142 and 144, Regent-street; and 29, 30, and 31, Warwick-street, W.

EDWARDES, BURKE, & CO. PROPRIETORS.

The largest and most superior Stock of Chimney-pieces in Europe of new and the most recent Italian design.

Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.

Estimates for every description of Marble Stone and Granite Work.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.

THE LIZARD SERPENTINE

COMPANY, LIMITED.

Works—CARLEON COVE, LIZARD, CORNWALL.

Offices—24, ST. JAMES'S-STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work with despatch.

All communications to be addressed to the Secretary, 24 St. James's-street, London, S.W.

WESTMINSTER MARBLE WORKS.—

T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufacturers by Patent Machinery. Museum and Galleries—Earl-street, Horseferry-road, Westminster.—The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price—International Exhibition, Class XC. The largest Marble Chimney-piece in the world

TURNED MARBLE and STONE

COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Raw Marble Slabs, Mottoes, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at

W. F. WILLIAMS'S

Marble Works, 316, Euston-road, London, N.W.

HAM HILL STONE, from the white or

yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

SLATES. —MESSRS. JONES & CO. have

a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons. Price forwarded and estimates given on application.—Address,

No. 1, BOLD-TERRACE, CHESTER.

MAGNUS'S ENAMELLED SLATE

obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

RED MANSFIELD STONE.

(WHITE MANSFIELD STONE.

YELLOW MAGNESIAN DOLOMITE LIMESTONE.

Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.

Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

W. & J. FREEMAN, Merchants in the

various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK

BASIN—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Ring & Slabs, Sills, &c. &c. Ash, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be found at the lowest prices. Headstones, Ledgers, Slope, Landings, &c. cut on the shortest notice.

Country orders promptly attended to.

ABERDEEN POLISHED GRANITE

WORKS. Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.

Red, Blue, and Grey Granite for every description of architectural construction, decorative, monumental, and general purposes.

Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 64, Paton-road, N.W.

GRANITE.—The Cheesewring Granite

Company, Limited, Liskeard, Cornwall.

SHOW ROOMS, 6, CANNON-STREET, E.C.

London Agents—TREGELLES & TAYLOR.

Manager—JAMES J. TRATHAN, Liskeard.

This Granite is selected for the New Westminster Bridge.

DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.

EDGE RUNNERS OF SUPERIOR QUALITY.

TO BUILDERS, CONTRACTORS, &c.

SLATES, TILES, IRON, TIMBER,

DEALS, &c

WILLIAM DAWBARN & CO. LIVERPOOL,

Beg to acquaint their connexion generally throughout the Kingdom, that they have now ready their

NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

CAEN and AUBIGNY STONE,

FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.

Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.

Depôt GRANITE WHARF, East Greenwich.

Office—10, Three Crown Square, Borough.

HY. GEORGE & COMPANY,

CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.

Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.

Grindstones, Steps, Sills, Quoins, Landings, Paving and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE

SILICEOUS STONE.

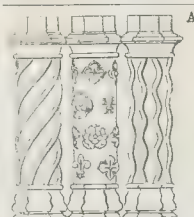
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.

Filters and Filtering Slabs for Domestic or Manufacturing purposes

For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster or Patent Stone Works, Ipswich.

VALE of WARDOUR FREE STONE,

TISBURY QUARRIES, WILTSHIRE.—Geologically this stone is identical with the Portland Oolites; the beds vary in texture, the upper being soft and full of [illegible] the lower hard and close-grained, and [illegible] for heavy work, such as bed stone for engines, [illegible] machinery, &c. [illegible] The whole of the stone of fine texture, which is well adapted for carving, mouldings, tracery, balusters, plinths, cornices, copings, sills, sabling, and for building purposes generally; also for tombs, gravestones, chimney-pieces, steps, paving, hearth-slabs, troughs, &c. Numerous buildings of considerable magnitude attest the durability and texture of the stone [illegible] Among these may be noted Salisbury Cathedral, Tisbury Church, the Portland work of St. Mary Abbey, &c. [illegible] Contracts [illegible] to the satisfaction of the architect [illegible] Specimens of the stone may be seen at Messrs. POOLE & SON'S Marble and Stone Works, Great Smith-street, Westminster, S.W. and in the Museum of Practical Geology, Jermyn-street, Nos. 311 and 313, Case V. London; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or through the Tisbury Quarries. Orders for worked stone carefully executed at the Quarries. Sawn stone work, in any thickness, and any further information may be obtained of Mr. T. P. LILLY, Gillingham, Dorset.



AUSTIN, SEELEY, and CO.

371—375, EUSTON-ROAD,

ARTIFICIAL STONE WORKS.

CATALOGUES OF CHIMNEYS, AND ALSO OF FOUNTAINS ON APPLICATION.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS,

SHOP FRONT TRUSSES,

VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS,

242 EUSTON ROAD, ST. PANCRAS.

DURABILITY of GUTTA PERCHA

TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in [illegible] that [illegible] 18, WHARF-ROAD, CITY-ROAD, LONDON.

JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and others are now [illegible] and therefore [illegible] apparent difference since the first laying down, now several years, and I am informed that it is [illegible] by the [illegible] being welded here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,

18, WHARF-ROAD, CITY-ROAD, LONDON.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

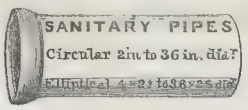
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.

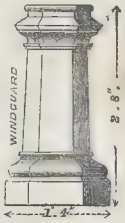


GRAHAM & SONS

LONDON WHARF, 64, Bankside, Southwark.



LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.

LEEDS OFFICES,—Infirmary-street.

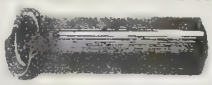
Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

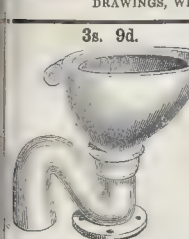
JAMES STIFF & SONS,

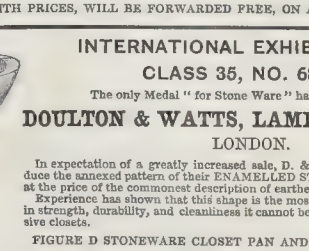
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

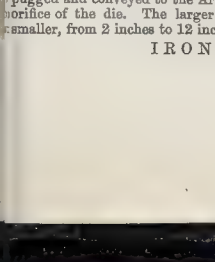
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

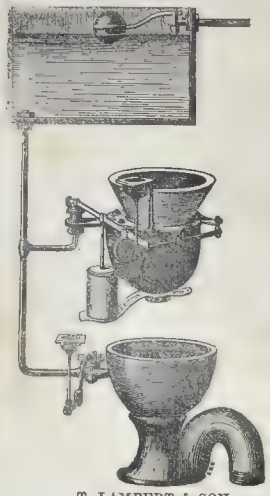
FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

PEARCE'S PATENT SANITARY PIPE, BRICK, AND TILE MACHINES,

Producing nearly double the quantity and of very superior quality to any machine yet invented. The improvement consists in the introduction of a central stem to support the core of the die, and obviating the necessity of cross-bars or bridges, hitherto found so detrimental in the manufacture of large sanitary pipes. The upper part of the Machine acts as a Pug-Mill, by which means the clay is pugged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die. The larger Machines will make sanitary pipes, from 3 inches to 24 inches. The smaller, from 2 inches to 12 inches.—Particulars on application to the

IRON WORKS, POOLE, DORSET.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,

FOUNDERS, HYDRAULIC AND GAS ENGINEERS, SHORT STREET, LAMBETH.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY-FOUR SHILLINGS.

A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.

PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.

W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS, TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1836

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving stables (as shown above), the absence of joints preventing the generation of vermin, &c. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

SALES BY AUCTION.

BUILDING MATERIALS of Archbishop Tenison's Schools, Lambeth.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on MONDAY, SEPTEMBER 1, and following days, at TWELVE, a valuable Stock of well-seasoned, and very valuable BUILDING MATERIALS and FITTINGS UP of Archbishop Tenison's Schools and a House adjoining, in Hightstreet, Lambeth; comprising excellent brickwork, slates, and tiles; ground timber in roofs and floors, sashes, doors, and interior fittings; iron columns, capital flooring boards, at per yard, ceiling at 1 inch; lead and zinc gutterings, cisterns, pipes, gas-fittings, and other useful fixtures.—May be viewed on Saturday previous. Catalogues had of Mr. E. MAIR, Estate Agent, 11, Upper Bedford-place, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 46, Parliament street, Westminster, S.W.

TO CONTRACTORS, BUILDERS, AND OTHERS.—Important Sale of Surplus Materials and Plant used in the Works of the Metropolitan Railway

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractor, John Jay, esq. to SELL by AUCTION, at the WHARVES, City-road Basin, and Scotch-gate, King's-cross, and at the Works, Bagnigge Wells-road, on TUESDAY, SEPTEMBER 9, and three following days, at TWELVE, in lots, the very valuable and extensive SURPLUS MATERIALS and PLANT used in the construction of the eastern division of the Metropolitan Railway; comprising eight portable steam engines (some nearly new), by Ransome & Sims; timber, sash-frames, &c.; eight new 4-horse power high pressure steam engines, 44 iron mortar mills, with iron runners and matting; 3 volumes of capital timber, in sticks and balk, plank, rafters, sleepers, &c.; powerful travelling crane, with jenny, large iron crane, 31 trollers, 1 pile-driving apparatus, cranks, balks, at 14 in. large stone, bevel and trigger wheels at 5 shafting, and the fountain-rose; rails, large quantity of chairs, sleepers, wire and hemp rope, fowler's pumps, Power's weighing machines, hydraulic press, pile driving engines, fine large guns, with iron work complete; 100 tons of cast-iron, at about from 25 to 30 lbs., in wagons, and other wood skips; navvy, crowing, and bearing 11 barrows, wrought-iron wheeling-plates, dog-carts; 14 nearly new sail and wagons, mostly on springs; two new pole-axle making machines by Ingram & Co.; small and pole axles, screws, levers, grindstones, carpenters' benches, two cart-lofts, a barge, and numerous other effects. May be viewed on SATURDAY and MONDAY previous, at Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 46, Parliament street, S.W.

METROPOLITAN IMPROVEMENTS. Southwark and Westminster Communication.—2-th Clearance Sale

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, the early part of the ensuing month, in lots, all the excellent BUILDING MATERIALS and FITTINGS UP of those Thirty Houses, Factories, Warehouses, at Friar-ing, in Love-street, Bear's-street, Charlotte-row, New-street, and Kepel street, Southwark Bridge-road, and in front of the Blackfriars Road; further particulars in few days, when catalogues may be had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 46, Parliament street, S.W.

POOLE, DORSET

MR. JOHN WATERS (Canal, Salisbury) will SELL by AUCTION, in five lots, at the LONDON HOTEL, POOLE, on THURSDAY, SEPTEMBER 11, 1862, at TWO o'clock, by order of the trustees of the late Colonel Edward Baker, very valuable FREEHOLD and LEASEHOLD ESTATES, situate on the Broad-road, in the parish of Great Canford, about two miles from the town and port of Poole, and comprising two commodious cottage residences, a wide street-road, with excellent pasture, arable, and orchard land, containing together 21a acres, all but one of which is well timbered, and particularly adapted for sporting, and of great prospective value for building purposes, being within a short distance of the new market gardens, and roads will be opened for description of pottery clay, also the redeemed land for the tenure of Hanover and, amounting to 2 acres, with timber thereon growing. Printed particulars, with plans, may be obtained of Messrs. ATTWOOD & RHODES, Land Agents; of Mr. P. W. OTTAWAY, Solicitor, Poole; or the Auctioneer, Salisbury.

WIMBLEDON, SURREY. The situated on Land and Building Society's estate, of rare and unique character, and admirably adapted for villas, &c., and but a few minutes' walk from the Railway station in the main line of the London and South Western, with the exclusive advantage of the Croydon and South Coast, Epsom, and Leatherhead Railways.

JOHN DAWSON & SON will SELL by AUCTION, at the MART, near the Bank of England, on THURSDAY, 4th SEPTEMBER, TWELVE o'clock, in one lot, THIRTEEN VERY DESIRABLE FREEHOLD LAND, presenting very eligible attributes for sale on justified building arrangements, shortly to be made the object of easy transfer by means of Mr. Peard's railway, the station of which is within a few minutes' walk. Immediate possession will be given on completing the purchase. Particulars with conditions of sale may be obtained at the White Hart Inn, Merton, at the Plough Inn, Wimbledon; at the Auction Offices, Cornhill; and at JOHN DAWSON & SONS Land and Auction Offices, Kingston, and Mailborough-chambers, 4, Pall-mall

HAMBURGH SQUARE, PORTSEA, TO ENGINEERS, MACHINISTS, AND OTHERS

MARVIN & KING are instructed to SELL by AUCTION, at the WORKSHOPS, situate as above, on FRIDAY, SEPTEMBER 12, at TWELVE precisely, a valuable 6 feet 4 self-acting SCREW CUTTING LATHE, with all necessary gear, fitted with planing rests, and by Muir, in excellent order and nearly new; 1 self-acting SLIDE HORIZONTAL ENGINE, well suited for small boat, with the complete wrought boat, inclination-rod fittings, 1 useful but large quantity of Tools, four Vices, set of Mandrel Stocks and Dies, Bench Brace, &c. &c.; Mat Cleaner, Chain Machine, &c. &c. Those power HORIZONTAL ENGINE, now in course of being taken up.

To Timber Merchants, Carpenters, Builders, Wheelwrights, Sawmakers and Saw Sets, Cart Makers, Turners of Bodies, and Others.—Extensive Sale of New Deals, Planing, Lath and Spar-timber, &c. &c., will be SOLD by AUCTION, by

MESSRS. F. HALL & SON, on THURSDAY & FRIDAY, 4th & 5th SEPTEMBER, at TWO, FIVE, and TWELVE, on the PREMISES, Coal Yard, Back, 57, facing the new church, Kennington-road. The stock consists of several Landed cubic yards of Spruce, Middling yellow Deals, and a quantity of planed Battens, white-painted flooring, several thousand feet of fine new yellow scantling, dry wide boards, dry seasoned planks at 1 inch, several stacks of prime wood, excellent Lath Wood, a small new office, and a few useful Carpenter's tools, planed mouldings and other items, excellent timber in posts, rafters, joists, battens, several unmeasured lots of new lattice boards, with many other lots of useful seasoned timber for firewood, and numerous other effects.—May be viewed, and catalogues had on the PREMISES; at the Sale Rooms, Chester Street, Kennington; and at the Auctioneer's offices, Chester street, Kennington.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, near the North London Railway Station, at Camden Town, on MONDAY, SEPTEMBER 1, and TUESDAY following, 1000 LOADS of TIMBER and MAHOGANY; comprising dry mill-sawn planks and boards, 15 inches to 18 inches, 100 to 600; 12 squares of flooring, 3 inches by 1 inch, grooved and tongued with the best patent; laths, &c., the two useful Cart horses.—Auction Offices, 2, Cardigan-street, Hampstead-road.

PEREMPTORY SALE.—TO TIMBER MERCHANTS, CONTRACTORS, BUILDERS, and OTHERS.—No 26, TOOLEY STREET, SOUTHWARK, the Premises being required for the Charing-cross Railway.

MR. PEAKE is directed by the proprietor, who is compelled to vacate, to SELL by AUCTION, upon the PREMISES, on WEDNESDAY, SEPTEMBER 3, 1862 and following day, at TWELVE for ONE each day, the whole of the superior dry and well-seasoned STOCK comprising about 7,000 yellow, white, and pine planks, boards, and battens, sawn and unsawn, 7 to 16 feet wide; dry pine planks, 3 to 4 inches; prepared flooring boards, tongued, beaded and moulding, 1 inch thick, and a great variety of stock; also the substantial counter standing, counter of counting-house, mahogany 3-flap desk, and numerous other effects.—May be viewed the days previous and morning of sale. Catalogues obtained on the Premises, and at Mr. PEAKE'S Office, 14, Tooley-street, Southwark.

CITY OF LONDON.—VALUABLE FREEHOLD BUILDING LAND

MR. MARSH will SELL by AUCTION, at the MART, on THURSDAY, 11 SEPTEMBER, at TWELVE, in one lot, the Plot of FREEHOLD BUILDING LAND, suitable for the erection of houses, warehouses, offices, &c., situate in Aldermanbury, Love-lane, and Gresham-street, and numbered 29, 30, 31, and 32, Basinghall-street, and 1, 2, and 3, Love-lane, Aldermanbury, and 1, 2, and 3, Gresham-street, Aldermanbury, and 1, 2, and 3

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1022. SEPTEMBER 6, 1862. PRICE FOURPENCE. By Post, 5d.

ILLUSTRATIONS.

The Paris Permanent Universal Exhibition.—Mr. Llandier, Architect 639
Plan of the Paris Permanent Universal Exhibition; and Cross Section at narrowest part, on larger scale 638

CONTENTS.

Heating and Cooking Apparatus in "the Exhibition" 629
Architectural Photographs; and Hints as to a "New Style" 631
Hexham Abbey Buildings 632
The Royal Academy: Early Architectural Members 633
Electric Telegraph Delays 634
Evil Burial Practices 634
Acrobats versus Art and Nature 634
Relief for Lancashire and Cheshire 635
Holy Wells 635
Melbourne, Victoria 636
Detached Memoranda at the International Exhibition 636
Railway Management 637
The Oxford Workhouse Competition 637
The Paris Universal and Permanent Exhibition 637
Sanitary Laws v. Contagion 641
Church building News 641
Provincial News 643
Limoges Painted Enamels 643
Gloucester Church 644
Brandeston, Suffolk 644
Condition of the Trees in Kensington Gardens 644
Treatment of Works of Art 644
The Fire at New Cross 644
Workmen and Church 645
Pigs and a Board of Health 645
Medhurst's Tropical Felt Helmet 645
Recent Patents connected with Building 645
Books received: Brayley's Annual Retrospect of Engineering, &c. (Lockwood & Co.): Variorum 645, 646
Miscellanea 646

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS

Sir Robert Smirke. A. J. B. Beresford Hope, Esq. M.P.

PRESIDENT—Sydney Smirke, Esq. R.A.

TRUSTEES.

Philip Hardwick, Esq. R.A. Charles R. Cockerell, Esq. R.A.
Geo. Gilbert Scott, Esq. R.A.

TREASURER—William Tite, Esq. F.R.S. M.P.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 52, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

BUILDERS' BENEVOLENT INSTITUTION.—The FIFTEENTH ANNUAL DINNER will be held at the LONDON TAVERN on WEDNESDAY, 29th OCTOBER next, HENRY LEE, Esq. President of the Institution, in the Chair. Gentlemen desirous of promoting the interests of this Charity, by becoming Stewards, will be pleased to forward their names to the Treasurer, GEORGE PLUCKNETT, Esq. (Messrs. Wm. Cubitt & Co.) Gray's-inn-road; or to the Secretary, at the Offices, 23, Southampton-street, Bloomsbury.

A. G. HARRIS, Sec.

September 5, 1862.

ROYAL HORTICULTURAL SOCIETY'S AUTUMN SHOW, WEDNESDAY NEXT, SEPTEMBER 10, at South Kensington. Open at One o'clock. Bands of First Life Guards and Royal Engineers commence at Two o'clock.—Tickets, 2s. 6d. each, at the Garden, and at the principal Librarians', Musicsellers', &c.

ROYAL HORTICULTURAL SOCIETY'S AUTUMN SHOW, SEPTEMBER 10. The Garden will be Open at One o'clock. Visitors cannot be admitted, either from the Exhibition to the Garden, or to the Exhibition through the Garden, before that hour.

HORTICULTURAL SHOW of AUTUMN FLOWERS, WEDNESDAY NEXT, SEPTEMBER 10. The Garden will not be open until One o'clock.

INTERNATIONAL BAZAAR, SOUTH KENSINGTON.—If architectural effect can be marred by various window blinds, visitors are invited to inspect in the central hall of the bazaar a NEW PATENT BLIND, whereby that necessity of ventilation ornament in use is realised.

INTERNATIONAL EXHIBITION.
BROWN & GREEN'S
KITCHEN RANGES
have obtained
THE PRIZE MEDAL
for general excellence.
LONDON WAREHOUSE,
81, BISHOPSGATE STREET WITHIN.

INTERNATIONAL EXHIBITION.
To SEWER and RAILWAY CONTRACTORS.
SEWER BOOTS for FLUSHING, &c.—The ONLY PRIZE MEDAL awarded
was obtained
THOMAS STACK (late Powell's), 187, Drury-lane, W.C.
Contracts on low terms.

WANTED, a STATUE of the QUEEN, to be placed upon a Column 100 feet high, in the grounds at Bodelwyddan. It must not be less than twelve feet in height, and executed in white limestone, similar to the carvings in the Church.—Persons desirous of making such a statue are to apply to Mr. KENDALL, Clerk of Works, Bodelwyddan, St. Asaph.

COMPETITIONS.

TO ARCHITECTS.—The Corporation of the Borough of Bridgwater intend ERECTING a TOWN HALL, with Committee Room and Offices adjoining, on the site of the old Assize Courts at Bridgwater, and are prepared to receive PLANS, SPECIFICATIONS, and ESTIMATES for the same. The cost of the building is not to exceed 1,500*l.* Persons desirous of competing are invited to send the Plans, Specifications, and Estimates on or before MONDAY, the 15th SEPTEMBER, next, to JOHN H. B. CARSLAKE, Town Clerk.

Bridgwater, 11th August, 1862

TO ARCHITECTS.—The Committee of the North Staffordshire Infirmary are prepared to receive complete sets of DESIGNS for a NEW INFIRMARY, to be erected at Harshill, near Stoke-upon-Trent, at a cost not exceeding 12,000*l.* for the entire building. A premium of 100*l.* will be awarded to the author of the set of designs approved by the Committee, unless he be employed to superintend the erection of the building, when the above premium will be merged in his commission. Printed particulars of what is required, with a plan and section of the site, may be obtained on application to the Secretary, Mr. HORDLEY, North Staffordshire Infirmary, Stoke-upon-Trent. The designs to be sent in to the Secretary on or before DECEMBER 1st next.

A MICABLE SOCIETY'S SCHOOLS, SCARBOROUGH.—FOR COMPETITION.—The Committee of the above Schools invite Architects to prepare PLANS for New Schools, and separate Residences for the master and mistress. The Schools must be capable of accommodating not less than 100 of each sex; Each Scholar will require One Sitting Room, and not less than Four Bed Rooms, Kitchen, and Out-offices. A prize of 12*l.* will be given for the best, and 8*l.* for the second best Plan and Specification, provided a responsible contractor is prepared to undertake the work for the estimate given. The Committee do not bind themselves to employ the Architect to whom either of the prizes is given; but in the event of either of them being employed, his premium will merge in the usual "Architect's Commission." A block plan of the site, and a detail of requirements will be furnished on application to the Hon. Secretary, Scarborough. The Plans to be sent in to him before the 1st day of OCTOBER next.—By order.

W. E. WOODALL, Hon. Secretary.

Scarborough, Sept 2nd, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—To GAS ENGINEERS and MANUFACTURERS. Notice is hereby given, that TENDERS are required from Persons disposed to LEASE the GOVERNMENT GAS WORKS at the Royal Military College, Sandhurst, for a term of years, at a nominal rent, for the purpose of Manufacturing Gas, to be supplied to the Government as per Act of Parliament, with permission to supply others with Gas on Government Buildings.

Forms of Tender, and every necessary particular, to be obtained on application to the Commanding Royal Engineer, Sandhurst.

Tenders to be addressed to the Director of Contracts, War Office, Pall-mall, London, S.W. and to be delivered at or before the 27th SEPTEMBER, 1862, endorsed "Tender for Gas supply, Sandhurst."

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sandhurst, 27th August, 1862.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION, Barry, near Cardiff, in the county of Glamorgan, may inspect the drawings and specification at the Custom House, Cardiff, or at the Office, between the hours of TEN and FOUR, from MONDAY, the 8th, to TUESDAY the 16th of SEPTEMBER, now next ensuing, and both inclusive (Sunday excepted).

Tenders to be sent to this Office, not later than TWELVE o'clock at noon of SATURDAY, the 20th of SEPTEMBER, under seal, and directed to the Commodore Controller General of Coast Guard, and endorsed "Tender for Barry Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 29th day of August, 1862, at the Admiralty Coast Guard Office, 12, Spring-gardens, London, S.W.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for WATERING, SCAVENGING, and the REMOVAL of DUST.—Notice is hereby given, that the Works Committee will meet on TUESDAY, the 16th day of SEPTEMBER, 1862, to receive TENDERS for WATERING the ROADS and STREETS, for SCAVENGER'S WORK, and for the REMOVAL of DUST, in the above district.—The whole of the above works to be let together. The contract to be let in two amounts, namely, one for Limehouse and Ratcliff, and one for Shadwell and Wapping.—Further particulars may be known, and printed conditions and forms of Tender may be obtained, by application at the Office of the Board, in White Horse-street, Commercial-road East, on and after the 8th SEPTEMBER instant, between the hours of TEN and FOUR o'clock, upon payment of the sum of 6*d.* which will be returned to the parties tendering, whose Tenders are not accepted.—Tenders, sealed up, and endorsed "Tender for Watering, Scavenging, &c. (as the case may be) for Dust" must be delivered at the said Office, not later than TEN o'clock, on TUESDAY morning, the 16th day of SEPTEMBER, 1862, and no TENDER will be received unless accompanied by a Bank of England note, as evidence that the same is bond fide.

The Board do not bind themselves to accept the lowest or any Tender. The security of two responsible persons will be required, and the contractors will have to pay the costs of the contracts. No Tender will be received after the time specified, nor unless strictly in accordance with the specification and conditions.—By order,

THOS. W. RATCLIFF, Clerk of the Board.

Dean Colet House, White Horse-street, Commercial Road, E.

September 3rd, 1862.

CONTRACTS.

NEW SOUTH WALES.—Department of Public Works, Sydney, 21st June, 1862.—Government Railways.—The Government of New South Wales, having decided upon LEASING the RAILWAYS in this Colony, notice is hereby given, that TENDERS for the above will be RECEIVED at this Office, until NOVEMBER, 1862, addressed, under sealed cover, to the Secretary for Public Works, New South Wales, and marked outside "Tender for Leasing Railways."

W. M. ARNOLD, Secretary for Public Works.

Persons desirous of Tendering may obtain copies of general conditions and specifications, with sketch of the line, at the Office of Mr. JOHN FOWLER, 2, Queen-square-place, Westminster; or of Messrs. W. L. MERRY & CO. 36, Cannon-street, London, E.C. on payment of one guinea.

It will be seen from the above that Tenders must be sent from England not later than the Mail that leaves, *viâ* Marseilles, on the 26th September, and they must be delivered at the Office of the undersigned on or before the morning of that day.

WM. L. MERRY & CO. Commercial Agents for the Government of New South Wales

BATH THEATRE ROYAL COMPANY (Limited).—To CABINET-MAKERS and UPHOLSTERERS.—Parties desirous of TENDERING for the SEATS in the DRESS and UPPER CIRCLES of the NEW THEATRE may obtain lithographed Specifications and Plans at my Bath Offices, on payment of 5*s.* Tenders to be sent to me before TEN o'clock a.m. on THURSDAY, SEPTEMBER 10th. The Directors do not bind themselves to accept the lowest or any Tender.

CHARLES J. PHIPPS, F.S.A.

August 29th, 1862 38, Cornhill, E.C.; and 5, Parson-buildings, Bath.

BATH THEATRE ROYAL COMPANY (LIMITED).—Parties desirous of TENDERING for the CARPENTERS' and JOINERS', SLATERS', PLASTERERS', PLUMBERS', PAINTERS', GLAZIERS', and GAS-FITTERS' WORK at the NEW THEATRE, are requested to send in their Tenders at once. The plans and specifications may be seen at my offices, at London and Bath, on and after the 5th SEPTEMBER, and the quantities will be forwarded on payment of 2*s.* 6*d.* Tenders to be sent to me before TEN o'clock a.m. on THURSDAY, SEPTEMBER 18th. The Directors do not bind themselves to accept the lowest or any Tender.

CHARLES J. PHIPPS, F.S.A.

48, Cornhill, E.C; and 5, Parson-buildings, BATH.

Bath, August 29th, 1862.

BOARD of WORKS for the HACKNEY DISTRICT.—To GRANITE MERCHANTS.—The Board of Works for the Hackney District will, at their meeting, on the 11th day of SEPTEMBER next, be prepared to consider TENDERS for the SUPPLY and DELIVERY of such Quantity of Stone as may be required during the ensuing twelve months of GUERNSEY GRANITE; the granite to be regularly broken to a gauge of from 1½ inch, and not to exceed 2 inches. To be delivered, free of all expense (including landing), at the Wharf, Kingsland Basin, Kingsland road, within one month from the acceptance of the Tender.—Tenders, with samples, to be sent in, or before WEDNESDAY, the 10th of SEPTEMBER, addressed to the Clerk, and endorsed "Tender for Granite." The Board do not bind themselves to accept the lowest or any Tender. RICHARD ELLIS, Clerk.

Town Hall, Hackney, September 2, 1862

TO BUILDERS.—Persons desirous of TENDERING for TAKING DOWN a BUILDING situate at Bell Hill, Croydon, and ERECTING on the site of same AUCTION ROOMS for Mr. T. E. Crispe, can see the drawings and specification at my Office, on or after Monday next. Tenders to be delivered to me at or before TWELVE o'clock on TUESDAY the 16th instant. The lowest or any Tender will not necessarily be accepted.

Croydon, 3rd September, 1862 JOHN BERNEY, Architect.

THE GRAND SURREY DOCKS.—RE-BUILDING ENTRANCE LOCK.—To CONTRACTORS.—The Directors are prepared to receive TENDERS for the EXECUTION of the above WORK, as will more fully appear on application at the Company's Offices, St. Helen's-place, Bishopsgate, on THURSDAY, the 2nd OCTOBER, at HALF PAST TWO o'clock p.m. The plans may be inspected at the Engineers' Office, 11, Langham-street, Langham-place, W. between the hours of NINE and FIVE, and bills of quantities may be had on payment of 2*l.* which will be returned to parties who shall send in Tenders. The Directors do not bind themselves to accept the lowest or any Tender.

JOSEPH JENNINGS, } Engineers.
W. J. KINGSBURY, }

ABERGAVENNY, Monmouthshire.—To CONTRACTORS and IRONFOUNDERS.—The Abergavenny Improvement Commissioners are prepared to receive TENDERS for the CONSTRUCTION of a CATTLE MARKET at Abergavenny. The works comprise buildings, sheds, boundary walls, paving, gas and sewerage, drainage, sewerage, &c.; iron pens and stands for cattle, sheep, and pigs. Tenders will be received for the whole or any of the works. Drawings and specifications may be inspected, and forms of Tender may be obtained, at the Office of T. DYNE STEEL, Esq. C.E. Bank Chambers, Newport, Monmouthshire, of whom forms of Tender may be obtained. Each Tender must be sent in to the Clerk, not later than the 20th SEPTEMBER, 1862. The contractor or contractors will have to enter into a written contract and bond, and will have to provide two sufficient and sufficient sureties for the due performance of the contract. The Commissioners do not bind themselves to accept either the lowest or any Tender.—By order of the Board, JOHN T. RUTHERFORD,

Clerk to the Improvement Commissioners.

Lower Town Hall, September 3rd, 1862.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of a HOUSE at Tanhelt, near Eye, may see the plans and specification at my Office on and after the 8th inst. Sealed Tenders to be delivered, according to the form supplied, by SIX o'clock on the 27th.

EDWARD B. GWINNING, Architect, Stamford.

Broad-street, Stamford, August, 1862

[*For remainder of Contracts see next Page.*

CONTRACTS.

NORTHAMPTON WATERWORKS COMPANY. The Directors of the Company are prepared to receive TENDERS from persons desirous of CONTRACTING for the EXECUTION of the following WORKS:—

First, The making and constructing of a new Reservoir in a field near the Kettering-road, in the town of Northampton, with the necessary works connected therewith.

Secondly, The Sinking and Making of a Well of the depth of 260 feet, with the masonry, brickwork, and all other matters necessary for the completion thereof.

The Contract will be limited to those only in the execution of the Directors for the present, and the work. Plans, specifications, and drawings, showing the extent and nature of the works to be executed, with a draft showing the general form of the contract which the contractor will be required to enter, may be seen at the Office of the Company, No. 6, Guildhall-yard, London, E.C., and at the GUILDHALL, Northampton. All Tenders must be sent in on or before 22nd day of SEPTEMBER next. All Tenders will be liable to be rejected unless on the printed forms issued by the Directors, and which may be seen at the Office. The Tenderer will be required to state for the whole of the works, or for the Well or Reservoir separately. The Directors will not be bound to accept the lowest or any other Tender.

By order of the Board, JOHN BECKE, Solicitor.

GLASGOW CORPORATION WATER-WORKS.—PUMPING-ENGINES FOR SALE.—The Water Committee are prepared to SELL by TENDER, the PUMPING-ENGINES at the Balmuildy and Cadder Bell Waterworks, which engines have been used by Mark, Dod, & Co., and supplying the city of Glasgow with water. The engines, eleven in number, are, collectively, upwards of 800-horse power, and are all single-acting beam engines, with the exception of one, which is double-acting. The engines may be seen by intending offerers, at the works; and specifications and forms of Tender may be obtained at this Office, by applying to Mr. GALE, Engineer. Sealed offers, endorsed "Tender for Pumping Engines," to be left with the Subscriber, addressed to him, on or before SATURDAY, 20th SEPTEMBER next. The Committee do not bind themselves to accept the highest or any of the Tenders.

By order, JOHN BURNET, Secretary.

Glasgow Corporation Waterworks Office,
23, Miller-street, August 26, 1862.

TO GAS ENGINEERS and OTHERS.—GAS WORKS for SALE, Ross, Herefordshire.—The Town Commissioners are prepared to receive TENDERS for the above from persons with sufficient capital and qualifications for improving and [illegible] the works, which [illegible] W. P. HOOPER, Esq., Clerk to the Commissioners, on or before the 1st day of OCTOBER next. Parties so Tendering are to state,—1. The amount they are willing to pay for the [illegible] works, with the general and [illegible] to [illegible] the [illegible], and other appurtenances, with the power of extending the same. 2. The rate at per thousand cubic feet at which they will supply the [illegible] with gas for public and private lights. 3. The density or specific gravity of the gas; and lastly, whether it is the intention of the applicant to [illegible] new works on the town, or only to enlarge the present works, so as, in either case, to give a good supply of gas for the increasing wants of the town.—Further particulars may be obtained at the Works. The Commissioners do not [illegible] to accept any Tender.

Ross, September 1st, 1862.

TO ROAD CONTRACTORS.—Finsbury Freehold Land Society—Mitcham Estate—The Trustees of the [illegible] property are prepared to receive TENDERS for CONSTRUCTION of ROADS, FOOTPATHS, and DRAINS, on their Estate at Mitcham, in the county of Surrey. Contract [illegible] for the Works may inspect drawings and specification, and obtain all [illegible] of [illegible] at the [illegible] of Mr. LAMBERT, Solicitor, No. 8, Bedford-row. [illegible] on FRIDAY, the 19th day of SEPTEMBER instant. The Trustees do not bind themselves to accept the lowest or any other Tender.

ST. MARYLEBONE, SEPTEMBER 3rd, 1862.—TO STONE MERCHANTS, PAVIORS, &c.—Notice is hereby given, that the Vestry of the Parish of St. Marylebone, in the county of Middlesex, will MEET in the Board-room of the Court-house of the said Parish, on SATURDAY, the 20th day of SEPTEMBER, 1862, to receive TENDERS for [illegible] NORTH DEVON GRANITE CARRIAGEWAY PAVING, laid complete at per yard superficial. Further particulars to be known, and forms of Tender procured, on application to the Vestry's Surveyor, Mr. ROBERT STACE, at his daily attendance at the Court-house, from TWELVE till ONE o'clock. Tenders to be sealed and endorsed, "Tender for Carriageway Paving," and delivered to the Vestry Clerk, at the Court-house, on or before EIGHT o'clock in the forenoon of the said 20th day of SEPTEMBER. The Vestry will require the parties tendering, or some person on their behalf to attend at the time of the [illegible] opening the Tenders. The Vestry do not pledge themselves to accept the lowest or any of the Tenders. By order,

W. E. GREENWELL, Vestry Clerk.

September 4, 1862.

TO SEWER CONTRACTORS, BRICKLAYERS, and OTHERS.—The Vestry of the Parish of Chelsea will meet on TUESDAY, the 16th instant, at the Vestry Hall, King's-road, Chelsea, at THREE o'clock in the afternoon, to receive TENDERS from persons willing to CONTRACT, for Twelve Months, for the EXECUTION of GENERAL WORKS connected with the SEWERS and DRAINS, according to a Schedule of Prices now lying at this Office. Copies of the Schedule, and of the Contract, and Form of Tender, may be had upon application to be made to the parties Tendering. The Vestry do not bind themselves to accept the lowest or any Tender, and reserve to themselves the right of making special contracts, if they shall see fit. Parties Tendering must be prepared to execute and pay for a contract, and to provide sureties for the performance of the same, if required. Tenders must be upon the printed forms, and be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 16th instant.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's road, Chelsea,
September 3rd, 1862.

PARISH of CHELSEA, in the COUNTY of MIDDLESEX.—BROKEN NEW BLUE GUERNSEY GRANITE.—The Vestry of the Parish of Chelsea will meet at the Vestry Hall, King's-road, Chelsea, on TUESDAY, the 16th of SEPTEMBER inst. at THREE o'clock in the afternoon precisely, to receive TENDERS for the SUPPLY of 1,000 tons of BROKEN NEW BLUE GUERNSEY GRANITE, to be delivered forthwith at the Depôt, Alpha-place, Manor-street, Chelsea, when it will be weighed by an officer of the Vestry. Further particulars can be obtained on application at the Surveyor's Office, here, daily, between TWELVE and ONE o'clock. Forms of Tender to be had of [illegible] Tenders to be delivered at the Clerk's Office by or before TWELVE o'clock on TUESDAY, the 16th SEPTEMBER. The Vestry do not bind themselves to accept the lowest or any Tender. The contractor to enter into a written contract, if required, and to pay the expenses thereof.

By order, CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's road, Chelsea, September 3, 1862.

PARISH of CHELSEA, in the COUNTY of MIDDLESEX.—FLINTS.—The Vestry of this Parish will meet at the VESTRY HALL, King's road, Chelsea, on TUESDAY, the 16th day of SEPTEMBER instant, at THREE o'clock in the afternoon precisely to receive TENDERS from persons willing to CONTRACT, for Twelve Months, from the 30th day of SEPTEMBER, up to and inclusive of the 29th day of SEPTEMBER, 1863, for the SUPPLY of the BEST CLEAN GREY BROKEN PIT ROAD FLINTS, according to sample to be seen here, to be delivered at the Fire Dock at Chelsea-wick, at such times and in such quantities as may be directed. The Vestry do not bind themselves to accept the lowest or any Tender. Sealed Tenders, signed by the proposed Contractor with his name and address in full, at the full and proper for the performance of his contract, to be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 16th day of SEPTEMBER instant. The usual sureties of the contract to be paid by the Contractor upon the execution of the same, and no Tender will be considered or accepted unless made on one of the printed forms, to be had at the Vestry Office.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, 3rd September, 1862.

TO MASONS, PAVIORS, STONE MERCHANTS, and OTHERS.—The Vestry of the Parish of St. Luke, Chelsea, will meet at the New Vestry Hall, King's-road, on TUESDAY, the 16th instant, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to contract for two months for the EXECUTION of WORKS, and for the supply of Materials connected with the above trades, in the said parish, as may be required and directed. Further particulars, with the form of Tender, may be had on application at the Office. Sealed Tenders, signed by the proposed contractor, with the names and description of two sufficient sureties for the performance of his contract, to be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 16th inst. The legal charges of the contract to be paid by the contractor, upon the execution of the same. No Tender will be received or accepted unless made on the printed form.—By order,

CHARLES LAHEE,
Vestry Clerk.

Vestry Hall, King's-road, Chelsea,
September 3rd, 1862.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give a [illegible] satisfaction to the consumer.

They can be obtained of all Ironmakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

MOREWOOD & CO. (late Morewood & Rogers),

Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Wrought and Cast Dishing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the

OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

HEATING BY  HOT WATER.

JOHN WEEKS & CO. KING'S ROAD, Chelsea, HOT WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS & CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. & where they have fixed their Hot-water Apparatus.

Also to be seen in extensive operation at their Premises, King's road, Chelsea.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 24, Dover-street, Three Doors from Oxford-street.

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. Direct connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, [illegible] Portman-square, London, W.

TO JOINERS AND BUILDERS.

IRONMONGERY at FIRST COST. A [illegible] of Prices may be had on application to the BRITISH HARDWARE COMPANY, Phœnix Works, Wolverhampton.

TO SAW-MILL PROPRIETORS and OTHERS.

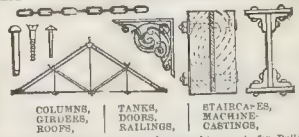
HUMPHREY & HASLER (late H. Fairbank), Engineers and Machinists, [illegible]-street, E.C. [illegible] their IMPROVED SAW BENCH

Planing, Boring, Turnery, and Screw-Cutting done for the Trade

---

H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.

PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,

And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—15, Union-street, Borough

---

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c suitable to all Climates, fixed complete in town or country, or packed for exportation

For Designs and Estimates apply to

RANDAL STAP, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock

Manufacturer of Gutter-ing, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

TRADE MARK

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS,

Wolverhampton Staffordshire.

INTERNATIONAL EXHIBITION, CLASS 32, No. 6,921. ENGLISH and FRENCH PATENT

WESTON'S NEW PATENT TORSION SPRING,

For closing or keeping open door gates, &c. &c at different strengths, specially suited for all climates, and adapted for general purposes. Price, Two Shillings

To be had of the principal Ironmongers and Factors in Birmingham and Wolverhampton; also at No. 62, Coleman-street, City.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Iron mongery (every description), at the LOWEST BIRMINGHAM PRICES,

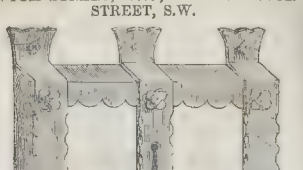
A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi)

Nail Manufacturer and General Factor, BIRMINGHAM, and 10, Gresham-street London E.C.

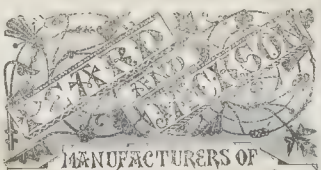
HART AND SON,

WYCH STREET, W.C.; AND COCKSPUR STREET, S.W.



GLASTONBURY CHAIRS, FAULD STOOLS, OAK AND METAL LECTERNS, CORONÆ, STANDARDS, PENDANTS, &c. for Oil, Gas, or Candle.

CHALICES, FLAGONS, ALMS-DISHES, &c.



MANUFACTURERS OF MEDIÆVAL ART METAL WORK

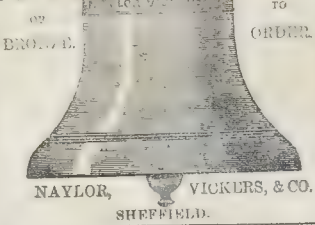
159·HIGH·HOLBORN·WC

BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gaselers, Coronæ, &c. in brass and iron, forwarded on receipt of six postage stamps.

Specimens at the Architectural Exhibition, Conduit-street.

CAST STEEL BELLS,

One-third PEALS THE CAST PRICE TO OF BRONZE. ORDER.



NAYLOR, VICKERS, & CO. SHEFFIELD.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES.

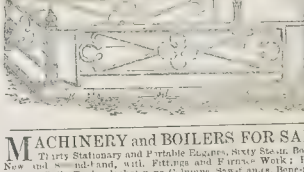
COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY STREET,

OXFORD STREET, LONDON, W.

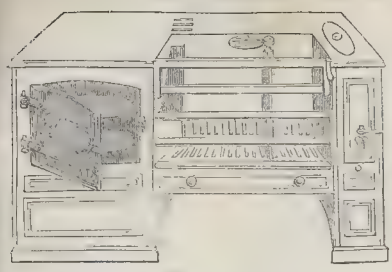


MACHINERY and BOILERS FOR SALE. Thirty Stationary and Portable Engines, Sixty Steam Boilers, New and second-hand, with Fittings and Furnace Work; Plate-bending Rolls, Tanks, Jacket pans, Coining Presses, Bone-mills, Mortar-mills, Edge-runners, Hydraulic and Screw Presses, Hydro-extractors, Straps, Pulleys, Shafting, and other useful Machinery. N.B. Portable Engines, Pumps, Crabs, Jacks, Blocks, &c. on Sale or Hire.—T. TAYLOR, 41, White-street, Long lane, Borough.

TO CONTRACTORS, QUARRYMEN, AND OTHERS.

FOR SALE, ONE of CHAPLIN'S PATENT PORTABLE STEAM CRANES on Wheels, to raise three tons. Has done very little work.—For particulars address W. L. 12, Onslow-grove, Regent's-park, London.

TO RAILWAY COMPANIES.—The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineers' Brass-founder, No. 2, Shoe-lane, Holborn-bars; manufacturer of Steam Fittings, Diving Apparatus, Pumps, Cocks, &c.; Patent Anti-friction Metal, Gun Metal, Brass Castings, &c.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.
34 inches 54s
36 ,, ... 56s.
39 ,, ... 58s.
42 ,, ... 60s.

Self-acting Cottage, with Oven and Back Boiler
30 inches ..... 22s.
33 ,, ... 24s.
34 ,, ... 26s.
36 ,, ... 28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Levers, 4d per inch
Best ditto, with Fire Lath Back, from per inch, 5d.
Bright Stoves, with Two Fires, 40s. to 100s. each.

Best Cut Clasp and Rose Nails.
1-inch. 14s. | 2-inch. 14s. | 2 inch. 14s. | 2½-inch. 1ds. | 3 inch. 12s. 11s. 6d per cwt

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½-in.	3-in.
Cast Rain-water Pipe....	8d.	10d	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on....	10d.	1s. per yard.

	2	3	4	5	6
Patent Line..	3s. 6d.	4s.	5s.	7s	9s. per gross.

6 inch. R L Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock. Any size made to order.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

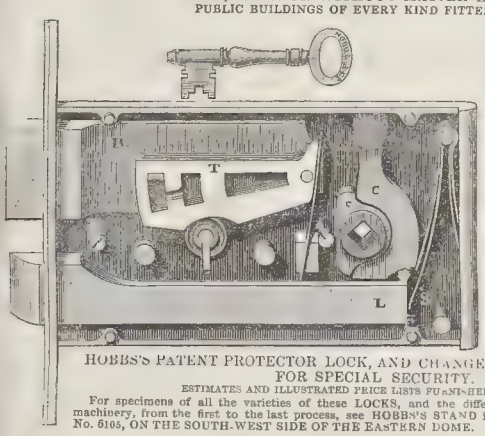
Orders requiring Despatch and Punctuality can be executed in a few days.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.
PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming, at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

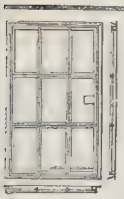
HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS! CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.
ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.
Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.



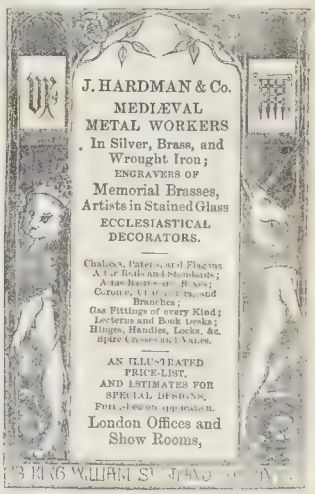
BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,
OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, Instructions as to fixing, &c. apply to the Patentees,
MOREWOOD & CO.,
BOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

CLAYTON, SHUTTLEWORTH, & CO.
ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,
STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.
Descriptive, Illustrated, and Priced Catalogues free per post.



J. HARDMAN & Co.
MEDIÆVAL METAL WORKERS
In Silver, Brass, and Wrought Iron;
ENGRAVERS OF
Memorial Brasses, Artists in Stained Glass
ECCLESIASTICAL DECORATORS.

Chalices, Patens, and Flagons
Altar Rails and Standards;
Arms, Banners, Badges,
Coronæ, Crosses, and Branches;
Gas Fittings of every Kind;
Lecterns and Book Desks;
Hinges, Handles, Locks, &c.
Spire Crosses and Vanes.

AN ILLUSTRATED PRICE-LIST, AND ESTIMATES FOR SPECIAL DESIGNS, Furnished on application.

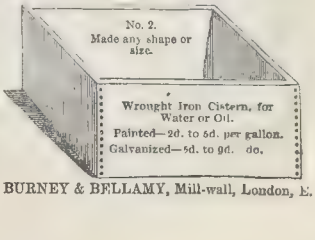
London Offices and Show Rooms,
[illegible] WILLIAM ST. [illegible]

JOHNSTON, BROTHERS,
MEDIÆVAL [illegible]
AND [illegible]

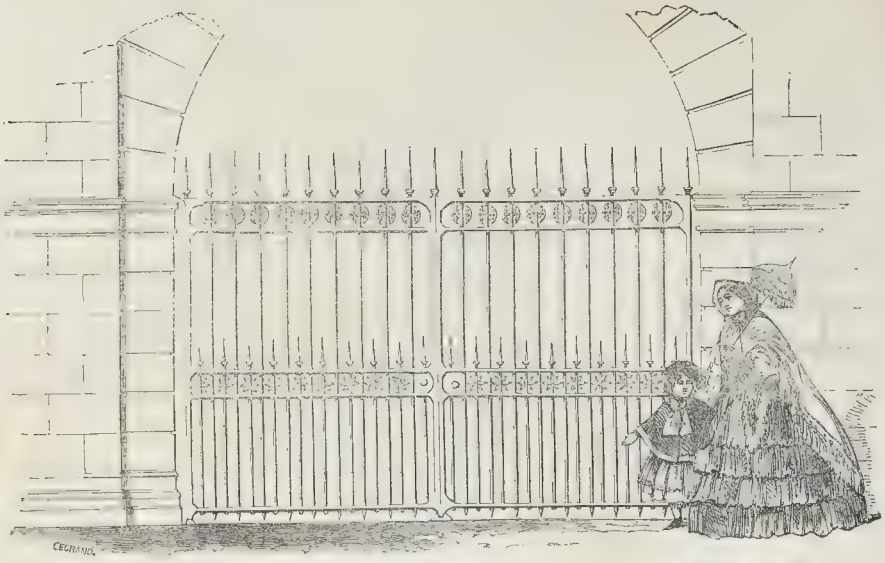


Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street. Working Drawings and Estimates Furnished

WROUGHT-IRON TANKS, CISTERNS,
GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON GATES AND RAILINGS.



BURNEY & BELLAMY, Mill-wall, London, E.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

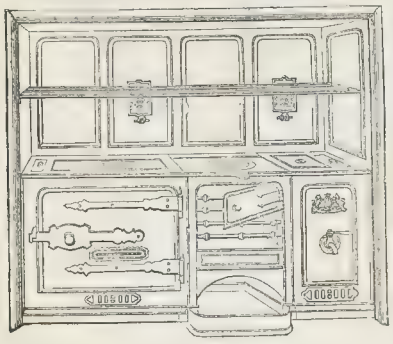
VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES
TOMB RAILING.

VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

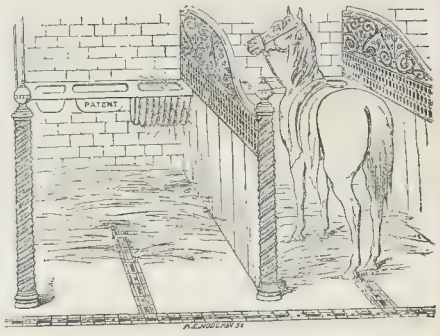
PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.



ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.

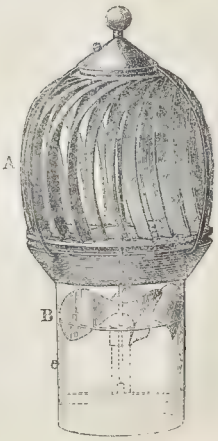
A LARGE STOCK
OF OTHER
CASTINGS KEPT.



CHADWICK'S

PATENT ARCHIMEDEAN VENTILATOR

AND SMOKE CONDUCTOR.



The ARCHIMEDEAN VENTILATOR is the only one constructed on strictly scientific principles, and certain in its operation in purifying the air of a crowded workshop or ordinary apartment, and in preventing smoke.

An attentive consideration of the diagram will render the action of the Ventilator intelligible, and show that it is constructed on unerring principles.

They are constructed, for Chimneys, from 10 to 13 inches; and for Buildings, from 14 to 30 inches.

The Patentee's invention consists of lifting-vanes, acting as a screw, suspended within a circular tube or shaft, as shown at B, centred upon an imperishable substance, moving without noise, and surmounted by a diagonally-formed wind-vane, A; which is hung so delicately that the least breath of air will cause it to rotate, so that a draught upwards is a necessary effect.

Combining the advantages of a perfect Smoke-Conductor and Ventilator, it is admirably adapted for all close and crowded Rooms, Schools, Churches, Chapels, Infirmaries, Music and Lecture Halls, Factories, Printing Establishments, Coffee and Smoking Rooms, Club-Houses, Kitchens, Stables, &c. particularly where gas is used and a number of people are compelled to breathe a confined atmosphere.

The most satisfactory testimonies to the value of this invention, Specimens of the Ventilators themselves, and further explanations, will be gladly furnished by the London sole Agent,

THOMAS K. BAKER, 73, FARRINGDON-STREET, E.C.

CAUTION.—The Right Hon. the Attorney-General having refused the application of J. Howorth, of Farnworth, near Bolton, for a patent, on the ground of the priority of W. Chadwick's invention, the Patentee cautions the public against purchasing fraudulent imitations of his unrivalled invention, and which are being shown in the International Exhibition under a similar designation; the purchaser, as well as the maker and vendor, being liable to an action for damages.

THE ALPHA TUBE & FITTING WORKS.

WALSALL, STAFFORDSHIRE.—Established 1830.
LAMBERT BROTHERS,
MANUFACTURERS OF LAP-WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE.

For Steam or High pressure Water and Gas HIGH-PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS FITTINGS, GASELIERS, &c.; and of the GROVE BEDSTEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, Mills, &c. at the International Exhibition, Walsall Court, Class 31, precisely as sold from engravings and prices in trade catalogues.

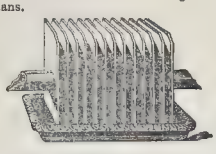


THE LONDON
WARMING AND VENTILATING COMPANY,
LIMITED,
26, GREAT GEORGE-STREET, Westminster, S.W.
MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known Plans.



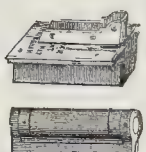
The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL, the various offices of the "Department of Science and Art," and at the Architectural Societies' House, 9, Conduit street, Regent-street

Particulars and testimonials forwarded on application.

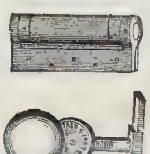


PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.



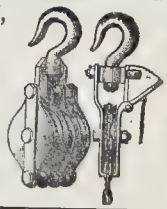


PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.

Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.

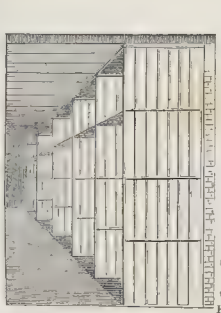
CASTINGS, ANY WEIGHT AND QUANTITY,
With the utmost despatch, at Country Prices.
HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.





WROUGHT IRON WINE BINS.
FARROW & JACKSON



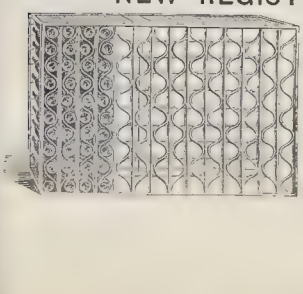


Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1819.

IMPORTANT to BUILDERS.—W. GORSE' EAGLE WORKS, Minworth, near Birmingham, Patentee and Manufacturer of FLOORING BRADS and JOINERS' BRADS by his new Patent Machinery, INSURING UNIFORM GOOD QUALITY at A LOW PRICE.

FLOORING BRADS DELIVERED IN BIRMINGHAM AT
2s. 6d. per Cwt.
Post-office Orders to be made payable in Birmingham.

W. G. begs to call the attention of nail manufacturers to his Patent Machines, which he is now exhibiting for sale.—All applications to view to be made by letter. Principals only admitted.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 13s.—Nos. 54 and 56, High Holborn.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:

Three-eighths-inch diameter	1s. 0d. per foot.
Half-inch diameter	1s. 6d. "
Five-eighths inch diameter	2s. 0d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
" Gateshead-on-Tyne
" 27, Dale-street, Manchester.
" 68, Anderson-quay, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dublin.
" 7, Frederick-street, Aberdeen.

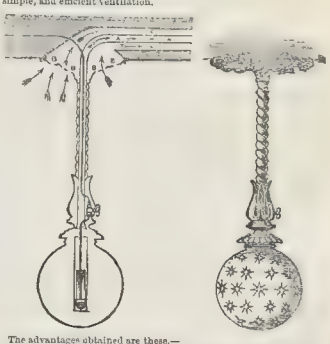
EXTRAORDINARY BARGAINS, FIRE-PROOF SAFES AT HALF-PRICE.—A Provincial Insurance Company having lately amalgamated with a London office, and having no further use for a considerable number of Wrought Iron Fire-proof Safes and Deed-Chests, lying at the chief and branch offices, have returned them to the Makers to be sold for half their original cost. They were all made to order for the Company, at the Vulcan Safe Works, Birmingham, in 1861, have only been in use eight months, and are warranted FIRE AND BURGLAR-PROOF. A printed description of the various sizes, inside fittings, cost and, present price of each safe and chest, sent post-free with M'Kenna, Morris, & Co.'s Illustrated Price List. To parties in want of a really good safe the subjoined list offers many advantages as they may secure an article with the manufacturer's guarantee, QUITE EQUAL TO NEW, AT HALF ITS REAL VALUE; and to remove the doubt naturally felt in purchasing a second hand article unseen, it is requested that parties will in no instance remit the money until the safe is received and approved. They will be *sent carriage paid* to any station, and if not found in every respect perfect and satisfactory, *may be returned* without any cost whatever to the party ordering them. For full particulars address, M'KENNA, MORRIS, & CO. Vulcan Safe Works, Cumberland street, Birmingham.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

RICKET'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.
8, AGAR STREET, STRAND, LONDON, W.C.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of
SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER TIGHT WATER BAR, and
SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Prince-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. ARLOTT'S Improved Ventilators.
HULETT & CO. 55, High Holborn.

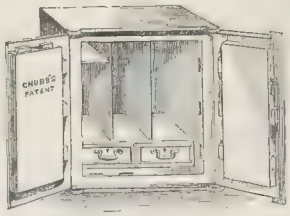
DAY and GAS-LIGHT REFLECTOR MANUFACTURER—THOMAS FOX, 6, Hatton Garden, E.C. These Reflectors are the most [illegible] and [illegible] are the most [illegible] and [illegible] in use.
N.B.—The trade and builders supplied.

CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS.
The most secure from picklocks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the DETECTOR LOCKS.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire resisting and non-conducting composition.

The doors are all secured by CHUBB'S PATENT DRILL-PREVENTIVE, and their Patent

GUNPOWDER PROOF LOCKS.

Illustrated Price List Gratis and Post Free.

CHUBB & SON,
No. 57, ST. PAUL'S CHURCHYARD, LONDON;
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.

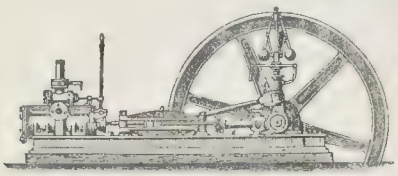
MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.
By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of
FIRST-CLASS WOOD-CUTTING MACHINERY,
being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.
THE NEW CRYSTAL STAR AND SUN LIGHT.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
J. DEFRIES & SONS,
MANUFACTURERS OF MEDIÆVAL AND OTHER GAS FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.
Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

GALVANIZED IRON AND ZINC WORKS.
GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.
VAVASSEUR AND CO.
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,
AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,
MANUFACTURERS OF
HORIZONTAL AND VERTICAL STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB WINCHES, &c.
SEVERAL ALWAYS READY FOR DELIVERY.
Price List forwarded on application



TUPPER & CO.'S GALVANIZED CORRUGATED IRON.
IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Birmingham, and Limehouse.
Every description of Iron Work Galvanized.
LONDON OFFICE—61A, MOORGATE STREET, E.C.



FIRE-PROOF CONSTRUCTION.—
FOX & BARRETT'S PATENT.
This important system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.
The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.
The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.
Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even in ordinary dwelling-houses and domestic buildings, within the reach of every one.
Further information may be obtained of the Proprietor of the Patent
Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI

CANNON IRON FOUNDRY, 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Trade Ensigns, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.
CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

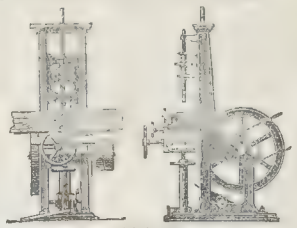
CAST IRON SHOP FRONTS

WORKS, HARTS HILL IRON FOUNDRY, Near Dudley. MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.

LONDON OFFICE, 76, CANNON-STREET WEST, LONDON, E.C. Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the most efficient instrument for securing the most economical and perfect lighting, causing the greatest saving in the consumption of Gas.
D. HULETT & CO. 65, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Fittings, &c.

S. WORSSAM & CO.'S PATENT
IMPROVED POWER MORTISING MACHINE.



(4-inch scale.)
Combines many improvements adapted to the following purposes:—Mortising, Tenoning, Shouldering, Sawing, Planing, Moulding, Grooving, Rebating, Recessing, Chamfering, Boring, Sinking, Paring, Slotting, Tonguing, Grooving, Dovetailing, Forming Circles, &c. &c. Illustrated Catalogues, with full particulars, may be had at the Works, 304, King's Road, Chelsea, S.W.

PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.
THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*
Drawings sent on application.
MACHINERY TO BE SEEN AT WORKS IN ROCHDALE.
LONDON OFFICE, CANNON STREET, E.C.



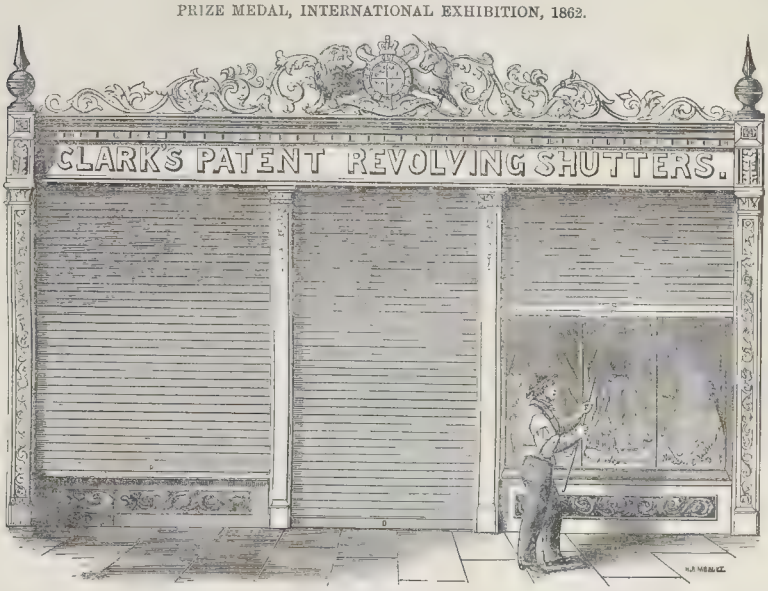
REVOLVING SHUTTERS, TWO SHILLINGS PER FOOT.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

CLARK & CO. PATENTEES,

And Manufacturers to the Honourable Board of Works,
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.
PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.

CLARK'S Patent Self-Coiling Iron Shutters, 3 -per Foot.



CLARK'S Patent Self-Coiling Wood Shutters, 2 6 per Foot.

The utility of Revolving Shutters for closing Shop Fronts, Windows of Private Houses, Fireplaces, and every description of opening, is universally acknowledged; but the cost has hitherto prevented their general adoption. This objection Messrs. CLARK & CO. have met by introducing their PATENT SELF-COILING SHUTTERS, in Steel, Iron, and Wood, which, in addition to being less expensive than the ordinary shutters, have the advantage of being remarkably simple, and, consequently, not liable to get out of order. The Wood Shutters are constructed of laths of wood rebated together, having numerous mortices, through which pass a series of tempered steel bands, causing the Shutters to be Self-Coiling, and rendering them proof against Burglars.



CLARK'S PATENT SELF-COILING STEEL SHUTTERS, 3/6 per Foot.



The New Patent Revolving Safety Shutters are made of *Steel, in one sheet* (without either chain, links, rivets, or pins); the steel is corrugated transversely, which gives the appearance of laths, and enables them to be coiled into a small space. The corrugations render the Shutter exceedingly rigid, transversely and remarkably pliable, and self-coiling longitudinally. They are light, and can be pushed up and drawn down without the aid of machinery of any description. It is absolutely impossible for them to get out of order.

From the strength and hardness of the material of which they are composed, and being in *one sheet*, they cannot either be cut or broken through, as there is no opening or a lever or other instrument to be inserted as in the ordinary lath shutter. Their numerous advantages, coupled with the lowness of price, must insure their universal adoption, both in SHOP FRONTS and PRIVATE HOUSES.

These Shutters are Manufactured solely by the Patentees, Messrs. CLARK & CO. and are the only Revolving Shutters made that do not require machinery or gearing apparatus, while the cost is the same as the ordinary Lifting Shutters.

BRASS SASH BARS, STALL-BOARD PLATES, AND SUN BLINDS FOR SHOP FRONTS.

PROSPECTUSES AND WORKING DRAWINGS FORWARDED FREE ON APPLICATION.
Architects should be particular in describing the description of Shutter they require used.

15, GATE STREET, LINCOLN'S INN FIELDS.

ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DECRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents.
Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246).

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

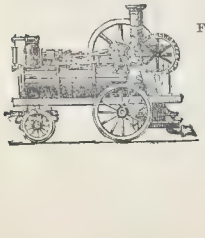
ARMANI AND CO.

IMPORTERS DIRECT FROM THE MINES OF

PRIZE MEDAL, LONDON, 1851. — Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. — GOLD MEDAL, PARIS, 1844.

SEYSSEL ASPHALTE,
AND BY H.M.'S ROYAL LETTERS PATENT,
MANUFACTURERS OF
METALLIC LAVA.
FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.

MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.



PORTABLE STEAM PUMPING-ENGINES,
From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.

CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying linen, sweetening musty casks, preventing tainting in meat, game, fish, &c. as well as by use in the bath for promoting and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 1s. 2s. or 4s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.
Wholesale of the Patentee Battersea, Surrey, S.W.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

PURE STATUARY MARBLE
and in slabs of large dimensions, can be obtained at
M. W. JOHNSON'S MARBLE WORKS,
363, EUSTON-ROAD, London, N.W.
Prices moderate.
M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.
THE LIZARD SERPENTINE
COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL
Offices—24, ST. JAMES'S STREET, LONDON, S.W.
The works having been reopened for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
All communications to be addressed to the Secretary, 24 St. James's-street, London, S.W.

WESTMINSTER MARBLE WORKS.—
T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries—Earl-street, Horseferry-road, Westminster.—The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney piece in the world.

TURNED MARBLE and STONE
COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Flabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

WELSH SANDSTONE.—GEORGE
CLARK & SON, of Wootton Warren, near Henley-in Arden, are working a quarry of this very superior and durable stone (belonging to the Corn range) at Pinepower, Naut, near Wrexham. It is used very extensively in Liverpool, Manchester, &c., and can be supplied at reasonable rates at any station on the Great Western Railway. Arrangements could be made with any responsible stone merchants in London for a constant supply.

HAM HILL STONE, from the white or
yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TEASK, Norton, near Ilminster, Somerset.

SLATES.—MESSRS. JONES & CO. have
a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in London not less than 100 tons.—Price forwarded and estimates given on application.—Address,
N 1, BOLD TERRACE, CHESTER.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.
MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney pieces, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

RED MANSFIELD STONE.
(WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

W. & J. FREEMAN, Merchants in the
various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S PARK
BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

BELLMAN & IVEY,
SCAGLIOLA MARBLE MANUFACTURERS,
14, BUCKINGHAM-STREET, FITZROY-SQUARE,
LONDON, W.
Execute, in the most workmanlike manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION,
IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.
Also Manufacturers of Superior and Improved Plaster of Paris.

ABERDEEN POLISHED GRANITE
WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862
Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

GRANITE.—The Cheesewring Granite
Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TEATHAM Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, at ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

POLISHED GRANITES.—TOMBS,
COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER,
DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connexion generally throughout the Kingdom, that they have now ready their
NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

TO SLATE MERCHANTS AND OTHERS.
WANTED to PURCHASE, for Cash,
about 10,000 BANGOR SLATES, 20 by 10, 18 by 10, or 18 by 9. Apply to Mr. CLARKSON, 9, Great St. Helen's, Bishopsgate-street.

CAEN and AUBIGNY STONE,
FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

RANSOME'S PATENTED SOLUTIONS
for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

GOOD SHARP SAND and BALLAST,
fit for making with Cements, &c always on SALE.—W. JAY, Pembroke Wharf, Caledonian road, King's Cross.

FOR SALE, several PLOTS of FREEHOLD
BUILDING LAND, on the Benhill Estate, Sutton, Surrey, from 2½ to 30½ per foot frontage, land tax redeemed, two minutes' walk from the Sutton Railway Station, half-hour's ride from the London Bridge Terminus, good roads, good water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Builder, Sutton, S.

ROTHERHITHE.—To BUILDERS and
OTHERS.—FREEHOLD PROPERTY, belonging to St. Bartholomew's Hospital, TO BE LET, on a building lease, with a frontage of 100 feet to the river. The plan may be seen at Mr. HARDWICK'S Office, No. 1, Henrietta street, Cavendish-square, where further particulars may be ascertained
WILLIAM WILBY, Clerk.
St. Bartholomew's Hospital, August, 1862.

WANTED, to RENT, on LEASE, or to
PURCHASE, on the Surrey side of Blackfriars Bridge, and within half a mile of it, STABLING, or PREMISES that may be easily converted to that use, for thirty horses.—Full particulars and plan to be sent to Mr. FOWNALL, 50, Lincoln's-inn-fields, W.C.

UPPER THAMES-STREET.—SAINT
BARTHOLOMEW'S HOSPITAL.—To BUILDERS and OTHERS.—TO BE LET, on a Building Lease for 79 years from Michaelmas, 1862, the whole of a FREEHOLD ESTATE belonging to the Hospital, comprising the premises Nos 148, 149, 150, and 151, Upper Thames-street, with a frontage of 68 feet towards Thames-street, and 79 feet towards Suffolk-lane.—For further particulars, apply at Mr. HARDWICK'S Offices, No. 1, Henrietta-street, Cavendish-square. Tenders to be sealed up and delivered at the clerk's Office, within the Hospital, on TUESDAY, the 9th day of SEPTEMBER, at a quarter before ELEVEN precisely.
WILLIAM WILBY, Clerk.
St. Bartholomew's Hospital, August, 1862

BUILDING LAND TO BE LET, for a term
of 99 years, in the Eleanor-road North, Richmond-road, Dalston, for the erection of semi-detached houses, which are in great request. Liberal advances made.—Apply to Mr. CLARKSON, Surveyor, 9A, Great St. Helen's, Bishopsgate-street.

TO BUILDERS and CONTRACTORS.—
There is a considerable demand for Residences at Caterham, but neither the parties wanting the houses nor the landowners are disposed to build. Any Builder willing to BUY or LEASE LAND for BUILDING may make arrangements with the parties requiring houses, as well as the landowners, by application to Mr. MARTIN, Estate Office, Caterham, Red-hill.

ALTON, HANTS.—TO BE LET, with
limited de possession, EXTENSIVE PREMISES, with good House and Garden, where for many years a builder's business has been carried on.—For particulars apply to Messrs CLEMENT, Solicitors, Alton, Hants; or to Mr. E. HELLIS, Woodside, Alton.

WOODFORD RAILWAY.—The GROVE,
WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences of a superior class required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Shipton-on-Thames, and some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

EXTENSIVE MANUFACTURING
PREMISES, Southwark.—TO BE LET, on LEASE, EXTENSIVE MANUFACTURING PREMISES, occupying a very large area, situate in the Borough-road, Southwark. The Buildings, which are very substantially erected, comprise a very large factory, of three lofty floors, with basement; a smaller factory, of four floors, adjoining; a very spacious and lofty ground-floor factory, yard, a capital family residence and office, two gateway entrances, and three dwelling houses fronting the Borough-road, Nos 77, 78, and 79, which can be readily let off if desired.—For further particulars apply on the premises; or to Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-street, E.C.

IPSWICH.—TO BE LET, on Building
Leases, at very moderate ground rents, several extremely desirable PLOTS of LAND, suitable for the erection of villa residences, for which there is a great and increasing demand in the vicinity of Ipswich. The land is situate near the Ipswich Railway Station, with frontages to the London and the Hadleigh roads, and to the new Station road, and is within about a mile from the Corn-hill. Applications for particulars to be made to Mr. F. BARNES, Lower Brooksstreet; or to Mr. W. W. HUTCHINSON, 4, Soane-street, Ipswich.

LEYTON, ESSEX.—To BUILDERS and
OTHERS.—FOR SALE, by PRIVATE CONTRACT, in lots, eligible FREEHOLD BUILDING LAND, situate within ten minutes' walk of the Low Leyton station, on the Loughton Railway, near the Forest, and about a mile and a half from Stratford. The purchase money may be paid by instalments.—Apply to Mr WHITTINGHAM, 14, Moorgate-street, London, E.C.

WALTHAMSTOW.—FOR SALE,
FIVE LOTS of eligible FREEHOLD BUILDING LAND, in Benhall road, and FIVE in Orford-road, near the Church, and within a pleasant walk of the Forest.—Apply to the AUCTIONEER, 14, Moorgate-street, London, E.C.

BUILDING LAND or DILAPIDATED
PROPERTY WANTED, near Farringdon-street, about 1,500 square yards in area, with a frontage to the north of about 120 feet, suitable for the erection of a lofty factory.—Full particulars and terms to be addressed to Messrs. ARDING & BOND, Surveyors, 23, Bedford-row, W.C.

CROYDON, SURREY.—TO BE LET, on
Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

BANKING PREMISES, or for any Com-
pany requiring first-rate Situation.—No. 2, Hyde Park-place, corner of Edgware-road, to be entered upon immediately; and, from the large and increasing neighbourhood beyond, offers great facility for increase of business as a branch office, or any other purpose requiring space.—May be viewed any day by applying to the person in possession between Ten and Five.

TO CAPITALISTS and BUILDERS.—
SITES for MARINE RESIDENCES.—Blue Anchor, in the parish of Old Cleeve, on the north coast of Somerset, two miles from the present terminus of the West Somerset Railway.—TO BE LET, for terms of years, determinable with lives, numerous SITES for BUILDING, commanding extensive views of the Bristol Channel and the picturesque scenery of the neighbourhood, the beauty of which cannot be surpassed. Blue Anchor is celebrated for the purity of the air, and has long been regarded as a most eligible and attractive situation for a watering place.—For particulars apply to Messrs. BEADON & SWEET, Solicitors, Taunton, at whose Offices a plan of the ground and the proposed arrangement of the buildings may be seen.

LIME GROVE ESTATE, Putney.—This
fine estate, containing altogether about forty acres, and immediately adjacent to the Putney Station, and near to Putney-heath, with very extensive frontages to Putney-hill and the Upper Richmond-road, TO BE LET on building leases, either as a whole, or in part.—For particulars, apply to Messrs. BAXTER, ROSE, & Co. 6, Victoria-street, Westminster; Mr. POWNALL, 60, Lincoln's Inn-fields; or Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament street.

WANTED, PREMISES or LAND in the
City of London, for the purposes of a Police Station, in the neighbourhood of Bishopsgate-street, Leadenhall street, Fenchurch-street, or Tower-street.—Particulars and terms to be addressed to the Town Clerk, Guildhall, London.
WOODTHORPE.

GUILDHALL, September 2, 1862.—The
Committee for letting the City Lands will meet at Guildhall, on WEDNESDAY, the 10th instant, at ONE o'clock precisely, to receive PROPOSALS for a LEASE, for Twenty-one years, of a HOUSE, No. 61, Great Tower-street, in the City of London, except the back office on the ground-floor.—Plans of the property may be seen, and forms of Tender obtained, upon application at the Architect's Office, Guildhall.
FERDINAND BRAND, Comptroller.

TO BUILDERS.—TO BE LET, on
BUILDING LEASES, at moderate ground-rents, desirable PLOTS of LAND, suitable for building terrace and villa residences. The land is situated in a fashionable and rising watering-place, on the coast of Dorset, commanding a fine view of the sea, and having a frontage towards a beautiful sandy bay, with excellent sands for sea bathing. The present and increasing demand for houses in this very desirable locality, almost guarantees a ready sale Arrangements can be made for advances, if required. For particulars apply to Mr. G. R. CRICKMAY, Architect and Surveyor, 77, St. Thomas-street, Weymouth.

BUILDING LAND TO BE LET,
SAVILLE ROW, WALWORTH, Surrey, within five minutes' walk of the Elephant and Castle, contiguous to the Railway Station, and abutting on the high road from London to Camberwell.—The Engineers Company are prepared to receive PROPOSALS for the whole or any part of their ESTATE, lying between Savile-row and Cobourg-row, the same having been laid out in streets and frontages for the erection of dwelling-houses, shops, or other buildings, on a building lease or leases, for 80 years, land-tax redeemable. The streets are formed, the sewers made, footpaths laid and drained, so that the estate is now ready for immediate operation.—For particulars inquire of Mr. W. B. TOWSE, the Clerk of the Company, Falmouth-buildings; and at the Office of Mr RICHARD SUTER, Architect and Surveyor, 28, Fenchurch-street, where plans and conditions may be seen.

WAREHOUSE or MANUFACTORY TO
BE LET—Spacious and important PREMISES in a leading thoroughfare, within five minutes' walk of the Bank, comprising three floors, each having an area of nearly 6,000 feet. The upper story offers an amount of space and light rarely to be met with; it forms one large apartment, and is lighted by eight large windows as well as centre lights; 30 feet high.—Particulars and cards to view to be had of Mr. ST. QUINTIN, 36, Royal Exchange.

BUILDER'S PREMISES WANTED, suit-
able for a small business, in a good situation. The West-end or City preferred. Any person having a business to dispose of would be treated with.—Address, W. Y. Armstrong's Library, No. 32a, Lamb's Conduit street.

TO LET, on Lease, First-class Manufacturing
PREMISES, consisting of unusually large workshops, counting-houses, dwelling-house, stabling, and large lofts, large frontage, paved with stone, large supplies of water and gas laid on, every convenience attached to the premises, which are new and most substantially built, close to the City, in a leading thoroughfare, and near a station of the new Metropolitan Railway.—Apply to Mr. T. J. HILL, Architect, 70, Old street, E.C.

SURBITON HILL FREEHOLD BUILD-
ING GROUND—SIXTEEN ACRES to be SOLD or LET, on long leases, in one or more lots—for particulars apply to Mr. JOHN SELFE, Surbiton Hill; or to Mr. NIGHTINGALE, Estate Agent, Kingston, Surrey.

BUILDING GROUND TO BE LET
OR SOLD,
Near KNIGHTSBRIDGE, for 14 ROOMED PRIVATE HOUSES.
BAYSWATER, for LARGE HOUSES in a SQUARE.
BAYSWATER, for SEMI DETACHED VILLAS.
ST. JOHN'S WOOD, for TERRACE VILLAS.
PADDINGTON & NOTTING HILL, several LARGE CARCASSES.
Messrs POWELL, Agents for Building Land, 1, Queen's-road, Bayswater, next door to the Park.

WANTED TO RENT a BRICK and TILE
FIELD; or about four acres of land where there is good clay, within a few miles of London, near a railway station, canal, or river, convenient for the Limehouse.—Apply, by letter post paid, stating terms and particulars, addressed to A. B. W. Office of "The Builder," 1, York-street, Covent Garden.

TEN THOUSAND POUNDS ready to be
ADVANCED by the Temperance Permanent Land and Building Society, on Freehold or Leasehold Property, for any term of years not exceeding fifteen. Monthly repayments (including interest) for each 10l. advanced—

2 Years.	4 Years.	6 Years.	8 Years.	10 Years.	12 Years.	14 Years.
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
4 11 6	2 9 0	1 14 11	1 7 11	1 3 10	1 1 1	0 19 4

HENRY J. PHILLIPS, Secretary.
34, Moorgate-street, London.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

PAPIER MACHE AND CARTON PIERRE WORKS,
49, RATHBONE PLACE, W.
GEORGE JACKSON AND SONS
(Established in 1760)

Beg to the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV, XV, XVI, and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining Rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS
PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE PLACE, LONDON, W.

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.
AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,
ESTABLISHED 1826,
Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.
DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,
QUARRYMEN AND STONE-MERCHANTS, BATH.
List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY.
PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.
Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,
WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.
EDWARDES, BURKE, & CO. PROPRIETORS.
The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

HUBBUCK'S PATENT WHITE ZINC PAINT.
BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not in price (cheaper per hundred weight), but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.

BEST "PENRHYN" ROOFING SLATES,
SLATE RIDGING, GLAZED SOCKET-PIPES,
TILES, PAVINGS, &c.
Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads.
Prices and particulars may be had by applying to
HENRY BROWN & SONS, MERCHANTS,
GENERAL WOOD CUTTING MILLS, LUTON, BEDS.
A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

Now ready, an entirely New Edition, with Index, Svo. 14s. cloth,
MATHEMATICS for PRACTICAL MEN: being a Common-place Book of Pure and Mixed Mathematics. Designed as a Vade Mecum for Engineers, Architects, Surveyors, and Students generally. By CHARLES GREGORY, Civil Engineer.
Enlarged by HENRY LAW, C.E. Edited, with Notes, and revised and corrected by J. R. YOUNG, formerly Professor of Mathematics, Belfast College, Author of "A Course of Elementary Mathematics, &c.
London: LOCKWOOD & CO. 7, Stationers' Hall-court, E.C.

Just published, price 2l. 2s.
MANUAL of HYDROLOGY. By NATHANIEL BEARDMORE, Civil Engineer.
CONTENTS
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of [illegible] pages, and there are [illegible] Engravings.
London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 66, London-wall. 1862.

Deservedly patronized by the Right Hon. the President of the Board of Trade, M.P.
Just published, price 6s. 6d. bound,
THE COMPLETE MEASURER: setting forth the measurement of boards, glass, &c. unequal-sided, square sided, octagonal-sided; round timber and stones; and standing timber, with just allowances for the bark on the respective species of trees, and proper deductions for the waste in hewing the trees; with other useful matter for Timber Merchants, Builders, Architects, Surveyors, Masons, Stone Merchants, and others. By RICHARD HORTON
Published by JOHN WEALE, 59, High Holborn, London

Just published, price 6s. 6d. bound,
THE ART OF VALUING GROWING UNDERWOOD AND WOODLAND; together with Planting, Lineal, Superficial, Wages, Marketing, and Decimal Tables; also Tables for converting Provincial, Irish, and Scotch Land Measures to Statute Measures, and the late Beer, Wine, and Corn Measures to Imperial, and vice versâ; &c. &c. By RICHARD HORTON
"We can [illegible] recommend this as a useful work to all persons [illegible] with [illegible] Estates, &c." *Farmers' Magazine.*
Sold by JOHN WEALE, 59, High Holborn, London; and other Bookesellers.

THE ART JOURNAL for September, price 2s. 6d. contains the Sixth Division of the Illustrated Catalogue of the International Exhibition, [illegible] engraved, and various [illegible] Prize Medals, the Principal Pictures, Sculpture, Decorations, Machinery, Iron Gates, Porcelain, Engraved Glass, Gold and Silver Work, Cabinet Carvings, Bronzes, Grates, Bronzes, Lace, Stained Glass, Medieval Metal Work, Glass, Wall Papers, Carpets, Tapestries, Stoves, Fenders, Ironmongery, Cabinet Work, Furniture Brasses, Papier-mâché, Carpets, Lamps, &c. The Number also contains Views of the Picture of the Russian and German Schools at the International Exhibition; Reminiscences of Art, by James Dafforne; Recent Art Sales; The Prince Consort Memorial, Notabilia of the Exhibition, &c. &c. The Line Engravings are—"The Signal," engraved by J. C. Cousen, after Jacob Thompson; and "Venice, the Grand Canal," engraved by E. Brandard, after J. M. W. Turner, R.A.
London: JAMES S. VIRTUE, 26, Ivy-lane, and International Bazaar, opposite the Exhibition.

SCIENTIFIC RECORD of the EXHIBITION (PRACTICAL MECHANICS' JOURNAL), Part V. SEPTEMBER 1, price 1s. contains First Movers—Land and Marine Engines; Machines, recipient of Water-power, or that of Wind, Air, and Gas Engines, &c. by ROBERT MALLET, Esq. C.E. F.R.S. Heating and Ventilation, by ROBERT MALLET, Esq. Water Supply, by J. F. BATEMAN, Esq. F.R.S. M.I.C.E. Locomotive Works, by C. B. RENNIE, Esq. MUIR, Locomotive Engines; and Mr. MACE, Locomotive Engines; and Mr. Messrs. JOHN PENN & SONS', Horizontal Marine Engines; and Mr. C. [illegible] TAKERS' Valves, Hoisting, and Non-Condensing Engines. With [illegible]
London: LONGMAN & CO. Ludgate-hill. Proprietor's Offices [illegible] Patent Office, Lincoln's-inn-fields, W.C.

NEWTON'S LONDON JOURNAL OF ARTS for SEPTEMBER, Price One Shilling, contains Article III. on the Decorative Art of the International Exhibition, [illegible] Chandelier, the Silver and Parcel Gilt Ewer, Reports of recent Patented Inventions (illustrated); Transactions of Royal Institution; the New Laws on Trade Mark and Artistic Copyright, with editorial remarks. Published monthly at the Office [illegible] Chancery-lane.

Just published, Part I. containing Five Plates, and 10 pages of Text, price 5s.
MODERN ARCHITECTURE: ECCLESIASTICAL, CIVIL, and DOMESTIC. Illustrated by Views and Plans of the most [illegible] Buildings erected since 1850.
By JAMES PICKEN, F.R.I.B.A.
This work will consist of Twenty-four Plates of Churches, Halls, Libraries, Warehouses, Schools, Villas, Street Fronts, &c. &c. and will comprise the Newest Public and Private Buildings [illegible] Work, [illegible] Warwickshire, South, Coventry.

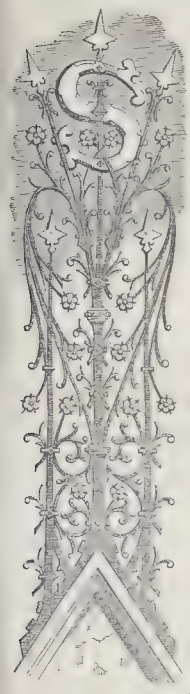
BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1794.—Apply at PRESENT to 14, CHARLOTTE-STREET, Fitzroy-square, [illegible] Organs in all parts of the country. Church Organs of any size built, enlarged, improved, and repaired on the WAREHOUSED DURKOPF-STORATIONS. PRIZE MEDAL, 1851

POLYTECHNIC.—ROME. — "Dost thou flow, Old Tiber! through a marble wilderness?" Exhibition of Macpherson's 400 unique and splendid Photographs of the Architecture, Sculpture, and Art-Work of the Imperial City, [illegible] engraved at George Rockwood, Esq.'s [illegible] Exhibition.—New Grand Scenic Entertainment, illustrated by Chromatic Fountain Spectacle, London Stereoscopic Entertainments with the Giant Plate Machine, and Lecture by J. L. KING, Esq.—Remarkable Imitations of British Birds and Animals, by Birds & SMAN, Conjurors to the [illegible] Perpetual Lectures for Ladies, Mondays at Three, and the 6th October. Open from 11 to 5, and half-[illegible] to 10. Admission is

The Builder.

VOL. XX.—No. 1022.

Heating and Cooking Apparatus in "the Exhibition."



SOMETIME before the opening of the Exhibition, as our readers may recollect, suggestions were published as to a comparative study of the appliances for heating, expected to be displayed by different nations, contrivances wherein it was believed English architects, and manufacturers, had much to learn. Considering the attention that has been lately given, in certain continental cities, to improvement in the forms of grates, and the results therefrom in economy of fuel and diminution of smoke; and, considering also, what we are quite prepared to show, that the practice of French cookery in English families, would help to ameliorate the condition, especially, of the poor, we regret that there is scarcely an approach in the Exhibition, to the display, in number or kind, of the contrivances by which the study and comparison could be made; and that there are similarly wanting, stated results of experiments; though the English "Iron and General Hardware" Class, especially in appliances such as are large and costly, is sufficiently furnished.

The heating and cooking apparatus that is to be found in the French division, follows the universal disorder of the Exhibition, turning up in two or three places. We have no intention here, as to the French contrivances, to do much more than mention the very few in number, which we have found at South Kensington; but we have, on the Continent, made many notes which may be applicable to the pursuit of the subjects we have referred to, at some future time. When we tell our readers that the heads of one of the principal houses for articles of the more portable kind, in Paris, do not desire to give information,—even as to what they make, and what prices they ask,—saying, absurdly, that publicity is injurious to them rather than beneficial, an idea may be had of the difficulty which too often in France, is thrown in the way of a right appreciation of French industry and of the French people.

As regards heating, the arrangements in French apartments, till lately, seem to have been very simple; and indeed at present, anything more than a chimney-recess and fire-dogs would be the exception. Wood may be regarded still, as the ordinary fuel for heating, in Paris, and charcoal for cooking. If the Belgian coal be used with the wood, and the logs be of the proper size; if the ashes be not cleared away often; and if the materials be properly built on the hearth, as by a French *garçon*, the cost of a winter-evening's warmth is much less than would be supposed by occasional travellers; and the fire will remain for a surprising length of time, sufficiently alight to kindle a fresh log placed upon it. The arrangement next most general to that of the fire on the hearth is that of the Swedish, or some other, form of stove, showing porcelain case, and porcelain-inclosed smoke pipe. In the fire-places that are least different from the English, the aim seems to be to heat the room by air disseminated by apertures at the sides of the chimney-piece, "*bouches de chaleur*,"—indeed, as in some English forms of fire-place,—rather than by direct radiation; but the basket which contains the burning coal (or rather coke; though sometimes even wood is used in such grates), and is covered in by wire gauze at top, has little resemblance to the wide grate of English houses. The chimney-pieces project far into the room, whilst the flues are carried in the thickness of the wall, rather than in a projecting breast; and the whole decorative framework is now frequently formed of iron, along with the receptacle for the fire, whether resembling most a fire-place with chimney-piece, or a simple stove. Both of the French forms just referred to, may be found, of enamelled iron, in the recesses of the French Court. The basket-grates, as we have called them, and the *calorifères*, are in fact designed for use of coke. In the English fire-place, every contrivance by splayed and polished sides, and shining hearths, is resorted to, for reflection of the brightness of the visible fire; and the front of the grate is brought as much as possible in advance of a portion of the splays: in the French grate, the preference appears to be given to heating the air of the room by conduction, in the manner described. The open-fire stoves combine the two systems, and are indeed in use in both countries.

One of the forms of French heating-apparatus in the Exhibition, is that shown by Mr. J. B. Fondet, of the Maison du Pont de Fer, Boulevard Poissonnière, Paris, and called "appareil à air chaud à tubes prismatiques," which is specially designed for the fire-places above spoken of, "cheminées à bouches de chaleur," but such as have the fuel on the hearth. The arrangement of a current of air from the external atmosphere, through tubes at the back of the fire and heated by it, is a very old one in England, and one which has been lately revived, the tubes, or substituted chamber at the back of the grate, being now formed of fire-clay. As the success of such heating-apparatus depends much on details, the attention of manufacturers may be usefully directed to the article made by the Maison du Pont de Fer. It consists of three or four rows of square, diagonally-set, iron tubes, a connecting chamber at the base, and a cylinder disposed horizontally at the top, the ends of which last are adjusted to the pipes leading to the before-mentioned openings at the sides of the chimney-piece for the escape of heated air. The apparatus is set so as to cover an opening in the hearth, at the back, which gives admission to fresh air, and also to lean forwards, leaving a space of 5 to 6 centimètres between its horizontal cylinder and the back of the decorative splayed-linings of the chimney-opening. The heat of the fire, and the smoke, are drawn by the draught of the chimney, in zigzag course, through the spaces between the tubes, the flame however not getting beyond the first rank, and so not endangering fire in the chimney; and the tubes being thus heated, a current passes through them and into the cylinder, whence it passes into the room. The shape and position of the tubes permit of their being easily cleaned externally, with a long blade of iron, perhaps an old knife. It is pointed out that, for good ventilation, the total area of the channels supplying fresh air, and the "bouches de chaleur," should be in excess of the space between the cylinder and the linings, which is that by which vitiated air from the room has to find escape. We can just now, only state that several forms of stove of another kind, mentioned, may be found in the foreign courts on the north side of the building; though the porcelain covering in them, is more rudely ornamented than the similar portion of the stoves in French apartments and *cafés*. From the articles exhibited by Messrs. Bricard & Gauthier, of Paris, we get one useful suggestion, that of a safety screen, for a fire-place, in the form of a roller-blind, the material being brass-wire gauze.

It is not our purpose in this place, to consider the works in the Iron and General Hardware Class in their decorative aspects; though the subject would be a tempting one. Let it suffice for the moment to say that the Coalbrookdale Company; Messrs. Baily & Sons, Benham & Sons, Feetham & Co., and Edwards and Son, of London; Messrs. Yates, Haywood, & Drabble, of Rotherham; Mr. H. E. Hoole, of Sheffield, and some others, would have claims to be spoken of for the healthy and progressive character of the art which there is in their grates and fire-places. Indeed the particular merit which we have ascribed to French art, of utilizing different materials and processes in combination, for reciprocity of effect, also is very characteristic of the productions emanating from such firms as we have referred to. Neither is it our purpose to treat of the whole of the works in the Class 31, even in their utilitarian aspects. We may merely mention that this class of the British Division of the Exhibition, includes about 300 exhibitors of "Iron Manufactures," 86 exhibitors of "Manufactures in Brass and Copper," and 21 of "Manufactures in Tin, Lead, Zinc, Pewter and General Braziery;" and that a single line in the catalogue frequently is the title for scores of articles.

We set out with the idea of noticing inventions, or variations of arrangement, in grates or other appliances for heating and cooking. Few of the exhibitors we may have to name, exhibit solely manufactures of these two kinds. Heating apparatus, some of which has been named in a preceding article, also will be found in Class 10.

Messrs. Baily & Sons' grates, in "the trophy" in the south-east transept, are examples of the advanced position of the front of the grate with reference to a portion of the splays, the latter here being covered with porcelain slabs, and of the addition of the valved opening, in the back of the grate, above the fuel, which is in addition to the opening corresponding with the old register-door, joined with it; so that the smoke flue might be closed in summer, as it is with questionable advantage sometimes,—considering use of the channel where, as often in bed-rooms, there is no other ventilation. Messrs. Baily's chimney-pieces and other accessories of their grates are examples of the good combination of materials which we have spoken of. Messrs. Benham & Sons, in the same "trophy," have a large "dog-stove" grate, set in a deep-recess of which the whole sides and back are covered with glazed tiles fixed in steel frame-work; and of which the hearth, fenced in by a low stone fender, would also be tiled. Here, the radiation of heat, and prominence of the open fire in the field of view, as before, are main aims when designing the grate. The general principle as to the grate and splays, is equally observable in Messrs. Feetham's works, some of them very remarkable for the ornamentation, which is almost entirely in iron; and in Messrs. Hart's small grate, the brass-work prickly ornamentation of which, however, as difficult to keep clean, and liable to catch any crinoline-distended dress happening to brush past it, is in character with the defects which are observable in their works along with great excellence of manufacture and ingenuity in processes and in combination of them. Supposing there be means of ventilating the room, without the chimney-opening, one of the works exhibited by the Coalbrookdale Company has claims to notice. The grate being of the "dog-stove" kind, or other

pattern that would be movable, the back of the recess is formed semicircular, or segmental, and niche-headed, and is suitably decorated to serve as back-ground. A vase of flowers in summer may then be placed to stand in the recess. There is a form of grate exhibited by the same company (Young's Patent) which deserves particular notice. The coal is supplied to the lower part of the grate, which, above a movable ash-pit, and in rear of a plinth, is formed as a basket; whilst the plinth, in plan and profile, corresponds with the projection of the splays or covings, with which the upper bars of the grate, in the centre or place of greatest projection of their segmental form on plan, also nearly coincide. Thus there is a spandrel-space, on each side of the grate, on the top surface of the plinth. This top is removable; when there is disclosed in each angle, the end of a horizontally-placed Archimedean screw, with thread inclined one side of the grate, right, and the other side left, and to be turned very easily by a ratchet and ornamental lever. The coal is put in at the spandrel spaces; and the screw, being turned, raises up the burning embers, and deposits the fresh coal in the place. There are various modifications of this system in the Exhibition; some of them are applied to kitchen-grates. In the Coalbrookdale Company's kitchen-grate, there is a hopper or tray, the width of the grate in front; the screw working therein. Mr. Hoole exhibits a grate which may be intended as a smoke-consuming one, though we find only that the visible part of the grate stands upon an ornamentally perforated *zocle* behind which is the movable ash-pit and the lower part, and that the bottom can be wound up by turning a handle. Messrs. Ritchie, Watson, & Co., of the Etna Foundry, Glasgow, exhibit a grate of which the principle is partly explained by the lines affixed to it:—

"Atte bak, have recesses, fvze cole into coake
In front, ye brite fyere without any smoake."
Ovld Franke hys Advice.

As regards smoke that may not have been burnt, there is more difficulty than there should be about the form of the throat of a flue, in the view of preventing the return of smoke. Messrs. Edwards & Son, in Class 10, contrast three modes of forming the flue in commencing from the grate. They exhibit a section showing the common way of leaving the brickwork on fixing the grate, namely with a pocket or shelf, each side, where soot may rest; secondly, they show the lower part of a chimney "carefully contracted," where brickwork, added as splays, avoiding the evil of the soot, makes the throat somewhat of a diamond form; and thirdly, their patent chimney-bar, with register-door, in which case the flue starts as near as possible straight. Their ventilating hearth-plate has claims to attention. Mr. Jennings manufactures an article, to be used with his flue-pipes, a chamber about 2 feet in height, where the smoke may expand between the register-door and beginning of the flue-pipe; in which invention, the idea of the necessities of the smoke-conduction seems to correspond with that of the second illustration named above. A French inventor, of whose works we may have to speak, argues that the smoke should be kept to the narrow and direct course. Would it not be possible to build stacks of flues with glass one side, and desirable at some cost, for the sake of experiments under all conditions? To this subject of smoke-prevention as well as that of heating, we shall have to return in connexion with the Exhibition.

Of cooking apparatus, we have not found a single specimen of the very cheap contrivances which are used by the poorer classes in Paris, obliged to live in small apartments. We know a court leading out of the Rue du Dragon, occupied chiefly by dealers in cheap stoves and articles belonging to the *batterie de cuisine*, which should be visited by every one taking interest in the question of metropolitan *logements*, and only for the sake of seeing how, by a slight change from the English system, good cookery, with variety in food, can be made within the reach of any working man's wife who would please to try whether that way of ministering to a natural demand, is not better than the drinking way that is left substituted. People who are not capable of serious thought, may choose to smile; but we believe that want of skill, and of practical chemistry, in cookery, have much to do with the taste which foreigners regard as characteristic of our nation,—and so regard with reason, we cannot deny, more than we can the vice, crime, and insanity, which are proved to be caused by the intemperance. Moreover, those who smile at the recommendation of French cookery for the very poor, may not know what that cookery is. French cookery is simply the variety; the preparation of *small pieces* of meat, of inferior quality perhaps, so as to be palatable; the getting full nutriment out of the meat by the manner of cooking; and the utilization of every scrap or bone for soup or sauce. Has any inhabitant of a sea-port, as Whitby or Scarborough, thought of the waste of nutritious substance which goes on, in the form of heads and bones of fish, cast daily on the beach? A good French *ménagère* will provide in fact, and as we have said in speaking of French *appartements*, soup, three courses, and a dessert, with the aid of a little nest of charcoal stoves, which is not larger than the smallest dressing-table, or may be 2 feet by 1 foot on the top. It stands on four legs, so that it may be set almost anywhere; though it is well to place the contrivance under the hood with flue, which is generally built in some corner ready for it. The space of the top, not occupied by the little stove gratings, or *fourneaux*, is covered with glazed tiles. Much smaller and more portable contrivances even than these may be had, better and cheaper than any we are acquainted with as manufactured in England. We tried to induce makers of these latter portable articles as well the others, to send specimens to the Exhibition. It was, however, not considered worth while to send either; and the French authorities, doubtless having their attention kept to more demonstrative things, have not supplied the omission, as we consider it. That there are many things familiar to one nation, which other nations want, ought to be now a truism; and cheap appliances which may help to render the poorer classes more comfortable, are about the most important objects that could be shown in an international collection of works and products which are brought together purely for the object of progress. More durable contrivances than those we have referred to, and wholly of iron, whilst some of them better adapted for roasting, may be had in Paris for from 30 francs (1*l.* 4*s.*) upwards. The cheaper kind measuring 54 by 33 centimètres on the top, may have an oven, and two apertures at top, for boiling or stewing. With those *cuisinières* which measure 1 mètre 26 centimètres by 65 centimètres on the top, and which have two large ovens, a small fire between them, and three large and three small apertures for pans, besides a boiler holding 25 *litres*, the manufacturers say a dinner can be prepared for fifty persons, with great economy of fuel; and they sell similar *fourneaux de cuisine* slightly smaller, and with a roasting-grate, for 160 francs, and half the size for about 80 francs (3*l.* 4*s.*). The English cottagers' stoves, at about the same price, but requiring to be set in brickwork, are, though larger, not so well devised for convenience in cooking and for variety in food. The so-called American emigrant's stove, of which there are several in the British Division, is a superior thing, allowing of roasting, baking, boiling, and steaming by one small fire. It must however be better adapted for open-air than for kitchen use, having the objection, which indeed may be made to French and Belgian forms, when English coal is used, that of making a kitchen too hot.

Economy in cooking on the scale required for a *restaurant* of the largest kind, is the characteristic of the thirteen or fourteen places established by Mr. Duval, in Paris, and called "bouillons." A plan of the earliest constructed of these, may be found somewhere in the Exhibition, exhibited by Mr. Touaillon, of Paris, who contrived the fittings. From a report by Mr. Payen, of the Conservatoire des Arts et Métiers, we find that the establishment in the Rue Montesquieu was designed in the Exhibition year 1855, for the nourishment with *bouillons* and *rotis*, of from 6,000 to 10,000 persons *per diem*, many of them coming at uncertain hours. In effect, now, great variety of food is obtainable. It was necessary to divide the apparatus as much as possible, in order that the soup or meat might be always cooked to the requisite degree; and the proprietor wished that the operations should proceed in sight of his guests. Discarding the idea of separate fire-places; since there would have been sixty-eight of them, and dropping fat would have caused stench; and the companies refusing to supply gas in the day; steam was resorted to. A boiler of four-horse power supplied the steam for the boiling-vessels, sixty-eight, each containing forty to seventy *litres*. The steam was introduced by copper pipes into the cavity of the double bottom of each boiling-vessel; and the condensed water returned by other pipes to the boiler. The ebullition, necessary for the production of good soup, was regulated by turning what seems to have been a three-way cock. In some farm-houses, in Yorkshire, we may mention, meat is boiled, at least cooked, *in* steam. The "roast"-meat, in the Paris establishment, was cooked in an oven heated by the same fuel as that which produced the steam. The cost of fuel, coke, was between 16*s.* and 17*s.* a day. The ground-floor and galleries, had 100 tables, affording seats for 600 persons. Each table had a fixed syphon, which, on turning the cock, supplied *eau-de-seltz*, produced and raised by a pumping apparatus, in the cellars below, set in motion by a steam-engine. The establishment in the Rue Montesquieu is still flourishing, as are the others, which are on the same general principle. Altogether, these *établissements de bouillon* must be considered invaluable to those inhabitants of Paris who have small incomes. Something of the same kind, not dingy and repulsive, but attractive like the well-lighted and mirrored rooms on the first-floor of the large branch establishment at the corner of the Boulevards de Sebastopol and St. Denis, though better ventilated, should certainly exist in each quarter of London. Who will supply the want? At the place last mentioned, you may meet people of all classes, who mix together with a good bearing towards one another, which we confess, to us seems charming, and as an example; and every Englishman, who would not be put out of temper by ignorance of the language, or of the names of French dishes, and would learn something of the people, will find it as well worth while to dine at the *établissement* just named, as at the Trois Frères or the Maison Dorée. Mr. Touaillon is the exhibitor of machinery of several kinds, the chief of it however for corn-mills. His flour-drying stove, which has come into use since 1860, deserves the attention of those who have taken up the question of pure and nutritious bread.

We have examined in detail two stoves or cooking-ranges of French make, in the Exhibition: one of them is in the gallery next Cromwell-road; the other is in front of one of the northern recesses within the court, where there may be two or three more. The larger stove would be adapted for a family of some position, and numbering many persons; though still larger apparatus on the same principle is made: the smaller range may be compared by aid of our preceding description with the larger sizes of the French portable iron stoves; though these non-exhibited articles are less costly than the exhibited one in the Cromwell-road gallery, to be described below. Manufacturers and others may however gather from us the means of comparison between what suits families of the middle class in one country and the other.

Roasting being the principal operation in English cookery, and the result being best when the pieces of meat are large, it follows that the cooking-range for any family having means to purchase a "joint," should be designed recognizing this as the leading matter for attention. In French cookery, wherein every scrap contributes to what will be nutritious or palatable, but wherein the system allows everything to be done in small space, the apparatus may be different, whilst the cookery will be best adapted for those whose circumstances oblige them to be content with inferior meat. The best cooks distinguish between the operations of roasting and baking; and in every kitchen such as that of a London establishment where good cookery is a consideration, say the kitchen of the Reform Club, the roasting is provided for by a special fire; the meat is cooked, turning, in front of it; and a joint done in an oven would not be considered as roasted. Some cooks who use the oven for joints, consider it very objectionable for game. To many persons, it may appear that all this required no explanation. Yet it is necessary that the distinction between roasting, and cooking in an oven, should be accepted or rejected, as upon it the whole question of design of a cooking-range for English use, and appreciation of the merits of articles exhibited in Class 31, may be said to hang. In recent English inventions, it has been an object to economize fuel as much as possible, by diminishing the front of the fire to a width that is sometimes insufficient for roasting a large joint, and substituting ovens called "roasters;" and to provide, all heated from the same fire, a large surface of "hot-plate," besides ordinary ovens, and perhaps an additional boiler for the production of steam, or for the supply of hot-water to baths. An adequate quantity of heat is communicated to parts of the range, at the farthest distance from the fire, by the disposition of smoke-ducts; which are led, circulating round the ovens, and between them and the hot-plate, to the brick upright flue or flues, in a very ingenious manner; soot-doors being provided in many places for the cleansing, which is very frequently needed; and dampers

being adjusted to the flue of each division of the apparatus, which joins the main flue, to allow of such division being worked separately. The recognized disadvantages of a close oven are provided against, or as supposed, by apertures, one below the oven door, and the other near the top of the oven, generally at the back to allow of a current from the external air into the flue; and sometimes there is a spit, or arrangement of shelves, turning, for the meat, in the oven. The main flue passes straight up from the back of the fire, covered on the face by a metal plate, which should be easily removable for cleaning; and the ordinary opening of the chimney, no longer needed for the smoke, since the fire itself is covered over by its portion of "hot-plate," is ceiled in with plate-iron; a door however, being provided, to be opened occasionally for escape of smoke or steam, or for ventilation of the kitchen. Such, we believe, is a pretty fair account of the principle and general arrangement of the contrivance called "kitchener," as it is exhibited by numerous makers. Some exhibitors of cooking-ranges, however, retaining the term which we have above treated as distinctive, give a much larger space than we have spoken of, to the front of the fire, and avoid having a hot-plate in that part of the range, substituting a projecting hood to catch and conduct the rising smoke. In these modified *kitcheners*, economy of heat is not disregarded, and hot-plates above the ovens are retained; albeit, there might be danger of soot and dust at the sides. The objection to the "kitchener," of course, is the trouble in sweeping, the rapid wear of the apparatus from a fire which resembles that of a furnace, and the general results of inevitable neglect of servants: besides, the so-called "roasters," if not cleaned of dripping, that will fall by carelessness, may communicate bad flavour to the meat. The reply of the manufacturers would be that the attention needed is not considerable, or should be exacted; that the idea of roasting before the fire is mainly a prejudice; that the wear and tear of the apparatus is caused by leaving dampers open when their flues are not required; and finally that in the *kitcheners* small coal can be consumed that would be useless otherwise. On the other hand, we are assured that some families have found that owing to the fierceness of the fire, there was no economy in coal; and, from the great heat in the kitchen, they have discarded "kitcheners" for other, and perhaps long-since invented, apparatus. A French cook working with a modern English range, will sometimes mix earth with the coal.

In the French contrivances on the other hand, whatever importance in the *cuisine*, and dinner, may be attached to the *rotis*, there is a compartment arranged as a grate for roasting in front of the fire, *à la broche;* and the same appliance is a feature of the American Emigrants' stoves, which are the nearest things we have to the portable stoves (those made wholly of iron, we mean, whilst small) of the French makers.

English cooking arrangements, such as are devised specially with a view to economy of fuel, always consist of a "range" under one chimney-opening; or at most they include, outside, a steaming apparatus; and say the French, (though erroneously as we have shown, regarding the most recent contrivances,) there is danger of spoiling the dinner by soot falling. The French contrivance, shunning the calamity so much to be avoided by every cook not inclined to become "a sort of fury," and nearest in principle to the before-named emigrants' stoves, is often like a great iron-dresser, projecting far into the kitchen, or is in the centre of it. Numerous operations go on with a small fire at a corner; the smoke, if to be so called, escaping at the farthest opposite corner, or descending by a very small flue.

The manufacturers at Leamington, Luton, and elsewhere, have given so much attention to "kitcheners;" and the Sheffield, Rotherham, Newark, and Glasgow makers, with those of other towns, are so favourably represented by their particular arrangements, that our remarks had better be taken as suggestive of examination, than *critical* in the common and most erroneous sense of that unfortunate adjective. But the convenience of a form approachable on three sides, seems worth considering.

Mr. Aureliani, of the Rue Richer, Paris, is the exhibitor of the "*foyer économique*" in the Cromwell-road Gallery. On the top, or hot-plate, is one of the ovens with sloping front and valved opening into the flue, peculiar to French cooking apparatus; and in the plate are three large apertures (with lids and rings) for boiling, one of them furnished with an apparatus for coffee-roasting, and one smaller aperture, and a *bain-marie* with two copper vessels for sauces; in front are ovens and hot closets; and at the angle is the place for fuel (which is put in at the top) with two fronts of bars for roasting, the larger place as usual, at the end. The whole is provided for 625 francs (25*l.*); and very little space is taken up by it. The large *fourneau de cuisine* is exhibited by Messrs. F. Baudon & Son, of Paris. We must leave to cooks, the further question between the French and English apparatus. We only observe that the means of roasting are provided by the former, better than they appear to be in the kitcheners, unless we are to consider meat cooked in an oven as the same as that done *before* the fire. The reason the *rotis* in France are not equal to the roast joints in England, lies chiefly in the inferiority of the meat. In the arrangement of kitchen fittings, as shown by Messrs. Benham & Sons (or as well as they could manage in their space), in such arrangement as that of their work at the Reform Club, and in the smaller description of apparatus proposed by them for country mansions and London houses; in the fittings of Messrs. Feetham & Co., Jeakes & Co., Adams & Co., all of London, and some others, a large open fire, distinct from the hot-plates, is treated as a requisite; and, although the range may include oven and boiler heated by the one fire,—and a supply of hot water can be furnished to a bath, as well as steam to a hot-closet and kettles,—broiling and stewing stoves are separate, charcoal or gas being used for them. Messrs. Benham say that ovens with a separate furnace underneath, are preferred by many cooks, to those which are heated by the fire of a kitchen range. Messrs. Benham's apparatus, recently placed in the New Royal Infirmary, Woolwich, and which is the French system with numerous additions and improvements, seems to be the perfection of an arrangement where economy in cooking for a large number of persons is a main consideration. The apparatus boils, roasts, stews, broils, bakes, and steams for 500 persons, and furnishes hot water to baths and lavatories, with a single fire burning about 200 pounds of coal *per day*. The baking includes that of bread. Apparatus on this plan has been fitted at the Royal Medical Benevolent College, Epsom, and at many barracks and workhouses.

Messrs. Brown & Green, of Luton, exhibit one of the best arrangements of the "kitchener," or long range of ovens under one chimney opening, with the heat afforded by a single small fire in the centre. Their principal range is, or rather was (space as asked for not having been obtained), 18 feet in length, and in depth only that of the fire-place, 14 inches. There are two steam boilers, forming the sides of the fire, and a hot-water boiler at the back. The 18-feet length includes six ovens, two of them called roasters. It has been found by experiment that the ovens and boilers could be all completely heated in a space of time varying from 35 minutes to 70 minutes, according to the position with reference to the fire; water in a vessel placed on the sliding cover of the hot-plate over the fire, being boiled in seven minutes, and on the farthest oven in thirty-eight minutes. The report of the Instructor of Cookery to the army, in continuation, stating the capabilities of the apparatus, makes it appear that the range will cook for 2,136 men, with a consumption of three-fifths of an ounce of coal per head. The improvement patented appears to be the arrangement of the ovens, distant from the fire, and that for conducting the heat round them by the smoke-ducts; other ranges, as asserted, passing the smoke to the chimney by a more direct route.

There are numerous other manufacturers, however, to whose productions we may give attention.

ARCHITECTURAL PHOTOGRAPHS; AND HINTS AS TO A "NEW STYLE."

THE architectural monuments of Western Europe have been ransacked by modern architects for general characteristics, as well as for every feature of minute detail, till they are no longer able to yield any novelty to the student. The Romanesque; the round-arched Gothic; the Pointed, in all its phases; the styles of the Italian *risorgimento*, and of the French *Renaissance;* and lastly, those of the Elizabethan, have all in turn yielded their chief characteristics to the modern system of architectural adaptation. Under the influence of a laborious study of precedents and authorities, modern Mediævalism has developed itself, by slow degrees, from the mere Cockney Gothic of the beginning of the century, into excellent imitations of the architectural works of various epochs, producing such a heterogeneous *olla podrida* of distinct styles, as surely was never before dished up contemporaneously within the range of the entire history of art. Yet, with all the stimulation of this crowd of styles, no true originality of treatment has yet made itself manifest, and the younger members of the profession—naturally thirsting for independence and for liberation from the shackles of imitation—are beginning to clamour for a "new and national style." They are sickened with the continual perpetration of shams, however excellent. The simple fact is, we have had rather too much of it. We have had sham Gothic of every phase, and sham Renaissance of all kinds: the sham Classical has not been absent from the list; and now elaborate shams of the various Byzantine epochs are beginning to appear. It should be stated also, that the most slavish and literal copies have hitherto led to the greatest amount of (professional) success.

After the utter debasement into which the noble art of the builder had sunk towards the close of the last century, the success of good copies of the noble monuments of former epochs was perhaps natural. In fact, the way to progress inevitably led the student through a period of imitation before he could hope to emerge from its narrow path to the high ground of originality. To understand thoroughly the works of his great predecessors was evidently the first step of the modern architect towards the creation of a new style, as fitted to the spirit of his own epoch, as the various styles of his precursors were intimately associated with the manners and institutions of theirs. But it is now time that the successes derived through the medium of mere imitations should cease. A sufficient foundation of appreciative taste has now been laid, upon which we may fairly hope to raise a superstructure of originality: that is to say, an originality founded upon new combinations; for certain fundamental principles must ever remain essentially the same, even should all the building materials at present known, and which have been used for ages, be entirely superseded by more or less artificial substitutes; which is every day becoming more probable.

In order to discover the manner in which new combinations may be made, there is no more simple and ready method than to study the way in which they have arisen in previous epochs. It will be found that the most strikingly new features have always arisen from the accidental blending of two or more styles which had each previously worked out a character of its own. For instance, the engrafting of the barbaresque styles of the North of Europe upon the sinking Roman produced, by combination, a marked and, in many respects, noble style, which we distinguish as the Romanesque. Several other combinations subsequently took place in the north and west of Europe which produced well-defined and distinct styles.

During the Crusades, and even at quite recent epochs, combinations of Western and Eastern styles have taken place in the East, which have not as yet been well studied; indeed, they may be said not to have been studied at all. Of this meeting and blending of styles in the East, and the novel combinations resulting from them, the architectural photographs taken by Mr. F. Bedford, while professionally accompanying the Prince of Wales in his Oriental tour, of which we spoke briefly not long since, afford many interesting examples. We will endeavour to point out some of the peculiarities thus made accessible, in something like chronological order; examining, first, some features of Egyptian architecture which have evidently received modifications of form and treatment from a reflex of Greek art. The western portico of the Temple at Dendera (No. 47) is reproduced in a most successful photograph, with a distinctness in every detail, and, of course, with an accuracy as to the relative proportion of parts, such as no drawing can possibly convey. The student can therefore study from photographs of this kind with almost the same advantages as from the monuments themselves. The effect produced by the photograph of the portico of Dendera is more truly massive and grand than that of any picturesque drawing of the same subject which we have ever met with. In the hands of the pictorial sketcher, some of the parts have been almost invariably more or less exaggerated, imparting a kind of Titanic grotesqueness in place of the lost simplicity and grandeur arising from a true artistic balance of parts. The great gateway of this temple is given in a separate photograph, in which the figures, in that peculiar kind of wall sculpture which Mr. Bonomi has felicitously called *incavo rilievo*, are reproduced with a sharp distinctness that is most satisfactory, because it enables the student to perceive that these figures present a noble grandeur of outline very different

from the conventional kind of Egyptian caricature with which we have been accustomed to see them treated, when pictures, and not architectural studies, have been the object. But it is in the near view of a portion of the hypethral Temple at Philæ that we meet with that combination of distinct national styles which are invaluable to architectural students, as pointing out the true means by which the nucleus of a new style is founded, and from which nucleus a positively original style has in many instances brilliantly radiated. The Greek of the Alexandrian age, blending with the Egyptian, produced certain remarkable effects, which evidently might have resulted in a very remarkable and very magnificent style. The sharply-sculptured foliage of the fine capitals which crown the columns of this beautiful temple bears evidence of the immediate influence of the Grecian chisel; the Greek treatment of the acanthus in the Corinthian capital being clearly a model of style held in view by the Egyptian carver. But the meeting of these two styles has produced something more than modification of treatment. It has produced variety of design, the ornamentation of every one of the capitals of Philæ being differently composed. This has generally been the result of a meeting between a comparatively new and an ancient style. We have precisely analogous examples in the history of our own Mediæval architecture. The capitals of the twelfth century, often very close copies of the Romanized Corinthian, soon began to sport into exuberant variety of design, which resulted, as at Philæ, in making every individual capital in an important edifice different from its neighbouring capital in every detail. At Esne (No. 21) we have a still nearer view of a series of highly-enriched columns, in which every stroke of the chisel may be traced in the extraordinary clearness and distinctness of the photograph. These examples serve to prove that the architectural sculptor of Egypt possessed a picturesque power of treating ornamental detail which we have hitherto not estimated at its full value. The examples of Dendera and Philæ, properly studied, are highly suggestive of new effects to be produced by a grand distribution of simple masses, and masses of ornament, in new relative proportions, which might be applied to any style in a way to infuse novelty and freshness of character, without in the least bastardizing its inherent features. The fact is that, in all that regards a true artistic appreciation of the real characteristics of Egyptian art, we have been, till quite recently, in about the same position as we were in regard to Gothic in the well-abused Batty-Langley period.

Next in chronological order come the Baalbec subjects of this interesting collection. In these magnificent remains we have examples of Roman architecture, just before its final debasement had set in; mingling the grandeur and simplicity of towering columns and majestic cornice, which it had inherited from its Grecian provinces, with features of a decidedly Eastern character. In fact, the whole style is tinctured with a kind of profuse Oriental richness which stamps it with a new and distinct aspect. At Baalbec, as at Petra, we get Roman architecture of a class not to be found in the West. It was precisely on that account that English architects (of a happily gone-by period) stigmatized it as "bastard" and "debased," seeing that it departed from the printed rules and diagrams of their "five orders." We have now learnt to feel that it is especially in its departure from routine models, however perfect, that the Oriental architecture of Rome acquires its greatest value, as showing the true ductility of all architectural styles when directed by legitimate influences. We have before now compared what have hitherto been considered debased forms with those representing epochs of the highest and most classical purity, without detriment to the so-called debased. In one of Mr. Bedford's photographs the great masses of cornice and other remains impress the spectator with a high sense of the grandiose caste of the semi-Orientalized Roman architect, under whose direction they assumed their magnificent forms, grand proportions, and richly-wrought detail.

In these remains we have examples of a grander manner of treating the main features of the Roman style of architecture than any presented in the whole range of the Palladian modifications.

Of Mediæval combinations of unusual character, full of suggestive features and fruitful hints, several interesting photographs afford remarkable examples. When the debased Roman, the Romanesque, and the Byzantine styles came into contact, in Western Europe, with the rising genius of Gothic art, certain features were evolved which, like sparks bursting from the contact of the flint and steel of art, gave a brilliant and new vitality to the architecture of the West. When a similar contact took place in the East, between the Byzantine, the Western Gothic, and the *Oriental* styles, at the epoch of the Crusades, a result took place which, while analogous in principle, was very distinct in character from the results which took place in the West. At Hasbeiya, for instance (No. 91), the semi-Saracenic remains of the citadel exhibit features capable of imparting an almost entirely new character to a transitional style such as we are now hovering over, and which is destined to conduct us eventually far beyond mere slavish imitations of Gothic, towards some such style as the French are now developing for themselves from combinational innovations, which were long considered the semi-barbaric works of their own Philibert de Lorme. In the citadel of Hasbeiya, the features analogous to Western Gothic ones, and which may be termed *capping* and *labelling*, are beautifully enriched with semi-Oriental borderings, such as might be at once adopted in certain modifications now beginning to appear in our modern treatment of Mediæval styles; and they would lead to others of equally novel and pleasing character. It is from new shoots, and the careful training of new branches, that we may hope to see a new style successfully developed, rather than from an entirely new root, which it would require ages to rear into a noble tree.

There is in this example a harmonious blending of pendants and truss-work, of an Oriental character, with the scaled columns and highly-wrought capitals of the Western Gothic of Spain and Sicily, which is very charming. The two manners are so skilfully dove-tailed, that no disaccordance is anywhere traceable. The Church of the Holy Sepulchre, also, exhibits valuable hints on combinations,—blending, as it does, the Romanesque, the Gothic, and the Saracenic styles into one harmonious whole.

Of more recent date, and more Oriental character, the minbar or pulpit in the inclosure of the Mosque of Omar abounds in hints that might be freshened into a new style of what we may fancifully term Modern Pulpit architecture. The capitals of the columns exhibit a very curious and interesting departure from the Ionic type; and the columns themselves, springing from husks of foliage, offer a pleasing example of Oriental observation of nature in works of art that we shall have occasion to refer to again in reference to a more recent style. These columns (at the foot of the pulpit stairs) form, with the pierced guard and bandrail, very important features in a very graceful structure. Some of the details of the Mosque of El Aska (57) exhibit a nearer approach to our own Western Gothic, picturesquely mixed with such characteristics of debased Roman as those which are exhibited in the remains of the Palace of Diocletian at Spalatro. Of a style fitted to mingle with Renaissance works are the arcades, supported on slender columns, which surround the ablution-fountain in the court of the Mosque of Omar, at Cairo. These slender columns present an effective and peculiar feature in the absolute reversal of the effect of fluting. This is done by means of raised ribbings, terminating a few inches short of the mouldings of the base and capital. A chamber in the interior of the Mosque of Sultan Hassan, at Cairo, presents a feature which might be adopted with effect in modern apartments, when large and lofty. A very monotonous appearance is produced, in nearly all our modern rooms, by making the decoration, whether of stained paper or painted panelling, extend from dado to cornice; while in Eastern chambers, on the contrary, the decoration is only extended to a certain height. In the excavated chambers of Assyrian palaces, sculptured subjects in low relief clothed the walls to about a third of their total elevation, leaving the space above altogether unadorned, or treated in a more simple manner. In the comparatively modern chamber of the Mosque of Hassan, the lower portion of the wall has also a marked separation from the plain upper portion, in the shape of a rich lacy border in low relief, of a kind of coronet pattern, which is a feature capable of being treated with the happiest effect in the modern decoration of interiors.

Before quitting the subject of Mahomedan architecture, we would remark that in the south front of the Mosque of Omar will be found valuable hints towards the formation of a modern kind of window tracery; and that the exquisite effect of the Oriental borderings which enrich the fountain of the seraglio might be looked into, in search of a new feeling for the enrichment of string-courses, and other architectural features of an analogous kind.

Our concluding remarks on cabin[illegible] styles will apply to the architecture of the newly-erected Palace of the Sultan at Constantinople, of which in an earlier volume we gave illustrations. The grand River Gate, with its picturesque piers, formed by groups of columns of a Corinthian character, is a really remarkable object. The details of the capitals and bases of these columns exhibit new treatment of an Orientalized character: the bases—which form, in Oriental fashion, cups of foliage (as mentioned in describing the pulpit of the Mosque of Omar), from which the columns spring—forming a preface, or introduction, to the foliage of the capital above: the leaves at the base being made to present a different character from those of the capital, just as the radical leaves of many herbaceous plants differ from those of the upper branches. Other features of this gateway present details full of novelty: in short, this Oriental treatment of the Corinthian order has evolved many peculiarities. The south-western entrance is also extremely rich; and presents a mixture of Orientalisms, almost approaching a Hindoo feeling, which yet do not clash with the other features, many of which are of purely European character. The river front of the palace is peculiarly rich in general effect. The windows are founded upon a rich kind of Italian art of the Cinque-Cento period rather overloaded with ornament. The great defect of this façade is to be found in one of its richest features; viz., the pairs of highly decorated quasi-Corinthian columns, which only support projections of cornice carried out merely for the purpose of resting on columns, which thus become mere parasitic ornaments of the worst kind; vicious and offensive to the eye of the true architect in proportion to their extreme conspicuousness. The photographs by Mr. Bedford of the Sultan's new palace on the banks of the Bosphorus are, on the whole, the most perfect examples of photographic manipulation of the entire series; and perhaps, in clearness of definition, surpass anything of the kind yet produced.

HEXHAM ABBEY BUILDINGS.

Examples of ancient Domestic architecture are not so numerous with us that we can afford to overlook any. It is with pleasure that we point out to our readers very interesting remains of the monastic buildings at Hexham, of which few persons are cognizant. Those who have stood on the broad and leafy Seal, and looked down upon the town, rising so irregularly up the hill-side, will not easily forget the fine position of the Abbey Church; nor will the quaint names of the sloping streets speedily pass from remembrance. Here is Priest-popple; and there, at opposite extremities of the town, are Hencotes and Cockshaw, fancifully supposed to be named after the separate establishments in which the monks may have fastidiously reared their fowls. Here is St. Mary's Chare; and there Gilligate—St. Giles's-gate. Here is the less reverently named Bone-street, and there is Pudding Chare; and there is the historic Battle Hill. Those who have enjoyed this privilege must endorse the wisdom of St. Wilfred's choice of site for his Saxon cathedral; for, in all Northumberland, there are no harvests so early as those in the vale of Hexham; no trees with richer foliage; no landscape more diversified. Two brooks, Hextol and Halgut, run into the Tyne within sight. The former of these, Hextol,—height of source,—gave name to the Saxon town Hextoldesham: which term the Normans contracted to Hexham. The latter, Halgut, inversely, may have owed its appellation to its neighbourhood to the seat of piety, the monastery.

Of this once famous establishment, the church and chapter-house, and abbey gateway, are generally supposed to be the only remains. But we find that the monks' refectories are still in existence. On the west side of the cloister-space—some 100 feet from the westernmost part of the church left standing—are two long, vaulted and ribbed chambers, now used as shoe places, lumber places, and wine vaults, to residences built adjacent to them, and surmounted by a modern ball-room and court-house. These, on examination and comparison, prove to be the refectories of the ancient abbey, and to have formed the boundary for the western walk of the cloisters.

The arrangement of the abbey buildings, generally, appear to have been nearly identical with those of the great monastery of Clairvaulx. The refectories at Hexham were approached from the cloister by two transverse groined passages, still in existence, though so obscured by modern partitions as to be difficult to trace without a close investigation. The southernmost portion of the wall facing the cloister retains portions of the lavatory, and, in the thickness of the wall at this

point, there is the passage to a staircase leading to the dormitories, which were doubtless above them. Of the two transverse passages mentioned, one is in the north-west angle of the cloister, and gave access to the northernmost refectory. The second is in the same side of the cloister, close to the lavatory, and gave access to both refectories and to the flight of steps in the thickness of the wall leading to the dormitories over.

On the east side of the cloister, a portion of which is formed by the west wall of the south transept, there is masonry that indicates the position of the prior's refectory, which, unlike those of the monks, is ruined. A length of wall showing the springs of the groining and the recess for the fireplace is all that is left.

The wall of the south transept formed one side of a passage leading from the cloister to the portions of the monastery eastwards of it. The southernmost wall of this passage formed the north wall of the magnificent chapter-house; and the south wall of this again formed, in its turn, the north wall of the prior's refectory,—all on the east side of the cloister, as at Clairvaulx. The chapter-house is in sufficient preservation to enable the eye to realize its exceeding beauty. The roof was formed by nine bays of groinings, supported by four central columns; but all is now open to the sky. The window openings were most elegantly managed. Flush with the internal surface of the wall were isolated columns, dividing each opening in two. Looking through these, and through the thickness of the wall, the eye would be met with a second isolated column, dividing and arching the opening on the exterior in the same rich manner. There were two doorways, one leading into the cloisters, and the other opening eastwards into a vestibule.

The north wall of the cloister, which forms the southern boundary of the ruined nave of the church, has been rebuilt in the Perpendicular era. It has a fine Perpendicular doorway in the western angle, close to the passage leading to the refectories; and a Perpendicular moulded recess midway. Thus three sides of the cloister are made out. The fourth is overthrown, and overgrown with grass.

We would refer our readers to our account of the recent remodelling of the choir of this grand old church.* We told of the destruction of the Lady Chapel, and of the building of a new east end. For the complete formation of this new east end, one bay of the fine Perpendicular roof has been taken down, and a modern open-timbered roof of the Early English pitch substituted for it. We much fear that this is a loss preliminary to the destruction of the whole roof. Subsequently to the burning of the nave by the Scots, the edifice underwent a thorough repair. Thought may have been entertained of rebuilding the nave, as one wall of it was actually rebuilt as it stands to this day; but, ultimately, a Lady Chapel was thrown out to the east, to obtain the required space. The edifice was then magnificently decorated with carvings in wood and stone, and paintings. We have detailed the removal of the shrine erected in honour of Prior Richard, historian of Hexham, and of the destruction of the open panelled screen-work confining the Ogle shrine. The altar painting found *in situ*, on the destruction of this latter shrine, we find to be a triptych, painted in the same style as the panels of the wonderful rood-screen. The subjects in each compartment are restricted to the vesica form, and have diapered backgrounds. In the centre panel is the figure of Christ rising from the tomb: an expression of compassionate, sorrowful agony pervading his features, the wounds flowing with blood. The crown of thorns, rendered thorn-colour, is slightly in relief, and is surmounted by a nimbus in much bolder relief, from which the gold has not yet altogether perished. A wavy boundary of conventual clouds surrounds this figure. The diaper consists of hexagonal rosettes, containing the letters I H S in each of them, and is on a deep crimson ground. In the compartment on the right hand of this is a full-length figure of the Virgin. She is treated as the Queen of Heaven, and stands on a globe surrounded by a vesica-formed boundary of golden rays. She bears on one arm the infant Christ, and in the other hand a sceptre. An ornament on her breast, her sceptre, her nimbus, and that of the infant are all in bold relief, and bear traces of gold. The robe is crimson, with a geometrical pattern raised upon it, contrasting with a green mantle diapered with *fleur-de-lys*, falling in folds from the arm on which the child is held. The background of this picture is formed of a diaper of stars upon a blue ground. The third compartment represents St. John the Baptist, bearing in one hand a chalice and in the other a palm-branch. The edge of the chalice, the stem, and the base, are all decorated with raised ornament. This figure is diapered in green, and is surrounded by a cloudy boundary of the same form as the others, and the diapered background is similar in design to that of the Virgin's panel. This minute work of art, executed with so much care and so much cost, and hidden for so many centuries, has been preserved by a green baize covering it when the Ogle shrine was converted into a pew. The hammer has not been withheld, for there are nails and tin-tacks here and there in the frame surrounding it. Mr. Wilson, of Alnwick, has become possessed of it from the contractor who pulled it down, by order, strange to say, as old materials.* The roof of the choir, with its moulded ribs and carved bosses, is as interesting a relic of the same period, and equally impossible to replace.

We would say, too, a few more words concerning the Saxon crypt, in time. The Early English builders of the abbey church, after the Saxon building had lain a mass of ruin for two hundred years, evidently took the crypt into consideration of their plan. It had three entrances, as we may see at this day.

The Early English builders adapted the position of the piers of their central tower to these entrances. The foundations of all are clear of the descents into the crypt. They placed their north-west pier on the south side of the northernmost descent, because there was a north aisle; but the south-west they were obliged also to place to the south of the second entrance, because there was no aisle on that side, otherwise the entrance would have been in the cloister without the church. As it is, all three entrances were within the fabric. One was used exclusively by the priest serving the altar, as it leads from a portion of the edifice reserved for the ecclesiastics, still containing the staircase to the chambers over the chapter-house and prior's refectory, immediately down to the martyrium. The other openings were for the descent and ascent of the faithful. They descended from the centre of the nave into a lobby, where they found themselves facing the martyrium, and whence, probably without entering the innermost and more sacred portion of the crypt, on traversing a passage skirting the martyrium, they ascended into the aisle. These three sets of stone steps are all *in situ*; nevertheless, the descent is made now by ladder, because of the trifling cost of disengaging either of the ancient openings from the rubbish with which they are blocked up. It is highly desirable that this work of disencumbrance should be accomplished; but—and we add the few words we premised we had to say—the greatest caution should be used. Any rash digging so close to the foundations of the piers of the tower arches might be fraught with great disaster. Already damage has been done by the undirected explorations of the sexton, portions of the vaulting having fallen in close to the foundations of the south-west pier.

To return to the refectories. These rare remains are cut up, by partitions, into places for the mean purposes for which they are now used, and, as we have said, are surmounted by a ball-room and court-house, to which access is gained by external stairs. Would it not be a work of remunerative archæological interest to remove these partitions, and restore to these chambers their original proportions?

* Vol. XVIII., p. 681.

* A letter as to this will be found on another page.

THE ROYAL ACADEMY.†

EARLY ARCHITECTURAL MEMBERS.

A HISTORY of the Royal Academy was a good idea for a literary work; but it ought to have been gone into in an impartial and disinterested spirit, and not with the feeling either of a partisan or of an opponent. Mr. Sandby's volumes are very interesting and agreeably written; but the admitted purpose with which he set out was not so much to give an impartial history as to make that history tell in all possible respects in favour of the Academy. The intrinsic value of such a history is by no means enhanced by such a foregone determination on the part of its author; still a great portion of the work is not in any way affected, one way or other, by the author's endeavour to remove "a wrong impression" arising from "ignorance of its proceedings," and exposing the Academy to "unkind and undeserved opposition." We are not amongst those who assert that nothing is due to the Academy; but we have strong feeling as to errors in its management and its want of enlarged and liberal views.

† "The History of the Royal Academy of Arts; with Biographical Notices of all its Members." By William Sandby. In two volumes. London: Longman & Co. 1862.

The plan of the work needs little explanation. The author first endeavours to show the state of anarchy and confusion into which the old art societies, preceding the foundation of the Royal Academy, had fallen at the time when it was established; and he then divides the subsequent history into periods,—being the term of each presidentship,—in order that he might group together in successive chapters, as far as possible, the history of the members with that of the Academy in each stage of its progress. The biographical notices have somewhat of the dictionary form, and are upwards of 200 in number. They embody much information from detailed memoirs, notices in periodicals, and direct information from the members themselves.

The first Academy, as our readers may remember, was projected by Charles I., in 1636. It lasted only five years as the *Museum Minervæ*. Another academy was planned by Evelyn just two hundred years ago, or in 1662; but it soon shared the fate of the first. Half a century afterwards, Kneller repeated the attempt, but on a small scale. A proposal to found a Royal Academy was made to Goverment by Thornhill, and even the very site whereon it is now accommodated, "at the upper end of the Mews," was then suggested. 3,000*l.* was the sum requisite for the building! but, although the project was approved of by Lord Treasurer Halifax, the Treasury refused to grant so large a sum for such a purpose.

Fresh attempts to found an Academy of Art were made; and in these Hogarth, Benjamin West, and others of more or less note took part, as also did the Society of Artists, the Society of Dilettanti, and the Society of Arts. It was George III., however, who, in consequence of certain "painters, sculptors, and architects of this metropolis" memorializing him on the subject, founded both the Royal Academy and its exhibitions.

The plan of the proposed Academy was laid before his Majesty, at his request, and signed by him, on the 10th of December, 1768,—the date, therefore, of the establishment of "the Royal Academy of Arts in London, for the purpose of cultivating and improving the arts of painting, sculpture, and architecture."

Apartments were provided for the academy in the king's own palace of Somerset House; and when the old edifice was replaced by the present one, special apartments were consigned to the academy by the king's own arrangement with the Government, who were to have the new building for public offices.

The limitation made by the instrument of institution of the number of the Royal Academicians to forty, has been a ceaseless source of contention from the first foundation of the academy to the present time; but we do not intend now to enter either on this or any other moot question connected with the academy; preferring to occupy our remaining space with a few particulars as to one or two of the architects and sculptors who were connected with the academy at its outset.

THOMAS SANDBY, R.A., the first professor of architecture at the Royal Academy, was born at Nottingham, in 1721. He is said to have had his thoughts first directed to the arts as a profession by having perseveringly pursued a new system of perspective, which he brought to a state of great perfection and readiness of application. Encouraged by the reputation he acquired by a drawing of his native town made upon these novel rules, he came to London, and was, in 1743, appointed draughtsman to the chief engineer in Scotland. In this capacity he was at Fort William, in the Highlands, when the Pretender landed; and was the first person who conveyed intelligence of the event to Government in 1745. In recognition of his merits as an artist, and his services to the State, His Royal Highness William Duke of Cumberland appointed him his peculiar draughtsman; and after the termination of the struggle in Scotland, he followed the duke in his campaigns in Flanders.

In 1746 he was made Deputy-Ranger of Windsor Great Park, an appointment which he held for fifty-two years. In this capacity, combined with his professional position as architect to the king, he planned, in 1754, the construction of the Virginia Water, the largest artificial lake in the kingdom, and shortly afterwards published a series of eight folio views, illustrating the improvements and alterations in Windsor Great Park effected by his labours. In 1755 he was one of the committee of artists who combined to propose a plan for the

foundation of a public academy for the cultivation of the arts. Subsequently he joined the Incorporated Society, and was eventually chosen one of the foundation members of the Royal Academy; and as the Professor of Architecture he continued annually, until 1796, to deliver lectures on architecture at the academy, largely illustrated by his own drawings. These lectures were never published; but the original manuscript was presented by the late John Britton to the library of the Royal Institute of British Architects. His aim, in addressing the students, appears to have been, not so much to propound new theories, as to correct the false taste of the period; to lay down the simple foundation principles of the art as clearly as possible, and to lead the young architect to combine in all his designs utility with elegance, and harmony with variety. His executors offered the MS. to the Royal Academy for publication: but it was declined by the council on the ground that they did not possess sufficient funds to apply so large a sum as would be required for the purpose, in consequence of the numerous pictorial illustrations he had introduced in them. For two years preceding his death, ill health rendered him unable to deliver his lectures, and Edward Edwards, A.R.A., read them for him from 1796 to 1798.

A large number of his drawings are in the Soane Museum, the print-room of the British Museum, and the royal collection at Windsor Castle.

Freemasons' Hall, in London, was built from Sandby's design, in 1775: the carved wainscoting around the altar of St. George's Chapel, Windsor, was designed by him; and in 1768 he gained the first prize in the competition for the erection of the Royal Exchange in Dublin, equally with Cooley; but the latter, being an Irishman, obtained the commission.

He died at the Deputy-Ranger's Lodge, in Windsor Great Park, on the 25th of June, 1798, in his 77th year, and was buried at Old Windsor.

George Dance, on the death of Sandby, was elected, in 1798, to succeed him as Professor of Architecture. Dance was born in 1740. By the circumstances of his position, as a son of the architect to the corporation of London, he received an education and opportunities of study which fitted him to follow the profession of his father, whom he succeeded, in 1768, in his office of city surveyor. His first architectural work was the design for Newgate, which was begun by him in 1770. The Giltspur-street Compter was also designed by him; and he added further to his fame as an architect by the erection of St. Luke's Hospital. The front of Guildhall, erected in 1789, was from his design; as also the Boydell Shakspeare Gallery, in Pall Mall (now the British Institution), and the theatre at Bath, lately burnt.

Dance does not appear to have delivered any lectures as Professor of Architecture to the Academy, and he resigned the office in 1805. In 1811-14, two folio volumes of profile portraits were published, drawn by George Dance, and engraved by William Daniell, in imitation of the original drawings. In this taste for portraiture he followed his brother Nathaniel's branch of art rather than his own. In 1816 he resigned his appointment as city surveyor in favour of his pupil, William Montague, and died on the 14th of January, 1825, in his 84th year. He was buried at St. Paul's, near to the last earthly resting-place of Sir Christopher Wren, and John Rennie, the engineer.

William Tyler, R.A., though described as one of the sculptors among the foundation members of the academy, was professionally an architect; and in 1786 he designed the Freemasons' Tavern, in Great Queen-street, Lincoln's Inn,—a separate building from Freemasons' Hall, erected ten years before by Sandby. Tyler died in 1801.

Joseph Wilton, R.A., one of the academical sculptors among the foundation members, attained to considerable eminence in his profession, and is the first English sculptor who enjoyed the advantage of a regular course of academic study. His father was a manufacturer of plastic ornaments for ceilings, &c., and employed a large number of persons in his workshops. Joseph was born on the 16th of July, 1722, and was first taught in his profession by Laurent Delvaux, at Neville, in Brabant. After eight years spent in Italy, he came back to London in company with Chambers and Cipriani, and with the latter was chosen as a director of the Duke of Richmond's sculpture gallery in Spring-gardens. He was thus employed till 1770. He had been previously appointed state-coach carver to the king, and made the model for the coronation coach for George III.

On the death of his father he became comparatively independent, and took up a more decided course as a sculptor. The architects of his day being generally commissioned to carry out the sculptured decorations and details of the buildings they designed, the execution of monuments, statues, &c., was the only work left for the professional sculptor. Wilton's first public monument was that erected to General Wolfe, the conqueror of Quebec, in Westminster Abbey. Among his subsequent monuments were those to Admiral Holmes, the Earl and Countess of Montcath, Pulteney Earl of Bath, and Dr. Stephen Hales, the divine and botanist. He also made busts of Bacon, Cromwell, Newton, Swift, Chatham, and Chesterfield.

Principally by such works as these he amassed a large fortune, and was enabled to live in a style of luxury proportioned to his means. He occupied a large house, and assembled goodly company at his table. Lord Charlemont and Mr. Locke among the aristocracy; Sir Joshua Reynolds, Sir William Chambers, Bartolozzi, Cipriani, and Richard Wilson, among the Royal Academicians; and Dr. Johnson and Baretti, among the men of letters, were his frequent guests. When age crept upon him he accepted the office of Keeper of the Royal Academy in 1790, retaining it till his death, which took place on the 25th of November, 1803. A bust of him, by Roubilliac, was given by his daughter (Lady Chambers) to the Royal Academy.

We may add, as a fact not known to the writer of this book, that the Queen has sanctioned the following resolution of the Council of the Academy:—"That it is considered desirable there shall be an Honorary Retired Class of Academicians." The retired academician is to receive an honorary pension of 100*l. per annum*, retaining the title R.A. This will, of course, create vacancies, and so afford opportunities for additions to the body.

ELECTRIC TELEGRAPH DELAYS.

Notwithstanding all the useful purposes to which this wonderful power is now put, and the hopeful prospects of the future, there is at present just reason for complaint of delay and mismanagement.

From most parts of Europe, and from the chief towns and counties of the United Kingdom, intelligence is usually, and should always be, conveyed with marvellous rapidity to and from the chief central and other electric telegraph stations: there are, however, far too many neglects even in this matter; but the conveyance of messages between the various metropolitan railway termini is now so ill managed, and so little certainty can be felt of punctuality and quickness, that the right progress of this valuable introduction is greatly retarded. At present it generally takes longer to convey intelligence to its destination in London than it has taken the news to come from hundreds of miles away.

When we consider to what a vast extent this invention must ere long come into use, and that most places of business, public establishments, fire brigades, police stations, &c., will require the means of receiving and transmitting electric telegrams on their respective premises, it is evident that central arrangements of a simple but perfect kind must be made on a gigantic scale, of which we have seemingly at present but little conception. Look at the great space of the General Post-office, at the army of men who are there daily engaged; and the time will probably come when an establishment of not less proportions will be required in connexion with the electric telegraph in London.

But in order to do this with rapidity, which is so desirable, it is necessary by all means to gain the public confidence. To show the advantages of this introduction, and in order to effect it, there should be arrangements made between existing companies, instead of a clashing of operations, and a hostile spirit, which are of anything but of advantage to the public, and have the effect of causing delays, and so damaging the character of the electric telegraph in the opinion of many.

Numerous and just complaints have been lately made in the columns of the public press which show the necessity of immediate and efficient changes. Many complain that it would be quicker to walk, or to take an omnibus, or send by the post, than to depend on the telegraph. In fact, it is getting the character of a slow-coach. The clerks employed in the several stations grumble at the smallness of their pay; of overcrowded and unhealthy offices; and of the engagement of youths who are not skilful or experienced in their work. This should be seen to; for in this matter, as it is in most others, success is only to be obtained by the employment of competent persons, and by fair and liberal treatment.

As matters stand, we depend chiefly on boy-messengers for taking the telegrams to their destination, and most of them are slow "Mercuries." Persons who are accustomed to wander in the City cannot have failed to notice the crawling progress of many of those messengers, who may be employed in conveying tidings of life and death or on other momentous business. In the streets the postmen, the commissioners, newsboys,—all move more rapidly than the boys connected with the telegraph.

Whatever difficulties there may be in central arrangements, there can be none in effecting improvement in this respect; and the managers of the electric telegraph should bear in mind that the General Post-office is rapid in its operation, and that there is every likelihood of an advance in this respect. In connexion with this service, swift horses are employed, and skilful drivers take the mails through the streets at a great speed; and the letter-deliverers are not slow at their work. When we notice all this, it is impossible to feel any doubt that a more effective delivery of telegrams can be effected; and it would be certainly of immense advantage to the public, and a sure profit to the companies, to have new and better plans carried out.

EVIL BURIAL PRACTICES.

English burial practices are not always consistent with sanitary requirements: the length of time dead bodies are retained, and the mode of carrying a coffin to burial, frequently produce disease in the living. Medical men and clergymen can, in their own experiences, point out many cases of injury to the living by retention of the dead, especially where death has arisen from some contagious or infectious disease. Carrying the coffin on the shoulders of men, and covering coffin and men by the pall, are so objectionable and injurious in some cases—as we, years ago and since, have urged—that the practice ought to be preventable by law. Clergymen who have much burial-service experience know that bodies are frequently in such a state as to taint the church, and to render it most disagreeable to stand sufficiently near to perform the burial service.

Will our Local Boards of Health ever ask for power to compel the removal of dead bodies from the midst of the living before injurious decomposition has set in? The time has now come when such a step might be taken.

ACROBATS *versus* ART AND NATURE.

It is very disheartening to find that in these (enlightened?) days a clever mountebank seems to have, for the stupid multitude, attractions far superior to the beauties of nature or the charms or curiosities of art. At the Crystal Palace, when Blondin is announced to ascend the rope, crowds flock to Sydenham, and everything else is left unnoticed by the assembled thousands, who look with insane enthusiasm at the ludicrous and foolish capering which each instant exposes a fellow creature to the risk of destruction. Thus far Blondin has walked the rope without disaster; but several accidents have happened elsewhere; and Blondin only needs "rope enough" for the grand finale: his fate is indeed wavering in the balance. One would have thought that such a sight as the mass of bruised flesh and broken bones lately known as the intrepid female Blondin would have given a shock to the feelings of those who witnessed or heard of it; but such has not been the case; for the crowds would go to the same place to see another female Blondin smashed. The acrobats themselves are not by any means so much to blame as their employers and the empty-pated sight-seeing crowds who urge them on. The French female acrobat who fell at the Hippodrome lately, betrayed the, in their case, excusable motive which prompts to such risks, when she cried incessantly, in French, after returning to consciousness, "My poor children! my poor children! you have lost your bread-winner!"

It is really time, however, that a stop were put to these discreditable exhibitions amongst a people who affect to be disgusted with the idea of Spanish bull-baiting, and with the narratives of ancient gladiatorial and other sights not one whit more barbarous than that of acrobatic Blondins and Leotards, male or female.

RELIEF FOR LANCASHIRE AND CHESHIRE.

THE distress in the cotton districts continues to spread; and, unfortunately, there does not yet appear to be even a chance of improvement. Instead, there is the dreary prospect of work becoming still more scarce; the number of families in poverty largely increased; and, besides, the coming winter will add to the misery and suffering of many thousands. The *Times'* correspondent tells us of the sad condition of a large part of the population of one town; of the disappearance of furniture; the huddling of families together in beds upon the floor of their single dwelling-room. In hundreds of cases every article which would produce a sixpence has been sold or pawned; and one pawnbroker reports that, so completely have the poor people been obliged to strip themselves, for some time he had not had anything offered to him.

We have the sure prospect of the winter's cold coming upon men, women, and children, already deprived of the comforts of their homes, ill-fed, and thinly clad; and the most of whom have been accustomed to warm fires in their houses, and heated atmosphere in the manufactories. To relieve, in every possible way, the hard distress which has fallen upon such a large industrial population, is the duty, not only of the rich, but also of every one who is fortunately at this time earning a sufficient livelihood; and we have no doubt that, on this pressing occasion, British workmen are anxious to assist and will worthily do their duty towards their less fortunate brethren, who are for a time placed in such deep trouble. Systematic management, however, is required, both as regards the collection of funds for the north, and also distribution of them.

In looking over recent subscription lists, we are glad to see the entry of the order of Foresters for 300*l.*, and such notices as the following;—the men in the employ of Messrs. J. A. Robertson & Co., Tweed Ironworks, in lieu of a treat, 30*l.*; first and second instalment from the men in the employ of Messrs. Bass & Co., steam saw-mills, Burton-on-Trent, 4*l.*; weekly subscriptions collected by members of the Reading Working Men's Christian Society, 10*l.*; penny subscription at the establishment of Messrs. Easton, Amos, & Sons, Southwark, 5*l.* 12*s.*; contributions of the block printers and a few others, in Summers-town, Tooting, 4*l.* 13*s.*: there are also amounts, by weekly subscriptions of 2d. each, from persons in the employ of Messrs. W. Clowes & Son. At Messrs. Pontifex's large works at the Isle of Dogs, the foremen of the different departments have undertaken to receive, weekly, at the doors of this establishment, a penny or any other voluntary subscription which those employed there choose to make: the document announcing this intention, and urging the claims of the cotton-workers, is very creditable to all concerned.

We trust that these good examples will be generally followed: if so, a very useful sum will be gathered by this means; and it must be borne in mind, that we have the requirements of at least several months to meet; and that the continuance of the subscriptions is most desirable.

In St. Pancras, apart from the City, the first important parish movement seems to have been made to meet the distress existing among the cotton artisans. A meeting has been held in the Vestry Hall, at which it was suggested that St. Pancras might take the initiative amongst local boards in instituting an effective organization for promoting so good a work of national character. Every right-minded person in the parish would approve of the vestry's commencing such a movement. The suggestion was unanimously agreed to; and it was arranged that energetic steps should be taken to carry out the object in view. The example of St. Pancras might be well followed by Islington, Marylebone, and other large metropolitan parishes.

Having considered very carefully the condition of the Lancashire and Cheshire workpeople, guided by the authentic reports which have from time to time appeared, and other information which can be relied upon, it appears certain that the out-door poor-law relief, as at present administered, is insufficient for the purpose of keeping life in the bodies of the unfortunate recipients. How can it be expected that this can be done with about the shilling a week average per head which is allowed? It must, therefore, be by public subscriptions that a vast amount of this distress is to be alleviated; as, for example, by the distribution of soup, coals, help for rent, and assistance in providing necessary clothing.

Besides hunger, there is also danger in the idleness into which so many have been thrown; particularly young women. Efforts are being made to get those who are willing, and of suitable character, placed as domestic servants. This will afford a certain amount of relief; and, besides, rooms have in various places been opened for those who choose to be employed in needlework. Instruction is also given in reading. Schools, which might be managed by teachers who would volunteer in the various localities, might be opened for the young men and boys. There is, unfortunately, too much space which might be devoted to this purpose in the closed warehouses and manufactories. Education has in those parts been sadly neglected; and through the present evil a certain amount of good might be done; and, although some will say that the troubles of their condition will prevent the men and their wives from thinking of other things, it might be worth while to try the effect of a few popular and instructive lectures. Could instruction be blended with amusement, so much the better; and we are pleased to observe that something in the shape of amusement has been shared in by the people out of work at Preston. At the Guild festival there, the vicar, in the parish church, however, rebuked the wealthy manufacturers of the town for their want of sympathy for the sufferings of their unemployed factory labourers. "The cry," he said, "has gone forth through the length and breadth of our land, which all ears have heard; and almost all hearts have felt a sentiment of compassion and benevolence. Strange to say, there are some whose ears have heard the cry, but whose hearts have not felt the compassion; and these are the very men who have grown rich upon the labour of those who now appeal to their sympathy, but who appeal in vain—yes, in vain!" These words seem to justify the very general rumours as to the apathy of many of the richest factory owners during the present crisis. The vicar must have every means of knowing the actual facts; and one can scarcely suppose he would venture publicly to rebuke an influential class without sufficient reasons. It is sad to think of such heartless selfishness. Pity they could not be compelled by law to support, in their hour of adversity, those who have enriched them. Surely these contemptible fellows might at all events bestir themselves to a little better purpose than they appear to have yet done in preparing the way for a future supply of cotton. Their own self-interests ought to prompt them to do so. Something, however, is being done in this respect; and no time should be lost in securing a future supply, independent of America.

HOLY WELLS.

THE subject of holy wells, it is submitted, is worthy of consideration; and, in the hope of provoking more extensive research, the following brief paper has been drawn up. As the archæologist attempts to retrace the history of them to their origin, the mind is carried back to a remote antiquity, but can only conjecture the source in which they have had their commencement. In pursuing the inquiry, however, we enter upon a flowery path in which poetry and fancy afford the richest sensations of romance; for both the classic and the modern muses garnish their choicest strains of narrative with conceptions drawn from the sacred spring or venerable holy well. We are at once reminded of the nymphs in the imaginations of the ancients; and the many fanes or grottoes, with their streams hard by, whose mysterious waters were the reputed baths of deities, and the subject of so many fictions. It is not inadmissible to suppose that these notions and mysteries which have been transmitted so extensively have, like others widely disseminated, had their commencement in obscure traditions and perversions of some important realities, such as those of the Jordan; or the marvels of Siloam and Bethesda may have produced the counterfeits of ancient story. Then the superstitions of the heathen, we know, were often adopted, and would easily be grafted on the practices of an unenlightened age in the church's history. The mind of the vulgar clings with tenacity to resorts for gifts of healing, or communications from unseen spirits; and the teaching of a better faith would not escape the mixture of such delusion. Hence, not only has pagan sprinkling of holy water been introduced in the Middle Ages, but localities of streams or fountains have been confided in for a mysterious presence and supernatural virtues. In fact, wells of heathen fame have been transferred to saints in many instances. The legendary history connected with our subject bears us to the very extreme of poetic licence; and the faith in it has been more than excessive. How many of our English towns owe their names, or the terminations of them, to their sites, which were selected for the supposed guardianship that accompanied the sainted well that they could boast of. Not only does the city of Wells derive its name from its own St. Andrew's, but we may infer that the Chadwells, the Holwells, the Barwells, the Eastwells, and others of our own county (Leicestershire), ever have had their high repute for healing or benedictory attractions; and the streams, which once lured the pilgrim to devotions and works of supererogation, may still be found to luxuriate upon with pensive contemplation of the past, and thankfulness for the brighter light that has dissipated the delusions. Frequently has Mediæval art enshrined the sacred spot; and the structures have been singularly picturesque. One laments on this account that, from their delicate construction and the deadness of archæology in later times, few remain to illustrate the artistic skill and the romantic fancy of our forefathers; still the imagination is aided by a few solitary remaining examples; and with them, and the knowledge of what was once attributed to the patron saint, we may bring up visions of the past, and place ourselves for the moment amongst these exquisites of bygone times. The most remarkable relic of this description is that existing at Holywell, in North Wales. We may suppose that this has escaped the ravages of time, and an ultra-Protestantism, from its great beauty, and from the durable character of the stonework. The notable legend of St. Winifred may possibly have secured for it a continued veneration; for a lingering faith in what had once been paramount with a simple people is not easily extinguished; and the "Golden Legend," published in 1512, would be treasured and appealed to as the exponent and verification of the story.

When a spring or stream had gained repute for celestial occupancy, it was a practice to choose a site upon it for a baptistery; and probably most holy wells have been thus honoured, or have served the purpose of furnishing the water for administration of baptism in the immediate district. But, besides the common use, the superstitious reliances on the saints of these springs for various helps have been remarkable, and the powers of cure imputed to them innumerable. Each well was commonly in repute for its own specific virtue; and this will often give an interest in tracing the origin of their names. Even to the present day the wishing-wells perpetuate the absurdities of these superstitions. But, leaving the puerilities of the present and the grosser delusions of past ages, there are aspects in which we may contemplate the history of these things with favour: benevolent intentions and pious devotion are seen in a manner to command our admiration. There are numerous examples of remains in Cornwall. In many cases the hermit's cell has been built near the sacred spring on some cliff, or seacommanding eminence, or even insulated rock; that at the tempest's howl the recluse might be engaged in watching the dangers of the seafaring adventurers, and ply his earnest intercessions in their favour, or aid in restoring the half-drowned mariners. Such self-sacrifice and devotion to the vital interests of others is worthy of perpetuated remembrance, if only to provoke to equal zeal the professors of a purer faith. Other holy wells, with the hermit's oratory, have had their sites remarkable for their extreme seclusion, as being favourable to ascetic sentiment, and some for the impressive scenery surrounding them. In this brief notice of the subject, no elaborate research after existing examples is undertaken. Their design and a general view of them only are aimed at. To give an account of the many relics of this class, with their history, traditions, and supernatural attributes which still linger in some instances, would be more laborious than valuable. One ruin of a Well-chapel, however, may properly be brought into especial notice, as it is but little known, and its charms are exquisite probably beyond comparison. In the beautiful vale of Clwyd, near the Cefn rocks, there remains a cruciform chapel. The walls of the three eastern limbs of the cross area are yet standing, and the western portion has enough remaining to show what the fabric was entire. The well is in the nave, or, more properly, the western limb; and the wall inclosing the well is still in good preservation to the height of some 18 inches above the flooring. This is happily sufficient to show the curiously-elegant design of this baptistery, as we may suppose it to have been, the bases of the shafts and other details being tolerably perfect. The inclosure of the well is angular, presenting in plan a

✠

kind of asterisk; and from each angle has risen a slender elegant pillar, thus encircling the sacred fount with a double colonnade, which, with the main walls of the building, would support a ribbed and groined roof with intersections and ramifications amounting to a singular display of taste and beauty. But trees are growing in the midst, and their roots threaten speedy destruction of the chapel walls. If there be such a thing as æsthetic religion, here it must have had its most favoured residence. Embosomed in really enchanting scenery, with the gurgling pellucid stream, and rocks of fantastic shape and singular richness, doing their utmost with the crowding hues of various foliage to make the glen unrivalled in its charms and sweetness—the woodland songsters holding perpetual festivity, and the darting finny tribe bespeaking an enjoyment of fairy-tale rather than of ordinary existence—here the calm retreat and gorgeous shade must have imparted an unearthly sensation most potent for reverie and religious abstraction. To this little baptistery-chapel attention is particularly invited.*

MELBOURNE, VICTORIA.

In consequence of the general monetary depression now existing in this colony, much less is doing, either in public or private works, than has been the case for some years past. Less money has been voted for public works by the Parliament just closed than in any previous session. The main lines of railway are hastening towards completion: already a single line is available on the Ballarat branch, and three trains run up and down every day. On the other (Murray River) branch, the line is opened as far as Kyneton, 56¾ miles from Melbourne, and will be completed through to Castlemaine and Sandhurst early in September. The works done are generally of the most substantial character; indeed, many think that less expensive works would have suited the circumstances of the colony.

Of public buildings, the Treasury and Government Printing Office alone may be said to be completed; indeed, the former is scarcely so even now. This building is very creditable, in many respects, to the Public Works Department and those who have had the carrying out of the works. Closing the end of one of our leading thoroughfares, it occupies a commanding position. To our mind, the proportions of the ground-plan, where there was no necessity to be so restricted, are the first fault: another objection is the meaningless use of columns and pilasters. The style adopted is Italian, and the material used Bacchus Marsh freestone. Although originally intended for the Colonial Treasurer only, in consequence of the altered circumstances of all things, several departments have, within the last month, moved in, pending the completion of other offices; and, in order to concentrate the public offices, other large buildings have been leased in the immediate neighbourhood.

The Post-office, about which so much fuss was made a few years since, progresses very slowly: the second contract is scarcely completed, and Parliament has voted only 15,000*l.* to be expended this year: at this rate it is hard to say when it will be completed. From a document we have before us, it would appear that some 50,000*l.* have already been expended, and the walls are not yet ready for the first-floor joists. The stone used is from Point Veritinat, in Tasmania, of a very good even creamy white. We think a description of the design has already appeared in our columns. Rumour says so many alterations are being made from time to time in the drawings, that there will be a very wide departure from the original design. By-the-bye, this job is said to have given a death-blow to the associated masons who had the last contract; and, as far as uniform wages and rules as to sub-contracting and piece-work, the Masons' Society is also at an end. We have often revolved in our mind, in how far has the present depression in trade been attributable to the really unhealthy state of the wages-market? True, a mechanic has a right to sell his labour in the dearest market; but the effect has been to terrify capitalists from investing; for in most instances those who have invested have done so to their sorrow. As a result of this forcing of wages, there is less work to be done, and many hands have been obliged to quit the town for more promising localities. Still every one is looking for times to mend; and it is to be hoped that men will not be again so blind to their own interests as to refuse a fair day's wages for a fair day's work. Anomalous as it may appear, it is nevertheless a fact, that the higher the wages the less labour is done for a day's work. Of course there are honourable exceptions; but it is notorious that the greatest "*sticklers*" for high and uniform wages were the least deserving of encouragement. However, enough on the labour question for the present, except to mention, as the rate of wages, 8s. to 10s. for carpenters, plasterers, and bricklayers; and 10s. to 12s. for masons. In some cases higher wages are had; but many men, on the other hand, will club together, and wittingly take small contracts at prices that will leave them less wages than they would work at for a master.

Among other buildings we have a new theatre, called the Haymarket, which is being pushed on most vigorously, only a few months having elapsed since the small buildings originally occupying the site were pulled down. It has a frontage to Bourke-street of 66 feet, and extends right through to Little Collins-street, a depth of 313 feet. The front is devoted to entrances and shops, the first-floor being divided into two large saloons. The theatre itself is 68 feet by 62 feet, and 50 feet high, exclusive of stage, &c. The principal façade is stuccoed, and surmounted with a gilt figure of Apollo, about 8 feet high. Of the architectural merits the less said the better. A joint-stock company is said to be the proprietary, of which Mr. Coppin is a leading member. Mr. Cornwall is the builder, and Mr. Conlon has the carrying out of the building. The present outlay is said to be about 10,000*l.*

Another large building, rapidly approaching completion, is the new business premises for the Bank of Victoria, situate on the site of the old Melbourne Club-house, in Collins-street, occupying a frontage of 66 feet, with a depth of 140 feet. The principal façade is of two lofty stories, with mezzonine above the ground-floor for stowage of stationery, &c. The teller's room is a rotunda of 60 feet diameter, at the back lighted by a dome of iron and glass, 35 feet 6 inches diameter, and 35 feet to the springing. This dome is carried by a circular iron girder, weighing 11 tons, supported by eight bluestone columns. The architecture is mixed; and the elevation by no means equals the expectations raised by the design which secured the first premium. Whether the architect, Mr. A. P. Smith, has been compelled to alter, we know not; but certainly we are disappointed. The original contractor failed about three months since, and the work is now being carried out by Messrs. Lawrance & Cain. The cost will be about 25,000*l.*

Messrs. Lawrance & Cain have also in hand a very large wool warehouse, at the corner of Bourke and William Streets, for Messrs. Goldsborough & Co., of which Mr. Gill is the architect. This building will be the most complete of its kind. The sale-room will be fitted up as a small amphitheatre, with seats, book-boards, &c. It is erected almost entirely of bluestone, the floors being as near as possible fireproof. The cost will be about 15,000*l.*

Mr. F. M. White is also enlarging Messrs. Clough & Co.'s warehouse, in Collins-street, so as to keep pace with Messrs. Goldsborough's new warehouse.

We understand that Messrs. Murray & Co., of this city and Glasgow, have entered into a contract with the municipal council of Prahran (one of the suburbs) for the supply of a clock with four 8-feet illuminated dials, with bells for the hours and quarters. This must prove of great value to the locality, and is further evidence of the plucky spirit of the council. No other council can boast of such a townhall, and the clock will eclipse all others in the colony. The architects, Messrs. Crouch & Wilson, have received instructions to make the necessary alterations in the tower for the reception of the clock at a greater height than was originally intended, and also to stucco the tower down to main cornice of building.

Mr. Webb is calling for tenders for transepts to St. Luke's Church, Emerald-hill. A Wesleyan church is being erected at Hamilton, about 150 miles from Melbourne, from designs furnished by Messrs. Crouch & Wilson. It is of brick, and may be classed as in the later period of Early English. The cost will be about 750*l.*, with accommodation for about 300 persons.

The opening of the railway to Ballarat has given some impetus to building operations there, at least in one or two instances. Bath's Hotel, originally a very large hotel of wood, and doing the largest business in Ballarat, is being pulled down piecemeal to give place to a larger and more beautiful structure in brick, which, when completed, will be the largest hotel in the colonies.

The Board of Agriculture, some month or two back, offered a prize of 50*l.* for the most approved design of homestead and farm buildings for mixed husbandry on farm of 160 acres. To this appeal seventeen designs have been sent in, which have been referred to a committee, who are to report on the 2nd proximo.

Melbourne.

* By Mr. Vincent Wing.

DETACHED MEMORANDA AT THE INTERNATIONAL EXHIBITION.

The Sanitary Permanganates, or "Condy's Patent Fluid."—Among the British products at the International Exhibition (Class Second; Chemical Substances, &c.) are various salts of manganic and permanganic acid, exhibited by Mr. H. B. Condy, of Battersea, practical chemist, who has obtained a medal for their manufacture from the Royal Commissioners. These salts, the permanganates particularly, are of special sanitary interest, as deodorizers and disinfectants, and for other hygienic purposes, and are getting into extensive use; being employed by nearly all the more important Government departments; by medical men in hospitals; and amongst the sick in private dwellings. We have occasionally pointed attention to the importance of the alkaline permanganates for sanitary purposes, and as an excellent vehicle of oxygen in the ozonic state; which they readily give off, as in the cleansing of wounds; the purification of sick apartments; for toilet and many other purposes, and even for internal use as purifiers of potable water, restorers of tainted food, &c. Dr. Angus Smith has made use of the alkaline permanganates as a test of the impurity or purity of air in towns, and Miss Nightingale has recommended their use for this purpose in hospitals. We are glad to observe that a special instrument for these purposes, and also for testing the purity of water, is exhibited by Mr. H. B. Condy in a case opposite to his, and belonging to Messrs. B. Condy, Mitchell, & Co.; his own space being rather restricted in its limits.

Limousine Iron.—This material, exhibited in Class 31, by the "Patent Enamel Company," is intended for the interior and exterior decoration of buildings. The process enables architects to introduce their own designs in coloured ornamentation, very permanent. These tablets or panels are of wrought iron, covered with a hard silicious glaze, in and under which the ornaments are fused at nearly a white heat. They are washed clean by every shower of rain. The specimens in the Exhibition are imperfect, and are placed there merely to show the material.

Messrs. Lambert's Brass and Iron Fittings.—Though not attractive to the general observer, many of our readers may find advantage in looking to the "Walsall Court," Class 31. The "patent welded wrought-iron tubes and fittings, and malleable iron fittings," are made for gas or low-pressure steam or water, of from one-eighth to four-inch bores: they are also made for high-pressure steam or water, and proved to a pressure of 200 lb. per square inch. The ordinary gas-pipe is proved to 75 lb. on the square inch. Messrs. Lambert manufacture coils to any configuration, and of any size or length. There are two small ones shown in the Exhibition, one bent hot, and welded into one length; the other a small model of hot-water coil, bent cold in one piece, about 40 feet lineal, shape circular spiral. Their pumps, stand-posts, and other articles, which are not shown in the "Walsall Court," owing to the insufficiency of space allotted to it, are exhibited in the compartment occupied by Messrs. Thomas Lambert & Son, of Lambeth.

White Tiles.—The Italian roofing tiles exhibited by Fison & Co., in Class 10, have received "honourable mention." They require no mortar in laying, and form a roof of agreeable appearance, and of great coolness in summer. Their kiln tiles, for drying malt, give great draught, with 1,296 holes per square foot, and seem very strong.

Gas Fittings.—Mr. Hulett's case, Class 31, is in such an awkward corner that some may overlook it. Most of the articles exhibited have been designed and executed expressly for the Exhibition, and deserve notice. His Elizabethan and Italian designs are better than those he exhibits of Mediæval fashion. An arrangement for removing stoppages in pipes; and a new pipe vice, which holds the pipe without splitting it, add to the value of his useful general collection.

Engraving by Electricity.—Some will have noticed the machine in Class VII. for engraving the cylinders, of copper or brass, employed in the printing of woven fabrics and paper-hangings. Its distinctive feature is in the application of voltaic electricity in communicating certain necessary movements to important and delicate portions of the apparatus. The cylinder to be en-

graved is first coated on its outer surface with a thin film of varnish, sufficiently resistant to the continuous action of the strongest acids. The requisite number of copies of the original design are then traced or scratched simultaneously by a series of diamond points, which are arranged on the machine parallel with the axis of the cylinder. Each diamond point is in correspondence with a small temporary magnet; and the entire series is so arranged *en rapport* with the original design, which had been previously etched on a metal cylinder filled in with a non-conducting substance (this cylinder being made to revolve in contact with a tracing point) that when the electric current passes, intermittent currents are established, whereby the diamonds are withdrawn from their work at the proper intervals. The metallic surface is thereby exposed in certain parts; and a bath of nitric or other acid being afterwards used to etch or deepen the engraved portion, the operation is completed. By means of this apparatus, engravings may be enlarged or diminished to any necessary extent from the same original.

RAILWAY MANAGEMENT.

EACH month's experience shows that our present system of working railways is fraught with danger. Terrible accidents follow each other in rapid succession: lives are lost, limbs are broken, and numbers of changes in the management of working must be introduced.

In many instances it has been found that the signals have proved insufficient. Sometimes the machinery has failed—the electric wire has not rightly done its work; and on other occasions lives have been lost and serious damage has been caused by the neglect of ill-paid and ignorant signalmen, who are quite unfit for positions of so much consequence. Besides, the engine-drivers are at times worked for so many hours that it is scarcely to be expected that even the strongest men can give right attention to their business. But, dangerous as are all these arrangements, we believe that a still greater source of mischief is to be found in the despatch of trains in too rapid succession, and in the want of punctuality in the time of the arrival of the trains at the different stations.

As regards the last great accident at Market Harborough, numbers of persons have been more or less injured. Three are dead at the time of writing; and, at the present time, it is not possible to say how many more cases may end fatally. We had scarcely time to publish the remarks in course of which we expressed our disapproval of, and fear of the risks attendant on, the Great Northern management at King's-cross, when the account of this accident appeared in the papers.

From the best information to be had at present, it seems that two Exhibition excursion trains were advertised to start at the same time, 7.30 p.m., on Thursday night, from the King's-cross Station of the Great Northern Railway. It is stated, however, that the first of these trains did not depart from King's-cross until a *quarter to eight*, and that the other one followed in about *five minutes after*.

The destination of the first train was Burton; but, in order to perform this journey, the Great Northern line should have been kept through Market Harborough for Knighton Junction, a few miles from Leicester, where it would then get on the Burton line. The other train was destined for Leicester and Peterborough. At the Harborough Station the first or Burton train stayed for a few minutes to take in water; and, in the inquiry into this matter which will be made, it will be very important to know the exact time of this stoppage, and of the arrivals of not only this but also the other train at the various stations; and compare these with the times at which they had been noted to arrive, on the printed time-tables. We would by this means be perhaps enabled to judge of the distances which had been kept between the two trains; and it may perhaps be shown that at other points the danger was imminent.

In course of time we look to know all about the signals at Harborough, and also at the next station nearer to London; where it should have been known that the Burton train, which at the most was only five minutes ahead, was waiting to take in water: it was 10.55 when the Burton train stopped.

An eyewitness says that, when stopping for water at Bedford, the Burton train was seen going out of the station as the Leicester train neared it. On proceeding again, the same pace was preserved, until within a few miles of Harborough, when the Leicester train slacked speed. The sky was thick, approaching to a state of fog; and before the water-supply had been completed at Harborough, the Leicester train ran with tremendous force into the Burton carriages. For some time before collision, the Leicester engine continued to give forth sharp, short, rapid screams; then came the crash of the concussion, which smashed the hindermost carriages of the Burton train, and threw the passengers about in all directions.

These fatal and frequent railway accidents give convincing proof of the danger to which the millions of persons who travel by railway are constantly exposed: and show not only that the most searching inquiry should be made respecting the cause of each collision, &c.; but that it is necessary that the whole matter should be gone into with the greatest care by a responsible commission, composed of men eminent in science,—persons of general intelligence and shrewd common sense, and but a few only who are directly interested in railways and their management. By such a competent jury, the various improvements which have been suggested respecting signals, and the manner of working them, should be well studied; and, if it be found that there are means by which the loss of life and damage of limbs can be avoided, considerations of expense should not be allowed to stand in the way. In connexion with various kinds of machinery, we have noticed that the cost of changes which have been clearly shown to be beneficial, has prevented them from being carried out. We have seen how slow those interested in the old method of manufacturing steel were to appreciate the method introduced by Bessemer; and how in coal-pits the single shaft, in spite of many warnings, has been kept so long in use. There are other similar matters to which we might refer; and it may be found that the same is the case in connexion with railway signals.

THE OXFORD WORKHOUSE COMPETITION.

THE report of the building committee was read last week at a special meeting of the local guardians. It unanimously recommended the adoption of Mr. Fisher's design, marked No. 1; that 25*l.* be presented to each of the unsuccessful competitors; that the successful plans be at once forwarded to the Poor Law Board; and that, when approved, they be exposed to public view with the other plans, if the respective authors permit. The several recommendations of the report were agreed to by the meeting, who authorized the committee to advertise for tenders, approve of drafts of contracts, and appoint a clerk of works, subject to the approval of the board.

In the course of the discussion on the report, it was stated by the chairman that Mr. Wilkinson's estimate was 8,200*l.*, the bricks being made upon the ground; Mr. Bruton's, 8,500*l.*; and that Mr. Fisher merely said his plan could be carried out within the sum of 9,000*l.*; but when he attended before the committee, he said that he was satisfied that it could be erected for 1,000*l.* more than his former plan, which was 7,500*l.*; so that his estimate might be taken as the same as Mr. Bruton's, namely, 8,500*l.* Mr. Bruton's foundation was 4 feet deep, and Mr. Fisher's and Mr. Wilkinson's 3 feet.

The Rev. C. H. Cholmeley said, one fault which had struck him in Mr. Fisher's plan was the narrowness of the bed-rooms, which were only 16 feet 6 inches, and consequently only allowed 3 feet 6 inches between the beds and those opposite to them. On referring to the other plans, however, he found that they were either the same width or half a foot less. In the arrangement of the various yards, and the supervision of the officers, he agreed with the committee that Mr. Fisher's plan was decidedly the best. There were many things in Mr. Wilkinson's plan which he liked, such as the separation of the able-bodied and the old men and women into a greater number of dormitories, and the general plan of the infirmary. In those respects he thought Mr. Wilkinson's plan was preferable to the others.

THE PARIS UNIVERSAL AND PERMANENT EXHIBITION.

MOST readers have heard that a project for forming a permanent Universal Exhibition in Paris has been received with favour by the Emperor; but many will probably hear with surprise that the building is in progress. It is situate at Auteuil, close to the road and railway, and just within the ramparts. The enterprise is undertaken by a company. The estimated cost of the building (illustrations of which we give in our present number) is 600,000*l.*, the whole of which has been subscribed in France. The object is to found a place of resort for producers, dealers, and customers from all parts of the world, where commodities may be compared and purchased under one roof,—an arrangement which will afford great facilities to all parties. The shareholders are to be reimbursed by the rentals charged to exhibitors, and the public will be admitted free on at least five days of the week.

The building is situate on an irregular-shaped plot of ground, bounded on one side by the new railway, on another by the road to St. Cloud, and flanked by the ramparts. The main building will consist of an open nave, running north and south, presenting a clear and uninterrupted space of 1,050 feet long, 130 feet wide, and 110 feet to the crown of the semicircular roof, which springs at a height of 35 feet from the floor-line. This nave will be intersected by a transept of equal width and height, 550 feet in length, above which a dome will rise to a total height of 345 feet. The domes of the London International Exhibition building are 250 feet in height. On each side of the nave there will be aisles, 100 feet in width; and again, on the west side, two supplementary aisles of equal width, but of varied length, planned in accordance with the site. Over all these aisles, at a height of 25 feet from the ground, galleries will be constructed. The total length of the building externally will be 1,315 feet. At the south end, quite detached, and yet connected with the main building by corridors, will be a polygonal saloon, 222 feet in diameter, and 115 feet in height. With its gallery all round, it is calculated to hold 10,000 persons.

A machinery annex, 600 feet long and 100 feet wide, partly shown in our plan, will occupy the north-east corner of the ground; and near the music saloon will be erected two buildings, of iron and glass, to be used as winter gardens.

The architect is Mr. Liandier; the contractor, Mr. Edwards; and the iron castings are being made in Glasgow by Messrs. T. Eddington & Son. The London agency, we may note, is at 27, Leadenhall-street.

The *Constitutionnel*, speaking of the undertaking, says:—

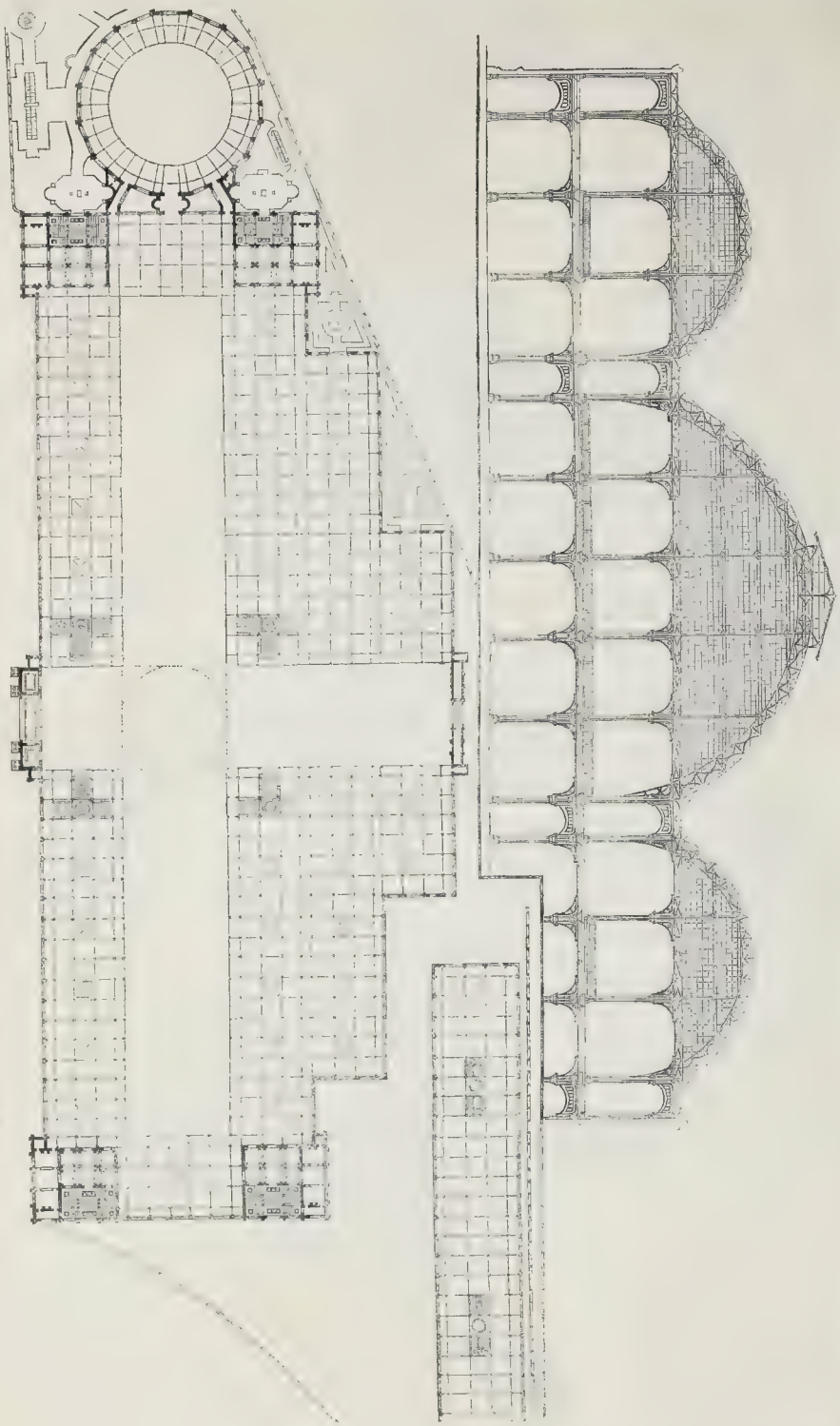
Within the precincts of new Paris, in the flourishing district of Auteuil,—where Boileau gave poetic counsel to his gardener; where Molière composed his *chefs d'œuvre*, in the company of Racine, de la Fontaine, and de la Bruyère,—Industry, the queen of our epoch, is raising at this moment a palace to modern genius. Its aim is to place upon a new footing, exhibitions, the utility of which is incontestible. They began by being exclusively national and temporary. From being national they became universal. Henceforth, the products of science, the arts, industry, agriculture, and commerce will find a place in an universal and permanent Exhibition. The splendid palace now building at Auteuil proves that the idea is leaving the realms of theory and approaching realization. Let us first examine the practical advantages of the scheme; we will then describe the building and its workmanship.

Persons are fond of repeating that distance is annihilated; that frontiers are disappearing; and that modes of international communication are being multiplied. It is true. They delight in exalting the marvels wrought by the union of science and labour, the great modern discoveries, the admirable inventions of industry,—and with good reason. But it is of the utmost importance to develop all the branches of human activity, and to expedite commercial transactions. The universal and permanent Exhibition offers these advantages; for its object is to bring together the producer and the consumer. It will save one numberless researches, often unproductive. To the other it will offer a continual stimulus, and place at his disposal, objects, from all quarters, of which he has need.

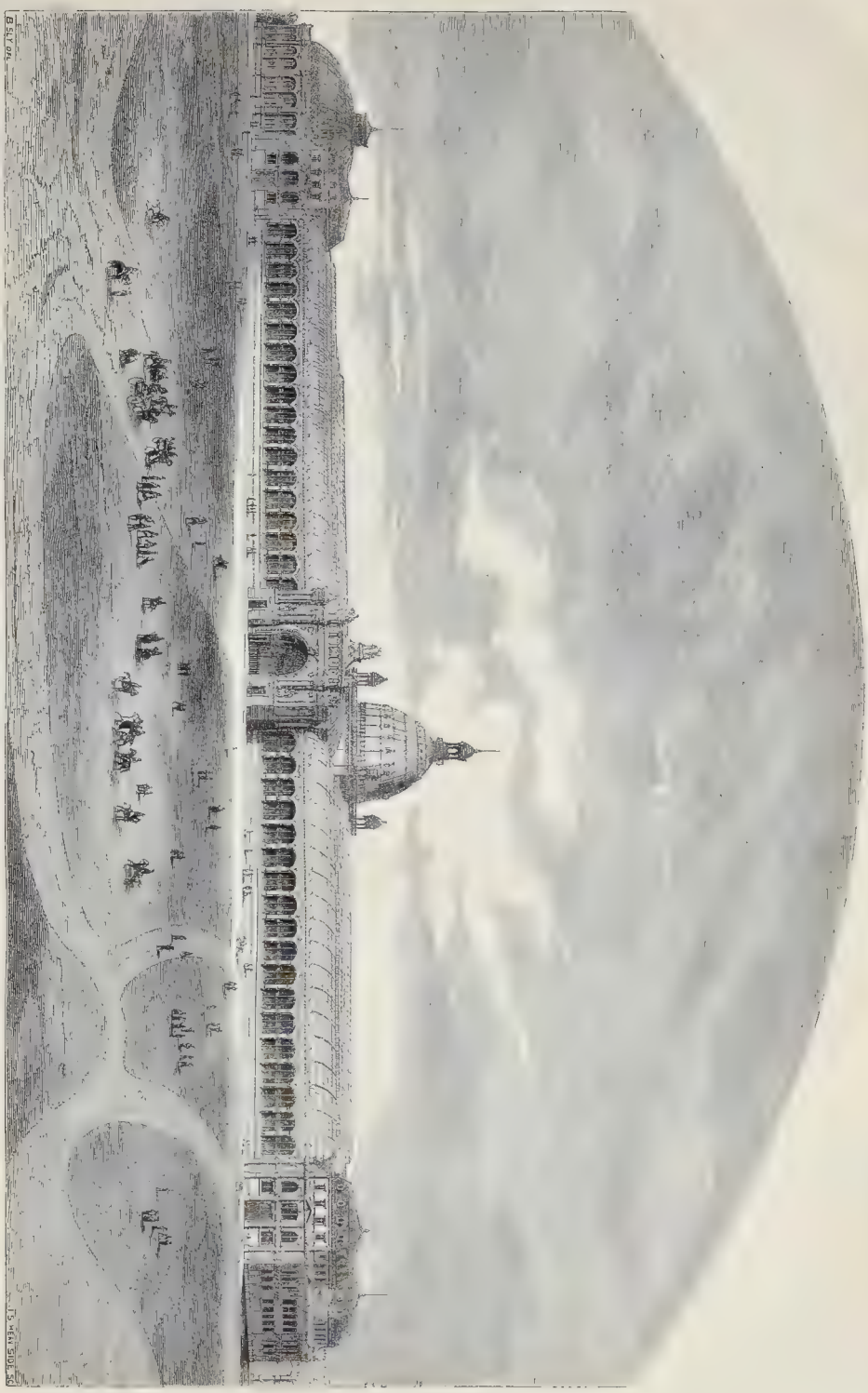
The programme is headed with words which were uttered by an august personage on a solemn occasion. 'Approach all you who think that the progress of the agriculture, the industry, and the commerce of a nation contributes to its general welfare; and that the more reciprocal intercourse is multiplied, the more national prejudices will be effaced.'

A considerable quantity of space, we are told, has been already applied for; and it is hoped that the building will be inaugurated early next year.

SOUTH KENSINGTON MUSEUM.—During the week ending 30th August, the visitors numbered 39,037.



THE PARIS PERMANENT UNIVERSAL EXHIBITION.—*Plan. Cross Section at narrowest part, on larger Scale.*



THE PARIS PERMANENT UNIVERSAL EXHIBITION.—MR. LLANDIER, ARCHITECT.

SANITARY LAWS *v.* CONTAGION.

FOR some few years past, in the anxiety to promote sanitary progress, a disposition has perhaps been shown to overlook the action of contagion in connexion with certain fatal disorders; but, just now, there is evidence of reaction in this matter, which may err in an opposite extreme; and, to some extent, be the cause of leading attention from those means which are available to stop the attack and spread of pestilence.

When considering this important question, it would be desirable, in the first instance, to ascertain what contagion really is. On this point eminent medical authorities differ in opinion. It may be that contagion involves the presence of a distinct matter, which, being generated, is moved by peculiar causes to spots which are suitable to its nature and adapted to the spread of the disease. Birds of prey scent carrion from a long distance. They pass over the untainted fields for miles, until they come to the place in which the object of which they are in search lies. In like manner the pestilence moves in the air, passing over neighbourhoods which are in such sanitary condition as not to be suitable to its tastes, to others in which it may banquet through the foulness and pollution caused by neglect.

In a recent article in a contemporary (*Chambers' Journal*) on the "Yellow Jack" of the Southern American States, it is stated that the yellow fever has visited New Orleans once in three years, on an average, for half a century. It has desolated the banks of the Mississippi, at times as high as Memphis. On the Atlantic seaboard it was terribly fatal; and formerly paid occasional visits to Philadelphia and New York. Before, however, considering the operations of this disease, it is worth while to glance at the rates of death in the different hospitals in New Orleans. In Tuoro Infirmary, the deaths from yellow fever have been 40·72 per cent; in the Lurenberg Hospital, 52·66 per cent.; and in the hospitals of the Board of Health, 33 to 47 per cent. An inspection of those institutions would show sufficient reasons for this variation in the death-rate.

In one season, in which the deaths in New Orleans from yellow fever were 7,011, there were 3,569 Irish among the victims, and 2,239 Germans: in all, 5,808: leaving only 1,203 deaths amongst the people of the city and other nations. The acclimation of persons, both natives and foreigners, is required for safety against this scourge; and it is said that, in order to escape contagion, it is necessary to have passed through the disease—to have had something like inoculation; and it is asserted by some that it is a contagious disease, carried from place to place, like the plague or small-pox; and that it cannot be shown that it arises spontaneously in any part of the United States. This, however, seems doubtful. In the vast swamps and luxuriant foliage of those districts there is the proximate cause of this fever, and other disorders which prevail there; and as population and civilization advance, as the land becomes distinct from the water, and the wide ranges of damp ground are made firm by cultivation and the occupation of man—provided that proper sanitary provisions are made—"Yellow Jack" will become one of the things of the past. The same process, as regards health, is now going on in the Lincolnshire Fens and some other parts of England.

In many parts of this country there are traditions connected with cathedral buildings which are similar in many places. We refer to the stories of the "Apprentice's Pillar," the legend of the monk who threw himself from the top of the church tower with a bag of money in his hand, and others. And quite as common, and no less unfounded, are the accounts of the plague and fever being caused by the opening of a bale of goods. In connexion with the great pestilence of 1665, it is said that the disorder broke out at the top of Drury-lane, by the opening of a bale of goods which had been brought from an Eastern city. After looking at all the accounts which can be found in connexion with this visitation, it does not seem that there is any proof of this having really occurred; and our readers know that in the reign of Charles II. Drury-lane was an undrained and unwholesome suburb—just the place where cholera, or any other epidemic disorder, might be expected. In the same ship which is said to have come from the plague-stricken land, there must have been many other packages; and it seems singular that, if the pestilence is to be attributed to this cause, the outbreak did not happen nearer to the Thames, where the cargo must have been unloaded.

In the New Orleans district of the Southern American States, although, as usual, the physicians differ, there is a belief that the yellow fever comes from Vera Cruz, or Havana, in the ships; and there is faith in the conveyance of the disorder in trunks and pedlars' packs into the villages. A case is reported of the fever having broke out in a house which had been visited by a Jew pedlar in the neighbourhood of New Orleans. This might have been an incidental occurrence; and, in order to render it worthy of consideration, we should have traces of the actual conveyance of the disorder to the other portions of the wide region over which the fever has spread; we should be also assured of the sanitary purity of this house and village. It is reported that in Philadelphia and New York "Yellow Jack" has not lately prevailed; and this is by some attributed to the strict quarantine regulations which are enforced. But, if the pedlar's-pack-and-package theory is to hold good, the quarantine would prove totally useless; for thousands of articles from the infected districts, in the ordinary course of traffic, must have found their way amongst the Northern population of America from the cities of the South.

It is related that, a few years ago, a ship arrived from the West Indies at New York. One day, when the hatches were open, as the ship lay at anchor in the Narrows, the wind blew a faint, sickly odour into a village on the shore of Staten Island. In a few days there were a large number of cases of yellow fever, and twenty-one persons died; a mob rose up, burnt the quarantine hospitals, and eventually the place for the detention of ships was removed to a greater distance. When we consider the contents of the holds of many ships, which, closely packed, are exposed to the heat of the tropical seas; when we think of the stagnant and putrid "bilge-water," which is often allowed for months to remain in parts of the hold, it is not surprising that, when the hatches are opened, there should rush out of the interior of the vessel poisonous emanations sufficient to account for any outbreak of preventable disease.

The plague still rages in the cities of Turkey and other portions of the east of Europe and elsewhere; the yellow fever ravages the Indies and the South American States; yet, notwithstanding that fleets of ships have been constantly passing from those ports to London, Liverpool, &c., we have had no attack worth naming of either plague or yellow fever in England; we have, however, an amount of sickness and death at home which it requires all our care and exertion to lessen. In the City, Dr. Letheby complains of an epidemic fever which is the cause of a large amount of death. In connexion with this, the authorities of the London Fever Hospital say that the first cases brought there were tramps in very bad circumstances; but we know that the fever has proved more fatal to families in good circumstances than to the very poor. As regards this epidemic, it is necessary that careful inquiry should be made, in order to determine to what extent the deaths which have occurred are to be attributed to unsanitary causes, and what foundation there exists for the idea that the disease has been propagated by what is called contagion. There must, to a certain extent, be danger from living in the atmosphere of all kinds of disease; but long experience and careful general observation have shown that far more good is to be effected by enforcing sanitary laws than by any quarantine regulations.

From time to time we have given facts in proof of this, and many others might now be stated; we must, however, just now conclude with the following notes, which, as regards one disease, very much confirm the views we have many times expressed. In connexion with the outbreak of cholera in the Soho district, in 1854, there is no evidence of the spread of this disorder by contagion; for the medical man who, in Soho, succumbed to this illness, had taxed, more than nature could bear, his energies in attending to the sick; besides, he had spent hours in the pestilential houses in which the disease had been generated. In the hospitals to which many hundred cholera patients were carried, the proof of non-contagion was very evident. Take, for instance, the Middlesex Hospital, which was the nearest to the infected district: into this building, on Friday morning, the 1st of September, between eight and nine o'clock, 10 patients were admitted; the influx continued great during the whole day—22 being the number before midnight; but on the following day it was worse: 53 new cases were carried in. The cabs bringing them followed each other in almost constant succession; sometimes one cab would contain two or more of a family, frequently parent and child; several were brought from a house in which more than ten persons had been seized. On Sunday, the third day, towards evening, 91 persons had been admitted—nearly a patient every half hour. All these were cases of true cholera; besides, numbers of cases of choleraic diarrhœa were prescribed for to out-patients. At first the mortality was frightful, and by the time mentioned, 48 out of the 91 had died. There was a difficulty in getting the bodies of the dead removed; and at one time there were not fewer than 40 corpses in the dead-house. At length the parish authorities brought furniture waggons in the night, and carted off the uncoffined bodies, in tens at a time, to their own places. Other hospitals began to receive the sick; but at the Middlesex institution patients were admitted to fill the place of others as rapidly as they died. Between Sunday and Monday, 33 additional patients were taken in, making the total number in four days 124, the deaths being now 55. Up to the 16th of the month the total number received was about 160, and the proportion of deaths has been calculated at 7·12ths. For some time after this, cases came in; and it is worthy of particular remark that on the admission of the cholera cases into this hospital they were *distributed over all the wards*, medical and surgical, among the common patients. In the midst of all these death-stricken people, the medical attendants, sisters, nurses, and all connected with the place, most unflinchingly performed their duty,—notwithstanding the miserable conditions of those wretched people, many of whom were brought from the most filthy and miserable dwellings; there were also respectable mechanics and workmen. But in connexion with all, the assistants never flinched from their unpleasant duty,—male servants as well as females, down to the solitary engineer, working apart, and remaining at his post, of his own accord, till three in the morning, keeping up the supply for warm baths. All laboured willingly, and without a sign of fear from contagion.

The work of the male servants was most exhausting; and, although high wages were offered to strangers to relieve them of part of their heavy duty, none could be found to undertake the office; and the same difficulty was experienced in connexion with the nurses.

The importance of preserving the health of the sisters and nurses was evident; and the matron adopted the plan of sending them off in cabs, in parties of about ten, to the outskirts of the town, for a few hours every day: some to Hampstead Heath, with their dinners; others to the Zoological Gardens, or to Primrose Hill; nutritious food and stimulants were also ordered by the physicians. During all these exertions, diarrhœa attacked several of the attendants; but this was speedily remedied; and, notwithstanding that the admission of those cholera patients would to a certain extent cause a state of atmosphere which would predispose those in the wards to be attacked by the disease, there was only one case of cholera reported, and this was on the 5th; and this patient was admitted five days before the outbreak, ill with a disease which would render her liable to an attack of this nature. On the 11th of the month, a nurse, who had been recently hired for the occasion, was seized, and in a short time died. Two days afterwards a second nurse was attacked, who was in some danger, but recovered. Up to the 16th, all the cases which had been originated in the hospital were three then; and when we note these effects, and consider the large number of persons who were within the walls of this hospital exposed to contagion, and observe that, so far as we know, no deaths happened to those who were engaged in removing the bodies of the dead, and that similar results were shown in other hospitals, we think that the non-contagious nature of cholera is evident.

Even with known contagious diseases there is no doubt whatever of the good effect of sanitary precautions. We trust, therefore, if it should be found necessary to enforce some quarantine regulations, that we shall not relax in our exertions to avoid pestilence by the making of sanitary improvements.

CHURCH-BUILDING NEWS.

Penmachno (*North Wales*).—The church of Penmachno, which has been rebuilt from the designs of Messrs. Lloyd, Williams, & Underwood, of Denbigh, architects, stands in the beautiful valley of the Machno, and is surrounded by picturesque mountain scenery. The structure is in the Early Decorated style, and will accommodate about 300 persons. Little ornament has been introduced. The nave is about 60 feet by 20 feet; chancel, 24 feet by 16 feet; transept, 16 feet by 16 feet; vestry, 12 feet by 10 feet; and north porch,

7 feet by 7 feet. The walls are of the light grey stone of the neighbourhood, with dressings of freestone. In the chancel arch the light grey stones alternate with voussoirs of slate. The windows in the side walls of the nave and chancel are single lights: the east and west are three-light geometric windows. A bell-cot rises in the west gable of nave. The woodwork throughout is stained and varnished. The roofs are open, and plastered between the rafters. The floor of chancel is of buff tiles and red and lilac slate, geometrically arranged. The ironwork is all worked by hand. The east window has been filled with stained glass, by Messrs. Ballantine & Son, of Edinburgh, in memory of William Morgan, D.D., Bishop of St. Asaph in the sixteenth century. In the centre light is a figure of John the Baptist; in the dexter light, St. Peter; in the sinister light, St. Paul; and in the large trefoil, in tracery, is represented the Ascension.

Tranmere (*Birkenhead*). — A new Wesleyan Chapel has been opened at Tranmere. The edifice stands on an elevated spot in Church-road, Higher Tranmere. The style is Gothic modernized, and adapted to the general shape of the building, which is octagonal. The chapel is built of brick, faced with Stourton stone. In front of the chief entrances there is an open porch, supported by seven arches. At each end of these is a spiral staircase, leading to the galleries. The roof, which is octagonal and self-supporting, is surmounted by a lantern and spire. There are sixteen windows, of cathedral-tinted glass, with a crimson marginal border. The corners are finished with gurgoyles of various devices. The basement contains a school-room 60 feet by 37, capable of accommodating about six hundred pupils; and also two large vestries. There are also three vestries above. A platform is substituted for a pulpit. The roof is an open foliated one. The height from the floor to the apex is about 60 feet. Eight chandeliers, in blue and gold, are suspended over the inner circumfereuce of the galleries. The chapel is capable of accommodating about 1,000 persons. The cost of the structure, including the land, is about 4,000*l.* The architect was Mr. Walter Scott; and the builder, Mr. John Hogarth, of Rock Ferry.

Birmingham.—The Moseley Congregational Chapel has been erected here, from the design of Mr. Edward Holmes. The internal dimensions are 77 feet by 45 feet 6 inches, with galleries on each side; and at the west end sittings are provided for 860 adults and 170 children. At the rear are two vestries. The building is heated by Haden's apparatus. The builder was Mr. C. Jones. The principal elevation has a central entrance under two arches supported on columns with carved caps. On each side are the staircases, surmounted by octangular turrets 70 feet high. The front is recessed back over the principal entrance between the turrets and a range of double lancet windows formed in the west wall. The sides are divided into seven bays, and have two tiers of double-pointed windows. There is a large wheel window at the east end over some enriched arcading at the rear of the pulpit. The style is an adaptation of Early English to the materials used in the erection, viz., red bricks for the walls, with blue and white brickwork in patterns and arches, and Bath stone for the dressings. The roof timbers are partly exposed, and, with the open benches, are stained and varnished.

Denstone.—All Saints' Church, Denstone, has been consecrated by the Bishop of Lichfield. Denstone is a parochial district formed out of the parishes of Ellastone, Alton, and Rocester. Mr. T. P. Heywood, of Dove Leys, has supplied this new parish not only with this church, but also with a school-room and school-house attached, and a parsonage. The church in plan is simple; nave, porch on south-west side, chancel ending in a three-sided apse, and on the north side an organ chamber and sacristy: on this side there is also a circular turret containing four bells. The alcar, to which the ascent is by six steps, stands forward in the apse. The reredos presents a combination of different-coloured marbles, and in the centre a bas-relief of the Crucifixion in alabaster, to which colour has been added. The chancel is higher in its roof than the nave. The apse windows, each of two wide lancets, are placed high, and are filled with stained glass, by Messrs. Clayton & Bell, as indeed is every other window in the church. The west window is a large circle: four simple lancets give light to the north side of the nave, and three windows (of three lights) to the south side. The pulpit is circular, of alabaster, with marble shafts, and inlayings of coloured marbles. The same materials have been used for the chancel screen.

Stutton (*Suffolk*).—The church here has been reopened, after having undergone a reparation and enlargement. Originally there was a gallery at the west end, almost close up to the low ceiling, which had the effect of partially blocking up the west window. The removal of this gallery gives the place a much lighter appearance. The ceiling of the nave and chancel, which was low and flat, of lath and plaster, has been superseded by a new ribbed ceiling. The chancel arch, too, is new, the corbels of which were sculptured by Mr. Frewer, of Ipswich. The door in the north wall, opposite the porch, has been removed, and a window introduced in its stead. All the windows are of stained glass. Most of them are *in memoriam*; several of them in memory of relatives of the present rector, the Rev. T. Mills. The north transept is entirely new. There is a coloured window at the end, presented by Lady Middleton. On each side wall are two lancet windows, also of coloured glass. The roof is ribbed. The benches are of stained deal, with poppy-head endings, carved by Mr. Ringham, of Ipswich. The whole cost of the alterations is about 700*l.*, the greater part of which the rector provided. Mr. R. Hawkins, of London, was the architect; Mr. H. Luff, of Ipswich, the builder. The rectory-house is of red brick, with ornamental gables. It stands not far from the entrance, on a slope which runs down to the river Stour. The grounds, though not large, contain a few notable things. There are three fine cedars of Lebanon, the largest measuring 16 feet 5 inches, 3 feet from the ground. A cypress measures 6 feet 4 inches, 3 feet from the ground. A large Scotch fir has a girth of 11 feet, a silver fir of 14 feet 4 inches. A group of five ilex, the largest being 9 feet 3 inches in circumference, are supposed to have been the first seed from the first tree brought over by Cavendish, and planted at Trimley. There is also an avenue of Irish yews. The Rev. Tobias Rustat, rector here 100 years ago, nephew of the master of the robes of Charles I., planted most of the trees. Three tulip trees also attract attention, and a Portuguese laurel has spread so enormously, as to show a circumference of 270 feet: it has to be cut every year.

Ipswich.—A meeting of the inhabitants of St. Lawrence's parish was recently held, for the purpose of examining a plan submitted by Mr. R. M. Phipson, for making alterations in the interior of the church. It is proposed to remove the gallery at the west end, and the pews in the body of the church, and to replace the pews with benches and stalls. The plan, by which it is calculated that the nave of the church will seat about 220 persons, was unanimously accepted; and Mr. Phipson was instructed to advertise for tenders for carrying out the work.

Sutterton.—The church at this place, on which restoration has been going on for some time, is now drawing towards completion, according to the *Lincolnshire Chronicle*. The contractor for the work is Mr. Bradshaw, of Stamford. Mr. W. Hilliam, of Stamford, has executed the various stone carvings. Mr. Beeby, of Sutterton, plumber, has done the fittings of the windows and other work. The chancel has been rebuilt, with a new oak roof. The window to the east is in the Early English style. It is at present filled with stained cathedral glass, but is expected to be replaced with stained glass *in memoriam*. The side windows are also filled with the same kind of glass, and floor laid with Maw's encaustic tiles. Joining the chancel, on the south side, a new part has been added, called Massingberd's aisle, in which the organ will be placed. The south transept has been rebuilt, with an Early English window, with moulded bases, necking, and caps, surmounted by a wheel window and a carved cross, stone copings, and glass to match the chancel windows. Next to the south transept is a new tower, with a spire, carved finial, and octagon staircase leading to the belfry. The south aisle is also new, with the Gothic windows restored. The north aisle has been rebuilt, and the old Norman doorway preserved. The north transept has been repaired, and the Perpendicular window restored and glazed the same as the chancel windows. The sacristy has also been rebuilt, and a new porch erected. The whole building has been surrounded with a parapet. Inside, the columns and old walls have been cleaned and fresh pointed, and the old roof stained. The old seats are retained; whilst new open seats, with carved ends, are placed in the north and south transepts, thus giving additional sittings. The floor of the church has been lowered 18 inches. The ground round the outside of the church has been cleared away for a more effectual drainage of the building; and the part asphalted, draining into a gutter of York stone. The principal stone used has been from the quarries of Ancaster and Clipsham. Mr. Browning, of Stamford, was the architect employed. The Rev. C. A. Moore has expended 700*l.* on these works.

Whixley.—The parish church has been reopened, after having undergone extensive alterations, under the architectural superintendence of Mr. Scott; Mr. Dalby being clerk of the works; Mr. J. Freeman, of Staveley, builder, being the contractor for the masonry and the joiner's work; and Mr. Hodgson, of York, the plumber. The alterations were commenced rather more than twelve months ago, and consisted in the construction of a new roof, new windows, re-stalled sittings, new organ, new altar-table, vestry, &c. In addition to these, a new porch of oak, covered with tile, placed on the hill or eminence approaching the church, has been built, bearing on each end quotations from scripture. The restorations have cost upwards of 3,000*l.*

Owston.—The church here has been partially restored, according to the *Doncaster Gazette*, and a new organ provided. Mr. Teale was the architect employed. The restorations as yet carried out are confined to the nave and north and south aisles or chapels. The nave has a groined roof. At the western end of the building beneath the tower is a gallery which contained an organ. The removal of this instrument has revealed a feature of the architecture. In scraping the walls two Norman lights were found in the inner wall of the tower. The whole of the eastern wall of the tower is totally different in the style of its architecture from the others, and it is thought to be the most ancient part of the edifice. The Norman lights have been opened out, and may be seen from the body of the church. The walls have all been scraped and re-plastered. The pillars and arches have also undergone renovation in this respect. Outside, an accumulation of earth has been removed at the west end. The work in the church has been done by Mr. Barker, of Carcroft, and a vestry has been put up by Messrs. Wood & Son, of Doncaster.

Helmsley.—The Archbishop of York has consecrated the new church at Harum, which has been built at the sole expense of Lord Feversham. It is in the Early English style, from drawings by Messrs. Banks & Barry, of London. Mr. W. Barton, of Helmsley, was the mason.

Harrogate.—The Congregational Church was opened on the 13th of August. It is built in the Decorated style. Messrs. Lockwood, Mawson, & Mawson are the architects. The length of the church is 72 feet, the width 42 feet 2 inches, and the height 38 feet 6 inches. There is a five-light window with geometrical tracery above the two front entrances, which are trefoiled. The spire rises to a height of 130 feet. Behind the church, and at right angles to it, is the Sunday school, which contains one large room and three class-rooms.

West Hartlepool.—New galleries and an organ have just been added to the Congregational Church, which was erected seven years ago. The whole of the interior has also been undergoing a thorough renovation. Mr. Oliver was the architect in both instances.

Holy Island.—The church of Holy Island (says the *Newcastle Courant*) has been re-opened for divine worship after restoration. The Lord Bishop of Durham gave a discourse, referring to the history of the Holy Island Church for the past 1,200 years, and its restoration for public worship.

Berwick-upon-Tweed.—A new church is about to be built at Berwick. It will cost 2,000*l.*; and of the sum, 1,100*l.* has been raised. Mr. Dowson, county architect, is to furnish the design.

Burghead.—The first stone of a spire for the United Presbyterian Church here has been laid. It is to be erected by Mr. J. Anderson Hopeman, who executed the mason-work of the church. Mr. J. Petrie, carpenter, Burghead, is the contractor for the scaffolding. The spire is to be octagonal in form, the total height from the base of the tower to the ball crowning the top being 72 feet; and is to be built to accommodate a clock with four dial-plates.

Tynemouth.—The chief stones of three new churches are about to be laid at Percy Main, Whitley, and North Shields, respectively. Mr. Salvin is the architect, and Mr. Smith the contractor.

Dublin.—St. Andrews's Church, situate in the heart of Dublin, between Trinity College and the Castle, was burned down two years ago. The parishioners have resolved upon a building which will cost 12,735*l.* It is to be in the style of the early period of Decorated Gothic architecture, after plans by Messrs. Lanyon & Lynn; and will accommodate 1,000 persons. The portions of the

edifice necessary for divine worship will be completed first, at a cost of 7,000*l.* The tower and the ornamentation will be postponed.

Miscellaneous.—The Rev. W. M. Punshon, the Wesleyan preacher, has obtained permission of the Wesleyan Conference to devote himself to an effort towards raising 10,000*l.* for the erection of chapels in the watering-places of England.

PROVINCIAL NEWS.

Littlehampton (Sussex).—The following tenders have been sent in for Littlehampton, Arundel, and Houghton stations:—Williams, 15,462*l.*; Aviss & Sons, 13,893*l.*; Simms, 11,980*l.*; Perry, jun. (Arundel only), 4,239*l.*; Westley, 11,642*l.*; Bushby, 11,172*l.*; Reynolds, 10,669*l.*; Bull, 9,648*l.* The last tender has been accepted. The new quay at Littlehampton will be provided with a line of rails along its entire length.

Rochester and Chatham.—It is intended to open the new County Court, in Eastgate, in October next. The contractor is Mr. K. Spicer. The exterior of the building is completed. The large hall in which the court will be held extends the whole length of the building, and will accommodate some 300 persons. The remainder of the rooms upstairs consist of the judges' private rooms, and also the attorneys' room. The rooms on the ground-floor consist of offices for the registrar, high-bailiff, and other officials; in addition to which there is a small court for the examination of bankrupts by the registrar. There are also retiring-rooms for both men and women, and an abundant supply of water throughout the whole of the building. The entire cost of the new courts is defrayed out of the consolidated fund.

Abingdon.—The erection of a Corn Exchange in th's town will be one of the first projects which will occupy the attention of the council in the new state of things which the enfranchisement of the corporation property will bring about.

Witney.—Mr. Bartlett, the contractor for the new Corn Exchange, has commenced pulling down the old Corn Returns Office, upon the site whereof the new exchange is to be erected.

Plymouth.—The contract for building the new tower and clock at Plymouth has been taken by Messrs. Call & Pethick, who will at once commence the erection of the structure. The work is to be completed by the 18th of October next.

Nottingham. — The new county court, which has been some time delayed, is to be commenced immediately. The contract has been given to Mr. James Hall, builder. The clerk of the works sent down by the Government is already in the town. —— The disparity in the contracts tendered for the construction of the Wilford Bridge has, it is said, been unusual. "The figure," says the local *Guardian*, "at which one contractor was willing to do the work was fully 8,000*l.* above that at which another eminent contractor has expressed his readiness to undertake it. Sir Robert Clifton is desirous to expedite the work; and the worthy baronet is at present in treaty with one of the most eminent engineering firms respecting the erection of the bridge."

Liverpool.—At the Town Council meeting of last week the elevation of the new Public Offices was considered. The amended plan, along with the first plan, was on the table for the inspection of the Council. The adoption of the improved elevation was moved and seconded. It was moved as an amendment that the plans be referred back for re-consideration; and after a protracted discussion it was put, and negatived by 24 to 23. The Deputy-Mayor said the plan should receive every consideration; and if any alteration could be made it should be brought before the Council at the next meeting.

Wigan. — The surveyor for the borough of Wigan has notified to the mayor and corporation, and to the occupants of the shops underneath the Wigan Town-hall, that the building is in an unsafe state, and ought not to be made use of unless secured. It has long been in a most dilapidated condition; and it is doubtful whether it can be made safe unless it is rebuilt.

Scarborough.—Sir Joseph Paxton has completed plans for the construction of an ornamental park, with about forty villas, on the Scarborough Corporation's Weaponness estate; and the town council will now take steps for the disposal of the various plots of ground marked out on the plan. The houses will stand near the base of Oliver's Mount, skirting it on the east, north, and west; on one side overlooking the bay; on another, facing the town and vicinity; and on the third, embracing the valley of the Mere.

South Shields.—The brethren of St. Hilda's Lodge of Freemasons having decided upon building a new hall for masonic purposes, operations have been commenced by the contractors for the work. The site is in Fowler-street. The building will comprise a lodge-room, with rooms attached, on the upper story; and below, two shops. The contractors for the work are Messrs. Scott & Suddard, of South Shields, builders; and the plans are from designs by Mr. R. S. Forster, under whose superintendence the works will be completed.

Dumfries.—The main sewer from the foot of Friars Vennel to the Dockhead of Dumfries, and which intercepts the whole sewage of the town, has been finished, according to the local *Courier*. The effect upon the purity of the river betwixt the caul and the Dockhead is said to be already decided and agreeable. The next step must be taken by the Maxwelltown authorities, who ought, without delay, to follow the example set on the Dumfries side of the river, and construct their main sewer, instead of, as at present, discharging the filth of Maxwelltown into the stagnant water at the head of the caul.

Kilsyth.—The foundation-stones of a gaol and court-house, and assembly-rooms, have been laid at Kilsyth with masonic ceremonial.

Portobello (near Edinburgh).—The chief stone of the town-hall for Portobello has been laid with masonic ceremonial. Mr. Bryce is the architect.

LIMOGES PAINTED ENAMELS.

THE "Catalogue of the Loan Exhibition at South Kensington," edited by Mr. Robinson, promises to form, when completed, a valuable handbook of Mediæval and Renaissance art-works. Part II. is now nearly ready, and will comprise Bernard Palissy ware, Sèvres porcelain, Limoges painted enamels, portrait miniatures; ecclesiastical vestments, tissues, and embroideries; and decorative plate belonging to the Universities of Oxford and Cambridge.

To verify the dates of the portrait miniatures, ably catalogued by the Rev. James Beck, M.A., a remarkable collection, some thousands of references have been made.

We bring together from the account of the Limoges enamels some information contributed by Mr. Augustus Franks, M.A.:—

The older mode of enamelling by the encrusted or *champlevé* process, which had been so extensively practised at Limoges in the twelfth and thirteenth centuries, seems to have died out in the fourteenth century; and it was not till the latter part of the fifteenth century that a new school of enamellers arose, destined to throw still greater lustre on the city of Limoges. These artists, though still working on copper, employed a different mode of applying the enamel, to which they may have been led by the recent extension of enamel painting on glass; at any rate, some of the earliest of the enamellers were themselves glass-painters, or related to glass-painters.

The painted enamels of Limoges may be conveniently divided into four classes: 1. The early or Gothic style from about 1475 to 1530. 2. The fine style, from 1530 to 1580. 3. The minute style, to about 1630. 4. The decadence, to the termination of the manufacture in the eighteenth century.

1. *The Early or Gothic Style.*—The enamels of this period were generally executed on stout plates of copper, nearly flat; the back was coated with a thick and opaque layer of enamel to prevent the metal from warping in passing through the furnace. The front or surface to be painted was covered with brown enamel, and the details of all kinds painted on in opaque white. Such portions as were to appear coloured were then glazed over with transparent enamels, and the lights and details were picked out with gold. To increase the rich effect of the painting, small raised discs of foil, called *paillettes*, were attached to the enamel and covered with colour so as to have the appearance of gems. The tints in these early enamels were very varied and exceedingly vivid, so as to produce the effect of illuminations. The faces are generally, however, too lilac in tone, and the white enamel is so thickly laid on as sometimes to assume the appearance of a bas-relief. The frames are generally of gilt metal, with simple mouldings, ornamented at intervals with pairs of leaves united by twisted stalks. The principal enamellers of this period were Nardon or Leonard Penicaud and Jean Penicaud. One of the most important specimens which has been preserved to us is the triptych of Louis XII. and Anne of Brittany (No. 1654), exhibited by Mr. Danby Seymour.

The name of Nardon or Leonard Penicaud has been preserved to us by an enamel bequeathed in 1853 to the Hôtel de Cluny, and which is signed, "*Nardon Penicaud de Limoges hoc fecit prima die Aprilis anno millessimo v^c^ tertio.*" [1503]. The researches of M. Ardant render it probable that he was born not later than 1474, and that he was living in 1539.* He seems to have been a man of some importance, from his having painted the triptych of Louis XII. and Anne of Brittany (No. 1654), and in 1513 he was elected Consul of Limoges. His enamels may be distinguished by the peculiarly lilac or violet tone of the flesh tints. Jean Penicaud, probably a relation of Leonard, has signed several enamels, and to him Count de Laborde attributes the Resurrection of Lazarus (No. 1656). On the enamels of this period may be frequently noticed imperfect inscriptions forming borders or decorations of the dresses; a style of ornament which occurs on other works of art of the fifteenth century, and was derived, probably, from the Oriental stuffs of an earlier time, striped with bands of Arabic inscriptions. They are worthy, however, of notice, as serving, by the language in which they are written, to prove the French origin of these enamels, and may be useful in classing the works of the various enamellers. They are not, however, likely to contain the artists' names, as was supposed by some of the earlier writers on these subjects, who discovered in them the imaginary artist Monvearni and others.

2. *The Fine Style.*—Owing to the great influence of the Italian artists, who formed the school of Fontainebleau, a great and rapid change took place in French art in the early part of the sixteenth century. The enamel painters were not behind the others, and they sought to improve their designs, and adopted a more sober and harmonious system of colouring. Many of the most successful enamels are merely painted in chiaroscuro, with light flesh tints, and occasionally a cool tone on the foreground. The use of *paillettes* was abandoned, the plates were made thinner and consequently more convex, and the enamel at the back nearly transparent. Great use was made of the designs of Raffaelle, which were rendered available by the engravings of Marc Antonio and his followers. The family of Penicaud still continued their labours, and some of their finest works form part of this Exhibition. The greatest, however, of the artists of this, the finest period, was unquestionably Leonard Limousin, whether we look to the variety or the artistic merit of his works; some of the most remarkable of them are to be found in this collection. Pierre Reymond commenced enamelling nearly as early as Leonard Limousin; two of his earliest and finest works are the triptychs (Nos. 1750 and 1751), painted in 1538. Then we find Jean Court dit Vigier and three members of the Courtois family shining chiefly in the production of enamelled services for the table. Their works, however, are somewhat florid in style and colour, though very perfect in mechanical execution. There is ample opportunity in the present collection of studying the merits of Pierre, Jean, and Martial Courtois.

Leonard Limousin, son of François Limousin, of Limoges, was born about 1505, and was probably a pupil of Leonard Penicaud. His works are dated from 1533 to 1573. He appears to have died between January 1575 and February 1577. He was in the service of the king, and in his enamels he occasionally styles himself "*Esmailleur et peinctre ordinayre de la chambre du roy.*" The collection exhibited on this occasion is very rich in this great enameller's works. One of the earliest and most important of them is the horn, painted in 1538, which is exhibited by Mr. Magniac. His portraits are among the most remarkable productions of his skill, and are here represented by no less than twenty-three specimens. Leonard Limousin varied frequently his style of painting, and adopted several different modes of applying his colours. Some of his later enamels are painted on a white ground, in employing which he anticipated Toutin, who is usually considered to have invented that mode of enamelling.

The family of Courteys or Courtois had long been settled at Limoges; in the fifteenth century, one of its members, Robert Courtois, was of note as a glass painter; Pierre Courtois may have been his son or his grandson. If we are right in considering the enamelled portrait by Pierre Courtois, exhibited by the Duke of Hamilton, as a portrait of himself, it will appear that he was born about 1532. This agrees with the dates on his enamels, which rarely occur, but range from 1550 to 1568. The most remarkable examples of his skill are nine large medallions, representing Virtues and heathen deities, preserved in the Hôtel de Cluny. They were made for the royal

* Les Penicaud, par M. Maurice Ardant, Limoges, 1858.

palace, Le Château de Madrid, and are medallions about 3 feet high, each of them composed of four plates of enamelled copper, beat up in relief. The works of Pierre Courtois deserve to rank high among the enamels of Limoges; his drawing is fine and good, and, though he made use of foil in considerable quantities, he avoided any great excess. The tone of his flesh colours is pale and subdued, not hot and fiery, as in some of the later enamels of Pierre Reymond and in those of Jean Courotois.

3. *The Minute Style.*—Jean Courtois, by the profuse use of foil and the over-richness of his colouring, prepared the way for several enamellers, possibly his pupils, who appeared towards the close of the sixteenth century, and are all distinguished by a very finical execution. The principal of these is Susanne Court, who made several fine ewers and dishes. There were also four members of the Limousin family, viz., Jean, Joseph, François, and Leonard. Their works are usually small, and their designs are frequently borrowed from the engravings of Etienne de Laulne.

4. *The Decadence.*—After 1620 the fashion for Limoges enamels seems to have gone by. We rarely find on the works of that period the devices of royal or noble personages, and seldom any specimens of such a size or workmanship as likely to have been made for people of importance. This was partly no doubt owing to change of fashion; but also in some measure to the importation of Oriental porcelain, and the introduction of the art of enamelling on gold as practised by Toutin. The enamellers of this later period are numerous, but chiefly of the families of Laudin and Nouailher. Of these, Jacques Laudin produced some grisaille paintings of merit, rendered attractive by the fine glossy black ground which he employed. The later productions, especially those of the Nouailher family, are more like paintings on earthenware than enamels.

The family of Laudin supplied the school of Limoges with the best of its later enamellers, and some of their works have a certain degree of merit, especially those painted in grisaille, which are rendered attractive by a very fine black enamelled ground. The enamellers of this family were three Noel Laudins, Nicholas Laudin, two Jacques Laudins, and Valerie Laudin.

The best work on the subject of Limoges painted enamels is the "Notice des Emaux du Louvre," by Count de Laborde. It is a catalogue of the enamels in that Museum, through which is interspersed a running comment, giving a complete history of the art, while the notes contain notices of examples in other collections. This work is remarkable for the clearness of its style, the soundness of its criticism, and the minuteness of its details, and is in truth a model catalogue. An earlier and very good treatise on the subject is in the introduction to the catalogue of the Debruge-Dumenil collection, written by M. Jules Labarte (Paris, 1847). A translation of this work by Mrs. Palliser has appeared in English, under the title of "Handbook of the Arts of the Middle Ages (London, 1855)." A brief sketch of the subject is given in the "Art Treasures at Manchester": Vitreous Art. Some very useful details, especially of a documentary character, are to be found in the notices, printed from time to time by Mr. Maurice Ardant, of Limoges, which have to a certain extent superseded his treatise "Les Emailleurs de Limoges," published in 1855.

CIRENCESTER CHURCH.

THE inhabitants of Cirencester held a public meeting on the 15th ult., at which Earl Bathurst presided, to resolve on restoring their magnificent parish church. It is a vast fabric of the fifteenth and earlier centuries, and of that ornate character and extensive construction which place it beyond the means of local resources to do what is required, after the lapse of years and the many odd things which have been done at various times to spoil the architecture and ecclesiastical arrangements of this class of edifices. Cirencester was one of the mitred abbeys, and the church was gorgeous. There are remnants of glass indicative of the blaze of colour that distinguished its numerous and large windows. But these cannot be included in what the parishioners restore, as 4,000*l.* would not suffice for that item. The pews are to be replaced by oak seats, open; and the dilapidated portions requiring to be rebuilt will involve a considerable outlay.

Cirencester is a known place, rich in Roman antiquities and other attractions; and we doubt not that the parish will obtain assistance from archæologists, ecclesiologists, and agriculturists, who have admired its museum, its church, and its college. They require 12,000*l.*; and their donation list, still in progress, amounts to upwards of 5,000*l.*, collected at home, preparatory to a public appeal to the county of Gloucester and the kingdom, interested in preserving such a noble structure. The inhabitants are still at work with their own donation list, to which their chiefs have contributed most liberally. Mr. G. G. Scott is their architect, who has within the last twelve years built them a church that cost a large sum; and this gives them a claim for foreign help in restoring their costly parish church. We hope that the exquisite open battlement work and pinnacles that crown the exterior of the nave and aisles, and are too decayed to stand, will be within the means of the restorers. This work must cost much, but no restoration can be complete without it.

BRANDESTON, SUFFOLK.

THE parish church of All Saints, Brandeston, is undergoing restoration, under the superintendence of Mr. R. M. Phipson, architect, at the sole expense of Mr. Charles Austin, Q.C., of Brandeston Hall. The edifice, which is not large, consists of a chancel, nave, and west tower. The two latter are of the Perpendicular period, but the chancel shows evidence of earlier work.

Both the nave and chancel are being re-roofed, with open hammer-beam and collar-braced roofs, covered with old plain tiles. The old roofs possessed no features of interest, having been put up in 1768, in the then approved churchwardens' style. A new vestry and north porch are being built, and the stonework throughout generally restored. The benching will be open, with poppy-head ends, and will be similar to the old, several remnants of which still existed, cased behind the high pews. The heating will be by hot-water pipes, laid below the surface of the passages.

The west tower is a very good specimen of hammered flint work; and there is a very perfect west door, an accurate engraving of which will be found in p. 415 of the *Builder* for 1848. This will be left untouched.

In the churchyard lies buried Revett, the joint author, with Stuart, of the "Antiquities of Athens." An ancestor of Revett's built, in Elizabeth's reign, the old Hall, which was almost entirely burnt down about fifteen years ago, and has since been rebuilt and restored under Mr. Phipson's superintendence. In the new Hall are elaborate wood panelled ceilings; the dining-room, library, and hall, being highly illuminated in colour.

The Revett family held the estate until a recent period.

A cemetery-chapel is about to be erected in the village, for which the last-named architect is preparing designs.

CONDITION OF THE TREES IN KENSINGTON GARDENS.

THE writer of the article in the *Builder* of last week agrees with me that drainage would be an improvement to the gardens;—that it was a tunnel, and not a drain, that killed the trees referred to by Mr. Cowper (*vide Builder*, August 2nd); but he does not appear to think it of so much importance as I believe it to be. If it were only for the comfort of persons visiting the gardens, the land ought to be drained; for it is a mistake to suppose that such persons will confine themselves to the walks. If they visit the gardens for exercise or relaxation, their walks, to be healthful or pleasant, must be without trammel or impediment of any kind.

The trees have no doubt escaped with little thinning; and some of the tall, slender, and thickly-planted do battle with their tops, to the mutual injury of all engaged in the contest. But I must affirm that water standing under and about trees, of almost any kind, does incalculable mischief. In my practice I have met with many cases where timely-adopted drainage has resuscitated the trees beginning to decay at the top. The sap is impoverished by standing water: the air is excluded from the roots, which are rendered cold, in place of being dry and warm.

It would be a *great mistake* to assert that "on a table of inclined land, drainage, or the neglect of it under the thick shade of groves, could occasion decay," well knowing that water cannot stand in pools on an inclined surface; but a considerable portion of the table-land in Kensington Gardens is not only flat, but hollow, where the water stagnates, and where it is the principal cause of that decay in the top branches of many of the trees, particularly the limes, that I spoke of.

On an estate belonging to the Savill family, there is a wood of some 300 acres, called Wellow Park, that has been noted for years for the excellent quality of its oak and ash. On a large portion of the wood, the fine oaks not arrived at maturity began to decay at the top: a system of open drains was adopted to draw off the stagnant water from the surface, and the trees began to recover immediately. I might adduce many similar cases; and may remark that open drains are far more beneficial than covered ones in woods, for this reason,—the sides of the ditches keep the soil dry for some depth below the surface, and admit of a free circulation of the air, which is so grateful to the young roots; while at the bottoms of such drains there will always be a little moisture in the driest season.

The super-stratum of Kensington-gardens being gravel does not alter the fact of the water standing on the surface; for in some parts--and it must have been noticed by thousands—the water does stand on the surface for two or three days after much rain; and there is a kind of gravel as non-absorbent as clay itself. I allude to flint gravel mixed with clay, a common superficial deposit found in chalk districts, and of which kind I opine the super-stratum of Kensington-gardens consists.

As to the *taste* and *skill* evinced by the designers and planters of these grounds, I will quote the words of Mr. Repton. He says, "If it were possible to exclude from Hyde-park or Kensington-gardens the gay assemblage of company which enlivens the scene, we should only produce one dull, cheerless solitude, without a single feature to constitute natural landscape, or to reconcile the mind to artificial rows of trees, with their symmetrical formality." Admitting, however, that the crowded condition of many of the trees is not a fault of theirs—that the object of grove-planting is to lengthen the stems by close planting in the first instance, and gradually to thin the trees as they increase in size;—still that only proves that the control of these gardens has been left in improper hands. Nor does their condition at this time reflect much credit on their present management.

Admitting all this, I for one should be sorry to see the wholesale destruction of *one-fourth* of the trees now standing, so strongly recommended in your pages. As judicious thinning was neglected at a former period, it is too late now to remedy the evil; for years must elapse before the mischief that would be done could be repaired. J. B.

TREATMENT OF WORKS OF ART.

I AM surprised to see in the *Times* of last week an account of a triptych, found during the restoration of Hexham Church, being claimed by the builder under his contract, as "old materials," and purchased by an architect. Surely such a work of art—and, from the description, one of great interest—cannot be made over as rubbish, but must still remain the property of the parish; and if so, has no right to be removed from the church. Instant restitution should be made. It is thus that our ecclesiastical restorations are now indeed becoming acts of Vandalism; and this is a case calling for the very strongest condemnation of the committee appointed by the Institute in June last; or, ere long, every vestige of our ancient art will be lost in modern spoliation. The past fate of Hexham Church ought, at least, to have preserved this interesting discovery, and I trust proper restitution may be made, and this triptych restored to its proper place without delay. JOSEPH CLARKE.

THE FIRE AT NEW CROSS.

SIR,—Many of your readers will, I have no doubt, sympathize with the workmen who are sufferers by this extensive fire. Sixty men are thrown out of work by this calamity, and their tools, to the value of about 400*l.*, have been entirely destroyed. We are endeavouring to get a fund together for their assistance; and I believe, if you will do me the favour to insert this letter in your next, you will help this very distressing case. Mr. Tate, of 5, Warnford-court, E.C., one of my churchwardens, will be glad to receive contributions, as well as myself. We are urgent to obtain aid for the sufferers, who, unless assisted to obtain tools, must remain out of work for an indefinite period.

AUGUSTUS K. B. GRANVILLE.
Hatcham Parsonage.

WORKMEN AND CHURCH.

SIR,—Having noticed in your Journal for some weeks past the correspondence headed "Workmen and Churches," and also the various opinions of your correspondents as to the causes which tend to keep workmen from attending church, none of whom (as far, at least, as my experience and observation go) have hit upon the real causes, why workmen in general, and builders' workmen in particular, do not attend church;—

You, therefore, I trust, will permit me in a few lines to give your correspondents a little information on the subject. It is not in the want of church accommodation, or that workmen object to sit in seats labelled free; but that workmen generally object to the service, and to the manner in which it is conducted: they do not like attending any place of worship where, Sunday after Sunday, the same forms of prayer are drawled out with the most unvarying monotony, and where the sermon is read off in the most formal and passionless manner. Workmen, after six days' toil, want something more exciting, even in a church.

If your correspondents wish to see places of worship where working men do attend, let them, for once in a way, step (on any Sunday) into the Metropolitan Tabernacle or into the Surrey Chapel. They will there find plenty of working men. Yes! and not asleep; but with their eyes and ears open, and their attention riveted by the observations of the preachers.

There is another powerful reason why workmen generally do not attend church on a Sunday; and that is this:—That, after spending six days of hard labour in the workshops (which in London are not the most healthily situate), the tired workman, thanks to Sunday trains and cheap fares, avails himself of a trip into the country, where he can refresh himself with pure air, and enjoy the delightful scenery which the country can alone present; returning home bodily and mentally improved.

I can assure your correspondent, who suggests that large builders should lend their workshops for preaching, that his suggestion is a perfectly useless one, no matter how well intentioned it may have been. Builders' workmen will never attend if left to themselves; but if, as your correspondent suggests, the master builders use their *influence*, it might be different.

Left to themselves, they will look upon the suggestion as being simply ridiculous; knowing that they have quite enough of the shops during the six days, without attending on the seventh.

Working men require something more than toil and prayers. Such is my opinion, after about twenty years' experience among building workmen and in builders' shops of London. R. W.

PIGS AND A BOARD OF HEALTH.

SIR,—Would you kindly inform me what I am to do in the following case?

I had occasion, some three months ago, to remove to a cottage in Leckhampton. Since that time my neighbour has got a pig, with sticking wash, &c., within 10 or 15 feet of my children's playground. I have read the 58th and 59th section of the Public Health Act, and called the attention of the inspector of nuisances to the case. He called upon them, and spoke about it, and afterwards sent them a notice. The nuisance is still the same,—so much so, that we are compelled to keep the house shut up, in the evening particularly, to make it habitable; but I cannot get him to proceed further in the matter. The magistrates of the adjoining parish of Cheltenham have decided time after time that pigs are a nuisance, and only recently made an order for removal of a piggery which cost 30*l.* in the construction. The same magistrates would have to decide in this case. I have no chance of getting any of the neighbours to join me, as they are all guilty of the same, or indifferent; but, having read your papers on the subject, I am determined to carry it out, if I can.

Since I have been here, one woman has died of some fever, and another has been attacked with bilious fever: so a lady who visits the neighbourhood told me. She also said that two families who have the pigs, &c., want more hospital tickets than any she visits, only she does not want her name mentioned. G. S. X.

*** Apply formally to the Local Board of Health. If this fail, write to the Health Department of the Privy Council, Whitehall, for advice.

MEDHURST'S TROPICAL FELT HELMET.

IT is not an easy thing, it seems, to "cap" our army; and, in one sense of the word, we may be proud of the fact. In another, however, it should lead to a fair trial of all proposed improvements; so that our brave soldiers may neither be stifled, weighed down, nor left unprotected. The helmet now before us, which leads to this remark, is one invented by Lieutenant Medhurst, of the 43rd Light Infantry. It is of felted wool, light and durable, and is intended for India. According to the inventor and patentee, it is impervious to heat and rain. The top of the helmet resembles the hunting-cap; but over it is a small cone perforated by two holes at the sides to admit sufficient air for circulation. Round the head there is a strap ½ an inch wide, with a buckle fastening behind, which can be tightened or loosened at discretion; thus avoiding the risk of the helmet being blown off or lost in active service or action. The front and hinder peaks are connected by sloping sides of a suitable size for affording protection to the temples, without an impediment to either firelock or sword. It has been tried for some time, with the concurrence of the Commander-in-Chief; and will, we hope, be found to supply a want long felt.

RECENT PATENTS CONNECTED WITH BUILDING.*

IMPROVEMENTS IN THE MANUFACTURE OF GLUE OR SIZE.—*J. Dale.* Dated Dec. 17, 1861. Here the patentee takes tanners' refuse called "flushings," and adds thereto muriatic acid: he then washes them; afterwards neutralizes any remaining acid; boils to separate the fatty matters, and obtains glue or size in the ordinary way.

IMPROVED HOISTING APPARATUS. — *A. V. Newton.* (A communication.) Dated Dec. 17, 1861. This consists in the use of two pulleys of different diameters, and an endless chain, band, or rope, applied to the pulleys, and arranged substantially as described, whereby the desired end is attained. The invention is not described apart from the drawings.

IMPROVEMENTS IN THE PROCESS OF MANUFACTURING ARTIFICIAL STONES, PARTS OF WHICH ARE ALSO APPLICABLE TO THE MANUFACTURE OF ARTIFICIAL FUEL.—*R. Bodmer & W. Wilson,* Newport, Monmouthshire. Dated 28th January, 1862. The patentees claim—First, the application and use of sal ammoniac, or other salts of ammonia, in the manufacture of artificial stone or bricks made according to the process described in the specification of L. D. Owen's patent, No. 1270, dated 28th May, 1856. Secondly, the manufacture and use of artificial stones or bricks entirely of hydraulic or other limes, or of a combination of different varieties of lime, for the purposes described. Thirdly, the manufacture and use of artificial stones or bricks of a black or dark colour, either for building purposes or for fuel, as described. Fourthly, the application and use of sal ammoniac, or other salts of ammonia, in the manufacture of artificial stones or bricks made entirely of hydraulic or other limes, or of a combination of different varieties of lime, or in the composition of which natural or artificial calcareous cements are employed.

MANUFACTURE OF BRICKS, TILES, &c.—*W. Smith,* Bury. Dated 1st February, 1862. The patentee claims—First, the revolving cylinder and combination of parts for pressing the clay or other plastic material into the moulds, as described. Secondly, the ram and spring and combination of parts for resisting the action of the clay or other plastic material whilst the mould is being filled, as described. Thirdly, the block or blocks for pressing the clay into the moulds, as described. Fourthly, the steam cylinders and combination of parts for pressing the clay or other plastic material, in the manner described. Fifthly, the apparatus and combination of parts for receiving and removing the bricks after leaving the mould, as described.

IMPROVEMENTS IN LATHS FOR VENETIAN BLINDS, IN PAINTING SUCH LATHS, AND IN RAISING AND LOWERING VENETIAN BLINDS.—*E. Pace.* Dated January 22, 1862. The patentee claims:—1. The manufacture of laths for Venetian blinds by a slicing knife as described. 2. The construction of laths for Venetian blinds by gluing or cementing together two or more leaves or thicknesses of wood sliced or cut out of the plank as described. 3. Painting the laths by a roller or rollers in manner described. 4. Raising and lowering blinds by a roller fitted with a ferrule, in which is inserted a divided spring plug, substantially as described.

IMPROVEMENTS IN MACHINERY FOR MAKING NAILS AND SPIKES.—*C. T. Bousfield.* (A communication.) Dated January 21, 1862. This relates to a novel arrangement of parts, constituting an improved nail-making machine, in which two pairs of compressing rollers are used for tapering the ends of the metal rods fed into the machine to a suitable shape for forming nails or spikes, in combination with a cutter for severing such tapered ends from the rods, and a heading die for striking up the heads of the nails or spikes while the same are held firmly between nipping dies; the object being to effect in a rapid and economical manner the conversion of rods or bars of iron or other suitable material into nails or spikes.

MALLEABLE CYLINDERS USED IN ENGINEERING AND ARCHITECTURAL STRUCTURES. — *E. W. Hughes,* Parliament-street, Westminster. Dated January 14, 1862. This invention consists in constructing cylinders or tubes, suitable for columns or supports used in engineering and architectural structures, by forming and combining plates of wrought or malleable iron, each of which is rolled with two outer projecting flanges, which are produced at angles greater than a right angle to the plane or outer surface of the plate.

IMPROVEMENTS IN THE MEANS OF PRESERVING STONE, BRICK, SLATE, WOOD, CEMENT, &c., FROM THE INJURIOUS ACTION OF ATMOSPHERIC AND OTHER INFLUENCES, ALSO IN THE APPLICATION OF COLOURS TO THE SURFACES OF STONE, BRICK, WOOD, SLATE, &c.—*A. H. Church.* Dated 28th Jan., 1862. The patentee claims—First, the exclusive use of a solution of silica in water, when preceded or followed by a solution of baryta or strontia in water, that is to say, the successive or consecutive employment of such solutions as applied to any of the recited purposes of the said invention, according to the processes and after the manner described. Secondly, the exclusive use of the mixture of a solution of silicate of potash or soda with sulphuric, hydrochloric, or other common and suitable acid (and which mixture may be regarded as an impure solution of silica), preceded or followed by a solution of baryta or strontia, as applied to any of the purposes of the said invention.

IMPROVEMENTS IN THE CONSTRUCTION OF STOVES OR FIRE-PLACES.—*J. Tow.* Dated Jan. 18, 1862. The object here is the construction of stoves or fireplaces for heating apartments or buildings, whereby the draught can be easily regulated and the escape of smoke into the room or apartment prevented. There is also an arrangement by which hot air may be conducted from such stoves to any part of a building. Stoves or fireplaces constructed according to this invention are formed in several parts, so that they may be readily taken to pieces for examination or repair, and for facility in fixing.

* Selected from the lists published in the *Mechanics' Magazine,* and the *Engineer* Journal.

Books Received.

The Annual Retrospect of Engineering and Architecture: a Record of Progress in the Sciences of Civil, Military, and Naval Construction. Vol. I. January to December, 1861. Edited by GEORGE R. BURNELL, C.E. London: Lockwood & Co. 1862.

THE editor or author of this able review of engineering progress apologizes for delay in its publication; and yet, although he is no doubt correct, in the main, in thinking that an earlier issue would be desirable; still, in some instances, he is rather premature in his announcements; as where he takes it for granted that Mr. Page's design for Blackfriars new Bridge is the one that will be carried out. For the future, however, he proposes to avoid delaying the publication of his serial till it be "out of season."

Much of the matter of the volume is new, in form at least, although the editor has extracted from the contemporary press a good deal of what appeared to be of sufficient interest for his pages. This is indicated here and there by the use of a different type: it is not pretended that all the valuable or even the best articles contained in the technical journals, or in the proceedings of the scientific societies, have been inserted; and too many of them indeed have not even been noticed; but the limits of the volume are restricted; and all that could be expected in such a case was a judicious selection.

The subject-matter is arranged in five divisions: 1, Civil Engineering; 2, Architecture; 3, Military Engineering; 4, Naval Engineering; and, 5, Miscellaneous Matter. Among the sub-divisions or sections of the first division are articles on metropolitan railways and streets, street tramways, Thames embankment, Blackfriars Bridge competition, creosote *versus* boring-worm, oil-wells of America, leakage of gas from street mains, charcoal in sewer ventilation, steam and sewage in agriculture, Mont Cenis Tunnel, gas-power engines, cementation of steel, and telegraphic progress, besides a variety of other articles. Amongst the sections of the second division are articles on the New Foreign Office, street architecture of London and Paris, artisans' dwellings, London and Paris hospitals, new materials and processes, preservation of stone, &c. The other divisions

include, among others, articles on coast defences, cupola ships, strength of iron ships, &c.

The extension of metropolitan railways, Mr. Burnell, somewhat paradoxically, imagines will only still farther obstruct the street traffic. As to the leakage of gas from the London street mains, and on other subjects, he equally aims at a little speciality or distinguishing singularity of opinion. The fact that the metropolitan gas mains do extensively leak, and at the joints too, as well as through the porosity of the iron, is one now well enough established; and it is to be regretted that an engineer such as Mr. Burnell thus sets himself against the endeavours of late being made to amend this both economic and sanitary evil. As to the extent of the injury done to water mains by gas leakage, on which Mr. Burnell also casts a doubt, the water companies at least, and those whom they have employed specially to investigate the subject, have a very different opinion from that entertained by him. Moreover, it is a well-known fact, which he by no means admits, that a better mode of jointing the gas mains has been adopted in some provincial towns, with a notable diminution of leakage as the ascertained result. As to other sources of loss of gas, Mr. Burnell may be quite right, in some respects; as from its own condensation, for example; and from the tampering with consumers' meters; and, he might have added, with service-pipes; but as to the inaccuracies in meters increasing the loss of the companies, as he erroneously imagines; it is a well-known fact that in general the result is precisely the contrary, or a decided gain to the companies, and not a loss, as he supposes; meters usually measuring far ahead of the actual quantity consumed. What effect in modifying this result the testing of meters may have, remains to be seen when the new law has been a little longer in operation. There is one circumstance, too, in reference to the leakage of gas from street mains and injury to water-pipes, of which Mr. Burnell does not seem to be aware; namely, that there is a peculiarity in the soil of the metropolitan streets which tends, in connexion with the gas leakage, to promote the injury in question. He is quite awake, however, to the existence of similar or analogous circumstances as regards waste of iron pipes in other towns: thus, he says,—

"There are some rather curious phenomena connected with the durability of gas-pipes in the ground, and sometimes of service-pipes in houses, to which attention may well be called, in the hopes of eliciting some inquiries on the subject. The phenomena alluded to are as follows:—Cast iron pipes imbedded in soils like those of Holland, or of our own Essex marshes, are rapidly affected by the chemical agents contained in those soils; and again, in the neighbourhood of Newcastle there are occasionally present in the ground sulphur compounds which act very injuriously on cast-iron. The wrought-iron service-pipes, under these circumstances, decay with much greater rapidity; and it is also to be observed that, when wrought-iron pipes are in immediate contact with Roman cement, they are acted upon more rapidly than when they are in contact with ordinary lime-mortar. In the neighbourhood of Newcastle, it seems that the danger to the cast-iron pipes is sufficiently great to induce a new gas company, established in that locality, to attempt to substitute glazed stoneware for cast-iron."

Of this attempt he says,—

"The practical difficulties in the way of so doing consist in the number and mode of making the joints; in securing the strength and impermeability of the pipes; and in providing for the insertion of service-pipes. All these are, however, susceptible of solution; and no doubt success will soon reward the exertions of the able and energetic men who are now engaged in the attempt to place within the resources of the gas-engineer pipes of a more indestructible nature than those now almost universally employed. Stoneware pipes, it may be added, would present another advantage in this respect, that they are good non-conductors of electricity; and if they were used, the class of accident reported to have occurred at Munich could not be repeated. Their brittleness is an objection to them; but by increasing the thickness, and by burying them deeper in the ground, it might be possible to avoid this cause of danger, and at the same time to render the loss by permeation almost imperceptible. From the few observations we have been able to make on the resistance of this class of materials, we are disposed to think that the stoneware pipes with the felspathic glaze are most likely to fulfil the desired object; but experiments on a large scale are required before any decided opinions can be formed on the subject."

In treating of the progress of street architecture in London and Paris, Mr. Burnell objects to give the palm to Paris. London, he thinks, contrasts favourably, on the whole, with the French capital. There is, perhaps, a want of unity of direction, he remarks, and of grandeur of conception, in the works of improvement lately executed in our own metropolis; but—

"A careful comparison of the buildings lately executed in London for domestic purposes with those erected in Paris, will prove that the rule of tempered liberty is far more favourable for art, than is the most perfect system of governmental organization. There is greater vigour, more thought, originality, and truth in the buildings lately erected in Cannon street, Fenchurch-street, Cornhill, Leadenhall-street, Broad-street, Threadneedle-street, Mincing-lane, Tower-street, &c., than can be found in any new part of Paris; and even the builders' architecture of South Kensington and of Tyburnia, detestable though it be, is bolder, freer, and of a purer taste, than the meretricious architecture of the new Boulevards of Paris."

The houses in the new streets of the French metropolis, he observes, are drilled to the same degree of uniformity as a regiment of soldiers would be; whilst all originality, all the quaint picturesqueness of outline which was observable in old Paris, have disappeared under the influence of the modern notion of equality. The taste of the architectural details in the elevations, he thinks, is also as questionable as their general effect; for "the 'bed-post and valance' style of ornamentation; the unmeaning introduction of shallow panelling; and the ineffective profiling of the mouldings in accordance with the taste brought into vogue by Mr. Duban, of the École des Beaux Arts, have been exaggerated in the new streets."

On the whole, Mr. Burnell's volume forms an interesting retrospect and record of engineering progress, and it merits an extensive sale; but it may be a question whether there really be a public, beyond those who keep themselves *au courant* by means of our own and other journals, sufficiently interested in such a serial to enable it to pay. We sincerely hope there may, but we have doubts about it.

VARIORUM.

"Links in the Chain," by George Kearley, is one of Messrs. Hogg's useful series for young people, "Books with a meaning." It is well calculated, not merely to enlighten the reader, but to induce a love for the study of nature, which provides a perpetual pleasure for those who enter upon it. Of the "Aquarium and its Inmates,"—

"Pellucid pools, and rocks in miniature,
With their small fry of fishes, crusted shells,
Rich mosses, tree-like sea-weeds, sparkling pebbles,"—

a good account is given. It is a pleasure and a privilege to walk the country with one who knows its occupants and produce, even if he be not quite so learned in these matters as Thoreau, of whom a recent American writer says, speaking of an excursion with him on a particular day, that he looked for the menyanthes; detected it across the wide pool; and, on examination of the florets, decided that it had been in flower five days. He would read off at any time the names of all the plants that should bloom on the day, whereof he kept account, as a banker when his notes fall due. The cyprepedium not due till to-morrow. He thought that, if waked up from a trance, in the swamp, he could tell by the plants what time of the year it was, within two days.——The new number of the "Art-Journal Catalogue of the International Exhibition" includes an engraving of part of the famous "Norwich Gates," manufactured by Messrs. Barnard, Bishop, & Barnard, from the designs of Mr. Thomas Jeckyll, of Furnival's Inn, by whom also the work was superintended.——"The Social Science Review," in its last number, arrives at the conclusion that the provision of dwellings for the working classes, by the extension of suburban residences in the form of streets, is a failure. The writer says,—

"In plain words, it has become obvious that to extend the population of a city by covering its ground with people, and increasing the acreage of its foundations, is but to perpetuate the evils of the city in the mass, and to separate, at the same time, the artisan population from its work by miles of brick and mortar."

——"Outlines of English History." By Henry Ince, M.A., and Jas. Gilbert. (Kent & Co.) The two hundred and first thousand of this book shows an enlargement in size over those editions which preceded. It gives much valuable information in a small compass.——"Essays and Tales." By William Dawbarn. (A. Hall, Virtue, & Co.) The fact that this little book is one result of the leisure hours of a timber and slate merchant gives it an extra claim to our attention. It does not, however, need this: it includes a number of sensible and amusing sketches, and may be read with advantage.

Miscellanea.

DUKES AND BISHOPS AS FIREMEN.—Dukes and bishops are not standing still in this era of movement. We lately alluded to the praiseworthy efforts of the Duke of Sutherland to improve our means of extinguishing fires. A bishop does not think it beneath his dignity to follow in a like useful course. At a fire which occurred last week, near Caldbeck, occupied by patent fire-light manufacturers, amongst those present was the Right Rev. the Lord Bishop of Carlisle, who kept the engines at work; formed distinct lines of men and women; and otherwise made himself of great service till the flames were quenched.

EXHIBITION OF BRIGHTON ART SOCIETY.—The annual exhibition of paintings by the Brighton Art Society is said to be quite equal, if not superior, to that of last year. The collection consists of above 400 pictures, including landscapes, sea-views, historical subjects, portraits, &c., both in oil and in water colours.

DRAINAGE OF LAKE FUCINO.—A letter from Rome states that, by the aid of Prince Torlonia, the ancient aqueduct of Claudius, which was intended to draw off the waters of the Lake Celano or Fucino, is re-established. Its overflowing frequently desolated the surrounding country; from which, when the water had retired, poisonous exhalations emanated. Time is still requisite to drain the Fucino entirely; but the progressive lowering of it will by degrees restore to cultivation a superficies of 35,000 acres. It is calculated that the sale of the land will quadruple the capital expended on the undertaking.

THE MIDDLE-LEVEL INUNDATIONS.—There is not more than a foot and a half of water on the land now, it is said, on any part: of course those parts where the water is off present rather a melancholy spectacle, but we believe that in such cases the land (like that of Egypt) is really improved by the inundation. Most of the houses, chapels, and other buildings that have been under water bear indication of the foundations being sapped. Nearly all will have to be rebuilt at a great expense. The line of railway between Lynn and Wisbeach, which has been submerged, is now dry, and a large number of workmen have been busily engaged in relaying the permanent ways. The damage done to the railway property is estimated at some 10,000*l*. The Marshland engine, which was rendered useless by being choked up with the water, is got to work again; and the fixing of the syphons over the coffer-dam is going on.

COMPENSATION CASE; PORTSMOUTH.—An important case has just been tried in the Sheriffs' Court of Hampshire, a special jury having been empanelled at Portsea for the purpose of assessing the compensation to be paid to Mr. Thos. Thistlethwayte; the Government having taken part of his estate, consisting of Portsdown-hill, which is four miles in length, and comprises 1,000 acres, for the purpose of constructing the fortifications for the defence of Portsmouth on the land side: they also require the clearance of 1,000 acres of the adjoining land from all hedges, ditches, trees, and other obstructions. According to the *Star*, the case commenced on Tuesday last; Mr. Lloyd and Mr. Johnson, Q.C., appearing for the claimant; Mr. Hawkins, Q.C., and Mr. Hannen, for the War Department. Eleven surveyors were examined in support of the claim; viz., Messrs. Pink & Garrett, of Fareham; Smith, of Portsea; Sturge, of Bristol; Huskisson, of Nottingham; Matthews, of Birmingham; Chinnock, Driver, & Fuller, of London; Squarey, of Salisbury; and Westbury, of Andover;—whose average valuations amounted to about 104,000*l*. The case was not concluded until Friday night, and resulted in a verdict for the claimant of 95,200*l*.

ARCHITECTURE IN THE PROVINCES.—Continuing the endeavours, to which we have already referred, the *Leeds Mercury* remarks, not without justice:—"A reform in the public taste cannot proceed from the architects. There are architects in most towns of Yorkshire able to produce good designs for private houses, if people want good designs. But, if people don't want good designs, we may feel sure that architects won't produce them. Architects are just like other men, and will do no more than is required of them. Why should they waste their time and rack their brains to form beautiful plans, when their beautiful plans will receive no adequate appreciation? Servants generally are just what their masters make them. If a master cares nothing about how his work is done,—if he is just as well content with work turned out in a slovenly manner as with work turned out in a neat manner,—we know that the work will be turned out in a slovenly manner. Architects are but the servants of the public. If the public is careless, the architects will be careless. If the public is exacting,—if it insists on good work, on economy, neatness, and elegance of design,—it will soon find these qualities attained pre-eminently by a few, and moderately by all. The example has only to be set, and it will soon be followed. So it was with warehouses. One single warehouse in Leeds, rising above its neighbours in architectural qualities, soon compelled others to adopt a similar style. A row sprang up. Rival rows are springing up, and the healthy competition bids fair to place the warehouse architecture of Leeds as high as the warehouse architecture of any other town in England."

LIGHTNING A GOOD SERVANT.—During a recent storm in Iron Mountain, America, the lightning struck a large ore bank in one of the furnace cuts, and dislodged and threw down from 2,000 to 2,500 tons of ore. To have dislodged the same by powder would have cost the company several hundred dollars.

THE COMBUSTIBILITY OF PETROLEUM.—In reference to some experiments on this subject at Liverpool, which Dr. Angus Smith, who has made many trials of the oils so called, thinks unsatisfactory, he says:—"The two great facts to be remembered respecting the volatile petroleum are, first, that the vapour rising at the ordinary temperatures ignites readily, and when mixed with air explodes. It mixes with air like gas, and in this lies its hidden danger: secondly, when water is thrown on the oil, the oil floats on the water and still burns; whereas spirits mixed with water become diluted, and cease to burn."

BELGIAN SCHOOL OF ART.—We have just heard of the death of Mr. Erin Corr, member of the Royal Academy of Belgium, director of the School of Engraving of the Academie Royales des Beaux Arts of Antwerp, and Knight of the Order of Leopold. Mr. Corr was the son of an expatriated Irishman, who, having become involved in the Rebellion of 1798, in conjunction with Lord Edward Fitzgerald, Emmett, and others, was compelled to fly from his native land, in order to avoid the dreadful penalties of high treason. Erin dedicated his life to a study of the fine arts, under eminent masters of the day; and, by the zeal and ability which he displayed in his profession, won a reputation.

GAS.—The Oxford Light and Coke Company have declared a dividend of 7½ per cent; and the Bury St. Edmund's Gas Company one of 10 per cent.——The Wick and Pulteney Gaslight Company have resolved to reduce the price of their gas from 12s. 6d. to 10s. per 1,000 cubic feet. Of course, with such prices, their dividends are not so high as in places where the charge made for gas is much lower: the company, however, have just declared a dividend of 5 per cent., which is more than they have hitherto deserved. ——The Wolverhampton Gas Company has declared a dividend for the last half-year at the rate of ten per cent. per annum, and placed a considerable balance to their reserve fund. In reference to a reduction in the price of gas, the Vice-Chairman said, at the half-yearly meeting, that, whenever the directors found themselves in a position to do so, the first and most gratifying thing to them would be to make a reduction in the price; for not only would this afford satisfaction to the present customers, but it would increase the consumption.——The South Shields Gas Company have declared a dividend at the rate of nine per cent. per annum for the last half-year.

MODEL DWELLINGS IN LEEDS.—The Leeds Model Cottage Building Committee have had completed a second block of model dwellings in that town. The houses have been erected on the estate recently opened out at Burley. The first block, erected at Beeston, was called "Victoria-terrace:" the second has been called "Albert-terrace." On both the committee invested 2,200*l.*, which has been repaid or secured; and, in a few years, the whole of the sixteen occupiers will be freeholders, and living on their own properties. The completion of these undertakings has established the fact, that good, neat, and well-arranged houses, well ventilated and well drained, with gardens and separate conveniences, can be built and placed in the hands of the occupiers for 150*l.* to 180*l.* The next step is to erect a lower class of houses; and it is proposed to organize a society for the erection of model cottages to cost not more than 105*l.* or 110*l.*; and to do this, not as a matter of philanthropy, but really as a business undertaking. The eight houses forming the block just completed have cost 1,330*l.*; the two end houses costing respectively 190*l.* and 180*l.*, and the remaining six 160*l.* each. Three are two rooms on the ground-floor, each a little more than 15 feet by 12 feet; and in the end house five lodging rooms, and in the centre three. There are gardens and separate yards; and the whole block is flagged round, securing to the occupants a pleasant and independent promenade. The houses have been transferred by the committee on a deposit of 32*l.* 13s., the balance being paid by taking out shares in the Building Society. The interest of the deposit at 5 per cent., compounded half-yearly, will be 28*l.* 4s. 6d.; and adding to this 7*l.* as the cost of the mortgage and transfer, the total sum actually out of pocket will be 67*l.* 17s. 6d., the amount paid for the shares being no more than the occupiers would really pay for rent.

SCULPTURE FOR TOWER OF ST. MARY MAGDALEN, TAUNTON.—Some sculpture is being executed by Mr. R. L. Boulton, of Worcester, for the tower of the church of St. Mary Magdalen, Taunton, which has been three years in building, under the supervision of Mr. Scott and Mr. Ferrey. As described by a Worcester contemporary, there are eleven figures, the majority of them complete. Three figures are allotted for the south front, facing the churchyard; the principal being, of course, Mary Magdalen, supported, on either side, by St. Andrew (the patron saint of the diocese), and St. James; the figures being life-size. On the west front are to be statues of the four Evangelists, about 4 feet high, and St. Peter and St. Paul life-size. Altogether there will be seven life-sized figures,—those already mentioned, and St. George and St. Michael.

THE NEW BUILDING FOR THE COVENTRY SCHOOL OF ART.—The chief stone of the new school in Ford-street has been laid. The building will be of Gothic character, and constructed principally of brick, with facings and ornamental work of Bath stone, relieved with some carving and other enrichment. The roofs will be of steep pitch, and covered with ornamental slating and ironwork. The outline is broken by gables, dormers, chimneys, and other features; and the buildings will group with the adjoining schools of the Holy Trinity. On the ground floor of the main building, facing the street, will be an entrance-hall and staircase (leading to the exhibition-room on the upper floor); class-rooms for ribbon drafting and female students; private studio for the master, and rooms for the keeper. At the back part of the building will be an elementary class-room, 30 feet by 67 feet, lighted from the roof and by side windows; also painting and modelling rooms, lavatories for both sexes, cap and cloak rooms. On the upper floor (of the front building) will be a room for the exhibition of pictures, lighted from the roof, and 50 feet by 20 feet. Adjoining is a room, about 30 feet by 16 feet, which will be used as a library, and for the committee meetings and general purposes.

RESULTS OF BREATHING A POLLUTED ATMOSPHERE.—The Rev. H. Housman, in a letter to the *Wolverhampton Chronicle*, makes the following statement:—"At the lower end of Canal-street there is a well-known row of houses, situate considerably below the level of the street, locally (and not inappropriately) called 'The Hole.' In front of these dwellings there is a drain, which sometimes carries the filth of this very filthy part of the town into the fields below the canal, and sometimes carries it into the interior of these habitations, in one of which it has been known to rise to the height of a yard. As might be expected, the stench which issues through the grating of this sewer is at times beyond all expression abominable. Pressed by such urgent invitations, sickness and death are frequent visitors in these houses. This week the father of one of the families living here died from typhoid fever. Just eight weeks ago his youngest child was buried, after a gradual wasting away, evidently unable to support life in an atmosphere of such pollution; and another of the children was carried off by the small-pox, which broke out in the house not long ago."

THE JOURNEYMEN BAKERS' GRIEVANCE.—The report of Mr. Tremenheere, who was appointed by the Home Secretary to investigate this subject, states that the case of the journeymen has not been at all overdrawn; but he does not seem to be very sanguine as to the possibility of meeting their grievances by any legislative enactment. The inspection of bakehouses, however, he conceives ought to be seen to; and the Act as to the adulteration of food more strictly enforced as regards bread. Youths under eighteen, he considers, should not be allowed to work in a bakehouse later than nine p.m. nor earlier than five a.m.; but for a real remedy, both for the private and the public grievances as to bread-baking, he is inclined rather to look to an improvement in the art of manufacturing bread than to Parliamentary interference; and he mentions with approbation several mechanical processes lately applied to this manufacture, especially Dr. Dauglish's new system of "aërated bread" baking. The account Mr. Tremenheere gives of the filth connected with the present system is horrific; and, could the metropolitan public be duly impressed with it, the grievances, he thinks, would amend themselves; inasmuch as home-made bread would be something like the rule and bakehouse bread the exception. Many of the master-bakers much desire amendment as well as the men; but a system of underselling to supply the poor has led to much of the evil complained of.

TROUBLING BUILDERS.—A correspondent writes:—"The tenders for the repairs and alterations at Thruxted Farm House, Chartham, were as follows:—Mr. H. Wilson (Canterbury), 430*l.*; Mr. A. Foreman (Chartham), 398*l.*; Mr. Whiting, (Ospringe), 397*l.*; Messrs. Gasken & Godden (Canterbury), 396*l.*; Messrs. White & Epps (Chilham), 382*l.* 10s.; Mr. S. Shrubsole (Faversham), 325*l.* Mr. Foreman has the contract, and great dissatisfaction is felt that parties should be put to the trouble to get out estimates for the purpose of furnishing information to intending builders, &c.; as it will be seen by the above figures that there were four estimates lower than the one taken."

ALBERT MEMORIALS.—On the melancholy intelligence reaching the colony of New South Wales of the demise of His Royal Highness Prince Albert, says the *Sydney Empire*, a movement was set on foot to collect subscriptions to erect a fitting tribute to the memory of the illustrious Prince. The first published list of subscriptions amounts, in the gross, to upwards of 1,000*l.* The subscriptions were limited to one guinea each; and the amount already subscribed is made up by a large number of very small contributions. It has not been decided what form the memorial will take.——The committee appointed by the subscribers to the Aberdeen memorial have, as already announced, intrusted the work to Baron Marochetti. The site chosen by the committee, with the approval of the sculptor, is the wooded bank at the north-west end of Union Bridge. The statue of the Prince is to be in bronze, in a sitting posture, and in the robes of the Order of the Thistle.

BIRMINGHAM ARCHÆOLOGICAL ASSOCIATION.—The members and friends of the Birmingham Archæological Association, to the number of fifty, have made an excursion to Kings Norton, Alvechurch, and Bromsgrove. Kings Norton was the first locality visited; and on the arrival of the party in that picturesque village the bells rang an enlivening peal. The church was examined, and its leading features described by Mr. Orford. The recumbent effigies in the chancel of Sir Richard and Lady Greves (*temp.* Charles I.), and the incised altar tomb in the north aisle, excited attention, as did also a slab in the same aisle, which recorded the murder of an inhabitant of the parish. The library in the school-house was next examined: the books, amounting to several hundreds, were the gift to the parish of Thomas Hall, vicar, who was ejected for nonconformity in 1662. The company next proceeded to Alvechurch, where the church, recently almost entirely re-erected, from the designs of Mr. Butterfield, was the object of attraction. The Ven. Archdeacon Sandford gave a brief account of the early history of the church. The drive from Alvechurch to Bromsgrove was speedily accomplished, and considerable amusement was excited by the manner in which the Rev. Dr. Collis described the various abominations which have just been swept away in Bromsgrove Church, now restored under the superintendence of Mr. Scott.

ANTIQUITIES NEAR MALTON.—At Norton, near Malton, a system of town drainage has just been commenced. The outfall was placed in the Derwent, a few days ago; and it is stated that, in excavating, the men were surprised to find, at the depth of 8 feet, a hard firm surface, resembling the best macadamized road, but so firmly cemented together, that for a considerable time no way could be cut through it. Eventually a section was exposed, which showed the road to be 15 inches in thickness, and to have been continued, apparently, across the river to the large camp at Malton, now generally regarded as the lost station, Derventio. This view of the site of the ford here is further strengthened by being immediately opposite the Prætorian gate of the Malton camp. The 8 feet of cutting was composed of alluvial deposit, which yielded several coins, varying in date from the time of Constantine to the third William. This would indicate that the ford had continued in use until the building of the Malton Bridge in the immediate vicinity, which is now shown not to be upon the site of the Roman ford, as has been generally supposed. In addition to coins, close upon the road were found various kinds of Roman pottery, antlers of deer, an iron spear-head with a horn handle, a wooden sandal, or shoe, with bronze fastenings (the wood crumbling on exposure), and a quantity of small horseshoes, differing from the horseshoe of the present time, in being much smaller and lighter, and being without the groove for the nail-heads. The road was exposed for some yards in a southward direction, towards a small camp opposite to the Malton one, which has recently been built upon.

ANOTHER TRIUMPHAL ARCH.—The *France* says that it has been decided to erect a monumental triumphal arch at the Barrière du Trône, to commemorate the Crimean and Italian campaigns. It is proposed to make it quite as high as that at the Arc de l'Étoile; and a wooden model is to be first erected on the spot, in order to judge of the effect. The necessary funds have already been voted by the Municipal Council.

AN INDIA-RUBBER OMNIBUS.—A Connecticut newspaper announces that a clever Yankee has invented an india-rubber omnibus, in which, although it may be packed full, there will always be extra room for a few more that may come. To the London General Omnibus Company, who seem to cling to the packing-box system so tenaciously that they are said to be purchasing the roomy rival Manchester omnibuses in order to get them out of the way of their own splendid vehicles, we commend the Yankee invention. To be serious, London never stood more in need of a new omnibus company than now. It must, however, be a powerful one: it will have a cunning rival to cope with, although the money power of a company who reap no dividends, and have expended all their capital in the vain attempt to purchase up the London streets, need be little dreaded.

FALL AT THE BRIGHTON PAVILION.—The promenaders in the Pavilion grounds were much alarmed last week by the fall of a large mass of stonework from the summit of the North Lodge. Falling as it did on the copper dome, it caused a noise like thunder. On examination, says the local *Herald*, it turned out that the stone finial of the copper dome had split in two. This finial, it seems, was supported by an iron rod, which ran through it from the copper dome; and, no doubt, the rusting of the iron has split the stonework, and so caused the fall. The southern half still remained; but, of course, in a very insecure state.

SOCIAL SCIENCE.—The arrangements for the inaugural Congress of the International Association for the Promotion of Social Science, which will be held in Brussels, from the 22nd to the 25th instant, are now, we understand, nearly completed; and, from the number of distinguished men in all parts of the Continent, as well as in this country, who have promised their attendance and support, there is every reason to believe that the meeting will be of a highly interesting and important nature. We may mention, for the guidance of many who will be attracted to Brussels at the time of this meeting, that every information may be obtained at the office of the National Association for the Promotion of Social Science, 3, Waterloo-place, Pall Mall.

GOLDSMITHS' HALL.—And now a few words regarding Goldsmiths' Hall. The site belonged to Sir Nicholas de Segrave, brother to the Bishop of London, in the reign of Edward II., 1316. By deed of sale, May 19, 1323, the land and premises were conveyed for ever to Sir William de Clift, clerk. In 1401, the company met "in their halle in Fosteres-lane." Sir Drue Barcyntyn, 1407, is supposed to have built the second hall, which appears to have had an armoury, gatehouse, granary, assay office, &c. In the hall was a silver-gilt statue of St. Dunstan, "broke and sold at the Reformation." In 1646, the hall became the Parliamentary meeting-house; and being almost destroyed in the Great Fire of 1666, the company were about removing to Jewin-street; but there being a house more suitable in Gnb (now Milton) street, Cripplegate, they took it on a lease of twenty-one years, at a fine of 100*l*., and 60*l*. rent. The new hall was completed in 1669, and was of brick, surrounding a square court, paved, the front ornamented with stone corners wrought in rustic, and a large arched entrance, which exhibited a high pediment, supported on Doric columns, and open at the top, in which were the company's arms. The "hall," on the east side of the court, was a spacious and lofty apartment, paved with black and white marble. The court-room was richly wainscoted. (Brayley's "Londiniana.") The present structure, erected by Philip Hardwick, R.A., 1832-5, "is the most magnificent City hall, and the third erected for this company on the site." (TIMBS.) But its situation is not well calculated to impress the beholder with its beauty. It is best seen from the back entrance to the General Post-office. We may add, that when the hall was inaugurated in the presence of the Duke of Wellington, on July 15, 1835, the prime warden stated that the building had been erected "without trenching on the charitable funds of the company: not one pension had been abridged: no charity was diminished: not one single petition for the relief of their poorer brethren was rejected."—*City Press.*

THE LATE MR. JAMES JOHN BERKLEY, ENGINEER.—We note with regret the death of Mr. James John Berkley, chief resident engineer of the Great Indian Peninsular Railway, at the early age of 42. It occurred at Sydenham, on the 25th ult. Mr. Berkley was the confidential secretary at one time of the late Robert Stephenson, by whom he was much regarded.

A TRACTION ENGINE IN LONDON.—An experiment illustrating the power of Bray's traction-engine for drawing loads almost impracticable to horses, along our public thoroughfares, took place on Friday night and Saturday morning, the 30th. A large wrought-iron girder, of the hog-back construction, 74 feet long, 5 feet 8 inches high in the centre, and weighing 20 tons, had to be removed from the works of Mr. H. Grissell, Eagle-wharf-road, New North-road, to the Manor-road, Dulwich, where it is to form part of a bridge for the London, Chatham, and Dover railway. The girder was safely removed to its destination.

ARTIFICIAL CORAL FOR GROTTOES AND OTHER ORNAMENTATIONS.—To two drams of vermilion add one ounce of resin, and melt them together. Have ready the branches or twigs peeled and dried, and paint them over with this mixture while hot. The twigs being covered, hold them over a gentle fire, turning them round till they are perfectly covered and smooth. White coral may also be made with white lead and resin; black coral with lampblack and resin. When irregular branches are required, the sprays of an old blackthorn are best adapted for the purpose; and for regular branches, the younger shoots of the elm tree are most suitable. Cinders, stones, or any other materials, may be dipped in the mixture, and made to assume the appearance of coral.

THE IRON AND MACHINE TRADES.—The exportation of iron in its various forms experienced some reduction last year; the total value of the iron and steel sent abroad having been 10,341,574*l*. against 12,154,997*l*. in 1860. There was an increase in pig from 974,065*l*. to 1,047,318*l*.; but bar, bolt, and rod iron declined from 2,385,871*l*. to 1,885,605*l*.; railroad iron, from 3,408 759*l*. to 2,903,357*l*.; wire, from 250,087*l*. to 207,317*l*.; wrought iron of all kinds, from 3,317,349*l*. to 2,868,923; and unwrought steel, from 986,228*l*. to 727,840*l*. The value of the machinery exported last year was never exceeded in any previous twelve months; steam-engines having figured for 1,243,467*l*., and other kinds of mechanical apparatus for 2,976,221; while in 1860 the totals were 1,238 333*l*. and 2,599,488*l*. respectively. In 1850, the value of the steam-engines exported was only 423,977*l*., and of general machinery 618,189*l*.

THE POLYTECHNIC.—Professor Pepper's lectures on the contents of the Great Exhibition are very interesting, and should be useful to many. These are given early on three evenings in the week and three mornings. Gold, silver, aluminium, and the coal-tar dyes were some of the subjects treated of when we were present. With reference to aluminium, the value of which was early recognized and urged in the *Builder*, he threw out an observation that touches church-building. It was to the effect that, recollecting the extreme lightness of this metal, if it were used for bells, towers to contain them might be of much less costly construction than is required for the bells now in use. The tone given out by aluminium when struck does not seem to us the right thing, but some slight alloy might perhaps serve to render it satisfactory. Messrs. Bell, Brothers, of Newcastle, are doing much to advance the manufacture of aluminium and aluminium bronze.

WELL-SINKING: A BRAVE ACT.—Some workmen in the employ of Mr. William Davis, the mayor of Haverfordwest, have been sinking a well in a field in Shut-street-lane. On finishing their work, one day lately, they had sunk to about 33 feet, and there was at the time about 7 feet or 8 feet of water. The same evening a girl, about ten years of age, fell into it. George Evans, a mason, got a thin rope hardly strong enough to hold the weight of a heavy man. One end of this he rapidly hitched round a log of wood; and, throwing the other end down, he descended. The child had sunk before he reached the water; and he was consequently obliged to dive to the bottom, about 7 feet or 8 feet. After awhile he found her, but his own strength was nearly exhausted. A number of men had by this time arrived, and they hauled up the rope rapidly, jerking poor Evans fearfully about, and terribly mangling his his hands. He held on, however, and brought the little girl safe to the surface. Evans will be unable to work for some weeks to come, and the case is one in which aid is richly merited.

OXFORD.—Fell's-buildings, in Christ Church College, are being pulled down to make room for fifty more undergraduates. The cost will be 21,000*l*. Mr. Simms is the builder; and Mr. Deane the architect. The range of buildings will be 36 feet in length, and in the Gothic style.

STATUES AND MEMORIALS.—A statue of King Louis of Bavaria has just been inaugurated at Munich.——The tomb in white marble, erected in one of the chapels of Notre Dame, to the memory of Mgr. Affre, killed at the barricades in June, 1848, is (says *Galignani*) now terminated. The archbishop is represented in his soutane, with the olive-branch in his hand, and falling mortally wounded.——The memorial to the late Mr. G. Cox, in the old burial-ground of St. James's parish, Bath, has just been completed by Mr. Holbrook, marble and stone mason, and uncovered. The design, furnished by Mr. C. J. Phipp, is Gothic, and is executed in Portland stone, with blue pennant columns, the capitals carved.

DEFECT IN NEW FORTIFICATIONS.—It is stated that the fort on the Mumbles Rock in Swansea Bay is not in a condition to withstand the concussion produced by the firing of the heavy ordnance. This defence has only been completed within the last eighteen months, and mounts five heavy guns. It is thought that the action of the waves has worked a number of caverns and hollows in the rock. A large rent has already appeared.——The *Dundee Courier* says that on account, as is alleged, of unsuitable mortar having been used in the construction of the mason-work of the fortifications at Broughty Castle, it has been found necessary to remove the coping from the western wall and the wall surrounding the hospital and other outhouses, for the purpose of re-laying it with new lime. On removing the copestones, the mortar, instead of being consolidated, is reported to have the appearance of dry earth or sand; and it is feared that other portions of the walls will require to be picked and pointed. But, if such be the case, will mere picking and pointing, however much they may hide the more serious defects, suffice for a fortification built with such mortar as that indicated?

RENAULT ON VENTILATION.—At a recent discussion at the Paris Academy of Medicine, Mr. Renault remarked that "his experience, derived from observation among animals, might be advantageously detailed. He wished to exhibit the influence which absence of due ventilation exerts on animals in a state of health and when diseased. The great mortality occurring amongst the horses of the French cavalry has been diminished by more than one-half by increasing the amount of air supplied to the stables, no other change in the management having occurred. At the end of the Italian war, 10,000 cavalry were left with no other stabling but mere temporary sheds; but the mortality was quite insignificant, and not a single case of glanders occurred. The French Government are now trying some experiments with respect to the results of the exposure of horses to even currents of air, some of the results having proved of a most favourable kind. As might be expected, the effects of the improved ventilation of stables has been still more fully exhibited with respect to sick and wounded horses." Of this Mr. Renault adduces numerous examples; the general result of the improvements being a great diminution of disease, a greater amount of curability, and a far less proportion of diseases of a grave character.

A LIVERPOOL HOTEL.—The Post-office Hotel, in Canning-place, is a colossal edifice, erected from a design by Messrs. Hay & Co., of Liverpool. The building is five stories high, measuring upwards of 60 feet from the ground to the parapet. This altitude, with a length of 85 feet, gives the whole external aspect, which is embellished in cement in the Italian style of architecture, a look reminding one of the buildings now being erected on the Boulevards in Paris. The doors are five in number: two of these lead to the bar; two to the sitting-rooms on the ground-floor; and the fifth opens into a hall, which, with its glimpse of the stairs, closely railed, gives an idea of a mansion rather than a house of business. The windows which light the bar are five in number, of large size, of polished plate glass in single sheets, and French Italian style of formation. These are protected on the outside by cast-iron guards. Every room in the house is a front one, and every floor has its water-closet, its cold and warm baths, &c. The kitchen is in a central part of the establishment, being situate on the second floor. In connexion with the kitchen is a circulating cistern, from which the house is supplied with water; and at the top is a cold-water cistern, containing nearly 1,000 gallons.

GLOUCESTER CATHEDRAL.—A painted window has been placed in the west end of the north aisle of the nave. The window, says the local *Chronicle*, is descriptive of the baptism and life of Lucius, the first Christian king of Britain, and the last of the sovereigns tributary to the Romans. The chancel of St. Mary's contains a monument supposed to mark his resting-place. The incidents depicted in the window are the coronation of Lucius by the Druids; his arrival in Gloucester; his baptism; and his burial; the series commencing in the left-hand light of the lower stage. The window is not complete yet. The artist is Mr. Hardman, of Birmingham. This addition to the building is another act of the liberality of Mr. W. V. Ellis; and we suspect, adds our authority, that another window, in memorial of Dr. Jenner, to be placed in the west window of the south aisle, is likely soon to follow.

TENDERS.

For Hampton Gasworks:—

Sawyer	£900	0	0
Partridge & Cratch	864	17	0
Simms	840	0	0
Hull	832	0	0
Jacklin & Towers	825	0	0
Wheatley	788	0	0
Bradley & Roberts	756	18	0
Rudkin	735	0	0
Macrostie	721	0	0

For Collyer Memorial Schools:—

Sawyer	£1,250	0	0
Richardson	1,206	0	0
Simms	1,195	0	0
Wilson	1,075	0	0
Smith	1,060	0	0
Rudkin	1,025	0	0

For twelve cottages, at Epsom, for Mr. R. Carter. Mr. Butcher, architect. Quantities not supplied:—

Andrews	£1,700	0	0
Chutter	1,599	0	0
Bottom & Co. (accepted)	1,409	0	0

For pulling down old warehouse, and rebuilding the same, together with show-rooms, for Mr. Longley, Albion-road, Hammersmith. Mr. A. C. Bean, architect. Quantities supplied:—

Brathwaite	£1,679	0	0
Bird	1,578	0	0
Adamson & Sons	1,510	0	0
Chamberlain	1,452	0	0
Hurst	1,416	0	0
Beaven	1,379	0	0
Godbolt & Son (accepted)	1,263	0	0

TO CORRESPONDENTS.

J. R. R.—Rev. A. S.—C. C. B. (the actual width of eaves measured at widest part).—F. T. H.—Mr. B.—J. W. S.—R. H. (send exact model. The founder will make the mould) —J. C.—Letterick (at Weale's) T. C. C.—W. W.—A. W.—W. S.—J. M. & Son (should have sent the amounts) —W. B.—P. P. (we cannot give addresses. Dated plans have been often mentioned in our pages).—Mr. H.—R. M. B. (not usually).—R. K. S. (take advice of those who can see the nature of the stone). —Inquirer (we have not mentioned the published designs for dwellings forwarded, because the plans are very bad) —D. J. (declined with thanks) R. G. (we cannot give advice on such disputes, or parts) T. G. (report was not disclosed).

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and NOT to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

HORNSEY, near to the Wood-green Railway Station. The Second Portion of valuable Freehold Building Ground, presenting a good opportunity for investment of capital in creating freehold ground rents

MR. BRAY, Jun. is favoured with instructions to SELL, at the MART, on TUESDAY, SEPTEMBER 16, at TWELVE, in twenty-seven lots, a valuable ESTATE: comprising about [illegible] feet of eligible building ground, known as part of the Lordship Lodge Estate, and being on the north side Wood-green Railway Station, having 1,964 feet of building frontage to a new road, hereafter to be called Winkfield-road, and 284 feet to White Hartmore, and presenting objects to the highly improving locality for the erection of [illegible] and remunerative villas. The roads and sewers have been made at a considerable expense.—Particulars and conditions of sale may be had of Messrs. ROY & CARTWRIGHT, Solicitors, 4, Lothbury, E.C.; of Messrs. FORD & LLOYD, solicitors, 4, Bloomsbury-square, W.C.; JOSEPH IVINEY, Esq. Solicitor, 8, Staple's-inn, Holborn; at the Nag's Head and Jolly Butchers, Wood-green; at the Ship, Tottenham; at the Angel Edmonton; and at the Office of the Auctioneer, No. 16 a, King's-road, Bedford row, W.C.

"THE BUILDER"—January 25th, February 22nd, March 1st and 15th, 1862

A few clean Copies of the above dates are required.—Apply to the Publisher, at the Office, 1, York-street, Covent-garden, W.C.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 23, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE. Every description of Architectural Drawings prepared, and Perspectives Outlined or Coloured, by Mr. T. T. MARDON, Jun.; Also, Duplicate or Tracings of Engineering Drawings, Surveys, &c. 7, John-street, Bedford-row, W.C. Office hours, Ten to Four.

PROFESSIONAL ASSISTANCE.—Architectural Designs and Drawings of all kinds prepared. Details, Specifications, &c. Perspectives and Sketches effectively executed. Designs for Ornament and Figure Decorations.—Address, A. B. care of Housekeeper, 17, King William-street, Strand, W.C.

PARTNERSHIP. — The Advertiser, who has an established practice as an architect and sanitary engineer of ten years' standing in the provinces, and who has more especially devoted his attention to construction and architectural memorandum, would be glad to unite his interest with an estabished architect in town who requirements are principally drawing and design.—Address, A B. care of Mr. Baker, Instrument-maker, 244, High Holborn, London.

AN Engineer and Architect has an OPENING for an OUT DOOR ARTICLED PUPIL. A salary given and premium required.—Address, M. N. Office of "The Builder."

AN Architect and Surveyor, residing in one of the leading provincial towns, would be glad to meet with a quick and intelligent lad as an ARTICLED PUPIL, out-door or in-door.—Address, by letter only, to M. H. care of Messrs. Chalmer & Simpson, 23, Tokenhouse-yard, London, E.C.

APPRENTICE WANTED to a Light Mechanical Business. A moderate premium will be required Apply to T. MUNRO, 4, Gibson-street, Waterloo-road, S.

TO JUNIOR ASSISTANTS.

A PROVINCIAL ARCHITECT and Sanitary Engineer would be glad to meet with an ASSISTANT, who is a competent Architectural Draughtsman, and who would accept a reduced salary in consideration of his receiving instruction in quantities, measuring, engineering surveying, and general construction.—Address, A. B. care of Mr. Baker, Instrument-maker, 244, High Holborn, London.

WANTED, a steady and thoroughly Practical JOINER, that can write a good hand. Wages 4s. 6d. per day, and constant employment.—Address, A. B. Post-office, Wednesbury, Staffordshire

WANTED, in the Office of a Builder or Railway Contractor, by an active Practical Man, a Permanent ENGAGEMENT. Has had sixteen years' experience in the Building Trade, manual, official, superintending, and administrative. Can make plans and estimates. Can furnish good security, if required, for a place of trust. Age 30. Several years with a large London firm about to retire from the trade.—Address, A. O. K. care of Mr Leggett, Stationer, 20, North Audley-street, Grosvenor-square, W.

WANTED, in an Architect's or Builder's Office, an ENGAGEMENT, by an experienced DRAUGHTSMAN, &c. References to an eminent London firm.—Address, F. K. W. Office of "The Builder."

WANTED, in a Timber-yard, a thoroughly competent Man as YARD FOREMAN. Also, a JUNIOR CLERK.—Apply to B. B. 101, Bermondsey New-road.

WANTED, a Young Man accustomed to WORKING a MOULDING MACHINE.—Apply any day between nine and ten to T. WHEESTONE, Manufacturer of Frames by Steam Machinery, 20, Charles street, Hatton garden

TO SURVEYORS, CLERKS OF WORKS, AND HOUSE AGENTS.

WANTED, an active, intelligent, Practical MAN, to manage extensive House and other Properties. He must be well acquainted with the building trade in all its branches, and a good accountant and correspondent.—Address, B. A. Office of "The Builder."

WANTED, by a thoroughly practical Mason, a SITUATION as FOREMAN, or to take any amount of Masonry at a price.—Address, R. A. 23, Cornwall-street, Pimlico, S.W

TO BUILDERS AND PAINTERS.

WANTED a SITUATION as WRITER and GRAINER; no objection to fill up his time at Painting.—Address, W. L. 1, Lang's Cottages, New Richmond, Surrey.

TO MASTER GILDERS AND PAINTERS.

WANTED, a SITUATION, permanent, as GILDER and FRAME MAKER.—Address, E. L. M. Mr Fawcett's, Printer, Stea ford.

TO BRICK MAKERS AND BUILDERS.

WANTED, by a practical Brick Maker, a SITUATION as WORKING FOREMAN, at per week or per thousand. Can keep as much if required.—Address, A. B. Post office, Leatherhead, Surrey.

WANTED, a SITUATION as SHOP or GENERAL FOREMAN. The Advertiser, a Joiner by trade, has a thorough knowledge of every branch of the building trades, and is desirous to fill town and country. Would prefer abroad. No objection to go abroad.—Address, P. J. P. Post-office, Rose, Herefordshire.

TO BUILDERS AND OTHERS

WANTED, by a Married Man, aged 32, a SITUATION as TIMEKEEPER, STOREKEEPER, or CLERK of Works; can give references.—Address, B. C. 1, Clarendon square, St. Pancras, N.W.

TO CABINET-MAKERS AND UPHOLSTERERS, OR TO WRITERS, GLASS STAINERS, AND EMBOSSERS.

WANTED, to APPRENTICE a YOUTH, OUT-DOOR. A premium will be given. West-end preferred. Address, X. Y. Z. 8, Upper Carlisle street, Maida-hill.

TO BUILDERS AND OTHERS.

WANTED, EMPLOYMENT, by a Staircase Hand and experienced Joiner, aged 35. Would take charge of a job and do the staircase himself, or not object to a job at the bench. The North-east or the City preferred.—Address, J. N. Fox and's Library, Bakewell, N.S.

TO BUILDERS AND OTHERS.

WANTED, by a Young Man, a RE-ENGAGEMENT as JOBBING HAND. Can do graining, painting, paper hanging, glazing, and many other things connected with house repairs. Good references. Town or country.—Address S. S. 4, Church-road, Battersea Bridge.

TO UPHOLSTERERS AND DECORATORS.

WANTED, an ENGAGEMENT, in town or country, by the Advertiser, a first-class Decorative Artist, also Cabinet and Wood Working Carvings. Has been out the business to manage general decoration. —Address, M. G. Office of "The Builder"

WANTED, by a steady Young Man, who has served his apprentice-ship to the House Painting, a constant SITUATION. Can make himself otherwise useful. Town or country. Wages an after consideration. Can be recommended —Address, A. B. 12, Bayham-street, Camden town, N.W.

TO BUILDERS.

WANTED, PLASTER WORK, finding scaffolding and materials, or labour only. Payment by instalments. First-class references.—Address, T. S. at Mr. Stoke's, 19, Elizabeth terrace, Liverpool road, Islington.

TO BUILDERS.

WANTED, PLASTERER'S WORK, by a Practical Man. Material and labour, or labour only Town or country.—Address, A. B. 142, Lillington street, Pimlico, S.W.

TO TIMBER MERCHANTS.

WANTED, by a Young Man, a SITUATION as CLERK. Has been five years with present employer, a timber Age 25. Salary moderate.—Address, R. P. 2, St. Mary's place, St James's-street, Brighton

TO CIVIL ENGINEERS AND CONTRACTORS.

WANTED, an ENGAGEMENT, by a gentleman, aged 26, who has served an apprenticeship to a Civil Engineer and Surveyor, as well as to a practical Engineer and Millwright, having just returned from the management of some railway works in India.—Address, T. S. F. Scadding's Library, Belgrave-road, S.W.

WANTED, by a Young Man, a SITUATION as IMPROVER in an ARCHITECT'S Office.—Address, G. M. Office of "The Builder."

WANTED, a SITUATION as WRITER, GRAINER, and ORNAMENTAL PAINTER. No objection to fill up time in plain painting or paperhanging. Understands a little gasfitting A master in want of a useful man will find the advertiser profitable. Wages low.—Address, T. ROGERS, 2, St. John's-terrace, Sadler's-wells, Islington, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.

WANTED, by the Advertiser, aged 29, an ENGAGEMENT. Has been many years in an architect's office; is a very good draughtsman and excellent accountant.—Address, A. B. 26, Vine-street, Stretford-road, Manchester.

TO BUILDERS

WANTED, by an experienced Man, a CARPENTER, a SITUATION as WORKING FOREMAN. Has had great experience in Shop Fronts, Stairs, Boxing-Shutters, Sashes and Frames, and general routine of the building. Can make out working drawings, estimate, and measure.—Address, TANNEN, 107, Brook street, Kennington-road.

TO MASTER PAINTERS AND BUILDERS

WANTED, a constant SITUATION, as PAINTER and GLAZIER. Can make himself useful at plumbing Wages not so much an object as a permanency. First-class references.—Address, J. E. at Mr. Parvis's, 10, High-street, Islington.

TO PLUMBERS, BUILDERS, AND OTHERS.

WANTED, by an experienced PLUMBER, a SITUATION, in town or country. No objection to fill up his time in gasfitting or glazing.—Address, J. W. 17, Hawley-crescent, Camden Town, near the Canal Bridge

TO BUILDERS AND OTHERS.

WANTED, by a Bricklayer, a RE-ENGAGEMENT as FOREMAN; has no objection to work or to take piece-work; could take the entire charge of a job. Good references Address, N. D., Hooker-street, Walton street, Chelsea.

TO BUILDERS AND CONTRACTORS

WANTED, by a BRICKLAYER of great experience, a SITUATION as FOREMAN or PIECE WORK. Is well acquainted with setting, all works, and is a fair draughtsman. Town or country Good reference Address, C. 2, Durham street, Upper Kennington-lane, Lambeth

WANTED, by an ASSISTANT, a RE-ENGAGEMENT in an Architect's or Surveyor's Office. Is a good draughtsman, and can have excellent references from his present employer. For further particulars, address J. C. C care of Mrs. Coats, at Messrs. Hill & Sons', Bankers, 17, West Smithfield, City, E.C.

TO ARCHITECTS

THE Advertiser, an Architect, who has had upwards of twenty years' experience, both as clerk and principal, wishes to meet with an ENGAGEMENT to MANAGING CLERK in an establi-hed business, in town or country, or the Management of the Town Branch of a Country Business. Unexceptionable references given.—Address, A. B. care of W. H. Waller, esq. Solicitor, 2, Duke-street, Adelphi, W.C.

TO ARCHITECTS

THE Advertiser, who has had considerable experience in the Gothic and other styles, possessing good abilities as a draughtsman, and having a slight knowledge of quantities, &c. wishes for an ENGAGEMENT London preferred. Good testimonials.—Address, MEANIAS, Office of "The Builder."

TO ARCHITECTS.

THE Advertiser is open to an ENGAGEMENT as CLERK of WORKS. Has had great experience in the building trade in town and country. First class references as to character and ability.—Address, T. D. 15, Upper Tachbrook-street, Pimlico.

TO ARCHITECTS, &c.

THE Advertiser, a First-class Draughtsman and Designer, good perspective hand and colourist, and well acquainted with detail, is open to an ENGAGEMENT in Town.—Address, L. D. 121, Albany-street, Regent's Park.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who is a rapid Designer and Perspective Draughtsman, has a knowledge of artistic colouring, and is familiar with the general duties of an architect's office, desires an RE-ENGAGEMENT as Assistant, and would be happy to prepare perspective or other drawings at his own residence.—Address, M. A. Post-office, Lower Brunswick-terrace, Barnsbury, N.

TO ARCHITECTS, SURVEYORS, AND BUILDERS

OCCASIONAL ASSISTANCE.—A SURVEYOR of considerable practical experience in the duties of Estate Work, &c. is ENGAGED for part of his time [illegible] Would undertake [illegible] Address, X Y Z 18, Mornington-road

CLERK of WORKS.—A SITUATION is WANTED by a thoroughly practical Man, who has just completed a large Institution, and can give the best references.—Address, M. M. 61, Curtain Road, Shoreditch, E.C.

CLERK.—WANTED, a SITUATION, by a Young Man aged 30, a good ornamental draughtsman, &c and willing to make himself generally useful. Highest references given.—Address, J. B. 8 St. George's-road, New Kent road

AN ESTIMATOR and QUANTITY SURVEYOR, who is a good draughtsman, thoroughly understands [illegible] and can take out in detail the [illegible] MANAGER of a Builder's Business or other employment for the above-named duties, either temporary or partial, on moderate terms. Address, ALPHA, Seymour's Advertising Office, 16, Bear street, Leicester-square, W.C.

TO BUILDERS.

A SURVEYOR of great experience offers TEMPORARY ASSISTANCE to BUILDERS, in town or country, in taking off quantities, estimating, measuring up extras and omissions on contracts and other works, making drawings, writings, specifications, and making up builder's accounts, upon moderate terms. No charge for estimating if unsuccessful.—Address, S. Y. P. Office of "The Builder."

AS CLERK of WORKS.—A thoroughly practical Man is desirous of a RE-ENGAGEMENT. Is a good draughtsman. Has had considerable experience in public and private works. First-class testimonials.—Address, A. B. 11, Belmont-place, Wandsworth-road, Surrey.

A CARPENTER and JOINER, a Young Man, and good workman, is in WANT of EMPLOYMENT. Day work or piece.—Address, G. W. GILL, 2, Raglan-street, Forest-hill, S.E.

TO BUILDERS, &c

AS GENERAL FOREMAN, CLERK of WORKS, or to MANAGE a BUSINESS in the country.—WANTED, by the Advertiser, who has fifteen years' experience, and a thorough practical knowledge of the trade in all its branches, a SITUATION as above.—Address, with full particulars, amount of salary, &c. &c. to W. W. Post-office, Stony Stratford, Bucks.

INDIA.—TO CONTRACTORS AND OTHERS.

A GENTLEMAN who has been engaged on extensive Engineering Works in Bombay and other parts seeks an APPOINTMENT, at home or abroad. First-class testimonials and references.—Address, DELTA, Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

A GENTLEMAN of great practical knowledge and experience is desirous of being EMPLOYED in the capacity of SURVEYOR, either by engagement or commission. Has been accustomed to that branch of the profession for the last ten years, and can give satisfactory references, &c. Address, SURVEYOR, Library, 14, Palace-road, Lambeth, S.

TO CIVIL ENGINEERS AND ARCHITECTS.

AN experienced practical Clerk of Works is desirous of a RE-ENGAGEMENT after this week. Has been accustomed to works of magnitude, both buildings and sewerage, and can produce satisfactory evidence of capabilities, &c.—Address, C. E. Library, 14, Palace-road, Lambeth, S.

TO CIVIL ENGINEERS AND CONTRACTORS

A GENTLEMAN who has had considerable experience in the construction of railways, docks, and harbours, and other public works, desires an ENGAGEMENT.—Address A. B. 37, Westmoreland-street, Pimlico, London.

TO PLUMBERS AND BUILDERS.

A STEADY YOUNG MAN is in want of a SITUATION as THREE BRANCH HAND. Is a good gasfitter, and can turn and bore pump work, if required. Town or country. Good references.—Address, C. H. Mr. McHughes, 4 Charlotte-street, Fitzroy-square.

TO ARCHITECTS

A GOOD DRAUGHTSMAN desires an ENGAGEMENT. Understands perspective and colouring. Has been seven years in the profession. Terms moderate.—Address, R. A. A. at Beacon's, Lewisham-street, S.C.

A WELL-QUALIFIED Competent ASSISTANT is open to an ENGAGEMENT. Can take up perspectives, designing, working drawings, quantities, &c. He has a good knowledge of styles, and is a neat draughtsman.—Address, ALIQUID, Office of "The Builder."

TO BUILDERS, HOUSE AGENTS, AND OTHERS.

A YOUNG MAN, aged 25, of great practical experience, with a good knowledge of fair, working, and perspective drawing, is desirous of meeting with a RE-ENGAGEMENT. Can keep accounts, measure, and estimate.—Address, H. B. 5, London-street, Paddington, W.

TO ARCHITECTS

AN efficient ASSISTANT, accustomed to prepare finished, working, and detail drawings, writing up specifications, and superintending works, wishes for a RE-ENGAGEMENT. Is a good draughtsman, and thoroughly understands construction. Terms moderate. First-rate references.—Address, K. Scarborough Library, Pimlico, S.W.

AN efficient Draughtsman and Designer in the Pointed style desires a TEMPORARY ENGAGEMENT. Has a good knowledge of quantities, &c. Would prefer London, but no objection to the country. Terms moderate.—Address, X. Y. 10, St. John-street, Oxford.

TO ARCHITECTS AND SURVEYORS.

AN experienced ASSISTANT desires an ENGAGEMENT. A good and expeditious draughtsman, accustomed to prepare working and detail drawings, well versed in construction, and thoroughly conversant with quantities, &c. Good references.—Address, G. W. 15, Spencer street, Islington, N.

TO PLUMBERS AND BUILDERS.

A STEADY Young Man WANTS a constant JOB, in a jobbing shop, as plumber, painter, and gasfitter. Can have a good recommendation. Wages, 27s.—Address, PLUMBER, 24, Howard-street, Regent's Park.

A YOUNG MARRIED MAN wishes to obtain a constant place as THREE-BRANCH HAND, as plumber, gasfitter, grainer, paperhanger, &c. Understands pumps and waterworks. No objection to town or country. Good references, if required.—Address, X. Y. Z. 10, Clarkson street, Old Bethnal green road, London.

TO PAINTERS, BUILDERS, &c.

A RESPECTABLE and STEADY YOUNG MAN requires a SITUATION. Can grain well, and turn his hand to writing, glazing, &c.—Address, J. 27, Little Earle-street, Soho, London.

AN Architect and Surveyor's Assistant requires a RE-ENGAGEMENT, either in London or the provinces, or Manchester would be preferred. The Advertiser has been accustomed to large surveys, and can get ready quantities. A moderate salary only would be required.—Address, BETA, care of Thomas Holloway, Esq. Potterspury Mills, Northamptonshire.

TO BUILDERS, ESTATE AGENTS, AND CONTRACTORS.

AN energetic Man, aged 24, Joiner and Carpenter by trade, wishes to obtain EMPLOYMENT. Is a good fixer, or could take a SITUATION as TIMEKEEPER, &c. Wages not so much an object as a desire to obtain permanent employment. Stock be in Town.—Address, W. R. No. 1, Carlton-road South, Mile-end, E.

TO ARCHITECTS AND SURVEYORS

AN ASSISTANT, aged 22, requires a RE-ENGAGEMENT as DRAUGHTSMAN. Is neat, accurate, and expeditious.—For further particulars apply to J. S. Mr. S. Moxon's, Printer, Queen's-court, Briggate, Leeds.

PARTNERSHIP.

AN ARCHITECT and SURVEYOR, with a good connexion in the provinces, is desirous of purchasing a PARTNERSHIP in an established London Business. Highest references given and required.—Address, ALPHA, Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

A QUANTITY SURVEYOR and MEASURER, of considerable practical experience, would be glad to TREAT with ARCHITECTS for the Taking out and Measuring, Writing Specifications, &c. upon reasonable terms. References given. Address, "ALPHA," care of Mr. Fisher, Stationer, Vassall-road, Brixton road, S.

TO CARPENTERS and JOINERS.—A profitable BUSINESS TO BE DISPOSED OF, in the Carpentering, Cabinet-making, and Upholstering Line, doing a thoroughly good Jobbing Trade, situated in a first-rate business locality. Terms moderate.—Apply at No. 94, High-street, St John's Wood, N.W.

TO PLUMBERS, PAINTERS, & GLAZIERS.—TO BE DISPOSED OF, an OLD-ESTABLISHED COUNTRY BUSINESS, of long standing, in a central position. This is an eligible opportunity that seldom offers to any person of small capital who is a respectable good workman, of industrious habits. Satisfactory references given and required. Every information can be had on application to J. HALES, Plumber and House Decorator, Mariowes, Hemel Hempstead, Herts.

TO BUILDERS, PLUMBERS, and PAINTERS.—TO BE DISPOSED OF a first class PLUMBER'S, PAINTER'S, and DECORATOR'S BUSINESS, successfully carried on by the present proprietor (wenty years, who is retiring, situated in one of the largest manufacturing districts of England. The stock, with all necessary implements, at a valuation. Plenty of scope for a business man. Average eight to ten per the year round.—Address, by letter, M. M. 24, Brompton-square, London, S.W.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating, Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford st. Russell-sq

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 42s. 6d. per 1,000.
" 8-inch Pavings, at 57s. 6d per 1,000.
" Floor Bricks, 40s per 1,000
Mitcham Kiln Bricks, at 30s per 1,000.
Ridge Tiles, at 75s per 1,000.

Cash Price. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. Also at 25s. Bricks lying at Devonshire street Station, at 24s per 1,000.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two thirds of the working expenses of other machines.

Price, including royalty, 75l.

Licences to Manufacture granted for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,810.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

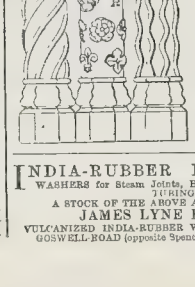
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.

BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN PIPES, AND RED GOODS;
TERRA COTTA,
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM CUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.



AUSTIN, SEELEY, and CO.
371—375,
EUSTON-ROAD,
ARTIFICIAL STONE WORKS.

CATALOGUES OF
CHIMNEYS,
AND ALSO OF
FOUNTAINS,
ON APPLICATION.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. 9 inches.
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. E. LANGLEY, Agent.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 13, No. 3,248.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,

Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's Jo. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	16 "
Strong Silver Lever Watches	6 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	25 "
Marine Chronometers	36 "

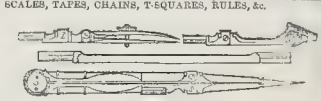
Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

TO CHURCHWARDENS, BUILDERS, AND OTHERS.

TO BE SOLD, cheap, a Second-hand powerful CHURCH CLOCK; strikes the hours and quarters; capable of striking a bell from 12 cwt. to 20 cwt.—For particulars apply to W. & R. GRIFFITHS, Clock Dial Manufacturers, Edmund-street, Birmingham.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH
Near Astley's Theatre,

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second hand instruments of all kinds, by the best makers, always in stock.

THEODOLITES, LEVELS, TRANSIT THEODOLITES, DRAWING INSTRUMENTS, SCALES, &c.

C. BAKER,
243 & 244, HIGH HOLBORN,

Begs to inform Surveyors, Architects, and others, that having recently made extensive additions to his manufactoring premises, he is now enabled to supply any quantity of first class instruments of every description, upon the shortest notice, at a price very much lower than is usually charged for the best workmanship. Every article manufactured on the premises, and alterations, repairs, and adjustments, will receive immediate attention. A large assortment of SECOND-HAND THEODOLITES, LEVELS, &c. in stock at low prices, which are warranted. Inferior instruments taken in exchange. Catalogues free by post. Established 1760.

INTERNATIONAL EXHIBITION, 1862 - CLASS 13.
Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED,

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 32-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 3s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL,
EUSTON WORKS, 386 and 388, EUSTON-ROAD, N.W.

GILT BORDERING for ROOMS, from 1d per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description at the very lowest prices. Regilding in all the finishes to the trade. 9-inch Gilt Beads, 7s per dozen 9-feet lengths; best ditto, 12s.

G. REES, 57, DRURY LANE,
Four doors from Drury-lane Theatre. Established in 1800.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade

H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.



THE PRIZE MEDALS,

LONDON, 1851. PARIS, 1855. LONDON, 1862.

AWARDED TO

COTTAM & COMPANY,

No. 2, WINSLEY-STREET, LONDON, W.

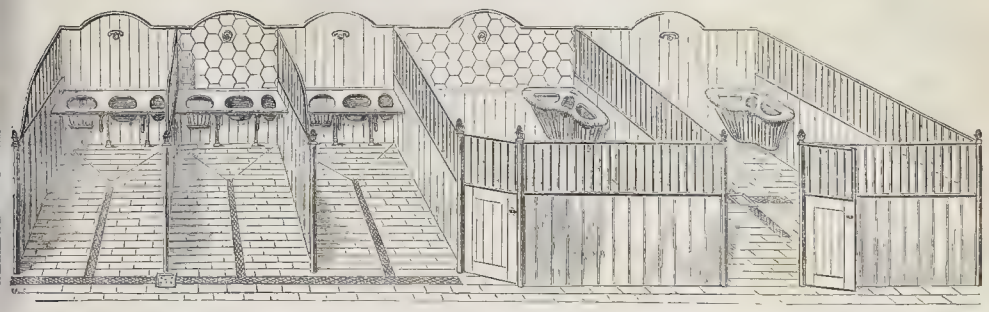
FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN

STABLE FITTINGS AND HARNESS BRACKETS.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

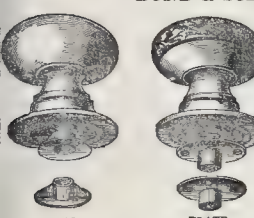
COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)



NUT PLATE.

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and particulars sent upon application.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

THE MEDAL FOR 1862.
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE MARK.

CROWN TUBE WORKS

WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.

JAMES RUSSELL & SONS,

The Patentees and first Makers of Wrought-iron Tubes.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.

PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single puller, from 6s each; with leading puller, from 6s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest amount being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 117 and 118, Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

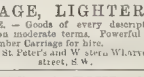
DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many families and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

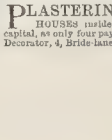
ASPHALTE—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London, Established 1834. TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by steam power, laid down in the best manner, or supplied in any quantity. Information for using forwarded with material. Post-office orders or reference in London promptly attended to. Estimates given for every kind of the above work.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used in preventing the effects shown above by the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.



WINDOW BLINDS and SPRING ROLLERS of first-rate Quality, at Reduced Prices.

E. ADKINS,

HIGH-STREET, ST JOHN'S WOOD, REGENT'S PARK, N.W.

Illustrated List of Prices on receipt of one postage stamp.

WHARFAGE, LIGHTERAGE, and CARTAGE.—Goods of every description Warehoused, Shipped, or Carted, on moderate terms. Powerful cranes for heavy weights.—N.B. A Timber Carriage for hire.

C. HELMORE, St Peter's and W stern Wharves, Millbank-street, S.W.

PLASTERING of FOUR Nine-roomed HOUSES inside TO BE LET. The party must have a little capital, as only four payments will be made.—Apply to Mr. THOMAS, Decorator, 4, Bride-lane, Fleet-street, E.C.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,

GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

HAMPSTEAD ROAD JOINERY WORKS.

21, HARRINGTON STREET, N.W.

NEVIL SIMMONDS,

MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.

SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.

Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS.

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1⅜	2	2½
„ 2 ft. 6 in. sup.	1½	1⅞	2¼	3
4 ft. super...	1¾	2	2½	3½

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 } per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13 }	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14 }	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15 }	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.	
Green do.	10d. do.
Blue do.	6d. do.
Orange do.	6d. do.
Purple do.	6d. do.
Yellow do.	6d. do.

Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s. }	Fine Oak Varnish ...10s. }
Anti-corrosian Paint 28s. to 34s. } per cwt.	„ Carriage ...12s. } per gallon.
Linseed Oil Putty .....7s. 6d. }	Linseed and Boiled Oil }
Patent Dryers .....28s. to 42s. }	Turpentine ..... }

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL,

MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE PIPES, RIDGE AND PAVING TILES, &c.

TARPAULINS, MARQUEES, &c.
for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS
H. PIGGOTT,
39, Bishopsgate street Without, E.C. Manufacturer, by appointment to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION SIONES.
CARY & PRIEM,
DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

GREATER REDUCTIONS.—Yellow Deals, from 2s. 3d.; Spruce, from 2s. 5d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2d Yellow Battens, 11d. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; 2 White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & R. KNIGHTS, Lathwood Merchants, Importers, &c. Rainham wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are unable to allow a discount of 10 per cent. upon their List Prices for Mouldings A large stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

TO ARCHITECTS, BUILDERS, &c.
GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F. ODELL & CO. 8, Bath-street, City-road, E.C.; or at the Works, 12, Grafton-mews, Fitzroy-square, W.—N.B. Fret and Church Leads sold.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, at the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of Business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
(Adjoining the Polytechnic Institution).

SOHO PLATE and GENERAL GLASS WAREHOUSE, 28, Soho square, W. and George yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

PARIS Permanent Universal Exhibition.
TO BE OPENED IN 1863.
For many years National Exhibitions have been held in various cities, each annual session having contributed largely to the development of trade between the countries represented by the Exhibitions
The central position of Paris, and the vast number of visitors passing through the city every year, have suggested the establishment there of a Permanent Exhibition; where specimens of the manufactures and products of every country will be collected together in one spacious building, in order that dealers and consumers from all parts of the world may see them, and base their orders upon the quality and cost of the articles exhibited.
The project has met with the entire approval of the Emperor Napoleon III. and a special license has been granted by the Ministers of Finance and Commerce for admission to the Permanent Universal Exhibition, during the entire period that it is open, of all Foreign Products, Free of Duty, with liberty to re export them without payment of duties, or to sell them on the spot, on paying the duties imposed by the new International Tariff
The whole of the capital, amounting to 800,000f. has been subscribed in France, and the Palais (now in course of construction) will be opened early in the summer of 1863.
The amount of space allotted to France and several other continental countries has already been taken up.
Admission will be granted on all but five days of the week.
The British Exhibitors will be represented by a Committee of twenty members, who, with those appointed by other countries, will form a General Committee, to organize the distribution of space, and frame a code of rules for general observance; and agencies will be established in Paris to receive orders.
All products and manufactures will be classified, so that those of the same nature from different countries, being placed in juxtaposition may be easily compared.
Two rates of rental (payable annually in advance) will be charged, the space being taken for six years.
The first rate 15f. per square mètre per annum will apply to all products in manufacture
The second rate 6f. per square mètre per annum will apply to wall surface for exhibitments
N.B. Five square mètres are equal to six square yards English.
Drawings of the Building can be seen at the principal Railway Stations and Exchanges in London and the country; in the Refreshment-rooms of the present London Exhibition; and at the Offices of Messrs J. STUDDY LEIGH & CO. 27, Leadenhall-street, London, Agents for Great Britain, Ireland, and the Colonies, from whom forms of agreement and full information may be obtained.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242 EUSTON ROAD, ST. PANCRAS.

PORTLAND CEMENT.
GREAVES & KIRSHAW
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, &
7, NORTH WHARF ROAD, PADDINGTON, W.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD BUILDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

UNSEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

JOINERY OF EVERY DESCRIPTION

FAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth)

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared),	11s. 6d. per square.	Laths,	28s. per load.
Yellow Deals, sound and good	£9 10 0 per 120,	or	0s. 3½d. per foot.
Spruce Deals	16 10 0	,,	0 2½ ,,
Yellow Battens, excellent quality	11 10 0	,,	0 2 ,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0	,,	3 6 ,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅞-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
⅞-inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp

---

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive work-house, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings and Mouldings to any pattern Shop Fronts, Shop and Office Fittings, Air-tight Wrought Iron Sash Fittings Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.

ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.

ROMAN CEMENT made at the above works can be had fresh from the kilns daily.—a great advantage to dealers and sewer contractors, rendering it a matter of

PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the imported cements, a quantity of which is now brought into the market and sold as Portland.

PLASTER OF PARIS, both coarse and fine, of very superior quality, well calcined.

LIME.—Grey Stone, Chalk, and Blue Lias Lime well burnt, by the barge or rail, and may be had fresh ground daily, by steam power, for concrete

BRICKS from our fields in Kent, by the large dimension barges, at the river or canals, or by cart from the above wharfs, of good quality and best make.

A large Assortment of Glazed Stoneware Drain-pipes, Syphons, Plain Paving Tiles, Hearths, Lathe, Chimney-pots, &c., always kept in stock.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works. A Trial upon application to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and the Company received an "HONOURABLE MENTION" for the good quality of their Lime.

PLASTER OF PARIS.

The GREAT NORTHERN PLASTER COMPANY, Manufacturers of superfine, Ital an Fine, Bat ders' Fine and Coarse Plaster of Paris. Guaranteed a FIRST-CLASS ARTICLE AT MODERATE PRICES.

Head Office, Swift's-court, 13, Castle-street, Liverpool; Works, Newark-on-Trent.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1820) is ROBESON, Mount Pleasant, Gray's Inn road. The cheap country-made article is ruining trade, and deceives all the dealers, agents, and pretended makers of plaster, careless as to quality. Superfine and Fine Plaster unequalled.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.

CLARKE & BENGOUGH,

Manufacturers of White Lead and Colours

GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.

Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Troughs, Copings, &c.; Stoneware Drain-pipes, &c.

No 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER & CO.

(Contractors to Government),

24 WHARF, HARROW ROAD, PADDINGTON, W.

Every Article manufactured at their own Works and Mines, Brierly Hill.

FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non absorbent.

Shipments on the shortest notice.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and ornamental, in Blue or Brindled colour.

PAVING TILES of various sizes and description.

Blue Vitrified Brown and Chequered Pavings for stables, pathways, yards, &c.

Dessin Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY,

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Dividale; and Messrs. Taylor & Co. of Amblecote, near Wibull, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

STRINGFIELD and BLYTH.

SOLE CONSIGNEES OF

NELSON'S BLUE LIAS LIME.

ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.

will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, AND BRICK MERCHANTS,

PLASTER OF PARIS MANUFACTURERS.

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.

Country orders forwarded with despatch.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Stock and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Penmant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro metallic Paving Tiles, of various designs Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridges, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SPURGEON'S IMPROVED MARTIN'S CEMENT.

A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.

MANUFACTURED ONLY BY

B. W. SPURGEON, DERWENT WORKS, DERBY.

London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.
Coarse, Fine, and Superfine London-made PLASTER of PARIS.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS.

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

GREAVES'S BLUE LIAS LIME
GREAVES & KIRSHAW, WARWICK, and
16, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS —
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereat can be obtained, of the best quality :—
GREY-STONE LIME, CHALK LIME, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA &c. CEMENT, CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

O. MCCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast screened or unscreened, by the yard or per barge. Stocks Lime and Old Bricks. Dry rubbish delivered, per barge, or any quantity alongside the Thames.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. — Orders received at Great Scotland-yard, Whitehall; and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

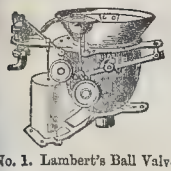
PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise,
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours A finer quality produces a beautiful and hard scagliola imitation of marble. — Manufacturers, FRANCIS BROTHERS, & POTT, Nine Elms, London

THOMAS LAMBERT & SON,

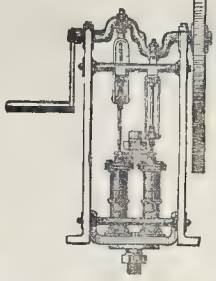
W. Self-Regulating Pan Closet.



No. 36a. Bath Valves.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



High Pressure Stop Valve.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,
SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME legibly marked thereon.

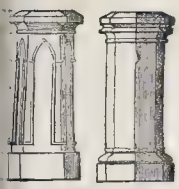
JAMES STIFF & SONS,

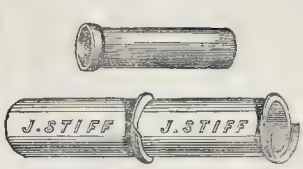
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.

TRAP, 2s.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Machinery also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

PEARCE'S PATENT SANITARY PIPE, BRICK, AND TILE MACHINES,

Producing nearly double the quantity and of very superior quality to any machine yet invented. The improvement consists in the introduction of a central stem to support the core of the die, and obviating the necessity of cross-bars or bridges, hitherto found so detrimental in the manufacture of large sanitary pipes. The upper part of the Machine acts as a Pug-Mill, by which means the clay is ragged and conveyed to the Archimedean screw, and forced in one continued stream through the orifice of the die. The larger Machines will make sanitary pipes, from 3 inches to 24 inches. The smaller, from 2 inches to 12 inches.—Particulars on application to the

IRON WORKS, POOLE, DORSET.

IMPERIAL POTTERIES, LAMBETH.

JOHN OLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CISTERNS, URINALS, CHIMNEY FLUES, &c.

MORTAR-MILLS,

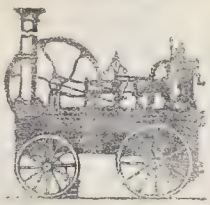
CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

THE ARCHITECTURAL POTTERY

COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes, string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.: also, the Architectural Pottery Company's patent orange-tree Boxes. Various specimens of the above may be seen, and every information obtained at the Offices of the Company, No. 36, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham. Address, The Architectural pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.

STAINING DEAL TO IMITATE ALL

KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD

(successors to THOS. KENT & CO.), the celebrated

PAINTING and GENERAL BRUSH MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

A SUBSTITUTE for PAINT, and at HALF

the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Cuttlebankington, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St Martin's-le-Grand, E.C. late of 54 Stamford-street, S.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Grainers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES

are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO.

at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

COLOURS and VARNISHES at

REDUCED PRICES,

Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s. 8d.; Turpentine, 8s. 8d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c at the lowest prices.

IMPORTANT to BUILDERS and

PAINTERS. Genuine White Lead, 30s. per cwt.

Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s 8d. per gallon.

Turpentine, 8s per gallon.

Fine Pale Oak Varnish, 8s 6d per gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 30, Upper Ebury-street, and 45, Cobskill-street, Pimlico, S.W.

Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—

TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED

with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

30, LONDON WALL, E.C.

Where also may be obtained their

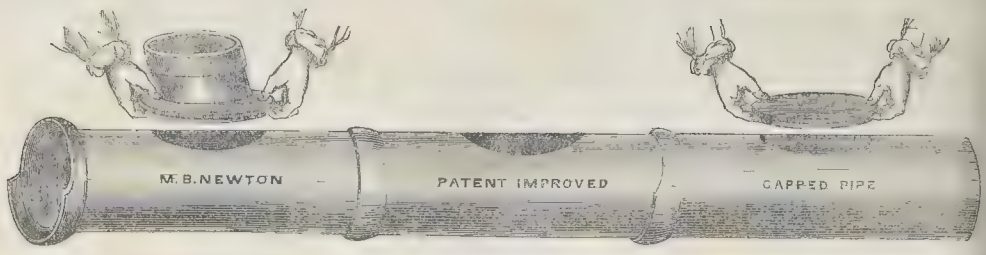
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,

Together with all kinds of Colours and Varnishes,

Warranted of the purest quality and at the lowest prices.

Agents for Kershaw's Graining Machines.

A POWERFUL STEAM-DREDGER FOR SALE [illegible]—Address to No. 313, Office of "The Builder."



The ABOVE INVENTION WILL RECOMMEND ITSELF to Architects, Engineers, and others interested in Drainage, for its SIMPLICITY of construction; there being NO COMPLICATION OF PARTS.

The "Manhole" is sufficiently large to admit of the DRAIN being THOROUGHLY CLEANSED WITHOUT A SINGLE PIPE BEING REMOVED.

It DOES NOT at all INTERFERE WITH THE FLOW OF WATER in the Drain.

It IN NOWISE WEAKENS THE PIPE; and

It ADMITS of the ready INSERTION OF A JUNCTION by removing the "Manhole" cover, and replacing it with a loose Junction Arm.

Manufactured solely by

JOSEPH CLIFF & SON, WORTLEY, near LEEDS;

For MARCUS BOURNE NEWTON,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON, N.



only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size (even at the event of further connection being required) without breaking a pipe, or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.

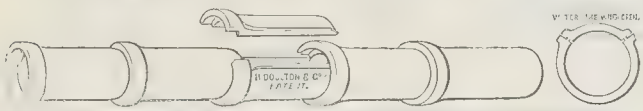
Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit street, Regent-street, W.

DOULTON'S PATENT OPERCULAR PIPES.



By the withdrawal of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, resembling exactly the Pipe, fits perfectly. There are no imperfect joints, or separation of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

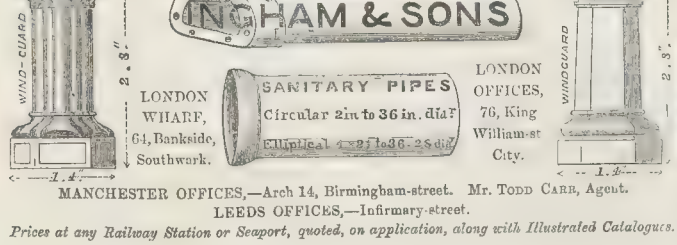
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



LONDON WHARF, 64, Bankside, Southwark.

LONDON OFFICES, 76, King William-st City.

MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.

LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.



UNDERHAY'S PATENT REGULATOR CLOSETS for constant or alternating supply, discussing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on view, which may be seen at the Works. They are very Large, their efficiency is guaranteed, some of them have been used, and in no instance of failure has occurred.

TO AIR HEATERS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTYN & SON,

F. G. UNDERHAY

is now manufacturing on HIS OWN ACCOUNT his Patent Regulator Closet, Valves, Gas Meters, &c. on the same premises.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS complete, TWENTY FOUR SHILLINGS.

A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.

PATTEN'S HIGH-PRESSURE and SELF ACTING CLOSETS URINALS, LAVATORIES, &c.

W. PATTEN, Patentee and Manufacturer, 0.d Fish-street, St. Paul's, London, E.C.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No 21 Wharf, Macclesfield-street North, City-road Basin, N. Thdly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietors; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tilaries," Tunstall, Staffordshire as the first of the kind in the world.

PRIZE MEDAL TO MAW & CO INTERNATIONAL EXHIBITION 1862

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall passage, conservatory, verandah, grate, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage stamps.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS, TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES DESIGNS AND ESTIMATES PREPARED. MANUFACTORY, STOKE-UPON-TRENT.

RAILWAY COMPANIES, CONTRACTORS, and AGENTS SUPPLIED with KEYS, TREENAILS, BUSHES, SLEEPERS, BARROWS, and all descriptions of RAILWAY PLANT and STORES by W. P. FRANCE, GREAT WESTERN SAW-MILLS, Bridge Wharf, Paddington.—Debentures taken in payment if required.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth

Diameter of Barrel	Height.		£ s. d.
2½ in.	short	1 ft. 7 in.	Fitted for lead, 1 1 0
2½ „	long	3 ft. 3 in.	gutta percha, 1 10 0
3 „	long	3 ft. 6 in.	or cast iron 2 4 0
3½ „	long	3 ft. 6 in.	flanged pipe, 2 9 0
4 „	long	3 ft. 6 in.	as required. 2 18 0
2½ „	short, with 15 feet of lead pipe attached, ready for fixing		2 0 0
2½ in.	long ditto, ditto		2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.



No. 69.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive fixings at Pumps are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2 inch	£2 0 0	Larger sizes when required.
4 „	7 5 0	
3½ „	8 0 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£4 15 0
3 „	5 15 0



WARNERS' Baths can be had of either Copper, Zinc, or Galvanized Iron Fixe, from £1 1s. each J. W. & SONS also supply all Fittings required for the same.

TWO PRIZE MEDALS FOR BELLS HAVE BEEN AWARDED TO JOHN WARNER and SONS, AT THE GREAT EXHIBITIONS IN 1851 AND 1862.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in Peals.

TUNED BY MACHINERY.

Old Bells recast or taken in Exchange

An experienced Bell-hanger sent to inspect, report, and advise on the state of Peals out of repair. Estimates furnished for New Oak Frames and Fittings, and for Repairing Old Ones

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells



No. 384. No. 383.

WARNERS' HIGH-PRESSURE COCKS are made with Gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and reseathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved Large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

JOHN WARNER & SONS,

BELL and BRASS FOUNDERS to HER MAJESTY.

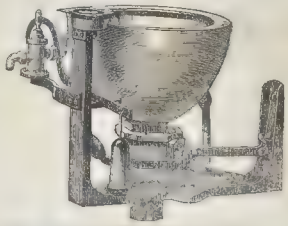
INTERNATIONAL EXHIBITION.

Class 8. WESTERN ANNEXE. Pumps, Beer Engines.
Class 9. EASTERN ANNEXE. Garden Engines, Syringes, &c.
Class 10. Near EASTERN DOME. Water-closets
Class 31. SOUTH-EAST TRANSEPT. A Peal of Eight Bells and Clock-ing Apparatus
Class 31. HARDWARE COURT. Bells, Urns, Lamps, Brazier's Goods, Baths, Steam Fittings, Plumbers' Cocks.

Illustrated Catalogues forwarded on application at the Manufactory, 8, Crescent, Cripplegate, London.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service-pipe.



No. 1454.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin £3 15 0
Sunk Handle, extra 0 3 0
Blue Basin, extra 0 1 6



No. 1454.—Warners' Bright Pan Closet with Patent Supply and Regulating Valve attached, Plain Handle, and Waste Basin £2 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

The above prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BENJAMIN FOWLER & CO., WHITEFRIARS ST., FLEET ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

TO BE WORKED BY STEAM, HORSE, OR HAND POWER, FOR TEMPORARY OR PERMANENT USE; ALSO OF SINGLE OR DOUBLE PURCHASE CRABS, PULLEY BLOCKS, SCREW AND HYDRAULIC JACKS, &c.



PORTABLE STEAM ENGINES,

IN GOOD SOUND WORKING ORDER,

WITH or WITHOUT PUMPS, to DISCHARGE a LARGE or SMALL QUANTITY OF WATER FROM ANY DEPTH, ready for delivery to order at a DAY'S NOTICE, or, upon very reasonable terms, ON HIRE.

FOWLER'S PULLEY AND SNATCH BLOCKS,

of every size and description. These are strong, well-made blocks, and will be found in all points as good in quality and as low in price as those made by any house in London.

RUBBISH WHEELS OF VARIOUS SIZES.

FOWLER'S USEFUL SINGLE, DOUBLE, and TREBLE PURCHASE CRABS.

B. F. & Co. have a variety of Patterns, strong and light, at prices which will meet any requirement.

WESTON'S PATENT DIFFERENTIAL BLOCKS,

To lift from half a ton upwards, with chain to suit, at the LOWEST PRICES.

A LARGE STOCK IS KEPT READY FOR PROMPT DELIVERY, AND CAN BE INSPECTED AT THE WORKS.

Price Lists of Pumps, &c., forwarded on application.

SALES BY AUCTION.

BUILDING MATERIALS of Archbishop Tenison's Schools, Lambeth

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on MONDAY, 8 SEPTEMBER 15, at TWELVE, in lots, to clear the site for rebuilding, all the valuable Building MATERIALS and FITTINGS UP of Archbishop Tenison's Schools and a House adjoining, in High-street, Lambeth; comprising excellent brickwork, slates and tiles; sound timber in roofs and floors, sashes, doors, and interior fittings; iron columns, capital flooring-boards, stone paving, coping and cills, lead and cast gutters, cisterns and pipes, stoves, gas fittings, and useful fixtures.—May be viewed on Saturday previous. Catalogues had of G J. MAIR, Esq., Architect, 41, Upper Bedford-place; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament-street, Westminster, S.W.

TO CONTRACTORS, BUILDERS, AND OTHERS.—Important Sale of Surplus Materials and Plant used in the Works of the Metropolitan Railway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractor, John Jay, esq. to SELL by AUCTION, at the WHARVES, City Road Basin, and Searles land, King's cross, and at the Works, Bagnigge Wells-road, on TUESDAY, SEPTEMBER 16, and three following days, at TWELVE, in lots, the very valuable and extensive SURPLUS MATERIALS and PLANT used in the construction of the eastern division of the Metropolitan Railway; comprising eight portable steam-engines (some nearly new), by Ransome & Sims, Clayton & Shuttleworth, and others; 25 horse power high-pressure steam-engine, six iron mortar mills, with iron runners and shafting; 400 loads of capital timber, in sticks and balk, planks, deal squares, struts, sleepers, &c.; powerful travelling-crane, with jenny; large iron drums and rollers, double and sing e purchase crabs, blocks, and falls; large spur, bevil and rigger wheels and shafting, 300 feet of the extra heavy angle-iron, and various other sizes; wire and hemp rope, 6 gaynes' pumps, Pedley's weighing machines, hydraulic press, pile-driving engines, five large gins, with iron work complete; 100 tons of wrought-iron scrap; timber and iron waggons, and wood skips; navvy, crowding, and bearing off barrows; wrought-iron wheeling-plates; dobbin carts; 100 nearly new ballast waggons, mostly on springs; two extensive brick making machines by Ingram & Co scaffold-poles and boards, screens, ladders, grindstones, engineers' benches, two canal boats, a barge, and numerous other effects.—May be viewed on SATURDAY and MONDAY previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 41, Parliament street, S.W.

METROPOLITAN IMPROVEMENTS.—SOUTHWARK and WESTMINSTER COMMUNICATION.—Twentieth Clearance Sale.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 23, at TWELVE, in lots, all the capital BUILDING MATERIALS, FIXTURES, and FITTINGS UP of about Twenty-five HOUSES, large FACTORIES, and WAREHOUSES, situate in Bear-street, Princes-street, Gravel-lane, New-street, Keppel-street, and Southwark-square, Southwark Bridge-road; comprising capital sound bricks, a large quantity of excellent Welsh slates, prime timber in roofs and floors, weather boarding and tar paving, sundry fire-places, glazed sashes, cupboard fronts, chimney-pieces, doors, folding gates, York paving, lead gutters, cisterns and pipes, stoves, ranges, coppers, and other useful fittings up.—May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C.; and 40, Parliament-street, S.W.

CORNWALL ROAD LAMBETH.—PLANT and STOCK of the VULCAN IRON FOUNDRY, late in possession of Messrs. Hallen.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed by the Mortgagees and Assignees to SELL by AUCTION, on the PREMISES, the Vulcan Iron Foundry, Cornwall road, Lambeth, on MONDAY next, SEPTEMBER 8th, and three following days, at 10 MONDAY, at SEPTEMBER 8th, and two following days, at TWELVE o'clock precisely each day, the valuable and extensive PLANT and STOCK; comprising a ten-horse power high-pressure steam-engine, in excellent working order, by Clay, with stable fittings, hangers, racks, &c.; column girders, hydraulic and other pumps, shafts, a quantity of iron guttering and stack pipes, about 1,000 iron hoppers, iron bedsteads, tables and chairs, several tons of new bar iron, castings of various kinds, a quantity of old iron wrought and strap iron, brass fittings, garden rollers, iron barrows, various tools, anvils, vices, weighing machines, &c., a pair of waggons and carts, a covered van and harness. May be viewed on FRIDAY and SATURDAY preceding the sales; and catalogues had at the Foundry, and at the Offices of Messrs. FAREBROTHER, CLARK, and LYE, 6, Lancaster-place, Strand, W.C.

ALTERATION of DAY of SALE from the 9th day of SEPTEMBER to the 16th of SEPTEMBER.—To Builders, Brick and Sewerage Pipe Manufacturers, Engineers, and Others.—Important Sale of the whole of the Brick, Sewerage Pipe, and Plaster of Paris Manufactory, known as the Victoria Works, Hunsberstone, near Leicester, TO BE SOLD by AUCTION, by

COOKE & WARNER, on TUESDAY, the 16th day of SEPTEMBER, 1862, on the PREMISES, and comprising a very superior Pug-mill, by Ryder & Jessop, with fly wheel 13 feet 6 inches diameter, and weighing about three tons; feed pump, cast-iron feed cistern, 14 feet by 1 foot, and 2 feet 9 inches deep, and feed pipe to boilers, steam pipes from boilers to engine, same, feed pipe to boilers, steam pipes from boilers to engine, excellent steam-gage and register with pipes, one cylindrical boiler, 24 feet long, 6 feet diameter, with valves and fixed complete; iron furnace, damper, frame and weight; 1 Cornish tubular boiler, 23 feet long by 6 feet diameter, with doors attached, valves, float, damper, &c., and smoke-consuming apparatus in good condition; one pair of hedgehog clay-crushers, and 2 pairs of clay rollers, with driving gear and friction box to prevent breakage; iron drum with driving gear and break for drawing up waggons; one large brick clay pugging mill, and one small ditto; 3 slides and sacking, and nothing below to throw in and out of gear, complete; one each, large and small, vertical pipe and bend dies, with driving gear and wood stocks, and one each 9-inch and 12 inch dies, complete. N.B.—All the above are by Thornewill and Warham, of Burton-on-Trent.

The entire machinery for the manufacture of Plaster of Paris, consisting of crushers, one pair of grit millstones, one pair of Peach burrs, 3ft 6in. wide with all the requisite driving gear, and 30 feet of 6-inch wrought-iron shafting in two lengths, with coupling boxes, and one long driving shaft, 40 feet long, with all the gear; one boiling pan, 24 feet long and 3 feet 2 inches wide, with furnace doors, bars and dampers, all nearly new, by Ryder & Jessop, of Leicester.

Also the following buildings:—Engine house, three stories high, brick-built and slated, 30 7 by 28—6; brick seating of two boilers; but and chandler's shed, 40ft by 18ft; lime and plaster shed, 50ft by 18ft; Mill, three stories high, brick-built and tiled, 31 feet 6 inches by 23 feet; two Plaster Ovens and one Kiln; six Round Potters' Kilns, lined with fire brick; one 40,000 Brick Kilns; one 30,000 ditto, 70 feet by 23 feet; one brick-making shed, two stories high, brick built and tiled, the ground floor fixed, 100 feet by 30 feet; one ditto, ditto, 90 feet by 27 feet; one Tile making Shed, one ditto, ditto, 75 feet by 29 feet; one brick-making Open Shed, with timber bins, all tiled and fixed with large tiles. 136 feet by 34 feet; Erection of Office and Shed adjoining, timber built, one excellent Cattle Shed, timber built and tiled, 78 feet by 15 feet; one ditto, 55 feet by 19 feet 6 inches; and one ditto, timber built, 16 feet by 15 feet

Sale to commence at TEN for ELEVEN o'clock punctually. The Auctioneers wish to call particular attention to the above sale. The whole of the works are nearly new, most substantially erected, and of the best materials. Refreshments on the ground. Catalogues may be obtained at the Auctioneers' Offices, Friar-gate and Horsefair-street; and at Mr. BROADBENT'S Office, Millstone lane, Leicester.

POOLE, DORSET.

MR. JOHN WATERS (Canal, Salisbury) will SELL by AUCTION, in five lots, at the LONDON HOTEL, POOLE, on THURSDAY, SEPTEMBER 11, 1862, at TWO o'clock, by order of the trustees of the late Colonel Edward Baker, very desirable FREEHOLD and LEASEHOLD ESTATES, situate on the high road, in the parish of Great Canford, about two miles from the town and port of Poole, and comprising the commodious residence, a water grist-mill, with excellent pasture, arable, and common lands, containing altogether 215 acres, a portion of which is well timbered, and particularly adapted for sporting, and for game preserves; a part also is laid out in good orchards, and for market gardens, and abounds with an excellent description of pottery clay, also the reversion, and tax of the tithing of Hatt worthy, amounting to 23l 11s. per annum. Printed particulars, with plans, may be obtained of Messrs. ATTWOOD & GRIDEN, Land Agents; Mr. F. W. OTTAWAY, Solicitor; or the Auctioneer, Salisbury.

ST. THOMAS'S HOSPITAL.—CHARING CROSS RAILWAY. Twenty-first Clearance Sale.—To Builders, Contractors, Pavlors, and Others.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on MONDAY, the 8th of SEPTEMBER, 1862, and four following days, at ONE o'clock punctually each day, in lots, the very valuable MATERIALS and FIXTURES of ST. THOMAS'S HOSPITAL; including about 250 squares of slates and slating boards, 80 square of plain tiling; prime oak and fir timber, in rafters, joists, and girders; 450 square of sound oak and other floor boards; 400 pair of glazed sashes; 300 wainscot and other doors, iron presses and cupboards, marble and other chimney-pieces; 12 baths, with hot and cold water service; Jennings' patent laboratory basins; panelled partition; stone staircases, with iron balusters; several thousand feet of capital York and Portland stone in paving, steps, cornices, string-courses, sills, plinths, and pilasters; ONE MILLION and a HALF of sound STOCK BRICKS; ONE HUNDRED TONS of LEAD, in gutters, flats, cisterns, and pipes; a large brewing copper and pump; number of stoves and ranges, the fittings of a chapel, gas-fittings, erections of green houses, range of fountains, counter, bar, &c. hot-air socket and other pipes and receiver, moth valances, roller, evaporating pans, steam condenser with apparatus complete, fittings to chemical laboratory, together with a variety of useful and valuable effects. May be viewed three days prior of sale, and catalogues, price one shilling each, to be had on the Premises; Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers and Valuers, 3, Newman's-court, Cornhill, E.C. and West Molesey, Kingston, Surrey; and of Mr EDWARD RYDE, Surveyor to the Company, at his Offices in the London Bridge Terminus.

CHARING CROSS RAILWAY. Twenty third Clearance Sale—Seventh Portion of the Hungerford Market Building Materials.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, SEPTEMBER 19th, 1862, at ONE o'clock punctually, in lots, the exceedingly valuable and useful BUILDING MATERIALS of a PUBLIC HOUSE, five houses by Villiers-street, and three houses in the Strand, comprising cap tal stock brickwork, tiles, slates, timber in roofs, sound flooring boards and joists, panelled and other doors, sashes, and frames, plate-glass shop fronts, lead in gutters and pipes, stoves, ranges, and a mass of useful fixtures and fittings up.—May be viewed the day prior to sale, and catalogues then had on the Premises; of Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court, Cornh ll, E.C. and West Molesey, Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices in the London Bridge Terminus.

IN BANKRUPTCY.—BALHAM, Surrey.—To BUILDERS, CONTRACTORS, and OTHERS

MR. KIRKMAN has been favoured with instructions from the Assignee to SELL by AUCTION, on the Premises, Balham, Surrey, near the Railway Station, on TUESDAY, SEPTEMBER 9, 1862, at TWELVE for ONE o'clock precisely, the remaining BUILDING MATERIALS and EFFECTS, comprising timber, boards, planks, laths, scaffold poles, putlogs, ladders, barrows, stone, brick, slates, mortar, sand and lime, and a large quantity of building materials and miscellaneous effects.—May be viewed the day prior to the sale; and catalogues obtained of EDMUND NEWMAN, Esq. Solicitor, Walbrook, E.C; at the principal Inns in the neighbourhood; and at the Offices of Mr KIRKMAN, Auctioneer, Values, Surveyor, and Estate Agent, 8, Clement's-lane, City, E.C. and opposite the Railway Station, Blackheath.

IN BANKRUPTCY.—Lee, near Blackheath, Kent.—To Builders, Contractors, and Others.

MR. KIRKMAN has been favoured with instructions from the Assignee to SELL by AUCTION, on the PREMISES, Belmont Estate, Lee, on THURSDAY and FRIDAY, SEPTEMBER 11th and 12th, 1862, at SEVEN for ONE o'clock precisely, without the slightest reserve, all the valuable STOCK IN-TRADE and EFFECTS, comprising very many loads of timber, and many thousand feet in planks, battens, joists, and flooring, &c. York, Portland, and Bath stone, place and other bricks, a quantity of ironmongery and lacquered ware, 500 pieces of paperhanging; red, bar, hoop, and old iron; a section of self-acting forges, smiths' and masons' tools, timber frames, bed-stone, sole-plates, saw-mill machinery, erect n of engine house and strong boiler, carpenters' and joiners' benches, three brick-setters' carts, quantity of manure road drifts, and miscellaneous effects.—May be viewed two days prior to the sale, and catalogues obtained of EDMUND NEWMAN, Esq. Solicitor, Walbrook, E.C.; at the principal Inns in the neighbourhood; and at the Offices of Mr. KIRKMAN, Auctioneer, Valuer, Surveyor, and Estate Agent, 8, Clement's-lane, City, E.C.; and opposite the Railway Station, Blackheath.

IN BANKRUPTCY.—LEE, near BLACKHEATH, KENT.—To BRICKMAKERS, CONTRACTORS, and OTHERS.

MR. KIRKMAN has been favoured with instructions from the Assignee to SELL by AUCTION, on the PREMISES, Belmont Estate, Lee, near Blackheath Station, on TUESDAY, SEPTEMBER 16, at TWELVE for ONE o'clock precisely, all the STOCK-IN-TRADE and EFFECTS; comprising above 800,000 stock, place, and other bricks; timber, planks, boards, bed-stone, sole-plates, and saw-mill machinery, erection of engine house, with strong boiler, erection of eleven cottages and foreman's house, erection of three moulding stools with benches, earth, chalk, pug-horse, and other mills, well machinery, hack and break kilns, horse, wheeling-plates, stone truck, fly-wheels, &c. and miscellaneous effects.—May be viewed three days previous to the sale; and catalogues obtained of EDMUND NEWMAN, Esq. Solicitor, Walbrook, E.C.; at the principal Inns of the neighbourhood; and at the Offices of Mr KIRKMAN, Auctioneer Valuer, Surveyor, and Estate Agent, 8, Clement's-lane, City, E.C. and opposite the Railway Station, Blackheath.

CROYDON, SURREY.—EXCELLENT BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town of Croydon, on MONDAY, SEPTEMBER 8th, 1862, at ONE for TWO o'clock, a further portion of the excellent BUILDING MATERIALS from the buildings belonging to the Addiscombe College, consisting of about 200 loads of timber, about 200 feet of superior York paving, stone sills; deal timber, consisting of principals, joists, beams, flooring and other boards, doors, &c.; also windows, gas pipping, &c. Messrs. GROVES will sell the above on Friday and Saturday before the sale. Catalogues may be obtained of the Foreman on the Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

SHOOTER'S HILL, KENT.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the TOWN HALL, Woolwich, on FRIDAY, SEPTEMBER 12th, 1862, at SEVEN o'clock, the SEVENTH PORTION of the LOTTERIES' ESTATE, consisting of twenty-nine lots of Freehold Building Land in the south side of Herbert-road, near to the Royal Military Academy, Woolwich Common, eligibly adapted for the erection of villa residences. Nine-tenths of the purchase-money may remain on mortgage or contract, at 5 per cent. to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be had of the Auctioneer, 14, Moorgate-street; of Mr. JOHNSON, on the estate; Messrs RUSSELL & DAVIES, 59, Coleman street, London, E.C.; and of the Auctioneer, 14, Moorgate-street, London, E.C.

ADDISCOMBE, CROYDON.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, LONDON, on TUESDAY, SEPTEMBER 23rd, at TWELVE for ONE o'clock, in lots, a FURTHER PORTION of the Addiscombe College Estate, comprising eligible FREEHOLD BUILDING LAND, fronting on to St. James's-road, close to the proposed site of the Addiscombe Railway Station, and adapted for the erection of Villa Residences. Nine-tenths of the purchase-money may remain on mortgage or contract, at 5 per cent. to be paid in nine years by half yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained more than seven days before the sale, of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; at the Lodge of the College in Addiscombe road; and of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the place of sale.

CREWE.—FREEHOLD BUILDING LAND.—TO BE SOLD by AUCTION, pursuant to a decree of the High Court of Chancery made in a cause "Blakemore v. Edleston," by the Vice-Chancellor Sir John Stuart, the Judge to whose Court the said cause is attached, by

MESSRS. CHURTON, the persons appointed for that purpose, on FRIDAY, the 3rd day of OCTOBER, 1862, at the CREWE ARMS HOTEL, Crewe, at TWO o'clock in the afternoon, 132 lots of FREEHOLD BUILDING LAND, of various dimensions, from 2,646 to 228 square yards, part situate between Mill street and the Railway premises, at Crewe, and abutting on intended new roads there, leading to the station, and part abutting upon the new road leading from Oak street, Crewe, to Weston, and all in the immediate neighbourhood of the railway stations of the main line, and of the Manchester, Liverpool, Chester, North Staffordshire, and Shrewsbury branches of the London and North-Western Railway.—Particulars and conditions of sale, and plans, may be had (gratis) on application to Messrs. FISHER & HODGES, Newport, Salop; HENRY HEANE, Esq. Newport, Salop, and 12, Regent-street, London; Messrs. PININGER & WILKINSON, 28, John-street, Bedford-row; Messrs. CHURTON & CO. Bedford row; CHRISTOPHER CUFF, Esq. St. Martin's-lane, London; E. D. BROUGHTON, Esq. RD. C. EDLESTON, Esq. and T. BROADHURST, Esq. Nantwich, Cheshire; and Messrs. CURTON, Auctioneers, Chester, and Whitchurch, Salop; and at the place of sale.

ALFRED HALL, Chief Clerk.

Dated this 26th day of July, 1862.

WITHOUT RESERVE.—To BUILDERS, CARPENTERS, WHEELWRIGHTS, and OTHERS.—OAK TIMBER at HORNSEY and FINCHLEY.

MESSRS. BEADEL & SONS are instructed to SELL by AUCTION, at the WELLINGTON TAVERN, Archway road, Highgate, on MONDAY, SEPTEMBER 15, at FOUR for FIVE o'clock, without reserve, 947 OAK TIMBER and ONE SPANISH CHESTNUT TREES, of useful dimensions, felled in Cherry tree Wood, adjoining the Old North Finchley-road; Cardinal's Woods, opposite the Wellington Tavern; and Turner's Wood, near the Spaniards Inn, on that the road leading from Highgate to Hampstead. The trees are numbered in each wood, consecutively, with white paint, and will be sold in lots of from ten to twenty in each, to suit the convenience of purchasers.—Catalogues may be obtained of JAMES LAWFORD, Wellington, Finchley; at the Place of Sale, and of Messrs BEADEL & SONS, 25, Gresham-street, E.C.

GUILDFORD, SURREY.—First class Building Land, close to the Town and Railway Station; also certain Freehold Tolls, arising from the River Wey Navigation from Guildford to the Thames.

MESSRS. BEADEL & SONS are instructed to OFFER by AUCTION, at the MART, Bartholomew lane, London, on TUESDAY, OCTOBER 21, at TWELVE for ONE, in numerous lots, the highly valuable first-class BUILDING LAND, close to the favourite town of Guildford possessing extensive and capital frontages to the high road from Guildford to Woking, and also to a proposed new road intersecting the property. The land fronting the Woking road is divided into plots suitable for the erection of detached or semi-detached villa residences, and each plot has also good frontage to the proposed new road; the remainder of the land is divided into plots, of half an acre and the whole forms a most desirable property, the situation for building being superior to anything in the neighbourhood. A portion of the land is freehold, the remainder leasehold for ninety-nine from July 1862, at 20l ground-rent, and the whole is believed to be free from land-tax. The Freehold Tolls arising from proprietary or preference shares in the River Wey Navigation comprise the one-fourteenth parts in 22 of the grants or tolls of 4d. and the 22nd part and 44th of another 120th of the same in 22 of the same toll of 4d. The income of the navigation is yearly increasing and the present net profits are more than sufficient for the expense of maintaining the navigation.—Particulars, with plans and conditions of sale, may be obtained of Messrs H. U. & E. COULTHURST, Solicitors, 13, New Inn, W.C.; of Messrs. FLADGATE, YOUNG, & JACKSON, Solicitors, 12, Essex-street, Strand, W.C.; at the Mart; and of Messrs. BEADEL & SONS 25 Gresham-street E.C.

PUBLIC OFFICES' EXTENSION.—ELEVENTH SALE OF BUILDING MATERIALS.

MESSRS. GLASIER & SON are favoured with instructions from the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, SEPTEMBER 10th, at TWELVE for ONE, the valuable MATERIALS of FOUR HOUSES, Nos. 13, 14, 15, & 16, Duke-street, Westminster; comprising capital stock brickwork, slates and tiles, prime timber, board and timber floors, wainscoting, doors, sashes and frames, marble chimney pieces, plaster and other stoves, paving, several tons of lead, fixtures and fittings. On view day prior and catalogues had of Messrs. GLASIER & SON, 12, Whitehall-place; of JAMES PENNETHORNE, Esq. No. 7, Whitehall-yard; on the Premises; at Garraway's; and of the Auctioneers, 41, Charing-cross.

WESTMINSTER BRIDGE APPROACHES.—FINAL SALE.—Building Materials, Fittings, Fixtures, and Utensils of the Horse show and Magic Bridge street, Westminster, No 22, Bridge-street; and Nos. 7 and 8, New Palace-yard.

MESSRS. GLASIER & SON are favoured with instructions from the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, as above, on TUESDAY, SEPTEMBER 16, at TWELVE for ONE, in lots, the valuable BUILDING MATERIALS, FITTINGS, and TRADE UTENSILS of the above-mentioned houses; comprising sash, glazed and framed lights, &c., plain and panelled doors, floors, &c.; wainscoting, doors, French casements, sashes and frames, public house shop fronts; mahogany fitting doors; mahogany folding doors, several tons of lead, &c.; metal top counter, capital seven-motion beer-engine, capital seasoned spirit vats, measures, glass, pewter, tables, settees, York lamps, and numerous other fixtures and fittings. May be viewed day prior and morning of Sale and catalogues had at the Office of Works, 12, Whitehall-place; of JAMES PENNETHORNE, Esq. No. 7, Whitehall yard; on the Premises; at Garraway's; and of the Auctioneers, 41, Charing-cross.

TONBRIDGE, KENT.—PEREMPTORY SALE.—To Carpenters, Builders, Ironmongers, Sell-hangers, and Others.

MESSRS. CHARLTON are instructed to SELL by AUCTION, on the PREMISES, High-street, Tonbridge, on WEDNESDAY, SEPTEMBER 17th, 1862, and following day, at ELEVEN o'clock, the valuable and desirable STOCK-IN-TRADE, TRADE FIXTURES, TIMBER, and FIXTURES, the property of the late Mr. Edward Berg, Builder, comprising about 70 tons of yellow, white, and pine planks, deals, and battens; 100 square of yellow and white prepared flooring boards, 9 square matched boarding, 45 square yellow batten weather boarding, a large quantity of pine and elm boards, fourteen French planks Honduras mahogany in planks and boards; oak wainscoting, planks, and boards; oak posts and rails; 24 oak trees, felled three years; fir sawtiling, in plates, purlins, rafters, &c.; about 20 tons of cast and wrought iron in the bulk; and a great variety of useful materials, all well-seasoned; several new and old doors, gates, desks, counters, shutters, &c. The Trade Effects consist of a powerful circular saw bench, by Dutton, 20 inch; and a large quantity of new and old scaffold cord; a pile-driving machine, with 2 iron monkeys; iron crab and fall, 3 screw jacks, 6 flooring cramps, turning lathe with centres and bits; mortising machine by Fowis, James & Co.; 2 lightvans 1 loading ditto, timber tray, 4 hand-carts, 1 box barrow, a very useful black mare, seven years old; light and part harness, also the erections of 2 sheds, counter shelving, nests of drawers, &c.; a large and well-assorted stock of ironmongery and brass work, 650 gross of screws, 4 tons of cut and wrought nails and rivets, 1 cwt. of red cross red lead and 14 lbs. of black and white coffin furniture, 3 velvet palls, and 2 pair of trestles, and miscellaneous effects.—May be viewed the day previous and mornings of sale, and catalogues had on the premises; at the usual inns in the neighbourhood: of Mr. STENNING, Solicitor, Tonbridge; of Messrs. CHARLTON, Land Agents and Surveyors, Tonbridge; or at the Auction Mart, London.

TO BUILDERS, DECORATORS, AND OTHERS.

MR. EDWIN WHITE'S SALE by AUCTION, at 12, HOLBORN-BARS, on TUESDAY next, at TWO precisely, comprises 8,500 pieces of fashionable PAPER-HANGINGS, in great variety; 100 well-made chimneypieces in statuary, Sicilian, coloured, and other marbles; and other items.—View and catalogues Monday, and morning of sale.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing office of COX & WYMAN, No. 74 and 75, Great Queen-street, Lincoln's-inn fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, September 6, 1862.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1023. SEPTEMBER 13, 1862. PRICE FOURPENCE. By Post, 5d.

ILLUSTRATIONS.

The Chalmers Hospital, Banff, Scotland. Mr. W. L. Moffatt, Architect 659

Plan of Ground Floor of the Chalmers Hospital, Banff 658

CONTENTS.

Spheres, and the Temple of Diana 649

British Architects: New Materials for their Lives 651

A Walk and Talk in Rome 652

Mr. Ralph Walker, Civil Engineer. 653

Temporary St. Thomas's Hospital 653

The Ancient Cities of Wells 654

The Birmingham Sewerage 656

Aphorisms respecting Christian Art 656

The Duke of Northumberland's District Churches 656

Competitions 656

Carlisle Workhouse Competition 656

The Fever at Rotherham 656

The Cambrian Archæological Association 657

The Management of Rowers in Dwellings 657

Increased Water supply for Leeds 657

Social Bridge Building 657

Trees in Kensington Gardens and Hyde Park 657

The Chalmers Hospital, Banff 658

Lightning Conductors in Iron-girded Houses 658

The late Railway Accident: Dangers of the Line 661

School Building News 661

Church Building News 661

Provincial News 662

Gas 662

Bayswater 662

Ill-planned Dwelling Houses 663

The Discovery of Corpses at Hexham 663

Overcrowding the Area of Churches with Seats 663

Combustion the only Method of Creating a New Style 663

Church Bells and Bell-ringers 664

Pigs and Health 665

Ingress and Egress 665

Patents connected with Building 665

Books received: Horton's Measurer (Weale) 665

Miscellanea 665

BUILDERS' BENEVOLENT INSTITUTION.—The FIFTEENTH ANNUAL DINNER will be held at the LONDON TAVERN on WEDNESDAY, 29th OCTOBER next, HENRY LEE, Esq. President of the Institution, in the Chair. Gentlemen desirous of promoting the interests of this Charity, by becoming Stewards, will be pleased to forward their names to the Treasurer, GEORGE PLUCKNETT, Esq. (Messrs. Wm. Cubitt & Co.) Grey's-inn-road; or to the Secretary, at the Offices, 23, Southampton-street, Bloomsbury.

A. G. HARRIS, Sec.

September 8, 1862.

KING'S COLLEGE, LONDON.—ARTS AND CONSTRUCTION.—PROFESSOR KERR'S LECTURES take place on Wednesday, at 4, and Thursdays, at 9.30, as follows:—Course I.—Michaelmas Term (October to December), on the Materials and Theoretical Science of Building and Engineering. Course II.—Lent Term (January to March), on the Practice of Construction. Course III.—Easter Term (April to July), on the Constructive Design of Architectural and Engineering Works. Fee, 2*l.* 12*s.* 6*d.* for the term, or 7*l.* 7*s.* for the year.

R. W. JELF, D.D. Principal.

INTERNATIONAL BAZAAR, SOUTH KENSINGTON.—If architectural effect can be marred by various window blinds, visitors are invited to inspect in the central hall of the Bazaar a NEW PATENT BLIND, whereby that necessity of civilized, an ornament in use is realized.

COMPETITIONS.

TO ARCHITECTS.—The Committee of the North Staffordshire Infirmary are prepared to receive sets of DESIGNS for a NEW INFIRMARY, to be erected at Hartshill, near Newcastle-under-Lyme, at a cost not exceeding 12,000*l.* for the entire building. A premium of 100*l.* will be awarded to the author of the set of designs approved by the Committee, unless he be employed to superintend the erection of the building, when the above premium will be merged in his commission. Printed particulars of what is required, with a plan and section of the site, may be obtained on application to the secretary, Mr. HORDLEY, North Staffordshire Infirmary, Stoke upon Trent. The designs to be sent in to the Secretary on or before DECEMBER 1st next.

AMICABLE SOCIETY'S SCHOOLS, SCARBOROUGH.—For COMPETITION.—The Committee of Schools, and separate Residences for the Master and Mistress. The Schools must be capable of accommodating not less than 100 of each Four Bed Rooms, Kitchen, and Out offices. A plan of 1/2 will be given for the best, and 5*l.* for the second best Plan and Specification, provided a response be contracted is prepared to undertake the work at the estimate given. The Committee do not hold themselves to employ the Architect to whom either of the premiums is given, but in the event of either of them being employed, his premium will merge in the usual "Architect's Commission." A Model Plan of the site, and a detail of requirements will be furnished on application to the Hon. Secretary, Scarborough. The Plans to be sent in to him before the 1st day of OCTOBER next.—By order.

W. E. WOODALL, Hon. Secretary.

Scarborough, Sept. 2nd, 1862.

TO ARCHITECTS.—The Justices of the County of Devon require PLANS and ELEVATIONS for a POLICE STATION, to be erected at East Stonehouse, and offer a premium of 20*l.* for the plan and elevation which may appear to the Police Committee the best for the purposes required. The plans and elevations must be accompanied by an estimate of the probable expense of the building. A plan of the ground and levels may be seen at my Office, in the Castle of Exeter, and at the Police Station, St. George's Hall, East Stonehouse. Information as to the accommodation required, and any other particulars, may be obtained at my Office. Plans and elevations are to be sent to me, at the Castle of Exeter, on or before MONDAY, the 6th day of OCTOBER next.

HENRY FORD, Clerk of the Peace.

Castle of Exeter, September 4th, 1862.

TO ARCHITECTS and CLOCK MAKERS. The Council of the Borough of Yeovil are desirous of receiving, by the 4th OCTOBER next, DESIGNS and ESTIMATES for EREECTING, on the Town Hall, a TURRET, in accordance with the style of the building; and a CLOCK therein, furnished with three dials, and three bells for striking the hours and quarters, sufficiently large for the extent of the town. Any further particulars may be obtained at the Town Clerk's Office, to whom the designs, &c. are to be sent.

Yeovil, 1st September, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—To GAS ENGINEERS and MANUFACTURERS.—Notice is hereby given, that TENDERS are required from Persons disposed to LEASE the GOVERNMENT GAS WORKS at the Royal Military College, Sandhurst, for a term of years, at a nominal rent, for the purpose of Manufacturing Gas, to be disposed of to the Government at per 1,000 feet, with permission to supply other than Government buildings.

Forms of Tender, and every necessary particular, to be obtained on application to the Commanding Royal Engineer, Sandhurst.

Tenders to be addressed to the Director of Contracts, War Office, Pall Mall East, London, S.W. and to be delivered on or before the 17th SEPTEMBER, 1862, endorsed "Tender for Gas Supply, Sandhurst."

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sandhurst, 27th August, 1862.

Commissariat Office, Aldershott, Sept. 6, 1862.

ARMY CONTRACTS.—TENDERS will be received at this Office until NOON on the 3rd of OCTOBER next, from persons who may be willing to enter into CONTRACT for the SUPPLY of FORAGE, in such quantities as may be required from the 1st of NOVEMBER, 1862, to the 31st of OCTOBER, 1863, for the use of her Majesty's forces stationed at Aldershott Camp, and within the Command.

The Tenders must be properly filled up, and signed and delivered, at this Office, under closed envelopes, marked in the outside "Tender for Forage," before NOON on the 3rd of OCTOBER next, and no Tender will be noticed unless made on printed forms obtained from this Office.

REDMOND UNIACKE, A.C.G

COAST GUARD CONTRACT.—NOTICE is to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION, at Barry, near Cardiff, in the county of Glamorgan, may inspect the Drawings and specification at the Custom House, Cardiff, or at this Office, between the hours of TEN and FOUR, from MONDAY, the 8th, to THURSDAY, the 18th of SEPTEMBER, now next ensuing, and both inclusive (Sunday excepted).

Tenders to be sent in (but not later than TWELVE o'clock at noon of SATURDAY, the 20th of SEPTEMBER, in a letter, addressed to the Commodore Controller General of Coast Guard, and endorsed "Tender for Barry Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or any of the Tenders

Dated this 29th day of August, 1862, at the Admiralty Coast Guard Office, 22, Spring Gardens, London, S.W.

NORTHAMPTON WATERWORKS COMPANY.—The Directors of this Company are prepared to receive TENDERS from persons desirous of CONTRACTING for the EXECUTION of the following WORKS:—

First,—The making and constructing of a new Reservoir in a field near to the Kettering-road, in the town of Northampton, with the necessary works connected therewith.

Secondly.—The Sinking and Making of a Well of the depth of 200 feet, with the masonry, brickwork, and all other matters necessary for the completion thereof.

The Contractor will be required to give security to the satisfaction of the Directors for the due performance of his work. Full specifications, with drawings showing the nature and extent of the works to be executed, with a draft showing the general form of the contract to be entered into, may be inspected on and after the 15th day of SEPTEMBER instant. All Tenders must be sent in before the 27th day of SEPTEMBER next. All Tenders will be liable to be rejected unless made in the form prescribed by the Directors, and which may be seen at the Office. The Tenders may be made for the whole of the works, or for the Well or Reservoir separately. The Directors will not be in any way bound to accept the lowest or any other Tender.

By order of the Board,

JOHN BECKE, Solicitor.

TO GAS ENGINEERS and OTHERS.—GAS WORKS for SALE, Ross, Herefordshire.—The Town Commissioners are prepared to receive TENDERS for the same from persons with sufficient capital and qualifications for improving and carrying on the works, addressed to Mr. J. HOOPER, Esq., Clerk to the Commissioners, on or before the 1st day of OCTOBER next. Parties so Tendering are to state, 1. The amount they are willing to pay for the present works, with the ground and buildings thereon, mains, meters, and other apparatus, with the power of extending the same. 2. The rate at per thousand cubic feet at which they will supply the consumers. 3. The price per annum for public or street lights. 4. The intention of the applicant to erect entirely new works outside the town, or only to enlarge the present works, so as, in either case, to give a good supply of gas for the increasing wants of the town. Further particulars may be obtained at the Works. The Commissioners do not pledge themselves to accept any Tender.

Ross, September 1st, 1862.

CONTRACTS.

TO ROAD CONTRACTORS.—Finsbury Freehold Land Society.—Mitcham Estate.—The Trustees of the above Society are prepared to receive TENDERS for the CONSTRUCTION of ROADS, FOOTPATHS, and DRAINS, on their Estate at Mitcham, in the county of Surrey. Contractors desirous of Tendering for the Works may inspect drawings and specification, and obtain all necessary information at the Offices of Mr. LAMBERT, Surveyor, 4, New Buckingham-street. Tenders to be delivered on or before FRIDAY, the 19th day of SEPTEMBER instant. The Trustees do not bind themselves to accept the lowest or any other Tender

TO SEWER CONTRACTORS, BRICKLAYERS, and OTHERS.—The Vestry of the Parish of Chelsea will meet on TUESDAY, the 23th instant, at the Vestry Hall, King's-road, Chelsea, at THREE o'clock in the afternoon, to receive for the EXECUTION of CONTRACT, for Twelve Months, for the EXECUTION of GENERAL WORKS connected with the SEWERS and DRAINS, according to a Schedule of Prices now lying at this Office. Copies of the Schedule, and of the Contract, and Form of Tender, may be had upon payment of 5*s.*, to be returned to parties Tendering. The Vestry do not bind themselves to accept the lowest or any Tender, and reserve to themselves the right of making special contracts, if they shall see fit. Parties Tendering must be prepared to execute and pay for a contract, and to provide sureties for the performance of the same, if required. Tenders must be upon the printed forms, and be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 16th instant. By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, Chelsea,
September 3rd, 1862.

PARISH of CHELSEA, in the COUNTY of MIDDLESEX.—BROKEN NEW BLUE GUERNSEY GRANITE. The Vestry of this Parish will meet at the Vestry Hall, King's-road, Chelsea, on TUESDAY, the 23th of SEPTEMBER inst. at THREE o'clock in the afternoon precisely, to receive TENDERS for the SUPPLY of 1,500 tons of BROKEN NEW BLUE GUERNSEY GRANITE, to be delivered forthwith at the Depôt, Alpha-place, Manor street, Chelsea, where it will be weighed by an officer of the Surveyor's Office, here, daily, between TWELVE and ONE o'clock. Tenders, to be sealed and endorsed, "Tender for Granite," and to be delivered at the Clerk's Office by or before TWELVE o'clock on TUESDAY, the 16th SEPTEMBER. The Vestry do not bind themselves to accept the lowest or any Tender. Tenders must be upon the printed forms, and be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 16th instant. By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, Chelsea, September 3, 1862.

PARISH of CHELSEA, in the COUNTY of MIDDLESEX.—FLINTS.—The Vestry of this Parish will meet at the VESTRY HALL, King's-road, Chelsea, on TUESDAY, the 16th day of SEPTEMBER instant, at THREE o'clock in the afternoon precisely, to receive TENDERS from persons willing to CONTRACT, for Twelve Months, from the 1st day of SEPTEMBER, up to and inclusive of the 29th day of SEPTEMBER, 1863, for the SUPPLY of the BEST CLEAN GREY BROKEN FIT ROAD FLINTS, according to a sample to be seen here, to be delivered at the Free Dock at Cheyne-walk, at such times and in such quantities as may be directed. The Vestry do not bind themselves to accept the lowest or any Tender. Sealed Tenders, and by the proposed Contractor, with the names and description of two sufficient sureties for the performance of his contract, to be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 16th day of SEPTEMBER instant. The legal charges of the contract to be paid by the Contractor upon the execution of the same; and no Tender will be received or accepted unless made on one of the printed forms, to be obtained at my Office.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, 3rd September, 1862.

TO MASONS, PAVIORS, STONE MERCHANTS, and OTHERS.—The Vestry of the Parish of St. Luke, Chelsea, will meet at the Vestry Hall, King's-road, on TUESDAY, the 23rd instant, at THREE o'clock in the afternoon, to receive TENDERS from persons willing to contract for twelve months for the EXECUTION of WORKS, and for the supply of Materials connected with the above trades, in the usual manner, as may be required and directed. Further particulars, with the form of Tender, may be had on application at this Office. Sealed Tenders, signed by the proposed Contractor, and by two sufficient householders as sureties for the performance of the contract, to be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 30th inst. The legal charges of the contract to be paid by the contractor. No Tender will be received or accepted unless made on the printed forms, and delivered in the envelopes provided for the purpose. The Vestry do not bind themselves to accept the lowest or any Tender, and they reserve to themselves the right of making special contracts, if they shall see fit. Parties tendering must be prepared to execute and pay for a contract, and to provide sureties for the performance of the same, if required. Tenders must be upon the printed forms, and be delivered to the Clerk by or before TWELVE o'clock on TUESDAY, the 16th instant. By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Hall, King's-road, Chelsea,
September 3rd, 1862.

ST. MARY, ISLINGTON.—METROPOLIS LOCAL MANAGEMENT ACT.—The Vestry of this Parish hereby give Notice, that a Committee of the Vestry will meet at the Vestry Offices, Upper-street, Islington, on WEDNESDAY, the 24th SEPTEMBER instant, at TEN o'clock in the morning precisely, to receive TENDERS for the CONSTRUCTION of about 1,160 feet of BRICK SEWER, 3 feet 9 inches by 2 feet 6 inches, in Newington-green-road, and lesser sizes of Newington-green, and the necessary works in connexion therewith. The Form of Tender, which alone will be received, may be obtained, and the specification, and the drawings, at the Vestry Offices between the hours of TEN and FOUR o'clock. Persons intending to tender are to attend at the time and place above stated, with sealed Tenders addressed to the Vestry Clerk, at TEN o'clock. No Tender will be received after TEN o'clock, nor will any Tender be received unless delivered in the envelope of England note, which will be immediately returned to each person whose Tender is not accepted, but will be retained in the manner until the contract and the due performance of the works. The Vestry do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the works.

JOHN LAYTON, Vestry Clerk.

Vestry Offices, Upper-street, Islington, September 9, 1862.

[For remainder of Contracts see next Page.

CONTRACTS.

TO IRONFOUNDERS.—TENDERS will be received up to the 26th inst. for a WROUGHT-IRON FOOT BRIDGE, to be erected at St. Ives. Plans and specifications can be seen, and quantities obtained of the Engineer, Mr. WRIGHT, St. Martin's, Stamford; or tracings and quantities will be forwarded on receipt of 5s.

TO BUILDERS.—Persons desirous of TENDERING for the CHELMSFORD RACE STAND and OFFICES may see the plans and specifications of the works at Mr J. BURTON'S, High-street, Chelmsford; and at the Office of the Architect, Mr. J. F. CLARK, Newmarket. Tenders to be delivered to Mr. BURTON, High-street, Chelmsford, by TWELVE o'clock at noon on WEDNESDAY, the 24th day of SEPTEMBER, when they will be opened in the presence of parties tendering. The lowest or any Tender will not necessarily be accepted.

TO BUILDERS.—BUILDERS desirous of TENDERING for certain WORKS connected with removing the present roof to the Church of St. James, Bury St. Edmund's, and preparing and fixing a new one, according to the designs and specification prepared by Mr. G. G. SCOTT, Architect, 20, Spring-gardens, London, may see the same at the Office of Messrs. CLARK and SEARS, the Sexton in question, and obtain any information they may require on the spot. Sealed Tenders to be delivered at the Vestry-room of the Church, where they will remain for the purpose until the hour of SEPTEMBER 23rd, 1862. The Committee do not bind themselves to accept of the lowest or any Tender. In the event of a Tender being accepted, the contractor must enter into proper security for the due performance of the Works, and be prepared to begin to take a portion only at first, if necessary, and according to the terms of the specification, reserving the rest to be done at a future time. Tenders to be sent in to the Churchwardens on or before the 29th of SEPTEMBER.

JOHN VALE,
WILLIAM CHAPMAN, } Churchwardens.

Bury St. Edmund's, September 2nd, 1862.

TO CONTRACTORS.—Sealed TENDERS will be received by the Secretary of the Bridge Committee of the Town of Dreghela, up to the 1st day of NOVEMBER next, for TAKING DOWN the present BRIDGE over the River Payne, at Dreghela, and Building a new CAST-IRON BRIDGE in place thereof, on a STONE BRIDGE, of 30 feet span, according to plans and specifications, prepared by J. NEVILLE, Esq. C.E. to be seen at my Office, Fair-street, Dreghela, or at the Office of J. NEVILLE, Esq. Jocelyn-street, Dunduk, between the hours of TEN and FOUR o'clock every day (Sunday excepted), after the 15th SEPTEMBER instant.

TENDERS will also be received, at the same time, for BUILDING a WOODEN BRIDGE, to be called the "Western Bridge," higher up the river, in the town, according to plans and specifications prepared by Messrs. Payne, to be seen in the manner before named. The lowest or any Tender will not necessarily be accepted.

HENRY CLINTON, Secretary to the Bridge Committees, Office of the Corporation Harbour Commissioners, 20, Grand Quay of Dreghela.

Dated, at Dreghela, this [illegible] day of September, 1862.

PARISHES of ST. GILES WITHOUT, Cripplegate, and ST. LUKE, Middlesex.—TO BE LET, by TENDER, for sixty years, a PIECE of LAND in the north side of the Mile End-road, part of which the King Harry's Head now stands, for the erection of a tavern and three other houses.—Particulars may be obtained, and plans seen, at the Office of Mr. A. J. BAYLIS, Church-court, Old Jewry.

CITY of WORCESTER.—To ENGINEERS and OTHERS.—TENDERS are required by the Corporation of Worcester for effectually WARMING the MAGISTRATES' and SESSIONS' COURTS at the GUILDHALL, by means of HOT-WATER PIPES, and [illegible] to the Lobbies and Jurors' Rooms, Cells, and Entrance-hall in the ROYAL GEORGE HOTEL, Foregate-street, Worcester, in the Plans prepared with a proper specification, must be delivered under cover, and properly endorsed, at the Town Clerk's Office, on or before NOON, on MONDAY, the 22nd instant. The lowest or any Tender will not necessarily be accepted.

JOHN HILL, Town Clerk.

Worcester, September, 1862.

NOTICE.—TENDERS are required for SINKING a WELL, at Slough, in the Isle of Grain, Kent—Particulars relating to Parties intending to tender, and Plans, with a specification and form of Tender, on application to this Office. Sealed Tenders to be delivered at this Office, not later than TWELVE o'clock at noon on TUESDAY, SEPTEMBER [illegible], endorsed "Tender for Slough Well."

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sheerness, September 4, 1862.

ABERSYCHEN, MONMOUTHSHIRE.—Builders and others are invited to send in TENDERS for the ERECTION of a SCHOOL and TEACHER'S RESIDENCE, at Abersychen, Monmouthshire, according to plans and specifications prepared by the Rev. [illegible], Vicar of Abersychen, to be seen at the Office of the Architect, J. R. CLAPHAM, Woburn Chambers, Bedford-street, Strand, W.C. The lowest or any Tender will not necessarily be accepted.

Labour only required [illegible].

VAUXHALL GARDENS ESTATE.—To BUILDERS.—Persons desirous of TENDERING for the ERECTION of SIX HOUSES on the above Estate, may see the plans, &c., at the Architect's Office, Mr. GREEN, 25, College-hill, Cannon-street, E.C. The accepted Tenderer will be required to sign the lowest or any Tender.

TO SEWER CONTRACTORS, BUILDERS, and OTHERS.—The Board of Works for the [illegible] District are prepared to receive TENDERS for the CONSTRUCTION of NEW SEWERS in the following Streets, viz.:—Nos. 1, 2, 3, 4, 5, 6, and 7, Bedford-place, Russell-square; Nos. 1, 2, 3, 4, 5, 6, and 7, Upper Bedford-place, Russell-square; and Nos. 1, 2, 3, 4, 5, 6, and 7, Bedford-place, Russell-square. The SEWERS in the above streets, to be of the dimensions and of the materials specified in the Schedule of Prices, and to be constructed in accordance with the Plans and Specifications prepared by Mr. [illegible], the Surveyor to the Board. Persons intending to tender may see the Plans and Specifications at the Office of the Surveyor, No. 7, Eton-terrace, Dacre Park, Lee, S.E. where further particulars and printed forms of Tender may be obtained. All such Tenders are to be delivered, free of expense, at the Board's Office, No. 7, Eton-terrace, aforesaid, at or before [illegible] o'clock, on the forenoon of THURSDAY, the 18th day of SEPTEMBER instant, when they will be opened in the presence of such of the Tenderers as may attend. The Board do not bind themselves to accept the lowest or any Tender.—By order,

CHARLES AUGUSTIN SMITH, Clerk to the said Board.

Old Charlton, September, 1862.

TO BUILDERS.—The Visiting Justices of the [illegible] Division of the [illegible] Petty Sessional Division of the County of [illegible] are prepared to receive TENDERS for the ERECTION of NEW BUILDINGS at the [illegible] Station-house, in the Village of [illegible], in the said Division, and they may obtain copies of the bills of quantities and plans at the said Station-house, on payment of a deposit of [illegible] each, which will be returned on delivery of a bona fide Tender. Plans and specifications may be obtained at the Architect's Office; and they must be sent in, with a sealed Tender, addressed to the Chairman of the Visiting Justices, at the Police Station-house, [illegible], on or before NOON on FRIDAY, the 26th of SEPTEMBER instant; and the parties Tendering are required to attend at the Petty Sessions House, [illegible], on the following day, with their sureties. The Visiting Justices do not bind themselves to accept the lowest or any Tender; and if a Tender shall be accepted, the person making the same will be required forthwith to sign the draft contract and bond. Persons intending to Tender are requested to make them [illegible] with all the terms of the contract, and [illegible] the Visiting Justices will not consider any [illegible] after the [illegible], and will require that it be signed at the time it is delivered.

[illegible] SNAPE, Clerk to the Visiting Justices.

5 September, 1862.

FURNESS'
PATENT WOOD-WORKING MACHINES,

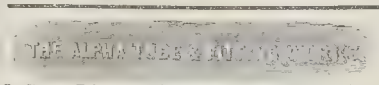
FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.



WALSALL, STAFFORDSHIRE.—Established 1830.

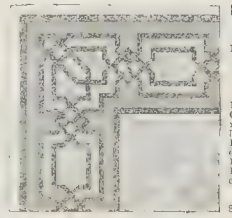
LAMBERT BROTHERS,

MANUFACTURERS OF LAP-WELDED BOILER-TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE.

For Steam or High-pressure Water and Gas. HIGH-PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS-FITTINGS, GASELIERS, &c.; and of the GROVE BEDSTEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, Mills, &c. at the International Exhibition, Walsall Court, Class 31. Exhibited precisely as sold from engravings, and printed price in trade catalogues.

SOUTH REPPS, NORFOLK.—To BUILDERS and OTHERS.—Parties desirous of submitting TENDERS for REMODELLING and ENLARGING the RECTORY HOUSE, at South Repps, near North Walsham, Norfolk, may peruse the plans, &c. at the Office of Messrs. [illegible], 3, New Inn, South Repps, on and after MONDAY, the 15th instant, when Tenders are to be forwarded, by post, on or before WEDNESDAY, 24th SEPTEMBER, to the Architect, Mr. R. J. WITHERS, 101, Doughty-street, London, W.C., of whom further information may be obtained. The lowest or any Tender will not necessarily be accepted. September, 1862.

BELTON CHURCH, LINCOLNSHIRE.—To BUILDERS and OTHERS.—Persons willing to TENDER for ROOFING NEW ROOFS to the [illegible] of the Parish church of BELTON, about three miles south of Crowle Station, may see the drawings, specification, and form of Tender, at Mr THOMAS PICKERING'S, Belton, Bedford, and the SUNDAY, 28th inst. Tenders to be forwarded by post on or before SATURDAY, 27th SEPTEMBER, addressed to the Architect, Mr. R. J. WITHERS, 101, Doughty-street, London, W.C. of whom further information may be obtained. The lowest or any Tender will not necessarily be accepted. September, 1862.



SOLID PARQUET FLOORS. ARROWSMITH'S PATENTED.

From 1s. per foot, in various woods, tongued, grooved, ongued, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Public Buildings, Dining Cabins, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 80, New Bond-street, W.

RAILWAY COMPANIES, CONTRACTORS, and AGENTS SUPPLIED with KEYS, TREENAILS, BUSHES, SLEEPERS, BARROWS, and all descriptions of RAILWAY PLANT and STORES by W. P. FRANCE GREAT WESTERN SAW-MILLS, Bridge Wharf, Paddington.—Debentures taken in payment for [illegible].

TO BUILDERS. FIVE THOUSAND YARDS of BALLAST FOR SALE, at 1s. 9d. cash.—Apply to the Lodge keeper at the Orphan Working School, Haverstock-hill.

JOSIAH SHEL, Secretary.

TO BUILDERS, &c.—FOR SALE, by PRIVATE CONTRACT in TIMBER of SCAFFOLDING and STAGING, IRON BOLTS and NUTS, and COACH-SCREWS, taken down from Messrs. [illegible] Nicholas Church, Bank, and Sales. Also a new 5-inch ROPE-FALL, 400 feet long, only used two months. Price, two-thirds of prime cost.—Apply to the Contractor, Mr. JAMES LONG, Marsh gate, Richmond, Surrey, S.W.

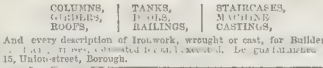
TO SAW-MILL PROPRIETORS and OTHERS.

HUMPHREY & HASLER (late H. Fairbank), Engineers and Machinists, [illegible]-street, E.C. beg to call attention to their IMPROVED SAW BENCH.

Planing, Boring, Turnery, and Screw-Cutting done for the Trade.

H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.

PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, PIPES, RAILINGS, | STAIRCASES, MACHINE CASTINGS,

And every description of Iron work, wrought or cast, for Builders [illegible] Orders executed Promptly. Large Illustrated Catalogue 15, Union-street, Borough.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm [illegible], Cattle Sheds, Stables, Offices for Engineers or Iron Rooms, &c. suitable to all Climates, fixed complete in town or country. Corrugated Iron of all [illegible].

For Illustrated Estimates apply to

RANDAL SNAPE, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where purchasers of Iron Roofs and Iron Buildings may be seen.

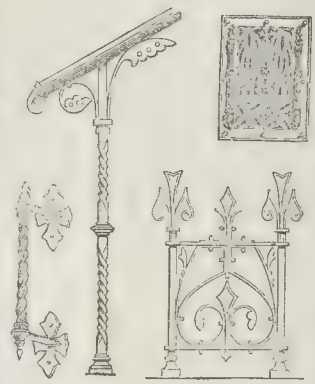
N.B. The Iron Buildings supplied by R. SNAPE are not fixtures on Leasehold Property.

PATENT ASPHALTE CALDRON, for laying Asphalte Floors. The cheapest and best kind of fire, as it does not burn wet, and will not touch it. Full particulars sent free, by

WOODS & COCKSEDGE, IRONFOUNDERS, ST. MARKET.

HART AND SON,

WYCH STREET, W.C.; AND COCKSPUR STREET, S.W. LONDON.



LOCKS, HINGES, HANDLES, BOUNDARY AND TOMB RAILING.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dalton Hodgson, and most of the leading authorities declare to be the most perfect [illegible] now in use. The improvement is applicable to [illegible] as well as wrought iron, which have made the invention [illegible] of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Engines, Hydraulic Lifting Apparatus, Brewing Apparatus, &c. &c. KENT IRON WORKS, BRIDGE-STREET GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application

TO JOINERS AND BUILDERS.

IRONMONGERY at FIRST COST.—A List of Prices may be had on application to the BRITISH HARDWARE COMPANY, Phœnix Works, Wednesbury.

THE MEDAL FOR 1862.

THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS

TRADE  MARK.

CROWN TUBE WORKS

WEDNESBURY, STAFFORDSHIRE.

Warehouse—81, Upper Ground street, London, S.

JAMES RUSSELL & SONS,

The Patentees and first Makers of Wrought-Iron Tubes.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only perfect instrument for reducing and keeping uniform Lights, regulating the Pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

STEAM MACHINERY.—FOR SALE, TWO PATENT PILE DRIVERS, with [illegible] complete to supply. Also an 8-horse power ENGINE. Can be seen on the Works for a few days in use.—For further information, apply, [illegible], to W. L. 40, Sutton-street, Lambeth, S.

IRON CHURCH.—One of these structures, new or otherwise, capable of seating from 500 to 1,000 persons, desired. Communications, giving full particulars and price, to be addressed to Mr T. W. CONSTANTINE, Architect, 8, New Ormond-[illegible], W.C.

TO CONTRACTORS and PUMP MAKERS.—WANTED, a large SECOND-HAND CENTRIFUGAL PUMP, with 10 feet suction-pipe, to attach to a 14 horse power steam-engine.—Apply to Mr. W. D. HARDING, Contractor, Ingatestone.

MESSRS. PORTER & CO.'S SMALL GAS-WORKS for MANSIONS and all Isolated Buildings, as recently erected at Aldenham, Class N. 214. Illustrated [illegible] at the Exhibition, &c. May be [illegible], at below Prices and Estimates, of J. T. B. PORTER & CO. Gas Engineers and Contractors, Lincoln; and 7, John-street, Adelphi, London, W.C.

STEAM-ENGINE and BOILER—TO BE SOLD, by private contract, an 8-horse power high-pressure STEAM-ENGINE and BOILER, now at work at Olive Wharf, Hermondsey, where they may be seen. Price [illegible].—Apply to Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



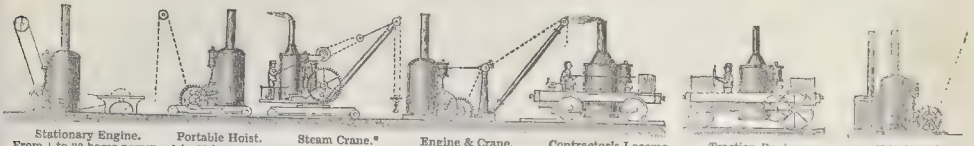
CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane.* 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

* These Cranes were selected by Her Majesty's Commissioners to receive and deposit the heavy machinery in the International Exhibition.

Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

CRANSTON-HILL ENGINE WORKS, GLASGOW;

Or LONDON DEPOT, AT LAMBETH, NEAR STEAM-BOAT WHARF.

Parties are cautioned against using or purchasing imitations or infringements of these Patent Manufactures.



INTERNATIONAL PRIZE



EXHIBITION MEDAL,



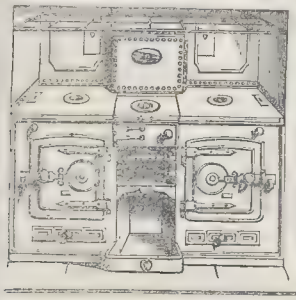
1862.

"FOR EXCELLENT WORKMANSHIP, AND INGENUITY APPLIED IN CHIMING BELLS BY MACHINERY."—*See Jurors' Report.*

JOHN WARNER & SONS, BELL & BRASS FOUNDERS TO HER MAJESTY,

Beg to announce that the PEAL of EIGHT BELLS exhibited by them in the South-east Transept of the INTERNATIONAL EXHIBITION is chimed daily at TWELVE, THREE p.m. and HALF PAST SIX p.m. by their Attendant, with their new CHIMING APPARATUS, ONE MAN being able to produce the same effect usually accomplished by Eight Ringers.

8, Crescent, Cripplegate, London.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

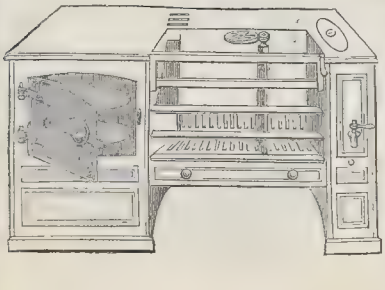
WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and GENERAL IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.

159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler	
34 inches	54s.	30 inches	22s.
36 "	64s.	32 "	24s.
38 "	36s.	34 "	26s.
42 "	68s.	36 "	28s.

Register Stoves, with strong Bars, from per inch, 4d.

Improved New Pattern Cooler Check Register, with strong Bars and Levers, 4d. per inch.

Best ditto, with Fire-brick Back, from per inch, 5d.

Bright Stoves, with Two Fires, 46s. to 100s. each.

Best Cut Clasp and Rose Nails.				
1-inch.	2-inch.	2 inch.	3 inch.	3-inch.
14s.	14s.	13s.	13s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.

Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½-in.	3-in.
Cast Rain-water Pipe....	8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

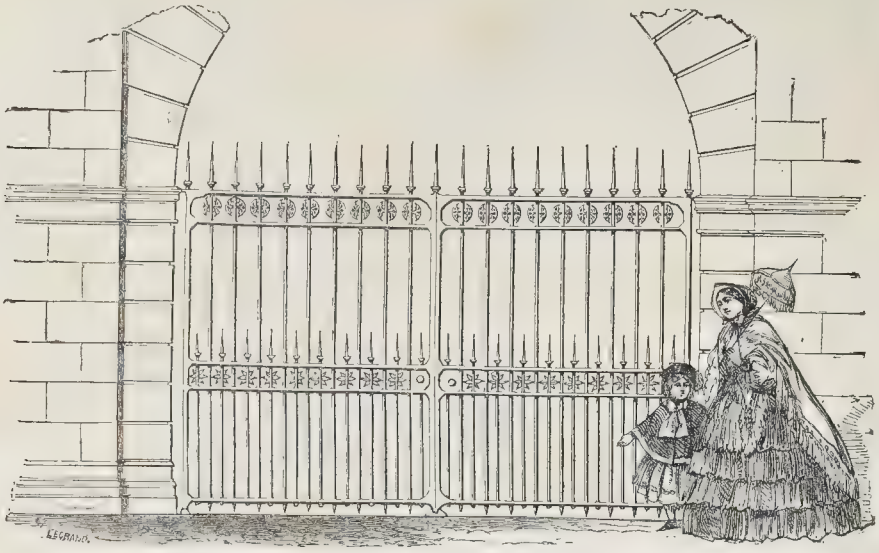
	4-in.	4½-in.
O G Gutters, with Clips on....	10d.	1s. per yard.

	3	4	5	6
Patent Line..	3s. 6d.	4s.	5s.	7s. 9s. per gross.

6 inch RJ Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock. Any size made to order.



ST. PANCRAS IRON WORKS COMPANY,

OLD ST. PANCRAS ROAD, LONDON, N.W.

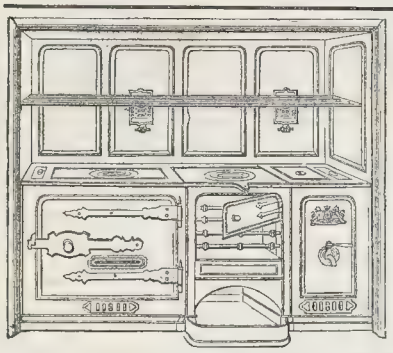
VARNELL'S ENAMELLED AND WROUGHT-IRON STABLE FITTINGS.

GATES.
CIRCULAR STAIRCASES.
BALCONIES.
TOMB RAILING.

VERANDAHS.
IRON SASHES.
CASEMENTS.
SKYLIGHTS.

CORRUGATED IRON ROOFS.
CORRUGATED IRON HOUSES.
COLUMNS AND TANKS.
GIRDERS AND FLITCHES.

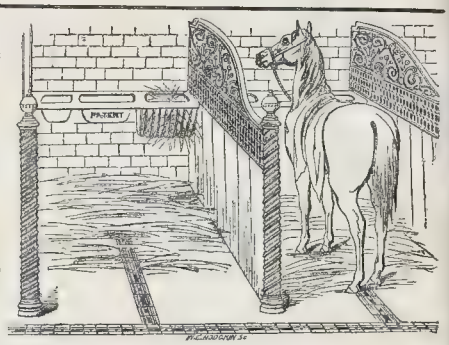
PLAIN AND ORNAMENTAL IRON-WORK OF EVERY DESCRIPTION.



ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.

A LARGE STOCK
OF OTHER
CASTINGS KEPT.



GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast-jacks, &c.; manufacturing late hinter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 110 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham court-road, W.

TO ARCHITECTS, BUILDERS, &c.

HEATING and VENTILATING LARGE PUBLIC BUILDINGS, HOTELS, MANSIONS, &c.—Your inspection of ZIMARA'S MODEL of Improved Patent STOVE and APPARATUS for these purposes, in the Gallery of the Russian Court, International Exhibition, is particularly requested.—A Descriptive Pamphlet and Drawings will be sent, on application to Messrs. TONGUE & BIRKBECK, Patent Agents and Engineers, 34, Southampton-buildings, Chancery-lane, W.C.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City-road, E.C. near the Canal Bridge.
E. GOLLOP, SOLE PROPRIETOR.

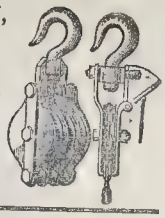
A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising Spring hinges, Not rising Spring hinges, Double acting Spring hinges, Rising and Not-rising Door Back springs, &c.
Price List and Drawings on application as above.

CASTINGS, ANY WEIGHT AND QUANTITY,

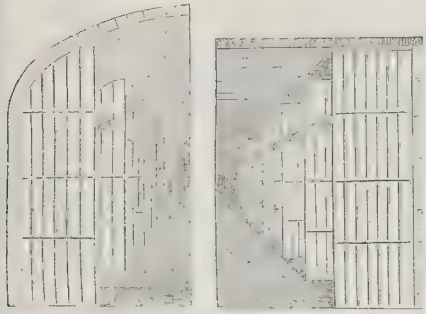


With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



WROUGHT IRON WINE BINS.



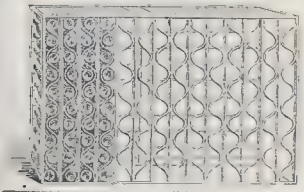
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the King dom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

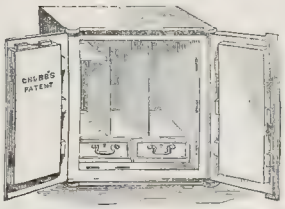
*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS,
The most secure from pick-locks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the DETECTOR LOCKS.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES
afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire-resisting and non-conducting composition.

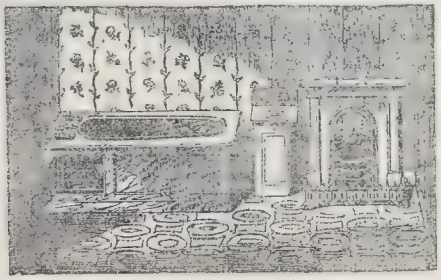
The doors are all secured by CHUBB'S PATENT DRILL-PREVENTIVE, and their Patent

GUNPOWDER PROOF LOCKS.

Illustrated Price List Gratis and Post Free.

CHUBB & SON,
No. 57, ST. PAUL'S CHURCHYARD, LONDON;
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

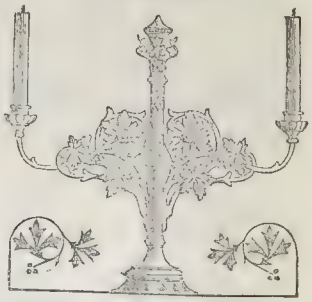
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

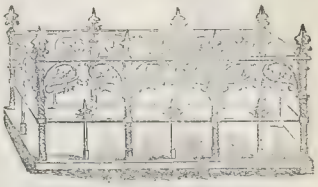
JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 130, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.

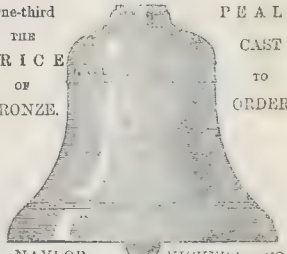


COMMUNION RAILINGS, SCREENS, GATES, &c
Illustrated price catalogue, of numerous designs, in various styles free, on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

IRON CASTINGS, WROUGHT and CAST IRON GIRDERS FLITCHES, and TANKS Iron Fencing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

SMITH & WOODS
SHOP FRONTS

WORKS,
HARTS-HILL IRON FOUNDRY,
Near Dudley.
MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.

LONDON OFFICE,
76, CANNON-STREET WEST,
LONDON, E.C.
Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.

DEVAUX'S VIEILLE MONTAGNE
THICK ROOFING ZINC.

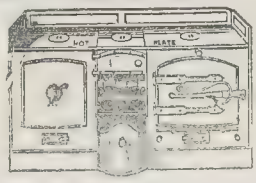
This invaluable metal, if laid by Mr. TYLER on the new principle introduced by J. EDMISTON, Esq. F.I.B.A. will last as long as lead, at one-third the cost.

For Prospectuses, Samples, Models, and Estimates of Works to be done with the Roofing Zinc, in large or small quantities, in Town or Country, apply to

Mr. J. W. TYLER, 4, WOOD-STREET, WESTMINSTER, S.W.

If this Metal is laid by Mr. TYLER, who has been so well known among Architects as a Builder, superior and careful workmanship may be depended upon, and a guarantee given for its durability, if the whole work is prepared according to directions given.

THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS.

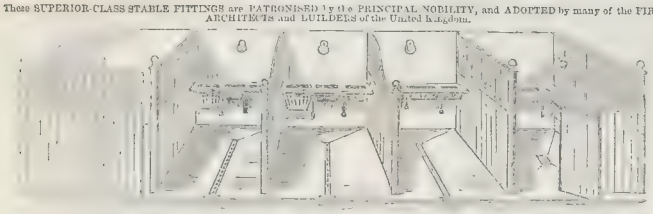
38 and 65, York-street, Westminster.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.

These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

New Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.



THE PRIZE MEDALS,

(LONDON, 1851. PARIS, 1855. LONDON, 1862.)

Awarded to

COTTAM & COMPANY,

2, WINSLEY STREET, LONDON, W.

For progressive and general improvements in

STABLE FITTINGS AND HARNESS BRACKETS.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation, preventing foulness in the rack, facility in fixing, safety from accident, durability in construction, and cleanliness in use.

STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.

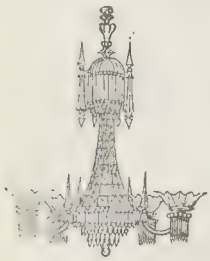
COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

ILLUSTRATED CATALOGUES FREE, on application to

COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.

COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.

N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.



INTERNATIONAL EXHIBITION, Class 31 and 34.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

THE NEW CRYSTAL STAR AND SUN LIGHT.

J. DEFRIES & SONS,

ENGINEERS, GAS FITTERS, AND MANUFACTURERS

Of MEDIÆVAL and every Description of GAS-FITTINGS, CRYSTAL, BRASS, and ORMOLU CHANDELIERS, VESTIBULES, &c. &c.

Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other public and private Buildings. HOT-WATER PIPES for heating Conservatories, Warehouses, &c. &c. supplied and fitted on the most Improved and Economical Principles. Public and Private Gas-Works Erected.

Works—London and Birmingham.

Principal Depôt and Show-rooms—147, *Houndsditch, City.*

PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles. Price 20*l.*

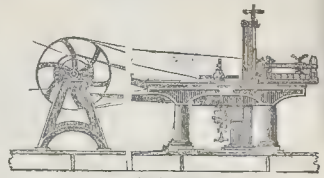


Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, CANNON STREET, E.C.

S. WORSSAM & CO.'S PATENT IMPROVED TENONING MACHINE.



(¼-inch scale.)

This machine is adapted for working either hard or soft wood, and is fitted with an arrangement for cutting double tenons at one time. It is made in two sizes: the smaller being adapted to the ordinary purposes, and the larger for railway carriage builders &c.—Prices and Testimonials (if required), with full particulars, upon application at the Works, 304, Bermondsey-street, Christchurch, S.W.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS, according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 114, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the proper fixed and stapled, complete fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d. per foot.
Half inch diameter	1s. 6d. "
Five-eighths inch diameter	2s. 0d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and electricians, in all parts of the world.

Offices 130, Strand, London
" Gateshead-on-Tyne.
" 97, Dale-street, Manchester.
" 68, Anderson-quay, Glasgow.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

EXTRAORDINARY BARGAINS, FIRE-PROOF SAFES AT HALF PRICE.—A Provincial Insurance Company having lately erected a Branch Office, find they have no further use for a considerable number of Wrought Iron Fire-proof Deed and Plate Chests, many of the size of which have been, and have returned them to the manufacturers to be sold for half their [illegible]. They were made by Messrs. M'Kenna and Co., at the Vulcan Safe Works, Birmingham, in 1861, have only been in use eight months, and are warranted FIRE AND BURGLAR-PROOF. A printed description of the various sizes, inside fittings, cost and present price of each safe and chest, sent post-free with M'Kenna, Morris, & Co.'s Illustrated Price List. To parties in want of a really good safe, the advantages here offered must be obvious, as they secure an article with the manufacturers' guarantee, QUITE EQUAL TO NEW, AT HALF ITS REAL VALUE; and to remove the doubt naturally felt in purchasing a second-hand article unseen, it is requested that parties will in no instance remit the money until the safe has arrived. They will be sent carriage paid to any station, and if not found in every respect perfect and satisfactory, can be returned without any cost whatever to the party ordering them. For full particulars address, M'KENNA, MORRIS, & CO. Vulcan Safe Works, Cumberland-street, Birmingham.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London, E.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from flax, which are less pliable, the STRENGTH nor DURABILITY of Flax, consequently cannot give [illegible] to these Lines.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

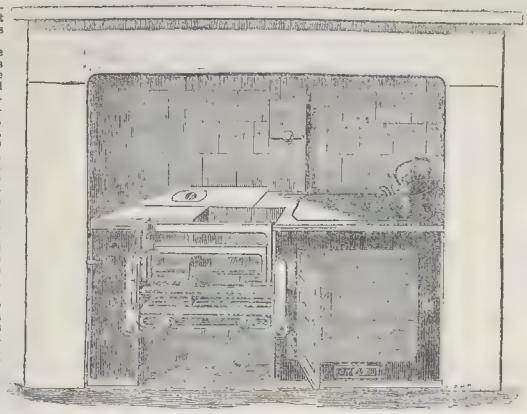
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

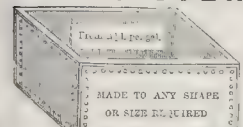
6 and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61A, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pulleys, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.

POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,

Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class.

OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON, E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

TO IRONMONGERS AND THE TRADE GENERALLY.

HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 20 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Sturbridge-street, Clare-market, London

LOSH, WILSON, & BELL,

NEWCASTLE ON TYNE,

Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast Iron Goods, &c.

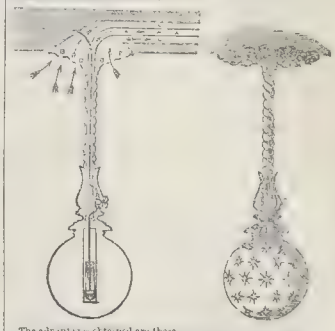
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.

Office, No. 7, Size-lane, London.

RICKET'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages claimed are these—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

MOREWOOD & CO.

(late Morewood & Rogers),

Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham,

PATENT GALVANIZED TINNED IRON AND TILES,

GALVANIZED IRON,

PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Water and Gas Tubing, Shaped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, &c.

OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 23, Davies-street, Three Doors from Oxford-street

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade generally, at wholesale prices. In connexion with the Old Establishment, No. 18, Blandford-street, Manchester-square, removed from 6 Baker-street, Portman-square, London, W.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES in lieu of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS;

SMITH'S PATENT WEATHER TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 89, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

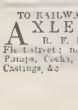
TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.

HULETT & CO. 55, High Holborn.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER—THOMAS FOX, 96, Hatton-garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective at a distance yet introduced to the trade.

N.B.—The usual discount to builders and the trade.



GALVANIZED IRON and ZINC WORKS.

Galvanized Corrugated Roofing Sheets, corrugated and plain, always in stock.

Manufacturer of Galvanized Plain and Fancy Nails, Gabion Staples, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

TRADE MARK.

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS.

Wolverhampton, Staffordshire.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.

A complete List of which will be forwarded upon application to FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street London, E.C.

TO RAILWAY COMPANIES.—The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineers' Brass Founder, No. 4, Shoreditch, Finsbury; manufacturer of Steam Engine Linings, Valves, Pumps, Cocks, &c., Patent Anti-friction Metal, Gun Metal, Brass Castings, &c.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge. OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,
QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

NEW WORKS AND NEW EDITIONS IN WEALE'S RUDIMENTARY SERIES.

This day, a New Edition, in 1 vol. 12mo. limp cloth, price 1s.

THE ELEMENTS of SPHERICAL TRIGONOMETRY.

By JAMES HANN, late Mathematical Master of King's College School, London. Revised and corrected by CHARLES A. DOWLING, C.E. late of Trinity College, Dublin.

Forming Vol. XCII. of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

This day, the Fifth Edition, in 1 vol. 12mo limp cloth, with numerous Wood Engravings, price 1s. 6d.

A RUDIMENTARY TREATISE on the BLASTING and QUARRYING of STONE for Building and other purposes, and on the Blowing up of Bridges

By General Sir JOHN BURGOYNE, Bart K.C.B. &c. &c.
Together with an Addenda on the Non-success of similar undertakings, &c.

Forming Vol. XXXV. of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

Nearly ready, in 1 vol. 12mo. limp cloth, price 1s. 6d.

HADDON'S RUDIMENTARY ARITHMETIC FOR THE USE OF SCHOOLS AND SELF-INSTRUCTION. A New Edition, revised and corrected, with Additions and numerous Examples.

By ABRAHAM ARMAN, Schoolmaster of Thurleigh, Beds.
Forming a NEW VOLUME of WEALE'S RUDIMENTARY SERIES.
N.B.—A Key to the above, with Answers to all the Questions and Solutions of all the Sums likely to present any difficulty, can be had separately, price 1s. 6d.

J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

Nearly ready, in 1 vol. 12mo. limp cloth, price 1s. 6d.

KEY TO HADDON'S ARITHMETIC: containing Answers to all that Work, and Solutions of all such Exercises as are likely to present any difficulty.

By ABRAHAM ARMAN, Schoolmaster of Thurleigh, Beds.
Forming a NEW VOLUME of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

In preparation, with numerous Illustrations, in 1 vol. 12mo. limp cloth, price 1s.

THE HANDBOOK of the TELEGRAPH: a Comprehensive Guide to Telegraphy, Telegraph Clerks' Remembrancer, and Railway Companies' Assistant, for Railways out in the Telegraph Service. Containing suggestions to applicants, and a series of instructions in Telegraphy, including the Formation of the Single and Double Needle, and Printing Alphabets, Numerals, Annotation, Signalling, and Accounts, with Explanations of the Forms in use, copious Exercises and Examples, Rules, Regulations, By-Laws, &c.; to which is added a list of Telegraph Companies, Extent of Lines, and Chief Offices; the whole combining a variety of useful and interesting information to the general reader, and constituting a valuable companion to the Telegraph Clerk.

By R. BOND, Author of the "Guide to Railway Situations."
Forming a NEW VOLUME of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

In preparation, in 1 vol. 12mo. limp cloth, illustrated with Diagrams,

TREATISE on the MATHEMATICAL THEORY of the STATIONARY, MARINE, and LOCOMOTIVE ENGINES, with Rules in Words at length, and Examples worked out for the use of Practical Men, forming an easy introduction to the more abstruse parts of the theory. Its important subject.

By T. BAKER, C.E. Author of "Theodolite Surveying and Levelling," "Railway Engineering," "Land and Engineering Surveying," and numerous other works in Weale's Series.

Forming a NEW VOLUME of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

New Edition, in 1 vol. 12mo. limp cloth, pp. 140, with 103 Illustrations, price 1s. 6d.

PRINCIPLES of CONSTRUCTION in ARCHES, PIERS, BUTTRESSES, &c. Useful to the Practical Builder

By WILLIAM BLAND, Esq.
Being Vol. CXL. of WEALE'S RUDIMENTARY SERIES.
J. S. VIRTUE, 26, Ivy-lane; and 294, City-road.

THE SOCIAL SCIENCE REVIEW.
September 13th, 1862.—Price 2d.

CONTENTS:—Temperance and its Advocates.—Work in the Baking Trade.—On Suicide: Age Sex, and Method.—On Microscopic Examination of the Air.—The International Temperance and Prohibitive Congress.—The Vegetarians.—Evening Schools.—Our Lunatic Polity.—The Drama.

The Monthly Part for August, in neat wrapper, is now ready, price 1s. 3d.

Office—10, WHITEFRIARS-STREET, FLEET-STREET.
Sold by all Newsvenders in Town and Country.

KELLY'S PRACTICAL BUILDERS' PRICE-BOOK; or, Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an abstract of the New Building Act for regulating the Construction of Buildings. Revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by Steel Engravings and numerous Woodcuts. Royal 8vo. price 9s. neatly bound.

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL; and may be had of all Booksellers.

Of whom may be had, New Editions in Quarto, of the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET-MAKING, Revised by TREDGOLD; being a new and complete System of Lines, for the Use of Workmen; founded on Geometrical and Mechanical Principles. Ten parts at 3s. or in boards, 30s.; containing upwards of 120 Steel Plates, and numerous Woodcut Diagrams.

2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING (revised by TREDGOLD), both plain and ornamental; containing a new and complete System of Lines for Stone Cutting, for the Use of Workmen; the Formation of Mortars, Cements, Concrete, to which is added a variety of new designs for Mural Tablets, Tombs, Gravestones for Cemeteries, &c. &c.; and a description of the various materials employed. Ten Parts at 3s. or in boards, 30s.; containing upwards of Ninety Steel Plates and numerous Woodcuts.

3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the FIVE ORDERS of ARCHITECTURE: containing plain and simple Rules for Drawing and Executing them in the purest style; including an historical Description of Gothic Architecture. Illustrated by upwards of One Hundred Steel Engravings, executed by Artists of first-rate talent, including numerous Diagrams, &c. Twelve parts at 3s.; or in boards, 36s.

4. DESIGNS for COTTAGE and VILLA ARCHITECTURE: containing Plans, Elevations, Sections, Perspective Views, and Details, for the Erection of Cottages and Villas. By S. H. BROOKS, Architect. Beautifully engraved on steel, with Direction for Building, and the estimated Cost of each Edifice. Twelve parts at 2s.; or in boards, 30s.

5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views and Details of Churches, Chapels, Schools, Almshouses, Gas Works, Markets, and other buildings for public purposes. By S. H. BROOKS, Architect. Beautifully engraved on steel. Ten Parts, at 3s or 32s boards.

6. THE HOUSE DECORATOR and PAINTER'S GUIDE: containing a series of Designs for Decorating Apartments with taste, and suited to the various styles of Architecture. By H. W. and A. ARROWSMITH, House Decorators to her Majesty. Ten Parts, at 3s.; or in boards, 32s.

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION: containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the Origin of Colour, the Laws of Harmonious Colouring, the Manufacture of Pigments, Oils, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by actual Specimens of Hand-Brush Graining and Marbling. Ten Parts, at 3s.; or in boards, 32s.

THE ENGINEERS' and MECHANICS' ENCYCLOPÆDIA, a new and enlarged edition, comprehending Practical Illustrations of the Machinery and Processes employed in every description of Manufacture of the British Empire. Illustrated by upwards of 2,000 Wood Engravings. By LUKE HERBERT, Civil Engineer, &c. The rapid progress of Mechanical Science has developed many of the important facts since the first publication, in 1835, of the Encyclopædia. The Inventions and discoveries recently made have engaged the sedulous attention of the Editor; for, as the value of each was tested by experiment, a description was accordingly prepared. By the selection of new articles, and care in the revision of old ones, this edition has now become systematically enriched; so that it may be received as fully and faithfully expressing "the existing state of Engineering and Mechanism, adapted to the wants of Practical Men." In two large 8vo volumes, cloth lettered, price 30s.

Just published, half sheet imperial, in stiff cover, price 10s. 6d.

SUGGESTIONS for the FORMATION of a NEW STYLE of ARCHITECTURE, specially adapted to CIVIC PURPOSES.

By T. MELLARD READE, Architect, Liverpool.

Containing Seven Plates and a Treatise on the Growth and Development of existing Styles, and an Inquiry into the Principles by which they have been evolved.

All on finest Plate Paper.
London: JOHN WEALE, 59, High Holborn.

A New Edition, in 8vo. price 7s. 6d. cloth,

THE CORRELATION of PHYSICAL FORCES

By W. R. GROVE, Q.C. M.A. V.P.R.S. Corresponding Member of the Academies of Rome, Turin, &c.

The Fourth Edition, corrected and enlarged; with Notes and References.

London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

Now ready, an entirely New Edition, with 13 plates, 8vo. 11. 1s. cloth,

MATHEMATICS for PRACTICAL MEN; being a Common-place Book of Pure and Mixed Mathematics. Designed chiefly for the use of Civil Engineers, Architects, and Surveyors. By OLINTHUS GREGORY, LL.D. F.R.A.S.

Enlarged by HENRY LAW, C.E. Fourth Edition, carefully revised and corrected by J. R. YOUNG, formerly Professor of Mathematics, Belfast College, Author of "A Course of Elementary Mathematics," &c

London: LOCKWOOD & CO. 7, Stationers' Hall-court, E.C.

Just published, price 2*l.* 2s.

MANUAL of HYDROLOGY. By NATHANIEL BEARDMORE, Civil Engineer.

CONTENTS—
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 68, London-wall. 1862.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Sembalmore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

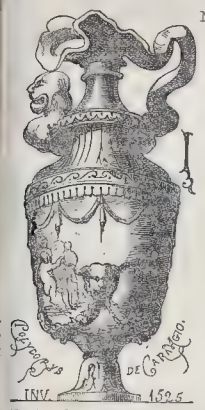
A NEW STYLE of ARCHITECTURE.—An Architect, from long study, having discovered a really new Style of Architecture, not a mere compound of Classic, Mediæval, or existing styles, but an original germ or germs, giving birth to a new style of architecture, and with it a new style of ornamentation, suitable to, and arising out of it, calculated to inaugurate a new class of sacred temples of worship, of palaces, halls, and mansions, such as will place architecture equally in advance with the sister arts and sciences of this eventful century, and give it an interest with the public that the present antiquated styles must certainly fail to effect. Any gentleman wishing to share its advantages, or its entire purchase, shall have a guarantee to double the amount as to the integrity and fairness of the offer, with drawings in illustration.—Address, A. B. 52, Clarendon-square, N.W.; and at home from Twelve to Four.

POLYTECHNIC.—ROME.—"Dost thou flow, old Tiber, through a marble wilderness?" Exhibition of Mason's 400 unique and splendid Photographs of the Architecture, Sculptures, and Art-Works of the Eternal City. Re-engagement of George Buckland, Esq. for his Buffo-Musical Entertainment.—New Gorgeous Scenic and splendidly-illuminated and Chromatic Fountain Spectacle. Grand series of Electrical Experiments with the Giant Plate Machine, and Lecture by J. L. KING, Esq.—Remarkable Imitations of British Birds and Animals, by HERR SUSMAN. Concerts by the BRAUSELL FAMILY. Professor Pepper's Laboratory for Pupils, Analyses, &c. will re-open on the 6th October. Open from 11 to 5, and half-past 8 to 10. Admission 1s.

The Builder.

VOL. XX.—No. 1023.

Ephesus, and the Temple of Diana.



IN the midst of the revolution that has invested the arts of the Middle Ages with a fascination that the most determined advocates for the Classic cannot wholly escape from, it is a matter of no small congratulation that our respect for those of the great nations of antiquity seems in nowise deteriorated; and that, while the larger portion of our architects and antiquaries are content to search no further back than the twelfth century for their inspirations, a small but chosen section, from time to time, remind us of those great originators of whom the masters of Mediæval art were but the pupils.

The discovery of the remains of extensive and once-populous cities, of whose origin, progress, and fall no records have been preserved, and whose very existence was till then unknown to any but the wandering savages that found a shelter beneath the sculptured ruins of their prostrate monuments, is one of the distinguishing features of the age we live in. Such was the result of the researches in Central America initiated by Humboldt and Kingsborough, and followed up by Waldeck, Stephens, Norman, and Catherwood, corroborative of the accounts of the early Spanish writers of the population and proficiency of ancient Mexico, when Cortes first leaped upon its shore. Such was the discovery, by Gouger, of Moulmein (of which Pinto caught a glimpse in the Middle Ages), in the midst of a wilderness of forest and jungle, of which wild beasts and reptiles had for ages been the sole occupants. But if the interest created by the discovery of the records of these rude nations, who have thus, as it were, "died and made no (other) sign," is great, how much greater is that awakened by visible testimony to the position in art of the great centres of civilization of the ancient world, to which the cities of America are but as of yesterday!

The history of the progress of architecture, from its rudest beginnings to its ripe perfection, is a study of surpassing interest with all who love human progress; and to read the annals of bygone nations by their ruins, to draw our knowledge of their civilization from their crumbling monuments, to unite the broken chain of early history, and supply its lost links by attentive perusal of their silent remains, is a mental employment of the highest order.

The ponderous pyramid and the taper obelisk, the stately mausoleum and the sepulchral excavation, the unroofed temple and the deserted amphitheatre, the moss-grown aqueduct and the silent forum, the fallen column and the sculptured frieze, speak a language more forcible than written panegyric. Fortunately for the world, the love of research is not likely to die out, and the spirit of adventure and love of travel will ever find votaries.

"But one of the highest sources of the antiquary's delight," says Mr. Falkener, in his work on "Ephesus," now before us,*—

"Is to walk over the prostrate ruins of some great city, where all appears confusion and decay, where to the eye of the ordinary observer all is a field or mass of undistinguishable ruin; and such, indeed, it appears to be even to his own eye; but, as he stoops down and examines, he perceives some corner-stone, some foundation-wall, some apex of the pediment, some acroterial ornament, while all about are broken shafts and capitals. Having made out a temple, he looks about and considers where should run the lines of the surrounding temenos; and, assisted thus by his previous judgment and experience, to his great joy he discovers traces of that which he was in quest of, and of which no signs at first appeared. He considers, then, where was likely to be the forum of the city; and seeing bases of columns existing in different parts, and at great distances from each other, he searches for and discovers evidences of connecting porticos, and thus makes out the entire quadrangle. Connected with these buildings he expects to find traces of gymnasia or other buildings, and these he endeavours to identify and restore. He now searches among the mountain-slopes, and selects the spot which he thinks would be most eligible for the theatre or the stadium—sites which afford a fine expanse of scenery, and the natural form of which would facilitate the labours of the architect and effect economy. Here, perhaps, he finds no superstructure remaining, but on climbing its slope, he perceives what can be no other than the cavea and the orchestra. At length he realizes his conjectures by discovering some solitary block representing the peculiar moulding of the marble seats. Thus it is that, by degrees, that which appeared nothing but confusion, arranges itself, like Ezekiel's bones, into shape and form."

Great, nevertheless, is the debt due to those who risk safety and fortune in the endeavour to unfold the page of knowledge to their less adventurous countrymen at home.

Millenniums have passed away since the Assyrian, Babylonian, and Persian monarchies flourished, or supplanted each other,—ages since Greece and Macedon, Rome and Carthage, spread their conquests and their colonies through all parts of the world, as known to the ancients; and for a knowledge of the geographical position and architectural pretensions of the innumerable cities that owned their sway, mankind, until the beginning of the present century, were content to accept the geography of a Strabo or a Ptolemy, the narrative of an Herodotus or a Xenophon, or the doubtful testimony of the few travellers of modern times who had obtained a glimpse of but a very small proportion of them.

But times are changed. Within the space of a few years, cities, famous in sacred and profane annals, have had their sites determined and their ruins investigated, to the elucidation of history and the confirmation of prophecy. To the expedition under Napoleon, at the close of the last century, we may ascribe our present advanced knowledge of the monuments of that remarkable country that flourished before Athens or Rome were thought of—Egypt. The subsequent researches of Belzoni, Champollion, Young, Rossellini, Wilkinson, and others, have since gathered from tomb and temple much that we now know of the public and private life of the most enlightened nation of antiquity. It was Champollion who raised the veil of Isis, which had baffled the world for two thousand years, and the Rosetta stone supplied the key to the mystery. The discovery, too, of Petra, the once famed capital of the Edom of Scripture, and Idumæa of Roman history, which dates from the hasty visit of Burckhardt, in 1811, in the disguise of an Arab scheikh, was another remarkable event, alike conclusive as to the truth of biblical inspiration and ancient tradition.

But all prior discoveries paled before that of the ruins of Nineveh, capital of the Assyrian empire, beneath the grass-grown mounds on the left bank of the Tigris, which Greek and Roman, Parthian and Persian, Arab and Tartar, had for twenty-five centuries trodden under foot, with indifference to what was above their surface, and ignorance of what lay beneath it. To Botta belongs the first honour, to Layard the second; and the treasures of Khorsabad, in the Louvre, and of Nimrood in the British Museum, will ever be associated with the names of their finders.

In historical connexion with Nineveh are many other cities, whose ruins or whose sites have been explored by the adventurous traveller; and Babylon, Pasargada, Persepolis, Susa, and Ecbatana, are familiar subjects to the reader of early history.

Scarcely less welcome to the world of art have been the discoveries in Asia Minor, and consequent contributions to our national collection of antiquities. Architects had grown tired of Greek purity *only*, as bequeathed to us by Athenian Stuart and his successors, and sighed for the admixture of a foreign element; and in Asia Minor they found it. Its cities, some of very remote antiquity, all had their origin prior to the Roman conquest, and the monuments they contained of greatest interest were those of the period of Greek occupation; but they were of Asiatic caste, and wanting in the refinement of the time of Pericles. Under the Roman rule the Roman taste encroached, and their usages obtained. In later examples, therefore, are found greater intricacy of plan, mixture of materials, and the general use of the arch. About the time of Constantine the Christians introduced great changes in the architecture of the many cities they possessed, including those of the seven churches of the Apocalypse.

Many cities in Asia Minor have been visited during the present century, many sites ascertained, and a goodly array of volumes written upon them; but it was not until Sir Charles Fellows's travels, in 1839, that the public became aware of the extent of the treasures existing in that part of the world. How he surmounted all obstacles, and brought away the trophies of his success in the collection known as the "Xanthian Marbles," we need not here dwell upon. Neither need we dilate on the more recent expedition to the birthplace of Herodotus and Dionysius, the historians, by Mr. Newton, for the special object of recovering the remains of the tomb of Mausolus from the Castle of Boudroum, but resulting in the marbles of Halicarnassus, Cnidus, and Branchidæ, and the important work that illustrates them. Nor must we pause at Cyrene, the most important Hellenic colony in Africa, and long opposed to Carthage, and to which the recent discoveries of Lieutenants Smith and Porcher have caused an expedition to be sent; nor even at Carthage itself,—once rival to Rome, and another contributory to our late archæological acquisitions; but hurry on to Ephesus, of which Mr. Falkener, the author of "Dædalus," and other works of classical lore, has something to tell us. In acknowledging how much may be done by private enterprise, Mr. Falkener observes how much more might be effected under State direction, and contrasts the vigorous measures of the French Government with the tardy efforts of our own. In this respect France has done for the fine arts what we have for commerce; and her numerous and valuable works on Egypt, Greece, Asia Minor, Persia, Mesopotamia, Armenia, Algeria, Morocco, and other countries, attest the value of her system.

In accordance with sacred prophecy, the once renowned city of Ephesus is now a desert place, and a heap of ruins; and the intrusion of man opposed by the scorpion, the centipede, and the serpent,—fever, dysentery, and ague. Were it not that the denouncement of three, and commendation of four, of the seven churches had been verified by their results, we might class the fall of Ephesus with that of numerous other cities of Asia; but that Ephesus, "the Empress of Ionia;" Sardis, "the most illustrious city of Lower Asia;" and Laodicea, "the beautiful city," are destroyed, whilst Pergamos and Thyatira yet remain respectable towns, and Smyrna and Philadelphia are flourishing ones, affords another and a singular confirmation of the truth of holy writ.

The origin of Ephesus contains its full share of mythological ingredients and legendary lore; and the lovers of the classical will find occupation to their taste in the versions of Strabo, Pausanias, and later writers. Strabo connects it with the birth of Apollo and Artemis, the offspring of Zeus and Leto, in a wood close by, afterwards called Ortygia, from the name of the nurse to her children, whom she met there. Above the grove was the Mount Solmissus, where the Curetes, by the clashing of their arms, prevented the jealous Hera, the lawful wife of Zeus, from discovering the accouchement of her rival, by her cries. Such

* "Ephesus and the Temple of Diana. By Edward Falkener. London: Day & Son, Gate-street. 1862."

was the legend of the Ephesians themselves, who rejected the belief that Apollo and Artemis were born in Delos, the ancient Ortygia, and deduced the name of Ortygia, as applied to the goddess, from the wood, and not the island.

The great goddess of the Ephesians was very different from the Greek Artemis or the Roman Diana. The Ionian settlers carried the worship of Artemis with them, but it applied doubtless to some Asiatic divinity pre-existent there, and of the union, the hybrid goddess that bears the name was the result. As personifying the fructifying powers of nature, she is represented with many breasts. She wears a mural crown upon her head, and her person, from the waist to the ankles, is inclosed in a case covered with mystical figures, and in form like that of a mummy.

Pausanias ascribes the origin of the city to Cresus, a native of the place, and its name of Ephesus to the son of the river Caystrus. It had other names, however. In the time of the Trojan war it was called Alope, according to Pliny, but on doubtful authority; then Ortygia, from its tutelar goddess; Smyrna, from the name of an Amazon who conquered it, but more probably from the luxuriousness of the soil; Tracheia, from the rugged character of Mount Coressus; Morges a corruption of Ἀμόργη, a purple flower used in dyeing; Samorna, a corruption of Smyrna; and lastly, Ptelea, as the author says, "derived from the trunk of an elm-tree, on which, out of which, or under which, the Amazons placed or formed the statue of Diana." Such were the ancient names; but the parts, suburbs, and dependencies of the city are not so speedily disposed of. But the author reconciles the conflicting accounts of the early geographers sufficiently satisfactorily. For instance, Strabo describes Mount Pion as being *above the city*, whilst Pliny describes the city as *upon* Mount Pion. An examination of the ruins, and an inspection of the restored plan of the city, reconcile these discrepancies. The public buildings there appear grouped together in the plain at the foot of the mountain, rendering it probable that this part of the city was specially reserved for such. The private buildings, on the other hand, were placed, alike for health, beauty of prospect, and defence, on the elevated parts of Pion and Coressus. Thus Strabo refers to the public buildings, and Pliny to the private ones.

Dispensing with the legends which adorn but mystify the foundation of the city, we find that the Leleges were the original possessors of the soil, and were driven out of Ephesus by Androclus and his Ionians, certain persons living about the Temple of Diana being unmolested. These colonists took possession of and fortified Mount Coressus, carrying the walls across the plain, so as to include Mount Pion at one extremity and the city port at the other. The city remained in this state till the time of Crœsus, when the inhabitants came down to the plain and settled near the Temple of Diana till the time of Alexander. Lysimachus built the new city in consequence of the low situation of the old one, and called it Arsinoë, after his wife; but at his death it took back its old name.

No heaps of ruins seem to present a greater puzzle to the investigator than those of Ephesus, ἡ πρώτη καὶ μεγίστη μητρόπολις τῆς Ἀσίας; and Le Brun, at the latter part of the seventeenth century, fairly gives up the point by observing, "The greater part of these ruins we cannot make out, whatever application and diligence we may employ." And, indeed, the following account would seem to justify the Frenchman's despair:—

"Thus," says Mr. Falkener, "no fewer than seventeen travellers have mistaken the ruin at the head of the Marsh (the great Gymnasium) for the vestiges of the Temple of Diana; two regard it as a church, and one as a Temple of Neptune. Count Caylus, indeed, looked upon the ruins scattered about the whole plain as the dependencies of the temple, and supposed that the city itself was stationed at Aiaslik. Tavernier and Le Brun consider the arch of the stadium to be the door of the temple; and Chishull imagined it formed part of the edifice erected for the third general council; while Usborne takes the Roman temple by the Agora to be the remains of the first temple burnt by Herostratus."

Nor are travellers zealous only for the glory of Diana. Believing the Catholic to be a visible church, they suppose those of the Apocalypse were of brick and stone; and, in their devotion, take the Mosque of Sultan Selim from the time of St. John, and in the figure of a Turkish lantern discern that of the host and chalice. His font, too, is recognized in an antique tazza, and St. Paul's prison in a tower of the city wall.

"And, as in Jerusalem, they point out the house of the rich man, that of the poor man, and the window out of which Pontius Pilate looked; so here they show you the tombs of the Virgin Mary, of Mary Magdalene, of St. John, of Timothy,—not to mention those of the Seven Sleepers."

The ruins of Ephesus have nothing Grecian about them, its long duration having obliterated its pristine style. They all bespeak a late period of Roman art, and some even of Byzantine; and had she, like Smyrna, continued to the present time, they, in their turn, would have given place to the Turkish dome and minaret. But, though the details are debased, the general feeling is Greek, and the plan of the city similar to that of ancient times; the area of the forum, too, is probably the same, as are also the sites of the gymnasia, and the theatres and stadium are of ancient formation. The arrangement of the city was geometric, and the buildings parallel. It proves that the Ionians planned their streets in straight lines; a custom which Hippodamus, of Miletus, succeeded in spreading over the rest of Greece; superseding the old irregular style of the East. The streets of Smyrna were on a similar arrangement. In the old towns, on the contrary, the crooked and the narrow were the rule, and the straight the exception; and hence we find in Megara and Damascus there was a street in either city, which, happening to be straight, was expressly called "the straight street." Of the different buildings and localities of ancient Ephesus the first treated of by the author are the Port Panormus and the City Port. "Although," says he, "the ancient historians are quite clear with regard to a double port, the *sacred* and the *civic*, no modern traveller has attempted to discriminate between the two, though the present marsh is acknowledged by every one to occupy the site of the port." After hearing the evidence of Xenophon, Pausanias, Diodorus Siculus, Strabo, and Livy, on the matter, we must conclude with the author, that there were two ports, the *sacred* and the *civic*. The civic port is now occupied by the marsh at the west end of the city. It was of a regular plan, and embellished with porticos and public buildings. From this port a canal communicated with the river Caystrus, on which spot he conceives the Temple of Diana to have been situated From this point of confluence he supposes the Port Panormus to have commenced.

The Greek ἀγορὰ and the Roman forum have much the same signification, the open area being originally the place for public assembly and general resort as well as for mercantile traffic. But as traffic increased, the market was assigned a place to itself, apart from the great public square,—though this was not always the case,—and the agora or forum was left in undisturbed possession of its dignity. The very name of Forum seems redolent of eloquence, and Demosthenes, and Cicero; and, indeed, as the author reminds us, from the proximity of the curiæ, the comitium, and the basilica, the word ἀγοραῖος, or *forensis*, came to signify judicial, a signification which has come down to us in the term "forensic." But we need not here go into the oft-told history of these ἀγοραί, but classify those of Ephesus by their uses. The great Agora, or Agora Civilis, like the great forums of Rome and Pompeii, is surrounded by the various public buildings of the city; but the feature by which it differs from and excels every other, is a lake in its centre, now overspread with reeds and thickets, but once probably adorned with colonnades. Though this lake is unique, water in some form or other was common as a central ornament; but whether so or not, the lake in question hardly needs an apology. Of the two Agoræ Venales we can only add, that their arrangement seems made out with complete success, if we may judge by the plans and description, the larger one being in exact accordance with the precepts of Vitruvius.

The subject of the Opistholeprian Gymnasium and the Great Gymnasium, and the other gymnasia of Ephesus, merits much more attention than our space will afford. The first (so named from the region where it stands, behind Lepre or Pion) is the only example of these buildings hitherto published. If the scale of the Great Gymnasium, or the Gymnasium of the Port, may be taken as a fair sample of that of the public buildings of Ephesus in general, occupying, as it does, an area of fifteen acres, or twice that of the British Museum, still more may the number of these places of resort argue the wealth and luxury of the citizens. The great mass of travellers and writers have mistaken it for the great Temple itself, others assign it to purposes still more unlikely. But the most singular feature of this ruin are its subterranean constructions, into which, however, for good reasons, the author did not penetrate. Le Brun describes them, but in spite of torch and clue leaves us in the dark as to their extent or purpose. Later writers, however, throw more light upon them. The construction of these gymnasia is of a late period, the piers and smaller parts being generally of stone, but all the rest of the building of brickwork.

"And in connexion with this late period of construction," says Mr. Falkener, "it is singular to observe the words of Vitruvius, when referring to the Greek palæstra. He says he thinks it 'proper to explain them, although *not used by the people of Italy*.' Now, as Agrippa, the founder of the earliest baths in Rome, died 12 B.C., it is probable that, though thermæ were unknown in Rome at the period of Vitruvius writing, yet that they must have been introduced before his death, even if the Father of Architecture were not himself employed on them. Little, therefore, did he believe when he wrote these words, that, perhaps in his own lifetime, buildings of this description would be reared in Rome that should outvie even the most noted ones of Greece, and that in the time of the latest emperors, Rome would be full of them, and many of them so large as to resemble an entire city."

The theatre must have been the largest ever executed, having a diameter (ascertained by Mr. Cockerell) longer than the major axis of the Colosseum; and, allowing 15 inches to each person, would accommodate 56,700 spectators; which will convey a striking notion as to size when we recollect that Drury Lane Theatre, with a somewhat larger allowance for each, holds only 3,200, and new Covent Garden Theatre but 2,767. The proscenium is gone; not a seat remains: but Pococke must have found several, as he traced four vomitoria. Chandler notices the portico leading from the theatre to the forum, and a surrounding colonnade at the top of the theatre. Of the Theatre, the Stadium, and the Odeon, there are no sufficient remains to justify restoration. In addition to the Temple of Diana, the author finds notices, mostly from coins, of temples to Jupiter Olympius, Jupiter Pluvius, Minerva, Apollo, Venus, Bacchus, Neptune, Ceres, Serapis and Isis, Mercury, Hercules, Fortune, Harpocrates, Romulus and Remus, Julius Cæsar, Claudius, &c.: a fair sample of the soil upon which the churches of Asia stood, and no mean testimony to the labour of St. Paul and his coadjutors in their establishment of that of Ephesus.

But for the remaining matters connected with this seat of Asiatic magnificence,—its history, topography, and antiquities,—its schools of painting and of sculpture,—its long list of illustrious natives, poets, musicians, philosophers, physicians, historians, geographers, and rhetoricians,—the character of the people, their Christian traditions, and modern history,—we refer the reader to the work itself.

The foregoing subjects, or history of the city, occupy the first part of the work; the second is entirely reserved for the Temple of Diana, the most magnificent and most celebrated of the Asiatic Greek temples; but so completely swept

way, that its very site has been a disputed point to this day.

"Built at the joint expense of all Asia, it was esteemed one of the seven wonders of the world; not merely from the engineering difficulties which its builders had to overcome, but on account of its magnificence and grandeur, the purity of its architecture, the beauty of its sculptural adornments, and the extraordinary collection of works of art in painting and sculpture which it contained. Seven times destroyed, it was seven times rebuilt; each time with greater magnificence: one of the conflagrations being noted in history as the work of an execrable fanatic. This sacred shrine was reverenced in Greece and Asia. When Darius destroyed all the other temples of Asia, this alone was spared. Here met for worship the Greeks of Europe and of Asia; here, in honour of Diana, sacrificed the great Macedonian conqueror, the proud Persian satrap: Alexander, Tissaphernes, and Anthony did honour to her fame."

Ctesiphon and Metagenes, says Vitruvius, wrote on the Ionic order of this temple; and Democritus is mentioned by Athenæus as another writer on it; but their treatises have perished. A fragment from Philo has reached us, but its value is small indeed. All other ancient notices of it are but incidental, but all in the same strain of unqualified eulogy, or extravagant hyperbole. Its foundation was contemporaneous with that of the city; and its fortunes must have severely tried the constancy of the worshippers of Artemis, having, according to Pliny, been burnt seven times. The sixth temple was built on a different site to the former ones. Its foundation was laid by Theodorus, about 500 B.C., and the erection commenced about 460 B.C., by Ctesiphon and Metagenes. On the destruction of the sixth temple, the seventh and last was commenced on the same foundations, and rebuilt with such magnificence as to inspire Herostratus with the idea of immortalizing his name by burning it; which miscreant act he perpetrated in 356 B.C., on the very same day that Alexander the Great was born.

And now, having introduced the reader to the Temple of Diana, we must leave him to peruse the evidence of the Greek and Latin authors that have alluded to it, and either weigh them in Mr. Falkener's balance or his own. In the preface to "Dædalus" the author apologizes for the great number of quotations it contains, by reminding us that the only way in which he could exhibit the genius of ancient art was by giving the opinions of the ancients upon the subject, "believing that every tradition is pregnant with a meaning." Such apology cannot be needed now: by quotations only in this case can truth be elicited; for no other means seem to present themselves, at all events, to recall a temple so entirely swept away as to have left not a trace behind; for—

"We now seek the Temple in vain: the city
Is prostrate, and the goddess gone."

But, stay, there *is* another means, and it is more convincing far than argument,—excavation! "What gems, what statues, what bas-reliefs, might be discovered in a city where a Parrhasius, an Apelles, and a Zeuxis; where a Praxiteles and a Scopas, besides a host of other artists, once flourished, and to the adornment of which we know that even a Phidias contributed!" The spade is sometimes even a more potent agent than the pen; and another Layard may not be wanting able and willing to try his fortune in the yet unbroken soil of Ephesus and the Temple of Diana.

We may record that the work is a beautiful specimen of printing, and in size, type, and binding, forms a companion volume to "Dædalus." It is, moreover, illustrated with plans and views in chromo-lithography of great artistic excellence.

BRITISH ARCHITECTS.

NEW MATERIALS FOR THEIR LIVES.

Sir John Vanbrugh.—We know too little of Sir John Vanbrugh, or, as he wrote his name at other times, Vanbrug, and Vanbrook.

In any one of his fourfold capacities—architect, dramatist, manager, and herald—we would wish to know more of him. As an architect, Castle Howard and Blenheim (I have seen them and seen over them) well entitle him to the compasses which Kneller, on a kit-kat canvas (you may see the original at Bayfordbury), has placed in his right hand. "The Relapse" and "The Provoked Wife" make good his claim to rank as a dramatist, as he does, thanks to Moxon and Leigh Hunt, in the same volume with his contemporaries and friends, Wycherley, Congreve, and Farquhar. For his heraldic claims to Camden's tabard of "Clarencieux," what will *Garter* Young, or *York* King, or *Rouge-Croix* Planché say? The last-named gentleman, himself a successful dramatist, would be kind to "Van," while Mr. Buckstone, the able manager of "The Haymarket" of to-day, would admit Van's full claim to be "manager," from the treble trick he had of securing good plays, writing good plays, and filling houses, as well as building them.

In a very unpromising MS. volume in the British Museum, called a "Register of Requests," from 1660 to 1670, I found the following:—

"*John and James Vanbergh.*

That ye Peti^rs are both twinnes, and borne in London, and for some yeares past have employed a stock left them by their grandfather in a course of merchandizing. Yet some, out of spight, go about to hinder their trading, in regard that their father was an alien, though their mother an English Woman, and themselves have not attained ye full age of xxj yeares. Prayes ye Ma^tie^s dispensacon with their innocent disability, and that they be permitted to trade, &c."

The royal order thereon runs thus:—

"His Matie having been moved in this Peticon, his pleasure is, that Mr Attorn^y^ or Mr. Sol. Generall doe prepare a Bill for his Ma^tie^s royall signature, conteyning a grant and liberty to ye Peti^rs^ to trafiq, as by them is humbly desired."

I have never seen the petition. Does it exist?

In 1819 the Rev. George Vanbrugh, rector of Aughton, in Lancashire, then "the only surviving descendant" of the family, informed the poet of the "Pleasures of Hope" that his ancestors were eminent merchants of Antwerp, and fled out of Flanders when the Duke of Alva tried to establish the Inquisition in those provinces. There is other evidence of this were it needed. "Our family first," he further informed the poet, "took refuge in Holland, and from thence came over to England to enjoy the Protestant protection of Queen Elizabeth." Some settled in Chester; Giles Vanbrugh was one; others in London, in the ward of Walbrook and parish of St. Stephen.

We first hear of them in Walbrook parish in the year 1628, when, as the register records, William, son of Giles Van Brugh, and Mary, his wife, were baptised. Other entries relating to them and others of the name, of a like multiplying kind, are to be found in the same repository of barren facts for the years 1631, 1676, 1657, and 1659. The latest entry relating to the name records the burial, in 1726, "in the north aisle," of the great architect himself.

Vanbrugh's father was a merchant in Laurence Pountney-lane, in the city of London, and appears as such, "William Vandenbergh" by name, in a very rare volume called "A Collection of the Names of the Merchants living in and about the City of London," printed in 1677. This small circumstance may afford a clue for information of moment, and for this purpose I call attention to it here.

When and where Vanbrugh was dubbed "Sir John" I cannot find in any account of his life. This I have ascertained: he was knighted at Greenwich House on the 19th of December, 1714, in the first year of the Hanoverian accession. The great Duke of Marlborough introduced him, and no fee was paid on the occasion.

The first Theatre erected in the Haymarket of London was built in the year 1705. Vanbrugh was the architect. The first stone was laid the 9th of April, 1705. "Of this theatre," says Colley Cibber, "I saw the first stone laid, on which was inscribed 'The Little Whig,' in honour to a lady of extraordinary beauty, then the celebrated toast and pride of that party." This often-toasted beauty at kit-kat dinners (left nameless by Cibber) was Anne Churchill, Countess of Sunderland, second daughter of the great Duke of Marlborough. She died on the 15th of April, 1716, and in the contemporary notice of her death is described as "the general toast by the name of the Little Whig." This theatre was burnt down June 27, 1789.

Kit-Kat Garth (the best good Christian without knowing it) has, in his poem called "Claremont, a villa now belonging to the Earl of Clare," this couplet on his fellow Kit-Kat "Van":—

"But say, who shall attempt the adventurous part,
Where Nature borrows dress from Vanbrugh's art?"

a couplet sounding in Pope's ear when he wrote of Esher:—

"Where Kent and Nature vie for Pelham's love."

As I bring, for the first time, this Claremont couplet into light in connexion with Vanbrugh and his works, I will try (what has hitherto been unattempted) to explain its meaning.

When at work at Claremont, in Esher, Vanbrugh had a house in the adjoining parish of Walton-upon-Thames. I have *over*-looked chapter and verse for it, and here it is:—

"1723, March 28, John, the son of Sir John Vanbrugh was bury'd,"

for thus runs an entry in the burial register of Walton-upon-Thames, in the hundred of Elmbridge, and the county of Surrey.

This was not Vanbrugh's only son: a second was slain (1746), in his twenty-seventh year, at Tournay, and died without a will.

The names of Sir John Vanbrugh and of Captain Philip Vanbrugh are to be found among the subscribers to the first collected edition of the works of Addison, edited by Tickell, and published in four volumes quarto, in 1721. Who was Captain Philip Vanbrugh? His brother, I suspect.

The building of Marlborough House, in Pall-Mall, was given to Wren by Sarah, Duchess of Marlborough, to vex Vanbrugh. Whoever is curious about Van's quarrel with Pope's "Atossa," will find some *new* matter of moment in the correspondence of the duchess, printed by Mrs. Thomson, from the MS. collections of Archdeacon Coxe. The amusing materials I allude to have been brought to light since the life of Vanbrugh was last written.

Of Vanbrugh it is to be said, what we cannot say of any other English dramatist: his plays, though evidently printed with his entire sanction, are *without* his name, and *without* dedications in a dedicating age.

When and where Sir John Vanbrugh married, his biographers omit to tell us. I have traced the period thus far:—He was married in or about November, 1718.

His biographers are equally silent when his widow died. This fact in his history I will now give. Lady Vanbrugh died the 26th of April, 1776, having outlived her husband, the great architect, just half a century and one month. In this long period we hear nothing of her. What became of her papers? Did she leave a will? Where was she buried?

The will of Sir John Vanbrugh is to be seen in the Prerogative Will Office of the Archbishop of Canterbury. I have seen it. Two of his brothers are named in it, Charles and Philip; and three sisters, Mary, Robina, and *Victoria*,—the last being the earliest use in England of the name, that I remember to have seen, of our beloved Sovereign.

Since Walpole's death, three editions of his "Anecdotes of Painting," &c., have appeared. The first was in his "Works" (5 vols. 4to., 1798), as left revised by himself; the second, in 1826, 1827, and 1828, as edited in 5 vols. 8vo., by Dallaway; and the third, in 1849, in 3 vols. 8vo., as re-edited by Mr. Wornum. Walpole made and left many additional notes, and some of importance, wholly overlooked by Mr. Dallaway and Mr. Wornum. Here, for instance, is a note relating to Vanbrugh (not to be found in Dallaway or Wornum), every sentence of which is in Walpole's true *Strawberry* vein:—

"Two very good judges, and men of excellent taste, Sir Joshua Reynolds and Mr. Gilpin, have declared their admiration of the stupendous piles of Blenheim and Castle Howard, and no doubt vastness is very imposing at a distance; but if the designs and details are defective, the merit of grandeur remains with the person who is at the expense of the fabric, not with the architect who executes his commands. St. Peter's, St. Paul's, each strikes as a magnificent whole; but they charm, too, when the parts are examined, nor have any superfluous weight. Large edifices might be erected from unnecessary excrescences of stone that load the palaces above mentioned; and, however admirable Vanbrugh's structures may be in their present state of *perfection*, I will venture to guess that their ruins will have far greater effect, not only from their massive fragments, but from the additional piles which conjecture will supply, in order to give a meaning to the whole."

Walpole's "Works," iii. 394 (4to., 1798).

In this view it may be said, and truly, that *Strawberry*, when stripped of its curiosities by the inevitable hand of George Robins, looked, in its ruins, more truly Gothic than it did as left by Walpole, or as it now does, re-decorated by Frances, Lady Waldegrave. This omitted note I commend to the judicious eye of the *Builder's* next-door neighbour, Mr. H. G. Bohn, the last publisher of Walpole's "Anecdotes."

Only a few words more, and those Vanbrugh's own, and *recently* recovered:—

"When travellers, many ages hence, shall be shown the very house in which the Duke of Marlborough dwelt, and they shall be told it was not only his favourite habitation, but was erected for him by the queen, and with the approbation of the people, as a monument of his greatest ser-

vices and honours that any subject has ever done his country; I believe, though they may not find art enough in *the builder* to make them admire the beauty of the fabric, they will find wonder enough in *the story* to make them pleased with the sight of it."

Peter Cunningham.

A WALK AND TALK IN ROME.

In Minerva's sanctuary the baker keeps his shop undisturbed: in the neighbouring Temple of Mars Ultor, a community of nuns have their convent of the "Annunciation," which suggests contrast between the opposite moral of two religions—the worship that hallowed vengeance, and that which condemns even the thought inspired by such passion. *Pro ultione paternâ voverat*, says Suetonius, narrating how Augustus raised this fane in fulfilment of his vow before the battle of Philippi. Surrounded by an inclosure of walls in *lapis Albanus*, to the height of 90 feet, with a triple cornice of travertine, it was destined for the sessions of the Senate to discuss questions of war, and the ordering of solemn triumphs. Here also did the victor hang up his trophies after a successful campaign. But, as the demands of proprietors were exorbitant; when the ground had to be inclosed for this Augustan Forum, the imperial founder did not choose to purchase, nor deem it prudent to enforce a cession to the full extent at first required: hence the irregularity still apparent in what remains;—the re-entering and salient angles; and the singular deviations from the rectilinear in these stupendous walls. In the Middle Ages, this Forum and Temple became a subject of much dispute. Poggio referred the whole to *another* forum—that of Trajan—not far distant. Palladio recognized the true character and origin of these Augustan ruins; but Nibby maintained that the Temple was that of Nerva, and consequently connected with the forum founded by him. The pontific *Ordo* of 1143 enumerates the temple here before us, after that of Pallas, by the title "Nervia," — actually converting into a female deity the emperor to whom better authorities have erroneously ascribed it; and the *Mirabilia* illustrates in its own way the antiquities of the site, "where is the Temple of Carmenta (!), and within whose limits stood the palace and *two* Fora of Nerva." The state of ruin is supposed to have been eventually caused to these edifices (probably spared amidst the barbarian outrages of earlier ages) in the tenth century, during the profligate dominion of Theodora, Marozza, and Alberic: perhaps amidst the civic troubles, at their worst climax, between the years 925 and 928. A monastery, S. Basilio, rose, about 955, within this now ruined Forum; and its church is described in papal documents as within the area called *hortus mirabilis*.

Till the sixteenth century, the surrounding level was much higher than at present; and the existing cluster of narrow streets, gathered about the Classic colonnade and massive structure beside it, dates from 1585, about fifteen years after Fiaminius Vacca had been employed to reduce the convent into an asylum for female neophytes; in the course of which works that architect found several pivots of wood (instead of the bronze commonly used for Roman structures), serving to unite the enormous quadrate blocks of the inclosure walls.* Excavations in 1820 supplied proof that this outer limit had been reached by fifteen steps from the *vicus* skirting it, though at present both the temple and its cincture of walls are on a level with the obscure streets around; and the arched ingress, called *Arco dei Pantani*, from the frequent inundations to which this region was long subjected, is evidently buried to considerable depth in the ground. Investigations have shown that the temple portico had eight columns in front, nine on each side, resting on a podium 15 feet high; but its extant remains consist of only three fluted columns and a pilaster, of Corinthian order, with a fragment of architrave, the travertine wall of the cella beyond, and an intermediate ceiling richly adorned with coffers and rosoni; the present deformed and mutilated state of these shafts having been partly caused by an outrage which Nibby witnessed—the throwing-up of stonecutters' workshops in front, with rafters fitted into the Carrara marble! A belfry, recently removed, rested for many years on the noble ruins which, that writer prophesies, would sooner or later have been crushed under its weight. Where most injured, these columns are now secured by broad iron bands; and we look down to their bases, as well as to the few stone-courses, alone uncovered, of the podium, in an excavated court dividing the convent and temple from the street. The doorway and windows open on the outer side of the massive peperino walls that rise high above, sheltering this convent like a screen; and four other arched entrances into the Forum, now built up, on the other side of the *Arco dei Pantani*, are traceable by their enormous archivolts; that same *Arco* being the only ancient ingress left. Not far distant stands, amid intricate streets, a great unsightly pile of brickwork with huge buttresses, no longer inhabited, which is the mere truncate remnant of a square tower raised, probably with other dependent buildings, for the Conti family, by their relative, Innocent III.; and, as Canina shows, planted amidst the ruins, now crushed and hidden, of a temple to the Sun and Moon, near that of Tellus, which has totally vanished; this example serving at least to convince how utterly, even under one of the most energetic and intelligent pontiffs, Mediæval Rome failed to appreciate or care for Classic antiquity.*

Few monuments of this city are so fraught with moral meanings as that small but richly-decorated arch raised by the bankers and cattle-merchants, in honour of Septimius Severus, his empress, and their two sons, now partly built up, and its sculptures on one side concealed in the lateral walls of an ancient church, S. Giorgio in Velabro, under the Palatine. The sculptures on the outside of one of its piers are thus entirely lost: in what remains visible they present reliefs of Septimius and Julia Pia offering fruit and wine on a tripod-altar; and, opposite to these, Caracalla engaged in a similar religious act. The emperor and his son each pour wine out of a patera over heaped-up fruits, the former veiled, the latter bare-headed; the empress wearing a veil and tiara, the caduceus, symbolic of concord, in her hand. That Caracalla's figure was originally accompanied by his brother's is evident from the vacant space beside it, and the erasure of the marble, leaving an obvious incompleteness in the design of the whole; and in the laudatory inscription styling M. Aurelius Antoninus "pious, happy, august," &c., the erased surface shows that one entire line, and part of another, have been cancelled, no doubt for the same purpose as the like alteration on the Septimian Arch in the Forum. This figure of the fratricide emperor contrasts favourably with his portrait-bust in the Capitol, which has been called the "last sigh of art,"—so superior its finish and expression to other works of that epoch;—the look of fierce suspiciousness, the repulsive truthfulness to a dark-minded original, in that celebrated bust, bearing no resemblance to the character of the more youthful figure here represented, with long curly hair, handsome and amiable countenance, so far as the much-mutilated marble yet retains individual expression. The aspect accords indeed with the account of a boyhood totally contrasted with the manhood of Caracalla, in the pages of Spartianus, who describes what he was before the frenzy of blood-thirstiness possessed him, after the murder of Geta. "It seemed marvellous to all," says that biographer," how he wept for the death of Geta whenever he heard his name mentioned or saw any image of him." The striking testimony to the power of conscience, the lightning's mark on the guilty soul, preserved in this monument, failed to impress the moral or religious sense of of past ages in Rome. We often hear Italian preachers at this day quote Seneca to support the ethics of the Gospel; but never have we known them to adduce the solemn confirmation here engraved on marble to the moral fact that "Conscience rules us e'en against our choice;" and that,

> "If repelled with scorn,
> At length as dire Remorse she reappears."

Close to this monument stands that "Arch of Janus" which should rather be called *Janus Quadrifrons*, being merely an arcade passage, such as never received religious dedication; serving for the assemblage of the merchants from the adjacent *Forum Boarium*, or cattle market. The inferior style of the fragmentary mouldings and capitals, dug up in recent years, and now ranged along the summit of a projecting socle, has led to conjecture for its origin the period of Septimius Severus, when probably the spoils of other edifices were used in adorning this; but the statues of tutelary deities, in the twelve niches on each of its four fronts, and the double file of columns before them, have totally perished. During the twelfth and thirteenth centuries the Frangipani held one of their fortresses here, and the ruins supported a ponderous brick tower on their summit, whilst completely enclosed by a curtain of walls thrown up around, which Mediæval pile was not finally removed till 1829, and the roots of its masonry still remain above the cornice of the arch. The soil around was first disencumbered from *débris* in 1812, though its original level within the area was not completely uncovered till 1827. *En passant* we may exclaim against the disgraceful uncleanness in which this, alike with other more illustrious monuments, is carelessly left by Rome's edile-authorities. The first impression received from the Forum of Trajan, if we compare the reports of its past with the realities of its present, must be mournfully disappointing; for the partial disinterment effected affords but a tantalizing glimpse of the grandeur that still, even in ruin, might be brought to light with imposing effect. We descend, after finding a custode, with some difficulty, into the oblong area excavated amidst the houses of an irregular piazza, where that majestic column stands, like a desolate guardian, surviving all the splendours that once rose around its base. There we see strewn in profusion the relics of past magnificence;—massive cornices, friezes, Corinthian capitals, broken columns of granite and cipollino, fragments of ceilings adorned by coffers and rosoni; mutilated colossal figures in paonazzetto, recognizable by their draperies as barbarian captives; basements for statues and epigraphs; besides many imperfect granite pillars, re-erected so as to present the four files dividing Trajan's basilica like a cathedral. Here and there is a piece of pavement now discoloured and dusky, but which we find, on examining it, to be giallo antico; and faint vestiges may be traced of the peristyle to the two libraries, one for Greek and one for Latin literature, where were kept the records of the lives of emperors, only shown by express permission from the civic prefect, and the senatus consults, inscribed on laminæ of ivory. Till we visit this excavated space around the column, no idea can be formed of the truth and beauty of those reliefs covering its shaft; and even here only those of the two lower bands can be appreciated. Recently cast by commission from the French Emperor, these sculptures have been preserved, in similar copies, to Rome's advantage; the Papal Government having at the same time ordered *gessi* of these admirable originals, for the Lateran Museum, where they will be ranged round circular pedestals to represent their position on the column. They were prepared after the monument's erection; and the staircase, at first simply blocked out in its several masses, was finished when the whole stood complete. Eutropius says the ashes of Trajan were placed in a golden urn *under* the column; Dion, that they were laid *within* it. Nibby points out, left of the ingress, traces of a cell for their deposit, in the basement. In the Capitoline Museum is a bronze globe, erroneously said to have contained the ashes of Trajan, though the other part of the tradition may be true,—namely, that this globe was held in the hand of his colossal statue at the pillar's summit. Ascending by its still perfect staircase, we marvel at the appearance of enduring solidity, and might suppose the corkscrew passage scooped out in solid rock; but every part is well lighted by the loopholes scarcely distinguishable from without. St. Peter, with his keys, stands majestic in bronze on the summit. From the aërial platform we may, remembering Canina's magnificent restoration, picture to ourselves the superb aggregate, now so poorly represented by partially unburied ruin; and observe the double story of arched chambers, amid gardens and modern walls, on the slopes of the Quirinal, that pertained to the vast system of vaults and porticoes bounding this Forum on the eastern side with a spacious semi-circle, corresponded to, on the side towards the Capitol, by similar structures now either destroyed or buried under houses.

It is probable this Forum did not suffer so severely as other Classic sites in Rome from the first barbarian invasions; and that its edifices stood intact till about the end of the eighth century. That the custom of poets reciting their compositions in a hall of the Ulpian Library (as is the practice to this day in the several Roman

* This led Nibby to the conclusion that the stupendous walls of the Augustan Forum, still so conspicuous in ruin, were no other than a part of the fortifications of Servius Tullius. *Wooden*, instead of metallic, cramps, he argues, were never used in buildings of the imperial epoch.

* The upper portion of this frightful and dismal-looking edifice was destroyed by the terrific earthquake of 1349, fatal to many ancient monuments in Rome, as its effects are described by Petrarch; but the Conti fortress still serves for magazines, and its ingress doorway, at the head of a steep narrow staircase, under an archway, is still strongly bolted, its enormous buttresses kept in good condition; though, in the pontificate of Urban VIII., much of what then stood was demolished on account of the threatening ruin in which the whole seemed likely to be overwhelmed.

Accademie periodically meeting) was kept up during the seventh century, is attested by the verse of Venantius Fortunatus, the Italian Bishop of Poitiers, who died about 600.* A well-known legend (rejected, indeed, by modern writers, but immortalized by Dante) represents St. Gregory so impressed by this Forum, that, led thence to meditate on the life of Trajan, he was profoundly afflicted at the idea so virtuous an emperor should perish among the lost spirits of Paganism; prayed for his soul's release; and in the sequel was divinely assured of his salvation.†

The first fatal spoliation here inflicted was probably that caused by Constans II., on his too memorable visit, in 663; when, during twelve days, he collected, to carry away, all the movable treasures of art and decoration, statuary, bronzes, wrought metals, &c., to be shipped for Sicily; in which island, at Syracuse, where Constans was assassinated six years afterwards, the final destination of that priceless wealth was to fall into the hands of the Saracens on the capture of that city, where these Roman spoils had been deposited. The graphic description of the visit to this Forum, and the delight at its still unshorn splendours, felt by another Constans, in the year 356, supplied by Ammianus Marcellinus (l. xvi., c. 10), leads to the inference that, up to this date at least, the site preserved every feature of its antique magnificence. Recent excavations have shown that the state of ruin, involving basilica, temple, Forum, and libraries, must have been mainly owing to fire; and (as Nibby concludes) not earlier caused than between the years 800 and 1000; perhaps in the conflagration on the taking of Rome by Arnolfo in 896; or under the dominion of those profligate women above mentioned, and their relations, between the years 900 and 954. The daughters of Marozza, devout and bountiful towards the Church, founded a monastery, S. Salvatore, to which, from the beginning of the eleventh century, one-half of this Forum pertained. By that time, if not earlier, its area was covered with ruins; and the very name, "Forum of Trajan," had been transferred to that of Nerva; the barbaric title, Campo di Caloleo, being popularly given to this site. In the twelfth century we find even the column misnamed, and ascribed to *another* emperor, by Cencio Camerarius, who mentions the church of St. Nicholas, then standing below it, with the adjunct, "*de columnâ Adriani*"! The *Ordo* of 1143 shows that the Pontific cavalcade, on its progress to the Lateran, avoided this Forum,—*progrediens inter Forum Trajani et Forum Cæsaris*,—no doubt on account of the ruin—encumbrances rendering its transit difficult. Petrarch's learning enabled him to correct the strange error which had ignored even the origin of these renowned remains; but Poggio, about a century later, only ventured to observe that the column was on the site where he *believed* the Forum of Trajan to have existed! *Nothing* save that solitary column remained above the level of accumulated soil when Flavio Biondo wrote. Flaminius Vacca witnessed the disinterment of fragments left by Trajan's triumphal arch despoiled to adorn that of Constantine's, on which latter we still admire its beautiful but misplaced reliefs.

In the fifteenth century began a species of restoration of this city, under the pontificate of Eugenius IV., whom Æneus Sylvius Piccolomini (afterwards Pius II.) calls *Reparator Edificiarum Urbis*; and in the course of those works was cleared away much Mediæval *débris*, and many antique relics were dug up from below the raised level of new streets. When a small church with a cupola was built by Sangallo, 1521, at one end of the piazza, Fulvio (who wrote in 1527) tells us that immense masses of white marble were exhumed on this Forum, one of which became the pedestal to the equestrian statue of Marcus Aurelius, removed, by order of Paul III., to the Capitol; and Vacca mentions one erect cipollino column, of the Basilica's portico, that still stood within a garden, on its original site. When, about the end of the sixteenth century, another church was built within these limits, fragments of an admirable relief, representing Trajan at the dedication of his column, were disinterred in laying the foundations. Up to this period the area around this monument was occupied by a small garden, amidst an irregular piazza of paltry houses, as shown in Bufalini's plan of Rome, executed 1551. Excavations were first attempted here under Paul III. In 1588, Sixtus V. employed Domenico Fontana to isolate the column by uncovering it to its base, then deep-buried in earth; and ordered St. Peter's statue in gilt bronze, modelled by Tommaso della Porta, to crown its summit; for which entire undertaking, including the demolition of several houses, were spent 14,524 scudi. From this time forth the column was indeed fully displayed, but as if placed at the bottom of a square pit fifty feet deep, and lined with walls. It was reserved for French energies to commence, in 1812, more extensive excavations with the object of disinterring all the relics yet extant of this Forum: two blocks of building, comprising two churches and convents, were swept away in the course of these works. Pius VII. ordered the continuance of the undertaking, yet far from its proposed accomplishment; and in 1815 was finished the excavating of the oblong space, curved at one extremity, where we now look down upon all of Trajan's Forum yet restored to view; and from the level of the piazza we have an unsatisfactory, because too distant, prospect of that marvellous column, whose sculptures we cannot hence appreciate; besides the granite pillars, of which ninety-six once divided the aisles of the Basilica, restored to the basements found in their original places, but now only presenting a transverse segment of the great edifice, about two-thirds of which still remain under earth. A few other much more massive shafts, in fragments, strewn behind the column, are the sole relics of the Temple that stood beyond it; and the whole excavated space, measuring 390 by 155 Roman feet, comprises only about one-sixth of the area occupied by the aggregate buildings, Temple, Libraries, Basilica, and Forum, whose entire surface was 330,000 square feet. Canina discovered vestiges of the other great hemicycle, forming the south-western limit, under the houses of the obscure streets near the Capitol, and answering to the similar ruins on the side of the Quirinal, popularly called the "Baths of Paulus Æmilius," whose large quadrangular niches, on the ground-floor, may have served for shops; a portico above, with arcades, probably for the residence of servants attached to the Basilica; and perhaps, in after years, these structures were converted into baths by one Paulus, *not* certainly the "Æmilius" who founded two basilicas on the Roman Forum. We learn with surprise that, even in late years, has been renewed a spoliation on principle condemned, and in modern times rarely allowed by authorities here, in transferring from these ruins certain giallo antico remnants to adorn the new Basilica of St. Paul. Within that excavated area lie strewn, among marble fragments, many epigraphs in various lapidary styles, from the nobly simple dedication to Trajan, to the inflated panegyrics of a later age; one on the pedestal that supported a statue of Flavius Meroband (a Celt by origin), illustrious in arms and in letters, especially known for his poetic attempts, who suffered violent death in 383, and to whom was erected a memorial here A.D. 435;—another, to Flavius Eugenius, consul under Constantius, in the diffuse eulogium upon whom the lately-deceased Emperor Constans is styled *divus*, as though Pagan deification were still admitted by Christian Rome.

* Vix modo tum nitido pomposa poëmata cultu eludit Trajano Roma veneranda Foro.

† Baronius (*anno* 604) contemptuously rejects this legend, as well as an apocryphal "revelation" to St. Bridget, in sense conveying like assurance of Trajan's salvation. Dante describes the sculptures on the rocks in the first circle of Purgatory, among which—

"Quivi era storiata l' alta gloria
Del Roman Prence, lo cui grau valore
Mosse Gregorio alla sua gran vittoria;
Io dico di Trajano Imperatore."

MR. RALPH WALKER, CIVIL ENGINEER.

In the "Lives of the Engineers," by Mr. Smiles, Mr. Ralph Walker is only once named, and that, in the "Life of Rennie," where it is stated that the East-India Docks were constructed by Mr. Rennie and Mr. Ralph Walker, as joint engineers. Even in this, justice is not done to Mr. Walker, because the East-India Docks were designed by him before Mr. Rennie was appointed by the directors as consulting engineer; but *justice* to Mr. Walker demands a separate though short memoir of that eminent man.

Mr. Walker was the second son of a small farmer, in the parish of Tullibody, in Clackmannanshire, upon the banks of the Devon. He was born in 1749; received, first, the ordinary parish school education at Dollar; afterwards the elements of navigation at an academy, to which he was sent by his elder brother James; and began life, like his friend Huddart, as a sailor, but never rose higher than to the command of a small merchantman, when he settled as a planter upon his estate in Jamaica.

While resident there he wrote, and afterwards published, in 1794, when in England, "A Treatise on Navigation, with a Description and Explanation of a Meridional and Azimuth Compass for ascertaining the Deviation, without Calculation, at any Time of the Day, and Improvements upon the Compass in General."

The encouragement given by the Admiralty to his improved compass induced his return to England; and, shortly after, the want of docks for the safety of ships and their cargoes in the port of London was felt and much discussed, as Mr. Smiles has fully stated.

Amongst numerous plans and reports by engineers, architects, and others, one was prepared and submitted by Mr. Walker, which was known at the time as the "Merchant's plan," and is now the West-India Dock. Mr. Walker, with official assistants only, prepared the plans for Parliament, and was the sole engineer to the company until after the passing of the Act. His regular appointment as resident engineer took place on the 14th August, 1799; and it was not until the 8th November of the same year that "Mr. Walker was directed to ascertain the best mode of supplying the proposed West-India Docks with clear water; and to take Mr. Jessop, or any other competent person, to his asssistance in this business."

This is the first time that Mr. Jessop's name is mentioned; and it appears that he was introduced on Mr. Walker's recommendation for a special purpose.

It was not until the meeting of the Court of Directors, on the 31st July, 1800, that Mr. Jessop was informed "that the directors expect him to inform them from time to time of the progress of the works under his direction."

That the designing and, with the exception we have stated, the executing of the greatest work of the kind in Britain, at the time or since, should have been so much intrusted to an individual whose life had been spent in the way we have described, speaks highly for the mechanical abilities of Mr. Walker; proving that the engineer, like the poet, "*nascitur non fit*."

As it was with the West-India, so it was in a great measure with the East-India Docks. The design was completed by Mr. Walker; and Mr. Rennie's name does not appear until March, 1803, when an estimate, signed by him and Mr. Walker, was laid before the board. In August, Mr. Rennie and Mr. Walker were appointed joint engineers; and in July, 1804, 100*l.* were presented to Mr. Rennie, and 250*l.* to Mr. Walker, for their services prior to the passing of the Act.

Thus it appears that both the East and West India Docks (as shown upon Mr. Smiles's plate, vol. ii. p. 203) were designed by Mr. Walker, and that to ascribe them to any other engineer is obviously incorrect. It was unnecessary for Mr. Rennie's well-deserved fame to ascribe to him the credit of a design to which he was not entitled.

"Nor needed his just title the foul guilt of Eastern kings, who, to secure their reign, must have their brothers, sons, and kindred slain."

After the docks, Mr. Walker designed the East London Water Works, upon the river Lea, near Bow, during the formation of which he resided in a house at the works, and afterwards removed to the East-India Road, near the docks, where he died in 1824.

The above are the most important works in the design and execution of which Mr. Walker was employed; and it would be easy to enlarge the list by mentioning the improvements in Dover Harbour, in which he is stated, in a letter from the Duke of Wellington, to have succeeded Mr. Rennie; as also the Commercial Docks, the Grand Surrey Canal and Docks, the Thames and Medway Canal, and others of a similar character.

TEMPORARY ST. THOMAS'S HOSPITAL.

THE works required to transform the Surrey Gardens, at Newington, into a hospital are very nearly finished: the beds, neatly turned down, await their occupants: a vase of flowers is on each ward table; and on Monday next, patients will be brought here from London Bridge. It will accommodate about 250 occupants; while a portion of the ground story is appropriated for out-patients. The works have been done by Messrs. W. Brass and Son, as builders, under the direction of Mr. Currey, as architect; and no time has been lost. The music-hall is not recognizable; and, in passing, we may express a regret that a fine apartment, well adapted in respect to sound, should have been destroyed, to use it for a purpose for which it is in no way fit.

Two wooden floors have been put in (carried on iron columns), thus forming three stories; and a new roof has been constructed, consisting of corrugated iron, on circular iron ribs, with an inner lining of boards 15 or 20 inches below the outer covering. Four fireplaces have been formed on each floor, earthen pipes serving as flues; and a

lift to raise the patients from the ground to the several stories has been fitted up by Mr. Jeakes, who has also put up hot-water apparatus. Externally, a covered way to one entrance, of considerable length, is being formed.

The refreshment and ball rooms attached to the eastern end of the main building have been converted into dispensing rooms and dormitories for the nurses, matrons, officers, &c. The old Manor Tavern will be occupied by Mr. Whitfield, the resident medical officer; and the large dancing-room in the gardens has been adapted for the museum and library, with lecture theatre. A temporary building for the purposes of the medical school is being rapidly erected on the southern side of the lake, and will be ready by the time the school meets in October. There are also other houses on the grounds occupied by the house-surgeons and dressers; and large shed buildings, where the surplus stores and furniture of the hospital are housed. The statue of King Edward VI. and that of Sir Robert Clayton, from the present hospital, set on pedestals, are made to assist the already decorative character of the grounds, which have an area, in the whole, of 15 acres. What do the doctors say, by the way, to the expanse of water closely adjoining the building?

We have seen a wish expressed that, the new arrangements being excellent, the present use of the building may be more than temporary. We have a very different feeling on the subject, and would put up a hope that the governors will get out of the building as fast as they can. Looking along the vast expanse of wooden floors and wooden roof, the idea forced itself upon us that, if a fire were to occur here, we might expect one of the most frightful catastrophes that could be imagined. We could scarcely look at it without a shudder. Apart from this, however, here we shall have the system of back-to-back wards in operation to an exaggerated extent, there being on each floor six rows of beds; about eighty in the whole, on each. The windows, too, are mostly low down; several feet below the ceiling; and the whole arrangement, indeed, is as alarming as it could be. We do not desire to convey the least reproach on those who have been engaged on the work: as much may have been done as was thought right with reference to a contemplated short occupation: we simply reiterate the hope that the governors will get out of the building as quickly as possible; in order to do which, they must proceed immediately to construct a hospital on a proper site, in accordance with the teachings of our present knowledge.

THE ANTIQUITIES OF WELLS.

In a brief notice, in a former number, of the proceedings of the Somerset Archæological Society, we mentioned that Mr. J. H. Parker read a paper on "The Antiquities of Wells." We now give the paper in full:—

I have been requested, said the reader, to complete the architectural history of the City of Wells, which I left in some degree incomplete last year; but there remain now little besides mere gleanings of the rich harvest. I have already told you that I consider Wells as one of the most interesting cities we have remaining anywhere, from the unusually complete series of Mediæval buildings belonging to its ancient cathedral establishment. I believe there is not such a complete collection anywhere else; and the cathedral would lose more than half its interest if deprived of these adjuncts. I would strongly urge upon the inhabitants of Wells and of the county of Somerset the importance of preserving this series of buildings as complete as possible. If they are not patriotic enough to appreciate them for their artistic and historical value, they may, perhaps, be more open to the consideration of money value; and I am much mistaken if they do not find, in a very short time, the number of visitors who are attracted by the unusual interest of their city is large enough to become a valuable consideration, especially now that it has the advantage of railway communication with the rest of the world. I have reason to believe that the interest taken in our Mediæval buildings by all classes, high and low, has increased in a very extraordinary manner, within the last two or three years especially, and I may mention one or two facts in proof of this. Only last week I was informed, on good authority, that the number of visitors to see Westminster Abbey has been not less than a thousand a day during a great part of the present season; and on one particular day upwards of three thousand persons paid their sixpences to the fabric fund for seeing the royal tombs and chapels. During the same period the number of visitors to see Windsor Castle, on the days on which the public are admitted, which are five days in the week, has been upwards of twelve hundred a day. Of the interest taken in the subject by the higher classes I can myself bear witness; for I am overwhelmed with invitations from the highest nobility and gentry in the land to explain to them the history of their castles, or houses, or abbeys, or churches. The hundreds who attend the numerous architectural meetings testify to the same fact. I am also engaged upon the architectural history of Windsor Castle for her Majesty, who expresses great personal interest in the subject.

Nor are our neighbours across the Channel one whit behind us in the interest taken in the subject. The French Government, which reflects the opinions of the majority of the French nation far more faithfully than some of our friends are willing to allow, expends large sums every year in the preservation and restoration of their historical monuments, and in the formation of museums of antiquities. I am sorry to find that the people of this county, which is one the richest districts in Europe in historical monuments, are rather behind the world in their appreciation of them; and that during the last year one of the old Canons' houses in Wells, with a fine hall of the fifteenth century, has been wantonly destroyed under the name of improvement; and that the Organist's house, another of the series, which has first been almost spoiled by neglect and by the stupid alterations of the last century, is now threatened with entire destruction for the purpose of opening a view, one of the usual excuses of ignorance. I do not know who the parties are who are at the bottom of this spirit of destruction, and I do not wish to inquire; but I could almost be answerable that some old man, or old woman, of seventy is the prime mover of it. I have always found it so everywhere; and, the obstinacy of old age being added to the usual obstinacy of ignorance, it is generally quite impossible to move it or make any impression upon it: the only chance is that some younger men may overrule him; and we must endeavour to bring public opinion to bear upon all such cases. The last generation was entirely ignorant of the value of any Mediæval buildings. The history of England itself was very little studied or understood in their youth, and they could not understand at all these great landmarks of history. But in the present day, when every girl in her teens, who has had a decent education, is ashamed of her ignorance if she does not understand something about them, and is generally willing enough to show her own knowledge by laughing at the ignorance of others; and when every educated man points the finger of scorn at those who would destroy any historical monument; it is only necessary to expose such attempts, and not allow the mischief to be done in a corner.

But it is time that I came to my immediate subject—the Mediæval buildings of Wells. The Cathedral has been sufficiently done by others: the Bishop's Palace I described last year. I also gave a slight account of the Deanery, the Archdeaconry, the Vicar's Close, and the old houses of the canons and officers of the cathedral; but these, I think, will bear a little further elucidation.

The Deanery is said to have been built by Dean Gunthorpe (1472—1498); and, though a good deal spoiled by modern sash windows and other alterations, it is still nearly a perfect specimen of a gentleman's house of the fifteenth century, and has its own gate-house and wall of enclosure. The principal apartments were all on the first floor, which was a very common arrangement in Mediæval houses, the ground rooms being commonly cellars and storehouses; for the state of the country, the want of roads, the scarcity of shops, and the bad supply of the markets, made it necessary to keep a much larger quantity of provisions in store than is called for in these days. The salting-house, the bakehouse, the brewhouse, the spicery, and many other similar apartments, were quite necessary in a large house; and the whole of the ground-floor was frequently occupied in that manner. In the Deanery, the principal apartment was in the garden front, or back of the house, on the first floor, and is a valuable example of the transition from the earlier Mediæval hall, with its lofty roof, and the more comfortable dining-room of later days. At the upper end it has the beautiful bay window for the sideboard at the end of the dais; and at the lower end the music gallery, which is of stone, carried on a wide arch, with the stone staircase to it at one end—an unusual arrangement; and under the arch is the lavatory, for the guests to wash their hands before going into the hall, as this was behind the screen which crossed the entrance. But, instead of a lofty open roof, it had a flat panelled ceiling. The approach to this hall was by an external staircase at the corner of the house, of which the newel-post remains; and the doorway to it may be seen in the wall, with the marks of the pent-house over it. The present staircase was originally for the servants only, leading straight down to the kitchen and offices, which were on the ground floor. Behind the dais at the upper end of the hall is the solar, or lord's chamber, known as Henry the Seventh's chamber, because that monarch is said to have slept there on his visit to Wells. The house has formed three sides of a quadrangle, with a curtain wall across the fourth side or front, towards the principal court and the gate-house. It has octagonal turrets at the corners, apparently more for ornament than for defence.

The Archdeacoury appears to have been a house of at least equal importance with the Deanery: in fact, the hall of it is larger and more imposing; and, in this instance, it occupied the whole height of the building from the ground to the roof. The house was originally built in the time of Edward I., as is shown by the windows in the gable at the east end, and one of the doorways near to this end, which has a fine suite of mouldings on the exterior, and a foliated arch within. This was the back door to the servants' court; the front door towards the Close was larger and more important; but only a part of the foliated inner arch can now be traced in the wall, the front of the house having been entirely modernized. The hall occupied about two-thirds of this part of the house, and still retains a very fine open-timber roof of the early part of the fifteenth century, probably of the time of Bishop Bubwith, as it agrees with the roof of the hall and chapel of his almshouse. In the east wall of the archdeacon's hall are the three doorways of the buttery, pantry, and kitchen, as usual, showing that the offices were at the east end of the house, but have been destroyed. At the further end of the house, beyond the dais, it was divided into two stories—the cellar, or store-room, or parlour below, and the solar, or lord's chamber, or withdrawing-room, above: this solar is itself a room of considerable size. The whole of the arrangements indicate that the archdeacon was a person of considerable importance, and able to exercise hospitality on a grand scale; or the house may have been a sort of residentiary, where the Chapter exercised their hospitality as a body, like the guests' hall, recently destroyed at Worcester.

The house of the choir-master, at the east end of the cathedral, is a small gentleman's house of the fifteenth century, tolerably perfect, with the roof and the upper part of the windows of the hall remaining, but disguised and concealed by modern partitions. The porch, with the room over it, remains perfect, and adds much to the picturesque beauty of the house, the rest of which is entirely modernized; and the original offices seem to have been destroyed, as is frequently the case.

The singing-school is over part of the west wall of the cloister, and joins on to the south-west corner of the cathedral. The organist's house is close to this, and is one of the smaller houses of the fifteenth century, the plan of which was that of the letter T, the hall forming the top-stroke, and the rest of the house the stem; but the house has been almost entirely spoiled during the last century; vile additions having been made to it, encroaching on the small space originally left between the house and the cloister, and destroying the outline of the house; which, when it stood clear, must have been extremely picturesque. The interior is also spoiled by modern partitions, now become more old-looking and more rotten than the original roof of the hall which remains.

Most of the canons' houses have been either rebuilt entirely or much spoiled by modern alterations; one of them to the north-east of the cathedral (now occupied by Canon Brodrick) has a good porch and a panelled battlement of the fifteenth century.

Another house, rather farther to the east (now the school), is partly of the fourteenth century, with a good finial on the gable, and the moulded arch of a doorway of that period, evidently the chief entrance to the hall originally, but long blocked up. This hall has a fine timber roof with angel corbels, but quite concealed by modern lath-and-plaster ceilings. The cellar or store-room remains, with several lockers in the wall, and is now the school-room. The solar over this is modernized, but this also contains the old roof, with its gable and coping. To this, wings have been added in the fifteenth or sixteenth century, apparently to obtain additional bedrooms; and it is probable that at that time the original kitchen and offices

at the other end of the hall were destroyed, and new ones made in the new wing. Such a change as this was very frequently made in the sixteenth century.

The very remarkable and picturesque Vicars' Close is so well known that it is not necessary to repeat any long story about it, but the outline of its history may be mentioned. The Vicars' Choral formed part of the original establishment of the cathedral, and were incorporated by Bishop Joceline in the beginning of the thirteenth century; and, as he was a great builder, it is probable that he built houses for them; but all that we have remaining of his time are some fragments of beautifully-sculptured ornament used up as old material, and built in the spandrels of the arches of the windows, and in the parapet. These correspond exactly with his work in the cathedral, and with the remains of his palace at Wookey; but they may have been brought from some part of the cathedral now destroyed, and the original vicars' houses may have been of wood only, as was very usual at that period. These were rebuilt by Bishop Ralph, of Shrewsbury, in the fourteenth century; and he expressly mentions in his will the houses that he has built for the vicars; but all that now remains of his work is the hall, with its west window and side windows: the east end over the gateway was lengthened in the time of Henry VIII. by Richard Pomeroy.

The present houses were entirely built or rebuilt by the executors of Bishop Beckington, late in the fifteenth century, on one uniform plan; and several of these remain nearly perfect, though in many cases they have been altered, and two houses thrown into one. Nor can we complain much of this, when we remember that the houses were originally intended for bachelors only, and each consisted of two rooms with closets at the back, but no offices. The vicars dined together in their common hall, and required no kitchen in their houses. The Close was, in fact, a college, in which each student had a separate small house, instead of his two rooms in a large one.

The very beautiful gate-house and bridge over the road from the Vicars' Hall to the cathedral, is part of the numerous works of Bishop Beckington, one of the greatest benefactors of the city. The southern arch of this bridge, the one nearest to the Chapter-house, has long been concealed from view on the east side by a wall, which has lately been removed; on the west side by a stable built up against it, probably in the seventeenth century, but constructed of old materials so ingeniously put together as to deceive the eye at a very short distance, and to appear like part of the original structure. This obstruction, I am happy to say, is about to be removed, and the arch left open, which will greatly improve the effect of this very remarkable bridge. I can see no reason for keeping the passage across this bridge always closed, or why the theological students should not be allowed to go across it from their library, formerly the Vicars' Hall, to the cathedral, as the vicars did of old. This would be, in fact, restoring it to the purpose for which it was built; for the present theological students much more truly represent the class of persons for whose use the Vicars' Close itself and the bridge was built, than the present corporation of vicars does. The degradation of the class of vicars choral generally, now called singing men, is one of the curses brought upon the Church by the change in the value of money.

The only other Mediæval house in Wells is, I believe, Bishop Bubwith's almshouse, near St. Cuthbert's Church. This is remarkably perfect and very interesting, though much spoiled about a dozen years ago by some stupid builder, who could not understand or appreciate the wise arrangements of our ancestors. The original plan was a great hall, with a chapel at the end of it, and with cells along the sides for the almsmen, which were open at the top to the lofty and fine timber roof, so that each old man had the benefit of many hundred cubic feet of air; and, in case he became ill or infirm, he could hear the service chanted daily in the chapel without leaving his bed; and if he was able only to crawl to the door of his cell, he could see the elevation of the host by looking along the central passage to the chapel, and he could always attend divine service, however old or infirm he might be. At the opposite end of the hall was a building of two stories, the lower one of which would be the common room of the almsmen; and over it the chaplain's or master's apartment. In this apartment is now preserved a very fine money-chest of the fifteenth century, with the usual three locks, and painted in the old style with a scroll pattern. This is supported on a stand made for it in the time of James I., with some curious doggerel verses upon it. It is, perhaps, hardly necessary to observe that the arrangement of the cells along the sides of a large hall is exactly the same as that of the dormitory of a monastery. This arrangement is the most economical of space consistent with an abundance of air, and has been adopted in the dormitory of Ridley school, and some other large schools, where the masters are enlightened enough to profit by the wisdom of their ancestors. The same arrangement is also adopted in some of the public baths lately erected in various places, and for the same reasons. The partitions of the cells give privacy without losing space; and, being open at the top to the roof, there is plenty of air. At Glastonbury, an almshouse of this description has had the hall roof destroyed, and each of the cells roofed over, so as to turn them into a little street of cottages. I cannot see the advantage of this change. When the old arrangement was kept up, the almsmen, or the monks, were kept warm in the winter by hangings and an awning over the cell. But the modern builder has effected the *improvement* of making each cell as nearly air-tight as possible with lath and plaster, and introduced a second set of cells on a floor over the original ones; thus entirely spoiling the old hall, and allowing each almsman only a very limited supply of air, hardly sufficient for health. I know nothing of the history of this alteration, but it seems natural to suppose that it has been done under the direction of some corporate body of governors, and has been considered a clever and ingenious construction, to accommodate double the number of almsmen in the same space and under the same roof; and it looks as if the trustees of the property with which the hospital was endowed by the founder had, after long neglect, been seized with some qualms of conscience, or some wholesome fear of the Charity Commission, and had observed that their funds were more than sufficient for the then existing number of almsmen at the then rate of payment. In such cases it very commonly happens that the change in the value of money since the time of the foundation is entirely forgotten. If the endowment was in land, as it probably was, it is worth now, in nominal money value, twenty times the sum at which it was reckoned by the founder. This is no random assertion, but is well known to those who have studied the subject: and I am not now speaking of the Wells case in particular: I only guess from appearances that the case is one of those of constant occurrence everywhere.*

But to return to architecture. I have omitted to mention the Bishop's Barn, which is a very fine and perfect one of the early part of the fifteenth century, probably built by Bishop Bubwith, as the construction of the roof is the same as that of his almshouses, although plainer.

St. Cuthbert's Church does not properly belong to my subject; but, in order to complete the history of the Mediæval buildings remaining at Wells, perhaps a short account of it may be desirable. It was originally a cruciform church of the thirteenth century with a central tower, and with aisles to the nave, but of the church all that remains in the original state is a part of the north transept; the central tower has been removed, the church entirely rebuilt in the fifteenth century, without a vestige of the old work. The pillars and arches of the nave have been rebuilt in the fifteenth century also, and the pillars lengthened considerably. The arches, with their dripstones, preserved and used again on the taller pillars, and most of the capitals have had the foliage cut off. The aisle walls, the clerestory, and roof, are all Late Perpendicular, about the time of Henry the Seventh; but the beautiful west tower is evidently earlier than the clerestory and roof, and has the mark of the old roof on the east side of it, coming below the present clerestory. This fine tower, which is certainly one of the finest of its class, and which Mr. Freeman considers, I believe, to rank only second to one other, is said to have been built in the time of Bishop Bubwith, or about 1430; and this appears to me probable. The character of the work is rather Early Perpendicular, and the groined vault under the belfry appears to be an imitation of the Decorated vault of the cathedral. The arms in the spandrels of the west door belong to benefactors whose families disappear from the City Records about 1450. If the tower prove to be of the time of Bishop Bubwith, it is a valuable date to have ascertained, as these rich Somersetshire towers are usually considered to be half a century later; and it seems more probable, as Mr. Freeman observed to us last year, that they do in reality spread over about a century, than that they were all built in twenty or thirty years at the end of it.

As I have now said all that appears to me to be necessary respecting the buildings of Wells, I may, perhaps, be allowed to add a few words as to the manner in which it is probable that funds were provided for building them. There were, no doubt, at all periods some men who were fond of building, and when these men happened to be wealthy they built a great deal, as in the case of Bishop Beckington, who must have expended a very large sum during his lifetime in building, and left the remainder of his fortune to his executors to be expended in the same manner. But there are men who are fond of building in these days also; the difference is, that building was almost the only mode of displaying wealth in those days, and every one likes to leave some memento of himself behind him if he can.

For those buildings belonging to a cathedral chapter there is, however, another mode in which funds may have been supplied, at least in part. In nearly all these foundations certain estates were set apart by the founder, or by the chapter, from its earliest days to form the fabric fund; out of this fund a gang of workmen was kept in the regular employ of the chapter, and we find from the records of several of our cathedrals that the same families continued to serve the chapter as masons or carpenters or smiths generation after generation. In this manner they acquired great skill in their art; and although the architect, or master-mason, may have travelled and got new ideas from time to time, the greater part of the workmen were stationary, and naturally formed a school of their own, which accounts for the provincial character we very often find in Mediæval buildings. After the cathedral was completed these men would naturally be employed by the chapter in any other works that were required, such as houses for the canons or officers, or for building churches on the manors belonging to the chapter. When a parish was an independent rectory it commonly had a fabric fund of its own; and any one who has read many of the wills of the middle ages must have met with many bequests to the fabric, and these do not always prove that any particular work was going on, although they were, of course, more numerous at such times. When great works were going on, and funds full short, the chapter sent round briefs or begging letters in all directions, and frequently obtained large contributions to their fabric fund. It was therefore by the joint action of the voluntary principle and the hereditary principle, or the endowments bequeathed by our ancestors, that those magnificent series of structures were erected.

Extract from the Chapter Books, A.D. 1325.

"Item—That the bishop shall contribute to the fabric of the new work of the church of Wells one moiety of the proceeds of his visitation.

Item — Because the stalls in the choir are ruinous and ugly, it was ordered on the same day, that all and every of the Canons who are duly constituted in the dignity and office, shall make their own stalls at their own expense, and that the dean may compel them to do so."

This shows that the buildings were not completed in 1325; it is probable that the Lady Chapel and the Chapter House were the works then carrying on. The stalls then ordered to be made were turned out as rubbish a few years ago, having previously been much spoiled. One of the ends of a stall-desk has been fortunately preserved

---

* In reply to these observations, the following has been written:—

"If Mr. Parker had but seen the miserable dens, 6 feet by 8 feet, with the board floors resting on the soil, only serving to increase the infirmities of the almsmen who occupied them; I cannot imagine he would prefer them to the present roomy, comfortable apartments, each with sufficient ventilation to the corridors or central passages, and having two light windows of same character as the original small single light. So that, instead of being 'hardly sufficient for health,' the contrary is the fact, the health of the inmates being greatly improved in consequence of the alterations.

The chapel has been scrupulously restored, parts of the old stalls and wood work remaining as examples; and it can still be seen from the door of each apartment; although, happily, a better form of worship is now celebrated there than at the period referred to with such apparent regret.

Mr. Parker may have easily ascertained that the charity is vested in the Dean and Chapter of Wells, with the mayor and part of the council as trustees; E. Davies, esq., being the governor of the almshouse. The funds of the charity having been much improved under the present management, the trustees, with a very laudable desire to extend the benefits of the charity and comfort of the inmates (and not from any 'qualms of conscience'), directed me to prepare plans and specifications, consistent with the character of the building, for their approval; and the works were afterwards substantially executed by a respectable builder. I would venture to add that those who advocate a return to the dwellings of former times, in order to be consistent, should also return to the manners and customs then prevailing; but, above all, should [illegible] and have charity towards others.

EDWIN HIPPISLEY, Surveyor."

by Mr. G. G. Scott, who obtained it by accident, and knew its value. A photograph of this was exhibited by Mr. Parker, and was acknowledged by all to be a very fine specimen of the woodwork of the fourteenth century.

THE BIRMINGHAM SEWERAGE.

PROGRESS is being made with the sewerage of Birmingham. The key of the system is the great outlet at the filtration works at Saltley. To this point the whole of the sewerage matter is conducted by two great or main sewers, running along the valleys into which Birmingham slopes each way from the ridge or high ground occupied by the central portion of the town. The Northern (or Hockley Brook) main sewer traverses the Hockley Brook Valley, keeping very nearly alongside the brook, and draining the side of the town lying beyond St. Philip's Church, including the Hagley-road and Monument-lane side of Edgbaston. The Southern (or River Rea) main runs along the Rea valley, draining the slope from New-street and High-street on the one side, and from the high lands at Small Heath on the other, and receiving also the drainage of the lower part of Broad-street and of all Edgbaston south of the Hagley-road. These main sewers are 5 feet 9 inches high by 3 feet 6 inches broad at the outlet, diminishing gradually to their sources, where they are respectively 3 feet 6 inches by 2 feet 6 inches. They are of almost equal length, the Southern (or Rea) main being 4½ miles long from outlet to source, and the Northern (or Hockley) main being 4 miles long. The minor mains are numerous and intricate in route on account of the size and form of the town. The main sewers are supplied at intervals with storm gates for rainy weather; and flushing apparatus is provided for dry weather.

Up to the end of last year, 53 miles and 162 yards of sewers had been constructed and were in work; and there remained to be constructed 69 miles 1 furlong and 154 yards. The total length of the borough sewerage will be about 122¼ miles. Last year, about 2¾ miles of sewers were constructed. This year 5¾ miles have already been completed, and 4½ miles additional are in rapid progress, making a total of 10½ miles to be finished during the present year, or nearly four times as much as was accomplished in 1861.

The outlay from 1852 to 1860, under the first Improvement Act, was 127,543*l.* odd—viz., for new sewers, 97,650*l.* 2s. 8d.; for compensation and purchase of land, 21,713*l.* 14s. 9d.; and for filtration works, 8,180*l.* 1s. 6d. Under the new Improvement Act, power was taken to borrow 150,000*l.* for sewerage and street pavements, and the landowners obtained the insertion of a clause obliging the council to spend 40,000*l.* of this sum within two years on sewerage alone.

APHORISMS RESPECTING CHRISTIAN ART.

THE following translation from the German of Reichensperger is given in the current number of the *Ecclesiologist*:—

High cultivation shows itself less in writing and speaking, than in will and action.

According to the Gothic principle of construction, the least is contained in the greatest; and, virtually, the greatest in the least.

An accomplished architect must possess not only æsthetical but also logical talent. The mind for the exact sciences and the abstract must, so to speak, counterbalance the mind for the empirical and the forms of Nature. Let him who wishes to understand this clearly, try his hand a little on analysis of Mediæval cathedrals.

The inclination towards art, if it is to be living and fruitful, must proceed from the heart, not from the head. So, in all classical periods of art, people understood art with their hearts; and the masses will never have any other organ wherewith to understand it. The reflection presents only a paltry substitute, whenever that glance of the soul (intuition) is dimmed by the mist of false principles.

Art must feed on the marrow of history.

The æsthetic education of the people can only be accomplished on the basis of their religious education.

It is the property of great works that, when viewed from a distance, they seem impossible. Only walk boldly up to the thing, and set to.

The Gothic style brought about a revolution in the domain of art, similar to that effected by Kepler's system in astronomy. As in the latter the ellipse displaced the circle, so in the former the pointed arch displaced the round. But who would grasp backwards at the cycles and epicycles of the earlier theory of the universe?

Architecture preserves the other arts from evaporating.

Is is rather too late now to talk of *false* taste: taste is gone *altogether*.

People do Goethe great injustice in calling him a pagan: paganism was *religious* to its very core.

Productive power acquires strength only in struggling with material. Our substitutes and multiplying apparatus will therefore have the effect of more and more weakening artistic fertility.

As diamond polishes diamond, so man is formed by man.

Revolutions in science and art take deeper hold, and have a slower course, than political revolutions. The same relation exists in the case of the reaction.

The unguarded eye may for a time think that it sees solid gold, when tinsel is presented to it; but it will at length set itself right; and art which speculates on deceiving the senses will always come to shame.

Our art can abjure Christianity, but not set up anything positive in opposition to it.

The beauty of Christian art consists not in determinate forms corresponding to general notions, but in the multiplicity of individualities, having their centre in an ideal—namely, in Christ. A living mediation between the ideal, the spiritual, and the real, is the task of the artist. Empty idealism is just as dangerous a rock as slavish subjection to nature. Pietism in art, equally with rationalism, is apt to lead astray.

Form is, in itself, empty and dead; it obtains life and signification only through its relations to matter and spirit.

THE DUKE OF NORTHUMBERLAND'S DISTRICT CHURCHES.

THE laying of the foundation-stones of three churches, endowed by the Duke of Northumberland, and to be erected at North Shields, Whitley, and Percy Main, has already been noticed.

The new church at North Shields, which is intended for the Low Town District, will be designated St. Peter's, and stand upon a site on the east side of the Borough-road, and opposite the Sailors' Home. It will be built of stone, in the Early English style, with nave, aisle, and chancel. The dimensions are:—Nave, 48 feet by 29 feet 9 inches; south aisle, 62 feet by 23 feet 6 inches; north aisle, 64 feet by 15 feet 6 inches; chancel, 20 feet by 18 feet. Accommodation will be provided for 700 sittings. The sloping line of the Low-street will give the opportunity of adding a small tower terminating in a spire, which will contain a bell; and also for a flight of steps from the street to the south door. There will likewise be another entrance at the west end. The parsonage-house will be erected upon ground on the west side of the Borough-road, and about 300 yards from the church.

The Whitley edifice is dedicated to St. Paul, and will be erected in a field in the village of Whitley. The style of the building is Early English. On each side of the nave will be arcades of five arches on the north, and of four arches on the south; and the clerestories will be lighted with lancet windows, the roofs being open timbered. The dimensions of the nave are 84 feet by 21 feet; the south aisle, 64 feet by 12 feet; and the north aisle, 80 feet by 12 feet; the chancel 26 feet by 18 feet 6 inches, with a vestry attached. The tower will be placed at the east end of the south aisle; and the entrance to the church will be through it by means of porches on the north and south.

The Percy Main Church will occupy a site in the raft yard of Percy Main old colliery, the working of which was discontinued many years ago. The present chapel, on the completion of the church, will be devoted to the purposes of a school-room. Mr. Salvin, the duke's architect, has prepared the plans for the new edifice; and the contractors are Messrs. George Smith & Co., of London, the firm who have carried out the extensive restorations of the masonwork of Alnwick Castle. As an indispensable adjunct to the churches, his grace has provided parsonage-houses The carrying out of this part of the scheme has been entrusted to Mr. Green, of Newcastle, architect; and the necessary works for three of the houses have already been let. The church at Percy Main will cover an area of 54 feet wide, by 106 feet in length, and will consist of a nave, 68 feet in length, with north and south aisles, and a chancel, 32 feet long. Between the nave and aisles there will run two arcades, each consisting of four Gothic arches. The style will be Early English. The entrance will be by porches on the north and south sides; and at the west end of the building will be placed a bell gable. The church will be seated to accommodate about 600 persons.

COMPETITIONS.

Leeds: New Baptist Chapel and Schools in Woodhouse-lane.—The design of Messrs. Paull & Ayliffe, of Manchester, has been selected, and will be forthwith carried out under their superintendence. The funds for this undertaking have been chiefly obtained by the sale of the present chapel and site in Great George-street, which have been purchased for the proposed new Infirmary at Leeds.

New Independent Chapel and Schools at Heckmondwicke.—The design submitted in competition by Messrs. Paull & Ayliffe has been adopted for this building, and the works will shortly be commenced under their supervision. The estimated cost of the structure is about 3,000*l.* The chapel will accommodate 1,000 persons; and, owing to the nature of the site, the school-rooms will be placed underneath. The style is Italian.

CARLISLE WORKHOUSE COMPETITION.

FIFTEEN sets of plans were sent in, as follow:—

No. 1. J. N. Black, Carlisle. 2. J. Giles, London. 3. Messrs. Lockwood & Mawson, Bradford. 4. Mr. Birkett, Carlisle. 5. Messrs. Styan, York and Manchester. 6. Mr. Oates, Halifax. 7. "Utility, Economy," Mr. Aliom, London. 8. George Atkin, London. 9. Mr. Eglesfield, Maryport. 10. "Toila," Mr. Jackman, Brentford. 11. Mr. Penrice, Longtown. 12. Messrs. Hay, Liverpool. 13. Mr. Jackson. 14. "Utilis." 15. "Labor et spes," Pritchett & Son, York.

These were reduced to six, viz., Nos. 2, 3, 4, 5, 6, and 9; and the committee then engaged Mr. James Stewart and Mr. John Hodgson, architects, to select one of the six as the best. The architects reported in favour of No. 3 (Messrs. Lockwood & Mawson); and at the last meeting of the board of guardians this decision was confirmed. The style of the selected building is Italian, and may cost either 10,450*l.* or 9,770*l.*, according to arrangement. The selected six were exhibited to the public for a few days.

THE FEVER AT ROTHERHAM.

WE are glad to learn that the sanitary measures which the Local Board have carried out, and the remedial measures adopted by the resident medical practitioners, have resulted, according to the local *Independent*, in perceptibly checking the ravages of the disease. The sudden outbreak of the epidemic has naturally directed attention to the sanitary state of the district; and, as pointed out, the deficient supply of water has been generally recognized as one of the chief causes of the fever. The Local Board have inquired into the capabilities of the district to furnish an increased supply of water. The committee appointed to inquire into and report upon the matter have presented a report to the board. Several sources were pointed out from which an increased supply might be obtained; and the committee recommended that whatever scheme was adopted should be based upon the absolute capability to supply the town with 300,000 gallons of water per day; the present supply being only 100,000 gallons. Dr. Whitley, the Government sanitary inspector, has intimated, we understand, that he had come to the conclusion that the epidemic was chiefly attributable to the deficient supply of water, which allowed the drains to become choked with refuse; and he strongly recommended that steps should be taken to remove this cause of disease. The board have resolved, in accordance with the recommendation of the committee, to employ at once an eminent water engineer, in order that they may be able to deposit plans in time for the next session. The local medical officer, too, concurs with the Government inspector in attributing the fever to the deficient supply of water. Particular attention has been drawn to the state of the workhouse, which is represented as most serious, owing to the want of water to flush the water-closets and drains. The governor was one of the first attacked by the epidemic.

FALL OF A BLAST FURNACE.—One of the four furnaces at present being worked by Captain Bennitt, near Oldbury, has given way. The furnaces were in full blast, and the molten iron ran in every direction, but fortunately no loss of life occurred. The adjoining furnaces were serious damaged by the fall.

THE CAMBRIAN ARCHÆOLOGICAL ASSOCIATION.

THIS association met at Truro, in Cornwall, on the 25th ultimo. A temporary museum was prepared in the council-chamber; and here the members and friends assembled. The Earl of Dunraven occupied the chair, in the temporary absence of Mr. Hussey Vivian, the president. The usual report was read, and other proceedings took place.

On Tuesday, the 26th, there was an excursion to Bodmin, Lanhydrock, and Lostwithiel, made by about 100 persons; and in the evening a large assemblage met in the town-hall; one full half of those present being ladies. Mr. Vivian occupied the chair, and was re-elected president, and delivered an address to the meeting, chiefly on the Celtic antecedents of the Cornish race. Mr. Couch afterwards gave an account of the excursion. Mr. G. T. Clark, F.S.A., then read a paper on the Castellated Architecture of Wales.

On Wednesday, excursions were made to Carnbrae and down the river Fal, by eighty or ninety archæologists and their friends. During a visit to Carnbrae mines, a short lecture was delivered by Mr. Warrington Smith, on Mining, ancient and modern, to the excursionists and miners. In the evening, a conversazione was held in the council-chamber, Truro, when there was again a numerous attendance. Mr. E. A. Freeman gave an address on Ecclesiastical Architecture in Wales, profusely illustrated by drawings; and the Rev. F. Hingeston read a paper on the Churches of Cornwall. Mr. Parker gave some account of the domestic architecture of Cornwall. A paper was forwarded by Mr. Thomas Wright, F.S.A., on the Arthurian legend of the Cort Mantel, as illustrating the connexion between Celtic and Mediæval literature, which is to be published in the journal of the association.

On Thursday, a numerous party of excursionists visited St. Michael's Mount and the Land's End, dining at Penzance, where an evening meeting was held in the assembly-room of the Union Hotel.

The programme for Friday included an excursion to Gulval, Zennor, Morval, and Madron; an evening meeting at Truro, and review of the excursion by Mr. J. T. Blight and Professor Babington; together with papers on Welsh crosses and inscribed stones, notes on remains of Early British Tin Works, by Mr. Robert Hunt, F.R.S.; and notes on the question of the intercourse of the Phœnicians with Cornwall, by Dr. Barham.

The arrangements for Saturday included an excursion to St. Piran's Round and Lost Church; a visit to the churches of St. Clement (and the inscribed stone there), and St. Mary; the museum of the Royal Institution of Cornwall; and an evening meeting, after which the proceedings formally closed.

THE MANAGEMENT OF FLOWERS IN DWELLINGS.

AT this season of the year, when flowers are still plentiful, even in the City "gardens," which we recently sketched with pen and pencil; a note of warning respecting their sanitary effect in dwellings may be useful; for, notwithstanding all their beauty; flowers, if not properly managed, are a source of sickness and danger. In closed and darkened apartments, and in the night, flowers which are so delightful to the eye throw off quantities of carbonic acid gas, which mixes with and poisons the atmosphere; and, to add to the evil, in the night, while the leaves are distributing the unwholesome carbonic acid, they absorb largely the oxygen of the atmosphere; and in this way, in a close apartment, flowers have precisely the same effect as human beings sleeping.

Fatal results are said to have arisen from this cause. Many cases are related, but the following may suffice:—A medical gentleman was called on to attend a young lady who was supposed to have been attacked by bilious fever: the visitor, however, doubted that this was the true nature of the disorder; the symptoms clearly showing the effect of noxious gaseous inhalation. He asked to see the room in which the patient usually slept; and found it crowded everywhere with pots of favourite flowers. This, he concluded, was the cause of the mischief, as the plants must have been absorbing the oxygen of the air which was necessary for the preservation of the health of their sleeping mistress, and loading it, instead, with noxious gas. Some simple remedies, but especially the removal to a well-ventilated bedroom, in which there were no flowers, soon restored the patient to health.

In the daylight, the effect of flowers upon health is different; for, if the sun's rays are admitted freely into an apartment, the effect of plants is beneficial, as is shown by the result of an experiment made by Dr. Gilly, who found that grass leaves exposed to the sun in a vessel for four hours yielded the following results:—At the commencement of the experiment the jar contained 10·507 nitrogen, 5·7 carbonic acid, 2·793 oxygen; at the end of the experiment, 10·507 nitrogen, 0·37 carbonic acid, 7·79 oxygen. These results show clearly that in the course of the four hours the grass in the sunshine had absorbed nearly the whole of the carbonic acid, and also thrown off a considerable quantity of oxygen.

If this experiment had been made at night, the effect would have been the reverse: the oxygen would have been diminished, and the carbonic acid gas increased.

It is clearly advisable, therefore, that plants and flowers should at night be kept as carefully as possible from bedrooms; and, while the sun is set, even from other apartments in which persons live. Such, however, is the charm of flowers, it is not probable that, from any sanitary considerations, they will ever be driven from dining-rooms, ball-rooms, and elsewhere; but the peculiar effects to which we have referred show how necessary it is in such places to have thorough ventilation.

During the day-time, if the light be freely admitted, plants, if healthy; and flowers, if they be fresh; are beneficial to the atmosphere of a bedroom; but if the bed-room be kept darkened during the day, the flowers will vitiate the air; for then the carbonic acid will fail to be decomposed, and the oxygen to be distributed: the plants, therefore, will act almost in the same injurious manner as in the night-time. In such conditions the bright carmine tints of the rose, and other brilliant hues, will pale, and sickness seize the plants themselves, as it does children and others who live in dark places away from the sunshine.

The danger of retaining stale bouquets is evident; for, while withering, they throw off volumes of carbonic acid. Ladies of delicate constitution, and others, have been made ill by smelling flowers which had become slightly decomposed; and this circumstance shows the necessity which exists for destroying by fire, or in some way effectually covering up, the leaves which fall in the gardens and grounds surrounding dwellings, both in town and country.

INCREASED WATER-SUPPLY FOR LEEDS.

THE Town Council of Leeds have agreed to a scheme prepared by the borough surveyor for the better supply of water to the outskirts.

The surveyor's report stated that the whole of the present system of mains, both chief and submains, was unequal to the distribution of water now required. He found that the districts at present most immediately in need of additional mains were Woodhouse Carr and Buslingthorpe, New Wortley, Chapeltown-road and Newton-green, Beeston-hill and Holbeck, and York-road. To supply all these district mains a new chief or leading main is proposed, from Woodhouse reservoir, beginning at the south end of it, so as to compel the water to travel constantly from end to end of that reservoir, and keep it in cool and sweet condition (when covered over) by constant change, instead of, as at present, passing the major part of the water into and immediately out again at the north end. This new chief main would be 24-inch diameter as it leaves Woodhouse reservoir, and proceed down St. John's-hill, Clarendon-road, Great George-street, to Woodhouse-lane, and reducing in size as it connects with the several district mains to 22-inch, 20-inch, and 18-inch, and joining into the 14-inch existing main in Woodhouse-lane, and having the 10-inch main to Wortley, the existing 10-inch main to the West and Mill Hill wards, and the new 15-inch to Holbeck, branched from it at these points. The cost of this scheme is as follows:—Six-inch main to Buslingthorpe, 550*l.*; 10-inch and 8-inch mains to New Wortley, 2,008*l.*; 9-inch main to Chapeltown-road, 798*l.*; 12-inch, 9-inch, and 6-inch mains to Hunslet, 2,125*l.*; 10-inch, 7-inch, and 5-inch mains to Holbeck and Beeston, 727*l.*; 7-inch main for York-road, 589*l.*; 15-inch, 10-inch, and 8-inch main for east and north-east districts, 970*l.*; 15-inch main for Holbeck and Hunslet districts, 2,211*l.*; 24-inch, 22-inch, 20-inch, and 18-inch chief main, 5,032*l.*; connexions and branches, 1,000*l.*; sluice cocks, 500*l.*; plugs, 200*l.*; other contingencies, 1,500*l.*; making a total of 18,210*l.*

SOCIAL BRIDGE BUILDING.

KNOWING the want which there is in the metropolis of opportunities for little bands of persons meeting together for the purpose of mutual instruction, and for the exchange of acts of kindness which have a beneficial influence, it has often occurred to us that the Sunday schools might be made a foundation for other advantages besides those which they were originally intended to provide. A case has come to notice which illustrates our meaning. A young man of excellent education, good manners, and with some knowledge of scientific matters, undertakes to teach a Sunday school class, consisting of from twelve to fifteen boys, the sons mostly of respectable mechanics: but, besides attending on the Sunday, this teacher invites his scholars to his well-furnished apartments, on an evening in the middle of each week, when there are pleasant readings given and chemical and other experiments made: there are gossips on natural history, and remarks are made on art and on the nature of various manufactures; or, when the weather is fine and the evenings are long, excursions are made to the fields. The beneficial effect of all this on the boys is marked: they improve in their manners: they become more careful as regards personal appearance; select in the choice of their companions; and more attentive as regards their attendance at the day schools. We make a note of the building of this social bridge, in the hope that it may lead to the formation of others of a similar description.

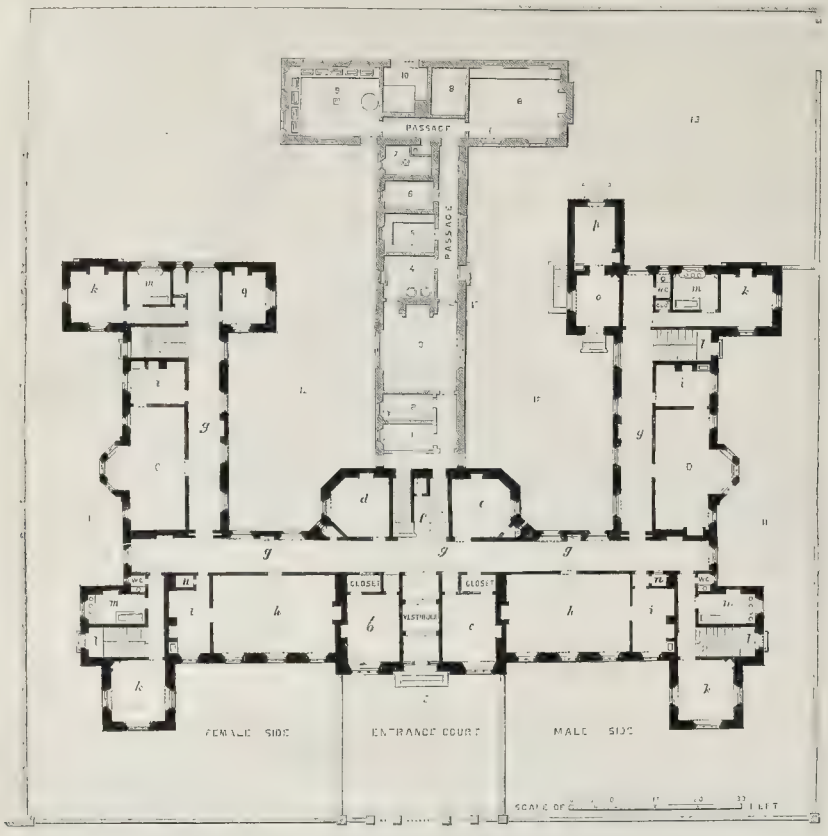
Mrs. Fison, a lady well fitted by her earnestness and ability for the task, has been lecturing on the total abstinence question, and looked at the matter in connexion with the homes of the people. The lecturer, without entering into statistics, made especial reference to the sanitary condition of the dwellings of the poor; the necessity for fresh air, wholesome food, pure water, and the light of heaven. The evils which drive men from their homes to seek the excitement of strong drinks were fairly discussed, and the great necessity for the introduction of a better system urged. This is a broad and sensible view of the subject. Many well-meaning men, and women too, in the excess of their zeal, have attributed all the evil conditions of the homes of the workers to the "bottle;" not taking into consideration the thousands of the young, of both sexes, who have, by the arrangements of their homes, been reared in practices of vice and drunkenness; and of the many more thousands who have been driven to the public-house by the unwholesome and uncomfortable state of the rooms which they have been forced to occupy. While admitting, as readily as any one can, the evils of intemperance, we consider that only partial good will be effected by looking at the great question of social improvement from one side only.

TREES IN KENSINGTON GARDENS AND HYDE PARK.

THERE is little difference of opinion on this subject between our correspondent, "J. B.," and ourselves. He wishes for drains to save the failing trees. We would recommend surface drainage by pipes (terra cotta), sunk 1 foot at most, where depressed flats retain water; and this is the case in three or four positions in the gardens; about eight or ten acres being plashy after rain; the rest being dry and sloping.

As to the nature of the soil, it is not the most favourable for the growth of forest timber: some of it is of coarse, some of fine and dry, gravel; but the greater portion "*is mixed with stiff clay.*" Where fair space is given to the trees, they have, however, attained a good stature; but the wretched condition of the thickly-set groves is imputable chiefly to absurdly crowded planting.

Since "J. B.'s" letter appeared we have inspected the whole of the Gardens, and the condition of the timber: the necessity for drainage in a few places was certainly palpable; but the main cause of the prevalent decay was equally so; for, on measuring the distances, we found several noble stems 3 feet only apart; the roots touching, and interlaced; very many 5, 6, 7, 9, and 12 feet; the branches, of course, being intermixed; and in such cases the growth and spread of all, so close in conflict, seemed deformed and denaturalized. Here, three together, 9 feet apart (from centre to centre) discovered *one* only of fair growth, having the mastery, and two bare poles; there, five, of which two had attained to robust stature. So that in many places we concluded that not one out of four, but two out of three should be cut down; but we would by *no means recommend an equable clearance throughout.*



THE CHALMERS HOSPITAL, BANFF.—*Plan of Ground Floor.*

It is only in such cases that thinning old forest groves should be advised. In every succeeding year, each preys upon the other (both in root and branch), and they become more deformed and enfeebled. For the proper development of a noble tree, a certain space is required. Deriving their nutriment *de situ*, they can no more thrive under such restrictions, than can a herd of twelve oxen turned into a field adequate to the support and depasturage of only three.

Moreover, we have from experience found that a fine tree, when liberated from the drip and shade, and lashing of a kindred giant, in too close propinquity, although at first somewhat naked and disfigured on that side, will throw out branches and foliage in after years; and, standing forth unmolested, become tolerably natural and graceful.

"J. B." admits that these groves were not thinned out sufficiently at the proper time: in which other way, then, can we now deal with them? At about the period, or somewhat before these gardens were laid out in stiff and formal Dutch fashion, the illustrious John Evelyn planted his estate in Wooton, Surrey, on a light sandy soil, amidst hills: he took care to keep his mansion at a fair distance from his woods; well knowing the value of a dry atmosphere, and the unhealthy influence of overshadowing trees. The plantations of this estate, although on poor soil, yield the finest timber, simply because the constant attention of proper woodreeves had them duly thinned, and preserved the right distances. On the adjacent estate, one of singular beauty, and then full of stately and varied timber, evil effects of lofty plantations were found too near a residence. Apertures were therefore cut, and vistas formed through the groves. The full-grown trees, where thus relieved, soon threw out branches and foliage: the air became healthful; and the scenic beauty of a densely-crowded park was much enhanced.

Similar treatment would ensure like results from a judicious thinning in Kensington-gardens. The people love to range for hours together in this, their only grove, now almost intramural: many there are who see no woods beyond it: there ought, therefore, to be proper traverse pathways; and it ought to be made not only wholesome, as a place of recreation, but beautiful also. This is said in no spirit of censure upon the guardians of the public parks, to whom all credit is due for the lustrous and cheering *flower walks and borders* which adorn and enliven nearly all the public grounds; but agreeing with "J. B." as to the rapid decay and *sembling neglect* of the sacred groves of Kensington, we presume to recommend that the attention of parties competent to the task be directed to their succour.

THE CHALMERS HOSPITAL, BANFF.

THIS hospital has been erected by the trustees under the will of the late Mr. Alexander Chalmers, of Clunie, who left property for its erection, and the treatment and maintenance of fifty patients, being "destitute sick paupers." It is erected in the sea-town of Banff, on an elevated and healthy site, and has a frontage to two streets; on the east, to North Carter-street, and on the south, to Clunie-street. It is arranged for the accommodation of patients of both sexes. The accompanying plan (which we give as a record, and not as being in accordance with our views of hospital arrangement), with the references, will explain the extent and character of the accommodation; and the view, which is from the south-east, at the junction of the two streets already mentioned, will give a clear idea of the style of the building. It is constructed with the dressed blue whinstone of the district; the dressings to the doors and windows, the mouldings, &c., being of white freestone, from the Fife quarries. The plan provides for the future extension of the building, without disturbing the existing arrangements.

The hospital is nearly completed; the mason's work being executed by Mr. David Scott, and the carpenter's and joiner's work by Mr. Charles Brand, both of Montrose, from the plans of the architect, Mr. William L. Moffatt, of Edinburgh.

REFERENCES.

C D. Fever wards, four patients each.
E. Officers' apartments.
F. Kitchen and other offices.
a. Entrance vestibule to corridors.
b. Resident surgeon's parlour.
c. Matron's parlour.
d. Waiting-room, with small-pox ward over.
e. Dispensary, with small-pox ward over.
f. Principal stair.
g. Corridor of communication.
h. Sick ward, eight patients.
i. Nurse's room.
k. Convalescent room.
l. Stairs for patients.
m. Lavatory and bath-room.
n. Coal depôts, &c.
o. Mortuary.
p. Post-mortem room.
q. Separate room for delirious patients.
1. Grocery store-room.
2. Bread-room.
3. Kitchen.
4. Scullery.
5. Pantry and larder.
6 Coals.
7. Ashes.
8. Laundry and drying closet.
9. Washing house.
10. Boiler house.
11. Airing courts.
12. Back courts.
13. Ground for future extension. The upper floor plan is similarly arranged, the offices being only one story in height.

LIGHTNING CONDUCTORS IN IRON-GIRDED HOUSES.

AT the last sitting of the French Academy of Sciences, Mr. Perrot sent in a short but important note on the means of increasing the efficacy of lightning conductors; showing that, under the modern system of building, by which such large masses of metal are introduced into houses, it is more dangerous to establish a communication between these masses and the conductor, than to separate the latter entirely from them. Mr. Perrot describes certain experiments of his on a small scale, from which it would appear that at least a fourth part of the electricity received by the conductor would pass along the metal surfaces and cause commotions which might be extremely disastrous.



THE CHALMERS HOSPITAL, BANFF, SCOTLAND.—MR. W. L. MOFFATT, ARCHITECT.

THE LATE RAILWAY ACCIDENT: DANGERS OF THE LINE.

THE facts which may be gathered from the inquest, since our last remarks respecting this and other railway accidents, deserve to be carefully considered, and will, we hope, assist in bringing about those changes in railway management which are unquestionably needed. We have not room for the evidence, but must give some of the deductions that may be made from it:—

1. The station-master at Market Harborough, at 10.52, did not expect any trains at that place, although two were to pass.

2. He had notice that a train should pass the station at 10 o'clock. None was seen at that time; so, if the Burton train was that in question, it must have been 52 minutes late.

3. He had known the auxiliary signal to be out of order.

4. The second train, as we learn from inquiry we have made, was not more than 5, or, at the utmost, 6 minutes after the first, in leaving King's Cross Station.*

5. At Bedford, the trains were nearly in a similar position to that in which they stood at Market Harborough.

6. In consequence of the close race of the two trains, the chief chance of safety depended on the working of the signals.

7. There were twenty-five passenger-carriages, including two or three break vans; but for this very long and heavy train there were only *two breaks* to act upon the carriages: "*a third break in the centre might have prevented the accident.*"

8. It is clear that there must have been either some imperfection in the working of the auxiliary signal, or else the most culpable neglect on the part of the signal-men. The former supposition is by far the most likely. It is on signals of this kind, the working of which depends on the contracting and expanding powers of 623 feet of wire, that the safety of life depends.

9. The signal-man was kept to his post during twelve hours of the dreary night; and on Mondays was on duty for eighteen hours.

10. A reference to the evidence respecting the narrow escape above alluded to, and to the evidence respecting other accidents, shows that the safety of life on the line is quite a lottery.

* We happened, with others, about the time of the accident, to see the end of one down-train leaving the Holloway Station just as another down-train made its appearance out of the tunnels leading to that station; so that in two minutes at farthest it reached the spot just occupied by the previous train.

SCHOOL-BUILDING NEWS.

Saffron Walden.—The congregation of the Independent Chapel, Saffron Walden, have subscribed the cost of erecting a new building contiguous to the chapel, to be devoted to the purposes of the Sunday school. The structure, which is of brickwork, is Modern Gothic, with a high-pitched slated roof, and an abutting staircase surmounted by a campanile rising 50 feet. The interior consists of a general school-room 60 feet long, an infants' school-room at the end, and over these two class-rooms. The architect was Mr. Goulty, of Brighton, brother of the pastor; and the contractor, Mr. Wright, of Saffron Walden, builder.

East Donyland.—New national schools, according to the *Chelmsford Chronicle*, have been erected here, and opened for public use. The schools are of Gothic design, and are built of red brick with stone dressings. The building is 40 feet long by 18 feet wide, and has open-timber stained roof and floor of oak clumps. It will hold 300 children, and the desk and school-fittings are according to the Government plan. It is warmed by two fireplaces, and lighted by four windows. The class-room is 13 feet 3 inches by 13 feet. It has an entrance porch and a large playground. The total cost of the schools is 450*l*. They were designed and erected by Mr. Joseph Grimes, of Colchester, builder.

Collyhurst.—The chief stone of the Albert Memorial Schools, at Collyhurst, has been laid, according to the *Manchester Courier*. The site is in Lamb-lane, and is the gift of Sir Oswald Mosley, bart. It has a frontage to the road, and contains an area of 3,500 square yards, of which the school buildings will occupy 500 yards. On the other portion it is intended to erect a church for the accommodation of the inhabitants of that densely-populated district. The schools will consist of the main or principal portion lying on the southerly part of the site, with one wing to Lamb-lane. The main building will contain, on the ground floor, boys' school-room and class-room, 22 feet by 19 feet 6 inches; and on the first floor, girls' school-room and class-room, each school-room being 46 feet by 30 feet. The wing to Lamb-lane will form infants' school, 48 feet by 20 feet, 22 feet 9 inches high to ridge; and class-room, 15 feet 6 inches by 15 feet. Suitable lavatories will be attached to each school. The building will be in the Gothic style of architecture. The east elevation will have single windows on the ground floor, and small coupled ones to the upper floor, surmounted by an ornamental belfry, having a stone with the inscription, "Albert Memorial Schools." The fronts are to be of seconds brick-work, relieved with bands of blue Staffordshire bricks to the strings and heads of windows. All the roofs will be open, and the timbers stained and varnished. Ventilation will be secured by means of flues in the walls and apertures in the roof and gables. All the rooms have open fireplaces. The schools will accommodate 195 boys, 205 girls, and 148 infants; total, 548 children. Spacious playgrounds for each will be provided, the site containing 1,425 square yards. The architect is Mr. John Lowe, of Manchester. The buildings are being erected by Messrs. Clark and Jones, builders, Manchester, for the sum of 2,000*l*.

Gateshead.—The chief stone of Wesleyan schools has been laid at Gateshead. The building, according to the local *Observer*, is already far advanced towards completion; the whole of the main walls, with the exception of the north-west corner where the foundation-stone was laid, having been carried up to their full height; and the school is nearly ready for covering in. It is a plain structure; the only attempt at ornamentation being that afforded by a few stone dressings and moulded bricks. The north front of the building is 85 feet in length; the east front 56 feet; the plot of ground on which it stands, including the play-grounds, comprising an area of 117 feet. It will contain two large school-rooms, each measuring 40 feet by 33 feet inside; and two class-rooms, measuring 15 feet by 20 feet. The roof will be open-timbered, and the woodwork is varnished. The architect is Mr. Haswell, of North Shields; and the contractor, Mr. John Harrison, of Gateshead. One part of the site was the gift of Lady and Sir Walter James, bart., and the remaining portion, worth 125*l*., was the subscription of Mr. W. Brown, of Gateshead, to the undertaking.

Lanercost (Cumberland).—The foundation-stone of a new school at Lanercost, to be called Lanercost Church of England School, has been laid by the Earl of Carlisle. The site is almost within a stone's throw of the picturesque old ruined towers of the priory, and was a free grant from the Commissioners of Woods, Forests, and Land Revenues, conveyed by deed to the minister and churchwardens of the parish. Mr. J. Hodgson, C.E., of Carlisle, was the architect. The contractors for the mason work were N. James and W. Leighton, of Brampton; and for the woodwork, H. Heward, of Abbey Bridge End.

CHURCH-BUILDING NEWS.

Great Finborough.—The foundation-stone of a new Congregational chapel was laid here on the 5th instant by Mr. William Prentice, of Stowmarket. The chapel is intended to be a branch of the Stowmarket one. The chapel is being built from designs made by Mr. Oliver Andrews. The building contract has been taken by Mr. Joseph Andrews, of Stowmarket.

Oxford.—The restoration and enlargement of St. Aldate's Church is being rapidly proceeded with by Mr. Curtis, of Oxford, whose tender, being the lowest, was accepted. The work is being carried out under the superintendence of Mr. Locksley, clerk of the works. Two new chancel aisles will be built, one on the north, the other on the south side of the church. The west end of the south chancel aisle will be lengthened, and a new porch constructed. The roof of the present north aisle and the nave are to be stripped and re-slated. A new vestry will be formed in the north-west angle of the north aisle. In the nave, the old columns will be taken out, and new ones of polished red Aberdeen granite will be erected in their stead. Various other alterations will be made, and the interior will be wholly fitted up anew, partly with pews, and partly with open seats. The additions will afford increased accommodation to the extent of about one-third. There was only one stained glass window in the church, and this will be re-fixed in the north-east window of the chancel.

Hertford.—The first stone of a new Congregational Chapel has been laid at Cowbridge, in the town of Hertford. Messrs. T. Smith & Son are the architects; and Mr. H. Norris the builder. The structure is to be externally of white hollow bricks, with flint in panels. The style is to be Gothic of the Geometrical period. The seats are to be open, with low backs, and will accommodate 600 persons.

Wokingham.—The foundation-stone of a new church, which has now been a short time commenced, on an elevated site,—a piece of ground adjoining the road leading from Reading to Wokingham, and a short distance from the town,—has been laid by Mrs. Walter, the wife of Mr. John Walter, M.P., who, at his sole expense, is now erecting the building. The church is designed to accommodate between 500 and 600 persons. In plan it will consist of a chancel and nave, with north and south aisles to each, together with a vestry and organ chamber. There will be a tower and spire, rising 166 feet from the ground, to the north-west angle of the nave, and the latter will be lighted by a clerestory. The church is to be furnished with pavements of encaustic tiles, and painted glass in the chancel and clerestory windows. The materials used for the exterior will be Bristol stone, with Bath stone dressings, and the walls inside will be of brick. Mr. H. Woodyer, of Grafham, near Guildford, is the architect, and Messrs. Wheeler & Sons, of Reading, are the builders. It is Mr. Walter's intention shortly to commence a new parsonage-house in connexion with this church, for which plans have already been prepared.

Faversham.—The carving of the stonework at the new churchyard gateway is being proceeded with. We hear the artist is sent down by a London house.

Eastbourne.—A church for the Congregational body in this town is about to be erected in Pevensey-road, from designs by Messrs. Searle, Son, & Yelf, of London, architects. Mr. James Peerless, of this town, builder, is the contractor for the works, and has commenced operations.

East Tytherley, Hampshire.—This church is about to be restored and reseated from the designs and under the direction of Mr. Charles Smith, architect, of Reading. The church is Early English in style. The roof is to be entirely reconstructed, each rafter being ceiled between, in lieu of the present flat plaster ceiling. The church will be fitted up with new open benches, instead of the present unsightly pewing. The expense of the restorations is to be entirely paid for by the landed proprietors,—Sir Francis H. Goldsmid, bart., and Mr. W. F. Cooke. The execution of the works has been intrusted to Messrs. Wheelers and Mr. Woodroffe, builders, of Reading.

Houghton.—The church of this parish has been wholly rebuilt, and consecrated. Mr. T. Wyatt, the diocesan architect, had his plan carried out by Mr. A. H. Green, of Blandford. The building is in the Perpendicular style. It consists of nave, south aisle, chancel, vestry, porch, and turret on the north side of the tower to ringing loft. The walls are built with flint in random courses, paving bond stones of the old materials, with Bath-stone dressings. The roof is of stained deal varnished, and the seats and fixings are of a like material and finish. The roof of the nave is formed with trussed principal circular moulded ribs, hammer beams, and moulded brackets on stone corbels. The floor of chancel is laid with encaustic tiles, and one of Gurney's patent gill-stoves is fixed underneath the vestry for heating the church. The cost of the entire erection was about 4,200*l*.

Hawkchurch.—The church of Hawkchurch has been rebuilt, from a design by Mr. Hicks, of Dorchester. The contract was taken by Mr. Chick, of Beaminster. The Ham stone work and carvings were done by Mr. C. Trask, of Norton: the mason work was done by Mr. Patten, of Bridport; and the glazing by Messrs. Toleman, of Beaminster. The changes have been very considerable. The walls have been raised, and the flat-headed Decorated windows of the aisle replaced by Pointed windows of two lights, with two trefoiled circles surmounted by a cinque-foiled one; and the rude dormer windows have given way to a clerestory containing nine small circular-headed single-light windows on each side. An open wood roof occupies the place of the old whitewashed covered ceiling. The church, in its newly-modelled form, consists of a nave and side aisles, a chancel with a vestry on the north side, a tower at the west end, and a porch on the south side. The church presents specimens of all the styles, from that of Norman arches downwards; the prevailing style being the Decorated style of the fourteenth century, with many details of Early English. But the tower is Perpendicular. The eastern window, which was formerly Perpendicular, now

corresponds with those in the aisles, except that it is of three lights. It is filled with stained glass, by Messrs. Hughes & Ward. The centre light contains a figure of Christ. In the other lights are figures of St. Peter and St. John. The painted glass of the side windows is the work of Mrs. Adams, the wife of the rector. The cost of the restorations has been about 2,000*l.*

Worcester.—Mr. Boulton, of this city, sculptor, is now engaged on a series of Scriptural figures, carved in high relief, which are intended for the spandrels of the great east window. The glazing of the upper north transept windows is approaching completion, and the roof of the north aisle of the choir may now be seen divested of the wash which for some centuries had obscured it; the masonry being made good and pointed. The principal work now in hand is the restoration of the old Early Norman chapter-house, which is proceeding rapidly. The walls and roof are being cleaned and repaired, and the chapter library having been removed to Edgar Tower (where we believe it is to remain), the arcade work and remains of paintings which had been hidden by the book-cases have been brought to light.

Sutton Montis (Somerset).—The parish church of this village has been reopened, after repair and restoration. It consists of a tower, nave, and chancel, without aisles or transepts, and seats about 180 people. Increased length has been obtained by opening the western arch, above and below the gallery. Immediately beneath this arch, a new stone font has been placed. It is octagonal, carved, and was made by Mr. Staple, of Stoke-sub-Hamdon. The three-light Perpendicular western window contains several remnants of the coloured glass with which it was formerly filled. The Norman chancel-arch has been restored. In the chancel a new east window has been inserted. To effect this, a flat ceiling had to be removed: its place has been supplied by opening the roof to the top, and ceiling between the rafters. This work was done by Mr. Fox, of North Cadbury, and it fifteen feet in height has been gained in the centre. On the removal of the flat ceiling a window arch was found above it. This has been restored: its slender columns with their caps and bosses have been repaired, and a three-light Decorated window has been inserted, having a trefoiled circle as principal figure in the tracery: coloured glass fills this and the four smaller windows of the chancel. Mr. Penny, of Wincanton, performed this part of the work, obtaining the glass for the east window from the St. Helen's Glass Company, Bristol. The dedication of the church to the Holy Trinity is remembered in the design of this east window, each of the lights being trefoiled, and the tracery consisting of three trefoils, one large and circular, the others small and triangular. In the large trefoil are the three sacred monograms, the triangle, the lamb, and the dove: the three lights are filled with "quarries," each diamond bearing a three-leaved *fleur-de-lis*, and all surrounded by borders in three colours.

Stroud.—With reference to the excess of the tenders for rebuilding the church referred to in notice of meeting of the committee (see p. 608), the architect wishes to say, "in self-defence, that the design for which the tenders were delivered was not the same as that sent in competition, but in every respect more elaborate and expensive; and that the church is 9 feet longer than in the original plan. Having been in extensive practice," Mr. Bland continues, "for twenty years, I can afford to pass over the remark at the meeting relative to my experience as compared with that of other gentlemen."

Plymouth. — The foundation-stone of a new Congregational chapel has been laid in Plymouth. The new edifice is to be called Sherwell Chapel. Its site is on the Tavistock-road. The entire buildings contemplated comprise a chapel for 1,200 persons, school-rooms and class-rooms for 1,000 children, and a curator's house; but the present effort is limited to the chapel only. A prominent feature of the proposed completed structure will be a tower, surmounted by a lofty spire, being an addition to the present contract. The buildings are Mediæval, with details of the Second Pointed period. The front of the chapel is parallel with Tavistock-road, and will be set back 10 feet from the new line of boundary. Above the central front doorways will be a five-light window, with traceried head. The side windows are in two tiers; the lower range beneath, and the upper range above, the side galleries; and all are to have geometrical tracery. Internally, two rows of iron columns, 6 inches in diameter, and coupled transversely, with 3 inches of space between, and 13 feet apart, divide the whole width of the chapel into three compartments, as "nave and aisles." The dimensions of the chapel, internally, are 53 feet in width, 94 feet 6 inches in length (exclusive of organ recess, which will be 15 feet additional), and 48 feet in height from floor to apex of ceiling. The side walls are to be 30 feet high from floor to plate, and the front gable will be 75 feet high from the ground surface to top of finial. The tower and spire will be 150 feet from ground to top of vane. Portland stone will be used for all tracery and delicate dressings, and for the spire; and the walls will be built of native stone and lias lime, faced with limestone of dark colour, ranged in courses, and pointed with dark mortar. Light-coloured limestone will be used in bands, and for all quoins; and the relieving arches over all doorways and windows will be varied in voissoirs of purple slate and red limestone. The roofs will be covered with Welsh slates, in bands of red and blue. The erection of the building has been undertaken by Mr. John Finch, of this town, under the superintendence of Messrs. Paull & Ayliffe, of Manchester, architects, whose design was selected out of a number submitted in competition. The clerk of works is Mr. Simon Ockley.

PROVINCIAL NEWS.

Faversham.—The foundation-stone of the new almshouses has been laid. The building, now in course of erection, was designed by Messrs. Hooker & Wheeler, of Brenchley, and is in the Elizabethan style, embracing thirty almshouses. A chapel stands in the centre.

Nottingham.—The good example set by the improved architecture exhibited in the new street, and in the recently-erected dwelling-houses in Clarendon and Goldsmith Streets, has induced others to follow up the idea of introducing sculpture into the externals of house decoration. An agreeable instance of this, according to the local *Guardian*, is afforded in Milton-street, opposite the end of Shakspeare-street. Mr. Green, a butcher from Hockley, is opening a shop here, and has had erected a new front which is decorated with sculptured stonework. The leading feature of the work is an arch surmounted with a bold cornice, with mouldings. The key-stone of the arch is a heifer's head in full relief. On the right is a group representing an Arcadian shepherd playing upon his pipe, with his flock gathered around him. In the space to the left is a representation of a bullock about to be slaughtered, lying down, and by his side a man, habited in the toga, who holds one horn of the animal with the left hand, whilst the other grasps a knife ready to be plunged into the victim's throat. A ram's head is inserted in the open iron tracery which fills the concavity of the arch. The sculptor was Mr. Williamson. Mr. Sanderson, of Nottingham, was the architect of the building; and the builders were Messrs. Ward, Mills, & Co., also of this town.

Wolverhampton.—The directors of the company for the erection of the New Agricultural Hall, Snowhill, have accepted the plan of Mr. Veall, of this town, architect. Fifteen designs were submitted. That of Mr. Veall divides the building into three principal rooms, with entrance-hall, offices, and conveniences. The large room will be 165 feet long, 60 feet wide, and about 30 feet high; a refreshment and "settling" room, 36 feet by 26 feet; and the entrance-hall, or vestibule, 26 feet by 16 feet. There will be a store, 30 feet by 40 feet; and the plans also make provision for two or three large offices, and a range of small ones, by the side of the large hall. The floor will be boarded, and the place will be lighted and ventilated from the top. The front of the building will extend along Cleveland-road and Snowhill, and the principal entrance will be at the corner. The architect was restricted to 2,000*l.*, so that the building is necessarily of a plain character.

Trowbridge.—The new market-house, the gift of Mr. W. Stancomb, the lord of the manor, is now completed. The improvement which the erection of this building has wrought in that part of the town renders a new thoroughfare from Fore-street, *vid* the market-house, to Castle-street, indispensable. Mr. Stancomb's gift has cost between 6,000*l.* and 7,000*l.*

Liverpool.—The Town Council, at a special meeting, have agreed to accept the tender of Messrs. Fogg & Co. for making the necessary excavations for the new public offices in Dale-street. It was agreed to adopt the altered elevation of the new public offices. In making the proposal Mr. Shiel explained that the elevation now under consideration was the third which had been submitted to the council. Considerable additional expense will be entailed by it, and a good deal of extra labour. All the front work will be of stone, whereas in the elevation originally proposed a great part was to be of brick. The difference in the cost for beautifying the building and making it of stone will be about 7,000*l.*, which will be about ten per cent. on the original estimate.

Hulme.—Steps are at last taken for proceeding with the erection of a new town-hall on the vacant plot of land between Trafford-street and Clopton-street, Stretford-new-road. Messrs. Jas. Naylor & Son, contractors, will forthwith make the necessary excavations.

Whitby.—A Whitby Water-Works Company (Limited) is being formed. At a preliminary meeting of parties interested in this subject, amongst those present were Mr. H. S. Thompson, M.P., and Mr. Easton (of Easton, Amos, & Sons), the engineer. It is proposed to bring the water down from Hazlehead, about twelve miles from Whitby, the pipes (8 inches) being laid alongside the railway, and divided into two branches at Ruswarp, so that the supply may be available for the east and west portions of the town. The company propose to purchase the existing works, provided they can be obtained on reasonable terms. Mr. Thompson stated that a large portion of the capital would be subscribed in London. A committee was appointed to make arrangements. Mr. Thompson also remarked that he should bring before the meeting a plan for the formation of pleasure-grounds, promenades, &c., on the west cliff.

Silloth.—The Cumberland and Westmoreland Convalescent Institution, at Silloth, has been opened (says the *Carlisle Journal*). The building is situate on the high ground near the Salt Works, and is a plain erection. The whole of the rooms are on the ground-floor. They consist of a kitchen, fitted with one of Flavel's patent ranges; a day-room for males, with a night ward adjoining; two similar wards for females on the other side of the building; and there are also baths and other conveniences. The front windows of the day-room open down to the ground, and thus give ready access to a glass-roofed verandah. There is a lawn in front. Mr. Cory, county surveyor, was the architect of the building; Mr. Smith, of Silloth, the builder; Messrs. Waller & Graham, the joiners. The cost has been above 1,300*l.*, out of which sum about 200*l.* was expended in levelling and draining.

GAS.

THE Manchester City Council have resolved that the price of gas to consumers within the city shall be reduced;—when the quarterly consumption is under 500,000 cubic feet, to 3s. 9d.; 500,000 and under 1,000,000 cubic feet, to 3s. 8d.; 1,000,000 and under 1,500,000 feet, to 3s. 7d.; 1,500,000 and upwards, to 3s. 6d. per thousand. ——The Walsall commissioners, at the recommendation of their gas committee, have resolved to reduce the price of gas as follows:—To consumers of less than 25,000 cubic feet per quarter, from 3s. 4d. to 3s. per 1,000 feet; 25,000 feet and less than 100,000, from 3s. to 2s. 10d.; and 100,000 feet and upwards, from 2s. 10d. to 2s. 8d.—— The Portsea Island Gas Light Company have resolved on a dividend of 8 per cent. per annum, free of income-tax; and to distribute 38*l.* in coke to the poor of the locality. The quality of their gas has been tested and found to be 7½ per cent. above the required parliamentary standard. The company are erecting a tank by contract at a cost of 13,000*l.*——The Pangbourne gas-works have been opened. The engineer and contractor was Mr. G. Bower, of St. Neots; and the sub-contractor Mr. R. Briant. The gas-holder is on the sustaining principle, and is 25 feet in diameter. The mains are taken to Whitchurch, and it is expected the consumption there will equal that of Pangbourne. The engineer asserts that any compact village of 1,000 inhabitants may have gas-works paying 7 or 8 per cent.; and indeed single mansions have been supplied with apparatus 8 feet square, giving 5 to 10 lights, at a cost of 25*l.*

BAYSWATER.

BEYOND all others, this suburb has grown and flourished within the last ten years: for a mile and a half westward of Victoria Gate, by nearly a mile in width, extending northward from Kensington Garden Road, a great and aristocratic town has been added to the metropolis. Six district churches, and more than that number of chapels, have been completed, and are thronged. The arrrangement of the houses planted upon this new quarter is a vast improvement upon the

old plan of construction; for the mode of utilizing and adapting space, particularly in the basement story, gives improved light and air, and increases, at the same time, the convenience and healthfulness of each dwelling.

Through the central range, the great thoroughfare of Bishop's-road and Westbourne-grove, in continuation, bisects this new quarter of Westbournia, the more important portion whereof lies between that and the Bayswater-road. The Porchester, Inverness, Queen's, and Petersburgh Roads are traverses terminating on the Gardens.

Porchester-square, Queen's-gardens, Cleveland, Leinster, Prince's, and Pembridge and Kensington-garden Squares have all arisen, and are mostly complete and occupied; besides many other ranges of noble houses which have been selected by opulent East Indians and merchants, as well as by residents who have relinquished the former fashionable quarters. The dry gravel soil, the elevation of this district, its proximity to the Gardens, and its westward extreme tendency, give it a decided advantage over the solemn and obnubilated grandeur of the ill-drained Belgravian flats. The average elevation of Leinster-square and the Kensington bank range, from Queen's-road to Notting-hill-gate, is 90 feet above high water; thence the land slopes in gradual descent to the north-west and east.

As it always occurs, even in the best neighbourhoods, the rents of first-rate houses are moderate to the first occupiers; so in this part of Westbournia, mansions of the first class let for 120*l.* to 160*l.* a year.

Mr. George Wyatt, Mr. Austin, and Mr. Radford, built the greater part of these: the handsome block of houses, at the end of Upper Hyde Park-gardens, near Victoria Gate, is now being completed by Mr. George Wyatt. The enormously-large houses belonging to Mr. Austin, in the same range, not being adapted for men of moderate fortune, although over a year finished, do not seem to be taken to so readily.

There is one fact to be deplored with reference to this estate of the Bishop of London—one of the richest inheritances of the Church—that it was not originally laid out with a view to its ultimate destiny; that narrow streets (called *terraces*) run at right angles with the Uxbridge or Kensington Garden roads; so near to each other, that the ranges reciprocally shadow off a full quarter of our daylight. Thence it is that these houses cannot rise in value, despite their proximity to the favoured forest groves. The arrangement of the internal squares, although not in quadrangular nor rectangular order, has an open and pleasing effect; and, upon the whole, perhaps these diversities make this quarter more agreeable than the system adopted in the great estates of the Dukes of Bedford and Portland. QUONDAM.

ILL-PLANNED DWELLING-HOUSES.

I HAD hoped that the letter from "A Returned Emigrant," published in your impression of the 30th ult., would have been noticed by some abler correspondent: failing that, I beg to offer some observations on its subject.

It is hardly necessary to remind your readers that architects are very rarely consulted or employed on dwelling-houses built for sale or letting in the London market; or, alas! that few of them have any spare money to invest in speculative building: yet, from the opening paragraph of the letter, it would appear that your correspondent supposes both of these things to be the case.

The great mass of houses—say 999 out of every 1,000 — in London are built by speculating builders, whose sole object is to produce the cheapest article for which they can find a ready market at good prices. If customers were fastidious as to health, solidity, or roominess, the article produced would be well drained and dry, well built, and liberally arranged. The London market, however, seems far from nice on these points, so long as the house be showy and contain a sufficient number of rooms; and the result is, that the run of houses produced are ill built, unhealthy, and cramped in every way.

This unhappy system, arising, I think chiefly out of the prevalence of building leases for short terms, has produced, among its other bad results, the one complained of by your correspondent, namely, that houses arranged on a comfortable, sensible plan are rarely to be met with. Such houses would hardly ever be built by speculation, simply because cheaper houses answer the builder's purpose; but were freehold land common here, as it is, for example, at Manchester, they would be frequently built by private individuals as investment, or for their own residences; and would, like all other property, find their way into the market from time to time. Now, however, I am convinced the only way of procuring such a house as your correspondent describes is to have it built for him under an architect's advice.

My main object in these lines is to urge upon architects the importance of promoting, wherever they can, the erection of houses built by intending occupiers or owners, in place of those built by mere speculators. Such houses alone afford us a prospect of real advance in domestic architecture, and a chance of raising a protest against, and even commencing a reformation in, a system of house-building which is a disgrace to the age, and reflects an indirect stigma upon ourselves.

Your correspondent, I repeat, will find building his best, if not his only, chance of suiting himself entirely. If he is a rifleman, he will know that the majority of the men in his corps are clad by the contractor, but are not fitted by him; and that the few whose uniform is all that a gentleman wishes his dress to appear have had their garments made by their own tradesmen. I am sure he would object to be clothed by contract; and I can assure him that being housed on the same plan is equally objectionable. The only difference is, that, instead of expending an annual sum by way of rent, the amount of capital which produces that sum must be sunk, but sunk in one of the most marketable securities which this country affords.

ARCHITECT.

THE DISCOVERED TRIPTYCH AT HEXHAM.

SIR,—Your correspondent who wrote last week concerning the replacing of the altar painting in the Ogle shrine at Hexham Abbey Church, under the heading of "Treatment of Works of Art," appears not to have acquainted himself with the particulars of the case. It is now two years ago that you, Mr. Editor, in your account of the completion of the works and opening of the choir for service, made known the destruction of the Lady Chapel at Hexham; the removal of the Frid-stol; the destruction of some and removal of the rest of the oak stalls; the removal of the Prior Richard shrine; the burial of Norman slab-stones; the disturbance and exposure in the churchyard of Early English slab-stones, taken from the floor of the choir; the destruction of the Ogle shrine, and the finding of this painting. Notwithstanding the publicity given to your statements by their reprint into nearly every journal of the day, the painting has, in the interim, remained in the joiner's attic—whence I have just purchased it. Credit should be given to the discernment of this contractor in not sawing it up. The new Architectural and Archæological Society of Durham and Northumberland has turned its attention to the Abbey Church, and will doubtless prove an additional protector for its remains. If your correspondent will see to the restitution of the Lady Chapel, of the missing stalls, of the lost bay of the Perpendicular roof; to the replacing of the Frid-stol, Prior Richard's shrine, and the Ogle shrine itself; also of the Saxon crosses from Acca's grave, and the vase full of Saxon stycas, and to the removal of all the new unmeaning seats with which the choir is now crammed, I shall be glad to assist in the replacing of the picture. Meanwhile, I must consider myself a better guardian for it than those who have directed the sacrifices enumerated. As the vase and a large number of the stycas were removed to the British Museum, the painting, which is a rare example of the early schools, may, probably, find its way either to the National Gallery or to the South Kensington Museum.

THE ARCHITECT IN POSSESSION OF THE TRIPTYCH.

OVERCROWDING THE AREA OF CHURCHES WITH SEATS.

I SHOULD feel much obliged by your insertion of a few remarks on what appears to me a serious fault in the construction or re-arrangement of the *area* of new and restored churches, as I have myself witnessed recently in my own neighbourhood I mean the narrow space allowed between seat and seat, and the narrowness of the central passage from west to east of the nave.

Both these arrangements give a crowded and undignified appearance to the church. Now, if the *fixed* seats be made to allow a *bold wide passage*, there could always be comfortable yet movable seats, for occasional use in the centre of the passage, and no room lost; but it is very seldom that the occasion for accommodation is so urgent as to demand such crowding.

The Camden Society state 6 feet from north to south, and 5 feet from east to west, as the *least* width allowable; and I am sure, from my own experience of the bad effect of a narrower space, that such calculation is correct.

Let it be remembered that to get in as many people as possible is not the *sole* object in church arrangement; but also to present a noble and dignified appearance, and to allow due space for uncrowded performance of the marriage and burial services.

I believe that neither architect, clergyman, nor people like such crowding of seats, but that it arises to meet some requirement of church-building societies as to additional accommodation. Whatever the cause, the consequence is so serious, that it seems to demand every possible notice.

Going at once, lately, from a restored church, where the seats were so close together that I could not kneel with comfort, and the centre passage so narrow that two could not walk abreast without jostling, into an unrestored church with high pews and a bold wide passage, I could not help feeling how much more beautiful was the appearance of the latter. ANTIQUUS.

P.S. A large town church I am acquainted with is now being prepared for new low seats. The passage from north to south is to be only 5 feet; from west to east, 4 feet. In the "plan," the area gives one the idea of a sitting-room prepared for a larger company than the room was built for, and overcrowded.

COMBINATION THE ONLY METHOD OF CREATING A NEW STYLE.

IT has been so oft repeated by writers on architecture, that it is impossible to invent a new style, that those who either were not bold enough, or too indolent to think for themselves, accepted the statement as an axiom in art. There can be no doubt that the close imitation of ancient models has had much to do with the establishment of this idea among the architectural profession; and the public, of course, would not gainsay what all professional men had so long agreed upon. In turning our attention to ancient styles, we have copied so successfully that it has in many cases destroyed all effort at original composition. There are those even who are sunk so deep in the slough of despond, that they even deny the possibility of a new style being formed at all. Such, however, it is not worth while to argue with; an opinion so at variance with the nature of human progress is beneath consideration; nay, more, it is contemptible. With the great mass who still hold that the formation of a new style must be the result of the labour of many successive generations of men, it will be a valuable devotion of time and study if the effort to convince them to the contrary should be crowned with success. A vast revolution of opinion and sentiments on art is quietly taking place, and the absurd and deadening influence of mere precedent is rapidly being abandoned for a more liberal and intelligent appreciation of ancient art.

I hope to see the day—as it most assuredly will come—when those who, from the narrow prejudice of their training, oppose the movement, will recognize the power and truth of the progressive spirit of modern art, when it buds forth into a style embodying the experience, knowledge, and taste we have been laboriously laying the foundation for during the last century. Can it be credited that there exist those so devoid of enthusiasm that they sluggishly sit down, and cry, "Do not disturb us in the slumbering contentment we feel in the practice of art as inherited from our ancestors. We do not want your radical cant about new styles: the styles we have worked in are quite sufficient for us and all the purposes we shall have to apply them to"? This, no doubt, is the most *comfortable* view to take of the matter, and one most likely to be adopted by those who have earned a competence by the old method; but it was not by such slothfulness that Harvey discovered the circulation of the blood; Charles Bell, the system of the nerves; that Watt improved the steam-engine, or Stephenson the locomotive. Neither should we have had canals but for the indomitable perseverance and natural genius of Brindley; nor would the science of mechanism have advanced so rapidly but for the restless inventiveness of the elder Brunel. Why, then, should architects be the only men to stand still? There is surely, at least, as much scope for original invention in the wonderfully-varied forms of art, as in the more material province of construction. We have gone through the probationary part of learning,—the alphabet of styles,—let us try to put the letters together, and spell out some

intelligible words, that the world may see we are thinking beings, and not mere parrots.

It is a strange instance of mental obliquity that, after decrying new combination of old forms as insufficient to evolve a new style, one writer, at least,—not wishing, I suppose, to be considered an obstructive,—winds up with platitudes recommending students cheerfully to accept their position, and not copy old styles, but, in some vague, general way, wander on in the vain hope of contributing, after centuries of similar labour, to the evolution of a representative style. By doing so, we shall thus always be at least two centuries behind our time; for we have long arrears to work up; and, if it takes generations of men to introduce a new style, by the time it is introduced it will be representative, not of that period, but of one some two centuries earlier. Now, I should also like to know, if architects are not to copy the dead forms of antiquity, how they are to proceed, unless they invent new ones; and, if they invent new ones, how can they cheerfully accept the position of art as exemplified in ancient examples? This is a dilemma the writer seems not to have anticipated, and is one of the results of a vague and vicious style of art-criticism too much in vogue at the present day. If we are to be instructed, at least give us something tangible—some definite principle to start with. We must either advance or recede. If we do not introduce new forms, we must be content to let art degenerate; if we do introduce them, we cannot do so except by a combination of forms suggested in some measure by more than one style of art. Our minds are now so thoroughly imbued with the forms belonging to numerous styles that we must of necessity *think* them, and all original attempts will be, for the present, tinctured with them. Before we can become thoroughly individual in our art, we must use up the materials that have been accumulating for ages; and it will require a great and radical change in the art before it will admit of this treatment. In every design which attempts originality, the influence of other styles upon the one adopted will most certainly be apparent. Those most opposed to eclecticism show this influence in their works; and even in Mr. Street's brick churches there is a combination of English Gothic with that of the North of Italy. The Italian Gothic, now all the rage, shows very plainly the influence of Classic example, and contains Classic features modified by the influence of Gothic art. In the flat style of ornamentation so much adopted by Mr. Colling in Italian designs, he introduces with happy effect a Gothic treatment of the foliage; and much of his design betrays a Gothic and Byzantine feeling that is quite refreshing after the insipid formality usually characterizing designs in the Italian style. Owen Jones and Digby Wyatt no less evidence a disposition not to be bound by precedent; and in St. James's Hall the former shows something more than an adaptation of Moorish art. In fact, go where we will in London, Manchester, Leeds, and Liverpool, the best architecture is distinguished by a divergence from original models, and an assimilation of forms obtained from several styles. It cannot be denied that there is a movement going on which only wants directing into one channel to lead us triumphantly to the goal we anxiously hope to attain. A freer style of treatment of art is making itself manifest; and once establish combination of styles as a principle to be adopted, and the first great stride will be made towards the evolution of a new and distinct style.

It is erroneously supposed by some that the exigencies of modern construction are in themselves sufficient to evolve a new style. Never was there a greater mistake. If such be the case, modern engineering would have effected it long before this. On the contrary, we see the decoration of such works is merely an application of old styles. Again, the Crystal Palace and other works of a similar nature prove that it is quite impossible to create new art unless attention is directed specially to the embellishment. In every grand design, indeed, in every design worthy of the name, the artistic features must be held in view equally with the structural and utilitarian features; and the decoration, though following the structural lines, is a thing entirely apart from either convenience or constructive necessity. To decorate construction, not construct decoration, no doubt, in the sense it was originally intended, is the proper thing to do; but in repeating the saying so often, many seem to have got a confused notion that construction is in itself sufficient to create art. True sayings get so perverted by repetition by those who see not the full force of them, that they often eventually lose their significance.

Any one who will examine the history of various styles with unprejudiced eyes, will see that their main features and character have resulted from the accidental blending of opposite styles; and in the article on Mr. Bedford's photographs, this fact, which is preliminary to a full appreciation of the value of such combinations by which alone we may hope to attain to a style suitable to our wants, receives strong confirmation, and all may read it carefully with very great advantage.

If we examine the mental operations involved in creating anything worthy of being called art, we shall find that the process is simply inventive through the medium of the imagination, and consists in a selection of images floating through the mind, and a recombination of them. Now, where do we derive these images from except from the recollection of external objects? A bird may as well try to fly without wings as a human being to compose a design without ideas derived from external sources. It is true, all forms are bounded by a combination of simple lines,—the curve, the straight line, &c.; but a knowledge of this is not sufficient for the production of a work of art, or the savage, if he could be made to understand the fact, would have as great an advantage in design as the educated man. The truth is, that art has commenced in simple and easy stages. The first forms adapted to decoration have been of a very simple nature; by combination these have become complex, until we arrived at the vast variety of forms now within our reach. We cannot ignore these forms if we would, as, by doing so, we should be no better off than the first man who decorated the handle of a weapon. Let us then establish in our minds a few general principles upon which to base the form of our new style, and the inventive faculties of each mind employing itself upon developing the style will create novelties from the adaptation of old forms, resulting in a homogeneous style, having a capacity for embodying individual feeling, and admitting of a variety of treatment that will be more pleasing than the heterogeneous mixture of distinct styles which now proclaim the chaotic and undefined taste of the present generation. T. MELLARD READE.

CHURCH BELLS AND BELL-RINGERS.

IN a recent number (p. 609) a contributor made some proper remarks on the chiming of the bells of our churches. He complained of the jangling which so often annoys parishioners. He might have named another source of annoyance which is not at all unfrequent, and is very painful to witness. The ear may have been fairly dealt with; but the eye and the feelings are, by it, grossly insulted. I allude to the many cases where the bells are chimed well enough, as to music, but by a set of fellows in their dirty every-day attire,—men who value not the Church services, and who, consequently, skulk from the belfries, after chiming, with, it may be, their pipes in their mouths; thus proving strongly suggestive of "living gurgoyles" darting from the presence of the spirit of holiness, or of bats sneaking off from the bright effulgence of light. It is really too bad to permit evil practices of any kind in connexion with the church-bells, and especially in their being chimed for prayers. Mr. Walesby has spoken of the Rev. H. T. Ellacombe, who takes great interest in all that relates to the bells. In his very useful work, "Belfries and Ringers," he gives an ingenious and simple method by which one person can, with ease, chime any number of bells. It would be very convenient if all belfries had this, or an equally useful contrivance; for it would admit of the bells being easily chimed under almost any circumstances. Yet I, like your contributor, cannot view any methods of this kind but as provisions for cases of necessity. It appears to me to be too much akin to organ-grinding, to be adopted as the *sole mode* of chiming. It lacks poetry: it lacks soul: it marks the existence of cold unconcern on the part of the male members of congregations; and, ludicrously, seems to suggest to us the propriety of employing the new "talking machine" for the duties of the desk and pulpit.

Plain chiming, unlike scientific ringing, is an art to be acquired with ease. Any person who has an idea as to regularity of time, and can appreciate pitches of tone, can very soon learn to chime. Why, then, shall not the chiming be performed by the most respectable, the most sedate, the most regular as to church attendance? Why should not such persons view the work of calling their brethren to the public service of God as an honour, a privilege; and thus sweep away the evils complained of? I may, by the way, use the same recommendation as to church choirs. It is wrong to leave any part of the work of the Church to be performed by the careless and irreverent: yet how often do we see in choirs persons of that class! And why is it so? Simply because those whose desire it is to act reverently fail to perform the duties they ought, and so permit the things of the house of God to be handled by unclean hands. I cannot view these things without perceiving that they require the most serious attention. Was it right, on the part of our forefathers, eagerly to bestow mind and wealth and strength in piling stone upon stone, and in imparting life to them by loveliness of form, beauty of arrangement, and consecration to a sacred use; thereby producing buildings of which we are innocently proud, and which we deem worthy of being called the "houses of God"? Shall we admit this to be right on their part, and, at the same time, dare to say that we are right in permitting the desecration I have named?

Closely related to chiming is the ringing of the bells. In this, too, abuse is rife. Here, also, is wanted much amendment. The proper employment of the bells in scientific "change ringing" is delightful to most persons; and would be especially so were it known that the ropes were in the hands of the truly well-disposed—of those who value spotless character, and who abhor the idea of ringing but from the purest motives. Those persons who know nothing of the art of scientific "change ringing" little think how charming it is. To say nothing of the brotherly feeling it engenders; it affords pleasant occupation for the mind; noble exercise for strengthening both the memory and muscle; and is, altogether, a recreation tending to invigorate both mind and body. We know that it has been sadly soiled by the touch of the unclean: we know that, from want of attention and fostering care on the part of the well-disposed, it has become associated with intemperance and other kinds of vice. But shall not the bells of our churches find friends to rescue them from such pollution? They had better be silent than used amiss. It is quite becoming the notice of the finest and best men of our land, even the most sedate and circumspect; and would be found to be as manly, as innocent, and as intellectual an exercise as cricket or any other orthodox amusement; while, from its appealing especially to the ear, it would gladden many a heart while engaged in honest labour.

The editor of the *Builder* has reason for being especially interested in the proper use of the bells; inasmuch as the state of the bell-fittings and frames materially affects the well-being of the steeples in which they are placed. It often happens that, from frames being out of order, and proper reparation neglected, thoughtless ringers drive wedges between the frames and the walls, which is very injurious to the latter. The drinking ringer cares nothing for anything but his drink: the respectable ringer has affection for both his "peal" and his steeple, and would carefully guard against injury happening to either. I have very lately met with a case in which, from some disagreement among a set of ringers, one part, in the desire to spite the other, actually put sand and gravel upon the gudgeons of the bells to prevent their being rung. It certainly is high time that proper attention be paid to all these church matters; and I trust it will be paid.

FRS. T. HONEY.

The Rev. Mr. Ellacombe forwards us a letter from "An Artisan and a Ringer," containing some observations similar to those above, as to inducing proper persons to assist in chiming. Mr. Ellacombe writes:—

In conclusion, I would strongly recommend such a course; for though chiming by machinery, either by my simple method or any other, is all very well where a respectable band cannot be depended upon to attend *regularly*, hand-chiming is *very far superior to any mechanical arrangement*, and is a most legitimate way of using our church bells. And this would be done with much greater advantage in every way if the ropes were brought down to the pavement, dislodging those who handle them from the dirty hole-and-corner hiding-place on some floor above. The guides that the ropes may require need not be unsightly; neither will the ropes themselves, nor the guides, at all interfere with the sight of the most beautiful west window, if such there should be. The fine Dome window in this church, by Hardman, after Giotto's well-known painting at Padua, is not in the least marred by them. The benefit of such an arrangement is so great, that it cannot be urged too strongly on all who desire to have things done decently and in order. Ringers and churchwardens may make difficulties, but there are few,

if any, but what may be got over by consulting those who understand how to make the arrangement.

PIGS AND HEALTH.

SIR,—Your correspondent "G. S. X." seems surprised the inspector of nuisances does not interfere in his special grievance. The inspector of nuisances is appointed to prevent (and summon if necessary) any one committing a nuisance, but he is no public prosecutor. Our bench of magistrates and *ex-officio* guardians give our inspector the following injunctions:—"Be zealous; and, in every case, especially amongst the lower orders, prosecute where a case comes to your knowledge, from your own supervision; but in nowise are you to be a common informer. A., B., Z., or Y., have the same power as yourself. If Z., esq., does not choose to prosecute, which he can, why should you, Mr. Inspector, be his 'cat's-paw'? and risk the chance of a dismissal, and being saddled with costs? If Z., esq., does prosecute, he will receive all the justice that we can conscientiously give."

G. S. X. can summon his neighbour before the magistrates just as easily as the inspector can. EBORACUM.

INGRESS AND EGRESS.

WHEN the fearful accident at the Surrey Gardens took place some years since, I addressed you on the subject of Ingress and Egress to and from public buildings, and pointed out the importance of all the doors of such buildings being made to open outwards instead of, as at present, inwards; also the great want of means of exit at Exeter Hall and other public buildings. You kindly noticed my letter in the leading article of your valuable journal; and I now ask you to favour me with a corner in the *Builder* on a subject which appears to me to be of great importance.

When we hear of such terrible fires as that which took place at the Liverpool Workhouse, by which nearly twenty lives have been sacrificed to the present plan of erecting such buildings, it is time something should be done to prevent the recurrence of such a fearful catastrophe.

I lately visited one of the new West-End workhouses, and I found a central staircase, all the dormitories being on the upper floors. Now, should a fire happen at or near the central staircase, there is little or no hope for the escape of the inmates except by ladders or fire-escapes. Oftentimes the aged and infirm occupy the dormitories on the upper floor, which are very large. Now, I do consider that a stringent regulation ought to be made, that a staircase (if only for exit in cases of alarm) ought to be placed at or near the end of the dormitories of all public schools and workhouses, instead of only the central staircase.

I should wish to have somewhat to say at another time respecting the deficiency in the means of escape from Exeter Hall. I often tremble when there at the loss of life and limb that must almost inevitably take place in case of fire; and I think how easily another way of exit might be made without much difficulty or expense, into the street in the rear, opposite the entrance from the Strand. OCTAVIUS.

PATENTS CONNECTED WITH BUILDING.*

AN IMPROVED DOUBLE-ACTING VENTILATOR FOR RAILWAY CARRIAGES AND OTHER CARRIAGES AND COMPARTMENTS.—*M. Wigzell.* Dated Jan. 10, 1862. This consists of two chambers, with or without inner shutes of wirework or perforated divisions, for directing or dispersing the air, and for preventing the rain from entering the carriage or compartment; and it has an external opening in each chamber, so that the fresh air is admitted through one external opening into the inner space or spaces in the apertures, and then into the carriage, room, or other compartment to which it may be applied; and the hot or impure air is made to pass out from the carriage or other compartment through the outer chamber or space in the ventilator, by being assisted in its outward passage by the suction caused by the ventilator or apparatus passing through the air, or by the air rushing past the opening through which the hot or impure air passes out from the carriage or other compartment to which the ventilator is affixed.

AN IMPROVEMENT OR IMPROVEMENTS IN MACHINERY FOR MANUFACTURING THE CUT NAILS CALLED BRADS.—*W. Gorse.* Dated Jan. 14, 1862. This consists in an arrangement of parts for guiding and giving a compound motion to the strip of iron from which nails of the kind called brads are cut. The motion given to the strip consists of the ordinary swivel motion in combination with a side or lateral motion, whereby the strip is carried backwards and forwards, so as to be operated upon alternately by the bell cutters, in conjunction with the bottom or fixed cutters.

PREVENTING RUST ON BRIGHT STEEL, IRON, BRASS, OR METAL SURFACES.—*T. Myers & E. Myers.* Dated January 17, 1862. The patentees take, say 10 lb. of gutta-percha, 20 lb. of mutton suet, 30 lb. of beef suet, half a gallon of sweet oil, two gallons of neat's-foot oil, one gallon of oil of thyme, and half a pint of rose-pink, or other suitable perfuming and colouring matter. These ingredients are gently simmered until the whole is dissolved and well mixed together. When cold, the composition is ready for use.

* Selected from the lists published in the *Mechanics' Magazine*, and the *Engineer* Journal.

IMPROVEMENTS IN PREPARING SHEET LEAD FOR COVERING FLOORS, STAIRS, AND OTHER LIKE PURPOSES.—*J. Ridsdale.* Dated January 15, 1862. This consists in sinking, by pressure from presses, rolls, or hand tools, designs or patterns on that surface of the sheet lead which, when laid, is to come uppermost; and in filling up such sunken designs or patterns, with colour or not, according to requirement.

AN IMPROVED CRANK-AXLE APPLICABLE TO CRANKS OF ANY DESCRIPTION WHATSOEVER WHEREIN THE WEAR IS MAINLY ON ONE SIDE THEREOF.—*J. Bird.* Dated January 20, 1862. This consists in forging the axles between each pair of collars, where collars are used, and where collars are not used at each extremity of the axle, of an oval form on the side where the wear will mainly be, and of a semicircular form on the other half thereof. Each collar has a recess, forged or otherwise, formed in it to receive the snugs, which are cast on the ends, and which form part of a piece of iron or other metal, which is shaped in such wise that, when one of such castings is laid on the axles formed as above described, the said casting will form the axle round, the casting being secured to the axle by a screw passed through the snugs and into the axle outside the collars, where they are used; whereby, when the casting is worn nearly through by the pressure of the bearing upon it, in can be readily replaced by another casting. The same method may be applied to axles which are fixed having the bearings revolving, or having the bearings fixed or movable.

Books Received.

The Complete Measurer. By RICHARD HORTON. London: Weale. 1862.

THIS volume contains numerous tables, with occasional remarks, referring to the measurement of boards, glass, &c.; unequal-sided, square-sided, octagonal-sided, round timber and stone, and standing timber; with allowances for bark on trees and waste in hewing; and other instruction to timber-growers, merchants, surveyors, architects, stone-masons, and others. The author urges that the extant tables and systems are, in many instances, productive of serious loss to the seller, whilst in other cases they cause great loss to the purchaser; and he draws particular attention to that portion of his work appropriated to the measurement of round timber as worthy of adoption. From this part of the book we may quote a paragraph or two:—

"To take the dimensions of a round tree or any similar body, measure its length in feet by a rod, tape, or carpenter's rule, and then take its circumference in the middle with a piece of common whipcord, doubling the cord into four equal parts, and so apply it to the carpenter's rule, to learn the quarter girt in inches, with any fractional quarter or quarters of an inch that there may be. Or the circumference of the tree may be taken with a narrow, non-elastic painted tape having spaces of 4 inches marked upon it, each space being numbered in successive rotation as girting inches, and every such space subdivided into four equal parts by a partial mark on the tape, to answer as quarters of inches. A purchaser will prefer using the whipcord, unless at the commencement of the tape three quarters of an inch is given in the measurement as an equivalent to him for the accustomed advantage obtained by the doubling of the whipcord to apply to the carpenter's rule to find the quarter girt of the tree. The tape when passed round the tree shows its quarter girt forthwith. When the size of a tree is not regular its whole length, in consequence of sudden variations in its circumference, each part or length of it so varying in girt must be measured separately, and then the contents of the different parts added together."

Mr. Horton's book deserves the careful attention of those who are interested in the subject.

Miscellanea.

ST. PAUL'S CATHEDRAL.—By way of commencement, one of the spandrels of the main arches beneath the dome is to receive a mosaic picture,—a head of St. Paul. Signor Salviati, whose mosaics we mentioned recently, has been commissioned to execute it.

MONUMENTAL.—Preparations have commenced for the erection of the Ingram statue on the site agreed upon, at Boston. The granite for the pedestal has arrived, and the sculptor reports that the statue is ready.——A raised tomb of Gothic design, constructed of Forest of Dean stone, of a grey tint and nearly as hard as granite, has just been placed in the Windsor Cemetery, to the memory of Mrs. Riley, of Forest-hill. The tomb is panelled with floriated crosses, with an elevated cross at the top: the curb is moulded, with quadrant and crosses at each angle. On the north side is the inscription, with capitals in red and blue. Mr. G. W. Harley, of Slough, was the designer.

VIENNA.—A new Hofburg theatre is to be erected at Vienna, on the place now filled by the Mölker-Bastei.

WESTMINSTER BRIDGE.—The bridge, with the exception of the stone piers, is being painted sage green, the shields in the spandrels being illuminated.

DEPTFORD.—The old school-room adjoining the Wesleyan chapel here having been pulled down, a structure has been erected, accommodating about 400 children, according to plans prepared by Mr. Samuel Noble, of Greenwich. The building consists of a nave with two transepts, adapted for the future erection of galleries. The principal timbers of the roof are stained oak, the iron tie-rods painted blue. The works have been carried out by Mr. W. T. Hunt, of Deptford.

ROYAL ENGLISH OPERA, COVENT GARDEN.—The old *repertoire* is filling the house nightly; "The Rose of Castille" and "Maritana" passing off with remarkable spirit. In the latter, especially, Mr. Harrison is singing admirably. Madlle. Parepa, spite of unfitness of figure for the part, makes an excellent *Maritana*, from a musical point of view. Mr. Weiss has returned to the theatre, to its advantage. The first novelty produced will probably be the new opera written by Mr. Planché, and composed by Mr. Vincent Wallace; to be called, it is said, "Love's Triumph."

"MATHEWS AT HOME."—In the entertainment now being given by Mr. and Mrs. Charles Mathews in her Majesty's Concert-room, Haymarket, called "My Wife and I," there are two or three characters of great excellence,—*Anna Maria Gulp*, for example; *Gruntz*, the German trombone player; and the two scandalizing old maids. The rapidity with which some of the changes of dress are made is marvellous. The sequel, "The Sensation Fork," affords them no chance, and the sooner they throw it overboard the better. It seems more than probable that Mr. and Mrs. Mathews will return to the stage, to which we shall gladly welcome them: it cannot afford to lose two such artists. Those, therefore, who would see them as "entertainers" *par excellence*, should go at once to the Concert-room in the Haymarket.

THE ALBERT COLLEGE FOR SUFFOLK.—At a recent meeting of the Albert Middle Class School and College Committee, held at Ipswich, it was reported that nearly 100 letters had been received from architects asking for further information than the advertisement contained as to the details of the proposed building. A conversation ensued as to whether the committee should indicate what they thought desirable, or leave the architects to design a building, the cost not to exceed the stipulated amount, 10,000*l.*, exclusive of water. It was agreed that some explanation should be given as to the dormitories. Sir F. Kelly, at same meeting, agreed to obtain, through the Charity Commissioners, an Act of Parliament for the college, free of expense to the memorial committee; the Charity Commissioners having expressed their willingness to do so.

SMOKE PREVENTION.—The Bradford sanitary and burial committee, in a report on this subject to the corporation, include a description of a simple apparatus, patented by Messrs. Anderton & Beanland, and used by Messrs. S. Anderton & Sons, by whom the description of it was given to the committee at their request. According to Messrs. Anderton & Sons, the principle of this smoke-consuming apparatus is the introduction of hollow furnace bars, open at both ends. Atmospheric air is received into the opening at the bridge end of the bars, which having traversed to the front becomes heated, and then passes through a stationary grate upon the fire. By this process a strong current of heated air is constantly forced upon the fire, thereby rendering it light and bright, and the smoke is consumed in its attempt to pass over the furnace. By the application of hollow bars, they say, a much better draught is obtained: a current of heated air continually passing through the iron bars renders them impervious to the action of heat. The labour of the stoker is lessened, as the fire is kept so light by the current of heated air, that "clinkering," or the adhesion of cinders to the bars, is to a great extent avoided: fewer cinders are made; and a saving of at least ten per cent. in fuel is effected. The apparatus, they add, has been in operation nearly six years: it is not in the least degree injurious to the boilers; and the grate bars, to all appearance, are as good in every respect as at the commencement. The advantages derived are,—effectual consumption of smoke, wear and tear of grate bars prevented, less labour to the stoker, and decided economy in fuel.

THE WATER AT THE CRYSTAL PALACE.—We have received complaints from several quarters, of the unwholesome condition and consequent bad odour of the water used in the fountains at the Crystal Palace. In one case, as we have reason to know, the smell produced positive illness. Steps should at once be taken to remedy this very serious evil; or the announcement that "the fountains are to play," instead of being, as now, an attraction, will serve to keep the public away.

STATE OF THE STREETS OF NEWCASTLE-UPON-TYNE.—This subject has been referred by the Town Council to the Town Improvement Committee, "to inquire into the best means of sewering, paving, and flagging, and otherwise putting into a thorough sanitary condition all streets" throughout the borough. Mr. Pattinson, who moved the resolution, said the streets were in an abominable condition: Mr. Oliver said Newcastle was more backward than any town in the kingdom with respect to flagging; and Dr. Robinson remarked that there was a want of a general and comprehensive plan of drainage.

SHOCKING FIRE AT LIVERPOOL: SEVENTEEN CHILDREN KILLED.—About twenty lives have been lost, including three nurses and seventeen or eighteen, if not nineteen, young girls, by the burning of a portion of the dormitories of the Brownlow-hill Workhouse, where the children slept. The fire was discovered in the middle of the night, and it was found impossible to remove the whole of the children. The church adjoining was burnt to the ground, and the steeple fell among the ruins. The children's dormitory was over the drug store, but how the fire originated is not known. There was a want of water at the outset of the fire. The arrangement of the building seems to have been very bad.

CONSTRUCTION OF WORKS BELOW WATER.—An invention has been patented by Mr. John Wright, of Rochester, which relates to improvements in constructing works below water, and is applicable, when working under water, by the aid of cylinders or coffers open at bottom, where the water is kept out by means of air under pressure. The invention consists in forming continuous foundations for sea and river walls, or like structures, under water, by the use of such cylinders or coffers, in place of constructing coffer-dams. Any number of sections of the work may be constructed, leaving gaps or spaces between the contiguous or neighbouring sections of the work. When the cylinder or coffer has been brought into position over a gap or space between two sections of the work, and the air has forced out the water from the cylinder or coffer, the workmen first proceed to make a coffer-dam, by closing in the ends of the gap or section, in such manner as to admit of the water being pumped out or removed from the space or gap; and, when this has been accomplished, the workman in the cylinder or coffer will be enabled to proceed with the work, and thus join the two contiguous or neighbouring sections which were previously separated by a gap or space. By thus using cylinders or coffers, which are open at the bottom, and capable of being closed at the upper parts in such manner as to employ compressed air, a continuous wall or work may be constructed without a coffer-dam.

MILITARY BUILDINGS, SHEERNESS.—The range of buildings erected at Sheerness for the wives and families of the married non-commissioned officers and men of the Royal Artillery, at a cost to the Government of 11,000*l.*, is now completed, and only awaits the official inspection to be taken formal possession of by the Government. The quarters form two sides of a square, and are about 300 feet in length and three stories in height, the whole constructed with white bricks. On the two upper stories there is a verandah, which can be used as a promenade. Provision is made for eighty families, a separate apartment being provided for each. Each room measures 17 feet by 14 feet, with a height of 15 feet, the upper stories being approached by three main stone staircases, lighted by night with gas. The entire building is fireproof. The whole of the rooms are lighted with gas, and each is provided with a stove and cooking-range. There are also cupboards and other requisites in each apartment. The outbuilding contains a washing-room, 30 feet by 20 feet, fitted with twenty-two galvanized iron troughs and Jeakes's patent boilers, four of which hold twenty gallons each, and one, which is for bathing purposes, forty gallons. There is also a clothes drying-room, fitted with patent drying-machines. Adjoining is an ironing-room, 25 feet by 20 feet, with men and women's bath-rooms. The entire erection has been built by Messrs. Nayler & Son, from the plans of Mr. Lacy, C.E.

A NEW ORNAMENT TO MUNICH.—Munich has just received an addition to the number of its notable structures. The Propylæum, the last gift of King Ludwig to the town, has been opened. The Bavarian Propylæum, an imitation of the Athenian model, is a highly-decorated gate, at the further end of the square containing the Glyptothek and the Picture Gallery. It is intended to form the crowning work in completion of this Greek oasis; and, historically, will serve to perpetuate the memory of the Bavarian dynasty and its extension to Athens. At a recent festival, in acknowledgment of what the architect, Leo von Klenze, had done for the embellishment of Munich, the municipal authorities presented him with the freedom of the city.

OPENING OF THE LIVERPOOL FINE-ART EXHIBITIONS.—The Exhibitions of the two Fine-Art Societies of Liverpool, the Academy and the Society of Fine Arts, have been opened. As to the respective merits of the two exhibitions, the *Albion* says: "The conclusion we have come to on the comparative merits of the contributions to the two exhibitions is this. The Academy far surpasses the Society in the interest and quality of its landscapes. The Queen's Hall, however, takes the lead in attractive figure-subjects. Although it requires a far larger amount of talent to produce the same class of subjects which are to be found in Post-office-place—but it is talent misapplied—not to please, but to astonish and gratify a morbid feeling for Mediæval ugliness." Of the Society's Exhibition the *Journal* says: "It is quite of average excellence, and contains one or two of the chief features of the 1862 season, besides many of much interest apart from considerations of novelty or passing celebrity."

INJURY TO THE FIR FROM PRUNING.—There is under the author's charge a plantation of what might have been very valuable Scots fir, the age of which ranges from eighty to one hundred years. Many of the trees look clean and free from blemish till taken to the saw. On being cut up, they are found to have been pruned; and the result of the operation is that the roots or stumps of the branches left have died into the very centre of the tree; and when it is cut into boards, those decayed stumps drop out in the shape of round loose knots. There are few of them that have not so died, but they form the exception to the general rule. The loss by this means, in this particular case, is certainly not under 30 per cent. Scots firs ought never to be pruned by artificial means: nature manages the operation in a manner that man can but poorly imitate. The very nature of the fir points it out as a tree to be grown in masses. Growing alone, it is a crooked, scraggy, useless thing: grown in the forest, it is a fine, tall, straight tree.—*The Relative Value of Round and Sawn Timber, by James Rait.*

PROFESSIONAL LONDON.—Authors, journalists, publishers, &c., mostly incline to St. John's-wood; artists and engravers to Kensington and Camden-town; musicians and singers to Soho; actors and dancers to Brompton; physicians and surgeons to Finsbury; lawyers to Bedford-row, Guildford-street, and the neighbourhood of the "Inns of Court;" printers to Fleet-street and the Strand; medical students to Lant-street, Southwark; costermongers to Whitechapel, the New Cut, Lambeth, and Somers-town; members of Parliament to Westminster; and diplomatists abound in Belgravia. "City men," such as stockbrokers, merchants, and commercial agents, affect Tyburnia, Bayswater, Haverstock-hill, Brixton, and Clapham: commercial clerks seem fond of Islington, Highgate, and Kingsland: bill-discounters favour the Adelphi and the streets running from the Strand to the river: professional thieves throng the small streets between Walworth and the Old Kent-road; and "pretty horsebreakers" have taken up their abodes in large numbers in the rural parts of Lower Brompton and the nice houses between Sloane-street and the International Exhibition. — *Routledge's Shilling Guide-book to London, by G. F. Pardon.*

TENDERS.

For building new Rectory House, at Asterby, Lincolnshire. Mr. R. J. Withers, architect:—

Binns	£1,047 0 0
Dankley	1,012 0 0
Timms	1,000 0 0
Byall	988 0 0
Bellany	975 14 0
Clark	965 0 0

For building new Parsonage House, at Henfynyw, Cardiganshire. Mr. R. J. Withers, architect:—

Williams	£1,456 0 0
Thomas	1,278 18 6
Evans & Jenkins	997 0 0
Davies	962 16 0

For restoring Saint Ethelburga's Church, Bishopsgate street. First portion of works. Mr. R. J. Withers, architect. Quantities supplied by Mr. Poland —

Tracey & Co.	£406 0 0
London	404 0 0
Axford & Co.	397 0 0
J. & W. Sanders	394 0 0
Pritchard & Son	391 0 0
Sharpington & Cole	383 0 0

For building a Parsonage House, at Garton, in Holderness, Yorkshire. Mr. R. J. Withers, architect:—

Goodworth	£925 10 0
Thompson	913 0 0
Hutchinson & Musgrave	880 0 0
Brown	772 5 6
Robinson and Gray	749 6 0
Stamford	650 0 0

The propiretor to find bricks and carriage.

For new Baptist Chapel, Wandsworth. Mr. Cubitt, architect:—

Down	£2,430 0 0
Myers & Son	2,425 0 0
Walker	2,356 0 0
Thompson	2,247 0 0
Dove, Brothers	2,235 0 0
Colls & Co.	2,200 0 0
Keys & Head	2,200 0 0
Brown & Robinson	2,162 0 0
Nicholson & Son	2,150 0 0
Adamson & Son	2,139 0 0

For erecting a detached residence, Hornsey, for Mr. G. Boor. Mr. William Smith, architect:—

Harvey	£1,070 10 0
East	900 0 0
James & Ashton	877 10 0
Power	875 0 0
King	815 0 0

For three houses for Messrs. Courage & Co., to be built in Brockley-road, New-cross. Mr. John Jenkins, architect:—

Hawke	£1,550 0 0
Hunt	1,500 0 0
Smith	1,495 0 0

For building seven houses at Highbury, for Mr. S. Lewis. Mr. H. Allom, architect:—

Cowland	£6,336 0 0
Mann	5,757 0 0
Rowe	5,735 0 0
William	5,466 5 0
Dove, Brothers	5,420 0 0
Child & Son	5,350 0 0
Carter	5,320 0 0
Dunford	5,130 0 0
James & Ashton	4,443 0 0

Blue Coat and National Schools, Basingstoke. Messrs. Money & Son, architects:—

The tender of Mr. Robert Nichols has been accepted.

For new Alms Houses, Norwood:—

Rider	£7,180 0 0
Myers & Son	6,984 0 0
Patman & Co.	6,614 0 0
Manley & Rogers	6,520 0 0
Downs	6,196 0 0
Sawyer	4,853 0 0

For new Offices for Messrs. Innes, Mincing-lane, City:—

Mansfield	£11,170 0 0
Holland	11,296 0 0
Ashby & Sons	10,695 0 0
I'Anson	10,994 0 0
Rider	10,960 0 0
Ashby & Horner	10,939 0 0
Hack	10,893 0 0
Laurence	10,575 0 0
Browne & Co.	10,540 0 0
Trollope	10,273 0 0
Brass	9,889 0 0
Myers & Sons	9,876 0 0
Jackson & Shaw	9,170 0 0

For new Auction Offices, Chancery-lane:—

I'Anson	£5,585 0 0
Smith	5,495 0 0
Lucas	5,339 0 0
Myers & Sons	5,249 0 0
Holland	5,200 0 0
Brass	5,075 0 0
Robinson	4,433 0 0

For Worm Brook improvement, in the county of Hereford. Mr. T. Curley, engineer. Quantities supplied:—

Betts & Green	£4,155 0 0
Moore	3,798 0 0
Shellard & Green	3,375 0 0
Coker	3,262 0 0
Flewitt	3,100 0 0
Caldwell	3,070 0 0
Williams	3,030 0 0
Mowon	3,008 0 0
Field (accepted)	2,948 0 0
Thomas & Griffiths	2,850 0 0
Clarke	2,673 0 0

For additional wards to Hospital for Females Soho-square. Mr. Joseph Peacock, architect:—

Holland & Hanen	£1,346 0 0
Warne	1,151 0 0
Mansfield	1,129 0 0
Patman	1,111 0 0
Macey	1,091 0 0

For rebuilding nave of Narraghmore Church, co. Kildare. Mr. R. J. Withers, architect :—

Cockburn & Sons	£1,265	0	0
Carroll	1,017	10	0
Sharpe	900	0	0
Crampton	895	0	0

For carpenter's work to part of roofing to the Orphan School and Home, Halifax, for Messrs. John Crossley & Sons. Messrs. Paull & Ayliffe, architects :—

	Quebec Red Pine.	Memel.
Illingworth	£1,783	£1,675
Bedforth	—	1,581
Pulman	1,600	1,540
Dyson & Son (accepted)	1,520	1,440

For a Police Station, Westward, Hastings. Mr. J. Ford Mackenzie, architect. Quantities supplied :—

Parks	£723	0	0
Palmer	693	0	0
Batston & Brothers	675	0	0
Wellard	660	0	0
Page	659	10	0
Hopkins	657	5	0
Russell & Winter	653	14	0
Broadbridge	649	0	0
Terry	637	5	9
Russell & Campbell	626	0	0
Bridgeland (accepted)	598	0	0
Stubenfield & Son	582	0	0

For alterations and additions to No. 15, Lower-street, Islington, for the Stevens' Patent Bread Machinery Company. Mr. Thomas Fillary, architect. Quantities by Mr. Enoch :—

Rivett	£1,122	0	0
Credit old lead, 20*l.*			
Perry & Judson	1,072	12	0
Credit old lead, 20*l.* 18*s.*			
Dove, Brothers	1,045	0	0
Credit old lead, 18*l.*			
Brass	983	0	0
Credit old lead, 15*l.*			
Hearle	967	0	0
Credit old lead, 20*l.*			
Conder (accepted)	943	0	0
Credit old lead, 23*l.*			

Also for building six 10-bushel ovens to same premises :—

Kemp	£357	0	0
Smith & Son	350	0	0
Burtenshaw (accepted)	323	0	0

For alterations and additions to Frogmore, Blackwater, Hants; for Mr. F. H. Fitzroy. Mr. Thomas Hill, architect :—

Walker	£2,366	0	0
Markman (accepted)	2,177	0	0

For Holy Trinity Parsonage, Hoxton. Mr. E. Christian, architect :—

Rhodes & Roberts	£1,590	0	0
Myers & Son	1,579	0	0
Patman & Fotheringham	1,495	0	0
Bishop	1,481	0	0
Jackson & Shaw	1,457	0	0
Piper and Wheeler	1,456	0	0
Dove, Brothers	1,425	0	0
Scott	1,413	0	0
Brown & Robinson	1,328	0	0
Wells	1,258	0	0
Loft	1,190	0	0

For new factory, &c., for Mr. Wells, Old-street-road. Mr. William Reddall, architect :—

Pritchard & Son	£500	0	0
Macers	415	0	0

For repairs to eight houses, at Tottenham. Mr. J. Tanner, architect :—

Brown & Son	£346	0	0
Frost	330	0	0
Scott	283	0	0
Collier	260	0	0
Elston (accepted)	210	8	0

TO CORRESPONDENTS.

F. (as before stated, a drop or two of ammonia is said to detect arsenic in green colours by changing them to a deep blue).—Wayfarer.—A Solicitor (apply to Mr. Ransome, Canon-row).—R. S.—M. R. H.—B. J. W.—A. W. T.—T. G.—J. C.—F. S.—W. T. H.—J. W. R.—F. P.—E. & G.—J. C.—T. W.—J. W.—G. R. N. (must surely be mistaken. "Fiebl" cannot mean *Pyrl*).—Weight (is bound to abate a nuisance caused by himself. Flue probably requires parging).—R. & Son.—J. F. M. (we shall be glad to hear from him).—Messrs. H.—A Workman.—H. T. (stop the border at the door).—S. V. S.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE.* — *All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and NOT to the "Publisher."*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

"THE BUILDER."—January 25th, February 22nd, March 1st and 15th, 1862.
A few clean Copies of the above dates are required.—Apply to the Publisher, at the Office, 1, York-street, Covent-garden, W.C.

CREWE.—FREEHOLD BUILDING LAND.—TO BE SOLD by AUCTION, pursuant to a decree of the High Court of Chancery made in a cause "Blakemore *v.* Elleston," by the Vice-Chancellor Sir John Stuart, the Judge to whose Court the said cause is attached, by

MESSRS. CHURTON, the persons appointed for that purpose, on FRIDAY, the 3rd day of OCTOBER, 1862, at the CREWE ARMS HOTEL, Crewe, at TWO o'clock in the afternoon, in one lot, all that FREEHOLD BUILDING LAND, of various dimensions, from 2,040 to 223 square yards, part situate between Mill street and Hall-street, Railway Junction, Crewe aforesaid, and on intended new roads there, lately in the occupation of Mr. Elleston, and part abutting upon the new road leading from Oak-street, Crewe, to Weaver Junction, and also the immediate neighbourhood of the railway stations of the main line, and of the Manchester, Liverpool, Chester, North Staffordshire, and shrewsbury lines of the London and North Western Railway.—Particulars and conditions of sale, and plans, may be had (gratis) on application to Messrs. FISHER & HODGES, Newport, Salop; HENRY HEANE, Esq. Newport, Salop, and 12, Regent street, London; Messrs. PININGER & WILKINSON, 28, John-street, Bedford-row; Messrs. GREGORY & CO., Bedford-row: CHRISTOPHER CUFF, Esq. St. Martin's-lane, London; E. D. BROUGHTON, Esq. RD. C. EDLESTON, Esq. and J. BROADHURST, Esq. Nantwich, Cheshire; and Messrs. CHURTON, Auctioneers, Chester, and Whitchurch, Salop; and at the place of sale.

ALFRED HALL, Chief Clerk.

Dated the 29th day of July, 1862.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES :—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

WANTED, a young ARCHITECTURAL DRAUGHTSMAN, competent to make drawings from rough sketches.—Address, stating salary and other particulars, to H. L. 62, Lower Gardiner-street, Dublin.

TO CARPENTERS AND JOINERS
WANTED, in a Jobbing Shop, a GOOD and QUICK HAND. As it may be permanent, none need apply who are not up to the mark.—Address, J., Bowling Green street, Kennington Park.

TO PLUMBERS, GLAZIERS, AND PAINTERS.
WANTED, a PARTNER, in an old-established TOWN BUSINESS. Returns averaging 1,600*l.* per annum. A capital of will be required. Satisfactory references will be expected.—Address, A. A. V. Office of "The Builder."

WANTED, a good SMITH, who understands hot-water work. A permanent situation, and good wages given. Character and reference required.—Apply at JOHN JAQUES'S, Ironmonger, Clapham-common, S.

TO GAS ENGINEERS
WANTED, immediately, a MANAGER for GAS WORKS in the Brazils, who is thoroughly competent to undertake the Manufacture and Distribution of Gas. A liberal salary will be given.—Apply by letter, with full particulars, and salary required, whether married or single.—Address, C. A. Charles Baker & Sons', 8, Birchin-lane, London, E.C.

WANTED, in the Office, &c. of a Builder or Railway Contractor, by an active, practical Man, a RE-ENGAGEMENT. Has had much to do experience in the building trade, manual, official, and superintending; can make plans, take out quantities, make up accounts, keep books, and is generally useful. Can furnish good security, if required, for a place of trust. Age, 30. Several years with a large London firm about to retire from the trade. Address, A. O. K. care of Mr. Leggett, Stationer, 20A, North Audley-street, Grosvenor square, W.

WANTED, immediately, a WORKING FOREMAN and BUILDER'S CLERK combined, in the locality of St. John's-wood. He must make himself generally useful, and any applicant who can produce proper testimonials as to character and ability will be preferred. Only those who have had experience in the above capacities need apply. None need apply unless he has had many years' experience in the building business in all its branches. Salary, 30*s.* per week.—Apply, by letter only, to Mr. JOHN WELLS, 9, St. John's-wood-terrace, N.W.

TO CIVIL ENGINEERS AND CONTRACTORS.
WANTED, an ENGAGEMENT, by a gentleman, aged 26, who has served an apprenticeship to a Civil Engineer and Surveyor, as well as to a practical Engineer and Millwright, in the post returned to the most extensive railway works in India.—Address, T. S. F. Scadding's Library, Belgrave-road, S.W.

TO TRUNK MAKERS, PACKING CASE MAKERS, AND OTHERS.
WANTED, to INSTRUCT a YOUTH of respectable connexions in the above or any light business, under the eye of the Principal, in a healthy situation, and where he could reside entirely with the family. Terms, &c., will be expected to be moderate. Address, by letter, personal interview preferred, and terms, to A. B. care of Mr. Horner, Builder, 15, Hart-street, Bloomsbury.

WANTED, a SITUATION, by a Young Man aged 22. Can make plans and working drawings, measure, and estimate. Can superintend small buildings, and set out. Can take up work, keep within estimate and time, or take the entire charge of a country job.—Address, A. B. 81, Fleet-street, E.C.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.
WANTED, an ENGAGEMENT in town or country, by an experienced quantity taker, estimator, and draughtsman, of first class practice; or to Take Charge of an Estate. Age 32. Has been with first-class builders for the last 7 years.—Address, W. H. at Johnson's Post office, Blackfriars-road, London.

TO ARCHITECTS
WANTED, a RE-ENGAGEMENT in an Architect's Office. Can prepare fair, working, and detail drawings, &c. Terms moderate.—Address, B. I. Office of "The Builder."

TO DECORATORS, UPHOLSTERERS, AND OTHERS.
WANTED, a SITUATION as FOREMAN of PAINTERS, or to Take Charge of Work. Good references.—Address, S. E. care of Mr. White, 5, Upper Granton-street, Fitzroy-square.

TO BUILDERS OR PLUMBERS.
WANTED, by a Plumber, a constant SITUATION. Good reference as to ability. Is a good painter and glazier. Would undertake a job to plumb, or to take charge of a Job. Has been used to good work.—Address, G. L. No. 12a, West street, Bedford-street, W.

TO BUILDERS AND CONTRACTORS
WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK. Is well acquainted with book-keeping, measuring, taking out quantities, and all the usual duties of the office. Age 27.—Address, B. H. No. 3, Stamford street, Blackfriars.

TO ARCHITECTS, SURVEYORS, AND OTHERS.
WANTED, an ENGAGEMENT by the Advertiser, who has an extensive and practical knowledge of building masters, drainage, house property, &c. Is a good plain draughtsman, accountant, and writer, and would be found a useful assistant.—Address, C. O. care of Mr. Wilson, 21, Lincoln's-inn-fields, Borough, S.E.

WANTED, by the Advertiser, a SITUATION, as an IMPROVER, in GLASS PAINTING. Has had fair experience in the ornamental and ecclesiastical work. A moderate salary only expected. Country preferred.—Apply to A. B. C. 235, Euston road, Euston-square, London, N.W.

TO BUILDERS AND PLUMBERS
WANTED, by a respectable Young Man, a SITUATION as PLUMBER, in town or country. No objection to do a little painting, glazing, or gas fitting.—Address, C. G. 16, Walnut-place, Kennington-road, S.

TO CONTRACTORS AND ENGINEERS.
WANTED, by the Advertiser, who is just out of an engagement, and has had good practical experience in Field work, Surveying, Levelling, and Office Work, a SITUATION on the Works of a Contractor or Engineer. Good references as to ability, character, and respectability, will be given.—Address, X. 34, Wood-street, Upper Holloway, London, N.

WANTED, a constant SITUATION, by a thoroughly good PLUMBER, GASFITTER, and ZINC WORKER. Has been used to fill up his time well painting and glazing.—Address, T. COOKE, 1, 4, John street, Marlborough-road, Chelsea, S.W.

TO BUILDERS AND JOBBING MASTERS.
WANTED, by a Carpenter and Upholsterer, a RE ENGAGEMENT as General Jobbing hand. Is a good Paper hanger and Painter, and can take every branch in house repairs; bell-hanging, gas-fitting, zinc-working, plumbing, look repairs, &c.—Address, W. H. 4, Church road, Battersea bridge.

WANTED, by the Advertiser, a SITUATION as FOREMAN of WORKS, or OUT-DOOR FOREMAN of CARPENTERS. First-class references from several London builders.—Address, M. A. 77, Caledonian road, N.

TO IRONMONGERS AND HOT-WATER ENGINEERS.
WANTED, by a Young Man, aged 18, who has served three years, and used to stove-work, gas-fitting, bath and hot-water work, a SITUATION as IMPROVER, and to finish his time, in town or country. Good references, and salary moderate.—Address, T. S. Office of "The Builder."

TO BUILDERS, HOUSE PAINTERS, AND DECORATORS
WANTED, by the Advertiser, a practical man, aged 37, a SITUATION to take the management or superintendence in the above branches; has had 24 years' experience; can measure, abstract, &c.; and do all the necessary book-keeping by single and double entry. Would have no objection to fill up his time as Writer and Ornamental Decorator.—Address, W. J. H. 68, John-street, Fitzroy-square, London.

TO ARCHITECTS, BUILDERS, CONTRACTORS, &c.
WANTED, a RE-ENGAGEMENT, by a Young Man, aged 24, in either of the above offices. Has had considerable experience in drawing, estimating, measuring, &c. Has been at the latter for about two years past, and assisted in the erection of buildings, &c. Terms moderate. Good references can be given.—Address, A. B. Post-office, Totton, near Southampton, Hants.

TO BUILDERS, PLUMBERS, PAINTERS, AND GLAZIERS.
WANTED, by a Young Man, aged 26, who is a good scholar, can write a neat rate hand, a SITUATION as TIME or STOCK KEEPER. Is capable of managing or taking charge of a job; can measure and price work, and can assist to keep a set of books. Would be glad to make himself useful as above, or would work at his trade as plumber, painter, and glazier. Town or country.—Address, G. F. C. 15, Williams-terrace, Lorrimore-square, Walworth, London, S.

TO BUILDERS, HOUSE DECORATORS, AND HOUSE AGENTS.
WANTED, by a young Married Man, a CONSTANT SITUATION. Can do painting, plumbing, glazing, gasfitting, paper-hanging, or is capable of taking charge of work. Can measure up, and has been used to the building trade. Would have no objection to fill up his time as Waiter. Has no family. Can have good character.—Address, J. B. care of Mr. Burns, Builder, Wilson-street, Finsbury.

TO BUILDERS
WANTED, by a Practical Man, aged 30, a SITUATION as GENERAL FOREMAN, or to take charge of a job as carpenter, &c. Is truly sober, steady, and industrious, and can produce testimonials of work. Good references as to character and ability.—Address, W. E. Office of "The Builder."

WANTED, by a Young Man, a CONSTANCY, as PAPERHANGER, PAINTER, and JOBBING PLUMBER, or as GLAZIER and GLASS CUTTER in a warehouse, town or country.—Address, T. L. 56, Smyrk's-road, Old Kent-road.

WANTED, a SITUATION as SHOP or GENERAL FOREMAN, a town or country. Good reference given.—Address, J. L. O. Office of "The Builder."

TO SMITHS, IRONMONGERS, AND OTHERS
WANTED, by the Advertiser, a SITUATION as Stove or Hot Water Worker, to do work; or to look after L boys and labour. Best used to taking work. No objection to town or country. Can have good character.—Direct J. E. Z. Office of "The Builder."

TO PLUMBERS, BUILDERS, &c.
WANTED, by the Advertiser, a SITUATION as PLUMBER, or THREE-BRANCH HAND.—Address, C. H. 5, Commercial-road South, Commercial Town, N.W.

TO ARCHITECTS
WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK OF WORKS or General Superintendent of Country Works. Has had experience in Churches and Abbey.—Address, X. Y. Z. Post-office, St. Leonards, N.

WANTED, a SITUATION, by a Young Man, who has been used to working with builders and plasterers. Understands fitting down and repairing pattern work. Wages 24*s.* per week.—Address, A. B. Post-office, Beech-street, City.

WANTED, EMPLOYMENT, by a CARPENTER and JOINER, in the Office or Workshop. Has had the charge of jobs, up to 200*l.*, and a country job. Can take charge of a small shop or a Job.—Address, T. D. C. 8, Doune-terrace, Pimlico, S.W.

TO GENTLEMEN, BUILDERS, AND OTHERS
WANTED, a SITUATION as FOREMAN of BRICK and TILE WORKS. Understands making white bricks, pale bricks, and red bricks, and all kinds of moulds. Good reference given.—Apply, by letter, to A. M. P. Post-office, South Norwood, Surrey.

THE Advertiser, having had considerable experience in the Architectural work, has a few spare hours, in evening, to spend upon plans, &c.—Address, A. ENGAGEMENT.—Address, A. B. 37, Westmoreland-street, Pimlico, S.W.

TO BUILDERS.—As ARCHITECTURAL DRAUGHTSMAN, a Gentleman of many years' experience in making designs and working drawings. Unimpeachable references.—Address, M. L. at Ingram's, 88, Charles-street, Westminster.

TO ARCHITECTS

THE Advertiser, an Architect, who has had upwards of twenty years' experience, both as clerk and principal, wishes to meet with an ENGAGEMENT as MANAGING CLERK in or establish a business, in town or country, or the Management of the Town Branch of a Country Business. Unexceptionable references given.—Address, A B, care of W. H. Waller, esq. Solicitor, 2, Duke-street, Adelphi, W.C.

TO BUILDERS.

THE Advertiser, having just left a Foreman's place at a Builder's, is in want of a SITUATION as THREE-BRANCH HAND. Town or country. Address, R. E. 22, Gloucester place, Hackney road

TO CIVIL ENGINEERS

THE Advertiser requires a SITUATION as ASSISTANT DRAUGHTSMAN. Can be highly recommended. Has been used to mechanical drawing for some years, and is a good tracer.—Address, W. A. B. Office of "The Builder."

TO TIMBER MERCHANTS, &c.

THE Advertiser, having had several years' experience as CLERK, COLLECTOR, and TRAVELLER, desires a re-engagement in either of those capacities. References can be given.—Address, F D care of Mr W. Parry, News Agent, New North-road, Islington, N.

THE Advertiser desires an ENGAGEMENT, either temporary or permanent. Is a good and expert Draughtsman, and can attend to design in any branch of Mechanical Art, as he has a fair knowledge of quantities, &c. Salary moderate. Applications will be given to a Decent office.—Address, A. A. Post office, Charing cross

TO BRICK, TILE, AND PIPE MANUFACTURERS.

THE Advertiser, a Young Man, aged 26, wishes an ENGAGEMENT as MANAGER or CLERK in a BRICK and PIPE WORKS. Has been for the past eight years a partner in works of the sort, where he left with entire confidence. Last, thereof, as Manager, is well aware of the necessity for undeniable reference, in the unlikely case of the same being applied for.—Address, L. D., 81, Richmond-street, St. George's-road, Southwark, London.

TO ARCHITECTS, BUILDERS, AND OTHERS.

THE Advertiser (aged 21, who is a good architectural draughtsman, and has had considerable experience) is desirous of obtaining a SITUATION as above, either of the above offices, in town or country. Address, W. B. L. 60 care of "The Builder."

TO BUILDERS, ESTATE AGENTS, AND CONTRACTORS.

THE Advertiser, an energetic Man, aged 24, clerk and Cashier by trade, wishes for a SITUATION. ENGAGEMENT is offered in a Counting-house, as Bookkeeper, & Good references. Must be in town.—Address, L. M. I., Coal-hole road, South, Mile end, E.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a rapid Designer and Perspective Draughtsman, wishes for a RE ENGAGEMENT as ASSISTANT to an ARCHITECT, or would be happy to render assistance in his own residence, in the preparation of competition or other drawings.—Address, M. A. Prideaux, Lower Lansdown terrace, Barnsbury, N.

TO DECORATORS, &c.

CLERK.—A Gentleman, aged 30, of personal and business habits, and well accustomed to mercantile duties, desires an ENGAGEMENT as above. Has had seven years' experience in the Trade, and can be highly recommended.—Address, J. B. 8, Belvedere road, New kent road

TO BUILDERS.

A YOUNG MAN, aged 21, a good scholar, and who will understand the practical part of the business, as well as the office routine, is anxious to learn it as a BUILDER'S OFFICE.—Address, A. Z., 9, Harrold-street, City road, N.

PARTNERSHIP.

AN ARCHITECT and SURVEYOR, with a good connexion in the provinces, residing at Derby, is desirous of a PARTNERSHIP in an established Practice. Highest references given and required.—Address, ALPHA, Office of "The Builder."

AN ESTIMATOR and QUANTITY SURVEYOR, who can produce first-class testimonials, and has considerable practical knowledge of specifications, &c., and of the superintendence of works, is desirous of meeting with a MANAGER of a Builder's Business, or other employment for the above. Could assist, during leisure hours, in preparing quantities, &c. Address, ALPHA, Gabriel's Advertising Office, 10, Paternoster Row, E.C.

TO BUILDERS, &c.

AS GENERAL FOREMAN, CLERK of WORKS, or to MANAGE a BUSINESS in the country.—WANTED, by the Advertiser, who has fifteen years' experience, and a thorough practical knowledge of the trade in all its branches, a SITUATION as above.—Address, with full particulars, amount of salary, &c., to W. W. P. Stiffkey, Stony Stratford, Bucks.

TO ARCHITECTS AND SURVEYORS

A GENTLEMAN of great practical knowledge and long experience in the duties of the EMPLOYED in the capacity of SURVEYOR, either by engagement or otherwise, on His Majesty's Service, for the last twenty-five years, can produce the most satisfactory references, &c.—Address, SURVEYOR, Library, 14, Upper Rail, Lambeth, S.

TO CIVIL ENGINEERS AND ARCHITECTS

AN experienced practical Clerk of Works is desirous of a RE-ENGAGEMENT. Is at Work. Has been accustomed to work from all sorts of plans, and can produce the best of testimonials as to ability, &c.—Address, C. E. Library, 14, Upper Rail, Lambeth, S.

TO ENGINEERS, ARCHITECTS, CONTRACTORS, AND BUILDERS

A GENTLEMAN desires an ENGAGEMENT with either of the above. He is able to make drawings of every description, and has had much previous experience in the construction of works. Age 31.—Address, X. Y. Z., 161, Strand, W.C.

TO BUILDERS, &c

A YOUNG MAN wishes for IMPROVEMENT at the BENCH. Would have no objection to go into the country if well provided.—Address, W. B. L., Cranbourne, Bayswater, W

A STEADY YOUNG MAN wants a constant SITUATION in a Lodging-House, as JOBBING BRICKLAYER. Can do whitewashing and paperhanging. Wages 18s. a week.—Address, E. M. 21, Belmont Mews, Hackney-street, May-fair, W.

TO ARCHITECTS.

AN efficient Assistant is desirous of a RE-ENGAGEMENT. Has been accustomed to preparing general working, detail drawings, take out quantities, write specifications, and superintend works. First-rate testimonials.—Address, K Bessborough Library, Rochampton street, Pimlico, S.W.

TO CONTRACTORS AND OTHERS.

A GENTLEMAN who has had considerable experience in the quantities, estimates of Public Works, specifications, and general management of accounts, seeks an APPOINTMENT, either as a salaried Clerk or Assistant. First-class testimonials and reference.—Address, A 1 Office of "The Builder."

A YOUNG MAN, aged 21, wishes to ARTICLE himself to a Carpenter and Joiner for twelve or fifteen months. Has served five years to the above.—Address, A B care of Mr. Reaves, Stationer, New Green

TO ARCHITECTS, DESIGNERS, AND OTHERS

AN ARTIST (an exhibitor in Oil and Water Colours), aged 24, wishes for a SITUATION where his knowledge as an artist would be of service. Salary at first not an object.—Address, P. B. W care of Mr. Stevens, 224, Goswell road

A GOOD JOINER is in want of constant EMPLOYMENT in the country. Age 26 years.—Address, J. HOLMES, No. 15, Princess street, Edgware road, London.

TO SURVEYORS, CAPITALISTS, AND OTHERS.

A GENTLEMAN, having purchased a valuable estate in the vicinity of London, admirably adapted for building purposes, is desirous of the CO OPERATION of a person having capital and ability to lay out the same to the best advantage.—Address, N. W. at C. H. May's Advertisement Offices, 28 Clements lane, E.C.

A COMPETENT ASSISTANT, aged 27, well versed in construction, and accustomed to the preparation of finished, working, and detail drawings, in both Gothic and Classic styles, is open for a RE-ENGAGEMENT. Good references, &c. Address, K. M. N. 37, Wood square, London, S.

TO BUILDERS AND OTHERS

A PRACTICAL DRAUGHTSMAN would be happy to make PLANS, DESIGNS, TRACINGS, &c. at his own Rooms, in very moderate terms, with neatness and despatch.—Address, X K S, Newsvendors, 121, Cheapside, E.C.

TO BUILDERS SURVEYORS, &c

AN active, energetic Young Man, practically experienced in the Building Trade, seeks a RE-ENGAGEMENT in a Builder's Office, as an Assistant Surveyor, or Clerk of Works. Is a first-rate Hand for measuring and estimates, keep books, &c., fully and if desired can undertake the whole superintendence of a Builder's business.—Address, JOHN PAINE, Gentleman's Library, 5, Oxford street, W

A STAIRCASE HAND, of twenty years' experience, wishes one of an ENGAGEMENT for any quantity of first-class Hand-rail, Spandy Amount, upon the usual approved principle, 25 per cent. beneath trade price.—Address, GEO BODLEY, 1, Oak-street, Islington

A CLERK of WORKS, 45 years of age, of great experience, will shortly require a SITUATION, town or country. Satisfactory references as to character and qualification.—Address, full particulars and salary to be stated, D. B. D. Post-office, Buxton, Derbyshire.

TO BUILDERS AND CONTRACTORS.

AN experienced practical Measurer, Surveyor, and Accountant, is open to ENGAGEMENTS for preparing estimates, bills of extras, accounts in litigation, and making builders' books. Terms by arrangement.—Address, UTILITAS, 154, Leadenhall-street, E.C.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINES, and SPIRIT WAREHOUSE RENTS, BANKRUPTCY and INSOLVENTS' CASES CONDUCTED. Balance sheets Prepared, and Meetings of Creditors Convened Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate street, Bank, London.

MONEY ADVANCED upon FREE and LEASE HOLD PROPERTY, also on property in course of erection.—A. J. & J. ATKINSON, Solicitor, No. 8, Cecil street, Strand

TEN PER CENT PER ANNUM.—Sums of FIFTY POUNDS to TEN THOUSAND POUNDS may be INVESTED for SEVEN YEARS, at 10 per cent. interest, without publicity, liability, or bad debts, (loss impossible), on stock of a Public Company to be formed, and for the purchase of certain existing Business, referred to A. G. 1, Universal Advertising Office, 154, Bishopsgate street, Corner of Bond.

TEN THOUSAND POUNDS ready to be ADVANCED by the Temperance Permanent Land and Building Society on Freehold or Leasehold Property, for any term of years not exceeding fifteen. Monthly repayments (including interest) for each £100 advanced:—

2 Years.	4 Years.	6 Years.	8 Years.	10 Years.	12 Years.	14 Years.
£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d
4 11 6	2 9 0	1 14 11	1 7 11	1 4 11	1 3 1	0 19 4

HENRY J. PHILLIPS, Secretary.

34, Moorgate street, London.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TILE-TILES, STEPS, &c.

DOBBIN and other CARTS, especially adapted for exportation with Wrought Iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

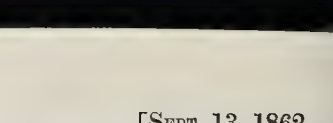
NICKSON & WADDINGHAM'S REGISTERED PERFORATED SLATE GROUNDS (Public Works, Asphalte Roofings, partitions, cantilever walks, pocket doors, and portable fireproof buildings in slate (Colonial), on view at their works, being supplied also in paper, canvas, and zinc in cross & straight, preventing cracks in ceilings, papers, or paints, especially fine as a white, and deadening sound. In the ornamental adaptation of slate in all its various patterns, and printed in any colour to match existing, these specialities display much of the taste for which the Firm are so well favourably known.—Address, Mr THOMAS WADDINGHAM, Architect, Bakewell, Derbyshire, or Manchester

TARPAULINS, MARQUEES, &c. for SALE or HIRE SCAFFOLD or HEMP ROPE FALLS. H. PIGGOTT, 50, Bishopsgate street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS FOR DECORATION SIGNALS. CARY & PRIER, DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INDOROUS FELT, For Damp Walls, and a Lining for Brick Houses DOWGATE HILL, London, and 2, GOREE PIAZZA, Liverpool.



NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up. Sold by all Ironmongers, and the Inventor, GEORGE JENNINGS, Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of Gilt Bordering, Picture Frame Mouldings, and Picture Frames of every description and the very lowest prices. Regilding in all its branches to the trade. 2 inch Gilt Beads, 7s. per dozen 6-feet lengths; best ditto, 12s.

G. REES, 57, DRURY LANE,

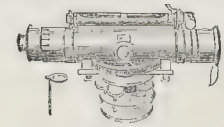
Four doors from Drury lane Theatre. Established in 1800

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS

CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS, And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS, 242 EUSTON ROAD, ST. PANCRAS.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS, 20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre.

Respectfully inform the Public that their Illustrated Price List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

SECOND-HAND MATHEMATICAL and SURVEYING INSTRUMENTS by Troughton & Simms, Elliott Brothers, Dollond, Adie, Jones, Harris, and others. Also, Telescopes, Microscopes, Opera and Race Glasses, by Ross, Troughton, Simms, Powell, Dollond, and others. At Mr. WM. LAWLEY'S, 28, Farringdon street, City.—Instruments Bought, Sold, or Exchanged.

TO CHURCHWARDENS, BUILDERS, AND OTHERS.

TO BE SOLD, cheap, a Second hand powerful HURDY GURDY, suitable for Lunatic Asylums or Factories; capable of striking a bell from 12 cwt. to 2 cwt. For particulars apply to W. & R. GRIFFITHS, Clock Dial Manufacturers, Edmund-street, Birmingham.

THEODOLITES, LEVELS, TRANSIT THEODOLITES, DRAWING INSTRUMENTS, SCALES, &c. C. BAKER, 244 & 244, HIGH HOLBORN,

Begs to inform Surveyors, Architects, and others, that having recently completed a valuable manufacturing premises, he is now enabled to supply superior of Instruments at much less than present prices, and he solicits a trial from any one who is desirous of purchasing a first-rate article. Every instrument before leaving the premises, will be carefully tested, and altered, if necessary, to ensure its perfect accuracy. A large assortment of SECOND-HAND THEODOLITES, LEVELS, &c. on sale at low prices, which are warranted. Intricate instruments taken in exchange. Catalogues free by post. Established 1785

INTERNATIONAL EXHIBITION, 1862.—CLASS 14. Only Medal awarded for "Excellence of Construction of Mathematical Instruments"

T SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 30-inch, 3s. 6d. and 5s. 6d.; 24-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best trade make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S IMPROVED DRAWING PEN.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, dry or ground, 1 Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s. 8d.; Turpentine, 8s. 6d. per gallon; Pure Pale Oak Varnish, 7s. 6d. per gallon, for cash, at P. LANGTON'S Colour Warehouse, 141 and 144, White cross-street, St. Lukes, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

PRIZE MEDAL, 1862.

HAMILTON & CO. No 17, GREEK STREET, SOHO-SQUARE, LONDON, W. Sole Manufacturers of C. A. WATKINS'S PATENT WIRE ROUND and OVAL PAINTING BRUSHES.

Datemper Brushes, Steel Tools, Stopping Knives, Gilders' and Graners' Tools

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the Kingdom. Numerous Gold & Silver Medals, Diplomas, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough street, London, W. Established 1777

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Iso Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s 10½. per gallon.
Turpentine, 2s 6d. per gallon.
Fine Pale Oak Varnish, 8s. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Colesahll-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufactory, No. 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 2s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS, 30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD, Together with all kinds of Colours and Varnishes, Warranted of the purest quality, and at the lowest prices.
Agents for Kershaw's Graining Machines.

TO ZINC WORKERS and GALVANIZED-IRON MANUFACTURERS.—TO BE DISPOSED OF, by Private Contract, the LEASE, GOOD-WILL, and MACHINERY of a ZINC WORKER (including the Perforating and Corrugating Zinc), capable of working 200 tons per annum. The present returns are about 4,200l. per annum. The machinery includes two Perforating Machines, the larger one for zinc, with thirty-nine different patterns of punches and matrices; the smaller one, for paper and tin plates; a powerful Bending Corrugating or Gutter-making Machine, 8 feet wide, with dies; Astrigal Machine; a Draw Bench; Fly-press for fret-work, Circular Cutting-machine, Planing-machine, Lathes, Drilling-machines, and Tools, worked by a 6 horse power steam-engine and boiler. The premises comprise a capital light Workshop on the ground-floor, with Store-room over; Counting-house, Smithy, Two well Stables, and Yard.—For further particulars apply to Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO PLUMBERS, PAINTERS, & GLAZIERS.—TO BE DISPOSED OF, an OLD-ESTABLISHED COUNTRY BUSINESS, of long standing, in a central position. This is an eligible opportunity that seldom offers to any person of small capital, who is a steady, good and industrious habits.
Satisfactory references given and required.—Every information can be had on application to J. HALES, Plumber and House Decorator, Marlowes, Hemel Hempstead, Herts.

NORWICH UNION FIRE INSURANCE SOCIETY.
Notice.—MICHAELMAS RENEWALS.
Mercantile and Dock Insurances at the Reduced Rates.
The business of the Company exceeds 70,000,000l.
The duty paid to Government for the year 1861 was 83,076l. and the amount insured on farming stock 1,939,752l.
A bonus of three-fifths of the profits periodically made to parties insuring, who have them from time to time received sums amounting in the aggregate to 440,000l.
The rates of premium are in no case higher than those charged by the other principal offices making no returns to their insurers.
For prospectuses, apply at the Society's Offices, Surrey-street, Norwich, and 6, Crescent, New Bridge-street, Blackfriars, E.C.

ACCIDENTS ARE UNAVOIDABLE.
Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100l. to 1,000l. assuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
1,213,177 have been paid by the Company as COMPENSATION for 56 Fatal Cases, and 5 041 Cases of Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

THE OXYGEN GAS COMPANY,
(Webster's Patent)
Offices:—UNITY BUILDINGS, 10, CANNON-STREET, London, E.C.
The vast increase of light and of heat produced by the introduction into the flame or fire of a jet of Oxygen Gas, has been often seen in the laboratory and the lecture-room, but all attempts at a more extended use of this vital element of combustion have been frustrated by the great cost of producing it from the hitherto best known sources (Chlorate of Potash and Manganese). The cost of it has rarely been less than 8l. per 1,000 cubic feet, and the process, in point of time, most tedious.
Mr Webster has discovered the means of producing a nearly pure Oxygen Gas at less than a tenth of that cost, and in one-fourth the time; indeed, when worked upon a large scale, the other products of the manufacture are so valuable as to reduce the cost of the Oxygen to a few shillings per 1,000 feet.
The gas produced by this process is so nearly pure as, in conjunction with a jet of common coal gas, to melt platinum quickly, and, in the gas burner or the oil lamp, to produce a pure and brilliant light, beside which all other lights are yellow and dull, and by which the natural colours are seen as in the day light.
The working of this process and the facts here stated have been verified at different times by eminent analytical chemists, by Mr. J. H. Pepper, and afterwards by Mr. Ingalls Campbell; and the detailed reports of those gentlemen are open to the inspection of all who may take an interest in the subject.
The process of manufacture can be seen in London at the Company's premises in Westminster, and at the foundry of Messrs. John H. Porter & Co. of Tividale, near Dudley, with whom arrangements have been made for the supply of the necessary apparatus.
It is believed that the importance of this discovery will be instantly appreciated by those who, in various manufactures, are constantly seeking the means of intensifying and conserving heat, and of economising the consumption of fuel. Prominent among these are the smelters of ores and the manufacturers in metals an l glass.
The Oxygen Gas Company are prepared to grant licences for the use of their process, and having in view the general applicat.on of this invention, to entertain proposals for the purchase of an exclusive right of exercising their privileges over certain districts to be defined
All further information can be obtained upon application at the temporary Offices of the Company, as above.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Seymer-street), LONDON, E.C.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
„ 8-inch Pavings, at 57s. 6d. per 1,000.
„ Floor Bricks, 40s. per 1,000.
Mingled Kit Bricks, at 36s. per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire street Station, at 24s. per 1,000.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.
Price, including royalty, 75l.
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,310.

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam, Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	.....	8 Guineas
Gentlemen's do.	.....	10 „
Ladies' or Gentlemen's Gold English Lever Watches		18 „
Strong Silver Lever Watches	.....	5 „
Gentlemen's Gold Compensation Balance Watches		40 „
Do. Silver do.	.....	25 „
Marine Chronometers	.....	25 „

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

THE VILLAGE CLOCK.— A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete.
Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 2,348.
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
183, St. George-street East, London.

FOR SALE, several PLOTS of FREEHOLD BUILDING LAND, on the Benhill Estate, Sutton, Surrey, from 2s. to 3s. per foot frontage, land tax redeemed, conveyance free, five minutes' walk from the Sutton Railway Station, half hour's ride from the London Bridge Terminus, good roads, good water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Builder, Sutton, S.

TO BUILDERS and CONTRACTORS.— There is a considerable demand for Residences at Caterham, but neither the persons wanting the houses nor the builders are disposed to build. Any Builder willing to BUY or LEASE LAND for BUILDING may make arrangements with the persons requiring houses, and with the landowner, by application to Mr. MARTIN, Estate Office, Caterham, Red-hill.

WOODFORD RAILWAY. The GROVE, WANSTEAD Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Lease will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Kingston; and some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops. -Apply to Mr. KNIGHTLEY, Architect, 23, Cannon-street.

EXTENSIVE MANUFACTURING PREMISES, Southwark. TO BE LET, on LEASE, EXTENSIVE MANUFACTURING PREMISES, occupying a very large area, situate in the Borough-road, Southwark. The Buildings, which are very substantially erected, comprise a very large factory, of three lofty floors, with basement; a smaller factory, of four floors, adjoining; a very spacious and lofty ground-floor factory, yard, a capital family residence and offices, two gateway entrances, and three dwelling-houses fronting the Borough-road, Nos. 77, 78, and 79, which can be readily let off if desired.—For further particulars apply on the premises; or to Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-street, E.C

LEYTON, ESSEX.—To BUILDERS and OTHERS.—FOR SALE, by PRIVATE CONTRACT, in lots, eligible FREEHOLD BUILDING LAND, situate within ten minutes' walk of the Low Leyton Station, on the Loughton Railway, near the Forest, and about a mile and a half from Stratford. The purchase money may be paid by instalments.—Apply to Mr. WHITTINGHAM, 14, Moorgate-street, London, E.C.

WALTHAMSTOW.—FOR SALE, FIVE LOTS of eligible FREEHOLD BUILDING LAND, in Beulah-road, and FIVE in Orford-road, near the Church, and within a pleasant walk of the Forest.—Apply to the AUCTIONEERS, 14, Moorgate-street, London, E.C.

IPSWICH.—TO BE LET, on Building Leases, at very moderate ground rents, several extremely desirable PLOTS of LAND, suitable for the erection of villa residences, for which there is a great and increasing demand in the vicinity of Ipswich. The land is situate near the Ipswich Railway Station, with frontages to the London and the Hadleigh roads, and to the new Station road, and is within about a mile from the Corn-hill.—Applications for particulars to be made to Mr. E. BARNES, Lower Brook-street; or to Mr. W. W. HUTCHINSON, 4, Soane street, Ipswich.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from whence the metropolis is accessible in half an hour. The land, which is approached by an entrance-lodge, is elevated, and handsomely timbered. It has a substratum of gravel, and commands beautiful views, and will be let (for the erection of private residences only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

TO CAPITALISTS and BUILDERS.— SITES for MARINE RESIDENCES.—Blue Anchor, in the parish of Old Cleeve, on the north coast of Somerset, two miles from the present terminus of the West Somerset Railway.—TO BE LET, for terms of years, determinable with lives, numerous SITES for BUILDING, commanding extensive views of the Bristol Channel and the picturesque scenery of the neighbourhood, the beauty of which cannot be surpassed. Blue Anchor is celebrated for the purity of the air, and has long been regarded as a most eligible and attractive situation for a watering-place.—For particulars apply to Messrs. BEADONS & SWEET, Solicitors, Taunton, at whose Offices a plan of the ground and the proposed arrangement of the buildings may be seen

LIME GROVE ESTATE, Putney.—This fine estate, containing altogether about forty acres, and immediately adjacent to the Putney Station, and near to Putney-heath, with very extensive frontages on Putney-hill and the Upper Richmond-road, TO BE LET on building leases, either as a whole, or in two parts.—For particulars, apply to Messrs BAXTER, ROSE, & Co. 6, Victoria-street, Westminster; Mr. POWNALL, 69, Lincoln's Inn-fields; or Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament street.

WANTED, PREMISES or LAND in the City of London, for the purposes of a Police Station, in the neighbourhood of Bishopsgate street, Leadenhall street, Fenchurch-street, or Tower-street.—Particulars and terms to be addressed to the Town Clerk, Guildhall, London.
WOODTHORPE.

TO BUILDERS.—TO BE LET, on BUILDING LEASES, at moderate ground-rents, desirable PLOTS of LAND, suitable for building terrace and villa residences. The land is situated in a fashionable and rising watering-place, on the coast of Dorset, commanding a fine view of the sea, and having a frontage towards a beautifully-formed bay, with excellent sands for sea-bathing. The present and increasing demand for houses in this very desirable locality, almost guarantees a ready sale. Arrangements can be made as to advances, if required.—For particulars, apply to Mr. G. R. CRICKMAY, Architect and Surveyor, 77, St. Thomas-street, Weymouth.

BUILDING LAND TO BE LET, SAVILLE ROW, WALWORTH, Surrey, within five minutes' walk of the Elephant and Castle, contiguous to the Railway Station, and abutting on the high-road from London to Camberwell.—The Fishmongers' Company are prepared to receive PROPOSALS for the whole or any part of their ESTATE, lying between Saville row and Gloucester row, the same having been laid out in streets and frontages for the erection of dwelling houses, shops, or other buildings, on a building lease or leases, for 80 years, and land tax redeemed. The streets are formed, the roads and sewers made, footpaths laid and drained, so that the estate is now ready for immediate operations.—For particulars inquire of Mr. W. B. TOWSE, the Clerk of the Company, at the Fishmongers' Hall, London bridge; and at the Office of Mr. RICHARD SUTER, Architect and Surveyor, 23, Fenchurch-street, where plans and conditions may be seen

SURBITON HILL FREEHOLD BUILDING GROUND—SIXTEEN ACRES to be SOLD or LET, on long leases, in one or more lots.—For particulars apply to Mr. JOHN SELFE, Surbiton Hill; or to Mr. NIGHTINGALE, Estate Agent, Kingston, Surrey

THE Spacious and well-lighted GALLERY of the SOCIETY of BRITISH ARTISTS, Suffolk street, Pall Mall East, consisting of five large rooms, TO BE LET until the end of FEBRUARY next.
T. ROBERTS, Secretary.

TO BE SOLD, either for a chapel or business purposes, large and substantially-built PREMISES, near the Central Station of the Metropolitan Railway. These premises, hitherto used as a chapel, with school-room under, are 70 feet square and 50 feet high. They are of lofty elevation above, and capable of being divided into several floors for business purposes, requiring extensive warerooms and workshops.—For particulars, apply to Mr. JOHN TARRING, Architect and Surveyor, 26, Bucklersbury, E.C.

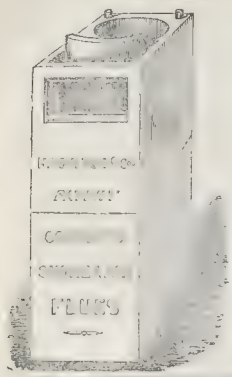
EXTENSIVE CELLARS and OFFICES WANTED, in the neighbourhood of one of the principal London thoroughfares. The Cellars would have to cover a space of at least 10,000 or 15,000 square feet. Contracts would be entered into with any builders or others about to pull down old buildings to rebuild.—Apply, by letter, to GATTING & CO. 39, Mark-lane, E.C.

BLUE LIAS LIME WORKS TO LET, or FOR SALE.—Lime of very superior quality can be made, and sold in London at thirteen shillings per ton with a profit. Also Portland Cement, Bricks, and Stone, Blue Lias Clay.—Apply to J. L. care of Messrs Waterlow & Sons, London wall, London, E.C. An advantageous opening for a Joint Stock Company.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's road, near Kensington Gore, in front of the Royal Horticultural Gardens. Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

WATERWORKS FOR SALE.—Shortly will be SOLD, by the direction of the Court of Chancery, in a suit of Gunning v. Gunning, the WATERWORKS at Charlcombe, Bath, as established and carried on for many years by the late Colonel Gunning, together with the usual rights for continuing the water-supply from the unsold portions of the colonel's estates, but subject to certain stipulations for fulfilling the engagements entered into by him for the supply of water to certain parts of the estate sold by him, and also for the supply of water to houses which may be built hereafter on the unsold portions of his estates. These Waterworks are most advantageously situated close to the city of Bath; and the reservoir is at an elevation which is capable of supplying any part of the city; but as the primary object of them was to supply the unsold portions of the estates with water, they have never been worked to their full extent; but from their position, from the purity of the water, and the increase of buildings on the Lansdown side of Bath, they are capable, at a comparatively small outlay, of great improvement and extension. The present net income exceeds 200l. a year. Any parties desirous of purchasing such an undertaking, and wishing to be furnished with particulars and plans, are requested to apply to Messrs PALMER, BEETLESHIP, & ELAND, Solicitors, 4, Trafalgar-square, London, W.C.; or to Messrs. LITTLE & SON, Solicitors, Bladud-buildings, Bath.

HOLLOWAY.—ELIGIBLE FREEHOLD LAND TO LET, for the purpose of building Private Residences, detached, semi-detached, or otherwise. Term, 99 years. At moderate ground rents. This highly eligible Freehold Land (generally known as the Crown Estate) is situated close to the Holloway road, Upper Holloway, where the omnibuses pass to and from the City, East and West Ends, and the different Railway Stations, every five minutes, at very cheap fares. The land is all properly drained, and the roads made. For particulars, apply to Mr. JOHN THOMAS, Architect and Surveyor, 10, Denmark-street, Cold Harbour-lane, Camberwell, S.



HENRY DOULTON AND CO.'S

PATENT COMBINED SMOKE AND AIR FLUES.

BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

Manufactured in terra cotta for smoke-flues equal to 12 in. 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

Small models will be forwarded to architects on application to

Henry Doulton & Co. High-street, Lambeth.

BEST "PENRHYN" ROOFING SLATES,

SLATE RIDGING, GLAZED SOCKET-PIPES,
TILES, PAVINGS, &c.

Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads, to any Railway Station.—Prices and particulars may be had by applying to

HENRY BROWN & SONS, MERCHANTS,

GENERAL WOOD-CUTTING MILLS, LUTON, BEDS.

A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

A VACANCY FOR AN OUT-DOOR APPRENTICE.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint obliterated with Dull hate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Wherever it has been used the Patent Zinc Paint will never will rally be away other Paint for their best work.

CHEAPNESS.—Not only is the cost per hundred weight, but two hundred weight of this Paint, will make gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,

Manufacturers and sole Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronised by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CROWNS,
H. ROYAL HIGHNESS PRINCE ALBERT,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, ROBERT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited. OBTAINED THE PRIZE, for being the best and cheapest article for roofing also used for toilet slates at the Royal Agricultural Society's Show at Battersea-park. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to the best mode, the manner of applying it, with TESTIMONIALS, some of the [illegible] from the Lords, Bishop of Norwich, and Chief Justice Wilde, who have used it on their country seats, may be had of Mr. F. McNEILL, 24, LAMB'S BUILDINGS, BUNHILL ROW, by whom it is laid down complete at about 25 per cent. less than the cost of [illegible] roofing. Plans, DRAWINGS, and ESTIMATES, free of charge, can be had on application at the OFFICE, as above. Felt, for the GREAT EXHIBITION BUILDING of 1862.

DEVONSHIRE MARBLE, in Sawn Slabs, or manufactured into Columns, Bands, Mouldings, Chimney-pieces, Tabling, Paving, &c. Also Foreign Marbles.
POLIARDS MARBLE WORKS, TAUNTON.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29, 30, and 31, Warwick-street, W.
EDWARDES, BURKE, & CO. PROPRIETORS.
The largest and most superb Stock of Chimney-pieces in Europe always on view.
Manufactories: Carrara Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble stone and ornate Work.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with the commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B. Estimates, and Country and Foreign orders executed with punctuality and special attention.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries—Earl street, Horseferry-road, Westminster.—The largest stock of Marble Chimney pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney piece in the world.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.

THE LIZARD SERPENTINE COMPANY, LIMITED.

Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—2, ST. JAMES'S STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietary, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to receive communications, and execute in the best manner any work intrusted to them.

All communications to be addressed to the Secretary, 24 St. James's-street, London, S.W.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slate, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD beg to direct the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Hearthstones, Ledgers, Steps, Landings, &c. cut on the shortest notice. Country orders promptly attended to.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 9, CANNON STREET, E.C.
London Agents—TREGELLAS & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction decoration, monuments, and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 6/4, Euston-road, N.W.

LITTLE CASTERTON FREESTONE, Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. FINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is not liable to scale or flake, and for fine building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wooton Warren, near Henley-in-Arden, are working a quarry of first-rate workable Sandstone (lying to the Coal range) at Pinspower, Nant, near Wrexham. It is used very extensively in Liverpool, Manchester, &c. It is the best that is made use of in any district on the Great Western Railway. Arrangements would be made with any responsible stone merchants in London for a constant supply.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, delivered on railway trucks, and shipped from the quay, at Ham Hill Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

CAEN and AUBIGNY STONE. FOUCARD, BROTHERS, late P. FOUCARD, STONE MERCHANTS and QUARRYMEN.
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt—GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slabs in Parking, Hearthstones, &c. &c.
Grindstones, Steps, Slabs, Copes, Landings, Paving, and all descriptions of Yorkshire Stock. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

RANSOME'S IMPERISHABLE SILICEOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every Description of Garden Decoration executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes.
For estimates, illustrations and inspection of Work, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster or Patent Stone Works, Ipswich.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connexion generally throughout the Kingdom, that they have now ready their
NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application.—Address,
No. 1, GOLD-TERRACE, CHESTER.

ROBERT WHITE, SLATE MERCHANT, SHEFFIELD.
ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor Mold Junction and Garston.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.
MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 38 and 40, Upper Belgrave place, Pimlico, S.W.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE
YELLOW MAGNESIAN or BOLSOVER LIME-STONE
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from dues at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

AUSTIN, SEELEY, and CO.
371—375, EUSTON-ROAD,
ARTIFICIAL STONE WORKS.

CATALOGUES OF CHIMNEYS, AND ALSO OF FOUNTAINS, ON APPLICATION.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

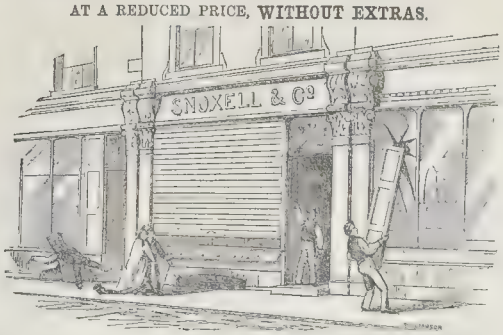
ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DECRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents.
Blind Makers to her Majesty,
by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851.

BUNNETT & CO.

ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT.

BUNNETT & CO.

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246),

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851.

BUNNETT & CO.

ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by
J. MILLS,
110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET
(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.
JEFFS, BROTHERS,
CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS
Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		Laths, 28s. per load.	
Yellow Deals, sound and good	£19 10 0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	16 10 0 ,,	0 2½ ,,	
Yellow Battens, excellent quality	11 10 0 ,,	0 2 ,,	
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 ,,	3 6 ,,	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.
WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD LAMBETH, S.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,
Yellow Deals, 3 by 9	£19 10s. per 120.	Pine Planks (Dry), 3 by 11	24l. per 120
Yellow Battens	£11 10s. ,,	Pine Deals do. 3 by 9	19l. 10s. ,,
Spruce Deals	£16 10s. ,,	¾-Inch White Matched Lining	13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.
Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash
Sashes and Frames, Boxing Shutters, Doors Staircases, Hand rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass show Cases, &c.
Green-houses, Hot-houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



GREATER REDUCTIONS.—Yellow Deals, from 3s. 9d.; Spruce, from 2s. 8d.; Pine Plank from 3s. 3d.; Mahogany, 8d.; 3½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; 1¼ White from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & R. KNIGHT, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK 30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.
(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise,
Post free, 2s. 6d.
HEATON, BUTLER, & BAYNE.
Works:—
Cardington Street, Hampstead road, London.



PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 9, Oxford street, Manchester. Prize Medallists, Class 34 A, 1862.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.
TO ARCHITECTS, BUILDERS, &c.

GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F. ODELL & Co. 8, Bath-street, City-road, E.C.; or at the Works, 12, Grafton-mews, Fitzroy-square, W.—N.B. Fret and Church Leads sold.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquarium and fern cases, &c. &c. combining perfect transmission of light, durability against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS.
JAMES HETLEY & CO. beg to inform Architects, Builders and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured, Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving the following letter from MR. LARKIN, Bart VENTNOR, ISLE OF WIGHT. Second Series of letters.
"March 10th, 1862.—In reply to your letter received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many leakers and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years. I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY-ROAD, LONDON.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,

GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

HAMPSTEAD ROAD JOINERY WORKS.

21, HARRINGTON STREET, N.W.

NEVIL SIMMONDS,

MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.

SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.

Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.

	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1⅞	2	2½
„ 2ft. 6in. sup.	1½	1⅞	2½	3
4 ft. super...	1¾	2	2½	3½

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, per cwt.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.

VARNISHES, &c. per gallon.

Fine Oak Varnish ...10s.
„ Carriage ...12s.
Linseed and Boiled Oil
Turpentine .....

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

CARSON'S

ORIGINAL ANTI-CORROSION PAINT.

Patronised by

THE BRITISH GOVERNMENT, THE FRENCH GOVERNMENT, THE RUSSIAN GOVERNMENT, H.R.H. THE PRINCE CONSORT, MOST OF THE NOBILITY & GENTRY, THE DOCK COMPANIES, RAILWAY AND CANAL COMPANIES THE PRINCIPAL COLLIERIES, MILL OWNERS, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also

IRON ROOFING, BRIDGES, HURDLING,

AND EVERY DESCRIPTION OF IRON WORK;

FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone. The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.

OIL, TURPENTINE, AND BRUSHES.

Prices, Patterns, and Testimonials sent upon application to

WALTER CARSON AND SONS,

(SUCCESSORS TO THE INVENTORS.)

9, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

WHARFAGE, LIGHTERAGE, and CARTAGE. — Goods of every description Warehoused, Shipped, or Carted, on moderate terms. Powerful cranes for heavy weights.—N.B. A Timber Carriage for hire.
G. HELMORE, St. Peter's and Western Wharves, Millbank-street, S.W.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

PATENT PORTLAND and ROMAN CEMENT,
AND PLASTER OF PARIS WORKS,
FRINDSBURY, on the MEDWAY, KENT, and
CANAL ROAD, KINGSLAND ROAD, N.
MESSRS. FREEN & CO.

Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER OF PARIS, in any quantity, fresh from the kilns.
Orders addressed to their LONDON WORKS, Canal-road, Kings- and N. will meet with prompt attention.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON,
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Cutters made for large works.—All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for Lias Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

PLASTER OF PARIS.
The GREAT NORTHERN PLASTER COMPANY, Manufacturers of Superfine, Italian Fine, Builders' Fine and Coarse Plaster of Paris. Guaranteed a FIRST-CLASS ARTICLE AT MODERATE PRICES.
Head Office, Swift's-court, 13, Castle street, Liverpool, Works Newark-on-Trent.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

JOHNS & CO.'S PATENT PERMANENT
STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non absorbent.
Shipments on the shortest notice.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Brosely colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, SOLE CONSIGNEES.
WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Paving, Grooved, of various sizes. Blue Paving Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

SPURGEON'S IMPROVED MARTIN'S CEMENT.

A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.

MANUFACTURED ONLY BY

B. W. SPURGEON, DERWENT WORKS, DERBY.

London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.

Coarse, Fine, and Superfine London-made PLASTER of PARIS.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTING FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES. COWLEY AND KENT BRICKS, AND PLASTERERS HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c. RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.

" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

GREAVES'S BLUE LIAS LIME

GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.

WORKS (Kent):

GREY STONE LIME, FLARE and BLUE LIAS LIME
ROMAN, PORTLAND, KEENES, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Best and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, CAVIORS, SECONDS. BLACK HEADERS or FLARE GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS.
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DITTO and ENGLISH WHITE GLAZED TILES, for Wall Lining and Bath Lodges, DRESS, SHOP, KITCHEN Fronts, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, to Artificial Stone.
BRICK, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS
Delivered to any part of the Kingdom with Punctuality and Despatch.

LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS, NORTHFLEET, KENT.

O. MCCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast screened or unscreened, by the waggon or per barge. Stocks, Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity, alongside the Thames.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, and supplied for the Restoration of the Houses of Parliament, &c. &c.

The ROLY WELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

Prices and particulars furnished on application to Mr. EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that made by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. Personal attention to wholesale orders. Good banker's reference.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable. — Orders received at Great Scotland-yard, Whitehall; and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and ADVANTAGEOUS TERMS, either direct from the Manufactory or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these Works with especial reference to the destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

LONDON WHARF, BELVIDERE ROAD, LAMBETH

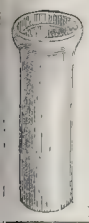
GEORGE ALLEN (late W. & T. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVERS WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied for half the expense and Private Residences may be completed within forty-eight hours. A finer quality produces a beautiful hard, vitreous imitation of marble.—Manufacturers, FRANCIS BROTHERS, & POTT, Nine Elms, London



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

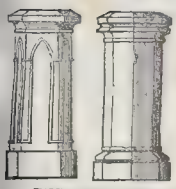
JAMES STIFF & SONS,

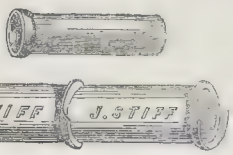
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINE-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







PAN, 4s. 6d.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

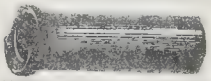
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

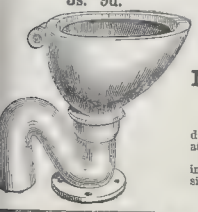
JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED  SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,

FOUNDERS, HYDRAULIC AND GAS ENGINEERS, SHOOT-UP-STREET, ISLINGTON.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY-FOUR SHILLINGS.

A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.

PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.

W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for the WARE is REMOVED to No. 21 Wharf, Macclesfield street North, City-road Basin, N. Sadly, that the "trade term," "TERRO METALLIC" is the exclusive right of the Proprietor; and, sadly, that the "Reports of the Jurors," page 581, of the Great Exhibition, note the grant of a First class Medal, and rank the Manufactories known so long as "The Tilleries," Tunstall, Staffordshire as the first of the kind in the world.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS, TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

VENTILATION—PURE AIR.

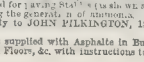
Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s. each, with double pulley, from 6s. 6d. These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the least current being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is first required. HAYWARD, BROTHERS, and Manufacturers, 117 and 118, Union street, Borough, London; and of all respectable Ironmongers, Builders, &c.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. The Asphalte is also exclusively used for paving Stalls (as shewn at 1851), Lavatories, Granite preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Lombard street Hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

SALES BY AUCTION.

BUILDING MATERIALS of Archbishop Tenison's Schools, Lambeth.

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, on MONDAY, SEPTEMBER 15, at TWELVE, in lots, to clear the site for rebuilding, all the valuable Building MATERIALS and FITTINGS UP of Archbishop Tenison's Schools and a House adjoining, in High-street, Lambeth; comprising excellent brickwork, sintes and tiles; sound timber in roofs and floors, sashes, doors, and interior fittings; iron columns, capital flooring-boards, stone paving, coping and cills, lead and zinc gutters, cisterns and pipes, stoves, gasfittings, and useful fixtures.—May be viewed. Catalogues had of G. J. MAIR, Esq. Architect, 41, Upper Bedford-place; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament-street, S.W.

LONDON, CHATHAM, and DOVER RAILWAY.—Metropolitan Extension.—Eighteenth Clearance Sale.—Building Materials, New Kent road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on MONDAY, SEPTEMBER 15th, at TWO, in lots, the BUILDING MATERIALS and FITTINGS UP of fifteen houses, being Nos. 5, 6, and 7, Rockingham-row West, Nos. 19 and 20, Thomas-street, and Nos. 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20, Poplar-row, New Kent road, comprising capital stock bricks, sound timber and flooring boards, modern sashes, doors and other fittings, slates, tiles, stone paving, lead, iron railing, stoves, ranges, coppers, and other effects.—May be viewed, and catalogues had at Mr. VIGERS'S Offices, 3, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C.; and 40, Parliament-street, S.W.

TO CONTRACTORS, BUILDERS, AND OTHERS.—Important Sale of Surplus Materials and Plant used in the Works of the Metropolitan Railway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractor, John Jay, esq. to SELL by AUCTION, at the WHARVES, City-road Basin, and Somers-lane, King's-cross, and at the Works, Bagnigge Wells-road, on TUESDAY, SEPTEMBER 16, and three following days, at TWELVE, in lots, the first portion of the very valuable and extensive SURPLUS MATERIALS and PLANT used in the construction of the eastern division of the Metropolitan Railway; comprising upwards of fifty portable engines (some nearly new), by Ransome & Sims, Clayton & Shuttleworth, and others; a 25 horse power high-pressure steam-engine, six iron mortar mills; wrought-iron tubular boiler, 31 feet long, with iron runners and shafting; 400 loads of capital timber, in sticks and balk, plank, die-square, struts, sleepers, &c.; powerful travelling-crane, with jenny; large steel distance and girders, 30 feet and 15 feet long, with iron runners, bevil and rigger wheels and shafting, 200 tons of contractor's rails, large quantity of chains, slings, wire and hemp rope, Gwynne's pumps, Pooley's weighing machines, pile-driving engines, large gins, with ironwork complete; wrought and cast-iron, 26 trollies, tip waggons, iron and wood skips; navvy, crowding, and bearing off barrows; wrought-iron wheeling-planes; dobbin carts; two extensive brick-making machines by Ingram & Co.; a steam wash-mill; scaffold-poles and boards, screens, ladders, grindstones, carpenters' benches; a capital thicknessing machine; two canal boats; a large, and numerous other effects.—May be viewed, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 40, Parliament-street, S.W.

METROPOLITAN IMPROVEMENTS,—SOUTHWARK and WESTMINSTER COMMUNICATION.—Twentieth Clearance Sale.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 23, at TWELVE, in lots, all the capital BUILDING MATERIALS, FIXTURES, and FITTINGS UP of about Twenty-five HOUSES, large FACTORIES, and WAREHOUSES, situate in Essex street, Price's-street, Gravel-lane, New-street, Keppel-street, and Southwark-square, Southwark Bridge-road; comprising capital sound timber, a large quantity of pan and plain tiles and slates, prime timber in roofs and floors, weather boarding and carcassing, sound flooring-boards, glazed sashes, cupboard fronts, chimney-pieces, doors, folding doors, York paving, hot-gallery, cornices and pipes, stoves, fallows, pipes, and other useful fittings in.—May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C.; and 40, Parliament-street, S.W.

TO MARBLE MASONS, BUILDERS, AND OTHERS.—Statuary Marble, &c. for Absolute Sale.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the premises, Bridge-wharf, Millbank, Pimlico, on WEDNESDAY, OCTOBER 1, at ELEVEN for TWELVE o'clock, about SIXTY BLOCKS of STATUARY MARBLE, part of which will be for absolute sale, in order to clear a portion of the wharf. Also, several hundred Marble Squares, suitable for hall-ring, &c. 1,000 feet of English and Scotch sawn bits at 4 and 6 months will be taken from purchasers above 30l.—May be viewed two days previous, and catalogues will be forwarded, post-free, on application to be made to the Offices of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 80, Fore-street, City.

TO ENGINEERS, SMITHS, and OTHERS.—The Valuable PLANT and MACHINERY of Messrs. Shand & Mason's Engineering and Fire-Engine Works, Lambeth Marsh; premises being required for the London, Chatham, and Dover Railway, and for the new streets.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, No. 245, Blackfriars-road, on TUESDAY, OCTOBER 7th, at TWELVE, in lots, the Valuable PLANT, MACHINERY, and TOOLS; comprising an 8-horse power high-pressure table-engine, with egg-end boiler, 14 feet long; 16-inch cylinder; 4 ft. 6 in. stroke; 4 ft. 10 inch centres; 17 surfacing, turning, boring, and screw-cutting; a costly 18 inch centre self-acting lathe, by Bendell, Bencock, & Tannett, with bed, 18 feet 6 inches long; overhead motion, with bright shafting, riggers, pulleys, &c.; a capital self-acting planing machine, powerful slotting machine, screwing machine, with stocks and dies; vertical drilling machines, rounding machines, Lloyd's patent fan, erection of core stoves and tire furnaces, forges and bellows, iron tanks, gun-metal barrel pressing pumps, turning and vices, work-benches, iron and lead pipes, sheets, bars, gun-metal mountings, &c. &c. &c.; also about 1,000 feet of gas-pipe, &c.—May be viewed the day previous. Catalogues of Mr. Joseph Gravatt, Auctioneer, Offices, 61, Long-acre, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—Twenty-first Sale.—BUILDING MATERIALS, Blackfriars-road.

PULLEN, HORNE, and EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 13, at TWELVE, without reserve, the BUILDING MATERIALS of several SHOPS, &c. forming part of the Blackfriars-road approach, together with extensive Factories, Workshops, and stabling in the rear.—Further particulars in a few days, when catalogues may be had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

LOWER BROOK-STREET.—THE MATERIALS OF TWO HOUSES AND OUTBUILDINGS.

MR. GEORGE HAINES will SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 16th, at TWELVE o'clock, the BUILDING MATERIALS of Nos. 15 and 16, Lower Brook-street, Grosvenor-square, comprising sound brickwork, slate and tiled roofs, timbers in rafters, plates, joists, floorboards, partitions, framed doors, glazed sashes, chimney-pieces, lead gutters, pipes and cisterns, fixtures, stone paving, ironwork, and useful fittings.—May be viewed. Catalogues on the premises; of Messrs. HARRIS, Auctioneers, Moorgate street; and at the Auctioneer's offices, Grosvenor-street West, Eaton-square, and No. 12, High street, Kensington.

CAMDEN TOWN.—TO CABINET-MAKERS, BUILDERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden terrace, near the Railway Station of Camden Town, on MONDAY, SEPTEMBER 15th, at TWELVE for ONE, 2,500 PLANKS, DEALS, and BATTENS, a few cut ditto, flooring, quartering, wide pine board, mahogany, elm stocks, scaffolding, building materials, &c.—Auction Offices, 12, Carlington street, Hampstead-road.

CHARING CROSS RAILWAY.—Twenty third Clearance Sale.—Seventh Portion of the Hungerford Market Building Materials.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on FRIDAY, SEPTEMBER 19th, 1862, at ONE o'clock precisely, in lots, the exceedingly valuable and useful BUILDING MATERIALS of a PUBLIC-HOUSE: the houses in Villiers-street, and three houses in the Strand, comprising capital stock bricks, timber, slates, tiles, &c. &c.; sound flooring-boards and joists, panelled and other doors, sashes, and frames, plate-glass shop fronts, lead in gutters and pipes, stoves, ranges, and a mass of useful fixtures and fittings.—May be viewed the day prior to sale, and catalogues then had on the Premises; of Mr. MARSH, Charlotte-row, Mansion House; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 1, Suffolk-place, Pall-mall, E.C. and West Molesey, Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices in the London Bridge Terminus.

WESTMINSTER BRIDGE APPROACHES.—FIFTH SALE.—Building Materials, Fixtures, Fittings, and Trade Utensils of the Horse shoe and Magpie, Bridge-street, Westminster; No. 22, Bridge-street; and 5, 7 and 8, New Palace-yard.

MESSRS. GLASIER & SON are favoured with instructions from the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, as above, on TUESDAY, SEPTEMBER 16, at TWELVE for ONE, in lots, the valuable BUILDING MATERIALS, FIXTURES, FITTINGS, and TRADE UTENSILS of the above-mentioned houses; comprising 20 inch capital stock bricks, sound timber and flooring boards, doors, &c.; wainscoting, doors, French casements, sashes and frames, public-house shop-fronts, with plate-glass; mahogany folding sash doors, several tons of lead, &c.; metal top counter, capital seven-inch beer engine, cut and enamelled spirit vats, measures, glass, mahogany tables, settees, York paving, and numerous other fixtures and fittings.—May be viewed prior and morning of Sale. Catalogues had at the Office of Works, 12, Whitehall-place; of JAMES PENNETHORNE, Esq. 7, Whitehall-yard; on the Premises; at Garraway's; and of the Auctioneers, 41, Charing-cross.

ADDISCOMBE, CROYDON.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, LONDON, on TUESDAY, SEPTEMBER 16th, at TWELVE for ONE o'clock, in lots, a FURTHER PORTION of the Addiscombe College Estate, comprising eligible FREEHOLD BUILDING LAND, fronting on to St. James's-road, close to the proposed site of the Addiscombe Railway Station, and adapted for the erection of Villa Residences. Ninetenths of the purchase money may remain on mortgage or contract, at 5 per cent. to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and conditions of sale may be obtained about ten days before the sale, of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; at the Lodge of the College in Addiscombe road; and of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the place of sale.

ADDISCOMBE, CROYDON, SURREY.—Excellent BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the Town of Croydon, on MONDAY, SEPTEMBER 22nd, at ONE for TWO o'clock, a further portion of the excellent MATERIALS of some of the BUILDINGS of the late MILITARY COLLEGE at Addiscombe; comprising about 3,000 of Cook's York paving, of the best quality, paving tiles, stone cills, excellent deal timber, consisting of joists, rafters, posts, floorboards, panelled doors, windows, fire-grates, fire-wood, &c. May be viewed on THURSDAY or SATURDAY before the sale. Catalogues may be obtained of the Foreman, on the Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

NEW BARNET, Herts.—ELIGIBLE BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the Railway Hotel, New Barnet, on MONDAY, SEPTEMBER 29th, 1862, at FIVE for SIX o'clock, the following lots of eligible FREEHOLD BUILDING LAND, close to the railway station, viz.—Two valuable plots on the New Barnet Road, west; twenty-five on Victoria Road (one adjoining the Railway Tavern); three in Lytton Road; two in the New Barnet Road, west; one at the corner of Leicester and Plantagenet Roads; and three in Somerset Road, east. The views from some of the sites are very extensive. Gas and water are laid on. The Metropolitan Railway, now nearly completed to Farringdon-street, will give direct communication with the City. The purchase money may be paid by instalments. Particulars, plans, and conditions of sale may be obtained at the Railway Tavern, New Barnet; of Messrs. RUSSELL & DAVIES, 59, Coleman street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the place of sale.

WITHOUT RESERVE.—TO BUILDERS, CARPENTERS, WHEELWRIGHTS, and OTHERS.—OAK TIMBER at HORNSEY and HAGLEY.

MESSRS. BEADEL & SONS are instructed to SELL by AUCTION, at the WELLINGTON TAVERN, Archway-road, Highgate, on MONDAY, SEPTEMBER 15, at FOUR for FIVE o'clock, 50 OAK TIMBER and ONE SPANISH CHESTNUT TREES, of useful dimensions, felled in Cherry-tree Wood, adjoining the Old North Finchley-road; Cardinal's Woods, opposite the Wellington Tavern; and Turner's Wood, near the Spaniard Inn, on the road leading from Highgate to Hampstead. The trees are numbered in each wood, consecutively, with white paint, and will be sold in lots of from five to twenty in each, to suit the convenience of purchasers.—Catalogues may be obtained at JAMES LAWFORD, Woodman, Finchley; at the Place of Sale; and of Messrs. BEADEL & SONS, 25, Gresham-street, E.C.

GUILDFORD, SURREY.—First-class Building Land, close to the Town and Railway Station, also certain Freehold Tolls, at side of the Guildford Bye-Pass Road, now being formed by the Trustees.

MESSRS. BEADEL & SONS are instructed to OFFER by AUCTION, at the MART, Bartholomew-lane, London, on TUESDAY, OCTOBER 21, at TWELVE for ONE, in numerous lots, the highly valuable first-class BUILDING LAND, close to the favourite town of Guildford, pleasantly situate and capitally intersected by the Portsmouth road, and also to a proposed new road, communicating therewith, and the Woking and Guildford road, and suitable for the erection of detached or semi-detached villa residences, and each plot has also good frontage to the proposed new road; the remainder of the land is divided into plots of about an acre, and the whole forms a most desirable property, the situation for building being superior to anything in the neighbourhood. A portion of the land is freehold, the remainder leasehold for 99 years, at the low rent of 1l. per acre. The present rent, and the whole is believed to be free from land-tax. The Freehold Tolls arising from proprietary or preference shares in the River Wey Navigation company, and the proprietors of these tolls are liable for the expense of maintaining the navigation.—Particulars, with plans and conditions of sale, may be obtained of Messrs H. U. & N. COULTHURST, Solicitors, 13, New Inn, W.C.; of Messrs. FIELD-GATE, YOUNG, & JACKSON, Solicitors, 12, Essex-street, Strand, W.C.; of Messrs. LANGLEY & GIBSON, Solicitors, 32, Great James street, Bedford row; of Messrs. GREGORY, ROWCLIFFE, & CO. Solicitors, 1, Bedford-row, W.C.; at the Mart; and of Messrs. BEADEL & SONS, 25 Gresham-street, E.C.

SECOND PORTION.

CORNWALL-ROAD, LAMBETH.—PLANT and STOCK of the VULCAN IRON FOUNDRY, early in SEPTEMBER next.

MESSRS. FAREBROTHER, CLARK, & LYE are instructed by the Mortgagees and Assignees to SELL by AUCTION, on the PREMISES, the Vulcan Iron Foundry, Cornwall-road, Lambeth, on MONDAY, the 15th, and three following days, at TWELVE precisely each day, the valuable and extensive PLANT and STOCK; comprising a ten-horse power high-pressure steam-engine, iron boilers, metal pots, bellows, lathes, iron stable fittings, rangers, rain-water goods, sashes, brass and other pumps, sinks, quantity of iron castings, about 1,000 iron bedsteads, iron hurdles, blocks and ropes, cranes, several tons of new bar iron, castings of various kinds, a quantity of old iron, wrought and strap iron, brass fittings, garden rollers, iron barrows, various tools, navvy, vices, weighing machines, &c.—May be viewed and catalogues had at the Foundry, and at the Offices of Messrs. FAREBROTHER, CLARK, and LYE, 6, Lancaster-place, Strand, W.C.

FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 24th day of SEPTEMBER, 1862, at ONE o'clock precisely. Lunch-eon at Half-past Two o'clock. For account (in sticks),

1,000	Spruce Deals, Battens, Scantling, and Ends
2,000	Quebec Pine Deals
1,000	St. Petersburg Red and White Wood Deals
8,000	Quebec Red Deals, Battens, and Boards
500	Gothenburg Redwood Battens
500	Memel Redwood Deals
600	Loads Quebec Yellow Pine (New Timber)
200	Loads Quebec Red Pine
200	Loads Quebec Board Pine
50	Loads Quebec Oak
80	Loads Quebec Birch
200	Loads Fresh Memel Timber
100	Loads Red Pine Timber
100	Loads Fresh Birch
100	Fresh Wrought Logs
50	Loads Swedish Timber
100	Masts
1,500	4 to 6-inch Fresh Norway Spars
2000	4-inch
500	Rafters
20	Fathoms Hotslock Lathwood
30	Loads East India Teak Logs and Plank Flooring

With other Goods

Catalogues will be issued in the Week of Sale.

Canons' Marsh, Bristol, September 6th, 1862.

IN BANKRUPTCY.—LEE, near BLACKHEATH, KENT.—To BRICKMAKERS, CONTRACTORS, and OTHERS.

MR. KIRKMAN has been favoured with instructions from the Assignee to SELL by AUCTION, on the PREMISES, Burnt Ash-lane, near Blackheath Station, on FRIDAY, SEPTEMBER 19, at TWELVE for ONE o'clock precisely, all the STOCK IN-TRADE and EFFECTS, comprising about 800 superior stock, place, and other bricks; timber, truck-frame, bed-stone, sole-plate, and saw mill machinery, portion of engine house, with strong boiler erection of eleven cottages and fourteen house, erection of three moulding stools with benches, earth, chalk, pug-horse, and other mills with machinery, hack and brick-kiln boards, wheeling slates, stone truck, fly-wheels, &c. and miscellaneous effects.—May be viewed three days previous to the sale; and catalogues obtained of H. H. CANNAN, Esq. Official Assignee, 9, Bedford-street; of EDMUND NEWMAN, Esq. Solicitor, Walbrook, E.C.; at the principal Inns of the neighbourhood; and at the Offices of Mr. KIRKMAN, Auctioneer Valuer, Surveyor, and Estate Agent, 8, Clement's-lane, City, E.C. and opposite the Railway Station, Blackheath.

FREEHOLD PROPERTY FOR SALE, adjoining to the old road from London to Leytonstone.—TO BE SOLD by PUBLIC AUCTION, by

MR. WHALLEY, at the House of Mr. Barford, the BLACK BOY INN, Leytonstone, on TUESDAY, the 23rd day of SEPTEMBER, 1862, at THREE MINUTES PAST TWO o'clock in the Afternoon, all that FREEHOLD ESTATE, situate and adjoining the high-road leading to Leytonstone, five miles from London, late in the occupation of Mr. Stephens, with a frontage to the said road of 85 feet, and also another frontage on the road leading to Leyton, and called Harrow-green-lane, which lane is to be made into a good drift way, and to be called Harrow green road with two other streets to be called West street and South-street. The Estate comprises about eight acres, is very eligible for villa residences, shops, or dwelling-houses, and will be put up in about 130 lots, to suit buyers at the time of Sale.

N.B. This is a very valuable property, and very eligible for Builders, Contractors, and others, it being freehold, on the main road, and also having such a length of frontage to both roads, and situate within a few minutes' walk of the Leyton and Leytonstone Railway station, where workmen may ride to the City and back for sixpence each; besides which, omnibuses pass many times a day; and at Stratford and also also ride from the Estate, omnibuses run every ten minutes from 8 a.m. till 10 p.m.

Plans and conditions of sale will be ready one week before the sale, on application at the Inn of the Auctioneer at Stratford and Leytonstone; and of Mr. JOHN WHALLEY, Leytonstone, who will answer inquiries and show the land.

IN SURREY.—Exceedingly valuable and important FREEHOLD ESTATE, comprising that beautifully undulating and finely wooded land, of 400 acres in extent, on either side of the Railway between Redhill and Reigate.

MESSRS. EDWIN FOX & BOUSFIELD are favoured with instructions to SUBMIT to PUBLIC COMPETITION, at the MART, on THURSDAY, OCTOBER 2, at TWELVE o'clock, in two or more lots, as shall be agreed upon at the time of sale, the valuable FREEHOLD LANDED ESTATE, comprising the Redstone and Bond Farms, in the parish of Reigate, in the county of Surrey, containing 304 acres of arable, pasture, and wood land, lying entirely within a ring fence, with an excellent family residence and grounds, conservatories and other buildings, numerous cottages and homesteads, model cottages, &c. The property occupies an enviable position in Surrey, one of the most desirable popular and highly favoured localities in the kingdom. It lies midway between the Great Junction Station at Redhill and the ancient town of Reigate, the stations at each place being within one mile from various points of the land; extending from Wray Common on the north to the finely-wooded slopes overlooking the Deepdene on the south, and from Nutley Hall on the east to St. Mary's Church (standing almost within the precincts of the estate) on the west. It is intersected by the Reading and Reigate Railway, and has for a considerable distance the turnpike road from London to Reigate, with equally important roads abutting upon it and other parts, and the high road from Brighton through Redhill to Reigate running close by.

The land is delightfully undulating, and is with stately timber and interspersed with ornamental plantations. From some of the elevations the beautiful diversity of the scene cannot be surpassed, the most perfect panoramic views being obtainable. The variety and beauty of the sites afforded for mansions and villas, the extent of frontage to the several main roads, and the facilities of acquiring many miles of additional frontage by the construction of other roads (and by existing frontages) which would enhance all the important leading thoroughfares, renders this estate invaluable, from the opportunities thus afforded within itself for the prosecution of a building enterprise of magnitude, the success of which the neighbourhood possessing a perfect irresistible combination of advantages and attractions; a soil dry and healthy, a fine pure air, mild, yet bracing, water in abundance, railway communication, and unsurpassed beauty of locality, direct access being obtained from thence to all parts of London in little more than an hour, to the seaport and marine places of resort on the south coast, to all the principal towns and cities in the north east, and west parts of England, together with the various continental routes. The estate is rich in the renowned Reigate silver sand, so justly appreciated in horticulture and many manufactures; at the works now open is a siding on to the railway, thereby rendering it of the greatest value for distributing, which may be obtained on the most favourable terms.

Further particulars, with conditions of sale and plans, are preparing and will shortly be ready for distribution, which may be obtained of S. T. MALING WESTALL, Esq. Solicitor, 8, New Inn, Strand; of the Auction Mart, at the Station Hotel, at Warwick Arms, Redhill, the White Hart, Reigate; the White Horse, Dorking; the Ship Ewell; the Bull, Epsom; and at the Offices of Messrs. EDWIN FOX & BOUSFIELD, 41, Coleman-street, Bank, E.C.

The Marmora Mosaic Company's Works, Knightsbridge, Chelsea, covering an area of upwards of 14,000 superficial feet, with commodious dwelling-house, Offices for Builders, Machinists, Marble Masons and others—Valuable Lease, with immediate possession.

MESSRS. BROAD & PRITCHARD will SELL by AUCTION, at the MART, on TUESDAY, SEPTEMBER 30, at TWELVE o'clock, the valuable LEASE, with immediate possession, of those extensive MANUFACTURING PREMISES, situate on the Embankment, Battersea, Chelsea, comprising commodious dwelling-house, counting-house, workshops, engine-house, boiler-house, stabling, outhouses, and also convenient dwelling-house and lodge, in the wide-covering an area of upwards of 14,000 superficial feet. Held for a term of about 27 years, at a ground-rent of 60l. per annum.—May be viewed. Particulars of the Premises, at the Auction Mart; of CHARLES SHEPHEARD, Esq. Solicitor, 24, Moorgate street, E.C.; or at 28, Poultry, E.C.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, September 13, 1862.

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1024. SEPTEMBER 20, 1862. PRICE FOURPENCE. By Post, 5d.

ILLUSTRATIONS.

Drinking Fountain in Maidstone Market-place. Designed and executed by the late John Thomas 679

St. Paul's Church, Southport, Lancashire 678

CONTENTS.

The Decaying Frescoes of the Houses of Parliament 669

Heating Apparatus, and Contrivances for the Prevention of Smoke—Issue, in "The Exhibition." 670

Colour Printing 673

Pottery: Persian Ware 673

Decorated Screen in the Palace of Art and Industry 675

Fires 675

The Willow Pattern Plate 676

The Death-rate at Health Resorts 676

Victoria 676

On Squaring the Circle 677

The Duke of Northumberland's New Churches 677

Inauguration of St. Mary's Tower, Taunton 677

Traces of Ancient British Towns upon the Chertots 677

St. Paul's, Southport, Lancashire 678

Drinking Fountain in Maidstone Market-place 678

The Drinking Fountain Movement 681

Utilizing Roof Tops 681

History of the Joiners' Company 681

St. Mary's Church, Guildford 681

Vincennes 682

Clifton College, Bristol 682

Workmen Blackburn 682

Scottish News 682

Church-building News 682

Stained Glass 683

London Bridge 683

Church Bell 683

Societies of Bell-ringers 684

Books received: Parker's Bickman's Styles (Parker); Albert the Good (Shaw); Wm. Dumpach's True Figure of the Earth (Hardwicke); Tuckett's Free Designs for Houses and (Weale). 685

Miscellanea 685

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1863, be open to public competition.

A Competitive Examination will, accordingly, be held in this Office on the last week of JUNE next. Full printed particulars of the conditions of such Examination will be submitted to the Candidates who shall also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter.

(Signed) T. C. BARING.

India Office, 23th June, 1862.

N.B.—All communications to be addressed to the "Under Secretary of State for India."

EXAMINATIONS for SCIENCE CERTIFICATES of the COMMITTEE of COUNCIL on EDUCATION will take place at the Offices of the Science and Art Department, South Kensington, on the days shown below.

The Examinations will last each day from TEN a.m. till FIVE p.m. with one hour's intermission in the middle of the day, except on the last days for Subject I. and Chemical Analysis.

Candidates for certificates who have registered their names must attend, at ten minutes before TEN a.m. at the Offices, South Kensington, on the day or days which are indicated for the subjects they wish to be examined in.

I. Practical Plane and Descriptive Geometry, Mechanical and Machine Drawing, &c.	Subject 1.	Monday, 3rd November.
	Subject 2.—	Tuesday, 4th November.
	Subject 3.—	Wednesday, 5th November.
	Subject 4.—	Thursday, 6th November.
II. Mechanical Physics	Subject 1.—	Friday, 7th November.
	Subject 2.—	Saturday, 8th November.
III. Experimental Physics	Subject 1.—	Monday, 17th November, morn.
	Subject 2.—	Monday, 17th November, afternoon.
IV. Chemistry	Subject 1.*	Friday, 14th November, morn. (Analysis on Friday afternoon. 14th November, and Saturday, 15th November.*
	Subject 2.—	Friday, 14th November, afternoon.
V. Geology and Mineralogy	Subject 1.—	Monday, 10th November.
	Subject 2.—	Tuesday 11th November.
VI. Physiology and Zoology	Subject 1.—	Wednesday 12th November.
	Subject 2.—	Thursday, 13th November.
VII. Botany and Vegetable Physiology	Subject 1.—	Tuesday, 18th November.
	Subject 2.—	Wednesday, 19th November.
VIII. Mining and Metallurgy	Subject 1.—	Thursday, 20th November.
	Subject 2.—	Friday, 21st November.

* As many students as possible who take up only Inorganic Chemistry will do their Analysis on FRIDAY afternoon; the rest on SATURDAY. Analysis cannot be allowed.

N.B. Candidates must send in their names before the 15th OCTOBER, for Subject I. Practical and Machine Drawing and Building Construction, who must send in their names by the 5th OCTOBER.

By order of the Committee of Council on Education.

MINERALOGY.—KING'S COLLEGE, London.—Professor TENNANT, F.G.S will give a COURSE of LECTURES on MINERALOGY, with a view to facilitate the study of GEOLOGY, and of the application of mineral substances in the ARTS The Lectures commence on WEDNESDAY MORNING, the 8th of OCTOBER, at NINE o'clock They will be continued on each succeeding Friday and Wednesday, at the same hours. Fee, 2l. 2s.

R. W. JELF, D.D. Principal.

INTERNATIONAL BAZAAR, SOUTH KENSINGTON.—If such tasteful effect can be marred by various well-known causes, visitors are invited to inspect in the central hall of the bazaar a NEW PATENT BLIND, whereby that necessity of obliteration ornament in use is realized.

KING'S COLLEGE, LONDON.—ARTS of CONSTRUCTION—PROFESSOR KERR'S LECTURES take place on Wednesday, at 4, and Thursdays, at 3.30, as follows:—Course I. Michaelmas Term (October to December), on the Materials and Theoretical Science of Building and Engineering. Course II.—Lent Term (January to March), on the Practice of Construction Course III. Easter Term (April to July), on the Constructive Design of Architectural and Engineering Works. Fee, 2l. 12s. 6d. for the terms, or 7l. 7s. for the year.

R. W. JELF, D.D. Principal.

THE CENTRAL TRAINING SCHOOL of ART, South Kensington, for Male and Female Students, and the METROPOLITAN SCHOOLS of ART, at 44, Queen-square, Bloomsbury, for Female Classes only; Spitalfields, Crispin-street; Finsbury, William-street, Wilmington square; St. Thomas's, Charterhouse, Goswell-street; Rotherhithe, Grammar School, Deptford road, St. Martin's, Castle-street, Long acre; Lambeth, St. Oswald's place, Upper Kennington lane, Hampstead, Dispensary Building, Christchurch, St. George's-in-the-East, Cannon street; and Saint Mary's, Hare place, Vincent square, Westminster, will RE OPEN on WEDNESDAY, the 1st OCTOBER.—By order of the Committee of Council on Education.

COMPETITIONS.

A MICABLE SOCIETY'S SCHOOLS, SCARBOROUGH For COMPETITION.—The Committee of the above Schools invite Architects to prepare PLANS for New Schools, and separate Residences for the Master and Mistress. The Schools are to be capable of accommodating not less than 200 of each sex. Each Residence will require One Sitting Room and Kitchen on the ground floor, Bed Room, Kitchen, and Out-offices. A prize of 15l. will be given for the best, and 7l. 7s. for the second best Plan and Specification provided a respectable contractor is prepared to undertake the work for the estimate given. The Committee do not bind themselves to employ the Architect to whom either of the prizes is given, but in the event of either of them being employed, his premium will merge in the usual "Architect's Commission." A block plan of the site, and a detail of requirements will be furnished on application to the Hon. Secretary, Scarborough. The Plans to be sent in to him before the 10th day of OCTOBER next.—By order

W. E. WOODALL, Hon. Secretary.

Scarborough, Sept. 2nd, 1862.

TO ARCHITECTS.—Plans, with complete specifications, are required for the ERECTION of a RESIDENCE, with Stabling and Out-buildings, near Putney. Sketches, not exceeding in size 10 in. by 8 in., will be given for the plan and specification which best meets the approval of the proprietor. The whole outlay not to exceed 1,500l and the premium will only be given to those who employ for the purpose one of the plans and specifications, but unless a respectable and responsible contractor is, upon advertisement in the usual way, found willing to undertake the works at a sum not exceeding the amount of outlay ascertained by the party whose plans and specifications are adopted. The plans and specifications to be sent before the 1st day of NOVEMBER next, to C. CODRINGTON, Parkwick, Strand, at the will in the mean time personally visit the proposed site of the house, and give any other information as to the internal requirements.

CONSULATE GENERAL of SPAIN in ENGLAND.—Notice to Architects, Engineers and Contractors.—DESIGNS and ESTIMATES for the BUILDING to be erected at Madrid, for the Hispano-American Exhibition, will be received by the Secretary General of the Committee of the EXHIBITION up to the 27th December next.

The plan of the ground, and the conditions to be observed by competitors, can be obtained at the Consulate General, No. 1, Carlton court, Old Broad street, to whom also the designs and estimates may be addressed for transmission to Madrid.

H. C. M.'s Consul-General, JUAN GAVARON.

London, 16th Sept. 1862.

TO ENGINEERS and IRON-BRIDGE BUILDERS.—NEW BRIDGE The Vestry of St. Giles, Camberwell, Surrey, are desirous of receiving PLANS, SECTIONS, and ESTIMATES for a BRIDGE, to be erected over the Grand Surrey Canal, on the site of the present St. George's Bridge, which leads from Albany road to Wells-street, Southampton-street, Camberwell. A premium, of 10l 10s. will be paid for the best approved design, unless the successful competitor be employed to erect the bridge, which case he will be paid by a commission to be agreed upon. The plans, &c. must be sent in on or before WEDNESDAY, the 15th OCTOBER next.—Further particulars may be obtained on application at the Vestry Clerk's Office, Vestry Hall, Peckham road, Camberwell.

September 18, 1862 GEO WM. MARSDEN, Vestry Clerk.

PREMIUMS of 100l. and of 20l.—To ARTISTS and FIRST-CLASS DESIGNERS of METALLIC BEDSTEADS, CHAIRS &c.—A Firm requiring a complete new BOOK of DESIGNS of the above ARTICLES, offer PREMIUMS of 100l. and 20l. for the best TWO SETS of DESIGNS that can be produced, each set to consist of 200 designs, each design to be different in character, and to comprise:—Tents in iron, four designs in all; eight children's bedsteads in iron, three 1 ft. 6 in. brass, ten ditto bedsteads in iron, two ditto in brass, thirty French bedsteads in iron, twelve ditto in brass, thirty half-tester bedsteads in iron, fifteen ditto in brass, six tester bedsteads in iron, six ditto in brass, six half tester bedsteads in iron, six ditto in brass, four naval bedsteads in iron, two ditto in brass, six cantary bedsteads in iron, four ditto in brass, four portable bedsteads in iron, four ditto in brass, six chairs in iron, four ditto in brass, four sofas in iron, two ditto in brass, two cradles in iron two ditto in brass, three wash-stands in iron, four ditto in brass, &c. The selected sets to be the exclusive property of the advertiser; and the name of the competitor for the first premium will be required to give his services for one month, to assist in demonstrating the practicable working out of the different patterns, for which wages will be paid during such period.

Designers desirous of competing may obtain the fullest information as to the cost of articles to be produced, &c. &c. by applying to Messrs WRIGHT & HILL, Accountants, Temple-row West, Birmingham, with whom the amounts of premiums is deposited, and by whom the sums offered will be paid to the two successful competitors.

All designs must be delivered at the Offices of Messrs. WRIGHT & HILL, on or before the 10th of NOVEMBER next.

LEIGH WOODS COMPETITION.—The APPROACH to the Suspension Bridge from the Abbot's Leigh Turnpike Road, as shown in the plans in the hands of the Bridge Company, at a reduced current Rise of 1 foot in 20 feet, as shown on the said approach should be 288 ft.

Long Ashton, September, 1862. FREDK. EASTON.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required for ERECTING GUN SHEDS for four Field Batteries of Artillery, at Woolwich.

Persons desiring to Tender for the erection of these Works must leave their names at this Office, on or before the 24th day of OCTOBER, 1862 and they will be furnished with forms of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Woolwich, September 18, 1862.

NOTICE.—TENDERS are required for ENLARGING and DEEPENING the WELL, belonging to the WAR DEPARTMENT at Sheerness. Parties desiring to Tender can inspect the drawing and obtain a printed specification and form of Tender on application at this Office, between the hours of TEN and FOUR, from 24th SEPTEMBER till 2nd OCTOBER, 1862, Sunday excepted.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sheerness, 17th Sept. 1862.

TO BUILDERS.—TENDERS are required for the ERECTION of a large MODEL LODGING HOUSE. The drawings and specifications may be seen, and the quantities obtained (on the payment of 10s.) at the Offices of Mr. H. J. HAMMON, Architect, 7, Finsbury-square, E.C. The lowest Tender will not necessarily be accepted.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACTS for WATERING, SCAVENGING, and the REMOVAL of DUST.—Notice is hereby given, that the Works Committee will MEET on TUESDAY, the 30th day of SEPTEMBER, 1862, to receive TENDERS for Watering the Roads and Streets, for Scavengers Work, and for the Removal of Dust in the above-named District. Further particulars may be known, and printed conditions and forms of Tender may be obtained, by application at the Office of the Board, in White Horse-street, Commercial-road East, upon payment of the sum of Five shillings; which will be returned to the parties tendering who shall not be the accepted ones. Tenders, sealed up and signed, "Tender for Watering, Scavenging, and Removal of Dust," must be delivered at the said Office, not later than TEN o'clock on TUESDAY Morning, the 30th SEPTEMBER, 1862, and No Tender will be received unless accompanied by a 20l. Bank of England note, as evidence that the party is in earnest. The Board do not bind themselves to accept the lowest or any Tender. The security of two responsible persons will be required, and the Contractors will have to pay the cost of the contracts. No Tender will be received after the time specified, nor unless strictly in accordance with the specification and conditions.

THOMAS W. RATCLIFF, Clerk of the Board.

Dean Collet House, White Horse street, Commercial road, E. 15th September, 1862

TO BUILDERS.—TENDERS are required for the ERECTION of TWELVE HOUSES, in Devonshire and Stanley roads, Hackney, for the Temperance Permanent Land and Building Society. The plans may be inspected, and copy of the specification, price 2s. 6d. obtained, at the Offices of the Society, between TEN and FOUR o'clock, on and after SEPTEMBER 20th, by TENDER. Tenders must be delivered at the Offices with and to the specification, are to be left with or sent to the Secretary, sealed, and marked "Tender for Houses at Hackney," at or before FOUR o'clock on TUESDAY, OCTOBER 7th. References and security may be required; and the lowest or any Tender will not necessarily be accepted.

HENRY J. PHILLIPS, Secretary.

Offices—34, Moorgate street, London.

OXFORD INCORPORATION.—To BUILDERS.—The Guardians of the Poor within the City of Oxford are prepared to receive TENDERS for the ERECTION and COMPLETION of the NEW WORKHOUSE, to be built on the parish of St. Clement's, Oxford. The plans, specifications, and forms of Tender may be seen at the Workhouse, and further information obtained of the Architect, Mr. WM. FISHER, Headington-hill, Oxford. Sealed Tenders to be sent addressed to Dr. ADAMS, the Chairman of the Board, St. John's College, Oxford, endorsed "Tenders for Workhouse," on or before TUESDAY, the 7th day of OCTOBER next, accompanied by the names of two responsible persons who will join the contractor in the usual bond for the due performance of the contract. The Guardians do not bind themselves to accept the lowest or any Tender.—By order of the Board

H. JACOB, Clerk to the Guardians.

Oxford, September 11th, 1862

OXFORD WORKHOUSE.—The Quantities for this work (which is open to payment of 10s. 6d on and after MONDAY, SEPTEMBER 29, 1862 on application to Mr. CHARLES BROWN, No. 6, St Aldates street, Oxford

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a COTTAGE for the Saltburn Improvement Company, may see the plans and specification on and after MONDAY, the 22nd instant at the Office of Mr. A. BROWN, Station-master, Saltburn-by-the-Sea, or at the Offices of the Architect, Mr. GEORGE DICKINSON, Victoria buildings, Darlington. Tenders to be delivered to Mr. DICKINSON on or before the 1st day of OCTOBER next. The lowest or any Tender will not necessarily be accepted.

[For remainder of Contracts see next Page.

CONTRACTS.

TO BUILDERS.—St. George-in-the-East, Middlesex.—The Guardians of the Poor of this Parish will at their next Board, to be held at Wade's Arms, Charles-street, Ratcliff Highway, on FRIDAY, the 26th instant, at NINE o'clock in the morning precisely, open Tenders for the BUILDING WORKSHOPS on the Stone Yard opposite the Workhouse, pursuant to the directions of which plans may be seen at the Office of Mr A. WILSON, Vestry-hall, St. George-in-the-East, between the hours of TEN and FOUR. Tenders are to be delivered with the names of two responsible persons as sureties for the due and punctual performance of the work, and to be sealed up, with the words "Tender for Workshops" written on the envelope. The Tenders are to be in the usual form, and to be delivered sealed and endorsed "Tender for Erecting Workshops," before TWELVE o'clock on the 30th instant. The Guardians do not bind themselves to accept the lowest Tender nor any Tender, and to save charge no interest will be allowed on the preparation of the contract. By order of the Board,

THOMAS STONE, Clerk.

Wellclose-square, E. 15th September, 1862.

BARLING CHURCH, near Rochford, Essex.—To BUILDERS.—Persons desirous of TENDERING for the RESEATING of this Church, can inspect the drawings and specification by application to the Rev. S. BUXTON SMYTH, at Barling Vicarage, on and after TUESDAY Next, 23rd instant. The Tenders to be sent to G. WOOD, Esq., Rochford, on or before OCTOBER 10th; from whom further particulars can be obtained; or from the Architect, Mr W. SLATER, 4, Regent-street, London, SW. The lowest or any Tender will not necessarily be accepted.

September 19th, 1862.

TO BUILDERS.—Persons desirous of TENDERING for a detached VILLA at Erith, Kent, can have a copy of the drawings and specification by applying at Mr. H. FORD'S Office, 1, Charlotte-row, Mansion House, E.C.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a large ICE-HOUSE, at Great Yarmouth, can view the plans and specification at the Office of Mr. "Tenders for Ice House," to be sent home not later than TWELVE o'clock on TUESDAY, the 30th instant. The lowest or any Tender will not necessarily be accepted.

ALFRED W. NORANT, Architect.

King-street, Great Yarmouth, September 18th, 1862.

NEW SOUTH WALES GOVERNMENT RAILWAYS.—All persons about to TENDER for LEAD to be at the Railways, are invited to call at the Office, addressed to the secretary for Public Works, New South Wales, must be delivered at the Office of the undersigned, 2, Cannon-street, London, E.C. not later than the 22nd instant, to be forwarded to Sydney by the mail of that day.

WM. L. MERRY & CO.

Commercial Agents to the Government of New South Wales.

PARISH of ST. GILES, CAMBERWELL.—To SEWER CONTRACTORS and OTHERS.—The Sewers and Sanitary Committee invite TENDERS for the execution of DRAINING and GENERAL WORKS connected with the sewers and drains of this parish, for a period of two years, on TUESDAY, the 23rd of SEPTEMBER inst. at HALF-PAST SIX precisely, at the Vestry Hall, Camberwell. Printed forms of Tender will be supplied; and no Tender will be received unless in accordance with the instructions contained in the specification and conditions; and the parties tendering must be in attendance when the Tenders are opened. Each Tender must be accompanied by an offer of two sureties for the due performance of the contract. Application to Mr J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Wells-street, Southampton-street, Camberwell, between the hours of ELEVEN and THREE o'clock, p.m. and after TUESDAY next, the 23rd inst.

GEORGE WILLIAM MARSDEN, Vestry Clerk.

Vestry Hall, Camberwell, September, 1862

SAINT GILES, CAMBERWELL.—To Stone Merchants, Masons, Paviors, Kerb Raisers, and Gravel Merchants, Carters, Smiths, Ironmongers, Bricklayers, Sawyers, Printers, and Others.—Notice is hereby given, that the General Purposes Committee of the Local Board will, on MONDAY, the 29th day of OCTOBER next, at FIVE o'clock in the afternoon precisely, receive TENDERS (addressed to the undersigned) to be left on the Saturday previous for, cases as may be [illegible] entering into a CONTRACT for the supply of the requisite Materials and Labour in paving, [illegible] and repairing the several streets, roads, and places [illegible] the 25th SEPTEMBER, 1863, specified in the form of the said contract, the performance of the same with the works will be required, the forms of which and other particulars may be had on application to Mr J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Wells-street, Southampton-street, Camberwell, between the hours of ELEVEN and THREE o'clock. Approved sureties will be required for the due performance of the contract, and be bound in a penalty of the parties tendering, or some one on their behalf, must be in attendance at the time above named, or their Tenders will not be received.

GEORGE WILLIAM MARSDEN, Vestry Clerk.

Vestry Hall, Camberwell, Sept 1862

TO RAILWAY AND SEWER CONTRACTORS AND OTHERS.—The Board of Works for the Fulham District are desirous of receiving TENDERS for constructing and completing [illegible] Sewers and Outfall Sewer over the Queen's Road, Lee, to the River Thames, and also for [illegible] sewers, comprising, at present, FOUR STORM WATER CULVERTS, [illegible] and the Outfall Sewer, together with the [illegible] works may be inspected at the Offices of the Surveyors, Mr. F. P. THORNE, 7, Essex-street, Strand, and Mr. T. C. HAWORTH, 41, Parker-street, Drury-lane, where the plans, sections, and forms of Tender may be obtained. The Tenders are to be sent in sealed, addressed to the Chairman of the Board of Works for the Fulham District, and delivered at the Office of the Board, Old Charlton, S.E. on or before TWELVE o'clock on WEDNESDAY, the 1st day of OCTOBER next. The Board will not receive any Tender after that hour. Each Tender must be accompanied by the names of two sureties, who will be required to enter into a bond, with two approved sureties, for the due performance of the contract. The official form of Tender may be had at the Office, and Tenders not otherwise will be received. The Board does not pledge itself to accept the lowest or any Tender.

By order, CHARLES AUGUSTIN SMITH, Clerk to the Board.

Old Charlton, September 19, 1862.

TO DUST CONTRACTORS, SCAVENGERS, and OTHERS.—Notice is hereby given, that the Board of Works for the [illegible] District are prepared to receive TENDERS for the REMOVAL of the DUST and ASHES from the houses of the Inhabitants in the [illegible] for a period of twelve months, from the 29th of SEPTEMBER, 1863. The work to be let according to the specification which may be seen at the Office. Tenders must be sent in sealed, addressed to the Parish of Fulham, and endorsed "Tender for Dust and Ashes," and delivered at the Board Room, Parish Offices, Hammersmith. To be sent in sealed, and marked "Tender for Dust and Ashes," on the Board, on or before TEN o'clock of WEDNESDAY morning, the 24th day of SEPTEMBER, 1862, to the Office, Broadway House, Hammersmith, addressed to "The Chairman of the Board of Works for the Fulham District." Each contract will be required to enter into a bond, with two approved sureties, for the due performance of his contract. The official form of Tender may be had at the office, and Tenders not otherwise will be received. The Board does not pledge itself to accept the lowest or any Tender.

By order, W. LOVELY, Clerk.

TO ENGINEERS.—The Guardians of the Poor of the Stepney Union will meet at the Ratcliff Workhouse, York-street West, on TUESDAY, the 30th day of September next, at TEN o'clock in the forenoon, to receive TENDERS for the supply of [illegible] and to execute the [illegible] Engine and Boiler Apparatus at the Workhouse of the Union aforesaid, Middlesex. Copies of the specification, with [illegible] Tender and particulars, may be obtained from the Architect, Mr HENRY JARVIS, at his Offices, 29, Trinity-square, South-wark. A deposit of 5l. must be left with the Architect on application for a copy of the specification, but will be returned to the Tenders have not been accepted.

By order of the Guardians, W. H. SWEETSONE, Clerk.

London, 20th September, 1862.

TO BUILDING CONTRACTORS.—LUNATIC ASYLUM, near LICHFIELD.—Any person desirous of TENDERING for the supply of the Lateral Departments of the [illegible] LUNATIC ASYLUM, near Lichfield, are invited to meet the Committee of Visitors at the Asylum, on FRIDAY, the 26th instant, at TEN o'clock in the forenoon, when Plans, Specifications, and Forms of Contract may be seen, and Tenders received. Copies of the Plans, Specifications, and Forms of Contract may be obtained at the Office of W. L. MOFFATT, esq. Architect, No. 4, Fettis-row, Edinburgh, and of Mr. [illegible] County Surveyor, the Hollies, Stafford, where Plans may be seen, from MONDAY, SEPTEMBER 22nd, to SATURDAY, SEPTEMBER 27th. Tenders to be sent in, addressed to the Clerk of the Peace, Stafford, and endorsed "Tender for the Lateral Departments of the Lunatic Asylum," on or before the 2nd day of OCTOBER next, by which time all Tenders will be required to be delivered. The lowest or any Tender will not necessarily be accepted. N.B. Letters or parcels addressed to the Architect or Surveyor will not be delivered, nor will any Tenders be received from Builders who have not applied for the Plans and Forms of Contract

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

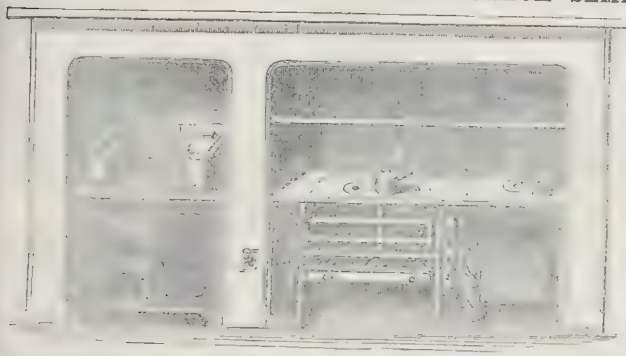
ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER, can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

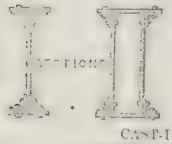
Nos. 6 and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF **WROUGHT-IRON GIRDERS**

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON

RAILWAY BRIDGE BUILDER.

RAILWAY STATION ROOFING

Manufactured in WROUGHT and CAST IRON, and ERECTED.

TANKS IN WROUGHT AND CAST IRON.

Wrought Iron Doors, Gates, and Guard Bars, &c.

EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON PITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,

SHEETS, BARS, L and T IRON.

Bond Hoop Iron from Stock.

CRANE CHAIN AND CABLE MAKER.

CONTRACTORS' PLANT, RAILS,

WROUGHT AND CAST WHEELS AND AXLES.

WAGGON IRON-WORK, PEDESTALS, &c.

AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH BOLTS AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



THE PRIZE MEDALS,

LONDON, 1851. PARIS, 1855. LONDON, 1862.

AWARDED TO

COTTAM & COMPANY,

No. 2, WINSLEY-STREET, LONDON, W.

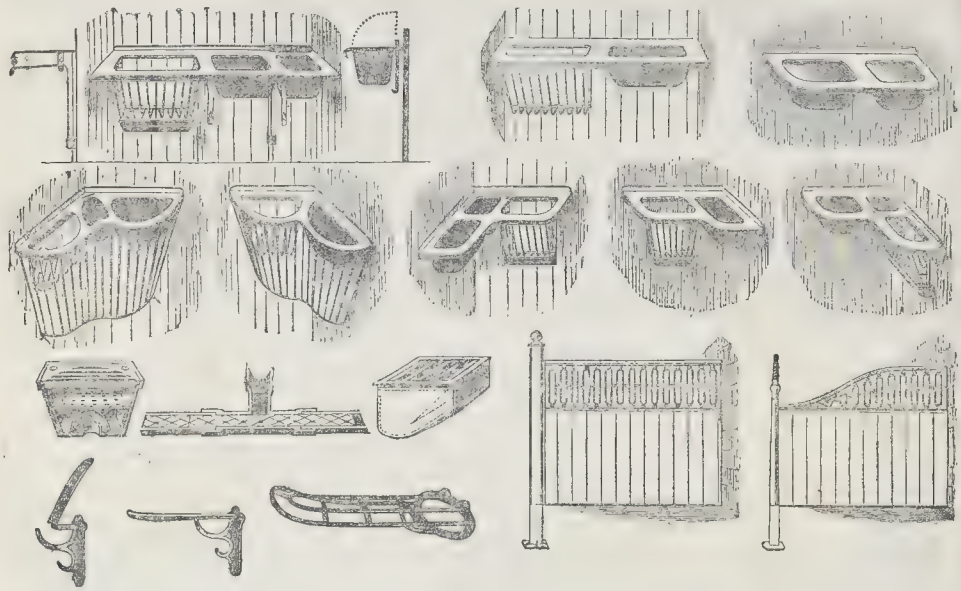
FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN

STABLE FITTINGS AND HARNESS BRACKETS.

ORIGINAL INVENTORS OF THE PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, FITTED TOGETHER AS ONE FIXTURE.



PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



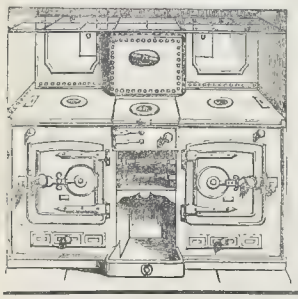
The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM, arranged for inspection in full-sized Stalls, Loose Boxes, &c. (a portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to

COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—Winsley Street is the Street opposite the Pantheon.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

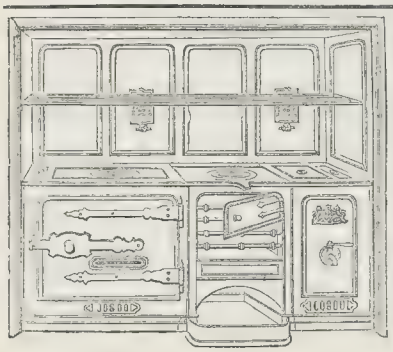
WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 2*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

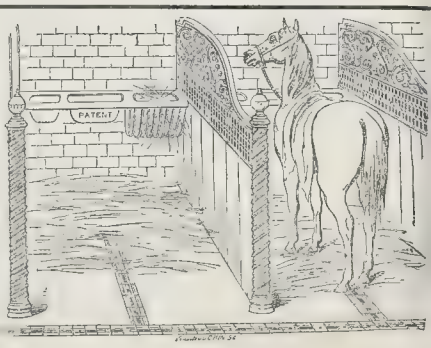
39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

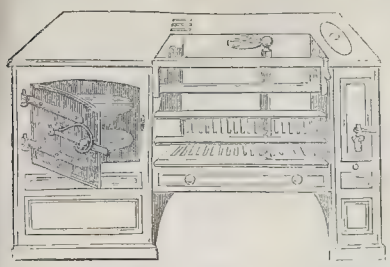


ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.

A LARGE STOCK
OF OTHER
CASTINGS KEPT.





CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Weights Pairs	Self-acting Oetiare, with Oven and Lock Boiler
24 Inches . . . . . 5s.	24 inches . . . 22s.
30 " . . . . . 7s.	30 " . . . 24s.
36 " . . . . . 8s.	36 " . . . 26s.
42 " . . . . . 9s.	42 " . . . 28s.

Register Stoves, with Strong Bars, from per inch, 1d

Improved New Pattern Cottage Check Register, with strong Ebonised Lever, 1s per inch.

Best ditto, with Fine Inlaid Ends, from per inch, 5d.

Bright Stoves, with Two Fires, 15 to 100s each.

Best Cut Close and Rose Nuts

1-inch.	¾-inch.	2 inch.	2½-inch	3 inch
14s.	15s	16s	17s	18s per cwt.

Best Steel Cut Floor Brads, 11s per cwt.

Best Cut Lath Nails, 1s per cwt.

Cast Plain water Pipes	2-in.	2½ in.	3-in.
	8d.	1s.	1s. 4d. per yard.

Cast Gutters, 4-in. 7d. per yard.

O G Gutters, with Clips on	4 in.	5 in.
	1s.	1s. per yard.

Patent Line	2	3	4	5	6
	3s. 6d.	4s.	5s.	7s.	9s. per gross.

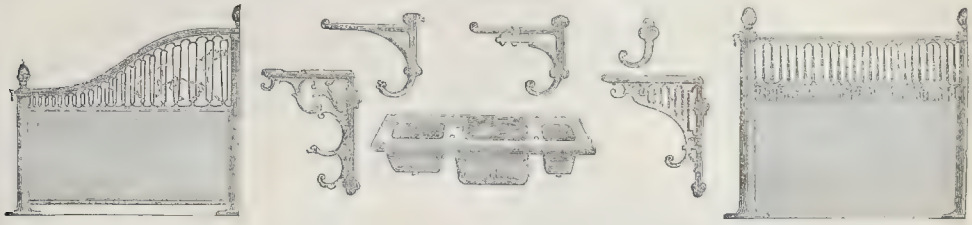
6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per set.

Dr Arnott's Ventilators, 7s each.

Brick Moulds kept in stock. Any size made to order.

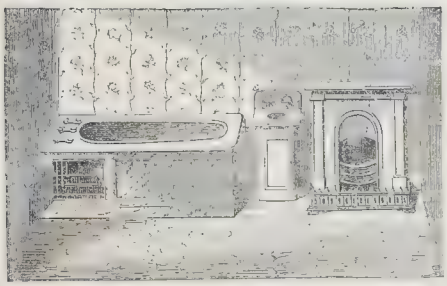
GEORGE SMITH & CO. IRONFOUNDERS AND SANITARY ENGINEERS,
SUN FOUNDRY, GLASGOW,

Beg to call attention to their REGISTERED STABLE FITTINGS, which were selected by the late Prince Consort for Holyrood Palace Stables, and for which First Premium was awarded by the Royal Highland and Agricultural Society.



Drawings and Price Lists of which will be forwarded on application.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their BATH APPARATUS, represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

CHOP FRONTS

WORKS, HARTS HILL IRON FOUNDRY, Near Dudley. MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.

LONDON OFFICE, 75, CANNON STREET WEST, LONDON, E.C. Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.



BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

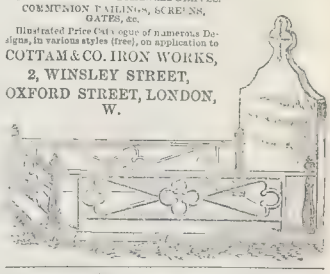
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES.
COMMUNION RAILINGS, SCREENS, GATES, &c.

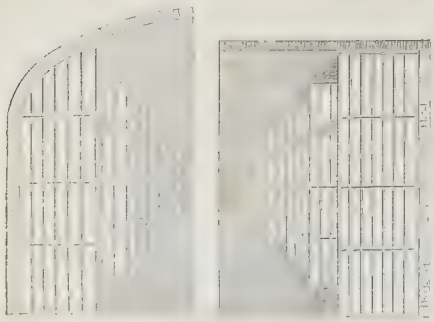
Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY STREET,
OXFORD STREET, LONDON, W.



EXTRAORDINARY BARGAINS, FIRE-PROOF SAFES AT HALF THEIR REAL VALUE. A Fire-proof Safe Company having lately amalgamated with a London office, and having no further use for a considerable number of Wrought Iron Fire-proof Safes of Patent Parts, have returned them to the manufacturers to be sold for half their original cost. They were made to order for the Crystal Palace, at the Victoria Docks, Bermondsey, and Millwall Docks, the Great Eastern Railway Works, Bermondsey, and were fitted with the Patent Locks, &c., as supplied by Messrs. Chubb & Son, and are guaranteed FIRE AND BURGLAR PROOF. A printed description of the various sizes, inside fittings, cost and, [illegible] can be had on application at the Offices, 24, Cannon-street, West, Mr. Morris, & Co's Illustrated Price List. To parties in want of a really [illegible] these Safes will be found a most desirable chance, as they [illegible] SECOND HAND, BUT QUITE EQUAL TO NEW, AT HALF ITS REAL VALUE; and to remove the doubt naturally felt in purchasing a second hand article unseen, it is requested [illegible] Works, Bermondsey, and the Safes can be seen at work, and [illegible] Safes will be sold with a warranty for twelve months, and [illegible] to any station, and fitted and fixed complete for use, [illegible] Safes will be sent on trial to the party ordering them. For full particulars address MCKENNA, MORRIS, & CO. Vulcan Safe Works, Cumberland-street, Birmingham.

WROUGHT IRON WINE BINS.



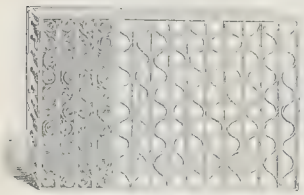
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

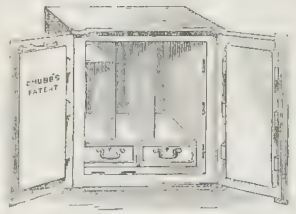
*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS,
The most secure from picklocks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the DETECTOR LOCKS.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to Her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire-resisting and non-conducting composition.

The doors are all secured by CHUBB'S PATENT DRILL-PREVENTIVE, and their Patent

GUNPOWDER PROOF LOCKS.

Illustrated Price List Gratis and Post Free.

CHUBB & SON,
No. 57, ST. PAUL'S CHURCHYARD, LONDON;
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.

POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.
Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

LIGHTNING CONDUCTORS.

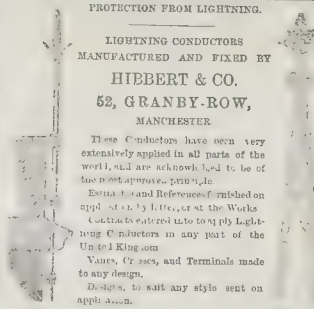
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the proper metal staples, complete for fixing, at the following prices:—

Three eighths-inch diameter ..... 1s. 6d. per foot.
Half-inch diameter ..... 1s. 3d. "
Four-eighths-inch diameter ..... 2s. 6d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being supplied by Architects, Engineers, and Scientific men, to all parts of the world.

Offices—130, Strand, London
" Gateshead-on-Tyne
" 27, Dale street, Manchester.
" 66, Wellington-street, Glasgow.
" 17, Castle-street, Liverpool
" [illegible]
" 7, Exeter [illegible]

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW.
Manufacturers of CAST IRON MAIN PIPES, for Gas or Water, by the IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

WROUGHT-IRON TANKS, CISTERNS,

GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, Lon[illegible]

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private. It combines with ECONOMY with great superiority of construction, perfect security from fire, increased durability, and many other important advantages.

The floors are formed by a combination of joists of wrought or rolled iron with concrete, and constructed that each of these joists becomes a girder, and the whole of the floors are tied together, and rendered incombustible. The concrete forms a level surface, to receive the ordinary flooring-boards, or other finish, according to the purpose for which the building is intended.

Several of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as regards its economy and its perfect security against fire, as being the most complete system of fire proof construction, even for ordinary dwelling-houses and domestic buildings, when the result of every one.

Further information may be obtained of the Proprietor of the Patent

MR. BARRETT,
12, YORK BUILDINGS, ADELPHI.

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH

and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES,

of which he is now making three qualities, and he would recommend the use of the best only, as being the cheapest to purchasers in the PATENT LINES are from the Jute, which article has no other SUPERIORITY or DURABILITY of Flax, consequently will not give general satisfaction to the consumer.

They are to be had of all Ropemakers, Ironmongers, Merchants, Plumbers, and Workers in Hemp throughout the Country.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers

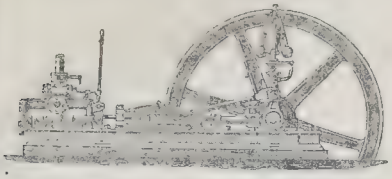
of GAS CHANDELIERS, HALL LANTERNS, GLASS FURNISHINGS, &c. &c. A large assortment of the above always on hand, ready to be supplied by the Trade. Patentees, and Manufacturers of the Metropolitan Improved Complete Pattern Lock and Fastening, [illegible] Head Holborn.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, Steel Goods, with Patent Shifting Shades; Dr. Arnott's Ventilator, &c.; and the New Registered Venetian Ventilator, so much admired, on view.

J. H. BOOBBYER (late TURCH & BOOBBYER), established nearly Seventy Years, has a large Stock of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER-TIGHT WATER BAR; and
SMITH'S PATENT WROUGHT-IRON CASEMENT FASTENING FOR IRON WINDOWS,
The above are used, it is requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS SMITH, Patentee, 55, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,
AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF
HORIZONTAL
AND
VERTICAL
STEAM-ENGINES,
From 2 to 30-horse power and upwards.
PORTABLE ENGINES, CRAB WINCHES, &c.
SEVERAL ALWAYS READY FOR DELIVERY.
Price List forwarded on application

CASTINGS AND WROUGHT IRONWORK
OF EVERY DESCRIPTION.
GLOVER, BROTHERS,
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.
Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

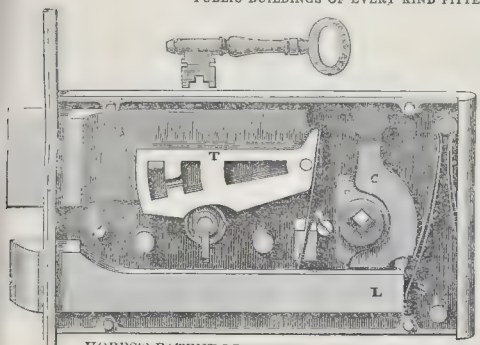
SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.
THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.
BOND & SCAMMELL (late Thomas Pugh & Co.)
WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.



NUT PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.
New rich designs in glass, china, brass, bronzed, gilt, carved woods, metal &c. &c. or to any design.
THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.
A most complete and extensive stock of every description of locks, latches, brass founds, &c. for building, required for buildings, of the best quality manufactured at the lowest wholesale prices.
*** Illustrations and particulars sent upon application.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.
HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,
Suited for all purposes, at Prices that silence competition.
SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.
PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, S, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

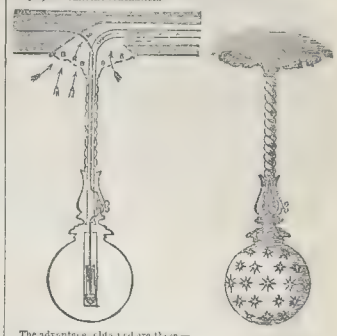
HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.
ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.
For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.
HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.
Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Birmingham, and Limehouse.
Every description of Iron Work Galvanized.
LONDON OFFICE—61A, MOORGATE STREET, E.C.

RICKETT'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Britannia Road, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also,
BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Paternoster-row, three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices, by direction with his Old Established House, No. 18, Woodford-street, Manchester-square, running out of Baker-street, Portman square, London, W.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED
TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr Arnott's Improved Ventilators.
HULETT & CO. 85, High Holborn.

DAY and GAS-LIGHT REFLECTOR
MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.
These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock
Manufacturer of Guttering, Piping, Wire Netting Galvanized Cisterns, and every description of Hollow Ware All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
TRADE MARK. Wolverhampton Staffordshire.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for turning wholesome and uniform lights, regulating the pressure, and preventing any irregularity in the light at all times
D. HULETT & CO. 85, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO RAILWAY COMPANIES. The cheapest and most durable
AXLE BRASSES known, made by
R. F. DALE, Engineers' Brass-founder, No. 9, Shoe-lane, Fleet-street; manufacturer of Steam Fittings, Diving Apparatus, Pumps, Cocks, &c., Patent Anti-friction Metal, Gun Metal, Brass Castings, &c.

TO JOINERS AND BUILDERS
IRONMONGERY at FIRST COST.—A
List of Prices may be had on application to the BRITISH HARDWARE COMPANY, Phœnix Works, Wolverhampton.

THE MEDAL FOR 1862
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.
TRADE MARK.
CROWN TUBE WORKS
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

MESSRS. PORTER & CO.'S SMALL GAS-WORKS for MANSIONS and all Isolated Buildings may be
seen in the International Exhibition, Class X. No. 2332. Plans and estimates for Towns, &c., may be had on application, at the Office of the
J. T. B. PORTER & CO. Gas Engineers and Contractors, Lincoln; and 7, John-street, Adelphi, London, W.C.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large
assortment of Brass Bedsteads, suitable for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED
CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 100 different articles of Bedroom Furniture sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham Court-road, W.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,
QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY.
PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,
WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES, BURKE, & CO. PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

HOUSES of LORDS and COMMONS.—SESSION 1863.—The New Standing Orders relative to Private Bills are now ready, and will be delivered gratis and free. Price 3s.
WATERLOW & SONS, 49, Parliament-street, Westminster.

Now ready, an entirely New Edition, with 11 plates, 8vo 12s. cloth,
MATHEMATICS for PRACTICAL MEN; being a Common-place Book of Pure and Mixed Mathematics. Designed chiefly for the use of Civil Engineers, Architects, and Surveyors. By OLINTHUS GREGORY, LL.D. F.R.A.S
Enlarged by HENRY LAW, C.E. Fourth Edition, carefully revised and considerably improved by R. YOUNG, formerly Professor of Mathematics, Belfast College, Author of "A Course of Elementary Mathematics," &c.
London: LOCKWOOD & CO. 7, Stationers' Hall court, E.C.

Just published, price 6s.
MANUAL of HYDROLOGY. By NATHANIEL BEARDMORE, Civil Engineer.
CONTENTS—
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of upwards of 400 pages, and there are 20 large plates.
London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 66, London-wall. 1863.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c of Organs in all parts of the country. Church Organs of any size built, enlarged, or improved, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

PRIZE MEDAL. — MEMORIAL OBELISK. — For SALE, the beautiful SILVER GREY GRANITE OBELISK, now erected in centre of the nave of the International Exhibition. This monument is considered the best and most perfect block that was ever exhibited in this country, and is admirably adapted for a memorial.—For price and all other particulars, apply to WM. SIM, Granite Works, Glasgow; or to A. NICHOLSON, 7, Mark-lane, London.

TO ARCHITECTS and SURVEYORS.—DYER & WATTS continue to give ESTIMATES for SCHOOL and OFFICE FITTINGS, in Pitch Pine or Stained Woods, to any designs.—1, Northampton-street, Lower-road, Islington, N.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter. Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

POLYTECHNIC. — ROME. — "Dost thou flow, Old Tiber, through a marble wilderness?" Exhibition of Macpherson's 400 unique and splendid Photographs of the Architecture, Sculpture, and Art-Works of the Eternal City. Re-engagement of George Buckland, Esq. for his Buffo-Musical Entertainment—New Gorgeous Scenic and splendidly-illuminated and Chromatic Fountain Spectacle—Grand series of Electrical Experiments with the Giant Plate Machine, and Lecture by J. L. KING, Esq.—Remarkable Imitations of British Birds and Animals, by HERR SUSMAN. Concerts by the BROUSIL FAMILY. Professor Pepper's Laboratory for Pupils, Analyses, &c. will re-open on the 6th October. Open from 11 to 5, and half-past 6 to 10. Admission 1s.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (incorporated by Act of Parliament, 1859), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 10l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages purchased, and the advances can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayments of the advances taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD RALPER, Secretary.

TEN PER CENT PER ANNUM.—Sums of FIFTY POUNDS to TEN THOUSAND POUNDS may be INVESTED for SEVEN YEARS, to pay the above interest, without partnership, liability, and with less risk than any ordinary joint-stock enterprise.—Full particulars will be forwarded postage free to gentlemen giving banker's reference to A. G. Universal Advertising Office, 26, Brydges-street, Covent-garden.

TEN THOUSAND POUNDS ready to be ADVANCED by the Temperance Permanent Land and Building Society, on Freehold or Leasehold Property, for any term of years not exceeding fifteen. Monthly repayments (including interest) for each 100l. advanced:—

2 Years.	4 Years.	6 Years.	8 Years.	10 Years.	12 Years.	14 Years.
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
4 11 6	2 2 0	1 4 11	1 1 7	0 19 11	0 17 1	0 15 4

HENRY J. PHILLIPS, Secretary.
34, Moorgate-street, London.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, HOUSE PROPRIETORS, &c. &c.—The Waterproof Glue makes an admirable cement for wet foundations, to prevent water rising, and the Varnish will enable damp walls to be papered over directly.

Copy of a letter from Mr. T. E. Owen, architect, Southsea:—
"I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The varnish has succeeded better than any article I have known as an anti-damp, the damp wall being coated with it before papering or painting. If the plastering be sodden and rotten, it should first be substituted with cement. I have used this material successfully for tar-work."

To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos-street, Portsmouth. Mr. GEO. WEEKS, Manager. GEO. C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

TO COLOUR and PAINT MANUFACTURERS.—To be SOLD by TENDER, 25 TONS of FINE INDIAN RED COLOUR EARTH, unwashed, perfectly dry, and in good condition.—Samples forwarded or bulk viewed on application to Mr. JOHN DOWARD, the Firs, near Coleford. Tenders received by Mr. Doward to 30th SEPTEMBER.

The Builder.

VOL. XX.—No. 1024.

The Decaying Frescoes of the Houses of Parliament.



T a time when the advisability of substituting mosaic for fresco is being hotly discussed, a few remarks may not be out of place on the comparative failure of our essays in fresco, and the probability of much more complete success in future efforts in the same kind of art.

After it had been determined to make paintings in fresco a principal feature in the mural decorations of the new Houses of Parliament, it must be admitted that every precaution was taken which appeared likely to ensure complete success. It is true that the practice of that branch of fine art was entirely new to the English school of painters. Not only were the technicalities of the process unknown; but, in that broad, grand, and yet simple style of pictorial design which is alone suitable to mural painting of that kind, our artists had had no opportunities of exercising their powers. Under these circumstances the commissioners gave notice that premiums would be awarded to the best cartoons suitable for historical paintings of the class required; the cartoons to be executed simply in chalk or charcoal, without the aid of colour; and artists were invited to send in designs, which were to be publicly exhibited in Westminster Hall. The public was agreeably astonished by the amount of talent displayed in the majority of the cartoons exhibited on that occasion, which will thenceforward form a memorable epoch in the history of English art. The liberal premiums were more than earned by many of the competitors; and it was gratifying to find that many names, hitherto unknown to art, were brought to light on that occasion. The commissioners next announced a competitive exhibition of works executed in the materials of positive fresco. This was a far more arduous trial; but the result was as satisfactory as could be expected; some of the specimens displaying qualities which, as the first efforts in an entirely new material, seemed to promise eminent success. In addition to these precautions, the commissioners neglected no means of obtaining every kind of technical information on the subject; thus fulfilling all the duties of their office with a persevering industry and completeness worthy of all praise.

At last the execution of certain frescoes, *in situ*, was determined on; and six compartments in the House of Lords were confided to four eminent artists. On the upper part of the south end of the House of Lords, Mr. Cope was commissioned to paint "Edward III. conferring the Order of the Garter on the Black Prince," and "Prince Henry acknowledging the authority of Judge Gascoigne;" Mr. Dyce being invited to reproduce his cartoon of "The Baptism of Ethelbert" in the central compartment. At the north end of the House, Mr. Maclise undertook to paint "The Spirit of Justice," and "The Spirit of Chivalry;" and to Mr. Horsley was assigned the central space, for "The Spirit of Religion." Whether these paintings exhibit any symptoms of premature decay it is scarcely possible to say from the floor of the House; their elevated position, the absence of sufficient light, and the glare of the stained-glass windows, rendering it difficult to judge either of the soundness of their condition or the merits of their execution. In the midst of the glittering whole formed by the profusely-gilt decorations, further enriched with masses of positive colour, the frescoes form, in fact, but secondary objects; and they might positively be replaced by panels of diaper ornament without being missed in the general effect. They are so distant, so imperfectly lighted, and so crushed by the elaborate nature of their dazzling surroundings; that, judging from what we observed during a recent visit, the gaping crowd of visitors would never have noticed them at all if their attention had not been called to them by their guide or their guide-books. The position, alone, of these paintings serves to suggest that the introduction of frescoes was an after-thought, and that the architect did not originally construct this fine apartment with the view of rendering it, in some sort, a gallery for the suitable display of a series of mural pictures illustrative of the characteristics of English legislation; but, on the contrary, felt himself thrown entirely upon the ordinary resources of architectural decoration to produce a rich effect; and used those resources with such gorgeous profusion as to cover every available inch of surface on both walls and ceiling. The manner in which he contrived to *make* room for mural paintings, after the completion (or, at all events, the conception) of his design with a very different end in view, is perhaps the very best that could have been adopted when suddenly called upon to provide space for features the introduction of which was not originally contemplated. Had this noble apartment been designed with the preconceived idea of fitting it for the display of a series of historic or symbolic paintings, the arrangements of the architect would doubtless have been different. The legions of lions and dragons and coats of arms, &c., and conspicuously-elaborate groinings; and the profusion of Gothic borderings, each one more intricate than the preceding, would have been restricted to narrower limits—would have been made to play a less prominent part in the general composition; and, with such an arrangement, the fresco pictures would have been made the leading features of the composition, instead of shrinking, as they now do, to the position of mere accessories.

Before examining the frescoes in the Peers' Corridor, it may be as well to describe those of the Upper Waiting Hall, as it is in these works that the most decided symptoms of rapid decay are making their appearance. This apartment is now better known as the Poets' Hall; the subjects of the fresco paintings being taken from the works of eight of our most celebrated poets. So rapid is the decay of some of these paintings, that they are actually peeling from the walls, and will soon be utterly valueless as works of art. Before describing the present state of these frescoes, it may be well to pause for a moment to consider the fitness of the place selected for a series of fresco paintings illustrative of the genius of our greatest poets. It will be at once conceded, we think, that an upper waiting-room was not quite a suitable place in which to attempt a pictorial glorification of English poetry: even if it had been, the dimensions of the room are insufficient to allow sufficient scope for the treatment of each subject in that monumental style of art which was the only way in which the dignity of the subject could be fittingly approached. In addition to these objections, the apartment is very badly lighted, which of itself forms an all-sufficient objection. Whether, in consequence of these defective arrangements, the artists have felt that their work, and its object, as a reflex of our national poetry, was not treated with sufficient respect may be a question; but their powers seem to have been cramped, and their artistic enthusiasm chilled by some preliminary discouragement. The works, in fact, lack all that monumental character, that largeness and grandeur of line, that nobleness of general treatment which should form the very essence of a kind of painting that is intended to harmonize intimately with the magnitude and simplicity of architectural forms; and to seem, as it were, from its firm and confident solidity of treatment, a component part of the wall itself.

The poets from whose works passages have been selected for illustration are Chaucer, Spenser, Shakspeare, Milton, Dryden, Pope, Scott, and Byron. The passage from Chaucer is Griselda's first trial of patience, from the "Canterbury Tales," painted by Mr. Cope. When seen as close as an ordinary cabinet picture, this small fresco is careful and expressive; but, even from the centre of the small apartment, it loses all that marked distinctness of purpose which, in mural painting, the eye ought to take in at a glance. The state of preservation of this painting is better than that of several of the others; but the dark tones rub off with a touch, and possess nothing of the solidity of that true fresco which incorporates itself so thoroughly with the substance of the wall as to appear as much a part of the substance itself, as are the veinings of marble, or the more delicate markings of a sea-shell. The next subject, taking them in chronological order, is "St. George overcoming the Dragon," from Spenser's "Fairy Queen," by Mr. G. F. Watts. Mr. Watts's artistic abilities are well known; but, in the treatment of this subject, either the material worked with has been uncongenial; or, the situation uninviting, the work being altogether unsatisfactory. The technical treatment has evidently been entirely unsuccessful, as the work is already damaged beyond repair; and where the colour has crumbled off there is no appearance whatever of the plaster having received the slightest stain. It is almost like that kind of common distemper work, without size, which peels off from the effect of the slightest damp, or brushes off in dust, if kept very dry. The proper process has evidently not been hit upon: indeed, in thus resuscitating a lost art, it is almost impossible that the manipulative processes should be developed on a first trial. It is not the mere knowledge of a receipt, nor the careful perusal of an essay on the subject, nor even the wearily toiling over entire volumes concerning its history, by which a lost art can be re-learnt: it is only by long and continuous practice that the management of a difficult material, in all its niceties of manipulation, can be achieved. "Lear disinheriting Cordelia" is the passage selected for the Shakspearian illustration which was confided to Mr. Herbert. The work appears sounder than any of the others; and yet there is abundant evidence of the artist not having been sufficiently intent upon the mechanism of the process by means of which his picture had to be produced. In the "Satan touched by Ithuriel's Spear," the Milton illustration by Mr. Horsley, the painting seems entirely on the surface; no thorough incorporation whatever of the colour with the plaster appearing to have taken place. The subject from Dryden's "St. Cecilia" has been treated by Mr. Tenniel. It shows at present but few signs of decay. But this is, comparatively speaking, a new picture; and as the general principles adopted by our artists appear to have been faulty, it will doubtless not prove much more durable than the others. The personification of the Thames and other English rivers, by means of which the poetry of Pope is represented, is the production of Mr. Armytage; and we must say that it does no credit to his well-known genius. There is a smallness both in the conception and handling that is

altogether beneath the subject, and beneath the true character of mural painting. But, in parts, this work seems well incorporated with the solid part of the material. "The Death of Marmion," illustrating the poetry of Scott, by the same artist, is also poor, both in design and execution; and is, moreover, as fresco work, quite unsound. The passage selected from the works of Byron as a subject for illustration is taken from one of the poorest of his small romantic poems. It is "The Death of Lara"—a most infelicitous selection for the subject of a picture coming next to "The Death of Marmion." The conception and drawing of the dying figure are quite unworthy of Mr. Cope. In short, in spite of all the careful preparations for renewing, in England, the practice of fresco painting, the result has been all but a decided failure; which is the more painfully felt as the initiative essays promised so well. Our artists themselves acknowledge and deplore a failure, with which adverse circumstances have had as much to do, as the want of technical skill in a new process, and the want of exercise in a branch of art, the very fundamental conditions of which are almost the opposite of those on which the most charming characteristics of the English school are based. We cannot help thinking that our artists will, on the whole, congratulate themselves that these imperfect essays have not proved to be of a permanent character, and that there may yet be an opportunity of filling the spaces (which will evidently soon become mere blanks) with works more worthy of their genius. If the present pictures do not peel off, or dust off, quickly enough to satisfy their natural impatience to begin again, a pail of water and scrubbing-brush will make short work of them. It may be urged that renewed efforts on the same spot would be undesirable, inasmuch as there is really not sufficient room in the Poets' Hall for our great artists to do themselves full justice, even if clean walls and fresh commissions gave them a second chance. But they may even there do something far more worthy of their fame than these, in every case, imperfect works. And it may be observed, *en passant*, that it would not be the first example of effacing bad frescoes to make room for better. Raffaelle effaced all the previous paintings of the walls of the Stanze (with the exception of one by his old master, Perugino), to make place for the works which we now admire in those celebrated apartments.

In the one really great mural picture in the building, "The Meeting of Wellington and Blucher on the Field of Waterloo," by Mr. Maclise, there is an evident solidity in the work that satisfies the eye; which no doubt arises in great measure from the employment of the silicate colours, commonly known as the glass medium; which appears already so hard that a thousand scrubbing-brushes might be worn out upon its surface without removing a particle of the now solid colour. The scale, too, which the dimensions of the Royal Gallery allow imparts that monumental dignity to the work which paintings of this class require. No such scope has been afforded to the artists employed on the little patches of wall in the corridors of the Peers and Commons, which have been assigned as sufficient for pictures representing some of the noblest passages of English history. These spaces are, indeed, contemptibly small; and their position is as much too near the eye as that of the pictures in the House of Lords is too distant. Several of the paintings in these corridors display sufficient marks of manipulative skill to show that, if it were desirable to persist in fresco painting, our great artists would eventually conquer all its difficulties. But, although the mechanism is occasionally successful, the conception of the subject is often defective. Some of the pictures, in fact, present pettinesses of treatment arising from want of experience in monumental painting which excite the hilarity of our foreign visitors to a high degree.

While we are discussing the possibility that our artists may overcome all the difficulties connected with the technical treatment of fresco, we have to consider that many are in favour of substituting mosaic as the true material of mural pictures; being, as asserted, more durable than the most successful frescoes. Mosaic has, doubtless, its advantages; but, at the same time, we ought not to forget that frescoes exist as old as the oldest mosaics, and as perfect. The frescoes of Pompeii have in some cases endured their two thousand years with as little injury as the mosaics themselves; and there are Mediæval frescoes, too, as perfect as any of the Mediæval mosaics. The recently-discovered fresco paintings in the lower crypt of the Church of S. Clemente, at Rome, of the third or fourth century, were found in beautiful preservation; and many of those of the Giotto period, a thousand years younger, but still something like five hundred years old, are, where they have been kept dry, and properly cared for, still in good order. It should also be stated that many external frescoes, executed during the fifteenth and sixteenth centuries on Italian houses and churches, are still in fair preservation, though exposed to the winds and storms of three or four centuries. But, after all, even if we prefer painting to mosaic, why stick pertinaciously to fresco in all cases? We are told that its freedom from gloss is a great advantage in mural painting; but why in mural painting especially? We should be very sorry to find all our cabinet pictures transformed to frescoes, notwithstanding its great quality of freedom from gloss. And then, this freedom from gloss was a mere accident, incidental to the kind of mechanism used, for want of knowing of a better. No sooner was oil-painting invented, and its superior advantages and permanence discovered, than fresco was gradually abandoned. And had Raffaelle lived to complete his decoration of the walls of the great chambers of the Vatican in oil, instead of fresco, as he had determined to do,—one great subject being already commenced at the time of his death,—there is little doubt but the practice of fresco would at once have utterly disappeared as an obsolete method. The greater number of the vast wall-paintings of the Ducal Palace at Venice are in oil; and few who have critically examined the internal decorations of that edifice will forget the noble character and perfect preservation of the paintings on the grand staircase. It should be added, too, while on the subject of oil as a medium, that several oils now known produce no gloss in the colours, and yet leave them perfectly hard when dry. In conclusion, it may be stated, that although mosaic may, and certainly will, be introduced with great effect in our architecture, *painting*, either in fresco or oil, should not be abandoned on the score of its (asserted) inferior durability as a means of interior decoration. Fresh efforts should be made. Mr. Maclise's "Battle of Waterloo" is a great step; and the separate works on which Mr. Dyce and Mr. Herbert are so cautiously engaged may turn out successes. At all events, should all fail, there will be no disgrace in trying again. Even our great artistic rivals, the French, have not been ashamed to efface many of their earliest efforts at modern fresco. The first attempts in Notre Dame, in St. Sulpice, and other buildings, have recently given place to the productions of more experienced pencils. Only let our artists have sufficient space, suitably situate, and well lighted, and they are quite equal to the task of producing for the nation a noble series of pictorial records, either in oil or fresco, on the interior walls of our public palaces; pictorial works which will equal, even in monumental character, the greatest works of their Continental rivals; not even excepting the glorious *hemicycle des beaux arts*, the master-piece of Delaroche.

Sale of St. Thomas's Hospital.—The sale of the materials of this structure, which has occupied five days, has realized, we understand, about 5,000*l*.

HEATING APPARATUS, AND CONTRIVANCES FOR THE PREVENTION OF SMOKE-NUISANCE, IN "THE EXHIBITION."

Our last notice of objects displayed in Class 31 of the Exhibition, "Iron and General Hardware,"* was devoted in great part to the comparison of English and foreign arrangements for heating, and for the preparation of food; and space did not allow of our mentioning more than a small proportion of the works in the class, even confining our view to the apparatus and contrivances comprised by the restricted title of the article. The number of objects exhibited in the division which we have constituted for ourselves, of the class, is great,—perhaps greater even than was necessary for what we regard as the main uses of the Exhibition; whilst these contrivances, including those in which the inventors concerned themselves with the consumption or conduction of smoke, are not such as will render unnecessary, attention to what has been shown or described elsewhere. Points of difference which may be of much importance, however, exist between works having similar outward appearance; and, on all accounts, it may be useful to our readers to have at hand the names and particulars which we are now able to add to those already printed. A single form of kitchen-range will occasionally make use of three or four patented inventions, each of them being of importance in the question of convenience or durability: though, we may say, the number and nature of them go to substantiate the case for some revision of the patent-law.

Our last article divided itself into the two heads of heating arrangements, and those for cooking; and the same division, not adopted in the building, will be recognized in this article and that which will subsequently appear. With the first head, we noticed certain arrangements in grates, or in the formation of flues, intended to economize fuel and diminish smoke. Mr. Young's invention, noticed as exhibited by several manufacturers, is catalogued also as shown by himself, and concisely described as "an ornamental trough," "fixed at the lower portion of the grate, in which is placed a right and left handed screw connected with a ratchet at the side, which together with the screw is moved by the poker. When the fire requires feeding, the coals are deposited in the trough, and by the revolution of the screw the burning fuel is raised up and the fresh coal conveyed into the cavity underneath. By this simple means the whole of the gases given off are burned, a great saving effected, and greater heat obtained combined with cleanliness." Mr. W. Bennett, of Liverpool, exhibits Dr. Arnott's "smokeless" grate, "with recent patented improvements." These grates have a movable bottom to which is attached some arrangement of cogs or worm; and this is worked by a horizontal wheel, on the hearth, the rim of which, slightly projecting in face of the foot of the grate, is furnished with holes or notches into which the end of the poker can be inserted. The "patent smoke-curer and warm-air grate" of the same manufacturer, appears to be an ordinary arrangement, with the register door regulated by turning a handle, and the heat from a space at the back of the grate, allowed to pass into the room. The "smokeless grates" of different makers, will burn twenty-four to even thirty-six hours without replenishing. Of the grate made by Messrs. C. Jeakes & Co., it is said that it will consume under 1lb. of fuel per hour, without waste, and the coal of the commonest kind. It is similar in principle to Mr. Bennett's grate; but the upper part of the fire is less inclosed in front by bars or *grille;* and the bars and front of the grate, instead of the bottom, are movable; so that by turning the handle below the mantel, they can be depressed, in lieu of raising the bottom, as the fire burns. Messrs. Edwards & Son exhibit Dr. Arnott's grate in Class 10. The description of this heating contrivance would apply to others above mentioned. The peculiarity is that of the receptacle for coal which constitutes the grate, and is very deep, holding enough for the day's consumption; and to which there is, in lieu of bars at the bottom, a plate, which is elevated by a screw to afford a fresh supply of coal from below as that at the top is consumed. The fire is kindled on the surface. Thus "the carbonaceous matter distilled from the new coals, passing through the incandescent mass above, is burnt; consequently no visible smoke escapes." Mr. Hunt (Handbook to the Industrial Department of the International

* See page 629, *ante*.:—"Heating and Cooking Apparatus in 'the Exhibition.'"

Exhibition 1862), whose words we have quoted, where he is treating of Jeakes's grate, speaks of a supply of fuel in that instance, placed in a chamber behind; which description may be correctly applied to that grate, though it has escaped our notice. Messrs. Benham & Sons also manufacture a grate, at a cost of 8*l.* 10s., on the principle described, of coaling at the bottom, and which is well adapted for offices and bed-rooms, since the fire will keep alight for several hours without attention. The bottom is raised by means of a lever-handle just below the mantel, as in other grates described by us, as the one exhibited by Mr. Hoole, which last however is a superior article as to use, and effect, by reason of the treatment of the ash-pit. The writer from whose excellent book we have quoted above, says, there are "only three principal ways of coaling a fire, namely, the old way of coking the coal at top, which allows the gas and bituminous smoke to escape; the Cutler, Arnott, and Jeakes's mode of coaling at the bottom"; and a method adopted as in a grate which we mentioned in our former article. This latter grate was then, by one of those blunders of management which reduce so much the value of "the Exhibition," exhibited under the name of a Glasgow firm; whence we were made party to an act of injustice. We find now the name of Mr. John Leighton, the inventor, attached to the grate. It has been called a "reserve stove to prevent smoke formation"; and the principle consists in the arrangement of a narrow recess or chamber on the back and sides, which, being covered in except where in communication with the fire, causes coal therein to be cooked or coked. The coke thus formed, is the material with which the body of the fire is made; the recesses being each day filled with coal, and each day producing coke for the next day's fire. The open-barred bottom is retained as a means of animating the fire. The fire, in this description of grate, whilst smokeless, burns as well as, and keeps in better than, the fire in a grate of the ordinary kind. There is a segmental opening just above the fire, for smoke such as may be unburnt, to escape, the ordinary smoke passage being usually kept closed by a register-door. Mr. Leighton should get, and afford, some benefit from his invention.

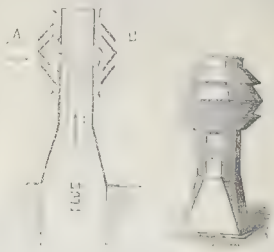
We have asserted on several occasions, and we are inclined to impress the point on professional readers, as one for their serious consideration, that it is hopeless to look for general appreciation of architecture, and therefore for the best art in practice, until the works of architectural art can be *seen*; which these works simply cannot be, so long as the interposed air is clouded with the agglomeration of opaque and dirty particles which we include under the designation, smoke nuisance. It is scarcely worth adding to such a statement of the difficulty under which British architecture labours, that whatever might be worth looking at, is so soon discoloured, and has the interstices of any of its ornaments and mouldings so soon filled up, that it becomes scarcely worthy the labour which may have been bestowed upon it. In the present state of a London atmosphere, even on the average summer's day, an architect who recollects what is the difference of the Continental towns, must be excused if he feel that there is no call for exertion, since he will be unable to answer to and satisfy his own powers and yearnings, or to strike a responsive chord in others. We don't know whether the particular view which we take, has begun to present itself to those who should feel most interested; but there are some inventions in the Exhibition, by architects who essay to meet the chief evil, that of the smoke of house-fires.

Mr. John Billing and Messrs. Benham & Sons, the manufacturers, exhibit the double-draught stove, patented by Mr. Billing, and intended to secure more effectual combustion of the fuel, or smoke-consumption, with the attendant economy, and to allow of regulation of the heat of the fire. A prospectus bearing the manufacturers' names, speaks of the grate as "avoiding smoky chimneys;" but, as something must depend upon construction of a flue, and on other points, such as supply of air, the author's wording of the title of his invention, claiming only the "reducing smoke-annoyances," is probably nearest to accuracy of description. The grate has the ordinary appearance in elevation, excepting that there is a narrow slit in the back, just above the fuel, and that under the mantel, there is a handle, by turning which, a sliding-door to the narrow-opening, and the register-door in the usual place, can be opened or closed at the same time, by the one movement. The portion of the grate forming the back of the fire, is of fire-clay; and it has perpendicular tubular passages, through which, according to the indication on a section which is before us, there would be a current of air from the hearth. The smoke passes in close contact with the ignited fuel, and then over the fire-brick into the slit-opening, when it descends an inch or two, to turn right and left of the grate, and ascend through two small side-flues which turn again into a central channel, corresponding with the brick flue; the whole of what we have described, however, being managed within the height of the grate. By the arrangement described, the smoke is more effectually consumed; and wind in the chimney is obstructed, and its effects prevented. The front or usual draught "being almost closed when the fire is burning," says the account, "but little air is carried with the smoke up the chimney; thus fuel is saved, and draughts of air in the apartment to supply the fire are lessened." The spaces between the bottom bars of the grate, appear to be intended to be opened or closed as may be suited to rapid or slow combustion; but the manner of effecting this is not quite clear even in the grate itself. Little soot is said to be accumulated in the flues; and the whole grate-back can be easily removed for cleaning. Different kinds of fuel can be used. The stove or grate is placed without "setting"; thus whilst loss of heat by conduction is avoided, there are two chambers behind the splays, filled with warm air that can be used in the same apartment or for others adjacent.

Mr. John Taylor, jun., exhibits a different kind of smoke-consuming grate, contrived by him The inventor, regarding mechanical contrivances for the combustion of smoke as liable to failure when left to the care of ordinary servants; recollecting the loss of heat, stated as 75 per cent., up the chimney; observing that the air, from the several crevices of the door and windows, to support combustion, visits the back of any one sitting at the fire, with cold draughts, in proportion to the warmth received in front; and believing that "a frequent cause of smoky chimneys is that the chimney becomes filled with the air from the apartment, which, rushing in above the fire, lowers the temperature, and renders the flue incapable of acting as a sufficiently rarefied ventilating shaft, and often incapable of even conveying away the smoke at all," endeavours to answer the demand for efficient apparatus, by a form of grate in which the smoke, immediately on its escape from above the fire, is drawn downwards on the near side of one chimney-jamb, and then passes under or through the bottom of the fire, whence it rises by the opposite jamb, and passes by an opening similar to that of the register-door into the flue. The two apertures just referred to, which are side by side in a ceiling-plate at the level which would be that of a chimney-bar, can be the one closed and the other opened, at the same time, by turning a handle; so that the smoke may pass in the manner described, or rise in the ordinary way. The fire itself, it should be understood, is raised above the hearth only sufficient to allow space for a shallow ash-drawer; and, excepting the front-bars, the receptacle for the fire is made of fire-clay, which takes the form of hollow-brick at the sides of, and in the haunches of the arch over, the fire; so that, each of the cavities presenting one end towards the apartment, and receiving fresh air derived from the exterior of the building at the other, a supply of warmed air is always passing through apertures in the porcelain tiles, which are designed specially as ornamental covering to the bricks. Should the warmth be in excess, the ordinary register-flap is opened to let the smoke take the course as in an old-fashioned fire-place, as already said. We hear independently of the inventor's assurance, that in certain grates on this principle, which have been used in principal rooms of a house, combustion is so far perfect that the ashes each day are not more than can be removed in the hollow of the hand; and that no more sweeping is necessary than what is done about the grate itself, by an ordinary servant. These grates are manufactured by the General Iron-Foundry Company at prices ranging from 3 to 50 guineas.

As to the different kinds of smoke-consuming grates, it would be well to know how they act in attic-rooms, where the draught is bad, or in rooms where the supply or escape of air is liable to disturbance from neighbouring flues. Neither of the inventors just named, are likely to forget such points; and we do not understand that they are neglecting them by the manner in which their inventions are put forward.

But there are forms of chimney and ventilating cap, in the Exhibition, other than we may have mentioned in speaking of Class 10; and we are not certain that we have discovered the whole of them. Messrs. Benhams & Froud exhibit the "Octagon Chimney-head," which has gained Mr. Billing's recommendation. It is closed at the top; whilst the exit opening is covered by diagonal plates. When the wind blows direct against the chimney, it becomes divided (as shown at A in the cut) into two oblique courses, or one inclining



Octagon Chimney-Head.

upwards and the other downwards, whilst a partial vacuum is produced which can only be supplied by an upward current in the tube; so that we are told, the smoke will find its way out, as shown, on the side towards the quarter whence the wind blows; whilst downward gusts pass between the plates and the perpendicular portion of the head (as at B) without entering the tube. Mr. F. Furness exhibits in Class 10, or near to that class, a chimney-cap used and said to be approved at the Polytechnic Institution. It is closed at the top and partially covered at the sides by a double pent-house capping, divided into four parts on plan, separate and distinct from one another, the bottom edges of the lower tier of coverings being parallel with, and those of the upper tier inclined to, the horizon. Kite's ventilator and chimney top, which may have led the way to some of these inventions, and was illustrated in our pages many years back, will also be found in the class (10) of Building Contrivances. It would be well to have the capabilities certified, of any form which would displace the shapes with which the sky-lines of buildings and the effect of street-architecture, are visited by the hands of chimney-doctors.

The "lobster-back," and similar forms of cowl, at one time, at least in one part of the country where it may be supposed religionary and sectarian bickering had been rife, and impertinence tolerated, were called "Presbyterian parsons"; which peculiar cognomen was at a later date disused, in favour of the term "cabinet ministers", doubtless from some idea that the denizens of the political atmosphere were the more characterized by turning with the wind. But the fact has been discovered that you cannot calculate on the facile gyration of the zinc-manufacturer's contrivance, more than the slander says you can on the stability to tenets or principles. In point of fact, the parallel between the several sorts of "ministers," is not exact as stated. The machinery of either sort is apt to rust with the lapse of time; the oil which lets us past the disturbing grit of life is allowed to dry up; and the head which should be discreetly bent, is obstinately set against the incoming and resistless wind.

Putting some of these considerations together, and impressed with the importance of those doubtless which affected him,—we do not say as a French citizen, but as a Parisian with a proper admiration for works of architecture within his sight,—Mr. le Marquis de Montagu has recently invented a form of chimney-cap, which if it answer as well in every case as it has in that of chimneys on which it has been tried, will leave little to be desired more than its application, to remove or reduce smoke nuisance, and conjointly to realize the non-infliction of eye-sores such as are abundant in Paris as in London. A patent has been obtained for the contrivance, in this country; and the cap itself will be found in the French division of the Exhibition, in one of the northern recesses of the court. The form is so exceedingly simple, that it would scarcely have attracted attention without the opinions which are now before us. The chief of these comes to us from Mr. César Daly, who has taken much pains to ascertain the capabilities of the contrivance, and who also has spoken of it at length in his "Revue." The inventor is further able to quote the conclusion arrived at by Mr. Lefuel, architect of the Louvre, whose testimonial embodies the results of the experience of the Général Fleury, who occupies apartments to the chimneys of which it was applied. The contrivance is called "Cone Préservateur"; it consists, in its

simple form, of a truncated cone as shown in the cut Fig. 1, twice A B its lower diameter in height, and diminishing to H K a third or fourth of the lower diameter; and pierced in half or more of the height, with holes, which should be in diameter a tenth or a fifteenth that of the base, according to the nature of the fuel, and be placed apart at a distance equal to their diameter. A cylindrical portion C fits into the flue. The specimens exhibited are made of sheet-iron, which we believe is preferred to zinc; but stoneware would be equally suitable were the orifices splayed or dished out on the outer side of the cone, in order that the thinnest possible edge would be presented for lodgment of soot. The inventor, in a statement adopted by Mr. Daly, says that by the arrangement of the orifices, the contrivance preserves the chimney from the introduction of air in a state of agitation and facilitates the ascension of smoke. Having reached the cone without obstacle, the smoke, whatever the violence of the wind, escapes easily by the numerous holes, the conical form always depriving the greater number of the lateral orifices, of the action of the wind. In any case, the summit of the cone (which is not closed) allows the smoke its natural course, "facilitated by the contraction" of that opening. We have so far described the more simple form of the contrivance (shown in Fig. 1), that which we may suppose was the original; but when the cones were applied to four chimneys of the Louvre, in January last, additions were made which may be of importance. On the days following that on which the cone we have described was fixed, the number of lateral holes was reduced by covering some of them with contrivances, as lettered M and N, Fig. 2, and called *réducteurs*, having the same form as the perforated cone, but much shorter, and having no perforations. These contrivances are seen in place on the lower portion of the cone, in Fig. 3. The object of their addition was to place the number of smoke-issues *en rapport* with the ascending volume of air supplied to the combustion by each room; the fireplaces not being furnished with a supply of air independent of the room. The want of such harmony between air supplied, and an area of discharge, is according to the inventor the reason why chimneys so often smoke. The air, in effect, as soon as it is agitated, penetrates by orifices which are too large, in the smoke ducts, and thrusts back the smoke into the apartment. It was found, in the case of the chimneys of General Fleury's rooms, that four or five rows of holes, and the upper orifice, sufficed for all the smoke that each fire could produce. The chimneys however being at a lower level than the domes of the palace, they were frequently subject to recoil-currents of wind. To protect the small orifices, a circular disk was therefore fixed in the manner of pent-covering, as at V T in Fig. 3. The certificate of Mr. Lefuel and letter of the Général Fleury are dated after the experience of a month; but a cone had been placed on a different chimney of the palace, at an earlier date, with success; and it replaced with its sixty centimètres of height, a pipe of more than five mètres. The conclusion drawn by the inventor, and adopted as we have said by others, is that such a simple contrivance, say fifty centimètres in height, and very cheap, can be used for chimneys which are the most exposed to irregular action of wind, preferably to the contrivances which are less sightly, and which are expensive and dangerous; whilst a larger portion of the cone could be inserted in the masonry or brickwork, and by other modifications the apparatus could be made harmonious with good art. Danger from fire in a chimney is diminished by the contrivance; and Mr. Daly has remarked that the cone could be easily capped in summer, so as to prevent the access of birds to the flue, whereby in the country there is often danger of fire as well as dirt in rooms.

It would not fall within the scope of the present article to speak of the inventions subservient merely to ventilation. Some of them in Class 10, have been mentioned in our notices of that class There are, however, several ventilating contrivances in parts of the building of which we have given no description in detail, and some of these inventions are applicable to chimneys. Howorth's Patent Revolving Archimedean Screw Ventilator in the Eastern Annex, is of this kind. It much resembles Chadwick's Patent Archimedean Ventilator and Smoke-Conductor, of which, if we mistake not, a cut has appeared in our advertisement pages. The latter has litting-vanes acting as a screw, suspended within a tube or shaft, and centred upon an imperishable substance; these are moved, "without noise" as it is said, by a description of vane, formed of curved blades, so as to have the appearance of a cage, to catch the wind; and rotating, at least when in order, with the slightest breath; so that draught upwards is the necessary result. The chief difference in Mr. Howorth's form is in the extracting screw, which resembles more the Archimedean screw, than does the contrivance in the other invention. This inventor speaks of the internal arrangements for lubrication, by means of which the ventilator will revolve from two to six years; and there is little doubt that with proper attention to replenishing with oil, which would be at long intervals, the apparatus would be found efficient, in ventilation at least. It is shown in the Exhibition with an ornamental case, which could be modified to adapt it to any character of architecture.

It is scarcely possible without drawings, to show the variety of design that there is in the forms of fenders and ash-pans. Sometimes the fenders have a polished bottom plate of about 2 feet in breadth on the hearth; sometimes a fender proper is omitted, and a steel hearth-plate projecting in the form of a semi-circle, on plan, is merely bordered by mouldings above the raised part; sometimes ashes which may have fallen are concealed in the combined fender and ash-pan by upright strips or gills in the polished metal, set across the front hearth; sometimes the same object is attained by polished bars, radiating from a centre, with spaces for the ashes to fall through; sometimes there are arrangements still more novel and difficult to describe. All answer the purpose of combining a tidy appearance of the hearth, with that reflection of the firelight which may give the idea of warmth; and these portions of the design and contrivance of fire-places form what may be regarded and claimed as very satisfactory work of British art, evolved during late years, and we believe mainly without aid from departmental art-schools or schools of design. In other features of fire-places, as the porcelain slabs combined with Mr. Boole's grates, the influence of the schools is discoverable. In a fender shown by one exhibitor, the flat portion of the bottom is formed of coloured tiles. The ornamental enamelling on iron, employed in chimney-pieces as well as grates, by Messrs. H. Crichley & Co., of Birmingham, is a decorative process which is capable of large application, combining beauty with durability. The iron chimney-pieces and grate-fronts of Messrs. Redmayne & Co., deserve attention, but not for their decorative features. One of the chimney-pieces, labelled "This mantel and sham complete is shown as a specimen of casting," certainly justifies one portion of the title as casting.

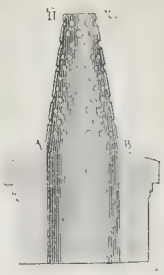


Fig. 1



Fig. 2



Fig. 2

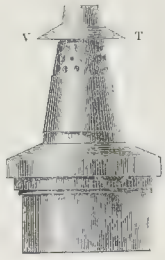


Fig. 3

Chimney-cap, called "Cône Préservateur," invented by Le Marquis de Montagu.

We should have mentioned above, Waller's patent grate, exhibited by Messrs. J. Morton & Son, of Sheffield, which has the fire-clay cheeks fixed on axle-pivots, so that the front of the fire may be increased or diminished, and which has also an arrangement of orifices or tubes in a corbelled portion of the back above the fire, which is believed to help the consumption of smoke.

We have yet to some other of those contrivances which aim at economy of fuel. Messrs. Feetham & Co., and Mr. Pierce, have the valved openings in the spandrels of their grates which indicate a provision for heating by conduction. Mr. Pierce's series of well-devised and cheap fire-lump grates for bed-rooms and cottages, also are shown. If they are not known to every architect, they ought to be. Messrs. Edwards and Son also, exhibit a fire-lump grate, but with fire-bars of wrought-iron instead of the solid bottom. In their grates with the Oxford front, in which porcelain tiles are used with effect, the sides and back, above, as well as forming, the fire-place, are made of the fire-clay.

Open-fire stoves are exhibited by several manufacturers. Messrs. Feetham & Co. exhibit one which would be suitable for the centre of a large public room. It has two fire-places back to back, with descending flues, open-work sides for escape of heat, and a marble-slab top. Their yacht-stoves should be noticed. An open-fire stove for the side of a room is exhibited by Messrs. Robertson & Carr, of Sheffield. Here the polished hearth-plate spreading from the low-placed grate, indicates the importance attached to the heating by radiation. Mr. Pierce's open-fire "pyro-pneumatic" stove is still one of the best arrangements of the terra-cotta or fire-clay material with metallic ornamental outer-casing; air, supplied from outside the building, being warmed in passing through tubes or channels which are formed in the clay. Somewhat resembling this last is Mr. J. Nettleton's stove, which has a damper to the flue. A pattern of stove, with porcelain sides and the ornamentation of the metal-work well treated and combined, which was conspicuous in 1851 and forms one of the subjects of Mr. M. D. Wyatt's book of illustrations of the Exhibition of that year, re-appears in Mr. Hoole's collection.

In the slow-combustion stove of Messrs. Musgrave Brothers, of Belfast, described by them as the nearest approach to heating by hot-water, the material is fire-clay, with an outer gilled or ribbed casing of iron, the whole of which is contained in an ornamental outer-casing of tiles and metal. The stove will hold sufficient fuel for twenty-four hours' consumption. Air is admitted by sliding the ash-pit door to one side; and the ashes are removed by lifting the door, which always falls to its place. Fuel is put in at the top, where there is a sliding cover. The fire-box may be described as an upright tube, of which the top opens to the flue; which last passes down and up again, curving round certain chambers or passages supplied with fresh air, and which communicate with the apartment. Details of the apparatus, as the feeding shovel fitting into the ash-box, so as to serve as ash-pan, display ingenuity. By this stove, it is said an apartment containing 5,000 cubic feet can be heated to 60 degress for twenty-four hours, at a cost of threepence.

The description of heating-apparatus called "gill-stove" is shown under various modified forms. Plates, or gills, closely set edgewise on the outer surface of a small fire-box, form partially-inclosed chambers in which the air is heated, and from which it is disseminated. The gills are applied both to open-fire stoves and to close stoves; and they are either apparent, like the quills of the porcupine, or there is an outer ornamental casing. Messrs. Ritchie, Watson, & Co. of Glasgow; Messrs. Stuart & Smith, of Sheffield, and Messrs. G. Wright & Co. of Burton-Weir, Sheffield, and Rotherham, are the principal exhibitors of these articles in Class 31; but the close stoves, open fire-places, and hot-water apparatus, of the London Warming and Ventilating Company, who exhibit in Class 10, make use of a similar feature. In "the Gurney Stove," made by the company, and used in the Houses of Parliament, the Department of Science

and Art, and several cathedrals, including St. Paul's, the gills radiate from a central cylindrical fire-box; and the whole is placed in a shallow pan containing water; the moisture from which rises between the gills; so that the iron surface gives off not merely heat, but the requisite quantity of vapour; and the air is not "burnt" or over-dried. In the "ventilating fresh-air grate" to be set in an ordinary chimney-opening, and leaving space around the grate or at its sides, there are similar projections or gills; and air being admitted to the grate-chamber or space, from outside the building, becomes warmed, and escapes into the room by openings around the grate or in the usual manner. All the contrivances of this nature, allow of saving in fuel; and if not smoke-consumers to the extent represented, favour the diminished production of smoke. The "steam, or hot-water battery" is an arrangement of the gills surrounding a hot-water or steam-pipe. There are some close stoves exhibited by Messrs. J. M. Stanley & Co. of Sheffield, in which the fire-box is surrounded by tubes set perpendicularly, as air-passages.

It may be well to point out to manufacturers, that great difficulty in describing their inventions, results from their use of the word "stove." Within our recollection, the grates for open fire-places, which are called "stoves," as by Messrs. Benham & Sons in their useful pattern-book, would not have been so designated; but the term would have been confined to stoves in which the fire was not visible. Now, it is very difficult to distinguish by description, between common grates, "open-fire stoves," and what we should regard as stoves proper. Some foreign contrivances of the latter kind may deserve a few words.

The knowledge which we derive from the Exhibition, of heating apparatus in use in foreign counties is small. We have already referred to some of the arrangements in France, both for cooking, and heating; but with little assistance from the objects to be seen in the building at South Kensington. The other foreign divisions of the Exhibition contain few specimens of either kind of apparatus. Those objects which we have been able to find, deserve, however, notice. If we might judge from the chimney-pieces which are exhibited in the Belgian division, grates of English form, wherein radiation is the principle, are getting into use in Belgium. We know, however, that iron stoves, similar in outward form to Arnott's, are largely manufactured and used. In the Swedish department, there are five or six specimens of the porcelain stove of Northern Europe, but merely the outer casing. Each consists of two portions, namely, a base or pedestal to contain the fire, which may be of wood or other fuel, and an upper case, reaching to about 7 feet from the floor, in which the flues are made to pass up and down. By these means, the whole casing may be heated, and will communicate heat to the air of the room. The fire-place is enclosed by iron doors, which are covered, for the sake of appearance, by other doors of thin brass. The porcelain is white glazed, and is made in pieces, say 12 inches by 9 inches, or a convenient size, curved in face when they have to suit a circular plan, and flanged at the back so as to leave in them a deep hollow which is filled with a commoner material. This makes the whole thickness amount to perhaps 3 inches. Some of the stoves have the outer panels filled with looking-glass; though it may be questioned whether glass would stand the heat. The general effect of these stoves is good; but the ornaments want finish and sharpness. One or two of them have been given to the South Kensington Museum. In the Austrian division, in the north-western tower of the building, is a stove-case by F. Erndt, of terra-cotta of different colours, and generally tasteful design, which must be intended for heating on a similar principle; but in the upper part of the design, in this instance, the interior of the plan is shown through the opening of an arch on each of the four sides. The stove is of Viennese manufacture.

Stoves may be found in the Swiss Division; but the more important of them belong to a branch of our subject that is in reserve, or to heating apparatus of the kind adapted to large buildings, or conservatories, a branch wherein we might find much in the British Division of the Exhibition, in classes not named above.

TELEGRAPHIC PROGRESS. — There are some hopes, it is said, that an Atlantic telegraph may, in the course of another year or so, be again laid. The Government vessel employed in taking soundings has returned, and it is stated that a better route for the cable has been discovered.

COLOUR PRINTING.

As from time to time we glance at the examples of pictorial art which, by means of wood-engraving, are put at a very cheap rate into the hands of the poorest classes of the community, it is gratifying to note that the process of printing in colours is improving; and that, by means of wood blocks, and the facilities which even rapid hand-printing affords, very pleasing imitations of good sketches and pictures are issued at a comparatively trifling cost to thousands.

In looking at these productions, it should be borne in mind that it is perhaps not so many as one in each thousand of our population who has had the eye so well educated as to understand the delicate and refined beauties of pictorial art: it is true that the highest efforts of genius, either in architecture, sculpture, or painting, do not fail to impress a large number of even the most ignorant; but many of those who would thus appreciate such works would also feel delight in imitations, which, although effective and surprising -taking into consideration the manner in which they have been produced—would still be crude, and perhaps vulgar, in the eyes of the connoisseur accustomed to the brilliant harmonies, the pearly neutral blendings, and the delicate refinements of Titian, Correggio, Rubens, Claude, and other worthies of the old schools of art; and of Reynolds, Turner, and a numerous body of modern painters. It would seem therefore, notwithstanding the nice objections which may be made, that coloured prints, as now produced, must have a very useful effect in advancing the artistic taste of large numbers of the industrious and even of the middle classes of society. Amongst the works of this description which are most satisfactory is a large coloured print, mentioned by us when it appeared, representing fruit, and gold and silver plate, with a family group in the distance, called "The Burgomaster's Dessert," from a picture by Mr. G. Lance, printed by Mr. Leighton, and issued with the Christmas number of the *Illustrated London News*. The shadow tints of this production are deep and clear, and the rich colours are well expressed, without being overcharged with gaudy hues. When this is framed, and hung in a fair light in humble homes in the metropolis and large towns, or in country cottages, it has much the effect of a carefully finished oil painting; and it should be noted that this print, which would, a quarter of a century or so ago, have been readily sold for a guinea, was to be had, together with the Christmas supplement and journal, for 10d. There are other examples of this art to which we might refer, in order to show its capabilities; for instance, the full-length portraits of the Lord Chancellor, in his scarlet and ermine robe, and the Chairman of the House of Commons, in his gown of gold and rich black tissue: the bright red of the Chancellor's dress, the shadows of the fold, of various strength, until we reach the greatest depths, are shown in a way which gives an idea of the handling of an oil painting: the same may be said of the other subject; and so firm seem the colours, that there is every appearance of their being lasting.

When looking at some of them, and seeing the capabilities which this description of printing evidently has, it may surprise that no attempts have been made, on a sufficiently large scale, to produce copies of some of the most strikingly effective productions of the old masters,—such as Rubens's "Descent from the Cross;" some of the brightest examples of Titian; the picture, by Rembrandt, of "Christ Teaching in the Temple," &c.; and, in our own school, such pictures as Reynolds's "Strawberry Girl;" "The Infant Hercules;" that marvel of effect and colour, "Puck," and others.

In connexion with patterns of embroidery and other fancy needlework, and in various kinds of ornamental printing, as well as illustrations of natural history, this process is coming much into use. In these walks the productions of the Parisians are very brilliant, and are remarkable for neatness and precision, also for harmonious arrangement of colour, and for cheapness. At present, a considerable quantity of this kind of work is executed in the French capital. In certain ways, successful attempts at competition are being made in London.

For some years past, in connexion with mezzotinto, stipple, and line-engraved prints of the better class, the colouring by hand has improved; but if we compare these with the block-printing, there is a solidity about the latter which is a decided advantage. Moreover, the process of hand-colouring is very slow, and is managed in this way:—The person who undertakes the work has usually a wife and a number of children, who take their places around or along a table, each with brushes and a saucer of colour. The father will probably tint the faces and hands of the figures: then the print will be passed to the next, who will put in all the blue that is required; the next the red, and so on with the yellow, green, and other colours. For long, this business has been sadly depressed; for in this case, as it is with other kinds of work which are managed in a similar way, the competition has so much reduced the prices, that in the ordinary descriptions of this kind of labour a man and all his family have great difficulty in obtaining the most miserable subsistence; and the extensive introduction of block colour-printing, as well as the colour printing by stones, has added to the hardships of this class.

The colour block-printing is a complicated process which requires very great care and skillful management. First, it is necessary to have a highly-finished drawing of the appearance which it is desirable for the print to have: next, this must be traced and transferred to a block of box-wood in the same way as is usual in making a preparation for the wood-engraver. Then a bold and very precise outline drawing must be made, which is afterwards to be engraved. A proof of this would have much the appearance of the etchings which are made as the groundwork of mezzotinto and some other styles of engraving. There would be the features of the faces, and the hands, &c. of figures; the hair and other textures of animals; the broken touches of brick and stone work; the delicate branches of trees; and other matters of detail would be shown. Besides this, there would be, perhaps, a dozen other blocks required: one, for instance, will print all the red: the whites, and other colours which cannot be worked in with the red, are obtained by cutting away the block: in the same way the touches of blue, yellow, &c. &c., are obtained. Sometimes the effect of the drawing is produced by printing the yellows, blues, browns, &c., of the reds; and then, with the working of the grey neutral tints, a similar effect to the glazing in oil painting is produced. In the same way the deeper colours are given; but all this is a labour of great time. The parts of the blocks must correspond to a hair's breadth; and the least error in the placing of the paper during the repeated printings would smudge and confuse the work. Then time is required for drying; and yet, notwithstanding all these pains and delays, pictures which have a pleasant appearance on the walls of the homes of the multitude can be obtained at a price within the means of most persons.

Considering the improvements which have taken place in a comparatively short time, we may now look for more refined and artistic prints than have yet been produced.

POTTERY: PERSIAN WARE.

THE forthcoming part (III.) of the Catalogue of the Loan Collection at South Kensington will contain some observations by Mr. J. C. Robinson, F.S.A., on *Persian Ware*; and the opportunity being afforded us of making these public, we gladly do so, in continuation of those notes on various descriptions of pottery which from time to time have been given in our pages:—

This very characteristic and beautiful variety of pottery has, within the last few years (only), become a very favourite category with amateurs and collectors. Of its origin or history we know very little with absolute certainty. The great majority of the specimens have been brought to this country from Italy, where they were preserved as curiosities, mingled and often confounded with the majolica wares and ancient Oriental porcelains, formerly so abundant in the private collections, china-closets, &c., of the old families of that country. The various islands of the Mediterranean, Malta, Rhodes, Corfu, &c., have also latterly yielded many specimens.

The ware, however, is obviously of Oriental origin; and, judging from the marked and very peculiar style of ornamentation, colouring, &c., there can be little doubt that the established names "Persian porcelain," "Faïence de Perse," &c., truly indicate the land of its production. An attempt, however, has been latterly made to assign its origin to a town or district called Lindus, in the island of Rhodes.

The pieces thus anciently scattered over Italy, the Levantine Islands, and many other countries of Europe (England included), were doubtless imported from the East, in all probability by way of Aleppo; and everything tends to show that this peculiar ware was a current article of importation

from the Levant, from a very early period of the Middle Ages even, concurrently with the enamelled glasses, the damascened brass vessels, the rich stuffs, carpets, &c., so familiar to and so highly prized by our forefathers.

The strongly-marked national or local style of art which the ware itself displays, and which whoever is familiar with the rugs, embroideries, painted enamels, and book illustrations of Persia, especially with such productions of ancient (*i.e.*, sixteenth and seventeenth century) origin, will at once recognize as one and the same with that of these well-known productions, would seem, at least in the opinion of the writer, to be irresistibly conclusive as to the Persian origin of the ware.

It has, however, been objected by recent authorities of eminence, Orientalists, and travellers in Persia, that no such wares are now to be found in that country; and this supposed fact, taken in connexion with the comparative abundance of the specimens in the island of Rhodes, has been held as a confirmation of the theory of its Rhodian origin.* This objection, however, is unfounded, as will be shown hereafter; but, if even it were the fact that the Persian ware is no longer to be found in Persia, it would be an argument of no weight against its foreign (*i.e.*, non-Persian) origin; for it is well known that at the present day, as a rule, decorative manufactures of ancient origin have become especially rare in the places of their original production. For instance, the *furore* of late years for the majolica wares of Italy has had the effect of entirely clearing that country of the specimens which twenty years ago abounded in every curiosity shop and old mansion in the country. A more directly parallel case, however, is furnished by the ancient Hispano-Moresco lustred potteries, which we know to have been manufactured in Spain, and to have been a current article of exportation from thence. Now at present these wares are rarely, if ever, found in Spain, whilst they are comparatively abundant in Italy, the principal country to which they were anciently exported. But it is not the fact that Persian ware is no longer found in Persia: on the contrary, there is good evidence that this ware, which it should be observed is entirely *sui generis*, and cannot be confounded with any other pottery, is actually being manufactured there at the present time.

In fact, there can be little doubt that this identical pottery has been uninterruptedly manufactured, with little or no variation as regards the actual "technique" of the manufacture, from a very early period, perhaps even from the antique ages, down to the present day. The permanent collections of the South Kensington Museum contain a series of specimens of Persian wares, undoubtedly produced in Persia within the present century; inasmuch as they were sent to this country as specimens of contemporary manufacture by Sir Gore Ouseley, British envoy to the Persian court, some twenty or thirty years ago; and in the International Exhibition, at the present moment, will be found, amongst a miscellaneous series of pottery wares exhibited in the Turkish division, five or six specimens of undoubtedly modern Persian ware, identical in every technical respect with the ancient specimens in this collection, except in excellence of design, careful fabrication, and preparation of the pâte, glaze, and enamel tints; in which respects they are inferior to the former in degree only.

In reference to the antiquity of this ware, on the other hand, the writer is enabled to offer some reliable data.

Many of the churches of the eleventh and twelfth centuries in Italy, notably in Pisa, Rome, and Bologna, are, it is well known, adorned with concave dishes ("bacili") of enamel glazed pottery of various brilliant colours, let into the walls and campaniles, at great heights from the ground. The writer, in the spring of 1859, being in Italy in company with a friend, Mr. C. D. E. Fortnum, requested this gentleman, whose taste and knowledge in art are well known, on the occasion of his visiting Pisa, to make, if possible, a close examination of the "bacili" in some of the Pisan churches, with a view to determine their origin and "technique." Mr. Fortnum succeeded, with the aid of long ladders, in gaining access to the bacili, placed underneath the cornice of the church of St. Andrea. One of these, of which a portion only remained, struck him very forcibly from its singularly brilliant turquoise colour, different from the rest of the pieces: he was kindly allowed by the authorities of the church to bring away several fragments, which had become detached and had fallen into the cavity of the wall. These fragments were of pure white ware, covered with a brilliant vitreous glaze of turquoise blue colour, on which was painted a conventional floriated diaper pattern in black outline. On showing these specimens to the writer, the latter at once, to his great surprise, recognized them as Persian ware; and on confronting them with a small turquoise bird fountain in the Kensington Museum collection (No. 3,824, Case 22) of modern origin (one of the pieces sent by Sir Gore Ouseley), which is in like manner ornamented with a pattern in black outline; the two were seen to be identical in every essential respect,—the same ware in fact. Moreover, a small turquoise bowl or cup, with its plateau or saucer, also outlined in black, now in the International Exhibition, is of precisely similar style, and is doubtless of quite modern or contemporary manufacture. The church of St. Andrea, at Pisa, is of the eleventh, or (certainly not later than the) twelfth century: the bacili were undoubtedly encrusted at the period of its erection; and the Persian piece in question, there can be no reasonable doubt, was also inserted at the same time.

Nor is there anything very extraordinary in this: the singular permanence of all Oriental styles and processes is well known; and it need, therefore, excite no surprise to find exactly the same kind of pottery manufactured without cessation for 700 years: the patterns and method of fabrication of the Oriental rugs and carpets, in current and daily use in our houses, are often just as venerable in their traditional fixity. Unfortunately no information could be obtained as to the exact place of origin of the Persian ware contributed to the International Exhibition; but from the fact of their being promiscuously mingled amongst a great variety of coarse enamelled earthenwares, all obviously of quite recent fabrication, it is to be presumed that they were purchased, expressly in order to be sent to the Exhibition, at one of the bazaars of Constantinople, Smyrna, or Aleppo.*

It may be presumed, therefore, that as early as the twelfth century, the Pisan adventurers either regularly or exceptionally imported the Persian wares into Italy: in all probability the commerce assumed in later ages a very considerable extension. From the number of pieces still, or till very recently, remaining in Italy, it is obvious that an immense quantity of the ware must, from first to last, have been imported into that country. Several circumstances seem to point to the sixteenth century as the period of the greatest development of this commerce; and to that period the great bulk of the specimens now extant should probably be referred. It has been already intimated that the ware was not unknown in the sixteenth century in this country even: † the two remarkable specimens contributed on this occasion (Nos. 3,280 and 3,281) prove this in a most interesting manner. The former piece is beautifully mounted in ornamental silver work of English manufacture, bearing the London hall-mark of the year 1596; and the latter, from the style of its mounts, was obviously also mounted in this country, at about the same time. At that period Syrian and Persian table-covers, rugs, and carpets were in universal use in this country: they were even manufactured expressly for English noblemen, municipal corporations, &c.; more than one fine specimen being still extant, in which English coats of arms, mottoes, &c., occur, surrounded by the most admirable Persian ornamentation. From the fact of these two fragile specimens having been preserved, and having found their way to this exhibition, it may fairly be inferred, that other specimens of sixteenth century origin are still preserved in this country; and that these Persian wares were, in fact, well known in England in the Elizabethan age. It may here be observed, that the two specimens in question are identical in general style and appearance with the similar unmounted jugs, brought from Italy and the Levantine islands, preserved in so many collections.

Moreover, Chardin, in his "Voyage en Perse," clearly alludes to the Persian ware, then (*circa* 1650) doubtless in the full perfection of its manufacture. The account of this well-known traveller has, however, in the writer's opinion, been misunderstood by writers on the ceramic art, notably by Brongniart, who, though perhaps the first who distinctly described the Persian pottery, in the celebrated "Traité des Arts Céramiques," failed to see that Chardin's so-called porcelain could have been none other than the ware now in question. Chardin states, "on en fait dans toute la Perse, la plus belle se fait à Chiras, capitale de la Perside; à Metched, à Yesd, à Kirman en Ceramanie, et principalement dans le bourg de Zorende." Brongniart remarks, that Chardin's description could only apply to a variety of true porcelain, and not to ordinary faïence or earthenware; and yet he says no specimen of *real porcelain*, produced in Persia, has ever been seen in Europe. Chardin, however, gives the clue in the very terms he uses to describe the ware; he calls it "vaisselle d'émail ou de *faïence*," and says also, "la terre de cette faïence* est d'émail pur, tant en dedans qu'en dehors, comme la porcelaine de la Chine. Elle a le grain tout aussi fin et est aussi transparente," &c. This description, as applied to our Persian ware, is indeed sufficiently correct: to nine out of ten indifferent observers of the present day, indeed, the Persian ware would be immediately supposed to be true porcelain or "china." It is important to note, that Chardin states this ware to have been made everywhere in Persia; but it is very unlikely that real porcelain, which, from the complexity of its composition, and the extensive appliances required for its successful manufacture, could have been so universally produced. The present ware, on the other hand, being a much simpler and less scientific product, like the Italian majolica ware, could have been manufactured by the humblest village potter.

This ware holds in reality an intermediate place betwixt porcelain and earthenware; approximating more nearly to the former than the latter. The pâte or body of the Persian ware is of a brilliant white colour, very soft and friable in texture; being in fact composed of a fine white sand, the minute particles of which are bound or agglomerated together, doubtless, by means of an alkali; which, at the low temperature at which the ware is fired, induces an imperfect fusion, sufficient to bind the mass together: at a higher temperature the ware would most likely be melted into a vitreous mass. The superadded glaze is, in all probability, alkalino-silicious; being, in fact, a transparent, colourless glass or enamel, of singular richness and brilliancy. This glaze, which is unusually thick, binds together and notably strengthens the pieces, which would otherwise be of the most fragile texture. The pâte or body, in its unfired state, must be singularly destitute of plasticity: indeed, the simplicity of the shapes of the pieces, and the entire absence of ornamentation in relief, are proofs of its extreme "shortness" or friability.

The difference betwixt the Persian ware and the various white glazed earthenwares, on the one hand, and true porcelain, on the other, may be briefly stated as follows:—The stanniferous glazed earthenwares are composed of ordinary red or brown clay, or terra cotta, the natural colour of which is concealed by the superadded opaque thick white enamel glaze; whilst true porcelain is a compound substance, the principal chemical elements being silica, alumina, and an alkali, generally combined in natural minerals; the silicious and alkaline minerals being in their nature fusible, whilst the aluminous elements are entirely refractory or infusible: these constituents, therefore, when mixed together as a pâte, and fired at a very high temperature, combine and partially fuse together into a compact semi-vitreous matter. Being

* This theory rests on the authority of Mr. Salzmann, French consul in Rhodes, who asserts that a tradition prevails, that this ware was anciently made at a place called Lindo, in that island. Mr. Salzmann collected an extensive series of specimens in Rhodes, which he has recently disposed of in Paris and London. The greater part of the pieces in this collection, belonging to Mr. Louis Huth, formed part of Mr. Salzmann's acquisitions.

* It may here be objected, that the fact of these pieces having been sent to us by the Turkish Commission, whilst it proves that this ware is still manufactured somewhere or other, also tells in favour of the Rhodian or Turkish theory; for, although it is conceded, that this pottery is not now actually made at Lindus; it is yet maintained that its manufacture was, and probably is, common to all Asia Minor. However this may be, the strongly marked and unmistakably Persian style of decoration of the pieces sent to the International Exhibition is, in the writer's opinion, conclusive as to their Persian origin. He is not, however, prepared absolutely to deny, though he thinks it very unlikely, that wares of similar description may have been made in Asia Minor and in Rhodes; the original Persian "technique," and perhaps also, to some extent, the characteristic style of decoration, having, on this supposition, been imported from Persia and naturalized in those countries.

† In the seventeenth century Oriental porcelain and pottery in general were called in this country "*gumbron*" or "*gombroon*" ware, from a port in the Persian Gulf of that name, opposite to Ormus. At this place the English East India Company formed their establishment, shortly after 1600; and hence was exported the great bulk of the Oriental ceramic wares, which soon became very common in this country. What can be more probable than that the indigenous pottery should have been currently included amongst the Chinese and Japanese porcelain wares, which were undoubtedly warehoused and shipped from this Persian establishment to England?

* The word "faïence" here used, is very expressive, as indicating something really different in its nature from the Chinese porcelain: evidently Chardin was aware that a difference really existed; but, from his entire ignorance of the technique of true porcelain, was unable to specify wherein it actually existed.

of a pure white colour, porcelain has no need of the opaque white enamel glaze of the earthenwares or "*faïences*:" in like manner the substance or "body" of Persian ware,—less dense and compact in texture than true porcelain, though also of pure white colour, because its constituent particles, whilst they are of very similar composition, are in little better than mechanical combination instead of actual chemical union,—also requires a translucent colourless glaze. From what has been now said it will be obvious that the difference betwixt the three varieties of pottery, though radical and most strongly marked, is one of a chemical or internal nature, rather than of a visible or external kind.

The Persian ware is distinguished from every other by the extreme brilliancy and beauty of the enamel colours and metallic lustres with which it is decorated: some of these enamels are as original and peculiar as the body of the ware itself. They are very limited in range, the entire number of simple or radical pigments apparently not exceeding seven.

It may be here observed, that no yellow pigments occur in any of the *ancient* specimens which have fallen under the writer's observation. A brilliant light and opaque orpiment yellow enamel is, however, found on certain specimens of this ware, obviously of comparatively recent origin; probably the eighteenth century.

DISJOINTED NOTES IN THE PALACE OF ART AND INDUSTRY.

It is arranged that the Exhibition will formally close on the 1st of November; but will remain open for another fortnight after that date, at a higher price of admission, in order to afford the exhibitors in the Industrial Department an opportunity of selling their goods. The commissioners having received 400,000*l.*, the contractors are now entitled to receive up to a further sum of 100,000*l.* beyond the 200,000*l.* already paid to them. As the time that has yet to elapse cannot be expected to supply more than 100,000*l.*, even if so much; and the expenditure has been, it is understood, beyond the 400,000*l.* received; the guarantors would have to make up a deficiency: but the contractors, it seems, have undertaken to supply it; in other words, to allow all the expenses to be defrayed before they begin to take the proceeds of the Exhibition. If they receive the additional 100,000*l.*, then, according to the original agreement, the centre area of the picture galleries is to be left for the Society of Arts. Let what will occur, it is quite certain the metropolis will not be willing to lose these fine galleries: it will be time enough, however, to discuss the steps that should be taken to preserve them when the actual results of the Exhibition, in a pecuniary point of view, are known.

The similarity in the number of visitors here day after day is surely very remarkable, though noticeable elsewhere also. Why, instead of being uniformly fifty and odd thousands per day for four days of the week, do we not sometimes find it 70,000 one day and 30,000 the next, and so on? In like manner, at the South Kensington Museum, sometime ago, the visitors regularly numbered about 10,000 per week, week after week. Since the new courts of the International Exhibition have been open, the visitors have numbered just as uniformly thirty and odd thousands per week. Perhaps Mr. de Morgan, or some other calculator of chances, will give us his views of the subject?

The newspapers have spoken of the struggle between two would-be purchasers for possession of Magni's statue, "The Reading Girl," and the ultimate triumph of a London firm. The real state of the case, however, we are told, is, that the sculptor has sold it four times over, intending to supply "repeats." This is by no means an uncommon act, and implies no breach of faith, we believe, on the part of the sculptor; nevertheless, we must own to a very strong feeling against the practice.

Mr. Story has sold both his fine statues in the Roman Court, "Cleopatra," and "The Sibyl," for very large prices.

The Doccia Porcelain, which makes a considerable show near the last-named court, is remarkable, not alone for the excellence of some of the specimens, but as the produce of a manufactory founded in 1735 at Doccia, in Tuscany, by the Marquis Carlo Ginori, and kept on to this day by members of his family. Carlo Ginori did many excellent things, including endeavours to drain the marshes of the plain of Bibbona and of Cinquantina. In his porcelain factory he took to his aid a chemist, Carlo Wandhelein, and a botanical gardener. His son, Lorenzo Ginori, increased the establishment; and from that time to this it has been carried on with vigour. A succeeding marquis, Carlo, after having enlarged the building in which the manufacture was carried on, erected a large hall, in order to place in it a collection, formed by him, of models of the most esteemed ancient and modern sculpture; and he fostered in every way the study of drawing and of painting; so that, in its ornament and embellishments, the Doccia porcelain might exhibit the characteristics of true Italian workmanship. To secure still more rapidly this desirable end, he established, at his own expense, in the manufactory, both a free school of elementary instruction and a school of the arts of design, for the sons of the workmen.

Moreover, as soon as a savings bank was established in Florence, he hastened to deposit in the same a large sum, in the name of the workmen of the manufactory, whom he had formed into a society for mutual aid; so that if any workman, in case of sickness, was prevented from pursuing his avocation, he might receive a daily allowance from this common fund, intended to relieve misfortune, and formed with the savings of these hard-working men, with the fines established in the manufactory for certain petty faults, and, in a considerable degree, with the generous contributions of the Ginori family.

These excellent provisions, and others of a similar character, all intended not only to support the daily existence of the artisan, but to improve as far as possible his condition, justly earned for Carlo Ginori the title of Tuscany's benefactor.

The present proprietor has done much in the same direction, and notably in making arrangements to lessen the danger to the men employed, by removing the miasma of the evaporations, and lessening the extreme heat of the rooms. The works exhibited are very varied, and in some of the branches excellent. The figure modelling, as, for example, in the large vases covered with nymphs and tritons, is very good, and some of the majolica ware is well painted. We have probably said enough to show that the establishment at Doccia is an industrial institution deserving notice.

Leoni's Adamas.—In connexion with porcelains we may mention the material patented as Adamas, and used as a substitute for metal, in the shape of gas-burner nibs, machine bearings, and wine and beer taps. It is a silicious composition, free from liability to corrode or oxidate, and is not affected by heat. If the testimonials are to be believed, it justifies all that is claimed for it. Specimens, to which a medal has been awarded, will be found in Class 31.

Electric Bells.—In the gallery of the French Court (No. 1402), Prudhomme's arrangement of electric bells should be looked at, applicable as well to private dwellings as to club-houses, hotels, hospitals, and all places where the necessity exists for a prompt, easy, and correct mode of communication; and also, if necessary, an instantaneous reply. We have examined it, and find the apparatus is, in its construction, simple, and free from the chance of derangement. The battery is continuous, requiring to be replenished but once (and at only a nominal cost) in twelve months. The wires are very small; and, being covered with silk or cotton of any desired colour, can as easily be applied to the walls of a furnished apartment as to those of a house in course of erection; since, by using wire of the same colour as the decorations, it becomes practically invisible. And we may add, as another important feature in the arrangement of the electric bells, that neither distance nor the necessity for carrying the wires by a circuitous route presents the slightest difficulty. Some have been fitted up in Windsor Castle and elsewhere successfully. The cost, where more than ten pulls are required, is not more than that of ordinary bells would be. The battery is supplied with sulphate of lead and salted water. Without difficulty the arrangement might be made to serve as a domestic telegraph with a considerable range of power. Messrs. J. B. Newall & Co., of Sloane-street, are the agents for this country.

Insects that are Hurtful.—In the gallery of the same court, near the model of a gymnasium for ladies, there is a singularly interesting collection of insects hurtful to vegetation and to animals. It is the collection used for agricultural instruction in the Institute of the *Frères* of Beauvais. It includes the eggs, maggots, caterpillars, worms, flies, butterflies, &c., with specimens of the roots, grain, and woods on which they commit ravages; while another case contains the eggs of birds that destroy the hurtful insects,—the whole very suggestive and valuable. A little book of large worth might be written on this collection.

FIRES.

It is difficult, when looking at the "workhouses," on the old-fashioned plan, in which thousands of the poor reside, to prevent thoughts of the scenes which are within. There are the large but close and ill-ventilated lying-in wards, in which unfortunate children of unfortunate mothers see the first dawn of their miserable lives; and infirmaries filled with bedridden and sickly men and women. In one part are aged paupers, some of whom have buried all friends, and lost all hope; who lie waiting for death. Here are persons helpless in consequence of rheumatism, paralysis, or unfit to labour for their bread in consequence of accidents. There are also the blind and the idiotic, the consumptive, and those who, stricken with disease, are still not without hope of being restored to future usefulness. These lie close together—side by side.

Besides, there are the dormitories, filled at night with adults, and the nurseries with children: there are also the nurses and other officials of these vast establishments. Considering the dense population of these houses; and recollecting the rapidity with which flames spread in buildings of this description, it will be seen how terrible must be the alarm of fire in such situations. In most of these places there are no efficient arrangements for the suppression of fire: everything is left to the chance of the arrival of the engines, and the meeting with a sufficient supply of water from the street mains. In several the means of exit are quite insufficient in case of accident. Take the Clerkenwell workhouse, in Coppice-row, as an example. In the event of a sudden fire here, how would it be possible to save a large part of the inmates?

The fire which has destroyed the lives of so many little children in the Liverpool workhouse shows the necessity of improvements in such establishments. The cause of this calamity has not been explained satisfactorily. The various wards appear to have been locked, so that escape was impossible; and there seems to have been no kind of organized plan for resisting the attack of the fiery enemy. From all reliable accounts, it is evident that, irrespective of this accident, the place was quite unfit for the purpose to which it was applied.

The guardians of parishes should look to the condition of their workhouses, and see what arrangements can be best made to save life in the case of an outbreak of fire, and to extinguish a fire independently of the engines. In the General Post-office, in some other buildings and large manufactories, and in most of the London theatres, well-trained firemen are kept in attendance night and day. Something of the same kind should be arranged in connexion with our workhouses so long as they remain mere piles for burning; and what we have said respecting the workhouses would also apply to some of the metropolitan hospitals, and hospitals and infirmaries in provincial towns.

A clear-headed friend of ours often says, with reference to fire in private residences, "Don't over-fasten: better even to be robbed than burnt;" and the recent disaster in Cumberland-street, Hyde Park, gives force to the observation. But for the elaborate fastening of the street-door, the unhappy victims of that calamity would have walked into safety without the slightest difficulty.

THE WILLOW PATTERN PLATE.

The demand which there has been, for a considerable period, for earthenware ornamented with this pattern has been enormous. We have no means of getting any satisfactory statistics, but it is certain that thousands of pieces for table use, decorated in this kind of Anglo-Chinese taste, have long been manufactured and sold yearly.

In the houses of the higher and middle classes; in the houses of artists and persons of taste, as well as of those who are destitute of accomplishment; and in humble dwellings, the pottery with the willow pattern was at one time to be found in very extensive use; and it is worth while to consider the cause of this design meeting with such extensive favour. In the first instance, it cannot be truly said that the pattern possesses any claim to consideration for any intellectual qualities which are shown in the pictorial features of the design. There are the steep Chinese bridges; the tall, many-storied towers; the peculiar foliage; distant bill; water; and the usual number of stiff ill-drawn figures; the whole having an artificial appearance which we cannot fairly compare with nature, or test by the acknowledged rules or principles of art: this forms the central portion; and

round the edge runs a neat arabesque Chinese pattern. Without entering into any minute criticism, it may be remarked that the general appearance is clear looking, and the contrast of the blue and white colours is also agreeable to the eye: besides, at the time of the introduction of this description of ware everything Chinese, even to the pig-tails, was a raging fashion.

In considering this subject, we may glance at the other kinds of table pottery which there was then in the market, to be bought for a reasonable price. A movement had been made for the improvement of English porcelain, and the best descriptions of earthenware; but, in other respects, pictorial art, in connexion with the ware required for general use, was extremely inferior. There were jugs, and wash-hand basins, coloured with dashes done on at random from brushes, &c. The engravings of English figure and landscape subjects which were transferred, and more or less tinted, by boys, girls, and women, who were wholly without art-education, were barbarous in the extreme; and when we think of these, it is not to be wondered at that, besides the prevailing fashion, the contrast of the plates and dishes of the willow pattern with the plain common white ones, and those disfigured by the attempts at ornamentation to which we have referred, should have brought them largely into use; and then, when anything is once well established,—whether it be a gas-lamp, a pewter ale-pot, an omnibus, a locomotive, or fifty other matters that might be mentioned,—the very familiarity and constant view of the objects cause them to be accepted by the great masses of the multitude, without much consideration as regards their artistic beauties or defects.

With a general improvement in the design of the middling descriptions of English pottery—and likewise an advance in the general taste—other designs have become common, and the willow pattern has in proportion declined. Notwithstanding that there are many more tasteful and better designs for both the middling and common kinds of earthenware, much of it is very bad. Here, for instance, is a blue and white dish: round the border are large flowers—not like any thing to be met with in the fields or gardens: it is difficult to conceive any thing more incongruous than the leaves and buds which are here displayed. In the foreground are two men, stiff and very ill drawn; and some stiff posts, and a square boat upon the shore which could not possibly float with one of the men: further in the water there is another boat, with two figures in it; then appear an impossible-looking bridge, and an island with trees upon it, the foliage of which is in formal semicircles, and looks like piles of cannon-balls or turnips: a cottage, some more trees, a gentleman's house, and a church complete the facetious picture.

When we look around and see the number of clever landscape-painters who would be willing, at a moderate cost, to make drawings for these purposes; and know how well they might be engraved, also, for no great sum; and that, when once the design has been furnished, and the plate for printing from engraved, the cost of production is small; it seems really wonderful that in these days such objectionable patterns should be made; or that, when done, they should find buyers.

THE DEATH-RATE AT HEALTH RESORTS.

THE last report of the Registrar-General contains a table of the deaths in every sub-district of England and Wales in the ten years 1851-1860,—that is to say, in the smallest divisions of which an account is furnished. This table shows that in the entire district of the Isle of Wight in those ten years the deaths averaged no more than 17·1 a year to every thousand persons living: in the sub-district of Godshill, comprising Ventnor, &c., the death-rate was only 15·4. At Torquay the death-rate was 17·1 in the thousand; in Broadwater, Worthing, and Lancing, not quite 17·2; in Eastbourne, Seaford, &c., 17·3; in Clifton not quite 17·6; in the district of Hastings, St. Leonard's, and Ore, nearly 18·3; in the sub-district of Tonbridge Wells and Speldhurst, 18·7; Ramsgate and Broadstairs, 19; Leamington, 19; in the district of Cheltenham, with Charlton Kings, 19; in the sub-district of Weymouth, 20·1. At Bath (the entire district), Brighton, and Scarborough, the mortality was 22 in a thousand; Whitby, 22·1; Margate, 22·3. But the sub-districts of Scarborough and Whitby are marked in the returns as having a workhouse of the entire union; and, on the other hand, the sub-districts first named, with the exception of Eastbourne and Weymouth, possess the advantage of not having a workhouse of the union within its limits; a circumstance which, of course, affects the returns. The death-rate for all England was 22·2 in a thousand.

These reports lead to inquiry, and induce sanitary measures. The difference between Ventnor, 15·4 in the thousand, and Margate, 22·3, is striking; and has, of course, produced an unpleasant feeling in Margate. We have made no personal examination of the sanitary condition of Margate; but there is one thing which it is due to the inhabitants of this favourite place of resort for Londoners to notice. We have before remarked that now, when those living in a district or locality are beginning to take an interest in the health reports of their respective neighbourhoods, the returns should be given in a way that will admit of no cavil. Take Islington, for instance, in which the London Fever Hospital is situate, where frequently happen several hundreds of deaths in the year. These cases are brought from all parts of the metropolis; and it would, therefore, be unjust that this parish should have its health character damaged by an excessive mortality, which is chiefly caused by the sanitary neglect of other places.

As regards Margate, it is noted that there are the Royal National Hospital and the metropolitan establishments of Mr. Wheatley and Mr. Ferrey. The hospital contains 250 beds; and, during the year 1861, 718 sick were treated as in-patients, many of whom were sent down from London and all parts of England, in the last stages of disease. The other establishments are filled with sick patients from the London workhouses. It would be but fair to take the deaths which happened in these places, and deduct them from the number of deaths which took place in the town. Those figures might be easily obtained; and it would be to the advantage of Margate to make the facts known to the public.

Admirable as are the arrangements of the Registrar General's office, some change would seem to be required in the manner of reporting hospital deaths.

VICTORIA.

SOME useful works relative to the thriving colony of Victoria have been recently issued.* The volume prepared by the local Registrar-General is a comprehensive statistical one as to population, acreage, produce, trade, and various other aspects of Victorian progress, chiefly agricultural. The Prize Essays comprise four treatises;—1st. On the Collection and Storage of Water in Victoria; by Fred. Acheson, C.E.;—2nd. On the Agriculture of Victoria, its Climate, Geology, and Soils; by William Story;—3rd. On the Origin and Distribution of Gold in Quartz Veins; by Henry Rosales, M. & C.E.;—and 4th. On the Manufactures more immediately required for the economical development of the Resources of the Colony; by Charles Mayes, C.E. The pamphlet by Mr. Knight contains some interesting statistical information as to public improvements and buildings, labour, trade, population, &c.

From these works, but especially from the last, we glean a few statistical and other details.

In 1836, the census of Port Phillip, now called Victoria, gave the following returns:—Males, 142; females, 35; total, 177. At that time, and up to 1851, Port Phillip was a province of New South Wales. The population of the latter in 1836 was 77,096. In 1851, Victoria was separated from New South Wales, and started as an independent colony, with 77,345 inhabitants. The population of the adjoining and parent colony was at that time 197,168 persons, or 119,823 more than Victoria.

Since 1851, the increase of population in Victoria has been unprecedented in the annals of British colonies. In 1861, the census enumeration gave the following numbers:—Males, 328,651; females, 211,671; total, 540,322 persons, or 189,462 more than New South Wales. In 1861, the population of the Australian colonies was enumerated as follows:—

Victoria	540,322
New South Wales	350,860
South Australia	128,000
Queensland	30,059
Western Australia	16,000
Tasmania	89,977
Total	1,155,218

Of persons engaged in literature, fine arts, and sciences, the census, under "Class III.—Professional," gives the following:—

Sub-Class 1.	Teachers, schoolmasters, professors, music masters, inspectors of schools, &c.	893
,, 2.	Architects, civil engineers, surveyors (land), draughtsmen, &c.	419
,, 3.	Other professions—authors, editors, photographers, musicians, &c.	957

And of persons engaged in art and mechanical productions, and in working and dealing in mineral, vegetable, and animal matters, the following, under "Class VI.—Manufacturing":—

Sub-Class 1.	Contractors (branch undefined)	374
,, 2.	Overseers (branch of labour undefined)	123
,, 3.	Masons, bricklayers, slaters, hodmen, stucco-men, &c.	4,625
,, 4.	Quarrymen, brickmakers, road and railway labourers, &c.	6,150
,, 5.	Blacksmiths, whitesmiths, founders, mechanical engineers, &c.	4,703
,, 6.	Builders, carpenters, building surveyors, timber merchants, &c.	10,247
,, 7.	Cabinet-makers, furniture dealers, carvers and gilders, turners, &c.	1,215
,, 8.	Coach and cart makers, wheelwrights, implement makers, &c.	2,929
,, 9.	Other artisans and mechanics, printers, bookbinders, coopers, &c.	4,122
,, 10.	Tanners, fellmongers, soapboilers, wool-sorters, charcoal-burners, &c.	763

On the subject of public improvements we find the following in Mr. Knight's pamphlet:—

Amount expended on public works (exclusive of railways) during the last nine years	£4,211,753
Ditto on public roads and bridges from January 1851 to December 1861	5,272,620
Cost of constructing the Government lines of railway to Geelong, Ballarat, and the River Murray (in all 219 miles)	828,233
Amount expended on public works (exclusive of railways, roads, and bridges) for ten years ending December 31, 1860	3,391,753
Amount expended on public roads and bridges from January, 1851, to December, 1861	5,272,620
Cost of constructing the Government lines of railway to Geelong, Ballarat, and the River Murray—in all 219 miles	7,828,233
Cost of constructing suburban railways undertaken by private companies—26½ miles	1,154,505
Lines of electric telegraph—1,504 miles	163,000

There are 600 miles of main road formed and metalled, and 500 miles cleared. These are independent of the roads within the jurisdiction of the various townships and municipalities.

There are 884 places of public worship, with accommodation for 150,000 persons. There are 665 public schools, having 46,687 scholars, and receiving Government aid to the amount of 110,155*l.* per annum. There are 221 private schools, with 4,981 scholars.

The Melbourne University has 104 students, and confers degrees, which, by the pleasure of Her Majesty, are equal in rank and consideration with the universities of Great Britain. The Public Library contains 30,000 volumes, and is attended on an average by 485 readers daily. The Museum of Arts, recently opened, has been visited on an average by 200 persons daily.

The number of hospitals, benevolent institutions, and asylums (there are no workhouses), in Victoria is thirty, receiving Government aid to the amount of 90,894*l.*, and private contributions amounting to 53,718*l.* per annum.

In 1860 there were ten savings banks, having 11,349 depositors, with a total balance of 540,622*l.*; equal to an average of 47*l.* 12*s.* 9*d.* per head.

The following prices are now being paid for labour in Victoria. The rates are much lower than formerly, but the cost of living, rent, and clothing are all proportionately cheaper:—

Carpenters, bricklayers, and plasterers, 8*s.* to 10*s.* per day of eight hours; masons and smiths, 10*s.* to 12*s.*; pick and shovel men, 7*s.* to 8*s.*; ploughmen, 20*s.* per week, with board and lodging; farm labourers, 15*s.* per week, with board and lodging; married couples without families, 60*l.* per annum, with board and lodging; gardeners, 40*l.* to 50*l.* a year, with ditto; men cooks for farms and stations, 20*s.* to 25*s.* per week; shepherds, 30*l.* a year; cooks for hotels, 30*s.* to 2*l.* per week; female cooks, 35*l.* to 50*l.* a year; housemaids, 30*l.* a year; good general servants, 30*l.* to 35*l.* a year. Where rations are given on stations and farms the supply per week is as follows:—16 lb. of flour, 10 lb. of beef or mutton, 2 lbs. of sugar, ¼ lb. of tea per week.

* "Statistical Notes of the Progress of Victoria, from the Foundation of the Colony (1835—1860). First Series: Parts 1 & 2. By W. H. Archer, Registrar-General of Victoria. By Authority: J. Ferrers, Government Printer, Melbourne."

"The Victorian Government Prize Essays, 1859. By Authority: J. Ferrers, Government Printer, Melbourne."

"A Few Particulars Supplementary to the Catalogue of the Products of the Colony of Victoria, Australia. Compiled by J. G. Knight, Secretary for Victoria in the International Exhibition of 1862. London: Printed by Harrison & Sons, St. Martin's-lane, 1862."

ON "SQUARING THE CIRCLE."

A CORRESPONDENT from the north writes to assure us that he has discovered how "to square the circle," and that he will communicate his discovery for 100*l*. About once a month, indeed, during the year, we get a letter on this same subject, from men who have been wasting their time on the problem. It may save trouble to many if they will read what Lieut-General T. Perronet Thompson has made public on the subject, and therefore we now print it:—

An idea has got abroad in the days of ignorance, that there was some peculiar mystery about what it was chosen to call the "squaring of the circle;" and somebody is understood to have published a half-guinea book, to say he has found it out. The terms used, imply the finding of a square which shall be equal to a given circle; but the real thing at issue is finding the length of tire to a wheel of given spoke. It pleased somebody or other to set on foot the idea that there was some peculiar difficulty about this question which is constantly presented to every man connected with machinery.

Not that the thing was what man was born to the knowledge of, or to be understood without some expenditure of thought. Solomon had come no nearer to it, than that the tire of the wheel was three times the breadth. His estimate for a diameter of ten cubits was out by nearly a cubit and a half. A modern wheelwright would not make his salt who did not come nearer than that.

But the notion that there was any peculiar mystery about the thing, or anything but what happened in millions upon millions of other cases, was simply one of those mistakes into which ignorance has a talent for running. The proportion of the circumference of the wheel to the diameter was simply one of the instances of which the world is full, of proportions which you may go on writing nearer and nearer to exactness, at every figure you add, and never come to an end. Instead of being a rarity, it is as plentiful as fleas in harvest. In fact, you might almost come to the conclusion that it was commoner than the opposite. Mathematicians, whose business it is to write such things, have given to such quantities the name of *incommensurables*.

Some people may be as much surprised as the man in the French comedy, who is told he had been speaking prose all his life, on hearing that the world they have been living in has always been choke full of incommensurables. The simplest case that can be put is to go to the village schoolmaster or his first-class boys, and ask for the square root of 5. (Any number multiplied by itself is called its *square*, and the number that being so multiplied makes the square, is called the *square root*.) They will directly tell you, figure after figure, each coming nearer to being exact; but it is plain that if they were to go on, all the world would not contain them. It is within the reach of every schoolboy, that all the figures in the world could not write down a number, with ever so long a tail of decimals, which multiplied by itself should make 5. You may come as near as you like, and who wants to be nearer? But you cannot write down the whole, because it is not to be written. For, first, it is plain to a school boy, that no number ending with a figure of decimals, multiplied by itself can make 5; because, to go no farther, the last figure multiplied by itself can never make a 0. Secondly, no vulgar fraction can express it; because any vulgar fraction in its lowest terms, multiplied by itself, will be another fraction in its lowest terms, and therefore cannot by possibility be equal to 5. Thirdly and lastly, no recurring decimal can be the thing, because every recurring decimal can be expressed by a vulgar fraction, by a proper introduction of *nines* in the denominator. All these are no mysteries to the village schoolmaster nor to his first class. And what is true of 5, is true of all other numbers which do not happen to be what are called square numbers; that is to say, the numbers to be made by taking the square of 2, 3, 4, 5, &c., and so on without limit.

So here at once is an army of incommensurables able to satisfy the most capacious appetite. Add to which, that the sum of the squares of any two numbers is incommensurable with both the numbers, except in the rare cases where it chances to be what has been called a square number. So that the diagonal or cross-corners of every pane of glass a man sees, is incommensurable with either of the sides, unless where the sides happen to be in the proportion of 3 to 4. What pity men did not go down to their graves, lamenting that they were puzzled to death with incommensurables. Logarithms, to which all sailors and ready-reckoners are indebted, are all, except those of 10, 100, &c., incommensurables; but if they were extended in trains of figures of a mile long, who would be better or worse? Why is one instance among infinity selected to make a mare's nest of?

If it is asked, what, after all, is the proportion between the diameter of a wheel and the circumference, it is as 1 to 3·14159, &c., &c, to as many figures of decimals as anybody shall think it worth while to discover and add. But as in the case of the square root of 5, coming to the end,—No. As the Irish sailor said of the rope, the end is cut off. It is not quite as easy to add figure to figure as in the case of the square root of 5; but the conclusion is the same. The figures, as far as the 100th place of decimals, may be seen in "Young's Elements af Geometry;" and for those who are not content, there is promise of thirty or forty more. If a man was anxious to know the circumference of the orbit of the remotest of the planets to a hair's breadth in proportion to the diameter, less than 20 figures of this would give it. The simplest proportion for common purposes is as 7 to 22. The next, which there is very seldom occasion to go beyond, is as 113 to 355. On which may be given a useful piece of what is called "artificial memory." The ablest man it was ever my chance to know, Professor of Mathematics in the University of Cambridge, wanted this proportion one day, and was observed to be fidgeting with a pen and a piece of paper. At last he broke out, "There it is, sir! Write down the three first odd figures by pairs, and cut them in two! 113|355." I remember telling this to the driver of a French cabriolet on the Pont Neuf, to his great delight. He will never forget it; nor should any working man to whom it may be ever likely to be of use.

THE DUKE OF NORTHUMBERLAND'S NEW CHURCHES.

SINCE the commencement of the present month the Lord Bishop of Durham has laid the foundation-stones of three new churches, of which the sites and foundations are given by the Duke of Northumberland. These are situate at Percy Main, Whitley, and North Shields. Within the same period the Bishop has also consecrated two new churches,—one at Acklington, the other at South Charlton,—which have been wholly built at the cost of the same nobleman. The church of St. John, of Acklington, was consecrated on the 10th instant, in the presence of a large congregation, including the Duke and Duchess of Northumberland. It is built in the Early English style; and consists of nave, with north and south aisles, a chancel, north and south porches, and a vestry. A parsonage-house is also completed; and the village generally improved with the reparation of old cottages and the building of new. The first step to this end was taken ten years ago in the erection of a new school. The church at South Charlton was consecrated on the 11th instant. Both church and parsonage, as well as those at Acklington, and the picturesque cottages there, are built from the designs of Mr. James Deason, architect.

INAUGURATION OF ST. MARY'S TOWER, TAUNTON.

THE tower of St. Mary Magdalene's Church, at Taunton, has been inaugurated in the midst of local rejoicings and holiday ceremonial, triumphal arches, and other street decorations.

The tower has been three years in rebuilding by Mr. Davis, the contractor, and from the plans and under the superintendence of Mr. Scott and Mr. Ferrey, the architects.

Having on more than one occasion spoken of this tower and its history, all we need now do is to state a few particulars of the rebuilding, which has been effected, it is stated, in accordance with the original design. The style is Decorated, and the form quadrangular. Its height, from the base to the summit of the pinnacles, is 155 feet 7 inches. The tower is divided, from the top to bottom, into three compartments, by two rows of quatrefoils; and the middle compartment is subdivided into two divisions by another row of quatrefoils. The large western window is divided by four mullions into five lights, the upper part being ramified into hexagonal tracery. This window has been glazed with Hartley's cathedral glass, which is of a subdued green tint. Probably at some future time a painted glass window, corresponding to that at the eastern end of the church, may be substituted for it. A memorial window to the late Prince Consort has been suggested. There are six mock windows on each side of the tower, under Pointed arches, and with hexagonal tracery: these windows are composed throughout of stone quatrefoils. The buttresses terminate at the windows of the belfry in quadrangular prisms; the finials ending in a point with crockets at the angles. The battlements are formed of open tabernacle work, and terminate at the corners in the pinnacles. The screen placed at the entrance of the nave on the restoration of the church under Dr. Cottle has been replaced.

In taking down the old tower, which was generally understood to have been built of stone procured either at Norton or Bradford, which forms one variety of the new red sandstone group, large masses of granite, supposed to have been raised from the quarries at Hestercombe, were found in the interior of the walls; and, being a very hard and valuable stone, it has been wrought and employed as far as it would go in facing the tower. At the commencement of the work some difficulty was experienced in obtaining stone for the exterior of a corresponding character; but eventually the remainder was obtained at Williton, from the quarries of Sir Alexander Hood, Bart., M.P., by whom the stone has been given. The interior of the walls consists of Monkton ragstone. The only ornamental portions which have been preserved and replaced are the groined ceiling, of fan tracery; the carved spandrels; and the copper vanes Eleven figures, cut by Mr. Boulton, of Worcester have been placed in the niches of the tower: these statues, as before stated, include the Four Evangelists, St. Peter, St. Paul, St. Mary Magdalene, and Saints Andrew, James, George, and Michael. There are eight bells, by Mears, in the tower.

TRACES OF ANCIENT BRITISH TOWNS UPON THE CHEVIOTS.

A FEW weeks ago we mentioned a visit paid to some of the ancient remains in the county of Northumberland.* We have recently had an opportunity of viewing a number of drawings of these antiquities, by Mr. J. Wykeham Archer; being a yearly contribution to a collection which this artist is commissioned to make for the Duke of Northumberland, who has for years past shown a most praiseworthy spirit in gathering together records of the remains of past times which are so thickly strewn over this county.

In Northumberland we meet with evidences of the Scandinavian occupation; great works by the Romans; examples of the architecture of the Anglo-Saxons, Normans, and some choice, though not very extensive, buildings of Middle-Age date. But, besides all these, Mr. Archer has found amongst the wild and now solitary heights of the Cheviots, on the Yeavering Bell, a lofty conical mountain; and in some other situations, numerous remains of a date far older than those to which we have referred.

In those places, now so desolate, evidences are met with of a large population which once dwelt there, the very memory of which has passed away. On the top of the hills there are immense "cairns," the stones that compose them being so large that it seems a wonder how they have been carried up those steeps to such a lofty situation. On other parts of those hills, at the height of far more than 1,000 feet above the sea, are the ruins of Celtic towns of considerable extent, that have been defended by walls and gate-towers of massive strength, and approached by covered military roads, which may be seen for miles stretching across the hills.

In these drawings we see, delineated with the most minute care, the circular foundations of houses of a far larger size than the dwellings of this remote period have been generally thought to have. There are curious examples of cyclopean masonry. The facing-stones of the walls, &c., are placed together with considerable skill; but neither mortar nor cement has been used. Between these facings is rubble-work.

The short heather, the red and yellow hues of the stonework, the deep grey and purple hills over which pass the shadows and sunshine, and the wild rolling clouds which move over these impressive and ancient scenes, as shown in the sketches, tempt us to shoulder our knapsack and, with staff and sketch-book in hand, start from the town to gather health amongst the hills, and study those memorials which throw a gleam of light upon what has for long been a dreamy and indistinct page of British history.

* See p. 619.



ST. PAUL'S, SOUTHPORT, LANCASHIRE.

ST. PAUL'S CHURCH, Southport, represented by the accompanying engraving, is approaching completion. It is in the Decorated style, and is erected with Burnley parpoint facing and Hoghton ashlar stone dressings externally; the inside walls being built of bricks. It is cruciform on plan, with nave, aisles, transepts, and chancel, the last having north aisle as chapel, and south aisle as vestry and organ-loft. Contiguous to the vestry will be provided a room for the convenience of the choir. The dimensions of the church are as follow:—Nave, total length from east to west, 88 feet 6 inches; width across transepts, 72 feet; chancel, east to west, 32 feet 6 inches; width, 24 feet; aisles to same, 18 feet 6 inches long, and 15 feet 3 inches wide. The tower with spire, which is a noticeable feature approaching from Lord-street, will be 132 feet high to the top of finial, and serves as north porch, whilst a south porch is placed at the west end of south aisle of nave: other porches are provided at the east end of the building, to ensure easy access and egress to the congregation in the vicinity of the transepts; and are also intended to be used as entrances to galleries, which can be added to the transepts if required.

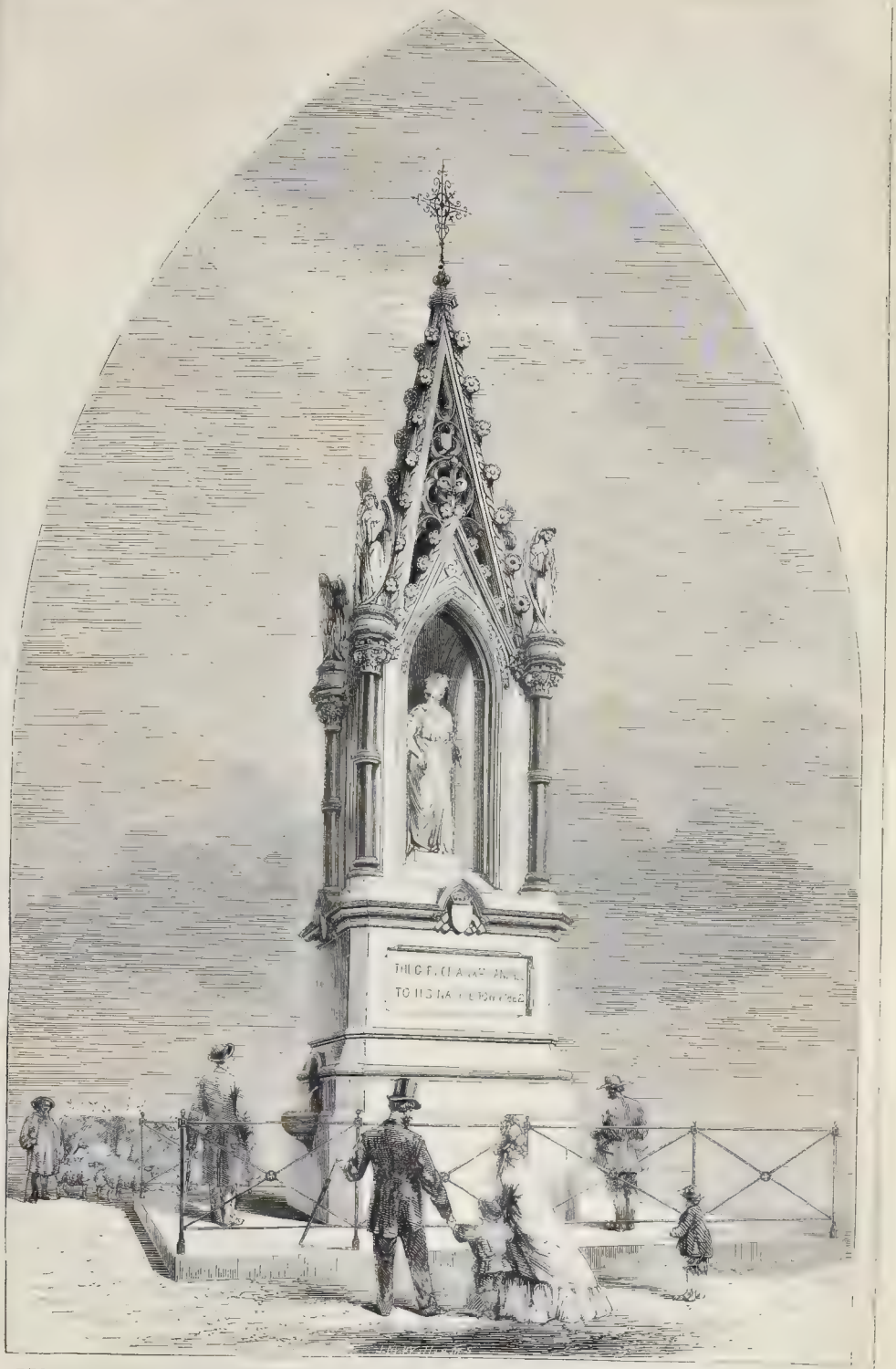
The aisles are lighted by eight two-light windows, alternately of a different design; whilst the elevation of north and south transepts is varied, the former having a large circular window 10 feet in diameter, and the latter a four-light window surmounted by a circle having triangular tracery. The west window is in five lights, and 26 feet high. A clerestory, fenestrated with nine circular cusped windows, lights the upper portion of the nave. The roof is not open; the committee adopting the plan of a counter ceiling, with the view of preventing down-draughts.

The pulpit and reading-desk are arranged at both ends of the steps leading to the chancel, with the choir seats at their immediate backs facing each other; and it is intended to place the font in the chapel adjoining the chancel. The seats are to accommodate about 900 persons; and, as all other woodwork, will be stained and varnished. Cast-iron coupled columns will divide the nave and aisles, the junction of transepts having four each.

The architects are Messrs. Speakman & Charlesworth, of Manchester; their design having been selected by the committee in competition. Messrs. Ellis & Hinchliffe, of Manchester, are executing the work for the sum of 4,390*l*.

DRINKING FOUNTAIN IN MAIDSTONE MARKET-PLACE.

THE fountain, of which we now engrave a view, is the gift of Mr. Randall to his native town, and will be found a boon. In plan it is quadrangular, and it takes the shape of a statue on pedestal, with a Gothic canopy of open work above. At each angle is a single column of red granite, with a carved cap, on which stands a winged angel. The canopy rising from behind these has roses set back to back, as crockets on the angles. The ceiling below the canopy is groined. Immediately beneath stands a figure of the Queen, robed, holding a sceptre in one hand and a wreath of laurel in the other. The statue is of Sicilian marble. Mr. John Thomas, by whom the fountain was designed and executed, did not live to see this figure quite finished: the head, however, he had completed. The whole of the upper part of the construction is of Portland stone, excepting the shafts. The lower part is of red Mansfield stone, and the landing of York stone. Messrs. Purvis & Norton, two of Mr. Thomas's assistants, are erecting it in its position, in the market-place, opposite the bank, Maidstone. These gentlemen, we may note, have also to complete several other works left unfinished by the late artist.



DRINKING-FOUNTAIN IN MAIDSTONE MARKET-PLACE.—*Designed and executed by the late John Thomas.*

THE DRINKING-FOUNTAIN MOVEMENT.

London.—A carved stone fountain, Gothic in style, with marble basin (the latter clumsy), has been recently set up at the north-west corner of Lincoln's-inn-fields. It terminates in a pedimental form, crocketed, and is inscribed "Fear of the Lord is a fountain of life." It is dated in error 1861. In this fountain the water runs only when a button below the basin is pressed. The stream is very small.

Roehampton.—The fountain opened here a few days ago is of stone, designed by Mr. Rolls, the surveyor of the Free Drinking Fountain Association, and built by Messrs. Adamson & Son, of Putney. The Association has suffered, to the extent of more than 700*l.*, by the defalcations of one of its officers, in whom the confidence of the managers had been unworthily placed.

Swansea is about to be furnished with drinking-fountains. The Mayor proposed to erect one with lamps, in Castle-square, and the offer has been accepted.

Hertford.—Preparations are being made at the Shire Hall for the reception of the bronze fountain presented by Mr. W. Pollard to the town. The fountain will be placed outside the Savings Bank room, and the filtering apparatus will be within the building.

Inscriptions.—Dr. Kidd, in a letter to the *Morning Post*, on the alcohol question, says,—"I have often thought that, in the fountains lately set up in London, a good opportunity was thrown away of attaching to each some few practical facts as to the immense value of water, as, also, a form of food; in place of the present unmeaning, though well-meaning, excerpts, from the Scripture's concordance *in re* water. thus,—Tell the working man that health cannot be supported except two pints of fluid or water are drunk every twenty-four hours; that intense cold water when he is heated may kill; that much uncooked or bad water should not be given to children, for fear of *animalculæ*; that gin is a poison for young and old, except largely diluted with water; and that there is every reason to believe that cholera was produced by neglect of using good water."

Belgium.—Public drinking-fountains, similar to those in England, have just been established in Brussels.

SANITARY STATE OF ST. GILES'S DISTRICT.

THE annual report of Dr. Buchanan, the medical officer of health for the district of St. Giles, has been printed; and we make the following extracts from it:—The deaths from all causes, in 1861, represent a death-rate of 27·03 per thousand: this is a rise of 0·8 in the thousand above the death-rate of 1860, but it is still 1·0 per thousand below the death-rate that prevailed at and before 1857. The rise in the St. Giles's death-rate in 1861, above that of previous years, is almost identical in amount with the rise that was observed in London as a whole. The rise was not so great as was witnessed either in the northern or the central divisions of the town. The mortality of St. Giles's is still, therefore, far above that of the average metropolis; viz., by nearly four in the thousand. 43·5 per cent. of the deaths were of children under *five* years of age: 31·4 per cent. of the total deaths were of children who had not reached *two* years of age. This enormous infantile mortality is unfortunately only what is customary in this district. The highest *mortality from all causes* prevailed in the neighbourhood of Short's Gardens, around (but not including) the workhouse. Here the death-rate was 34·7 per thousand, being nearly three times the mortality of the most healthy district around Bedford-square. The locality of Dudley-street was the next worst in the number of its deaths, giving 32·4 per 1,000. Highest and best on the list stood as usual the neighbourhoods of Bedford-square, Russell-square, and Lincoln's-Inn Fields. Five hundred and eighty-five houses have received improvement in the past year, a total of 1,754 nuisances having been abated. Inspection is chiefly given to those districts where epidemic disease shows itself; and thus Coram-street locality was especially looked after in 1861. A hundred houses here have been improved, and 348 separate items of sanitary improvement have been effected in this neighbourhood alone. Here, however, there are some places that baffle the endeavours of the sanitary officers to arrest disease in them; especially the courts leading out of Little Coram-street. They are *culs de sac*, under the level of the adjacent streets, and therefore necessarily ill drained; the houses built directly upon the clay; the air everywhere moist and stagnant. As to Dr. Letheby's proposals for checking the sale of diseased meat, Dr. Buchanan says, in this report,—It would be highly desirable to draw a line between first-class and inferior meat; but the alternative put before the poor man by these large regulations would appear to be whether he shall eat inferior [first-class?] meat, or none at all. By advancing the price of meat so as to condemn the poor to vegetable food, their capabilities of work are lessened, and they are unfitted for resisting disease. It is important, therefore, not to condemn meat of whose unwholesomeness there is not *bonâ fide* evidence. In respect of some few diseases affecting animals this evidence exists: for example, measles in the pig, and malignant carbuncle in the ox. On the other hand, there is no proof that harm can arise from eating the flesh of animals suffering from tubercular deposit in their lungs. A vast number of creatures daily slaughtered in London, probably a really large proportion of them, present an early stage of such deposit, and they would be condemned by Dr. Letheby's second rule. What is wanted is not a general measure of confiscation on our present imperfect knowledge, but a system of inspection by which animals should be condemned if they are found affected with diseases known to give an injurious quality to their meat.

UTILIZING ROOF TOPS.

IN a block of building in the Pleasance, Edinburgh, a novel arrangement—that of converting the roof of the house into a bleaching-green—has been carried out. The *Courant* gives the following particulars:—In the roof, which is of course flat, the first requirement is that it should be water-tight. To secure this, the sole is constructed of thick iron plates, riveted together at the flanges, and having indiarubber introduced in the manner of a "washer" between the edges. To resist corrosion, the iron has been treated while in a heated state with oil, which, it is expected, will act as a preservative of the metal. Over the joints of the plates asphalte has been poured, so as to assist in preventing the access of damp to the house below. Next the iron a thin layer of clay is placed, above which soil is laid, making a thickness of 12 inches from the iron to the top of the turf. The "green" is divided by walks of asphalte, so as to preserve the turf, and, at the same time, to give access to all parts of it. Round the sides, the edges of the plates are turned up to the extent of 14 inches, so that continuous rain to that depth must fall before the water can run over to the walls, supposing all drainage and evaporation to fail. At the front and back, a parapet of one foot in height, carrying an iron railing of five feet, will afford complete protection, the ends being protected by the chimney stacks. A portion of the roof is occupied with a large water cistern, composed of iron, double cased, with sawdust between, to prevent the action of the sun and of frost from affecting the water. The staircase by which the roof is reached is covered with a tall hutch, on the outside of which a ladder and gangway afford access to the chimneys. Notwithstanding the quantity of iron used in the roof, the weight of the structure is comparatively light. The pressure is vertical, and the partition-walls throughout carry their share of the weight. The plates have a bearing of 14 inches on the front and back walls, and are sunk four inches in the gables, thus giving abundant support on all sides. The *Courant* remarks, "The idea of utilizing the roof in this way is entirely new; and, should the present experiment stand the test of time, the plan will probably be adopted in other cases." Readers of the *Builder*, however, will remember more than one suggestion having that end in view.

HISTORY OF THE JOINERS' COMPANY.

GUILDS, or mysteries, are not only known in London, but also in many of the large towns and cities of our empire. Bristol, Newcastle, York, and many a like celebrated city, boast not only of their antiquities, but also of their fellowships, the latter often being of great importance to the inhabitants, as well as to the country at large. We well know that London can produce many of the richest civic companies in the world; and, though the Joiners' may not properly come under that designation, yet it stands a notable one on the civic list, taking its descent from a fraternity which existed under the name as early as the reign of Edward III., and in *Liber Albus* occupying a proper place.

Though but a branch of the trade of the Carpenters, the Joiners have, nevertheless, obtained for themselves a separate charter, which was granted them by Queen Elizabeth, in the year 1570. It constitutes them a guild, under the name of "The Master, and Wardens, and Commonalty of the Faculty of the Joiners and Cielers of London," granting them perpetual succession, as well as the usual privileges, which the other fraternities obtained—such as the election of a Master, two Wardens, a Court of twelve Assistants, and the wearing of a livery. It afterwards obtained a coat of arms, and adopted for its motto, "Join truth with truth." In 1613 (associated with the Salters) it subscribed 164*l.* towards purchasing the Irish estate, which, belonging to the Salters, &c., is about 1,800 acres. In order of precedence it stands the forty-first on the City list. On the registration list of 1862, the privileged voters numbered sixty-three.

Between the premises Nos. 79 and 80, Upper Thames-street, in the Ward of Dowgate, there is a very confined block of houses, known as Joiners' Hall-buildings. Here is situate Joiners' Hall. The entrance gateway piers are of good workmanship, with leaden statues of river gods on them. There is also a handsome cornice, with neat window-frames and pediment enriched, while the company's crest (a demi-savage, life-size, wreathed about the head and waist with oak-leaves) surmounts the entrance to the hall. In 1771, the building was described as "remarkably curious, for a magnificent screen at the entering into the hall-room having demi-savages, and a variety of other enrichments carved in the right wainscot. The great parlour is wainscotted with cedar." It is recorded that, in 1827, "the Joiners' Company have a capital painting over the chimney of their Court of Assistants'-parlour, of a former court of assistants, small whole-lengths."

The office of clerk is filled by Mr. Benjamin Grainger, of Sise-lane. The notable "Joiners" who at present fill the important office of common councilmen, are Mr. C. E. Butler, elected 1850, and Mr. T. S. Smith, elected 1852; and it may not be amiss to add, that in 1813 Mr. William Payne, of this guild, published a "Treatise on Municipal Rights," in a volume of 144 pages. The present master is Mr. Stephen Touder; Upper Warden, Mr. Edmond William Wigerton; Renter Warden, Mr. William Henry Bedford.—*City Press.*

ST. MARY'S CHURCH, GUILDFORD.

THE restoration of this fabric has been commenced. The whole of the pewing has been removed, and some interesting relics have been brought to light. The church consists of a nave of four bays, aisles, central tower, and two chapels. There was originally a long groined chancel; but two bays of this, with sedilia, have been removed at different periods, to allow of the public road being widened. It had an apsidal end and lancet lights, as have the chapels; but when it was shortened, a Perpendicular window of five lights was inserted.

In the North (St. John's) Chapel, the original groining-ribs and spandrels remain; these are covered with distemper paintings and patterns, representing incidents in the life of St. John, and are in tolerable preservation. In the Lady (south) Chapel, the groining has been removed, and the paintings are much mutilated and overwhelmed with whitewash: here a piece of Perpendicular screen-work, on which are faint traces of gold and colour, has been placed across the apse, and the centre lancet light blocked up. It appears that the whole of the church has been coloured, principally a maroon colour; and there are the remains of distemper paintings on most of the available wall space.

The chapels are opened to the chancel with a Transition arch, and have hagioscopes on either side, which were bricked up and are now re-opened. There is also a small squint through a tower pier, piercing the shaft of a column on its eastern face.

The chapels were separated from the aisles by common lath-and-plaster screens, in which some oak beams, probably of the rood-screen, had been used: these screens have been entirely removed.

The church is peculiar in being built upon the slope of a hill, so that there is a fall of 6 feet from the east to the west end: the interior effect is improved by this.

Three piscinas have been discovered, hidden by the dado which surrounded the walls to a considerable height: they were all blocked up with chalk: one is handsomely groined, and was filled up with the remains of a rich canopy, which has evidently been shorn from it to make it even with the wall. There is also an aumbrie on the north

side in the thickness of the wall; one hinge-staple still remaining: this was also filled up solid.

On the exterior at the west end, under the south aisle window, is an arched recess, about 3 feet 6 inches high, 1 foot 4 inches wide, with cinquefoil cusps, and which appears to have contained an image: this recess has been richly painted: it was bricked up, and a modern flue built over it. Under the north aisle window, on the same front, is a square opening 2 feet across, penetrating right through the wall and rebated for a door, and with mortises in the chalk which have evidently received grating-bars. As many as seven patterns of encaustic tiles, of excellent design, have been found in disturbing the floors, &c.

The works at present in progress, under the superintendence of MR. Goodchild, comprise the renovation of the exterior; the erection of buttresses on the south side (on the spots where the foundations of old buttresses have just been discovered); the formation of a dry area, the ground being 4 feet above the floor in some places; the removal of the wooden windows, and their restoration in stone; removing west gallery; opening up ceilings; staining and varnishing the timbers; re-pewing with open benches, and a system of warming.

The church contains specimens of the various periods of architecture, from Norman to Late Perpendicular.

VINCENNES.

THE Château of Vincennes has for some years past been undergoing a series of repairs and restorations. The northern tower having been stripped of its unseemly roof, repairs were executed on the buildings at the left of the Cour d'Honneur, on the opposite wing, on the courtines of the northern and western fronts, &c. The work is already finished between the other seven towers and that of the north-west angle, and will be continued on the other side. In order to restore its pristine appearance to the castle, among other additions are the machicolations, which have been restored to their proper position. They are on corbels, and were destined formerly to protect those whose duty it is to throw down stones on the heads of the besiegers at the foot of the wall. Now they serve for throwing grenades, explosive or detonating shells, or for musketry.

The enclosure of the château was formerly flanked with nine towers: these, as high as that of the clock, were enclosed, and so arranged that they could be defended separately. That of the south side was, under Louis XIV., transformed into a triumphal arch by the architect, Léveau, who has adorned the base with a Doric order, formed by six columns combined, with bas reliefs and marble statues, &c. All these decorations were in the interior of the fortress: the exterior was not profusely ornamented. The most curious portion of the Château de Vincennes is the donjon, the only portion which has preserved its originality. Being the citadel, it was fortified in such a manner as to be capable of a separate defence. This portion of the edifice was commenced by Philip de Valois, continued by Jean le Bon, and terminated by Charles V. The tower, in the middle of a square court, is itself of an equilateral form, with a turret at each angle. It consists of four stories groined, and composed each of a large central room, with four prisons, one in each corner. The central portion is vaulted in the style of the fourteenth century; and the corbels, from which the central radiating arches spring, rest on a pier in the middle of the room. In this disposition the stories are alike. On the outside the third story has a projecting gallery running all round. The roof forms a terrace, the stones of which are of curious form: on one of the angles stands a sentry-box,—a stone niche of the Mediæval times.

CLIFTON COLLEGE, BRISTOL.

A PORTION of the new College, which stands on Clifton Downs, Bristol, not far from the Zoological Gardens, and to which we have before now made reference, is now completed, and makes a good appearance in its lovely neighbourhood. This part is intended for the accommodation of only 250 boys; and, if further accommodation be needed, the council will carry out the rest of the work. The present work has been executed by the builders, Messrs. Greenslade & Beaven, under the superintendence of Mr. Wilkinson, the clerk of the works. The head master's house and the west wing only are at present erected; it is intended to add to the latter a centre, with entrance, and a corresponding wing on the east, beyond which would be the college chapel, forming a pendant to it. The style of the college building is the Perpendicular. On the ground-floor of the west wing the principal feature is a cloister, 10 feet 6 inches wide, communicating with all the rooms, staircase, &c., and lit on the east by three-light traceried windows. There are three class-rooms, each 23 feet square and 14 feet high, and lighted by two three-light windows, with a fireplace between them. There are a fourth class-room 25 feet by 17 feet, and a fifth 17 feet square, with lavatories, cloak-rooms, closets, &c. A staircase, 6 feet wide, leads up to the first-floor, on which is a large school-room, 98 feet by 35 feet, with the head master's class-room adjoining thereto at the north end, 35 feet by 23 feet, over which is a gallery, which at present will be used as a temporary chapel. The entire length of the upper part of the room, which extends over the gallery, is 122 feet 6 inches; and it has a fine open roof of red deal stained and varnished, and encircled with tracery and mouldings. At the end of the school facing the south is a large window of seven lights, surmounted by a high-pitched gable, terminating with a sculptured griffin holding a vane. Externally the west side is divided by buttresses into bays, in each of which are three-light windows, with rich tracery and hood moulds. These bays are surmounted by a moulded cornice and battlements, with carved animals at intervals. The flues from the several fireplaces are brought into two stacks, which have battlemented sides: each stack has also upon its exterior a sculptured panel with the arms of the college. At the north-west angle is a square turret, surmounted by a high-pitched roof, with rich cresting and vane. This turret contains a staircase, leading from the gallery floor to the battlements. The master's house proper contains, on the ground-floor, entrance porch and vestibule; a large hall, 23 feet by 17 feet, with a large staircase; morning-room, 17 feet square, communicating with the drawing-room, 25 feet by 17 feet, in which is a large bay window facing the south. The dining-room, 25 feet by 17 feet, is on the north, with access from the butler's pantry and kitchens. All the chimney-pieces in these rooms are in accordance with the building. The boys' dining-hall is 35 feet by 20 feet, and 15 feet high, and lighted with a bay-window on the south, and other windows on the east and west: the ceiling is divided into panels by wood mouldings stained and varnished. Mr. Charles Hansom is the architect.

WORKS IN BLACKBURN.

WHILST the staple trade of the town,—cotton, is enveloped in unprecedented gloom, the building and constructive branches are all well employed. Besides many ordinary buildings, such as cottages and other dwellings and shops, there are not a few monster cotton mills in course of erection;—a sign of the faith there is in cotton. In addition may be mentioned the following public buildings and works:—

New County Court offices recently completed, and County Court room, &c., now in course of erection, from designs by Mr. Reeves, of London.

New Savings Bank in course of erection in Feilden-street.

New Exchange, the progress of which having been for some time delayed, is now about to be resumed. The part to be done (being a portion only of the entire construction) consists of exchange-room (floor area about 800 super. yards) and entrance under tower, &c. Cost of present work to be about 9,000*l.*

New County Bank. Premises for this purpose have been taken in King William-street, and are to be altered to suit the requirements.

A new Workhouse, to contain about six hundred inmates, is drawing to completion. The architects are Messrs. Oates, of Halifax.

Waterworks extensions, by the Waterworks Company, are now in progress, consisting of new reservoir, &c.:—probable cost, 25,000*l.* These are enough to show that there is some public spirit at work whereby labour is provided for many who would otherwise be unemployed.

From this cheering picture turn we to the cotton famine. The returns for the past week show that there are in Blackburn 6,263 cotton workers on *short time*, and 14,372 actually out of work! Unless light arise out of the darkness, how these people are to be clothed, and warmed, and fed, during the coming winter, God only knows.

SCOTTISH NEWS.

Glasgow.—On Thursday in last week the Parks Committee of the Town Council, headed by Dr. Strang, Mr. Carrick, city architect, and others, formally opened the carriage drive of the Queen's Park. The committee proceeded in carriages along Victoria-road, formed as an access to the park, and along the new drive westward; then over the high ground to Langside, and along the new deviation road back to the principal entrance. The committee then walked up the Boulevard to the granite stair leading to the grand promenade on the declivity of the rising ground, and thence to the mound and flagstaff erected on the open of the hill.

Moffat.—The chief stone of a new United Presbyterian Church has been laid at Moffat, in Dumfries-shire. The edifice is to be built in the Middle Pointed style; and, from its position, will form a conspicuous object in this interesting district. The materials of which it is to be built are the grey whinstone from the quarries on the neighbouring hills, built in rubble; and the dressed masonry is to be of white and red freestone. The nave and aisle arrangement has been adopted, with a tower and spire at the south-west angle, and vestry and other class-rooms, and session-house, at the east end. The west door will have moulded jambs, and shafts of polished grey granite, carrying a moulded arch of red and white freestone. Over this is a traceried window, filling up the west gable. Passing through the central hall, with flights of stairs on each side to the galleries, the interior of the church is entered, the nave of which is separated from the aisles by iron columns, which support the roof and clerestory, as well as the galleries on the sides and end. All the woodwork of the roofs will be exposed to view; and, along with the pewing and other woodwork, will be clean varnished on the natural colour of the wood. Accommodation will be provided in pews for about 700. A minister's and ladies' vestry and session-house occupy the place behind the pulpit; and over these will be a large room for prayer-meetings and Sunday school, separated from the church by an archway and curtain, so that it can be available for a portion of the congregation on crowded Sundays or during the summer season. The work is now proceeding with rapidity.

Banff.—County Buildings are about to be erected here; but nothing definite has as yet been arranged, it is understood, as to the purchase of a site. South Castle-street, immediately south of the Free Church, is spoken of as the probable site. The *Banffshire Journal*, in allusion to the spot referred to, says:—The street is narrow at this point, and it would be a great advantage to get the new houses erected a considerable way backwards. We might then get some of the appliances by which the Americans move their houses, and give the corner property a hitch "to the rear." This would make High-street and North and South Castle Streets (which are merely a continuation of High-street) one of the finest streets north of Aberdeen—straight, broad, and some half a mile in length. It would comprehend also Chalmers's Hospital, now nearly finished, at its north end; the parish church at the south end; the Free Church and manse in the centre; Banff Castle, and the beautiful park in which it stands, opposite them; the Episcopal church and parsonage, the Wesleyan chapel and manse; St. Andrew's Masonic Buildings, and various others of more or less prominence.

CHURCH-BUILDING NEWS.

Tetney.—The church of St. Peter and St. Paul, Tetney, has been reopened, after undergoing a partial restoration under the direction of Mr. Withers, of London, architect.

Ratcliffe.—The church here has been restored and re-opened. The whole building was in an extremely dilapidated condition. The chancel roof, itself a ruin, was concealed by a flat plaster ceiling: the chancel arch had given way and appeared on the point of falling; and the walls were so far decayed, that no other alternative was left but that of rebuilding them altogether. New windows have been provided at the east end and south side; new chancel arch, vestry, and organ chamber, opening on the north side through an arch supported on stone columns; with capitals carved in natural foliage of the hop and ivy leaves. The roof is of waggon-headed form, covered with diagonal boarding, stained and varnished, with mouldings in the angles with carved foliage, and moulded and carved cornice on both sides. In clearing away the plaster on the north side of the nave, an arcade of Early English character was

brought to light. Traces of Norman work still remain in the old south doorway, which has been opened out and restored; and in the old font, which finally came to pieces when the attempt was made to remove it, and which has been replaced by a new one with moulded stone base, circular black marble shaft, and stone foliated capital supporting an octagonal bowl. The floor of the church is laid with Peake's tiles, and the space within the altar railings with Minton's encaustic tiles. The whole of the fittings are new, and of deal, stained and varnished, with the exception of the lectern, which is of oak. The east window of the chancel is filled in with a design in stained glass, by Holland, of Warwick, representing the Ascension. The general form of the group is pyramidal; the Saviour occupying the upper part of the central light, while the disciples and female figures are arranged beneath and around. This window is the gift of the ladies of Hatcliffe and the neighbourhood. The lancet window on the south side is also by Holland, and represents "The Raising of Jairus's Daughter." It is a commemorative tribute of affection presented by Mrs. Spode. The whole of the works have been performed by Mr. R. Hollingworth, of Grimsby, under the direction and superintendence of Messrs. Rogers & Marsden, of Louth, architects.

Hertford.—In a limited competition for a new church of St. Andrew, to be built upon the site of the one now existing, the designs of Messrs. Thomas Smith & Son, of Bloomsbury-square, were selected, and the edifice will be carried out early in the ensuing spring. The new church is proposed to be built upon the old foundations, extending eastward to the boundary wall. The old tower is retained, which, by encasing and the addition of 15 feet to the height, has been made to agree with the new building; and, as the tower was not considered sufficiently strong to bear the weight of a stone spire, a slate roof of steep pitch, and characteristic of the period, has been adopted. The church is cruciform, with nave, aisles, transepts, and chancel, with a north-east chapel for the organ, and a gallery at the western end for children. The entrances to the church are in the west front, under the tower, and on the north side through an ornamental porch, 20 feet in length. The style of the building is Early Decorated. The cost will be 3,843*l.* The addition to and encasement of the old tower will cost 600*l.*

Ross.—The partial restoration of the church has been commenced. It is intended at present to lower the floor to its original level and lay it with encaustic tiles, and to replace the old pews by open seats. The galleries are to remain. The ceilings are also to remain. In removing the pews several relics of past ages have been discovered. The principal of these are three piscinas and a credence table. Previously to the Reformation there were four altars in the church.

Brecon.—The foundation-stone of a new church has been laid at Llyswen. The new edifice is dedicated to St. John the Baptist. Mr. C. Buckeridge, of Oxford, is the architect.

Altrincham.—A new cemetery, situate near Brooklands Station, Sale, has been formed under the recent Burials Act, and upon it two chapels have been erected. The cemetery has been consecrated by the Bishop of Chester.

Smethwick.—The new chapel or meeting hall, with schoolmaster and superintendent's residence, erected for Mr. R. L. Chance, just opened for service in Smethwick, is designed in the Transitional Gothic style; but is somewhat plain in character externally. The interior, upon which more ornament has been expended, has an open, arched, stained timber roof, formed of laminated ribbed trusses, resting upon carved corbels representing various English flowers and shrubs. The glazing of the traceried windows is in different tints of plain glass. The building has been erected by Mr. Matthews, of Birmingham, from the plans and under the superintendence of Mr. J. Phelps, architect.

Aston, near Rotherham.—Considerable restorations are commenced at the interesting old church of Aston, at present choked up with cumbrous galleries, and all its details covered over with plaster and whitewash. The works are under the direction of Mr. Hadfield, of Sheffield, and include the complete restoration of the north aisle, which is to be lengthened. A new vestry is proposed, also a roof of steep pitch, to replace the lead flat, which at present covers the nave. The Early English arcade, which is very good in detail, has been entirely coated with plaster, and its delicate details almost hopelessly destroyed. It is, however, proposed by the rector, the Rev. A. Campbell, to restore the arcade thoroughly, if means are forthcoming for the purpose. A better arrangement of the pulpit and reading-desk, a chancel screen, tile floor, and other needful improvements, are also included in the proposed restoration.

STAINED GLASS.

Offham Church, Hamsey (Sussex).—A memorial window has been placed in the south aisle of Offham Church by some of the nearest relatives of the late Sir Henry Shiffner, bart. The subject illustrated is the Wise Men of the East: it is a facsimile of one in the International Exhibition by the same Belgian artist.

St. John's, Lindfield (Sussex).—A stained-glass window has just been placed in the chancel of this church. There are five shafted compartments, and a quatre-foiled heading, in the Early English style. Beneath the apex of the arch appears the Lamb supporting the banner of the Cross. Under this is an angel bearing a scroll, with the inscription, "As in Adam all die; even so, in Christ shall all be made alive." Four quatre-foils, filled with emblems of the Evangelists, surmounted with foliated borders, and arabesqued canopies, complete the heading of the arch. The centre of the principal compartments is occupied by the figure of the Saviour sitting in glory. On his right are the Madonna and Child, and St. Paul. On his left, Mary Magdalene, and St. John the Divine. Diapered circles, and an inscription in old English, constitute the base. Mr. Wailes, of Newcastle-on-Tyne, was the artist.

Peterborough Cathedral.—A window in memory of the late Sir Chapman Marshall is about to be placed in the south transept of Peterborough Cathedral. It is to be of two lights, and the subjects will be Abraham's Sacrifice, and Joseph cast into the Pit. Messrs. Morris, Marshall, and Falkener, are the artists.

Islip Church.—A stained-glass window has been placed in Islip Church, near Oxford, by their children, to the memory of the late Dean Buckland and his wife. It has three lights, with tracery and a sex-foil above. The subjects of the glass are, "The Annunciation," "*Noli me tangere*," and "Crucifixion," in the central light; in the sex-foil, "The Ascension;" in the minor parts, "The Pelican," "Lamb," and other Christian emblems.

St. Peter's, Chester.—The new stained-glass window, erected at the east end of this church and over the altar, has the three centre lights filled with the Crucifixion. The figure of our Lord and groups of angels occupy the centre light: on either side are figures of the three Marys, St. John, Joseph of Arimathea, and the good Centurion. On each side of the Crucifixion is a subject from the life of St. Peter, to whom the church is dedicated—his "Denial of Christ," and his "Release from Prison." Seated figures of the four Evangelists writing their gospels are in the bases of the lights. In the tracery openings is "Christ calling Peter," and the monograms, I.H.S., X.P., Alpha, Omega, &c. This window has been erected by Messrs. Heaton, Butler, & Bayne, of London. The entire expense of the window, including that of the stonework and the new tracery, has been borne by Miss Pulford, of Green Bank, near Chester; and it has been erected by her as a token of filial affection to the memory of her father, the late Rev. D. Pulford. According to the *Chester Chronicle*, a project has been set on foot, through the energy of the rector, the Rev. Frederick Ford, and his wardens, for the insertion of another east window, adjoining the one just erected, as a tribute to the memory of the late Prince Consort. A portion of the funds for this purpose has already been collected; and, as Chester possesses no such memorial, there is no doubt that this project will be found easy of accomplishment.

Northenden Church.—A stained-glass window, by Messrs. Clayton & Bell, has just been placed in this church in memory of a lady who was well known in her neighbourhood for acts of kindness and charity amongst the poor. The subject chosen for the monument is "The Parable of the Ten Virgins."

Oldham Church.—A short time ago, a stained window was put up on the north side of the nave in this church, and another has just been completed. It is a memorial to a father, a mother, and a brother. The subject selected for the father is Old Simeon, with the infant Jesus in his arms, and introducing Joseph and Mary, and also Hannah, the prophetess;—for the mother, Martha and Mary—the latter at the feet of Jesus—hearing his teaching; and for the brother, Joseph and Mary with our Lord, when but twelve years of age, on the road from Jerusalem to Nazareth, after they had sought for and found him with the doctors. Each subject is under foliated canopy-work. Below each subject is the *Agnus Dei* in the centre, and emblems of the Trinity on each side. This window was designed and executed by Messrs. R. B. Edmundson & Son, of Manchester.

Church of the Divine Unity, Newcastle.—The congregation worshipping in this church had resolved, some months ago, to mark the year of the Bicentenary by the insertion in the fabric of a painted window, in memory of the late Rev. George Harris; on which should be inscribed, besides the dedication to the deceased, the names of the departed pastors from the beginning; the two earliest of whom were ejected in the reign of Charles II. The commission was entrusted to Mr. Wailes; and the window is now in its place. On each side of the great west window (which contains the names of many deceased members) there is a memorial window—one of the Rev. William Turner, the other of Mr. Russell Blackbird. The new window is on the north side of the church, facing the memorial of Mr. Hugh Lee Pattinson. The subject is "Paul Preaching at Athens." In the tracery above there is an angel with scroll.

LONDON BRIDGE.

PRAY call public attention again to the fearful want of accommodation compared to the requirements of the traffic of London Bridge, and endeavour to obtain what has been for some time advocated, viz.,—the alteration of London Bridge so as to afford increased accommodation both to the carriage and foot passengers. The plan proposed was to take from the present footpaths enough to allow of another row of carriage traffic on each side of the bridge, and to construct an iron projection, on either side of the bridge, strong enough to carry a wide footway, instead of the narrow one of about 9 feet now existing. Surely the alteration might be made, and the beauty of the structure maintained: a light open balustrade instead of the close heavy stone one that now encloses all the dust and dirt, that with some states of the wind almost blind the passengers, would be a real improvement. If the projections could be made 15 feet wide, the roadway might be increased 15 feet, and the footpaths might be each 17 feet wide. Objection may, perhaps, be raised, that it would be useless to widen the bridge without also widening the northern approach to it; but it must be remembered that the approach is some 10 feet wider than the bridge, and that once get the bridge as wide as possible consistent with its safety, and the lower portion of King William-street could be widened from time to time, as opportunity offered, in the same way as Newgate-street has been so much improved. WAYFARER.

CHURCH BELLS.

BELLS in olden times were really cared for, watched over, and accounted sacred. Much anxiety was shown when a great bell had to be cast; and when all was accomplished, and the "magnificent infant gave forth a Christian voice," some one exclaimed, "How dulcet are thy tones! how abundantly thou gratifiest the ear!" But nowadays church bells are, in too many instances, neglected altogether: nay, they are often cracked or otherwise injured by *tinkering*, as well as by *random ringing*. With reference to the latter subject, I remark that, instead of a fine peal of bells delighting the ear as they would do if properly rung, they are frequently so ill used as to become one of the greatest nuisances with which a neighbourhood can be afflicted. But more of this anon; my object now being to say a few more words on *chiming* for divine service.

It may be observed, then, that one of the most remarkable features in my scheme for the sounding of bells to call the parishioners to church, as compared with that practised in too many towns and villages, is the following:—I avoid, and protest against, the absurdity of *ringing* the tenor or great bell; especially during the chiming of the other bells; when it comes in at the end of alternate rounds with a *fortissimo clang*, which mars the effect of every true note in the peal. And musicians in general will agree with me that such a clamour is a great nuisance. I have now, however, reason to believe, from statements made to me, that the arrangement for chiming suggested in my former communication [*Builder*, page 609] will shortly be adopted at many additional churches.

May I take this opportunity of stating that, in the event of any persons expressing their disap-

proval of the chiming of three bells only during the first ten minutes, according to my suggestion; I would reply that this part of the arrangement is intended simply as a soft prelude; and that the first three bells of a peal are generally somewhat brilliant in tone. If, therefore, these three were chimed *softly* and *slowly* for ten minutes; all being silent during the next five minutes; the full peal, chimed *with care* and *precision* during the succeeding ten minutes, would produce a much better effect. We should thus hear a pleasing succession of melodious sounds; and also what I venture to call a peculiarly fine musical *humming*, varied now and then by the breeze; while it would be said, in the words of the poet,—

> The cheerful Sabbath bells, wherever heard,
> Strike pleasant on the sense, most like the voice
> Of one who from the far-off hills proclaims
> Tidings of good to Zion.

Let me add that no "changes" should be introduced except those in accordance with the rules of melody; and that, with a view to insure decent methodical performances in the belfry on all occasions, the guardians of sacred structures would do well to appoint a conductor. T. W.

SOCIETIES OF BELL-RINGERS.

EVERY person who takes any interest in campanology has heard of the societies of ringers in London, called "College Youths," "Cumberland Youths," &c. It is very probable that these and other similar associations are relics of the ancient guilds; for as early as the time of Edward the Confessor there was in Westminster a guild of ringers. They were recognized by Henry III., as appears by a patent roll in the thirty-ninth year of his reign, dated the 8th of March; and which in plain English runs thus:—"Know all men, that we have granted to our brethren of the Guild of Westminster, who are appointed to ring the great bells there, that they and their successors shall receive annually out of our exchequer 100 shillings,—50 at Easter, and 50 at Michaelmas,—until we provide the like sum for them payable out of lands for the said ringing. And that the brethren and their successors for ever enjoy all the privileges and free customs which they have enjoyed from the time of Edward the Confessor, to the date of these presents."

In the library of All Souls', Oxon, is a manuscript of "The orders agreed upon by the company exercising the arte of ringing, knowne and called by the name of the Schollers of Cheapsyde, in London, begun 2nd February, 1603." This MS. contains the names of all the members down to the year 1634. After this date, in 1637, the Society of College Youths was established by Lord Brereton, Sir Cliff Clifton, and several other gentlemen, for the practice of ringing. They used to ring at S. Martin's Vintry, on College-hill, near Doctors' Commons, upon a peal of six bells. This church was burnt by the Great Fire of London, and never rebuilt; but the society still retains the name derived from College-hill, and has in its possession a massive silver bell, which formed the top of the staff which used to be carried by the beadle of the society when the members attended divine service at Bow Church, on the anniversary of its foundation, and other occasions; also an old book in which the names of its members are entered. This book was lost at the time of the Great Fire, but was subsequently recovered. The names in it are sufficient to show that ringing was considered an intellectual amusement, worthy of nobles, divines, and scholars. "The School of Recreation, or Gentleman's Tutor in various Exercises," published in 1684, contains several pages upon campanology. Actuated by a love of the science, the late Mr. J. P. Powell, of Quex Park, Isle of Thanet, Kent, a member of the Society of College Youths, erected, in 1823, a tower in his park, and furnished it with a peal of twelve bells. He required all his men-servants to learn to ring, and rang constantly himself. In 1828 he became the author of several touches, or short peals of triples, on Stedman's principle. At the present time the Society of College Youths consists of gentlemen, respectable tradesmen, clerks in various capacities, and skilled artisans. No one is admitted except by election; and there are a few simple rules for its support and government, by which its respectability is secured. St. Saviour's, Southwark, and St. Michael's, Cornhill, both of which churches have a fine peal of twelve bells, are the usual places of ringing; and district meetings are occasionally held at St. Mary-le-Bow, St. Clement Danes, and others. The society is open to all England.

The great and good Chief Justice Hale was an able ringer; whilst Anthony Wood and his fellows "often plucked at the bells of Merton College for recreation." About 1700, another society was formed under similar circumstances, which was called "The London Scholars." In 1746 they changed the name to the present title, "The Cumberland Youths," in consequence of the great victory under the Duke of Cumberland, at the battle of Culloden in that year. The London Scholars rang the bells of Shoreditch Church as the noble duke passed by on his return from the battle; for which a medal of the duke and his chargers was presented to the society, and is still worn by the master of the society of Cumberland Youths, at their general meetings. The rules of the above societies are so framed that a person cannot be a member of both at one time; and it has always been the way for the one to try to master the other in the number of changes in a peal and the intricacy of method; for if one rang a peal of 6,000, the other would try to ring more, though the best of friendship and good will exists towards each other.

In 1824 another society was established, called "St. James's Society of Change Ringers;" so called because they met to ring at St. James's Church, Clerkenwell. This society will admit members of any other society in London or country; and by that means the cleverest and most able ringers are enrolled therein.

These three societies mentioned are well conducted under a code of rules which are strictly adhered to. Every meeting is presided over by a competent master, secretary, and stewards.

For some years, church architecture, psalmody, and church bells, fell into general neglect; and it is sincerely to be desired that, now churchwardens' Gothic has been laid aside and replaced by judicious restoration, and the village choir furnished with good music, the ringers may be cared for, and become the respectable and scientific body that they were in olden time. ANON.

Books Received.

New Edition of Rickman's Attempt to Discriminate the Styles of Architecture in England. With considerable Additions, chiefly Historical. By J. H. PARKER. Oxford and London: J. H. & Jas. Parker.

ON the appearance of the fifth edition of Rickman's excellent "Attempt," as edited by Mr. Parker, and freshly illustrated under his direction, we pointed it out as indispensable for architectural students. In the present edition, the sixth, he has still further increased the work; adding, amongst other matters, a chronological series of English examples of each style, with a selection of foreign examples of the same period, for comparison. The editor says:—

"A considerable part of this chronological table of Mediæval architecture appeared in the 'Companion to the Glossary,' in 1841 and 1846; but has been out of print for many years, because the compiler was not satisfied with it. He has now added largely to it from the results of subsequent investigations; and, although quite conscious that it is still very incomplete, he trusts that it will be found useful; and if he had deferred it much longer, his life might perhaps not be spared to publish it at all, and no one else could have made much use of his notes.

Mr. Rickman was so accurate and careful an observer, and was so ably assisted by Mr. W. Twopeny and others, and their combined observations extended over so wide a field, that this work can never in fact be superseded by any other. All subsequent writers on the subject have been largely indebted to it, and many of their attempts are mere plagiarisms from it, with or without acknowledgment. His divisions of the styles, and his definitions and descriptions of their characteristic features, are so true, that those who have differed from him have only departed from the facts. Others have quarrelled with his nomenclature, and have endeavoured to change it, while retaining his divisions and descriptions; but the great merit of Mr. Rickman's nomenclature is its simplicity, and that it involves no theory, consequently does not mislead the beginner, which all others do."

The additions made have enlarged the book from 300 pages to 464, and have made it, as a work of reference, greatly more complete. As a first reading book, the fifth edition, nevertheless, will probably be found the more attractive and manageable.

In his preface Mr. Parker makes some observations on the term "Gothic," and the good reasons there are for retaining it: these we may quote:—

"An attempt was made some years since to introduce the terms First Pointed, Middle Pointed, and Third Pointed, for Mr. Rickman's three styles of Gothic, and from the influential persons who took it up this change was partially and temporarily introduced, but has almost died out again, as it was found to mislead people, rather than guide or assist them to a knowledge of the subject. No one can say what was the First Pointed style, but the Early English Gothic certainly was not; and as no one can say which will be the last Pointed style, it is equally impossible to say which is the Middle. The greatest objection to this proposed nomenclature is, however, the manner in which it misleads beginners in the study. Every round-headed doorway is set down for *Romanesque* or Norman, and every square-headed window for 'Third Pointed,' or Perpendicular, or Debased; and this is quite natural for those who are taught to consider the form of the arch as a guide to the age of a building. It is no guide whatever,—the form of the arch was at all times dictated by convenience quite as much as by fashion; round-headed doorways and square-headed windows are of all periods, and may be found in all the styles, common in some districts, rare in others; this is more especially the case in houses and castles; but it is very frequent in church towers also, and not uncommon in other parts of churches where convenience obviously required it.

A remarkable instance of this inattention to the form of the arch may be mentioned: the castle of the celebrated captain of the English army under Edward III., John Chandos," in the Cotentin, in Normandy, of which the walls are nearly perfect, has scarcely a pointed arch throughout the whole structure. But it is not necessary to go abroad for examples: almost every Mediæval house or castle in England shows the same thing, though not to the same extent."

Mr. Rickman's chapters on Grecian and Roman Architecture have been revised by Professor Donaldson; the editor recognizing the subject of them as "in danger of being forgotten altogether, but of which some knowledge is essential for the proper understanding of the Mediæval styles, which were gradually developed from the Roman"! This condescension to immutable principles should serve as a note of warning to the rising school of architects.

The chapter on Anglo-Saxon Architecture has been considerably enlarged, and now takes its place between the Roman and the Norman styles. The list of buildings of that character includes the church at Bradford, in Wiltshire, first authoritatively pointed to as Anglo-Saxon by the conductor of this journal. With reference to this, Mr. Parker, of course, inclines to think it

"far more probable that the inhabitants of a remote country village continued to build after the fashion of their fathers, and that the actual date of the construction of this church is the beginning of the twelfth century, than that they were in advance of Prior Conrad at Canterbury, or the builders of any other part of Europe, which must have been the case if this church was built in the eleventh century, or at any previous period."

Mr. Parker considers buildings of this class as generally belonging to the eleventh century, and that the earliest of them are those which were erected by order of King Canute after he became a Christian, when we are told that he ordered churches to be built of stone and lime in all the places where he or his father had burned the churches or ministers during the wars with the Anglo-Saxons.

We cannot too highly commend the industry and zeal to which we are indebted for the present edition of Rickman.

Albert the Good: a Nation's Tribute of Affection to the Memory of a truly Virtuous Prince. London: Shaw & Co., Paternoster-row. 1862.

THE expressions of affectionate regret which burst forth on the death of the Prince Consort were spontaneous and universal. The grief and the admiration were real, and produced some "noble essays, and beautiful poetry, wonderfully diversified," considering the theme is the same in all. In the quarto volume before us, Mr. William Thomas Kime, of Louth, in Lincolnshire, has brought together all these tributes, and has done it in the best possible spirit. The compiler has approached his work with modesty and reverence: there is no evidence of self-seeking; no egotistic presumption. He has gathered together the various essays and poetical tributes which the death of the revered Prince gave rise to; and the result is a monument to his memory which the world will prize. Omission in some few cases might have improved the volume in a literary point of view, but would have weakened it as an expression of wide-spread affection; and Mr. Kime has acted wisely in giving all he could collect.

"Farewell, thou noble Prince! Around thy tomb
A nation weeps. A nation? nay, a world!
From every land the wailing accents come,
Where'er thy peace-fraught banner was unfurl'd."

The True Figure and Dimensions of the Earth, newly determined. In a Letter addressed to the Astronomer Royal. By JOHANNES VON GUMPACH. Second edition; recast. London: R. Hardwicke. 1862.

THE profound respect which is due to so great an astronomer as Newton has degenerated, we fear, into a species of idol worship; and relics of his are venerated, which, it may be, he himself would now be one of the first to toss aside as worthless. We do not mean to insinuate that we consider the idea of the spheroidal form of the earth, as deduced from his great law of gravitation, to deserve such a fate; although the present author aims chiefly

* At St. Sauveur-le-Vicomte.

to demonstrate the error of this idea, and to substitute one of his own; deduced, as appears, from the results of geodetic measurements and pendulum observations; founding on which he maintains that the earth is elliptoidal and not spheroidal in shape; or is elongated and not flattened at the poles, and depressed rather than protuberant at the equator. It is not for us to enter into this great question; or to offer any opinion on it; but although our prepossessions are all on the orthodox side in this instance; still, we hail with satisfaction the endeavour of any able man of science, such as this author clearly is, to shake from its lofty pedestal the idol before which nearly all the orthodox so slavishly and superstitiously bow; and we trust that he will not be deterred from urging his views to their final issue, by all the ultra-scientific horror and the *odium astronomicum* with which the slightest disrespect to the idol is regarded.

The deaths of thousands of seafarers, and the loss of millions sterling of property, the author lays to the charge of the "erring imagination" of Newton; and assuredly there are many shipwrecks from alleged errors in reckoning which *may* arise from a somewhat false idea of the general form and measurement of the earth's surface. Such a subject, therefore, ought to be candidly and boldly discussed with the new heretic by the orthodox, who should show him the error of his ways if they can do so; and not slink into their stiff and safe shell-retreats of orthodoxy, as the Astronomer Royal does in his somewhat laconic and highly dignified correspondence with Mr. Gumpach. There *may* be more things in heaven and earth than are dreamt of even in orthodox astronomy. Indeed, it is not long since the Astronomer Royal himself admitted his perplexity on a cosmical subject but too likely to be casually connected with the very point in question of the actual form and dimensions of the earth. In his last official report to Government he adverts to the law of the resultant of the combination of diurnal inequalities in declination and horizontal force, as deduced from the assemblage of all the observations from 1848 to 1857. On breaking up this large mass into smaller groups, he says, changes of a most singular nature exhibit themselves. These are equally singular as regards their variation in magnitude as well as in law; and the Astronomer Royal admits that *he is wholly unable to conjecture what cosmical change is indicated by them.* We do not mean to urge that his perplexity arises from error in accepted principles; but such an admission, on a cognate question, at all events proves that astronomers are not quite oracles in everything. One of themselves, we recollect, the late Professor Nichol, of Glasgow, in one of his astronomical treatises, admits that Newton's great law of gravitation, while it beautifully explains elliptical orbits, is not quite satisfactory when applied to the orbits of the planets, inasmuch as there is a manifest tendency in these orbits to *circularity*, which requires some additional element of force and law besides that of gravitation for its complete explanation. Uncertainties such as these amongst astronomers, as well as their general ignorance on the subject of cometary astronomy, ought to make them a little more humble, and a little less supercilious in their intercourse with scientific heretics than they are inclined to be. This is not a subject, however, into which it is our province to enter: all we desire to do is to aid in bringing the new views of this author before the public for discussion and settlement, as highly practical and important ones. As regards the novelty of the idea, that the form of the earth is elliptoidal, or elongated at the poles; this idea itself is not so new as the scientific demonstration appears to be on which Mr. Gumpach has based it. Abbé St. Pierre, we remember, broaches this very idea in his usual poetical and flowery way. The earth, he maintains, consists of two mountains, base to base in the equatorial plane; with their hoary and elongated mountain tops at either pole; whence run the seas. The Abbé's idea may be no less true than poetical; but, as we have said, our own prepossessions do not lie in this direction. Indeed, considering the probability that the encrusted mass of the earth is *still* molten, the centrifugal force of its rotation would appear to be scarcely so weak as to permit of an *elongation* at the poles: nevertheless, when we consider how great the centrifugal force of rotation is in the planets Jupiter and Saturn (the masses of which are also probably still molten), and yet how comparatively small *their* polar flatteninga and *their* equatorial protuberances are; anything like obvious proportions of a similar kind in our own slow-moving planet assuredly do *not* seem so very certain, after all.

Prize Designs for Covered Homesteads, adapted to Farms of 200 *and* 500 *Acres.* By P. D. TUCKETT, F.G.S., Land Agent, Surveyor, &c. London: Weale. 1862.

THE author of this volume explains in his preface that, in 1861, the Yorkshire Agricultural Society having offered two prizes for the best plans for farm buildings, he was induced to prepare a design for a set of farm buildings adapted to a farm of 200 acres, and also a design adapted to a farm of 500 acres; and that to the former of these the prize was awarded, whilst the latter was "highly commended" by the judges. It is under these circumstances that the designs have been published; and, although we do not see anything requiring special attention in them, they will, no doubt, be useful to farmers and landed proprietors. The description of the designs is preceded by an Introductory Essay on the Principles and Practical Management of Covered Homesteads. In this essay we should have liked to have seen an effort made to impress farmers and proprietors with a sense of the importance of ventilation in covered homesteads; whereas not even the word ventilation occurs throughout, so far as we can recollect.

On the important question of bedding, the author says:—

"I have taken some pains to ascertain whether sheep kept on straw, like cattle, are more liable to foot-rot than others, and I am assured that they are not; provided the litter is thoroughly well attended to and not allowed to heat. But it is not so easy to prevent its heating under sheep as under cattle; and therefore the safest way is to put them on boards 2½ inches wide, with spaces of ¾ of an inch between. In this way they thrive wonderfully. The boards are movable, and the bottom and sides of the hollow space below should be concreted. The manure does not require emptying more than once in two or three months; some gypsum or loam being laid on the bottom, and a little straw-chaff occasionally sprinkled on the surface."

Miscellanea.

EXHIBITION OF PICTURES AT THE ROYAL MANCHESTER INSTITUTION.—The forty-second annual exhibition of pictures at the Royal Manchester Institution, Mosley-street, is now open; and, according to the local *Courier*, is an excellent and numerous collection of works of art. The exhibition contains works both of local artists and of their brethren of London and the provinces.

BAXTER MEMORIAL CHAPEL AND SCHOOLS, ISLINGTON.—The foundation-stone of these new structures, situate in the Baxter-road, Islington, near Ball's Pond-gate, and intended to commemorate the name of Baxter and the Nonconformist Secession, has been laid by Mr. Benjamin Scott, chamberlain of the city of London. Mr. W. Smith is the architect, and Messrs. Dove are the builders.

POLYGRAPHIC HALL, KING WILLIAM-STREET. One hundred and twelve nights of the present season have not tamed Mr. Woodin's representations. With unflagging energy; and, as it seems to us, increased ability; he throws off character after character, and leaves his audience at the close almost in bewilderment. His assumption of "Lord Dundreary" is not quite the real thing, but is, nevertheless, clever, and serves to increase the variety presented by this very entertaining "entertainer." Some very pretty scenes increase the pleasure of the visitor.

ARMAGH CATHEDRAL.—The works at this cathedral are being carried to completion with vigour. The contractor is Mr. Thomas Byrne. He is at present completing the northern gable, with its pinnacles, tower, and cross, in uniformity with the southern gable. The clerestory, with its windows of stone tracery; the triforium arches, with marble pillars and sandstone tracery; the ceilings, with their decorations and carvings, are all now completed; and the cathedral is no longer a "modern ruin," and there is no longer need to fear the approach of winter.

A COMPANY FOR ALDERSHOTT.—The "Farnborough and Aldershott Freehold and Ground Rent Society" has been formed to buy land in bulk, let it out on building leases, assisting builders with money, and then to dispose of the ground rents and divide the proceeds amongst the shareholders. Preliminary contracts have been entered into for the purchase of an estate containing upwards of 200 acres of freehold land, and an hotel now in occupation, situate on the high road between the camp at Aldershott and the Farnborough Station. The camp at Aldershott has given rise to a great demand for houses of every description, so that the scheme looks promising. Mr. F. Doulton, M.P., is chairman of the company; Mr. Henry Currey, the architect; and Mr. Charles James Thicke, the actuary.

"WHAT BECOMES OF ALL THE PINS?"—A sewer, one of the oldest in Birmingham, has just been opened for repairs in Rea-street. At the bottom of it there is a deposit as hard as the "slag" from a blast furnace; and in this deposit millions of pins are imbedded. It also incloses a heterogeneous collection of old pocket-knives, marbles, buttons, and other articles.

CARLISLE SCHOOL OF ART.—The prizes have been awarded in this school by Mr. W. Lawson, M.P. The chairman said he was glad to hear a good account of the school, and hoped it would continue to improve. The amount of its debt, however, is not so pleasant a concomitant. Two of the students have obtained national medallions and free studentships: five medals were awarded, besides books and instruments: eight students also had honourable mention.

DISCOVERIES IN GLOUCESTERSHIRE.—A chambered tumulus, discovered lately in a partially-ploughed field at Nympsfield, Gloucestershire, has been opened, under the superintendence of some gentlemen connected with the Cotswold Naturalists' Club. The longitudinal area of the sepulchre was defined by eight massive unwrought slabs of great oolite, laid in pairs, and varying from three to four feet in width. The entrance was at the east end. It became obvious, from the disturbed state of the interior, that at some remote period the barrow had been broken into and plundered. A great number of bones of both sexes were strewn around. Bones, pottery, &c. have been found and removed to the museum of the Royal Agricultural College at Cirencester.

CAWNPORE MEMORIAL CHURCH.—The following is the inscription on the church raised to the memory of the Europeans who were massacred at Cawnpore during the Indian mutiny, the first stone of which was laid on the 17th of July:—"To the praise and glory of the ever-blessed Trinity, God the Father, God the Son, and God the Holy Ghost; and in remembrance of many Christian men, women, and children, who, near this spot, entered into their rest amid much suffering. The first stone of a church, to be called All Souls' Church, Cawnpore, was laid by Brigadier Mark Kerr Atherley in the presence of the chief civil and military servants of the State, and of many Christian residents of the station and its vicinity, with prayer to Almighty God for his blessing, on the 17th day of July, in the year of our Lord 1862, in the twenty-sixth year of the reign of her Majesty Queen Victoria, the Right Hon. James, Earl of Elgin, being Viceroy of India; the Hon. George Frederick Edmonstone, Lieutenant-Governor of the North-West Provinces; the Right Rev. George Edward Lynch Cotton, Bishop of Calcutta, and Metropolitan."

THE VOLUNTEERS.—A CONTRACTORS' COMPANY.—Sir · The following may be of some interest to your readers, as evincing a healthy state of feeling between masters and men. Messrs. Trollope have always endeavoured to cultivate this feeling; and it was, therefore, somewhat remarkable that they should have been selected to bear the brunt of the battle in the great strike of 1859. Let us hope that it will be a long time before this harmony is again so causelessly and wantonly disturbed.—A.B. On Saturday afternoon, the 10th (Messrs. Trollope's) company (2nd St. Margaret's) of the Queen's (Westminster) mustered very numerously at Wormwood Scrubbs, for the purpose of competing for three prizes, which consisted of, 1st, a prize, value 3*l.* 3*s.*, given by Lieut. Metcalfe; 2nd, a prize of the same value, given by Ensign Trollope, to be shot for by members of the section who have made the highest score in file and volley firing; 3rd, a prize, value 5*l.* 5*s.*, given by Messrs. Trollope & Sons, to be shot for at three ranges; 4th, a prize, value 3*l.* 3*s.*, from the company's prize fund, to the second-best shot at three ranges; and 5th, a prize, value 2*l.* 2*s.*, also from the company's prize fund, to the third-best shot at three ranges. The shooting arrangements were under the supervision of Captain and Adjutant Morris, who also performed the office of umpire. For the various prizes thirty marksmen entered the lists. The shooting throughout was good:—

	200	500	600	Total
1st prize, Corporal Reeve.....	11	8	7 ..	26
2nd, Private Griffith	13	14	6 ..	33
3rd, Private Griffith	13	14	6 ..	33
4th, Private Sparrow.....	13	13	5 ..	31
5th, Captain Trollope	9	7	12 ..	28

The next best scores were made by Corporal Trollope, 22; Private Steward, 22; Privates Hartley and Swan, 19; Privates Ovington and Aitchison, 18; and Sergeant Rowbotham and Privates Salter and Bell, 16 each. Private Griffith, having made the highest score, 33, became entitled to the second and third prizes.

BIRMINGHAM MEMORIAL OF THE LATE PRINCE CONSORT.—At a meeting of the committee on the 10th, it was decided that a statue of the Prince, 7 feet high, in Sicilian marble, surmounted by an appropriate canopy, and with such architectural accessories as the site may suggest, should be erected between the New Exchange-buildings and the Grammar School; and that the commission for the statue should be intrusted to Mr. Foley.

BUFF-COLOURED BRICKS.—Messrs. Pease & Co., of Darlington, have submitted to us some fine white and buff-coloured pressed bricks, which they are seeking to introduce into London, with a view to their being used in the fronting of buildings. They are of good colour: their density is considerable. Amongst the advantages claimed for them by the makers is largeness of size:—"They are made 9¾ inches by 4¾ inches by 3⅛ inches, or thereabouts; and contain one-third or one-fourth more cubic inches than many of the London bricks of the better quality." This, however, would militate against their use as facings, as they would not bond well with common bricks. The price is high (90s. per 1,000 for the perforated brick, and 100s. for the solid); but there are many cases in which they might be advantageously used.

THE PROPOSED FALMOUTH TERMINUS.—The station will be beyond Arwenack House, and close to the Falmouth Docks. The roof covering the arrival and departure platforms will be 200 feet long, with a span of 70 feet without any centre supports, covering three rows of carriages and also the platform on each side. The passenger-station will be 200 feet long, and will have all the necessary offices required for a first-class station. The whole of the buildings at this station will be of stone except the goods shed; which, from the nature of the ground, has to be erected on an embankment; and it will be erected on piles to be driven by the contractors. The site of this station being on the side of a hill, in order to obtain the required area, an excavation of nearly 50,000 cubic yards of ground will be necessary; and which will delay the laying of the foundation-stone some three months. The competition for the stations was very great, and the lower tenders were remarkably close. Messrs. Oliver & Sons, the Government contractors, are to carry out the works. Mr. Sharpe, the contractor for the line, is proceeding rapidly with it.

THE BRITISH ASSOCIATION MEETING AT CAMBRIDGE.—The arrangements are nearly completed for the thirty-second meeting of the British Association for the Advancement of Science, to commence on Wednesday, 1st October. Professor Willis is the president elect; and among the vice-presidents are the Rev. Dr. Whewell, Professor Airy, the Rev. A. Sedgwick, and others. Mr. Hopkins, of Cambridge, is the secretary. The town-hall has been placed at the disposal of the Association, and will be open as a reception-room, on Monday, the 29th September, at 10 a.m., and on the following days, at 8 a.m., for the issue of tickets, &c. The president of the section of Economic Science and Statistics (F) is Mr. Edwin Chadwick; and the president of the section of Mechanical Science (G) is Dr. Fairbairn. General and evening meetings will be held on Thursday, 2nd October, at 8 p.m., in the town-hall,—*soirée;* on Friday evening, Professor Willis's discourse; on Monday evening, Dr. Odling's discourse; on Tuesday evening, *soirée.*

ACCIDENTS.—Another accident has happened at the New Lambeth Bridge, of no consequence as regards the bridge, but fatal to human life. A scaffolding under the archway at the west end of the bridge gave way while twelve men and lads were on it; precipitating them all into the river, where two boys were drowned and several of the men fearfully cut and bruised.——Two bricklayers were at work in raising a chimney at a brick-kiln at Whitmore, when one of them fell forty feet to the ground, but, strange to say, was very little hurt; while the other, who did not fall at all, was found dead shortly afterwards, on the scaffolding inside the chimney. He had complained before of the unwholesomeness of the vapours which ascended the chimney while they were at work; the stoves being in operation. No marks of injuries were found upon the man, although he had slipped from a ladder to the scaffolding, while his fellow fell to the ground.——Three men have been killed by falling from a slight scaffolding while painting the interior of the corrugated iron roof of the Birmingham station of the North-Western Railway, in New-street. The scaffolding was erected by a builder named Holmes, and was 50 feet from the rails beneath. Six men at once went upon it, and all fell but one. The two other survivors are in a precarious state.

TOWN IMPROVEMENTS AT BRADFORD.—The Town Council of Bradford has adopted the scheme of town improvements proposed by their Building Committee. The great feature of the plan is the widening and straightening of Market-street, and its extension to the bottom of Manchester-road. The estimate of cost of the whole, made by the committee, is 35,000*l.*

DUBLIN WATERWORKS.—The Dublin waterworks committee have opened the tenders for the execution of the works and supply of materials; and it is understood that they accepted that of Mr. M'Cormick, M.P. for Londonderry. It is said that Mr. M'Cormick's tender includes the entire works, and covers "all extras;" and that it was an amount below each of the estimates separately made by the engineers, Sir John M'Neill, consulting engineer, and Mr. Parke Neville, city engineer. The pipes are to be supplied from the foundry of Messrs. Eddington & Son, Glasgow, who supplied the pipes to Mr. Bateman for the Loch Katrine Works, and to Mr. Hawksley for the Liverpool Works.

ALBERT MEMORIAL SCHOOL FOR WESTON-SUPER-MARE.—The sale of useful and ornamental work in aid of the building fund for the "Industrial Night School to be raised as a memorial to His Royal Highness the late Prince Consort," was held on Tuesday and Wednesday last in the Town-hall, under the patronage of the Right Hon. Countess of Cavan, Lady Eardley Wilmot, and other influential ladies. The bazaar proved a highly attractive affair, and realized a very satisfactory amount for the building fund. A piece of ground has been secured near Emmanuel Church: a design has been prepared by Mr. Downe, architect: a portion of the building fund has been subscribed; and the sale has secured about 170*l.* after the whole of the expenses are paid.

A QUERY FOR THE CONTAGIONISTS.—A report has been published on a new mode of treating smallpox by Dr. Rennie, of the 31st Foot, serving in China. Dr. Rennie's theory is, that smallpox is generated, like typhus fever, from neglect of sanitary measures; and that it owes its immediate existence to a morbid condition of the blood, which produces an eruption. This eruption, when it falls upon the lungs, receives, according to its duration, the name of pneumonia or consumption: if on the intestines, it is known as dysentery; if on the liver, abscess. Dr. Rennie's treatment consists in the use of an ointment of tartar emetic, or croton oil; or the two combined; the effect of which is of a galvanic or electric character, and produces the eruption in a healthy and mild form. He also states his belief that further research may lead to the use of electricity direct. The report, which contains the treatment of several cases, has been forwarded from China to the Commander-in-Chief by General Staveley. We *may* have here the germ of a great discovery. The theory of disease in the blood thus producing specific ailments or diseases, however, is not new.

FLOWER SHOWS OF WINDOW PLANTS.—We lately gave some account of a show of flowers reared by poor people in their windows, at St. Giles's; and have occasionally referred to such projects, as possessing a germ of social reform which it would be well to encourage. We have now to note that a chrysanthemum and pompion flower show of this description is to be held in the school-room, Lamb-court, Clerkenwell, on the 5th of November next. The way in which these exhibitions are got up, and their genuineness secured, is this;—and we quote at present from the *Gardener's Weekly Magazine*:—In the first place, handbills are sent round to the inhabitants of a certain set of streets comprised in the district where the show is to be held. These handbills invite the growers of window plants to bring their plants to the exhibition, and to give notice beforehand about the plants they intend to exhibit. The announcement is made four weeks before the date of the show; and an inspector is sent round, ostensibly to see how the plants are getting on; but in reality to see that intending exhibitors do possess the plants they have demanded space for. The exhibition takes place at last, perhaps in a school-room, Bible mission-room, or some other place where the poor are accustomed to assemble, and where, consequently, they feel at home. One or two gardeners from the squares are called in to act as judges; and the prizes awarded rarely amount to more than 20s. in all. Of course some of the plants exhibited are quite unfit for any sort of show, but that is no matter. Many others are remarkably good; better than most people would expect from the window-ledges of houses in narrow streets, where the absence of sun is aggravated by superabundance of soot.

RAILWAY ACCIDENTS.—During the year 1861, 284 persons were killed, and 883 injured, by accidents on railways in the United Kingdom. Of this number 216 were killed, and 836 injured, in England and Wales; 39 were killed, and the same number injured, in Scotland; and 29 were killed, and 8 injured, in Ireland. Forty-six passengers were killed, and 781 injured, from causes beyond their own control.

THE MAIN DRAINAGE WORKS FOR THE EAST OF LONDON.—The contractors have commenced operations in Old-street-road, St. Luke's, in connexion with the great middle-level sewer through Shoreditch, which will come out at Old-street. In the High-street a connexion is being made simultaneously with the main line of sewer from Bethnal-green, so as to continue the system through Old-street, *viâ* Wilderness-row and Clerkenwell, to Bloomsbury, where it will unite with the western main drainage at Oxford-street.

DESCENT INTO WELLS: FOUL AIR AND SUFFOCATION.—One of those cases which not infrequently happen from neglect of proper precautions previously to descending wells has just happened near Sittingbourne, in Kent. In attempting to get up a pail, two brothers were suffocated by the foul air with which the lower part of the well was filled; and others who successively attempted to save those already in the well were nearly suffocated also. We have repeatedly had occasion to remark that no one should ever descend a well without previously testing the air with a lighted candle. Where no candle will burn, no human life can subsist; and if there thus be shown to be foul air in the well, a pailful or more of lime white, or quick lime in water, should be thrown down ere any attempt be made to descend.

TENDERS.

For a pair of villas at Eccles. Mr. Webster, architect. Messrs. O. J. & J. Showell, Manchester, architects:—

Wilshaw	£1,326 0 0
Southern & Son	1,2 9 0 0
Statham & Son	1,190 0 0

For stabling, &c., to the new Imperial Hotel, Aldershott, for Mr. Taunton. Messrs. Eggar & Stapley, architects:—

Martin	£545 0 0

For public house at the West End, Aldershott, for Mr. Cave. Messrs. Eggar & Stapley, architects:—

Duke	£667 0 0

For new Agricultural Hall, Wolverhampton. Mr. Veall, architect:—

Hartland	£2,346 0 0
Addenbrooke	2,301 0 0
Stap	2,250 0 0
Cockerill	2,200 0 0
Lovatt	2,199 0 0
Trew & Sons	2,131 0 0
Palmer	2,119 0 0
G. & F. Higham	2,100 0 0
Elliott & Whitfield	1,993 18 0
Bowater	1,988 10 0
Burkitt	1,963 0 0
Horsman	1,898 18 0
Heveningham (accepted)	1,809 9 8

For alterations to Mr. Chown's premises, 83, Fulham-road. Mr. W. H. Lamborn, architect:—

Stimpson	£219 0 0
Rudkin	139 0 0
Smales	115 0 0

For rebuilding premises, Market-place, Reading, for Mr. Crossman. Mr. Wm. Brown, architect:—

Barnicoat	£1,069 0 0
Simmons	1,040 0 0
Watson	1,017 0 0
Woodruffe	994 0 0
Strong	986 0 0
Biggs (accepted)	940 0 0

For building new National Schools at St. John's, Notting-hill. Messrs. F. & H. Francis, architects. Quantities supplied:—

Myers & Sons	£2,322 0 0
Howard	2,129 0 0
Cowland	2,120 0 0
Keyes & Head	2,117 0 0
Fish	2,067 0 0
Laurence	2,000 0 0
Wheeler	1,993 0 0

For the erection of a mansion at Woodlands Park, Leatherhead, for Mr. Melvill Richards. Mr. F. C. J. Parkinson, architect:—

Duncanson & Moultrie (accepted)	£2,200 0 0

For Warwick Gardens Chapel, Kensington. Messrs. Searle, Son, & Yelf, architects:—

	Building generally.	Add if Kentish rag facings.	Total.
	£	£	£
Stimpson	5,150	420	5,570
Hill & Co.	5,014	438	5,452
Sands	4,991	611	5,602
Howlett & Brown	4,985	497	5,482
Turner & Sons	4,979	579	5,558
W. Cernuce	4,976	600	5,576
Ennor	4,891	566	5,457
Dove, Brothers	4,875	249	5,124
Howard	4,750	570	5,320

For building two houses in Eagle-court, Clerkenwell, for Mr. C. Wright. Mr. W. P. Griffith, architect:—

Carter	£789 0 0
Partridge & Crutch	685 0 0
Hunt	678 7 0
Ebbage	672 0 0
Fowler (accepted)	619 0 0

For constructing a brick sewer and iron outlet-pipe, for the War Department, from Fort Pitt, through Chatham, into the River Medway:—

Shrubsole (accepted)	£1,035 0 0

For Wesleyan Chapel, Warwick-gardens, Kensington. Messrs. Searle, Son, & Yelf, Architects. Quantities supplied:—

	Amount of Tender.	Deduct spire, if omitted.	Add Kentish rag facings.
Stimpson	£5,150 0 0	£350 0 0	£420 0 0
Hill & Co.	5,014 0 0	366 0 0	438 0 0
Sands	4,991 0 0	289 0 0	511 0 0
Howlett & Brown	4,985 0 0	314 0 0	497 0 0
Turner	4,979 0 0	368 0 0	579 0 0
Clemence	4,976 0 0	288 0 0	500 0 0
Enor	4,891 10 0	351 10 0	556 0 0
Dove, Brothers	4,878 0 0	307 0 0	299 0 0
Howard	4,750 0 0	310 0 0	507 0 0

TO CORRESPONDENTS.

C. S. X.—P. W. S.—Mr. R.—Messrs. W.—W. T. H. (we are forced to decline) A R W—F. P. (all will give us the F.'s) not supposition.—H. L. R H F M R & M.—H. C. M.—S S.—W R. (we think not. But write to the secretary.)—J. R.—T. C. N.—H. R.—St. James's, Dover.—W. T. C. (we do not now publish a stamped edition.)

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Advertisements cannot be received for the current week's issue later than FIVE *o'clock, p.m., on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH BUILDINGS, FENCHURCH-STREET, E.C.

ARCHITECTURAL ASSISTANCE. Every description of Arch tectural Drawings, Details, and Perspectives Outlined or Coloured, by
M. T. T. MADDON, Jun.:
Also, Duplicate Tracings of Elevations, Drawings, Surveys, &c. 7, Jo n-street, Berners-road, W.C. Comer, Islington.

PROFESSIONAL ASSISTANCE.—Architectural Designs and Drawings of all kinds prepared. Details, Specifications, & Superintendence if required. Advice on Dilapidations, &c. Commercial Chambers, Hatton-garden, Holborn Bars, E.C.

BOARD OF WORKS, POPLAR DISTRICT.—Notice is hereby given that the Board will meet at the Board Room, Bow-road, on Friday, the 26th instant, at Seven o'clock in the evening precisely, to consider APPLICATIONS for the appointment of SURVEYOR and FOREMAN of ROADS. The person to be appointed must be between the ages of 30 and 45 years, able to read, write, and keep the necessary accounts; possessing practical knowledge of Road-making, Sewerage, Brick-work, and Masonry, and must reside within one mile of the Board's Offices. The remuneration will be Two Guineas per week. Applications in the handwriting of the parties, and stating particulars of their qualifications, to be delivered at the Board's Offices, on or before TWELVE o'clock at noon of the 30th instant; and the attendance of the candidates, personally, at the Board Meeting between the hours of One and Two o'clock on the same day, will be required. Canvassing the Board, previous to the election, will be considered a disqualification.
CHARLES G. CLEAVE,
Clerk to the Board.
Bow, 16th September, 1862.

TO ARCHITECTS' ASSISTANTS.

WANTED, permanently, a good Artistic DRAUGHTSMAN, well acquainted with Early English Mediæval detail. Only those possessing the above need apply. Address, full particulars and salary (not to exceed 100*l*.), to J. H. Cooper, Mr. Lyon, Stationer, Warwick-street, Coventry.

WANTED, a Person accustomed to TIMBER TRADE, as SALESMAN and ACCOUNTANT. Must understand Measuring and be thoroughly conversant with Accounts. Address, stating references, &c., to A. B. C., Post-office, Kingston-on-Thames.

TO DRAUGHTSMEN.

WANTED, a First-class ARCHITECTURAL DRAUGHTSMAN, competent to design, also to make finished Drawings for Working Plans. Liberal salary to a first-class man. Address, with full particulars, to JOHN WILKEN, Builder, Architect, Surveyor, &c., Southsea, The Sea, S.W.

WANTED, a GOOD JOINER, to TAKE CHARGE of the CARPENTER'S WORK in a Jobbing Shop. Reference required: wages 30*s.* per week.—Address, per post paid, to A. Z. Mr. Hall's, 27, Park-terrace, Regent's-park, N.W.

TO ARCHITECTS.

WANTED, a Gentleman, to take the MANAGEMENT of a BUILDER'S OFFICE. He must be an experienced draughtsman, and practically acquainted with the building trade generally.—Address, P. L. Office of "The Builder."

WANTED, a good SAW-BENCH HAND; one who thoroughly understands sharpening of saws; a joiner by trade preferred. Some need apply except those who have filled similar situations. Have good character of sobriety.—Apply, between 9 and 10 a.m., to Mr. PAWLEY, Builder, Orphanage-road, Hackney-road.

TO HOUSE-AGENTS' ASSISTANTS.

WANTED, a Person of good address and unexceptionable character. One who understands architectural plans and possesses some knowledge of the building trade would be preferred.—Address, F. W. Office of "The Builder."

TO JOBBING BRICKLAYERS.

WANTED, a steady Man, willing to undertake the general REPAIRS of a LARGE ESTATE of SMALL HOUSES.—Constant employment to be given. Apply by letter only, stating terms and reference, to Mr. JOHN S. READLE, 41, Charles-street, Horselydown, S.E.

TO PLUMBERS, PAINTERS, GLAZIERS, PAPER HANGERS, &c.

WANTED, as WORKING FOREMAN in a Large Shop in town, a Young Man who is now Leading in such department, and who understands measuring and estimating. Good character indispensable. Send full particulars to R. R. Office of "The Builder."

TO CARPENTERS AND BRICKLAYERS.

WANTED, a thoroughly practical and working FOREMAN of each trade, in the country, with a thorough knowledge of plans, and capable of taking out work not less than 6 years of age. Wages 24*s.* per week. Bricklayer must be a good cutter and gauger.—Address, L. M. Post-office, Stratford, Bucks.

TO CIVIL ENGINEERS AND CONTRACTORS.

WANTED, an ENGAGEMENT, by a gentleman, aged 26, who has served an apprenticeship to a Civil Engineer and Surveyor, is well versed in the Practice and Theory, having had experience in the management of some railway works in India.—Address, T. S. F. Scaddting's Library, Belgrave-road, S.W.

WANTED, by a good plain and decorative Paperhanger and Painter, a constant SITUATION. Can set up his own Shop, &c.—Address, W. H. 11, Upper Wantingtonplace, Upper Holloway, N.

TO BUILDERS AND GENERAL CONTRACTORS.

WANTED, a SITUATION as GENERAL FOREMAN or MANAGER, by a practical experienced man, who has a thorough knowledge of the building trade in all its branches. Six years' references to last employer.—Address with full particulars, to W. C. Calverton Cottage, 35, Sy Stratford, Bucks.

TO RAILWAY AND OTHER COMPANIES, NOBLEMEN, AND GENTLEMEN.

WANTED, a SITUATION as CLERK of WORKS to a Company, or on a Nobleman's or Gentleman's estate, by a first class energetic man, aged 35. Practically acquainted with every branch of the building trade, a fair architect, and possessing a fair knowledge of machinery.—Address, M. care of Mr. Adams, 4, Tennes-place, King-street, Borough, S.E.

WANTED, a CLERK for a Plumber's and Decorator's Office.—Address, W. P. 17, Southampton-row, Russell-square, W.C.

TO BRICKLAYERS.

WANTED, immediately, LABOUR and SCAFFOLDING for Building a Villa at Walton-on-Thames. Mr. KAYE, Surveyor, 5, Richmond-place, St. George's-road, South Lambeth.

WANTED, a SITUATION as CLERK of WORKS, or otherwise, by a thoroughly practical man, with many years' experience in the trade. Address, A. B. 4, Adelaide-place, London-bridge.

TO PLUMBERS OR BUILDERS.

WANTED, by a Young Man, a Plumber, a constant SITUATION, or on a Job. Can turn his hand to anything in the trade. Good character from last employer. Wages not much an object as a constancy.—Address, G. M. No. 86, Margaret-street, Cavendish-square, W.

TO BUILDERS AND PLUMBERS.

WANTED, by a good Plumber, a permanent SITUATION. Can do gas-fitting or painting, or take charge of a job. Good reference if required.—Address, J. H. 5, Colpitts-street, Bethnal-green, N.E.

WANTED, a RE-ENGAGEMENT, in or near London. Has been five years assistant to a Government Clerk of Works in the Royal Engineers' department. Has had public works in the West Indies. Can make working drawings, forms, correspondence, prepare estimates, specifications, &c.—Address, ALPHA, 11, Yorkstreet, Covent-garden, W.C.

WANTED, a PERMANENT SITUATION as PAPERHANGER, PAINTER, or GLAZIER, or would act as Foreman in painting.—Address, J. H. 2, Cambridge-terrace, Cambridge-road, Kilburn.

WANTED, a permanent SITUATION as CARPENTER and JOINER.—Address, W. C., 11, Pleasant-row, Caledonian-road, Islington.

WANTED, EMPLOYMENT, as IMPROVER, in the BRICKLAYING TRADE, by a steady young man.—Address, M. K. 11, Arthur-street, New Oxford-street.

WANTED, by a practical PLUMBER, EMPLOYMENT as PLUMBER, or THE LIGHT BRANCH HAND.—Address, H. BLACK, 2, Bird-street, Oxford-street.

TO BUILDERS AND CONTRACTORS.

WANTED, by a thoroughly practical Man, a SITUATION, as SHOP or GENERAL FOREMAN. Can take charge and take out work if required. Has first-class character from late employer.—Address, L. V. L. Office of "The Builder."

TO PLUMBERS, &c.

WANTED, by a first-rate PLUMBER, EMPLOYMENT. Would not object to fill up time in Gas Fitting.—Address A. M., 28, Hertford-street, Bethnal-green, Middlesex.

TO PLUMBERS, BUILDERS, AND OTHERS.

WANTED, by a Young Man, a SITUATION as PLUMBER'S ASSISTANT. Can do Gas-fitting, Zinc-working, and Painting, at time painting or glazing.—Address, T. S. at Mr. Sims's, 11, Bow-street, Lincoln's-inn-fields.

TO DECORATORS AND BUILDERS.

WANTED, by a Young Man, 27 years of age, a constant SITUATION. Thoroughly understands scrolling, decorative painting, and graining. Wages moderate.—Address, L. G. care of Mr. Gregson, 121, Oxford-street, W.

TO BUILDERS, &c.

WANTED, an ENGAGEMENT, by an active practical Man. Has had considerable experience in the Building trade, manual, official, and superintending; can make plans, take out quantities, and measure up work; a first-rate joiner, well acquainted with masonry and the other branches. Accustomed to the successful management of large works. Age 36. Best of references. Would treat for a place of trust. Age 36. Best of references. Has been five years with a large London firm but intends to retire from the trade.—Address, A. O. K. care of Mr. Lovell, Stationer, 20a, North Audley-street, Grosvenor-square, London, W.

TO GENTLEMEN KEEPING ON THEIR ESTATES MILLS OR FACTORIES, BUILDERS, PLUMBERS, OR OTHERS.

WANTED, a constant SITUATION, by a steady young Man, as PLUMBER, GAS-FITTER, and ZINC-WORKER. Has had several years' experience in the trade. Good references, if required. No objection to town or country.—Address, W. F. 08, Napier-street, Shepherdess-walk, Hoxton.

WANTED, by a Young Man, a constancy as PAPERHANGER, PAINTER, GLAZIER, &c. Town or country.—Address, H. W. SIMPSON, 2, Warwick-walk, Bermondsey.

WANTED, by a practical Man, a RE-ENGAGEMENT as CLERK of the WORKS. Has just completed a large job. Good references as to character and ability.—Address, A. B. 23, Lingate-street, St. Paul's.

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, a SITUATION as CLERK (in town or country). Is a thorough bookkeeper, and will be found a valuable assistant in getting in Building Debts. Good testimonials. Very moderate salary in the first instance.—Address, W. R. 12, Pond-street, Hampstead, N.W.

CLERK, &c.

WANTED, a SITUATION as above, by a steady, persevering Young Man. Quick at figures, good writer, and has mercantile experience, and well acquainted with the routine of an office. Three years' good character from present employer. Address, E. C. 2, Union-square, Horsemonger-lane, Borough, S.E.

TO ARCHITECTS, BUILDERS, AND OTHERS.

WANTED, by a Married Man, aged 28, an ENGAGEMENT as GENERAL ASSISTANT. Has a good practical knowledge of building, as well as the principles of the Mechanic's Lien Act. Salary moderate. Address, F. W. 4, Edwards-place, Downham-road, Kingsland.

TO BUILDERS, CONTRACTORS, &c.

WANTED, by the Advertiser, a thoroughly practical Man, a SITUATION as FOREMAN or MANAGER of WORKS. Has had twenty years' experience in all kinds of Buildings and earth work. Can level and survey. Good references from London and provincial employers. Address, F. R. B. No. 10, Sussex-terrace, Bridge-road, Hammersmith, W.

WANTED, by an ASSISTANT, a RE-ENGAGEMENT in an Architect's or Surveyor's Office. Is a good draughtsman, and can have an unexceptionable reference from his late employer.—For further particulars, address J. G. C. care of Mr. Coate, at Messrs. Hill & Sons', Bankers, 17, West Smithfield, City, E.C.

TO BUILDERS, IRONMONGERS, AND OTHERS.

WANTED, by a respectable Married Man, aged 32, a SITUATION as TIMEKEEPER, STOREKEEPER, or in any capacity where trust is required. Good reference.—Address L. C., Union-street, Stratford, Essex, N.W.

TO HOUSE DECORATORS, BUILDERS, &c.

WANTED, by a Young Man, aged 22, an ENGAGEMENT as Paperhanger and Decorator, to fill up his time at painting. No objection to the country.—Address, F. WILLIAMSON, Rising Sun, Acton, Surrey.

TO PLUMBERS AND BUILDERS, &c.

WANTED, a SITUATION, by an experienced PLUMBER, FITTER of GAS and HOT WATER APPARATUS, or under Foreman. Married man.—Address, F. A. 6, Cricket's-terrace, Pleasant-row, Kentish-town.

TO BUILDERS, DECORATORS, &c.

WANTED, by the Advertiser, aged 32, a SITUATION as GRAINER, &c. Would fill up time with painting, glazing, or paperhanging. Terms or country Satisfactory.—Address, A. P. C. Office of "The Builder."

WANTED (town or country), EMPLOYMENT for three weeks or a month, immediately, at 24 guineas per week.—Address, A. B. C. D. 5, Portland-terrace, Regent's-park, N.W.

TO SURVEYORS AND DRAINAGE ENGINEERS.

THE Advertiser is open to an ENGAGEMENT. Can prepare estimates for and superintend land drainage. Is a good draughtsman, and has some knowledge of surveying.—Address, J. F. ALLEN, Ilsington, North Devon.

TO ARCHITECTS.

THE Advertiser would be glad to meet with a SITUATION, temporary or otherwise, in the office of an Architect in town. Can make working drawings, and has a knowledge of Perspective. Unexceptionable character.—Address, A. B. 10, Raby-road, Upper Holloway-road, London.

TO CONTRACTORS AND BUILDERS.

THE Advertiser, a STONE-MASON, wishes for an ENGAGEMENT in the country. Has been abroad for some time. Satisfactory references.—Address, R. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who will be disengaged at the end of the week, is desirous of obtaining plans for a large house to build in London, to which he will undertake to ENGAGEMENT, to superintend the same. Would be glad to meet with a Builder who would undertake the work on the usual terms. Has had considerable experience in the above trade. Unexceptionable character.—Address, R. S. T. No. 88, Parkstreet, Camden-town.

TO ARCHITECTS AND OTHERS.

THE Advertiser is open to an ENGAGEMENT as CLERK of WORKS, or otherwise to superintend or carry out large contracts. Has had great experience in the building trade, in town and country. First-class references as to character and ability.—Address, T. D. 16, Upper Tachbrook-street, Pimlico.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a rapid designer and perspective draughtsman, wishes for a RE-ENGAGEMENT as ASSISTANT. Country or would be happy to render assistance at Lincoln's-inn. Terms moderate.—Address, A. B. 3, Mr. Wragg's, Lower Brunswick-terrace, Barnsbury, N.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

OCCASIONAL ASSISTANCE.—A Surveyor, of considerable practical experience, is desirous of obtaining an ENGAGEMENT as part of his business. Is thoroughly conversant with Dilapidations, Valuations, Surveyors' Reports, Specifications, Quantities, Estimates, Arbitrations, and Schedules.—Address, X. Y. Z. 11, Montpelier-road, Regent's-park, N.E.

A LIBERAL PREMIUM will be PAID to APPRENTICE a genteel YOUTH, with a taste for drawing, to Architect, Building Contractor, or Timber Merchant. Unexceptionable character and references required.—Address, A. Z. Office of "The Builder."

A COMPETENT ASSISTANT, aged 27, well versed in construction, and accustomed to the preparation of Working Drawings, Specifications, and Quantities, desires RE-ENGAGEMENT. Good references, &c.—Address, M. N., Ward's-place, Gloucester-street, Pimlico.

TO ENGINEERS, SURVEYORS, ESTATE AGENTS, AND OTHERS.

AN experienced Surveyor and Draughtsman having just completed a town survey, upon which he has been engaged two years, desires RE-ENGAGEMENT. The highest references given.—Address, ALPHA, care of Messrs. Brook & Bastable, Booksellers, Hudderfield.

A PREMIUM of from 300 to 500 guineas will be paid immediately with a Young Gentleman, eighteen years of age, with a good taste for drawing and mechanics, to a Civil or Mechanical Engineer, Agricultural Engineer, and Machinist, Architect and Surveyor, first-class Builder, Contractor, or in the locomotive department of a line of railway. Direct full particulars and all terms to Mr. REARDEN, 91, Piccadilly.

TO CIVIL ENGINEERS.

A FIRST-CLASS Engineering Surveyor, Leveller, and Draughtsman, is seeking for an APPOINTMENT, or temporary Engagement, preparatory to the next Session of Parliament. Understands the laying out and construction of Railway Works generally. Is provided with instruments for the office or the field.—Address, G. E. 13½, London-wall, E.C.

TO ARCHITECTS AND BUILDERS

A YOUNG MAN, who has had considerable experience as a DRAUGHTSMAN, wishes to obtain permanent EMPLOYMENT in either of the above offices. Has a good knowledge of perspective. Will be disengaged after October 1st. Address, A. W. 8, Castle-terrace, New Hampstead road, Kentish-town, N.W.

TO ARCHITECTS, SURVEYORS, AND ENGINEERS.

A YOUNG GENTLEMAN, in his 22nd year, desires an ENGAGEMENT. Has devoted five years (three years under articles) to the profession. Unexceptionable references. A moderate salary required.—Address, A. F. 14, Upper Stamford-street, S.

TO BUILDERS, HOUSE DECORATORS, AND HOUSE AGENTS

AN active, energetic young Man, JOINER and CARPENTER by trade, desires EMPLOYMENT. Is a good fixer. Could take a situation as timekeeper, or collector of rents, &c. to an estate. Got thoroughly into Work to obtain a knowledge of the decorative department. Must be in town. A. Z. 23, L. B. 1, Carlton-road South, Mile end, E.

TO BUILDERS, ARCHITECTS, SURVEYORS, &c.

AN active, energetic Young Man, practically experienced in the Building trade, seeks a RE-ENGAGEMENT in a Builder's Office, or as CLERK OF WORKS or ASSISTANT SURVEYOR. Is a first-rate joiner, can make plans and estimates, keep books, and set out work. Fully qualified to superintend or manage a builder's business.—Address, JOHN PAINE, at Shaw's Library, 253, Oxford street, W.

TO BUILDERS AND PLASTERS

A YOUNG MAN, a First-class GRAINER, is in WANT of a PERMANENT SITUATION. Is a good imitator of marbles, wainut, glaser, &c. No objection to make himself generally useful in painting and glazing; is fully competent to take charge of work if required. Most willing to suit either Town or country.—Address, L. M. 43, Aldenham-street, near Euston-square, London.

TO ARCHITECTS AND BUILDERS

A DRAUGHTSMAN who has been in both the above offices, in Town, is open to a RE-ENGAGEMENT.—Address, S. K. L. Office of "The Builder."

TO ARCHITECTS

AN ASSISTANT, who has considerable knowledge of the Gothic and other styles, is an experienced draughtsman, well versed in detail and construction, with some knowledge of quantities, &c., also eighteen months' building experience, wishes to meet with a permanent ENGAGEMENT. First-rate testimonials from previous employers.—Address, R. A. J. Office of "The Builder."

TO ARCHITECTS AND ENGINEERS

A CLERGYMAN is desirous of placing his Son who is fond of drawing, and of quiet orderly habits, in the house of a gentleman in practice. He will not require any remuneration required or premium proposed, as regular occupation and a comfortable home is all that is required. Board, &c. would be fairly paid for, terms for which and full particulars to be addressed to J. L. RANDAL, Esq., Falkenham, Suffolk.

A GOOD ARCHITECTURAL and ENGINEERING DRAUGHTSMAN, WRITER, &c. wishes to an ENGAGEMENT. Address, A. P. 22, Mortimer-st., W.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

POLISHED GRANITES, TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1857, and Two Prize Medals in 1862 for Red, Blue, and Grey Granite for every description of architectural purposes. Estimates and designs on application.
Agent, Mr. MACDONALD, Architect, 3, DAVID WILLET, London Agent, 64, Euston-road, N.W.

LITTLE CASTERTON FREESTONE,
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at Showrooms of
Messrs. PINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. With steel saws it can be cut as necessary to place it to the bed. It works freely with a mortar-saw, and is wrought at a cheaper rate than any stone in the kingdom.

TOMBSTONES TO BE DISPOSED OF, at a very low price—A few most beautifully carved and polished Dark Black, white veined, MARBLE TOMBSTONES, for a novelty to the trade and private persons.—Address, J. DOUGLAS, No. 5, first floor, Wellington-st., Strand.

PURE STATUARY MARBLE,
and in slabs of large dimensions, can be obtained at
M. W. JOHNSON'S MARBLE WORKS,
36, EUSTON ROAD, London, N.W.
Prices now reduced.
M. W. J. has also an Immense Stock of beautiful British and Foreign MARBLE CHIMNEY PIECES, which Architects entrusting their orders to this Establishment will find their Designs carried out with great care and correctness. Established 1824.

RANSOME'S PATENTED SOLUTIONS FOR PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which they are rendered preventive against decay, and in many cases restored when cut in, during the colour of Great Age, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

WESTMINSTER MARBLE WORKS.—
T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries—Earl-street, Horseferry-road, Westminster—The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price—International Exhibition, Class XC. The largest Marble Chimney-piece in the world.

TWO MEDALS IN CLASSES 1 AND 30, INTERNATIONAL EXHIBITION.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
All communications to be addressed to the Secretary, 24 St. James's-street, London, S.W.

MARKET WHARF, REGENTS PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TREATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, or ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

TURNED MARBLE and STONE COLUMNS, TAPERS, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases &c. at the lowest prices. Every description of Ornamental and Plain Work in Marbles, Stone of
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Bannister, Somerset.

CAEN and AUBIGNY STONE.
FOUCARD, BROTHERS, late F. FOUCARD, STONE MERCHANTS and QUARRYMEN
Cargoes shipped to order from Caen to any port. Contracts taken for any quantities.
Depôt, GRANITE WHARF, East Greenwich.
Office—10, Three Crown-square, Borough.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplied direct from the Quarries, by rail or sea. Blocks squared in with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including sawn work or other labour, forwarded on application. —Office, 27, Millbank-street, London, S.W.

BELLMAN & IVEY,
SCAGLIOLA MARBLE MANUFACTURERS,
14, BUCKINGHAM-STREET, FITZROY-SQUARE,
LONDON, W.
Execute in the most workman like manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION,
IN THE VERY FINEST MANNER AND ON THE MOST REASONABLE TERMS.
Also Manufacturers of Patent or all Improved Plaster of Paris.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.
MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Cisterns, Troughs, Copings, Table tops, Baths, Washstands, &c. New Illustrated Catalogue, of which can be had at the Public Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

TO BUILDERS, CONTRACTORS, &c
SLATES, TILES, IRON, TIMBER, DEALS, &c
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connexion generally throughout the Kingdom, that the above is ready for
NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Quarries, delivered at any station in quantities of not less than five tons. Price for worked and unworked on application.—Address,
No. 1, BOLD TERRACE, CHESTER.

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wootton Warren, near Henley-in-Arden, are working a quarry of this very superior and durable stone (belonging to the Commissioners of Pemberton Naish, near Wrexham. It is very extensively used in Liverpool, Manchester, &c. and they can supply it at low prices at any station on the Great Western Railway. Agreements would be made with any responsible merchants in London for a constant supply.

TO SAND MERCHANTS, LIGHTERMEN, and OTHERS.—WANTED, 10 to 20 FREIGHTS of THAMES SAND.—Apply, stating price, to Messrs. MOWLEM & CO Grosvenor Wharf, Millbank, S.W.



AUSTIN, SEELEY, and CO.
371—375, EUSTON-ROAD,
ARTIFICIAL STONE WORKS.
CATALOGUES OF
CHIMNEYS,
AND ALSO OF
FOUNTAINS
ON APPLICATION

HAMPDEN GURNEY MEMORIAL SCHOOLS.—The OLD MATERIALS forming the block of buildings known as Adam's mews, in Upper Berkeley-street, Portman-square, the site for the above schools, to be SOLD by TENDER. A plan and the particulars may be seen at the Offices of JOSEPH CLARKE, Esq., Architect, 13, Stratford-place, Oxford-street, W. (office entrance from Henrietta-street, Manchester-square). The Tender, endorsed, to be forwarded to Mr. CLARKE, on or before the 2nd day of OCTOBER next.



WINDOW BLINDS
and SPRING ROLLERS of
of first-rate Quality, at Reduced Prices.
E. ADKINS,
HIGH STREET, ST JOHN'S WOOD, REGENT'S PARK, N.W.
Illustrated List of Prices on receipt of one postage stamp.

PRIZE MEDAL—INTERNATIONAL EXHIBITION, 1862.
CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great natural purifier, the Atmosphere, viz. by purifying the air we breathe, and destroying all impure ODOUR; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, dissecting-rooms, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable, such as painting impure water, sweetening meat, washing, and preserving fish in meat, game, fish, &c. as well as by use in the bath, for promoting and sustaining personal purity.—Obtainable of all Ironmongers, Oilmen, Patent Medicine, &c. or direct from CONDY'S FLUID DEPÔT, 155, ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.
Wholesale of the Patentee, Battersea, Surrey, S.W.

GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description at the very lowest prices. Regilding in all its branches to the trade. ½ inch Gilt Beads, 7s. per dozen 6-feet lengths; best 9s. ditto.
G. REES, 57, DRURY LANE,
Four doors from Drury Lane Theatre. Established in 1806.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS
CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for the trade and general decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242 EUSTON ROAD, ST. PANCRAS.

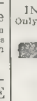
MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, PSQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH
Next Astley's Theatre.
Respectfully inform the public that their Illustrated Price List will be forwarded free on application. Prizes will be for all Instruments bearing their name. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

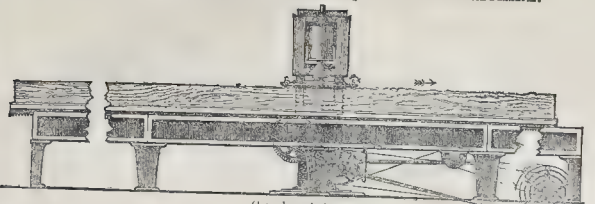
THEODOLITES, LEVELS, TRANSIT THEODOLITES, DRAWING INSTRUMENTS, SCALES, &c.
C. BAKER,
243 & 244, HIGH HOLBORN,
Begs to inform Engineers, Architects, and others, that by recent improvements and extensive additions to their manufactory, they are now enabled to supply any quantity of first-class instruments of every description, upon the shortest notice, at a price very much lower than is usually charged for the best workmanship. Every article manufactured in their premises and otherwise, repaired, adjusted, and, if necessary, improved. A large assortment of SECOND-HAND THEODOLITES, LEVELS, &c. always in stock at low prices, which are warranted. Inferior instruments taken in exchange. Catalogues free by post. Established 1765.

INTERNATIONAL EXHIBITION, 1862. CLASS 13
Only Medal awarded for "excellence of construction of Mathematical Instruments."



SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 49-inch, 5s and 7s. 6d.; 24-inch, 3s. 6d. and 5s. 6d.; 22-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, to be on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN LONDON, W.C.
Price 2s. 6d. post free, STANLEY'S
IMPROVED DRAWING PEN.

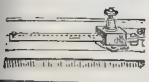
S. WORSSAM & CO.'S
PATENT IMPROVED PLANING AND SQUARING-UP MACHINE.



(4-inch scale.)

This machine is adapted for planing and squaring up scantlings of either hard or soft wood, up to 18 inches wide and 9 inches thick. The cutter-disc is furnished with a set of Wilson's Patent Cylindrical Gouges, which will last as long as eight sets of the ordinary gouges without being sharpened.
For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.





PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.



PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.

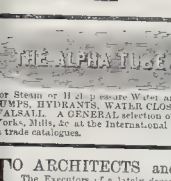


Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.

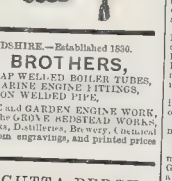
W. HARMER & SON,
BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.
WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.
WROUGHT IRON TUBE and FITTINGS for GAS or WATER.
CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.
W. HARMER & SON,
3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

CLAYTON, SHUTTLEWORTH, & CO.
ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,
STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.
Descriptive, Illustrated, and Priced Catalogues free per post.

CASTINGS, ANY WEIGHT AND QUANTITY,
With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



THE ALPHA TUBE & FITTING WORKS.
WALSALL, STAFFORDSHIRE.—Established 1830.
LAMBERT BROTHERS,
MANUFACTURERS OF LAP WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,
for Steam or High-pressure Water and Gas. HIGH PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER CLOSETS, IRON and BRASS GAS FITTINGS, GASELIERS, &c., and of the GROVE BEDSTEAD WORKS, Works, Mills, &c. at the International Exhibition, Walsall Coal, Class 31. Exhibited precisely as sold from engravings, and printed price and trade catalogues.

TO ARCHITECTS and SURVEYORS.—
The Executors of a lately deceased gentlemen are desirous of DISPOSING of his BUSINESS as an ARCHITECT and SURVEYOR. He possessed had a valuable connexion in Ipswich and the Eastern Division of the County of Suffolk. For further particulars apply to Mr. VINCENT COLEBY, High-street, Ipswich; or to Mr. JOSEPH SEARCE, 2, Princes-street, Ipswich.—The above affords an eligible opportunity for any gentleman anxious to secure an extensive practice.

TO ZINC WORKERS and GALVANIZED IRON MANUFACTURERS.—
TO BE DISPOSED OF, by Private Contract, the LEASE, GOOD WILL, and MACHINERY of a ZINC WORKER (including the Perforating and Corrugating Machines), the whole of working 200 tons per annum. The present returns about 4,000l. per annum. The machinery includes two Perforating Machines, the larger one for zinc, with thirty-nine different patterns of punches and matrices, the smaller one, for paper and tin plates; a powerful Bending Corrugating or Gutter-making Machine, 30 inches wide, with dies; Astragal Machine; a Draw Bench; Fly press for Eyelet-machines, and Tools, worked by a 6-horse power steam-engine and boiler. The premises comprise a capital light Workshop on the ground floor, with Store-rooms over, Counting House, Smithy, Coal-shed, Stable, and Yard.—For further particulars apply to Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

DURABILITY of GUTTA PERCHA
TUBING.—Many inquiries having been made as to the duration of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter from SIR RAYMOND JARVIS, Bart VENTNOR, ISLE OF WIGHT—Second Testimonial.—
March 19th, 1862. In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many leaders and apparent defects since the first laying down, now several years, are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

PATENTS for SALE.—TWO important
PATENTS connected with the building trades, both in full and extensive operation. Self-supporting Hollow Brick Flooring, absolutely fireproof under the severest tests; also an improved Brick Machine, for making the above or other bricks. For an hotel company the above Patents would be invaluable.—For particulars apply to BUNNETT & CO. Deptford, Kent, S.E.

CAST STEEL BELLS,
One-third PRICE OF BRONZE.



PEALS CAST TO ORDER.
NAYLOR, VICKERS, & CO.
SHEFFIELD.

INTERNATIONAL EXHIBITION, CLASS 32, No. 6,231.
ENGLISH AND FRENCH PATENT.
WESTON'S NEW PATENT TORSION SPRING,
For closing or keeping open doors, gates, &c. &c at different strengths, specially suited for all climates, and adapted for general purposes.
Price, Three shillings.
To be had of the principal Merchants and Factors in Birmingham and Wolverhampton; also at No. 62, Coleman-street, City.

BUILDINGS of every description, or
ROOMS, effectually WARMED with T. G. MESSENGER'S TRIANGULAR TUBULAR HEATING APPARATUS.
ROOFS of every kind GLAZED WITHOUT PUTTY, by which means they are made thoroughly waterproof, very durable, and never require painting.—Both particulars and numerous references sent upon application to the Patentee,
T. G. MESSENGER, Horticultural Builder and Engineer, Loughborough

TO BE SOLD Cheap, 18 CAST-IRON
COLUMNS, 6 inches diameter, to feet 2 inches long, quite new; a RAISING SHAFT, 60 feet high, with endless chain and crab attached, very valuable for a warehouse or manufacturing premises; several PAIRS of good SASHES and FRAMES, 8 feet by 4 feet 6 inches; one CRAB, and 224 CAST IRON CANALEVERS.—To be seen at 8, PINSBURY PLACE, Pinsbury square, E.C.

TO BUILDERS, ENGINEERS, &c.—
HYDRAULIC 8 inch RAM (by Hopkinson & Cope, pump by Lenz), in excellent condition, TO BE SOLD for 65l.—Address, BINNS & GOODWIN, Printers, Bath.

PELICAN LIFE INSURANCE
OFFICE, ESTABLISHED IN 1797,
70, Lombard-street, E.C. and 57, Charing-cross, S.W.
DIRECTORS.

Octavius E. Coope, Esq.
Wm. Cotton, Esq. D.C.L. F.R.S.
John Dixon, Esq.
Jas. Y. Gibson, Esq. M.D. F.R.S.
Edward Hawkins, Jun. Esq.
Kirkman D. Hodgson, Esq. M.P.
Henry Lancelot Holland, Esq.
William James Lancaster, Esq.
John Lubbock, Esq. F.R.S.
Peter Martineau, Esq.
Matthew Whiting, Esq.
M. Wyvill, Jun. Esq. M.P.
ROBERT TUCKER, Secretary and Actuary.

Examples of the amount of Bonus awarded at the recent division of profits to Policies of 1,000l. each, effected for the whole term of life at the undermentioned ages:—

Age when Assured	Duration of Policy	Bonus in Cash.	Bonus in Reversion.
20	7 years	£20 7 0	£36 0 0
	14 years	36 2 0	74 10 0
	21 years	44 8 0	89 0 0
40	7 years	40 13 6	84 10 0
	14 years	61 2 0	99 10 0
	21 years	72 2 6	118 0 0
60	7 years	66 4 6	127 10 0
	14 years	127 2 6	141 10 0
	21 years	154 1 3	163 10 0

*** For Prospectuses, Forms of Proposal, &c. apply at the Offices as above, or to any of the Company's Agents.

PARIS Permanent Universal Exhibition.
TO BE OPENED IN 1863.
For many years National Exhibitions have been held in various cities, with considerable success, stimulating industry and developing trade between the countries represented by the Exhibitions.
The central position of Paris, and the vast number of visitors passing through that city every year, have suggested the establishment there of a Permanent Exhibition; where samples of the manufactures and products of every country will be collected together in one spacious building, in order that dealers and consumers from all parts of the world may see them, and base their orders upon the quality and cost of the articles exhibited.
The project has met with the entire approval of the Emperor Napoleon III and has also had the cordial support of the Ministers of France and Commerce for a location to the Permanent Universal Exhibition, during the entire period that it is open, of all Foreign Produce, free of Duty, with liberty to re-export them without payment of Duties, etc., all that is on the spot, on paying the duties imposed by the new International Tariff.
The whole of the capital, amounting to 600,000l. has been subscribed in France, and the Palace now in course of construction will be opened early in the autumn of 1863.
The amount of space allotted to France and several other continental countries is already been taken up.
Admission will be gratuitous on at least five days of the week.
The British Exhibitors will be represented by a Committee of twenty members, who, with those appointed by other countries, will form a General Committee, to organise the distribution of space, and frame a code of rules for general observance, and agencies will be established in Paris to receive orders.
All products and manufactures will be classified, so that those of the same nature from different countries, being placed in juxtaposition, may be easily compared.
Two rates of rental (payable annually in advance) will be charged, the space being taken for six years.
The first rate (20 per square metre per annum) will apply to all products and manufactures.
The second rate (15 per square metre per annum) will apply to wall-surface for advertisements.
N.B. Five square Yards are equal to six square yards English.
Drawings of the Building can be seen at the principal Railway Stations and Hotels in London and the country, in the Refreshment-rooms of the present London Exhibition; and at the Offices of Messrs. J. STUDLEY LEIGH & CO. 27, Leadenhall-street, London, Agents for Great Britain, Ireland, and the Colonies, from whom forms of agreement and full information may be obtained.

TO BE SOLD, a CONSERVATORY,
40 feet by 20 feet, with semi-circular ends and domed roof. The building is iron, and the sash-bars rebated; fitted with hot-water pipes, boiler, &c. complete. The Conservatory has attached to it a small cedar house, fitted with shelves and stages.—For price and to view, apply to GEORGE CLARK & SON, Bodorgan, near Bangor.

THOMAS MILLINGTON,
GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.

	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	21s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	118s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1⅝	2	2½
„ 2ft. 6in. sup.	1⅝	1⅞	2½	3
4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

per 100 ft.	15 oz.	21 oz.
20 by 12	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averagiug 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS,

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.
} per cwt.

VARNISHES, &c.

Fine Oak Varnish ...10s.
„ Carriage ...12s.
Linseed and Boiled Oil
Turpentine .....
} per gallon.

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

BEST "PENRHYN" ROOFING SLATES,
SLATE RIDGING, GLAZED SOCKET-PIPES,
TILES, PAVINGS, &c.

Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads, to any Railway Station.—Prices and particulars may be had by applying to

HENRY BROWN & SONS, MERCHANTS,
GENERAL WOOD CUTTING MILLS, LUTON, BEDS.
A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.

TO HOTEL COMPANIES and OTHERS. A fine BLOCK OF BUILDINGS, of recent construction, in the centre of London, and especially adapted for the purposes of an HOTEL, with the most valuable Licenses, to be disposed of by transfer of lease, for a term, between five and ten years.—Apply to Messrs. VAUGHAN & GEORGE, Architects, 18, Cannon street, E.C.

TO LAND AGENTS and ARCHITECTS. Any country desirous of having OFFICES in LONDON.—TO BE LET, on most advantageous terms, those most desirable situation, at the West end, old established ESTATE AGENCY OFFICES. The whole or any part of those extensive premises. Inquire of Mr. and address. For particulars, address, with real name, D. D. Pall mall, S.W.

TO MANUFACTURERS, OIL REFINERS, SOAP MAKERS, and OTHERS.—To LET, a BRICK-BUILT FACTORY, with Chimney-shaft, and a Six-roomed House, near the Canal. Also a Large Plot of Land, suitable for a saw mill.—Apply, Mr COLE, 11, St. Mary le-Strand Place, Old Kent-road.

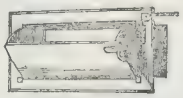
TO BUILDERS and OTHERS.—TO BE SOLD or LET, in the Wandsworth-road, near the New Kent Station, a spacious PREMISES, with STEAM ENGINE and well adapted for the building trade.—Apply, J. H. BRIDGES, Brewer, Ipswich; or at the Star Brewery Tap, Wandsworth road.

TO BE LET, with immediate possession, a newly-opened BRICK, TILE, and POTTERY WORKS, situate within seven miles of London, and in a very increasing neighbourhood, with every accommodation within a quarter of a mile. Price and conditions on application to Mr. Wagstaff, Land Agent, Rickmansworth, one of the principal thoroughfares leading to the metropolis. Plant to be taken at a valuation. Firm very moderate.—For particulars, address Mr. JAMES COLLIER, Drayton green, Ealing.

SEVERAL desirable FREEHOLD BUILDING LOTS, between Ladbroke grove and Kensington-park-road North, Notting hill, TO BE DISPOSED OF.—Apply to Mr. EOLEY, 2, Bedford-row, Theobalds-road, Theobalds-road, Holborn.

GARDENS and ESTATES LAID OUT and WORKS SUPERINTENDED, by JOHN GIBBIN, many years with Mr. Nicholson. The handsome coloured plan for the Royal Horticultural Society (see the *Gardener's Chronicle*, Sept. 13), J. G. carried out. Reference in all parts of England.—Address, JOHN GIBBIN, care of Mr Newton, 30, Featherstone terrace, Paddington.

VENTILATION—PURE AIR.

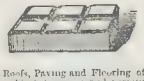


Sheringham's Day and Night Ventilator for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d. These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of rooms, without what the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union street, Borough, London; and of all respectable Ironmongers, Builders, &c.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to constant wetness. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

CEDAR of LEBANON.—The attention of Architects and Builders is solicited to the great beauty and value of this wood. A large chapel has lately been entirely fitted up with it.—Apply to Mr. MAY, Acorn Wharf, Old Kent-road.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Planks, from 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; 1 White, from 11s. 6d. Carriage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Ratcliff-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK, 30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
„ 8-inch Pavings, at 57s. 6d. per 1,000.
„ Floor Bricks, 40s. per 1,000.
Mingled Kiln Bricks, at 36s. per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire street Station, at 24s. per 1,000.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.
Price, including royalty, 75l.
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston on-Thames; and also in action, at the International Exhibition, Class 8, No 1,810.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. 6 inches
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge-tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight.
R. LANGLEY, Agent.

A NEW BRICK and LIME WHARF, and DRAWDOCK,
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

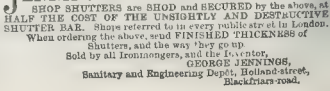
TO CONTRACTORS.—REQUIRED, immediately, WAGGONS and RAILS, in good condition.—Write, stating price and particulars, to Mr. TAYLOR, 38 Wharf, Belvedere road, Lambeth.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS
TARPAULINS for COVERING WORKS.
SCAFFOLD and HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851.

BUNNETT & CO.

ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT.

BUNNETT & CO.

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246).

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851.

BUNNETT & CO.

ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY, GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, CRAY'S INN LANE, HOLBORN, LONDON.

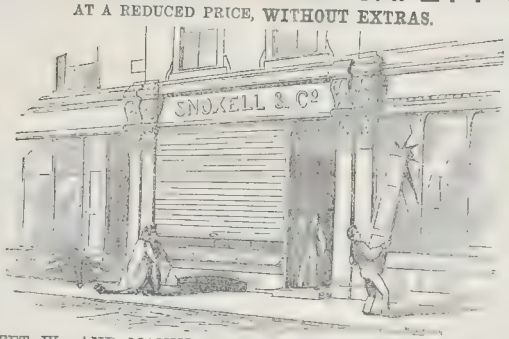
ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY, AND IRON EDGED, OFFERING ALL THE SECURITY OF SOLID METAL.

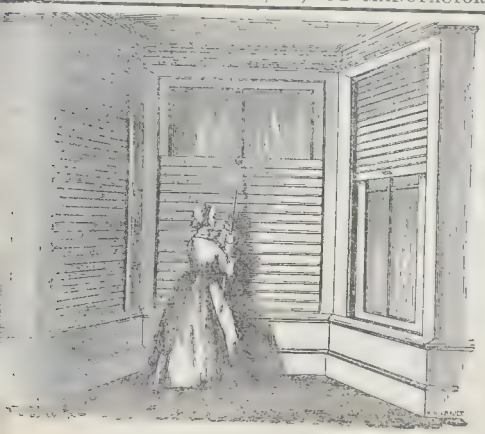
SHOP FITTINGS, SASH BARS, AND STALL-BOARD PLATES, OF EVERY DECRIPTION.



THIS PATENT IS WITHOUT MACHINERY, BEING MOST SIMPLE AND SECURE, AND IS WORKED FROM WITHIN EASILY BY A BOY, AS SHOWN.

Messrs. SNOXELL Possess ample testimonials of its superiority over other Patents. Blind Makers to her Majesty, by appointment.

No 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.



REDUCTION IN PRICE OF

CLARK'S

NEW PATENT REVOLVING SHUTTERS,

FOR

SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		Laths, 28s. per load.	
Yellow Deals, sound and good	£19 10 0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	16 10 0 ,,	0 2½ ,,	
Yellow Battens, excellent quality	11 10 0 ,,	0 2 ,,	
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 ,,	3 6 ,,	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
½-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
½-Inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery of the most complete description, and that he is now prepared to supply the Trade with first-class Work at the lowest possible scale of prices—for cash

Sashes and Frames, Doors, Staircases, Hall Trunks, and Water-closet Fittings, well-seasoned Flooring, Moulded Skirtings and Mouldings of any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass show Cases, &c.

Gothic Joinery, Hot Dovetailed Cupboard Doors, &c., Patent Improved Trunk Doors.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



PORTLAND CEMENT

GRAVES & KIRSHAW,

14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY

COLES, SHADBOLT, & CO

CEMENT MANUFACTURERS,

LIME BURNERS,

BRICK MAKERS,

SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.

ST. JAMES'S and THORNHILL WHARFS,

CALEDONIAN ROAD, LONDON.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

PLASTER OF PARIS

The GREAT NORTHERN PLASTER COMPANY, Manufacturers of Superfine, Italian Fine, Builders' Fine and Coarse Plaster of Paris. Guarantee a FIRST CLASS ARTICLE AT MODERATE PRICES.

Head Office, Swift's-court, 13, Castle-street, Liverpool; Works Newark-on-Trent.

GREY STONE LIME

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOOLDRAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS:

12, UPPER GROUND STREET, BLACKFRIARS, S.

7, NORTH WHARF ROAD, PADDINGTON, W.

JOHNS & CO.'S PATENT PERMANENT

STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours.

GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.

Office, 5, George yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and

KERNES CEMENTS.

JAMES R. BLASHFIELD

(late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.

No. 1, SOUTH WHARF, PRAED STREET, PADDINGTON.

STOURBRIDGE FIRE-CLAY WORKS

E. BAKER & CO.

(Contractors to Government),

24 WHARF, HARROW ROAD, PADDINGTON, W.

Every Article manufactured at the Crown Works and Mines, Brierly Hill.

FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.

Shipments on the shortest notice.

STAFFORDSHIRE RIDGING and ROOF

TILES, Plain and Ornamental, in Blue or Brosely colour.

PAVING TILES in various forms and sizes.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Engine BUILDING and SEWER BRICKS.

Any tests or designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING

BRICKS and other KILN GOODS,

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICK from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICK by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICK SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgeter, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Oldham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICK by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire

The EWELL RED, BLACK RUBBERS, and BUILDING BRICKS and the EWELL and CHALFONT Pale and Bright RED RUBBERS

COWLEY, KENT, and ESSEX BRICKS,

IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

STRINGFIELD and BLYTH

SOLE CONSIGNEES OF

NELSON'S BLUE LIAS LIME.

ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, AND BRICK MERCHANTS,

PLASTER OF PARIS MANUFACTURERS

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.

Country orders forwarded with despatch

THE KEYNSHAM BLUE LIAS LIME and

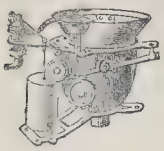
CEMENT COMPANY, Limited, are prepared to Supply their Finest Blue Lias Lime and Cement manufactured by Captain Scott, and to proceed in any quantity. Specifications and Contracts made for the work.—All communications to be addressed to the Company, at their office, 2 Winchester-buildings, Great Winchester-street, E.C.

N.B. A Prize Medal was awarded to Captain Scott, for his Cement at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830) is ROBERT MARTIN and SON'S, Islington. The cheap sorts of inferior quality sold by nearly all the dealers, agents, and pretended manufacturers, cracks as to quality. Superfine and fine Plaster prepared.

THOMAS LAMBERT & SON,

No. 17. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



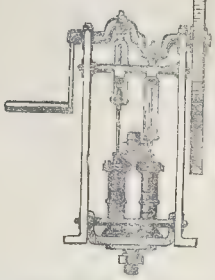
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.

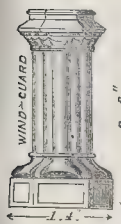


FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

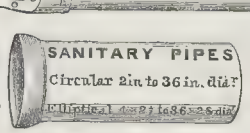
T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME legibly marked thereon.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.

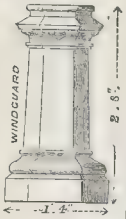


INGHAM & SONS

LONDON WHARF, 64, Bankside, Southwark.



LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.

LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

HAMPSTEAD ROAD JOINERY WORKS.

21, HARRINGTON STREET, N.W.

NEVIL SIMMONDS,

MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.

SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.

Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,

GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is all over. Under slate, metal, or tiles, it is a most desirable covering for

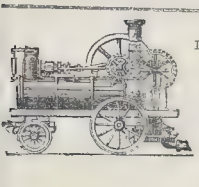
INODOROUS FELT, for lining walls and ceilings, floors, and roofs of sheds. Price ONE PENNY per Square Foot.

CROGGON and CO'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and deadening Sound.

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel,

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GORE PIAZZA, Liverpool.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.

N.B. Steam Power, with Workshops, to Let

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James-street Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD

(successors to THOS. KENT & CO.), the celebrated

PAINTING and GENERAL BRUSH MANUFACTORY,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent Indiarubber Knife-boards, Celebrated Fibre Door Mats, Matting, &c

T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Cottenham, near South Molton.—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure two times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54 Stamford-street, S.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 30s per cwt.; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 8d.; Turpentine, 3s. 6d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon, for cash at F. HANGTON'S Colour Warehouse, 144 and 144, Whitecross-street, 1, 2, and 3, Baker's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Graniers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the trade for excellence in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES

are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO.

at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty to ninety years, and may always be depended upon as the best that can be made.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.

Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s 10½ per gallon.

Turpentine, 1s per gallon.

Fine Pale Oak Varnish, 3s. per gallon.

For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Bedford-street, and 45, Cobb-street, Tyburnia, S.W.

Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very easily worked, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all the various shades of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

30, LONDON WALL, E.C.

Where also may be obtained their

CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,

Together with all kinds of Colours and Varnishes,

Warranted of the purest quality and at the lowest prices

Agents for Kershaw's Graining Machines.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

311, REGENT STREET, W.

Adjoining the Polytechnic Institution.

TO ARCHITECTS, BUILDERS, &c.

GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by J. ODELL & CO. 8, Bath-street, City road, E.C., or at the Works, 12, Gerston-mews, Fitzroy-square, W.—N.B. Fret and Church Leads sold.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 316, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Rough, Fluted, Stained, Coloured, Ornamental, Ground, Flashed, Enamelled Plate, Photographic, and every description of Glass.

Estimates and Price-Lists forwarded towards free of charge, addressed to

R. METTAM & CO.

30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass for immediate or building purposes can be supplied WHOLESALE or RETAIL at the LOWEST STOCK SIZES or CUT TO ORDER, at the extensive Warehouses above mentioned.

SPECIAL ESTIMATES will be promptly given for LARGE QUANTITIES of Glass upon the receipt of particulars.

TO BUILDERS.—FIVE THOUSAND YARDS of BALLAST FOR SALE, at the Wapping Wash.—Apply to the Lodge-keeper at the orphan Working School, Haverstock Hill.

JOSEPH SOUL, Secretary.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Warwickshire Quarries, delivered to any Rail, Canal, or Railway Station in the Kingdom. The unburnt Stock put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and Plain Tiles, Ridge, Roll, and Half Round metallic Paving Tiles, of various descriptions. Roll and Roll Point and other Ridge Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in red, blue, and Red, for Red and Blue Tiled Roofs. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Drainage, and Mathematical
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern or the Shortest Notice and most Favourable Terms. Shipping Orders executed with Despatch.

SPURGEON'S IMPROVED MARTIN'S CEMENT.

A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.

MANUFACTURED ONLY BY

B. W. SPURGEON, DERWENT WORKS, DERBY.

London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.

Coarse, Fine, and Superfine London-made PLASTER of PARIS.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.

Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED SILICA PAVING BRICKS AND TILE CLINKERS.

YORKSHIRE PAN, PLAIN RIDGE, AND PAVING TILES. ANGLE BRICKS AND DOUBLE ROMAN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR. GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY POTS, AND OTHER BUILDING MATERIALS.

GREAVES'S BLUE LIAS LIME

GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.

L. M. TAYLHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS SOLD.

Delivered from Rail or Canal Lorries, direct from the Works, to any part, rail, or canal, of the every part of the Kingdom by rail or canal.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.

Warehouses and Offices as above.

GREY-STONE CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS, AND BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WELSH and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BURRS, and GLAZED STOCKS
WHITE GLAZED STOCK BRICKS.
STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF, of various DESIGNS
TERRE-CRAFFE GLAZED STABLE BRICKS, CHANNEL BRICKS, &c. CLINKERS — DUTCH CLINKERS
RED and BLUE ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTING, RED, BLUE, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY POTS
TERRA-COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.

Goods forwarded to any part with despatch

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, White-friars Wharf, Whitefriars, Fleet-street, only one from Blackfriars Bridge, delivers by Land or per Barge Sand or Cement in any quantity, or by the Barge or large Stocks Lime and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIME-STONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

The HALKIN WELL LIME-STONE COMPANY are prepared to deliver in Lots, at their Wharf, Queen's Dock, Liverpool, at the Lowest Market Price, the Celebrated Hydraulic Grey Stone from their Quarries, Halkin Mountain, Flintshire.

Steamers and Sailing Vessels can be Loaded at the Wharf.

Apply to Mr. EVAN EVANS, Manager, Halkin Mountain, Mold, Flintshire.

The Company guarantee the purity of their Lime, and that it will be found of the Hydraulic Properties stated in their Advertisement. No Agreements entered into without a banker's reference

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of their very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable — Orders [illegible] Grand Surveyard, Whitehall, and the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent.

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS. Delivered in the Manufactory, or from White Lion Wharf, Bankside, London.

N.B. Ship-in Mr. Lark's or Fletcher's Names from the Works.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT,

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade

Portland Cement is manufactured at these Works with especial [illegible] which, for strength, brickwork, blocks [illegible] work, or for Piles

LONDON WHARF, BELVIDERE ROAD, LAMBETH

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE, CEMENT PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DAVIES'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK. With this a Material Houses may be finished and occupied in [illegible] Plaster, requiring no [illegible] of colour within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble. — Manufacturers, FRANCIS BROTHERS & POTT Nine Elms, London

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

JAMES STIFF & SONS,

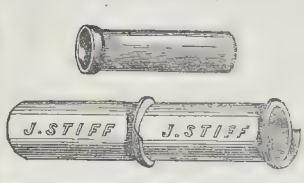
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY,



Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



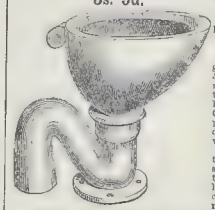
TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the improved pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.

A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.

PATTEN'S HIGH PRESSURE and SELF ACTING CLOSETS, URINALS, LAVATORIES, &c.

W. PATTEN, Patentee and Manufacturer, Old Fish street, St. Paul's, London, E.C.

MINTON & CO.

HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,

TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City road Basin, N. 2ndly, that the trade term, "TERRO METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Jurors," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire as the first of the kind in the world.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit street, free.

London Agent—W. B. SIMPSON, 426, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.

MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1769, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.

An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or a tool.



INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,348.

JOSEPH FAIRER,

Turret Clockmaker to Her Majesty's War Department,

188, St. George street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE NEW HOUSES OF PARLIAMENT,

Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing room Clocks,

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	8 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do.	25 "
Marine Chronometers	35 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 33, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood.	F F light and shading.
H E H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

SALES BY AUCTION.

METROPOLITAN IMPROVEMENTS.—SOUTHWARK and WESTMINSTER COMMUNICATION.—Twenty-fifth Consecutive Sale.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 23, at TWELVE, in lots, all the capital BUILDING MATERIALS, FIXTURES and FITTINGS UP of about Twenty-five HOUSES, large FACTORIES, and WAREHOUSES, situate in Essex-street, Princes-street, Gravel-lane, New-street, Keppel-street, and Southwark-square, Southwark Bridge-road; comprising capital sound bricks, a large quantity of pan and plain tiles and slates, prime timber in joists and floors, wrought and framed doors, sashes, mantles, boards, glazed sashes, mineral fronts, architraves, dados, folding gates York paving, lead gutters, cisterns and pipes, stoves, ranges, copper, and other useful fittings up. May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C.; and 40, Parliament street, S.W.

TO COAL MERCHANTS, LIGHTERMEN, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by the Proprietor, in consequence of the expiration of the lease, to SELL by AUCTION, on the PREMISES Comme cial Wharf, Commercial-road, Limehouse, on THURSDAY, SEPTEMBER 25th, at TWELVE for ONE, the TRADE EFFECTS; consisting of powerful cart horses, 3 coal waggons, cart, several sets of harness, 20 coal barges, carrying from 80 tons; long pumping, cars, and other effects. May be viewed one day previous, and catalogues had at the place of sale, at the Coal Exchange, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 80, Fore-street, City.

TO MARBLE MASONS, BUILDERS, AND OTHERS.—Sicilian Marble, &c. for Absolute Sale

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the premises, Briggs-wharf, Millbank, Pimlico, on WEDNESDAY, OCTOBER 1, at ELEVEN for TWELVE o'clock precisely, SIXTY BLOCKS of SICILIAN MARBLE, part of which will be for absolute sale, in order to clear a portion of the wharf. Also, several hundred Marble Squares, suitable for hall paving, and a quantity of Encaustic and Roofing tiles. Sale at 4 and 6 months will be taken from purchasers above 30*l.*—May be viewed two days previous, and catalogues will be forwarded, post-free, on application; or may be had at the offices of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 80, Fore-street, City.

TO ENGINEERS, SMITHS, and OTHERS.—The Valuable PLANT, MACHINERY, and TOOLS, of Messrs. Sbaud & Mason's Engineering and Fire-Engine Works, Blackfriars-road, the premises being required for the London, Chatham, and Dover Railway, and for the new streets

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, No. 245, Blackfriars-road, on FRIDAY, OCTOBER 24, at TWELVE in lots, the Valuable PLANT, MACHINERY, and TOOLS, comprising an 8-horse power high-pressure table-engine, with egg-end boiler, 14 feet long; 16-pressure reciprocating engine from 5 to 10 inch cylinder, fly surfacing, turning, boring, and screw-cutting; a costly 18 inch centre self-acting lathe, by Smith, Beacock, & Tannett, with iron bed, 18 feet 6 inches long; several motion, with bright shafting, rigers, pulleys, &c.; a capital self-acting planing machine, powerful slotting machines, screwing machines, with taps and dies; 2 vertical drilling machines, punching machines, Light patent fan, suction blow stoves and tire furnaces, forges and bellows, iron tanks, gun-metal barrel proving pumps, anvils and vices, work-benches, iron and lead pipes, brass cocks, lamps, boat &c. inclosure, 3-gas holders, of about 1,000 feet of gas-pipe, &c.—May be viewed the day previous. Catalogues had at the SALE ROOMS Offices, 4, Frederick's-place, Old Jewry, and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—Twenty-first Sale.—BUILDING MATERIALS, Blackfriars-road

PULLEN, HORNE, and EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 13, at TWELVE, all the excellent BUILDING MATERIALS of several large HOUSES, on both of the Blackfriars-road estate and street, with extensive Workshops, Sheds, and Premises. Further particulars in a few days, when catalogues may be had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

GUILDFORD, SURREY.—First-class Building Land, close to the Town and Railway Station, also capital Freehold Yards, arising from the River Wey Navigation from Guildford to the Thames.

MESSRS. BEADEL & SONS are instructed to OFFER by AUCTION, at the MART, Bartholomew-lane, London, on TUESDAY, OCTOBER 21, at TWELVE for ONE, in numerous lots, the highly valuable freehold BUILDING LAND, close to the favourite town of Guildford, possessing extensive and capital frontages to the high road from Guildford to Woking and also to the proposed new road intersecting the property. The land fronting the Woodbridge-road is laid out in parts suitable for the erection of detached or semi-detached villa residences, and each plot has also good frontage to the proposed new road; the remainder of the land is divided into plots of about half an acre and the whole forms a most desirable property, the situation for building being superior to anything in the neighbourhood. A portion of the land is freehold, the rental of leasehold is nominal for 99 years, from Lady-day, 1854, at a fair ground rent, and the whole is believed to be free from land-tax. The Freehold Tithe arising from property or preference shares in the River Wey Navigation comprise the one-fourth or 5*l.* parts in 22 of the greats or boats of the navigation, which are valued another 12 to 16 nine parts in 22 of the same toll of 4*l.* The income of the navigation is steadily increasing, and the proprietors of these tolls are not liable for the expense of maintaining the navigation.—Particulars, with plans and conditions of sale, may be obtained of Messrs. H. U. & N. COULTHURST, Solicitors, 13, New Inn, W.C.; of Messrs. FLAD GATE, YOUNG, & JACKSON, Solicitors, 12, Essex-street, Strand, W.C.; of Messrs. LAWSON and LAWSON, Solicitors, 3, Great James street, Bedford row; of Messrs GREGORY, ROWCLIFFE, & CO. Solicitors, 1, Bedford-row, W.C.; at the Mart; and of Messrs BEADEL & SONS, 25 Gresham-street, E.C.

CREWE.—FREEHOLD BUILDING LAND.—TO BE SOLD by AUCTION, pursuant to a decree of the High Court of Chancery made in a cause "Blakeuore v. Edleston," by the Vice-Chancellor Sir John Stuart, the Judge to whose Court the said cause is attached, by

MESSRS. CHURTON, the persons appointed for that purpose, on FRIDAY, the 3rd day of OCTOBER, 1862, at the CREWE ARMS HOTEL, Crewe, at TWO o'clock in the afternoon, 102 lots of FREEHOLD BUILDING LAND, of various dimensions, containing 21*a.* 2*r.* 25*p.* abutting on the highway between Mill-street and the Railway premises at Crewe and abutting on intended new roads there, leading to the station, and particularly upon three new streets, to be called Mill-street, Crewe-terrace, and all in the immediate neighbourhood of the railway stations on the main line, and of the Manchester, Liverpool, Chester, North Staffordshire, and Shrewsbury and Birkenhead, and the London and North Western Railway.—Particulars and conditions of sale, and plans, may be had (gratis) on application to Messrs. FISHER & HODGES, Newport, Salop; HENRY HEANE, Esq. Newport, Salop, and 12, Regent-street, London; Messrs. PININGER & WILKINSON, 28, John-street, Bedford-row; Messrs GREGORY & CO. Bedford row; CHRISTOPHER CUFF, Esq. St. Martin's-lane, London; E. D. BROUGHTON, Esq RD. C. EDLESTON, Esq. and J. BROADHURST, Esq. Nantwich, Cheshire; and Messrs CHURTON, Auctioneers, Chester, and Whitchurch, Salop; and at the place of sale.

ALFRED HALL, Chief Clerk.

Date this 5th day of July, 1862.

MORTIMER HOUSE, DE BEAUVOIR TOWN, KINGSLAND.—Excellent Material of the above House, with Offices, Stabling, and Lodge; four tons of lead, &c. in lots, to be taken down by the purchasers.

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, on MONDAY, SEPTEMBER 29, at ONE, to clear the ground for building.—On view the Saturday previous. Catalogues obtained of Messrs. R. & G. LAKE & KENDALL, Solicitors, 10 Lincoln's-inn; and of the Auctioneer, Tottenham.

ADDISCOMBE, CROYDON, SURREY.—Excellent BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the Town of Croydon, on MONDAY, SEPTEMBER 22nd, at ONE for TWO o'clock, a further portion of the excellent MATERIALS of some of the BUILDINGS of the late MILITARY COLLEGE at Addiscombe; comprising about 100,000 stock bricks, a quantity of York paving stone, paving tiles, stone sills, excellent deal timber, consisting of beams, rafters, joists, floor-boards, principals, &c.; doors, windows, brickbats, firewood, &c.—May be viewed on the FRIDAY and SATURDAY before the sale. Catalogues may be obtained of the Foreman, on the Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

NEW BARNET, Herts.—ELIGIBLE BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the Railway Hotel, New Barnet, on MONDAY SEPTEMBER 29th, 1862, at FIVE for SIX o'clock, the following lots of eligible FREEHOLD BUILDING LAND, close to the railway station, viz.:—Twenty-seven lots on the New Barnet Road (east), twenty-five on Victoria Road—adjoining the Railway Tavern—three in Lytton Road, two on the New Barnet Road, west, one at the corner of Leicester and Plantagenet Roads; and three in Somerset Road, east. The views from some of the sites are very extensive. Gas and water are laid on. The Metropolitan Railway, now nearly completed to Farringdon-street, will give direct communication with the City. The purchase money may be paid by instalments.—Particulars, plans, and conditions of sale may be obtained at the Railway Tavern, New Barnet Station; of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the place of sale.

PECKHAM, SURREY.—To Builders, Members of Building Societies and others.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, London, on FRIDAY, OCTOBER 3rd, 1862, at TWELVE for ONE o'clock, THIRTY-NINE LOTS of eligible FREEHOLD BUILDING LAND, near the Rosemary Branch Tavern, Commercial-road, Peckham, with frontages to North-street, Camden-grove North and East, Surrey-grove, and Peckham-rye.—The Old Kent-road.—Nine tenths of the purchase-money may remain on mortgage or contract at 5 per cent. to be paid in nine years by half-yearly instalments, but the whole or any part of the balance may be paid off at any time without notice.—Particulars, plans, and conditions of sale may be obtained of Messrs RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; at the Rosemary Branch Tavern; and at the Place of Sale.

The Manager of Messrs. Gumpy's Works, King's-road, Chelsea, is compelled, on account of his removal to a new locality, to dispose of the Handsome House to Builders, Marble-mixers, Marble Masons, and others. Lease, with immediate possession.

MESSRS. BROAD & PRITCHARD will SELL by AUCTION, at the MART, on TUESDAY, SEPTEMBER 30, at TWELVE o'clock, the valuable LEASE, with immediate possession, of those extensive MANUFACTURING PREMISES, situate at Jubilee-place, King's-road, Chelsea, comprising workshops, office, show-room, polishing-room, mixing and press-rooms, modelling room, stabling, counthouse, &c.; also convenient dwelling-house and large garden, the whole covering an area of upwards of 14,000 superficial feet. Held for a term of about 37 years, at a ground-rent of 60*l.* per annum.—May be viewed. Particulars on the Premises; at the Auction Mart; of CHARLES SHEPHEARD, Esq. Solicitor, 24, Moorgate-street, E.C.; or at 28, Poultry, E.C.

CLEARANCE SALE OF CONTRACTOR'S PLANT, ELMS VALE, DOVER.

MESSRS. ROBINSON & SON are instructed to SELL, without reserve, on THURSDAY next, the 23rd SEPTEMBER, a complete SET of MACHINERY for LIME CRUSHING and MORTAR MAKING; a TRAVELLING CRAB, to lift 10 tons; a quantity of strong useful chain, with other iron work, and miscellaneous articles.—Sale to commence at TWELVE o'clock.

AT GARRAWAY'S COFFEE-HOUSE, CORNHILL, FRIDAY, 26th SEPTEMBER, 1862, at FOUR o'clock.

TIMBER ..... Ten Loads, Foreign and Colonial.
DEALS and BATTENS .... 50,000 pieces ditto ditto
and other Wood Goods. H. FREEMAN & CO. Brokers.
3, Crooked lane, Cannon-street, E.C.

WEYMOUTH.—To RAILWAY CONTRACTORS, BUILDERS, and OTHERS.

MR. POTHECARY has received instructions from Mr. Rentmore, the Contractor for forming Roads and Sewers, and for filling in the Park Estate of the Conservative Land Society, at Weymouth, to SELL by AUCTION, on the PREMISES, on MONDAY, the 29th inst. and following days, the whole of the valuable and useful PLANT and MATERIEL used by him on such works; comprising four-capital top horses; six other valuable horses, sound and good workers; 4 strong waggons, two narrow-wheel ditchers' dogs and mud, dobbin carts, harrows, fifteen sets of chain harness, spring bars, a good portable smith's forge with bellows complete, a set of tools, a large quantity of stoneware pipes, an excellent chaff cutter, and numerous other effects. May be viewed on Thursday next, the 25th inst. and on applying to Mr. HOPKINS, Foreman, on the Works; and catalogues obtained on application to Mr. RENTMORE, Contractor, 74, Borough-road, London; or the Auctioneer, Weymouth, seven days prior to the day of sale. The Auctioneer begs to call the particular attention to the sale of the horses being of the most useful description, the plant in good condition; and, in consequence of the completion of the contract, the whole will be sold without reserve.

Dated, Golden Lion Hotel, Weymouth, 17th September, 1862.

To Carpenters, Builders, Timber Merchants, Contractors, and Others.

MR. PEAKE is directed to SELL by AUCTION, at the PREMISES, as above, on WEDNESDAY, SEPTEMBER 24th, 1862, at TWELVE for ONE, the Yard being immediately required by the Charing-cross Railway Company, the remaining ROBLIN'S YARD, Nos. 15 to 19, Hungerford-market, Strand, comprising 2,000 pieces of fine seasoned yellow and white flooring and matched boards of various thicknesses; 2,000 dry well-seasoned deals, battens, and scantling; 1,000 pieces of framing stuff, assortment of stock, to make an important drawing of the Yard would be effected by the instalment.—May be viewed on the morning of sale, and catalogues obtained at Mr. PEAKE'S Offices, 41, Lord's-street, Southwark.

FOR SALE, several PLOTS of FREEHOLD BUILDING LAND, on the Benhill Estate, Sutton, Surrey, from 2½ to 30*l.* per foot frontage, land tax redeemed, numerous trees, five minutes' walk from the Sutton Railway Station, half-hour's ride from the London Bridge Terminus, good roads, good water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Builder, Sutton, S.

BUILDING LAND TO BE LET, SAVILLE ROW, WALWORTH, Surrey, within five minutes' walk of the Elephant and Castle, contiguous to the Railway Station, and adjoining the Improved Fore-street, Lambeth, and Camberwell Tramways.—The Fishmongers' Company are prepared to receive PROPOSALS for the whole or any part of their ESTATE, lying between Saville-row and Gloucester-row, the west having been laid out in streets and frontages for the erection of dwelling-houses, shops, or other buildings, on a building lease or leases, for 80 years, land-tax redeemed. The streets are formed, the roads and sewers made, footpaths laid and drains laid to the estate in a state ready for immediate occupation.—For particulars inquire of Mr. W. B. TOWSE, the Clerk of the Company, Fishmongers' Hall, London Bridge; and at the Office of Mr. RICHARD PETER, Architect and Surveyor, 3, Penfold-street, where plans and the whole may be seen.

CROYDON, SURREY.—TO BE LET, on Building Leases, the northern portion of the HALING PARK ESTATE, a delightful suburban district, about one mile from the railway stations, from where the property is accessible by half-hour trains. The land, which is pretty well wooded, is well adapted for villa residences (only) in plots of from one to two acres.—For terms, apply to Messrs. BLAKE, Croydon.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for building purposes, and Villa Residences are much required in the locality. The soil gravel, situation healthy, and water excellent. The Snaresbrook Station, 3 furlongs only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Buckheath, Tottenham, Cambridge Heath, &c.; and some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

EXTENSIVE MANUFACTURING PREMISES, Southwark.—TO BE LET, on LEASE, EXTENSIVE MANUFACTURING PREMISES, comprising a very large area, situate in the Borough-road, Southwark. The Buildings, which are very substantially built, consist of a very large factory, of three lofty floors, with basement; a smaller factory, of four floors, adjoining; a very spacious and lofty ground-floor factory, yard, a capital family residence and counting-house, gateway entrance, and three dwelling-houses fronting the Borough-road. Nos. 77, 78 and 79, which can be readily let off if desired.—For further particulars apply on the premises, or to Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-street, E.C.

IPSWICH.—TO BE LET, on Building Leases, at very moderate ground rents, several extremely desirable PLOTS of LAND for the erection of villa residences, for which there is a great and increasing demand in the vicinity of Ipswich. The land is situate near the Ipswich Railway Station, with frontages to the London and the Hadleigh roads, and to the new Station road, and is within about a mile from the Corn-hill.—Applications for particulars to be made to Mr. F. BARNES, Lower Brook-street; or to Mr. W. W. HUTCHINSON, 4, Soane-street, Ipswich.

TO CAPITALISTS and BUILDERS.—SITES for MARINE RESIDENCES.—Blue Anchor, in the parish of Old Cleeve, on the north coast of Somerset, two miles from the picturesque scenery of the West Somerset Railway.—TO BE LET, for terms of years, determinable with lives, numerous SITES for BUILDING, commanding extensive views of the Bristol Channel and the grand mountain scenery of South Wales, the beauty of which cannot be surpassed. Blue Anchor is celebrated for the purity of the air, and has long been regarded as a most eligible and attractive situation for a watering place.—For particulars apply to Messrs. BEADONS & SWEET, Solicitors, Taunton, at whose Offices a plan of the ground and the proposed arrangement of the buildings may be seen

LIME GROVE ESTATE, Putney.—This Estate, containing eight acres and fifty acres, and immediately adjacent to the Putney Station, and near to Putney-heath, with very extensive frontages on Putney hill and the Upper Richmond-road, TO BE LET on building leases, either as a whole, or in part.—For particulars, apply to Messrs. BAXTER, ROSE, & CO. 6, Victoria-street, Westminster; Mr. POWNALL, 10, Lincoln's-inn-fields; or Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament street.

WANTED, PREMISES or LAND in the City of London, for the purposes of a Police Station, in the neighbourhood of Bishopsgate-street, Leadenhall-street, Fenchurch-street, or Tower street. Particulars and terms to be addressed to the Town Clerk, Guildhall, London. WOODTHORPE.

SURBITON HILL FREEHOLD BUILDING GROUND.—SIXTEEN ACRES to be SOLD or LET, on long leases, in one or more lots.—For particulars apply to Mr. JOHN SELFE, Surbiton Hill; or to Mr. NIGHTINGALE, Estate Agent, Kingston, Surrey.

THE Spacious and well-lighted GALLERY of the SOCIETY of BRITISH ARTISTS, Suffolk-street, Pall Mall East, consisting of five large rooms, TO BE LET until the end of FEBRUARY next. T. ROBERTS, Secretary.

EXTENSIVE CELLARS and OFFICES WANTED, in the neighbourhood of one of the principal London thoroughfares. The Cellars would have to cover a space of at least 10,000 or 12,000 square feet. Communications would be entered into with the Proprietors of a large house now standing to be pulled down and rebuilt.—Apply, by letter, to G. A. HAIG, 59, Mark lane, E.C.

HOLLOWAY.—ELIGIBLE FREEHOLD LAND TO LET, for the purpose of building Private Residences, Semi-detached, and others, or otherwise. Term, 99 years. At moderate ground-rents. This highly eligible Freehold Land (generally level) is in the Parish of St. John, Holloway, and fronts Upper Holloway-road, Hornsey-road, Seven Sisters'-road, Hyde, East and West Ends, and the different Railway Stations, are five minutes' walk or less. The Land is all properly drained, and the roads made.—For particulars, apply to Mr. JOHN THOMAS, Architect and Surveyor, 10, Denmark-street, Cold Harbour-lane, Camberwell, S.

HENLEY-ON-THAMES. — BUILDING GROUND on the Banks of THAMES.—TO BE LET, on building leases, THREE PLOTS of GROUND, immediately adjoining the new road now being made along the river side from Henley to the Great Western Railway Station. Two of the plots have a frontage to the river of 97 feet, and a depth of about 110 feet, and the other a frontage of 52 feet, and a depth of 86 feet. The land is most beautifully situate, and commands extensive views of Park-place and the river Thames. Plans of building lots (sizes of frontages to roads can be met with).—Full particulars may be had of Messrs. COOPER, Solicitors, Henley-on-Thames; and Messrs. HEWS & SON, Estate Agents, Henley on Thames.

MILLS and Powerful STREAM of WATER. TO BE LET, for a term of 60 years or otherwise, as may be agreed on, Two powerful MILLS, situate on the same race, within 50 yards of each other, the premises within a mile of the city of Exeter, and two stations of the Bristol and Exeter, South Devon, and Western and Exeter Railways. The mills have been lately used for flour purposes, and for the last year as a woollen factory. The woollen factory has recently been destroyed by fire. Available site, about 4,000 square feet. The stream is about 22 feet wide, 4½ feet deep, and the fall is about 12 feet and 6 feet. This property is now to be Let, either separately or together, and the water-power may be consolidated if required. There is a handsome and comfortable Dwelling-house, adjoining the Mills, which, with several Cottages and some Land, may be had with the Mills. Plans of the property will be ready in a few days, which, and for further particulars, apply to R. BYNDON and SON, Surveyors, Exeter; or to WM. RAWLING, 15, Northernhay-street, Exeter.

BUILDING SITE of about an acre WANTED, for the erection of a private residence, intended to be of the annual value of 130*l.* or 140*l.* on high ground, within 25 miles of London, wooded, and if on a gravelly soil preferred. The freehold would either be purchased, or a long lease taken at a ground rent. Preference to be given to Richmond or Windsor, or other neighbourhoods in the vicinity of the Thames.—Apply, by letter, with full particulars, including lowest price or ground rent (and, if possible, a sketch and plan of the property offered), to Messrs. BURGOYNE, MILNES, & BURGOYNE, Solicitors, No. 169, Oxford-street (west corner of Stratford-place), London.

TO BUILDERS, &c.—TO BE SOLD, a PIECE of FREEHOLD LAND, in Park-road, near Clapham and Wandsworth Station, in good neighbourhood, and eligible for detached and semi detached residences. Also Two valuable Corner Sites, each of 100 feet by 113 feet, and 40 by 113 (in lots, if required), situated between Cemetery-road and Bennett's-road, Peckham (freehold).—For price, &c. apply to J. S. IDLEYN, Agent, 2, Hatton-yard, Threadneedle-street, City.

LONDON: Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn fields, in the Parish of St. Giles in the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, September 20, 1862.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1025. SEPTEMBER 27, 1862. PRICE FOURPENCE. By Post, 5d.

ILLUSTRATIONS.

New Church for the Parish of St. James the Apostle, Dover.—Mr. Talbot Bury, Architect 607

Ancient Street Architecture of Newcastle-on-Tyne: the "Head of the Side:" the "Blue Posts" in Pilgrim-street 606

CONTENTS.

Dover: St. Mary's in the Castle: The New Parish Church 689

Modern Architecture in the East 690

New Materials for the Lives of British Architects 692

Our Bridges 692

The Brussels International Congress 694

Researches in Rhodes: Persian Pottery 693

Prisons and Reformatories 693

Esparto: a Substitute for Cotton and a Material for Paper 694

Canvey-ton Priory and Fair Rosamund 694

Working Men's Baths and Club Rooms, Sheffield 695

New Town Hall, Preston 695

A Glance at the Old Houses of Newcastle-upon-Tyne 696

Paper Splitting 698

Chatham 698

Discovery of Wall Paintings, Westweston Church 699

The Prince Consort Memorials 699

Stained Glass in Cathedrals 699

School-building News 699

York 699

Strange Encasement of the Stained Glass at York Minster ..... 7..

The Sanitary State of Rotherham 700

The Brighton Drainage Question 700

The New Style Question 701

Chimney Construction 701

The Cattle Plague 701

Fires and Inspectors of Nuisances 701

Books received: Reade on a New Style (Weale) 701

Miscellanea 702

KING'S COLLEGE, LONDON.—ARTS OF CONSTRUCTION.—PROFESSOR KERR'S LECTURES take place on Wednesday, at 4, and Thursdays, at 3:30, as follows

Course I.—Michaelmas Term (October to December), on the Materials and Tenures of Building and Engineering.

Course II.—Lent Term (January to March), on the Practice of Construction.

Course III.—Easter Term (April to July), on the Constructive Design of Architectural and Engineering Works.

Fee, 2l. 12s. 6d. for the term, or 7l. 7s. for the year.

R. W. JELF, D.D. Principal.

THE CENTRAL TRAINING SCHOOL of ART, South Kensington, for Male and Female Students, and the METROPOLITAN SCHOOLS of ART, at 43, Queen square, Bloomsbury, for Female Classes only; Spitalfields, Chapin-street, Finsbury, Walworth-street, Wilmington-square; St. Thomas's, Charterhouse, Goswell-street; Rotherhithe, Grammar School, Deptford-road; St. Martin's, Castle-street, Long Acre; Lambeth, St. Oswald's Place, Upper Kennington-lane; Hampstead, Dispensary Building, Christchurch, St. George's-in-the-East, Cannon-street, and round Mary's Hospital, Vincent square, Westminster, will RE OPEN on WEDNESDAY, the 1st OCTOBER.—By order of the Committee of Council on Education.

EXAMINATIONS for SCIENCE CERTIFICATES of the COMMITTEE of COUNCIL on EDUCATION will take place at the Offices of the Science and Art Department, South Kensington, on the undermentioned days.

The Examinations will last each day from TEN a.m. till FIVE p.m with one hour's intermission in the middle of the day, except on the days for Subject I. and Chemical Analysis.

Candidates for certificates who have registered their names must attend, at ten minutes before TEN a.m at the Offices, South Kensington, on the day or days which are indicated for the subjects they wish to be examined in

On the

I. Practical Plane and Descriptive Geometry, Machine and Building Construction, Machine Drawing, &c.	Subject 1.	Monday, 3rd November.
	Subject 2.	Tuesday, 4th November.
	Subject 3.	Wednesday, 5th November.
	Subject 4.	Thursday, 6th November.
II. Mechanical Physics	Subject 1.	Friday, 7th November.
III. Experimental Physics	Subject 2.	Saturday, 8th November.
	Subject 1.	Monday, 17th November, morn.
	Subject 2.	Monday, 17th November, aftern.
IV. Chemistry	Subject 1	Friday, 14th Nov. after, morn. (Analysis on Friday afternoon, 14th November, and Saturday, 15th November.*
V. Geology and Mineralogy	Subject 2.	Friday, 14th November, aftern.
VI. Physiology and Zoology	Subject 1.	Monday, 10th November.
	Subject 2.	Tuesday 11th November.
VII. Botany and Vegetable Physiology	Subject 1.	Wednesday 12th November.
	Subject 2.	Thursday, 13th November.
VIII. Mineralogy and Metallurgy	Subject 1.	Tuesday, 18th November.
	Subject 2.	Wednesday, 19th November.
	Subject 1.	Thursday, 20th November.
	Subject 2.	Friday, 21st November.

* As many students as possible who take up only Inorganic Chemistry will do their Analysis on FRIDAY afternoon; the rest on SATURDAY. Analysis tables are allowed.

N.B. Candidates must send in their names before the 15th OCTOBER, except those coming up in Mechanical and Machine Drawing and Building Construction, who must send in their names by the 5th OCTOBER.

By order of the Committee of Council on Education.

INTERNATIONAL BAZAAR, SOUTH KENSINGTON.—If architectural effect can be marred by various window blinds, visitors are invited to inspect in the central hall of the bazaar a NEW PATENT BLIND, whereby that necessity of civilization ornament in use is realized.

GENERAL MECHANICAL and ARCHITECTURAL ASSOCIATION.
3, Corporation-street, Manchester.

The Association employs first-rate Draughtsmen of every class, executes Drawings and Designs for all Descriptions of Machinery, Hydraulics; Land, Marine, Locomotive, and Agricultural Steam Engines, &c. &c. Architectural Designs furnished; Levelling, Surveying, and Plotting executed; Work taken and, Estimates given, specifications drawn up, &c. Drawings made in private rooms if parties requiring secrecy.

E. W. YOUNG, Acting Manager.

GREAT INTERNATIONAL FRUIT, VEGETABLE, ROOT, CEREAL and GOURD SHOW, at the ROYAL HORTICULTURAL SOCIETY'S GARDEN, South Kensington, OCTOBER 8, 9, and 10. The Roots, Cereals, and Gourds will remain on exhibition until the 18th.

Admission, on October 8, Half-a-Crown; on October 9, 10, 11, 13, to 18, One Shilling each day.

PARIS Permanent Universal Exhibition.
TO BE OPENED IN 1863.

For many years National Exhibitions have been held in various cities, with universal success in manufacturing industry and developing trade between the countries represented by the Exhibitions.

The central position of Paris, and the vast number of visitors passing through the city every year, have suggested the establishment of a Permanent Exhibition, where specimens of the manufactures and products of every country will be collected together in one spacious building, in order that dealers at home and strangers from all parts of the world may see them, and have their orders upon the quality and cost of the articles exhibited.

The present Law, but with the entire approval of the Emperor Napoleon III. and a special clause has been granted by the Ministers of Finance and Commerce for admission to the Permanent Universal Exhibition, during the entire period that it is open, of all Foreign Products, free of duty which are to export them without payment of octroi, but to sell them on the spot, on paying the duties imposed by the new Tariff in force.

The whole of the capital amounting to 600,000l. has been subscribed in France, and the Edifice is now in course of construction, will be opened early in the summer of 1863.

The amount of space allotted to France and several other continental countries has already been taken up.

Admission will be gratuitous on at least five days of the week.

The British Exhibitors will be represented by a Committee of twenty members, who, with those appointed by other countries, will form a General Committee, to organize the distribution of space, and frame a code of rules for general observance; and agencies will be established in Paris to receive orders.

All products and manufactures will be classified, so that those of the same nature from different countries, being placed in juxtaposition, may be easily compared.

Two rates of rental payable annually in advance) will be charged, the space being taken for so many

The first rate (2l. per square mètre per annum) will apply to wall pictures and furniture.

The second rate (1l. per square mètre per annum) will apply to wall surface for advertisements.

N.B. Five square mètres are equal to six square yards English.

Drawings of the Building may be seen at the principal Railway Stations and Exchanges in London and the country, in the Refreshment Rooms of the present London Exhibition; and at the Offices of Messrs. J. STUDDY LEIGH & CO. 27, Leadenhall-street, London, Agents for Great Britain, Ireland, and the Colonies, from whom forms of agreement and full information may be obtained.

EXHIBITION of the GOLDEN EAGLE. This beautiful Work of Art, which displays the plumage of the Bird and its life-like attitude, is made of the separate coloured feathers, formed from malleable copper, and is pronounced by connoisseurs to be the wonder of the age. Exhibiting daily at the Burlington Gallery, 191, Piccadilly.—Admission, 1s; Fridays, 2s.6d.

PLAISTERERS' COMPANY.—WILLIAM ROBERTS'S CHARITY.—William Roberts, of Cutler-lane, late Citizen and Plaisterer of London, having by his will, dated the July, 1703, given unto the Master, Wardens, and Court of Assistants, for the time being, of the Worshipful Company of Plaisterers, the sum of 150l. Three per Cent. Consolidated Bank Annuities, upon trust for the yearly payment of 8l. each for ever, to three poor Widows of Plaisterers, whose Labour is worse rewarded by the Fraternity of such widows not being aliens, or under 55 years of age; and such three widows not receiving any other charity. Notice is hereby given, that a Court of Assistants of the said Company will be held at the Albion House, Aldersgate street, London, on TUESDAY, the 7th day of OCTOBER next, at FOUR o'clock in the afternoon precisely, when the Court will proceed to the ELECTION of a poor Woman, the widow of a Plaisterer, who shall be thought a proper object for the said Charity, pursuant to the direction of the said will, in the room of a widow deceased; and such persons as are desirous of applying for the same are to attend, and must produce certificates of their several marriages.

HENRY MOTT, Clerk.

25, Basford-row, 23rd September, 1862.

INTERNATIONAL EXHIBITION.
BROWN & GREEN'S
KITCHEN RANGES
have obtained
THE PRIZE MEDAL
for general excellence.
LONDON WAREHOUSE,
81, BISHOPSGATE STREET WITHIN.

COMPETITIONS.

CONSULATE GENERAL of SPAIN in ENGLAND.—Notice to Architects, Engineers, and Contractors DESIGNS and ESTIMATES for the BUILDING to be erected at Madrid, for the Hispano American Exhibition, will be received by the Secretary-General of the Committee of the Exhibition up to the 25th December next.

The plan of the ground, and the conditions to be observed by competitors, can be obtained at the Consulate General, No. 1, Cushion court, Old Broad street, to whom offices the designs and estimates may be addressed for transmission to Madrid.

London, 16th Sept. 1862.

H. C. M.'s Consul General, JUAN GAMARON.

NOTICE.—To ARCHITECTS and BUILDERS.—The PREMIUM offered for a DESIGN for a RESIDENCE, &c. at Palmswick, Gloucestershire, for C. Codrington, Esq. is WITHDRAWN, in consequence of a plan having been sent in and accepted.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—NOTICE to BUILDERS.—TENDERS are required for ERECTING GUN SHEDS for four Field Batteries of Artillery, at Woolwich.

Persons desiring to Tender for the erection of these Works must leave their names at this Office, on or before the 2nd day of OCTOBER, 1862, and pay the sum of 1l. 1s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

A. H. FREELING, Lt.-Col.
Commanding Royal Engineer, Eastern District.

Royal Engineer Office, Colchester, September 19th, 1862.

NOTICE.—TENDERS are required for ENLARGING and DEEPENING the WELL belonging to the WAR DEPARTMENT at above Office. Parties intending to Tender can inspect the drawing and obtain a printed specification and form of Tender on application at this Office, between the hours of TEN and FOUR, from 24th SEPTEMBER till 2nd OCTOBER, 1862, Sunday excepted.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Sheerness, 17th Sept 1862

TO BUILDERS, IRONFOUNDERS, and CONTRACTORS.—GLOUCESTER CATTLE MARKET.—Parties disposed to TENDER for the Formation of a Cattle Market for the Corporation of Gloucester, may inspect the Plans, Specifications, and Conditions at the Office of the City Chamberlain, in the Corn Exchange Chambers; and Duplicates of the same at my Office in Bridge-street, one door after TUESDAY, the 30th instant, until TUESDAY, the 14th day of OCTOBER next. Bills of Quantities and forms of Tenders may be obtained either from me or the City Chamberlain, on payment of a deposit of One Guinea, which will be returned to Tenderers on a bona fide Tender. Tenders, sealed up and endorsed "Tender for Cattle Market," to be delivered to A. H. JESKINS, Esq. Town Clerk, before or not later than TEN o'clock a.m. on TUESDAY, the 14th of OCTOBER. Neither the lowest nor any Tender will be necessarily accepted.

ROB GRIFFITHS, Architect.

Bridgnorth, 24th September, 1862.

MEMORIAL TO THE LATE PRINCE CONSORT.—The Committee of the Butchers' Charitable Institution invite BUILDERS and MASONS to send in TENDERS for ERECTING, at Waltham-green, a MEMORIAL to the late Prince Consort. The drawings, specifications, and form of Tender can be seen at the Architect's Office, on and after OCTOBER 13th. Tenders are to be addressed to the Chairman of the "Albert Memorial Committee," and delivered in person at the Freemasons' Tavern, Great Queen-street, on THURSDAY, OCTOBER 30th, punctually at SEVEN o'clock, p.m. after which time no Tender will be received. The Committee do not bind themselves to accept the lowest or any Tender.

HENRY McCALLA, C.E. Architect.
Office, 30, Westbourne place, Eaton-square, S.W.

TO ENGINEERS.—The Guardians of the Poor of the Skipton Union will meet at the Rathill Workhouse, York-street West, Commercial-road East, on TUESDAY, the 7th day of OCTOBER next, at THREE o'clock in the afternoon, to receive and open TENDERS from persons wishing to provide and fix a COOKING, HEATING, and HOT WATER APPARATUS at the New Workhouse of the Union at Bromley, Middlesex. Copies of the specifications, together with forms of Tender and particulars, may be obtained from the Architect, Mr HENRY JARVIS, at his Offices, 29, Trinity-square, Southwark. A deposit of 5l. must be left with the Architect by each party applying for a copy of the specification, but will be returned after the Tenders have been opened as above.

By order of the Guardians,
W. H. SWEPSTONE, Clerk.

London, 16th September, 1862.

TO CONTRACTORS.—Sealed TENDERS will be received by the Secretary of the Bridge Committee of the Town of Drogheda, up to the 1st day of NOVEMBER next, for TAKING DOWN the present BRIDGE over the River Boyne, at Drogheda, and Building a new CAST-IRON BRIDGE in place thereof, or a STONE BRIDGE, of 80 feet span, according to plans and specifications, prepared by J. NEVILLE, Esq. C.E. to be seen at my office, Fair-street, Drogheda, or at the office of J. NEVILLE, Esq. Jocelyn street, Dundalk, between the hours of TEN and FOUR o'clock every day (Sunday excepted), after the 15th SEPTEMBER instant.

Tenders will be received, at the same time, for BUILDING a WOODEN BRIDGE, to be called the "Watton Bridge, higher up the river, in the town, according to plans and specifications prepared by the same Engineer, to be seen at the latter.

The lowest or any Tender not necessarily to be accepted.

HENRY CLINTON, Secretary to the Bridge Committee of the Corporation, Harbour Commissioners, and Grand Jury of Drogheda.

Dated, at Drogheda, this 8th day of September, 1862.

[For remainder of Contracts see next Page.

CONTRACTS.

PARISH of ST. GILES, CAMBERWELL.—TO SEWER CONTRACTORS and OTHERS.—The Sewers and Sanitary Committee will meet to receive TENDERS for the construction of SEWERS WORKS, and one mile 220 feet of 2 feet by 3 feet Half-brick Sewer, and 300 feet 12-inch Pipe Sewer, on TUESDAY, the 16th of SEPTEMBER, at HALF PAST SIX o'clock precisely, at the Vestry Hall, Camberwell. Printed forms of Tender will be supplied, and no Tender will be received unless in accordance with the instructions contained in the specifications and conditions; and the parties tendering must be in attendance when their Tenders are opened. The Committee do not bind themselves to accept the lowest or any Tender. Particulars to be obtained on application at Mr J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Wells-street, Norfolk-terrace, Camberwell, before the hour of ELEVEN and THREE, and after TUESDAY, the 2nd of SEPTEMBER inst. GEORGE WILLIAM MARSDEN, Vestry Clerk.
Vestry Hall, Camberwell, 3rd September, 1862.

PERSONS desirous of TENDERING for the ERECTION of a VILLA RESIDENCE on the Hoopern Park Estate, near Hereford, can see the drawings and specifications on the 1st and 2nd of OCTOBER, at No. 11, Portman-buildings, Portman-street, after which date they will lie for inspection at Drybridge House, Hereford. The lowest or either Tender will not necessarily be accepted. E. H. LINGEN BARKER, Architect.

TO RAILWAY AND SEWER CONTRACTORS and OTHERS.—The Board of Works for the Plumstead District are desirous of receiving TENDERS for constructing and completing a NEW BRICK BRIDGE and approach roads thereto, over the Quaggy River in Lee-road (near Lee-green); and also for laying down, constructing, and completing FOUR STORM-WATER CULVERTS, about 250 feet in length, and in connexion with the said Bridge and works. The drawings and specifications for these works may be inspected at the Offices of the Surveyors, Mr. C. P. THORNE, 7, Elm-terrace, Deare Park, Lee; or Mr. T. C. HAWORTH, at Eltham, Kent, where further particulars and printed forms of Tender may be obtained. The Tenders are to be delivered, free of expense to the Office of the said Board, at 101, Camberwell-new-road, before FIVE o'clock in the afternoon of WEDNESDAY, the 1st day of OCTOBER next. The Board will not necessarily accept the lowest or any Tender. By order,
CHARLES AUGUSTIN SMITH,
Old Charlton, Clerk to the said Board.
September, 1862.

SOUTH WALSHAM, NORFOLK.—To BUILDERS.—Persons desirous of CONTRACTING for MAKING and LINING NEW ROOF, CLOCK, and other Works, to the Nave and North Aisle of South Walsham Church, may see the plans and specification at the Office of KING STREET, Norwich, on and after SATURDAY, the 27th instant; and all Tenders are to be delivered to me, sealed and endorsed "Tender for South Walsham Church," on or before WEDNESDAY, the 8th of OCTOBER. The lowest Tender will not necessarily be accepted.
R. MAKILWAINE PHIPSON, Architect.
Norwich, 22nd August, 1862.

TO BUILDERS.—TENDERS are required for the ERECTION of TWELVE HOUSES, in Devonshire and Stanley roads, Hackney, for the Temperance Permanent Land and Building Society. The property is inspected, and copies of the specification, price 2s. 6d., obtained, at the Council Office, Paul's-chain, TEN and FOUR o'clock on and after 1st SEPTEMBER next, up to OCTOBER 7th. Tenders, on the forms attached to the specification, are to be left with or sent to the Secretary, sealed, and marked "Tender for Houses at Hackney," at or before FOUR o'clock on TUESDAY, OCTOBER 7th. References and security may be required; and the lowest or any Tender will not necessarily be accepted.
HENRY J. PHILLIPS, Secretary.
Offices—34, Moorgate street, London.

OXFORD INCORPORATION.—To BUILDERS.—The Guardians of the Poor within the City of Oxford are prepared to receive TENDERS for the ERECTION and COMPLETION of the new WORKHOUSE to be built in the parish of St. Clement's, Oxford. The plans, specifications, conditions, and form of Tender may be seen at the Workhouse, and further information obtained of the Architect, Mr. WM. FIDLER, Headington-hill, Oxford. Sealed Tenders to be sent addressed to Dr. ADAMS, the Chairman of the Board, St. John's College, Oxford, endorsed "Tenders for Workhouse," on or before TUESDAY, the 7th day of OCTOBER next, accompanied by the names of two responsible persons who will join the contractor in the usual bond for the due performance of the contract. The Guardians do not bind themselves to accept the lowest or any Tender. By order of the Board,
H. JACOB, Clerk to the Guardians.
Oxford, September 11th, 1862.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a COTTAGE for the Saltburn Improvement Company, can see the plans and specification on and after MONDAY, the 22nd instant, at the Office of Mr A. BROWN, station for Saltburn, on the Sea, and the Office of the Architect, Mr GEORGE DIDRICHSON, Croft-road, Darlington. Tenders to be delivered to Mr. DICKINSON on or before the 1st day of OCTOBER next. The lowest or any Tender will not necessarily be accepted.

BOROUGH of IPSWICH.—The Estate Committee are prepared to receive TENDERS from persons willing to CONTRACT for the execution of the following WORKS:—
1. The Construction of a Bulkhead on the River Orwell, 16 feet long, with the necessary channels and other works connected therewith, on lands belonging to the corporation.
2. The Construction of a Sluice on the River Orwell, and the Excavation of a Water-course about 1,900 feet long through the corporation lands.
Drawings and specifications may be seen, and blank form of Tender and bill of quantities may be obtained at the Town Clerk's Office, Ipswich, of Mr W. H. HOLLAND, Civil Engineer, Westhall Road, Canford-cross, Westminster. Tenders must be sent in to the Town Clerk's Office, Ipswich, on or before the 1st day of OCTOBER next. The Committee do not pledge themselves to accept the lowest or any Tender.
Ipswich, 8 September 11th, 1862.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, or the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for Day Pupils: Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING Classes, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Principal Professors, &c. for giving DAY and EVENING INSTRUCTION in Architectural Designing, Engineering Mechanics, Surveying, Perspective, Isometrical and Geometrical Drawing, Making Working Drawings, Tracings, Designs, Specifications, Taking and Quantities, Estimating, Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils One Guinea per Quarter. Fees in advance per Week, from 7 to 10. There are no extras. The Terms include the use of Drawing Boards, Parallel Rulers, &c.—For Prospectuses of the Day and Evening Classes, apply at the Establishment, 24 Guilford-st. Russell-sq.

TO COLOUR and PAINT MANUFACTURERS.—To be SOLD by TENDER, 75 TONS of FINE INDIAN RED COLOUR AERIE, in washed, prepared state, and 1,400 tons of Sienna, Umber, and Ochre in rud or blank viewed on application to Mr JOHN HOWARD, Ore Farm, near Coleford. Tenders received by Mr HOWARD until SEPTEMBER 30.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINE, and SPIRIT WARRANTS BANKRUPTCY and INVOLVEMENTS CASE CONDUCTED Bills discounted, Legacies, and Reversions of Creditors Consume Mr. RICHARD CLARKE, ACCOUNTANT and BUSINESS AGENT, 11, Moorgate-street, Bank, London.

MONEY ADVANCED upon FREE and LEASEHOLD PROPERTY; also on property in course of erection.—Apply to J. ATKINSON, Solicitor, No. 23, Great-street, Strand.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION, incorporated by Act of Parliament, 1849, 14, RUSSELL STREET, Covent Garden, W.C. Advances to any Extent upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Parties desirous to become shareholders can have full particulars of the advantages offered by this Institution. Charges moderate, and no fees to solicitors. Shares may be withdrawn at any time on giving the usual notice, or transferred to others. Prospectus and last report sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.

TEN PER CENT PER ANNUM.—Sums of FIFTY POUNDS to TEN THOUSAND POUNDS may be INVESTED for SEVEN YEARS, to pay the above interest, without partnership liability, and with less risk than any ordinary joint-stock enterprise.—Full particulars will be forwarded by return of post to gentlemen giving banker's reference to A. G. Universal Advertising Office, 26, Brydges-street, Covent-garden.

TEN THOUSAND POUNDS ready to be ADVANCED by the Temperance Permanent Land and Building Society, on Freehold and Leasehold Property, for any sum of money not exceeding three. Monthly payments included. Interest for each £50 advanced—

2 Years.	4 Years.	6 Years.	8 Years.	10 Years.	12 Years.	14 Years.
£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d.
2 11 0	2 9 4	1 14 11	1 11 11	1 10 0	1 8 1	1 6 11 4

HENRY J. PHILLIPS, Secretary.
34, Moorgate street, London.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Mansfield street North, City road Basin, N. Secondly, that the trade term "TERRO-METALLIC," is the exclusive right of the Proprietor; and thirdly, that the "Reports of the Jurors" page 581, of the Great Exhibition, in the grant of a First class Medal and rank the Manufactures known as long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT
PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their parishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall passage, conservatory, verandah, floors, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Gallleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA COTTA WORKS, established 1733, and the recipient of the PRIZE MEDAL at the Exhibition of 1851, for MATERIAL and WORKMANSHIP in TERRA COTTA.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage stamps.

TO ZINC WORKERS and GALVANIZED-IRON MANUFACTURERS.—TO BE DISPOSED OF, by Private Contract, the LEASE, GOOD-WILL, and MACHINERY of a ZINC WORKER (including the Perforating and Corrugating Zinc), capable of working 200 tons per annum. The present profits are about £400 per annum. The machinery includes two Perforating Machines, the larger one for zinc, with thirty-nine different patterns of punches and matrices; the smaller one, for paper and tin plates; a powerful Bending Corrugating or Gutter-making Machine, 8 feet wide, with dies; Astragal Machine; Screw Bench; Ply-press for fret work, Circular Cutting-machine, Planing-machine, Lathes, Drilling machines, and Tools, worked by a 6 horse power steam-engine and boiler. The premises comprise a capital Iron Workshop on the ground floor, with Store-room over; Counting-house, Smithy, Two-stall Stable, and Yard.—For further particulars apply to Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

A STONE, SLATE, and LIME WHARF, on the REGENT'S CANAL.—In consequence of the approaching termination of the present Partnership the above Business and Premises are TO BE DISPOSED OF. The concern has been established nearly years, and trade can be had with the Building Trade which may be found very desirable. For particulars apply to S. W. JOHNSON, Esq., 6, Gray's-inn square, W.C.

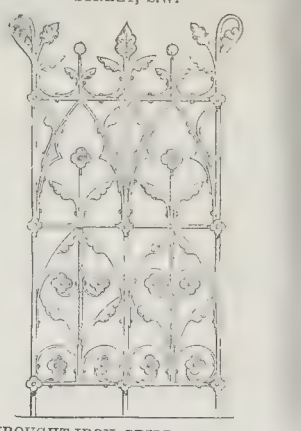
AN old-established PAINTER'S and DECORATOR'S BUSINESS at the West end, in an excellent position, for immediate DISPOSAL, doing a good trade at full prices; a bargain. Must be seen to be appreciated. Particulars of Mr. JAMES REVELL, Auctioneer, 267, Oxford-street, W.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT, For Damp Walls, and Iron Hurdles. DOWGATE HILL, London; and 2, GOREE PIAZZA, Liverpool.

HAMPDEN GURNEY MEMORIAL SCHOOLS.—The OLD MATERIALS forming the block of buildings known as Allen's mews, Upper Berkeley street, Portman-square, must be taken down by the purchaser SOLELY for BUILDING PURPOSES. A plan and the particulars may be seen at the Offices of JOSEPH CLARKE, Esq., Architect, 13, Stratford-place, Oxford-street, W. Offers of tenders from Builders to be sent in by Mr. CLARKE, on or before the 2nd day of OCTOBER next.

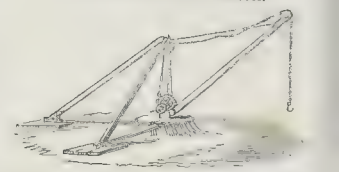
GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of GILT Cornices, Picture Frame Mouldings, and Picture Frames of every design, made at the very lowest prices. Regilding in all its branches to the trade. 5-inch Gilt Beads, 7s. per dozen 6 feet lengths; best ditto, 12s.
G. REES, 57, DRURY LANE,
Four doors from Drury-lane Theatre. Established in 1806.

HART AND SON,
WYCH-STREET, W.C. and COCKSPUR-STREET, S.W.



WROUGHT-IRON GRILLES, GATES, SCREENS, HINGES, BOUNDARY AND TOMB RAILS, ALTAR-RAILS, TABLES, GLASTONBURY CHAIRS, ALMS-BOXES, & FONT COVERS; CORONÆ, STANDARDS, BRACKETS, &c. for Oil, Gas, and Candle.

PRIZE MEDAL AWARDED
PRACTICAL UTILITY, MODERATE COST.



HENDERSON'S PATENT DERRICK CRANES, sizes from 16 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 24 cwt. upwards; Setting Derricks, Double and Single Purchase, Weldings, &c.—For further particulars apply to BOWSER & CAMERON, Springfield Iron Works, Mount Nod-street, Glasgow.

H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.
PATENT WROUGHT IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—17, Union-street, Borough.

TO RAILWAY COMPANIES.—The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineers' Brass-founder, No. 9, Shoe-lane, Fleet-street; manufacturer of Steam Fittings, Spring Apparatus, Pumps, Cocks, &c.; Patent Anti-friction Metal, Gun Metal, Brass Castings &c.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RAOUL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

GEORGE COWELL, 14, CRESCENT, Salford, Manchester, HOT WATER APPARATUS MANUFACTURER. Estimates for warming every description of building upon application. Boilers, both upright and horizontal, capable of efficiently and economically heating from 100 to 10,000 feet of pipe.

ESTABLISHED 1774
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
TO BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
(For which he obtained the Prize Medal at the International Exhibition of 1862),
of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

WANTED, DOG-CART, HORSE, and HARNESS, complete. Dealers need not apply.—Write, with price and particulars, to B. Post-office, Commercial-road, Lambeth.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS
SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

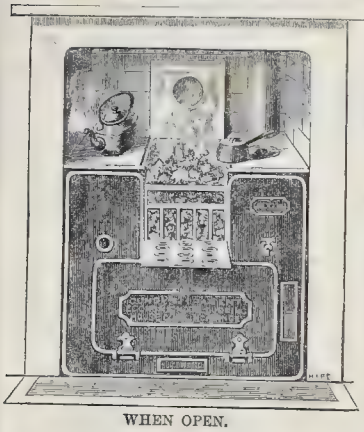
PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,
The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.
These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS
Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

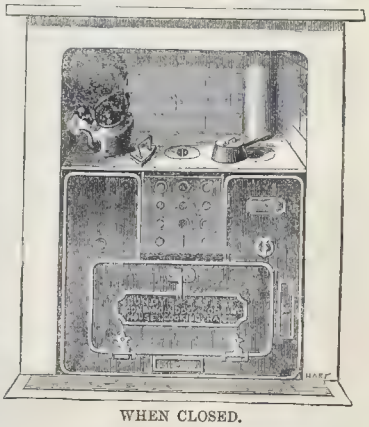
EVERY DESCRIPTION OF STABLE FURNITURE.
ILLUSTRATED LISTS ON APPLICATION TO
ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.

CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



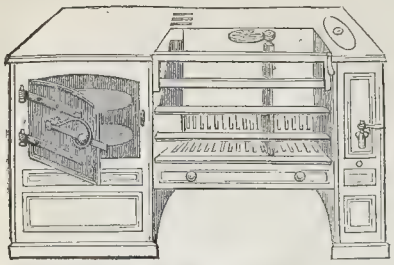
WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of THE MANUFACTURER,



WHEN CLOSED.

WILLIAM ADDIS, Nos. 6 and 15, LEICESTER-ST. LEICESTER-SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self acting Cottage, with Oven and Back Boiler	
34 inches	54s.	30 inches	22s.
37 „	56s.	32 „	24s.
38 „	58s.	34 „	26s.
42 „	60s.	36 „	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 40s. to 100s. each.
Best Cut Clasp and Rose Nails.

1-inch.	1½-in.	2-inch.	2½-inch.	3-inch.
14s.	14s.	14s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

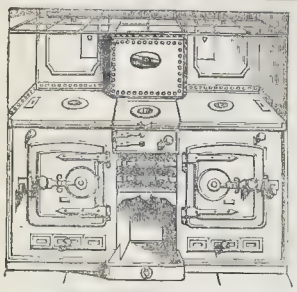
Cast Rain-water Pipe....	2-in. 8d.	2½-in. 10d.	3-in. 1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

O G Gutters, with Clips on....	4-in. 10d.	4½-in. 1s. per yard.

Patent Line..	2 3s. 6d.	3 4s.	4 5s.	5 7s.	6 9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.
Dr. Arnott's Ventilators, 4s. each.
Brick Moulds kept in stock. Any size made to order.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

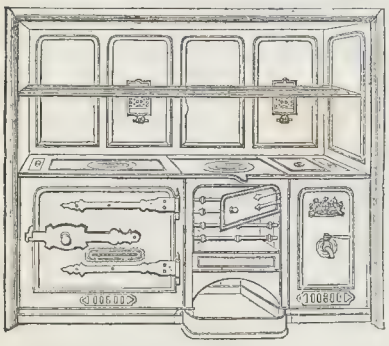
WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3l. 15s. to 33l. 10s.; Bronzed Fenders, with standards, 7s. to 5l. 12s.; steel Fenders, 2l. 3s. to 11l.; ditto, with rich ormolu ornaments, from 3l. 3s. to 18l.; Chimney-pieces from 1l. 8s. to 100l.; Fire-irons, from 2s. 3d. the set to 4l. 4s. The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

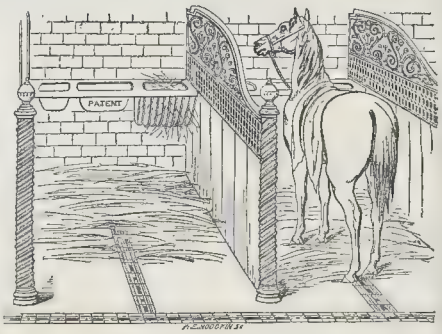
39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.



ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.

A LARGE STOCK
OF OTHER
CASTINGS KEPT.



MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

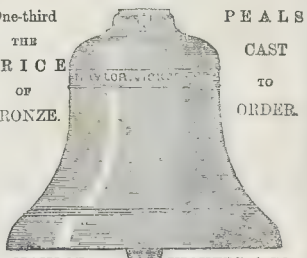
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

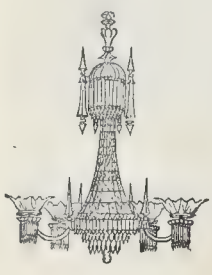
CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD



INTERNATIONAL EXHIBITION, Class 31 and 34.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
THE NEW CRYSTAL STAR AND SUN LIGHT.

J. DEFRIES & SONS,

ENGINEERS, GAS-FITTERS, AND MANUFACTURERS
Of MEDIÆVAL and every Description of
GAS-FITTINGS, CRYSTAL, BRASS, and ORMOLU
CHANDELIERS, VESTIBULES, &c. &c.

Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other public and private Buildings. HOT-WATER PIPES for heating Conservatories, Warehouses, &c. &c. supplied and fitted on the most Improved and Economical Principles. Public and Private Gas-Works Erected.

Works—London and Birmingham.
Principal Depôt and Show-rooms—147, Houndsditch, City.

TO JOINERS AND BUILDERS.

IRONMONGERY at FIRST COST.—A List of Prices may be had on application to the BRITISH HARDWARE COMPANY, Phœnix Works, Wolverhampton.

THE MEDAL FOR 1862
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE MARK.

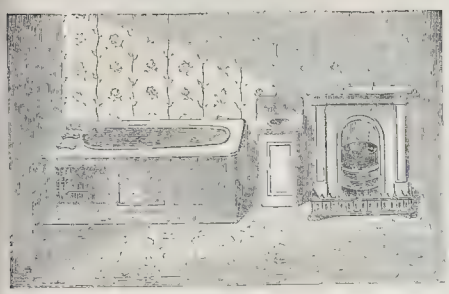
CROWN TUBE WORKS

WEDNESBURY, STAFFORDSHIRE.
Warehouse—31, Upper Ground-street, London, S.

JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 2½, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

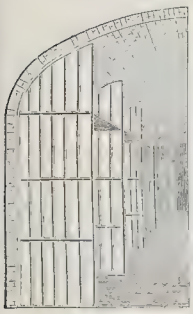
BATH APPARATUS,

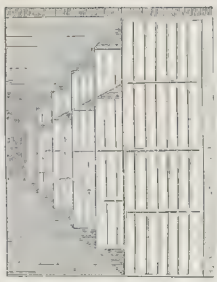
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

WROUGHT IRON WINE BINS.





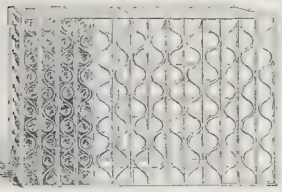
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,

18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

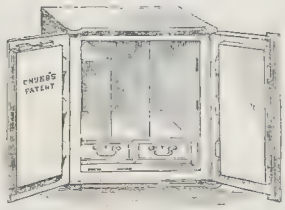
CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS,

The most secure from picklocks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the DETECTOR LOCKS.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire-resisting and non-conducting composition.

The doors are all secured by CHUBB'S PATENT DRILL PREVENTIVE, and their Patent

GUNPOWDER PROOF LOCKS.

Illustrated Price List Gratis and Post Free.

CHUBB & SON,

No. 57, ST. PAUL'S CHURCHYARD, LONDON;

28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.

IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

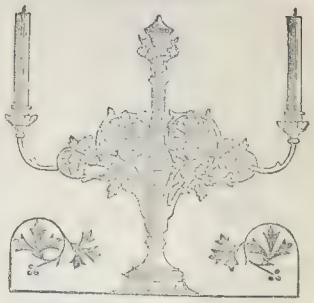
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



JOHNSTON, BROTHERS,

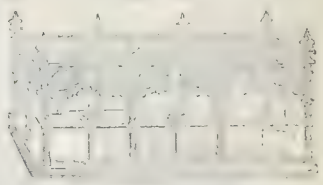
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W. Drawings and Estimates furnished.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c. Illustrated price catalogue, containing designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS, 2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

PRIZE MEDAL. INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES, AND

Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.

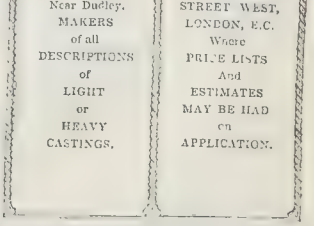
IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles. Price 20*l.*



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE. LONDON OFFICE, CANNON STREET, E.C.

SMITH & WOODS SHOP FRONTS



WORKS, HARTS HILL IRON FOUNDRY, Near Dudley. MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.

LONDON OFFICE, 76, CANNON-STREET WEST, LONDON, E.C. Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only effectual instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.

POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,

Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

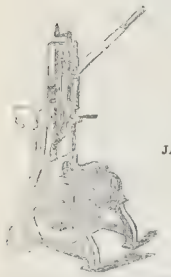
being the highest commendation attached to any Medal in the same Class.

OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

DEVAUX'S VIEILLE MONTAGNE

THICK ROOFING ZINC.

This invaluable metal, if laid by Mr. TYLER on the new principle introduced by J. EDMISTON, Esq. F.I.B.A. will last as long as lead, at one-third the cost.

For Prospectuses, Samples, Models, and Estimates of Works to be done with the Roofing Zinc, in large or small quantities, in Town or Country, apply to

Mr. J. W. TYLER, 4, WOOD-STREET, WESTMINSTER, S.W.

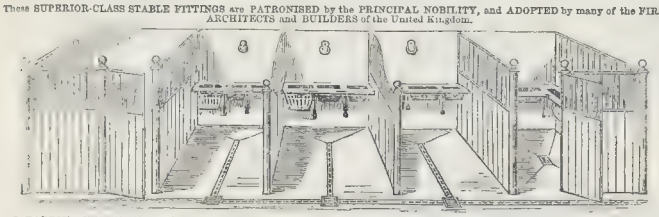
If the Metal is laid by Mr. TYLER, who has become so well known among Architects and Builders, superior and careful workmanship may be depended upon, and a guarantee given for its durability, if the woodwork is prepared according to directions given.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.

These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

A new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

THE ALPHA TUBE & FITTING WORKS.

WALSALL, STAFFORDSHIRE.—Established 1830.

LAMBERT BROTHERS,

MANUFACTURERS OF LAP-WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,

For Steam or High-pressure Water and Gas. HIGH PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS-FITTINGS, GASELIERS, &c.; and of the GROVE BRIDSTEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam-engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, Mills, &c. at the International Exhibition, Walsall Court, Class 31. Exhibited precisely as sold from engravings, and printed prices in trade catalogues.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS, according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instruction of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazine, dock and other stores, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 114, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter ..... 1s. 0d. per foot.
Half-inch diameter ..... 1s. 6d. „
Five-eighths-inch diameter ..... 2s. 0d. „

R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being used by the architects, engineers, and scientific men, in all parts of the world.

Offices—120 Strand, London.
„ Gateshead-on-Tyne
„ 27, Dale-street, Manchester.
„ 68 Anderston Quay, Glasgow.
„ 17, South Castle-street, Liverpool
„ Exchange Buildings, Dublin.
„ 7, Limerick-street, Adelaide.

PROTECTION FROM LIGHTNING.

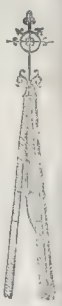


LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY-ROW,

MANCHESTER.



These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

HAWKINS'S REGISTERED CHAIN.—This newly invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast-jacks, &c.; manufacturing into halter chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Eae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to oil as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hoist Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRIDGE-STREET, GREENWICH, S.E. Illustrated Priced Catalogues, post free, on application

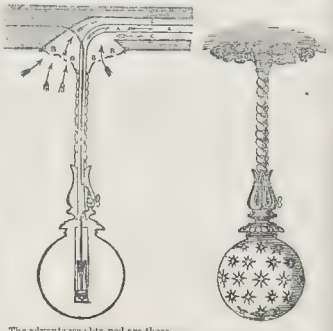
---

TO ARCHITECTS, BUILDERS, &c.

HEATING and VENTILATING LARGE PUBLIC BUILDINGS, HOTELS, MANSIONS, &c.—Your inspection of ZIMARA'S MODEL of Improved Patent STOVE and APPARATUS for these purposes, in the Gallery of the Russian Court, International Exhibition, is particularly requested.—A Descriptive Pamphlet and Drawings will be sent, on application to Messrs. TONGUE & BIRKBECK, Patent Agents and Engineers, 34, Southampton-buildings, Chancery-lane, W.C.

RICKET'S & HAMMOND'S

VENTILATING GLOBE LIGHT, combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these:—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour

5, AGAR STREET, STRAND, LONDON, W.C.

MESSRS. PORTER & CO.'S SMALL GAS-WORKS for MANSIONS and all Isolated Buildings may be seen in the International Exhibition, Class X. No. 2329. Plans and estimates for Towns, &c of any magnitude, at home or abroad.—J. T. B. PORTER & CO. Gas Engineers and Contractors, Lincoln; and 7, John-street, Adelphi, London, W.C.

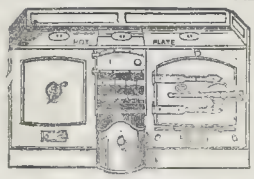
PFEIL AND STEDALL,
IRON MERCHANTS AND WHOLESALE IRONMONGERS,
5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61A, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.

THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.
The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.
Large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.
All Goods delivered free within five miles.
BURT AND POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS.
38 and 65, York-street, Westminster.

THE PRIZE MEDALS,



(LONDON, 1851. PARIS, 1855. LONDON, 1862.)
Awarded to
COTTAM & COMPANY,
2, WINSLEY STREET, LONDON, W.
For progressive and general improvements in
STABLE FITTINGS AND HARNESS BRACKETS.

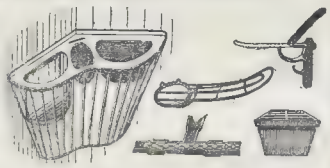


Awarded a prize at the Paris Exhibition,
Patronized by the English and French Governments, as well as by the public, at Country, Country, and Hunting Establishments in the Kingdom.
In use at her Majesty's Stables, Aldershott and Balmoral.



COTTAM & COMPANY, Winsley-street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Water-trough, and Wrought-iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S Patent Safety Halter Guide and Collar Rein attached, which is fixed to the back of the manger, and works with ease and freedom up or down the guide-bar.
COTTAM'S NEW PATENT SEED BOX, an important addition to the above fittings, being simple in construction, light, and durable, protects the corn, and is economical in its results.
COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, is a most essential addition to their fittings; it is never in the way; can be placed and replaced in an instant; while its cleanness, simplicity, and utility in keeping the contents of the trough clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED



can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.
COTTAM'S IMPROVED WROUGHT-IRON VENTILATING BRACKET preserves the shape and allows a free admission of air to the under parts of the saddle.
COTTAM'S IMPROVED SURFACE CUTTER, with perforated movable cover, the use of which prevents accidents, and can be easily cleaned out.
COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.
PATENT LOOSE-BOX FITTINGS, and every article for the harness-room and stable, kept in stock, Plain, Galvanized, and Enamelled. Iron gates, fencing, hurdles, &c.

Illustrated Catalogues and Estimates gratis, upon application to
COTTAM & CO. 2, WINSLEY STREET, Oxford Street, London, W.
WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.
COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.
N.B.—WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-Iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

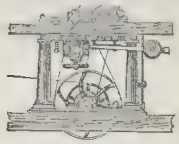
EXTRAORDINARY BARGAINS, FIRE-PROOF SAFES AT HALF-PRICE.—A Provincial Insurance Company having lately amalgamated with a London office, and having no further use for a considerable number of Wrought Iron Fire-proof Safes and Deed-Chests, lying at the chief and branch offices, have returned them to the manufacturers to be sold for half their original cost. They were all made to order for the Company, at the Vulcan Safe Works, Birmingham, in 1861, have only been in use eight months, and are warranted FIRE AND BURGLAR PROOF. A printed description of the various sizes, inside fittings, cost and present price of each safe and chest, sent post free with M'Kenna, Morris, & Co.'s Illustrated Price List. To parties in want of a really good safe the advantages here offered must be obvious, as they may secure an article with the manufacturers' guarantee, QUITE EQUAL TO NEW, AT HALF ITS REAL VALUE, and to remove the doubt naturally felt in purchasing a second hand article unseen, it is requested that parties will in no instance remit the money until the safe is received and approved. They will be *sent carriage paid to any station*, and if not found in every respect perfect and satisfactory, may be returned without any cost whatever to the party ordering them. For full particulars address, M'KENNA, MORRIS, & CO. Vulcan Safe Works, Cumberland street, Birmingham.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
EULETT & CO. 55, High Holborn.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

S. WORSSAM & CO.'S PATENT SMALL MOULDING MACHINE.



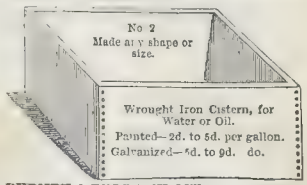
(4 inch scale.)
Will stick single mouldings of any pattern and of any width not exceeding 6 inches, at rates varying from 12 to 36 feet a minute. It will also make sash bars, round sashing, 3 cent cut, ovolo, reeding, &c.—For prices, testimonials, &c., apply at the Works, 304, King's-road, Chelsea, S.W.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Well-green Foundry, No. 68, Charles-street, City-road, E.C. (south Canal bridge.
E. GOLLOP, SOLE PROPRIETOR.
A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of T, strap, butt, Cross hinges, Rising hinges, Rising spring-hinges, Noiseless spring-hinges, Double-acting Spring hinges, Rising Sash Fastenings, Bed Block Springs, &c.
Price List and Drawings on application as above.

RAILWAY COMPANIES, CONTRACTORS, and AGENTS SUPPLIED with KEYS, TREENAILS, BUSHES, SLEEPERS, BARROWS, and all description of RAILWAY PLANT and STORES by W. P. FRANCIS, GRAVATT WORKS, SAW-MILLS, Bridge Wharf, Pedlington. Debentures taken in payment if required.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CAST BOWLS, &c.



BURNEY & BELLAMY, Mill-wall, London.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. EULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Wood, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court road, W.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
11, Stanhope-street, Clare-market, London.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of
SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER-TIGHT WATER BAR; and
SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS SMITH, Patentee, 89, Princes-street, Leicester square, London, and SUCH ONLY are WARRANTED.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in stock.
Manufacturer of Guttering, Piping, Wire Netting Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery Goods of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham-street London E.C.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

PAPIER MACHE AND CARTON PIERRE WORKS,

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1750)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining Rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE PLACE, LONDON, W.

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS,
QUARRYMEN AND STONE-MERCHANTS, BATH.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY.
PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

THE POPULAR SCIENCE REVIEW, No. V. (OCTOBER 1st, 1862), Price 2s. 6d. edited by JAMES SAMUELSON, will contain, besides other instructive and interesting matter, the following Original Articles:—

THE BRITISH OAK; with Two Page Illustrations. By Prof. JAMES BUCKMAN, F.L.S. F.G.S. &c.

TUBIFEX RIVULORUM, the Red Worm of our Rivers. With a Coloured Plate. By EDWIN RAY LANKESTER.

ANÆSTHETICS. By Dr. T. L. PHIPSON, M.B. F.C.S. &c.

HARMOUTH, and its Scientific Attractions. With a Tinted Illustration. By the EDITOR.

THE ELECTRO PLATING PROCESS. (Concluding Part.) With an Illustration. By GEORGE GORE.

NOTES OF THE EXHIBITION:—
No. II.—THE MINERALOGICAL DEPARTMENT. By Prof. D. T. ANSTED, F.R.S.
„ III.—THE CHEMICAL DEPARTMENT. By WM. CROOKES, F.C.S. Editor of the "Chemical News."
„ IV.—THE PHILOSOPHICAL INSTRUMENTS. By JAMES BLYTH, F.R.A.S.

MISCELLANEA | The Albert Memorial. Our Science Schools and Classes. Provincial Institutions and Societies. Naturalists' Field Clubs.

REVIEWS.—And
A Complete Quarterly Summary of every branch of Science, with a Page Plate (The Comet of 1862).

London: ROBERT HARDWICKE, 192, Piccadilly.

Dedicated, by permission, to the Right Hon. Lord Palmerston.

DESIGNS for MONUMENTS, TOMBS, GRAVESTONES, &c. price 16s. complete in one volume.

By JOSEPH B. ROBINSON, Sculptor, Derby.

The Designs in this volume are suitable for either cemetery or churchyard. The book forwarded free to any part of the kingdom for post-office order.

TO ENGINEERS and SURVEYORS.—PRIVATE BILLS, New Standing Orders for the ensuing Session, Level Books, Tracing Paper, Drawing Paper, and every requisite for the Use of Engineers, &c. engaged in the preparation of plans for deposit. Plans, &c. Lithographed with the greatest expedition.

WATERLOW & SONS, 49, Parliament street, and 66, London-wall, London.

INTERNATIONAL EXHIBITION ILLUSTRATED CATALOGUE.

THE ART JOURNAL for October, price 2s. 6d. contains the Seventh Division of the Art-Journal Illustrated Catalogue of the International Exhibition, in which are comprised nearly One Hundred and Twenty Engravings from Exhibited Specimens of Terra Cotta, Earthenware, Engraved Glass, Cast-Iron, Ornamental Safes, Carpeting, Lace, Chandeliers, "Birmingham Jewellery," "Spanish Silver," Tazzas, Silk Damasks, Carved Buffets, Wall Decorations, Articles executed in Silver, Jewels, Cabinets, Pianofortes, Papier Mâché, Encaustic Tiles, Cocoa-nut Matting, Bronzes, Mediæval Metal Work, Denmark Porcelain, Artistic Productions of Victoria, &c. &c. The Literary contents of this number include,—"Pictures of the Dutch, Russian, Scandinavian, and Swiss Schools, and Water-colour Drawings of the English School, in the International Exhibition," by J. Beavington Atkinson; "Sculpture in the International Exhibition;" "Fulham Pottery;" "British Artists: their Style and Character—John Absolon," by James Dafforne, Illustrated, &c. &c. The Line Engravings are—"The Prosperous Days of Job," engraved by H. Bourne, from the picture by W. C. T. Dobson, A.R.A.; "Spithead," engraved by W. Miller, from the picture by J. M. W. Turner, R.A. in the National Gallery.

London: JAMES S. VIRTUE, 26, Ivy-lane, and International Bazaar, opposite the Exhibition.

Now ready, royal 4to. price 18s. cloth, or 21s. extra cloth, gilt edges,

ALBERT the GOOD: a Nation's Tribute of Affection to the Memory of a truly Virtuous Prince: being a Selection of Leading Articles, Verses, Sermons, &c. on the Death of the late Prince Consort.

By W. T. KIME, Barrister-at-Law.

London: JOHN F. SHAW & CO. 48, Paternoster-row; and 27, Southampton row, W.C.

TO ARCHITECTS.—TO BE DISPOSED OF, a handsome well-bound Copy of LETAROUILLY'S EDIFICES de ROME MODERNE. 4 vols.

Apply (if by letter post free, and enclosing stamp) to C. R. care of Housekeeper, 38, Dowgate hill, Cannon-street, E.C.

Just published, half sheet imperial, in stiff cover, price 10s 6d.

SUGGESTIONS for the FORMATION of a NEW STYLE of ARCHITECTURE, specially adapted to CIVIC PURPOSES.

By T. MELLARD READE, Architect, Liverpool.

Containing Seven Plates and a Treatise on the Growth and Development of existing Styles, and an Inquiry into the Principles by which they have been evolved.

All on finest Plate Paper.

London: JOHN WEALE, 59, High Holborn.

Just published, price 2*l.* 2*s.*

MANUAL of HYDROLOGY.

By NATHANIEL BEARDMORE, Civil Engineer.

CONTENTS:—
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 to 68, London-wall. 1862.

Now ready, an entirely New Edition, with 13 plates, 8vo. 12*s.* 1*s.* cloth,

MATHEMATICS for PRACTICAL MEN; being a Common-place Book of Pure and Mixed Mathematics. Designed chiefly for the use of Civil Engineers, Architects, and Surveyors. By OLINTHUS GREGORY, LL.D. F.R.A.S.

Enlarged by HENRY LAW, C.E. Fourth Edition, carefully revised and corrected by J. R. YOUNG, formerly Professor of Mathematics, Belfast College, Author of "A Course of Elementary Mathematics," &c.

London: LOCKWOOD & CO. 7, Stationers' Hall-court, E.C.

SCIENTIFIC RECORD of the EXHIBITION (PRACTICAL MECHANICS' JOURNAL), Part VI. September 15, price 2*s.* contains:—Dock and Harbour Works, by G. B. Rennie, esq. M.I.C.E.; Lighthouses and Beacons, by W. J. Macquorn Rankine, C.E. LL.D. F.R.S.; Locomotive Engines, by J. E. M'Connell, C.E. M.I.C.E. and W. J. Macquorn Rankine; Railway Rolling Stock, by W. Bridges Adams, esq. C.E.; New Contrivances ancillary to Engineering, by W. Bridges, esq. C.E.; Illustrated by a large Plate Engraving of Iron Floating Dock, constructed for the Royal Spanish Arsenal at Ferrol, by G. Rennie & Sons; with Seventy-five Woodcuts.

London: LONGMAN & CO. Ludgate-hill; Proprietor's Offices (Offices for Patents), 47, Lincoln's-inn-fields, W.C.

DUBLIN WINTER GARDEN COMPETITION.—A Description of the Designs for this Building will appear in THE DUBLIN BUILDER, commencing in No. for OCTOBER 1. Price 4d.; by post 5d. First and Fifteenth of each Month. Publishing Office, 42, Mabbot-street, Dublin.

The Builder.

VOL. XX.—No. 1025.

Dover: St. Mary's in the Castle: The New Parish Church.

TAKING some credit to ourselves for the growth of that opinion which led to the rescue of the remains of the ancient and most interesting church in Dover Castle from the state of degradation and ruin into which it had been dragged by careless guardians, we are glad to be able to express our satisfaction with the manner in which the restoration—a difficult matter—has been effected under the direction of Mr. Scott. Some rough sketches in a previous volume of this journal* will show the miserable and disgraceful condition in which it then was. Roofless, shattered, and exposed to the damaging action of rain, frost, and mischief, it was used as a coal-cellar; while the Roman Pharos at the west end, one of the most interesting land-marks of history in the kingdom, was applied to a purpose even more degrading and disreputable. The church has now been roofed, seated, and restored to its original purpose. In an archæological and historical point of view, it would have been better, perhaps, if the remains of the structure had been simply strengthened (the tops of the walls being protected from the penetration of wet), and it had been left to tell its own story as a monument. This, however, could not be hoped for; moreover, a church was needed for the troops in the Castle, and the restoration and maintenance of the church already existing was the right course to take. Mr. Scott has treated the ancient portions in a properly conservative spirit, and has done what would probably not have been endured if attempted by a man of less standing in the profession. He has allowed the most ancient portions, including the chancel arch and other semicircular arches turned in brick, and the stone dressings of the early windows, to remain without plaster or other covering, so that the peculiarities of the edifice may be seen, and its connexion with a remote period of our history recognized. The brick chancel arch, by the way, has a stone "key-stone." It is to be hoped that the doors of the church will not hereafter be rigorously closed, as heretofore, against all comers. Great interest is felt in such matters by large numbers of persons, and this feeling should be encouraged, as an educational agency, wherever it is practicable. The church forms no part of the defences of the Castle, and no inconvenience can possibly result from allowing it to be seen. The Roman pharos, or lighthouse, with its bonding courses of tiles, built after the pattern of one which stood at Boulogne, should be most carefully maintained, and nothing more: to turn it into a prim library, with skylight, plastering, and modern fittings, as was at one time proposed, would be a great mistake.

It is worth noticing that a small low window at the west end of the church enables any who are in the lower part of the pharos to see the eastern altar.

Pharos, some of our readers may not remember, is an island situate at the entrance to the port of Alexandria;—or rather, we should say, *was* an island, since it is now united with the main land. On this island, in the reign of Ptolemy I., and of his successor, the celebrated lighthouse, known as the Tower of the Pharos, was built by the architect Sostratus, of Cnidus, who, according to Pliny, was permitted to inscribe his name upon it. Other authors, however, say, on the contrary, that he was forbidden to do so, and in consequence cut his name secretly on a stone of the building, and covered it with a perishable material, on which were inscribed the titles of Ptolemy, and so he thought he would transmit his own fame to posterity. This structure was lofty: the upper stories had windows looking seawards, and in these, torches or fires were kept burning during the night to guide vessels into the harbour. Similar lighthouses came to be called after the locality of this. The pharos that existed at Boulogne, and to which we have already referred, is supposed to have been erected by the abominable Caligula, who reigned from A.D. 37 to A.D. 41.

As to the date of the earliest part of the church, nothing certain is known; but it can scarcely be doubted that it belongs to the Saxon period. In the new edition of Rickman, to which we directed attention in our last, the only mention we find made of it is in the list of churches which may be considered as belonging to the Anglo-Saxon style, though not necessarily built before the Conquest,—("Dover; the ruined Church in the Castle"),—and under the head "Henry III.,"—"A.D. 1223. St. Mary's Church, Dover Castle. A mandate from the king in this year orders that this church be repaired. The chancel is of this period, though sadly mutilated."*

King Idbald, A.D. 616—40, founded a college of secular canons in this place to minister to the garrison. Three chaplains were left after the removal of the clergy in the year 691, and three altars are spoken of as being in the church. There seems to be no very evident sound reason why we may not believe the earliest portion of the present church part of that first building. Bede (eighth century) describes the erection in England of various buildings of stone in the seventh century;—readers will recollect especially his often-quoted account of the erection of the church, *more Romano*, by Benedict Biscop, for the monastery at Wearmouth. Moreover, at Dover there was the stone and tufa pharos already standing; and the influence of this is seen on the church. The Norman work in the Castle (some beautiful bits, by the way, deserving careful repair) is of a wholly different character from the church.

Very considerable works are still going on at the Castle; in the shape, especially, of casemates, and additional quarters for troops. Of the new barracks on the heights we have given illustrations in an earlier volume. The formation of the Harbour of refuge is proceeding at its necessarily slow pace. Of this, also, illustrations will be found in our pages. How many years its completion will occupy, and how many hundreds of thousands of pounds it will cost, may now, perhaps, be calculated without much risk of error.

Dover, "the lock and key of the kingdom," Matthew Paris calls it, has always life in it. The most recent building erected is a new church for the parish of St. James the Apostle, which was consecrated on the 20th of last month. The old church (it has some antiquarian features of interest and should be preserved) was inadequate as well as inconvenient. The parish extends to the harbour on the one side, and, for all ecclesiastical purposes, includes East Cliff, which is an extra-parochial place, on the other. It contains all the principal lodging-houses, and has a large fluctuating population, amounting on the average, to more than five thousand. The contract for the new church, from the designs of Mr. Talbot Bury, was originally taken by Mr. Moxon at 7,000*l.*; but the total cost, including the site, will not be less than 10,000*l.* The Church Building Society have made a grant of 300*l.* The remainder is being obtained solely by voluntary contributions. One lady, having but little connexion with the town, has exhibited such interest in the erection as to have provided for it upwards of 4,000*l.* Our engraving shows the exterior of the church.*

We avail ourselves of some descriptive particulars of it from a correspondent who has visited it since its completion. Before giving them, however, let us suggest to such of our readers as may chance to visit Dover, and have not seen the church of St. Margaret at Cliff, on no account to omit going there. The distance from Dover, past the South Foreland, is but short. The church is of the Norman period, and a striking and beautiful specimen. The arches in the nave, separating it from the aisles, are large and lofty, and are elaborately ornamented on the face: the Norman west door has a pedimental canopy above the semi-circular arch, and is elaborately ornamented with leafage, circles, and other sculptured forms. The nave has a clerestory, very handsome externally. The chancel, also Norman, is large. Returning to Dover, a charming ride, the Castle, rising from grassy slopes, is seen in all its grandeur, and presents a picture that can scarcely be matched in England.

The church of St. James the Apostle, Dover, was consecrated on the 20th of August, by the Bishop of Sierra Leone, at the desire of the late Archbishop of Canterbury, whose illness hindered him from performing that solemn rite.

In consequence of the unfitness of the old church for so large a parish, as well as its dilapidated state, it was decided, some seven years since, by the then rector, the Rev. Sanderson Robins, Mr. E. Knocker, and other parishioners, to erect a new church on the site of that existing; but, unfortunately, so many difficulties presented themselves, which even the zeal of those interested in the good work could not overcome, that it was laid by for the time. Three years since, the present rector, the Rev. W. E. Light, with the assistance of the worthy town clerk and others, who felt strongly the necessity of a new church, obtained subscriptions and promises of such a nature as to induce them to commence the building; but with this difference, that the site was changed, and the existing church was therefore available for service until the other was finished. This seemed likely to be a long period; but, as is generally the case in church building, some good persons gave their assistance when it was most needed, and in this instance the amount kindly subscribed was nearly one-third the entire cost of the building; but with all this there yet remains a debt of some 400*l.* on the church.

The style of architecture which has been adopted in the design is that known as the Decorated. The extreme length of the church is 134 feet, and the width 78 feet. The nave is 94 feet long, and 24 feet wide; the aisles are 21 feet wide. The height of the nave roof to the ridge is 60 feet. The length of the chancel is 34 feet, by 24 feet wide. On the south side of the chancel is the organ chapel, 20 feet by 15 feet, in which are four rows of seats. This chapel has one large arch opening into the chancel, and two arches into the south aisle. The vestry is on the north side of the chancel.

The tower is a commanding feature in the west front, and, with the spire and cross on the top, rises to the height of 150 feet; the width is 22 feet. The material with which the walls of the building are faced is Kentish ragstone; and all the windows, doorways, buttresses, pinnacles, &c. are executed in Bath stone.

It has been found necessary to introduce side galleries, as well as the western gallery, in consequence of the large number of sittings required. It was impossible to seat 1,400 persons (which this church holds), on the ground without a much greater area, and consequent expenses in building. The architect, therefore, is not responsible for these galleries.

---

* XVI. (1858), p. 635.

* "Rot Lit. Claus.," p. 551.

* See p. 697.

With the exterior of the church many of the readers of the *Builder* are, doubtless, familiar; but the *interior* has been completed so recently, that it may be unknown to most. And here I may say, that the despatch and energy which have been exerted to finish it in a very short time are worthy of all praise: despatch, by the way, that is nowhere visible in hurriedly or carelessly finished work. From a mere shell so late as the beginning of last May, the church had been sufficiently completed to be consecrated and used in August.

On entering the church, the first impression produced is one of space and loftiness, and, as a whole, the interior is very satisfactory. The galleries, which are carried all round, excepting of course at the chancel, detract materially from this effect beyond the columns, which in the unfinished church was so notable a feature; but they have been so arranged as to interfere as little as possible with the constructional members, being set about 3 feet back from the stone columns, and supported, quite independently of them, on a framework of iron girders and pillars, which are treated *as* iron, painted of a chocolate colour, relieved with dark blue, and ornamented at intervals with rosettes of ironwork.

The stone columns of the church are formed of clusters of four shafts. They appeared to me somewhat slender and spindly in comparison with their height; but the arches above them are extremely satisfactory in outline. The chancel-arch, also, is of a good form, and is supported on shafts terminating half way, and resting on well-carved praying angels—semi-figures.

The east window opening does not give quite the same pleasure to contemplate. After the springing of the arch, it runs up so high that the window also, like the columns, appears too tall and slender. This and the two side windows in the chancel are filled with stained glass. The subject of the centre window is the Transfiguration. In the centre light the Saviour is represented floating in air, surrounded by a vesica of flame, with the cross in crimson indicated upon it: on either side Moses and Elias standing on clouds, fill the adjacent lights, and below are seen the three chosen disciples, on a background of conventional grass and flowers. In the traceried head of the window appear angels adoring the Lord; and in the stone framework of the circle, in which the latter figure is seated, are pierced small holes that are filled with yellow glass, and give a very novel and starry effect to the celestial scene. It was executed by Mr. Willement.

The colour of the glass used is very rich and pure; but if the crimson had been more equally disposed throughout, instead of being massed below, and barely repeated above, while the centre portion shows only blue, white, and green, the harmony would have been more complete.

This window, and those on the north and east side of the chancel, the only coloured ones as yet, are all gifts; the first by Mr. Winthrop; the others by the rector and Mr. Thos. Fox. It will be difficult to fill the remaining windows of the church satisfactorily; for the galleries cut them in half, leaving only ordinary, domestic-looking openings to be seen from below.

The chancel is raised one step from the body of the church, and three more steps lead up to the altar-rail: a handsome one of polished oak, supported, at intervals, by twisted brass columns with flat groups of metalwork foliage. The floor in the body of the church is flagged with stone, covered with cocoa-nut matting; but from the first step at the chancel-arch it is laid with tiles, of a bold design in the foreground, and of a more delicate pattern and brighter colour within the altar-rail.

On the first raised portion are placed the reading-desk, pulpit, and two ranges of seats, one on either side. Two handsome brass candelabra stand at the end of each row of seats between them and the altar-rail. These and other metal-work are by Messrs. Hart & Co.

The reredos is in five compartments: the centre bears a design, with a ground work of passion-flowers, and bands showing the inscription, "Do this in remembrance of me." The other four contain the Lord's Prayer, Belief, and Ten Commandments; and the manner in which all this work is executed is good. The space on either side between these and the walls is filled in with a stencilled decoration, that has a rich effect, with the sunlight streaming down upon it coloured rays from the stained-glass window at the side. The reading-desk is of carved oak. The roof of the chancel is boarded in a pointed form of two flat surfaces on each side, divided into panels by broad mouldings with bosses. The roofing of the church shows the plastering between the woodwork, the latter painted dark blue, and has rather a comfortless effect.

The seats are of stained wood, varnished, and are fastened to the stone columns in a manner that is effective without in the least damaging the stonework. An iron band, about a quarter of an inch thick and an inch and a quarter deep, made exactly to fit into the angle and to the quarter of each clustered shaft, painted stone-colour, is passed round the columns, the end of each band being firmly screwed to the seat end. The seating is divided into six rows, with a broad aisle up the centre and a narrower one on each side; two rows only of seats are entirely free from the galleries; two are completely under them, and two nearly so. The iron pillars are placed at the door end of the second and fifth rows, and the stone columns come at the junction between the second and third and the fourth and fifth rows.

I have reserved the description of the pulpit and font until the last. Both are of carved stone, and both are interesting, the pulpit especially so. It is hexagonal in form, and stands on six small columns of dull red stone, grouped around a centre of white stone. Above them runs a band of foliage, of good form, though not very fully relieved by undercutting. At the angles of the pulpit itself are small shafts of red and grey veined marble, polished; their capitals being formed by another roll of carved foliage, acorns, &c., that bends in and out, encircling the pulpit. The six sides comprise five panels and the opening for entrance. The panels contain the emblems of the evangelists, one in each of four; the fifth, the centre one, having a carved stone picture, in high relief, of our Lord preaching. The "emblems" are somewhat coarse and large compared with the centre panel; each one bears a scroll, on which is inscribed a portion of the verse, "Behold, I bring you good tidings of great joy. Amen." The portion, "good tidings," is inscribed on the panel which portrays the preaching of the Gospel, and, being thus appropriate, gives additional pleasure from the evidence of careful thought and loving work. This ornate feature of the church is the gift of the rector or his friends, who have laboured most earnestly and successfully in the good undertaking. The font, which is at the western end, is very rich in design and ornament, and is presented to the church by the architect. The whole of the carving of the building, inside and out, is the work of Mr. Farmer, of London.

Mr. W. Moxon was the original contractor; but the building has been completed by Messrs. Fry & Pepper, who are erecting the rectory at the back of the church, under the same architect. Out of 1,400 sittings 700 are free.

It will be seen that I consider the new church at Dover, as a whole, a very satisfactory work.

MODERN ARCHITECTURE IN THE EAST.

OUR recent brief allusions to the architectural style of the new Palace of the Sultan, in an article entitled "Architectural Photographs," having attracted the interest of many of our readers; it is thought that some further details concerning the singular architecture of the new Turkish Palace may be acceptable. There exists in Turkey an ancient superstition (carefully fostered and encouraged by the wise architects of the East), to the effect that men never die while in the act of building a house to live in. The consequence is, that in countries where the superstition in question prevails, rich old gentlemen are often seized with a passion for building at a period of life when it might be thought that they would very much prefer the *dolce far niente*, so precious in the East, to the long string of anxieties and vexations well known to be inseparable from dabbling in bricks and mortar. Among others seized with this kind of building mania was the indolent and sickly prince, the late Abdul Mejid. As he got more and more sickly, he at last roused himself from the half-lethargic state which generally accompanies a life of Oriental luxury, and set about building a new palace on the Bosphorus. It is a rather singular coincidence, that the sickly Sultan lived on, in his half lethargy, during the whole period of the building of the palace, which lasted for several years, and died soon after its completion; thus confirming the truth of the old Turkish proverb by the very highest authority in the State, to the great profit and stimulation of the architectural profession in the East.

When it was decided by the Sultan that the vast irregular mass of old buildings which formed, in their general aggregation, the ancient palace of the Seraglio, were no longer a suitable place of residence for the ruler of modernized Turkey, the erection of a new palace was at once decided on; and it was determined, at the same time, that the structure should be of a modernized character; and, if not precisely of the style of art prevailing in Western Europe, that it should, at all events, mark as great a change from the old Oriental styles of building as the modern fez introduced by the previous Sultan Mahmoud did in the style of dress, by marked departure from the appearance of the ancient turban; for Abdul Mejid determined to be not less of a reformer than his predecessor, and took measures calculated to produce results that would make his new palace form one of the chief evidences of his reforming spirit. There was at the time an anecdote current in Constantinople, the accuracy of which we will not vouch for, which may serve to illustrate the feeling of Abdul Mejid on this subject. In the ancient palace of the Seraglio there is a venerable chamber in which each successive Sultan, for several generations, has deposited before his death some object which he had advantageously used during his life. It may easily be conceived that a Turkish chamber so furnished would assume very much the appearance of a royal armoury. It was, in fact, filled with magnificent weapons of every conceivable kind. Scimitars, with handles and sheaths entirely clothed in a crowded mass of diamonds; daggers, in which rubies and turquoises concealed the real substances both of haft and sheath; pistols, inlaid with gold and silver, more costly than even gems, from the intricacy of their workmanship; and there were lances, matchlocks, and armour of various kinds, so rich that all seemed a mass of gold or jewels. The gift of the reformer Mahmoud to this chamber of royal relics was—not a weapon, it was—his *inkstand*. The gift was characteristic, and certainly marks a new epoch in the Turkish annals. It was said that Abdul Mejid had determined that *his* gift should be the model of his new and modernized palace on the Bosphorus.

However this may be, it is certain that the idea of the structure occupied a large portion of his attention, as it eventually absorbed a still larger portion of his exchequer; and he set about finding an architect fitted to carry out his project. His choice eventually fell upon a young Armenian, who had studied in Europe. Mr. Balzan, the Armenian artist, set about making his plan, and determined that the marble for the structure about to arise in the form of his design should be from the great quarries of Marmora. The Turks generally build only their sacred edifices of stone or marble; constructing their kiosks, houses, and palaces of the frail material of wood or plaster; but in this instance it was determined that the new palace on the Bosphorus should emulate those of Western Europe in the costliness and stability of its material. The marble selected, though beautifully fine in the grain, has the defect of being rather too cold in tone; its dazzling whiteness in the eastern sun having a bluish tone, which forms a rather harsh contrast with the surrounding scenery. It has been asked what was the "style" in which the new palace was built; but no art-critics have ventured upon the perilous risk of defining the style by any special name. A French critic alone has risked the assertion that it approaches that architectural style which the Spaniards denominate the *Plateresco*; a florid but debased manner, which, by means of a profusion of castings in stucco, produces in a showy façade rather the effect of a gigantic piece of jewelry than an architectural composition. It is a style, in fact, that might have been struck out by an ornamentist who had never studied the main forms of architecture, and only used them as a necessity;—having walls because he *could* not do without them, and columns because he *would* not do without them, though in many cases using them only to support parasitic projections invented merely with the purpose of not leaving the summits of the columns without something or other on the top of them. However much or little this may apply to the architectural system of Mr. Balzan, he must have been driven to certain devices for holding his vast composition together—which displays both ingenuity and taste. The general effect, moreover, of his work is exceedingly grandiose and rich. There is, in parts, an excess of intricately sculptured detail which, in itself, is very interesting. The framings of the windows of the principal front are excessively rich; and, though founded on the Cinquecento style of Italy, have yet features entirely their own. The elaborate mullions of these windows are remarkable as being as entirely covered with sculpture as an Indian club, or a Chinese parasol-stick.

Scientific and routine architects would be bewildered and disgusted with this mixture of styles and profusion of ornament; and yet might eventually be brought to confess that a *composite* has been produced, which, in many of its features, is more rich than the composite created by the architects of ancient Rome, by blending the elegance of the Ionic with the richness of the Corinthian order. There are in the palace of the Bosphorus blendings, or attempted blendings, of the styles of all epochs and all countries; and yet, with the exception of a little discordance here and there, a very harmonious and splendid whole has been produced. There are a multitude of marble flowers, natural and imaginary; of festoons, rich as the borderings of an illuminated missal; of string-courses, rough with jewel-like chiselling, worked with a finish of detail which might have been bestowed on gold rather than marble. Nevertheless, there are an incompleteness and a want of consistency about the whole design which, on close examination by a practised eye, greatly mar the general effect. As in all modern architecture in the East, there is a patchiness of material which the careful critic soon discovers. He perceives, on a close examination, that, at a certain height, the main walls of the structure cease to be marble, its place being supplied by the cheap substitute of white stucco; and, in many fine Turkish edifices of modern date, though not in the present one, the most costly marble columns are made to support a sham cornice, built out with lath and plaster, as is positively the case in the new palace of the Pasha of Egypt. Another inconsistency occurs in the relative degrees of finish of the different kinds of ornamentation employed in the Palace of the Bosphorus. While, for instance, the marble carvings are wrought out with a careful finish that might, as before stated, have been employed on gold or silver work, the rich iron castings of the great gates, though rich, and in many respects good in design (without being very original), are executed in a most slovenly manner; the whole of ridges left by the joinings of the casting moulds being left untrimmed,—a defect which, on a near approach, entirely destroys the beauty of the work. These cast-iron gates are painted a deep sage green, similar in tone, but much darker than that now being employed on Westminster Bridge. The same colour is employed upon the general iron fence which incloses the grounds of the palace; which is also, like the gates, enriched with gilding. This general fence, moreover, is of very original character. The top line, instead of being straight, forms a festoon between each stone pier, —an effect which, with us, would be termed exceedingly unarchitectural, especially in reference to the rigid character of the material employed. And yet the successive droopings, like decorative ropework, as they soften into the distance, produce a much more pleasing effect than a straight line; and these drooping curves, moreover, accord much better with the general features of ordinary Turkish architecture, than would a level top line.

While speaking of the metalwork of the building, it may be as well to notice the use made of decorative metalwork in the ornamentation of other portions of the structure. The foliaged cuppings at the bases of the columns, spoken of in our article of the 6th instant, are of bronze, or iron painted bronze colour; and so are many other ornaments in very conspicuous positions, and which are, however, sometimes gilt. This style of ornamentation is, no doubt, traditional in the East; and perhaps arose, originally, among the Greek races, from the custom of suspending the shields of vanquished enemies along the friezes of their national temples. A curious and interesting example of the use of metal ornaments on marble, has just been added to the Musée de Napoléon III., at Paris, in the shape of a pair of ancient marble gates from a Macedonian tomb, on which lions' heads, and other ornaments in bronze, had been fixed by the ancient architect.

The general effect of the palace, with its painted and gilt enclosures, is extremely rich; and, as the witty Theophile Gautier remarks, in his holiday trip to Constantinople, "the architectural ignorance of Mr. Balzan, displayed on so vast a scale, has certainly its charm." Perhaps a gentleman duly accomplished in a classical knowledge of the five orders, or an architectural professor learned in the Gothic styles, and never putting in so much as a trefoil without a well-established precedent, might have done something much more tame and uninteresting than this, on the whole, gorgeous Palace of the Bosphorus. Perhaps, says Mr. Gautier, those Mediæval architects who raised our wonderful Gothic cathedrals were nearly as independent of written rules and generally-accepted formulæ; and their works are none the worse for being the products of individual genius, instead of reproductions, either from books or from formally accepted codes of art. There was, however, a more general understanding among the great Masonic guilds of the middle ages than Mr. Gautier seems to be aware of.

The decorations of the interior of the palace are as original and as well worthy of artistic study as those of the exterior, notwithstanding many shortcomings and many exaggerations. They are principally from the designs of Mr. Balzan; though we learn from Mr. Pierotti, the author of the great forthcoming work on the topography of Jerusalem,* now in preparation by Messrs. Bell & Daldy, that an Italian architect, Mr. Fossati, has, more recently, taken part in the final completion of the works. In the decoration of the exterior the designers of the ornament were much cramped by certain dogmas of the Mahomedan faith, which forbid the use of any forms of animal life. The inconvenience was felt regarding the internal decorations: this exclusion of a whole series of decorative forms would indeed appear to a French or English designer of interior decoration, quite fatal to anything like complete success; especially if informed that the directions of the Sultan were, that the European styles of ornament, both general and in detail, should be universally adopted. To do this, and yet make use of none of those features which make Raffaelle's decorations of the famous Loggie such wonderful compositions, would appear an impossibility; for the whole attractive series of what has been felicitously termed "fabulous zoology" was excluded from the range of objects which would furnish the pencils of the Armenian and Turkish artists with their leading decorative features. Those graceful nymphs, whose forms vanish into scrollings of acanthus,—beautiful images, half girl, half flower, that a Romano or a Fattori knew so well how to paint; those goat-legged fauns, in a thousand fantastic attitudes; those graceful many-hued birds, pursued by fluttering Cupids; those griffins, half vulture, half lion; those fanciful heads peeping from the petalled window of an opening flower; those gorgeous heraldic monsters;—all the objects, in short, which make the charm of European ornament in its most flourishing period, were forbidden fruit to the pencils of our Oriental decorators; and yet they have produced a beautiful series of decorations, ever varying in their character, throughout a series of 300 apartments; decorations which are truly astonishing for their ingenuity, and often for their beauty also. The designers were not only shut out from all the most suggestive forms of European ornament, but also from their old native styles: there were to be none of those ceilings of pendant stalactites, honey-combed with perforations till they became a petrified lace; none of those Arabic legends in blue and gold flourished in the marble as a ready writer of the fifteenth century would have flourished them on his sheet of vellum; and none of that effective system of colouring which we know so well in the Alhambra at the Crystal Palace. Here was certainly a position full of difficulties; and yet, as we have said, the decorative genius of the architect and his band of assistants surmounted them all.

Let us examine the manner in which the difficult task was so successfully accomplished, and we shall find that he discovered for the occasion a happy knack of orientalizing European taste in a very charming manner, and that his variety of invention was almost endless. It is impossible to follow him through all his designs for the decoration of his 300 chambers; but we may state generally that white and gold, or some delicate colour and gold, form the chief tones of effect on most of the walls, infinitely varied by ingenious details which we have not space to describe; while on all the principal ceilings are elegantly-painted designs, but whether in fresco or in a superior kind of distemper we will not attempt to decide. The careful finish, however, and ingenious design of this series of painted ceilings is beyond all praise; and we will attempt a description of a few of the most fanciful and striking of the devices.

The ceiling decorations of the series of rooms constructed for the Sultana Vladimé will serve our purpose as well as any other. Their colouring is fresh, light, graceful, and yet rich from its exquisitely wrought detail. The art-workmen employed must have been very superiorly trained, or have imbibed a curious talent half instinctively from tradition. The simplest kind of design adopted in this series of ceilings is the old device of a sky. But the commonness and worn-out vulgarity of this form of ceiling are completely overcome by superiority of treatment. In one (a circular ceiling formed by rich corners of fretted gallery-work in gold), the ground colour of azure is made nearly a deep purple at the edges of the circle, gradually diminishing in intensity till it becomes a light turquoise tone of the greatest delicacy in the centre. Upon this ground float a series of fleecy summer clouds, not formed with careless dashes of the pencil, but most exquisitely treated by the decorative artist, so as to form a kind of cloudy vista—a deep perspective,—one light, vapoury cloud rising above another, until they die away into what appears a small central firmament at an immeasurable distance above the eye of the spectator. In another sky-ceiling the effect produced is that of a summer night. Rich grey clouds occupy the circumference, leaving a small central space of transparent purple, in which the well-known constellation, deemed favourable to Moslem prosperity, glitters in stars of burnished silver. This device is beautifully executed, and produces a most charming effect. Another sky is that of evening. The centre is dusky purple, surrounded by banks of heavy purple clouds, beneath which, at the edges, is seen the fiery glow of sunset. Another is morning, the circumference being formed of masses of grey cloud, and the centre of a bright rosy flush, which appears the very tone of dawn, and seems to shed down its rosy light into the apartment. There are many other distinct styles of sky-ceilings, but we have not space to dwell upon them: we must pass on to other devices. One ceiling is made to represent a dome formed of the pearly interior of a gigantic cockle-shell, with its wavy border resting on a golden gallery. The nacreous and opaline tinges of the shell are so splendid, and so softly and playfully executed, that they seem to change places with iridescent brilliancy as the spectator changes his own position. The interior of the shell is thrown into such clever perspective that the dome like effect is quite deceptive; and, altogether, this is, perhaps, one of the most successful ceilings of the whole series. Another design is formed of an immense veil of transparent net, elaborately embroidered, and forming a graceful drapery, intricately festooned and looped, and in various ways gathered up into a thousand delicate and symmetrical folds. Another design consists of a circuit of gold gallery-work of fabulous intricacy, wreathed in every direction with flowers, both natural and unnatural, but always graceful. Another is formed of a more massive kind of painted gallery-work, surmounted at equal distances by rich vases, from each of which the fumes of burning incense rise, the various streams of transparent vapour meeting in a delicate central cloud, flocked with minute golden sparks, that produce a very beautiful and glittering effect. The last ceiling we shall attempt to describe is that of the attiring-room, which is, perhaps, the most ingenious and successful of all. From an opening cloud in the centre, a rich open casket of highly-wrought gold-work appears, from out of which are scattered in all directions the most exquisite jewels of every description. Necklaces of pearl, of diamond, of ruby; bracelets; anklets; fanciful little daggers, made for ornament, but not for use; girdles, embossed with gold embroidery, and gemmed with turquoise and emerald, worthy to have been the cestus of Venus herself; cassolettes of perforated silver filled with perfume, exhaling itself through the intricate perforations in delicate vapour; and a thousand other graceful objects;—forming together a display of jewel-art such as the famous jewel trophy of Harry Emmanuel in the International Exhibition cannot surpass.

The Sultan's own apartments in the new palace are decorated in an Orientalized version of the Versailles style. The freedom of this late and inferior style, from the admixture of the various forms of animal life which made the main features of the earlier European forms of ornament, rendered it well suited for Orientalization; and the effect produced by it in the Palace of the Bosphorus, enriched and rendered more intricate, as it is, by Eastern treatment, is certainly very gorgeous, yet without ever becoming coarse, which is prevented by the chaste character of the pure white and gold. A character of firmness and decision is imparted to the general aspect of these white and gold decorations by the full, rich tone of the cedar-wood doors and window-frames, the hinges and fastenings of both of which are of iron or brass, richly gilt. The bath-room of the Sultan is the only portion of the palace constructed and decorated in the old orthodox Turkish taste, which Oriental

* This work, of which we have seen some of the plates, contains some entirely new views with regard to the true sites of the Holy Places, founded on the results of recent excavations.

workmen still understand much more thoroughly than the ornamentation of the innovative styles. The skill with which alabaster and marble are worked by mere day labourers who have been brought up to it, from father to son, is really extraordinary, and was noticed by Alexander Dumas when in Algeria, who took several of them over to Paris to work upon the walls of the little Oriental château he was then building at St. Germains. It is this same kind of traditional skill that has been lavished profusely on the beautiful texture of the striped Egyptian alabaster of which the whole interior of the Sultan's bath-room is composed. The delicately-slender columns, with their vase-shaped capitals; the playful arches; the fretted stalactitic pendants of the roof, between which miniature windows, like crystal stars, let in a soft and subdued light, are all in the best style of the fine period of Moresque art, when the Alhambra was built, and the most noble of the mosques, from Egypt to India, were erected.

We have seen that certain incongruities and inconsistencies had been perpetrated on the exterior of this vast palace; and the interior is far from being free from them. This solitary apartment, in an entirely distinct style, is already an inconsistency, and of doubtful taste, however beautiful in itself. But there are necessarily things of much worse taste than that in a modern Oriental palace, erected at an epoch when all things Oriental are in the midst of violent transition. At such a time, it is impossible that the whole of the internal decorations of a building so extensive should be free from occasional extravagances of taste. In the present instance, the most flagrant example of the kind occurs in the grand saloon, which is entirely lighted from a dome of ruby glass. Here, when the sun is shining, and the apartment filled with fezzed or turbaned pashas, and crowds of brocade-robed officials, armed with palatial weapons, glittering in gold, silver, and gems, the effect produced must be precisely that of a wind-up scene in one of our Oriental ballets, at Covent Garden or the Haymarket, just at the moment that the red fire is lighted up for the last grand effect. But even when the worst has been said of the false taste of the dome of ruby glass, which makes the Sultan and his court look like the sham princes and courtiers of a fairy tale, there is sufficient of splendour, of delicate refinement, and, above all, of originality, in the Palace of the Bosphorus, to make this last example of Oriental architecture well worthy the study of even an English or French professor of the art.

NEW MATERIALS FOR THE LIVES OF BRITISH ARCHITECTS.

SIR WILLIAM CHAMBERS. — Whoever has stepped from the noise of the Strand, in London, into the quickly reached solitude of Somerset House, has been attracted to "A Group in Bronze," containing a standing statue and a recumbent river-god. Many a clerk has been stopped by strangers, asking "To whom?" "Of whom?" and "What is that?" The following document (hitherto unpublished) will tell more than the clerks of Somerset House, however well informed and communicative, are able to tell:—

Agreement for Bacon's Statue of George III.

It is agreed this 1st day of June, anno 1780, between SIR WILLIAM CHAMBERS, for and on the part of the Lords Commissioners of Her Majesty's Treasury, and JOHN BACON, statuary, for himself, that he, the said John Bacon, shall, at his own proper cost, make, transport, and erect, on the site of the new *Offices* at SOMERSET HOUSE a bronze group, representing "The KING, the RIVER THAMES, and various emblems and ornaments," as is more particularly expressed in the design signed by the parties to these presents; together with all the stonework, rockwork, &c., belonging thereto, according to the said design, the whole to be compleated and set up *within* the space of *thirty months* from the date of this agreement; In consideration of which the said WILLIAM CHAMBERS engages for the Lords of the Treasury above mentioned to pay unto the said JOHN BACON the sum of TWO THOUSAND POUNDS lawful money of Great Britain, liable, nevertheless, to the usual deduction of *Two and a half per cent.*:—And it is farther agreed that in case of failure on either side, the failing party shall be be liable to the other, in the penal sum of *two hundred pounds*. Witness our hands the day and year above written:—

(Signed) WM. CHAMBERS.
J. BACON.

That Chambers foresaw the future embankment of the Thames (as clearly as either Martin or Trench) there cannot be a doubt;—observe the high raised terrace to the Thames at Somerset House. That the brothers Adam foresaw the embankment that must be, the dry arches of the Adelphi-terrace will more than convince the commonest call-boy of the latest penny steamer on the Thames. That John Rennie foresaw the coming embankment, the Surrey and Middlesex levels of Southwark and Waterloo bridges are manifest and enduring proofs to all who have eyes and a sense of beauty and the future in their heads. That Sir Charles Barry, with such plain-speaking (as it were) precedents before him, did not fully foresee even the shadow of the coming event, the new Houses of Parliament are, and will long remain, in spite of Mr. Page's beautiful low-level bridge, a subject of regret to the many admirers of that distinguished man.

Our English architects have suffered more from the pens, dipped in gall, of our English poets, than our painters and sculptors have done. Inigo Jones fell under the well-knotted lash of Ben Jonson; Sir John Vanbrugh was made the laughing-stock, in verse, of Swift's unsparing pen; and Sir William Chambers was worried out of his usual serenity of mind by the Heroic Epistle of Mason and Walpole. "Vitruvius Hoops" has vinegar enough in his composition to pickle and preserve Inigo Jones, "not for an age, but for all time." Van's "goose-pie" will continue from generation to generation to provoke many a merry laugh in every reader of Swift; and the "Heroic Epistle" from Mason to Sir William Chambers will be read and annotated when the site of the pagoda at Kew is unknown, and the ruins of Somerset House are engaging the attention of some "oiled and curled" *Assyrian* Layard from Australia, claiming blood and heraldic descent from the famous New Zealander of Lord Macaulay.

To very few of our architects has it been given to see completed what was to prove the greatest of their works. Such good fortune was allowed to Sir Cristopher Wren alone,—it was denied to Inigo Jones, it was denied to Sir William Chambers, it was denied to Sir Charles Barry. The Banqueting House is still a fragment; Somerset House has been completed in the present century; the Houses of Parliament are still unfinished. Chambers has been thus far fortunate: his unfinished building has been completed, long after his death, from his own designs, and in a reverential spirit for his labours. I have seen and examined the detailed accounts of Sir William Chambers for the building of Somerset House. From these (Sir William was a capital accountant) I purpose to send you hereafter certain extracts, curiously illustrative of the prices of building labour in London among masons and carpenters, "employers and employed," when George the Third was king. Sir William Chambers was a large employer of skilled labour, and our grandfathers and great-grandfathers were "working men," and "worthy of their hire."

I cannot quit the subject of Sir William Chambers without calling attention to the contrast presented between the original building of Somerset House and the completion of it by Mr. Pennethorne. Let my readers observe, when next in the Strand, the very remarkable difference between the carved key-stones of the original building and the carved key-stones of Mr. Pennethorne's completion. Those of Chambers's time were by Banks, Bacon, Nollekens, Carlini, and Flaxman (when a lad); the key-stones of Mr. Pennethorne's portion are, and I say it with regret, coarse, unfeeling copies of casts from Chambers's portion.

One anecdote—to be told briefly in parting. Who, that has seen, has forgotten the fine cast of the Hercules in the vestibule of the *old* Royal Academy at Somerset House? Sir Joshua Reynolds and his successor West wanted it *upstairs*: the good sense of Chambers placed it where so many can still remember it to have stood.

PETER CUNNINGHAM.

OUR BRIDGES.

THERE is scarcely a city founded upon a navigable river, and occupying space on both margins, that has not, according to its extent, more free bridges than London. We have in a two-mile course of stream, from the Houses of Parliament to the Customs, five bridges for traffic, with one footway suspended space; and of these only three are free to the public! Paris can boast of no less than fifteen bridges in the same extent, and *without a toll;* and yet who would compare the amount of commercial intercourse required by either community? We have nearly the one-third portion of the metropolis on the southern margin of our river. In Paris, the Seine makes a more equal division; but the flow of the Thames, which describes an arc of a circle, requires yet more increased facilities of intercommunication. On the north bank, the course from London to Westminster Bridge is nearly three miles; whilst the south traverse is scarcely a mile and a half. A stranger visiting the Surrey side, having taken his notes from the Tower to Hyde-park-corner, could hardly account for the dusky, gloomy, and staid aspect of Southwark and Lambeth. There appears to be neither unity nor community in these heterogeneous parts; but is he a Parisian, he at once discovers that the peculiarly English system of *toll bridges* is the cause of suspended animation.

The earliest records of civilization and of empire show that bridges were under governmental management; and since the time of Appius Claudius they were the design, if not the work, of leaders who transmitted the title of "Pontifex Maximus," as the most distinguished. In latter times private enterprise undertook the office; and thus, in this commercial community, speculative companies have erected most of the structures, crazy, stilted, or in suspension, which now bar the way to civic prosperity, and yet withal *pay but sorry dividends to the subscribers*.

There is a prospect that the projected railway bridges, and the concentration of traffic, will lessen still more the profits of these fluvial tolls, and that the proprietors may listen to fair terms for buying up their rights. As to Southwark Bridge, the proprietors have long stood out, and kept the corporation at bay, when they were minded to perform a public benefit by throwing open this barrier.

An observation of the traffic over London, or Blackfriars, or Westminster Bridges, will discover, as contrasted with that over Southwark or Waterloo, how completely the circulation is stopped by the imposition of a toll. It is as a tourniquet applied to a healthy limb. The route is longer by a mile; and, although Waterloo is nearly a dead level, still the teamster, or the coachman, or even the foot-passenger at one halfpenny, will take the weary round.

On the other hand, imagine the tolls abolished, and those vital arteries open to free intercommunion; how would the melancholy air of Blackfriars, of the Southwark groves, and the defunct rules of the Bench, become enlivened!

At this moment the new and wide street in progress from St. Saviour's to Stamford-street gives the first evidence of animation: *the tolls abated*, more would soon follow on; and the property of the whole district would, on such an event, rise fifty per cent.

When compared with such an issue, what is the value to be set on the tolls? The great commercial wharves and warehouses, the shops, stores, and private houses, being easily and freely accessible, must undergo improvement in every sense; and, so far from attracting or diverting trade from the Strand and City side, such enhancement must, as it always does, tend to the general benefit of the whole commune.

The great obstacle to the immunity shadowed forth is the expense: where is the money to come from? 250,000*l.* for Southwark Bridge, 350,000*l.* for Waterloo. But even suppose the total 800,000*l.* It might be accounted for thus: the rental of the improved district must be increased at least twenty per cent., a moderate rate upon which would pay the interest, and form also a sinking fund, to liquidate a Parliamentary loan, for their purchase and free dedication to the public. In truth, however, the whole metropolis would be benefited by the increased facilities, and the whole metropolis ought to bear the cost.

In the city of Dublin we find seven free bridges across the Liffey, which flows, with its tidal waters, nearly central through. In Cork, built eleven miles from the harbour, on the river Lee, there are eleven bridges. Without these the growth of either city would have been as slow as must also have been that of their commercial importance.

Throughout continental cities we rarely find any toll bridges, save where the opposing river bank belongs to a separate State; and here the levy made on transit is more in the nature of octroi, or duty, than toll. The policy of modern and enlightened times is to abolish all restrictions upon free intercourse, and to remove shackles from trade, even on the high seas.

The Sound dues exacted by Denmark for entrance into the great Baltic have been wisely freed by governmental convention, and the issue is found to be reproductive. How much more, then, are unrestricted intercourse and unclogged traffic essential to the progress and development

of this mighty city, with its rapid extension and swelling millions!

Next year the Hungerford Railway Bridge will be complete: in two years more that proposed, collateral with Blackfriars, will also be in action; and, both pouring their torrents of passenger and goods traffic into the metropolitan central stations, the toll bridges will be deserted even more than at present. The northern embankment of the river, with its esplanade, road, and possibly railway, will then exhibit, if properly and artistically laid out, a most pleasing view from the slumbering battlements of Waterloo. Unless the toll be abolished, this noble, graceful, and utilitarian structure can serve no other purpose in its solitude than a *point de vue* for strangers, a safe exercise ground for the babes of freemen, a friars' walk, or an exciting stroll for briefless ascetics of the Temple.

THE BRUSSELS INTERNATIONAL CONGRESS.

THE first session of the International Association for the Progress of Social Science, Brussels, was opened on Monday, the 22nd instant.

The following are amongst the questions that have been proposed by the Committee of Foundation for the consideration of the sections:—

Art and Literature.

1. Of the application of art to industry. Organization, programme, and extent of the studies in the different countries. Collections of models, museums, &c.
2. What influence do public, periodical, or permanent exhibitions exercise upon the arts?
3. What advantages and disadvantages to the fine arts arise from private teaching (*ateliers*) and from public instruction (academies)?
4. Of the different kinds of music in their connexion with the education of the masses?
5. What influence does the development of the periodical press exercise upon the mind and upon the form of the literature?

Benevolence and Public Health.

1. Do not the food of the workmen and its insufficiency contribute, between them, in a great measure, to the progress of pulmonary tubercle? What are the means of remedying this evil?
2. Of drainage, considered in a public-health point of view; its application for purifying dwellings, cities, and localities destined to contain a large population. Are we authorized to admit that the construction of drains may be the cause of the disappearance of endemic diseases?
3. Workhouse (*hospices*) children are often attacked by scrofula. Is it not desirable to collect them in the country or by the sea-side where scrofula is rare? Could not general orphan establishments be founded there, similar to the schools of reform at Beernem and of Ruysselede?

The President, M. Fontainas, burgomaster of the city, opened the proceedings by delivering a short address of welcome to those who had come from distant parts to bear their share in the common work. "Begin, then, gentlemen," he said; "nothing here will restrain the free manifestation of your thought. Free men, on a free soil, have no care for aught except your conscience and the truth; these alone will protect the dignity and propriety of the discussions about to commence."

RESEARCHES IN RHODES: PERSIAN POTTERY.

IN a note by Mr. Robinson, to his observations on Persian ware printed in our last week's number, mention is made of the collection of an extensive series of specimens of the ware, by Mr. Salzmann, who is described as the French consul in Rhodes. This reference, we have reason to say, involves inaccuracies such as the author of the observations would, we doubt not, be anxious to correct, seeing that they ignore the credit due to a most meritorious servant of our country. The discoveries which led to the collection were not made by Mr. Salzmann, who, we may observe, is not and never was French consul at Rhodes; but they were made by Mr. Alfred Billiotti, the English vice-consul, originally acting under Mr. Newton's directions. Subsequently to the first discovery, Mr. Salzmann procured for himself a copartnership with Mr. Billiotti in the results of the explorations; but the actual conduct of the researches, and the packing-up and exportation of the articles from Rhodes, remained with Mr. Billiotti; Mr. Salzmann being, we believe, generally not in the island. It is the more necessary that Mr. Billiotti's merits should be recognized, as the Foreign Office has neglected at least one opportunity of acknowledging them. Mr. Billiotti has no remuneration from our Government, or none beyond what he receives from his superior in the consulate,—a sum greatly below what would be due to his abilities, and to his services considered in the diplomatic point of view. Yet very recently, when there was a vacancy in the superior consular office, our Government chose to appoint a stranger from we know not what quarter of the globe, in preference to the worthy and talented gentleman who had in every sense priority of claim. Some years ago, it may be remembered, an attempt was made by the Institute of British Architects to move the Foreign Office to confer the consular appointments for places which were interesting historically and archæologically, upon men who had some knowledge of architecture and antiquities; and we have always regarded Mr. Newton's appointment as a response, though a single and a late one, to the request. We trust therefore that the Foreign Office will not persist in a system of appointments, so far at least as the East is concerned, which, as in the case of Rhodes, is responsive neither to the needs and claims which are political, commercial, and national, nor to those which appertain to art and science. The French pursue a very different system in the East, as we have lately had occasion to show. His Royal Highness the Prince of Wales has, we believe, had an opportunity of forming some opinion of Mr. Billiotti and his researches.

Relative to the question of pottery manufactured in Rhodes, we fancy much information might still be procured in the island. Platters, or dishes, resembling in many respects the *bacili* spoken of by Mr. Robinson, painted with arabesques or floral devices, though we do not now say of Persian character of ornamentation, are to be found constantly in the houses, placed as pictures on the walls, or not dissimilarly from the *bacili* described as decorating the exteriors of churches in Italy; and such is the nature of the clay available in the island, that the fabrication of pottery is an almost natural result of its abundance. On removing the outer crust of a cliff, the material is discovered immediately within the hard surface, in a moist and plastic state. It is readily moulded into forms, as those of vases, which, placed in the open air for very few hours, become quite hard. A lump of such soft clay will sometimes roll from the cliff, and increase in size like a snow-ball, taking up pieces of stone, until the mass finds a resting-place, where it hardens into an agglomerate from which projecting pieces can scarcely be detached.

PRISONS AND REFORMATORIES.

WE have for long maintained—and see now no reason to change our opinion—that reformatory and prison discipline should be kept distinctly separate from each other; and have, therefore, always strongly objected to the plan of sending children and youths to the reformatories for crimes which have been committed; for, by careful and very extensive observation, it has been clearly demonstrated to us that the great advantages of the reformatory system have chiefly resulted from good discipline; firm but kindly treatment; instruction in sound moral and religious principles; the teaching of the rudiments of useful education and habits of industry to those who have been snatched from conditions of filth, degradation, and vice, which can only be estimated by those who have witnessed them: the provision of plain but wholesome food, provided at regular times; of coarse, yet clean and decent, clothing and beds; and other advantages, are matters of attraction. And, besides all these, there is held out the hope of future respectability, honesty, and usefulness. There is also a great deal in the idea that they are not kept there by force; and that one of the worst things which could befall the chief number of the inmates of the reformatories, as they were at first established, would be the obligation to leave, before the appointed time, those sheltering homes.

It is usual now—and probably ever will be in great cities—to meet with a large number of the youth of both sexes who are driven, by various causes, to destitution, and who become exposed to contamination and vice. Sometimes this is brought about by the extreme poverty or dissolute habits of parents,—by the death, in some instances, of both father and mother, or one of them. In other instances boys, and girls too, are so ill clad, and so unfitted by the want of proper training, that they cannot get employment. Some may, by the time they are eleven years old, earn two or three shillings (without food, lodging, or clothes) as errand boys. They are ill fed, ill lodged, and insufficiently dressed. They have no regular habits shown to them at home; and, in consequence, become discontented, stop on their errands, and perhaps pilfer something, which causes them to be discharged. Then, with damaged characters themselves, and nothing on the part of their parents, if they have any left, to recommend them, they vainly wander about the streets in search of employment: their clothing increases in raggedness: they form evil associations with boys more trained in wickedness than themselves; and, in nine cases out of ten, if they are left to follow these courses, they are soon brought before the magistrate, and committed to prison; from which, in due course, they will be liberated, after they have endured the term of punishment. As a general rule, prison discipline cannot be considered good for those who have experienced it; and the dread which is associated with an appearance in a court of justice and a committal to prison, which is a great means of preventing the commission of offences, is lost by experience. If the youthful offender have a home to go to; if he be kindly reasoned with; taken away from any bad associations which he may have formed; if appeals be made to his better feelings; and the opportunity given to him to be put to work and retrieve his character; there is a probability that he will do so. But, in a large number of instances, the boy, on his release, can do nothing but return to his former courses; and is soon a second time committed; when he is considered by some a fitting inmate for a reformatory, in which he is kept a prisoner for a varied term of years. But, however well these places may be managed, the time to which a judge or a magistrate may commit a youthful offender is a period of imprisonment, and is felt as such by those who have been subjected to it; and we all know that, however well intentioned persons may be, there are but few who are willing, knowingly, to take into their employment a convicted criminal; and some who would do so are often prevented by those who are engaged in the same work not being pleased to associate with them.

It was for the purpose of saving poor and destitute boys who were on the verge of crime; to provide those who were homeless, and not taught in any kind of labour, and were unable to obtain any honest employment, but who were anxious to do so; and even to shelter and put in the way of doing right those who had erred, who came *voluntarily*; that the reformatories were in the first instance established; and it is to be feared that the introduction of convicted criminals into these places will neither add to their usefulness nor their reputation.

Mr. Sydney Turner, the inspector of Reformatory Schools in Great Britain, in his last report, agrees with us that "the returns of reconvictions show how large a proportion of this class defy the efforts made for their reformation in our convict as well as our ordinary prisons." Mr. Turner also tells us that in the sixty-two certified reformatories, the number of young offenders had increased, in 1861, from 3,803 to 4,337; including 186 placed out on licence, and not yet finally discharged; and there is a marked decrease in the number of commitments of persons under sixteen years of age, from 1856 to 1860, of about 43 per cent. in England, allowing for increase of population; but in 1861 there was an increase of above 9 per cent., which Mr. Turner partly accounts for by the scarcity of employment, and probably partly by the over-use of reformatories. Of the whole number sentenced to reformatories in the year (1861), more than five-eighths were sent on a first commitment; nearly a fourth were under twelve years of age; and the commitments in a large number of cases were for very petty offences; the sentence being evidently passed rather in reference to what a child may be likely to become, by the bad example or neglect of its parents, or from its destitute circumstances, than to its actual criminality or viciousness.

When considering this subject, it is very necessary to consider the following figures with which Mr. Turner supplies us:—1,031 have been discharged in 1861: of these only 18 boys and girls were sent away as hopeless and incorrigible; but to these we think might be fairly added 69 who absconded and were not recovered: this makes 87: 90 went to sea; 22 enlisted; and 110 emigrated; and it may be considered that the chief part of the above, 222, were fairly put in the way of obtaining a living: 27 died, and 15 were discharged on the ground of health; but there is the large number of 660 who are reported to have gone into service or employment, or to the care of friends. In order to form a proper judgment of the working of this plan, we should have some means of knowing the numbers and the ages of those who went to service, to employments, and how many went to their friends; and, above all, the condition of those who have been committed to and dismissed from reformatories, as far as this can possibly be discovered, at one, two, or three years after their discharge.

The expenditure in 1861 was 98,638*l.* Of this the Treasury payments for maintenance amounted to 66,374*l.*, and parents' payments only 2,439*l.*;

contributions from the rates, 4,570*l.*; contributions from voluntary associations, and payment for voluntary associations, and for voluntary inmates, 975*l.*; subscriptions and legacies, 14,136*l.*—from these sources, 22,300*l.*

The general cost of this system is large; but we have found voluntary reformatory schools which have effected a great deal of good; have been managed at a very small cost; and from which boys who have been destitute, and perhaps erring, go daily to fill situations which enable them in some cases nearly, and in others quite, to support themselves.

Upwards of 22,300*l.* have been contributed to reformatories, independent of the Government support; and, supposing that a sum equal to the twenty-two and odd thousand pounds were contributed by the State for the support of reformatory schools founded upon the voluntary and not the prison principle, a considerable amount of crime would be nipped in the bud, and a vast deal of good done.

There can be no doubt that the committal of youthful delinquents for the period of several years must have an effect in reducing the number of children and youths who are brought to trial. But there are other agencies at work which should not be overlooked: amongst the chief of these are the voluntary reformatories and the ragged schools.

This important subject requires the most careful consideration; and, in order to arrive at a just conclusion, we should have very accurately-prepared statistics, and the opinions of persons who from various points of view have studied the matter. It may be worth while to endeavour to find some name for the voluntary reformatories which will distinguish them from those conducted on the prison principle.

SEA-GRASS A SUBSTITUTE FOR COTTON AND A MATERIAL FOR PAPER.

Certain recent disclosures of which we shall immediately speak will revive the interest of the following paragraph, which appeared in the *Builder* of 26th of October, 1861 (p. 743):—

"Sea-grass Paper.—A specimen has been laid before us of paper made from common sea wrack, by Mr. Hartnell, of the Isle of Wight. The specimen is from a first trial made by Mr. Hartnell, who is no paper-maker; nevertheless we have no hesitation in saying that, though resembling straw paper in colour and texture, it is far superior to the best straw paper which the writer of this notice has ever been able to obtain for writing purposes. Into the question of relative cost and ultimate price we are not prepared to enter; but we believe that *Zostera Marina*, or sea wrack, is a very abundant and hence probably a cheap material. It is said particularly to abound on the coasts of the Isle of Wight. The paper made from it is, as we have said, like straw paper, and hence not very white in colour, and more like India paper in that respect; but perhaps great improvements in the bleaching may yet be effected in the manufacture of such paper."

This announcement was also followed up by a communication from Mr. C. M. Archer, which appeared in the *Builder* for the 2nd of November, 1861 (p. 764):—

"Paper from Sea grass.—Your last number contained a notice of a new specimen of paper produced from 'sea-weed,' by Mr. Hartnell. Permit me to apprise you that in 1855, following upon another invention I remanufacturing printed and waste paper into pulp and paper again, I produced (as will be seen from the inclosed specification) *fibre* and paper pulp from sea-weed. I could, with your permission, say much more upon the matter, but will be content if you will kindly allow this fact to appear on the same page that placed Mr. Hartnell's production before the public; who, I hope, after experiment and expense, will not have to join your corresponent in *sic vos non vobis*. One sows and another reaps."

In these instances, if Mr. Archer and Mr. Hartnell sowed, it is to be hoped that not only they but the public, and especially that portion of it who have heretofore been dependent on the supply of cotton from America, will reap benefit from the discoveries thus and since made in respect to sea-grass.

At the time the paragraphs just quoted were inserted, material for paper was what was more particularly on the tapis as a desideratum; but it appears from a communication by our correspondent, Mr. Archer, to the *Star* of Monday last, that so long since as November 1855, he, "then residing at Haverstock-hill, after the usual labour, experiment, and expense, received provisional protection and specification No. 2,696, November 29, 1855, from the Commissioners of Patents, *for the 'production of fibre* and paper pulp from seaweed, *and for the production of textile fabrics from the same.'*"

As regards Mr. Archer, we admit it may be a question whether his "sea-weed" be identical with, or include, sea-grass, sea-wrack, or *Zostera Marina*; which, by some authorities, is said, expressly, not to belong to sea-weeds, though commonly believed to be of that family of plants. However this may be, it now appears, from an authorized disclosure made in an official report, by a committee of inquiry, respecting the proposed substitute for cotton of which a City man was said to possess the secret; that this gentleman, Mr. Harben, of Haverstock-hill, "desires now to state, for the information of the public, that his discovery is the applicability of the fibres of the marine plant known as *Zostera Marina*, or common grass-wrack, for manufacturing or other purposes." It thus appears that the proposed substitute for cotton as a fibrous material for textile fabrics is one and the same thing with that proposed in the *Builder* of the 16th of October last, by Mr. Hartnell, of the Isle of Wight, as a substitute for the rags of such fabrics, in the formation of paper; if it be not also one and the same with that proposed in our following issue by Mr. Archer, of Haverstock-hill, for fibre or the textile fabrics themselves. The paragraphs quoted, therefore, have a fresh interest, in consequence of the hopes held out to the public by men of experience in regard to Mr. Harben's discovery; which is so closely akin to those announced so long since in the *Builder* as to be almost, if not altogether, identical.

Mr. Harben, it appears from an article on the subject in the *Times*,—

"Was taking a seaside holiday *a few weeks back*, when his attention was attracted to the scarcity of material suitable *for paper-making*; and, while walking with his children along the shore, and seeing the quantity of *sea-weed* lying idle and waste, it occurred to him to try what could be done with it towards supplying the want he had been thinking about. He made certain experiments with different kinds of seaweed, such as bladder wrack, notched wrack, &c., and found that they produced a small quantity of fibre. But on coming to examine the grass wrack he found it to contain fibre to an extent that surprised him. He immediately collected a quantity; and, separating the filament, submitted it to a powerful microscope. It was then only that the resemblance of what he saw to cotton first suggested the idea that here was something which might turn out useful as a substitute for that material. He at once made experiments, which satisfied him of the value of the discovery."

It is earnestly to be hoped that the new material will fulfil all the expectations entertained of it. So far as Mr. Harben is interested, he has freely given his "discovery" to the public; and he proposes that the idle cotton-spinners shall be at once sent to the seaside to collect the material; and that for the future its cultivation be promoted everywhere around our coasts and islands. Abundance of it already exists, it seems, in the Mediterranean, as well as on our own coasts; and if it come up to what is expected of it, the Government or the Crown might reap a fine revenue from it, as proprietor of all coast land covered by the tides.

If its fibres be classable with woody fibres, however, as so many of the proposed substitutes for cotton are said to be, the result may not be so important as has been anticipated. "A Medallist in Botany," writing to the *Post* on substitutes for cotton, says,—

"I have obtained samples of most of the fibres proposed, and I have submitted them to careful examination under the microscope. I find them all to be varieties of woody fibre, more or less split up and divided, varying in the length and thickness of the *fibrillæ*. The fibres of all the specimens I have seen are, nevertheless, uniform in the following particulars:—They are all solid and inelastic, or brittle, with joints and rough edges, showing where the bundles of *fibrillæ* have been torn apart. Having some practical acquaintance with cotton-spinning and weaving, I assert that the above qualities render woody fibre unfitted to be used as a substitute for cotton without a considerable modification of our machinery. The fibres which have been exhibited may probably be useful as substitutes for linen, if they can be largely produced at a cheap rate; but the woody fibre (from which all the proposed substitutes, I feel confident, are drawn) can never be a perfect substitute for cotton, which consists of vegetable hairs, hollow, elastic, ribband-shaped, and spiral, with smooth edges and surfaces. If we want a substitute for cotton, we must not look for it in woody fibre."

This writer does not specially refer to sea-grass; and probably it was not included in his microscopical investigations. Mr. Harben, however, as we have seen, has examined it with the microscope; and he is so sanguine himself of its value, that he believes, from its strength, elasticity, and silky texture, it will be more likely to supersede than substitute the use of cotton.

We have just heard that a deputation of gentlemen connected with Manchester and London firms have presented a memorandum to Mr. Harben, certifying that in their opinion the fibre within the outer sheath of the sea-grass is available for extensive use in manufactures; that its flexibility, its docile nature, its length, strength, and beauty, satisfy them that it is worthy of the most careful study of practical men.

Before concluding we may here append particulars as to a few of the more prominent substitutes for cotton at present proposed besides sea-grass.

Mr. F. Fenton, of Mappleton, near Ashbourne, in Derbyshire, has shown samples of a new fibre-cotton, patented by him, and prepared from flax, hemp, jute, China grass, bark fibre, and tow. The cost of preparation, he says, is about one farthing a pound; and the article, which is said to equal Sea Island cotton, can be sold at from 3d. to 6d. a pound, leaving a profit. The price of cotton has been 6d. a pound.

Mr. David Chadwick, of Manchester, describes a discovery by a foreigner of a new fibre, to be had in unlimited quantities and at a reasonable price, to be worked either alone or mixed with wool, flax, silk, cotton, or alpaca, and which takes all dye colours.

The *Nord* speaks of another discovery in a plant which abounds in Africa and America, and will thrive in Algeria; and a company is being formed at Paris, on a large scale, to manufacture cotton from this plant.

As to all substitutes, however, practical men in Lancashire say that they must be converted into yarn twist and goods bleached, dyed, and washed, before their real value can be pronounced upon.

CANYNGTON PRIORY AND FAIR ROSAMUND.

At the recent meeting of the Somerset Archæological Society, the Rev. Thomas Hugo read a paper on "Canyngton Priory." We print the pith of it.

A little more than three miles from Bridgwater, on the road from that town through Nether Stowey and Williton to Dunster and Porlock, stands the pleasant village of Canyngton. One first gets a glimpse of the tall and stately tower of its parish church on surmounting the rising ground at Wembdon, from whence the eye embraces a spacious expanse of cultivated valley, backed by the lofty mass of mountain limestone known by the name of Canyngton Park, and bounded on the right by the flat banks of the Parret, and on the left by the green glades of Brymore. As he approaches the village, the traveller finds that the description of Leland, who journeyed over the same road three centuries ago, is still applicable in the main to the scene before him. Canyngton is yet "a praty uplandisch towne," and our modern wayfarer, as he enters it, "passes," as did his predecessor, "over a bygge brooke that riseth not far of by west yn the hilles, and passing by Canyngtun renneth into the haven of Bridgwater, a 2. miles and more by estimation lower then Bridgwater." (Lel. Itin. ii., 98.) The place, although now nothing more than a village, has an air of having once been of far greater importance. On approaching the church the eye is immediately attracted by some venerable enclosures, which surround an area of several acres, and unmistakeably suggest the ancient tenure of the spot by some religious community. The church itself, as it now appears, can hardly be said to merit the praise that Leland bestowed upon it, of being "very fair and welle adornyd." It is a restored specimen of Somersetshire Perpendicular, despoiled of its most interesting features, and is far surpassed by many of the glorious churches for which the neighbourhood is widely distinguished. Adjacent to the north side of the chancel, which is on that side without windows, was a Priory of Benedictine Nuns. Their church, according to Leland, was "hard adnexid to the est of the Paroche Chirch." (Lel. Itin. ij., 68). Very little is now to be seen of this structure, as the vicissitudes which the place has witnessed have all but obliterated the evidences of its earlier tenants, and that which is still visible has carefully to be sought for among those manifold alterations with which the successive holders who cared little or nothing for the ancient possessors of the place have endeavoured to accommodate it to their several requirements. To the fragments which remain of the nuns' abode, consisting of a part of the basement, and including two or three small internal doorways, and one which gives access to them from the gardens, I shall direct attention at a subsequent page.

It is the history of this ancient house that I offer to the reader, so far as it can now be recovered. Both legend and reliable fact will be found to enter into the narrative, but little difficulty will arise in adjusting their relative claims. As the residence of a conventual body, Canyngton Priory was neither large nor wealthy. But its annals are interesting, and the endeavour to rescue them from the practical oblivion in which their position among the mass of surrounding matter has hitherto availed to bury them will not be destitute either of plea-

sure or of profit. So little has been already done in this direction, that the far greater part of my present contribution to the monastic knowledge of my reader will be likely to possess, at least, the charm of novelty.

In the beginning of the reign of King Stephen, or about the year 1138, Robert de Curci, or Curcy, called William, but erroneously, by Collinson, founded the Priory of Canyngton for a community of Benedictine Nuns. The good founder was sewer, or chief butler, to the Empress Maud; and his name, together with those of Milo, Earl of Hereford, Robert de Oilli, and others, may be noticed among the witnesses to a charter of hers, dated at Oxford, in confirmation, to the monks of St. Martin, at Paris, of a donation by Baldewin, Earl of Devon, to that monastery, of the chapel of St. James's, Exeter. (Lel. Collect. j. 78. Dugd. Bar j. 451. Mon. Angl. Ed. 1682, j. 545.) His father, Richard de Curcy, held, at the time of the Domesday Survey, Neuham, Secendene, and Foxcote, in the county of Oxford. (Domesday j. 159.) The credit of the foundation has also been given incorrectly to William de Romare, Earl of Lincoln. The heads of the family of Curcy were, however, as we shall see, the constant and ordinary patrons. The House was dedicated to the Blessed Virgin, but of the circumstances of the foundation or of the extent of the original endowment no record has been preserved, and the opportunity of supplying the omission is now gone for ever.

Within thirty-five years after the first establishment, a personage is traditionally associated with the community, around whom a romantic interest has ever since revolved. I am aware that the connexion of this personage with the place whose history I am now offering to the reader is purely legendary. But, if I mistake not, he will be glad to possess, what has never yet been given to him, the various statements of the ancient chroniclers and others brought together and woven into one consecutive narrative. Nor will he be less interested in the story, when he hears that the subject of his study is no less celebrated a person than the lady usually designated "Fair Rosamund."

Fair Rosamund—*Rosa Mundi*, the rose of the world—was the second daughter of Walter de Clifford, the son of Richard and grandson of Ponz. Richard is mentioned in the Domesday Survey as holding lands in the counties of Oxford, Gloucester, Wilts, Worcester, and Hereford. Walter de Clifford, by his wife Margaret, had four children. Lucy, first married to Hugh de Say, and subsequently to Bartholomew de Mortimer; Rosamund, Walter, and Richard. (Dugdale, Baronage, j. 335, 336.) Of Rosamund's early life we have no particulars. Local tradition affirms that Canyngton was the place of her birth, and that within the walls of its priory she received such education as the age afforded. That, as the daughter of a powerful lord, she was intrusted to the care of some religious sisterhood for nurture, both of mind and body, we have no doubt, though the old chroniclers are silent on the subject. The art of embroidery would appear to have been one of her accomplishments, for the venerable abbey of Buildwas long possessed among its treasures a magnificent cope, which bore witness to the taste and skill of its fair embellisher. (Hearne's Will. Neubr. ij. 751.) Of her first acquaintance with King Henry, and the mode and place of her introduction to him, no details have been preserved. Probably she was known to him from her earliest years. Nor have we any reason to suppose that, according to some modern versions of the sad story, a broken vow added its shadow to a life whose record is sufficiently gloomy without this additional element of woe. Not a hint of her having been a nun do the chroniclers give us; and, had such been the fact, full use would have been made of such an aggravation of her offence. Her royal lover was one of the most unscrupulous of mankind, and the sin of "spousebreche" was but one of many enormities for which he was notorious. His affection for Rosamund, however, such as it was, was constant. In order to protect her from the vengeance of his queen, he removed her successively to various places of greater or less security. The paraphrast of Robert of Gloucester tells us:—

"Boures hadde the Rosamunde about in Englonde,
Which this Kyng for her sake made, ich understonde;"

among which were Bishops Waltham, Wynch, Fremantel, and Martelestone. But the most famous of all, and with which her name is more than with all others associated, was her retreat at Woodstock. It was here that Henry built a chamber, which Brompton describes as of wondrous architecture—"*operi Dædalino similem*"—resembling the work of Dædalus; in other words, a labyrinth or maze. A manuscript of Robert of Gloucester, in the Heralds' Office, says that—

"Att Wodestoke for hure he made a toure,
That is called Rosemounde's boure,"

the special intent of which was to conceal her from her royal rival. The internal decorations of this abode were as much attended to as its means of escaping external notice. The abbot of Jorevall describes a cabinet of marvellous workmanship, which was one of its ornaments. It was nearly 2 feet in length, and on it the assault of champions, the action of cattle, the flight of birds, and the leaping of fishes were so naturally represented, that the figures appeared to move. (Brompton, in Script. x. col. 1151. Knighton, in Script. x. col. 2395. Polyd. Vergl. Hist. lib. xiij. fol., Bas. 1570, p. 241.)

Rosamund did not long occupy the retreat that royal though guilty love had created for her. She died in 1177, while yet without a rival in the king's affections, and, as it would appear, of some natural disease. In after times the injured queen Eleanor had the credit of discovering her place of concealment, by means of a clue of silk which the king had incautiously left behind him, and which enabled her to thread the intricacies of the path, and of gratifying her revenge by obliging her rival to drink from her hand a cup of poison. That the queen discovered the abode of Rosamund is possible; and it may have been that the shock of the meeting, and the unmeasured language which her majesty is said to have employed, were too much for the poor victim of her womanly and natural displeasure. It is only fair, however, to say that the queen's part in the entire transaction is not alluded to in the older writers, and is probably the fiction of more modern times. The fruits of the intercourse were two sons—William Longspe, afterwards created Earl of Sarum, the firm adherent of his brother, King John, against the barons; and Geoffrey, successively bishop of Lincoln and archbishop of York.

Rosamund was buried in the first instance before the high altar in the church of Godstow nunnery, which was probably selected from its neighbourhood to Woodstock, and which henceforward enjoyed a goodly number of benefactions in memory of her and for the health of her soul. The body was wrapped in leather, and then placed in a coffin of lead. Over the whole Henry built a magnificent tomb, which was covered with a pall of silk, and surrounded by tapers constantly burning. This occurred in the lifetime of her father, for he gave to the nuns of Godstow, in pure and perpetual alms, for the health of the souls of Margaret his wife and of Rosamund his daughter, his mill at Franton, with all appurtenances, a meadow adjacent to the same called Lechtun, and a salt-pit in Wiche. Walter his son confirmed the gift. Osbert Fitzhugh added to this the grant of a salt-pit in Wiche, called the Cow, pertaining to his manor of Wichebalt. (Monast Angl., iv., p. 366; Dugd. Bar. i., 335, 336.)

Indeed, Walsingham goes so far as to say, though incorrectly, that the nunnery of Godstow was actually founded by King John for the soul of Rosamund. (Wals. Ypodigma Neustriæ, fol., Lond., 1574, p. 56; sub. an. 1216.) It is not unlikely that a chantry was founded by that king for the object stated, but the foundation of the house was beyond question the work of a much earlier period.

Her remains, however, were not long allowed to occupy their sepulchre in peace. Fourteen years after their solemn commission to this sacred place of interment, Hugh, bishop of Lincoln, in a visitation of his diocese, came to Godstow. After he had entered the church, and performed his devotions, he observed the tomb occupying its conspicuous position before the high altar, adorned as already described, and forthwith asked whose it was. On being informed that it was the grave of Rosamund, whom Henry the late king had so dearly loved, and for whose sake he had greatly enriched this hitherto small and indigent house, and had given lands for the sustentation of the tomb and the maintenance of the lights, he imperatively commanded the nuns to take her out of the church, and to bury her with other common people, as the connexion between her and the king had been base and adulterous; and to the end that the Christian religion might not be vilified, but that other women might thus be deterred from similar evil ways. (Higden Polychron. sub. Hen. ij. Rog. Hoveden, fol. 405 b. Brompton, in Script. x. col. 1235. Leland, Coll. j. 291 Fabyan, sub. Hen. ij., &c.)

In obedience to the bishop's mandate the tomb was removed from the church, and erected in the chapter-house. It bore the following epitaph, containing the obvious play upon the lady's name, and declaratory of the unhappy contrast which death had effected:—

"Hic jacet in tumba Rosa mundi. non Rosa munda;
Non redolet, sed olet, quae redolere solet."

This tomb remained, an object of much interest and respect, until the dissolution of the House. It was then destroyed, and a stone was discovered with it, bearing the simple inscription, "TUMBA ROSAMUNDÆ." The bones were found undecayed, and on the opening of the leaden coffin which contained them, says Leland, "there was a very swete smell came out of it." (Lel. frag. in bibl. Cott. Dugd. Mon. iv. 365.) Another eye-witness describes it as having "enterchangeable weavings drawn out and decked with roses red and green, and the picture of the cup out of which she drank the poyson given her by the queen, carved in stone." (Mr. Thomas Allen, in Hearne's Will. Newbrige, ij. 739.) A stone coffin, said to be that of Rosamund, was still to be seen at Godstow when Hearne wrote his "Account of some Antiquities in and about Oxford," but was regarded by him as a "Fiction of the Vulgar."

I hardly need add that the history of this unhappy lady, of whom the reader now possesses all that can be gathered from olden sources, and more, perhaps, than can be accepted as true, was a favourite subject of Mediæval romance, and that all kinds of embellishments were imported into the story in order to impress a salutary caution against any imitation of the heroine.

WORKING MEN'S BATHS AND CLUB-ROOMS, SHEFFIELD.

ON the 22nd instant, the foundation-stone of the Burngreave Working Men's Baths and Club-house was laid, in the absence of the mayor, by Alderman H. Vickers, the ex-mayor.

The building provides accommodation for two classes of supporters,—bathers and readers. The former will be confined to the ground-floor; so that the rooms for reading and club purposes cannot be disturbed by persons passing to and from the baths. On the ground-floor there will be seven bath-rooms, water-closet, waiting-room, and a house for the attendant; on the first-floor, three large reading-rooms, one extending over the bath-rooms and passages, to be used for a District School of Practical Science. Over these rooms there are bed-rooms and closets. In the basement there will be provision for coals, washing, drying, and for warming apparatus. The baths will be supplied with hot and cold water. It is intended to provide a plunge-bath when the committee has obtained sufficient funds. The building will be entirely of brick, with stone dressings, the front being three stories high, of pressed bricks. The main entrance door will have a jamb and arch of brick and white stone in alternate courses, the arch pointed; and in the tympanum will be a circular perforation, with glass to admit light to the passage inside. The heads to the windows will be of stone, with chamfers. An eaves course of brick dentils will run along the front.

Mr. C. J. Innocent is the architect; and the contractors are Messrs. Slack & Grayson, of Barsham-street.

NEW TOWN HALL, PRESTON.

THE tenders for the new Town Hall at Preston (particulars of which we gave in our impression of the 30th ult.) were opened by the chairman of the building committee on the 17th, and the sums hereafter printed were declared. The local tender being the lowest, it was accepted conditionally, awaiting only the final decision of the council to confirm the decision of the building committee.

We may mention that Mr. W. Veale is the clerk of the works appointed by the architect to superintend the building on his behalf.

	General Tender.	If Pleasington Stone be used externally instead of Longridge.	If Polished Red Marble from Devonshire be used
	£	£	£
Simms	19,922	3,500	350
Walters	18,464	—	230
Huddlestone	12,800	3,000	260
Parker & Son	39,260	850	90
Glaister	39,100	8 0	110
Neal	38,894	—	311
Beanland, Bros.	38,000	—	60
Blades	38,400	1,150	212
Cooper & Tullis, Preston	36,130	—	161

A GLANCE AT THE OLD HOUSES OF NEWCASTLE-ON-TYNE.

As in the metropolis, so in most of the great provincial towns in which commerce and manufactures have increased, wonderful changes have taken place. Many old things have vanished, and new have taken their room. The alterations which in less than a century have been made in Manchester, Liverpool, and several other places in England, Scotland, and Ireland, are wonderful; but in few instances are they so apparent as in Newcastle-on-Tyne, the centre of "north countrie" trade. From the Roman times this has been an important station. After the wane of the Anglo-Saxon power, the Normans built here one of their most important strongholds. The Castle Garth, with its gates and defences, in consequence of the position, formed a central place of extraordinary strength. Besides this, the walls of the town spread to a considerable distance beyond. These were of great thickness and height, with the West Gate, the New Gate, Sand Gate, &c.; besides, there were towers and other strong points placed at short intervals.

The position of the streets which form the old part of Newcastle-on-Tyne, and existing accounts, show that the town walls are of a comparatively recent date in comparison with the castle works; and, unlike many other fortified towns, there was within the outer barriers a large extent of open space, in which cattle, &c., could be accommodated in troubled times. There was garden ground around the monastery, — the nuns' field, — on which several of Mr. Grainger's new streets have been built; and other spots on which Dean-street, Moseley-street, and Collingwood-street, now stand.

The Castle Garth is a flat platform of considerable area, from which, in all directions except the west, are steep declivities. The Black-gate, of which we some time since gave an engraving, formed a chief entrance to the Castle Garth. From this, eastward, still runs a picturesque street, but which is singularly rugged and squalid in appearance when compared with the houses and shops in Grey-street and in the streets adjoining: yet not long ago those dingy shops were amongst the most respectable in the town, and were occupied by dealers in woollen cloths and other commodities. In those places, now tenanted by sellers of second-hand clothes, boots, shoes, and such-like matters, large fortunes have been made; and families of present note in the town and neighbouring counties owe to the success of business here their first establishment. Near the Black-gate there are still some very old houses, which remain; and various "yards" or "entries," or what in the south of England would be called "alleys," in some of which were hostelries, with signs such as "The Flying Horse," "The Cross Keys," "The Blue Bell," "The Fighting Cocks," &c.; and northward of the church of St. Nicholas stood the Groat-market, the Middle-street Cloth-market, Flesh-market, and Bigg-market.

From near the Black-gate, towards the river, was the "Side," a very narrow street, the gradient of which was steeper than that of any important thoroughfare of which we have recollection. At the "Foot of the Side" is another steep street, — the "Butcher's-bank,"* — leading to the church of All Saints; and to the right is the "Sand-hill," in which were the old Guild-hall and other curious buildings; and so towards the bridge, and a street running westward called the Close, in which formerly were the Mansion-house, and other buildings occupied by persons of condition.

A quarter of a century, or even a less time ago, it was an extraordinary sight to notice how closely the houses clustered round the Castle Garth, as if for protection from its great strength. Our engraving shows the "Head of the Side," as it was about twenty years ago; many of the shops were then unglazed and used for the sale of flax, cording, wooden-soled clogs, and shoes. The houses were without ornament, but projected story over story to the roofs, in some of which were Pointed gables. In parts, the upper stories, on opposite sides, came so close together that it would not have been difficult for neighbours to shake hands out of the higher windows. Below, the footpaths and the roadway were not nearly so wide as Wych-street in the Strand. Yet for several centuries this was the only thoroughfare to the heart of the town, and was also the only main road from London to Edinburgh. Large armies have passed up and down this narrow defile, so have troops or packhorses, lumbering waggons, the unwieldy carriages of the nobility and gentry, on their progresses to and from York or London; and in more recent times the mail and stage coaches, and other means of conveyance.

The difficulties of this pass, even in connexion with the business traffic of the town, must have been very great; yet up to a very late date no



THE 'HEAD OF THE SIDE.'

fresh road was made. At length, about seventy years ago, a wild *dean*, through which a watercourse ran from the north, was arched over, and the substantial street now called Dean-street was built. This is hilly, but a vast improvement over the old roadway.

East of the bridge, along the Quay, the houses still present a bold and venerable appearance; and some of the shops and hostelries, which have a large amount of business, have been but little changed in their appearance; in Sand-gate, which may be considered the St. Giles's of Newcastle, there is still preserved much of the primitive appearance.

The limited extent of the business part of the ancient town of Newcastle would seem to have



"THE BLUE POSTS," IN PILGRIM STREET.

rendered it unnecessary for the tradesmen to assume peculiar signs or marks of distinction, as was the practice in London. The innkeepers only had signs, many of them being religious symbols. The general appearance of those northern inns was also unlike those of which we have examples, both in the metropolis and in the City part of the metropolis, with spacious courtyards and ranges of galleries.

The Blue Posts Inn, of which we give a sketch, situate in Pilgrim-street, which is of considerable antiquity, is a characteristic example of the Newcastle inns of the days gone by. The fronts were mostly of stonework, with gables and small windows; in most instances the entrances were contracted. The frontages were not of great extent, but rambling premises generally ran to a distance in the rear, and consisted of various apartments, stables, brewhouses, &c.

The chief inns of Newcastle are now of large size and imposing architectural design; the rows of Grecian columns, the elaborately-wrought cornices and other enrichments, the plate-glass windows, the spacious and elegant saloons, form a singular contrast with the old inns which still remain; nor are the modern shops less characteristic of the progress of the present era; and in few ways can this be more strikingly shown than by a ramble from the narrow street in the Castle Garth to Grey-street. Nor is the great railway bridge which passes so grandly over the "Side" and Dean-street, and dwarfs by its lofty proportions the old bridge, without its peculiarities and remarkable associations.

* From the Butcher's-bank, in a house of which street Akenside, the poet, was born, several very narrow lanes, with tall houses on each side, lead to the Quay-side: these are called "chairs," "Newcastle-chairs," &c. At a trial which took place in this town, the judge and counsel were much puzzled by a witness swearing that he saw a certain man charged with an offence coming out of the chair-foot.

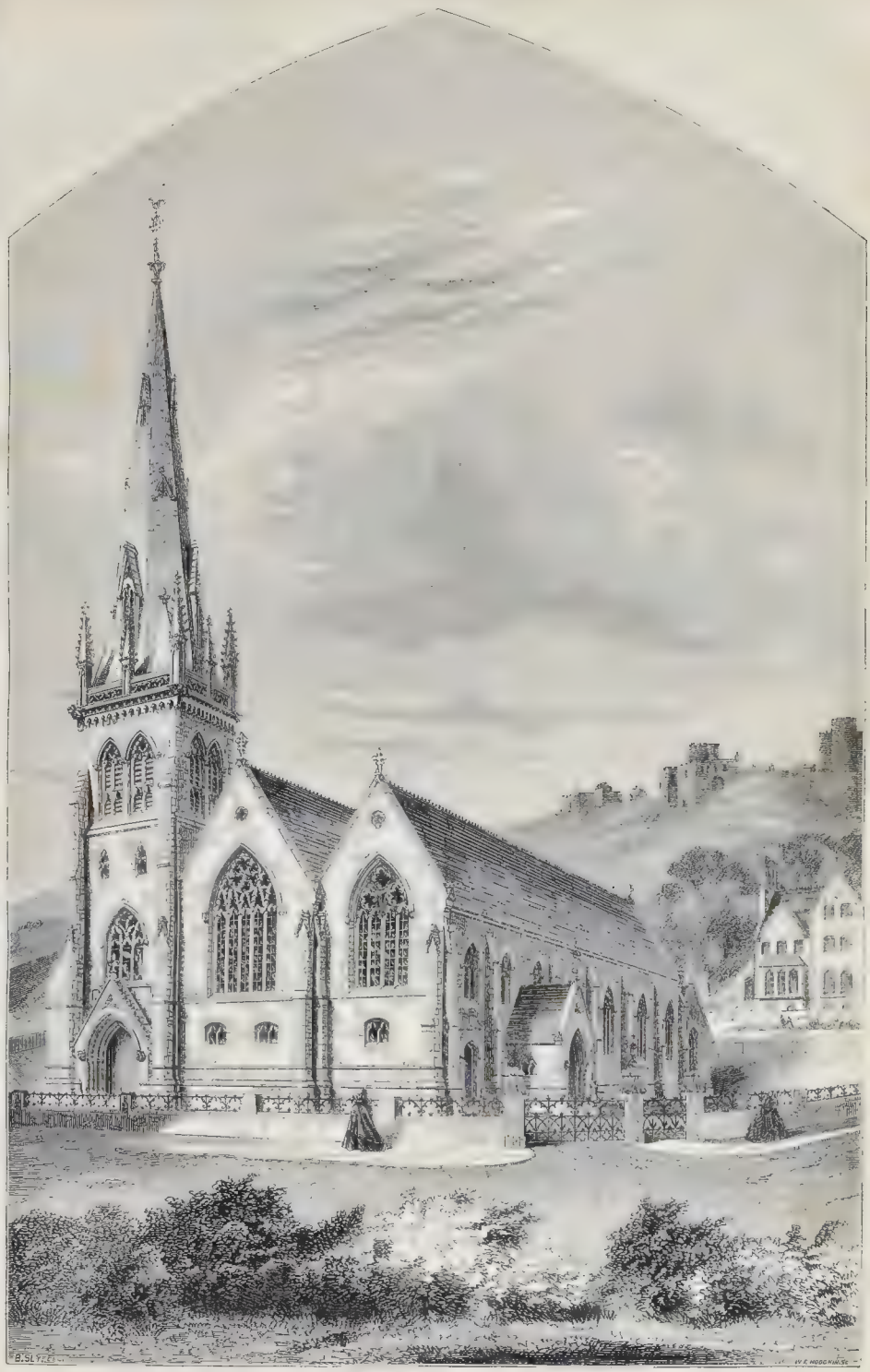
PAPER SPLITTING.

SOME of the newspapers, speaking of recent doings in this way by a Mr. Millard, have given him the credit of having invented the process. The fact is, however, it was done as long ago as 1848 by Mr. W. Baldwin, of Newport-street, Long-acre, who has since practised it to a considerable extent. We understand he has split at least ten copies of the *Times* for different persons as far as eight columns through; 2,500 sheets of the *Illustrated News*, *Pictorial Times*, *Lady's Newspaper*, *Builder*, *Expositor*, and many other illustrated works, in which woodcuts of the Exhibition of 1851 existed, for one gentleman; besides many other old and valuable engravings; 250 woodcuts, from various publications, of the Queen's visit to Cork, for her Majesty; also seven of each of the large woodcut views of the Exhibition of 1851; and a 5*l.* note, the property of Mr. Anthony Anderson, of the Belgrave Hotel, Eburg-street, Pimlico. The press at the time spoke very warmly in favour of his ingenuity, and of the value of the process under certain circumstances; and it is but right that he should have the credit that is due to him, and reap the reward of his ingenuity. We have before us at this moment the "cut" pages of a number of our journal, which were printed on both sides; and these Mr. Baldwin has split without a flaw; thus freeing the engravings from the letterpress. Let every one enjoy his own is a good motto, and one that all should aid in maintaining.

CHATHAM.

St. Bartholomew's Hospital. — This edifice is now nearly completed outwardly; and the interior work, according to our authority, the *Chatham News*, has also made great progress. This hospital is raised in accordance with a "scheme" settled by the Court of Chancery. The cost of its erection is partly paid from the funds of Watts's Charity, partly from those of "St. Bartholomew's Hospital" estates; and one portion of the building is paid for by Government. The architect of the hospital is Mr. R. P. Pope, of London; and the contractor is Mr. A. Stump, of Brompton. St. Bartholomew's Hospital, for the construction and furnishing of which the trustees have, we believe, some 16,000*l.* to expend, will contain eighty beds; a male "Charity" ward; a female "Charity" ward; an accident ward; a dispensary, &c.; and a "Lock" ward. The most prominent feature in the edifice is a tower of four floors, which springs from the side of the centre and highest portion of the main building, and bears under the roof two slate water-tanks, which are capable of containing together 1,500 gallons of water.

Police Buildings for Married Men.—A range of buildings is now in course of erection near the entrance of Chatham Dock-yard, at the angle of the road leading to Brompton, which are intended as residences for married men of the Metropolitan Police force who are now doing duty in the yard. The buildings, which are intended to accommodate eighteen men and their families, will cost the Government 3,000*l.* Messrs. Foord & Sons, of Rochester, are the contractors; and the works are being carried out under the superintendence of Mr. Rivers, clerk of works at the dockyard; the plans being supplied from the engineering department of the Admiralty. There is already a residence at the lower end of the yard which has been constructed for the single men of the police corps.



NEW CHURCH FOR THE PARISH OF ST. JAMES THE APOSTLE, DOVER.—MR. TALBOT BURY, ARCHITECT.

[See p. 689, *ante*.

DISCOVERY OF WALL PAINTINGS, WESTWESTON CHURCH.

AT Westweston, a little village three miles east of the Hassock's Gate Station, on the Brighton line, is a small church now under restoration at the hands of Mr. W. Slater, architect. The building evidences a very early origin in its architectural forms. Internally, it has been much ill used and neglected in times past. During the removal of the coatings of whitewash a most remarkable and unique system of twelfth century mural decoration has been displayed. In many parts the work is but faintly shown; and in others the process of release from the plaster coatings, although effected under the most solicitous care of the architect and the rector, the Rev. Mr. Campion, has inflicted injury. Still, on the whole, the general system of the decoration is very apparent; and in many cases the subjects illustrative of scripture and symbolic scenes are well preserved. The work is wholly composed of figure subjects, which comprise a "Descent from the Cross," a "Scourging," an "Adoration of the Magi," a representation of our Lord giving the word to St. Paul and the keys to St. Peter, and a "Crucifixion." Over the chancel arch is an "Agnus Dei" adored by angels. Over the north porch doorway are evidences, faintly traced, of "A Judgment." In the soffit of the unmoulded chancel arch are medallions containing emblems of the Seasons; and on one of the jambs of the same arch is a representation of a female figure in presence of a demon, from which she is recoiling. From what remains of these valuable remains of early art it is clear that the church was originally covered entirely with pictorial scenes such as are here noted. The north wall has in it but one window; so that an uninterrupted field was obtained for the artist of those early days. The pictures seem generally to have been set out without ornamental or geometrical boundary forms. Those on the north wall were arranged in two courses, one above the other, and separated only by a band of inscription matter, written in Latin hexameters. These inscriptions occur again immediately under the wall-plate; so that they refer always to the picture beneath. In colour, the work was very simply treated; but few tints have been used. In drawing, it is very archaic, though careful and full of very early character. The tonsured fashion of St. Peter's hair is given with singular expression. It is remarkable, also, that this saint is shown in the scene of the "Adoration of the Magi." It will be a thousand pities if aught be done to impede the handing down to posterity of this relic of early Christian art.

THE PRINCE CONSORT MEMORIALS.

Manchester.—The committee having invited suggestions, the following were submitted:—1. A drinking-fountain at the base of the statue. 2. Six model cottages. 3. A museum of arts and sciences. 4. A park for Hulme. 5. A tower for the cathedral. 6. The investment of the subscriptions to meet the wants of the poor in times of distress. 7. A fund, to be called "In Memoriam Fund," to extend the usefulness of the infirmary. 8. The erection of the monument in the same style as the Scott monument in Edinburgh. 9. Public baths and a Walhalla. 10. The extension of the Queen's Park. 11. An orphanage. 12. A school of science. 13. The purchase of the Botanical Gardens for a public park. 14. A convalescent hospital. 15. Model dwellings, the surplus of the rents being applied to the endowment of scholarships, or other purposes. 16. A park in the Greenheys Fields. 17. A lending library, where the statue may be placed. These suggestions had consideration; but, as the funds available were not likely to be large enough to include more than one undertaking, it was resolved that the first object should be to provide a suitable receptacle to contain or cover the statue to be presented by the mayor. The mayor having submitted a design by Mr. Noble, whom he had appointed to execute the statue, the question of a canopy was considered; and, after examining the various designs sent in, the committee determined to recommend for adoption the design submitted by Mr. Thomas Worthington; that gentleman to be appointed the architect to carry out the same. The statue, of Sicilian marble, represents his Royal Highness in the robes of the Garter, with a copy of the rules of the order in his hand. The length of the steps at the base is 35 feet. The base of the memorial proper, at the top of the steps, measures 19 feet on each side. The total height to the top of the metal vane is 75 feet. Height of basement, 13 feet 6 inches; pedestal, 21 feet; figure, 8 feet 2 inches. The erection is described as a square canopy of white stone, open at the four sides, the openings spanned by lofty Pointed arches, each surmounted by a high-pitched gablet, above which a tall spiret roof will rise to a total height of 75 feet. At the four angles will be square buttresses and pinnacles, of rich and elaborate design. The style is of that period of Mediæval architecture which prevailed at Florence and throughout Tuscany between the ages of Brunelleschi and Giotto. The basement of the canopy will be divided into two stages, the upper of which will be filled with a series of panels, five on each side, enriched with armorial bearings. Each buttress will contain a shield, emblazoned with the arms of the late Prince, surmounted by coronets. On the inner edge of the arches there will be an effective cusping. The sloping edges of the archway will be enriched with clustered spiral columns of Purbeck marble. On the tops of the columns and piers will be enriched capitals of elaborately-carved foliage; and from these will spring the spiral moulding of the arches, which is to be of the same character as that of the pillars below. Upon each of the piers or buttresses will stand a pinnacle, divided into two stages, the lower stage to be decorated with spiral marble columns, terminated with gargoyles, and the upper stage of the pinnacle to be an open canopy, supported on similar spiral columns, and the upper portion greatly enriched with tracery, foliated finials, and crocketing. Each of the four pinnacle canopies will contain a statuette, of which the subject is not yet decided on. Each gablet will be terminated by a figure of an angel blowing a trumpet. The gablets are to be enriched with arabesque in basso-relievo, and the centre is to be pierced with a circular opening, filled with light tracery and two intersecting equilateral triangles. The spiret roof is to be octagonal, and terminated with a metal coronet. There is to be a grille around the basement, divided into compartments filled with quatrefoils. The building will stand elevated above the pavement on five steps, each about 12 inches high. The site chosen is in front of the infirmary, between the two fountains. The cost is estimated at from 4,000*l.* to 5,000*l.*

Salford.—Recently a meeting of the executive committee appointed to superintend the erection of a memorial in Peel Park to the late Prince Consort was held in the Salford town-hall. Mr. Noble, sculptor, was present, and submitted a model of the proposed marble statue, which was intended to be a companion statue to that of the Queen, which already adorns the park. The committee approved of the model. The Prince is represented in his costume as Chancellor of the University of Oxford.

STAINED GLASS IN CATHEDRALS.

Chichester Cathedral.—A memorial window to the late Sir John Forbes, M.D., and his wife, has been put in at the base of the south-west tower of this cathedral. The two oval compartments represent our Saviour at the pool of Bethesda, and Dorcas distributing alms. In the border surrounding the window are figures representing Faith and Charity, St. Paul and St. John. Other portions of the window represent diaper work. It is the work of Messrs. O'Connor, of London.

Lincoln Cathedral.—Seven additional stained-glass windows have just been placed in this cathedral; the artists being Messrs. Ward & Hughes, of London. The whole are memorial windows, the first two being in memory of Mr. John May and Sarah Bromehead, and erected by their son, Mr. E. A. Bromehead, solicitor, late of Lincoln. They are placed in the south-west clerestory of the great transept. The subjects in the lower part of the windows are, "The Saviour's appearance to Mary in the Garden," and "The Baptism of St. John;" the upper part containing large figures of the Saviour and St. John the Baptist, with enriched canopies surmounting them. The other windows are placed in the north aisle of the nave. The first, which adjoins the Chaplin memorial window, is in memory of the Rev. Francis Swan, formerly a prebendary of the cathedral, and erected by his son, the Rev. F. Swan, of Sausthorpe, also a prebendary of Lincoln Cathedral. The subjects are, "The Pharisee and the Publican," "The Good Samaritan," "The Prodigal's Return," and "The Sower." The other two are presented to the cathedral by Mr. G. Tomline, of Riby-grove, and doubtless intended as memorials by that gentleman; but the inscription does not state to whom. The subjects of one are, "The Annunciation," "The Angel appearing to the Shepherds," "The Adoration of the Magi," and "The Flight into Egypt;" and of the other, "The Angel announcing to Zacharias," "The Salutation," "St. John preaching," and "St. John beheaded." The remaining two windows are by subscription, in memory of the late Dean Ward, and are placed in the chapel at the south-east corner of the great transept, immediately over his grave. The one contains the following subjects;—"Healing the Blind," "Healing the Centurion's Servant," "Casting out a dumb Spirit," and "The Resurrection;" and the other, "Christ rebuking James and John," "Washing the Disciples' Feet," "Peter walking on the Sea," and "The Ascension."

Manchester Cathedral.—The large east window of the Derby Chapel, in the cathedral at Manchester, has been filled with stained glass. As the chapel is used as a baptistery, all the thirteen subjects in the window have relation to children. The entire window is the gift of the late and the present wardens. In the south wall of the nave a small window has been filled with stained glass in memory of the late Mr. James Dunn, at whose expense the west window of the south aisle was filled with stained glass. Both windows are the work of Messrs. R. B. Edmundson & Son, of Manchester.

SCHOOL-BUILDING NEWS.

Wappenham (Northampton).—The opening of a new school has been celebrated here. The building has been erected on elevated ground a short distance from the parish church. It is in the Early Decorated style, from a design by Mr. Scott. The materials are principally common brick and tile, with Bath stone dressings; and there is sufficient architectural design in the porch, windows, and high-pitched roof, with its slender campanile, to give significance to the object of the building. The builder employed was Mr. Wheeler, of Whittlebury.

West Bromwich.—The chief stone of Christchurch Schools was laid on Monday, the 8th inst. The building is being carried out, from the design and under the superintendence of Mr. J. Weller, architect, by Mr. G. B. Ramsay, of Smethwick. The amount of contract is 1,850*l.* The style of the building is Gothic, with pointed arches to doors and windows. The exterior is to be faced with red bricks, relieved with blue and white brick arches to doors and windows, with brick pilasters, facias, eaves, cornices, &c. The plinth is faced with blue bricks; and blue brick bands will also be introduced at the level of window-sills and at the springing of the arches. The copings to gables, the window-sills, and the pillars and carved capitals to the porches, are to be of stone. The roofs are to be covered with purple slates relieved with bands of green slates, and having ornamental ridge crests. There are three schoolrooms—boys', girls', and infants'—which will accommodate altogether 450 children. The boys' and girls' schoolrooms are to be divided by a movable partition, which can readily be taken away, so as to form one large room, which will be 134 feet long and 20 feet wide. There is also a wing, projecting 13 feet, at the end of each of these rooms, forming two gables to the front. The infants' schoolroom is at the south end, and forms another gable to the front: this room is 50 feet long and 22 feet wide. The rooms are to be 15 feet high to top of wall plate, and are open to ridge, the exposed roof timbers being wrought and chamfered, and stained and varnished. The total length of the building in front will be 176 feet.

YORK.

THE chief stone of St. Wilfrid's new Roman Catholic church, Little Blake-street, in this city, has been laid by the Rev. Dr. Cornthwaite (the R.C. bishop of Beverley). The new edifice has been commenced on the site of the chapel, which, until recently, stood there, but which, having become dilapidated and incommodious, it was deemed necessary to remove. The cost of the new church will, it is estimated, be about 10,000*l.*; the contract of Mr. Weatherley, builder, of this city, being for 9,000*l.*; and the decorations, &c., will require a further outlay of 1,000*l.* The architect of the proposed building, with which considerable progress has been already made, is Mr. George Goldie. The nave and aisles run parallel to the adjoining buildings; the nave and north-east aisles terminating apsidally; the former for the sanctuary and high altar, the latter for the Lady Chapel. At the opposite extremity of the same aisle stands the chapter-house, occupying a triangular piece of ground to the front, and grouping with the principal façade. The south-east aisle is terminated at its upper

end by a sacristy, and at the other by the tower, which forms a baptistery on its ground-floor. The presbytery occupies the remainder of the space, on a line with Blake-street. In the centre will rise the tower to a height of 150 feet, with a shafted belfry, arcaded on its lower walls, and crowned by an open parapet and steep crested roof. The nave gable (83 feet high to the summit of its cross) comes to the left of the tower. The church will be entered from the gable beneath a groined organ gallery. The nave and aisles will be 110 feet long, 56 feet wide, and 61 feet high. An arcade of red shafts with carved capitals runs round the clerestory enclosing the windows, which are to be almost all stained. The apse is vaulted, and the nave coved, with stone vaulting shafts, running up from the capitals of the nave to the cornice. The nave arches are borne upon cylindrical columns, and are to have carved capitals. Through the arches to the left will appear a second range of arches, containing the confessionals, and terminating in "the chapel of the Blessed Virgin," with carved cornices and capitals, and coloured stone shafts. To the right appear the triple lights of the south-east aisles, all shafted, and with sculptured capitals, &c., and the entrance door-way of the sacristy.

The new chapel attached to St. Peter's School, Clifton, has been opened for Divine service. The edifice is in the Early Decorated style. The chapel and the school are united by means of a passage 9 feet in width and 30 feet in length. Above this passage there is a gallery opening into the chapel by a double arcade. The general architectural characteristics of the building are similar to the collegiate chapels at Oxford and Cambridge. The internal length of the chapel is 105 feet, and the width 31 feet 6 inches, the outer walls being 2 feet 6 inches in thickness. They are built hollow, and faced upon the outside with Bradford sets; whilst the masonry of the windows, buttresses, tablings, and cornices, are of Ancaster stone. The height of the chapel, from floor to cornice, is 21 feet 6 inches, and from floor to apex of roof 43 feet 6 inches. The chapel is lighted at the west end by a couple of two-light windows, surmounted with gable lights, over which is a one-bell turret supported by buttresses rising from the ground. That side of the structure adjoining the school is also lighted by two-light windows, except at the place occupied by the gallery above the passage. On the opposite side of the building also are two-light windows of corresponding character; and the eastern end of the roof is lighted by dormer windows. The windows have tracery of geometrical pattern, and are filled in with cathedral glass, and have stained borders. The north window at the west end is of stained glass, the gift of Mr. William Hudson, of Ouse Cliff, near this city. Each compartment illustrates three events in the life of our Lord, viz.;—"The Agony in the Garden," "The Last Supper," "Christ giving Sight to the Blind," "Christ raising the Dead," "The Woman of Samaria," and "Our Saviour bearing His Cross." The chancel has five windows of two lights each; that in the centre being of painted glass of similar design to the stained-glass window already mentioned. The subjects represented in this window are—"The Dead rising from the Sea on the Day of Judgment," "Christ walking upon the Sea," "Christ disputing with the Doctors," and "Suffer little Children to come unto Me." This is a memorial window. The roof of the edifice is of open-timber work, and of hammer-beam construction, with semicircular ribs. The building has been erected from plans and designs prepared by Messrs. J. B. & W. Atkinson, of this city, architects. The various works have been executed by the undermentioned York tradesmen, viz.;—Masonry and brickwork, Mr. Ralph Weatherley; joiners' work, Mr. Rookledge; plastering, Messrs. Croft & Braithwaite; staining and varnishing, Messrs. Harker & Dodsworth; plumbing and glazing, Mr. M. Varvill; slating, Mr. Ellis; carving, Mr. Cole; and heating apparatus, Mr. Fryer.

STRANGE ENCASEMENT OF THE STAINED GLASS AT YORK MINSTER.

WE would like again to inquire what are the considerations that have induced the authorities of York Minster to set on foot the work of supererogation we have just witnessed there, and to which condemnatory reference has already been made in our pages. The fine ancient stained glass windows are in process of glazing up from external view by rough coarse sheets of plate-glass. The effect of this on the exterior is as bad as it is dismal in the interior. As the minster is approached, all the light and sparkle of the old glass and lead-work are lost; all the broad shadows that should fall from the mullions are wanting, on account of the new garish glass occupying the reveals; and the windows have the effect of being papered up. In the interior the result is very disagreeable: the beautiful "Five Sisters" appear of a melancholy green tinge: even the colours of the great east window are all distorted to the same greenish hue. The windows of the splendid chapter-house appear to be likewise doomed to be encased in the same manner. It seldom falls to our task to call attention to an error of such glaring bad taste and judgment.

THE SANITARY STATE OF ROTHERHAM.

THE local board of health has applied to the Sheffield Water Company to supply the town with water; but in reply the company state that they cannot, with present means, supply any water for the use of Rotherham. When the works now in course of construction are finished, the company's supply of water, they state, will be greatly increased; and then an application to supply Rotherham with a limited quantity might possibly be entertained by the board; but the works will scarcely be completed under three or four years from this time. Dr. Shearman, the medical officer, reports the continuance of the epidemic of typhoid fever in the district. From the 1st to the 14th of this month, there have been forty-four fresh cases admitted into the dispensary; and, although the number of cases is less, yet the disease is decidedly of a more malignant character. In ten weeks, the alarming number of 184 deaths have occurred in a population of 19,000,—nearly double the mortality of last year. The filthy condition of the premises in Baker's-yard remains exactly in the same state as described in last report. Also the nuisance belonging to the lodging-house in the college yard still exists. The True Briton-yard, in Westgate, is in a very filthy condition. All the gullies are made up, and the whole of the inhabitants complain of the scanty supply of water, which renders them unable to cleanse their premises. A great number of deaths are returned as diarrhœa and other diseases of the endemic nature: this, Dr. Shearman considers an additional proof of the malarious condition of the local atmosphere. In the course of conversation, it was suggested by members of the board that the matter should be brought before the public.

THE BRIGHTON DRAINAGE QUESTION.

ONE of those not unfrequent drainage "discussions" in which the Brighton town council have of late been pleased to waste their time has just taken place; the ostensible object in the present instance having been to consider a report from their surveyor on the proceedings of the Works Committee, to the effect "that the maps of the town and the drainage plans upon which he had been engaged were nearly completed, and that he should be prepared for any interview which the committee might think proper to arrange with Messrs. McLean and Wright after next week." In course of the "discussion," Dr. Hall, who has been publicly jogging them with some wholesome advice; and deprecating drainage into the sea in face of the town; came in for a good deal of idle talk about "idle doctors" and "selfish and ridiculous men" making "a puffing advertisement for themselves;" and but for whom, and "would they only hold their tongues, nothing more would be heard about the drainage question"! The efforts of the *Lancet* to stir up a right feeling *in corpore vile* were said to "emanate from medical men of London who had embarked in building speculations in other southern watering towns!" Of a physician who told one of the aldermen that Brighton was not so healthy as Eastbourne, it was insinuated that he must get "so much a head" for sending his patients to Eastbourne; and so on. Such was the "discussion"; intermixed, of course, with protestations and expressions of disgust from the more enlightened members of the corporation.

THE NEW STYLE QUESTION.

SIR,—The cry for a New Style of architecture that has been raised among us of late is by no means the healthiest symptom. It is utterly impossible for aught answering to the idea or name of a style to be extemporized. A style must grow up out of various circumstances all more or less fortuitous and uncontrollable;—must take root, and be confirmed by general practice before it can claim to be recognized as a distinct and *bonâ-fide* style. No small quantity of quackery is betrayed by those who call upon us to invent a *bran-new* nineteenth century style. It will be quite time enough to talk of the necessity for devising a new one when it can be shown that what we now have is so completely used up and worn out, that nothing further can be made of or done with it.

So very far, however, am I from so thinking, that, in my opinion, there is still ample room left for correcting, improving, and supplementing, if not our Gothic, our Anglo-Classic.

The palaver—for so it must be called—about our striking out for ourselves, all at once, a new style of architecture, amounts to nothing less than what ought to be left unnamed, for fear of offending ears which, if not always "polite," are rather sensitive.

Not a little premature, it certainly is, to propose the name of Victorian, or any other, for a style that is yet unborn,—is only undergoing the process of incubation,—which, it seems, is to be accomplished by steam. ZETA.

SIR,—There is a great cry, in the present day, for a new style; one which, by reason of its originality and difference from all others, shall be considered as peculiarly the offspring of our age. Now, sir, will you allow me to ask,—Are we not crying out for something that we in reality already possess? Have not the requirements of the day been great and many beyond all parallel? but have they not been fully met by an infinite originality of genius, which will certainly not fail to distinguish us? A new style wanted! Is not our land sown broadcast with its seed, which is springing up as luxuriantly as plants beneath a tropical sun? Alas! we have indeed a *new* style, prolific in abortions such as the world has never before seen. We have been placing mangled limbs together, foolishly imagining that in so doing we were creating life. The consequence is, our productions are spiritless and lifeless, and we revile the style we so ill treat, putting it away from us as something unsuitable and worn out.

With some exceptions, we have been labouring hitherto, to make a living, breathing, whole out of dead disjointed members: futile attempt! For, try as we may, we never can make even one life out of a valley *full* of dry bones. If we are wise, we shall strive no more in that direction, but shall endeavour to arouse and refresh that which possesses, innately, the capacities of an infinite growth; and which "is not dead but sleepeth."

A. P. G.

CHIMNEY CONSTRUCTION.

THE system of chimney construction in our households is conducted upon the same primitive principles (or nearly so) that have been in practice for some centuries past. There is little doubt that in this portion of house construction there are serious evils observable, such as from a down-draught of smoke, the fall of soot, hail, rain, &c.; and the enormous waste of heat (and we may add pure air, which rushes direct from the window or door to the fireplace) that ascends the chimney.

It seems inconceivably strange that the rational system so generally carried out in manufactories and other similar establishments, of having one chimney only of large size, with which all the rest of the flues within such buildings are connected, if there be several or many furnaces or fires, has not been applied to private houses.

Instead, then, of a network of long tortuous flues, how much more sensible and economical it would be to have but one chimney in all our dwelling-houses, into which short arched lengths should run from every fireplace or stove in them.

Such a main and collecting chimney need not occupy much space, or prove expensive in construction. The top should be surmounted with two *cones* for the prevention of the down-draught of smoke into a room, &c.; the topmost of these presenting its narrowest end skyward, and its broad end being consequently undermost; the bottom cone having its broad end *upwards*, so forming a perfect junction between the two.

At the basement end of the chimney-shaft an opening of some 3 or 4 feet in depth should be made, and this kept closed ordinarily by means of a hinged door, fastened by a lock and key, or by a padlock and staple; so preventing children and others from tampering with the soot accumulated within, and letting it out into the room or kitchen.

Standing some 3 or 4 feet high, or slightly under the level of the top of the door opening in the shaft, a receiving-box of wood or iron should be placed for the soot to fall into; and thus, when the chimney is swept, or when the soot comes

down, naturally preventing it coming into the room, and causing dirt and annoyance.

The chimney, then, running up to the top of a house, and passing by the side of each fireplace, will gather the smoke from their fires by means of short semicircular tubes or flues: the ends or mouths of these, which will discharge into the *main* chimney, being made downwards, would prevent a down-draught of smoke or soot falling into a fire, and *greatly* increase the upward current of air and smoke.* M. M.

THE COTTON FAMINE.

SIR,—Knowing your ready sympathy with the working-class, I venture to offer, through your columns, a remark to the building trade generally. Amongst the "thousand" builders of London, could not something be done by "their workmen" to relieve the distress among the "cotton sufferers of Lancashire"? I have thought there could be; and amongst the workmen of the firm with which I am connected, I have set on foot a penny per week subscription: this, if it only realized upon an average 1*l.* sterling per week in each firm (the large making up for the small), would be 1,000*l.* per week towards the relief of the poor and needy in Lancashire. Of course donations would also be received. G. P.

PIGS AND INSPECTORS OF NUISANCES.

I AM much obliged to your correspondent "Eboracum" for his remarks on my case, although I do not quite see how they agree with the clauses of the Public Health Act. While admitting that I am not in a position to assert distinctly what are the duties of an inspector of nuisances, I think we may assume that he is the agent of the local Board of Health, who are the conservators of the public health, and therefore anything detrimental to that health comes within the range of his duties.

The 58th section of the Public Health Act states, that the local Board *shall* drain, cleanse, cover, or fill up, or cause to be done, &c., &c., all places containing or used for the collection of any drainage, filth, matter, or thing of an offensive nature, or likely to be prejudicial to health; and they shall cause notice to be given to the person causing any such nuisance, or to the owner or occupier, wherever the same exists, &c., &c.

And in the 59th section, that whosoever keeps any swine or pigstye in any dwelling-house, or so as to be a nuisance to any person, for twenty-four hours after written notice from the local Board of Health to remove the same, shall for every such offence be liable to a penalty not exceeding 40*s.*, and 5*s.* for every day such nuisance is continued; and the said local Board *shall abate, or cause to be abated, every such nuisance*, and the expenses incurred shall be recoverable in a summary manner, &c., &c.

I do not know whether your correspondent be an authority on the matter; but I think your readers will be able to see that an inspector of nuisances can be a public servant without being a public informer; though I doubt if they will be equally clear as to how a nuisance becomes less so on being brought to the notice of the inspector by one who has to contribute towards his salary.

I have been informed, perhaps wrongly, that the only remedy for a private nuisance is by action, and for a public one by indictment; but, if such is not the case, why should I do that for which another man is paid? As well ask me to watch the street, when the police are appointed for the purpose. It will therefore, I think, be seen that the liability to dismissal and costs are not involved in the case, the board having the power of providing for any expenses out of the rates, or of levying a district rate for the purpose.

Or does your correspondent think that I, a working man with a family, should incur the risk of taking the case into court, where I should have to produce evidence of surveyor, &c., and require professional assistance, with the possibility of an appeal to the sessions, when there is a board constituted for the very purpose?

And as to supervision, is it not clearly the interest of an inspector, having his private affairs to attend to, to see as little as possible? And if the plea of there being no public prosecutor is to be allowed, what is to prevent his getting out of everything but taking care to apply for his salary? G. S. X.

Books Received.

Suggestions for the Formation of a New Style of Architecture, specially adapted to Civic Purposes. By T. MELLARD READE, Architect. London: John Weale, Holborn.

OUR readers are acquainted with Mr. Mellard Reade's views with reference to the formation of a new style, these having been first mooted by him in our pages. In the work before us he illustrates these views by the production of six surface designs,—façade for a pile of offices; designs for pedimented windows (one, clever); design for a colonnade; design for a shop; and design for a portico (?), produced by a mixture of Gothic and Italian features, the former dominating! The result is very similar to some of the German Gothic of our day, and in some of the cases to works of Early Italian Gothic. As exercises, the designs are interesting and clever, but we do not find in them any approach to a new style. The author says,—"Though the ideas contained in the several designs are suggested by various styles, yet a unity of principle pervades the whole. What the features are which mark the individuality of the suggested style, I shall leave others to discover; resting content if it be judged to be but one step in the right direction." One of the features relied on would seem to be the *pedimental* form, which is prominent in nearly all the designs. Mr. Reade will make more converts to his views with the pen than with the pencil. Nevertheless we must applaud him for the production of his designs, as calculated to lead others to think on the matter. A writer in the current number of the *Quarterly*, after referring to the many changes which have taken place in English institutions, says,—

"These, and a thousand other memories of similar import, all combine to make the English character of 1862, so old and yet so young, which is struggling for its artistic expression. That expression cannot be written in the alien tongue of distant lands and bygone civilization. It naturally seeks its alphabet in the title deeds of England,—royal, free, Christian. It does not make archæology, but it inquires of the past to inform the future. It is progressive art; and as true progress must ever be putting itself to school, it seeks to learn of every style which ever loved the beautiful, in order to adopt and to assimilate, heedless of the parrot reproach of eclecticism, provided only that eclecticism be one of fusion and of development, and not merely of juxta-position."

One "of fusion and of development;" that is what is needed. A style is growing and will grow; and will be more obvious to those who come after us than to ourselves.

We must let our author repeat his views. The method he proposes to adopt, he says, in developing a new style, is simply to work by the light of the broad principles enunciated in the practice of all true artists:—

"Let us, then, in our edifices, aim at breadth, repose, dignity, elegance, and effect: these qualities cannot surely be the sole monopoly of some preceding style, but are common to all good architectural composition. Our leading lines must follow the natural requirements of the building: breadth of wall surface, just proportion, and depth in the reveals, combined with general simplicity of outline, will give repose: continuous lines and horizontality will aid it. Decoration tastefully applied, and proportions properly adjusted, will ensure elegance. For instance, to take a hint from the Gothic, we may decorate the reveals of our windows with clusters of mouldings, shafts, and capitals, leaving the wall surface intact. Basing our style upon horizontal principles, we may still infuse a little of the Gothic freedom into the mouldings and decorations; and in the character of these, the distinctive expressions of style lie. The cornices and strings, so far from being mere repetitions of classic conventionalities, and composed of few and simple forms, would be susceptible of an endless variety of outline and ornamentation. By the introduction of curved lines, in the form of tracery, which should be of a simple and bold character, we destroy the monotony which so distinguishes the modern Classic and Renaissance. Surface decoration can be applied where strength of wall is required. The employment of the semi-circular and segmental arch, for spanning openings, will more accord with the horizontal principle, and possess greater repose and dignity than the pointed. The pedimental heads, over window openings, should take the form of label moulds, the horizontal corona being omitted. By these means a combination of the circular and horizontal lines may be effected, the want of which is so apparent in Roman architecture. By mouldings, dying into flat reveals, ornamented tympanum, heads to windows and doors, a still further combination may be effected; and we may complete a round arched architecture—a style never before perfected, having been left in a crude state in the Norman and previous styles, when the pointed arch supplanted it."

The book might have been smaller with great advantage: none of the illustrations fill the large folio pages devoted to them, and the size makes reference to it a matter of difficulty. Mr. Reade, let us add, shows skill, both as a designer and a draughtsman, in his title-page.

Miscellanea.

FALL OF A WALL AT COLOGNE.—About seventy feet of the wall of the Spiesserhof Gas Works, at Cologne, have fallen. The workmen were entering the premises, and three were killed and several wounded.

THE UNDERGROUND RAILWAY.—On Saturday, workmen were employed in concreting and paving the roadway of the new bridge which intersects the Farringdon-street station of the Metropolitan Railway at the foot of Cow-Cross-street. This bridge is a combination of iron girders and brickwork, while the parapet consists of slabs of cast iron with moulded panels. The station itself will will soon be entirely roofed in the whole length, which extends to nearly opposite St. Peter's Church. In order to shelter passengers arriving in carriages and other vehicles, a light iron arcade is being erected in front of the booking-offices at Farringdon-street station. A large number of navvies are engaged upon the earthen embankment in the cutting at Victoria-street in removing the superfluous soil, and reducing the bank to the requisite slope required for the safe working of the line.

THE CEMENT TRADE.—A correspondent complains that "at the present day, when Free Trade is the rule, an Irish Government Board, through their specifications, insist on their contractors using no cements of any kind, plaster of Paris, or unglazed sewerage-pipes, except they are manufactured by a particular house;" and thinks it "a great injustice to manufacturers." The Board may or may not have a sufficient reason for the stipulation. We cannot tell.

THE HANTS NEW COUNTY HOSPITAL, WINCHESTER.—The building committee of the new County Hospital have, it is said, decided to recommend to the court of governors the purchase of Peel-place, the property of Mr. Whitrow, and other adjoining lands, altogether about six acres, on the Winchester side of the turnpike-gate on the Hursley and Romsey road, but just within the county boundaries. The site commands views of the South-Western Railway, the city of Winchester, the Hospital of St. Cross, and the valley of the Itchen, with occasional glimpses of the Southampton Water, and the hills in the Isle of Wight. The soil is said to be porous absorbent chalk. The site falls with rather a quick descent to the south-east.

GUESTEN HALL, WORCESTER.—Dean Peel and Canon Wood have asked, What was the good of Guesten Hall?—now demolished. A writer in *Notes and Queries* says,—Let Valentine Green reply:—

"There remains one public office of the monastery that may give us *some idea of its hospitality*. This is the audit-house, anciently called Guesten Hall, built, in 1320, by Wolstan de Braunsford, then prior, afterwards Bishop of Worcester, *for the entertainment of strangers* by themselves; the rules of the order not allowing them to sit with the monks, at the tables of the refectory . . . *The building is still sacred to hospitality; and the noble entertainments furnished here*, at the annual audits, *do honour to a capitular body*, established by one of the greatest of our kings."—*Survey of the City of Worcester*: Worcester, 1764, p. 65.

A query in reply to the Dean and Canon might be—What will they do with the books in their Chapter-house, when that Chapter-house is restored, now that they have lost their Guesten Hall? Will they get rid of them, too, as good-for-nothing? As salve to sacrilege—the noble wood-roof, which spanned the hall, has, I believe, been given to spoil a church. Only another instance of the fact, that "Non ex quovis ligno fit Mercurius."

ENGINEERS OF OLD.—It is somewhat the fashion in the nineteenth century to laud the works of its own time as being without precedent except in the history of the ancient world; but as we scan the mottled pages of the book of abstracts we are struck with the magnitude of the engineering enterprises of the days to which it relates. There were Mediæval coast-works, sea-defences, harbours and avous, locks, trenches and sewers, as well as illuminated missals and jewelled chalices. Henry VI. despatched a company of gentlemen, called a commission of sewers, into various parts of his realm to inquire into the condition of the existing sea-defences, and to superintend their repair. Edward IV., Henry VII., and Henry VIII., also granted commissions of sewers. The latter monarch declared that the sea-walls, ditches, banks, gutters, calcies, bridges, and sewers by the sea-coast and marshes had suffered inestimable damage, as much by the rage of the sea as by the making, erecting, and enlarging streams, mills, bridges, ponds, fish-garths, mill-dams, locks, hebbing wears, hecks, flood-gates; and they were then "dimpt, lacerate, and broken." Both Henry VIII. and Elizabeth passed Acts for the drainage of Plumstead Marsh. Their Scottish kinsman and successor, James, appears to have been still more energetic. He passed an act for winning from inundation the drowned grounds and marshes of Lessness and Fants, in Kent; another for draining the fens and low grounds in the Isle of Ely, containing about 6,000 acres, "compassed about with banks called the Ring of Waldersley and Coldham;" a third, to recover a great quantity of ground lately surrounded in Norfolk and Suffolk by the sea, "and to prevent the like for the future." He also decreed that, for the means to maintain a college he intended to build at Chelsea, a trench should be made to convey water from the river Lea to London: another trench was to bring water from "Cadwel and Anwel in a trunk or vault." Henry VIII. had previously enacted that no one was to pollute the Thames—an enactment which might have saved many lives if it had been enforced;—and Elizabeth had further insured the well watering of London by making the river Lea navigable as far up as Ware. The 6,000 acres of land recovered in the Isle of Ely were increased by 95,000 additional acres in the time of Charles II.—*Once a Week.*

* Illustrations of a house with chimney of this kind will be found in an earlier volume of the *Builder*.

FRENCH ROADS.—The French Government has determined on setting apart a credit of 1,000,000*l.*, with a view to hastening the completion of district branch roads in connexion with agricultural progress.

PULPIT, BEXWELL CHURCH.—A carved stone pulpit of somewhat original design, though thirteenth century Gothic in style, has been put up in this church. It may be objected that the lower portion has too much the aspect of a table, on which the upper portion stands. It was designed and produced by Mr. W. Laurie, of Downham Market.

"WORKMEN AND CHURCHES."—Sir: There is a letter in the *Builder* from "R. W." about workmen and churches: he is not altogether right. We want services shorter by half; sermons in language that working men can understand, and twenty minutes long. Sir, it's all very well to call our church the poor man's church, but it ain't. I think we want *ragged churches*, as well as ragged schools. If you could give any hints to this end you would oblige many such men as myself.—A WORKMAN.

BLACKFRIARS BRIDGE.—At the court of common council last week, Dr. Abraham moved that it should be referred to the Bridge House Estates committee to consider whether any and what remuneration should be offered to the unsuccessful engineers who furnished plans, designs, estimates, &c., for the erection of a new bridge at Blackfriars, and to report thereon to the court. In support of his motion Dr. Abraham observed that it should be borne in mind that these gentlemen had been invited by the Corporation to send in these plans and estimates; and no one could doubt that they had devoted a good deal of time and attention to the subject, as well as necessary and considerable expense; and he said it appeared to him they were both legally and equitably entitled to some compensation. Deputy Rathbone seconded the motion; but it was opposed by Mr. Hopgood and Mr. H. L. Taylor, and it was eventually put to the court and negatived by a large majority.

THE PROPOSED NEW PATENT OFFICE.—The Commissioners of Patents have reported to the Lords Commissioners of the Treasury on the subject of building a patent office, library, and museum. The report thus concludes:—"The Commissioners of Patents therefore earnestly request that your lordships will be pleased to sanction the appropriation of the site proposed by them for the Patent Office Buildings [Fife House and gardens in Whitehall]; that your lordships will be pleased to give the necessary directions to her Majesty's Board of Works to obtain the proposed site, either by purchase or by a lease from the Crown, and to direct the architects to prepare the necessary plans, elevations, and estimates; and further, that your lordships will be pleased to direct such plans, elevations, and estimates to be laid before Parliament at the commencement of the ensuing session; and to apply for a vote for such proportion of the estimated cost of the buildings as may be required for the year 1863-4; and, should it be decided to purchase the land for the site, also to apply to Parliament for the sum of money necessary for that purpose; all such moneys to be repaid out of the surplus income for the current and succeeding years."

CHRISTCHURCH, NEWGATE-STREET. — Another satisfactory proof of the respect citizens yet feel for "the places where their forefathers worshipped" occurs in the recent external repair and renovation of this building; mainly by churchrate, but with help from the "Hospital," also St. Bartholomew's, impropriators; probable total, 700*l.* This is one of the few exceptional churches having only columns without arches, which was altered at St. Sepulchre's twenty-five years ago. The ranges here, however, Corinthian, are good, though not equal to St. Michael Bassishaw (Guildhall). Only one width—Spitalfields, 89 feet — exceeds this, 81; no other approximating, though St. Laurence Jewry—68 for nave and one aisle—has equal proportion. Much civic honour attaches to this church, besides its being one of the three or four "corporation" ones, especially for the "'Spital" sermons. It may interest to know that the great organ, one of the finest church instruments in the metropolis (sixty-eight stops, same number as Haerlem), is, or was lately, often played on of an afternoon by the youthful hands of a "Blue-Coat Boy." The esteemed incumbent, Mr. Gibbs, has had the honour, as chaplain to the present Lord Mayor, of being a joint secretary to two interesting associations, though both of painful origin—the "Prince Consort Memorial" and the "Lancashire Spinners' Relief" funds.

THE UNDERGROUND RAILWAY FORETOLD (?)—A correspondent of the *Edinburgh Evening Courant* writes:—It is confidently stated that Dr. Tait, the present Bishop of London, who it is well known is a native of Edinburgh, is to be elevated to the see of Canterbury. Should such prove true, the lines spoken in an epilogue by Richard Burbage at the Globe Theatre, in 1601, may, in connexion with the subterrene roadways through London, be said to be literally fulfilled:—

> A Scot our King? The limping State
> That day must need a crutch.
> What next? In time a Scot will prate
> As Primate of our Church!
>
> When such shall be, why then you'll see
> That day it will be found,
> The Saxon down, through London town,
> Shall burrow underground!

THE EARL OF DERBY ON SEWAGE MANURE.—At the annual dinner of the Royal North Lancashire Agricultural Society, held lately at Preston, the Earl of Derby, who presided, gave an account of a very successful experiment with liquid and solid sewage manure on some barren land at Bagshot Heath, belonging to the Wellington College. The sewage was separated into liquid and solid manure by means of the late Prince Consort's plan of upward filtration, of which we long since gave an account. A barren heath has thus been converted into grass land, yielding eight cuttings in the season. Lord Derby has offered a premium of 100*l.* to any one who shall profitably utilize the liquid sewage of a district comprising 4,000 inhabitants, within the limits of either the North Lancashire or the Liverpool and Manchester Agricultural Societies; or 100*l.* each in both cases.

UNITED PRESBYTERIAN CHURCH, CLAPHAM-ROAD.—This edifice has a frontage toward the road of between 70 and 80 feet. It rises in the centre of the pediment about 60 feet high. For its erection Mr. J. Henderson, of Park, Glasgow, we believe, has advanced the money. The scaffolding, which has for some time surrounded it, is being rapidly removed. The pediment is supported by six lofty columns, surmounted by capitals. On the inside are six pilasters, with capitals to correspond. Great part of the stones used in the building seem to be of rather a large description: those for the capitals, when put into the hands of the sculptor, measured about 130 cubic feet. The architects are Messrs. Habershon & Pite; and the builders, Messrs. Jackson & Shaw. The clerk of works is Mr. Evans. The sculpture work has been carried out by Mr. Colley. The columns are of the Corinthian order. There is in the centre of the pediment a circular window for ventilation, &c., which might have been made to aid the effect of the building. The foundation-stone of this church was laid by Mr. J. Henderson, on the 13th of February, 1862.

MONUMENTS AND STATUES.—A monument to Disraeli the elder has been erected at Hughenden Manor, built of Bath stone, resting on a base of Denner Hill stone. The inscription states that "This monument was raised, in affectionate remembrance, by Mary Ann, the wife of his eldest son, the Right Hon. Benjamin Disraeli, Lord of the Manor, Chancellor of the Exchequer, 1852—8 and 9, and now, for the sixth time, Knight of the Shire.—Sept., 1862."——A statue of the late Thomas Alexander, C.B., erected by subscription in his native place, Prestonpans, near Edinburgh, has been inaugurated.——The carrying out of Mr. Robert Griffiths's design for the memorial, at Broseley, to the late Mr. George Pritchard, has been entrusted to Messrs. Pickard & Son, of Bridgnorth, builders. The design is Gothic, octangular on plan. The stone employed in the work is from the Grinshill quarries, near Shrewsbury.——Several of the political admirers and coreligionists of O'Connell have undertaken the erection of a monument to his memory in the town of Ennis—the scene of the Clare election of 1828. Additional funds are required for its completion.——A bronze statue of the late Sir Jamsetjee Jeejeebhoy, bart., has been placed in front of the western gate of the Grant Medical College at Bombay.—— On September 1, a very ugly statue of Maria Theresa was inaugurated at Vienna, in the court of the Military Academy established by the Empress of that name. The figure is placed upon a pedestal modelled, it would seem, on the pattern of a German stove.——The statue of Samuel Crompton, the inventor of the spinning mule, was inaugurated at Bolton, on the 24th inst. The cost of the statue is 1,800*l.* It stands in Nelson-square, on a site given by the Earl of Bradford. The material is bronze, electro cast by Messrs. Elkington & Co. The pedestal is of Portland stone, and the whole stands about 20 feet high, the statue being 8 feet in height.

SOMETHING LIKE DIVIDENDS. — On the Magdeburg and Halberstadt railway line, the dividend for the last year amounted to 22½ per cent.; on that of the Magdeburg and Leipsic line, 17 per cent.; and on that of the Leipsic and Dresden line, 15¾ per cent.

FALL OF A STEEPLE AT HAINAULT.—The steeple of a church in course of construction at Laplaigne, Hainault, has fallen, and almost completely destroyed the main building, which was nearly finished. The accident was caused by the foundation sinking under the weight of the superstruction.

A NEW PROPELLING POWER.—On the Scheldt, near Antwerp, experiments have been made with a river-boat, having neither paddle-wheels nor screw; but in the middle of it is a cone-shaped kettle, into which water is pumped up, and from which it is driven out with great force into the river through two curved boxes on the sides of the boat; by which means the vessel is propelled forward, it is said, with great swiftness. The new system, according to a Dutch paper, has been discovered by a German, one Mr. Selber; but, although it may be an improved form of hydraulic propulsion, its novelty is questionable.

FLUSHING APPARATUS.—Mr. G. Manwaring, of Southampton, has just patented an apparatus for flushing closets, sewers, and other services, which he describes as follows (we quote from the *Mechanics' Magazine*):—"My invention consists of self-acting mechanical appliances, whereby the closet is cleansed after the same has been used, by means of supplying water through a cistern connected to and working with a small supply-cock or inlet-valve, to which I apply an air-vessel, by which means the supply-valve can be worked against any pressure with ease and soft action; the large outlet or discharge-valve from which is closed, while the inlet-valve is opened, and *vice versâ*. . . . My invention may also be applied without being made to work self-acting; that is to say, the chain or wire from the working lever may be worked by hand; then the mechanical appliances in the cistern will work the same as before mentioned. My invention will be found especially adapted to high pressure, as all waste of water will be effectually prevented, and no leakage is likely to occur: it may also be applied with low pressure: the size of the cistern may be varied to suit circumstances."

STRIKE OF STONEMASONS.—It will scarcely be believed by an intelligent community that, in the face of the existing distress, the stonemasons of Manchester and the adjoining districts are engaged in a strike. The cause of the quarrel is that Messrs. J. & R. Ibberson have worked stone in Manchester, and then sent it to Altrincham, instead of working it where it was required. The master masons allege that this course is in strict accordance with the working rules agreed to by the employers and employed of Manchester and Salford. Efforts to arrange the dispute by arbitration have been fruitless, and accordingly the walls of the city were placarded on Thursday with an announcement, signed by twelve firms of master masons, that their works will be closed from Saturday until the dispute is settled. The men, we believe, had not waited for the closing of the works before they took summary action. On Thursday there were no masons at work upon the New Assize Courts in Strangeways, and probably all other stone building operations in this neighbourhood are for the present suspended.—*Manchester Guardian.*

WILTON CHURCH AND LORD HERBERT.—A monument to the memory of the late Countess of Pembroke has just been erected in Wilton Church. It is placed within the rails on the left side of the chancel, and consists of a sculptured recumbent figure of the late Countess, executed in white statuary marble, with two angels supporting the head, and resting on a square pedestal, or hearse, of coloured alabaster, on the sides of which are arches and columns of Italian Romanesque or Lombard architecture, the style in which the church itself is built. It was executed by Mr. Phillip, of Pimlico. We understand that a companion monument to the late Lord Herbert will shortly be erected on the other side of the chancel. A new window, by the Messrs. Connor,—a careful and important work,—has recently been placed in the right-hand aisle of the church. At the base of the window are the words;—"In memory of Sidney, Baron Herbert of Lea;" and on a brass plate beneath are inscribed;—"The people of Wilton gave this window in honour and love of Sidney Herbert, first Lord Herbert of Lea, founder of this church, who died the 22nd day of August, 1861. 'The memory of the just is blessed.'"

CANADA.—Some handsome stores have been recently erected in Montreal, Canada. The front, on Notre Dame-street, is composed of Montreal limestone, richly carved: the sashes are gilt; and the glass plate; all in the Oriental style. Mr. John James Browne is the architect. A new market-house is being erected for the corporation.

BRISTOL SCHOOL OF ART.—This institution, it is reported, is now in a greatly improved condition. The students have increased fourfold; and, of course, there is a consequent increase in the fees. A donation of 50*l.* has been presented by Mr. J. P. Budgett. Mr. Hammersley, the newly-appointed head-master of the school, according to one of the local papers, considers himself only on the threshold of his reform.

YORKSHIRE ARCHITECTURAL SOCIETY.—The annual meeting of this society has been held this year at Driffield, whence excursions were made to various places of more or less interest in the vicinity. On the first day a public meeting was held in the Corn Exchange, and a small collection of local and other antiquities was exhibited. A paper "On the Chancel-Screens of Yorkshire" was read by the Rev. C. B. Northcliffe, one of the honorary secretaries; and another "On Driffield, Past and Present," by Mr. J. Browne. The company afterwards visited the parish church and other objects of interest. On the second day of the meeting an excursion was made to various churches, including those of Garton, Kirkburn, Bainton, Lockington, &c.

ACCIDENT AT THE MALVERN HILL TUNNEL. A heavy air-shaft in this tunnel, resting on the arch of the brickwork, has burst through it and blocked up the railway. The Malvern tunnel is nearly a mile long, and passes through the centre of the high range of hills which forms so prominent a feature in the Worcestershire landscape. It was constructed by Mr. Liddell, engineer to the Worcester and Hereford Railway, upon its amalgamation with the West Midland. The greater portion of it was bored through hard cyanite rock, and the whole now is arched and bricked inside throughout. The accident, which happened when no train was due in the tunnel, is attributed to the bad arrangements of the original engineering, and the making of an air-shaft of such ponderosity as the one which has caused the mishap.

FATAL SCAFFOLD ACCIDENT.—Dr. Lankester has held an inquest touching the death of William Oseman, aged 59, a builder, at 7, Chapel-street, Pentonville. The wife of the deceased attributed the death of her husband to neglect of duty by two of his workmen, in the insecure erection of a scaffold. One of the men said he could only account for the falling of the scaffold by the centre putlog giving way from falling out of the wall. The two labourers charged with neglect had struck the top part of the scaffold, by order of the deceased, that day. Workmen had used the scaffold with safety almost up to the time of the occurrence. A labourer in Mr. Oseman's service stated that he was putting up another scaffold; and, being in want of a ledger, deceased ordered him to take the brace away from the scaffold that fell. That brace was the main thing to keep the scaffold safe. He denied any culpability, and was supported in his denial by other evidence. A verdict was recorded of "Accidental death."

THE NEW BATHS AND PUMP ROOMS AT TENBURY WELLS.—On the site of these wells have arisen some public buildings, recently opened in connexion with the mineral waters found at this place. The buildings consist of a pump-room 32 feet long and 20 feet wide, with an additional recess on the one side of it, in which a fountain is placed; bath rooms for ladies and gentlemen; and a cottage for the attendant. At an angle of the pump-room are the well and pump, over which, to the height of about 50 feet, is an octangular tower, terminating in a spire. This pump supplies water to the baths and fountain. All the buildings have been erected by Mr. G. Smith, of Tenbury, builder, from the designs of Mr. Cranston, of Birmingham, architect; and are carried out, as far as the roofs are concerned, on the principle patented by the latter gentleman, in connexion with his "Buildings for Horticulture." The walls which support the roofs are mostly of wood framing, filled in with brickwork and rough-casting, the wood being painted with mineral brown, and the whole resting upon brickwork, in parti-colours, as a base 3 feet high. The roofs are constructed of metal;—wrought-iron plates, each 5 or 6 feet long, and about 20 inches wide, with rolls of the same material, being used; and these are held and secured in their positions by cast-iron clips, with foliated ends. The metal surfaces are painted in colours. We cannot say much for the beauty of the result.

CARLISLE BRIDGE, DUBLIN, COMPETITION.—We have heard nothing yet as to decision on this matter. All the plans are packed up in a room at the Exhibition, waiting for further orders.

BELLS.—A new tenor of 12 lb., and also a new treble bell, have just been added, by Messrs. John Warner & Sons, to the three old bells of Cheddleton Church; and the whole peal has been rehung under their superintendence.

IMPROVEMENTS AT ASHFORD.—A "grand demonstration" has been made at Ashford on the occasion of laying the chief stone, by the Earl of Winchilsea's son, the Viscount, of a new building for the Saracen's Head Hotel, in connexion with the improvement of North-street, the approach to the town from Canterbury. This street will be widened from 19 feet to 30 feet by the improvement referred to.

TENDERS.

For Walcot Cemetery, Bath. Messrs. Hickes & Isaac, architects:—

Davis & Son	£2,797 10 0
Hill	2,706 0 0
Mann	2,763 11 6
Stap	2,732 0 0
Bladwell & Ambrose	2,645 8 6
Aunt	2,493 12 6
Streeber (accepted)	2,496 3 6

For building and completely finishing two villas, on a piece of freehold land situate on Fox Hill, Plumstead, for Mr. Lawson. Messrs. W. Gosling & Son, architects:—

Greenwood	£1,270 0 0
Sonnex	1,225 0 0
Lonergan	970 0 0
Aiwin	950 0 0
Lidbetter	922 0 0
Bond	886 0 0
Thompson	854 0 0

For repairing three houses and shops, situate on Church Hill, Woolwich, for Mr. F. H. Banister:—

Lidbetter	£180 0 0
Thompson	175 0 0

For finishing four houses, situate in Eglinton road, Plumstead, Kent, for Mr. John Trodd:—

Lonergan	£1,290 0 0
Thompson	1,180 0 0
Sonnex	1,179 0 0
Lidbetter	1,175 0 0
Warner	1,175 0 0
Smith	1,150 0 0
Griffiths	1,115 0 0
Mills	1,100 0 0

For infant school, St. Matthew, Bethnal-green. Mr. Cæsar A. Long, architect:—No tender was accepted.

For new shop-front, 14, Gracechurch-street, for Messrs. Harrison, Brothers. Mr. R. Kerr, architect:—

Drew	£199 10 0
Conder	199 0 0
Sands	198 0 0
Sykes	190 0 0
Sargeant	179 0 0
Hardiman & Sandon	139 0 0

For new ward to the Union Workhouse, Ipswich. Mr. R. M. Phipson, architect.—

Morfey & Warswick	£1,145 0 0
Baldeston	1,085 0 0
Haxwell (accepted)	969 3 0

For benching the nave of St. Laurence Church, Ipswich. Mr. R. M. Phipson, architect:—

Palmer	£225 0 0
Ringham	219 0 0
Smith	190 0 0
Luff (accepted)	180 0 0
Dalby	179 0 0

For building school-room and residence, at Abersychan, Monmouthshire. Mr. J. S. Statter, architect.—

	School.		Residence.		Total.
Williams	£630 14	..	£313 19	..	£994 13
Jones	550 0	..	300 0	..	850 0
Ramur	550 0	..	250 0	..	800 0

For alterations to the Grapes public-house, Counter-street, Borough Market:—

Cannon	£2,244 0 0
Wills	2,223 0 0
Downs	2,136 0 0
Macers	2,087 0 0
Colman	2,079 0 0
Hart	1,965 0 0
Rider	1,870 0 0
Peak	1,749 0 0

For alterations at Peele's Coffee House, Fleet-street, for Mr. Winterbotham. Mr. Wm. Nunn, architect:—

Turner	£1,810 0 0
Hart	1,760 0 0
Day	1,744 0 0

For new church, Cedars, Clapham Common. Mr. Knorels, jun., architect:—

Smith	£11,755 0 0
Dove, Brothers	10,445 0 0
Piper	10,395 0 0
Holland	9,971 0 0
Myers & Son	9,714 0 0

For building the new hotel at Brighton, for the Brighton Hotel Company, Limited. Mr. John Whichcord, F.S.A., architect:—

Smith & Co.	£63,700 0 0
Myers & Son	63,000 0 0
Higgs	63,000 0 0
Piper & Wheeler	61,820 0 0
Dove, Brothers	59,865 0 0
Sawyer & Co.	57,953 0 0

For the valuation of Wycombe Borough, received on the 24th inst.:—

Bernard	£105 0 0
Gotto	93 14 0
Crocker	85 0 0
Paine	84 0 0
Roper	84 0 0
Spooner	80 0 0
McCall	75 0 0
Clarke	60 0 0
Tackett (accepted)	60 0 0
Lloyd	50 0 0
Barlow	45 0 0

For new church, Surbiton Hill, Surrey. Messrs. Rushforth & Luck, architects:—

Walker	£5,100 0 0
Bixall	4,475 0 0
Bowley, Brothers	4,430 0 0
White	4,369 0 0
Dove, Brothers	3,945 0 0

For six houses on the Vauxhall Gardens estate. Mr. T. K. Green, architect:—

Cranstoun	£1,535 0 0
James & Ashton	1,494 0 0
Walker	1,490 0 0
Nixon	1,476 0 0
Simmons	1,390 0 0
Coker	1,258 0 0

For Bath Theatre. Mr. C. J. Phipps, architect. Quantities supplied by Mr. J. A. Clark. Accepted tenders:—

For Mason's Work.

Mann	£890 0 0

Carpenter and Joiner.

Diment	2,511 0 0

Slater and Plasterer.

Diment	550 0 0

Plumber.

Kerslake	198 0 0

Painter and Glazier.

Diment	98 0 0

Smith, Ironmonger, and Gas-fitter.

Colley	415 0 0

For Sofa Seats in the Dress Circle and Upper Boxes.

Church & Knight	520 0 0

For the Artist Decorations.

Green & King	270 0 0

Total, exclusive of warming, ventilating, and furnishing, £5,450.

For Milton Church. Mr. G. Legg, architect:—

	General Works.		Additional Works.		
Simms	£3,167 0 0	..	£337	0	0
Chrisfield	2,316 0 0	..	*3,038	0	0
Hollins	2,160 0 0	..	192	0	0
Kent	2,100 0 0	..	400	0	0
Coleman	2,100 0 0	..	224	0	0
Shrubsole	1,899 10 0	..	201	14	6
Bonnett	1,892 18 0	..	177	2	0
Little	1,850 0 0	..	243	0	0
Matson	1,866 16 6	..	202	3	6

* With spire.

For making the roads, drains, &c., on the Finsbury Freehold Land Society's estate, at Mitcham:—

Frond	£1,055 0 0
Caunt & Co.	690 7 11
Ley	675 0 0
Silwood	561 19 0
Simms	559 0 0
Potter	520 0 0
Bull	499 10 0
Porter	485 0 0
Hare	471 17 6
Horn	442 0 0
Tizzey	437 0 0
Bentley	419 0 0
Ruff	401 0 0
Gooch	396 0 0
Rogers	389 0 0
Ayres & Johnson (accepted)	319 15 0
Newberry & Beaumont	195 13 0

For new race stand, &c., at Galleywood Common, Chelmsford, Essex. Mr. J. F. Clark, architect. Quantities supplied:—

Pullen	£2,764 0 0
Sawyer	2,042 0 0
Simms	2,009 0 0
Sharpington & Cole	1,897 0 0
Moss	1,811 0 0
Stap	1,798 0 0

For alterations, for Mr. Causton. Mr. G. Legg, architect:—

Carter	£1,167 0 0
Coleman	989 0 0
Ellis	945 0 0
Hollins	900 0 0*

* £50 underpinning.

TO CORRESPONDENTS.

T. W. (declined).—Messrs. H.—Patent Stone.—W. A. G.—"Durability" (repeats almost *verbatim* what was said in our pages a few weeks ago about some of our new bridges).—S. T. H.—Subscriber from 1847 (14, Park-street, Westminster).—E. B. (must look to index for last four years).—M. E. (how many sculptors have joined the "society"?)—J. D. F.—J. H. (Weale's).—Selim.—F. W. S.—Constant Reader (should get advice on the spot. If the eaves have been in that position twenty years, they cannot be meddled with excepting by arrangement.)—C. M. W.—F. S.—W. H.—T. J. R.—T. W.—T. K. G.—C. J. F.

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH STREET, E.C.

PROFESSIONAL ASSISTANCE.—Architectural Designs and Drawings of all kinds prepared. Details, Specifications, &c. Perspectives and Sketches effectively executed. Designs for Ornament and Figure Decorations.—Address, A. B. care of Housekeeper, 17, King William-street, Strand, W.C.

TO BUILDERS, PAINTERS, &c.

PARTNERSHIP.—There is an OPENING in an old established firm in the country for an ACTIVE PARTNER in the above line.—For particulars address, A. N. Y. 56, Regency-square, Brighton

ARCHITECT'S PUPIL.—A Gentleman's SON can now be received as OUT-DOOR PUPIL by an Architect and Surveyor, in London, of established practice. Premium moderate. Address, PRECEPTOR, care of Messrs. Dawbarn & Sons, 74, Cannon-street, London, E.C.

BOARD OF WORKS.—POPLAR DISTRICT.—Notice is hereby given that this Board will meet at the Board Room, Poplar-road, on TUESDAY, the 30th day of SEPTEMBER instant, at SIX o'clock in the evening precisely, to receive APPLICATIONS from persons desirous of being appointed FOREMAN OF ROADS. The person to be appointed must be between the ages of 30 and 45 years, able to read, write, and keep the necessary accounts; practically acquainted with Road-making, Paving, Building, and Sewers Works, and used to superintend and direct workmen under the instructions of the surveyor. The remuneration will be Two Guineas per week. Applications in the handwriting of the party, accompanied by testimonials, are to be delivered to me on or before TWELVE o'clock at noon of the 30th instant; and the attendance of all applicants at the meeting of the Board is required. Detailed particulars of the duties required to be performed can be seen on application at the Office of the Surveyor, any day between the hours of NINE o'clock in the forenoon and FOUR o'clock in the afternoon, previous to the 30th instant. CHARLES C. COLLS,
East India Dock-road, Clerk to the Board.
September 17th, 1862.

TO First-class RAILWAY ENGINEERS and ASSISTANT ENGINEERS.—A number of thoroughly PRACTICAL GENTLEMEN required for FOREIGN CONTRACTS As the remuneration will be liberal, none but thoroughly practical men, accustomed to laying out and the construction of railway work, need apply.—Application, by letter, with copy of testimonials, and salary required, to the 30th of OCTOBER, to Mr. BAILLY, 7, St. Ann's-square, Manchester

WANTED, SIX good PLASTERERS.—Apply to the Foreman on the works, Baker's-street Chapel, Enfield, Middlesex.

WANTED, a BUILDER, to TAKE UP a SPECULATION of 5,000*l.*, at a large sea-port town on the south coast. Money will be advanced to carry it forward if required. No one need make application unless of good standing, as the most strict investigation will be made as to the character and position of the parties applying. Address by letter only, to CIVIL ENGINEER, 27, Elizabeth-street, Pimlico, S.W.

TO BELLHANGERS, GASFITTERS, &c.

WANTED, a thoroughly competent WORKMAN, who can give good references.—Address, in the first instance, by letter, to J. N. Messrs. Hart & Son's, Wych-street, London, W.C.

WANTED, a FOREMAN in the BRASS SHOP of a Manufacturing Business in the neighbourhood of London.—Further address A. B. care of Mr. B. Laxton, "Engineer" Office, 148, Strand.

TO BRASS FINISHERS, &c.

WANTED, a steady, competent, and energetic WORKING FOREMAN, to reside on the premises. Must be able to execute steam, gas, and fitting work; also steel workmen and lads in the absence of the foreman. Will have knowledge of shipwork preferable.—Apply by letter, stating full particulars as to where last employed, to Messrs. SUTCLIFFE & CO. Manor Works, East-lane, Bermondsey.
No personal application.

TO CABINET MAKERS and JOINERS.

WANTED, a CABINET MAKER, who understands scroll-work, one used to Gothic work preferred.—Apply stating where last employed, F. P. Office of "The Builder."

TO PLUMBERS

WANTED, TWO GOOD HANDS, at a first-class factory. Wages 25*s.* per week.—Apply to Messrs. FARSNIDGE & SON, Builders, Uxbridge.

TO BUILDERS' FOREMEN

WANTED, a GENERAL FOREMAN of a first-class trade in Plymouth. Wages to be well considered, with part of the previous engagements.—PASSMORE & SONS, Cabinet Works, Plymouth.

WANTED, a CLERK, who has been in an Architect and Builder's Office. Must be a good book-keeper and accountant, and a shorthand writer. Duties—to assist the principal. If possessing the above qualifications, a knowledge of Quantities would be preferred.—Address, in own handwriting, stating age, where last employed, and salary expected, to A. at Beckett's, 74, White-street, Moorfields.

TO GRAINERS, &c.

WANTED, immediately, to fill a permanent SITUATION, an experienced GRAINER, WRITER, and DECORATOR.—Apply, stating terms and references, to W. GLOVER, House Decorator, Bentinck-st. Hull.

TO ARCHITECTS' ASSISTANTS.

WANTED, permanently, a good Artistic DRAUGHTSMAN, well acquainted with Early English Mediæval style. Must possess a knowledge of perspective.—Address full particulars as to salary (to be worth 17*l.*), to A. H. care of Mr. Lydall, Stationer, Warren street, Camden-town.

WANTED, in an Architect and Surveyor's Office, a YOUTH, who will have an opportunity of learning the above profession. No premium required, and no salary asked. Address, W. 30, Castelnau Villas, Barnes, S.W.

WANTED, immediately, a trustworthy energetic MAN, well acquainted with brick and earth work for sewers, two months, as INSPECTOR and TIMEKEEPER. None need apply whose character will not bear inquiry. Apply, if by letter, enclosing testimonials, and stating salary required, to Mr. E. CHART, Surveyor, Mitcham, S

WANTED, a WORKING FOREMAN of JOINERS. One who has been accustomed to a circular saw bench preferred.—Apply to Mr. J. CLAYTON, Builder, Forest-hill.

TO BUILDERS, &c.

WANTED, an ENGAGEMENT, by an active practical Man. Has had sixteen years' experience in the Building trade, manual, official, and superintending; can make plans, take out quantities, make up estimates, keep books, and set out and measure up work; a first-rate joiner, well acquainted with masonry and the other branches. Accustomed to the successful management of business. Can furnish substantial securities if required for a place of trust. Age, 30. Several years with a large London firm about to retire from the trade.—Address, A. O. K. care of Mr. Legrett, Stationer, 20a, North Audley-street, Grosvenor-square, London, W.

TO BUILDERS AND DECORATORS.

WANTED, by a Young Man, with thirteen years' experience, a SITUATION as MANAGER, or Foreman in a Builder's or Decorator's Business. Has been used to drawing, measuring, estimating, and keeping books, and to the general supervision of work.—Address, TENTO, Office of "The Builder."

TO CONTRACTORS.

WANTED, a RE-ENGAGEMENT as MANAGER of WORKS, or PRINCIPAL FOREMAN. Has had charge of large public works for fourteen years. Age 37. First-class references.—Address, W. B. 33, Hugh-street West, Pimlico.

TO CARPENTERS, JOINERS, AND BLIND-MAKERS.

WANTED, by a Young Man, a SITUATION as IMPROVER. Wages not so much an object as constant employment.—Address, W. B. 71, Earl street, Lisson-grove.

WANTED, a SITUATION as PLUMBER. Painting and glazing if required.—Address, R. B. No. 9, Princess-street, Lisson grove.

TO ARCHITECTS, SURVEYORS, BUILDERS, &c.

WANTED, by the Advertiser, aged 25, an ENGAGEMENT. Is a fair draughtsman, and a good accountant. Can prepare estimates, and measure works.—Address, A. Z. 76, Theobald's-road, W.C.

WANTED, a YOUNG MAN about 20. Must be a tolerable draughtsman, and capable of keeping accounts.—Apply, by letter only, stating salary required, with references, to Mr. CLARK, 3, South-square, Gray's-inn, W.C.

WANTED, by a good Plumber, a JOB. Town or country. Well recommended.—Address, A. T. No. 7, Northampton-row, Clerkenwell

TO ARCHITECTS, BUILDERS, &c.

WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK of WORKS or MANAGING FOREMAN. Is a first-class practical joiner, able to take out quantities, estimate, &c. and is fully competent to prepare finished and every description of working drawings. Undeniable references from present and previous employers. Age 40.—Address, ARCHER, Post-office, Broadway, Hammersmith.

TO ARCHITECTS AND SURVEYORS.

WANTED, for a Youth, a SITUATION as IMPROVER.—Address, J. B. I, Junction-street, Kentish-town, N.W.

WANTED, by the Advertiser, an ENGAGEMENT as DRAUGHTSMAN. Has had recently been employed under Government in that capacity.—Address, J. R. Office of "The Builder."

TO CONTRACTORS.

WANTED, by a thoroughly practical Bricklayer, who understands plans and setting out work, a SITUATION as WORKING FOREMAN. Good references given by present employer.—Address, A. B. care of Mr. Mee, Stationer, Church-square, High Wycombe, Bucks.

CLERK.

WANTED, a SITUATION, by a Young Man, aged 20, a good Ornamental Draughtsman, and willing to make himself otherwise useful. The last three years in the office of a manufacturing pewterer. Reference first class.—Address, J. B. 8, St. George's-road, New Kent road, S.E.

TO HOUSE AGENTS, OR ON A GENTLEMAN'S ESTATE.

WANTED, by a Jobbing Carpenter, a SITUATION, who is thoroughly acquainted with the general repairs of houses. Would like to live in the country. Good references. Address, J. W. 50, Hill-street, Walworth, S.

TO BUILDERS, &c.

WANTED, by a CARPENTER and JOINER, a RE-ENGAGEMENT as LEADING HAND. In-door or out-door. Thoroughly competent.—Address, W.E. 6, War wick street, Pimlico.

TO MASTER PAINTERS AND GAS FITTERS.

WANTED, by a Young Man, a constant SITUATION, as PAINTER, GLAZIER, GAS-FITTER, and PAPER HANGER. Can turn his hand to the writing, grining, and finishing, or take charge of work. Country preferred. Character Address, H. D. 6, Three Colt-court, Worship-street, Finsbury.

WANTED, by the Advertiser, a SITUATION as ENGINE-DRIVER. Is capable of doing ordinary repairs, kitchen or cooking apparatus.—Address, W. B 8, Tenbyplace, Upper Winchester-street, Caledonian-road, King's-cross, N.

TO ARCHITECTS AND SURVEYORS, &c.

WANTED, by an efficient Clerk of Works, a RE-ENGAGEMENT. Has a thorough practical knowledge of building, and can prepare working out details, &c. Address, N. B. W. Office of "The Builder."

WANTED to APPRENTICE a young LAD, aged 15, to a practical CARPENTER and BUILDER, either in-door or out. In door preferred.—Address, with terms, A. B. 31, King-street, Portman-square, W.

TO ARCHITECTS, BUILDERS, AND LAND AGENTS.

WANTED, by a Practical Man, of good experience, a SITUATION as CLERK of WORKS, Foreman, or Managing Foreman, or to Estate, in a respectable school, to teach writing, arithmetic, and mensuration, and assist in office work.—Address, BETA, 5, Hawley-place, Kentish Town, N.W.

TO CIVIL ENGINEERS AND SURVEYORS.

WANTED, by the Advertiser, a SITUATION as ASSISTANT to a Civil Engineer or Surveyor.—Address, P. A. B. Post-office, Lamb's Conduit street, W.C.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a rapid designer and perspective draughtsman, wishes for a RE-ENGAGEMENT as ASSISTANT in the office of well-known happy to render assistance at any busy period; is pleasing composition in colour drawings.—Address, M. A. Post-office, Lower Brunswick-terrace, Barnsbury, N.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a neat and expeditious Draughtsman, aged 21, desires a RE-ENGAGEMENT in town or country. Can make working and detail drawings, has a good knowledge of taking out quantities, making specifications, &c and understands the routine of an office. Could give satisfactory reference from present employer. Terms, 30*s.* per week.—Address, P. F. M. B. Post-office, Norwich.

THE Advertiser, who is capable of preparing working, and detail drawings, and specifications, also understands perspective, desires an ENGAGEMENT. Moderate salary.—Address, R. C. J. 32, Newington-place, Kennington, S.

THE Advertiser offers his services to Architects and Surveyors in general practice. He is well acquainted with Church, School, and Villa Architecture; can write Specifications, take out Quantities, and is competent to conduct an Architect's business. Can also survey, make Perspective and Block, and Level. Age 30. Salary expected, 150*l.*—Address, C. P. C. 17, Hill-street, S.W.

TO PLUMBERS, PAINTERS, &c.

THE Friends of a respectable Youth, aged 18 years, wish to APPRENTICE him to the above trade.—Letters to be addressed to A. W. Post-office, Wantage, Berks.

TO CIVIL ENGINEERS, CONTRACTORS, &c.

THE Advertiser, having had considerable experience in the construction of Railway and Government work, surveying, levelling, setting out, measuring up, &c. desires an ENGAGEMENT. Is well acquainted with the Continent, and speaks several continental languages.—Address, A. B. 37, Westmoreland-street, Pimlico, London.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser is desirous of a RE-ENGAGEMENT, temporary or otherwise. Is perfectly competent to prepare finished and detail drawings, perspectives, specifications, make surveys of dilapidations, take out quantities, survey, &c.; or would prepare plans at his own residence. High references given. Terms moderate.—Address, X. Y. Z. Trimmer's Library, Broadway, Camden Town.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who has been in the profession for twelve years, and whose present engagement shortly terminates, wishes to enter an Office as ASSISTANT, with the view of ultimately purchasing a partnership. Town preferred. Letters only, to X. care of W. H. Vaughan, Esq. 4, Paige yard, Bucklersbury, E.C.

HALF-A-SOVEREIGN will be paid to any Foreman who will procure a constant JOB for a Young Man in a first-class Joiner's or Builder's Shop. West end or City preferred. References given and required.—Address, B O E 67, Prince-street, Islington, N

A COMPETENT ASSISTANT, aged 27, well versed in construction, and accustomed to the preparation of finished, working, and detail drawings, in both Gothic and Classic styles, is open to a RE-ENGAGEMENT. Good references, &c. Address, K. M. N. 27, Walcot square, London, S.

A YOUNG MAN, aged 18, who has been three years and a half in the Office of an Architect and Surveyor, desires a RE ENGAGEMENT. He is competent to prepare drawings from sketches, assist in taking out quantities, and under stands the usual routine of the office. References undeniable.—Address, G. P. S. Westerton's Library, Knightsbridge, S.W.

TO BUILDERS AND GENERAL CONTRACTORS.

AS GENERAL FOREMAN, CLERK of WORKS, or to MANAGE a BUSINESS. An experienced practical Man, who has a thorough knowledge of the building trade in all its branches, a good measurer and estimator, is in want of a SITUATION as above. Six years' reference to last employer.—Address, with full particulars, E. A. C. Office of "The Builder."

TO CIVIL ENGINEERS.

A FIRST-CLASS Engineering Surveyor, Leveller, and Draughtsman, is seeking for an APPOINTMENT, or temporary Engagement, preparatory to the next Session of Parliament. Understands the laying out and construction of Railway Works generally. Is provided with instruments for the office or the field.—Address, C. E. 1314, London-wall, E.C.

A THOROUGHLY PRACTICAL CLERK of WORKS desires a RE-ENGAGEMENT. Has just completed a very extensive job in London, and has had buildings of magnitude. First-class references.—Address, C. W. 25, York street, Kingsland-road

TO ARCHITECTS.

A COMPETENT ASSISTANT wishes for a RE-ENGAGEMENT. Can make detail and finished drawings, colour perspectives, &c. Good references.—Address, G. K. 2, Crowndale-place, Oakley-square, N.W.

TO ARCHITECTS AND SURVEYORS.

A RESPECTABLE YOUNG MAN, aged 21, is desirous of obtaining a SITUATION in the Office of the above. Can make finished and working drawings, take out quantities, &c. &c. Terms moderate.—Address, A. B. 20a, John-street, Bedford-row, London, W.C.

TO SURVEYORS' ASSISTANTS.

A CORRECT LAND SURVEYOR and LEVELLER, WANTED immediately, for a few weeks. Must be a good and expeditious draughtsman.—Address, SURVEY, 62, St. Mary's terrace, Hastings Give particulars, and name salary expected.

TO ARCHITECTS, SURVEYORS, BUILDERS, &c.

AN ESTIMATOR and first-rate QUANTITY SURVEYOR, who, with sixteen years' experience, is fully conversant with all the details of the Building Trade, and has had practical the execution of extensive works, is open to an ENGAGEMENT, either permanent, temporary, or by the piece, on moderate terms.—Address, ALPHA, Reynolds's Advertising Office, 16, Bow-street, Leicester square, W.C.

TO BUILDERS AND SURVEYORS, &c.

AN experienced Builder's Clerk and Draughtsman seeks an ENGAGEMENT in a Builder's Office or as Assistant Surveyor or Clerk of Works. Is a first-class joiner, acquainted with all the branches of the trades estimating and measuring work, &c. Age 27.—Address, JOHN PAINE, at Shaw's Library, 210, Oxford street, W.

TO COMPETING ARCHITECTS

A GOOD DRAUGHTSMAN and FIRST-RATE COLOURIST wishes for an ENGAGEMENT. Terms, One Guinea per week.—Address, J. B. 9, Warwick place, South Belgravia.

TO PLUMBERS AND BUILDERS

A STEADY YOUNG MAN is in WANT of a SITUATION as a Three-Branch Hand. Is a good Gasfitter, and has had three years' experience. Can produce good references.—Address, C. H. at Mr. Mitchell's, 11, Great Marlborough-street, Regent-street, W. Wages not so much an object as constant employment.

A GOOD PAINTER, GLAZIER, PAPER-HANGER, and PLUMBER, WANTS a SITUATION, in town or country. Terms moderate. Apply, G. G. at Gale's, gardener, Bethnal-green road, N.E.

FOR SALE, several PLOTS of FREEHOLD BUILDING LAND, on the Bethnal Estate, Bethnal Green, from 25 to 30*l.* per foot frontage, land for redemption, conveyance free, two minutes' walk from the Sutton Railway Station, half hour's ride from the London Bridge Terminus; good drains, good water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Builder, Sutton, S

EXTENSIVE MANUFACTURING PREMISES, Southwark.—TO BE LET, on LEASE, EXTENSIVE MANUFACTURING PREMISES, comprising a very large area, situate in the Borough-road, Southwark. The Buildings, which are very substantially erected, comprise a very large factory, of three lofty floors, with basement; a smaller factory, of four floors, adjoining; a very spacious and lofty ground-floor factory, yard, a capital family residence and offices, two gateway entrances, and three dwelling-houses fronting the Borough-road, Nos. 77, 78, and 79, which can be readily let off if desired.—For further particulars apply on the premises, or to Messrs. FULLER & HORSLEY, Bulbter-street, Fenchurch-street, E.C.

LIME GROVE ESTATE, Putney.—This fine estate, containing altogether about forty acres, and immediately adjacent to the Putney Station, and near to Putney heath, with very extensive frontages on Putney-hill and the Upper Richmond-road, TO BE LET on building leases, either as a whole, or in part.—For particulars, apply to Messrs. BAXTER, ROSE, & Co. 6, Victoria-street, Westminster; Mr. POWNALL, 66, Lincoln's Inn-fields; or Messrs. HUNT & STEWARD, 4, Upper Charles-street, Parliament street.

BUILDING LAND TO BE LET, SAVILLE ROW, WALWORTH, Surrey, within five minutes' walk of the Elephant-and-Castle, contiguous to the Railway Station, and abutting on the high-road from London to Camberwell.—The Fishmongers' Company are prepared to receive PROPOSALS for the whole or any part of their ESTATE, lying between Saville-row and Gloucester-row, the same having been laid out in streets and frontages for the erection of dwelling-houses, shops, or other buildings, on a building lease or leases, for 80 years, land-tax redeemed. The streets are formed, the roads and sewers made, footpaths laid and drained, so that the estate is now ready for immediate operations.—For particulars inquire of Mr. W. B. TOWSE, the Clerk of the Company, Fishmongers' Hall, London-bridge; and at the Office of Mr. RICHARD SUTER, Architect and Surveyor, 25, Pencharch-street, where plans and conditions may be seen.

WOODFORD RAILWAY.—THE GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Snaresbrook, Totteham, Caterham, Kingston; and some very eligible SITES in the Grove road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

HOLLOWAY.—ELIGIBLE FREEHOLD LAND TO LET, for the purpose of building Private Residences, detached, semi-detached, or otherwise. Term, 99 years. At moderate ground-rents. This highly eligible Freehold Land (generally known as the Crown Estate) is situated close to the main road, Upper Holloway, where the omnibuses pass to and from the City, East and West Ends, and the different Railway Stations, every five minutes, at very cheap fares. The land is all properly drained, and the roads made. For particulars, apply to Mr. JOHN THOMAS, Architect and Surveyor, 10, Denmark-street, Cold Harbour-lane, Camberwell, S.

WATERWORKS FOR SALE.—Shortly will be SOLD, by the direction of the Court of Chancery, in a suit of Gunning v. Gunning, the WATERWORKS at Charlcombe, Bath, as established and carried on for many years by the late Colonel Gunning, together with the usual rights for continuing the water supply from the unsold portions of the colonel's estates, but subject to certain stipulations for fulfilling the engagements entered into by him for the supply of water to certain parts of the estate sold by him, and also for the supply of water to houses which may be built hereafter on the unsold portions of his estates. These Waterworks are most advantageously situate at Lansdown, close to the city of Bath; and the reservoir is at an elevation which is capable of supplying any part of the city; but as the primary object of them was merely to supply Colonel Gunning's estates with water, they have never been worked to their full extent; but from their position, from the purity of the water, and the increase of buildings on the Lansdown side of Bath, they are capable, at a comparatively small outlay, of great improvement and extension. The present net income exceeds 600*l.* a year. Any parties desirous of purchasing such an undertaking, and wishing to be furnished with particulars as soon as they are ready, are requested to apply to Messrs. PALMER, NETTLESHIP, & ELAND, Solicitors, 4, Trafalgar-square, London, W.C.; or to Messrs. LITTLE & SON, Solicitors, Bladud-buildings, Bath.

J. BRICKS, PANTILES, AND PAVINGS. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
„ 8-inch Pavings, at 37s. 6d. per 1,000.
„ Floor Bricks, 40s. per 1,000.
Mingled Kiln Bricks, at 30s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 50,000 Bricks lying at Devonshire street Station, at 24s. per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. 6 inches.
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge-tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.
Price, including royalty, 75*l.*
Licenses to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E., and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames, and also in action, at the International Exhibition, Class 8, No. 1,210.

A NEW BRICK and LIME WHARF, and DRAW DOCK,
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W., and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA:
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE BLUE GOODS;
MALMGUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving full credit to following letter from SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT—Second Testimonial:—"March 13th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least idea informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY-ROAD, LONDON

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS, 242 EUSTON ROAD, ST. PANCRAS.

VENTILATION—PURE AIR.



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHERS, & SON, Manufacturers, 187 and 189 (late 117 and 118), Upper-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS, BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

TURPENTINE.—To BUILDERS, PAINTERS, and HOUSE DECORATORS.—REEVES'S ENGLISH TURPENTINE is guaranteed to answer for all Painting Work, indoors or out, equal to American. Price, 4s. per gallon, net cash.
Sole Agent, G. T. HASELDEN, 24, Cullum-street, City.
Works—Bromley, Middlesex.

COLOURS and VARNISHES at REDUCED PRICES,
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10d.; Turpentine, 10s. per gallon; Fine Pale Oak Varnish, 8s. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

PRIZE MEDAL, 1862.
HAMILTON & CO.
No 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stripping Brusher, Gilders' and Grainers' Tools
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c. See catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, Regent, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10½. per gallon.
Turpentine, 10s. per gallon.
Fine Pale Oak Varnish, 8s. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Colonial-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest will not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS, 30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD, Together with all Kinds of Colours and Varnishes, Warranted of the purest quality and at the lowest prices. Agents for Kershaw's Graining Machines.)

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or removed, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

REMOVABLE COTTAGE WANTED, suitable for a Married Agricultural Labourer; of moderate price, and of such a construction as to be capable of removal, if required.—Address, W. R. Post Office, Stowmarket, Suffolk.

TO ARCHITECTS AND SURVEYORS.
DYER & WATTS, MANUFACTURERS of OFFICE, SCHOOL, or OTHER FITTINGS; Office Doors and Fixtures in Yellow or Pitch Pine, White Deal, or Stained Woods, to Architects' Designs. Estimates given.
Factory, 1, Northampton street, Lower road, Islington, N.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH. — To ARCHITECTS, BUILDERS, HOUSE PROPRIETORS, &c. &c.—The Waterproof Glue makes an admirable cement for wet foundations, to prevent water rising, and the Varnish will enable damp walls to be papered over directly.
Copy of a letter from Mr. T. E. Owen, architect, Southsea:—
"I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The Varnish has succeeded better than any article I have known as an outdoor covering, it will stop coated with it before papering or painting. Bath plastering may be soaked and rotted, it should first be substituted with cement. I have used this material successfully for tank work."
To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos-street, Portsmouth. Mr. GEO WEEKS, Manager. GEO. C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

NORWICH UNION FIRE INSURANCE SOCIETY.
Notice.—MICHAELMAS RENEWALS.
Mercantile and Dock Insurances at the Reduced Rates.
The business of the Company exceeds 70,000,000*l.*
The Sum paid to Government for the year 1861 was 83,076*l.* and the amount insured on farming stock to 6,368,728*l.*
A bonus of three-fifths of the profits periodically made to parties insured who have been from time to time received sums amounting in the aggregate to 1,100,000*l.*
The rates of premium are in no case higher than those charged by the other principal offices making no returns to their insurers.
For prospectuses, apply at the Society's Offices, Surrey-street, Norwich, and 6, Crescent, New Bridge-street, Blackfriars, E.C.

ACCIDENTS ARE UNAVOIDABLE.
Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100*l.* to 1,000*l.* assuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 3*l.* secures 1,000*l.* in case of DEATH by ACCIDENT, or a Weekly Allowance of 6*l.* to the Assured while laid up by injury.
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
1 2,877 have been paid by this Company as COMPENSATION for 516 Fatal Cases, and 5,011 Cases of Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1*d.* 2*d.* or 3*d.* at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

Decimus Burton, esq.	Kirkman D. Hodgson, esq. M.P.
Travers Buxton, esq.	William James Lancaster, esq.
Thomas Law Hodges, esq.	John Dorrien Magens, esq.
William Cotton, esq.	John Timothy Osley, esq.
John Davis, esq.	Benjamin Shaw, esq.
Jasper Wilde Fuller, esq.	Wm. James Thompson, esq.
Charles F. Gosselin, esq.	Hy. Hepburn Tomlin, esq.
James Alexander Gordon, esq.	Matthew Whiting, esq.
Edward Hawkins, jun. esq.	

AUDITORS.
John Hodgson, esq. | Peter Martineau, esq.
Joseph Samuel Lescher, esq.
Secretary—George William Lovell.
ASSISTANT SECRETARY—John J. Broomfield.

Insurances against Loss by Fire are effected by the Phœnix Company upon every description of Property, in every part of the world, on the most favourable terms.
The unblemished and liberality with which its engagements are always met by this Company are well known; and the importance of its relations with the public may be estimated from the fact that since its establishment it has paid more than Eight Millions Sterling for losses by Fire.
Insurances with this Company expiring at Michaelmas must be renewed within fifteen days thereafter, or they will become void.
Receipts for the new really at the principal Offices, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

GUARDIAN FIRE and LIFE ASSURANCE COMPANY,
No. 11, Lombard street, London, E.C.
Established 1821.
Subscribed Capital, Two Millions. Paid up, One Million.

DIRECTORS.
Sir Minto Farquhar, bt. M.P. Chairman.
Charles William Curtis, esq. Deputy Chairman.

Henry Hulse Berens, esq.	J. J. L. Gardiner, esq.
H. Bonham-Carter, esq.	John Martin, esq.
Chas. P. Ommanney, esq.	Rowland Mitchell, esq.
Francis Hart Dyke, esq.	James Morris, esq.
Sir Walter R. Farquhar, bt.	Henry Norman, esq.
J. Jones Gambier, esq.	Henry R. Reynolds, esq.
Thomas Hankey, esq. M.P.	Anthony J. Richards, esq.
John Harvey, esq.	James Tulloch, esq.
John G. Hubbard, esq. M.P.	Henry Vigne, esq.

AUDITORS.

Lewis Loyd, esq.	Henry Sykes Thornton, esq.
Cornelius Paine, jun. esq.	Noel Whiting, esq.

Thomas Tallichet, *Secretary*. Alexander Brown, esq. *Actuary*.
LIFE DEPARTMENT.—Under the provisions of an Act of Parliament, this Company now offers to new Insurers EIGHTY PER CENT. OF THE PROFITS, AT QUINQUENNIAL DIVISIONS, OR A LOW RATE OF PREMIUM without participation of Profits.
Since the establishment of the Company in 1821, the amount of Profits allotted to the Assured has exceeded the Cash value 600,000*l.* which represents equivalent Reversionary Bonuses of 1,200,000*l.*
After the Division of Profits at Christmas 1859, the Life Assurances in force, with existing bonuses thereto, amounted to upwards of 4,730,000*l.* the Income from the Life Branch 207,000*l.* per annum, and the Life Assurance Fund, Independent of the Capital, exceeded 1,200,000*l.*
LOCAL MILITIA and VOLUNTEER CORPS.—No extra premium is required for service therein.
INVALID LIVES assured at corresponding Extra Premiums.
LOANS granted on Life Policies to the extent of their values, if such value be not less than 50*l.*
ASSIGNMENTS of POLICIES.—Written notices of, received and registered.
MEDICAL FEES paid by the Company, and no charge for Policy Stamps.
Notice is hereby given, That Fire Policies which expire at Michaelmas must be renewed within fifteen days at this Office, or with Mr. SAMS, No. 1, St. James's-street, corner of Pall-mall; or with the Company's Agents throughout the kingdom; otherwise they become void.
Losses caused by Explosion of Gas are admitted by this Company.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by

HER MAJESTY'S WORKS AND FORESTS,
HER MAJESTY'S COMMISSION OF WOODS,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK,
ROYAL AGRICULTURAL COMPANY,

And by the most eminent Members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it has been repeatedly awarded, and OBTAINED THE PRIZE for being the best and cheapest material for roofing, also used for under slates at the Royal Agricultural Society's Show, Battersea Park, 1862, and at the Show at Leeds, 1861, &c. &c.

PENNY PER SQUARE FOOT. Sent out, with full directions how to fix, in any part of the kingdom, at only ONE PENNY PER SQUARE FOOT. Testimonials, with full directions how to fix, from Noblemen, Gentlemen, and Architects, who have used it for their own residences, Public Buildings, Churches, Halls, Club-houses, Farm-houses, Cottages, &c. &c. Also from Contractors, Builders, Engineers, Surveyors, and Clerks of Works, who have used it for Railway Stations, Warehouses, Manufactories, Workshops, Sheds, &c. &c.

A large assortment of lengths best suited for Roofing Cottages, Workshops, Sheds, &c. &c., always kept ready for immediate delivery. Sample sent free by post on application.

Orders executed with the greatest dispatch. Cases packed with the greatest care, and delivered at the Railway Stations or Wharves in London.

Contracts entered into for any quantity, from a few Squares to Thousands, and delivered in any part of the Kingdom.

Testimonials and Prices forwarded by return of post.

Sole Manufactory and Warehouses, LAMB'S BUILDINGS, BUNHILL ROW, LONDON, E.C.

Observe the Address, and beware of Spurious Imitations.

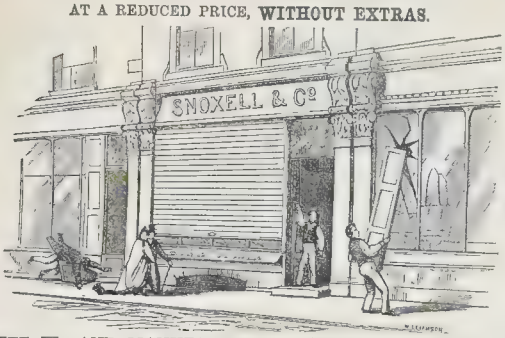
Also Manufacturers of the PATENT ASPHALTED FELT, for Roofing Houses, Verandahs, Sheds, &c. &c.

Price 1s. per Square Foot. Sent out, with full directions how to fix, in any part of the



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.
THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.
Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.
BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

ORIGINAL PATENTEES.
SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,
AT A REDUCED PRICE, WITHOUT EXTRAS.
IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.
SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DECRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN EASILY BY A BOY, AS SHOWN.
Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents. Blind Makers to her Majesty, by appointment.
No 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. } BUNNETT & CO. { ORIGINAL PATENTEES AND MANUFACTURERS.
Invite the attention of Architects, Builders, and the Public, to their recent Improvements in
REVOLVING IRON SHUTTERS,
Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT.
BUNNETT & CO.
Invite the attention of Architects to a completely new
Combination of the Revolving Iron Shutter and the Louvre Blind,
(See Model at International Exhibition, Class X. No. 2,246),
Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. } BUNNETT & CO. { ORIGINAL PATENTEES AND MANUFACTURERS.
Invite the attention of Architects, Builders, and the Public, to the last Improvements in
BRASS, COPPER, ZINC, AND IRON SASHES,
STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

JOINERY OF EVERY DESCRIPTION

STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS AND CARPENTERS AND OTHERS

Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		Laths, 2s. per load.	
Yellow Deals, sound and good	£19 10 0 per 120,	or 0s. 3½d. per foot.	
Spruce Deals	16 10 0 „	0 2½ „	
Yellow Battens, excellent quality	11 10 0 „	0 2 „	
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 „	3 6 „	
Seasoned Mahogany, Plank and Board, 6d. per foot.	A very large Stock, ready sawn and seasoned.		

CARTER & WEBB,

OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
1-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1½-inch „	—	18s. 0d.	19s. 0d. „

Yellow Deals, 3 by 9	£19 10s. per 120.	Pine Planks (Dry), 3 by 11	24l. per 120
Yellow Battens	£11 10s. „	Pine Deals do. 3 by 9	19l. 10s. „
Spruce Deals	£16 10s. „	¾-inch White Matched Lining	13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD LAMBETH, S.

MOULDING WORKS.

SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,

(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices for cash.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Arched Window Fittings, Glove-box Cases, &c.

Green Houses, Hot Houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



PATENT PORTLAND and ROMAN CEMENT,

AND PLASTER OF PARIS WORKS,

FRINDSBURY, on the MEDWAY, KENT, and CANAL ROAD, KINGSLAND ROAD, N.

MESSRS. FREEN & CO.

Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER of PARIS, in any quantity, fresh from the kilns.

Orders addressed to their LONDON WORKS, Canal-road, Kingsland N. will meet with prompt attention.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour. PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY,

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS. and the EWELL and CHALFONT CARR and BRIGHT RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,

IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

STRINGFIELD and BLYTH,

SOLE CONSIGNEES OF

NELSON'S BLUE LIAS LIME.

ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, AND BRICK MERCHANTS,

PLASTER OF PARIS MANUFACTURERS.

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.

Country orders forwarded with despatch.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works. All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830), is ROBESON, Mortlake, Surrey, on the Thames. The finest country-made Plaster is being sold regularly at the Works, Agents, and retailing Plasterers, equal to any, and superfine and fine Plaster unequalled.

PORTLAND CEMENT.

GREAVES & KIRSHAW,

14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND BATH and LIAS CEMENTS of the BEST QUALITY.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,

LIME BURNERS,

BRICK MAKERS,

SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,

ST. JAMES'S and THORNHILL WHARFS,

CALEDONIAN ROAD, LONDON,

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

GREY STONE LIME.

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS:

13, UPPER GROUND STREET, BLACKFRIARS, S.

7, NORTH WHARF ROAD, PADDINGTON, W.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours,

GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.

Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.

No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

STOURBRIDGE FIRE-CLAY WORKS.

E. BAKER & CO.

(Contractors to Government),

24 WHARF, HARROW ROAD, PADDINGTON, W.

Every Article manufactured at the Brown Westhead Works and Mines, Brierly Hill.

FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.

Shipments on the shortest notice.

CHARLES RICHARDSON,
BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,
BRUNSWICK WHARF, VAUXHALL, S.
AND
6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Paving Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.
Goods sent per Rail with all Despatch.
Cheques crossed Bank of England, to order.
Post-office Orders payable at Vauxhall or Edgeware-road.

JAMES NEWTON & SONS,
(ESTABLISHED 1820)
FIRE BRICK AND TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.
DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS:
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERERS' HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,
74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SPURGEON'S IMPROVED MARTIN'S CEMENT.
A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.
MANUFACTURED ONLY BY
B. W. SPURGEON, DERWENT WORKS, DERBY.
London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.
Coarse, Fine, and Superfine London-made PLASTER of PARIS.

J. B. WHITE & BROTHERS,
CEMENT MANUFACTURERS,
BRICKMAKERS, AND MARBLE IMPORTERS.
For Account of Experiments on the Strength of their
PORTLAND CEMENT,
Read at the Institute of Civil Engineers, apply to the Makers.
KEENE'S IMPROVED CEMENT,
Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
N.B. Can be Painted in Twenty-four Hours.
MILLBANK STREET, WESTMINSTER.
LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.
RICKMAN & CO. LEWES,
LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT
Is the best internal Cement in use.
Manufactured ONLY by J. CUMBERLAND PART,
186, DRURY-LANE, LONDON, and at DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.
EXHIBITION, CLASS 10, No. 2,326.

GREAVES'S BLUE LIAS LIME
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TA'HAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Where can be obtained, of the best quality:—
GREY STONE, CHALK, FLARE, & BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS BROTHERS & POTT Nine Elms, London

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.

	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz.			
	4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1⅝	2	2½
„ 2ft. 6in. sup.	1½	1⅝	2¼	3
4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

	per 100ft.	15 oz.	21 oz.
20 by 12		4ths 12s. 6d.	4ths 17s. 0d.
20 by 13		3rds 15s. 0d.	3rds 21s. 6d.
20 by 14		2nds 18s. 0d.	2nds 28s. 0d.
20 by 15		1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.

FLUTED.

16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.

MATTED OR ENAMELLED.

In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.
} per cwt.

Fine Oak Varnish ...10s.
„ Carriage ...12s.
Linseed and Boiled Oil
Turpentine .....
} per gallon.

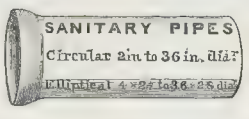
Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.

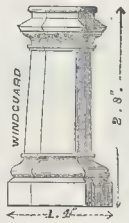


NGHAM & SONS

LONDON WHARF, 64, Bankside, Southwark.



LONDON OFFICES, 76, King William-st. City.



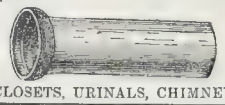
MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.
Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.

(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Postfree, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works :— Cardington Street, Hampstead road, London.



PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford street, Manchester. Prize Medallists, Class 34 A, 1862.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

311, REGENT STREET, W.

Adjoining the Polytechnic Institution.

TO ARCHITECTS, BUILDERS, &c.

GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F. ODELL & CO. 8, Bath-street, City-road, E.C.; or at the Works, 12, Grafton-mews, Fitzroy-square, W.—N.B. Frst and Church Leads sold.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. MEITAM & CO.

30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, squariums, fern cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS. JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH,

Near Astley's Theatre,

Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand INSTRUMENTS of all kinds, by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13. Only Medal awarded for "excellence of construction of Mathematical Instruments."

SQUARES.—W. F. STANLEY, late STANLEY and ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42 inch, 2s. and 7s. 6d.; 21-inch, 3s. 6d. and 5s. 6d.; 33-inch, 5s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, at the highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards, &c. &c. Every Article for draughtsmen's use

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN LONDON, W.C.

Price 2s. 6d. post free, STANLEY'S

IMPROVED DRAWING PEN.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

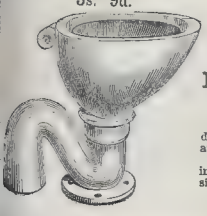
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,

BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

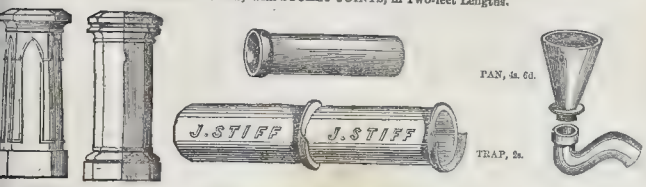
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

CARSON'S

ORIGINAL ANTI-CORROSION PAINT.

Patronised by

E BRITISH GOVERNMENT, E FRENCH GOVERNMENT, E RUSSIAN GOVERNMENT, | H.R.H. THE PRINCE CONSORT, MOST OF THE NOBILITY & GENTRY, THE DOCK COMPANIES, | RAILWAY AND CANAL COMPANIES THE PRINCIPAL COLLIERIES, MILL OWNERS, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

d has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also

IRON ROOFING, BRIDGES, HURDLING,

AND EVERY DESCRIPTION OF IRON WORK;

FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone.

e Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.

OIL, TURPENTINE, AND BRUSHES.

Prices, Patterns, and Testimonials sent upon application to

WALTER CARSON AND SONS,

(SUCCESSORS TO THE INVENTORS,)

, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

)AN CLOSET fitted with LAMBERTS VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,

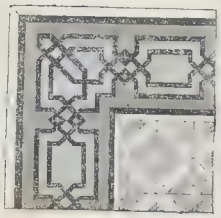
FOUNDERS, HYDRAULIC AND GAS ENGINEERS, SHORE STREET, LAMBETH.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY-FOUR SHILLINGS.

A SELF-CLOSING COTTAGE CLOSET, 15s. 6d.

PATTEN'S HIGH PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.

W. PATTEN, Patentee and Manufacturer, 013 Fish-street, St. Paul's, London, E.C.

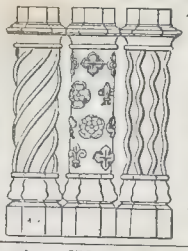


SOLID PARQUET FLOORS, ARROWSMITH'S PATENTED,

From 1s. per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 80, New Bond-street, W.



AUSTIN, SEELEY, and CO. 371—375, EUSTON-ROAD, ARTIFICIAL STONE WORKS.

CATALOGUES OF CHIMNEYS, AND ALSO OF FOUNTAINS ON APPLICATION.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

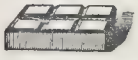
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with Instructions to lay it down.

SALES BY AUCTION.

LONDON, CHATHAM, and DOVER RAILWAY.—Metropolitan Extensions.—Nineteenth Clearance Sale.—Building Materials, Blacksmiths' coal

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 30, at TWELVE precisely, all the valuable BUILDING MATERIALS and FITTINGS of Fifteen Houses, Factories, Stabling, and other Buildings, in Christ-street, Swan-court, Dyer-street, Church street, John-street, and Holland street, Blackfriars-road, and including Church street Chapel; comprising capital stock bricks, sound timber and iron roofing, sashes, doors and sash frames, fittings, capital pewter & copper cistern, stoves, and other useful effects.—May be viewed the day prior and the morning of Sale, and Catalogues had at Mr. VIGERS'S Offices, 3, Frederick's-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 32, Fore-street, E.C. and 40, Parliament-street, S.W.

TO MARBLE MASONS, BUILDERS, AND OTHERS.—Sicilian Marble, and Architectural Ornaments.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the premises, Bridge-wharf, Millbank, Pimlico, on WEDNESDAY, OCTOBER 1, at ELEVEN for TWELVE o'clock, about 500 SUPERFICIAL FEET of SICILIAN MARBLE, part of which will be for absolute sale, in order to clear a portion of the wharf. Also, several hundred Marble Squares, suitable for hall-paving, and 2,000 feet of English sawn Slab. Approved bills at one and two months will be taken from purchasers of 10*l.* and upwards. Be viewed two days previous, and Catalogues with the printed Conditions of Sale, free, on application; or may be had at the Offices of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, Westminster, and 80, Fore-street, City.

ALDERMANBURY.—BUILDING MATERIALS, WAREHOUSE FIXTURES, &c.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 6th, at TWELVE, the MATERIALS and FITTINGS of THREE large HOUSES, Nos. 7, 8, and 9, Aldermanbury; comprising sound brickwork, several tons of lead in gutters, ridges, cisterns, and pipes; excellent timber in roofs and floors; plate-glass and other sashes; panel doors; patent grates; warehouse fixtures, chimney-pieces, stoves, a large quantity of plan tiles, and other useful materials.—May be viewed on SATURDAY, and catalogues had of E. R. CLIFTON, Esq. Architect, 17, St. Helen's-place; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

TO ENGINEERS, SMITHS, and OTHERS.—The Valuable PLANT, MACHINERY, and TOOLS, of Messrs. Sband & Mason's Engineering and Iron-Bridge Works, Blackfriars-road, the premises having been acquired for the London, Chatham, and Dover Railway, and for the new streets.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, No. 243, Blackfriars-road, on TUESDAY, OCTOBER 7th, at TWELVE, in lots, the Valuable PLANT, MACHINERY, and TOOLS; comprising an 8-horse power high-pressure table-engine, with egg-end boiler, 14 feet long; 30 superior self-acting lathes (from 3½ to 11 inch centres), for surfacing, turning, boring, and screw-cutting; a costly 18 inch centre self-acting lathe, by Smith, Beacock, & Tannett, with iron bed, 18 feet 6 inches long; compound motion, with change wheels, stops, riggers, pulleys, &c.; a capital self-acting planing machine, powerful slotting machines, screwing machines, with taps and dies; 2 vertical drilling machines, rounding machines, Lloyd's patent fan, erection of core stoves and fire furnaces, forges and bellows, iron tanks, gun-metal barrel proving pumps, anvils and vices, work-benches, iron and lead pipes, shelves, bins, bracket pillars, &c.; also iron, and about 1,200 feet of plate iron, &c. May be viewed two days prior, and Catalogues had at Mr. VIGERS'S Offices, 3, Frederick's place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Chambers-st'n. Twenty first Sale.—BUILDING MATERIALS, Blackfriars-road.

PULLEN, HORNE, and EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 13, at TWELVE, all the excellent BUILDING MATERIALS, FIXTURES, and FITTINGS of Part Four large Houses, Manufactories, Warehouses, and Stables, situate Nos. 245, 246, 246*a*, and 247, Blackfriars-road; comprising capital stock bricks, a large quantity of paving and plain tiles and slates, principally of Welsh growth, weather-boarding and corrugated plate iron, 1 other short lots, rough timber, boards, flooring boards, glazed sound pots, chimney cans, ridging, gates and stable-fittings, York paving, lead flats, gutters, cisterns, sinks and pipes, stoves, ranges, coppers, and other useful fittings.—May be viewed on Saturday prior, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

EAST GREENWICH.—The Machinery, Plant, and Fittings of a Stream Flour Mill.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, East Greenwich, opposite Bull-wharf, on WEDNESDAY, OCTOBER 29, at TWELVE, the excellent MACHINERY, PLANT, and FITTINGS, comprising: 7 pairs of French mill stones and gear complete, 150 feet of wrought-iron shafting, 4 large plummer blocks and brasses, 3 expansive silk flour dressing machines complete, 3 smutters with fans; 2 bolters, a jumper, flour machine with new mahogany cylinder; 2 mixing-worms, 12 stone boxes, 30 rigger, spur, and bevel wheels; 3 wrought-iron tubes, 35 feet long; cast steam piping, 4 large mitre wheels, 2,500 best sacks, 2,000 bushels several tons of hanging, fittings of brass, cocks and valves, and various other effects.—May be viewed two days prior, and catalogues had on the premises; also at the Corn Exchange Coffee House, and Castle Tavern, Mark Lane; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, S.W. and 80, Fore-street, E.C.

GUILDFORD, SURREY.—First-class Building Land, close to the Town and Railway Station; also certain Freehold Tolls, arising from the River Wey Navigation from Guildford to the Thames.

MESSRS. BEADEL & SONS are instructed to OFFER by AUCTION, at the MART, Bartholomew-lane, London, on TUESDAY, OCTOBER 21, at TWELVE for ONE, in numerous lots, the highly desirable first-class BUILDING LAND, close to the favourite town of Guildford, possessing extensive and capital frontages to the high road from Guildford to Woking and the contemplated new road through the property. The land fronting the Woodbridge-road is laid out in plots suitable for the erection of detached or semi-detached villa residences, and each plot has a good frontage to the proposed new road; the remainder of the land is divided into plots of about half an acre, and the whole forms a most desirable property, the situation for building being superior to anything in the neighbourhood. A portion of the land is freehold, the remainder leasehold for 990 years, from Lady-day, 1757, at 26*l.* ground-rent, and the whole is believed to be free from land-tax. The Freehold Tolls and Ordinary Preference shares in the River Wey Navigation, comprise the one-fourth or 24 parts in 22 of the groats or toll of 4*d.* and the 82 120ths and 3 10ths of another 120th of nine parts in 22 of the same toll of 4*d.* The income of the navigation is steadily increasing, and the proprietors of these tolls are not liable for the expense of maintaining the navigation.—Particulars, with plans and conditions of sale, may be obtained of Messrs. H. U. & N. COULTHURST, Solicitors, 13, New Inn, W.C.; of Messrs. FLAD-GATE, YOUNG, & JACKSON, Solicitors, 12, Essex-street, Strand, W.C.; of Messrs. LANGLEY & GIBBON, Solicitors, 32, Great James street, Bedford row; of Messrs. GREGORY, ROWCLIFFE, & CO. Solicitors, 1, Bedford-row, W.C.; at the Mart; and of Messrs. BEADEL & SONS, 25 Gresham-street, E.C.

DE BEAUVOIR TOWN, KINGSLAND.—Excellent BUILDING MATERIALS of a large Dwelling House, with Offices, Stabling, and Lodge: 120,000 Stock Bricks, four tons of Lead, Mahogany and other Doors and Frames, Sliding Shutters and other Fittings, Timber in roofs, floors, &c.; 30 squares of floor-boards, slates, tiles, stone, &c. TO BE SOLD by AUCTION, by

MR. A. RICHARDS, on the PREMISES, in Lots, to be taken down by the purchasers, on MONDAY, SEPTEMBER 29, at ONE o'clock. May be viewed the Saturday previous. Catalogues obtained of H. & G. LAKE & KENDALL, Solicitors, 19, Lincoln's Inn; and of the Auctioneer, Tottenham.

GRAVESEND, KENT.—Valuable Freehold Estate, comprising the gentlemanly Residence, with Pleasure Grounds and Stabling, known as Portland Hall, two Semi-detached Villa Residences, and valuable Building Land, fronting the Main-road and extensive Views over a beautiful and fertile country.

MR. C. FURBER will submit to PUBLIC COMPETITION, at the MART, Bartholomew-lane, on FRIDAY, OCTOBER 10, at TWELVE for ONE, in Two Lots, the FREEHOLD PROPERTY known as the Portland Hall Estate, situate at Milton, near Gravesend; comprising the commodious detached family residence known as Portland Hall, with stabling and pleasure grounds; six semi-detached villa residences, of neat elevation; and 17 plots of beautiful building land, occupying one of the best positions in the locality, possessing a dry and healthy soil, and being in close proximity to the splendid Pleasure and Public Parks. The Railway Station and the Pier are within a few minutes' walk of the property. The houses are all let to respectable tenants. The freehold is within each of two Parishes, and the property is subject to the payment of only 1*l.* per annum to the tithe-owner. Particulars and conditions of sale, may be obtained of Messrs. FISHER & KEAYS, Solicitors, No. 32 Bedford-row, and at the Mart; and at the Auctioneer's Offices, Wood-house, Gravesend.

METROPOLITAN RAILWAY.—CART-HORSES, CARTS, &c.—Addle Tackle, Stable Gear, Mill Timber, Timber-yard, Kitchen Fittings, Counters, Shelves, Office Furniture, and other Effects.

MR. J. GOWER, on the PREMISES, as above, on THURSDAY, OCTOBER 9th, 1862, at TWELVE o'clock, FIFTY well-known, first-class, powerful town cart and van Horses, some of which are high-steppers, and all in constant wheel business, the property of Mr. JOHN JAY, the contractor for the extension of the Metropolitan Railway to Farringdon-street.—On view the day prior. Catalogues may be had on the Premises; and of the Auctioneer, at his Repository, Barbican.

WEYMOUTH.—TO RAILWAY CONTRACTORS, BUILDERS, and OTHERS.

MR. POTHECARY has received instructions from Mr. Redgrave, the Contractor for forming Docks and Sewers, now in progress on the Park Estate of the Devonshire Land Society, at Weymouth, SELL by AUCTION, on the PREMISES, on MONDAY, the 29th day of SEPTEMBER next, at TWELVE o'clock precisely, the whole of the valuable PLANT and MATERIAL used by him on such works; comprising four capital tip horses; six other valuable horses, sound and good workers; railway waggons, timber trucks, skips, pers, and barrows, timber, harrows, fifteen sets of main harness, spring bars, a good portable smith's forge with bellows complete, a lot of tools, a large quantity of sleepers, planks, and other timber, and other effects.—May be viewed on the day previous and morning of sale, on application to Mr. HOPKINS, Foreman, on the Works; and catalogues obtained on application to Mr. POTHECARY, Contractor, 7a, Bond road, London, or the Auctioneer, Weymouth.—The Auctioneer invites the attention of the public to this sale, the horses being of the most useful description, the plant in good condition; and, in consequence of the completion of the contract, the whole will be sold without reserve.

Dated, Golden Lion Hotel, Weymouth, 17th September, 1862.

PRELIMINARY ADVERTISEMENT. PORTLAND GOVERNMENT WORKS.—Extensive and Absolute Sale of valuable Contractors' Plant and Effects.—To Contractors, Builders, and Others.

MR. POTHECARY will SELL by AUCTION, at the VERN WORKS, Portland, by order of the Contractors (in consequence of the termination of their contract), on MONDAY, the 13th day of OCTOBER next, the following VALUABLE PLANT, BUILDING MATERIALS, and EFFECTS, lately in use on the Government Works, viz.:—Seven steam engines, of 8 horse power, overland traversing engines, offices and fittings, seven cottages; engine-shed, sawpit, stores and fittings, smiths' shop and effects, four capital tip horses, 2 sets of harness, 2 timber wood lifting jacks, 3 trolls, barrows, iron pumps, wood and iron tanks, 24 inch cast-iron pipes, 200 gratings, rails and 3 tons of fell, cast-iron crabs, railway metals, sleepers, centering, four trolleys, brick-borers, derricks, scaffold-boards and planks, elm and ash plank timber, bricks, timber, sashes and frames, firewood, &c. Sale each day at TWELVE for ONE precisely.—May be viewed morning of Sale, and at the Office on the Works; and catalogues had on application to the Auctioneer, 24, Moorgate-street, London.

Dated, Golden Lion Hotel, Weymouth, 25th September, 1862.

NEW BARNET, Herts. ELIGIBLE BUILDING LAND.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the Railway Hotel, New Barnet, on MONDAY, SEPTEMBER 29, at TWELVE for ONE o'clock, the following Two Freehold FREEHOLD BUILDING LAND close to the railway station, viz.:—Twenty-seven lots on the New Barnet Road, most eligibly situate for the erection of semi-detached villas. The Tavern: three in Lytton Road; two in the New Barnet Road, west; one at the corner of Leicester and Plantagenet Roads; and three in Somerset Road, east. Gas and water are laid on. The Metropolitan Railway, now ready completed to Farringdon-street, will give direct communication with the City for the numerous persons employed at the Brick-fields, plans and conditions of sale may be obtained of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; at the Rosemary Branch Tavern; and at the Place of Sale.

PECKHAM, SURREY.—To Builders, Members of Building Societies, and Others.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, London, on FRIDAY, OCTOBER 3rd, 1862, at TWELVE for ONE o'clock, THIRTY NINE LOTS of eligible FREEHOLD BUILDING LAND, near the Rye Lane Station of the London, Brighton, and South Coast Railway, fronting the North-street, Carlton-grove North and East Surrey grove, between Peckham and the Old Kent-road. Nine tenths of the purchase-money may remain on mortgage or contract at 5 per cent. to be paid in nine years by half-yearly instalments, but the whole or any part of the land may be paid for any time within that period. Particulars, plans and conditions of sale may be obtained of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; at the Rosemary Branch Tavern; and at the Place of Sale.

The Marmorian Marble Company's Works, King's-road, Chelsea, comprising extensive Yards, Workshops, Steam Engine, with about 30 feet Double Cylinder, Boiler, Machinery, Marble Stones, and other Valuable Effects, well worthy the attention

MESSRS. BROAD & PRITCHARD will SELL by AUCTION, at the MART, on TUESDAY, SEPTEMBER 30, at TWELVE o'clock, the valuable LEASE, with immediate possession, of the extensive MANUFACTURING PREMISES, situate in Jubilee-place, King's-road, Chelsea, comprising spacious yard, office, show-room, polishing-room, mixing and press-rooms, modelling room, stabling, carriage-house, and convenient dwelling-house and large garden, with excellent frontage to the road, and valuable superficial feet. Held for a term of about 27 years, at a ground-rent of 80*l.* per annum.—May be viewed Particulars and Conditions of Sale at the Auction Mart; of CHARLES SHEPHEARD, Esq. Solicitor, 24, Moorgate-street, E.C.; or at 28, Poultry, E.C.

Important to Builders, Decorators, and Others.

MR. EDWIN WHITE will SELL, at 12, HOLLEN ROAD, on TUESDAY next, at TWO precisely, a Lot of PAPER-HANGINGS, comprising Flock, Gold Velvet, Grounds, Scagliola and Sienna Marbles, and others, in great variety. Also about Eighty Marble Chimney-pieces, suitable for every builder; and a number of hard stone Chimney-pieces. Catalogues are ready.

TO IRONMONGERS, BUILDERS, WHEELWRIGHTS, SMITHS, OWNERS of HOUSE PROPERTY, and OTHERS.

MR. BETTS will SELL by AUCTION, at his ROOMS, 68*a*, Leadenhall-street, on WEDNESDAY, OCTOBER 1st, at TWELVE precisely, an extensive and well assorted STOCK of IRONMONGERY, removed from Bermondsey for positive and absolute sale; comprising 4 tons cut nails, 40 m-dern register stoves, 130 dozen rim, mortice, and other locks; 1,700 gross of screws, 180 dozen Sower and other bolts, sash-line, sash fastenings, glue, spades and shovels, spring beds, iron bedsteads, domestic cutlery goods, and brass foundry articles of every description.—On view morning of sale; and catalogues obtained of E. PERRY, Esq. Solicitor, 8, New Inn, Strand; and at the Auctioneer's Offices, 68*a*, Leadenhall-street, City.

CAMDEN-PLACE, CAMDEN TOWN.—To CABINET and PIANOFORTE MAKERS, BUILDERS, CARPENTERS, and OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, as above, on MONDAY, SEPTEMBER 29, at TWELVE, 1 FEET (well seasoned Spanish and Honduras MAHOGANY, 2,500 inches, deals, and battens, 7 cwt. of Cabinet Makers' Screws, 1,000 feet of planing, 1,500 feet wainscot board, iron rail, sliding battens, doors, &c.—Auction Offices, 2, Coldbath-square, E.C.

KENNINGTON CROSS.—For absolute Sale without reserve.—To BUILDERS, RAILWAY CONTRACTORS, and OTHERS.

MR. MARSH has received instructions to SELL, by AUCTION, on the PREMISES, Pearson's Yard, Kennington-cross, on TUESDAY, OCTOBER 7th, at ONE o'clock punctually, the TIMBER used in the construction of Train's Patent Tramway from Westminster Bridge to Kennington Park, and the residue of the Victoria-street Tramway, comprising upwards of 600 feet run of grooved timber sleepers, principally in 12 feet and 9 feet lengths, and about 14 tons of rails of the old tram-ons, averaging 4 inches by 6 inches, in 6 feet 6 inches lengths, lying at Pearson's Yard, Kennington-cross, and ground adjacent to 70, Hill-rise of Correction at Tothill-fields, contiguous to a new street in the rear of the Victoria Police Barracks, Westminster. May be viewed the day prior and morning of sale; and catalogues had at Mr. MARSH'S Offices, 3, Charlotte-row, Mansion House.

TO PAPER MAKERS and OTHERS. A PAPER MAKING MACHINE and other Effects

MR. ROBERT ALLEN will SELL by AUCTION, on WEDNESDAY, OCTOBER 8th, 1862, at ELEVEN for TWELVE o'clock, on the PREMISES, Pains Grey Mill, Kent, a capital PAPER-MAKING MACHINE, first press rolls; four copper cylinders, 2 set 2 inches diameter; three iron cylinders, three pair drums, and all the driving tackle and connexions, three 3-inch brass pipes and lifters and driving tackle of the back of machine; one pair of 8-inch brass sizing rolls, with all their connexions; an air drying machine, frames of cast iron, with a quantity of 3-feet drums and pipes, and 3-inch brass, and six coil of spin gearing of various sizes, and numerous other machinery. Also a powerful Draught Horse, Cow, 2 tons, stack of wheat, and other effects.—May be viewed, by catalogue only, the day prior, and the morning of sale; the machinery will be at work. Catalogues may be had at the Inns in the neighbourhood; place of Sale; and of the Auctioneer, Ruxley, near Foot's Cray, Kent, S.E.

SEWERS CLEARANCE SALE.—PECKHAM WHARF, Canal Side, Peckham, Surrey.—MAY DRAINAGE CLEARANCE SALE.—To Engineers, Contractors, Builders, Dealers in Wood, Iron, Building Materials, and Others

MR. FRED. CHAPMAN is favoured by Mr. the Contractors for the Southern High Level Sewer with instructions to SELL by AUCTION, on WEDNESDAY, the 15th of OCTOBER, 1862, at ELEVEN o'clock precisely, and on the following day, should the number of lots render it necessary, on the WHARF and PREMISES, as above, a capital locomotive, nearly new; 2 good portable 6 horse and other horizontal and vertical steam-engines; a large quantity of rail, bar, and leash iron; several of Mercer's chain pumps, Manchingh pumps, carts, earth waggons, trolleys, crabs, cast-steel and axles, portable forges, bellows, and smith's tools, grind stones, sand screens, a large quantity of chain of all sizes and lengths, gas pipes, hooping, hooking, several bales of timber quartering, a large quantity of sleepers, crown bars, round timbers, and other useful woods, plank piles, invert blocks, mains, &c. and a large and numerous collection of other miscellaneous effects. May be viewed the day previous and morning of sale, and catalogues had of Mr. MORRIS, Railway Tavern, New Cross; Mr. OYE, at the Rose Tavern, Peckham; at the Kentish Drovers, Peckham; and at the principal Inns in the neighbourhood of the Wharf; and of the Auctioneer, Park terrace, New Cross-road, Kent.

WOODFORD and the FOREST.—BUILDING GROUND TO LET, beautifully situate for Villas, on the George Estate, within five minutes' walk of the George-lane Station, twenty minutes' by rail from Fenchurch-street. In on the main road, with every facility of access. Excellent Spring Water Company.—Apply to the Freeholder, WASHINGTON SINGLE, Esq. the Grove, Woodford. Most advantageous terms for

CITY OFFICES TO BE LET, one minute's walk from the Exchange. Two Third-floor Rooms, with excellent light, and recently painted, 24 feet by 18 feet, and 14 feet by 15 feet, well suited for an Architect or Solicitor. Rent thirty guineas per annum.—Apply to R. BARCLAY, 29, Buckleraury, E.C.

TO CEMENT MANUFACTURERS.—TO BE LET, the PREMISES known as the EMLY CEMENT WORKS, situate on the River Swale, Sittingbourne, Kent. They consist of 16 acres of ground, on which are large and numerous kilns and sheds, and a wharf on the river Swale, sufficiently large for the Manufacture of the finest Portland Cement. Also Labourers' Cottages, &c. There is excellent deep water both in and at the entrance.—For further particulars apply to Mr. J. H. EVANS, Solicitor, 12, Lincoln's-inn Fields.

BUILDING LAND at BALDOCK, HERTS.—TO BE SOLD, a PIECE of FREEHOLD LAND, having 85 feet frontage in Clarke's-lane, with average depth of about 160 feet, fronting the LET in Building Lots or Gardens, with advances if required.—Apply to the owner, Mr. RODGERS, 59, St. Martin's-lane, London, W.C.

PARISHES of ST. GILES WITHOUT, CRIPPLEGATE, and ST. LUKE, MIDDLESEX.—TO BE LET or SOLD, for 80 years, a PIECE of LAND on the North side of the Mile-end-road, on part of which the King Harry's Head now stands for the erection of a tavern and three other houses.—Particulars may be had and plans seen at the Office of Mr. A. J. BAYLIS, Church-court, Old Jewry.

TO BE LET, with immediate possession, a newly-up BRICK, TILE, and POTTERY WORKS, situate within about 2 miles of London, and in a very increasing neighbourhood, with railway accommodation within a quarter of a mile. There is an unlimited supply of clay, in surface level with good roads, and is near to one of the principal thoroughfares leading to the metropolis. Plant to be taken at a valuation. Terms very moderate.—For particulars, address, Mr. JAMES COLLIER, Drayton green, Ealing.

VICTORIA PARK.—LAND TO BE LET on long Leases and on advantageous terms, suitable for the erection of dwelling-houses. Roads and sewers made. Materials on the estate.—Apply to HOVENDEN & HEATH, Surveyors, 4, Broad-street Buildings, E.C.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's-road, NEAR REGENT'S PARK, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

HENLEY-ON-THAMES. — BUILDING GROUND on the Banks of THAMES.—TO BE LET, on building lease, THREE PLOTS of GROUND, immediately adjoining the new road now being made along the river side from Henley to the Great Western Railway Station. Two of the plots have a frontage to the river of 177 feet, and a depth of about 110 feet, and the other a frontage of 52 feet, and a depth of 95 feet. The land is most beautifully situate, and the whole commands a view of Park place and the river, offering advantages for building first-class villa residences seldom to be met with.—Full particulars may be had of Messrs. COOPER, Solicitors, Henley-on-Thames; and Messrs. HEWS & SON, Estate Agents, Henley-on-Thames.

London: Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, No. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields, and published by the said CHARLES WYMAN, at the Office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex. Saturday, September 27, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1026. OCTOBER 4, 1862. PRICE FOURPENCE. *By Post, 5d.*

ILLUSTRATIONS.

Monument to be erected on Leskudjack Hill, Penzance, to the Memory of Sir Humphry Davy.—Messrs. Salter & Parrow, Architects 718
Self-acting Closets for Public Use 719

CONTENTS.

Cooking Apparatus and Kitchen Ranges in "the Exhibition" .. 705
Question of Fresco v. Oil, Encaustic, Maroufage, and Enamel .. 706
Open Competitions in Spain 707
The Sailors' Home, Well-street, near the London Docks 708
Objects in the Exhibition shown for Architectural Beauty 709
Architecture at University College 710
Competitions 710
New Contrivances ancillary to Engineering 711
On Taste in Architecture 712
Architectural and Archæological Society of Durham 713
German (R.C.) Church of St. Boniface, Whitechapel 713
The West Indies 713
Proposed Thames Embankment 713
The Davy Monument at Penzance 714
"Patent Stone" 714
The Ordnance Survey 717
Mr. Gregnet, Architect 717
Metropolitan Board of Works 717
School Building News 717
Provincial News 717
Church Building News 718
Albert Memorial 719
Railway Matters 719
Self-acting Closets for Public Convenience 719
The Spread of Lancashire Distress 719
The Arts in the Classical Era 720
Music and the Stage 720
Why Not a New Style? 720
A New Style, and a Few Fallacies 721
A Complaint from St. James's, Westminster 721
The Lighting of Greek Temples 721
On the Proportions of Chancels 721
Books received: Kirkaldy on Iron and Steel (Bell & Bain); Baker's Formulæ, &c. (Weale); Variorum 721-2
Miscellanea 722

BUILDERS' BENEVOLENT INSTITUTION.—The FIFTEENTH ANNUAL DINNER, in aid of the Funds of the Charity, will be held at the London Tavern, on WEDNESDAY, 29th OCTOBER, 1862.

HENRY LEE, Esq. President of the Institution, in the Chair.

Stewards.

Astley, Mr. Philip	Jennings, Mr. George
Anderson, Mr. W. C.	Lavers, Mr. William
Ardley, Mr. A. O.	Lawrence, Brothers, Messrs.
Armani & Co. Messrs.	Lee, Mr. William, M.P.
Bacon, Mr. P.	Lucas, Brothers, Messrs.
Bishop, Mr. J. G.	Mann, Mr. S. B.
Brass, Mr. William	Marsden, Mr. C.
Browne, Mr. Thomas	Maw, Mr. James
Bird, Mr. Joseph	Morris, Mr. John
Bellman & Ivey, Messrs.	Myers, Mr. George
Bennett, Mr. J.	Newton, Mr. Marcus Bourne
Burtall, Mr. R. K.	Nicholson, Mr. Wilfred
Butt, Mr. H. P.	Nicholson, Mr. David
Condor, Mr. E.	Norris, Mr. William
Cozens, Mr. Thomas	Notley, Mr. J. H.
Cresswell, Mr. John	Peters, Mr. William
Cuming, Mr. S.	Peters, Mr. Joseph
Dines, Mr. George	Pluckney, Mr. G. (Treasurer)
Doulton, Mr. Henry	Rigby, Mr. Joseph
Dove, Mr. B. B.	Richardson, Mr. R.
Dunnage, Mr. William	Robinson, Mr. A. A.
Dunraise, Mr. W. M.	Robinson, Mr. Thomas
Ellis, Mr. William	Rogers, Mr. W. H.
Ferguson, Mr. Thomas	Searle, Mr. W. T.
Fish, Mr. Charles	Smith, Mr. G Spencer
Formby, Mr. Charles	Smith, Mr. Alfred
Gardiner & Bell, Messrs.	Stephens, Mr. S. J.
Goulter, Mr. James	Stirling, Mr. William
Hack, Mr. Mr. Charles	Strudwick, Mr. Thomas
Hall, Mr. Matthew	Tatham, Mr. C. L. M.
Harding, Mr. William	Taylor, Mr. Joseph
Harvey, Mr. John	Thorn, Mr. John
Head, Mr. George, jun.	Trickett, Mr. Samuel
Heal, Mr. Richard	Trumen, Mr. A.
Howard, Mr. Thomas	Unwin, Mr. James
Hutchens, Mr. William	Wallis, Messrs. G. & T.
Janson, Mr. Edward	Wood, Mr. William
Jackson, Mr. Thomas	Wood, Mr. William, jun.
Jay, Mr. John	

Gentlemen desirous of promoting the interests of the Institution by becoming Stewards, will be pleased to forward their names to the Secretary, at the office, 24, Southampton-street, Bloomsbury, where tickets may be obtained, 21s. each; also of the Treasurer, GEORGE PLUCKNETT, Esq. Gray's Inn road; the Stewards; and at the London Tavern. A. G. HARRIS, Secretary.

October 3rd, 1862.

KING'S COLLEGE, LONDON.—ARTS of CONSTRUCTION.—PROFESSOR KERR'S LECTURES take place on Wednesday, at 4, and Thursdays, at 9 a.m. as follows:—Course I. Mechanical Arts (October 1, December), on the Materials and Theoretical Science of Building and Engineering.

Course II.—Lent Term (January to March), on the Practice of Construction.

Course III.—Easter Term (April to July), on the Constructive Design of Architectural and Engineering Works.

Fee, £7 12s. 6d. for the term, or £7 7s. for the year.

R. W. JELF, D.D. Principal.

PROFESSOR DONALDSON'S LECTURES on "Architecture and Construction," at UNIVERSITY COLLEGE, will COMMENCE on TUESDAY, the 14th OCTOBER, at HALF-PAST SIX p.m. A syllabus of the courses and fees, &c. may be procured at the Office of the College.

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1863, be open to public competition.

A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter. (Signed) T. C. BARING.

India Office, 28th June, 1862.

N.B.—All communications to be addressed to the "Under Secretary of State for India."

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS

Sir Robert Smirke, A. J. B. Beresford Hope, Esq. M.P.

PRESIDENT—Sydney Smirke, Esq. R.A.

TRUSTEES.

Philip Hardwick, Esq. R.A. | Charles R. Cockerell, Esq. R.A.
Geo. Gilbert Scott, Esq. R.A.

TREASURER—William Tite, Esq. F.R.S. M.P.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 52, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

CHEMISTRY.—DR. HOFMANN, F.R.S. will commence a Course of FIFTY LECTURES on INORGANIC CHEMISTRY, on MONDAY, 6th OCTOBER, at TEN o'clock, to be continued on every week day but Saturday. These lectures will be delivered at the Laboratory of the Royal School of Mines, Oxford street. Fee for the course, £7.

METALLURGY.—DR. PERCY, F.R.S. will commence a Course of FIFTY LECTURES on METALLURGY, on MONDAY, 6th OCTOBER, at TWELVE o'clock, at the Royal School of Mines, Jermyn-street, to be continued on each succeeding TUESDAY, WEDNESDAY, and MONDAY, at the same hour. Fee for the course, £7.

TRENHAM REEKS, Registrar.

MINERALOGY.—KING'S COLLEGE, London.—Professor TENNANT, F.G.S. will give a COURSE of LECTURES on MINERALOGY, with a view to facilitate the study of GEOLOGY, and of the application of natural substances in the ARTS and Manufactures, commence on WEDNESDAY MORNING, the 8th of OCTOBER, at NINE o'clock. They will be continued on each succeeding Friday and Wednesday, at the same hours. Fee, £7 7s.

R. W. JELF, D.D. Principal.

ROYAL HORTICULTURAL SOCIETY'S INTERNATIONAL FRUIT, CEREAL, &c. SHOW, will commence on WEDNESDAY next, OCTOBER 8.

GREAT INTERNATIONAL FRUIT, VEGETABLE, ROOT, CEREAL, and GOURD SHOW, at South Kensington, OCTOBER 8, 9, 10. The Roots, Cereals, and Gourds will remain on exhibition until the 18th.

October 8—Doors open at ONE o'clock. Bands at TWO o'clock. Admission, Half a Crown.

October 9, 10, 11, 13 to 18.—Doors open at NINE o'clock. Bands at TWO o'clock. Admission, 1s. daily.

INTERNATIONAL EXHIBITION and ROYAL HORTICULTURAL GARDEN.—GREAT FRUIT, &c. SHOW, OCTOBER 8.—The Garden will be open at ONE o'clock. Visitors cannot be admitted, either from the Exhibition to the Garden, or to the Exhibition through the Garden, before that hour.

HORTICULTURAL GREAT SHOW, WEDNESDAY next, OCTOBER 8.—Doors open at ONE o'clock. Royal Artillery and Scots Fusilier Guards' Bands at TWO. Admission, Half a Crown.

COMPETITIONS.

TO ARCHITECTS.—A PREMIUM of TWENTY GUINEAS will be given for the approved DESIGN for the Front Elevation of a Building required for a Wholesale and Retail Ironmonger. All particulars can be obtained from Messrs. REED & FOWELL, 6, Bradford Buildings, London. The Plans must be sent in before the 15th of OCTOBER.

RESTORATION of PARISH CHURCH, KENILWORTH. Architects are invited to send in PLANS and DRAWINGS for Competition. An ADDITION to the CHURCH, in the shape of a CHANCEL AISLE, is proposed, as a Memorial to the late Bishop of Durham, formerly Vicar of Kenilworth. Plans of such Memorial Aisle are to accompany the Plans for Restoration; but are to be separate and distinct from them. The Plans are to be drawn to the scale of 1/8 inch to the foot, and the Drawings figured on each Plan or Drawing. Separate and detailed Specifications and Estimates, in sections, are required (no extras allowed). All Plans to be sent under seal, addressed "Rev. W. F. BICKMORE, Vicarage, Kenilworth," on or before 15th DECEMBER, 1862. Architects who wish to compete, may obtain further information of the Churchwardens. Twenty guineas will be paid for the best set of Plans in the estimation of the Committee, if they do not purpose themselves to adopt or carry out any of the Plans sent in.

Kenilworth, 30th Sept. 1862.

CONTRACTS.

MID WALES RAILWAY.—WROUGHT-IRON BRIDGE OVER THE RIVER WYE.—TENDERS will be received by SUTTON TOMLINSON, by Messrs. JOHN WATSON & CO. Civil Engineers, for the above Railway, for supplying IRONWORK for two Lattice Girder Bridges, with Cast-iron Girders, &c. Drawings and particulars at the Office of F. W. SHIELDS, Esq. C.E. 3, Delahay-street, Westminster, S.W.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE TO BUILDERS &c.—TENDERS are required for RE-CONSTRUCTING the ANGEL-GATE BATTERY, at Harwich, Essex.

Parties desiring to Tender for these works must attend personally or by agent, at the Royal Engineer Office, St. John's-green, on the 7th of OCTOBER, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared.

The Secretary of State does not bind himself to accept the lowest or any Tender.

A. H. FREELING, Lieut.-Colonel,
Commanding Royal Engineer, Eastern District.

Royal Engineer Office, Colchester, September 27th, 1862.

TO BUILDERS, IRONFOUNDERS, and CONTRACTORS.—GLOUCESTER CATTLE MARKET.—Parties disposed to TENDER for the Formation of a Cattle Market for the Corporation of Gloucester, may inspect the Plans, Specifications, and Conditions at the Office of the City Chamberlain, in the Corn Exchange, Gloucester; and Duplicates of the same at my Office in Bucklerth, on and after TUESDAY, the 30th instant, until TUESDAY, the 14th day of OCTOBER next. Bills of Quantities and forms of Tenders may be obtained either from me or the City Chamberlain, on payment of a deposit of one guinea, which will be returned on the receipt of a bona-fide Tender. Tenders, sealed up and endorsed "Tender for Cattle Market," to be delivered to A. H. JENKINS, Esq. Town Clerk, Gloucester, not later than TEN o'clock a.m. on TUESDAY, the 14th of OCTOBER. Neither the lowest or any Tender will be necessarily accepted.

ROB. GRIFFITHS, Architect.

Bridgnorth, 24th September, 1862.

TO CONTRACTORS.—Sealed TENDERS will be received by the Secretary of the Bridge Committee of the Town of Drogheda, up to the 1st day of NOVEMBER next, for TAKING DOWN the present BRIDGE over the River Boyne, at Drogheda, and Building a new CAST-IRON BRIDGE in place thereof, on a STONE BRIDGE, of 30 feet span, according to plans and specifications, prepared by J. NEVILLE, Esq. C.E. to be seen at my Office, Fair-street, Drogheda, or at the Office of J. NEVILLE, Esq. Jervis-street, Dundalk, between the hours of TEN and FOUR o'clock every day (Sunday excepted), after the 15th SEPTEMBER instant.

TENDERS will also be received, at the same time, for BUILDING a WOODEN BRIDGE, to be called the "Western Bridge," higher up the river, in the town, according to plans and specifications prepared by the same Engineer, to be seen at the same place.

The lowest or any Tender not necessarily to be accepted.

HENRY CLINTON, Secretary to the Bridge Committees, of the Corporation, Harbour Commissioners, and Grand Jury of Drogheda.

Dated, at Drogheda, this 8th day of September, 1862.

TO BUILDERS.—TENDERS are required for the ERECTION of TWELVE HOUSES, in Devonshire and Stanley roads, Hackney, for the Temperance Permanent Land and Building Society. The plans may be inspected, and a copy of the specification (price 8s. 6d.) obtained, at the Offices of the Society, between TEN and FOUR o'clock, on and after SEPTEMBER 29th, up to OCTOBER 7th. Tenders, on the forms attached to the specification, are to be left with or sent to the Secretary, sealed, and marked "Tender for Houses at Hackney," at or before FOUR o'clock on TUESDAY, OCTOBER 7th. References and security may be required; and the lowest or any Tender will not necessarily be accepted.

HENRY J. PHILLIPS, Secretary.

Offices—34, Moorgate-street, London.

TO PAVIOURS and OTHERS.—The Vestry of the Parish of St. George in the East will meet at the VESTRY HALL on THURSDAY, the 9th OCTOBER, at SIX o'clock in the Evening precisely, to receive TENDERS and CONTRACT for the EXECUTION of certain PAVING WORKS in Sutton-st., Church-road, King David Fort, and Cross street, in the said Parish, agreeably to plans and specifications to be seen at the Vestry Hall, between the hours of TEN and FIVE. The Contractor will be required to enter into a written Contract, with a bond signed by two sureties, for the due performance thereof, such bond and contract to be prepared by the Clerk at the expense of the Vestry. The Vestry do not bind themselves to accept the lowest or any Tender.

W. L. HOWELL, Vestry Clerk.

Vestry Hall, Back road, September 26, 1862.

BOROUGH of BLACKBURN.—To CONTRACTORS and OTHERS.—The Corporation of this Borough is prepared to receive TENDERS from persons willing to undertake the CONSTRUCTION of about 1,200 lineal yards of BRICK SEWERS, for the Drainage of the Petty Town of Darwen, and to the Contractor's Engineer's Materials, Steam Engines, Gallows and other works connected therewith. Persons desirous of Tendering for the above may see the plans, sections, and specification, and obtain all other necessary information, on application to Mr. BRERELEY, Borough Surveyor, at his Office, Town-hall, Blackburn. Sealed Tenders, endorsed "Tender for Sewers," to be sent to the Town Clerk, may be delivered at the Town Clerk's Office, Town Hall, Blackburn, not later than SATURDAY, the 18th day of OCTOBER next. The lowest or any Tender will not necessarily be accepted.

HENRY SAWARD, Town Clerk.

Town-hall, Blackburn, September 26, 1862.

MIDLAND RAILWAY.—To BUILDERS and OTHERS.—The Directors are prepared to receive TENDERS for the ERECTION of a CUSTOMS BONDING WAREHOUSE, at the Hunslet-lane Station, Leeds; the drawings and specification may be seen, and quantities obtained upon application at the Engineer's Offices, Wellington Station, Leeds, on and after TUESDAY next. Sealed Tenders, to be endorsed for the whole of the Works, to be forwarded by post (pre-paid), to the Secretary to the Works and Works Committee, Midland Railway, Derby, not later than TEN a.m. on FRIDAY, the 10th inst. The Directors do not bind themselves to accept the lowest or any Tender, or to pay any expenses connected with any of such Tenders.

Derby, October 1, 1862.

C. N. BROWNE, Secretary.

[For remainder of Contracts see next Page.

CONTRACTS.

THE Town Council of the Borough of Stamford are prepared to receive DESIGNS, SPECIFICATIONS, and TENDERS for the ERECTION of a new FOOT BRIDGE, in Broad-st. Meeting-yard of All Saints', Stamford; to be constructed either of wood, iron, or stone, at a cost not exceeding 60l. and to be completed within three months from the acceptance of the Tender. Persons desirous of contracting for the same are requested to send in their designs, specifications, and tenders to Mr. CHARLES RICHARDSON, Borough Surveyor, on or before the usual Quarterly Meeting next. By order, JAMES ATHER, Town Clerk.
Town Hall, Stamford, 29th September, 1862.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs. Mortars, Vases, &c. at the lowest prices, Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.

THE LIZARD SERPENTINE COMPANY, LIMITED,
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, it is now in full working order, and will be happy to furnish estimates, and execute with the best workmanship any work intrusted to them.
Communications to be addressed to the Secretary, No. 24, St. James's-street; or to Mr THOMAS OAKDEN, 94, King-street, Manchester, who is sole agent for Liverpool and Manchester.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and 464, Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

WESTMINSTER MARBLE WORKS.—
T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS. Manufactured by Patent Machinery. Museum and Galleries — Earl street, Horseferry road, Westminster.—The largest Carved Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney-piece in the world.

PURE STATUARY MARBLE,
and in slabs of large dimensions, can be obtained at
M. W. JOHNSON'S MARBLE WORKS,
363, EUSTON-ROAD, London, N.W.
Prices moderate.
M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821.

LITTLE CASTERTON FREESTONE,
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and repairing of cottages. When this stone is laid on edge it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLEY, London Agent, 404, Euston-road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 4, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards, CUT by Steam Power, and Delivered into Railway Trucks at Weymouth, Lot 1s. per ton forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset.

HAM HILL STONE, from the white or weathered, and the best selection, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway station.—Apply to JOHN TRASK, Norton, near Bridgwater, Somerset.

MARKET WHARF, REGENT'S PARK BASIN—WEST END DEPOT for Yorkshire Paving, Portland and Bath Stone, Bangor Slates, Slabs, &c. &c. Also Bricks, Lime, Cement, Plaster, Tiles, Baths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where everything will be cleared at the lowest prices. Head-stones, Ledgers, Kerbs, Landings, &c. at the Yard next door.
Country orders promptly attended to.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Paving and Building purposes. Shipping direct from the Quarries, by vessel or railway. Direct communication with the principal Ports for EXPORTATION. Working plans and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

BELLMAN & IVEY,
SCAGLIOLA MARBLE MANUFACTURERS,
14, BUCKINGHAM-STREET, FITZROY-SQUARE,
LONDON W.
Execute, in the most workmanlike manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which they have for inspection a large assortment, including
THE ARCHITECTURAL SCREEN,
exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. They also execute
PLASTERERS' WORK OF EVERY DESCRIPTION,
IN THE VERY BEST MANNER AND ON THE MOST REASONABLE TERMS.
Also Manufacturers of Superior and Improved Plaster of Paris.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested, prevented, absorbency stopped, and liability to dampness removed without injuring the colour of the stone, &c.
Applications for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION
MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard Tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connexion generally throughout the Kingdom, that they have now ready their
NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than 200 tons. Price forwarded and estimates given on application.—Address,
No. 1, BOLD-TERRACE, CHESTER.

TO ARCHITECTS AND SURVEYORS.
GUYER & COMPANY, Lithographers, Stationers, and Printers, Grocers' Hall Court, Poultry, E.C. beg to invite attention to the responses of their Establishment as above, for LITHOGRAPHING and COPYING BILLS of QUANTITIES, Specifications, Detail Drawings, &c. &c. Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly employed, they are thereby enabled to guarantee superiority of style, correctness, and expedition.
Specimens and Lists of Charges, post free.
N.B. Any number of copies of a set of quantities Lithographed in a few hours.

TO ENGINEERS and SURVEYORS.—PRIVATE BILLS. New Standing Orders for the ensuing Session, Lent Days, Deposit Plans, Books, Paper, Brass, and every requisite for the Use of Engineers, &c. engaged in the preparation of plans for deposit. Plans, &c. Lithographed with the greatest expedition.
WATERLOW & SONS, 49, Parliament-street, and 66, London-wall, London.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents that must be made before they can be obtained, supplied gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Pupils, Assistants, Clerks of Works, &c. Established by Messrs HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Three Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

THE ARCHITECT'S, BUILDER'S, CIVIL ENGINEER'S, and MACHINISTS DRAWING CLASSES—Office, 326 Oil-street, Golden-square. INSTRUCTION given in DAY and EVENING CLASSES, in Architectural, Mechanical, Ornamental, and Perspective Drawing. Teaching in Private Families and Schools, &c. Day Classes, 3l. 3s. per quarter; Evening, 1l. 1s. per quarter. For prospectuses apply at the Offices, to Mr. T. J. HILL; or, Mr. WALTON.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of HALE'S PATENT INLAND MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes string courses, pilasters, &c. and white glazed tiles for baths, dairies, &c.: also, the Architectural Pottery Company's plain quarry-tree Bricks. Drawings or specimens of the above may be seen, and every information obtained at the Offices of the Company, No. 36, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.

INTERNATIONAL BAZAAR, SOUTH KENSINGTON.—If architectural effect can be marred by various window blinds, visitors are invited to inspect in the central hall of the bazaar a NEW Fabric for Blinds, whereby that necessity of civilization, ornament in use, is realized.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1795. Apply for PRICED CATALOGUE of St. Cecil's, Sandhurst, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs and parts of the country. Church Organs of any size built, repaired, or removed as well as moved, and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the
MUTUAL LOAN FUND ASSOCIATION
(Incorporated by Act of Parliament, 1854), 11, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Long-hold Property having term up to ten years. Mortgages redeemed, and the advances can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for allotments, and no deduction from the loan. No parliamentary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.

TEN PER CENT PER ANNUM.—Sums of FIFTY POUNDS to TEN THOUSAND POUNDS may be INVESTED for SEVEN YEARS, to pay the above interest, without partnership liability, and with less risk than any ordinary joint-stock undertaking. Full particulars will be forwarded postage free to gentlemen giving banker's reference to A. G. Universal Advertising Office, 26, Brydges-street, Covent-garden.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Maiden-street North, City-road Basin, N. Finally, that the trade term, "TERRO-METALLIC," is the sole right of the Proprietor; and finally, that the "Reports of the Jurors," page 581, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tilleries," Tunstall, Staffordshire, as the first of the kind in the world.

MINTON & CO.
HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable tiles. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, vermilion, floors, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

TERRA-COTTA WORKS, BLACKFRIARS ROAD, LONDON, S.
MARK H. BLANCHARD & CO. Successors to COADE'S ORIGINAL TERRA-COTTA WORKS, established 1763, and the recipient of the PRIZE MEDAL at the EXHIBITION of 1851, for MATERIAL and WORKMANSHIP in TERRA-COTTA.
An Illustrated Priced Catalogue will be forwarded upon the receipt of eight postage-stamps.

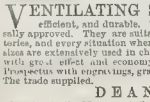
GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Prints of every description at the very lowest prices. Bordering in all its branches to the Trade. Rich Gilt Bands, 7s. per dozen 6 feet lengths; best ditto, 12s.
G. REES, 57, DRURY LANE,
Four doors from Drury-lane Theatre. Established in 1830.

H. G. COOMBS, IRONFOUNDER, &c.
INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP,
PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—15, Union street, Borough.

BUILDINGS of every description, or ROOMS, effectually WARMED with T. G. MESSENGER'S TRIANGULAR TUBULAR HEATING APPARATUS.
ROOFS of every kind CLOSED WITHOUT PUTTY, by which means they are made thoroughly waterproof, very durable, and never require repairing. Full particulars and manner in reference can be sent upon application to the Patentee,
T. G. MESSENGER, Horticultural Builder and Engineer, Loughborough.

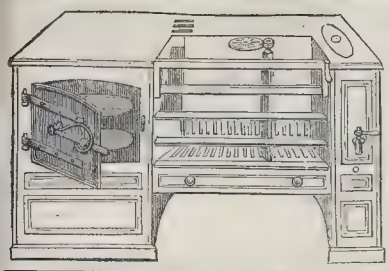


SPRATT'S PATENT BATTERY EXCITATION (COPPER LIGHTNING-CONDUCTORS, giving 3 inches of surface. Only 1s. per foot, complete, for fixing. Including beautiful "Improved" Platina Silver Alloy Point, Glass Insulators and attachments, forming a Lock, Steel Magnets for lateral discharge. Also SPRATT'S NEW ARRANGEMENT for SECURING POWDER MAGAZINES from the Injury of being injured by Lightning; Beer in Breweries from spoiling, Milk in Dairies Souring by electric causes.—Office, 18 and 21, Middle-row, Holborn. Orders over 100 feet carriage free.

CORRUGATED GALVANIZED IRON ROOF FOR SALE, about 40 feet long, 30 feet wide, with four angle Iron Principles, and 1,000 feet super of Galvanized Iron loose, with the strong Laps and Turnups. Apply at the GLOBE, Leicester-square; of Mr. RIDGWAY.—To be cleared directly.

ENGINE (Horizontal) TO BE SOLD very cheap, with excellent tubular boiler, well fixed and nearly new; has bench and saws; grindstones, with apparatus; force pump to gather with a valuable knife cutting machine, complete with four knives, upon the best principle; and all the bands and gear, tools, &c. relating to the business of veneer cutting. This is an opportunity which rarely offers itself to a small capitalist. The premises are in the very centre of the Wood trade.—J. R. D. 3, St. James's-road, Victoria Park, N.E.

VENTILATING STOVES—Cheap, simple, efficient, and durable. Thousands have been sold, and universally approved. They are suitable for Halls, Warehouses, Conservatories, and every situation where a close stove is required. The largest sizes are extensively used in churches, chapels, and public buildings, with great effect and economy. Prices 10s. 6d., 15s., 21s., and 42s. Prospectus with engravings, gratis and post free. In operation daily. The trade supplied.
DEANE & CO.,
Opening to the Monument, London Bridge. Established A.D. 1700.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.
34 inches .... 54s.
36 „ .... 56s.
38 „ .... 58s.
42 „ 60s

Self-acting Cottage, with Oven and Back Boiler.
30 inches 22s
32 „ .... 24s.
34 „ .... 26s.
36 „ .... 28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Cheek Register, with strong Bars and Rivets, 5d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 45s. to 100s. each.

Best Cut Clasp and Rose Nails.
1-inch. 14s. | ¾ inch. 14s. | 2 inch 13s. | 2½inch. 12s. | 3 inch. 11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2 in.	2½-in.	3 in.
Cast Rain-water Pipe	8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

	4 in.	4½-in.
O G Gutters, with Clips on	10d.	1s. per yard.

	2	3	4	5	6
Patent Line	3s. 6d.	4s.	5s	7s.	9s. per gross.

6-inch Rd Waid Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock. Any size made to order.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF **WROUGHT-IRON GIRDERS**
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

CHADWICK'S
PATENT ARCHIMEDEAN VENTILATOR
AND SMOKE CONDUCTOR.

The ARCHIMEDEAN VENTILATOR is the only one constructed on strictly scientific principles, and certain in its operation in purifying the air of a crowded workshop or ordinary apartment, and in preventing smoke.

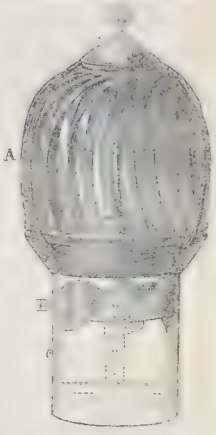
An attentive consideration of the diagram will render the action of the Ventilator intelligible, and show that it is constructed on unerring principles.

They are constructed, for Chimneys, from 10 to 13 inches; and for Buildings, from 14 to 30 inches.

The Patentee's invention consists of lifting-vanes, acting as a screw, suspended within a circular tube or shaft, as shown at B, centred upon an imperishable substance, moving without noise, and surmounted by a diagonally-formed wind-vane, A; which is hung so delicately that the least breath of air will cause it to rotate, so that a draught upwards is a necessary effect.

Combining the advantages of a perfect Smoke-Conductor and Ventilator, it is admirably adapted for all close and crowded Rooms, Schools, Churches, Chapels, Infirmaries, Music and Lecture Halls, Factories, Printing Establishments, Coffee and Smoking Rooms, Club-Houses, Kitchens, Stables, &c. particularly where gas is used and a number of people are compelled to breathe a confined atmosphere.

The most satisfactory testimonies to the value of this invention, Specimens of the Ventilators themselves, and further explanations, will be gladly furnished by the London sole Agent,



THOMAS K. BAKER, 73, FARRINGDON-STREET, E.C.

CAUTION.—The Right Hon. the Attorney-General having refused the application of J. Howorth, of Farnworth, near Bolton, for a patent, on the ground of the priority of W. Chadwick's invention, the Patentee cautions the public against purchasing fraudulent imitations of his unrivalled invention, and which are being shown in the International Exhibition under a similar designation; the purchaser, as well as the maker and vendor, being liable to an action for damages.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.
THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.
BOND & SCAMMELL (late Thomas Pugh & Co.)


NUT


PLATE.

WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.

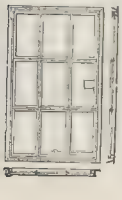
We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New and [illegible] designs in glass, enamel, brass, [illegible] cut, carved woods, [illegible] for Noblemen's mansions.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass [illegible] and Ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

**** Illustrations and [illegible] sent upon application.



BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

FIRE-PROOF CONSTRUCTION.—
FOX & BARRETT'S PATENT.

This [illegible] system of fire-proof construction has been most successfully applied to [illegible] and is now adopted for every EVERY DESCRIPTION OF BUILDING, whether public or private

The system combines ECONOMY with [illegible] perfect resistance to fire, increased [illegible] and other important advantages.

The floors and roofs are formed by a combination of joists of wrought or cast iron with concrete, so constructed as to [illegible] effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended [illegible] the notice of all who are [illegible] superseding the necessity for [illegible] bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,
Mr. BARRETT,
19, YORK-BUILDINGS, ADELPHI.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham, Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and GALVD., of all Gauges Also,
BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Wire and Iron Fencing, Hurdles and Moulds, Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for [illegible] Galvanized Buildings, of the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, [illegible] to his Stock of Ironmongery, Brass Founder, Wrought, Cast, and Malleable, Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, 4s.; and the New Registered Venetian Ventilator, [illegible] 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

THE RICHEST ASSORTMENT OF CHIMNEY-PIECES

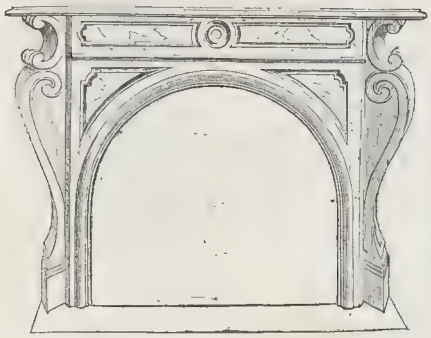
IS AT

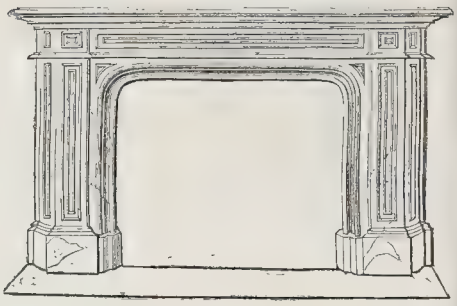
WILLIAM S. BURTON'S.

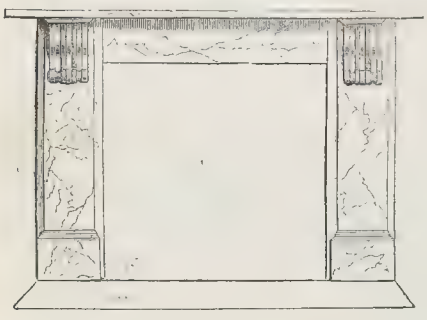
It embraces the following Foreign and English Marbles:—Italian Statuary, Brocatelle d'Italie, Brocatelle d'Espagne, Brocatelle Brune, Griotte d'Italie, Jaune Fleuri, Vert Antique, St. Remis, Black and Gold, Black, Rouge Royale, Vein, &c. &c.; and it includes the undermentioned styles: Renaissance, Louis XIV., Louis XV., Pompadour, Louis XVI., Moderne, à Balustres, &c. &c. Most of the designs are new; while several, from their rich and exquisite sculpture, are veritable works of art. A complete assortment of Enamelled Slate Chimney-pieces is also on show, including many elegant designs. The Prices range from 1*l.* 8*s.* to 100*l.*

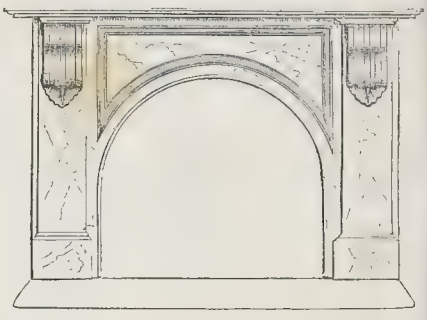












WILLIAM S. BURTON'S

GENERAL FURNISHING IRONMONGERY CATALOGUE

MAY BE HAD GRATIS, AND FREE BY POST.

It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro Plate, Nickel Silver and Britannia Metal Goods, Dish Covers, Hot-Water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays, Urns, and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed-room Cabinet Furniture, &c. with Lists of Prices and Plans of the TWENTY LARGE SHOW-ROOMS at

39, OXFORD-STREET, W; 1, 1a, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE; and 1, NEWMAN-MEWS, LONDON.

ESTABLISHED 1820.

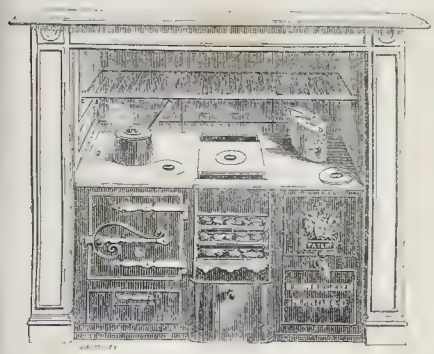
PRIZE MEDAL, 1862.

BROWN & GREEN'S
PATENT KITCHEN RANGES.

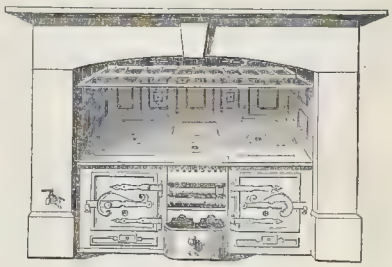
1862 LONDON HONORIS CAUSA

These Ranges are specially adapted, by their completeness and general convenience, for Private Families. All sizes can be fitted with Steaming Apparatus, Hot Closets, Circulating Bath Boilers, and all other appliances, efficiently worked by one fire. These Ranges are distinguished by possessing ample facility for roasting in front of the fire *at the same time* that the Ovens, Hot-Plates, Boilers, &c. are kept in full action. The large sizes are the most perfect and economical apparatus for Hospitals, Barracks, Reformatories, &c. They form the most complete appointment for Clubhouses and Hotels, and are the only Kitcheners that really fulfil all their requirements. By recent patented improvements an abundant supply of steam or hot water can be afforded with a certainty, and an economy of fuel previously unattained. The ovens are all fitted with perfect ventilators, so as to be readily converted into roasters at pleasure.

The principal Kitchen Range made by Brown & Green for the International Exhibition was originally 18 feet in width. They were compelled to exhibit it minus the two end ovens, not having a sufficient allotment of space for its entire width. The fireplace is only 14 inches in width; but, as may be seen by the report of a trial of this Range, on the part of the Government, the two ovens furthest from the fire were proved to be, *not merely hot closets, but effective roasters;* a result never before obtained in a six-oven Range with any quantity of fuel.



PRIZE MEDAL, 1862.



Complete, with Large Oven (or Roaster) and Boiler, Bright Wrought Mountings, Plate-Rack, and Panelled Covings all round.

Complete with Two Ovens (Convertible into Roasters), Welded Wrought-iron Boilers, Panelled Covings all round, Bright Wrought Mountings, and Plate-Rack.

Lithographed Designs on application.

OPINIONS OF THE PRESS.

From "THE BUILDER," September 6 1862.

From the leading article on "Heating and Cooking Apparatus in the Exhibition."

Messrs. Brown & Green exhibit one of the best arrangements of the "Kitchener," or long range of ovens under one chimney opening, with the heat afforded by a single small fire in the centre. Their principal range is, or rather was (space as asked for not having been obtained), 18 feet in length. There are two steam boilers, forming the sides of the fire, and a hot-water boiler at the back. The 18 feet length includes six ovens, two of them called roasters. It has been found by experiment that the ovens and boilers could be all completely heated in a space of time varying from thirty-five minutes to seventy minutes, according to the position with reference to the fire; water in a vessel placed on the sliding cover of the hot-plate over the fire being boiled in seven minutes, and on the farthest oven in thirty-eight minutes. The report of the Instructor of Cookery to the Army, in continuation, stating the capabilities of the apparatus, makes it appear that the range will cook for 2,136 men, with a consumption of three fifths of an ounce of coal per head. The improvement patented appears to be the arrangement of the ovens distant from the fire, and that for conducting the heat round them by the smoke-ducts; other ranges, as asserted, passing the smoke to the chimney by a more direct route.

From "THE MECHANICS' MAGAZINE."

The manufacturers of modern cooking stoves have, generally speaking, stopped half way in their work. The enclosing of the fire, whilst preventing the great waste of heat and fuel inseparable from the old-fashioned open fireplace, produces a comparative draught, which requires great care in the construction of the fireplace, and of the flues through which the heat is made to pass, in order to ensure satisfactory economy and efficiency. The essentials of a perfect cooking apparatus of this description may be said to be—a fire-place shallow from back to front, in order to save coal, yet sufficiently wide in front to admit of roasting meat before the fire; such a mode of enclosing the fire as shall allow the roasting to proceed without checking the heat of the oven or hot-plate; and an arrangement of the flues which shall render them easy to clean, and, whilst diffusing the heat equally over the apparatus, shall prevent a wasteful furnace draught, obviate the possibility of annoyance from smoke, and cause the removal from the kitchen of superfluous heat and the smell of cooking. There is one Kitchener in the present Exhibition which is deserving of notice, not only for its own individual prominence, though it is the largest and handsomest exhibited, but as being a worthy specimen of the manufacturers of a firm whose productions we have long appreciated as fulfilling the above requirements. The Range alluded to is by Messrs. Brown & Green, of 81, Bishopsgate street Within. These gentlemen have long been makers of Ranges suited for all classes of the community, and have taken out no less than five patents for their improvements. They have, however, never before exhibited, otherwise their Prize Medal of 1862 would undoubtedly not be their first. We may note that the large Kitchener referred to above was officially tested by order of the War Office, previous to exhibition.

From the "CIVIL ENGINEER AND ARCHITECT'S JOURNAL," September 1, 1862.

KITCHEN RANGES IN THE INTERNATIONAL EXHIBITION, 1862.—An inspection of the different arrangements of kitchen ranges displayed at the International Exhibition in Class 31, and an examination of the advantages claimed for them by their inventors, would well repay those interested in the subject, the opportunity for comparing so many varieties in one place being rarely afforded. The collection, although containing many examples which appear at first sight to embrace the necessary requisites to secure economy and efficiency, is yet, with very few exceptions, singularly deficient of examples exhibiting features of useful novelty. The number of exhibitors of cooking apparatuses is about forty, of whom only five or six adopt the old-fashioned form of open grate. In the majority of them an inclosed fire-place is substituted for an open one, a great improvement which, after having been long unavailingly urged upon public attention by scientific men, and one or two of the more skilful manufacturers, received a considerable impulse from the Exhibition of 1851. The course pursued by the exhibitors in most instances appears to have been to imitate one another, displaying but little earnest endeavour to remove even those defects in the generality of "close" ranges which the experience of the last ten years has rendered notorious. These may be briefly stated to consist in the absence of a satisfactory arrangement for roasting meat before the fire without interrupting the use of the oven, &c.; the inability to control the too great rise of temperature in the kitchen; and the annoyance occasioned by the odour of cooking being diffused over the house. In addition to these evils, in the majority of cases a faulty construction of both fire-place and flues has prevented that real economy of fuel which the close form of stove was intended to secure, and of which it is certainly capable. The kitchen range (No 6,002, Class 31), manufactured by Messrs. Brown & Green, of Bishopsgate-street Within, we have inspected in operation, and it appears to us completely to remedy the defects enumerated above; as yet it is the only one of which we can say so much. This range is 14 feet in length; contains four roasters or ovens, and three boilers. It is stated that it is capable of plain cooking for more than 2,000 persons, with a consumption of less than one ounce of fuel a head, and that this result was proved by a trial of this particular range by the Inspector of Cookery for the Army, by order of the War Department. Similar advantages are secured in the smaller ranges on the same principle, for family use. This firm was one of the first to manufacture close cooking-ranges in England, providing ovens properly heated and ventilated, and at the same time supplying a deliverance from the intolerable smoke nuisance. From that time to the present, nearly a quarter of a century, they have devoted their skill and experience to perfecting their invention. The apparatus exhibited is the largest and by far the handsomest kitchener in the building; and, in addition to the special merits of its arrangement and simplicity of action, reflects great credit upon the firm for the excellence of its workmanship and finish. The award of a medal in this instance we heartily approve.

From "THE MORNING STAR," April 9, 1862.

Among the exhibitors who have completed their arrangements we notice Messrs. Brown & Green, of Bishopsgate-street Within, whose large Kitchen Range occupies a prominent position in the Hardware Court, and has attracted a good deal of notice during its erection by its perfect finish and the good taste displayed in its ornaments.

From the "IRONMONGER," September 1, 1862.

There is a strange misprint in the notice of the award to Messrs. Brown & Green in the "Book of Awards," and, consequently, in the list extracted from it which appeared in our last. The award is "for a good and WELL-MADE kitchen range," instead of "for a good SMALL-MADE kitchen range," which is simply ridiculous. We take this opportunity of directing the attention of our readers to the range in question, which, so far from being small-made, is really the largest in the Exhibition. All who examine it must be struck with the fine workmanship of every part, and the remarkable excellence of the castings. Among the many note-worthy improvements which have been applied to this range is a method of fastening up the white porcelain tiles with bolts at the corners, screwing into an iron frame behind, instead of with cement. An improved plan for roasting in front of the fire without checking the heat of the oven is another remarkable feature in this beautiful range. Before exhibiting the range, Messrs. Brown & Green tested its capabilities in the presence of reliable witnesses, who certified that it will cook for upwards of 2,000 people per day, with a consumption of less than an ounce of coal per head. The economy of fuel in the smaller sizes is quite as remarkable. Messrs. Brown & Green have long been makers of kitchen ranges of all sizes, and have taken out five patents for improvements, but they have never before exhibited.

From "THE GLOBE."

Whilst running the other day through the Exhibition our attention was drawn to a description being given of a MONSTER COOKING RANGE in Class 31, No 6,002, which had been tested as to its efficiency by the request of the War Office authorities, and the results have established beyond doubt the fact that this particular Cooking Range entirely obviates complaints which are only too general now-a-days. Numerous attempts for years past have been made to perfect the draught, so as to diffuse a graduated heat throughout the Range, but all efforts to succeed have always failed, until the introduction of Messrs. Brown & Green's Patent; and this is not arrived at by any extra consumption of coals; on the contrary, the quantity used is much less than in ordinary ones. For style, finish, and cleanly appearance, these Ranges, being backed with Dutch tiles, surpass anything of the kind we have yet seen. The range we are mentioning is "only" 18 feet long, having three ovens, and one boiler on each side of the fire-place, and yet the necessary principle works correctly, all parts alike being under the same temperature. To those requiring new Cooking Ranges, we would say, Judge of this specimen for yourselves. Ordinary sized ones may be viewed in operation at the Patentees' Depôt in the City, 81, Bishopsgate Within.

From "THE MORNING HERALD."

This large Kitchener also combines all those valuable improvements which Messrs. Brown & Green have from time to time introduced into their Patent Ranges of all sizes. We cannot specify these in detail, except to notice that among their results are the certain cure of smoky chimneys, the ventilation of the kitchen through the upper part of the Range, whereby are prevented that oppressive heat in the kitchen, and close smell of cooking throughout the house, which are often sources of annoyance in other close Ranges; and the facility for roasting meat in front of the fire at the same time that the whole of the apparatus is kept going.

Brown & Green's Ranges have also been favourably noticed by the "Standard," "The City Press," "The Queen," "The Bicester Herald," "The Kentish Chronicle," and many others of the Metropolitan and Provincial Press.

LONDON WAREHOUSE, 81, BISHOPSGATE STREET WITHIN, E.C.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, Jun.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.

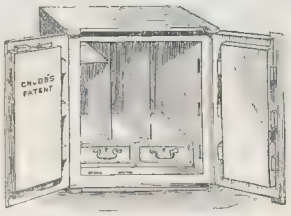


CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS,
The most secure from pick-locks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the Detector Locks.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire-resisting and non-conducting composition.

The doors are all secured by Chubb's Patent Drill-Preventive, and their Patent GUNPOWDER PROOF LOCKS.

Illustrated Price List Gratis and Post Free.

CHUBB & SON,
No. 57, ST. PAUL'S CHURCHYARD, LONDON;
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.

WROUGHT IRON WINE BINS.



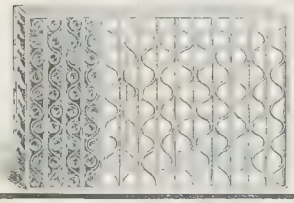


FARROW & JACKSON
Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their BATH APPARATUS, represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

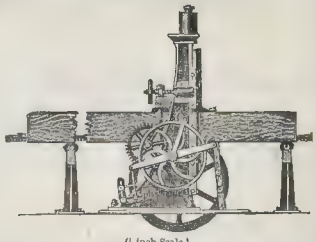
J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

THE MEDAL FOR 1862.
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE MARK.

CROWN TUBE WORKS
WEDNESBURY, STAFFORDSHIRE.
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought-iron Tubes.

S. WORSSAM & CO.'S PATENT PORTABLE DEAL FRAME.



(¾ inch Scale)

This machine is so constructed as to require no foundations for fixing; it can be driven either from an underground or overhead shaft, or from a portable engine, and is peculiarly useful for builders and contractors. For printed Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, CANNON STREET, E.C.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES.
COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated Price Catalogue of numerous Designs, in various styles free, on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY STREET,
OXFORD STREET, LONDON, W.



SMITH & WOODS
SHOP FRONTS

WORKS, HARTS HILL IRON FOUNDRY, Near Dudley. MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.

LONDON OFFICE, 76, CANNON-STREET WEST, LONDON, E.C. Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.



THE PRIZE MEDALS,

LONDON, 1851. PARIS, 1855. LONDON, 1862.

AWARDED TO

COTTAM & COMPANY,

No. 2, WINSLEY-STREET, LONDON, W.

FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN

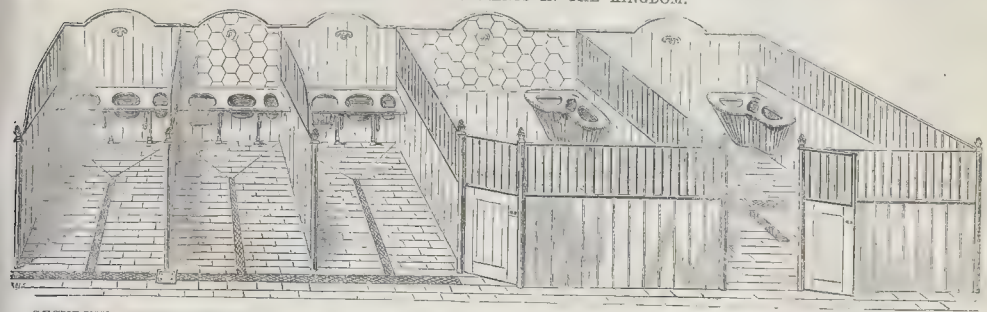
STABLE FITTINGS AND HARNESS BRACKETS.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.





SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of
FIRST-CLASS WOOD-CUTTING MACHINERY,
being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.

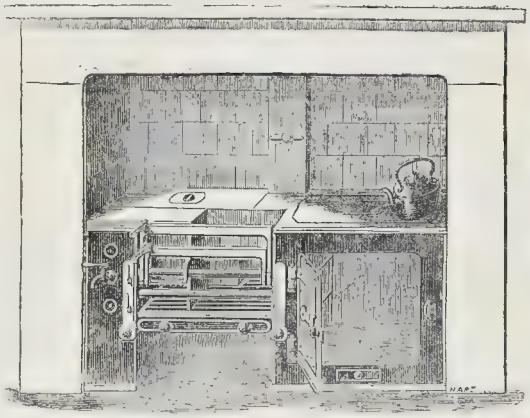


IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
Works.—Birmingham, and Limehouse.
Every description of Iron Work Galvanized.
LONDON OFFICE—61A, MOORGATE STREET, E.C.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,
OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,
MOREWOOD & CO.,
DOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.
The Hob over the top of the Oven forms a Hot Plate; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.
The sliding Hob, which is fastened to the Winding Check, also forms a Hot Plate.
The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.
This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.
This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent Original Fire-Brick Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

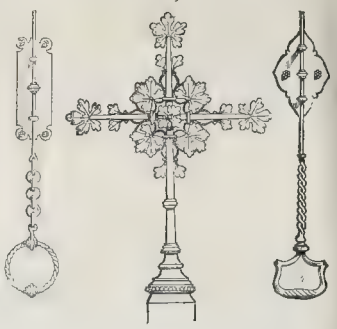


Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,
WILLIAM ADDIS,
6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.
By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

W. HARMER & SON,
BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.
WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.
WROUGHT IRON TUBE and FITTINGS for GAS or WATER.
CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.
W. HARMER & SON,
3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
Established 1817.

HART AND SON,
WYCH-STREET, W.C. and COCKSPUR-STREET, S.W.



WROUGHT-IRON GRILLES, GATES, SCREENS, HINGES, BOUNDARY AND TOMB RAILS, ALTAR-RAILS, TABLES, GLASTONBURY CHAIRS, ALMS-BOXES, & FONT COVERS; CORONÆ, STANDARDS, BRACKETS, &c. for Oil, Gas, and Candle.

J. HARDMAN & Co.
MEDIÆVAL METAL WORKERS
In Silver, Brass, and Wrought Iron;
ENGRAVERS OF
Memorial Brasses,
Artists in Stained Glass
ECCLESIASTICAL DECORATORS.
Chalices, Patens, and Flagons
Altar Rails and Standards;
Alms Basins and Boxes;
Crosses, Chandeliers, and Branches;
Gas Fittings of every Kind;
Lecterns and Book Desks;
Hinges, Handles, Locks, &c.
Spire Crosses and Vanes.
AN ILLUSTRATED PRICE-LIST, AND ESTIMATES FOR SPECIAL DESIGNS, Furnished on application.
London Offices and Show Rooms,
13 KING WILLIAM ST STRAND LONDON WC

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W
Drawings and Estimates furnished.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, STAND 6159

HART AND SON
MANUFACTURERS OF
MEDIÆVAL ART METAL WORK
159·HIGH·HOLBORN·WC
BOOK of (175) ORIGINAL EXAMPLES of Wrought Iron Gates, Railings, Vanes, Crosses, Hinges, &c. Candlesticks, Lamps, Lecterns, Font Covers, Gas Brackets Standards, Gaseliers, Crowns, &c. in brass and iron, forwarded on receipt of six postage stamps.
Specimens at the Architectural Exhibition, Conduit-street.

ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents.
Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246).
Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY.
PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES, BURKE, & CO. PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

BEST "PENRHYN" ROOFING SLATES,

SLATE RIDGING, GLAZED SOCKET-PIPES,
TILES, PAVINGS, &c.

Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads, to any Railway Station.—Prices and particulars may be had by applying to

HENRY BROWN & SONS, MERCHANTS,

GENERAL WOOD CUTTING MILLS, LUTON, BEDS.

A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7*l*.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

A VACANCY FOR AN OUT-DOOR APPRENTICE.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint" or the number Two or Three qualities to workmen, can prevent good work with such paint. Workmen who have once used "Patent Zinc" will never willingly accept other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.
Only Medal awarded for "excellence of construction of Mathematical Instruments."



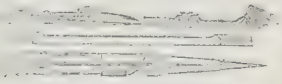
SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED. Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s. 6d.

Mathematical Instruments of every description, of the best Steel Brass, and Ivory, at LESS PRICES than at most other Houses in the Trade. Sectional Boxwood Scales, Protractors, Parallel Rules, Chains, Tapes, Drawing Boards &c. &c. Every Article Warranted. Detailed Lists of Prices on application.

, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free.

STANLEY'S IMPROVED DRAWING PEN.

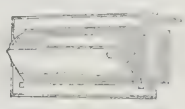
MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH
Manufacturers of the above.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. They would call attention to their Improved Pocket Sextant, Improved Instruments of Adjustment, Improved Levelling Staves, &c. &c.

VENTILATION—PURE AIR.



Sugg's Patent Dwelling-House Ventilator for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d. These Ventilators are arranged to admit a separate supply of air to each room. They prevent the occurrence of any draught, so that the slightest draught being felt by the occupants; and as they are placed in the external wall, under the control of the person when the latter is closed for the evening, at which time a constant supply of fresh air is best secured. HAYWARD, BROTHERS, Sole Manufacturers, 187 and 189 (late 117 and 119), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

The Builder.

VOL. XX.—No. 1026.

Cooking-Apparatus and Kitchen Ranges in "the Exhibition."



E have already devoted an article to the subject of heating and cooking apparatus generally, and have noticed therein certain foreign arrangements and contrivances, as well as some of the kitchen-ranges of English manufacture in "the Exhibition."* In a later article we have continued the subject of heating apparatus, including that of contrivances for the consumption of smoke, and others applicable to chimneys, and designed for the prevention of smoke-nuisance.† It is not necessary that we should now revert at much length to the important considerations which are involved in the study of the best form of cooking-apparatus. We need merely re-urge that the question is not only for the upper and middle classes, but is most important to the poor, or all those who are restricted to narrow space in places of residence, and require the maximum of nourishment from, and some degree of relish in, what they are able to purchase and prepare as food; the latter quality in what is eaten, being we believe of some importance to the former, and itself, if realized, calculated to diminish appeals to other temporary gratification, long recognized by philanthropists and magistrates as the teeming source in our nation, of misery and crime. We should be prepared to carry further our argument in favour of the practice of French cookery, whilst recognizing all that may be said in favour of a joint of good roast meat; because the foreign system does not ignore the natural taste for variety, the exigencies of most households, and fact as to what is purchasable by many of our industrious artisans. We therefore deem it essential for a cooking stove or range, whilst capable of *roasting* in the best manner, to be furnished with appliances in great number and variety for other culinary operations; and the problem as left by our first article, we believe to be, the production of an arrangement or forms of apparatus having all the advantages of the "American," "Emigrant's," or like form of stove, but less objectionable on the score of heating the kitchen, if not more comfortable in appearance when adapted to the general living-room of the working-man. A boiler which may afford a constant supply of hot-water, and never be in danger of getting burnt,—or burst, in time of frost, like some of those of Lancashire houses, not long ago,—and ample convenience for drying and ironing clothes, ought to be considered in such a grate, as well as economy in fuel, smoke consumption and conduction, and facility of cleansing; several of which latter objects, however, at once, are attained by proper contrivance of the grate and smoke-ducts, and of the large flue. The system of cookery is one of the points for consideration when designing such a grate. The sort of fuel to be used is another; and that subject deserves now all the attention that can be given to it. Those who are accustomed only to coal as a combustible, scarcely know how large the question is; and thanks are due to a writer in the *Times*, who in treating of the fuel in the Exhibition, has incidentally spoken of the probability of using carbonic-oxide gas. The question of adaptation to a combustible, would resolve itself into the construction of special forms of grate, or of forms which would be capable of modification readily. Several of the grates in the Exhibition indeed are put forward as having this latter point in view. The convenience of charcoal for many of the culinary operations, especially where space is limited, or where much fire is not wanted, deserves consideration by many of those who never think of it. The manufacturers of cooking apparatus in Paris, sell a species of grate, *coquille*, of fire-clay, with a light front of bars,—a mere flat upright shell, which can be carried in the hand like a small carpet bag, and holding a very small quantity of fuel,—and which can be set anywhere, with a joint and a reflecting screen or Dutch-oven in front of it. An eminent member of the British diplomatic service tells us, that when he was in the East, he extemporized with three flower-pots, an arrangement of cooking-stove which not only saved himself and his family from the sort of starvation that would have been their lot, but enabled him to set before his friends many well-appreciated and very toothsome dinners. The helpless condition of our soldiers in campaign, and many recent inventions which we have had scarcely time to look for in the class (11) of the Exhibition which adjoins that (10) of Building Contrivances and that (31) which we are now examining, would supply the further arguments, and the indication of means, for the pursuit of the subject by manufacturers beyond the limitation of the description of apparatus which we find in the divisions last named of the South-Kensington building.

There about forty exhibitors of cooking apparatus in Class 31, British Division of the Exhibition. Messrs. Ritchie, Watson, & Co., of Glasgow, are amongst those who exhibit the portable stoves "on the American principle—Uncle Sam by name," which we have several times mentioned. They are made in three sizes, with or without boilers, with a fire (which may be used for roasting, or inclosed by doors), and a shelf for the meat in front, together, at one end, and with an oven towards the opposite end; and with the hot plate, having four apertures and gratings, on the top. The same manufacturers exhibit a small portable farm-boiler, with fire-clay linings, which may made set on wheels or without. Messrs. Smith & Wellstood, of Bonnybridge, Glasgow, exhibit similar articles. Their portable stove costs from three guineas upwards. It is made with a shelf at one side, on which a tin-vessel may be placed, and wherefrom a supply of boiling-water may be obtained. A London agent, Mr. J. H. Riddell, speaks of contrivances such as we have described, as providing, at a cost of fuel of one shilling per week, the cooking—including roasting, baking, boiling, and steaming, for a large family, besides affording a plentiful supply of hot-water, and keeping a warm-bath ready night and day; but surely that must be not quoting the price of coal in London. In comparing prices of ranges of whatever kind, it is necessary to observe that some of them include kettles and much other apparatus. Many of the large ranges, which we shall examine shortly, would be better without the polished steel hinges and other ornamentation, and not considering that this adds ten or fifteen pounds to the price. The agent we have named, shows in his prospectus a not unsuggestive form of stove called "the Queen," which, made for office, parlour, or bedroom, may be converted into a cooking-stove (as there is space on the top, for two boilers or kettles), and by turning up the hearth-plate against the bars, into a close-stove, which would burn without danger when required to be left. The fire-place is lined with fire-brick; and the price of one of the sizes is 1*l.* 16*s.*; to which is to be added 2*s.* 6*d.* for man's time in fixing. The "Empress" cooking-stove of Messrs. Smith & Wellstood has the top of the stove fitted with a *movable* "concentrating hood" or cover, for enclosing all the cooking utensils and preventing the evil to which we have adverted, the overheating of the kitchen, as well as circulation of steam in the kitchen, besides enclosing heat from the hot-plate and concentrating it upon the cooking-vessels in use on the stove, so as to render necessary a smaller consumption of fuel. These stoves are constructed with four oven doors, which have an inside lining and a space between, in order that the heat may not pass through the metal and be radiated from the outer surface. The inside linings are made with a reflecting surface, under the idea that the heat will be thereby thrown back to the centre of the oven. Messrs. Smith & Wellstood, however, forget the distinction between radiation and reflection, as they might have found it explained in any good book on chemistry and the laws of heat. Mr. Hunt remarks that while lamp-black will give a radiating-power of 100, polished iron will only give 15. We were careful, in our last article, to distinguish between reflected fire-light and radiated heat. Mr. W. N. Nicholson, of Newark, is also an exhibitor of a plain form of cooking-stove of the portable kind above described, as of several of his kitchen-ranges and grates, similar to those which have been used in some of the model lodging-houses. We should be glad of any information as to the wear of those grates and of the ovens attached to them; for, some of these in the Exhibition seem wanting in that *extra*-strength which has been shown to be quite essential in the class of dwellings in question. We call to mind, also, that one form of grate first used in one of the model lodging-houses on an extensive scale, was found objectionable. If we remember rightly, the coal would not burn well in it. Perhaps, however, that grate was not one of Mr. Nicholson's; or his may have replaced the faulty one. Several manufacturers have formed their oven doors of iron, enamelled white. There is some reason to doubt whether the enamel would be permanent. The case is not that of a cooking utensil, such as a frying-pan, which is always kept moist when exposed to the fire-heat. We recommend all to whom economy is an object, to inform themselves of the character of the articles manufactured at Newark, which are but poorly represented in the Exhibition. Mr. W. Addis exhibits Cundy's Economic Cottager's Cooking Stove, besides the Brick-Oven Winding-check Semi-close Range. Actual use, and that extending over some lengthened period, is, unfortunately for architects, the only satisfactory test of inventions; whilst evidence of any kind is difficult to be gathered; but this grate seems cheap and convenient, and it occupies small space. Like those which are best known as English, it is intended to fit into a chimney-recess. It includes a large oven below the fire, with door opening as a flap, and serving as a rest in removing the bread or other contents, and a boiler and hot-plate; the grate, by raising the top flap and letting down another in front, being converted from a close to an open fire. The price of this grate is three guineas for the 24 inches size, and four guineas for the 30 inches size, prices which seem to us not low, comparing the convenience of this form of range with that of the French stoves. In the winding-check grate, there is the recognition of the advantage of roasting before a fire, combined with the means of using a surface above it as hot-plate, which is characteristic of many of the ranges in the Exhibition.

We have drawn our readers' attention to the question of French cookery for reasons sufficiently explained; and to forms of apparatus of foreign manufacture, some of them not shown in the Exhibition, because of their convenience in any system

* See page 629, *ante*. † See page 670, *ante*.

wherein variety of food is considered, as well as of their economy of space, and what we believe to be their lowness of price. Since our first article, we have found that an agency has been established in the Strand for the supply of the "*Cuisinières*" of Messrs. Beuret, H. Goddard, Desmarest, & Cie., from the manufactory in the Departement de l'Aisne. These are not the cheap tile-covered ranges of *fourneaux* that we spoke of, but the forms of stove with oven, roasting-grate, and hot-plate, which are made of iron. The ease with which the rapidity of cooking can be regulated, is mentioned by the London agency as one advantage of of the apparatus; and in addition to other advantages that we have spoken of, it is said experience shows that the cheapest description of coal is the best. The fire requires no stirring. This foreign contrivance is better in several respects than the English. The price of the smallest size, 19 inches in length, with boiler and one oven, and the hot-plate and roasting-grate, is 2*l.* 18s., which is of course more than the price in France.

Besides the French stoves that we have mentioned or described, there are some in other divisions of the Exhibition on the same principle, or approachable on three, or the four, sides. In the Swiss Division, there is one, exhibited by J. A. Lehmann, of Sargans, St. Gall, which is very complete, and suited to the preparation of a large dinner; though it is of no great size. In the Swedish Division, cooking stoves are exhibited by more than one manufacturer of Stockholm. In a stove by J. & C. D. Bolinder, (in which there are two ovens, a roasting-grate at the end, facing two ways, and room for four pans,) the hot-plate, which measures 2 feet 2 inches by 2 feet, can be *all* taken off in pieces, an immense advantage. The price is 4*l.* The introduction of an oven in one of the stoves, in the lower part, where, as in some of the stoves standing on four legs, there would be waste of space, is an advantage. One stove provides a small oven with dripping-pan, and a hot-plate with two apertures for pans or broiling, heated by a small fire, in the space of 1 foot 11 inches by 1 foot, by 1 foot, for the sum of 2*l.*; but the same article could probably be made for less. A stove which is circular on plan, is exhibited by A. Moberg, of the same capital. The circle is 2 feet 3 inches in diameter, and the height of the stove is about 1 foot 3 inches. The fire-place is very small; and the top is constructed so that it may be turned round, and each vessel upon the plate, or each *fourneau*, exposed successively to the fire. A hot-water boiler can be affixed to the side of the stove, but this is an extra. The stove alone would be 3*l.* 14s. 6d. In the Norwegian Division, cooking-stoves are exhibited by Wingaard & Bouilly, of Bergen, and the Factory of Laxevaag of the same place. They correspond in principle with stoves that we have described. One of them resembles two pots; and the fire, which is at one end, has a flue, which, by means of a damper, can be made to conduct the heat to one or both of the pots as required. In the Austrian Division of the Machinery Annex, we find a stove by Leopold Feivel, of Pesth, Hungary, which is different in form to anything we have described. Besides the hot-plate, with fire beneath it, at the end, and ovens, there is a peculiar structure enclosing a washing-copper and hot-closets, added to the ordinary arrangement of the stove, rising to about 5 feet from the floor, and treated as an ornamental feature, as by use of curved lines in its plan, and arranging the top as a miniature flower-garden, where also celery may be grown. The copper is shut in, and ventilates into the flue. There are three fire-places, four ovens, fitted with apparatus for baking, a boiler besides the copper, and numerous compartments and fittings of different kinds. But the price asked for the whole, is 100*l.* The enamelled ware cooking-vessels, in the north-western transept, manufactured by Pleischl of Vienna, deserve the notice of those who take interest in the condition of classes of the people with regard to whom much of the matter preceding, has been written. With these vessels there is a cleverly arranged field-cooking service, measuring less than 1 foot in height by 11 inches diameter, and containing a multitude of pots, pans, plates, ladles, castors and gridirons.

When our first article was written, we had, from circumstances to which we have too often had to allude, missed seeing the General Foundry Company's Table Range for the centre of a kitchen, which is precisely similar to one that was supplied for the kitchen of Mr. Kühn's *restaurant* in Hanover-street, Regent-street, and briefly mentioned by us when placed there. It is a complete specimen, and of the largest size, of the French arrangement, with somewhat greater importance than usual given to the space for roasting in front of the fire, which last is at one end. The hot-plate is in area, about 40 superficial feet: all this is available for cooking-purposes; and below it there are two large roasting and two baking ovens, the open fire before alluded to, a boiler capable of keeping 500 gallons of water at boiling-point, and another boiler which will supply steam for very large requirements. The manufacturers say that the consumption of fuel does not exceed 1½ cwt. per day when the whole of the processes—roasting in the ovens and before the fire, baking, grilling, boiling, steaming, and stewing, are in full operation; and Mr. Kühn reports that he could cook with this range alone, from 500 to 1,000 dinners "*à la carte*" in one day, each dinner having three or four courses; whilst of soups and plain joints only, he could provide dinners for four thousand persons in a day. It will roast, says the same authority, twenty-four joints every two hours, and will cook one hundred cutlets perfectly in five minutes. Joints of 112 lb. weight can be cooked. The consumption of coal, he continues, is but one-third of that in a series of apparatus which he had previously used, and which had been inefficient. Our recollection of what we heard at Mr. Kühn's would have led us to a different idea as to the fuel; and the kitchen was certainly very hot. But, the testimony may be regarded as in favour of *cuisinières* and stoves on a smaller scale, slightly modified as they might be to suit completely, English tastes. Somewhat in this direction referred to, is the arrangement of Richards' Ventilating Circular-Front Cooking Stove, which is exhibited by the Coalbrookdale Company, and has a projection of about two feet from the chimney jambs, a semi-circle on plan, into the kitchen. The fireplace, of slight depth, is in the middle of the front, covered at top by its portion of the hot-plate, backed by fire-lump, and provided in the front with different ingenious modifications of the front and bottom bars to adapt the fire for use, including or not including roasting, or for merely warming the kitchen cheerfully. There is a ventilated oven for "roasting" or baking on one side of the fire, and a pastry oven or hot-closet on the other; whilst the hot-plate is provided as usual, with circular openings in which pans may be placed. There is a boiler at the back. The ash-pit is enclosed, and provided with a flue, to prevent escape of dust into the room. The convenience of the semi-circular form for allowing access to the ovens and hot-plate, whilst meat is before the fire; and the ease with which the lumps and other wearing parts can be removed; are claimed as advantages in this grate. The price of the apparatus as shown would be 30*l.*; but a range having all the essentials we have described, might be made for 18*l.* The same company exhibit a good grate of a more usual kind, containing an open fire, with a hot-plate (which is hinged to lift up, where over the fire, and has a circular aperture into which a gridiron is made to fit,) and with two large ovens round which smoke-ducts circulate, to heat the ovens and the plate. Fire-clay back and sides to the grate, a boiler, a damper and soot-door to each of the three flues which join into the general one, a plate-shelf of rails, a sliding-door in the iron-ceiling of the recess and range, and the trough and Archimedean screw feeding-apparatus of Young's smokeless grate described in our preceding articles, comprise the other features of the range, which may be had for 40*l.* in the most complete form, and with the steamers and dripping-pans, or for 20*l.* in the simplest form, as described, without jamb and back-linings and the movable apparatus.

Desiring to make our notice of this department as complete as may be, we shall be forced once more to return to it.

QUESTION OF FRESCO *v.* OIL, ENCAUSTIC, MAROUFLAGE, AND ENAMEL.

Since the evident failure of our first attempts at the restoration of the art of fresco-painting in the mural pictures of the Palace of Westminster, a question has arisen, whether fresco, in its purely traditional character, may not be advantageously superseded by some other method. The French, who preceded us in the attempt to re-establish the grand system of mural decoration so successfully developed by the Italian masters of the Mediæval and Renaissance periods, soon began to perceive that the ancient process, in their hands, did not produce the effects required; that it did not appear to harmonize with the high mechanical finish of other branches of modern art; and, worst of all, it did not appear likely, under modern treatment, that it would prove a permanent method. The ancient processes were probably, when practised in a manner to ensure success, too laborious to suit the modern artist. They belonged to a time when the wage of an artist was but a few degrees above that of a day labourer; when he had no social position to maintain; when a lump of bread-and-cheese and an onion was a sufficient meal. On looking to the past history of the art, it will be seen that when these conditions gave place to others belonging to a more advanced period of social development,—when the Raffaelles, the Cellinis, the Bramantes, the Buonarottis, of art began to receive large rewards for their works, and the appreciation of artistic genius began to be a fashion, even when not a feeling, among princes, the laborious processes of fresco became less and less employed. It is true that the brothers Carracci, at a somewhat later period, revived the art for a time, by the excessive energy with which they prosecuted their vocation, and founded a remarkable school; but the practice was no longer the ordinary one. The vast number of Italian churches, decorated with those masterly works in fresco that still delight the enthusiastic connoisseur, belong to an earlier period. From Giotto to Perugino we have a brilliant series of great masters in the art of fresco painting; the highest development of the art culminating in the works of Raffaelle himself. But after that epoch the decline, with the exception of the works of the Carracci, is rapid. Raffaelle (as we observed when lately speaking of the rapid decay of the frescoes of the House of Lords) had determined to abandon it for the superior facilities afforded by the oil process. After that period, a greater number of wall paintings and ceiling paintings were executed in oil than in fresco; many of the finest things of the class in the Ducal Palace at Venice having been produced by that method. The later ceiling paintings of Rome, Florence, Genoa, were nearly all in oil. The decorations of the Luxembourg Palace at Paris were executed by Rubens in oil: his celebrated ceiling at Whitehall was in oil; and the English painted ceilings and staircases of the eighteenth century, some of which were very creditable works, though of course in the meretricious fashion of the day, were invariably in oil. The works in this material, when the walls or ceilings were properly prepared and defended from the encroachments of damp from the exterior, lasted exceedingly well. The old staircase at Montague House, afterwards the British Museum, though heavy and dark in style, proved itself a sound kind of work, inasmuch as durability is concerned; showing but few signs of decay when the old mansion was recently pulled down to make room for one of Sir Robert Smirke's compositions of the Ionic order. The ceiling of the church of Little Stanmore, better known as Whitchurch, adjoining Cannons, once the residence of a Duke of Buckingham, before the decay of the family, was decorated by the French artist Laguerre, who executed so many works of the kind in England during the last century; and at the same church there is a "Nativity" over the altar by Belluchi; the works of both artists being, at the present time, in nearly as good preservation as when Handel must have occasionally bestowed a glance on them, as he invented voluntaries upon the organ, and composed a special service for the favoured congregation of this little village church, during his long residence at Cannon Park.

The restorations now going on at the church of St. Roch, in Paris, have attracted the attention of artists to the paintings in that church, executed during the first half of the last century; which, among other examples of eighteenth century art, are leading connoisseurs towards a better appreciation of the works of that period; which, however low the range of their actual merits may be, have long been rated even beneath their actual worth. The paintings of the two lesser cupolas of St. Roch were executed by the nearly-forgotten painter Pierre. Those in the other parts of the church are by Lemercier, and the portico was painted by Robert de Cotte. The projected new paintings on the dome of the transept, which had gradually fallen into a dilapidated state, and has just been restored, have been confided to Mr. Lehman, and those of the other renovated parts of the church to the brothers Balze. It is said that the new paintings will all be executed by a new method termed Marouflage, which may be described in the following manner:—The basis consists of a strong canvas rendered impermeable by an infallible process, greatly improved in some respects by Mr. Haro: the canvas, as at present prepared, presenting an excellent surface for painting, and thoroughly saving the work from injury by the chances of damp. This can-

was, when properly prepared, is, in the first instance, sufficiently elastic to adapt itself with equal facility to a concave or convex surface as to a flat one; no difficulty being found in fitting it to coved ceilings with the greatest smoothness and accuracy. A very important advantage of the style is that, while *in situ*, it has the appearance of being the real surface of the solid wall. It can yet, in case of necessity, be peeled off and removed, without the slightest injury, to another situation. If some of the charmingly *naive* productions of Giotto, Masaccio, or Ghirlaudajo, that have already perished, had been executed by the marouflage process, they might have been saved by a timely removal from the frequently unsound walls upon which they were wasted; and would now be preserved as invaluable monuments of a past epoch of art in our public museums and galleries. The fine ceiling, painted by Ingres, at the Parisian Hôtel de Ville, representing the apotheosis of Napoleon; and also the paintings executed by Delacroix, at the Church of St. Sulpice, in the Faubourg St. Germain, are executed on this material, which can be used either for distemper colours in the manner of fresco, or for oil. A still more recent improvement in this process has been effected by Mr. Paul Balze, which effectually removes a few trifling inconveniences which were found in actual practice to occur in the marouflage system. The brothers Balze are themselves the painters of those fine copies from the works of Raffaelle which adorn the walls of St. Geneviève.

The encaustic system has also been essayed with success by the leading French artists. This method of painting with a wax medium, the colours mixed with wax being incorporated with the stone or plaster by means of heat, applied in the form of cauterium or heated iron, has been found exceedingly durable; and, without having the undesirable gloss of oil, is found to possess a kind of subdued brightness—sometimes termed by decorators an egg-shell gloss, which brings out the intensity of the colours much more satisfactorily than the fresco process.

The encaustic method, in a modernized form, was the one adopted by Delaroche in the hemicycle de l'École des Beaux Arts, which still remains, on the whole, the most successful piece of modern wall-painting. Of the soundness and permanency of the process there is little doubt. Not only do modern works executed on stone walls, several years ago, by this method, exhibit no signs of decay; but we have the testimony of ancient authors to the fact, that the "Battle of Marathon," executed in encaustic at Athens by Polynotus, in the portico of the Agora, which afterwards, in consequence of this painting, became known as the Pœcile, or painted portico, lasted in good preservation for 900 years; a fact to which attention is called by Count Raczynski in his interesting and instructive work. Encaustic ought, therefore, to be essayed by our own artists. We should like to see Mr. Maclise try his hand upon this material before permanently deciding upon the glass medium, which is open to chemical objections that we may discuss on some future occasion.

There is yet another modern method, also developed by the enterprising industry of French artists, and which has the advantage of being equally applicable to external or internal decorations. This process is that of monumental enamel; which is a method of applying the principles of enamel-painting to works of colossal dimensions. Pictures produced by this process possess all the brilliancy of mosaic; combined, of course, with much more freedom of treatment, and a durability to which there appears to be no limit. Two large paintings, to be executed by this new process, have been already commenced by Mr. Paul Balze, for the Church of St. Augustine, at the end of the Boulevard Malesherbes. The process, though requiring more time than encaustic or fresco, may yet be executed far more rapidly than mosaic. This style, for ecclesiastical decorations, could be used very effectively in conjunction with mosaic; the decorative portions of the work being executed by the mosaic process in a bold and marked style, showing distinctly the joinings of the enamelled tesseræ; while the more flowing, free style of the enamel pictures should produce the effect of an entirely distinct *modus operandi*; yet, at the same time, producing an effect of harmony by, to the eye of the spectator, a similar material, though treated in a different manner, and having in both forms a remarkable appearance of solidity and durability. The distinct marking of the joints of the tesseræ, in ornamental work, produces an agreeable impression of system and regularity, the value of which was well understood by ancient decorators; who, when mosaic of that class was too expensive for the purpose required, executed the subject in ordinary painting, and then traced upon it a series of marks, to simulate mosaic, with a deep brown colour, which was laid on with a sharply-pointed brush. Several examples of this imitative mosaic have been, from time to time, discovered at Pompeii, and preserved in the Museo Borbonico. The agreeable effect in decorative work of a certain character by this reticulation of slight dark lines is analogous to that produced by *stipple* in miniature painting. It produces an effect of general evenness which cannot be obtained except by these processes, or others of a similar kind.

While, however, we are thus discussing the merits of methods hitherto untried by English artists, it may be as well to refer to that kind of mixed fresco and distemper which was the process generally used in the mural decoration of Greek and Roman houses. The true fresco process, as applied to pictures, does not appear to have been understood by the artists of ancient Greece or Rome. They prepared coloured panels in their walls by a fresco process, in which colour was applied to successive coatings of the plaster work while wet; thus producing panels, or spaces of a self-colour, or waved in imitation of marble, which were so ornamental, and at the same time so solidly done, that whole slabs were frequently removed from one building to another, on account of their great beauty. Such panels, in walls, were also prepared by this fresco process, with a ground colour, intended to receive a picture, which was painted upon it in distemper of a superior kind, which is often erroneously termed fresco, and which has, in fact, proved itself fully as durable in some of the paintings of Pompeii; but it is extremely doubtful whether any of the wall-paintings of the baths of Titus, at Rome, or those of the houses of Pompeii, or of the recently-discovered paintings of the crypt of St. Clemente at Rome, executed about the time of Constantine, were actually painted in fresco. It was the Italian artists of Mediæval epochs who developed the art of fresco as applied to the picture itself as well as to the wall or ground intended to receive it; and with them the art has probably died out, never to be revived with anything like the same amount of mechanical success.

Nevertheless it must be confessed that we ought not to measure the probable success of modern fresco by our own abortive efforts. The Continental fresco works, both French and German, have been, to a certain extent, successful; and in Germany many of the leading artists appear determined not at present to desert that style for any other. They are still actively engaged on works produced by that method, not merely in national or civic halls, and in churches, but even in railway stations. In the principal railway station at Munich, Mr. Echter, a well-known pupil of Kaulbach, has just executed two fresco subjects of more than usually ambitious character. The two subjects were selected as being appropriate to the railway system. They are "Steam" and the "Electric Telegraph." The power of steam, in the form of a hugh Titan, has been yoked to a magnificent car, in which a female figure of commanding aspect, representing Intellect, holds the reins and goad. The harnessed Titan, his impatient breath gushing from mouth and nostril like jets of hissing steam, plunges madly forward; and at his approach crowds of old-world prejudices, habits, and customs are scattered in every direction. Prim sentinels at frontiers, and dogmatic officers of custom-dues, scamper out of the way of the careering monster, Steam; while a whole cloud of stamped and signed and countersigned official papers are carried off in a whirlwind of vapour. Notifications, permits, passports, are also vanishing into space as the chariot of Intellect is carried impetuously forward by the subdued powers of the huge Titan, Steam.* The allegory which represents the Electric Telegraph is more complicated still, and would require some good training in a school of German philosophy to enable an ordinary spectator to make it all out. The interpretation of the main features, however, which are strikingly depicted, is easy enough after a little consideration; though they might puzzle the usual company of an English railway station pretty considerably. The genius of the Telegraph is represented by a majestic female figure rising from the earth, whose golden hair spreads into wide radiations like electric wires, which might be carrying forth Thought from its seat in the train, the outstretched arms pointing to the far-distant horizon. This figure is merely a symbolical personification of the electric power of the telegraph; the working principle being much more elaborately expressed in another feature of the allegory. A kneeling nymph is seen whispering into the ear of a child floating in the air. The child is, simultaneously, whispering the message into the ear of another floating child holding the hand of the first; a third receives it from the second; and so on through a long line of gracefully floating children, in a thousand playful attitudes, linked hand to hand, each transmitting the message to the other at the same moment; while, at the end of the line,—faint and slender in the far distance,—another nymph receives the message from the last child, and inscribes it on a scroll which has been prepared for its reception. It must be admitted that all this is ingenious, though rather complicated. The execution is, however, so good that even those who will not accept the composition as a clear allegory will admire it as a good picture.

We have described a few recent Continental works in fresco to show that there is no reason at present for abandoning its resuscitation in England as a hopeless task.

OPEN COMPETITIONS IN SPAIN.

Our advertising columns have shown that designs are being sought from English architects and others for the buildings to be erected in Madrid for the Hispano-American Exhibition, and that a plan of the ground, &c., may be seen at the Spanish Consulate. Some of the conditions will interest others besides those who may intend to compete, as they serve to show something of the position of architects in Spain.

"The situation appointed for the buildings is outside the gate of Alcala.

One or more buildings are to be designed, with ground-floor and upper gallery. 4,000 mètres to be devoted to agricultural objects, 4,000 to the fine arts, and 8,000 to industry; forming total, 16,000 superficial mètres, to be laid out in such form that the said building or buildings may be hereafter adapted to such other uses as the public services may require.

The utmost care must be taken in the arrangement, proportion, beauty, &c., as well as in the most convenient access and circulation in all directions, as well regarding the interior of the building as the streets, walks, &c., which surround it.

The building to be designed as standing on a stone base above the foundations, to be built of brick, glazed or not, in its frontages; the framing to be of iron or other industrial combinations; the light to be principally received from above; and the whole to have the architectural character proper to the class of building.

The interior decorations will be very simple; for, as it will be principally formed by the regular placing of the objects exhibited, the author may limit himself to the preparation of the spaces to be occupied by platforms, counters, cases, &c. With regard to the exterior, the designer will endeavour to exhibit the advancement made in this branch of industry; and which, avoiding the perishable works in plaster, employs terra-cotta bricks of different class and form, glazed tiles, stuccoes, stones from different provinces, and permanent colours.

Plans will be admitted from Spaniards and foreigners, provided they are presented at the office of the principal secretary of the Exhibition Committee before the expiration of the term of five months from July 17th, 1862.

After the expiration of five months the committee will forward the plans to the Royal Academy of San Fernando, in order that they may pronounce their opinion on each after examination; form a comparative judgment, bearing in mind the degree of economy and estimated cost; and afterwards return them provided with these requisitions to the said committee.

The author of the adopted plan being a Spanish architect, or any other who shall have fulfilled the prescriptions of Article 96 * of the Law of Public Instruction, relating to the manner of temporarily authorizing foreigners to exercise their respective professions in the Spanish dominions, will obtain, if agreeable to himself, the official direction of the works, whether these are performed by con-

* "Article 96.—The Government shall be able, on just grounds, and after having heard the Royal Council of Public Instruction, to grant a temporary authorization for the exercise of their respective professions in the Spanish dominions to such foreign graduates as shall solicit the same, always provided they furnish proof of the validity of their professional titles or diplomas of their having exercised their profession for six years, and effected payment of the amount of fees, which shall not exceed that which is payable for similar diplomas in our own establishments."

tract or by a company; an annual salary of 30,000 reals (300*l.*) whilst the works continue, and 1 per cent. on the capital employed, for plans, estimates, and reports, according to the scale of charges now in force; payment to be made at the expiration of each quarter, or on effecting liquidations.

If he should not consider it suitable to accept the official direction of the work under the said terms, he will receive a premium of 60,000 reals, the plans and other documents forming the design to become the property of the committee.

The author of the plan which, in conformity with the reports of the Royal Academy, shall present in the judgment of the committee the greatest advantages for the special object in question, next after the plan selected, will obtain a supplementary premium of 20,000 reals (200*l.*).

The plans, &c., to become the property of the committee.

In order not to lose any useful idea contained in any plan, even when not considered acceptable in its entirety, the committee shall be able to grant indemnification or recompense to the amount of 10,000 reals in favour of such plans: the same to become the property of the committee. Such plans as do not receive any of the premiums above mentioned will be returned in conformity with the receipts which have been issued accordingly."

Hotel for the Minister of Public Works in Madrid. — Another important competition is opened in Spain, but is not addressed, as far as we can learn, to foreign architects, as in the previous case. Designs are wanted for a building for the Minister of Public Works, and for various connected purposes, public instruction, a library, &c. The building is to be a rectangle, 103½ mètres in length, and 60 mètres wide. The style of the building is to be that which the *architect considers best adapted to the intended* object. Four months are given from the 4th of September to prepare the designs, which will be submitted for examination to the "Academy of the three Fine Arts of St. Fernando." The author of the selected design, if he carry out the work, is to receive a commission of *ten per cent.*: the author of the second-best design, 40,000 reals (400*l.*).

THE SAILORS' HOME,

WELL STREET, NEAR THE LONDON DOCKS.

To those who have been accustomed to the peculiarities of other districts of the metropolis, and have not wandered eastward, such a journey is one of interest; but, upon the whole, the investigation will not be attended with much pleasure; for in the crowded locality which is near the Pool and the great docks, which are thronged with shipping, there are neighbourhoods and scenes of depravity to be met with which are disgraceful to any Christian land. Here vice does not assume any disguise, but walks in the broad daylight. There are numerous snares openly laid for reckless sailors: there are crimps; there are dishonest lodging-house keepers, avaricious Jews and others, who, when "Jack" has come off a long voyage, and has not yet received his pay, will advance money on interest: there are dealers who are ready to supply goods on credit at four times their proper price; and there are, besides, others who, when the ships have been paid off, undertake to be the sailors' bankers, and cheat them at every opportunity. Every step the sailor takes is watched; and when, as is too often the case, he has, as he says, "taken too much on board," he is frequently robbed of his last shilling and shamefully ill treated. In fact, when the seaman arrives in the port of this metropolis he has dangers to encounter which are little less formidable than the rocks, shoals, and stormy water with which he has had to contend at sea. A recent visit to the eastern regions shows us that, although the common lodging-houses which are under the charge of the police are improved, there are still conditions existing which are so bad that it is scarcely possible to overcolour them. There are dens in this neighbourhood which make feeling hearts shudder. Let us look to one of the brighter spots in the midst of them—the Home offered to sailors.

The Sailors' Home and the Asylum owe their origin mainly to Captain C. Gambier, R.N.; the late Captain R. J. Elliot, R.N.; and Lieut. Robert Justice. In the winter of 1827, those gentlemen were struck by the necessity which existed for some provision for starving, half-naked, homeless, and friendless sailors, and the want of some decent lodging-house to which they might resort when in port, where their hard-earned wages would be safe from plunder; and what they did not require for themselves might be put into a savings bank, or safely transmitted to their relations: a place, too, where they might be in the way of providing themselves with further employment without the ruinous intervention of crimps, whose business it chiefly is to deceive and rob them. Just at this time the Brunswick Theatre fell; and the situation of this building, near the London Docks, was considered so very desirable for the purpose they had in view, that Captains Gambier and Elliot, with the assistance of a few friends, but chiefly with their own money, purchased the ground, and the old materials for the purpose of building on that spot such a lodging-house as they contemplated for the exclusive use of seamen, and also an asylum for those who were destitute. The first stone of the Sailors' Home was laid on the 10th of June, 1830. The building went on with many interruptions, amidst much opposition from those who were interested in perpetuating the vice and misery of sailors; and it was not till the 1st of May, 1835, that it was opened for the reception of 100 men. From time to time fresh additions were made, and increased accommodation provided, as funds could be procured. There is now room for about 330 inmates; and so great is the demand for the excellent accommodation which is to be found here, that it has become necessary to extend the premises, and the directors have therefore determined to take steps for this purpose when the lease of some back premises expire in June next. In order to enable the directors to carry out this useful and necessary work, they appeal to a nation which is so much dependent on the exertions of our mariners for support. Surely they will not appeal in vain.

On entering the building, on the ground-floor we find a spacious waiting-hall, fitted with seats. Here, at the time, were a large number of sailors of different nations, who were assembled for the purpose of being engaged, and on other business. There is a shipping-office, in which ship owners and masters have an opportunity of selecting their crews, and sailors can choose their ships and the particular voyage on which they wish to engage. Here they sign the ships' articles, and receive allotment notes of part of their wages for the support of their families while they are absent. In the discharging office the crews of British ships, on their return from foreign voyages, receive their wages, in the presence of a shipping-master, by whom their accounts are examined; and disputes as to the amount are often amicably settled; and thus a reference to a magistrate is avoided.

The waiting-room is open to all sailors, whether inmates of the Home or not.

In the cashier's office, all money transactions with reference to the boarders are carried on; and they are earnestly requested to lodge their wages in his hands directly they receive them. To encourage them to do this, every facility is afforded them for withdrawing any sums they may require, at any time between nine o'clock in the morning and five o'clock in the afternoon. Here, if they wish it, their tradesmen's bills, for clothes, and other things, are carefully examined and paid under their direction; and they are invited to deposit a portion of their money in the Seaman's Savings Bank; and when leaving London, to visit their friends, instead of carrying large sums in their possession, they may receive money-orders, payable, without expense, at their places of destination. The results of these exertions for the sailors' benefit is shown by the following figures: Since the opening of this establishment, the total amount of sailors' money received is 1,039,882*l.*; of this large sum, 372,387*l.* have been remitted home; 36,538*l.* invested in the Savings Bank; and 584,634*l.* drawn out by seamen.

There are two dormitories on the ground floor; and we may as well state here, that there are altogether ten dormitories in the building, which are similar in their arrangements. In each dormitory there are two stories of cabins, the upper row being reached by stairs and gallery. Each cabin measures about 8 feet 2 inches in length, 5 feet 1 inch wide, and 7 feet 2 inches high; there are a bedstead and bedding and a chair. The ventilation of the berths is very fairly attended to: between the rows of berths or cabins is a wide space, and large windows at each end admit a free passage of air. In some of the wards we found cabins expressly for the use of the chaplain and his staff. One curate, two city missionaries, and two scripture-readers, are attached to the establishment.* Here tracts are distributed, and such of the boarders as choose have the opportunity of hearing conversation and good counsel. There are lavatories in each dormitory, with water laid on.

In the waiting or public room there is a large bell, which sounds at certain hours of the day: for Morning Prayers, at half-past seven throughout the year; and Evening Prayers at ten. Breakfast at eight o'clock. Dinner at one (the dinner remains on the table for one hour, but if men are unavoidably away, they can have dinner till half-past two). Tea at half-past five (but tea is kept ready for those who may be late, in the kitchen below, until eight). Supper at nine.

The dining-hall is on the first floor, immediately over the waiting-room; it is a large handsome-looking apartment, well lighted and ventilated. It was during the dinner-hour when we paid a visit, and it afforded us the pleasure of seeing the well-dressed and intelligent-looking company which was here assembled. The tables were neatly laid, and all the appointments were similar to those of the large dining-rooms in the City; the attendants also seemed active and obliging. The following is the bill of fare for the day:—Breakfast: bread and butter, coffee, boiled beef, and fish. Dinner: soup, roast and boiled beef and mutton, meat pies, vegetables, pudding three times a week, table ale. Tea: bread and butter, tea; salad, radishes or celery, as an anti-scorbutic, throughout the year. Supper: bread and cheese, with table ale. The quality of the provisions was good, and they seemed well cooked.

The dining-hall is used also as a sitting-room for the boarders, and is furnished with draughts, &c. for their amusement. There is here a fine bust of Captain Elliot, the founder; and a beautiful model of a frigate. Adjoining the dining-hall is the reading-room, containing a line-of-battle ship's library (250 volumes), presented by the Lords Commissioners of the Admiralty; also a selection of books contributed by the Society for the Promotion of Christian Knowledge, and other friends, or purchased by the institution. The walls are hung with maps, prints, &c.; various periodicals are on the table; and both in this room and in the dining-room there are copies of the Scriptures, in several languages, for the use of the boarders.

On the second floor there are four dormitories; one of these was fitted up at the expense of the late Queen Dowager at a cost of about 500*l.* On the third floor there are two dormitories, and a school under the superintendence of the Lords of the Committee of the Privy Council on Education, where navigation, &c. are taught to seamen at a trifling charge. From April, 1861, to April, 1862, 238 pupils attended, out of whom 97 passed the examination of the Local Marine Board. On this floor is the board-room, in which is a museum which contains some choice models of ships and some curiosities.

From the top of the premises we descend to the basement. The whole has a comfortable appearance, and every one seems to be at home. We had almost overlooked the office for the enrolment of men in the Royal Naval Reserve: 516 names have been received during the last year.

The kitchen is large, and is fitted with Captain Grant's cooking apparatus and every other convenience. There are here also spacious coal-cellars, in which 100 tons of coals may be stored. There are also store-rooms and accommodation for the effects of absent seamen. There is also a room here connected with the Board of Trade, in which the unclaimed property of sailors who have died at sea is kept until it is applied for by relations. There are also refreshment-rooms for such boarders as may be too late for the regular meals in the dining-hall. In the yard there is a skittle-ground, and immediately adjoining the Home is the Sailors' Church.

Eight thousand seven hundred and forty-six boarders have availed themselves of this institution during the past year, of whom 2,760 are old friends; and those who come here are natives of many countries. Besides Great Britain, they come from the Channel Islands, British North America; 5,038 from Norway and Sweden; 3,102 from Germany; 1,214 from Denmark; 544 from Africa; 379, Australia and New Zealand; 5 are natives of Lapland; 5, Switzerland; and 97 born at sea. There are also sailors from the West Indies, Denmark, East Indies, Holland, Russia, Italy, France (761), Mediterranean, Belgium, Prussia, China, Spain, &c. The total number

* These gentlemen, besides their attention to the Home, have, in the year, visited no less than 13,541 vessels; read with 26,784 seamen; held 415 meetings; given away 74,426 tracts, and distributed 332 bibles and 72 prayer-books.

of boarders since the opening is 130,187. As regards terms, the men have to pay 14s. a week for living at the institution; ordinary seamen, under twenty years of age, and apprentices, 12s. a week: and this includes board, lodging, and washing. The large sum of 8,492*l.* 6s. 6d. has been received during the past year for the sailors' board; but the directors observe that their aim is not only to afford the sailor the security and comfort in the provision of a home to dwell in, but also to elevate his moral character; and for this purpose there must of necessity be attractions presented sufficient to entice the poor seaman from those allurements to sinful indulgence which beset his pathway at every step. To accomplish this, and to maintain in effective operation the great advantages of the Sailors' Home, some considerable dependence must rest on the public for support. Now that extension has become necessary, assistance is more especially needed; and when we consider that this is a model establishment, which has set the example and led to the opening of twenty-five other Sailors' Homes in various seaports of the United Kingdom, it seems surprising how little support this institution is now receiving in this great maritime country. A reference to the report shows that the amount of annual subscriptions is only 241*l.* 4s., and the donations 53*l.* 12s.; to which are to be added about 34*l.*, sent from Bath, Cheltenham, Guernsey, and Sheffield.

There can be no doubt that the Sailors' Home is well fulfilling its useful mission; and although we wish that such establishments should be self-supporting, and believe that eventually they will become so, it must be borne in mind that the difficulties of successfully founding such institutions as this are great, and that help is necessary until the prejudices which prevail amongst the classes who are intended to be benefited are removed.

We leave the Sailors' Home with feelings of satisfaction and of thankfulness to the late Captain Elliot, who, until deprived of bodily and mental energy, devoted all his powers, his talents, interest, and money to this his darling object of protecting and providing for the comfort of sailors. Connected with a noble family, and entitled by birth, education, and station to the advantages which the most exalted society could give him, he willingly relinquished all, took up his abode in a humble lodging, surrounded by gin-shops, near the Home; denied himself all the comforts, it may be almost said some of the necessaries, of life, in order the more effectually to carry out his benevolent design; and for eighteen years made it the business of his life to superintend this institution.

OBJECTS IN THE EXHIBITION SHOWN FOR ARCHITECTURAL BEAUTY.

The Society of Arts, unwilling to delay the publication of the Reports of the Exhibition Juries already completed, have determined to issue to the subscribers those they have received from her Majesty's Commissioners up to the present time. These will probably be delivered in a few days. Meanwhile, we reprint one on Class 10, Section C, which is signed Emile Trélat and Thos. L. Donaldson:—

The Jury have felt themselves much embarrassed in adjudicating upon the several objects which properly belong to this class in the Exhibition, from their being peculiarly connected with architectural beauty; some are not contained in the list of Section C, and others are dispersed in various parts of the building.

The list of the section in the catalogue of the United Kingdom only comprehends twenty-eight numbers, from Nos. 2423 to 2450 inclusive; many objects, however, are included within each number. But the articles exhibited by M. H. Blanchard (2428) and T. Pulham (2441) are of the same class of objects as those in Class XXXV. (Pottery), in which latter are many beautiful specimens of ornamental works, properly architectural. Mr. Poole (2440) exhibits a mosaic pavement; but other such works in different parts of the building seem to be excluded from this section, as also stained glass windows, the large class of Mediæval productions, parqueted floors, wrought-iron church gates and screens, paper-hangings, and imitative grained painting of marbles, wood, &c. Some admirable specimens of moulded ornamental bricks are included in Section A; otherwise they would have been specially noticed in this report. And even with these limitations the jury have felt themselves compelled to include in their awards some numbers of other sections of Class 10, in order to combine like objects in one decision.

If, therefore, the following awards do not embrace all the works of merit which might naturally be supposed to belong to objects shown for architectural beauty, the omission rests not with this jury, but arises from the special arrangement of the classification, whereby many things were examined and rewarded under other heads. In regard to those exhibited in the English division of this class, it is to be observed that many exhibitors seem hardly to have been conscious of the high standard of excellence that must be assumed in such international competitions, nor of the merits of their rivals in excellence. Nor have they been aware that, where the only measure of merit lies between a medal and honourable mention, the former must have a decided superiority, and must be distinguished by a high class of taste in design, as well as by excellence of material or execution. It may also be remarked, that except where architects have designed the forms and details of objects executed under their own immediate direction, there is a great want of the artist's taste to give the productions that elevation and grace of design and purity of form, so necessary for works of art, carried out in whatsoever material. The exhibitors rarely do justice to themselves in the terra-cotta works, giving to their products bad forms, proportions, and details, to which, however, such manufacturers as Minton, Maw, and Blashfield are remarkable exceptions. When colour forms an element of beauty, as in the contrasts of inlaid marbles for tables, there is too frequently a deficiency of harmony, even in those of Italy, arising from an absence of the just appreciation of the relative value of tones. So that, however meritorious the workmanship, it will not redeem the defective arrangement of the brilliantly coloured marbles themselves, which are thus rendered devoid of expression and feeling. Very frequently there is an ignorance in these classes of manufacture of the choice of subjects and objects which should properly form the basis of such combinations. It may be said that the artist element is too often ignored in the English products of this Class X., Sub-class C; and thus full justice is not done to the material employed, nor the labour bestowed in the execution.

In the collections of terra-cotta productions there is evidence of a very considerable advance, both in regard to the quality of the material and their application as ornamental objects for architectural purposes. Thus there are several forms of moulded bricks, black, yellow, and red, enabling the architect to vary his decorations in a very simple manner. These, however, more properly belong to another section, where they are enumerated. There are specimens of ornamental columns with bases, shafts, and capitals, exhibited by Messrs. Maw (United Kingdom—2318), and Mr. Blanchard (United Kingdom—2423), thoroughly burned, retaining well their forms, and which have been largely employed in the arcades of the Horticultural Gardens, where they are very effective. Messrs. Maw exhibit an example of one, the parts of which are elegantly relieved by a partial application of glazed colour. There are several instances of moulded decorative chimney-pots, admirably adapted for the purpose, and a great variety of roof-tiles and crestings. Another very important application of this material, and which has received full justice in this Exhibition, is floor-tiles for churches and other public buildings and private dwellings. This does not appear to have had in the Classic period a similar development. The clay adopted for the purpose is of the best quality, carefully prepared, pressed, and burned till it acquires a most enduring hardness; and the article is turned out of hand perfectly square, so as to fit in with the greatest nicety into patterns, however intricate. There are several manufactories which produce first-rate articles of this class in point of quality; but Messrs. Minton and Messrs. Maw evince the greatest perfection, both in quality and in the varied taste of design and colour; and the former firm give great brilliancy to their encaustic tiles, which rival those of the Moors in the Alhambra of Spain. The name of Messrs. Minton's artist is not mentioned, but their efforts are most ably seconded by their designer, both as to combination of forms and the harmony and contrast in the disposition of the colours. Mr. Digby Wyatt is named in connexion with the works of Messrs. Maw. The jury have therefore thought it due to that gentleman and to Messrs. Maw, who have had the judgment to call in the aid of an artist of such distinguished merit, to award a medal to Mr. Wyatt also. Another application of a like nature occurs in the Belgian department, where Messrs. Boch, Brothers, of La Louvière, Hainault (Belgium—303), exhibit mosaic tiles and slabs for pavements, simple in pattern, excessively hard, and very cheap. Messrs. Minton and the firm of Maw also bring under notice mosaic pavements, which for execution are nearly on a par with those of the antique, of which so many noble specimens still exist in this country, as in Leicester, Cirencester, &c. This firm have in their court a central pavement floor ten feet square, composed of tesseræ and mosaic tiles and slabs judiciously intermixed. The specimens of pottery exhibited by Mr. Blashfield (United Kingdom—6833) are very remarkable for the quality of the material, the gracefulness of form, and the sharpness retained in the ornaments, so as to be able to rank with a very high class of art. There are some fine vases of elegant design, and which ring like a bell when struck; and of this class of object it is impossible to pass over the coloured and enamelled vases and pedestals and other architectural features in Messrs. Minton's collection, which may be favourably compared in every respect with those of the schools of majolica in France and Italy of past times.

Mr. Blanchard, pursuing his endeavours to apply this material of terra-cotta to purposes at once useful and ornamental, has ingeniously prepared the steps of a staircase inlaid with coloured tiles in the tread and riser.

It is to be observed that F. Erndt, jun. (Austria—1387), C. Vidal (Denmark—299), and P. Carafa di Noia (Italy—1142) also exhibit very creditable works in terra-cotta.

There is a large variety of marble chimney-pieces for fire-places of rooms, some of which have come under the notices of this sub-class. That by the late Mr. John Thomas (United Kingdom—2446), chief carver of the monumental and historical statues of the Houses of Parliament, merits notice on account of the elegance of the design and delicacy of execution, it being intended for Her Majesty the Queen. And there are several in the Belgian section; one by Mons. A. J. Leclerq (Belgium—318) is remarkable both for design and execution; another by Mons. L. Boucneau (Belgium—305) is distinguished for the execution, though faulty in design. It may be stated generally that the Belgian objects are remarkable for the cheapness of production. In the French collection a monumental marble chimney by Gouault (France—2862) is a very imposing work of art, no less to be admired for its masterly execution.

Serpentine and granite are well illustrated in the Exhibition, and have been ably applied for architectural purposes, as columns, fonts, pedestals, fountains, vases, tombs, tables, &c., &c. Specimens exhibited by the Serpentine Marble Company (United Kingdom—2444) and by the Lizard Serpentine Company (United Kingdom—203) are of a more compact and uniform quality than those originally extracted from the quarries, and admit of a higher polish. The variously toned specimens are made harmoniously to combine in colour, and the objects are finished off with the utmost perfection. Mr. A. Macdonald, of Aberdeen (United Kingdom—214) maintains the high reputation of the Peterhead granite quarries, both in the beauty of the material and the mode in which it is applied to architectural purposes; while Messrs. Freeman, also, in another class, exhibit fine specimens of the polished grey from Plymouth, in columns and architectural features of very faulty design and profile, utterly unworthy of the noble material

The onyx, from Oran, in Algeria, is one of the finest materials recently discovered (like our serpentine), and applicable to ornamental architectural purposes. Mons. Pallu (France—2871) deserves great credit for the manner in which he has introduced this exquisite material as decoration in balusters, pedestals, chimneys, and other objects, producing great brilliancy of effect.

The introduction of coloured marbles, as an essential feature of architectural embellishment, has made great progress in this country of late years, particularly in works of Mediæval design; and the present Exhibition is not without some very creditable specimens, both for design and execution. Messrs. Poole & Son (United Kingdom—2440) exhibit a doorway of the Transition period from the Norman to the Early Pointed, having the shafts of the columns of variously coloured marbles: it is destined for the Digby mortuary chapel. They have also an elaborate mosaic pavement for Chichester Cathedral, admirably designed by Mr. W. Slater, the architect. These works are of such high merit as to design, arrangement of the coloured marbles, and the execution, that the committee felt they would be unjust if they did not award medals both to the architect and mason, on whom they reflect so much credit.

The objects produced by Mr. Magnus (United Kingdom—2435) confirm his reputation for the admirable manipulation and treatment of enamelled slate, and the beauty of its application to various architectural purposes, imitating the choicest marbles on a most durable material. The Llangollen Slab and Slate Company (United Kingdom—204) also exhibit some specimens of enamelled slate, and one enormous slate slab, which reflects credit on their spirited energy, and is an instance of very superior material.

Mr. J. Forsyth (United Kingdom—2430) has some carved wood bench ends clearly and elaborately cut, and with great attention bestowed on the natural character of the foliage, without sacrificing the artistic treatment which vegetable substances should receive when introduced as ornament, whether in wood, stone, or bronze. And the Ecclesiological Society (United Kingdom—2425) have exhibited some highly-wrought and well-understood wood carvings of foliage, very ably executed by H. Reynolds, E. J. Herley, H. J. Wicks, J. Seymour, A. Angus, and E. Du Jardin, to whom that society had awarded certain prizes for these works in competition. The jury were glad to observe the superior class of wood carving, and the progress made in it within the last few years under the able architects who have been particularly engaged in the Mediæval style. A like, if not superior, excellence is evinced in many French and Italian specimens of the Classic style; but they, doubtless, have been reported upon in the Furniture department. As an imitator of wood and stone carving, Mr. Jackson (United Kingdom—2434) must be mentioned for the perfection to which he has brought the manufacture of carton-pierre, for architectural decoration,—a worthy rival of his French competitors in that material.

The specimens of cast and wrought iron metal work, both French and English, are of the very highest order; some of the finest specimens being for objects included in another class, will be doubtless mentioned with due honour. In this class, McFarlane & Co., of Glasgow (United Kingdom—2,313) have some admirable castings in iron for open ornamental crestings, panels, finials, as also for moulded rain-water gutters, pipes, heads, and shoes, sharp, clean, and full of character. Mr. Durenne (France—3,035) exhibits a cast-iron monumental fountain remarkable for the execution of the details and delicacy of the moulding. And with these may be favourably classed the productions of Messrs. Monduit & Béchet, of Paris (France—1,259), Grados, of Paris (France—1,283), and Michelet, of Paris (France—1,284), who have executed many fine ornaments and statues on the Sainte Chapelle and other Mediæval buildings of that city in embossed lead or zinc. These materials are less apt to be affected by the atmosphere than iron, and some are of colossal size, evincing great boldness and finish, and refined artistic treatment at the same time. In order to counteract the action of water on iron, which threatened to destroy some of the finest monumental works of art in Paris,—as the fountain in the Place Louvois, by the late M. Visconti, and the fountains in the Place de la Concorde and the Champs Elysées, by M. Hittorff,—executed in that metal, M. Oudry, having made various experiments, discovered a process of coating in bronze, which has been applied with great success to those noble productions, and to more than 1,000 elegantly-designed lamp-posts. M. Christofle, the eminent silversmith, has also of late years applied the galvano-plastic system to architectural details such as stair rails, balconies, elaborately enriched mouldings, capitals, and other portions of columns; so that architects may find in this system the possibility of carrying out their ideas, even of the most elaborate ornament, at relatively moderate cost.

There are very few objects of industrial art contributed by Russia to the section, but they are of the very highest class of excellence, whether considered for their tasteful design, the preciousness of the materials, or their perfection of execution. All which have been selected are of too high merit to be noticed merely with honourable mention, and have consequently been awarded to receive medals.

The contributions from Malta are limited to carved stonework and inlaid tables, most patiently and elaborately executed. But the stone carving evinces a sad absence of correct taste. It is to be hoped that the Government will turn this industry to an honourable and really useful account, by assisting the workmen in their art education, and sending them to the schools of Italy or France, to acquire that correct knowledge of true art of which they are now so lamentably ignorant.

There are only two specimens of ornamental stucco in the Exhibition, but they are the productions of two of the most eminent houses in London and Paris, Bellman & Ivey (United Kingdom—2,238) of the former city, and M. Crapoix (France—1,260) of the latter, and they cover only a small surface; they are, however, remarkable for the evenness and lustre of the surface, the choice of the material, and the brilliancy of the colours, tempered by judicious treatment.

This brief and imperfect summary of the more important objects of this class cannot be better concluded than by reference to two illustrative literary productions immediately connected therewith. The one is an atlas series of the most exquisite drawings, executed with all the refined taste of the French school, illustrating the stupendous and admirable works of embellishment and practical use which have been carrying on of late years in Paris under the government of the present Emperor, and which have changed the whole aspect of the French capital, and accomplished for it far more than Augustus did for Rome. The clear intelligence, the firm will, the science and taste which have conceived and carried out these important alterations and enlargement of Paris deserved to be recognized when brought under the notice of the jury. The names of Messrs. Alphand, Engineer-in-chief of Bridges and Roads, Darcel, Grégoire, and Foulard, appear as engineers; and those of Messrs. Davioud and Barillot-Deschamps as architects. But there have been other master-minds who have contributed to these great results, and whom it would be out of place here to notice. The jury, however, could not but award a medal to this record of works worthy the present age of progress and improvement, and of the enlightened Ministry of Commerce, Agriculture, and Public Works at Paris.

The other literary object which has been exhibited in connexion with architectural beauty is also in the French section, and consists of a frame containing specimens of the engravings—some in line and one coloured—published in the architectural periodical, called the "Revue d'Architecture," edited by Mr. César Daly. So great have been the services rendered by that distinguished architect in illustrating the history and construction of the works of past times, and in recording the details of those erected at the present, thus contributing essentially to the diffusion of taste and an accurate knowledge of architecture in all its details, that the jury concurred in bearing testimony to the intelligence and public spirit with which Mr. Daly has, for above twenty years, conducted his valuable journal, by awarding him a medal.

ARCHITECTURE AT UNIVERSITY COLLEGE.

In announcing the commencement of his architectural courses on Tuesday, the 14th instant, Professor Donaldson says,—

"I trust I may be allowed to avail myself of the privilege, which I have enjoyed for so many years, of offering a few observations in connexion with architecture and construction, more particularly in reference to the state of those branches of knowledge at the present period.

It was asked not many months ago in a public assembly, '*What is an architect?*' This question was put, whether in jest or in earnestness I stay not to inquire, by one who professes himself a cultivator of art,—by one who stands at the head of the central artistic educational establishments of the empire,—by a man of the world and surrounded by art associations. The question was answered eighteen centuries ago; for Vitruvius thus defines the architect:—'Architecture is a science arising out of many other sciences, and adorned with much and varied learning. Practice and theory are its parents. An architect should be ingenious and apt in the acquisition of knowledge—a good writer—a skilful draughtsman—versed in geometry and optics—expert at figures—acquainted with history — informed on the principles of natural and moral philosophy—somewhat of a musician—not ignorant of the sciences, both of law and physic, nor of the motions, laws, and relations of the heavenly bodies to each other—above meanness in his dealings—avoiding arrogance — just — compliant and faithful to his employer.' It is not for me to say, if the architect of the present day do or do not come up to this high standard, summed up in these words. But I dare aver, that there are works of the last quarter of a century alone in this metropolis and throughout the United Kingdom, which may rank with any produced during the last four centuries. And, if these be not sufficient, I would appeal to the frank and generous convictions of the querist himself; and ask, in return, if the great European struggle for the Public Offices at Westminster, and the triumphs accomplished by our architects in the Continental competitions at Lille, Hamburgh, Turin, and elsewhere, do not prove a powerful movement and a real life in the profession; and that we have men of noble aspirations and high mark, equal at least to those of any country.

Yet these results have been realized in spite of the difficulties and deficiencies in regard to professional education, with which they have had to struggle. Conscious of the scarce opportunities they had in their youthful instruction, the architects of the present day have resolved to afford the student of the rising generation a proper estimate of the qualifications necessary to fit him for his future career. The Royal Institute of British Architects has published a scheme of public examinations, embracing a curriculum, as comprehensive as that of Vitruvius, and opening a wide sphere to the ardour and ambition of the younger members. To reach the standard contemplated, the student must enter upon the pursuit with determination, devotion, and self-negation. He must acquire a positive, serious, thorough knowledge of his art; for a mere superficial empirical smattering will not suffice. He must rise equal to the demands upon his inventive and practical faculties.

To meet such a requirement, the courses of study laid down by this College for the architect and engineer afford every facility, seconding the experience to be gained in the office of the architect. The series of lectures on architecture and construction can be combined with those on engineering, natural philosophy, mathematics, chemistry, and geology, under my colleagues, professors of the highest character. Thus may the student prepare himself with the qualifications to meet the examinations contemplated in the broad scheme of the Institute; and be enabled to take up that position which is the best guarantee for his professional success in after life.

I should also observe, that the principles taught in my lectures are of such an elementary character as to be no less beneficial to the builder. They give him a knowledge of the properties of materials and their proper structural application and combination. They thus enable him to carry out the buildings, he may be called upon to erect, most economically and soundly; and, in point of style, with a certain knowledge of artistic propriety."

COMPETITIONS.

Harrogate Cemetery.—From amongst upwards of forty designs sent in for competition for chapels, lodge, &c. the burial board have awarded the first premium to Mr. Thomas Charles Sorby, of 3, Lancaster-place, Strand, London; and the second to Messrs. Bellamy & Hardy, of Lincoln.

North Staffordshire Infirmary.—Sir: If the committee appointed to receive and adjudicate upon designs submitted in competition for the above purpose are not *incorruptible*, the labours of competitors will be in vain, as I learn from undoubted authority that a certain professional is now, and has for some months past been, actively using every known means to secure the job. T.

Leeds: Baptist Chapel, Woodhouse Lane.—With reference to our statement, on authority, in an earlier number (p. 656, *ante*) that the design of Messrs. Paull & Ayliffe had been selected, and would be carried out under their superintendence, Messrs. Lockwood & Mawson have sent us a copy of a letter of later date, received by them from Mr. Holroyd, for the committee, saying:—

"I am requested by the building committee to thank you for the plans submitted to them, and to inform you that they have awarded the first prize to the Gothic design.

I beg herewith to hand you a cheque for 24*l*, being the amount of the 1st prize. The plans are now at your disposal."

Are we to understand that the first "prize" is awarded to one design, and that another design is selected to be carried out?

Completion of the Metropolitan Railway.—The works may now be said to be complete, the small amount that remains unfinished being very minor details and decorations. Colonel Yolland, the Government inspector of the railway department of the Board of Trade, finished his inspection of the line on Saturday, and the company now only await the receipt of his certificate to open the railway to the public.

NEW CONTRIVANCES ANCILLARY TO ENGINEERING.*

In the world's progress these exercise no small influence. The Greeks of old would have produced steam-engines easily enough, had only the metals and tools been forthcoming for handicraft, the predecessor of steam-working. Invention is of two kinds—that which is produced by abstract thought, converting the powers of nature to many uses; and that which is produced by obvious defects in existing practices. The former is forethought or invention: the latter is afterthought or contrivance. The former springs spontaneously from the inventor's mind: the latter is forced on the workman's attention. Invention is in truth the parent of contrivance, the idea giving birth to the practice; as we constantly see, after every new discovery made the subject of a patent, a host of new contrivances springing up in a circle of patents like the satellites round a planet. But though the contrivances may appear small as regards the mental effort involved, any perfect result produced by them may make all the difference between success and failure. Quarrying was an art anterior to gunpowder; but great was the labour-saving achieved by the man who first applied the powder; contrived the means of boring a deep hole in a hard rock; and brought the tamping process to perfection. And great must have been the exultation over the first production of that apparently simple tool the "lewis,"—a wedge split into three parts to fix a ring into a stone block in an undercut hole to lift the heavy weight, not otherwise to be moved without damage. Making steel, or finding it made by nature, and forming it into a chisel to cut hard materials, was also an achievement; and so throughout the whole of the engineering processes. What is engineering but the conversion of the materials of nature into new forms and shapes useful to man by the agency of mechanical and chemical art? The engineer proper is, or should be, the designer of the new and useful forms, the vice-creator, varying by art the direction of the laws of nature; yet how little would he really achieve without the aid of the numberless contrivances that make up the great whole of engineering progression, which is still only in its infancy!

There are two branches into which engineering divides itself;—that which deals with stationary or fixed matter, and that which deals with moving matter. The former takes in the structure of roads, bridges, buildings, docks, harbours, the guidance of rivers, and the drainage of land—converting bogs and fens to healthy human uses. The latter takes in all that moves,—engines, vehicles, machines, vessels on water, tools of peace and tools of war, mines, water supply, air supply, and heat supply, and also the processes, hitherto only empirically applied, of diminishing heat for the purposes of health, in particular rooms and climates.

We are accustomed to regard architecture and engineering as being two separate things, and common practice has divided them. It has been said that an architect's engineering and an engineer's architecture are the two extremes of bad result; but there is a worse condition than this, when a man unites the professions of architect and engineer in his own person, without any natural qualification for either. At the base of all good architecture must lie good engineering: the structure must have proportion in strength upon which the proportion in form must be based: the architecture is the flesh upon the engineering skeleton; and when an empirical practice obtains in any class of structure, engineering and architecture cease, and the "builder" takes their place, commonly without any knowledge of principles of structure, his practice going chiefly into economy of cost.

When once a particular class of structure has become stereotyped, the contractor and builder take the places of the engineer and architect; but we can no more compare the former with the latter, than we can compare the modern teachers of alphabets with Cadmus, their inventor. The true engineers and architects are those who have the designing power in the new and useful, and the beautiful; and these men exist now, as ever, when the demand arises for their talents by new conditions of circumstances.

The materials of stationary structure are natural and artificial—timber and stone, bricks, cements, and metals. Neither timber nor stone is in all cases durable. To provide for the former we artificialize it by chemical injections, as creosote, lime, and other substances. The former renders it durable, but combustible; the latter renders it brittle; and therefore these contrivances are imperfect. Stone is not often chemically homogeneous, and it is liable to destruction by exposure to a vitiated atmosphere. For this reason it has from very early periods been waxed, painted, varnished, and injected; and, in these modern days, artificial stone has been produced by chemical contrivances, with the advantage of being moulded into shape without the labour of cutting. Brick or *terra cotta*—literally *cooked earth*—is a more durable material than many kinds of natural stone; and, as experiment goes on improving and cheapening the processes, it will probably be rendered indestructible by the atmosphere, whilst chemical cements, combining with mechanical form, will render it homogeneous. Many are the chemical and mechanical contrivances that have already given value to and cheapened bricks; but, for all that, a brick building is still a very imperfect kind of structure. Chemical cements are in truth artificial stone, of better or worse quality, used for joints and as a cover for other material. Cement, rightly made and cheap enough, is a material to form buildings and bridges as one solid rock; and this is done by the French under the name of *béton*. If chemically impervious to the atmosphere, this would be the best class of structure for walls, buildings, and bridges, unless want of space should render it desirable to use the stronger and thinner material, metal.

For moving matter, engines, vessels, carriages, machines, and instruments of peace and war, metal is fast becoming the cheapest and most available material. With a given weight in a large vessel, iron will carry a greater load than timber; yet it is little over thirty years since iron shipbuilding became a practice. What a host of brain-working contrivances have they been which have enabled us to cut masses of iron as we do cheese ere the original iron vessels, looking like pots to boil entire whales in, culminated in a *Warrior*; still only an approximation to what we must ultimately achieve ere the world will be satisfied that England is only the veritable policeman of the ocean, permitting no seawayman of violence to harbour thereon. We have yet to weld our sea *Warriors* into one homogeneous mass, dispensing with rivets and joints; we have yet to make the iron hull a surface to which neither corals nor lichens nor barnacles will adhere; we have yet to liken the speed to that of swift fishes or locomotives on land; and we have at the same time to make such craft wholesome, pleasant, and safe dwellings for our sea warriors against sea and rock and foemen. But space is denied us to say more now.

Iron Girders for Bridges.—Since the advent of railways, roads have become more level than of old; arched bridges of stone cease to meet the requirements of the time, and flat girders of wrought-iron are rapidly taking their place. There are two principles employed in iron girders, compression and tensile strain; the tensile principle being unknown in stone bridges. In wrought-iron the power of tension and compression may be assumed to be nearly equal, if they could be tried under the same conditions. The compressing action has a tendency to flatten the molecules transversely: the tensile action has a tendency to flatten them longitudinally. But in the two operations a new element comes in, that of "buckling." With the tensile strain the bar is drawn to a straight line; with the compressive strain the bar is constantly thrust into a curved line, unless it be of large dimensions. For this reason an iron wire, to which a heavy load may be safely suspended, will scarcely support a fractional part of that load under compression in the same length.

In constructing a straight girder, it is usual to make the total depth from top to bottom one tenth or twelfth part of the total length. The upper line must have sufficient area to counteract buckling, as well as sufficient strength to resist crushing. The lower line is simply a chain or cord of links or plates. The ultimate resistance to breakage must depend on the links or chain below. It is obvious, therefore, that the most favourable condition for the use of wrought-iron is that of tensile strain.

In this Exhibition there are many drawings and models of iron-suspension and other bridges. We have the design for the Charing-cross Suspension and the Clifton Suspension. We have the triangulated girder, exhibited by Colonel Kennedy, the engineer of the Bombay and Baroda Railway, as a sample of the rigid girder. We have an enormous box lattice of the Zollverein, and also a similar kind in the Austrian department. In the French department we have a sample of a framework of wrought-iron, a top and bottom open frame held together by similar vertical framings, with millions of rivets. And we have also the peculiar suspension bridges of Mr. Brunel, in which chains are suspended from tall towers to carry a roadway; and, in order to dispense with anchoring chains, the towers are framed together with wrought-iron tubes, in order to prevent them from pulling over with the weight.

In the Austrian department is exhibited a rigid suspension bridge, the best construction that has yet appeared for the disposition of the material, by Schnirch and Fillunger. A bridge of this class spanning the Danube at Vienna has now carried two lines of railway since September, 1860. The span is 274 feet, and the width 36 feet. The weight of material is 490 tons of wrought iron, and 41 tons of cast iron; total, 531 tons. On each side the chains are doubled, and formed of links 10 feet in length, in numbers eight and nine to each chain. One chain is 4 feet above the other in a parallel curve, the links breaking joint. Diagonal bars, serving both for thrust and tension, stretch from the lower bolts to the upper, in a triangulated form. Thus two diagonals and a chain link form a triangular truss, and the whole forms a rigid suspension beam, the ends rising at the towers to three times the central height, and the level roadway is suspended from the link bolts. It is stated that an ordinary lattice bridge for the same span would have required 802 tons of metal.

It appears, therefore, that while a straight triangulated girder requires a depth equal to a tenth or twelfth part of the length, to prevent buckling, one-seventieth of the length is sufficient for triangulated suspension chains, while the rise or gradient of the chains is only about one in seventy. Pressure on the model gives satisfactory proof of the stiffness and freedom from oscillation, both vertically and laterally, without the aid of stay chains or ties. The only disadvantage in the bridge, as compared with straight girders, is the necessity for towers and anchoring chains to balance the weight of the load, and prevent the towers from pulling over.

In juxtaposition with this model is exhibited another model the exact reverse in principle. It is a triangulated girder in an arch form, composed of similar links and triangles, but all in cast-iron, acting wholly by compression. The links are practically shortened to one-half by stay bolts passing through their mid length, to prevent them from buckling. An enormous mass of stays and ties and diagonals pervade the structure, which is complicated in all parts. Massive stone abutments, equal to half the length of the bridge, are required to sustain this thrust both ways. If cast-iron bridges are required in an arch form, the best and simplest structure is that spanning the Thames at Southwark.

In materials for girder making, the Butterley Iron Company have been the most successful. They have produced a wrought-iron beam, the vertical web of which is 3 feet in depth, and the top and bottom tables each 9 inches wide, the whole well proportioned; and it is stated that these beams can be produced 60 feet in length. The beam is rolled in three pieces, the two tables and a broad middle web, and welded up in two seams; but the producing it in one single piece is simply a question of larger rolling machinery. When these beams are produced homogeneously, bridge building will become a very simple process.

Chains.—Years back a Corsican captain of the sea, named Sisco, having experience of the breakage of chain cables made in the ordinary manner, set himself to devise a better plan. It is a known quality in iron and steel, that the smaller the size the more perfect may be the manufacture. Thus, if rolled iron of one inch in diameter will carry 28 tons, the same weight of metal in fine steel wire will carry 120 tons. Sisco was not successful in making and welding thin links with wire, and so he tried the same with iron hoop, the laminæ of which he brazed together, and was successful. His cables, with hoop-iron links, sustained a far greater proportional strain than those of solid iron. The Corsican found a capitalist in Madame Sinibaldi to enable him to take a patent in England. So far back as 1851 experiments were tried at Woolwich with 4 square inches of section, when they broke, the 2½ testing chain at 110 tons, and since then they have been tested up to 120 tons. From that time to this Madame Sinibaldi has toiled on, hoping against hope; and now she sits at her table in the Exhibition with her chains and links and samples before her, explaining them to all, like a brave woman as she is; and she in-

✠

* We give this chapter, by Mr. Bridges Adams, C.E., from the "Practical Mechanics' Journal Record of the Great Exhibition," as an example of the way in which it is dealing with the International Exhibition. The Record is fully illustrated with engravings, and published by Messrs. Longman, Green, & Co.

sists on the applicability of the system, not merely to chains, but to armour plates. But she also, in the usual process of inventive improvement, has had to find a capitalist, and he has turned up in the person of the Duke of Buccleuch, who has become the proprietor of all the patents taken and to be taken for "cold rolled iron brased." We trust he may succeed in getting a perfect manufacture set up at Woolwich. It involves little expense on the trial, and the samples shown are susceptible of great improvement.

The toughest iron known in former days to sustain a strain without breaking was called scrap iron. There was no brittleness in it, though it would stretch. Toughness is virtually, from experiment, the quality needed in armour plates; and military cuirasses of hammered iron were better and tougher than if made of steel. To make a hoop iron cable of cast-iron would be a simple matter: to make an iron plate, drawn together in thin sheets, would be a more difficult thing, but not necessarily would it be more costly than the present method of building together bricks of iron like a brick wall. It is one of the processes that is worth trying, and the Woolwich authorities could try it. Whether boiler plate brased together in thicknesses would answer, we do not yet know, and we ought to exhaust the subject lest some one else should do it for us.

In making a chain, it is evident that if a closed link be first made the next one should be an open link to enter it, and so on. With solid round iron the open link is closed by the welding process, and the efficacy of this must depend on the skill and honesty of the workman. If during the process of heating atmospheric air gets access to the surfaces intended to be united, they will scale; that is, a thin scale of oxide of iron will be interposed between the surfaces, and the result will be contact without incorporation.

On the Sisco plan a very ingenious link mould revolving by steam or other power is made to wind up the hoop into link within link; when completed the mould opens, is again applied, and so on in succession. There can be no error in this, no defects, for every portion of the iron is seen as it winds up, and the strain put on each layer may be regulated. The workman sits in an ordinary atmosphere, and his eyes are not strained or burned with heat. When a sufficient number of links are in position they are plunged in a bath of melted metal, and the whole of the laminæ are bound together. The whole is galvanized, and the cable is free from rust: central studs, and end wearing pieces are then brased in so that each link assumes the same geometrical form as ordinary chain links, giving the strain in straight lines. There is no other mode of getting the strongest metal of iron and steel than that of making it in small sections, that we at present know of, and probably steel hooping would be better than iron.

Lifts.—Amongst the useful things that have been strangely neglected in general application, is that of self-acting lifts for ascent to buildings and descent, and especially of human beings; and this is more remarkable as the types of the principle are to be found in every window with a balance weight, and every spring blind. In cottage houses all ground floor, or in houses with a single story or two stories, the staircase may suffice, although it is a contrivance occupying great space; but with the tendency to economize space by the erection of lofty buildings with many floors now so prevalent, one of the great wants of the age is a simple process for lifting persons and goods. When steam power exists there is no difficulty whatever; and a domestic power by steam or other process has yet to be brought to bear. Possibly heated air machinery without risk of explosion may eventually suffice, as small power only is needed. Whoever shall accomplish the task of enabling the inmates of dwellings to lift themselves from one floor to another by simply pulling a cord as they would a bell-rope, and thus dispensing with the staircase and the expenditure of muscular labour, will be a very large benefactor to society. And it must be remembered that a very important condition of health is to live at a considerable elevation above the surface of the earth, so as to obtain pure and dry air away from miasmatic exhalation. There is a record of the days of London plagues, recounting how a citizen closed his doors and retired to the upper floors of his house with his family, lifting all provisions by a rope, and, while his neighbours died around him in shoals, was saved from all harm.

Messrs. Lawrence exhibit a lift for London warehouses. A platform is made to move vertically between four guide posts. The weight of the platform is balanced by a counterweight. For the purpose of hoisting goods a rope is connected with a crab tackle below. This is a very useful approach to what will be wanted for future times.

Mallet's Buckled Plates.—Amongst the important contrivances exhibited are the buckled plates of Mr. Mallet. Everybody knows what corrugated iron is, that it gives greatly increased stiffness to any thin metal, but it gives this stiffness only lengthwise with the corrugations. The buckled plates give stiffness in all directions; they practically form flat domes of enormous strength with a very slight depth of buckle. The process of manufacture is to strike the flat plate between two iron dies, which, while leaving the edges in their normal flat form, raises the centre from a tenth to a twelfth of the breadth in height, in a curved elevation. The flat edge or base being screwed down to timber or iron joists, the elevation makes the plate enormously strong vertically, while the weight is comparatively trifling. This contrivance is one of the happy thoughts that embody great utility, as it were, in a flash, and remain complete from the outset. It is used for many purposes in floors and bridges, and there are many more uses to which it will yet be applied.

ON TASTE IN ARCHITECTURE.

In an article on Mr. Viollet Le Duc's "Dictionnaire Raisonné de l'Architecture," which is now in its sixth volume, the *Parthenon* gives a translation of part of the author's article "*Goût*," which, without having any claim to originality of view, may serve as an example, for such of our readers as do not know the work, of Mr. Le Duc's teaching:—

"There are periods, happy ones for Art, when the word Taste stands in no need of definition. It exists by the mere fact that Art is a truth, that it submits to the teaching of reason, that it does not repudiate its origin, and that it speaks only when it has something to say. In periods such as these, people do not trouble themselves to lay down rules of taste; just as, when you are among honest men, you do not tease yourself by discussing what is lawful and what is not. People begin to talk of taste only when it is leaving art generally, and is taking refuge in the intelligence of a few special artists. People never write books upon virtue, except when vice is predominant. Those happy periods are now far removed from us: they existed among the Greeks: they flourished during the Middle Ages; and they might possibly revive again, if it were made a condition that taste should consist in the observance of simple principles, and in the preference of one kind of form over another. When taste becomes shut up within the limits of a coterie, no matter how influential, it degenerates into nothing better than miserable pretentiousness, from the effects of which everybody is glad to escape; for taste, real good taste, possesses this privilege, that, like everything else intrinsically true, its authority continues to exist notwithstanding the lapse of time, and in spite of every prejudice. At the present day, however, people are hardly agreed among themselves as to what taste really means. When it is a question of architecture, people maintain thorough heresies in matters of taste; and continually bring forward, as models, works the meaning of which it is impossible to make out, and which are only remarkable for a total disagreement between what they look like and what they are meant for. They tell us, for instance, that such and such a façade is in good taste. Why is it so? Is it because all its parts are symmetrical; that it is ornamented with columns and statues, and that numerous decorations are scattered all over it? But, then, this external symmetry conceals not one but a great many different structural purposes: here there is a large saloon, there you have boudoirs; further on, a staircase. This window, however, which is to light the apartment of the owner of the residence, is of exactly the same size and form as that other one which opens only on a side passage. Those projecting columns, do they show the existence of party-walls, and are they intended to act as buttresses? No: the party-walls are placed on one side of the columns, and not in the line of their axes; and buttresses would be superfluous, because the joints do not even have their bearings upon the front wall. We observe niches cut out in the middle of blocks just in the very places where, of all others, we require firm points of support. Now, if we make a joke of persons who wish to appear what they really are not; if we despise a man who attempts to impose upon us in respect of his worldly condition and place in society; if we consider his manner of going on to be in extremely bad taste;—why do we call it good taste to raise up a façade fit for a palace in front of only a number of clerks' offices; to place colonnades before walls that have no need of them; to construct porticoes for loungers that have no existence; to hide roofs behind attics as something not to be seen; to give to a town-hall the look of a church, and to a court of justice the appearance of a Roman temple?.....The first and principal law which the Mediæval builders laid down for themselves was that of perfect sincerity. Had they got stone, or wood, or metal, or cement to work with: then they allotted to each of these materials the usual form, structure, and decoration that was suitable to it.....For them, a hall really was a hall; a house was a house; a palace, a palace; a church, a church; a castle, a castle; and it never came into their heads to give a municipal building the outline of a religious one, merely to please the eyes of cockneys—who, by the way, are always great lovers of symmetry. Have they got to cover in such or such a hall with a roof of wood: then it will be a wooden—boarded—roof that we shall see, not a sham roof, made to look as if it were of stone. Have they got to make a ceiling: then the structure of the woodwork above will mark out the compartments and give the decoration. . Is it to be a gallery that is to pass behind this wall: then we shall recognize it on the outside by the manner in which the lights are pierced for it. Is it to be a grand hall: then the windows will be wide and lofty. Is it to be a range of cells: then the windows will be small and numerous . . To know how to say only just what ought to be said, and to say it in a proper manner, is a proof of good taste in the common relations of life. Very well, then: it is a proof of a very small degree of good taste to give the house of a simple individual, inhabited perhaps by several tenants, the appearance of a palace! 'But,' you will say, 'if the owner of the house can pay for all this grand appearance, why should he not indulge his fancy?' Be it so: let him do it; but you will never hinder us from thinking that the architect, as well as his client, have each of them bad taste; and that the extravagance of the one does not excuse the complaisance of the other. . . . . It can never be denied that our churches of the Middle Ages, large or small, perfectly fulfilled the objects for which they were intended; that their plans were well conceived,—because, since those times, no better ones have ever been invented; and that, even at periods when Mediæval architecture was considered barbarous, builders did nothing more than copy these plans, though they generally spoiled them. That grand arrangement of chancels with side-aisles, which is peculiar to the Middle Ages, is not only suited to its object, but infallibly produces an immense effect. Now this arrangement is simple, easy to understand, favourable to the development of ritual ceremonies, and admits of sumptuous decoration. Everywhere it allows of easy circulation, of air, and of light. If, in our castellated buildings of the thirteenth, fourteenth, and fifteenth centuries, we do not discover the symmetrical arrangements which were subsequently adopted, it is because in reality the daily wants of the inhabitants of these edifices did not lend themselves to anything like uniformity. People thought much more in those days of making suitable internal arrangements, with sufficient means of defence, than of showing to passers-by a well-balanced façade. Taste in those days did not consist in seeking after symmetry without either rhyme or reason; but, on the contrary, in giving expression to a variety of wants by the different aspects impressed on buildings. The great hall, the chapel, the lord's lodgings, the kitchen, the defences, the offices, all assumed the exact architectural character which rightly belonged to them . . . Private houses during the Middle Ages, whether occupying a large space or a small, always showed clearly by their external arrangements what were those of the inside. A timber and mortar front was never covered with plaster to look like stone. If porticoes were put up to protect people passing under them, they were made low enough and deep enough to give them actual shelter, at the same time that they admitted of free circulation beneath their arcades. Before thinking of making a fountain merely a point of view, builders in those days considered that it was intended to supply water to all who wanted some. . . The task of the architect of taste was in those days to give everything an appearance conformable to its appropriate destination, and to ornament it or not as he chose, but still in a suitable manner. Architecture did not then lay down the law for employers, but it obeyed them; that is to say, it obeyed as a being of free-will, without constraint, without giving up its principles; and while it put all its resources and its science at the service of those wants which it

was required to meet, it always considered these very wants as the principal and dominant question to which it had to attend."

ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY OF DURHAM.

The concluding meeting for the session was held on the 29th ult., at Bishop Auckland; the palace being thrown open for inspection.

Mr. W. S. Gibson read an elaborate paper on the history of the castle. By the help of ancient documents he traced the various modifications which the ancient pile had undergone in the course of ages; working in here and there lively pictures of the distinguished men who had from time to time inhabited it, and of the phases of life which had been witnessed within its walls.

After luncheon, in reply to a toast of thanks, proposed by the Rev. Dr. Holden,

The Bishop of Durham said, he felt as every bishop must feel, and as every body interested in the Church must feel, that an archæological and architectural association like that of which they were members, was a real benefit to society at large. One felt that a great deal of mischief had been done—irreparable mischief had been done—in many of their parish churches, through pure ignorance; and one felt that a society devoted to the special object was not merely enlisting a number of persons who found great interest in the pursuit of a study peculiarly attractive on account of its many historical associations; but was conferring real and lasting benefit on the diocese in which it existed, simply because it was naturally a society to which all would defer with regard to their opinion. He had therefore not the least doubt it would be the means of preserving many an old building in the diocese; preventing many an injury being done to that which a little care might restore to its former beauty; and preventing many unsightly things being reared up by the zeal—the indiscreet zeal of persons who wished to alter but did not know how to alter.

GERMAN (R.C.) CHURCH OF ST. BONIFACE, WHITECHAPEL.

What has been known as Lady Huntingdon's Chapel, in Union-street, near Whitechapel Church, has been fitted up internally under the direction, and to some extent by the hands, of Mr. F. Sang. The old interior was taken out, leaving nothing but the walls and domical ceiling. A sanctuary has been formed. Romanesque columns, set in a circle, form an ambulatory, and carry the dome, which is decorated with painted palm-trees and other forms: lunettes made in the lower part of it are also decorated with paintings. The altar, of Caen stone, is of large dimensions, with a width of 18 feet; the centre, as the altar proper, being 9 feet. An Agnus Dei forms the centre decoration; while the side panels have Romanesque scrolls and angels, with gilded riband ornamentation. There is also a canopy of similar material and workmanship, decorated in gold and colours. A picture of the "Salvator Mundi" fills up a circular panel above; while the background behind the high altar has pictures in fresco of angels administering to the religious rites: the whole ably executed. The builder was Mr. John Nadin; and Mr. T. Nadin, jun., has acted as clerk of the works.

The old common-looking seats, freshly painted, and the equally old and unsightly floor, contrast unpleasantly with the large amount of artistic decoration above. We must suggest, too, that some remedy seems needed for the dampness of the old parts of the building.

THE WEST INDIES.

A correspondent writes,—We are doing very little in the West Indies, in consequence of the depression in the sugar trade. In Antigua we are building a new market-house, and a school chapel, and are about to erect another. At St. Kitt's a memorial school to Archdeacon Pover is about being built. Sanitary improvements are much needed in our West-Indian towns. There are scarcely any with drainage or good water supply, and their other sanitary arrangements are miserably defective; and yet we wonder why yellow fever makes such havoc. If you were to visit them you would be shocked.

The market-place is in form of a parallelogram, the outer area about 22 feet wide, roofed over, and the inner area planted with rows of trees, for shade and ornament. There are public streets all round it; and the building is closed in to the streets, but open to the inside, so as to afford ventilation and plenty of air. The market at the chief town, Barbadoes, is similarly arranged; and I think this kind of arrangement would suit some localities in England and elsewhere. The effect is very good. One side of the covered part is divided into stalls about 8 feet square; up the centre is the promenade; and on the other side are the standings for fruit, vegetables, &c.

The chapel school is Early English in style. The walls are of coursed green stone, with white stone heads and cills to door and windows, and red brick window dressings and buttresses. The plinth is also white stone. The roof is to be covered with blue and red tiles, with ornamental ridge tiles, and terra cotta cross (Blashfield's), and bell gables. It is built on the foundation of the old chapel, destroyed in the earthquake of 1843, and in a picturesque situation. It is great trouble to execute the works, as we have no skilled workmen here, and mechanics are gradually getting worse and worse, as they have no system of apprenticeship. They say it savours too much of slavery.

The school at St. Kitt's is Early English in style, with ornamental blue and white stone walls, and red brick window and door dressings and buttresses. The arches for windows and doors are also to be of coloured bricks, red and black. This, as well as the Antigua chapel school, will have high pitched open roofs, with plenty of ventilation. The foundation of St. Kitt's school was laid by Lady Pine, the wife of the Lieut.-Governor, with great pomp and ceremony. The band of H.M.S. *Immortalité* was in attendance, and played some spirit-stirring airs, much to the satisfaction of the inhabitants, particularly the negroes, who are very fond of music. It is no uncommon thing to see them preceding the bands in the streets, waltzing and curveting in graceful attitudes.

PROPOSED THAMES EMBANKMENT.

The following are the suggestions with reference to this matter which were made to the Government by the Royal Institute of British Architects, before the Act was passed:—

1. *Approach from Embankment to Westminster Bridge.*—That the line of roadway on the Embankment, forming the communication between it and Bridge-street, Westminster, should be so laid out that, at its junction with Bridge-street, its centre should coincide with the centre of the clock tower of the New Palace at Westminster, so that the tower may be fully seen from such line of street centrally, and not on the side of it. That the space between such road and the river be appropriated only to public gardens, without any buildings; and that a promenade, abutting on the river (25 feet wide), be provided. That the space at the Middlesex approach to New Westminster Bridge be symmetrically treated on each side of such approach, having due regard to the line of buildings of the New Palace at Westminster.

2. *New Street opposite the Horse Guards.*—That with reference to the projected new street, from Whitehall Yard to the Embankment, its central line should coincide with that of the Horse Guards, and be at a true right angle to the front thereof, by which means it would be parallel with the end front of the Banqueting House, and afford an opportunity for a new public building, fronting the Horse Guards, designed as a pendant to the Banqueting House, whereby it is submitted that a worthy entrance to the new street leading therefrom to the river would be obtained. It is submitted that no constructural difficulty with reference to existing buildings would ensue from taking this line instead of that shown on the Parliamentary plan; but that, on the contrary, there would be advantages in this respect.

3. *Passage of Embankment Roadway under the Bridges.*—That with reference to the transformation of Hungerford Bridge from a suspension bridge to a railway bridge, some attention in an artistic point of view to the mode of treatment of the said railway bridge is desirable; and that, with reference not only to Hungerford, but all the other bridges under which the Embankment road will pass; such roadway be crossed by an opening not of greater width than the Embankment road, and also so as to leave the opening of a uniform height throughout its span; and further, the piers or abutments of such opening should be designed and treated with due artistic consideration. It is to be remarked that the railway at Hungerford appears to be only 23½ feet above the Embankment road, which is considered rather low, considering that the said road is to be 100 feet wide.

4. *Passage of South-Eastern Railway over the Extension of Whitehall-place.*—That as it appears from the Parliamentary plan and sections that the authorized line of the South-Eastern Railway, after passing over the new Hungerford Bridge, will cross the proposed branch street between Whitehall-place and the Embankment road, at a level of only 19½ feet above such branch road, which would only give a clear headway of 17 feet, which it is submitted is much too little, the levels and gradients of such new branch street should be reconsidered, and more headway, if possible, obtained.

5. *Somerset House: River Front.*—That the effect of the Embankment and road upon the river façade of Somerset House (already rather low in effect) will be seriously prejudicial to that building in an artistic point of view, unless the opportunity is taken to make alterations in the lower stories and present terrace of that building. Two or more terraces successively descending from the level of the present one to the level of the Embankment road would add height and dignity to the edifice as seen from the river and road. Such alterations can be readily made without any interference with the general design of the superstructure; and increased accommodation available for the public service would be thus obtained by new suites of rooms under such terraces, all which rooms would be eligibly situate, and have their windows towards the river. Further accommodation could also be got by extending the wings of the river façade to the new line of the Embankment road.

6. *Embankment Roadway under Waterloo Bridge.*—That the passage of the Embankment road under one of the arches of Waterloo Bridge should be considered in reference to the suggestion in Article 3.

7. *New Street through the Savoy to Somerset House.*—That with reference to the new street from the Embankment to Somerset House, which traverses the Savoy, the axis of such street should be modified from that shown on the Parliamentary plan; and, if necessary, slightly curved, so that it may approach the front of Somerset House, in Wellington-street, centrally with such front. That the recessed area in front of Lancaster-place, and that in front of Somerset House, should be laid out and designed as a public square, whereby the entrance and façade of Somerset House would assume more fitting importance. That the only difficulty in carrying out this altered line would be the German Lutheran Church, in the Savoy, which must be pulled down; but, inasmuch as this is an inexpensive brick edifice, with no pretensions either as regards appearance or associations, and as other sites adjacent and resulting from the street improvements will be readily available, such difficulty is of no importance. It may be remarked that as, according to the Parliamentary plan, the new roadway would be carried on a viaduct, 22 feet high, close adjoining the Lutheran Church, it would probably in any case be desirable, if not necessary, to remove it.

8. *Viaduct at Blackfriars Bridge.*—That with respect to the proposed viaduct on which it is intended to carry the Embankment road past the City Gasworks to Bridge-street, Blackfriars, it must be noted that the greatest height of such viaduct will be no less than about 35 feet above low-water; and that, considering its consequent bulk and importance, its design as seen from the river deserves careful and artistic consideration, since it may either be an ornament to the river, or a discredit to the Embankment scheme. That, consequently, the Institute recommends special control over the design to be retained in the hands of the Government.

9. *New Street approaching the Mansion House.* That with respect to the proposed new street from the Embankment to the Mansion House, attention should be given to the fact that the authorized line of the London, Chatham, and Dover Railway (even when raised as proposed by the Embankment Bill) will be only 19 feet above the new street, the width of which is proposed to be 70 feet; and that the clear headway would be only 17 feet, which is very insufficient; that such headway can be improved by altering the level of the approach to the bridge, which is quite feasible, and would be a great improvement in many ways; further, that, considering the angle formed by the junction of the new street with Bridge-street, it would be desirable to rearrange Chatham-place in the form of a circus, that being the only form on plan which will permit such junctions with good effect.

10. *New Blackfriars Bridge.*—That as Blackfriars Bridge is about to be rebuilt, either in conjunction with, or close adjacent to, the railway bridge of the London, Chatham, and Dover Railway, the designs of both those structures should

comprise a suitable and effective land archway crossing the Embankment road.

11. *New Street to St. Paul's Cathedral.*—That the present occasion should be taken to form a new street from that which is to lead to the Mansion House, and that shall be central with, and afford a view of, the south transept and dome of St. Paul's (so far as the powers of the Embankment Bill will allow), such street to be extended at a future time, as shown on the plan by dotted lines.

12. *Approach towards the Royal Exchange.*—That the axis of the new street leading to the Mansion House should be slightly altered, as shown by the red line, so as to approach the Royal Exchange centrally with its portico; and that, at the junction of the new street with the Poultry, a half circus should be formed, to provide for the excessive and increasing traffic at this point.

13. *Powers to private Owners to aid in Improvements.*—That permissive powers might be given in the Bill to private owners of property along the line of the street improvements to use the provisions and enactments of the Lands Clauses Acts in relation to their property, whether on lease, or otherwise held, and which property might be dealt with or advantageously altered, to accord with or assist projected or desirable improvements; and that local or district boards might be empowered to aid in carrying out such improvements.

14. *New Site for York Gate.*—That care should be taken to preserve the river-side gateway at the end of Buckingham-street, known as "York Gate," it being an architectural monument worthy of careful preservation.

15. *Landing Stages for Steamboats, &c.*—That special provision should be made in the Bill for convenient landing-stages at numerous points, and so contrived as to rise and fall with the tide, and be recessed within the line of the Embankment; and, consequently, not to interfere with the waterway; thereby dispensing with all piers or barges for landing projecting (as at present) into the stream.

16. *Junctions at Angles of Old and New Streets.* That it be an enactment of the Bill that all junctions to be made between old and new streets under its powers should be laid out and formed so that, whenever the lines of the streets forming such junction would not include an angle of 120 degrees; so much ground shall be thrown into the new street at such junction as shall give such ground a length of at least 25 feet, measured at an obtuse angle of 135 degrees; and that such area shall be paved as a foot-pavement for a width of at least 10 feet.

17. *Control on Artistic Questions to be with Government.*—That some control over all such points in the projected improvements as involve any artistic considerations, or treatment of existing or intended buildings, shall be retained in the hands of the Government, through the veto of the First Commissioner of Works, on the plans or proposals relating to the same.

18. *Stone Facing to Embankment Wall.*—That the face of the intended river wall should be formed of granite or other stone, and not of iron piling and sheeting, as has been suggested in several of the plans submitted to the Commissioners.

19. *Site for a Statue near Waterloo Bridge.*—That the triangular piece of ground which will result from the junction of the proposed new street with Wellington-street be preserved free from all buildings, and might be appropriated to a statue, or some similar public monument.

20. *Churches or Architectural Monuments to be Preserved and rendered Visible.*—That it be a provision of the Bill, that whenever the lines of the new streets pass close to, or render visible, any existing churches or public monuments, it be forbidden to erect any buildings on such intervening ground as shall obstruct the view of such churches or public monuments from such new streets.

21. *Uniformity in Façades and Heights of New Houses.*—That some provision be made in the Bill to insure the blocks of buildings along the new lines of streets being treated with some attention to architectural unity; and that the height of all new buildings on these lines be restricted to 70 feet from the level of the street to the wall-plates or springing of the roofs.

22. *Widening of Part of Queen-street, Cheapside.*—That it would be a most useful improvement to widen that small portion of Queen-street which will lie between Cannon-street and the proposed new street, as shown by dotted red lines on the plan.

This report was forwarded by the President to the Right Honourable W. Cowper, with a resolution of the Council to the following effect, viz.:—

"That the Royal Institute of British Architects assumes thereby no responsibility in recommending, or otherwise, the general principles or lines of Embankment laid down by the Thames Embankment Commissioners; but limits its functions strictly to offering such suggestions as may, they conceive, improve, without invalidating the scheme for which the professional advisers of the Right Honourable the First Commissioner must be obviously and most properly held responsible."

THE DAVY MONUMENT AT PENZANCE.

It has often been a matter of surprise that no monument has been erected to the memory of Sir Humphry Davy; that one so eminent in science, and so much esteemed for discoveries that have benefited his country and the world, should have been left so long—now upwards of thirty years since his death—without any public memorial. To remedy this neglect, the working men of Penzance, Cornwall (to their honour be it said), resolved that a monument of some sort should be erected on a hill near that town, which claims to be the birth-place of the philosopher; and, like working men, they commenced in good earnest, and carried the project through. The site has been given by Mr. J. J. Rogers, M.P., and is situate on the north of the Mount's Bay, rising some 200 feet above the level of the sea, and just opposite the venerable St. Michael's Mount, with its castled apex, commanding a sea horizon of more than twenty points of the compass, and an uninterrupted land view on all sides of some twenty miles radius.

In December last, the committee advertised in the *Builder* for a column surmounted with a statue, stating that all architects disposed to present designs for a monument to Sir H. Davy should forward them to the secretaries. This advertisement offered no remuneration for the best or any other design; and in every case where information was applied for by any architect, it was given; and, at the same time, each was informed that he might forward any design his fancy might lead him to suggest. Eleven designs were received; and at a committee meeting, at which nineteen members were present, the various designs were subjected to sharp scrutiny and warm discussion, when four out of the number were selected, from which the final selection was to be made by ballot, viz., two by Mr. Ezard, of Bath; one by Mr. Brown, of London; and one by Messrs. Salter & Perrow, of Westminster. The result of the ballot showed nine for Salter & Perrow, three for Ezard, and two for Brown. Five members did not vote.

Messrs. Salter & Perrow had sent in two designs; one for a column and the other for a tower. The tower having been objected to by some members of the committee, as not being strictly in accordance with the advertisement, was not admitted to the competition. The ballot was taken on their column, and the column chosen.

It having been one of the conditions upon which Mr. Rogers granted the site that the design should be submitted to him for approval, a deputation from the committee waited on Mr. Rogers with both the designs of Messrs. Salter and Perrow. After a careful inspection of both column and tower, that gentleman expressed his approval of the column, and said that he would not offer any obstacle if that were the committee's fixed choice, but if his opinion were asked he should prefer the tower. On the report of the deputation at the next committee meeting on the result of the conference with Mr. Rogers, seventeen members were present, and after a discussion on the advantages of the tower over the column, it was resolved that the tower should be adopted.

Our illustration, then, shows the tower thus proposed to be erected at Penzance to the memory of Sir H. Davy. The structure is to be built of Cornish granite and bands of serpentine. The sides at the base are to receive suitable inscriptions and heraldic devices. The staircase will be lighted as shown by the winding lights on all the four sides; and at the top, immediately under the cornice in each side, a window is to be formed for a "look-out." On the angles of the parapet it is proposed to fix models of emblems characteristic of Davy's discoveries; viz., the Davy lamp, a Leyden jar, a gas-receiver, and a galvanic battery. From the summit a magnificent view is obtained—the unrivalled Mount's Bay, with its "emerald gem set in the silvery sheen;" mercantile marine studding its bosom; ships of all nations and kinds ploughing their silent course across the great highway of the world; the ancient Cornish town, with its busy harbour below; the distant hills; the beautiful valleys, with woodland and coppice; suburban villas peering their heads between.

"The look-out" the lovers of astronomy are hoping will be provided with a good telescope, globes, astronomical maps, and other instruments for making and recording observations.

The committee are now zealously at work raising subscriptions in their own more immediate neighbourhood; and it is their intention to make their appeal as wide as possible. A London committee is now in the course of formation, and it is to be hoped the requisite funds will soon be provided.

The Mayor of Penzance is the chairman of the Cornish committee, and all sums transmitted to him will be duly acknowledged.

"PATENT STONE."

Mr. Charles M. Westmacott has sent us two specimens of an artificial stone, for which he has taken a patent. He describes the stone as being composed solely of lime, sand, carbonic acid, and water. For one of the fragments "white pit or silver sand" was used; and it was made and pressed with about five tons to the square inch a fortnight ago. The body of the other piece is composed of calcined river sand, and a larger proportion of it is used than in the first. It is faced with silver sand, and was pressed with about four tons to the square inch. Both the specimens are very hard, but what pressure they would sustain we have not been able to try. The cost of its manufacture, the patentee says, can be estimated from the fact, that the materials of which it is composed are cheaper than those used in the composition of mortar. "With limestone, a limekiln, and sand, as much as would be required could be produced of any size at about the price of good bricks."

This seems to approximate to M. Coignet's *Béton aggloméré*, which we have more than once described.*

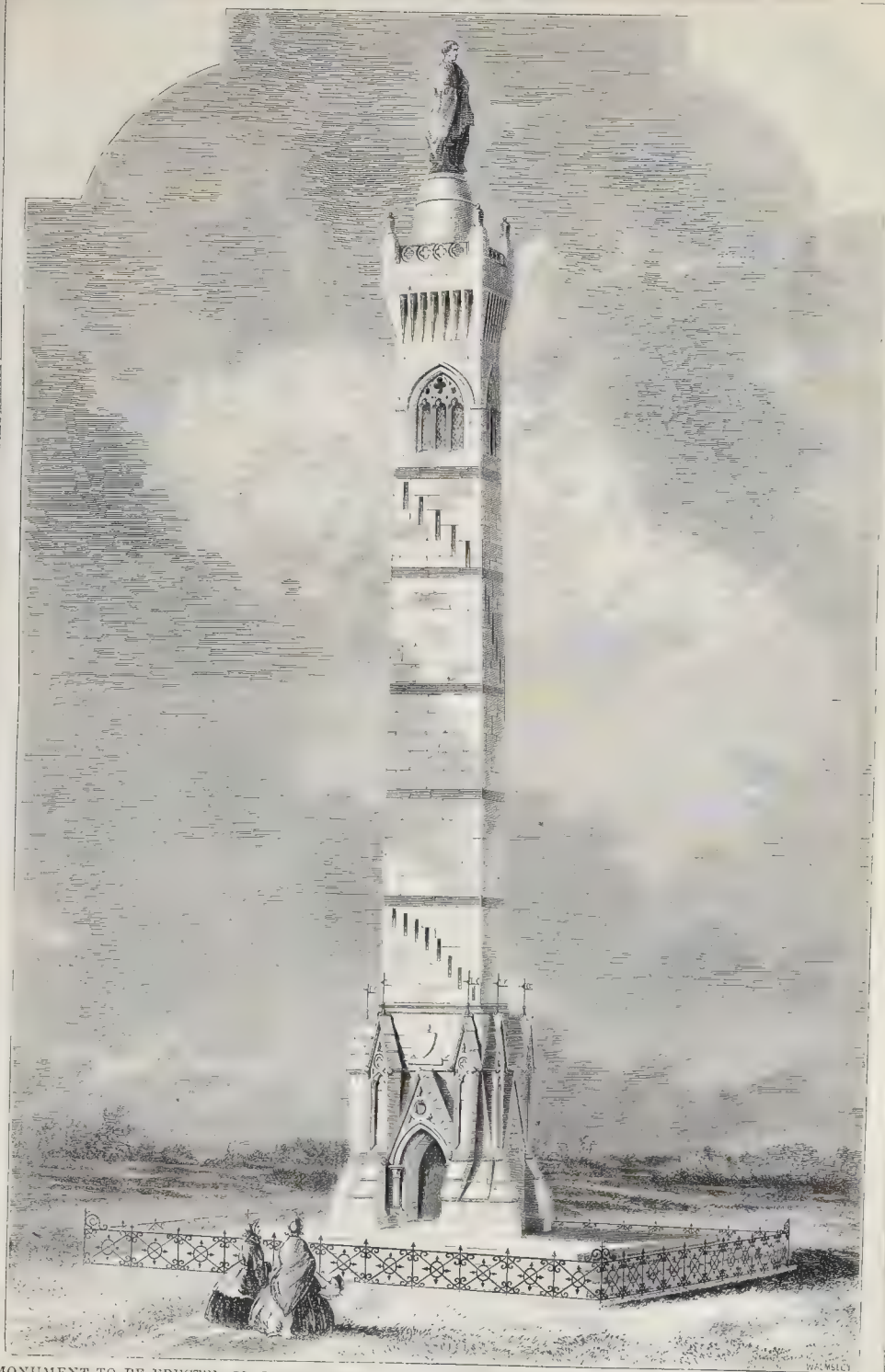
In the "Reading" stone, our readers will recollect, pieces of brick or stone, gravel, &c., are introduced; the shape being given by the mixed sand and lime "punned in" by hand.

We have been favoured by Mr. J. W. Sumner, of Wray-park, in this town, says the *Surrey Standard*, with the inspection of some specimens of bricks made without burning, from refuse material, such as gravel, sand, clinkers, chalk, &c., but possessing all the qualities required. These and ornamental moulded bricks can be made in this way ready for use in a few hours, even in frosty weather. The price will be such as to command a great sale. When it is considered, adds our authority, that the material created by excavating a cellar or basement can be made on the spot into bricks, and thus raise a house, the results need not be doubted. A patent is taken for the United Kingdom, France, Belgium, Austria &c., &c.

Mr. W. J. Bennett has patented a solution to be used with Portland and other cements for the production of artificial stone, or for building purposes. Here the main object is to expedite the setting of the cement, and thus to permit of the speedy removal of the casts from the moulds. This the patentee effects by introducing into the water, used to saturate the cement and bring it to a plastic state ready for moulding, a fluid compound consisting of a solution of carbonate of soda, or its equivalent, with sal ammoniac and alum.

Messrs. O. & J. Kerautret's patent for the "Ornamentation of Buildings," although not very clearly described to us, seems to involve the use of lime and sand, or cement, as an exposed material in building. It consists, as they say, in moulding, in the position they are to occupy, all the architectural forms to be given to the building under construction. For this purpose the patentees use ordinary rough unhewn stone, which they bind together with good cement mixed with a proportionate quantity of sand, according to the finish or durability required. They apply the invention to ordinary apertures—a door or window, for example—by placing in proper position boards bound together by screw bars; these boards forming in hollow or projection all the angles of the aperture. They then set the masonry in these boards, taking care to press the cement well against the wood, in order to penetrate into the angles, which must eventually form the ridges or sharp edges. They lay all the stones in a bed of mortar, and proceed in like manner with the lintel or the arch, placing the stone in the direction of the curve. The cement being set, they unscrew and remove the wooden framing, leaving an aperture of the form required.

* See, most recently, p. 597, *ante*.



MONUMENT TO BE ERECTED ON LESKUDJACK HILL, PENZANCE, TO THE MEMORY OF SIR HUMPHRY DAVY.

MESSRS. SALTER & PERROW, ARCHITECTS.

THE ORDNANCE SURVEY.

A VAST sum has been already spent, and large amounts continue to be expended, upon this survey, but with very unsatisfactory results. We have long heard complaints; and letters which have been recently published show how great is the need for improvement in the management of it.

As it is managed at present, maps of particular counties are issued which are quite useless in consequence of the omission of railways, towns, and the want of attention to other important alterations. We know the difficulty there is in keeping maps and plans of districts and towns up to the mark: the expense, for instance, year by year, of correcting a map of London is very great, in proportion to the size; but this must be done, or the production would be almost worthless. In connexion with the ordnance survey we find a beginning made of a particular district, and then others are proceeded with, and before the national work has been half completed, the first maps have become antiquities.

There is a staff of engravers and draughtsmen constantly engaged upon this work, and the expense could be easily estimated for each five or ten years. At present this staff seems to be insufficient for the extent of work, and in order to produce a satisfactory result it must be much increased; but what seems to be particularly needed is more simultaneous action: we want an entire and correct map of England at a particular date? Why should we not have a corrected ordnance map of England produced every ten years, which might appear at the same time as the census reports? Supposing that a large number of draughtsmen and engravers were employed during one year or a year and a half, instead of a smaller number throughout ten years, the matter desired could be easily effected. We do not apprehend that there would be any difficulty in obtaining a sufficient supply of skilful hands; and it is worth consideration, if it is necessary for the work to be done in a public office. In London, Edinburgh, and the chief provincial towns, there are map engravers quite qualified by their skill and experience to complete this work with success, and they could likewise be depended upon for the performance of a certain amount of engraving in a stated time.

As regards uniformity, there would not be any risk of failing in producing this with a proper amount of management; but, however it may be managed, we want a map of England of the date 1861, 1871, 1891, &c., &c., which should be thoroughly perfect and correct up to within two or three months of that publication.

The large scale map can perhaps never be carried out in this way, and perhaps it is not quite so necessary; for persons connected with particular localities will find it to their interest to mark in such alterations as concern them by hand; but as regards the small scale, by right and vigorous management it may be completed at particular periods, and the whole expense need not be very much greater than it is at present.

MR. GROGNET, ARCHITECT.

WE have to record the death, at a very advanced age, of Mr. George Grognet, architect, who had devoted the best portion of his time to the cultivation of arts and sciences in the island of Malta. A pension of 100*l.* per annum was conferred upon him on the occasion of the Prince of Wales's visit to Malta, as a public recognition of his distinguished merits.

METROPOLITAN BOARD OF WORKS.

THE first sitting of this Board after the recess was held on the 26th ult., at the offices of the Board, Spring-gardens; Mr. John Thwaites, the chairman, presiding.

Western Division Drainage Works.

The tenders submitted for the construction of the above works were opened. They were as follows:—Messrs. Ritson & Ridley, 65,000*l.*; Mr. Marriott, 57,000*l.*; Mr. W. Dethick, 63,861*l.*; Mr. Edward Thirst, 57,900*l.*; Mr. Joseph Diggle, 66,708*l.*; Messrs. Hill & Co., 60,890*l.*; Messrs. W. Moxon & Co., 56,710*l.*; and Mr. John W. Sawyer, 59,927*l.* The tender of Messrs. W. Moxon & Co. was accepted.

Assessment of Property in the Metropolis.

The Financial Committee submitted for approval a statement showing the annual value of the property in the city of London and other parts of the metropolis, estimated according to the estimate or basis on which the county rate was assessed, or according to a like estimate, together with the sums to be assessed thereon in respect to the main drainage rate of 3d. in the pound 1862-63, and recommended that precepts for such rate be sealed and issued. The following is the assessment:—

	Annual Value of Property.	Metropolis Main Drainage Rate of 3d. in the Pound. Sums to be assessed.
	£	£ s. d.
City of London	1,319,961	16,499 10 3
St. Marylebone	976,820	12,210 5 0
St. Pancras	800,641	10,008 0 0
St. George, Hanover-square	943,996	11,796 4 0
Lambeth	637,000	7,962 10 0
St. Mary, Islington	548,572	6,857 3 0
St. Leonards, Shoreditch	265,772	3,322 3 0
Paddington	529,420	6,580 5 0
St. Matthew, Bethnal-green	130,320	1,629 0 0
St. Mary, Newington, Surrey	240,000	3,000 0 0
Camberwell	250,000	3,125 0 0
St. James, Westminster	431,500	5393 15 0
St. James and St. John, Camberwell	221,372	2,767 3 0
Chelsea	234,248	2,928 2 0
St. Mary Abbott's, Kensington	319,924	3 999 1 0
St. Luke, Middlesex	171,364	2,144 11 0
St. George-the-Martyr, Southwark	146,000	1,825 0 0
Bermondsey	150,000	1,875 0 0
St. George-in-the-East	170,479	2,130 19 9
St. Martin-in-the-Fields	258,708	3,233 17 0
Hamlet of Mile-end Old Town	162,388	2,029 17 0
Woolwich	83,000	1,037 10 0
Rotherhithe	83,560	1,043 15 0
St. John, Hampstead	104,156	1,301 19 0
Whitechapel district — including St. Mary, Whitechapel, Christ Church, Spitalfields, St. Botolph Without, Aldgate, Holy Trinity, Minories, Precinct of St. Katharine, Hamlet of Mile-end New Town, Liberty of Norton Folgate, Old Artillery Ground, and district of the Tower	252,669	3,158 7 3
Westminster district, including St. Margaret and St. John the Evangelist	274,500	3,431 5 0
Greenwich district, including Saint Paul, Deptford, and Hatcham, St. Nicholas, Deptford, and Greenwich	260,300	3,253 15 0
Wandsworth district, including Clapham, Tooting, Graveney, Streatham, St. Mary, Battersea (excluding Penge), Wandsworth, and Putney (including Rochampton)	361,400	4,517 10 0
Hackney district, including Hackney and St. Mary, Stoke Newington	294,440	3,680 10 0
St. Giles district, including St Giles-in-the-Fields, and St. George, Bloomsbury	261,696	3,271 4 0
Holborn district, including St. Andrew, Holborn-above-Bars, St. George-the-Martyr, St. Sepulchre, in the county of Middlesex, Saffron-hul, Hatton-garden, Ely-rents, Ely-place (except that part rated by the Commissioners of Sewers for the city of London) and Liberty of Glasshouse-yard (except that part rated by the Commissioners of Sewers for the City of London)	171,643	2,145 10 9
Strand district, including St Anne, Soho, St. Paul, Covent Garden, St. John the Baptist, Savoy, or Precinct of the Savoy, St. Mary-le-Strand, St. Clement Danes, and the Liberty of the Rolls	268,318	3,354 7 0
Fulham district, St. Peter and St. Paul, Hammersmith, and Fulham	133,72	1,671 10 0
Limehouse district, including St. Anne, Limehouse, St. John, Wapping, St. Paul, Shadwell, and the Hamlet of Radcliff	177,663	2,220 15 9
Poplar district — All Saints', Poplar, St. Mary, Stratford-le-Bow, and St. Leonard's, Bromley	272,504	3,406 6 0
St. Saviour's district — Christ-Church and St. Saviour (including the Liberty of the Clink,	164,001	2,050 0 0
Plumstead district — Charlton (next Woolwich), Plumstead, Eltham, Lee, and Kidbrooke	142,236	1,777 17 6
Lewisham district — Lewisham (including Sydenham Chapelry and Hamlet of Penge)	184,101	2,301 5 0
St. Olave district — St. Olave, St. Thomas, Southwark, and St. John, Horselydown	99,760	1,246 5 0
The Charter House	1,948	24 7 0
Gray's Inn	12,676	158 9 0
The Close of the Collegiate Church of St. Peter	1,420	17 15 0
Inner Temple	20,236	252 19 0
Middle Temple	14,000	162 10 0
Lincoln's Inn	16,42	205 5 0
Staple Inn	2,152	26 18 0
Furnival's Inn	3,164	39 11 6
Making a total of	£2,565,66	157,074 12 3

The statement was adopted, and the precepts ordered to be issued to the various parishes.

SCHOOL-BUILDING NEWS.

Tamworth.—A few years ago, Sir Robert Peel was mainly instrumental in the erection of a new church: last year he instituted the Fazeley Club, or Reading Room and Library; and he has just added another to the list of benefits by handing over to the churchwardens a new school-house which he has caused to be erected. The building was commenced early in the present year, on a plot of ground contiguous to the church, and standing near to the parsonage and the village reading-room. It is from the plans of Prof. Chamberlain, of Birmingham, and has been built by Mr. C. Clarson, of Tamworth, at a cost of about 1,400*l.*, which has been entirely defrayed by Sir Robert, with the exception of the usual grant from the Committee of Council. The bricks were made by Mr. G. Skey, and were furnished by him at cost price. The schools are built to accommodate 240 children, viz., 110 boys and girls, and 130 infants; and if, in addition to these, the Sunday school children are counted, the total number provided for will be above 400.

Sedgley.—The memorial stone of the Ragged School and Temperance Hall, now in course of erection opposite the Mill House, High-street, has been laid by Mrs. Tinsley. The cost of the school, &c. is 1,000*l.* The ground cost about 300*l.* Mr. Bourne, of Dudley, is the architect. The school will be 51 feet by 29, and the lecture-hall 66 feet by 29. There will also be refreshment rooms, library, and reading rooms.

Blackley.—The Barnes Green Church School, Blackley, has been opened, according to the *Manchester Courier*. The schools and master's house are of Tudor design, and are built of red brick, with white brick facings. The school is 45 feet long by 20 feet wide, and has a roof part open timber stained; the class-room 20 feet by 10 feet. The school is lighted with five windows in the length, and two large Gothic windows in the north gable, the north end being surmounted by a bell turret. The cost of the school and fitting is nearly 800*l.*, exclusive of the land. The honorary architect was Mr. Dale, one of the wardens of St. Peter's, Blackley, with which the schools are in immediate connexion. The contractors were Messrs. Statham & Sons, Pendleton.

PROVINCIAL NEWS.

Bury.—The scaffolding is now removed from the portico of the New Corn Exchange; the façade being completed, except the steps, and the carving of the group in the pediment and the arms over the doors.

Hereford.—The movement in behalf of the improvement of the music-room at the Shirehall is making progress under the auspices of a committee of gentlemen, including the High Sheriff and the Archdeacon of Hereford. The estimated cost of the work necessary to convert the inconvenient music-room into a room useful for public purposes is about 1,200*l.*,—according to the local *Times*;—towards which sum the donations and guarantees, including the cost of ventilation, &c., which will be borne by the county, now amount to between 900*l.* and 1,000*l.*, leaving a deficiency of about 200*l.* By the plans of Mr. Chick, the room will be restored to its original form by the removal of the orchestra to a shell-like apse, which will be added to the north-east side of the room. On a level with the orchestra will be a retiring-room for performers; and underneath the orchestra will be other rooms, available as hat and cloak rooms, retiring-rooms, kitchen for the preparation of public dinners, &c. A staircase will provide additional means of egress.

Stockport.—The new Mechanics' Institution at Stockport has been publicly inaugurated by a *soirée* in the lecture-hall, at which Lord Stanley was present. The new building is of brick, with stone facings. The cost has been about 5,000*l.* Class-rooms, library, committee-rooms, &c., have been provided, and a lecture-hall, with orchestra and gallery. Nearly 1,000 persons can be accommodated.

Newcastle-upon-Tyne.—The Newcastle Savings Bank, on the line of the new street from Grainger-street to the Central Station, is approaching completion. The entrance for depositors is at the south or Westgate-street entrance of the building, by an entrance-hall 24 feet by 16 feet. Adjoining is a waiting-room, 17 feet by 16 feet 6 inches. On the other side of the hall are the actuary's and private offices; and above these, approached by a stone staircase, is the directors' room, 28 feet by 24 feet, and secretary's office, 20 feet by 17 feet. From the entrance-hall there are two entrances into the bank—one for the present depositors, the

other for new depositors requiring books, and into the clerks' and actuary's offices. The bank is a hall, 85 feet by 36 feet, carried up the full height of the building, and intended to be divided into different business compartments, for clerks, actuary, directors, cashiers, &c., by screens 12 feet high, formed of pilasters, moulded caps, and entablature. The upper parts of these screens are entirely filled in with polished plate-glass, so that any one can command a view of the whole business, and, at the same time, they will not destroy the effect of the interior. The bottom story windows are also of polished plate-glass; and, to prevent too much glare of light, the upper windows are glazed with ornamental stained glass, with blue borders and ruby coloured tops and rosettes, all ornamented to suit the style of the building. The upper and lower windows have the appearance of only one window in the interior, being connected and continued with a moulding the full height, and the interval formed into a simple moulded panel. There is a polished stone dado, 4 feet 6 inches high, round the interior, with moulded base, stringing, &c.; and in it are formed, with pilasters, caps, &c., ornamental circular stone fireplaces, with carved keystones. The ceiling is divided into compartments by the beams, which are curved at the bottom, and constructed so that the circular parts are formed into flues for ventilation. These compartments are divided into panels, moulded and ornamented. The circular parts of the beams are supported by pilasters, caps, carved trusses, &c., having one between each window. The exterior is built entirely of polished freestone. The first story is carried up with rusticated and chamfered pillars, the windows being recessed and arched, with moulded panels below, having cornice, balustrade, panels, &c. The upper story has a pediment above the Westgate-street entrance; also in the centre of the east elevation, supported on double columns of the Roman Ionic order, with entablature and moulded pedestals, and open balustrade above. The upper windows have moulded imposts, archivolts, consoles, and sunk panels in the spandrils. The design is by Mr. John E. Watson, of this town, architect, who gained the first premium of 50*l.* in competition; and it has been carried out from his details and under his superintendence. The contractors are Mr. W. Gibson, for masons' and carpenters' work; Mr. Beck, slaters' work; Messrs. J. Glaholm & Sons, plumbers' work; Messrs. W. B. Wilkinson & Co., plasterers' work; Mr. R. Lawson, painters' and glaziers' work; and Mr. W. H. Barnett, of the Victoria Works, stained glass. Mr. G. Machell, clerk of works. The wood carving has been done by Mr. G. Jobson; and the stone carving by Mr. J. Patterson, who is now engaged carving the arms for the pediments. The shutters are self-acting and revolving, by Messrs. Clark & Co., of London. The total cost is about 10,000*l.* Dr. Gibbs' house, adjacent, is also by the same architect; and the new County Courts are to be erected on the site between this and the Assembly Rooms.

Tynemouth.—According to the design recently adopted by the River Tyne Improvement Commissioners the piers at the mouth of the river are to be extended to 30 feet at low water. The north pier will then be 1,000 yards in length, and the south pier nearly a mile (5,000 feet). The width between the pier heads will be 1,100 feet.

Hawick.—Improvements here are progressing. Old houses are being pulled down, and new ones are rising in their place. Mr. Dalgleish, of the *Hawick Advertiser*, has reared a high freestone edifice on the south side of the Market-place. The Tower Inn has been both enlarged and improved in aspect. But the chief addition to the domestic architecture of the town is the new mansion of the Rev. John Thomson, St. Mary's. It is built on a high terrace adjoining Ladylaw. Another mansion is also being built on the Wilton side. It commands a panoramic view all down Teviotdale.

CHURCH-BUILDING NEWS.

Hautbois Magna.—The first stone of the new church about to be erected in the village of Hautbois Magna, about seven miles from Norwich, has been laid by Lord Suffield, who is lord of the manor. The site is on a plateau immediately below the Parsonage-house, and within view of the old ruined church, the river Bure flowing between. The new church will accommodate 200. It will be built of flint, with stone dressings, and will consist of a nave, two aisles, and a chancel, lighted by lancet windows, and with a bell-turret over the chancel arch, and a porch at the south-west corner. The style will be Gothic, of the thirteenth century period. The interior of the roof will be waggon-headed, with coloured panels; and the floor will be level throughout, and paved with Minton's and Staffordshire tiles. There will be no pews, but chairs. The cost of building is estimated at 800*l.* or 900*l.* The site was given by the rector. Mr. Jeckyll, of Norwich, is the architect. As some anxiety has been expressed with respect to the preservation of the old church, we may state that the chancel has been repaired, and will be used as a mortuary chapel, and that the walls have been concreted so as to preserve them from decay. All that has been done has been to remove the roof of the nave.

Colchester.—The chief stone of the new memorial church of St. John has been laid on a site where the Ipswich road is met by the lane from Parson's-heath, presented for a church and parsonage by the Countess Cowper. The chancel of the new church will be a memorial of the late Rev. James Thomas Round, B.D., and rural dean, for nine years rector of All Saints', Colchester, and formerly a fellow of Balliol College, Oxford. For the building the church it was originally estimated about 1,800*l.* would be required, for the parsonage 900*l.*, besides general expenses 300*l.*: making a total of 3,000*l.* The district will form a new parish, by the New Parishes Act. The church, which is in the Pointed style, will be built of red brick and grey stocks with stone dressings, red bands inside and black bands outside. The interior of the building is 48 feet long by 21 feet wide; the roof, part open wood work and part lath and plaster; the chancel and aisle paved with encaustic tiles, and lighted with windows of cathedral glass. The edifice will have a wooden spire with bell turret 50 feet high. The sitting accommodation will be for 150 persons. The builders are Mr. G. Crow and Mr. Bremer.

Leicester.—The large body of Wesleyan Methodists in this town, says the *Leicester Advertiser*, have resolved to erect a new chapel at the corner of a newly-projected street on the site of the old cricket-ground, running on to the Humberstone-road, opposite Morledge-street. The ceremony of laying the corner-stone took place on Wednesday in last week. Mr. Ordish is the architect, and Messrs. Clifton & Porter are the builders, at the contract price of 2,000*l.*, and the ground has cost about 700*l.*

Newbury.—A new church is about to be erected at Newbury, in Berkshire, by Mr. Perkins, builder, of that town, from designs of Mr. Scargill, of Colchester.

Achurch.—The church of Achurch, near Thrapston, has now been restored. The church is in the Early Decorated style. The chancel was first finished. The whole work has now been carried out, under the superintendence of Mr. Slater, of London. The builder was Mr. W. Parker, of Thrapston. The chancel, which was much dilapidated, has been completely restored, the pavement being composed of Minton's tiles. The nave and north and south transepts have been almost entirely rebuilt, with an open oak roof. This being now the parish church of Lilford, as well as of Achurch, there was not sufficient room in the old church for the whole of the parishioners; and to remedy this, a new north aisle has been built, providing accommodation for the whole of the congregation. A new wainscot oak pulpit, and open reading desk, the work of Mr. Parker, have been substituted for the old desks. The pulpit is placed on a Ketton stone base, with steps. The addition of the aisle necessitated the taking down of the north wall, and the substitution of columns and arches. The church has been entirely repewed with open oak seats with moulded top rails. The ringers, who used to be on the ground floor, are placed a stage above, and the ground floor is converted into a vestry, approached from the church by a stone screen. A small stained glass window has been placed at the west end; the glass, which was manufactured by Messrs. Clapton & Bell, of London, being presented by Mr. Slater, the architect; the stone work being the gratuitous work of Mr. Parker.

Bromsgrove.—The new Roman Catholic chapel, dedicated to St. Peter, and situate on the Worcester-road, adjoining the town of Bromsgrove, intended to replace that at Grafton on the demise of the present minister of the latter, has just been formally opened. The edifice, however, has been used for divine worship upwards of two years, though not fully completed. It is in the Decorated style. The building is oblong, with apsidal east end; porch towards the N.W.; and vestry N.E. There is a gallery at the west end for a choir; an open roof; and windows of two and three lights. Stone for the work was procured in the neighbourhood. Accommodation is provided for between 300 and 400 persons. Adjoining the chapel is a school (affording accommodation for about 150 children), as also an abode for the clergyman. The architect was Mr. Blount, of London; and the builder, Mr. Wilson, of Birmingham.

Portobello (Staffordshire).—The foundation-stone of a new Wesleyan chapel intended to be erected at this place has been laid. The site selected is at the corner of New-street, on the Wolverhampton-road, not far distant from the old Wesleyan place of worship, which has been so much damaged by the workings of the adjacent mines as to be unfit for further use; hence the present erection. The chapel will be a plain brick structure, in the Doric style, to seat about 250 persons. It will be 40 feet in length, 30 feet in width, and 15 feet in height. It will be fitted with stalls instead of pews, in order to allow of its being used during the week as a school-room. The total cost of the building, including the land, will be about 450*l.* The builders are Messrs. Taylor & Hall, of Willenhall, by whom the plans for the building have also been prepared.

Bristol.—The workmen have concluded their operations on the upper portion of St. Stephen's tower, which have occupied upwards of two years and a half, and the scaffolding is being removed. The portion of the steeple of St. John the Baptist church, which was taken down in consequence of its decayed and insecure state, is being re-erected.

Dowlish Wake (Somerset).—The church here has been almost entirely rebuilt. The style of the old structure has been altered from the Perpendicular to the Late Decorated. The nave at the west end has been lengthened about one-half. The old high pews have been replaced by low open seats of oak. The roof, which is of stained Memel, and open timbered, is supported by carved stone corbels. There are stained-glass windows, the work of Mr. T. Wells, of Pimlico. The subjects are the principal events in our Saviour's life. The chancel window, a three-light, represents the Crucifixion; the east window of the chapel, a three-light, the Ascension; the south window of the chancel, a two-light, our Lord's Baptism and the Lord's Supper, as illustrations of the two sacraments; the north window of the chapel, a two-light, the Sacrifice of Isaac, and the Brazen Serpent; the western nave, a four-light, eight events in our Lord's life; and the western aisle, a three-light, the Resurrection. In the rebuilding, stone from the neighbourhood has been used with Hambdon Hill dressings. The floors of the tower and chancel are inlaid with tiles. The interior walls are decorated with texts of Scripture, by Mrs. Beaumont, of Wake Hill.

Neath (South Wales).—The new Welsh Baptist chapel here, under the contract of Mr. J. D. Rees, is proceeding towards completion.

Chester.—The foundation-stone of a new Roman Catholic Chapel has been laid in Chester. The chapel is dedicated to St. Francis, and the site is in Grosvenor-street. The building is to be 110 feet long, 50 feet wide, and 70 feet high to the top of the ridge. It is to be covered by a roof with one span, and is to contain 800 persons. The estimated cost is 2,000*l.* The architect is Mr. B. Bucknall.

Reddish (Lancashire).—The chief stone of St. Mary's Church, Reddish, has been laid. The edifice, which is dedicated to St. Mary, is being built entirely of stone, in the Early Geometric style, somewhat Continentalized in its details, and will consist merely of a nave and chancel. A children's aisle and a chamber for the organ will be placed on either side of the chancel, communicating therewith internally by stone archways. The vestry will be at the east end of the organ-chamber, and will have a door into the chancel. The nave internally will be about 23 yards long by 8 yards wide, and 11 yards high up to the point of the roof. The total length of the church internally will be about 29 yards. The tower will be placed at the south-west or farthest corner of the nave, resting on stone archways internally, which will be supported on a large circular stone column, with an ornamental base and a carved capital. The main entrance will be under the tower. The roofs will have a covering of red Staffordshire tiles, laid in different patterns, and an ornamental crest will be fixed on the ridges or tops. Internally the church will show an open-timbered roofed nave or room, with a centre aisle having pews on either side a similar chancel completing the view; the latter being separated from the former by a large stone pointed arch, resting on carved corbels. All the roofs will be stained a dark tint, together with all the pews and other fittings, to imitate old oak. All the seats of the church will be plain open

benches, with the ends cut to a form; and all the walls and parts between the spars of the roofs will be plastered. A large window will terminate the inside view of the church, and relieve the end of the chancel. The church will be calculated to accommodate 400 persons, including the free sittings. The architects are Messrs. Shellard & Brown, of Manchester; the builders, Messrs. J. & J. Longson, of this town; and the clerk of works is Mr. Samuel Drinkwater, of Oldham.

Kingston, Surrey.—For some short time past a chapel has been in course of erection in the St. James's-road, Kingston. This new building is intended for the use of the Methodists. The architect is Mr. W. W. Pocock.

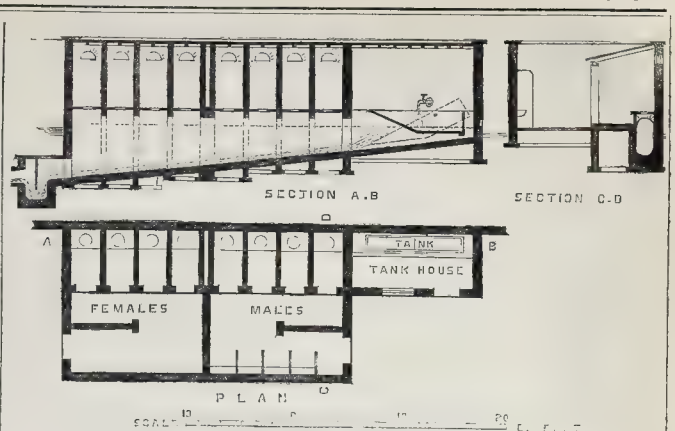
ALBERT MEMORIALS.

The committee for the erection of a memorial to the late Prince Consort, at Coburg, have sent an address to the Queen, thanking her Majesty for the gift of the statue.——Messrs. Edmundson & Son have completed and fixed, in the north aisle of Harpurhey Church, a stained and painted glass window in memory of the Prince. It is of three principal lights. The centre contains the subject of the Resurrection: Roman soldiers are represented at the tomb, some sleeping and others flying in terror, while our Lord appears to be rising from it, bearing in his hand a banner, inscribed, "O grave, where is thy victory?" The background is of deep blue, diapered, and the whole is surmounted with canopy work. In the dexter light are the royal arms and those of the late Prince Consort impaled; in the sinister light the arms of the Prince alone; and on the background of these lights are bands forming a cross *saltire*, and having the words inscribed, "Blessed are the dead which die in the Lord." Each light is surrounded with a crocket border. Running along the bottom of the window is the inscription—"This window was erected by three sisters, in memory of Albert the Good, late Prince Consort, A.D. 1862."—— There is some difference of opinion at Fettercairn as to whether the memorial there should be an arch at the bridge, and near where her Majesty and the Prince sojourned on their visit to the vicinity, or an obelisk. A statue had also been suggested. The subscribers have, therefore, resolved to consult her Majesty's wishes on the subject.——The sum already subscribed for the Dublin memorial is a little more than 6,000*l.* At a meeting held last Saturday, Mr. Justice Fitzgerald earnestly advocated the selection of Stephen's-green, which should be opened to the public, and be called "The Albert Park." The Lord Chancellor remarked that when the proposition was made before, some of the inhabitants opposed it, on the ground that the Green, if opened, would become a public nuisance; but Mr. Foot said, not if opened with certain safeguards—opened in the same manner as the gardens of the Tuileries. Judge Fitzgerald's suggestion was to pay off the debt due by the trustees; abolish the house-tax, as at present levied on the householders; open the Green to the public as a park and pleasure-grounds, under certain safeguards and restrictions; erect the Prince Consort Testimonial on the north side; and alter the name to "Albert Park," or some such appellation connected with the departed Prince. Alderman Roe took the same view of the subject, the further consideration of which was postponed for a general meeting of the subscribers to the fund.

RAILWAY MATTERS.

An average day's work of the railways of the United Kingdom in 1861 was, to carry 500,000 passengers, 258,000 tons of minerals and merchandise, 35,000 live stock, 1,100 dogs, and 740 horses. The precise number of the travellers of the year cannot be stated, because there is no record of the journeys of season ticket-holders; but it must have been more than six times the number of the population of the United Kingdom. The *Times* gives some curious statistics. Thus: The trains, passenger and goods trains added together, travelled 2,897,748 miles more in 1861 than in 1860, which is equivalent to going round the world 116 times more last year than in the year before. 3,881,990 trains ran in the course of the year; that is to say, upwards of 10,600 a day, or more in a day than seven times the number of minutes in the day. If the trains had been equally distributed, running night and day without ceasing, they would have travelled among them 200 miles in every minute. The length of the line open increased by 436 miles, and became 10,869 miles; and the gross receipts of the year, 28,565,355*l.*, considerably exceeded the interest of the national debt, and amounted to about 8 per cent. on the capital. The total raised by shares and loans increased from 348,130,127*l.*, at the end of 1860, to 362,327,338*l.*; an increase of more than 14,000,000*l.* in the year. The working expenditure rose to above 48 per cent.; and the net receipts only increased by about 130,000*l.*, or less than 1 per cent. on the increase of capital. The net receipts were rather over 4 per. cent. on the capital.

It appears from a Parliamentary return, recently issued, that in the year ending December last, the Eastern Counties Railway, including by that term all the lines now combined under the title of "Great Eastern," had 1,290,278 first-class passengers; 2,441,575 second-class; 6,133,679 third-class, including Parliamentary. The number of holders of season tickets was 1,647. The number of passenger trains was 118,680, and of goods trains 52,312. The total receipts from all sources of traffic were 1,394,114*l.* The third-class passengers, as usual, produced the most money. The receipts from them were 257,726*l.*, from second-class, 209,069*l.*, from first-class 169,294*l.*, and from season tickets 18,235*l.* ——The keying in of the last arch of the Marple viaduct, on the Hyde and Marple Extension Branch of the Manchester, Sheffield, and Lincolnshire Railway, has been effected. This line, in conjunction with the Midland Railway from Rowsley (now in progress of being made, and which will join this line at New Mills), will open out the shortest route from Manchester to London, as also giving another and entirely independent line. It will also pass through some of the most beautiful scenery in Derbyshire. It is expected that the Midland portion of this railway will be completed in about two years.



SELF-ACTING CLOSETS FOR PUBLIC USE.

SELF-ACTING CLOSETS FOR PUBLIC CONVENIENCE.

While upon a visit in the country, a short time ago, I was much pleased with a simple though effective contrivance for a self-acting w.c. which the vicar of the town had introduced in the offices attached to the national schools under his supervision, and which I think might be advantageously applied in the courts and alleys of our large towns, as being more conducive to the health of the surrounding neighbourhood than the arrangements now in use. The accompanying illustrations will fully explain the apparatus, which merely consists of a tank made to hold about a ton of water and of the shape shown in the sketch, so that, when swung on pivots and properly balanced, it remains perfectly level and horizontal whilst empty, but upon being filled up to a certain mark, it becomes overbalanced, thereby emptying itself of its contents, and so flushing the whole of the conveniences, when it immediately returns to its horizontal position until again filled. The supply tap is turned so as to regulate its number of evolutions per diem, from one every five minutes to one in twenty-four hours, or more, as required; and so long as there is a sufficient supply of water, it works with the regularity of a clock. The tank should, of course, be kept under lock and key, so that nobody could get at it to interfere with its working except the proper authorities. The drain at the other end of the offices ought also to be properly trapped, to prevent any effluvia arising after the soil has been swept away by a flush of water from the tank.

E. Winter.

THE SPREAD OF LANCASHIRE DISTRESS.

The extent of the distress is assuming terrible proportions, and worse is yet to come. Mr. Farnell reports, on the 29th of September, that for *this week* the increase in the number of persons receiving parochial relief, as compared with the number relieved *the previous week*, was 6,617 persons. There were then 156,229 persons receiving parochial relief in the unions adverted to: in the corresponding week of last year the numbers relieved were 42,945 persons; so that we have in the cotton districts an increase of 113,284 in the receipt of parochial relief.

In *three weeks*, 16,064 persons in those districts have been added to the list of paupers; and, says Mr. Farnell, "I am obliged to inform you that both applicants for parochial relief and for aid from local committees of charity are still rapidly increasing throughout the district." In the unions of Ashton-under-Lyne, Glossop, Haslingden, Stockport, and Wigan, there are 32,718 operatives working short time, and 33,651 wholly unemployed. The weekly loss of wages in these five unions amounts to 27,430*l.*

These startling figures, and the certainty which there is of a large increase, and the uncertain extent of the time to which the famine may be prolonged, show the necessity for every exertion being made to meet the trouble which has fallen on this branch of industry.

On the authority of Mr. Farnell, it is stated that the average amount of out-door relief, in the twenty-four unions above referred to, is 1s. 3d.; the lowest 11¼d., and the highest 1s. 6½d.: on the average, therefore, a family of six persons would receive 7s. 6d. weekly for its support; and 2s. of this should be fairly deducted for rent; thus leaving only 5s. 6d. a week for food, firing, and clothing for six persons. We thus see how great the necessity is for assisting the parish relief by other aid. The weather will soon be such that clothes and coals will be of almost as much importance as food. We are glad, therefore, to see that useful donations of coal have been made by some of the colliery owners; and that attempts are being made for the reception of cast-off clothing and other useful articles. It is very important for the success of this movement that depôts for the reception of parcels should be established, not only in London but in other large towns; and that these reception-places should be well known, and economical means used for the conveyance of those presents to where they are needed.

When thinking of the condition of the poor cotton workers, it should be borne in mind that clothes of a fashionable style may be altered into a more homely cut; that under proper guidance coats may be transformed into jackets for boys: there will be gowns and other clothing needed for children and for women; and the alteration of dresses which may be a little too stylish for the factory girls will afford employment in the sewing schools. Many articles which will be sent might

be with advantage changed for more suitable dresses, particularly for the use of the men.

Large amounts of money have been already collected, but far more is needed to be done; and it is certain that the fund might be largely increased by a little more energetic and systematic management. Already several bodies of the industrial classes have contributed; but far more might be done. If 1,000,000 of the working men in England who are now in the receipt of good wages were to give only 1d. per week, in the three months before Christmas this would add upwards of 50,000*l.* to the fund.

THE ALPS IN THE GLACIAL ERA.

Professor Tyndall's reflections on the conformation of the Alps have been embodied, since his visit, in a communication by him to the *Philosophical Magazine*; and, as the paper is one of very general interest, especially in its bearings on the still obscure subject of the era of ice and drift, of which, and of its human denizens and their archæological remains, every one has been hearing so much of late; we shall condense the professor's views into a brief paragraph or two.

It is perfectly certain, he conceives, that *all* this mountain region was held by ice, enormous as to mass, and in incessant motion. That such an agent was competent to plough out the Alpine valleys cannot, he thinks, be doubted. That the glaciers have been the real excavators seems to him far more probable than the supposition that these glaciers merely filled valleys previously formed by water. The glacier, he considers, is essentially self-destructive. The more deeply it ploughs the surface of the earth the more must it retreat. Let the present Alpine valleys be filled to the level of the adjacent ridges, and vast glaciers, he remarks, would again start into existence; but every one of these valleys is a kind of furnace which sends draughts of hot air up to the heights, and thus effectually prevents the formation of ice.

Thus; given the uplifted land, and we have a glacial epoch. Let the ice work down the earth: every foot it sinks necessitates its own diminution: the glaciers shrink as the valleys deepen; and, finally, we have a state of things in which the ice has dwindled to limits which barely serve as a key to the stupendous operations of a bygone geologic age. To account for a glacial epoch, then, he adds, we need not resort to the hard hypothesis of a change in the amount of solar emission, or of a change in the temperature of space traversed by our system. Elevations of the land, which would naturally accompany the gradual cooling of the earth, are quite competent to account for such an epoch; and the ice itself, in the absence of any other agency, would be competent to destroy the conditions which gave it birth.

Such is Professor Tyndall's idea of the Alpine region during the glacial era.

The ingenuity of this idea is obvious; and to a certain extent we cannot see how it can be gainsaid. That the Alpine valleys were scooped out by ice rather than by flood; as, indeed, they still are; seems evident: the glaciers are the great ploughs and harrows of nature, whereby, chiefly, its barren rocks were cut up and powdered into fruitful soil; for that glaciers *flow*, as it were, like rivers themselves, though far more slowly, from height to hollow, has been clearly proved; and it is mainly by means of this perpetual movement that their channels appear to have been excavated. This idea, however, is not very new: it is almost coeval with the discovery of the glacial era itself. That glaciers, as they deepen these channels and descend to the low and warmer grounds, destroy themselves by thus coming within the influence of warmth which melts them away, is no less certain. But if this be all that is required as given data to explain the glacial era, how does it happen that glaciers could exist, *as they once did, and as they now do not*, so far *below* the lowest level of their present limits; as moraines, boulders, and other evidence far beyond and below their present reach incontestably show? *Ex hypothesi*, the present lowest limit of a glacier was its past lowest limit; is in fact the lowest limit it could have ever gone: but it *has* gone lower—much lower—in past time; and this very fact alone seems to us to be fatal to Professor Tyndall's ingenious theory.

Moreover, the glacial era was not merely an era of glaciers and moraines, but of icebergs and drift as well; and low lands, in far southern latitudes, as well as high lands are strewed with the evidences of universal ice; and not of ice alone, but of *ice and flood*; the manifest traces of which, moreover, *indicate the north pole as a common centre*. The state of things in the great era of ice and flood, in short, must have closely resembled that which *still exists* in the arctic regions; as if *it* were but the remnant of that same wide-spread icy mantle, traces of whose flowing skirts are still so visible, everywhere almost, over all the northern hemisphere, whence it has now been gathered up or concentrated much more towards the pole. The arctic region is still just such a region of ice and flood as that of which geological evidence proves the wide-spread past existence far farther south, on low land as on high. In the arctic winter, snow and ice prevail, and glaciers and icebergs are comparatively fixed; but every summer there is a grand breaking up of the whole, or nearly the whole, icy envelope; and, doubtless, the scooping out of valleys, which may also be going on in winter, must go on in the arctic summer of ice and flood with tenfold power. Such seems to have been the glacial era of past time farther south: it was not a mere sterile and eternal winter of slow-moving glaciers, but an alternation of winter and summer, and of ice and flood, just such as still exists in the arctic regions; and, however positive astronomers may be as to the impossibility of certain cognate secular changes, regarding which their data are admittedly very limited and uncertain, the conclusion is irresistible—*and they must be instructed by geological facts*—that *the arctic region itself* in truth *extended*, during the glacial era, or rather the era of ice and flood, *far farther south* than it now does in the northern hemisphere; and probably also far farther north than it now does in the southern.

Now the alternations of summer and winter, and of ice and flood, in the arctic regions, are astronomically ruled by the obliquity of the ecliptic, or the oscillation or pendulation (figuratively or popularly speaking) of the sun into and out of either hemisphere; so producing summer and winter. And astronomers not only admit the fact that the obliquity of the ecliptic *was* at one time greater than it now is, but that *it is still on the decrease*; so that the plane of the ecliptic is, and from time immemorial has been, *on the way at least towards* a coincidence with the plane of the equator. The extent and limits of this diminution constitute the only question with astronomers. They insist that the limits can only be very small; while it would appear, from the geological facts, that these limits must be very considerable; and it would be easy to show (as indeed the writer of this has, to a certain extent, already done in the *Scotsman* newspaper of 5th of January, 1842), that the "great uncertainty" in which candid astronomers admit this question to be involved is still farther increased, and to an extent which drives them entirely out of the field, by virtue of weapons supplied by themselves.

In the meantime we must conclude our cursory comment on Professor Tyndall's theory by merely remarking that it will, we hope, be seen, from what has been said, that we need not resort to the hard hypothesis of a change in the amount of solar emission, or in the temperature of space traversed by our system, for an explanation of the era of ice and drift; because we have shown how it is explicable, to the fullest extent, by simple and natural *causes*, in one sense still *in actual operation*.

MUSIC AND THE STAGE.

At the *Royal Opera House, Covent Garden*, "Satanella," "Dinorah," and "Fra Diavolo" have varied the performances; the latter noticeable amongst other things for the clever acting of Mr. Weiss as the "English Lord." Miss Pyne was to reappear on Thursday evening, after an indisposition, in "Crown Diamonds." Miss Sara Dobson, who has this season assumed several of Miss Pyne's parts, has pleased her audience, notwithstanding the dangerous comparison which is unavoidably forced on hearers. "The Puritan's Daughter" is to be produced this (Saturday) evening, with a cast embracing Mr. W. Harrison, Mr. Santley, Mr. Weiss, and Miss Pyne. Country visitors fill the pit and gallery to overflowing, but leave comfortable room in the boxes for all who wish to enjoy pleasant music.——At the *Haymarket* this is no the case without making previous arrangement; *Lord Dundreary* still continuing his remarkable career. A new farce by Mr. Sterling Coyne, called "Duck Hunting," gives Mr. Compton an opportunity to exert his farcical powers. It is a funny *imbroglio*, but has not much in it.——At the *Adelphi*, the well-known "Green Bushes" has enabled Miss Avoina Jones, in the part of *Miami*, to gain an improved opinion from the public. Miss Woolgar and Mr. Toole are excellent in it, and the revival appears to please. The piece is one of the best of its class, but has been seen by all London playgoers. We would direct Mr. Webster's attention to the "Heart of Mid-Lothian," now being played at the *Standard* theatre, and which would suit the *Adelphi*.——Some of the parts are very well acted at the *Standard*, notably by Mr. Gourlay, a Scotch comedian, and Miss Mary Booth, the latter of whom, as *Madge Wildfire*, plays with a naturalness and *abandon* not often seen in so young a performer. The scenery is effective, and very well painted.——From abroad comes the report of a novelty; to the effect that a Belgian scientific dramatist, Mr. Rohde, has lately produced at Brussels a geological drama in forty-five *tableaux*, in which the pre-Adamite conditions of the world (from the Nebula to the Third Red Sandstone) are presented to the audience! Moreover it is said to be successful.——Several striking changes are about to be made in English managements. Mr. Boucicault has taken *Astley's*; and moreover appeals to the public to build a new theatre with proper accommodation,—absent in existing houses. Mr. Falconer takes Drury Lane out of his hands. Mr. Fechter will shortly open the *Lyceum*, with the "Lady of Lyons," Mrs. Charles Mathews playing *Pauline*, and himself the gardener's son: while an Attorney has taken the *Princess's*, to enable his daughter to play legitimate drama.

WHY NOT A NEW STYLE?

By a deduction from similar principles to those of "Zeta," we may conclude that the contemplated improvements in modern ordnance are not the "healthiest symptoms;" and that a pure and rational desire for progress in any science betrays no small amount of quackery; although more fitly would the unmeaning opposition to this progress be qualified by such aspersions.

The yew-bows and old "hearts of oak" have given way to necessity; and so certainly must the architecture of this period, sooner or later, give way. No doubt there were tars in these old specimens of naval architecture who considered that they possessed every requirement, and declaimed lustily against every innovation; and for the same reason we can excuse those who hold to the present practice in a line which, although not in so great a measure controlled by necessity, yet admits of much nobler exercise.

By the same correspondent a doubt is admitted as to the possibility of improving our Gothic: the same is advanced by others as regards the Classic: are these the healthy symptoms? I fear not; and the architecture of much-cherished precedent is on the totter.

Another correspondent persuades us that we already have a new style (and, in fact, it does not seem to be well known what we have); and, in a heterogeneous mixture of ideas, tells us that "the requirements of the day have been great and many," but "been met by an infinite originality of genius:" these masterpieces are again pronounced abortions, and the whole wound up by an unsuitable simile.

What is this shadowy and indefinite writing but mere trifling? or is it written for sheer writing's sake? What is not dead, but sleepeth? Let us embark on the Thames (or the river of any large town), and pass merely from London Bridge to Westminster;—see if Gothic sleepeth; our Christian style in all its degrees of hardness: or is it Classic? here it is, and made to perform every vagary.

Why do we practise both, but because neither is satisfactory. Is Gothic so very consistent with itself, and the line of demarcation so well adhered to in every instance, but that even Goths would find it difficult to determine to what phase it belonged?

Is it that of the ancients? Then we have no progress. If we answer, No! then if there is a possibility of departing thus far: there must certainly be of going further. But this possibility is not acknowledged, and the many cheat themselves into the idea that they are not acting on it.

What is design in modern architecture? A correspondent has characterized it as the apposite placing together of ideas of former knownsubjects floating through the brain. Would that it were so: we should then have more originality; but it is rather thus: Hand me such a book: turn it over: place a mark here: we will have this doorway: here is a very nice oriel: let us have such a cornice as this: I like this balustrade;—and the ready drudge, the assistant, sticks them together.

And so it is, with a shaft from Durham, a window from Land's End, an arcade from Ely—in a meaningless position, — and a roof from the Louvre: the thing—can I dignify it with a better name?—is put together. Or if it be Classic;—

pediment above pediment, stuck up cornices over the windows, column above column. And what would brand the plagiarist is allowed to pass in the architect; there is such an impossibility for inventive design in modern heads; I would rather say such an unwillingness to try. It has been tried, say they, and failed! Down with it! no stimulation to try again. And so, deny to architecture a rule which they admit holds good to those who strive to overcome in every other science. But perhaps they are right in withholding the rule from architecture, as there is no striving to overcome in it (except as regards the plan, which is under the rule of stern necessity); and it costs little thought to throw a heap of ready materials together.

Some of the advocates for Gothic assert, that it has not reached its perfection; and the devotees of Classic claim the like. I ask, Do we hope to improve what the originators perfected; or, shall we say, could not perfect?—we, who cannot produce a style of our own! I say, Are *modern architects* the proper parties to perfect the styles of other times? Styles produced by men in a rational way; men who had not the advantage of each other's thoughts in the measure we have: how did they produce them? what were the germs that led to their several peculiarities? The necessities or fancied necessities of construction: the horizontal construction led to the horizontal style; the vertical construction to the vertical: is either, in its integrity, entirely applicable to modern requirements? Mark the piers of the Gothic as points of support between the windows, so arranged as to take the thrust of the roof; the roof itself of stone, a complete sham! The panel-space between the groining ribs—of stone? yes, of stone; but how thick? I could point to one of our finest 3 inches thick. Is this the idea we are supposed to be impressed with from a stone roof? Are we accustomed to look on enduring stone as a thin film, protected by a roof of wood and lead?

Classic was not marked by innate mal-construction; but, being the production of a refined, not a barbarous people, is highly consistent with itself; but is neither consistent with our manners nor climate. Still, from it we may gather more ennobling principles. Here is the column, the point of support; as a decoration, entirely constructive. What is the source of its beauty? Not the meretricious ornament of Gothic; but the beautiful ratio of the parts; a point of support, necessitated by gravitation, rounded on plan because softest to the eye, and best adapted to stand the weather; with its mouldings at base and capital, as the most æsthetic, varied, and appropriate finish to the perpendicular lines. And if it be allowed that the structure of wood furnished the germ or suggestion for the birth of such an architecture, shall the suggestion of as potent a germ or germs be wanting among us, should we unite our efforts?

True that former styles have been the birth of "uncontrollable circumstances." Did the originators of these styles know as much of universal styles as we do? They did not, and were forced to express their ideas in a creation of their own; or is this a proof (when we are moved by the necessity of progress and the beauty of variety) that we cannot, if united and gaining the benefit of each other's assistance, set up a style to express our ideas?

None can reasonably deny the possibility of founding our own architecture (at present we have no architecture of our own). Seeing that there are so many different styles, the probability, nay, the certainty is, that there might be more; and, once acknowledged, it is the duty of every professor to endeavour truthfully to advance the art which he professes.

VERITAS.

A NEW STYLE AND A FEW FALLACIES.

IF the number of articles and letters that have appeared on a new style have not already converted the question into an old and established one, I shall be glad if you can afford me space to point out a few of the discrepancies that have crept into the discussion on this question. Of course, any suggestion or design that necessitates a divergence from the accustomed track either of thought or action, combats the conservatism which exists in a less or greater degree in all English minds; and the unhappy discoverer who invents a new power or proposes an improvement calls down upon his unprotected head the violent wrath of correspondents like "Zeta," who, instead of discussing the subject and its principles in the *abstract*, deal in vague generalities, and try to extinguish it by stigmatizing arguments, which they do not refute, as "palaver," earnest efforts as "quackery," and sneeringly questioning the possibility of anything being brought forth in the nineteenth century of a "*bran-new*" description.

"A. P. G." invokes the assistance of scriptural phrases to enforce his objections; for arguments they are not; and informs us that "we never can make even *one* life out of a valley full of dry bones;" but, unfortunately for his paraphrase, Ezekiel tells us, that when the breath came from the four winds, the bones lived, "and stood up upon their feet an exceeding great army." It appears to me that the simile would be more applicable as an illustration in favour of a new style than against it. He concludes his letter by asserting that the present style "is not dead, but *sleepeth*;" overlooking the fact, that this state of hybernation is the cause which has forced the present movement into being, and is now labouring to awaken the profession to a sense of its lethargy.

Another writer startles us, in an elephantine manner, by assuring us that Solomon has said that there is nothing *new* under the sun. Granted, when speaking of nature collectively; but to assert that it has connexion with any new combinations that may be effected in science or the fine arts, is simply absurd. Inventions and discoveries might be cited to an immense extent in proof of this.

It appears to me, that if the question of a new style is to be adequately discussed, its opponents must drop generalities, and discuss the movement on its own merits, by admitting or refuting the arguments which have been advanced in its favour.

M. A.

A COMPLAINT FROM ST. JAMES'S, WESTMINSTER.

SIR,—Various works have been done within the last few years, and are now being done, in the parish. The principal of them that may be mentioned are, the Baths and Washhouses; a large portion of the workhouse, with the chapel; St. Peter's new church, Great Windmill-street; also a new vestry hall, with new wall and entrance to the churchyard. At the present time new windows are being fixed in the parish church, and the exterior works are being painted, &c.

Will it be believed that the whole of these works have been done by builders residing out of, and at some distance from, the parish? We have, at least, eighteen or twenty builders and a number of decorators within the parish, many of them paying pew-rents in the churches and chapels, and all paying the rates and taxes. With very few exceptions, they have never had an opportunity of competing for any of the works. Why should our money be taken out of the parish?

I would ask our worthy churchwardens, and those who have the management of the affairs of the church and parish, whether such disrespect to their brother parishioners is warrantable in such a wealthy parish as St. James's?

A PARISHIONER.

THE LIGHTING OF GREEK TEMPLES.

SIR,—As the question how light was admitted to, and rain excluded from, the cella of a Doric temple seems still to be unsettled, allow me to suggest that in peripteral temples the apertures in the roof were over the centre of the pronaos, and the cross wall in front of the cella was carried no higher than the ceiling of the peristyle. The light entered the cella through the space between the top of the cross wall and the roof, and fell in one mass on the image opposite, while the source whence it came was unseen by the spectators. It was entirely or partially excluded, at pleasure, by a curtain (*peplum*), for which a movable shutter of boards was substituted in winter as a protection from the weather. (*Stratura ex tabulis quæ æstate tollerentur et hieme ponerentur.*) Rain passing through the apertures (*per culminis aperta fastigia*) fell on the ceiling of the pronaos, and readily found its way to the pavement through one constructed like that of the Temple at Rhamnus, described in "The Unedited Antiquities of Attica." As the roof of the peristyle formed a counterpoise to the roof of the cella, no truss was needed, but merely rafters, crossed by laths and boarding, on which the tiles were laid; an open-timber roof, the underside of which was the ceiling of the cella, differing in appearance from the stone ceiling of the peristyle only in being inclined instead of level.

In temples like the Parthenon (hypæthral), with an open court surrounded by columns leading to an inner hall covered by a roof, the hall may have been lighted in a similar manner; viz., by openings in the pediment of the cross wall between the hall and the court. Chryselephantine statues must have stood in the hall.

If the roof of a peripteral temple had a number of small apertures on each side of the ridge, formed merely by the omission, in alternate rows, of a few flat tiles only, all the *lines* of the roof were unbroken. With an open court, of course, the ridge could not be continuous. In the Parthenon this would scarcely be seen from any part of the Acropolis: from a distance I doubt if a landscape painter would call the break a blemish.

If any evidence on this subject is to be found in Egypt, that of the Ptolemaic temples should not be rejected; particularly the points wherein they differ from the earlier structures. The practice of the Greeks may be best learned from changes which there is good reason to ascribe to their influence. In the Pharaonic temples light is admitted through clerestories parallel with the sides of the building; but in those built under the Greeks and Romans it enters the halls through the cross walls. The two systems are readily understood by comparing the sections of the south Temple of Karnac and of the Temple at Kalabsche, given in Mr. Fergusson's "Handbook of Architecture."

Philadelphia. W. RUSSELL WEST.

ON THE PROPORTIONS OF CHANCELS.

MANY of the copyists of Mediæval architecture content themselves with imitating detail without regard to general proportions. And thus it is that modern churches do not present so good an outline as those built by our ancestors.

Of the proportions of the arches and columns in the nave, I forwarded some remarks a few years ago; and, in all examples I have since measured, I have found the proportions agreeing with what I then stated.

Concerning the chancel, I find that its proportion, in nearly every Mediæval example, may be reduced to this formula:—East to west, $5a$; North to south, $2a+5$. So that for every additional 2 feet in width we have 5 feet more in length. Thus, chancels 15 feet wide are 25 feet long; those 17 feet wide, 30 feet long; 19 feet wide, 35 feet long; 21 feet wide, 40 feet long, &c. When this rule is departed from, there is generally a subsequent alteration to account for it. This rule makes the smallest chancels the broadest in proportion; so that smallness of size does not produce insignificance, nor largeness monstrosity. The width of the chancel appears to have been the key dimension to the whole fabric.

We have 35 feet clear for a cathedral, as at Winchester, Ely, Old St. Paul's, Lichfield, and most others. Forty-five, or thereabouts, for a metropolitan cathedral, as York, Paris, and others. Canterbury (35 only) is built on the site of a Saxon church. For an arch-deaconry church, 24 feet, as at Ipswich, Chelmsford, Hertford; for town churches 21, 19, and 17 feet; and in villages, 17 or 15 feet.

W. SCAEGILL.

BELL-RINGING.

SIR,—Now that the subject of bell-ringing is being discussed in your columns, may I be allowed to ask if any of your correspondents learned in such matters can recommend me a really good work on "Scientific Change-Ringing"? I have been for some time anxious to obtain one; but no ringers that I am acquainted with know of any such book.

It may interest some of your readers to hear that in the town of Gainsborough an "Amateur Ringing Club" has been in existence for about a year. It receives the sanction of the vicar of the parish; and includes among its members two clergymen, two schoolmasters, one churchwarden, and an organist; besides other prominent and influential individuals of the town. The members meet for practice, I am told, every Friday evening; and have already made satisfactory progress under the direction of one of the regular church ringers.

Could not similar societies be easily formed in most of our towns, and even villages?

FRED. JEPHSON.

Books Received.

IRON.

Results of an Experimental Inquiry into the Comparative Tensile Strength and other Properties of various Kinds of Wrought-Iron and Steel. By DAVID KIRKALDY. Illustrated by numerous plates. Glasgow: Printed by Bell & Bain. 1862.

THE importance of this laborious volume is unquestionable; but we think the author ascribes too little to his predecessors in such inquiries, especially as regards wrought-iron, when he says:—

It seems remarkable that, whilst we have the results of

many important and reliable experiments on cast-iron, extremely few have been made, or at least published, on wrought-iron, and almost none on steel."

And all the more, since he makes such admissions as the following:—

"The breaking strain per square inch of wrought-iron is generally stated to be about twenty-five tons for bars and twenty tons for plates. This corresponds very nearly with the results of the writer's experiments, of which the following table presents a condensed summary:—

	Highest. Lbs.	Lowest. Lbs.	Mean. Lbs.	Tons.
188 Bars, rolled	68,848	44,584	57,565	= 25⅔
72 Angle-iron, &c....	63,715	37,999	54,799	= 24½
167 Plates, lengthways	52,544	37,474	50,737	= 21⅝
160 Plates, crossways	60,756	32,450	46,171	

The author's experiments with steel are probably of much greater importance than the others; particularly if those experienced men be right who do not hesitate to predict that a time is coming when there will be no such thing as either wrought iron or cast; and when steel will be the only practical and available form of the metal, in use for every purpose.

Amongst Mr. Kirkaldy's results, as regards steel chiefly, we select the following:—

"The breaking strain and contraction of area of *puddled*-steel plates, as in iron plates, are greater in the direction in which they are rolled; whereas in *cast*-steel they are less.

Iron, when fractured suddenly, presents invariably a crystalline appearance: when fractured slowly, its appearance is invariably fibrous.

The appearance may be changed from fibrous to crystalline by merely altering the shape of specimen so as to render it more liable to snap.

Iron is less liable to snap the more it is worked and rolled.

The mixed character of the scrap-iron used in large forgings is proved by the singularly varied appearance of the fractures of specimens cut out of crank-shafts.

In the fibrous fractures the threads are drawn out, and are viewed externally; whilst in the crystalline fractures the threads are snapped across in clusters, and are viewed internally or sectionally. In the latter cases the fracture of the specimen is always at right angles to the length: in the former it is more or less irregular.

Steel invariably presents, when fractured slowly, a silky fibrous appearance: when fractured suddenly, the appearance is invariably granular; in which case also the fracture is always at right angles to the length: when the fracture is fibrous, the angle diverges always more or less from 90°.

Steel is reduced in strength by being hardened in water, while the strength is vastly increased by being hardened in oil.

The higher steel is heated (without of course running the risk of being burned) the greater is the increase of strength, by being plunged into oil.

In a highly converted or hard steel the increase in strength and in hardness is greater than in a less converted or soft steel.

Heated steel, by being plunged into oil instead of water, is not only considerably *hardened*, but *toughened* by the treatment.

Steel plates hardened in oil and joined together with rivets are fully equal in strength to an unjointed soft plate; or the loss of strength by riveting is more than counterbalanced by the increase in strength by hardening in oil.

Steel rivets fully larger in diameter than those used in riveting iron plates of the same thickness being found to be greatly too small for riveting steel plates, the probability is suggested that the proper proportion for iron rivets is not, as generally assumed, a diameter equal to the thickness of the two plates to be joined.

The shearing strain of steel rivets is found to be about a fourth less than the tensile strain.

The most highly converted steel does not, as some may suppose, possess the greatest density.

In cast-steel the density is much greater than in puddled-steel, which is even less than in some of the superior descriptions of wrought-iron."

The author solicits special attention to the practical use that may be made of a new mode of comparison introduced by him in reference to such experiments as those of which he treats; viz.,—"the breaking strain per square inch of the fractured area of the specimen, instead of the breaking strain per square inch of the original area."

Formulæ, Rules, and Examples, for Candidates for the Military, Naval, and Civil Service Examinations; for Mathematical Students and Engineers. By T. Baker, C.E. Division I. Also *Iron-work: Practical Formulæ and Rules for finding Strain, &c., of Wrought-iron Bridges; with Tables.* By C. H. Dowling, C.E. Division II.; complete. London: Weale, 1862.

In this small volume are collected into a brief space numerous useful formulæ, rules, and examples, in every branch of the mathematics; accompanied by explanations of their nature and use; the whole arranged in alphabetical order, and admitting of ready reference. By way of appendix also a large collection of examples and problems have been added by Mr. Dowling; taken from recent military, naval, and civil examination papers; with several original problems and examples on all the preceding subjects. A desideratum has thus been supplied from which students may reap much advantage.

VARIORUM.

Routledge's "Popular Guide to London" (of course, a shilling), written by Mr. G. F. Pardon, has the advantage over some similar works in being a very readable as well as instructive little book. We have already quoted a paragraph from it; but will take, as a second, one referring to what may be called Manufacturing London:—

"The purely manufacturing parts of London lie between the City and the suburbs—a sort of debatable land that is neither city nor suburb. Clerkenwell is the chief seat of the watchmaking and jewelry trades: Spitalfields and Bethnal-green are the long-established homes of the silk and velvet weavers: most of the cabinet-makers and carvers are located about St. Luke's, Old Street-road, and Aldersgate-street: the ironfounders and anchor-smiths, together with the shipwrights, riggers, and boiler-makers, are to be found in Blackwall, Poplar, Millwall, and the Isle of Dogs: the sugar-bakers and refiners carry on their business in the neighbourhoods of Whitechapel and Commercial-road: the tanners, parchment-makers, and skin-dressers reside in Bermondsey: the potters and glass-makers live in Lambeth; the tailors principally about Golden-square and Burlington-gardens; the working boot and shoe makers in and about Shoreditch, and also in the courts and narrow streets near Drury-lane; the producers of plaster casts and images, in Leather-lane, Holborn, and the surrounding courts; the hatters principally in Southwark; the paper-makers chiefly in Surrey, on the banks of the Wandle; the chemical manufacturers at Stratford, on the banks of the Lea; the carriage builders in and about Long-acre; the boat-builders at Lambeth and Chelsea; the toy-makers and doll-dressers at Hoxton; and the brewers everywhere."

In the *Gentleman's Magazine* Mr. Parker very properly reproaches the Archæological Institute for their silence in respect of the shameful destruction of the "Guesten Hall," at Worcester. He says,—"It does appear to me that the least which the Archæological Institute could do was to express regret at the loss which the country has sustained, without expressing any censure upon any one; and that obedience to the constituted authorities has its limits. If the committee studiously neglect and ignore the primary object for which the society was established, individual members are absolved from their allegiance. I, for one, joined the Institute originally, and continue to belong to it, under the idea that its main object was, and is, the preservation of the historical monuments of the country, by calling public attention to them, and stirring up those whose duty it is to preserve them. This I believe to be the avowed object of the society; and, although its efforts may be unavailing; for I see such monuments disappear before my eyes every year; still I do not believe that this is a mere hollow pretext, and that the real object is tuft-hunting, getting into good society, an excuse for an annual holiday and a feast, which are the allegations made by the enemies of our society. If I believed them to be true, I should cease to belong to it. But, on the other hand, I will not willingly give an appearance of plausibility to such charges by *too great* pliancy and subservience to authority, when it is the plain duty of such a society to speak out and protest against the *needless* (which I still contend it to have been) destruction of an historical monument."——The Catalogue of the International Exhibition will be continued in the *Art Journal* (12 pages) into the 1863 volume for probably six months. It was found impossible to represent the collection in less space. The want of some principle as to *scale* is much felt in respect of these otherwise excellent illustrations: a card-case, for example, being given full size, looks as large as an important tazza represented by the side of it; and so on. It would be difficult to avoid this; but a few dimensions now and then in the letter-press would lessen the inconvenience. When complete, it will be a most valuable record and suggester.——"The Life and Times of Samuel Crompton, Inventor of the Spinning Machine called the Mule. By G. F. French, F.S.A. Third Edition. Manchester: Simms & Co. 1862." The inauguration of a monument to Crompton was an auspicious time for the issue of a new and cheap edition of this interesting narrative. In the preface to the present edition Mr. French says:—

"The life of Samuel Crompton was selected by the author for his address to working men as a subject well worthy their most serious reflection. Holding up much for their encouragement, there is also in it much of warning, as it demonstrates that natural ability of the highest order, even when supported by education, industry, sobriety, and frugality, does not exonerate any man from the duty of acquiring a knowledge of his fellowmen, and of learning how to deal with them in the business of life. His practical disregard of this knowledge was the stumbling-block that impeded every action of Samuel Crompton's life. Had he studied human nature with one tithe of the persevering skill and energy which he devoted to his mechanical pursuits, his name would have ranked now among the highest in the nation, and his posterity among the wealthiest of its commercial aristocracy."

Miscellanea.

The Henry II. Ware.—If a strange paragraph as to a remarkable collection of works of art in Brittany, just made public by the death of the owner, be correct, a great addition has been made to the number of specimens known to remain of the curious *Henri Deux* ware, as many as thirty pieces of it being found.

The Builders' Benevolent Institution Dinner.—The annual dinner in aid of this institution will be held on the 29th of this month; Mr. Henry Lee, the president, in the chair. We have so often and for so many years urged upon our readers the claims of the Builders' Benevolent Institution, that we have no fresh words for the purpose; nor indeed can they be necessary. Gentlemen who are willing to act as stewards should send their names at once to the secretary.

Arbitration.—Serjeant Kinglake has been sitting, for four days, at the Queen's Hotel, Torquay, as arbitrator in the matter of Harney *v.* Horsfall. The plaintiff is a builder, of Torquay, and sues defendant, a merchant, of Liverpool, for balance of contract amount for erecting a villa, and also a large amount of "extras" incidental to the contract. On the other side, the liability for most of the extras is denied, and a very large set-off in the shape of penalties pleaded. The learned serjeant has received all the evidence, and has to make his award on or before the 4th of November.

Improvements at Holyrood, Edinburgh.—A new military guard-room has been erected opposite the palace, with stabling and coach-house in the court-yard behind. The plans for the new building were approved about two years ago by the Prince Consort, and they have now been carried to completion. The central feature of the new buildings is a gateway of Scoto-Gothic charater, flanked by two massive towers projecting from the front, and surmounted by an attic story. The Abbey Court-house, at the foot of Canongate, has been renovated in keeping with the new line of buildings, and the house which formerly occupied the south corner has been refronted with battlemented cornice and projecting tower; the whole forming a symmetrical façade of 245 feet directly opposite the palace.

The Manchester School of Art.—It appears that this school is in danger of being given up from want of funds. Surely in such a place as Manchester this can never be allowed to occur. Owing to a change of masters the school has unexpectedly lost 300*l.* per annum, which was previously paid by the Department of Science and Art. This grant is now withheld. The question thence arises—What is to be done? The school cannot be maintained without the grant, unless a similar sum can be locally raised. One quarter of the stoppage has already been paid out of the school funds, and no more can be afforded. It is therefore for the merchants, the calico printers, and others connected with the trade of Manchester, to decide whether so important an institution—so necessary to the cultivation and development of good taste and true artistic feeling, shall be allowed to be annihilated for want of support.

Proposed Thoroughfare under Farringdon-street.—At a recent meeting of the City Commission of Sewers, Mr. H. R. Newton propounded a plan for relieving the traffic at the cross junction of Fleet-street, Farringdon-street, Ludgate-hill, and Bridge-street, which he submitted was worth consideration, having regard to the prospect of the traffic being rapidly increased, excessive though it now is, by the opening of the widened Blackfriars Bridge, and the establishment of two railway termini adjoining; viz., that of the London, Chatham, and Dover Company in Farringdon-street, and that of the Metropolitan Company in Victoria-street. The proposition is to sink, by a gradual incline, a width of about 20 feet, in the centre of the road in Farringdon-street and Bridge-street, the sites of the present cab-stands, commencing about Fleet-lane on the one side, and at Union-street on the other, so as to form a free passage under the old Fleet Bridge and under the ordinary roadway, for a double line of carriages for what may be termed the Blackfriars Bridge and Holborn traffic, and thereby obviating any collision between it and the cross traffic of Fleet-street and Ludgate-hill. For equalizing the general width of the approaches a slight alteration, he said, in the pavement in Bridge-street would be required, and also the setting back of the railings in the open space in front of Crescent-place, under which space runs the main sewer. Without altering the levels of the existing streets, he states that the gradients could be easily formed to pass under the cross junction of from 1 in 20 to 1 in 30.

The "Catholic University" Foundation Stone.—It was roundly asserted, some time since, says the Dublin correspondent of the *Morning Post*, that the foundation-stone laid by Archbishop Hughes had been removed; but this statement proves erroneous. It was simply buried out of sight, and the field in which it was placed turned into grass land! The university is regarded, therefore, as a shelved project; indeed, many persons insist that the laying of the stone was only a demonstration against the Government. Moreover, there was a never-ceasing hammering at it for small bits, to be treasured as relics, it being a blessed stone! and, to prevent its total destruction, it had to be buried.

Glass Bricks.—Light might be increased in darkly situate rooms and in cellars, and all underground places, by the use of *glass bricks*, either in a *solid* state or having their cores or central portion hollow; but having a thick crust or sides around such cores. The adoption of these in buildings would, it is conceived, prove a very great improvement, and increase the capability of house illumination considerably. A number of these being built in a portion of an ordinary (*clay*) brick wall would throw light into many a dark corner, or place, at a trifling cost compared to that of inserting a sash-frame or window. These could of course be pierced with holes and otherwise made subservient to a ventilative purpose. Might not, also, glass apexes or other forms of ornamentation be successfully employed *in the outer and top embellishment of houses?*—Lucsa.

Works at Clay Cross.—The Clay Cross Company, finding it desirable to erect a large pumping engine, in order to lay off several small ones, determined to sink a new shaft exclusively for pumping purposes. They commenced sinking early in the present year; and on the 12th ultimo succeeded in getting to the bottom of the coal, which is 130 yards deep. The shaft is 10 feet in diameter, clear, and is cased with 9-inch brickwork the whole depth. The time occupied in doing this work has been twenty-five weeks. They have also got the engine-house built for a 300-horse power engine, and part of the engine erected during the same time; and in about two months they expect to commence pumping. The engine is being made by the Butterley Company, and will have a wrought-iron beam, composed of two slabs 37 feet long by upwards of 7 feet wide, and each slab 2 inches thick. The pumps are being cast by Mr. Barrow, at Staveley.

Further Discoveries in Pompeii.—Amongst the recent excavations described by a correspondent of the *Athenæum* are those of two handsome edifices containing various fine frescoes. In the Strada Abbondanza one of these stands: it is said to be one of the largest houses in Pompeii; but we rather think it is one which has been described before. The Judgment of Paris is the subject of one of its finest frescoes; and Achilles, in female garb, is another. The bed-rooms are mere cells, 10 feet by 7 feet, but very lofty: they contain each a recess, 3 or 4 feet in length, which the cicerone divined was for the head of the sleeper. The other edifice referred to is one of the most highly-ornamented houses of Pompeii. There are here really beautiful pictures, of course in fresco,—as, for instance, Apollo and Neptune superintending the building of the walls of Troy; Hercules drunk, and Love stealing his club; Thetis receiving from Vulcan the arms of Achilles. But the *capo lavoro* of the house is the head of Vulcan: it is said to be magnificent. The intervals between the pictures are filled up with Corinthian columns, exquisitely defined, and various other ornaments. Above and below run broad beautiful borders, painted with scrolls and animals. Birds are perched in bushes: ducks are diving for insects or fish; and above the higher border are the remains of an upper floor of the house. In another room of this very splendid building the walls are divided into compartments, in the centre of which, on a black ground, are *danzatrici*, with cymbals, or tambours, or cups, and one with a serpent twisted round her arm. Some of the figures are perfectly new. In one of the walls is a large interval, occasioned by the removal of one of the pictures in consequence of the novelty of the subject,—a warrior undergoing a surgical operation. This house is not yet entirely completed. The excavation of the house of C. Cor. Rufus has just been completed. It is remarkable for two male figures, which have much puzzled the antiquaries. Their dresses are modern,—one wearing long pantaloons, with a tunic, like a jacket, reaching down to the waist; and the other, slashed breeches down to the knee; shoes, or short boots, and the stockings or legs bound round with cords.

The New Hospital at Birkenhead.—We understand that Mr. Laird, M.P., has contracted with Mr. Hogarth, builder, for the construction of the new hospital. Preparations are already made for commencing the work. The situation fixed upon is fronting Conway-street, and overlooking the park, close by the Proprietary School. Mr. Walter Scott is the architect.

The New Mechanics' Institute, Evesham. This building, which has just been completed, was designed by Mr. J. Hunt, of Evesham, architect, and built by Mr. John Meddings, of the same town. It is of red brick, and plain in character. It has on the ground floor a principal and side entrance, and three circular-headed windows; and on the first floor five square-headed windows. On the basement is the kitchen; and on the ground floor, in front, is a reading-room for first-class members of the Institute. At the back of this is the reading-room for mechanics. On the first floor is the assembly-room, the length of which is 54 feet, the breadth 22 feet, and the height 18½ feet: behind is the library. The cost of the building was 1,100*l.*

Curious Arctic Discoveries.—Captain C. F. Hall, commanding the *George Henry*, has sent a telegraphic message to his employers at New York, in which he says:—I have determined the fate of, probably, two boats' crews of Sir John Franklin; solved the mystery of 300 years relative to Sir Martin Frobisher's expedition under the auspices of Queen Elizabeth; have learned the fate of five men captured from Frobisher by the Esquimaux; found and identified the exact place of their landing and prior account of Warwick's Sound therefrom; Frobisher's attempt to plant the colony of 100 men; recovered a large number of relics of said expedition; and have explored over 1,000 miles of coast, including the so-called Frobisher's Strait.

Sanitary Condition of Gloucester.—The fourth report on "The Sanitary Condition of Gloucester and its Vicinity" has been published. It gives the statistics for 1861. The average death-rate in the city proper in 1840-1-2 was 28·45 per 1,000: in 1861 it had been reduced to 21·26 per 1,000,—a saving of seven lives in every thousand of the population. The population of the city parishes in 1861 was 16,220; the births, 613; the deaths, 344. No less than 90 of the deaths were children under five years old; and the next highest classes of sufferers were persons aged between 50 and 60 years,—42. The highest death-rate was in the parish of St. Mary de Grace, 27·88 per 1,000; and the lowest in St. Michael, 13·11 per 1,000. The population of the suburban district of the city in 1861 was 9,149: the births were 340 against 340 in 1860; the deaths 177 against 160 in 1860. The death-rate was 19 34 per 1,000, or 51 living to every death. The highest death rate was in the South Hamlet, 26·97; and the lowest in the North Hamlet, 12·29 in Kingsholm St. Catherine it was 14·65; and in Kingsholm St. Mary, 21·25. The infant mortality was 40·07.

Taunton School of Art.—The annual meeting of the friends of this institution, for the distribution of prizes, has just been held in the school, Bath-place. Mr. F. W. Newton presided; and the meeting was attended by a large number of the students, and of ladies and gentlemen taking an interest in its welfare. In moving the adoption of the report, Mr. R. G. Badcock said the school had been established now seven years, and he was glad to find that it sustained its character, and that this year there were a greater number of prizes and medals than in any former year; there being, he understood, so many as one hundred and fourteen prizes and medals, besides one national medallion. The chairman, in his address, said:—The number of prizes proves the capacity and indefatigable perseverance of the head-master, and also the determination of the students to avail themselves of it by hard work. Now, hard work I take to be the best subject to dwell upon this evening, and I will tell you why. My idea is that excellence in anything is unattainable without hard work. Depend upon it, "there is no royal road to learning," or, indeed, to eminence in anything without working for it. I will not go the full extent of the axiom laid down by Sir William Jones, and say that "every man may do what man has done." I don't mean to deny that there is special genius for special purposes, but I do maintain that *genius* is only another name for capacity for hard work. The power of concentrating all one's faculties on one subject, of giving all one's mind and soul to it, is really the test of genius. Those heaven-born geniuses whose works we contemplate with such admiration are really the hardest workers.

Opening of the Great Organ at Doncaster Church.—The great organ, built here by Herr Schultze, of Paulenselle, Germany, has been opened in presence of the leading clergy and inhabitants of the district. It is said to have proved satisfactory. The cost of the organ is about 3,000*l.*, and five years have been occupied in its erection.

Mediæval Paintings.—The restoration of Kingscliffe Church, now in progress, has led to the discovery of several Mediæval paintings on the walls. One is illustrative of the legend of St. Margaret and the Dragon: another appears to represent the festival of All Saints. The Rev. E. Wells and the Misses Berkeley are taking steps for the preservation of these relics.

The Cathedral of Sydney.—At a recent meeting, presided over by the Governor, Sir John Young himself puts down his name for a subscription of 33*l.* 6s. 8d. a year, for three years, towards the general fabric of this cathedral; Mr. C. Kemp, Mr. T. S. Mort, and Mr. John Campbell, for 100*l.* a year for the same term; and the Bishop of Sydney, who is the only clergyman on the list, for 25*l.* a year. In addition to these subscriptions towards the general fabric, twenty-one persons have made themselves responsible for as many stained-glass windows for the nave. Already 3,000*l.* have been guaranteed. The east window is to be a memorial to Bishop Broughton: Mr. Mort gives the west; Archdeacon Cowper, Mr. C. Kemp, and seventeen other laymen one each. Mr. William Mort, of Fenchurch-street, in London, takes the financial management of the work in this country, and the Rev. E. Coleridge, of Eton, the artistic.

Explosions of Copper Gaspipes.—Some time since, it was discovered that, when gaspipes constructed of copper or bronze have been long submitted to the action of ordinary coal-gas, an explosive compound of copper and acetylen (one of the many ingredients of coal-gas) is formed. When dry, this compound detonates with extraordinary violence as soon as it is rubbed, struck, or heated. Accidents have occurred, and workmen have lost their lives, while cleaning large copper gaspipes, from this circumstance. No such explosive compound appears to be formed when iron or lead is used. Dr. T. L. Phipson, of Putney, writing to the *Times* recently on this subject, draws renewed attention to the fact that large copper gaspipes are unsafe, and that some other metal should be substituted for the copper, as the latter may give rise to explosions at any moment. As concerns small pipes constructed of this metal, they should not be allowed to get foul; and, when about to be cleaned, hydrochloric acid should be introduced into them for about ten minutes before they are submitted to any heat or friction. Hydrochloric acid decomposes the explosive compound, combines with the copper, and puts the gas acetylen in liberty. The acid may then be washed out with hot water.

The New Cemetery at Witton.—The *Birmingham Journal* gives some particulars as to the formation of this cemetery, which will shortly be consecrated. The chapels are in the Decorated style, with tower and spire, and otherwise similar in design, though varied in detail. The episcopal chapel is 53 feet by 25 feet; waiting room, 32 feet by 15; octagonal reception room, 15 feet diameter. The roof is open-timbered, and the fittings are in pitched pine varnished. The carving was executed by Mr. Meriton, of Nottingham. The entrance to the superintendent's residence is surmounted by a tower with high-pitched roof and four dormer lights. The house has bay windows. The materials of the buildings are Hampstead stone with Bath dressings. The total cost of the works will be about 40,000*l.*; 4,000*l.* of which are for the chapels; 1,200*l.* for the superintendent's residence; 300*l.* for the porter's lodge; 2,500*l.* for the boundary-wall; and 400*l.* for the park paling and holly hedge. The whole of the works, including some stabling, &c., in course of erection, and excluding the chapels, &c., are under the superintendence of Mr. W. S. Till, the borough surveyor. The architect for the chapels, lodges, and gateways is Mr. R. Clark, of Nottingham. The builder employed under him is Mr. Charles Wright, of Nottingham. The clerk of the works in this department is Mr. Beeson. Mr. Cresswell is the contractor for the brick boundary fence; Mr. Newey, of Harborne, for the park paling; Messrs. Sidwell, for the laying out and draining of the grounds; Mr. Chaplin, for the stone steps and balustrades; and Mr. Ashwell, of Coventry, with the assistance of Mr. Till, prepared the plans for laying out and planting the grounds. Messrs. Taylor, of Loughborough, have been employed to found two bells in B flat for the chapels.

Velocipedal Progress.—Mr. Harris, landlord of the Fox and Crane, Bristol, accompanied by his brother, has adopted the novel mode of visiting the International Exhibition on his own velocipede (constructed by Mr. Harris). They arrived in London, a distance of 118 miles, in twenty-one hours and a half; and, after spending three days in the metropolis, the return journey was comfortably performed in eighteen hours.

The Monument to Columbus at Genoa.—The fourth statue belonging to the monument erected at Genoa to the memory of the immortal Genoese pilot, Christopher Columbus, was put in its place on the 24th ult. The inauguration of the monument has been prematurely caused by his ancient and auspicious coadjutor the wind; which appears to have impatiently torn the veil in two that concealed the statue, and cast a part of it, in a most artistic manner, over the arm of the hero.

The New Law on Drinking Fountains.—In the new Metropolis Local Management Act, of the late session, there is a provision to the effect that a vestry or district board may provide and maintain drinking-fountains in such convenient and suitable situations as they may deem proper, and undertake the maintenance of any drinking-fountain already erected, and supply the same with water, and defray the expenses; and any expenses incurred in maintaining any such fountain, or supplying the same with water, are to be paid out of the general rate authorized to be levied. Any person guilty of wilfully fouling the water of a drinking-fountain is to forfeit and pay to the vestry or district board a sum not exceeding 5*l.*, to be recovered in a summary proceeding; and also to pay the expenses of repairing or reinstating any such fountain.

New Law on Highways.—By the new Highway Act, passed in the last session, and which has immediate operation, "highway districts" can be formed by justices in session, and all roads kept in proper repair. A provisional order for the formation of a district can be made, of which public notice is to be given, and objections heard. The justices are authorized either to rescind the order made, or to grant a final order. "Waywardens" are to be elected, and sit at the board with the justices. The highway boards have the appointment of officers; and the district surveyor of a board is every year to make an estimate of the expenses likely to be incurred in maintaining and keeping the roads in proper repair. The expenses of each district board are to be charged on the several parishes forming the district; and payment, when refused by the chuchwardens and overseers, to be enforced against them. The churchwardens are empowered by the new act to levy rates for making payments to the highway boards. In the 47th section of the statute it is shown how a "better management of highways" can be effected in England.

The Middle Level.—The syphons which have been in course of construction for some months past, for discharging the waters of the middle-level drain over the dam, were tried for the first time on Monday afternoon and evening; and, according to the *Times*, so far with complete success. The water had lately been rising to such a height within the dam as to again alarm some of the people of Marshland, and lead them to predict that, if not their own country, certainly that of the middle level itself must be flooded in the ensuing winter. The trial has done something to quiet these apprehensions. Of the fifteen syphons, each 3½ feet in diameter, six only have as yet been laid down; and it was on these the experiment was made. Mr. Hawkshaw, C.E., Mr. Appold, Mr. Harrison, C.E., Mr. Lynn, C.E. (the resident engineer), and other scientific men were present, to conduct and test the operations. The air was exhausted from the tubes by a pump worked by a small steam-engine erected on the bank, and the appearance of water in the pump was the signal to cease working. When the valves at the outer ends of the syphons opened, the water poured over in continuous streams of the full capacity of the outlets; rushing into the outer side of the drain (which now forms a creek from the Ouse) with the noise of a cataract. Of course, the water only continued running during the time when the water level outside was lower than that within the dam—that is, from about half-tide to half-tide; but during this interval so great was the quantity delivered that the level of water within the dam was reduced by 9 inches. This result exceeded the expectations of the engineers; and from it may be drawn a satisfactory opinion as to what will be the efficiency of the syphons when their number has been increased to fifteen, which it is hoped they will be before winter fairly sets in.

Gibson's "Cupid."—The coloured "Cupid" has been sold, it is said, for fifteen hundred pounds.

Post-office Savings Banks.—Notwithstanding the depression of trade and the distressed condition of the manufacturing districts, the Post-office Banks are rapidly attaining a business of enormous magnitude. The acknowledgments for deposits are printed with consecutive numbers; and Mr. Tidd Pratt states that, two months ago, there had been already more than 360,000 deposits. Many post-offices are known to have issued books to more than 500 depositors; several to more than 1,000; and there are above 2,500 Post-office Banks open. Trustees of old savings banks are rapidly determining to transfer their labour and responsibility to the shoulders of the Government.

Plans for County Down Lunatic Asylum. The *Downpatrick Recorder* states that, in accordance with the resolution passed at last assizes—viz., that plans should be advertised for,—the secretary of the grand jury wrote to the proper quarter for information; and, in reply, received a communication from the Board of Control, to the effect that they had no power to sanction the payment of money as a premium for the best plan. The committee had then no alternative but to appoint an architect, whose plans, when ready, will be submitted to the Board of Control for their approval. Mr. Smyth, the county surveyor's plans for the intended asylum, adds our authority, will be ready by the end of November: they will then be submitted to the Board of Control; and, if approved by that body, will subsequently be laid before the Grand Jury at the ensuing assizes.

Public Income and Expenditure.—It appears from a return just issued "of the public income and expenditure in each year ending the 31st of March, 1859, to the 31st of March, 1862," that the total income for the year ending the 31st of March, 1859, was 60,961,315*l.* 3s. 8d., and the total expenditure for the same year 60,147,913*l.* 14s., being an excess of income to the amount of 813,401*l.* 9s. 8d. The total income for the year ending the 31st of March, 1860, was 66,651,120*l.* 13s. 10d.; the expenditure 65,063,741*l.* 0s. 8d.; being an excess of income over expenditure to the amount of 1,587,379*l.* 13s. 2d. The total income for the year ending March 31, 1861, was 65,796,226*l.* 11s. 7d., and the expenditure for the same period, including 50,000*l.* for fortifications, 68,354,611*l.* 3s. 2d.; being an excess of expenditure over income to the amount of 2,558,384*l.* 11s. 7d. The total income for the year ending March 31, 1862, was 64,974,897*l.* 18s. 8d.; and the total expenditure 67,386,904*l.* 2s. 2d., including 970,000*l.* for expenses of fortifications, being an increase of expenditure over income to the amount of 2,412,006*l.* 3s. 6d.

The Accident at the New-street Station, Birmingham.—The inquiry concerning the death of the unfortunate men who were killed on the occasion of the recent distressing accident at the New-street station has been resumed. Two of the workmen employed under Mr. Wood in painting the roof were first examined. One said the scaffolding was not sufficiently strong; and the other spoke to a conversation alleged to have taken place between Mr. Holmes, the contractor for the scaffold, and a number of the workmen, when the former was reported to have said that the job would be his ruin. Mr. J. J. Bateman, architect and surveyor, produced a plan showing the position of the *débris* at the station after the scaffolding fell, and gave evidence at some length relative to the strength of the planks and other supports. He could not say whether the scaffold was strong enough unless he understood the weight it was intended to hold. He calculated, taking the situation of the men on the scaffold as given by the witness Green on a former occasion, that there would be nearly 3½ cwt. on it; and in addition to that there would be 4½ cwt. of planking; making a combined weight of 8 cwt., which was more than the breaking weight; whence he inferred that the strength of the iron rods was not sufficient for the weight imposed upon them. Mr. G. Holmes, the contractor for the scaffold, stated that he erected it on the 4th of August last, for Mr. Bikker, the first contractor for the painting; and that it had been approved by him, as it was subsequently by Mr. Wood, and his foreman, Mr. Gill. There had never been any complaint made to him about the scaffold, and he could only account for the accident on the supposition that a weight was concentrated upon the end of one trussel, which was more than it was able to bear. The inquiry was further adjourned.

New Freestone Quarry near Forres.—Mr. Meakin, in his excavating operations on the Inverness and Perth line of railway, says the *Forres Gazette*, has recently discovered a bed of capital freestone at a cutting on the north side of the Lochnavandoch Park, on the estate of Altyre, about three miles by rail from Forres. There is 8 feet of a face of stone above the level of the railway; and how deep the rock may be is not known. Workmen have reported on the stone as of excellent building quality, although somewhat soft at the surface.

Another Well-sinking Accident.—At Rushhill, near Bath, three men were engaged in sinking a well. The work had been suspended, and resumed. The well was about 55 feet deep. The first to descend was seen to fall out of the bucket. Another descended, and met a similar fate. The man who was at the surface ran off to give information of what had occurred; and during his absence a mason living close by arrived at the well, and was let down by two women, only to meet the same fate. A fourth man was let down, but the precaution was taken of attaching a rope to his waist; and as soon as his head was observed to droop he was drawn up in an insensible state; but the pure air speedily restored him to consciousness. A pumping apparatus was then procured, by means of which (and a very good plan too; for carbonic acid gas flows like water, though invisible) the accumulated foul air was exhausted from the well, and the bodies of the unfortunate men were recovered. Pressing "necessity," in this case, seems to have been "the mother of invention." Perhaps, where a fitting pump can be readily obtained, it is the best means of all for clearing a well of foul air.

TENDERS.

For building a small villa, Harrow-road West, Dorking, for Mr. C. Nunn. Mr. F. J. Dibble, architect:—

Hamblin	£719 0 0
Lynn & Dudley	635 0 0
Inkpen (accepted)	620 0 0

For two houses at Newington, Kent. Mr. F. J. Colwell, architect:—

Manley & Rogers (accepted)	£760 0 0

For alterations and additions to the Tabernacle Chapel Hanley. Mr. R. Scrivener, architect:—

Boothroyd	£352 0 0
Steele	275 0 0
Matthews (accepted)	268 16 0

For additions to South Terriby Rectory, Lincolnshire. Mr. Goddard, architect:—

Otter & Reynolds	£447 10 0
Stamp	300 0 0
J. Dent	299 0 0
Gibson	297 10 0
R. Usher	293 6 1
Johnson (accepted)	278 0 0

For alterations at the Lincoln Grammar School. Mr. Goddard, architect:—

Fox	£365 0 0
Barnes & Birch (accepted)	322 18 0
Catton	320 10 0

For one pair of farm labourers' cottages on the estate of Mr. H. E. Gurney, at Horley. Plans and specifications by Mr. J. F. Matthews. Quantities taken out by each party:—

Barnes	£240 0 0
Holdsworth	272 0 0
Nightingale	338 10 0
Thornton	348 0 0

For rebuilding house No. 32, Little Marylebone-street, for Mr. R. Ford. Mr. J. Worthington, architect:—

Morris	£1,040 0 0
Baggaley	948 0 0
Mennement	880 0 0
Henshaw	880 0 0
Hart	865 0 0
Humphries	798 0 0

For building warehouse at Bethnal-green, for Messrs. Schooling. Mr. C. Gray, architect. Quantities supplied:—

Macey	£2,489 0 0
Clemence	2,483 0 0
Forrest	2,410 0 0
Howard	2,407 0 0
Read & Son	2,381 0 0
Dudley	2,031 0 0
Livermore	1,735 0 0

For new kitchen offices, Moat, Mount Hendon, for Mr. E. W. Cox. Mr. T. H. Vernon, architect:—

Wardle & Baker	£1,200 0 0
Dove Brothers	1,045 0 0
Patman & Fotheringam	1,029 0 0

For new shop-front and repairs to 42, Union-street, for Mr. Benjamin. Messrs. Scurry & Wright, architects:—

Norrish	£590 0 0
Foxley	550 0 0
Roper	530 0 0
Tracey	527 0 0
Sapwell (accepted)	494 0 0

For three villas, Westcombe-park, Blackheath, Kent. Mr. J. Tolley, architect:—

Watts (accepted)	£3,363 0 0

For alterations to mews, Islington. Mr. J. Tolley, architect:—

Williams (accepted)	£236 0 0

For building house in Prospect-street, Reading, for Mr. W. Neall. Quantities supplied. Messrs. Cooper and Goulding, architects :—

Wheeler, Brothers	£1,399	9	0
Woodroffe	1,196	0	0
Norris	1,192	0	0
Strong	1,187	0	0
Barncoat	1,178	0	0

For additions and alterations to No. 43, Conduit-street, for Messrs. J. Brie & Co. Mr. T. K. Green, architect :—

Clarke & Mannooch	£1,250	0	0
Foster	1,230	0	0
E. Marne & Son	1,197	0	0
G. H. & A. Bywaters	1,148	0	0
N. Groombridge & Co.	978	15	0
Walker (accepted)	885	0	0

For rebuilding the Coach & Horses public-house and private house adjoining, Nottng-hill, for Mr. Whitc. Mr. T. R. Parker, architect :—

Green	£3,721	0	0
Duncanson & Moultrie	3,492	0	0
Colls	3,467	0	0
Cross	3,345	0	0
Huggett	3,300	0	0
Cowland	3,297	0	0
Saunders	3,249	0	0

"*Villas at Eccles.*"—We are asked to say, Mr. Webster is the architect. The gentlemen whose names were printed in that capacity, supplied the quantities.

TO CORRESPONDENTS.

W. R. (The same thing has been said for years by the *Builder*).—E. R.—T. H. V.—Eagle Eye.—R. A. P.—J. R. S.—W. P. (Inquiry shall be made).—J. H. L. A.—B. B.—T. A.—W. A. O' D.—S. N.—W. H. H. (The material named is calculated to increase the probability of dry rot occurring, especially if there be free access of fresh air below).—G. E.—J. F.—A. F.—O. J. & J. S. (The first letter did not contain the name of any architect).—T. R. W. (Yes; but it would require work Laws of the institute may be obtained at No. 9, Conduit-street).—J. U. (We are unable to recommend).—H. P. & G. M. (the arrangements rest with the Council architect)

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

ADVERTISEMENTS.

KELLY'S PRACTICAL BUILDERS' PRICE-BOOK; or, Safe Guide to the Valuation of all kinds of Artificers' Works; with Lie Modern Practice of Measuring, and an abstract of the New Building Act for regulating the Construction of Buildings. Revised and Corrected by New Quotations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring surveyors. Illustrated with numerous Steel Engravings, and numerous Woodcuts. Royal 12mo, 7s. neatly bound.

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL; and may be had of all Booksellers.

Of whom may be had, New Editions of each of the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET-MAKING, Revised by TREDGOLD: being a new and complete System of Lines, for the Use of Workmen; founded on Geometrical and Mechanical Principles. Ten parts at 3s. or in boards, 30s.; containing upwards of 120 Steel Plates, and 1,000 Wood-cut Figures.

2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING (revised by TREDGOLD), both plain and ornamental; containing a new and complete System of Lines for Stone Cutting, for the Use of Workmen; the Formation of Mortars, Cements, Concrete, to which is added a variety of new Designs for Chimney-pieces, Tombs, Gravestones, Centerings, &c. &c.; and a description of the various materials employed. Ten Parts at 3s.; in boards, 30s.; containing upwards of Ninety Steel Plates and Nine Hundred Wood-cuts.

3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the FIVE ORDERS of ARCHITECTURE: containing plain and simple Rules for Drawing and Executing them in the purest style; including an historical Description of Gothic Architecture. Illustrated by upwards of One Hundred Steel Engravings, executed by Artists of first-rate talent, including numerous Diagrams, &c. Twelve parts at 3s.; or in boards, 36s.

4. DESIGNS for COTTAGE and VILLA ARCHITECTURE: containing Plans, Elevations, Sections, Perspective Views, and Details, for the Erection of Cottages and Villas. By S. H. BROOKS, Architect. Beautifully engraved on Steel, with Dimensions and Working Drawings. Ten Designs for Cottages and Villas. Twelve parts at 2s.; or in boards, 24s.

5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views, and Details of Churches, Chapels, Almshouses, Gas Works, Markets, and other buildings for public purposes. By S. H. BROOKS, Architect. Beautifully engraved on Steel. Ten Designs for Churches, Chapels, &c. Twelve parts at 2s.; or in boards, 24s.

6. THE HOUSE DECORATOR and PAINTER'S GUIDE: containing a series of Designs for Decorating Apartments with taste, and suited to the various styles of Architecture. By H. W. and A. ARROWSMITH, House Decorators to her Majesty. Ten Parts, at 3s.; or in boards, 32s.

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION: containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the Origin of Colour, the Laws of Harmonies, Containing the Manufacture of Pigments, Oils, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by select Specimens of Real Brush Graining and Marbling. Ten Parts, at 3s.; or in boards, 32s.

THE ENGINEERS' and MECHANICS' ENCYCLOPÆDIA, a new and enlarged edition, comprehending Practical Illustrations of the Machinery and Processes employed in every description of Manufacture of the British Empire. Illustrated by upwards of 2,000 Wood Engravings. By LUKE HEBBERT, Civil Engineer, &c. The original process of Mechanical Science has not occupied many of the ingenious facts since the first publication, in 1830, of the Encyclopædia. The Inventions and discoveries recently made have engaged the sedulous attention of the Editor; for, as the value of each was tested by experiment, a description was accordingly prepared. By this plan he has been enabled gradually to enrich; so that it may be preserved as fully and faithfully expressing "the existing state of Engineering and Mechanism, adapted to the wants of Practical Men." In two large 8vo volumes, cloth lettered, price 30s.

Just published, price 2l. 2s.

MANUAL of HYDROLOGY. By NATHANIEL BEARDMORE, Civil Engineer. CONTAINS:—

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 66, London-wall. 1862.

Just published, Part I. containing Five Plates, imp. 4to. price 3s.

MODERN ARCHITECTURE: ECCLESIASTICAL, CIVIL, and DOMESTIC. Illustrated by Views and Plans of Gothic and Classic Buildings executed since 1850. By JAMES MURRAY, F.R.I.B.A.

This work will consist of Lithographic Views and Plans of Churches, Town-Halls, Residences, Warehouses, Schools, Village Street Houses, &c. &c. and will be published in Parts. Parts Published Monthly. Subscribers' names to be sent to the Author, at 5, Warwick-green South, Coventry.

NEW REFERENCE-BOOK FOR STUDENTS AND LIBRARIES. In crown 8vo. price 12s. 6d. half-bound, 520 pages.

THE MANUAL of DATES. A Dictionary of Reference to all the most Important Events in the History of Mankind to be found in Authentic Records. By GEORGE H. TOWNSEND

London: ROUTLEDGE, WARNE, & ROUTLEDGE, Farringdon-street.

LONDON AND ITS SUBURBS IN 1862. In 16mo. 1s. cloth, or post-free, fourteen stamps,

ROUTLEDGE'S POPULAR and COMPREHENSIVE GUIDE TO LONDON and its SUBURBS. By G. F. PARDON.

With an original Map, and 11 pages of Illustrations. *.* In ordering, name ROUTLEDGE'S LONDON GUIDE by PARDON

London: ROUTLEDGE, WARNE, & ROUTLEDGE, Farringdon-street.

On 1st of October, price 1s. 6d. No. CLII. (CXVI. New Series),

THE ECCLESIOLOGIST. Published under the Superintendence of the Ecclesiological Society.

CONTENTS: Sepulchre in Lydd.—Nonarchitectural Arrangement of Churches.—Notes on Local Churches (with a plate).—The right to ring Church Bells.—Lee's Iona Sibumm.—The Triptych discovered in Hexham Abbey Church.—Bishop Pudsey's Buildings in the present County of Durham (with plates).—Restoration of Guildhall, London.—The late Mr. Lestrange.—Floral Decorations.—The Old 100th Psalm, &c.—Reports of Societies, &c.

London: J. MASTERS, Aldersgate-street, and New Bond street.

THE EDINBURGH REVIEW, No. CCXXXVI. ADVERTISEMENTS intended for insertion are requested to be forwarded to the Publishers immediately. ADVERTISEMENTS and BILLS cannot be received later than THURSDAY NEXT.

London: LONGMAN & CO. 14, Ludgate-hill.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES: 13 FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

TO GENERAL CONTRACTORS, PLUMBERS, and DECORATORS.—Any respectable Practical Man, with 300*l.* at his command, may hear of an UNDENIABLE OFFER in an Old-Established Business a few miles from London. Established 100 years.—Apply to Mr. BUTTON, Glass Merchant, late Allwoods & Smith, Bridge-street, Blackfriars.

ARCHITECT'S PUPIL.—A Gentleman's SON can now be received as OUT DOOR PUPIL by an Architect and Surveyor, in London, of established practice. Premium moderate.—Address, PRECEPTOR, care of Messrs. Dawson & Sons, 74, Cannon-street, London, E.C.

ASSISTANCE for Two Months REQUIRED in Preparing Working Drawings to a Gothic Style Country Mansion. Must be ready to go to Scotland.—Address, C. G. Post-office, Alexander-street, Westbourne-park, W.

AGENTS WANTED to SELL MASONS' TOOLS on COMMISSION.—Apply to J. STATHAM, Masons' Tool Factory, Ogden-street, Fairfield-street, Manchester.

TO STONEMASONS. 700 or 800 STONEMASONS will FIND EMPLOYMENT at Manchester, by applying to Messrs. J. & R. IBBERSON, Contractors, David-street, Manchester Warehouse, Greenwich.

WANTED, in an Architect's Office, a well-educated Youth who can write well, and has a knowledge of drawing.—Address, R. S. Office of "The Builder."

WANTED, by a London Firm, a thoroughly competent GENERAL FOREMAN. A carpenter by trade preferred.—Address, stating age, where last employed, and salary required, to X. L. Office of "The Builder."

WANTED, immediately, in the country, TWO Cutters (French, for English stone), and STONE CARVERS. Constant employment. Address, Mr. R. L. BOULTON, 15, Edgar-street, Worcester.

TO JOINERS.

WANTED, immediately, SIX GOOD JOINERS.—Apply to BROADBENT & SON, Contractors, Leicester.

TO CARPENTERS AND JOINERS.

WANTED, a GOOD HAND, for a constancy, in London.—State age, and wages required, with reference, &c. to HAMMOND, Office of "The Builder."

WANTED, in a Contractor's Office, a CLERK who writes a good hand, is quick at figures, has a good knowledge of book-keeping and accounts.—Apply by letter, with full particulars, to A. B. Fenchurch-street, London.

TO GRAINERS, &c.

WANTED, immediately, to fill a permanent SITUATION, an experienced GRAINER, WRITER, and DECORATOR.—Apply, stating terms and references, to W. GLOVER, House Decorator, Basingstoke, Hants.

WANTED, by the Advertiser, the Son of a Builder, aged 24, a SITUATION as FOREMAN of BRICKLAYERS, or to Contract for Jobs. Has a thorough good knowledge of both, and has been brought up to the trade for years. Good references as to ability and integrity. Town preferred.—Address, S. L. 12, Bury-street, Fulham-road, Brompton.

WANTED, by a thoroughly practical Carpenter and Joiner, a SITUATION as SHOP or GENERAL FOREMAN, or to Take Charge of a Job. Town or country. First-class reference, or 50*l.* bond if required.—Address, W. H. J. 96, White Hart-street, Kennington-park, S.

WANTED, by a steady active Young Man, a SITUATION as DRIVER to a LOCOMOTIVE or a STATIONARY ENGINE. Highly satisfactory references can be given as to ability, &c.—Address, A. N. No. 1, Rodwell-street, Weymouth, Dorset.

TO BUILDERS.

WANTED, by a good Draughtsman, a SITUATION in a large Builder's Office in the country. He is desirous of giving his services gratuitously for the sake of further improvement. He has been for the last five years in an Architect and Surveyor's Office in London, and can give excellent references.—Address, E. M. care of Mr. Stevens, Stationer, 42, Tottenham-court-road, W.

TO BUILDERS AND OTHERS.

WANTED, by an Assistant Draughtsman, a RE-ENGAGEMENT in a Builder's or Engineer's Office. Salary small if with chance of improvement or permanent engagement. First-class references and testimonials.—Address, J. A. care of Mr. Bennett, 27, Bonsborough Gardens, Pimlico, S.W.

TO ARCHITECTS.

WANTED, by a competent Draughtsman, aged 20, an ENGAGEMENT in an Architect's Office.—Address, A. Z. care of the Housekeeper, 10, Lancaster-place, Strand, W.C.

TO BUILDERS, PLUMBERS, &c.

WANTED, a JOB, by a good PLUMBER. Address, PLUMBER, Mr. King's, 16, Charles-street, Manchester-square.

TO IRONMONGERS AND BUILDERS.

WANTED, by a thoroughly Practical Man, SITUATION as BELL-HANGER, GAS-FITTER, or HOT WATER HAND. No objection to the country.—A. B. Mr. Sault's, Ironmonger, Cudham-street, Westbourne-terrace, Paddington.

TO BUILDERS AND OTHERS.

WANTED by a married Man, aged 32, a SITUATION as TIMEKEEPER, Storekeeper, or in any other capacity. Good references.—Address, G. C. 72, Union street, St. Pancras, N.W.

TO BUILDERS

WANTED, by a Young Man, a RE-ENGAGEMENT in the Office of the above. Can keep books, take out quantities, estimate, and measure up work. Has served his time at the bench. Unexceptionable references.—Address, D. B. 9, Grafton-street, Fitzroy-square, W.

TO BUILDERS, PLUMBERS, &c.

WANTED, by a first-rate PLUMBER, a PERMANENT SITUATION. Would not object to fill up his time with painting occasionally.—Address, J. W. C., Christiana-place, Victoria road, Peckham.

TO BUILDERS AND CONTRACTORS.

WANTED, by a thoroughly-practical Man, a SITUATION as SHOP or GENERAL FOREMAN. Can have fifteen years' character from late employers. Address, B. D. Office of "The Builder."

TO BUILDERS AND PLUMBERS.

WANTED, a SITUATION, by a good Plumber and Gasfitter. Could fill up time with painting and glazing.—Address, L. J. 21, Gloucester-place, Fitzroy-square, W.

WANTED, by a Young Man, a SITUATION as IMPROVER in the PLUMBING. Has a very good knowledge of the Work, and has been with an excellent employer.—Address, W. P. 47, Dean-street, Soho.

TO BUILDERS.

WANTED, PLASTER WORK, finding scaffolding and materials, or labour only. Payment by instalments. First-class references.—Address, T. S. at Mr. Stoke's, 19, Lisle-street, Leicester-square, London.

TO CIVIL ENGINEERS AND SURVEYORS.

WANTED, by the Advertiser, a SITUATION as ASSISTANT to (or IMPROVER under), a CIVIL ENGINEER or SURVEYOR.—Address, P. A. B. Post-office, Lambs' Conduit-street, W.C.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a BRICKLAYER, a RE-ENGAGEMENT as FOREMAN, or would prefer to take any amount of piecework. No objection to the country, or to go abroad. Good references.—Address, A. B. S., Hickman-street, Walton-street, Chelsea.

WANTED, by the Advertiser, a SITUATION as SHOP FOREMAN of JOINERS, or General Outdoor Foreman's Duties. Good references from last and former employers.—Address, M. A. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, a SITUATION as GENERAL or WORKING FOREMAN, by a JOINER who has a thorough practical knowledge of the business in all its branches, and is competent to take charge of a job in hand or to measure up work. Country preferred. No objection to go abroad. Salary moderate. Address, TRINITY, Office of "The Builder."

TO PAINTERS, BUILDERS, &c.

WANTED, by a first-class Oil and Spirit Grainer, Marbler, Writer, &c. a permanent SITUATION, in or near town. Total abstainer.—Address, A. B. 47, Bell-yard, Temple-bar, City.

WANTED, by a steady, respectable Young Man, a Permanent SITUATION as a THREE-BRANCH HAND. He has had three years' experience, and can be highly recommended for steadiness and ability from his present employer, whose name he may refer to.—Apply to R. HUTCHINSON, Hardware Merchant, Rochester, Kent.

TO BUILDERS.

WANTED, by a thoroughly practical Man, SITUATION as OUT DOOR FOREMAN. A Job, or to Look after Hands. Total Abstainer. X. Y. Z. 5, Ivor-place, Hyde Park-gardens, W.

TO ARCHITECTS.

WANTED, by the Advertiser, who has had several years' experience in architect of standing, a JUNIOR PARTNERSHIP in a London Office. Salary a secondary consideration.—Address, ALPHA THETA, Office of "The Builder."

TO SMITHS, BELLHANGERS, AND GAS-FITTERS.

WANTED, by an experienced Man, aged 30, a constant SITUATION. Is well acquainted with bath and hot water work. Good reference.—Address, W. J. N. 4, St. Mark's-road, Kensington.

WANTED, a good WOOD CARVER.—Apply, Messrs. MABOLEY & EVELEY, 127, High-street Oxford.

TO ENGINEERS AND OTHERS.

WANTED, EMPLOYMENT as STATIONARY ENGINE DRIVER and STOKER. No objection to town or country, and willing to make himself generally useful.—Apply to A. B. 8, Melina-buildings, Westminster-road, S.

WANTED, an ENGAGEMENT, as GENERAL FOREMAN, MANAGER, or CLERK of WORKS. In town or country. A joiner by trade, quite competent, and good references.—Address, A. B Hoxton-street, etc.

TO ARCHITECTS AND BUILDERS.

WANTED, by a first-class practical Joiner, a RE-ENGAGEMENT as CLERK of WORKS, or to take the Management of a Builder's Business. Is a good draughtsman, can take out quantities, estimate, &c. Twelve years' undoubted references from present and previous employers. Aged 43 years.—Address, ALPHA, Windsor Castle, Hammersmith.

TO ARCHITECTS AND BUILDERS

WANTED, a RE-ENGAGEMENT, by a thoroughly practical CLERK of WORKS or GENERAL BUILDER'S FOREMAN. Is a good working and detail draughtsman, and has a perfect knowledge of the building trade.—Address, J. W. Barrett-place, Old Market, Bristol

TO ARCHITECTS, SURVEYORS, LAND SURVEYORS, &c.

WANTED, to PLACE a YOUTH as an APPRENTICE, for a period of four or five years, with an Architect or Land or General Surveyor, who has a good business in a country town; the youth to reside with the family.—Apply by letter stating terms, to D. M at Mr Watson's, Stationer, 7, St. Ann's lane, General Post-office, London, E.C.

TO ARCHITECTS, CONTRACTORS, AND BUILDERS.

WANTED, a SITUATION, as CLERK, BOOKKEEPER, &c. by an active and industrious Man. Has a practical knowledge of the building trade, can draw ordinary plans and specifications, quick and correct at quantities, can superintend the working department, and willing to make himself generally useful. Excellent testimonials.—Address, W. C. B. 1, Glen Vue, East Grinstead, Sussex.

YARD CLERK.—WANTED, in the above capacity in a Builder's Firm, an active Man, who has some knowledge of the business. He must be competent to measure timber and materials.—Apply by letter only, stating salary required, to J. R. C. 4, Christopher-street, Hatton-garden, E.C.

TO ARCHITECTS, &c.—A Gentleman, of considerable practical experience, would undertake to SUPPLY DRAWINGS, SPECIFICATIONS, and QUANTITIES of BUILDING WORKS on specified terms.—Address A. B. Clifton Villas, Lansdowne-circus, South Lambeth.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who can prepare working, detail drawings, and specifications, and undertake constant with the routine of an office, also understands perspective, desires an ENGAGEMENT Moderate salary.—A. Bros, R. C. J. 52, Newington-place, Kennington, S.

TO NOBLEMEN, ARCHITECTS, AND CONTRACTORS.

THE Advertiser, an Architect by profession, is desirous of an ENGAGEMENT with either of the above as Superintendent or Clerk of Works, or General Foreman. Can make drawings, take out quantities, measure up and estimate, &c. Seven years' references. The country or abroad preferred.—Address, R. W. 1, Charlotte-street, Caledonian-road, N.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser is open to a RE-ENGAGEMENT. Is a good designer and constructionist, and quite competent to prepare finished working drawings, perspectives, specifications, take out quantities, and able to survey, &c. Could prepare plans at his residence. The highest references given. Terms moderate.—Address, L. S. T. Mr. Lyall, stationer, Warren-street, Camden Town

TO BUILDERS AND CONTRACTORS.

THE Advertiser is open to an ENGAGEMENT as Drawing, Measuring, and Estimating CLERK. Is well up in all office duties, competent to take the management of an office during the absence of the principal. First class testimonials for the last fourteen years.—Address, C. B. Mr. Weiland's, Post-office, Walworth road.

STEAM SAWING and JOINERY MILLS (proprietor of).—To BUILDERS, CONTRACTORS, and OTHERS. A thorough practical FOREMAN of STEAM JOINERY and SAWING-MILLS is open to an ENGAGEMENT. A good manager of men, quick at detail, and a thorough judge of timber. Has had the management of a large number of joiners.—Address, Mr. NASH, 4, Upper Rupert street, Pimlico, S.W.

LEAD GLAZING.—WANTED, EMPLOYMENT at plain work.—Address, T. H. Office of "The Builder."

GLASS PAINTING. ASSISTANTS thoroughly competent and well practised in Figure Painting, REQUIRED. None but those of good experience need apply.—CLAYTON & BELL, 311, Regent-street, W.

TO ARCHITECTS, SURVEYORS, &c.

EVENING EMPLOYMENT.—The Advertiser will be glad to assist a gentleman in preparing plans, elevations, sections, and perspective sketches, &c. Good terms moderate. Address, H CHAMBERS, No. 7, Parliament-street, S.W.

CLERK.—WANTED, a SITUATION, either in the office or out-door, where he would be of service to his employer, by a Young Man aged 20, a good accountant and draughtsman, of sober and business habits. References first class.—Address, A. B. C. 12, Ponsonby-street, Millbank, Pimlico.

TO CIVIL ENGINEERS.

A FIRST-CLASS Engineering Surveyor, Leveller, and Draughtsman, is seeking for an APPOINTMENT, or temporary engagement, preparatory to the next session of Parliament. Understands the laying out and construction of Railway Works generally. Is provided with instruments for the office or the field.—Address, C. E. 7, Long-acre, W.C.

TO BUILDERS AND OTHERS

AN experienced practical Man (a Joiner by trade) is in want of a SITUATION. Is a good estimator and measurer, and in every respect qualified to superintend extensive works, or successfully manage a business.—Address, E. A. Office of "The Builder."

TO MASTER BUILDERS AND PAINTERS

A YOUNG MAN wishes for a SITUATION as a THREE-BRANCH HAND; is gilder, frame-maker, and painter. Can be recommended.—Address, A. P. C. Mr. Bushby's, Stationer, Granham.

A YOUNG MAN WANTS a SITUATION as IMPROVER to the CARPENTERING and JOINING Moderate wages.—Address C. 30, Seymour-place, Bryanstone-square.

TO BUILDERS, &c.

A YOUNG MAN wishes for an ENGAGEMENT as Grainer, Painter, and Paperhanger. Terms moderate—Address, H. HARRISEN, 5, Skipton-street, Tollent-an-court-road.

TO SURVEYORS, BUILDERS, &c.

A RESPECTABLE YOUNG MAN, aged 22, wishes to obtain a SITUATION in either of the above offices, or in any other capacity where trust and confidence would be appreciated. Is a neat draughtsman, good accountant, and understands the general routine of an office. Has been five years in an architect and surveyor's office. Unexceptionable references will be given.—Address, E. C. Post-office, Malvern Link, Worcestershire.

TO PLUMBERS.

A YOUTH wishes to ARTICLE himself for a term, to improve in that branch. Can be highly recommended by a foreman of plumbers in London.—Address, J. L. 5, Buttingham Cottages, Duke's lane, Kensington.

A GENTLEMAN wishes an ENGAGEMENT in the Office of an Architect and Surveyor. Can prepare finished, working, and detail drawings, assist in quantities, and is a good arithmetician.—Address, C. B. A. No. 7, Devonshire Villas, Peckham, S.E.

TO ARCHITECTS.

AN Assistant, aged 23, who is competent to make drawings from rough sketches, copy, trace, and colour perspectives, is open to a RE-ENGAGEMENT.—Address, H. E. H. Office of "The Builder."

TO ARCHITECTS.

AN Assistant, who has a thorough knowledge of Gothic Architecture, and has been engaged in first-class offices, is desirous of an ENGAGEMENT, or would prepare drawings at his own rooms. Address, E. L 40, Norfolk-street, Strand

TO ARCHITECTS, SCULPTORS, &c.

A YOUNG ARTIST, who has studied at Paris for some years, is desirous of finding an ENGAGEMENT, or to execute a work, where correct modelling and sculpture are needed.—Address, D. D. Buntington, near Chichester.

A CIVIL ENGINEER'S ASSISTANT desires an ENGAGEMENT. Is conversant with surveying, levelling, making general and detail plans and drawings (including parliamentary), estimates, specifications, taking out quantities, and superintending works. Good testimonials. No objection to abroad. Moderate salary.—Address, T. H. V. Office of "The Builder."

TO BUILDERS AND PLUMBERS.

A YOUNG MAN, who is a good Painter, Grainer, &c wishes for IMPROVEMENT in the PLUMBING. Address, T. W. Mr. Barker's, 3, Cumberland-street, Regent's park.

ANY Architect and Surveyor may well suit himself by a four or five months' ENGAGEMENT being given to a thoroughly qualified ASSISTANT.—Address, L. M. 14, Claremont-place, Judd-street, W.C.

A GOOD PLUMBER and GLAZIER is open to an ENGAGEMENT, having just completed a three-years' job on public work in the West End. First class reference.—Address, C. R. 15, Mortimer-street, Cavendish square.

TO IRONMONGERS.—A first-rate FURNISHING and GENERAL IRONMONGERY BUSINESS to be DISPOSED OF, in the North of England. It has been established 60 years, and has a most extensive connexion amongst gentlemen, manufacturers, and farmers —Application by letter to P. W. care of Messrs. Barber & Groom, Union-court, Holborn-hill, London.

TO PLUMBERS.—TO BE DISPOSED OF, a small but good BUSINESS in the above Line, within six miles of the General Post-office. Possession to be taken when existent contracts are completed. The Lease of the House and Premises, which consist of four good rooms, a workshop 30 feet long, and gateway under it, enclosed back and front, with folding gates, TO BE SOLD. The Stock in Trade to be taken at a valuation. A good and satisfactory reason can be given by the present proprietor for disposing of his business, and he has no objection to take an engagement with the successor.—Apply, in the first instance by letter, to P. W. care of Mr. N. Hersom, Western-street, Stratford, Essex, E

TO ZINC WORKERS and GALVANIZED IRON MANUFACTURERS.—TO BE DISPOSED OF, by private contract, the MACHINERY, GOODWILL, and MACHINERY of a Zinc Works, including the patenting and corrugating plant, capable of working 200 tons per annum. The present returns are about £400 per annum. The machinery includes two perforating machines, the larger one for zinc, with thirty-nine different patterns of punches and matrices, the smaller one for paper and tin plates; a powerful bending, corrugating, or gutter-making machine, 8 feet wide, with dies, astragal machine, draw bench, fly press for fretwork, circular cutting machine, planing machine, lathes, drilling machines, and tools, worked by a 6-horse power steam-engine and boiler. The premises comprise a capital light workshop on the ground-floor, with store room over, counting house, smithy, two-stall stable, and yard. For further particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

EXHIBITION PLATES OF THE

ST. GOBAIN, CHAUNY, and CIREY PLATE GLASS COMPANY, comprising:—

One 174 by 147 UN-SILVERED PLATE
Two 136 by 86 SILVERED PLATES in plain frames.
One 128 by 70 SILVERED PLATE in handsome gilt frame.
One 70 by 40 SILVERED PLATE with fine bevelled edges, in bronze and gilt frame.
One Large SILVERED PLATE in plain frame.
Also, about 8 sheet of Fluted PLATE GLASS in show case. All to be sold cheap.—Inquire for particulars, &c. &c. of Mr. A. DE GRAARDRY, Patentee, which, 15, Upper Thames-street, E.C. where a large assortment of plate glass, of both glazing and silvering qualities will be found, as well as 500 or 600 empty packing-cases, the latter of which will be sold for a mere song.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

TO ARCHITECTS, BUILDERS, &c.

GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F. ODELL & CO. 8, Bath-street, City-road, E.C. or at the Works, 12, Grafton-mews, Fitzroy-square, W.—N.B. Fret and Church Lead sold.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 28, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

BRICKS.—About 300,000 Good Sound RED BRICKS for SALE, lying at the COLE GREEN STATION on the Hertford Branch of the Great Northern Railway.—Apply to Mr. J. B. HOWARD, on the spot.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
" Floor Bricks, 40s. per 1,000.
Mingled Kiln Bricks, at 30s per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire-street Station, at 24s. per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. 8 inches
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.
Price, including royalty, 75l.
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,810.

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, HOUSE PROPRIETORS, &c. &c.—The Waterproof Glue makes an admirable cement for wet foundations, to prevent water rising, and the Varnish will enable damp walls to be papered over directly.
Copy of a letter from Mr. T. E. Owen, architect, Southsea:—
"I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The varnish has succeeded better than any article I have known as an anti-damp, the damp wall being coated with it before papering or painting. If the plastering is sodden and rotten, it should first be substituted with cement. I have used this material successfully for tank-work."
To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos-street, Portsmouth. Mr. GEO. WEEKS, Manager. GEO. G. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS, 242 EUSTON ROAD, ST. PANCRAS.

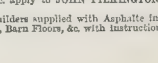
TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
69, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
GARY & PRIER,
DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

ASPHALTE—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1834.—TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by steam power, and laid down in the best manner, or supplied in any quantity. Information for using forwarded with material. Post-office orders or reference in London promptly attended to. Estimates given for every kind of the above work.

POLONCEAU and LIMMER ASPHALTE.



ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

THE ALPHA TUBE & FITTING WORKS.

WALSALL, STAFFORDSHIRE.—Established 1830.

LAMBERT BROTHERS,

MANUFACTURERS OF LAP-WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,

For Steam or High pressure Water and Gas. HIGH PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WASTE CLOSETS, IRON and BRASS GAS-FITTINGS, GASELIERS, &c., and of the GROVE BEDSTEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam Engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, Mills, &c. at the International Exhibition, Walsall Court, Class 31 Exhibited precisely as sold from engravings, and printed prices in trade catalogues.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c, STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.



PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

MANUFACTURERS, BIRMINGHAM.



INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

HAMPSTEAD ROAD JOINERY WORKS.

21, HARRINGTON STREET, N.W.

NEVIL SIMMONDS,

MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.

SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.

Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

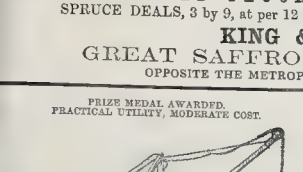
SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,

GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

PRIZE MEDAL AWARDED.
PRACTICAL UTILITY, MODERATE COST.



HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Fitting Frames, Double and Single Power Crab Winches, all sizes. For further particulars apply to BOWSER & CAMERON, Springfield Iron Works, McNeil street, Glasgow

ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES

(For which he obtained the Prize Medal at the International Exhibition of 1862),

which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on view, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.

PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

RAILWAY COMPANIES, CONTRACTORS, and AGENTS SUPPLIED with KEYS, TREENAILS, BUSHES, SLEEPERS, BARROWS, and all descriptions of RAILWAY PLANT and STORES by W. P. FRANCE, GREAT WESTERN SAW-MILLS, Bridge Wharf, Paddington.—Debentures taken in Payment if required.

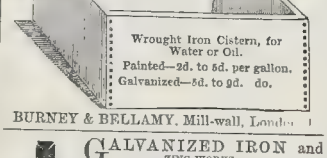
ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW

Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY. Mill-wall, London



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet iron, corrugated and plain, always in stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

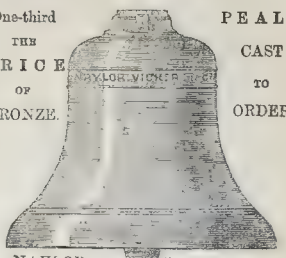
EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

MESSRS. PORTER & CO.'S SMALL GAS-WORKS for MANSIONS and all Isolated Buildings may be seen in the International Exhibition, Class X. No 2432. Plans and estimates for Towns, &c of any magnitude, at home or abroad.—J. T. B. PORTER & CO. Gas Engineers and Contractors, Lincoln; and 7, John-street, Adelphi, London, W.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,

No. 24, Berners-street, Three Doors from Oxford-street.

For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS SMITH, Patentee, 69, Princes street, Leicester-square, London, and SUCH ONLY are WARRANTED.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi),

Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street London E.C.

INTERNATIONAL EXHIBITION, CLASS 32, No. 5,821. ENGLISH and FRENCH PATENT.

WESTON'S NEW PATENT TORSION SPRING,

For closing or keeping open doors, gates, &c &c at different strengths, specially suited for all climates, and adapted for general purposes.

Price Two Shillings and Sixpence.

To be had of the principal Merchants and Factors in Birmingham and Wolverhampton; also at No. 62, Coleman-street, City.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 60, Hatton Garden, E.C.

These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.

N.B.—The usual discount to builders and the trade.

TO RAILWAY COMPANIES.—The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineers' Brass-founder, No. 9, Shoe-lane, Fleet-street; manufacturer of Steam Fittings, Diving Apparatus, Pumps, Cocks, &c; Patent Anti-friction Metal, Gun Metal, Brass Castings &c

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country or packed for exportation.

For Designs and Estimates apply to

RANDAL STAP, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

GEORGE COWELL, 14, CRESCENT, Salford, Manchester, HOT-WATER APPARATUS MANUFACTURER. Estimates for warming every description of building upon application. Boilers, both upright and horizontal, capable of efficiently and economically heating from 100 to 10,000 feet of pipe.

CANNON IRON FOUNDRY, 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

Decimus Burton, esq.
Travers Buxton, esq.
Octavius Edward Coope, esq.
William Cotton, esq.
John Davis, esq.
George Arthur Fuller, esq.
Charles R. Goodhart, esq.
James Alexander Gordon, esq.
Edward Hawkins, jun. esq.
Rickman D. Hodgson, esq. M.P.
William James Lancaster, esq.
John Derrien Magens, esq.
John Timothy Oxley, esq.
Benjamin Shaw, esq.
Wm. James Thompson, esq.
Hy. Heyman Toulmin, esq.
Matthew Whiting, esq.

AUDITORS.

John Hodgson, esq. | Peter Martineau, esq.
Joseph Samuel Lescher, esq.

SECRETARY.—George William Lovell.

ASSISTANT SECRETARY.—John J. Broomfield.

Insurances against Loss by Fire are effected by the Phœnix Company upon every description of Property, in every part of the world, on the most favourable terms.

The promptitude and liberality with which its engagements are always met by this Company are well known, and the importance of its relations with the public may be estimated from the fact that since its establishment it has paid more than Eight Millions Sterling in Discharge of Claims for Losses by Fire.

Insurances with this Company expiring at Michaelmas must be renewed within fifteen days thereafter, or they will become void.

Receipts are now paying at the principal Offices, Lombard street and Charing-cross, and with the respective Agents throughout the United Kingdom.



THE LONDON

WARMING AND VENTILATING COMPANY,

LIMITED,

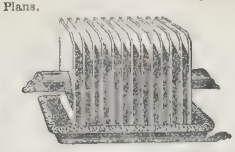
26, GREAT GEORGE-STREET, Westminster, S.W.

MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known Plans.



The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL, the various offices of the "Department of Science and Art," and at the Architectural Societies' House, 9, Conduit street, Regent-street

Particulars and testimonials forwarded on application.

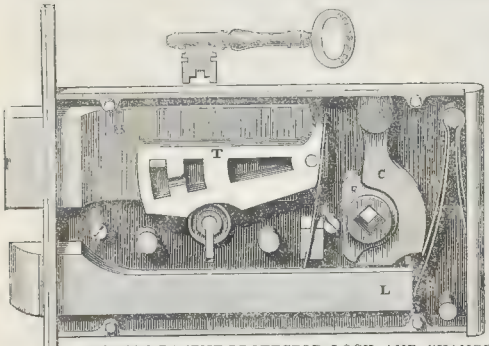
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

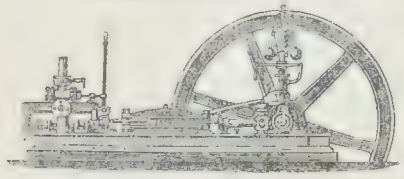
For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

E. PAGE & CO. VICTORIA WORKS, BEDFORD,

AND LAWRENCE POUNTNEY PLACE, CANNON STREET, LONDON,



MANUFACTURERS OF

HORIZONTAL AND VERTICAL STEAM-ENGINES,

From 2 to 30-horse power and upwards.

PORTABLE ENGINES, CRAB WINCHES, &c.

SEVERAL ALWAYS READY FOR DELIVERY.

Price List forwarded on application

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

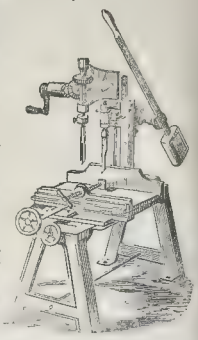
Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

WILLIAM BISSELL, Wholesale Ironmonger, Union-street, Wolverhampton.

Proprietor of the Patent EQUI-ACTION RIM and MORTISE LOCKS,

Patentee of the FLOORING CRAMP,

and Sole Agent for HAIGH'S PATENT MORTISING, BORING, and DRILLING MACHINES.



The most POWERFUL, SIMPLE, EASY, and DURABLE in the market, combining the best mechanical principles of ECCENTRIC and LEVER MOTIONS.

Testimonials of the highest class can be shown from Builders in almost every part of the United Kingdom

A The Boring and Drilling Apparatus, which can be removed at pleasure.

Price 16*l.* complete, with a set of eight chisels, screw-driver, and Boring Apparatus

Ditto, ditto, without the Boring Apparatus.

SAVING IN GAS

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 55, High Holborn, London,

Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

LIGHTNING CONDUCTORS.

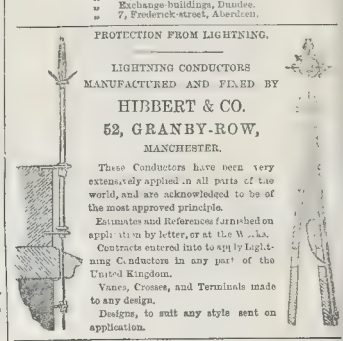
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the most and all staples, complete fixing, at the following prices

Three-eighths-inch diameter ..... 1*s.* 6*d.* per foot.
Half-inch diameter ..... 1*s.* 6*d.* ,,
Five eighths-inch diameter ..... 2*s.* 6*d.* ,,

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
,, Gateshead-on-Tyne
,, 27, Dale-street, Manchester.
,, 68, Anderson-quay, Glasgow.
,, 17, South Castle-street, Liverpool
,, Exchange-buildings, Dundee.
,, 7, Frederick-street, Aberdeen.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY-ROW,

MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

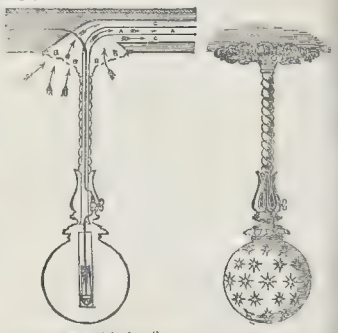
Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

RICKET'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

LOSH, WILSON, & BELL,

NEWCASTLE-ON-TYNE,

Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and

STEWART'S PATENT CAST-IRON GAS and WATER PIPES.

Office, No. 7, Size-lane, London.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.

HULETT & CO. 55, High Holborn.

THOMAS MILLINGTON,
GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.

	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

15 oz.	4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1¾	2	2½
„ 2ft. 6in. sup.	1½	1¾	2½	3
4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes,

	15 oz.	21 oz.
20 by 12 per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s. } per cwt.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.

Fine Oak Varnish ...10s.
„ Carriage ...12s. } per gallon.
Linseed and Boiled Oil
Turpentine .....

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

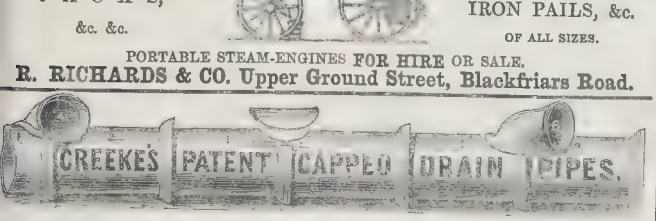
MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



Only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.
They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.
SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.
Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.
Illustrated Lists with full Particulars and Prices may be obtained of
WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.
A GOOD DRAWING-DOCK AND LANDING WHARF.
. Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 9, Conduit-street, Regent-street, W.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined as I cleansed. The Cover, being fitted in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.
Manufactured by HENRY DOULTON & CO. LAMBETH.
MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half timber usually required.—4th. It can be easily applied by any unpractical person.—5th. From its lightness, we charge only about 12 lbs to square of boiler, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

CEDAR of LEBANON.—The attention of Architects and Builders is solicited to the great beauty and value of this wood. A large chapel has lately been entirely fitted up with it.—Apply to Mr. MAY, Acorn Wharf, Old Kent-road.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 9d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2¼ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 16s. 6d.; 1-inch Yellow, from 16s. 3d.; ¼ White, from 11s. 6d. Carriage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & E. KNIGHTS, Lathwood Merchants, Importers, &c., Baltic wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
20,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

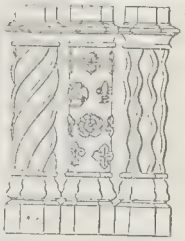
NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

TO ARCHITECTS AND SURVEYORS.
DYER & WATTS,
MANUFACTURERS of OFFICE, SCHOOL, or OTHER FITTINGS; Glass Cases and Fixtures in Yellow or Pitch Pine, White Deal, or Stained Woods, to Architects' Designs. Estimates given.
Factory, 1, Northampton-street, Lower-road, Islington, N.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.
CONDY'S PATENT FLUID is adopted by the Leading Hospitals and in most Government Departments. It contains Nature's Disinfectant (OXYGEN), in a form the exact properties, and only possessed in the same manner, to a great extent, by the chemists OZONE, combining, by weight, the most powerful purifying properties with a perfectly safe and agreeable odour. As a safe and powerful disinfectant and deodoriser for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizers are worthless. Sold by chemists and oilmen, in bottles, at 1s., 2s., and 3s. each; or direct from the Inventor, on receipt of Post Office Order, for 1s. 6d., 2s. 6d., and 4s. 6d. each; or 7s. 6d., 10s. 6d., and 21s. per GALLON. Sole Wholesale Depôt, 114, Fenchurch-street, London. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.
Wholesale of the Patentee, Battersea, Surrey, S.W.



AUSTIN, SEELEY, and CO.
371—375,
EUSTON-ROAD,
ARTIFICIAL
STONE WORKS.
CATALOGUES OF
CHIMNEYS,
AND ALSO OF
FOUNTAINS
ON APPLICATION.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for a school or stable, in Class 15, No. 3,248.
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
183, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and finish of his design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 „
Ladies' or Gentlemen's Gold English Lever Watches	15 „
Strong Silver Lever Watches	5 „
Gentlemen's Gold Compensation Balance Watches	40 „
Do. Silver do.	25 „
Marine Chronometers	35 „
Gilt and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of Lockets and Fine Gem Albert and Guard Chains, &c.	

DENT, 61, Strand (adjoining Coutts's Bank); 44 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry rubbish delivered per barge, in any quantity alongside the Thames.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first class goods at the lowest possible scale of prices—for cash

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



JOINERY OF EVERY DESCRIPTION
STAIR CASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible terms by

J. MILLS,

110, BROADWALL, AND 7, PRINCES-STREET, STAMFORD-STREET

(Late Shop Foreman to Messrs. Lawrence and Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF POSTAGE STAMP,

JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



MOULDING WORKS.
SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),

MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S-INN-LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

BUILDERS AND CARPENTERS AND OTHERS
Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.				Laths, 28s. per load.	
Yellow Deals, sound and good	£9	10	0 per 120,	or 0s. 3½d.	per foot.
Spruce Deals	15	10	0 ,,	0 2½	,,
Yellow Battens, excellent quality	11	10	0 ,,	0 2	,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 ,,	3 6	,,

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,
OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
1-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	—	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10s. per 120.
Yellow Battens ..... £11 10s. ,,
Spruce Deals ..... £16 10s. ,,

Pine Planks (Dry), 3 by 11 ..... 24l. per 120
Pine Deals do. 3 by 9 ..... 19l. 10s. ,,
⅞-inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

MOULDING WORKS.
WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.

ROMAN CEMENT made at the above works may be had fresh from the kilns daily, a great advantage to dealers and sewer contractors, especially in winter time.

PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. Can execute with early punctuality any order of the first consequence so much of which is now brought into the market and sold as Portland.

PLASTER OF PARIS, both coarse and fine, of very superior quality and colour.

LIME.—Grey Stone, Chalk, and Blue Lias Lime well burnt, by the barge or yard, and may be had fresh ground daily, by steam power, for coarse.

BRICKS from our fields in Kent, by the barge alongside, in the river or canals, or by cart from the above wharf, of good quality and moderate price.

A large Assortment of Glazed Stoneware Drain-pipes, Yorkshire Plain, Pan, and Paving Tiles, Hair, Laths, Chimney-pots, &c. always kept in stock.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

STAFFORDSHIRE RIDGING and ROOFING TILES,
Plain and Ornamental, in Blue or Broseley colour, PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING
BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY,

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and PACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ladgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire

The EWELL DEEP BLACK BUFFING and BUFF DING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

STRINGFIELD and BLYTH,
SOLE CONSIGNERS OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND
BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY,
Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

PLASTER OF PARIS.—The only London
maker, the best and the oldest established (1810), is ROBESON, Mount Pleasant, Gray's Inn road. The chief quality made here is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and Blue Plaster unequalled.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

JOHNS & CO.'S PATENT PERMANENT
STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at these Works are Fine, Brierly Hill.

FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Paving Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

SPURGEON'S IMPROVED MARTIN'S CEMENT.

A very SUPERIOR CEMENT, fully equal to ANY for its Hardness and Beauty of Finish, and the cheapest Internal Cement that can be used.

MANUFACTURED ONLY BY

B. W. SPURGEON, DERWENT WORKS, DERBY.

London Depôts:—192, Great Portland-street, W.; and Baker's-buildings, Liverpool-street, E.C.
Coarse, Fine, and Superfine London-made PLASTER of PARIS.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.
N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

SCOTT'S PATENT CEMENT.

RICKMAN & CO. LEWES,

LIME AND CEMENT WORKS, GLYNDE STATION, SOUTH COAST RAILWAY.
SCOTT'S PATENT CEMENT supplied at Portsmouth, Gosport, Southampton, Brighton, &c. &c.
SCOTT'S PATENT PLASTER.
GREY STONE LIME, of very superior quality. CHALK LIME.
Shipping orders promptly executed.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

GREAVES'S BLUE LIAS LIME
GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLDS'S AN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMERIN-HILL, LIMEHOUSE, E.
Where an unbolo'ed, and fine quality
GREY STONE CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE AND RED SUFFOLK FACING BRICKS, SPLAYS, and DOG JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS
Ditto and ditto ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and Size
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in Lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied a one-fourth the usual time, as Parian Stucco may be made ready prepared within forty-eight hours. A finer quality I prefer as a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS BROTHERS & POTT Nine Elms, London

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from Wharf in London.
N.B. Shipping Merchants and Bakers' Orders promptly executed.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



LONDON WHARF, 64, Bankside, Southwark.

LONDON OFFICES, 76, King William-st. City.

MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. Todd Carr, Agent.
LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

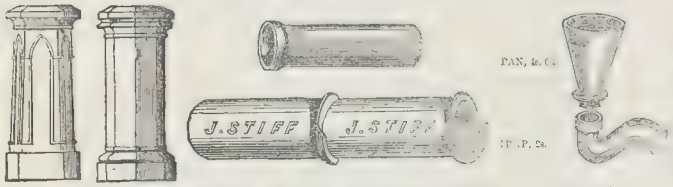
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

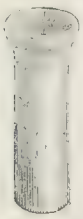


HALF SOCKET PIPES same prices as the Whole Sockets, by means of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufactures also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JOHN DOULTON, BROTHERS, & CO.

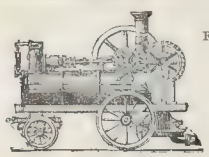
LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

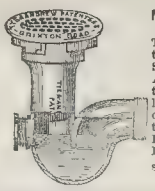
JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.

N.B. Steam Power, with Workshops, to Let



TYE & ANDREW'S NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings. As fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 44, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Cuttiebrook, Northampton, North Moreton:—

"The effect produced by the Staining Dye and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St Martin's-le Grand, E.C. late of 54 Stamford-street, S.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10d.; Turpentine, 10s. per gallon; Fine Pale Oak Varnish, 8s. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Brush Manufacturers.

C. A. WATKINS'S PATENT WIRE-ROUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stopping Brushes, Gilders' and Graining Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO.

at 11, Great Marlborough-street, Regent-street, W.

KENT'S PAINTING BRUSHES have been celebrated for their superior quality for the last eighty-four years, and G. B. KENT & CO. have pledged themselves that the best that can be made.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt. Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10d. per gallon. Turpentine, 10s. per gallon.

Superfine Varnish, 8s. per gallon.

For cash, at HOWARD'S Old Established Warehouse, 38, Upper Ebury-street, Pimlico, S.W.

Every article for the Trade at the lowest price.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the finest Oak or Mahogany. They are very extensively used, and Five Prize Medals. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared ready for graining every description of wood in all their purity of tone and colour, the easiest used by amateurs.

Full particulars forwarded on application to his Sole Agents

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

30, LONDON WALL, E.C.

Where also may be obtained

CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,

Together with all kinds of Colours and Varnishes,

Warranted of the purest quality and at the lowest prices.

Agents for Kershaw's Graining Machines.



WINDOW BLINDS and SPRING ROLLERS of first-rate Quality, at Reduced Prices.

E. ADKINS,

HIGH-STREET, ST. JOHN'S WOOD, REGENT'S PARK, N.W.

Illustrated List of Prices on receipt of one penny stamp.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' GENERAL USE.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



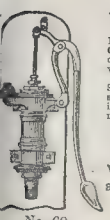
No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel	Height.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead,	1 1 0
2½ ,, long	3 ft. 3 in	gutta percha,	1 10 0
3 ,, long	3 ft. 6 in.	or cast iron	2 4 0
3½ ,, long	3 ft. 6 in.	flanged pipe,	2 9 0
4 ,, long	3 ft. 6 in.	as required	2 18 0
2½ ,, short, with 15 feet of lead pipe attached, ready for fixing			2 0 0
2½ in. long ditto, ditto			2 14 0

This Pump is fitted with J. W. & Sons' Patent Vibrating Standard, Improved Revolving Cap, Metal Bucket, and Brass Suction Valve. By means of the Revolving Cap, the Handle can be shifted to the right or left hand, or opposite the Nose as desired.



No. 69.

WARNERS' PATENT

BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 ,, ...	5 5 0	
3½ ,, ...	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 13 0
3 ,, ...	4 14 0



WARNERS'

Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s each. J. W. & SONS also supply all Fittings requisite for the same.

TWO PRIZE MEDALS FOR BELLS HAVE BEEN AWARDED TO JOHN WARNER and SONS, AT THE GREAT EXHIBITIONS IN 1851 AND 1862.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in Peals.

TUNED BY MACHINERY.

Old Bells recast or taken in Exchange

An experienced Bell Hanger sent to inspect, report, and advise on the state of Peals out of repair. Estimates furnished for New Oak Frames and Fittings, and for Repairing Old Ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384. No. 383.

WARNERS' HIGH-PRESSURE COCKS

are made with Gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and refastened with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

JOHN WARNER & SONS,

BELL and BRASS FOUNDERS to HER MAJESTY.

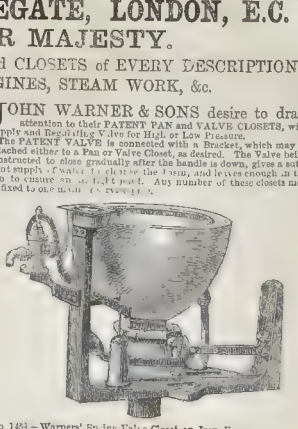
INTERNATIONAL EXHIBITION.

Class 8 WESTERN ANNEXE. Pumps, Beer Engines,
Class 9 EASTERN ANNEXE. Garden Engines, Syringes, &c.
Class 10 NORTH-EASTERN DOME. Water closets.
Class 31. SOUTH-EAST TRANSEPT. A Peal of Eight Bells and Chiming Apparatus.
Class 31. HARDWARE COURT. Bells, Urns, Lamps, Brassery Goods, Baths, Steam Fittings, Plumbers' Cocks.

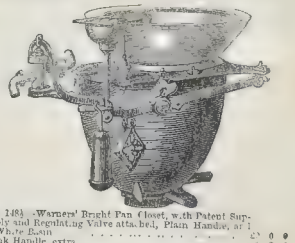
Illustrated Catalogues forwarded on application at the Manufactory, 8, Crescent, Cripplegate, London.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the Basin, and leaves enough in the pan to ensure an air-tight seal. Any number of these closets may be fixed to one main for supply.



No 1434.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin £1 17 0
Sunk Handle, extra 0 3 0
Blue Basin, extra 0 1 6



No 1484.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 0 1 0

The above prices are subject to a liberal discount.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

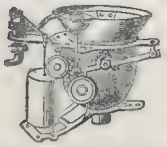
M. B. NEWTON, LONDON AGENT,

WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

THOMAS LAMBERT & SON,

No. 87. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



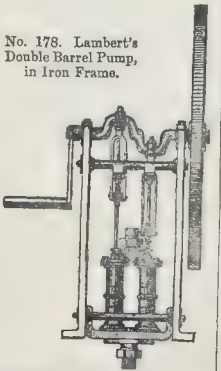
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

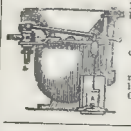
SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*

A PAN-CLOSET, BLUE BASIN, SUNK

DISH, and APPARATUS, complete,
TWENTY-FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.





UNDERHAY'S PATENT

REGULATOR CLOSETS for constant or intermittent supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves, Gas Meters, &c. in the same premises.

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL

MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade

H H H H	for drawing on wood.	F F	light and shading.
H H H	for architectural use.	F	for general use.
H H	for engineering.	B	black for shading.
H	for sketching.	B B	ditto ditto.
H B	hard and black for drawing.	B B B	ditto ditto.
		B B B B	ditto ditto.
M	medium.		

Sold by all the principal Stationers in town or country.

SALES BY AUCTION.

ALDERMANBURY -BUILDING MATERIALS, WAREHOUSE FIXTURES, &c.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 6th, at TWELVE, the MATERIALS and FITTINGS-UP of THREE large HOUSES, Nos. 74, 75, and 76, Aldermanbury; comprising sound brickwork, several tons of lead in gutters, ridges, cisterns, and pipes; excellent timber in roofs and floors; plate-glass and other sashes; panelled doors, partitionings, warehouse fixtures, chimney-pieces, stoves, a large quantity of plain tiles, and other useful materials.—May be viewed on SATURDAY, and catalogues had of E. N. CLIFTON, Esq. Architect, 17, St. Helen's-place; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament street, S.W.

TO ENGINEERS, SMITHS, and OTHERS.—The Valuable PLANT, MACHINERY, and TOOLS, of Messrs Shand & Mason's Engineering and Fire-Engine Works, Blackfriars-road, the premises being required for the London, Chatham, and Dover Railway, and for the new streets.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, No. 245, Blackfriars-road, on TUESDAY, OCTOBER 7th, at TWELVE, in lots, the Valuable PLANT, MACHINERY, and TOOLS; comprising an 8-horse power high-pressure tubular engine, with egg-ended boiler, 14 feet long; 10 superior self-acting lathes (from 5½ to 11 inch centres), for surfacing, turning, boring, and screw-cutting; a costly 18-inch centre self-acting lathe, by Smith, Beacock, & Tannett, with iron bed, 18 feet 6 inches long; overhead motion, with bright shafting, riggers, pulleys, &c.; a capital self-acting planing machine, powerful slotting machine, screwing machines, with taps and dies; 2 vertical drilling machines, rounding machines, Lloyd's patent fan, erection of core stoves and true fit stoves, forges and bellows, iron tanks, gun-metal and brass turning pumps, anvils and vices, work-benches, iron and lead pipes, shelving, bins, loaded enclosures, 30 gas burners, and about 1,000 feet of gas-pipe, a flag-staff and masts, 135 feet high, &c.—May be viewed the day previous. Catalogues had on the premises; of Mr. VIGERS'S Offices, 3, Frederick's-place, Old Jewry; and of PULLEN, HORNE & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

FARR-STREET, Southwark.—BUILDING MATERIALS

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, on FRIDAY, 10th of OCTOBER, at TWELVE, the BUILDING MATERIALS and FITTINGS of THREE HOUSES, Nos. 13, 17, and 18, Park-street, and FOURTEEN COTTAGES, SHEDS, and WORKSHOPS, in Nesscourt and Juniper-court, adjoining, comprising 120,000 stock bricks, pan and pan tiles, sound timber in roofs and floors, first boards, doors, sashes, panelled partitions, lead gutters and pipes, stone copings, slate cistern, paving &c.—May be viewed the day previous, and catalogues had on the premises; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W.; and 80, Fore-street, E.C.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—Twenty first Sale. BUILDING MATERIALS, Blackfriars-road.

PULLEN, HORNE, and EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 13, at TWELVE, all the excellent BUILDING MATERIALS, FIXTURES, and FITTINGS-UP of Four Houses, extensive Workshops, Warehouses, and Stabling, situate Nos. 23, 25, 24, and 27, Blackfriars-road; comprising capital sound bricks, a large quantity of pan and plain tiles, valuable timber in roofs and floors, counter boarding and carcasing, plate-glass and other shop-fronts, sound flooring-boards, glazed sashes, cupboard-fronts, chimneypieces, doors, folding-gates and stable fittings, York paving, lead flats, gutters, cisterns, forks and pipes, stone copers, slates, and other valuable effects.—May be viewed on Saturday previous; and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, E.C. and 40, Parliament-street, S.W.

EAST GREENWICH.—The Machinery, Plant, and Fittings of a Steam Flour Mill.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, East Greenwich, opposite Blackwall, on WEDNESDAY, OCTOBER 22nd, at TWELVE, the excellent WATER-POWER PLANT, and FITTINGS, comprising 7 pairs of French mill stones and gear complete, 150 feet of wrought-iron shafting, 4 large plummer blocks and brasses, 3 expensive silk flour dressing machines complete, 3 elevators with fans; 3 bolters, 3 dumper, flour-machine with new mahogany cylinder; 2 mixing-worms, 12 stone boxes, 50 rigger, spur, and bevel wheels; 3 wrought-iron tubes, 35 feet long; cast steam piping, 4 large mitre wheels, 2 20-inch sack hoists, 2 sack lifts, several useful loading-bags, 50 fathoms of 1-rope, 3-sack, and other useful tackle, and other effects. May be viewed two days previous, and catalogues had of the premises; also at the Exchange Coffee House, and Castle Tavern, Mark Lane; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS Second Portion of the Surplus Materials and Plant used in the Works of the Metropolitan Railway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractor, John Jay, esq. to SELL by AUCTION, at the WORKS, Pancras-wells-road, and Wood-street, Hornsey, close to the Station, on WEDNESDAY, OCTOBER 29th, and following days, at TWELVE, the second portion of the very valuable and extensive SURPLUS MATERIALS and PLANT; comprising about 200 tons of cast iron, in sticks and bulk, new square rivets, &c.; 6,000 sleepers, wheeling planks, 200 tons of contractors' rails; seventy-five nearly new ballast-waggons on springs, and built by Williams; trolleys, long chains, double and single purchase crabs, boarded enclosures of stables, and numerous other effects.—May be viewed two days previous. Catalogues had of PULLEN HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, S.W.

KINSON CLAY, POTTERY, AND BRICK COMPANY (LIMITED), near the Railway Station, Bournemouth.

MESSRS. WATERMAN & HABGOOD have received instructions to SELL by AUCTION, on the above-named PREMISES, on TUESDAY, the 7th OCTOBER, 1862, and following days, without reserve, the whole of the undermentioned and numerous other articles: about 100,000 BEST FIRE-BRICKS, unequalled; about 5,000 DRAIN-PIPES, 2, 6, 8, 9, 10, 12, 15, and 18 inch; about 4,000 single junctions, 500 double ditto, 1,200 bends, and 1,000 various other sizes; 400 stumps of clay, cast tools, &c.; a large quantity of spilt, soap, arch, wedge, and corner bricks; paving tiles, quarries (suitable for gas factories), building blocks, &c.; a very extensive assortment of TERRA COTTA: consisting of ornamental shafts, brackets, garden seats, some thousands of chimney-pots, very beautiful vases in tazza, in Italian, octagon, hexagon, rustic, vine-leaf, and other patterns; garden tiles, flower-pots, &c. A very large assortment of BRISTOL and STONE WARE: consisting of bottles, in gallons, quarts, and pints; pickle, jam, and bung jars; flat bottles, gin-per-bee and screw bottles; inks, pugs, and jugs in great variety; teapots, tobacco jars, bam and bread pans, spirit and other bottles (in wicker), spittoons, bird-fountains, butter pots, carriage and foot warmers, &c. About 10 tons of coal, 4 spring vans, 4 carts, 6 trollers, off-bearing and other barrows, a pipe and the machine (by Page & Co. Bedford), about 200 railway sleepers, hand covers, bellows, ash-riddle, iron trough, piping, some iron pulleys, corrugated iron sheets, a quantity of iron screws, weight and cast iron, &c. Also, very superior Office Furniture, consisting of desks, tables, chairs, 8-day office clock (by Bickley of London), &c.

Also, HOUSE FURNITURE, consisting of cane bottomed and easy chairs, loo and other tables, wardrobes, chests of drawers, iron bedsteads, mahogany ditto, dressing tables, 4-pillar 6-ft. bedsteads, carpets, bedding, fenders, irons, &c. Also numerous other articles, part of which will appear in catalogues, to be had one week previous of the auctioneers, Lymington; and of the auctioneers to Mr. THOMAS WILLIAM GREEN, at the Works, and of the Auctioneers, POOLE & WIMBORNE. The manufactured articles are first-class in design and execution. Sale to commence each day at TWELVE o'clock precisely

BARKING-ROAD, ILFORD

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, at the Brickfields, Barking-road, Ilford, on TUESDAY, OCTOBER 7th, 1862, at ONE o'clock, by direction of Mr. William Hill, who has completed several of his contracts, 16 powerful and active CART HORSES, off constant work; and a large quantity of manure.—May be viewed the day previous. Catalogues obtained on the premises, and of the Auctioneer, Tottenham.

MAIN DRAINAGE CLEARANCE SALE.—PECKHAM WHARF, Canal Side, Peckham, Surrey.—To Engineers, Contractors, Builders, Dealers in Contractors' Plant, Wood, Iron, &c.

MR. FRED. CHAPMAN is favoured by the Contractors for the Southern High Level Sewers with instructions TO SELL, by AUCTION, on WEDNESDAY, the 15th of OCTOBER, 1862, at ELEVEN for TWELVE o'clock precisely, and on the following day, should the number of lots render it necessary, on the WHARF and PREMISES, as above, a small portable locomotive engines; a capital contractors' locomotive (nearly new); vertical, horizontal, and other steam-engines; several tons of contractors' temporary rail (36 to 40 lbs per yard); bar and cast iron; 3 chain pumps, 5 "Gwynne's" patent centrifugal pumps, carts, earth waggons, trolleys, barrows, cast wheels and axles for waggons and trucks, monkeys for ringing engine, petable forges, bell ws, and anvils, tools, grind-stones, sand screens, a large quantity of chain of all sizes and lengths, gas pipes, skips, iron buckets, several balks of timber quartering, large quantity of temporary sleepers, crown bars, and round timber, and other useful wood; twin pipes, invert blocks, &c. and a valuable and numerous collection of other useful effects.—May be view d the morning and during the sale. Catalogues had of J. J. BENNETT, Esq. 3, Hyde-terrace, New Cross: Mr MORRIS, Railway Tavern, New Cross; Mr. OWEN, Roe Buck, Lewisham; at the Kentish Drovers, Peckham; at the principal Inns in the neighbourhood of the Wharf; and of the Auctioneer, Park-terrace, New Cross-road, Kent.

TO PAPER-MAKERS and OTHERS.—A PAPER MAKING MACHINE and other Effects

MR. ROBERT ALLEN will SELL by AUCTION, on WEDNESDAY, OCTOBER 8th, 1862, at ELEVEN for TWELVE o'clock, on the PREMISES, Paul's Cray Mill, Kent, a capital PAPER-MAKING MACHINE, 4 feet 3½ inches between frame, 3 cast irons rolls; four copper cylinders, 2 feet 2 inches diameter; three iron cylinders, three pair drums, and all the driving tackle and connexions, three 3-inch brass pumps and lifters and driving tackle at the back of previous cylinders, a pair of 8 inch brass rag cutting tools, with all their connexions; an air drying machine, frames of cast iron, with a quantity of 3-feet drums and pans, and 8-inch reels, and six coil of spin gearing of various size, and numerous other machinery. Also a powerful Draught Horse, Cow, 2 fans, stack of wheat, and other effects.—May be viewed, by cards only, up to the day of Sale, at which time the machinery will be at work. Catalogues may be had at the Inns in the neighbourhood; place of Sale; and of the Auctioneer, Ruxley, near Foot's Cray, Kent, S.E.

KENNINGTON CROSS. For absolute Sale without reserve.—To RAILWAY CONTRACTORS, BUILDERS, and OTHERS.

MR. MARSH has received instructions to SELL by AUCTION, on the PREMISES, Pearson's Yard, Kennington Cross, on TUESDAY next, OCTOBER 14th, 1862, punctually, in lots, the TIMBER used in the construction of Train's Patent Tramway from Westminster Bridge to Kennington Park, and the residue of the Victoria-street Tramway, comprising upwards of 2,500 feet run Greenheart timber sleepers, and about 1,800 feet run of creosote transoms lying at Pearson's Yard, Kennington cross, and ground adjacent to the Horse of Correction Tothill-fields, Westminster.—May be viewed, and catalogues obtained on the Premises; at the Surrey Side-street Railway Company's Offices No 18, Great George-street, Westminster; and at Mr. MARSH'S Offices, Charlotte-row, Mansion House.

ADDISCOMBE, CROYDON.—Excellent BUILDING MATERIALS.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, within a few minutes' walk of the town, on FRIDAY next, OCTOBER 10th, at ONE for TWO o'clock, the Seventh Portion of the MATERIALS of the late MILITARY COLLEGE at Addiscombe: consisting of about 150,000 good stock bricks; excellent deal timber, comprising beams, principal joists, rafters, flooring, and other boards, doors, &c.; windows, non-water pipes, gas piping, lead work, also a large quantity of capital York paving, stone sills and steps; two marble chimney-pieces, and some stone chimney-pieces.—May be viewed on the FRIDAY and SATURDAY before the sale. Catalogues may be obtained on the Premises, and of the Auctioneer, 14, Moorgate-street, London, E.C.

GUILDFORD, SURREY.—First-class Building Land, close to the Town and Railway Station; also excellent Freehold Plots, arising from the River Wey Navigation from Guildford to the Thames.

MESSRS. BEADEL & SONS are instructed to OFFER by AUCTION, at the MART, Bartholomew lane, London, on TUESDAY, OCTOBER 21st, at TWO PRECISELY, in numerous lots, the highly valuable first-class BUILDING LAND, close to the fast increasing Guildford, possessing extensive and rapid frontages to the Line of the Railway to Horsham, and to the proposed new road connecting the property. The land fronting the Woodbridge-road is laid out in plots suitable for the erection of detached or semi-detached villa residences, and each plot has good frontage to the proposed new road; the remainder of the land is divided into plots of about half an acre, and the whole forms a most desirable property, the situation for building being superior to anything in the neighbourhood. A portion of the land is freehold, the remainder leasehold for 990 years, from Lady-day, 1757, at 26s. ground-rent, and the whole is believed to be free from land-tax. The Freehold Plots arising from surrender or preference shares in the River Wey Navigation comprise the one-fourth or 5¼ parts in 22 of the groats or toll of 4d. and the 82-120ths and 3-10ths of another 120th of nine parts in 22 of the same toll of 4d. The income of the navigation is steadily increasing, and the proprietors of these tolls are liable for the expense of maintaining the navigation.—Particulars with plans and conditions of sale, may be obtained of Messrs. H. U. & N. COULTHURST, Solicitors, 13, New Inn, W.C.; of Messrs. FLADGATE, YOUNG, & JACKSON, Solicitors, 19, Basser-street, Strand, W.C.; of Messrs. LAWLEY & GIBSON, Solicitors, 32, Great James-street, Bedford-row; of Messrs. GREGORY, ROWCLIFFE, & CO. Solicitors, 1, Bedford-row, W.C.; at the Mart; and of Messrs. BEADEL & SONS, 23 Gresham-street, E.C.

METROPOLITAN RAILWAY CART HORSES. -Agar Town, St. George's Wall, Camden-street, Kings cross.—To Railway Contractors, Builders, Dealers, Carmen, &c.—To be SOLD by AUCTION, by

MR. J. GOWER, on the PREMISES, as above, on THURSDAY, OCTOBER 9th, 1862, at TWELVE o'clock, FIFTY well-known first-class powerful Town Cart and Van HORSES, stone and timber trucks, spring vans, broad and narrow-wheel brick carts, thill and chain harness, the property of Mr. John Jay, sold in consequence of the Eastern portion of the Metropolitan Railway being completed.

N.B. The above stock having been selected from the principal dealers in London, young, powerful, sound and staunch workers, and those heavy excavations of the Underground Railway, are worthy the notice of persons requiring Horses for immediate hard work. They are in excellent condition, and fit for any work.

On view two days prior Catalogues may be had on the Premises; and of the Auctioneer, at his Repository, Barnard.

WOODFORD and the FOREST.—BUILDING GROUND TO LET, beautifully situate for Villas, on the Grove Estate, within five minutes' walk of the George-lane Station, twenty minutes' by rail from Fenchurch-street. In on the main road, 1½ high and dry, and very superior to East London Company.—Apply to the Freeholder, WASHINGTON SINGLE, Esq the Grove, Woodford. Money advanced if arranged for.

FOR SALE, several PLOTS of FREEHOLD BUILDING LAND, on the Benhill Estate, Sutton, Surrey, from 2½ to 30s. per foot frontage, land-tax redeemed, conveyance free, five minutes' walk from the Sutton Railway Station, half-hour's ride from the London Bridge Terminus; good drainage, water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Builder, Sutton, S.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Sharesbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Kingston; and some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Auctioneer, 25, Lemon-street.

HOLLOWAY.—ELIGIBLE FREEHOLD LAND TO LET, for the purpose of building Private Residences, detached, semi-detached, or otherwise. Term, 99 years. At moderate ground rents. This highly eligible Freehold Land (generally known as the Crown Estate) is situate on the Hornsey road, Upper Holloway, where the omnibuses pass to and from the City, East and West Ends, and the different Railway Stations, every five minutes, at very cheap fares. The land is all perfectly drained, and the roads made. For particulars, apply to Mr. JOHN THOMAS, Architect and Surveyor, 10, Denmark-street, Cold Harbour-lane, Camberwell, S.

HENLEY-ON-THAMES. — BUILDING GROUND on the Banks of THAMES. -TO BE LET, on building lease, THREE PLOTS of GROUND, immediately adjoining the new road now being made along the river's side from Henley to the Great Western Railway Station. Two of the plots have a frontage to the river of 117 feet, and a depth of about 110 feet, and the other a frontage of 22 feet, and a depth of 95 feet. The land is most beautifully situate, and commands extensive views of Park property at the town, offering advantages for building first class villa residences seldom to be met with. For plans and particulars apply to Messrs. COOPER, Solicitors, Henley-on-Thames; and Messrs. HEWS & SON, Estate Agents, Henley-on-Thames.

BUILDING SITE of about an acre WANTED, for the erection of a private residence, intended to be of the annual value of about £80, on high ground, within 25 miles of London, wooded, and if on a gravelly soil preferred. The freehold would either be purchased, or a long lease taken at a ground rent. Preference given to Richmond or Wimbledon, or other neighbourhoods in the vicinity of the Thames.—Apply, by letter, with full particulars, including lowest price or ground rent (and, if possible, a sketch or plan of the property offered), to Messrs BURGOYNE, MILNES, & BURGOYNE, Solicitors, No. 160, Oxford-street (west corner of Stratford place), London.

EXTENSIVE MANUFACTURING PREMISES, Southwark.—TO BE LET, on LEASE, EXTENSIVE MANUFACTURING PREMISES, occupying a very large area, situate in the Borough-road, Southwark. The Buildings, which are very substantially erected, comprise a very large factory, of three lofty floors, with basement; a smaller factory, of four floors, adjoining; a very spacious and lofty ground-floor factory, yard, a capital family residence and offices, two gateways entrances, the three dwelling-houses fronting the Borough-road, Nos. 77, 78, and 79, which can be readily let off if desired.—For further particulars apply on the premises; or to Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-street, E.C.

BRICK FIELD, SURREY.—TO BE LET, at Christmas next, within one mile of Wiley station on the direct London and Portsmouth line, a well-adapted Yard, with suitable Kiln and Tile Sheds erected thereon; with large quantities of clay at present open during them, if required; quite fit for the manufacture of bricks, tiles, pipes, and pottery ware. There is chalk in the neighbourhood for lime, with an opening for a first-rate trade.—For particulars apply to Mr. S. BERRY, Cable-court, near Godalming, Surrey.

A BARGAIN.—TO BE SOLD, a PLOT of FREEHOLD BUILDING LAND, situate at Forest Hill, within a few minutes' walk of the railway station. It has a frontage of 66 feet, and is about 120 feet deep. Also a quantity of Building Materials, some prepared Joiners' Work, with brick, &c. and shed, now on the land.—For particulars, apply to J. G. No. 4, Praed-street, Paddington.

SEVENTEEN PER CENT. — To BUILDERS and SPECULATORS in SMALL PROPERTIES, Members of BUILDING SOCIETIES, and OTHERS.—The LEASE of a PROPERTY, with about 37½ years unexpired, TO BE SOLD for 2,000, which, with ordinary care, will realize 17 per cent. net. The Property consists of the whole of Queen-street, High-street, Deptford, and is situate near the Dockyard Gates, and is a neighbourhood where there is a great demand for four-roomed houses, which could be erected on the vacant land, and would fetch 6s. a week. There are on the Estate thirty-eight weekly holdings, that produce 85l per annum; Six Houses held by the year, for 73l.; a Plot of Land, let at a ground-rent of 23l. 8s. per annum; and about 320 feet of Building Land, of the estimated value of 48l. per annum. The whole is well let to tenants who pay punctually. There is a good opening for a public-house and one or two shops on the Estate, and would readily command a premium. The weekly rents would provide sufficient ready money to enable a builder to erect houses on the vacant land, which he could mortgage to pay the ground rent built purely. The lease is held from the Bridge House Estate of the Corporation of London, at a ground-rent of 97l. per annum. In addition to the above, there are included Five Houses in Brunswick-place, Deptford, that have just been put in thorough repair, and are well let to weekly tenants, and realize 47l. per annum. This Property is on the Evelyn Estate, and is held for an unexpired term of 55 years, at a ground-rent of 8l. per annum.—For further information and conditions of purchase, apply to Mr. J. A. BONE, 27, Leadenhall-street.

ST. ALBANS, Herts. — To BUILDERS, STONEMASONS, and OTHERS.—TO BE LET or SOLD, the substantially-built FREEHOLD RESIDENCE and BUILDINGS late in the occupation of Mr. Gregory, Stonemason, situate on the high road, and close to the railway station. The premises comprise the House, containing entrance hall, three staircases, two parlours, two kitchens, cellarage, four bed rooms and a dressing-room, an enclosed kitchen, yard containing a well of water; brick and slated store-room, coal-shed, &c.; brick-built close-boarded and slated shed, 36 feet long; range of workshops, and 3 detached buildings, 50 feet in length, with shoe-house and loft over, all built in the most substantial manner, and a large walled-in garden; the whole being suitable for large business premises, or for a private residence, and could be divided if required. One of the purchase money may remain on mortgage at five per cent. if required by a responsible party.—For further particulars apply to Mr. W. E. WHITTINGHAM, 14, Moorgate-street, London, E.C.

POLYTECHNIC.—THIS WEEK.—Professor J. H. Pepper will resume his Lectures on "Some of the Chief Novelties in the Specimens of the International Exhibition." On MONDAY Evening, at 8, Lecture by Douglas Thompson, esq. on "The Art of Delivering Written Languages, and the consequences of neglecting the Gifts." At 9, Mr. Hughes's Sacred Photographs of the Architecture, Sculptures, and Art-Works of Rome. Re-engagement of George Buckland, esq. for his Buffo-Musical Entertainment. New Diorama Scenes. Mr. Lambert's Fountain Spectacle. Electrical Experiments with the Great Pole Magnet. Remarkable Imitations of British Birds and Animals, by Herr Susman. Concerts by the Brothers Lemmi. Model Steam Engine in Motion. Laboratory for Private Analysis, &c. has re-opened. See weekly programme of 8 pages. Open from 11 to 5, and 7 past 6 to 10. Admission 1s.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in forwarding the following Report of PROFESSOR JARVIS, Esq. ST. JARVIS, Esq. ST. LAWRENCE, ISLE of WIGHT.—Second Testimonial.—"July 16th, 1862.—In reply to your letter to-day inquiring, respecting the Gutta Percha Tubing by me for Pipe Service, I am able with much satisfaction, it answers perfectly. Many builders and other persons I may likely recommend to use the same will have very much confidence in it, and I shall be known, in my several years, as a pioneer if it is to be adopted generally in the houses that are being erected here."

N.B. From the testimonial it will be seen that the CORROSIVE WATER of the Isle of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

LONDON: Printed by CHARLES WYMAN, Printer, at the Printing office of COX & WYMAN, Nos. 74 and 75 Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields: and published by the said CHARLES WYMAN, at the office of the Builder, No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, October 4, 1862.

The Builder

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

Vol. XX.—No. 1027. OCTOBER 11, 1862. Price Fourpence. By Post, 6d.

ILLUSTRATIONS.

Intended New Blackfriars Bridge, London. Mr. Joseph Cubitt, Engineer 733
The London, Chatham, and Dover Railway Bridge, at Blackfriars. Mr. Joseph Cubitt, Engineer 733
An Infant Nursery: Damp, Undrained, and Ill-lighted 725

CONTENTS.

Infanticide without Intention 725
Cooking-Apparatus and Kitchen Ranges in "The Exhibition" .. 726
Quantities and Competitions 726
The British Association for the Advancement of Science 729
The Horticultural Gardens: Memorial of the '51 Exhibition 730
Sanitary Improvements and Constructions at the International Exhibition: Jury Reports 730
The Intended Bridges at Blackfriars 732
Competitions 732
Electro-telegraphic Progress 732
On Stained Glass: Jury Reports of the Exhibition 735
The Hastings Pier and Harbour Scheme 736
The Stephenson Monument Inaugurated 736
Church building News 736
School-building News 737
Prince Consort Memorials 737
The Fever at Rotherham 737
Progress of the Main Drainage Works 737
Death from Rotting Timber 737
Construction of Chimneys 738
Bacon's Agreement with Chambers 738
Books on Bell-hanging 738
Payment of Architects' Assistants 738
Houses to Burn 738
Books received. Sanitary Facts for the Poor (Tweedie); Variorum Miscellanea 738

ROYAL HORTICULTURAL SOCIETY'S INTERNATIONAL FRUIT, CEREAL, &c. SHOW, will continue until OCTOBER 18th.

GREAT INTERNATIONAL FRUIT, VEGETABLE, ROOT, CEREAL, and GOURD SHOW, at South Kensington, until OCTOBER 18th.—Doors open at NINE o'clock. Bands at TWO o'clock. Admission, 1s. daily; or from the Exhibition with Return Ticket, 6d.

PROFESSOR DONALDSON'S LECTURES on "Architecture and Construction," at UNIVERSITY COLLEGE, will COMMENCE on TUESDAY, the 14th OCTOBER, at HALF-PAST SIX p.m. A syllabus of the courses and fees, &c. may be procured at the Office of the College.

NATURAL HISTORY.—PROFESSOR HUXLEY, F.R.S. will commence a COURSE of SEVENTY LECTURES on NATURAL HISTORY, at the Royal School of Mines, Jermyn-street, on MONDAY next, 13th OCTOBER, at TWO o'clock, to be continued on every week-day but Saturday, at the same hour. Fee for the course, £6. TRENHAM REEKS, Registrar.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, DECEMBER 1st, 2nd, 3rd, and 4th, 1862. It having been determined to Erect a Gallery in Bingley Hall, the Council will have additional space at their disposal for the EXHIBITION of IMPLEMENTS and MACHINERY, and are prepared to receive applications for the same—Plans of the hall, showing situation of space, and terms, may be obtained from the Secretary. The Entries close NOVEMBER 1st. JOHN B. LYTHALL, Secretary.
Offices, 14, Temple-street, Birmingham,
8th October, 1862.

COMPETITIONS.

TO ARCHITECTS.—A PREMIUM of TWENTY GUINEAS will be given for the approved DESIGN for the Front Elevation of a Building required for a Wholesale and Retail Ironmonger. All particulars can be obtained from Messrs. REED & POWELL, 6, Broad-street Buildings, London. The Plans must be sent in before the 15th of OCTOBER.

RESTORATION of PARISH CHURCH, KENILWORTH.—Architects are invited to send in PLANS and DRAWINGS for Competition. An ADDITION to the CHURCH, in the shape of a CHANCEL AISLE, is proposed, as a Memorial to the late Bishop of Durham, formerly Vicar of Kenilworth. Plans of such Memorial Aisle are to be among the Plans for Restoration; but are to be separate and distinct from them. The Plans should be Drawn to the Scale of 5th inch to the foot, and the dimensions figured on each Plan or Drawing. Separate and detailed Specifications and Estimates, in sections, are required (no extras allowed). All Plans to be sent unlettered, addressed "Rev. W. F. HICKMORE, Vicarage, Kenilworth," on or before 15th DECEMBER, 1862. Architects intending to compete, may obtain further information of the Churchwardens (Twenty Guineas will be paid for the set of plans in the estimation of the Committee, but they do not pledge themselves to adopt or carry out any of the Plans sent in.
Kenilworth, 4th Sept. 1862.

TO ARCHITECTS.—COMPETITION DESIGNS are required for REBUILDING Westminster Chapel, James-street, Buckingham Gate, London. Architects desirous of competing may obtain a statement of what is required, and a plan of the site, upon application to Mr STANESBY, 179, Sloane-street, London, S.W.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the EXTENSION of the BARREL DRAIN at St. Cross, near Winchester.
Parties desirous of Tendering for this work must leave their names at the Royal Engineer Office, Portsmouth, on or before the 23rd day of OCTOBER, and pay the sum of 10s. 6d. for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.
The Secretary of State does not bind himself to accept the lowest or any Tender.
Royal Engineer Office, Portsmouth, October 4, 1862.

ARMY CONTRACTS.—TENDERS will be received at this Office, until Noon, on MONDAY, the 10th NOVEMBER next, from persons who may be willing to enter into CONTRACT for the SUPPLY of PALLASSE STRAW and STRAW for ROYAL ENGINEER SERVICE, in such quantities as may be required, from 1st DECEMBER, 1862, to 30th NOVEMBER, 1863, for the use of Her Majesty's Forces stationed at Aldershott Camp, and within the command
Forms of Tender and conditions of Contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock, where every information which may be required on the subject will be furnished.
Tenders, on the printed forms, must be properly filled up and signed, and delivered at this Office, under closed envelope, marked on the outside "Tender for Army Supplies," before Noon on the 10th proximo; and no Tenders will be noticed unless made on printed forms obtained from this Office.
REDMOND UNIACKE, Assist. Commissary General.
Commissariat Office, Aldershott, Oct. 7, 1862.

ARMY CONTRACTS.—TENDERS will be received at this Office until NOON on MONDAY, the 3rd of NOVEMBER, 1862, from persons who may be willing to enter into CONTRACTS to SUPPLY FLOUR and MEAT, in such quantities as may be required from the 1st of DECEMBER, 1862, to the 31st of MAY, 1863, for the use of her Majesty's Forces stationed at Aldershott Camp, and within the command
Separate Tenders are required for Flour and for Meat.
Forms of Tender and conditions of Contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.
Tenders, on the printed forms, must be properly filled up and signed and delivered at this Office, under closed envelope, marked on the outside "Tender for Commissariat Supplies," and no Tender will be noticed unless made on forms obtained from this Office.
REDMOND UNIACKE, Assist. Commissary General.
Commissariat Office, Aldershott, Oct. 7, 1862.

ARMY CONTRACTS.—TENDERS will be received at this Office until NOON on MONDAY, the 3rd NOVEMBER, 1862, from persons who may be willing to enter into CONTRACTS to SUPPLY FLOUR for HOSPITAL BREAD in such quantities as may be required from 1st DECEMBER, 1862, to 31st MAY, 1863, for the use of Her Majesty's Forces stationed at Aldershott Camp, and within the command
Forms of Tender and Conditions of Contract may be obtained on application at this Office, by letter or in person, between the hours of TEN and FOUR o'clock.
Tenders on the printed forms must be properly filled up and signed, and delivered at this office, under closed envelope, marked on the outside "Tender for Flour for Hospital Bread," and no Tender will be noticed unless made on forms obtained from this Office.
REDMOND UNIACKE, Assist. Commissary General.
Commissariat Office, Aldershott, 7th Oct. 1862.

TO BUILDERS, IRONFOUNDERS, and CONTRACTORS.—GLOUCESTER CATTLE MARKET.—Parties disposed to TENDER for the Formation of the Cattle Market for the Corporation of Gloucester, may inspect the Plans, Specifications, and Contracts at the Office of the City Chamberlain, in the Corn Exchange, Gloucester; and Duplicates of the same at the Office in Bridge-street, on the latter TUESDAY, the 4th instant, until TUESDAY, the 14th day of OCTOBER next. Bills of Quantities and forms of Tenders may be obtained either from the or the City Chamberlain, on payment of a deposit of one guinea, which will be returned on the receipt of a bonâ-fide Tender. Tenders, sealed up and endorsed "Tender for Cattle Market," to be delivered to A. H. JENKINS, Esq. Town Clerk, Gloucester, not later than TEN o'clock A.M. on TUESDAY, the 14th of OCTOBER. Neither the lowest or any Tender will be necessarily accepted.
ROB. GRIFFITHS, Architect.
Bridgnorth, 24th September, 1862.

BOROUGH OF BLACKBURN.—TO CONTRACTORS and OTHERS.—The Corporation of this Borough is prepared to receive TENDERS from persons willing to undertake the CONSTRUCTION (about 1,200 lineal yards of BRICK SEWERS (for the Drainage of the Fenny-street and Dunsfield Districts), together with Branch Sewers, Manholes, Shoe Entrances, Gullies, and other works connected therewith. Persons desirous of Tendering for the above may see the Plans, sections, and specifications, and obtain all other necessary information, on application to Mr. BRERELEY, Borough Surveyor, at his Office, Town-hall, Blackburn. Sealed Tenders, endorsed "Tender for Sewers," and addressed to the TOWN CLERK, may be sent to the Town Clerk's Office, Town Hall, Blackburn, not later than SATURDAY, the 18th day of OCTOBER next. The lowest or any Tender will not necessarily be accepted.
HENRY SAWARD, Town Clerk.
Town-hall, Blackburn, September 20, 1862

MIDLAND RAILWAY.—To BUILDERS and OTHERS. The Directors are prepared to receive TENDERS for the ERECTION of a CUSTOMS BONDING WAREHOUSE, at the Huddersfield Station, Leeds, the drawings and specification for which may be seen, and quantities obtained, upon application at the Engineer's Offices, Wellington Station, Leeds, on and after TUESDAY next. Sealed Tenders, in one amount, for the whole of the Works, to be forwarded by post (pre-paid), to the Secretary to the Works and Stores Committee, Midland Railway, Derby, not later than TEN a.m. on TUESDAY, the 14th inst. The Directors do not bind themselves to accept the lowest or any Tender, or to pay any expense connected with any offer.—By order,
Derby, October 1, 1862. C. N. BROWNE, Secretary.

CONTRACTS.

TO CONTRACTORS.—Sealed TENDERS will be received by the Secretary of the Bridge Committee of the Town of Drogheda, up to the 1st day of NOVEMBER next, for TAKING DOWN the present BRIDGE over the River Boyne, at Drogheda, and Building a new CAST-IRON BRIDGE in place thereof, or a STONE BRIDGE, of 80 feet span, according to plans and specifications, prepared by J. NEVILLE, Esq. C.E. to be seen at my Office, Fair-street, Drogheda, or at the Office of J. NEVILLE, Esq. Joseph-street, Dundalk, between the hours of TEN and FOUR o'clock every day (Sunday excepted), after the 15th SEPTEMBER instant.
TENDERS will also be received, at the same time, for BUILDING a WOODEN BRIDGE, to be called the "Western Bridge," higher up the river, in the town, according to plans and specifications prepared by the same Engineer, to be seen in like manner. The lowest or any Tender not necessarily to be accepted.
HENRY CLINTON, Secretary to the Bridge Committees, of the Corporation, Harbour Commissioners, and Grand Jury of Drogheda.
Dated, at Drogheda, this 9th day of September, 1862.

STOCKTON and DARLINGTON RAILWAY.—The Stockton and Darlington Railway Company are prepared to receive TENDERS for the ERECTION of SIX COTTAGES, in Wheatsose-street, Darlington. Also, Six Cottages, near the Railway Station, at Stanhope. Plans and specifications of both the above may be seen upon application at the Railway Office, Darlington, on and after MONDAY, 6th OCTOBER inst., until WEDNESDAY, OCTOBER 22nd, 1862. Tenders to be delivered at the Railway Office, Darlington, not later than THURSDAY, 23rd OCTOBER inst., addressed to the Secretary, and endorsed "Tender for Cottages." The Company do not pledge themselves to accept the lowest or any Tender.
Railway Office, Darlington, October 6, 1862.

METROPOLITAN IMPROVEMENTS, Southwark-street.—The Metropolitan Board of Works hereby give notice, that they will MEET at their Office, 19, Spring-gardens, Charing-cross, on WEDNESDAY, the 29th OCTOBER instant, at TWELVE o'clock at noon precisely, and will be prepared to open TENDERS by parties who may be willing to TAKE on Building Leases all or any of certain PLOTS of GROUND situated in the north and south sides of South-wark-street, from High-street, Borough, to Southwark-bridge-road, in the parish of St. Saviour's, Southwark, in the county of Surrey. Particulars, conditions, and form of Tender, and every information, may be obtained in the Superintending Architect's Office, at the Office of the Board, any day between the hours of NINE a.m. and FOUR p.m. The Leases must be on the printed forms supplied at the Office of the Board, and be delivered under sealed covers, endorsed "Tender for Ground in Southwark-street," and addressed to the Clerk of the Board, at the Offices of the Metropolitan Board of Works, Spring-gardens, S.W. on or before TWELVE o'clock at noon, on WEDNESDAY, 29th OCTOBER instant; and no Tender will be received after that hour. The Board do not bind themselves to accept the highest or any tender.
JOHN FOLKARD, Clerk of the Board.
Spring-gardens, Charing-cross, October 4, 1862.

TO ARCHITECTS AND SURVEYORS.
GUYER & COMPANY, Lithographers, Stationers, and Printers, Grocers' Hall Court, Poultry, E.C. beg to invite attention to the resources of their Establishment as above, for LITHOGRAPHING and COPYING BILLS of QUANTITIES, Specifications, Detail Drawings, &c. &c. Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly engaged on the premises, they are enabled to guarantee superiority of style, correctness, and expedition.
Specimens and Lists of Charges, post free.
N.B. Any number of copies of a set of quantities lithographed in a few hours.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of proceeding—obtained gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Articled Pupils, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c., for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating, Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no Extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c. For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

THE ARCHITECT'S, BUILDER'S, CIVIL ENGINEER'S, and MACHINIST'S DRAWING CLASSES.—Offices, 26, Old-street, City road.—INSTRUCTION given in DAY and EVENING CLASSES, in Architecture, Mechanical, Ornamental, and Perspective Drawing. Taking out quantities and estimating, &c. Terms—Day pupils, 3l. per quarter; Evening, 1l. per quarter. Prospectuses, &c. per quarter, Evening, 1l. per quarter. Prospectuses, &c. per quarter, Evening, 1l. per quarter. Prospectuses, &c. per quarter,

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

STAINED GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.
(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Post-free, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works :— Cardington Street, Hampstead road, London.

PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street Bloomsbury, London; and No. 3, Oxford-street, Manchester. Prize Medallists, Class 34 A, 1862.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, farm cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also Lights of Glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of Sheet glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS. JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars form sheet rates for any description of Glass now manufactured :— Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

EXHIBITION PLATES OF THE
PLATE GLASS COMPANY, comprising :—
One 16 feet by 7 feet 6 inches PLATE
Four 10 feet by 6 feet SILVERED PLATES, in plain frames
One 10 feet by 6 feet SILVERED PLATE, in massive gilt frame
One 9 feet by 4 feet SILVERED PLATE, with bevelled edges, in handsome gilt frame.
One Large SILVERED PLATE in plain frame.
Also, about 8,000 feet of French PLATE GLASS in show cases. All to be SOLD by PRIVATE TREATY. Particulars, &c. of Mr. A. BE GRANDORY, Broker, Agent for the Plate Glass Company, 101, Minories. Large quantities of the above Glass are now lying at the Company's Warehouse, 1, Tower-street, Tower-hill, which will be sold in lots to suit purchasers, packing-cases, the latter of which will be sold for a mere song.

TO ARCHITECTS, BUILDERS, &c.
GLASS PAINTING, Painted WINDOWS RESTORED, PLAIN and GEOMETRICAL LEADWORK for Churches, Chapels, &c. at most moderate prices, by F. ODELL & CO. 8, Bath-street, City-road, E.C.; at the Works, 13, Grafton-mews, Fitzroy-square, W.—N.B. Frst and Church Leads sold.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price list forwarded free on receipt of business card addressed to
R. MEETAM & CO.
30 and 31, PRINCES-STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 20, Soho-square, W. and George yard, Cranbourn-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at the Soho-square Warehouse as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass may in the first instance be had on application as above.

FOR SALE, several PLOTS of FREEHOLD BUILDING LAND, on the Bushhill Estate, Salt Hill, Surrey, from 50 to 300 feet per front age, land-tax redeemed, conveyance free. Situate within half a mile of Slough Station, Great Western Railway, from the Paddington Terminus, and three miles from the Windsor Terminus. Good roads, and water, drainage, &c. Apply to Mr. JOHN TRIBE, Builder, Slough, Bucks.

EXTENSIVE MANUFACTURING PREMISES, Southwark.—TO BE LET, on LEASE, EXTENSIVE MANUFACTURING PREMISES, occupying a very large area, with [illegible] Premises, which are [illegible] floors, with basement; a smaller factory, of four floors, adjoining; a very spacious and lofty ground floor factory, yard, a capital family [illegible] and other buildings, now in the tenancy of Messrs. Hoole & Co. Possession may be had of the whole of the premises at Lady-day next, or a portion of the premises at Midsummer next. Rent and other particulars may be had on application to Messrs. FULLER & HOSKEY, Bishopsgate-street, E.C.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water [illegible]. The Estate is [illegible] and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the freehold within a specified time. LAND also TO LET at Buckhurst, Tottenham, [illegible], Bromley, [illegible] SITES in the three roads. Model cottages supplied if desired. Apply to Mr KNIGHTLEY, Architect, Cannon-street.

BRICK FIELD, SURREY.—TO BE LET, at Christmas next, within one mile of Witley station on the direct London and Portsmouth line, a well situated Yard, with suitable Kiln and Pile sheds, dwelling-house, stabling, and other requisites, and a large quantity of brick earth of excellent quality, for the manufacture of bricks, tiles, pipes, and pottery ware. There is a walk in the neighbourhood for new hands, and a ready sale for a moderate trade. For particulars apply to Mr. S. BERRY, Combe-court, near Godalming, Surrey.

SEVENTEEN PER CENT.—To BUILDERS and SPECULATORS in SMALL PROPERTIES, Members of BUILDING SOCIETIES, and OTHERS.—The LEASE of a PROPERTY, with about 75 years unexpired, TO BE SOLD for 2,000 Guineas, after being in the present hands for a moderate trade. The premises consist of a [illegible] Queen-street, High-street, Deptford, and is situate near the Dockyard Gates, and in a neighbourhood where there is a great demand for four-roomed houses, which could be [illegible] and let at 6s. per week. There are on the Estate three [illegible] cottages, that realize £67. per annum; Six Houses held by the year, for 78l.; a Plot of Land, let at a ground-rent of 23l. 8s. per annum; and about 320 feet of Building Land, of the estimated value of 49l. per annum. The whole is well let to tenants who pay punctually. There is a good opening for a parties [illegible] to [illegible] the Estate with [illegible], which would very much enhance the present value of the property. The Property is held for an unexpired term of 64 years, at a ground-rent of 8l. per annum. For further particulars and conditions of purchase, apply to Mr. J. A. LONE, 7, London-street.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert-road, near Regent's Park, fronting the Royal Botanical Gardens. Apply to C. J. RICHARDSON, Architect, 17, Prince Albert-road, N.W.

BOSMERE HALL, near Needham Market, Suffolk.—TO BE LET, Furnished, with immediate possession, a capital MANSION, with [illegible] rooms, to which [illegible] through [illegible] of [illegible], with [illegible], pleasure grounds, and walled in; kitchen gardens, and about 40 acres of good pasture land surrounding the same; situate on an eminence commanding beautiful and picturesque views, in a very pleasant and healthy locality, a good neighbourhood, and within half a mile of a first class railway station; with the right of shooting over about 2,000 acres of land [illegible] [illegible] and the game upon which has been preserved. And there is also a right of fishery in about 8 acres of water, with boat, boat-house, &c. The above mansion has been [illegible] [illegible] and is now in the occupation of a choice and recherché description, and will be let with or without the pasture land, and with or without the right of shooting.—For [illegible] particulars, apply to FREDERICK BARLOW, Esq., Solicitor, Cambridge; Messrs. HAYWARD & SON, Solicitors, Needham Market, Suffolk; or Messrs. FOWNALL, SON, & CROSS, No. 9, Staple Inn, Holborn, London.

TO BUILDERS, CONTRACTORS, RAILWAY-CARRIAGE MAKERS, &c.—TO BE LET, with immediate possession, HOGSHAW WORKS, Buxton, Derbyshire, immediately adjoining the intended Railway Goods Station, now in course of erection, and opened in a few months), consisting of very extensive builder's shops, steam-engine, saw mills, [illegible] for working iron and wood, iron and timber yards, wood and stone sheds, offices, stabling, &c., all nearly new, and in perfect order.—To view, apply to Mr. JAMES PROWN, the premises; and for further particulars to Mr. B. BRITTLEBANK, Solicitor, Winster; or to Mr. G. BRITTLEBANK, Solicitor, Ashbourne, Derbyshire.
N.B.—An authorized agent of the owner will attend at the Royal Hotel, Buxton, on the 16th and 17th inst. (when the sale of the builder's plant takes place).

MORTLAKE, SURREY.—TO BE LET, on LEASE, a substantial RESIDENCE, containing accommodation for a large family, within a convenient distance of two Railway Stations; with Stabling, Coach-house, Laundry, &c.; Pleasure and Kitchen Gardens, and about 12 acres of Meadow Land. For particulars apply to Messrs. TANQUERAY, WILLAUME, & HANBURY, 43, New Broad-street, London; and Mr. ATWOOD, Surveyor, &c. Mortlake.

HOXTON.—HABERDASHERS' ESTATE.—TO BE LET, by TENDER, a FREE PUBLIC HOUSE, and THIRTY-FIVE SHOPS and DWELLING HOUSES, in Aske's-terrace; also TWENTY HOUSES, in Halton-street, Hoxton West, fronting the Regent's Canal, which [illegible] into shops, on Leases for twenty-one years from Midsummer next. Particulars and form of Tender (which must be sent in by THURSDAY, the 27th of NOVEMBER) to the Clerk to the Haberdashers' Hall, Gresham-street West, E.C.; and of Mr. SNOOKE, Surveyor, 6, Dowgate-hill, London Bridge.
JOHN CURTIS, Clerk.

FREEHOLD BUILDING LAND on the Banks of the Thames in a delightful locality, TO BE SOLD, in lots to suit purchasers. Admirably adapted for villa residences.—Apply to Mr. STUART BARKER, Land Agent and Surveyor, 12 Buckingham-street, Strand.

LAND for a VILLA, Freehold, near Woodgreen Station, on the Great Northern Railway,—two acres and a half, suitable for the erection of a gentleman's residence,—TO BE SOLD a bargain.—Apply to R. C. DOVER, Leatherhead.

POLYTECHNIC.—Exhibitors at the International Exhibition of Works of Art, Machinery, New Fictitious Articles, &c. are requested to state whether they could have a moderate amount of space, free of charge, at this Institution.
JOHN HENRY PEPPER, Honorary Director.

POLYTECHNIC.—THIS WEEK.—Professor J. H. Pepper will resume his Lectures on "Some of the Chief Scientific Specialities of the International Exhibition," illustrated by [illegible] Photographs of the Art Treasures, Sculptures, and Art Works of home [illegible] and [illegible]; George Buckland, esq. for his Bell Musical Entertainment. Gorgeous Scenic and Chromatic Fountain Spectacle. Imitations of British Birds and Animals, by Herr Samuel. Concerts by the BROUSIL FAMILY. Professor Pepper's Laboratory for Pupils, Analysis, &c. has re-opened. Open from 11 to 5, and 7 [illegible] to 10.

LOSH, WILSON, & BELL, NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast Iron Bridging, and
STEWART'S PATENT CAST IRON GAS and WATER PIPES.
Office, No. 7, Spring-gardens, London.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

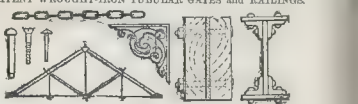
TO ENGINEERS and OTHERS.—TO BE DISPOSED OF remarkably cheap, warranted of the best material and workmanship, PUNCHING and SHEARING MACHINES for Iron 8 by 8-1 inch thick, for hand and steam power, portable and for fixing; a Planing Machine, to plane 6 feet 6 inches long, 2 feet 6 inches wide, and 2 feet 6 inches in depth; a Slide and Screw Cutting Lathe, for hand or steam power; Iron and Brass Turning Screwing, &c.—Address, or apply to J. TODD & CO. Norway-street, Bridge-street, Greenwich, S.E.

HART AND SON,
53 to 58, WYCH-STREET, LONDON, W.C.;
AND 20, COCKSPUR-STREET, S.W.



ENGRAVERS OF MONUMENTAL BRASSES, HERALDIC DEVICES, &c.; CHURCH PLATE, GLASTONBURY CHAIRS, WROUGHT-IRON HINGES, GRILLES, VANES, CROSSES, &c. &c. CORONÆ, STANDARDS, BRACKETS, &c. for Gas, Oil, or Candles.

H. G. COOMBES, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.
PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.—15, Union street, Borough.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS PLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 54, Davies-street, Three Doors from Oxford street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, &c. Little Trade in Retail, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

NAILS and IRONMONGERY, from BIRMINGHAM direct
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street London E.C.

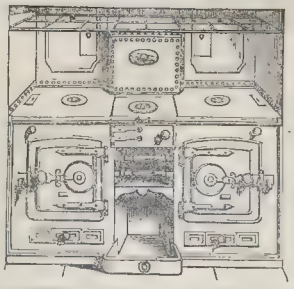
DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

TO RAILWAY COMPANIES. The cheapest and most durable AXLE BRASSES known, made by R. F. DALE, Engineer and Brass-founder, No. 9, Shoe-lane, Fleet street; manufacturer of Steam Fittings, Diving Apparatus, Pumps, Cocks, &c.; Patent Anti friction Metal, Gun Metal, Brass Castings &c.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform Lighting, it equalizes the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to all forms of cisterns, which are made in any size and for any of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c. KENT IRON WORKS, BRIDGE-STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN STREET, 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF **WROUGHT-IRON GIRDERS**

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Pans, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



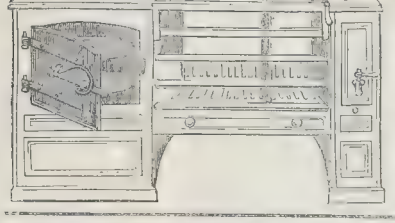
ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars	Self-acting Cottage, with Oven and Back Boiler
34 inches ..... 54s.	30 inches ..... 22s.
38 " ..... 55s.	32 " ..... 24s.
38 " ..... 70s.	34 " ..... 26s.
42 " ..... 90s.	36 " ..... 28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Cottage Close Register, with strong Bars ..... per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 40s. to 100s. each.
Best Cut Clasp and Rose Nails.

1-inch.	¾ inch.	2 inch.	2½-inch.	3 inch.
14s.	14s.	13s	12s.	11s 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½-in.	3-in.
Cast Rain-water Pipe..	8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

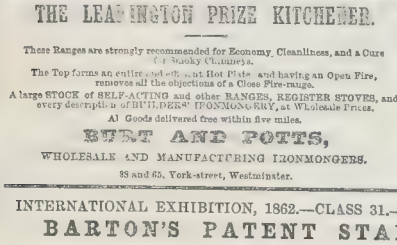
	4-in.	4½-in.
O G Gutters, with Clips on...	10d.	1s. per yard.

	2	3	4	5	6
Patent Line..3s. 6d.	4s.				per cross.

6-inch Rd. Ward Mortice, with the Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.

Dr Arnott's Ventilators, as seen.

Brick Moulds kept in stock. Any size made to order.



THE LEAMINGTON PRIZE KITCHENER.

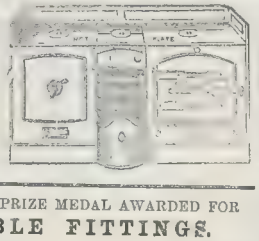
These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire set of Best Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS.
83 and 65, York-street, Westminster.



ESTABLISHED 1774.

AUSTIN'S IMPERIAL PATENT SASH LINES,
AND BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes [illegible]

IMPERIAL PATENT FLAX SASH LINES

[illegible] of which [illegible] recommends that in all cases they should be purchased in preference to the PATENT LINES [illegible] STRENGTH and DURABILITY [illegible]

They can be obtained of Ironmongers throughout [illegible]

TO IRONMONGERS AND THE TRADE GENERALLY.

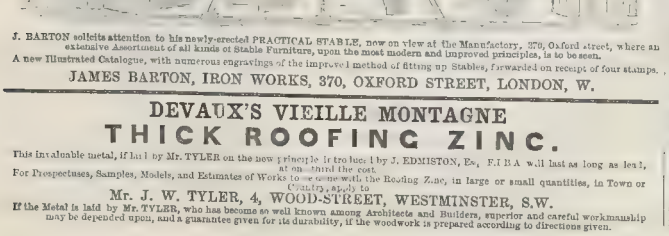
D. HULETT & CO. Manufacturers

of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 85 and 86, High Holborn.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.

These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.

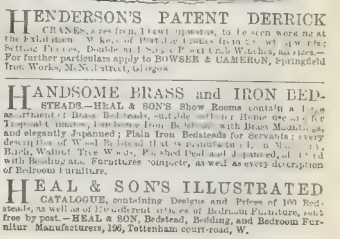


J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

A new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

PRIZE MEDAL AWARDED
PRACTICAL UTILITY, MODERATE COST.



HENDERSON'S PATENT DERRICK

CRANES, as seen from Newest Designs, to be seen working at the Exhibition. Weeks of portable Cranes from 5 cwt. upwards; Setting Pieces, Double and Single Pulley Blocks, &c. &c.—For further particulars apply to BOWSER & CAMERON, Springfield Iron Works, M'Neil-street, Glasgow.

DEVAUX'S VIEILLE MONTAGNE THICK ROOFING ZINC.

This invaluable metal, if laid by Mr. TYLER on the new principle introduced by J. EDMISTON, Esq., F.I.B.A. will last as long as lead, at one-third the cost.

For Prospectuses, Samples, Models, and Estimates of Works to be done with the Roofing Zinc, in large or small quantities, in Town or Country, apply to

Mr. J. W. TYLER, 4, WOOD-STREET, WESTMINSTER, S.W.

If the Metal is laid by Mr. TYLER, who has become so well known among Architects and Builders, superior and careful workmanship may be depended upon, and a guarantee given for its durability, if the woodwork is prepared according to directions given.

HANDSOME BRASS and IRON BEDSTEADS.

—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable for their Home and Foreign Climates, handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedsteads that is manufactured in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furniture complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED

CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 100 different pieces of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham court-road, W.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.

IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

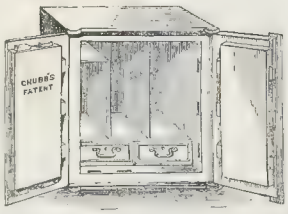
CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS,

The most secure from pick-locks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the DETECTOR LOCKS.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire-resisting and non-conducting composition.

The doors are all secured by CHUBB'S PATENT DRILL-PREVENTIVE, and their Patent

GUNPOWDER PROOF LOCKS.

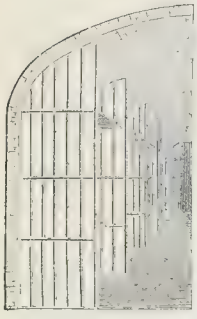
Illustrated Price List Gratis and Post Free.

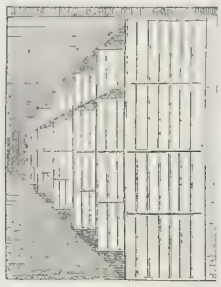
CHUBB & SON,

No. 57, ST. PAUL'S CHURCHYARD, LONDON;

28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.

WROUGHT IRON WINE BINS.





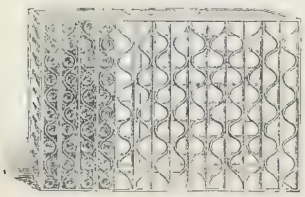
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,

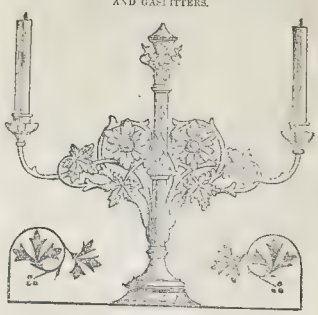
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

JOHNSTON, BROTHERS,

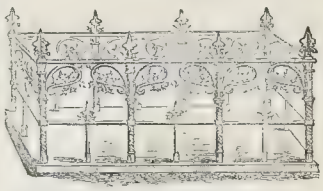
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W. Drawings and Estimates furnished.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



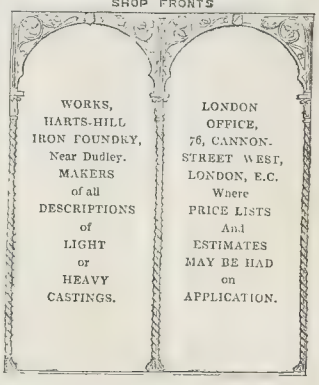
COMMUNION RAILINGS, SCREENS, GATES, &c. Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

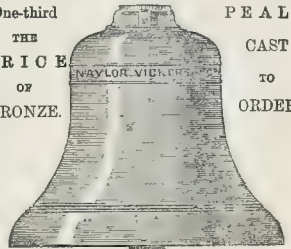
SMITH & WOODS

SHOP FRONTS



CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City-road, E.C. near the Canal Bridge.

E. GOLLOP, SOLE PROPRIETOR.

A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising Spring hinges, Non-rising Spring hinges, Double-acting Spring hinges, Rising and Non-rising Door Back Springs, &c.

Price List and Drawings on application as above.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.

POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,

Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class.

OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Mulcum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air VentilatingStove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

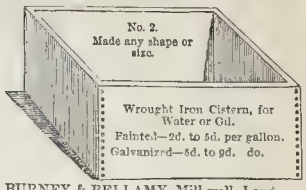
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

WROUGHT-IRON TANKS, CISTERNS,

GIRDERS, FUNNELS, &c. plain or galvanised; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Galvanized Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

TRADE MARK.

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS,

Wolverhampton, Staffordshire.

LIGHTNING CONDUCTORS.

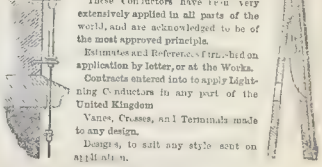
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the cord, with the proper and all staples, complete for fixing, at the following prices:

Three-eighths inch diameter	1s. 0d. per foot.
Half-inch diameter	1s. 6d. "
Five-eighths-inch diameter	2s. 6d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by their agents, engineers, and ironmongers, in all parts of the world.

Offices 150, Strand, London
" Gateshead-on-Tyne
" 27, Dale-street, Manchester.
" 66, Andrew-street, Leeds.
" 17, South Castle-street, Liverpool
" Exchange-buildings, Dundee
" 7, Frederick-street, Aberdeen.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY-ROW,

MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom

Vanes, Crosses, and Terminals made to any design.

Damper, to suit any style sent on application.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by C. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many private residences, mansions, &c. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 114, Fenchurch-street, E.C

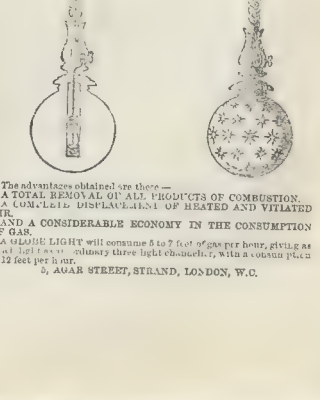
RAILWAY COMPANIES, CONTRACTORS,

and AGENTS SUPPLIED with KEYS, TRESSELS, BUSHES, SLEEPERS, BARROWS, and all descriptions of RAILWAY PLANT, by STEDMAN & P. PEARCE, GREAT YARMOUTH SAW MILLS, Pile, Wharf, Railway Stone Contractors, and Engineers to the Trade.

RICKETT'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with excellent, simple, and efficient ventilation.



The advantages obtained are these—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

IMPROVED WARM-AIR STOVES, FURNACES, AND HOT-WATER CIRCULATING APPARATUS FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS, KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION,

Manufactured and erected by

J. KIRK & CO.

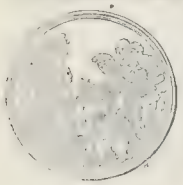
SUCCESSORS TO CUTLER & SONS,

16, GREAT QUEEN-STREET, LINCOLN'S-INN-FIELDS, LONDON.

FOUNDERS AND FURNISHING IRONMONGERS, GAS ENGINEERS, BELLHANGERS, &c.

Orders for every description of Castings for Engineers and Builders promptly executed.

WILLIAM ASHDOWN, Manager.



THE PRIZE MEDALS,

(LONDON, 1851. PARIS, 1855. LONDON, 1862.)

Awarded to

COTTAM & COMPANY,

2, WINSLEY STREET, LONDON, W.

For progressive and general improvements in

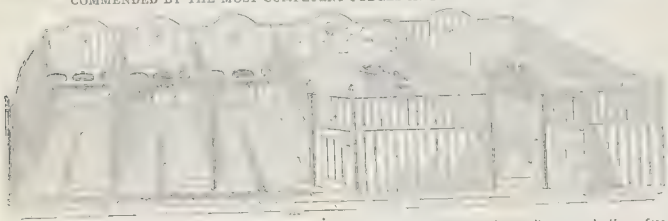
STABLE FITTINGS AND HARNESS BRACKETS.



PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.



The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation preventing coldness in the neck, facility in fixing, safety from accident, durability in construction, and cleanliness in use.

STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.

COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

ILLUSTRATED CATALOGUES FREE, on application to

COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.

COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.

N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.



INTERNATIONAL EXHIBITION, Class 31 and 34.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

THE NEW CRYSTAL STAR AND SUN LIGHT.

J. DEFRIES & SONS,

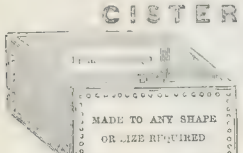
ENGINEERS, GAS FITTERS, AND MANUFACTURERS OF MEDIÆVAL and every Description of GAS-FITTINGS, CRYSTAL, BRASS, and ORMOLU CHANDELIERS, VESTIBULES, &c. &c.

Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other public and private Buildings. HOT-WATER PIPES for heating Conservatories, Warehouses, &c. &c. supplied and fitted on the most Improved and Economical Principles. Public and Private Gas-Works Erected.

Works—London and Birmingham.

Principal Depôt and Show-rooms—147, *Houndsditch, City.*

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61A, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK.

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

WALSALL, STAFFORDSHIRE.—Established 1830.

LAMBERT BROTHERS,

MANUFACTURERS OF LAP WELDED BOILER TUBES LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE.

For Steam or High pressure Water and Gas. HIGH PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK PUMPS, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS-FITTINGS, GASELIERS, &c.; and of the GROVE BRIDGEHEAD WORKS WALSALL. A GENERAL selection of current Manufactures for the Steam engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works Mills &c. at the International Exhibition, Walsall Court, Class 31. Exhibited precisely as it will be supplied for engravings, and printed prices and trade discounts.

PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*



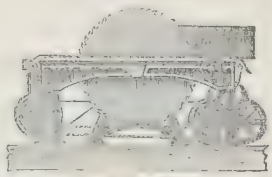
Drawings and Lithographs sent on application.

MACHINERY TO BE SEEN AT WORKS, ROCHDALE.

LONDON OFFICE, CANNON STREET, E.C.

S. WORSSAM & CO.'S PATENT

SELF ACTING SAW-BENCH.



This Bench will take a Saw up to 52 inches in diameter, and is adapted for ripping, cutting, and working boards, timber, and all the purposes of an ordinary saw-bench. It is fitted with a rope feed motion for bringing the stuff up to the saw, at the varying rate of 30 to 90 feet a minute, and is altogether a very perfect machine. For full particulars, apply at the Works, 344, King's-road, Chelsea, S.W.

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and steel wire, from the finest cast iron, to the strongest malleable iron, possessing many great advantages over the ordinary chain, for hanging window-sashes, both large and small; also for hanging heavy shutters; suspending lamps and chandeliers, either with or without balance-bars; fitting up sculls, coal-sacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose to which wire can be used. Patterns forwarded free on application to THOMAS P. HAWKINS, 27, Holywell-lane, Shoreditch.

VENTILATING STOVES.—Cheap, simple, efficient, and durable. Thousands have been sold, and universally approved. [illegible] Prices, and full particulars, forwarded by return of post. A VERY LARGE ASSORTMENT OF KITCHENERS, RANGES, AND STOVES, [illegible] DEANE & CO., [illegible]



SPRATT'S PATENT BATTERY EXCITATION COPPER LIGHTNING-CONDUCTORS, giving 4 inches of surface. Only 1*s.* per foot, [illegible] tiful "reproducing" Platinum Silver Joints and attachments, forming a Lock, Steel [illegible] A VERY LARGE ASSORTMENT [illegible] impossibility of being injured by Lightning; Best in Dwellings from spoiling Milk in Dairies Souring by Electricity [illegible] 121, Middle-row, Holborn, [illegible]

MOREWOOD & CO.

(late Morewood & Rogers),

Dowgate Dock, Upper Thames-street, London, and Lion Work, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

PLAIN or CORRUGATED, and PAINTED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Wire of Iron, Copper, Muntz's Metal and Mohilled Gauges, Wire Netting, Nails, Rivets, Bolts &c.

Estimates given for Roofs, &c. of every description of Galvanized Iron Buildings, at the

OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all description, Chains, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, 4*s.*; and the New Registered Venetian Ventilator, so much admired, 6*s.* 6*d.* each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare-market, London.

THE MEDAL FOR 1862

THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE MARK.

CROWN TUBE WORKS

WEDNESBURY, STAFFORDSHIRE

Warehouse—81, Upper Ground-street, London, S.

JAMES RUSSELL & SONS,

The Patentees and first Makers of Wrought-iron Tubes

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;

SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS SMITH, Patentee, 68, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246).

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

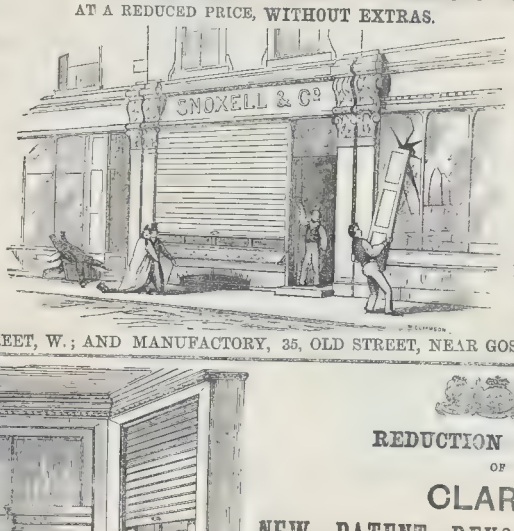
ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

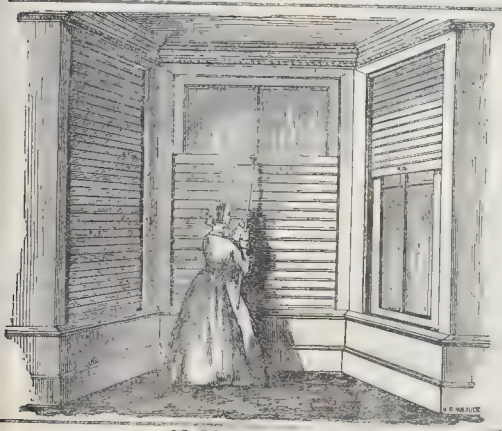
SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents.
Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

NO MORE BURNING STAIRCASES.

M. H. BLANCHARD & CO.

(SUCCESSORS TO COADE'S.—ESTABLISHED, 1769.)

Terra Cotta Manufacturers to Her Majesty,

THE COMMISSIONERS OF 1851.

The Board of Works, the Admiralty, the Trinity House, the Royal Horticultural Society, and the Department of Science and Art, South Kensington.

1851.



The Prize Medal
WAS AWARDED IN 1851 TO
MARK H. BLANCHARD
For Material and Workmanship in
TERRA COTTA.
INTERNATIONAL EXHIBITION,
1862.
Classes 35 and 10c.

1862.



TWO PRIZE MEDALS AWARDED TO M. H. BLANCHARD,

"For Objects Shown for Architectural Beauty and Decorative Purposes."



M. H. BLANCHARD'S PATENT FIRE-PROOF STAIRS

will be found to possess great advantages over the ordinary stone stairs, in being fire-proof, more durable, stronger, noiseless, free from slippiness, and where light is required under the stairs, it may be given by Ornamental Perforations in the Risers. Great benefit may be derived in warming and ventilating the Staircase by carrying an Air Chamber in the wall at the end of Stairs, and warm and fresh air can be admitted or expelled at pleasure by the regulation of Ventilators in the Risers. With all the advantages and unlimited decoration, it is cheaper compared with Portland Stone.

PATENT REVERSIBLE TESSELATED TILES,

Perfectly vitrified and not liable to flake, free from slippiness, perfectly true on the surface, much easier to lay, and does not form water puddles by their inequality of surface. They are the most ornamental and cheapest Paving Tiles known.

BLANCHARD'S PATENT ORNAMENTAL COLUMNS

will be found to be unique for beauty of design, execution of workmanship, durability, and strength; as it may be mentioned that a single column bore a pressure of twenty tons upon being tested during the progress of the works for the Royal Horticultural Gardens, by order of the authorities.

PATENT POSTS FOR RAILWAY AND FENCING PURPOSES.

These Imperishable Posts for Marshy Land are in three separate pieces, as may be seen by the dotted lines, and fit one into the other, similar to a telescope, and can be fixed or separated by any person, as they cannot be disarranged.

GROUPS, STATUES,

FRIEZES, CAPITALS, PANELLING, PINNACLES, FINIALS, TERMINALS,

TUDOR AND OTHER CHIMNEY SHAFTS;

BALUSTRADING, FOUNTAINS, FONTS, TAZZAS, VASES, COATS of ARMS, DEVICES,

AND EVERY DESCRIPTION OF

ARCHITECTURAL EMBELLISHMENTS.

ARCHITECTS WAITED UPON, AND ESTIMATES FURNISHED.

Illustrated Catalogues and Sheets

Forwarded upon the receipt of Twelve Postage Stamps.

The Builder.

VOL. XX.—No. 1027.

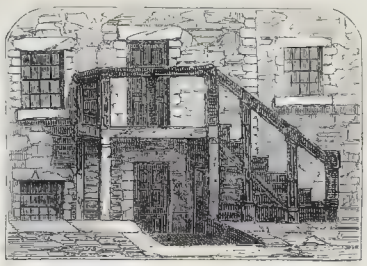
Infanticide without Intention.

MURDER has been classed amongst the *fine* arts, *coarse* as a good deal of it no doubt is in practice. There are many ways of getting rid of *surplus* infants. It is not merely by cutting the throats of the poor little innocents as if they were pigs, or by drowning them as if they were kittens, that thousands of infant-murders are effected. In China they go about it in a more matter-of-fact and business-like way than we do; but throwing them in heaps alive within the precincts of a devil's temple, there to perish, does not come up to our more refined and civilized and varied modes of doing the Malthusianly needful work. And, in speaking of refined and civilized operations of the sort, we do not simply mean to refer to reiterated doses of "quietness" and such like; nor even to ingenious processes such as that of the talented individual who got rid of five of his superfluous progeny by various artful dodges, such as setting a tub of water, like a trap, over night for the unprotected little one to roll into out of bed, when all were asleep, and when no one, therefore, was to blame. Perhaps the method most entitling infanticide to be regarded as a branch (we wish we could call it a dead branch) of the fine arts, is to choke them by degrees, from short supplies of vital air, in close apartments. This is a much more safe and artful way of "keeping down the population" than either smothering them in bed, dosing them with laudanum, or even stuffing them with "strong meat" in the place of milk.

The public make a tremendous outcry when some poor "unfortunate" young woman has been driven, by the force of public indignation, to cast her little one into a pond or a river; especially if the outcast excite the public indignation still farther by failing at the same time to commit self-murder; but how serenely the public contemplate that wholesale infanticide which disposes of 40 to 45 children out of *every* 100 before they are five years old! There are Malthusian philanthropists who wink at even such a state of matters; arguing that "it is a providential mercy that so many children die; because, if all the children of the poor lived, the poor-rates required for their maintenance would be increased by two-fifths and even more;" and were not this a complete *non sequitur*, of course there would be a good deal of truth in it; but, unfortunately for the force of this Malthusian argument, wholesale death implies wholesale sickness and want of stamina in infancy; and foundations so weak are reared into frames so shaky that poor-law burdens must be immensely augmented, in place of diminished at all, by a high rate of infant mortality. Moreover, in a limited island space such as that of Great Britain, the true greatness of the nation, and its ability to sustain its poor, could not but be vastly increased, were the foundations of being well and securely laid by improved arrangements promotive of health and vigour, so as to raise the stamina of its manhood to a higher pitch than anything like what we have yet to boast of. And it is not the improved *physique* of the matured infant alone that would thus be realized; but the fact that vigorous parents lead to a vigorous progeny is no less obvious; and thus the nation would improve, physically speaking, in an accelerated ratio, were more care and attention given to the rearing of infants.

Of such vast importance, indeed, are the care and proper management of infant life; and at present so excessive and avoidable is its destruction; that we have frequently felt it a duty to call attention to the carelessness, ignorance, and too often wickedness, which destroy thousands during the first dawning of their existence.

On the Bridge of Life—which is described in that beautiful and physiological allegory, "The Vision of Mirza," are shown, in the early stages of the bridge, many rents and pitfalls through which multitudes of passengers drop, and rapidly disappear in the waters beneath, which flow darkly along. Towards the middle the danger is lessened, and a powerful and compact band move steadily onwards, with comparatively small loss, until the middle of the bridge is gained, when the dangerous pitfalls increase again in number, so that only two or three solitary pilgrims are left at the further end, who also disappear. Such is the general rule of life: the weak and tender infant is subject to injury from the slightest causes: it can be easily suffocated, as by bed-clothes, or even while in the nurse's arms. Its life is extinguished by unwholesome air; and by those numerous neglects to which we have referred in other papers. But admitting—as we are not inclined to admit—that, in passing the first arches of the bridge of life, there must naturally and necessarily be more deaths than towards the second and middle stages of the journey; still, there can be no doubt that by preventable causes, in the present conditions of society in this country, more than twice as many deaths happen as ought, with proper arrangements, really to occur.





AN INFANT NURSERY: DAMP, UNDRAINED, AND ILL-LIGHTED.

The Privy Council, impressed with this fact and the need of its amendment, have appointed medical men of experience to make inquiry into this most important subject; and Dr. Greenhow, one of this staff, remarks, that in the manufacturing districts he frequently found, on questioning married factory women, that two-thirds or three-fourths of the children born to them have died in infancy: they are deprived of the warmth of their mothers' bosoms; left to the care of strangers; fed on unsuitable food; and, when they dwindle and become fractious, are drugged with opiates; for those who have to work by day cannot do so if they are disturbed at night. One druggist alone, a member of the Nottingham Town Council, states that he sells about 400 gallons of laudanum annually, at least one half of which he believes to be administered to infants. Dr. Greenhow notices the grievous extent to which parents, who intrust the management of children so largely to strangers, get demoralized towards their offspring; becoming more or less indifferent about them. As so many children die, the mothers become familiarized with the fact, and speak of the death of their children with a degree of nonchalance rarely met with amongst women who devote themselves mainly to the care of their offspring.

Mr. Simon, in presenting his report to the Privy Council, observes, that such a picture of suffering and demoralization is very sad. The poor factory woman, who meant only to sell her honest industry, gradually finds that she has sold everything which other women understand as happiness. The law cannot reach the evil; but he suggests, with reference to one part of it, that masters might establish within their own factories, under well-advised regulations, nursery rooms, where working mothers might leave their infants in some proper and kindly charge, and might, as often as necessary, have access to them. This is a good suggestion, and would prove of decided advantage, if it could be carried out. We know the evil conditions of infant nurseries in the manufacturing districts, where female labour is largely in demand. In many instances the infants are left for hours together in the charge of other children not much bigger than themselves. We have often met with rooms, the doors of which are kept locked during the long absence of the mother, for the purpose of preventing the children from falling into the gutter, or being lost, or run over. There is a kind of infant nursery, however, presided over by imbecile and often cross old women, who, in their own youth, had never been accustomed to the proper care of children: these often inhabit unventilated and unwholesome rooms in undrained houses; and, from morning till night, in too many instances, as well as from night till morning, the little creatures are stupefied by the administration of "quietness," as they call the laudanum and other narcotic mixtures administered to children who are fretful. We have sketched one of these nurseries, outside and in, just as we saw it;—A showing the entrance door and the only window. It is not far from Manchester; half underground and wholly damp and unfit. The majority of the children had been "quieted." We all know, in respect of potatoes, what sort of growth takes place in a cellar,

From these dismal pictures let us turn to more pleasant prospects;—to large well-ventilated rooms, arranged with the greatest neatness; an even temperament, winter and summer; snug little beds ranged around, with sheets of snowy whiteness; a play-place of soft felt or carpet, with toys in the centre; intelligent attendants; baths; wholesome food, and other accommodations; while the charge made to mothers for all this is small, not exceeding, if we take one thing with another, the cost of the mismanagement of the old women. And yet, we regret to say, the latter and their dingy dens are better liked, by a great majority of the persons to whom good infant nurseries would prove beneficial, than places such as we have described, and which are patterns of order, and provided with all that is essential to health.

A certain number of poor persons, who have more than the usual share of the intelligence of their class, have sent their children to the infant nurseries which have been opened in some parts of the metropolis and also in the large towns; but we are sorry to say this institution has not as yet spread to the extent to which

we some time since were hopeful that it would. During the existing prevalence of distress in the northern districts; when it is likely that, for a time, large numbers of young women will be brought into rooms and employed at needlework; and will, at the same time, be put through a course of instruction; we trust that this charitable arrangement, which has been the result of a great calamity, may prove, to a certain extent, a benefit; particularly if means be used to diffuse a knowledge of the laws of health, and to show to the workers who are verging on womanhood the advantages that would result from placing their infants under proper care; away from the chance of the administration of laudanum and other poisons of a similar nature; and where they will not be injured by the foul, close air of the rooms in which too often delicate infants are kept in dirt and neglect.

Homes for pauper children are advocated by a member of the Ladies' Sanitary Association, in a tract issued by that association,* and which merits extensive circulation. It is proposed that these homes should simply consist of improved arrangements, at the cost and under the authority of the poor-law guardians, carried out in each parish or union. Such homes, it is suggested, would also serve as schools in which nurses, pupil teachers, school-mistresses, governesses, adult girls, and young mothers of any class could learn the best mode of practically managing infants and little children, so far as regards their physical well-being. There might thus be obtained fees to increase the funds applicable to such homes; which, moreover, would not, it is believed, cost more than pauper infants and children cost the guardians and the ratepayers under the present *system*—if we can so call it.

The subject of children's hospitals is one on which we must say a few words ere we close our present remarks.

It is a frightful circumstance that the mortality of children under ten years of age is only 2 per cent. less than it was fifty years ago;—so that, of 50,000 persons, for example, dying annually in London, 21,000 are children under that age. Notwithstanding the immense extent of sickness which must have preceded this multitude of deaths, there is no adequate accommodation in the London hospitals for sick children. We have no note of how the case may stand now; but, in January, 1843, of 2,363 patients in all the hospitals, only *twenty-six were children under ten;* and it is probable that the case is even now not much better. In these hospitals, the medical students have every opportunity of studying many phases of disease; but medical knowledge respecting children's complaints is particularly defective, owing to the want of sufficient opportunities for their study. In consequence of the great need of such an establishment, some earnest persons, by means of great exertions, succeeded in opening an hospital for children in Great Ormond-street. During the first five years of the existence of this valuable institution, the number of patients receiving advice and medicine was,—In-patients, 1,158; out-patients, 30,304; while, during the second five years, the number has been,—in-patients, 1,920; out-patients, 76,602. The number of out-patients who were admitted into the hospital between January 1st and December 31st, 1861, was 10,772.

In this list of cases there were 21 under one month old; and the sickness increases until we find 1,314 of the age of three years. The largest amount of illness is stated in the classified list to be from diseases of the skin (1,203): next come catarrh and cough (1,055); diarrhœa (970); rickets (852); hooping-cough (730): of typhoid fever there are 42 cases; diphtheria, 16; ague, only 1. It would be difficult to give a view of the extent of the success which has attended the treatment of this multitude of patients; but from the account of the 577 children who, in the course of 1861, were admitted into the hospital, we may state, though we cannot give the whole list, that from typhoid fever, out of 12 males and 12 females who were admitted, there was only one death: of the 15 cases of diphtheria, 12 died: from hooping-cough, out of 16 males and 13 females there were 11 deaths: from inflammation of the lungs and air-passages, out of 16 males and 13 females, there were 11 deaths: from debility and atrophy, out of 26 males and 25 females, there was only 1 death. The total of in-patients this year is 308 males and 269 females,—in all 577: of these 60 died; and, when we consider that only extreme cases are admitted, this seems to be a very small proportion in comparison with the fatal results which would probably have occurred if the children had been left in their own homes.

It is evident that the treatment of such a large amount of varied disease must afford an opportunity for acquiring much valuable experience; and it is satisfactory to know that, besides the benefits which have been conferred on the patients, it is made further useful; for, during three years, the experience and knowledge of the medical officers have been rendered available to the profession by a series of lectures given by the former during each winter at the hospital.

The nurses of this hospital are under the same authority and subjected to the same regulations as other nurses; and those who conduct themselves satisfactorily, and prove themselves competent to discharge the duties of a children's nurse in sickness, receive a certificate, signed by the chairman of the committee, the medical officers, and the matron. Such a certificate should insure to any young woman a good situation with better wages than usual; and it is suggested that, if ladies would send their own nurses to the hospital, or individually defray the expense of training one or two young girls annually, before they sought for nursemaids' situations, the advantages would soon be evident.

We were astonished to learn, and we are sure that many of our readers will be also surprised, that the sum which has been received during the last year from pupil teachers is 5*l.* 2*s.*! We would advise ladies who feel an interest in this most important subject, to consult Mrs. Rose, the matron of the hospital: the advantages which are to be obtained only require to be known in order to be extensively appreciated.

Returning to our starting-point, we would again and again re-urge, that if we would have sound men and women, who make a sound people, we must look after the babies. The present wholesale murder without intention, which is allowed to go on, is a disgrace to our civilization.

* Office, No. 14A, Princes-street, Cavendish-square, London, W.

COOKING-APPARATUS AND KITCHEN RANGES IN "THE EXHIBITION."

It would answer no object commensurate with the space, to describe the whole of the thirty or more kitchen ranges that we have not mentioned.* It will have been clearly understood that the distinction of the English range from the foreign, is comprised in the position and arrangement of the former under a chimney-opening, instead of as a species of table, or dresser, at the side or in the centre of a room. It will further have been understood that the English ranges are divisible into those (with or without wound-up contracting cheeks) in which roasting *in front* of an open fire is the first consideration; those in which "roasting" is effected by the use of a ventilated-oven, or chiefly therein, and in which it is supposed, rightly or not, that there is great economy of fuel; and, what may constitute a third class, those which seek to secure some of the advantages of the hot-plate and all those of the open-fire, in the one range, by an alteration readily to be made in the front and top-covering of the fire. There is also the description of apparatus in which the heat of gas is used. As to what constitutes roasting, it is of course of first importance that the question should be settled. The large proportion of the grates which there are in the Exhibition, of our third class; the fact of the endeavours to ventilate ovens; and the adherence of the chief London makers, and the clubs, to the large roasting-grate, fortify us in the opinion that there may be much yet to be done, ere economy of fuel and heat can be combined with the production of the best roast-meat, whatever be the advantage of the close-range for that variety in the preparation of food which we have treated above, as equally important.

* See page 705 *ante* and previous articles.

Messrs. Brown & Green, whose range was mentioned in our first article as one of the most conspicuous examples of the close-range or *kitchener*, have written to us, saying that "one of the chief improvements" they claim as "distinctive" of their ranges of all sizes compared with those of other makers, is the facility "for roasting in front of the fire *without interruption* to the action of the ovens and hot-plate; whilst the ovens are all well ventilated so as to be available for *supplementary* 'roasters,' in case of need;" and that the report to the War Office (which we referred to) certifies that "'the fire will roast three joints for fifty-six men.'" They also explain that the depth of the range is 2 feet 6 inches, affording room for the ovens, each two feet square; and that the depth of the fire-place is 14 inches immediately under the hot-plate, whilst much less towards the bottom,—"the bath-boiler at the back projecting forward in a peculiar shape into the fire, so as to economize fuel by contracting the furnace, and at the same time to secure the effectual heating of the boiler without the usual flue beneath it carrying off the heat wastefully, direct from the fire into the chimney." We give the makers also the benefit of a statement that the fire will roast in the course of three hours, three joints, with the consumption of 86 lb. of coal, besides effecting all the other operations in the six ovens, and in six boilers and six stew-pans on the hot-plate: but the grate must be examined to judge whether one large joint could be properly roasted in front of what is but a narrow fire.

The "Kitchener" of Messrs. Flavel & Son, of Leamington, which received a medal in 1851, is again exhibited with several improvements. Above the pastry-baking ovens, or more conveniently placed than on the floor, are two hot-closets. Access is provided at the back of the range, to the pipes and regulating apparatus of the boilers. Removable panels in the hot-plate; a gridiron which can be fixed at any height above the fire, improved soot-doors, a movable bottom to the grate; ventilators in the ceiling-plate, to avoid the necessity of opening the register-door, and the falling of soot; handles in front, in the mantel, to work the dampers which are in the back of the range; and well-contrived latches, are amongst the features of this "kitchener." A single joint could be roasted in front of the fire. Similar to this range is that of Mr. R. Hewens, of Leamington. It includes a winding-up bottom to the grate. One or more spaces in the hot-plate are arranged for use as charcoal stoves.

The maker of the Paragon Kitchener has printed some useful instructions for fixing and using his apparatus, but has forgotten to append to them his name. In this range, as usual, the fire, the oven or "roaster," and the boiler, require separate flues, these joining into the one large flue of the chimney. The small flue for the oven or "roaster" goes over the top, down the side, under the bottom, and out (at the nearest corner to the fire) into a vertical flue; the case supposed being that of a range with one oven. The vertical flue should be 6 inches square, or not less than 6 inches by 4 inches; and a soot-door and a damper are necessary. Should there be more than one oven, each must be treated like the one described. The flue, under the oven or "roaster," must be formed of brick-work, leaving a space of 2½ inches between the face of the brick-work and the bottom of the oven. A "mid-feather" is fixed on the bottom of each oven and boiler to throw the current into the vertical flue. "When the boiler is required at the back instead of the side, then, the foot of such boiler must form the back of the fire, the upper part of the foot being even with the top of the ovens, so that the flue can pass over it into the vertical flue at the back; and if a high pressure be required, the flue may pass underneath the boiler as well. The back-boiler, when in its place, will project about 8 inches beyond the back of the covings; and the ends of it will form the sides of the vertical flue on each side the fire." A supply-cistern, with ball-cock, to keep the boiler filled, should be regarded as a necessary addition. For "roasting" in the oven, the ventilating-valves of the oven are to be open; and, for baking, they are to be

closed; and in using the dripping-pan, care must be taken to fill the bottom-pan with water, to prevent burning. The smoke-ducts should be cleaned out every week, by removing the plugs or other means provided, and raking and brushing; the soot in the chief-forms of kitchener, being taken out by a small door in front. Whether this necessity of cleaning constitutes a positive objection to *kitcheners*, must be left for the present, undecided; though any contrivance put forward as a certain cure for smoky chimneys, or as diminishing smoke-nuisance, should be less characterized by formation and deposition of soot than are the cooking-ranges of the kind in question, of whatever maker. Mr. T. Radclyffe is one of the Leamington people who exhibit the form of *kitchener*, with modifications, which has been described above. This manufacturer goes so far as to speak of his *roasters* as "remedying the evil of open-fire roasting," which he appears to think exists in "cold currents of air passing by the joints" causing the meat to be unevenly roasted, or the nutritious juices to be dried up or diminished. We afford him further, the advantage of an assertion that the roasting action of the heat is perfected in properly ventilated "roasters"; and that the cooked meat is greater in weight, as well of better flavour. The *roaster*, by "closing the air-pipes," but leaving the top-valve open, is convertible into a baking-oven which is regarded as better for pastry and bread than the best constructed brick-oven. Young's feeding apparatus is applied to this Leamington grate. The same description of grate, with modifications, is exhibited by Mr. W. Easthope, of Shrewsbury; Messrs. Jones & Rowe, of Worcester (who consider their 5-feet range equal to the 8-feet Leamington range, at one-third less cost); Mr. J. Sherwin, of London; and several others. The range of the same description by Mr. J. C. Stark, of Torquay, which, having the wind-up bottom, is said by that contrivance, to save nearly half the quantity of fuel consumed by other stoves,—is one of those having the white-tiled back, an arrangement which may be preferable to that of black iron "covings," as both more cleanly, and less radiative of heat into the kitchen, where the heat is not wanted. Effluvia and heated air from the hot-plate, admitted to be defects of these close ranges, have means of escape by a ventilator of louvre-plates at the back of the stove. Ranges of excellent manufacture are exhibited by Messrs. G. Wright & Co., of Sheffield and Rotherham; Messrs. J. Evans, Son, & Co., of London; Messrs. Mapplebeck & Lowe, of Birmingham; and others: but it is impossible to take note of all the variations in cooking-apparatus.

One of the best examples of our third class of ranges is the "Improved Open Fire Kitchener," exhibited by Mr. W. Owen, of Rotherham. The form with two ovens, has a hot-plate on the top of each, and a "deep *open*" fire between, for roasting. The fire is usually covered by a hood, or "concave arch-plate"; but this may be taken off, and sliding-plates, each side, may be drawn out, to separate the fire from the hot-plates and stimulate the draught. The ovens are heated on "Bradley's patent principle," by which the heat is conveyed up to the space at the top of the oven by means of a pipe at the back of the fire, having its bottom-end bell-shaped so as to receive the greatest amount of heat, and utilize all that there may be in a low fire; and by which arrangement, it is considered, a very great saving in fuel is effected. The heat, having passed to the top of the oven, is turned round a "web," or partial division; is then made to descend, and is again turned, so as to reach the vertical flue by the course required for completely heating the oven. Whilst instructions for using close-fire "kitcheners" say that, before lighting the fire, all ashes must be cleared out and dampers opened, the statement as to Bradley's ranges is that they require "neither firing-up nor ashes cleaning-out," and that the damper should never be opened "more than about 2½ inches." All such directions for setting and using, should be indelibly marked on grates. This would be equally for advantage of manufacturers and the public.

Mr. S. Deane, of London, in his "Patent Duplex-Range," similar to one fixed by him in the Instruction Kitchen, Aldershott, has two fires, together in the centre, one or both of which can be used; and one of them, having a door which runs on wheels, can be used as a close-fire. The boiler having in plan the form of the letter T, has one portion of it separating the fires. The same maker shows steel ovens and boilers, which are "lined with fire-clay," and also a revolving roasting-apparatus combined with a cylindrical screen in which three sets of joints revolve round a general centre as well as each on its axis, each joint having a separate dripping-dish. Thus, the inventor appears to say, with a fire 24 inches in width, 9 or even 12 joints can be roasted at once.

Messrs. Duley & Sons, of Northampton, we believe, claim that their boilers can be taken out and renewed with great facility; a point which should always be looked to by purchasers. Similarly should be regarded as important, the merit claimed by Mr. J. Mills, of London, in his range, that of capability of renewal, without unsetting the range, of other parts liable to wear, as the bottom bars and front-bars of the grate, which in this case can be readily taken out, and new ones dropped in. The same manufacturer claims as applied to the flues of his ovens and boilers, his "Improved Cast-Iron Flue Box," with quadrant damper which he speaks of as more easily regulated and requiring less care in setting, whilst not so likely to get loose in the brickwork as the draw-out damper, which last moreover is sometimes in the way of what may be placed on the plate or hobs.

The range by the Northampton makers we have named, and which is a "kitchener" of the best manufacture, has the principal "roasters" heated each mainly by a flue which is carried across in the position of a middle shelf. Moreover, in lieu of the ordinary ventilating arrangement of air admitted below the oven-door and an opening for escape into the flue or smoke-duct, air is admitted near the top of the door, and is made to circulate till heated, when it enters the oven, and so "consumes" the steam (according to one statement) that fish may be cooked on one shelf, and meat in the space below, without one communicating flavour to the other. If this be so, much of our difficulty as to cooking-apparatus is overcome. The ordinary arrangement of smoke-ducts, both in the case of an oven with hot-plate over it, and that of two ovens one above the other, is clearly shown in the cut in the Official Illustrated Catalogue representing the range made by Messrs. Ismay & Co., of Dover.

It should be noticed that nearly all, if not all, ranges of large size, such as we have mentioned above, require "setting" or "fixing." In other words, a brick foundation has to be built to rest the ovens upon, and other parts, which are placed in pieces, when the grate-bars are fitted in, and the whole screwed together. The brickwork, which includes the formation of the small vertical flues, demands "skilled labour" such as every bricklayer does not necessarily possess. The non-requirement of this brickwork is one of the advantages of a range which we are about to describe.

Messrs. Brown, Brothers, of Lyme Regis, and London, exhibit a form of range which, with apparatus in connexion with it, deserves particular attention. The fire-place, which is convertible by sliding plate and falling flap into an open, or a partly closed, fire, is at one end; and smoke-ducts from it pass over and under the oven or "roaster," and enter a space which is so inclosed by a door as to have externally the appearance of a hot-closet. In the portion of the plate which would form the top of this space, a boiler is fixed; one portion of this boiler is above the level of the plate, and may have a *bain-marie* for sauces on the top of it; and the other portion below, is intended to be seldom liable to have the water drawn off, the tap being placed accordingly. The smoke passes into the chimney by a duct, up the side of the jamb, which can be readily swept. No dampers are provided: it is considered that the shutting or opening of the register-door in the coiling-plate over the fire, causing the draught from the kitchen to pass entirely through the fire, or allowing a partial current direct to the chimney, answers the same purpose, and with less liability to derangement. The omission of separate flues facilitates the object of fixing the grate entire, and without brickwork. It is only necessary, for a reason which will appear, to leave a small vacant space at the back. A hot-closet and steaming-kettle apparatus, may be placed in a convenient recess near the range, and connected with a boiler at the back of the fire, as in other arrangements. The manufacturers claim a saving of 50 to 60 per cent. in fuel. In the principal range exhibited, the grate is in two compartments; and there are three boilers in all. The back of the range being in compartments sliding, pipes can be easily got at. We can hardly go into the subject of roasting-jacks; but we must not pass by the contrivance accompanying this range, and which dispenses with all the forms of bottle, or smoke-jack, or the use of weight, or spring, or "turnspit," if any of that breed of the race canine be left. In the contrivance of Messrs. Brown, Brothers, called "Automaton Roasting-jack," a current of air passing towards the fire through a large tube in the lower portion of the roasting-screen, and produced by the heat communicated by the range to the air in the space connected with the chimney, sets in motion a small fan-wheel so as to turn the spit with velocity greater with every increase of draught and consequent roasting-heat. Some of the manufacturers of that complete arrangement which includes a large roasting-grate as a distinct feature, exhibit smoke-jacks "constructed to roast both horizontally and vertically," and having a "lever apparatus for throwing the several movements in and out of gear." Messrs. W. S. Adams & Son, of London, are those from whose description we quote. Messrs. Longden & Co., of Sheffield, propose to turn the spit, as shown in one of their drawings, by a small water-wheel. In Saunders's Patent Cooking Range shown by Messrs. Longden, the roasting screen is convertible into a baking-oven. The fire appears to be open at the side, or into the side-oven or "roaster"; and a drawing shows the joint therein on a turning-spit. In the question of roast-meat, it is necessary to consider the matter of basting. Some cooks now say if a joint be covered with a piece of greased-paper, you may dispense with the basting; and the late Mr. Soyer, we recollect, when entering upon the question, modestly as became a French cook, said something as to his first idea having taken a similar direction. If, however, the basting cannot be dispensed with, the roasting in front of the fire ought to be preferred to that in the oven. Mr. G. Zanni exhibits a self-acting basting apparatus.

The description of range with large open-grate and winding-cheek, and an oven (or two ovens, one above another) at one side, is sometimes called "Yorkshire range." One of the best of the ranges of this kind is shown by Messrs. Yates, Hayward, & Drabble, of Rotherham and London. The "Union" kitchen range exhibited by Messrs. Hayward, Brothers, of London, is of the same description, with the top of the oven serving as hot-plate. A bath is supplied by pipes from the boiler at the back. The smoke in the best arrangement of grate of this description, may be provided with escape by a narrow opening in the back-lining or coving, in place of that of the register-door; and sometimes this opening forms a portion of a contrivance of the nature of flue fixed over the back of the fire, and called, we believe, a "draught-back." We have known this arrangement of smoke-flue effect a complete cure of a very bad smoky chimney.* Such a contrivance forms part of the grate exhibited by Mr. W. M. Backhouse, of Ipswich.

The portable stewing-stove for charcoal, with hot-closet, which is exhibited by Messrs. C. & G. Talbot, of London, should be examined. A very simple and efficient-looking contrivance of a similar kind, is made by Messrs. Benham & Sons. We have already adverted to the fact that there is a question of fuel in that of manufacture and selection of cooking-apparatus. All the foreign stoves, doubtless, are more cleanly and less troublesome from accumulation of soot, than the English; because the fuel used is coke or charcoal rather than bituminous coal.

On the score of cleanliness, as well as from manageability of the heat, the method of cooking in which gas is used, is of some importance. Nothing could be more convenient in a bachelor's apartments, than one of those little clusters of jets, such as are sold by Messrs. Benham for 7s. 6d. or 10s., for boiling water, and which might on emergency cook a chop. With the larger apparatus of the same makers, or what we find exhibited by Messrs. Nock & Price, of Birmingham; E. Deane, of London; T. Phillips, of London, and Rickets & Hammond, of London; almost anything can be done, provided only that as to roasting we concede that an oven may be used, and that there be no unburnt gas in the "roaster." Some cooks maintain that escape of gas is an inevitable result from the clogging-up of orifices, which are liable to be passed over when lighting the gas, whereas such objection to jets not enclosed, as they are in a "roaster," would scarcely obtain. The main preliminary question is as to expense of the gas, as compared with other heat-giving combustible; and on that head few of the manufacturers help us. Mr. Phillips however says that, with his apparatus, a dinner for eight persons can be produced at a cost of 4d. for gas, and one for five persons at only three farthings; and that a bath can be heated in

* The unfortunate inhabitant of the house where was the kitchen-chimney in question, and whose begrimed state affected his use of English, wrote piteously of his chimney, saying he could "not live in it," and entreating his architect to "prevent it" (still the said chimney) at once.

half an hour for 2d. Mr. Soyer used gas, in place of charcoal, for broiling and stewing, generally; and was an advocate for it to that extent. It is so used, or more extensively, side by side with a coal fire, in the apparatus exhibited by several manufacturers. Messrs. Rickets & Hammond have a coal-fire in the centre of their arrangement of apparatus, above which is a gas-toasting fire; whilst a roaster and oven heated by gas are at the sides, and burners to be used in stewing and broiling at the top. The maker of the most important range in the Exhibition wherein gas is adopted *as an auxiliary*, is Mr. May, of London. This range in all its features (which are many besides the one named) is very complete. The open-grate is remarkable as having two winding-cheeks.

We cannot but think there are many improvements yet to be effected in cooking apparatus. A description of contrivance, which may be of moderate first cost, economical of fuel, and non-productive of smoke; of which the parts will not wear out rapidly, and which will be cleanly and not difficult to keep clean; which may be equally suited to the preparation of varied food, and not unsuited to roasting in the best manner, and in which the heat will be inclosed or kept about the apparatus in place of rendering uncomfortable the kitchen, are some of the points which we have adverted to as requisites in such apparatus. The English cottage-ranges, set in narrow chimney-recesses, are certainly very different to what we wish to have. A different form of "cottager's stove," and the old-fashioned wide chimney-recess, might perhaps be so arranged, and combined, as to get over much of the difficulty. We commend our subject therefore, as much to the attention of those who are planning dwellings for labourers and others, as to those who are differently interested parties.

QUANTITIES AND COMPETITION.

The method now almost universally adopted, in arranging for the execution of building works done under the superintendence of an architect, although not of very long standing, seems, like many other modern inventions, to have become almost second nature, so invariably is it resorted to. The plan of employing different tradesmen for different classes of work is now quite obsolete; and the system of working upon a schedule of prices is equally so; nor is the estimate of a single contractor considered worth having; and it is now the rule, after a competition, to enter into a contract with a general builder, who undertakes all the works of all trades for a certain agreed sum, and upon whom is thrown all the responsibility of the whole work.

This plan, the simplicity of which seems at first sight admirable, has, however, its drawbacks and its complications; and it is on some of these that we propose to make a few observations, from the employer's point of view.

The first thing to notice is the way in which the contractors who perform the work are selected. When schedules of prices were common, or even when, without their use, separate tradesmen were negotiated with, or when a well-known builder was employed without competition, the choice of the persons who executed the work was influenced a good deal by the character they held as tradesmen and workmen, the locality in which they carried on business, and so on; nor was there always a ready and simple method open either to them or their employers of comparing the cost of work executed by one man with the cost of that which a rival performed. Now, however, that the most complicated and elaborate works can be reduced to an equivalent capable of being expressed by a single short line of figures, the means exist, supposing several contractors can be led to give estimates, for an easy comparison of cost; and ordinarily it is upon a comparison of estimates alone that contractors are selected.

It is useless to inquire which of the two systems is the more satisfactory: we must accept the actual condition of matters as an established fact; and, having done so, it cannot fail to strike any observer that a large amount of unproductive labour is by it thrown upon contractors unless some method of abridging it be resorted to; and further, that a certain aspect, of not exactly hostility, but at any rate coolness, is created, or likely to be created, between contractors and their employers. The employer avowedly aims to get as low a price fixed as he can, and the contractor naturally will ask as high a one as he dare; the actual value of the work being liable to be lost sight of by both of them. The result of these two things is, first, some system by which the labour of individual contractors in preparing estimates may be diminished; and, secondly, a likelihood that, if that system be more under the control of contractors than of their employers, it will be so influenced as to swell the amount of estimates wherever practicable.

Such a system as we have just hinted at does exist, under the name of "taking out quantities." It will remain for us to inquire whether or not, in its present form, especially as practised in the metropolis, it militates against the interests of the employer, by raising the total cost of buildings, while still preserving the appearance of open and fair competition.

It will not be necessary to describe in detail the nature of the systematic and highly elaborate process upon which a building surveyor proceeds to analyze a set of working drawings, till the whole of the labour, materials, and other requirements which it appears to him are necessary or likely to be necessary for the erection of the building which they represent is reduced to a series of blank bills, only needing to be priced and calculated out, and the totals summed up, to furnish a complete estimate. This is done by a surveyor on behalf of the builders who tender for works; and, as many blank bills of quantities being prepared as are needed, each builder takes one, puts such prices to it as he thinks will enable him to do the works described, and sends in the sum total as his tender. Thus we have a machinery providing for a competition in prices, but in prices alone, the basis being uniform for all.

The basis upon which builders make up their tender is not, however, strange to say, the same upon which they make or perform their contract; and here lies one serious impediment to the successful working of this apparently beautiful system. The tender is made up from the bills of quantities; and the contract is made upon the drawings and specification, and the building is erected from them, and, as far as the employer is concerned, the bill of quantities is ignored. Supposing, therefore, that the bill was in excess of what is really requisite for carrying out the work, the result may be obtained of a genuine and even a keen competition between a number of contractors; and yet the price paid for the work would, after all, be a high one. Let us inquire how far this is a probable case, and how far it is actually known to exist.

The gentlemen employed in the business of "taking out quantities" are ordinarily a highly respectable class; but still they are men, and they are placed in a position where there is not only every inducement for them to be lavish in all their measurements and provisions, but even a necessity that in some points they should be so, while there is absolutely no motive,—hardly even that of a sense of duty,—to make them painfully exact. Legal responsibility is before their eyes on one side, but not on the other. Should a bill of quantities be deficient, the contractor, if he is obliged to perform works of which he did not get notice in the bill of quantities, has a legal remedy against the surveyor who prepared that bill, and may proceed against him for the cost of those works, and recover it; but should the employer be paying more than he ought because the bill of quantities was in excess, it has never yet been held that he has such a remedy. The surveyor, therefore, on this score, feels bound to protect himself, and take out his quantities "full," as it is termed.

Again, the builder, and not his employer, is the surveyor's client; the competing builders usually nominate the surveyor, they always pay him, and the employer is nothing to him; so that, from the feeling common to all professions of its being a man's duty to "do the best he can for his client," the surveyor feels not only inclined, but bound, to take such a course as will secure for his employers as good a price for their work as he can get them. It is true, the surveyor is sometimes nominated by the architect; and, to a certain extent, in that case, has him for a client. Still, the builder is the paymaster, and so his interests have the greater claim; and at any rate he has the power of giving or withholding other surveying work, according as he finds the bills of quantities satisfactory to him, or the reverse.

The motives referred to are calculated to weigh even with the most honourable; and there are some reasons why a surveyor's bill of quantities must always be fuller than a builder's. He is not at liberty to neglect anything, even although he feels sure it is an item which a builder in making up an estimate would not include; he is not able to put down a lump-sum for any item; he works upon a system of the most excruciatingly elaborate detail; and it is no exaggeration to say that in many cases where a builder would put down such an item as a tracery window at so many feet cube of stone, at so much per foot for materials and labour, the surveyor would take ten or twelve columns of dimensions, and fill two or three pages of bill.

Lastly, the only people whose business it is to control all this, and who alone have the power to do it—the architects,—have mostly relinquished all control and all share in the matter. Quantities, as a rule, are looked upon as a matter to be managed between the contractors and their surveyor; and it would be little to be wondered at if the result were to be, to some extent, influenced thereby.

But is it the case that such an excess as we have referred to exists? Builders say nothing can be better for all parties than the present system, and so say surveyors; but architects find the cost of executing work great, frequently unreasonably great, even in the face of keen competition: they find, when they examine a blank bill of quantities, that it is a document the length and the elaboration of which is wonderful, and the items of which are some of them startling: they hear something of "taking out full" being customary; and if they can have the good fortune to get an estimate from a contractor prepared by himself direct from plans, in competition with others prepared from quantities, they find a notable difference. In one such case within the writer's knowledge this difference was as much as over twenty-two per cent. It is probably not too much to say that half the architects now in practice have, at one time or other, felt annoyance from the results of the present over-elaborate system of preparing data for builders, and that, as time goes on, the matter will become more and more serious.

The most obvious apparent remedy is, for architects themselves to take out quantities; but this is, on many grounds, objectionable. Still it is the course pursued by men of high respectability in the country. But, besides the objection that, of our best architects, most cannot do it, and few would have the time, there would be almost certain to be the drawback that an architect commencing such a practice, and working by himself, would be liable to make his bill of quantities err as much in brevity and over-careful measurement as those now complained of do in excess.

The adoption of a bill of quantities in place of or along with plans and specifications, as a basis of contract, is a measure the evils of which would probably outweigh its possible advantages; but, as it is said to be practised in Glasgow, it would be easy to learn how it has worked there. Leaving this aside, if a plan could be arranged by which architects could themselves co-operate with the surveyors appointed by builders, the actual measurement, or "taking off" of the dimensions, probably the greatest possible safeguard for the accuracy of the work would be so procured. This suggestion seems worth consideration; and, failing this, the next best plan is the one always adopted by many of the best architects, namely, that of nominating a surveyor to act on their behalf along with the one appointed by the competitors; though it is quite impossible even for a surveyor so appointed to proceed on any other than the present over-refined methods of pursuing every item to its minutest details.

There is, however, a more radical remedy possible than any of the above, if the extraordinary elaboration of the modern system of estimating—an elaboration the true results of which are best seen in the bewildering cloud of small items, the voluminous pages, and the astonishing totals of the "bills of extras" of a London builder—could be exchanged for something more like the condensed form still in use by surveyors in parts of the north of England, and by builders whenever they have to make an estimate their own way and for their own satisfaction.

Perhaps, as the excess of evils sometimes works a cure, the discomforts not unfrequently felt under the system of continual competition may, in time, lead to its relaxation in favour of something which will admit of more open interchange of information and opinions between the builder and the architect than at present can exist. Until such a change it is almost too much to expect that employers should be able to pit a set of shrewd men against one another for the sole purpose of seeing who will do work the cheapest, without having to encounter such obstacles as they can successfully raise against the naturally disastrous effects of such constant competition.

If elaboration in bills of quantities tends to raise the general run of prices, what can be expected but that contractors should promote that elaboration as long as they can. After a time,

however, such a course must bring a reaction. The benefits of competition are very doubtful if they are obtained under a system which inordinately enhances the cost of work; and the probability seems, that either the competitive plan of obtaining tenders must be relaxed, or else those portions of it which tend to frustrate its aim must be in some way revised.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

The Cambridge meeting which has just now closed, though less noticeable than some which have preceded it, especially from a social point of view, has been distinguished by important statements and discussions. As these have been very widely and fully reported, we content ourselves with a few notes of subjects more immediately affecting the majority of our readers.

As President of the Economic Science and Statistics' section, Mr. Edwin Chadwick made an address which can scarcely fail to bear good fruit. We quote a passage touching

The Cost of Preventable Death and Illness.

"In towns in a low sanitary condition large masses of children are born only to die before the attainment of their maturity. Dr. Farr will support me in showing that in such towns as Manchester, Glasgow, and Liverpool, one-half the children born are in their graves before their fifth year, and much more than one-half by their twentieth year. The expense of the productive force of one adult worker is, under such conditions, that of rearing two children for each worker obtained. The domestic and political economy of these conditions is much the same as the agricultural (or hunting) economy would be, if, to obtain one working horse, two colts had to be reared. The investment on the young artisan, at the end of his apprenticeship, may, under these conditions of waste, be regarded as equivalent to that in three hunters. But for how long will that investment continue to be productive? The unproductive investment in early childhood must be distributed over the whole period of his working ability. If the duration of that ability be short, the annual instalment of capital in rearing, to be wiped off by an annual instalment of repayment, must be heavy: if the duration of the working ability be long, it will be light. To the general population of Manchester it would be about twenty-eight years: to the artisan class especially it would be twenty-five years; whilst, in less unfavourable sanitary conditions, taking one in the same county, Ulverstone for example, it would be forty years. Now, it would be of great importance to a man of the wages class (as well as to most of us) if he could be got to consider himself as an investment; and how much capital there is in him; and of the relation of his own labour to his own capital; and how it may be economised. When the truths of economic science gleam upon his mind, as it may be expected to do with the progress of public information; when he is made aware, amongst other things for the economy of that capital, that the cheapest tenements are often the dearest to inhabit; that to settle in a badly-administered city; to live in an ill-conditioned house, where he has no proper water supply or means of cleanliness; or to work in a badly-ventilated shop, will in the long run subject him and his family to double the amount of expensive sickness that he would incur in a rural or a better-conditioned district; will subject him to the loss of ten or twelve years of the duration of working ability; will, at the lowest estimate, subject him to an aggregate loss of 200*l.* of the value of his labour; will deprive him, in all probability, of the means of acquiring the last consolation of old age—easy and respectable independence, and rest upon his savings from labour; then he may be expected to resist the temptations from increased wages to settle in such place, or to insist upon conditions suitable to his labour, or the due economy of his investment; then we may expect that, under the pressure of economic elements, the attention of manufacturers will be directed to the economic conditions of work; then it will be that owners of inferior tenements, and landlords who are corporations, will be made aware of the coincidence of interest with duty; that their rents are better paid when there are fewer visitations of excessive sickness and premature mortality upon their tenants; then may be yielded to economic principles that action for which appeals have been made in vain to the moral sentiments. The annual excess of preventable deaths beyond an imperfect standard, in the county of Lancaster, is upwards of 10,000 adults per annum, who lose each more than ten years of working ability: the cost of the lost labour there cannot be estimated at less than between three and four millions per annum; of the excess in sickness, nearly 400,000*l.* per annum; of the excessive funerals, upwards of 70,000*l.* per annum; of the whole county, upwards of 4,000,000*l.* per annum. The data for this estimate were checked by Dr. Lyon Playfair, and were given in his report to the Health of Towns Commission, and have not been controverted. In my report of 1842 on the sanitary condition of the labouring population, as displaying the effect of the overcrowding or the bad ventilation of places of work, I showed that when the workpeople were discharged from them in periods of distress; fever, instead of increasing, as was once the hypothesis, diminished, and fever wards were almost emptied; the people, living upon simple food, being in search of work abroad in the less impure air of the streets. In accordance with the observations which I then made, in the present seats of the most intense manufacturing distress, the average sickness and mortality, instead of being increased, has, it has been noted with great surprise, diminished. The very town where we are assembled may be cited as an example, though in a lower degree, of the waste of capital to an extent of upwards of 20,000*l.* per annum under the same heads; to the extent, as I would inform the townspeople, of not less than 20,000*l.* per annum as compared with the rate of sickness and mortality prevalent in the district of Linton and Newmarket;—a loss due to the neglect of such sanitary measures as have been taken in the neighbouring city of Ely; in the newly and properly drained portions of which the death-rate has been reduced one-third, and that too by measures which leave much to do, but which yet give the inhabitants, as it were, a jubilee every third year, in which there are no cases of sickness and no deaths. The annual waste of capital in England and Wales from the loss of labour, from excessive sickness, and premature mortality, I estimate at between fourteen and fifteen millions per annum."

His observations on the saving effected by the education and training of children; as proved, for example, by such institutions as the Royal Military Asylum, Chelsea, and the Naval School at Greenwich, are of the greatest value, and cannot be too widely circulated.

In the Mechanical Science section, Professor Ansted read a paper on

Artificial Stones,

in which he described the various materials and contrivances used for the purpose of replacing stone where natural stone could not be obtained with advantage. He described in succession terra cottas, cements, and silicious stone. He alluded to his own observations on the subject, and also to that of the preservation of stone as connected with it. He then described the new material recently introduced by Mr. Ransome, and brought before the committee appointed last year by the Board of Works in reference to the Palace at Westminster. This material was afterwards manufactured in the presence of the section by Mr. Ransome. It consists of any kind of mineral fragments, sand, limestone, or clay, mixed into paste by a mould with fluid silicate of soda (obtained by digesting flints in a steam boiler under high pressure with alkali), and afterwards dipped into a solution of chloride of calcium. The result is an almost immediate hardening of the pasty mass; and the specimens constructed were within a few minutes handed about the room.

A discussion ensued, chiefly on the subject of the preservation of stone, in which Mr. Barry and other gentlemen took part.

Photography.

In the Chemical section (B), Mr. J. W. Osborne read a paper on the details of a photo-lithographic process invented by himself, and adopted by the Government of Victoria, for the publication of maps. The process was first adopted by the Government in September, 1859; and has since been extensively used, and many hundreds of maps and plans produced by its means. The especial object of the process was the reproduction of drawings and engravings in black and white, without the gradations known as half-tone. For this purpose a perfect negative must first be obtained by the ordinary methods. From this a photographic positive is printed by the agency of light on paper which has received a coating of a mixture of gelatine, albumen, and bichromate of potash. The action of light on this compound is to render such parts as are subjected to its action insoluble in water. The positive so obtained is covered entirely by lithographic transfer ink. This done, the paper is floated, with its inked side upwards, upon a tray of boiling water. By this process the ink is fused, the albumen is coagulated, and the gelatine not rendered insoluble by the action of light is softened. When these effects are completed, gentle friction with a sponge removes the ink and the gelatine from all parts of the paper except those which form the image to be produced. The resulting picture is a positive transfer, which is transferred to the stone in the usual manner employed by lithographic printers. The result is an image on stone from which any number of copies may be produced by the ordinary process of lithographic printing. Mr. Osborne entered into the technical details of his method, and exhibited specimens of its results possessing great beauty and accuracy.

In the course of subsequent discussion, it was elicited that one of the principal claims to novelty involved was the fact that Mr. Osborne's process was the first in which the image on the stone was effected by means of a transfer. The process of Colonel Sir Henry James, used at Southampton for the reproduction of ordnance maps, was analogous to it in this respect, but was first used six months subsequently to the process of Mr. Osborne.

Pauperism and Mortality.

Mr. Purdy, of the Poor Law Board, read a paper on the Pauperism and Mortality of Lancashire. The object of this paper was to direct attention to the connexion of distress in Lancashire, as indicated by the pauperism, with the mortality. Mr. Purdy's statistics applied to the twenty-one unions of Lancashire and Cheshire which contain the principal seats of cotton manufacture in this country. During the nine months ended with Midsummer, 1858, the deaths were 4,786 in excess of the corresponding period of 1857, or 11·9 per cent. In the same comparative terms the pauperism was increased by 20,756 recipients of relief—*i.e.*, by forty-five per cent. These twenty-one unions, including the town of Liverpool as one of the number, had an aggregate population in 1861 of 2,067,000 persons. The deaths in the March quarter of the present year had increased by 1,671, or 10·9 per cent. over the average of the corresponding quarters of the three preceding years. In the June quarter the increase was only 545, or 4·0 per cent.; the increase in the six months, 7·7 per cent. The number of paupers in the first quarter had increased by 39,847, or 65·3 per cent.: in the second quarter the increase was 50,793, or 89·7 per cent. Mr. Purdy drew attention to the remarkable circumstance of the increase of pauperism in the second quarter being accompanied with a diminished rate of increase in the mortality. For the better exemplification of the distress in the various unions as measured by the pauperism, the rise in the number of paupers relieved in the six months was computed on every 100 of the population for each of the principal unions, and the difference in the rate of mortality placed in juxtaposition with the results. Many and considerable disparities were pointed out in these tables. Stockport Union, which in the six months had increased its pauperism by 2·0 per cent. on the population, showed an increase of 17·2 per cent. in deaths. Macclesfield Union had increased 1·2 per cent. in paupers, with a decrease of 4·2 per cent. in deaths. The Wigan Union, with only an increase of 1·0 per cent. in paupers, showed an increase of 10·1 in deaths. Manchester, with an increase of 4·3 in paupers, had also an increase in deaths of 14·4 per cent.; while the Rochdale Union, with an increase of 2·5 per cent. in its paupers, had a marked decrease, amounting to 5·7 per cent., in deaths. The Preston Union, with the highest rise of all the district in pauperism, namely, 8·0 per cent., showed an increase of 6·4 per cent. in deaths. Yet the Stockport Union, with a much less increase in pauperism, had a far larger increase in deaths; the respective ratios being 6·4 and 17·2 per cent. In six unions the rate of increase in the deaths had greatly diminished: in four of the number, where the increased ratio of pauperism was excessive, the decline in the increase of mortality was—in Ashton-under-Lyne, from 26·6 per cent. to 4·0; Blackburn, 28·2 to 14·4; Preston, 19·0 to 6·4. In Rochdale there was a slight decrease in the deaths in 1858; but now the decrease is marked by 5·7 per cent., though the absolute increase in pauperism is over 100 per cent.

The Rev. W. N. Molesworth confirmed the statements of the paper with regard to the extraordinary diminution of the death-rate at Rochdale since the commencement of the cotton famine. He thought the anomalies presented by

the tabular statement might be explained by various causes; the chief of these being that the evils of excess were greater than the evils of insufficient nourishment, down to a certain point. In some places that point had not yet been reached: in others it had been passed; while there were, perhaps, some places in which a portion of the population were still suffering from the evils of excess. The case of Rochdale would serve to illustrate this. In that town the distress was not nearly so great as in many of the other towns referred to; and thus that town had not yet descended to the point at which the evils of insufficient nourishment balanced those of excess. But he, at the same time, desired strongly to impress on the section that, in Rochdale, they were very rapidly hastening to that point; and in many other parts of Lancashire they were still more rapidly descending below it. The resources of the working classes were being gradually consumed, and their stamina reduced by insufficient nourishment; and he very greatly feared that, if the manufacturing districts should be visited by any epidemic disease, the population would be swept away by thousands, and the present extraordinarily low death-rate be succeeded by an excessively high death-rate. Another circumstance that helped to explain the anomalies of Mr. Purdy's tabular statement was, that a large portion of the working classes, instead of being confined within heated and often ill-ventilated factories, spent much of their time in the open air; but the approach of winter would, of course, drive them into their own houses; and a population habituated to the high temperature maintained in the factories were more liable to be injured by the cold and damp which prevailed in those districts during the long Lancashire winter.

Mr. H. Fawcett could not make out that Mr. Purdy had at all explained how, in the case of Manchester, a very small increase of pauperism should be accompanied with so great an increase of mortality.

Mr. Purdy.—That is what I cannot explain. It is impossible to give any scientific account of it.

Colonel Sykes regretted that Mr. Purdy had not drawn any conclusion or expressed any opinion in relation to the singular and anomalous facts brought forward. Were they to infer that starvation was good for health? Literally the figures almost went that length; for where there was the greatest increase of pauperism the mortality was the lowest. He could understand that, where they had been excess, the deprivation of the means of excess might be favourable to health; but had they, within so short a period, the proper data for testing this question? Did they really know that there had been such previous excess? It certainly, however, did appear extraordinary that, with so small an increase in pauperism in Manchester, the mortality should have increased between 60 and 70 per cent. It had been stated, on the authority of the Registrar-General, that there had been a considerable diminution in the deaths of children, which he accounted for by the fact that mothers, instead of being absent from home all day in the factories, were now at home attending to their offspring.

The President did not think that Colonel Sykes put the case fairly when he talked of this as a question of starvation and ordinary distress. It was not a case of starvation when a man was deprived of beer, gin, or even of tea: it was the case of men having bread, simple food with better air, as against a high or ordinary diet with impure air. As to the case of children, there was no anomaly. Every one acquainted with the factory districts knew that the occupation of the mother meant the leaving of her child to be sustained by substitutes for the mother's milk given ignorantly; opiates in enormous quantities: now the mother was at home, and gave her child the milk nature provided and required, which made all the difference. Nothing exceeded the mischief of impure air. With simpler food and pure air the labourer was much better off.

The Lynn Irruption.

A large party of members of the Association—upwards of ninety in number—made an excursion to Lynn, to inspect the works which are being constructed at the Middle Level for repairing the mischief caused by the late disastrous irruption of waters. Mr. Appold, whose centrifugal pump has given him fame, arranged the excursion. On arriving at the spot, the party were received by Mr. Linn, the resident engineer; who, in conjunction with Mr. Appold, explained the arrangements. As our readers know, the waters are to be carried over a dam full 20 feet high, by means of syphons, which at low water discharge themselves into a canal connected with the sea by means of the river Ouse. Six of these syphons have already been laid and tried, and are found to answer so satisfactorily that the number is being increased to sixteen, which are to be completed before the end of November. They are of uniform size, 3 feet 6 inches diameter, 150 feet long, rising 20 feet in a curved line, with valves at both ends, and are laid in a row, 18 inches apart. At the experiment made with the first six syphons, it was found that they discharged 50,000 gallons a minute—an immense advantage as well in efficacy as in the saving of expense over the usual appliance of steam-pumping. For this substitution the parties interested are, it was stated, mainly indebted to the ingenuity of Mr. Appold. To set the syphons going, and to pump out the air whenever it interposes, a small steam-engine has been erected, of 10-horse power, working three air-pumps, of 15-inch diameter and 18 inch stroke.

The next meeting of the Association is fixed to be held at Newcastle-upon-Tyne, though a good fight was made for Bath.

THE HORTICULTURAL GARDENS.

MEMORIAL OF THE '51 EXHIBITION.

The architectural portion of the memorial is now being proceeded with: all the granite is on the ground; and the work is built up to some height above the continued plinth on which the surrounding figures sit. The grey granite is from the Cheesewring quarries, in Cornwall; and was dressed and polished at the quarry, ready for erection. The red granite of which the pillars and entablature are composed is from the Peterhead quarries, in Aberdeenshire.

The bronze medallions and some of the large statues, of Europe, Asia, Africa, and America, which are to be placed at the corners, are finished; not by casting, but by the electrotype process, which may be described in this wise:—A mould of the statue as modelled in clay is formed, and a plaster cast taken from it: the plaster cast is bound carefully round in every direction by a perfect network of wire; and, so protected, it is placed in a bath of the metallic salts, from which the metal is to be deposited upon it. Galvanic action is then induced in the usual way, and the metal deposited upon the plaster and wires enveloping it. When a sufficient thickness of metal has been deposited it is removed from the bath, and the plaster of Paris core is subjected for a short time to boiling sulphuric acid, which immediately melts and washes it all out; leaving a hollow mould composed of the wires sustaining the metal which had been deposited around the cast. The inside of this is coated with black-lead, and it is again exposed to the action of the solution which is to deposit the metal. The galvanic action is again put in operation, and a coating of pure copper is deposited along its inner walls. When this has reached the required thickness, which takes time according to the strength and thickness wanted, it is removed from the bath; and the outer metal mould, composed of the wires and the first thin deposit, is torn off by pincers; the black-lead having preserved an interval of non-continuity which enables this to be easily done. The perfect cast then remains. This is a long process. Could not the first mould from the statue be so prepared that metal could at once be deposited within it?

The statue of the Prince Consort, which is to surmount the memorial, is ready for electrotyping. By great labour, Mr. Joseph Durham, to whom the task was confided, has completed the model within the time originally allotted to him. When he received the commission, in February last, he was pressed to have the statue ready by the 1st of October; so that, if the memorial itself was in other respects complete, and it was wished to inaugurate it then; a plaster cast of the statue might be placed in the position the bronze cast was to occupy when finished. Very rightly, however, the idea of having the memorial completed this season was given up. Photographs of the model, showing the progress of the work, were forwarded to Her Majesty, who suggested various alterations, and communicated the ideas which occurred to her. For example, in the original design, the right arm was slightly extended, with the palm of the hand open. Her Majesty altered this: at her suggestion the arm was bent and the hand made to rest on the side,—a frequent and characteristic attitude of His Royal Highness. By Her Majesty's desire His Royal Highness is represented as dressed in the costume of the Grand Master of the Bath, something like the costume of the Spanish cavalier of the sixteenth century; trunk hose, Spanish boots, rich lace, and voluminous cloak. It will take some months to electrotype; so that the "uncovering of the memorial" will probably take place not far from the 5th of June, the anniversary of the opening of the garden by His Royal Highness the Prince Consort himself.

We fear the basement of Portland stone, on which this work of granite and bronze is being placed, will be matter for regret hereafter; but this the Memorial Committee could not control.

Experiments are being made, in the way of exposure to the weather, for testing the durability of materials for decorating the arcades; such as modern majolica ware and tesseræ.

Several garden-houses, one of cane, of very elaborate construction, have been placed in the grounds, and are worth examination. Some heating apparatus, by Weekes, may also be looked at. The International Show of fruits, vegetables, roots, cereals, and gourds, which was opened on the 8th, and will continue until the 18th, is very interesting. Such a show of fruit was never seen before.

SANITARY IMPROVEMENTS AND CONSTRUCTIONS AT THE INTERNATIONAL EXHIBITION.

JURY REPORTS.

We may supplement what has been said under this head in our own notices by some quotations from the report of the Jury on Section B of Class X., written by Dr. Angus Smith:—

"As a general result it does not appear that the actual thought stirring among men is, in sanitary contrivance, very great. The amount of education on the subject is still deficient, and all progress must be slow until the nation is brought up a little farther. There is, in fact, a desire for change—in some instances to the worse—from an ignorance of the part we have left behind. At the same time the amount of knowledge is very unequally diffused in different parts of this country, as well as in different parts of Europe. In this country we seem to have attained a much more refined idea of that which is pleasant to the lungs; and we have a higher idea of purity of air, water, and food. But in different parts of England, Scotland, and Ireland the differences are also great; the improvements being the consequences rather of imitation than of public instruction. Men learn more by example than precept, an old maxim, most wonderfully illustrated in the Exhibition, and which is the very cause of its existence.

Sanitary reforms, such as they appear at the Exhibition, show that men are striving after materials with which to act, and also after forms in which to embody the well-known old ideas. New ideas of a purely sanitary kind, we have absolutely none before us, although since 1851 the subject has grown widely. We know more of the condition of the air: we know more of the necessity of ventilation, and more of its difficulty; but the progress of our knowledge has not been seen in the Exhibition. Thus far we see a defect in it: the whole circle of human invention has not been exposed to view; and room is made for improvement in a future Exhibition. Although we have not shown all that has been done, we must not forget that much is still undone. We have not learnt the best mode of ventilation, nor solved the sewage problem. We have not decided on the best way of rendering all the food sold to the poor and to the rich perfectly free from noxious adulterations. We have not liberated ourselves from the fear of being poisoned by arsenic on the walls; nor, if this be poisonous when used on paper, have we decided if it is wise to live with other noxious metals around us ready to fall in powdery oxides as dust into our lungs. We have not solved the problem of the best pipe for supplying water, which with the purest supply shall still give us no lead or injurious metal, although one patent which has gone far towards this exists, but little used, and not exhibited. We have not learnt how to live in great communities, enjoying the advantage of social intercourse, without the disadvantages of many accumulated evils, in which we breathe with dislike. We have not solved the problem of smoke, of sulphur, and of arsenic in our towns, our manufactories, and especially our mines and metal works. We cannot warm and ventilate a small room so as to make it healthy and comfortable; and we cannot build a house suited to the wants and the wages of our population.

These are a few of the problems before us on which the nation's eyes have been more distinctly fixed; and the response in the Exhibition has not

been so great as the intellect of the country led us naturally to expect."

Ventilation.

"There are several attempts to solve the great question of ventilation. Amongst these, several applications of wire-gauze and perforated zinc for ventilating rooms are included in our section. The general principle of all of these is the admission of fresh air diffused through a small opening, either by simply drawing down the windows, or by opening a slide valve. There is nothing in any of them calling for special remark; but generally they are all applications of a long-established principle made in the right direction. Cooke's apparatus claims to do more than this, but it was not demonstrated to the Jury. It is neat and never intrusive, and must, like all gauze blinds, remove an immense amount of dust. Two other forms of ventilating apparatus are exhibited in the same place, which have higher claims to commend them. One is the glass-louvred ventilator of Mr. Moore (United Kingdom—2393), the very extensive introduction of which is sufficient proof of its simplicity and usefulness. The other is a concentric tube, exhibited by Mr. M'Kinnell (United Kingdom—2392), with its application to the ventilation of ships and dwellings. There are other applications of the same principle not in the Exhibition, but Mr. M'Kinnell's contrivance is an ingenious adaptation, and merits recompense. We preferred to select the glass louvre of Mr. Moore and this ventilator of Mr. M'Kinnell for Honourable Mention; the former on account of its simplicity and general utility; the latter on account of its applicability under certain conditions to closed apartments and holds of ships.

Mr. Moore's ventilator is of glass, and in the form of a Venetian blind. It opens or shuts by changing the angle of the laths of which it is composed, as a Venetian blind does, but it is not made to be raised or lowered.

There are several applications of the principle of warming part of the fresh air admitted into dwelling-houses by means of the waste heat behind the fireplace. They are all improvements more or less ingenious, and in the right direction; but the subject is comparatively new, and none of these applications are of such importance as to merit special recompense.

Mr. Watson, of Leeds, had long ago introduced his double tube, or tube with a diaphragm, which, under many circumstance, acts remarkably well; but instead of one branch having a current up and another down, it frequently happens that the air is found moving in both tubes in the same direction. Mr. Muir, of Glasgow, removed the difficulty to a great distance by having the square tube crossed twice diagonally, and so causing with almost every wind an inclination to produce a difference in the four currents. There are numerous situations in which it must supply abundant pure air at all times. These four tubes are stationary substitutes for the two cowls, one towards the wind, the other from it, and which must be moved according to the direction of the wind. There is, however, a natural difficulty inherent in the subject itself—that of causing two currents of air to run together so very closely. Mr. M'Kinnell puts one tube within the other, and this plan is said on high authority to be extremely beneficial in the holds of ships. But when currents of air come so near each other, they must cause numberless eddies, and the impure air can only pass after being very much mixed with purer air, and thereby a much greater amount of heat is lost than is at all needful. Many praiseworthy attempts are made to purify the atmosphere of a room by merely bringing the air through perforated wire-ganze, zinc, or glass.

There are several inventions for causing the air to turn corners before entering a room,—that is, to cause it to enter in a zigzag manner. There may be some value in this, as the great violence of the wind is prevented, and rain is also kept out at the same time; but they promise little. No invention in ventilating will ever dispense with an abundant supply of pure air. Many have a good method, but are afraid to use the large quantity of air required.

Messrs. Doulton & Co. separate the flue of the ordinary fireplace into two parts with a zinc partition: the one is for the smoke: the other is connected with the upper part of the room by an opening, where Arnott's valve is usually put. This removes the warm and fouled air; the draught being caused by the heat of the parallel flue, as well as the heated air of the room. An Arnott's valve may be added. This of the Messrs. Doulton cannot be adapted to ordinary fireplaces, but it seems to be extremely promising for new houses.

The Military Commission of Vienna, appointed by the Government to inquire into the question of ventilation, has decided on using mechanical means; and a fan drives the air forward into the garrison hospital. A medal was awarded to the Imperial Royal Commission."

The subject of ventilation and of warming was only partly brought before Section B, and only a partial account is given.

"Mr. Zimara, of St. Petersburg (Russia—316), exhibits a stove which conducts the heated air and products of combustion through a numerous collection of earthenware tubes under the dwellings, and allies itself more with the old Roman method. It is a plan which in cold climates may be of the greatest advantage, although too heavy, cumbersome, and expensive, for small houses even there. By it the whole under-part of a house is in fact converted into a Dutch stove, which long retains its warmth. A medal was given to Mr. Zimara.

Mr. W. Pierce (United Kingdom—2395) is mentioned honourably for his mode of Huthuance's drying chamber for clothes.

None of the models at the Exhibition use the heat of the fire so as to warm the space between the walls, and to render it a drying-room for clothes. The model washing-houses are very valuable for the poor, but a commodious way of using the heat produced in their own fires at home is very much wanted. At present a great deal of the heat is expended in drying bricks and mortar that never ought to have been wet. This would be much better employed in warming the room itself, or even an intramural cavity, which would also give out some heat to the rooms. This, however, occupies space which is not generally to be spared.

The great demand in this country is for warmth and dryness: give these, and we are ready to ventilate sufficiently: deny these, and the whole population instinctively prefers bad air to cold-giving air: therefore, if we ventilate sufficiently, we must warm."

As to Dry "Closets."

"Mr. Spence had some time ago cured his own house in Pendleton, Manchester, of a sewer disease, by connecting the sewer with the house chimney; and he proposed to carry all the air of the sewers into chimneys, or into one great chimney which would supply the whole city, the effluvia to be disinfected by the smoke: this plan included the separation of surface-drainage. But the separation of surface-drainage would probably render the operation of purifying towns a profitable one, even with our present knowledge of the value of sewer water. Mr. Spence went so far as to propose one chimney for the whole of Manchester—a bold and, many will add, a fine idea. The ventilation of sewers and of water-closets by leading the effluvia into the air without disinfection is a most inefficient method of purifying air. It certainly removes the evil from our own houses, but it sends it to our neighbours, although in a more diluted state. If this were done by a whole community, we should have our towns no whit better than now; perhaps worse; because there are increased inducements given to evaporation. If the sewers are ventilated, however, Dr. Stenhouse's mode, through charcoal, is decidedly the best.

Several have acted on the idea of disinfection, and produced dry closets which shall give no effluvia. G. Smith & Co., of Glasgow (United Kingdom—2401), have exhibited one which pours out sawdust from a perforated box every time the lid is closed. Mr. Owen, of Manchester, had some time before done the same with McDougall's disinfecting powder. The same substance is used by Messrs. Muir & Carrick in their dry water-closet; and Dr. Lloyd, of Anglesey, seems to prefer charcoal in that which he has been recommending: he seems to have been the first of the class, and made many models not brought to the Exhibition. There seems, in fact, to be a movement towards dry closets, and an inclination to object to water-closets. This has arisen from the condition of the Thames chiefly; not unconnected also with the Clyde, as well as some small streams scattered up and down England. This feeling has produced several ingenious schemes, one from Dr. Joule, who for a while left his other important investigations, and contrived underground receptacles for sewage, which receptacles should be emptied by air-tight carts. Of these underground receptacles, one to every group of houses was considered not to be a return to the old cesspool method, which allowed one or more to each house; and they were to be in the towns, because the sewage, not being mixed with the water of towns, would not flow far, from its want of fluidity. The experience of Paris seems conclusive against this system, although, as Dr. Joule projected it, it is far superior to that which the Parisians are anxious to get rid of, although it is similar in kind. Mr. O. F. Glassford has long advised receptacles of a similar kind, but at greater distances: he draws the sewage from them into larger receptacles by pumping."

"In Berlin and in Paris, the system has been carried on more carefully than anywhere, and so-called closed vessels are used for the purpose. But it is scarcely possible to keep such vessels well closed. Disinfection by chloride of zinc is adopted for the cesspools, but whoever has watched the process must be satisfied of its failure. Nowhere does the emptying of ash-pits among us cause such a nuisance as the emptying of a disinfected cesspool in Paris, with several officials to watch its progress.

It is rather strange to see how easily men's minds are diverted on some points. We forget the great deliverance obtained by water-closets, and some are actually willing to go back again to a state of pain and misery for the sake of our rivers, instead of continuing the process begun and bringing it to perfection. It needs but little ingenuity to reject all inventions made by those who have laboured for the benefit of mankind, and to return to a primitive state of filth and discomfort, as many contrivances now seem bent on driving us. We may consider it as certain that no plan will ever be devised for removing refuse from our houses equal to an underground flow, self-acting and out of sight. To wish more seems impossible: to perform this is known to be possible: to remove a few difficulties connected with its use in some places is all that we require to render the system perfect. The wants of society are becoming more numerous: there is no room above-ground for the mechanism by which these wants shall receive attention: the earth can cover up or destroy all that annoys us. It must, however, be confessed that there is a necessity for the dry system in many places where cold or dryness prevents a flow."

Water Supply.

"Fortin-Hermann, Brothers (France — 1189), have introduced several alterations into the system of water supply: amongst these is a mode of joining pipes. The two pipes are attached by an iron collar, rather loosely, so as to allow a collar of lead which is fixed on each to slip under the iron collar: the lead is then hammered inwards. By this means a certain flexibility is obtained in the joints, which is an extremely important consideration. The two pipes may be lifted up as one. When it is required to undo them the flexibility may be extended to rupture by one or two men leaping on the point of junction, the distant extremities of the pipes being supported. The water-taps are made so that they shut themselves by their simple weight: they are opened by merely lifting up the point, as there is no pressure of water. This pressure is removed by each being supplied with a small cistern, kept full by a ball and tap. The entrance to the water-tap on the causeways is made by one pipe sliding over another, so that when waggons pass over it the opening sinks with the pavement. A medal was awarded to Messrs. Fortin-Hermann. The *bouche sous trottoir* adopted by the city of Paris, placed flush with the level of the ground or pavement, replaces the standpipe. It is a hydrant, which is also used for gutter-washing and road-watering. The *bouche d'arrosage*, used for watering public roads, is also a step distinctly in advance of our usages in England, where water ought to be abundantly supplied for all purposes."

Bricks and Earthenware.

"Bricks generally do not come under Section B of Class X., but a perforated and highly-glazed specimen, made by Mr. Jennings (United Kingdom 2386), called for special attention. It is used at the Herbert Hospital for the purpose of preventing the rise of moisture into the other bricks of the building. It forms the first layer above the surface of the ground: by this means the surface can never convey its moisture to the bricks above this layer. It is perforated; and, by this means, allows free access of air to the space under the floor of the building. This brick is exceedingly strong; and it is believed by the inventor to increase in strength because of the perforations. We do know that a great amount of moisture may be be raised from the moist earth by absorption,—an amount which may, and which does, entirely destroy the health and comfort of dwelling-houses, and, we may add, the houses themselves. The same effect is abundantly observable in houses built

with very porous bricks or other porous materials. During wet weather a great amount of water is absorbed; and when warm weather comes it is evaporated, removing from the building a great deal of heat instead of contributing to comfort. In this land of frequent showers there is seldom an interval sufficiently long entirely to dry the bricks; and fires are used to prevent dampness, which might easily be prevented by using good building materials. We much need a brick for the whole building which shall resemble this made by Mr. Jennings in the compactness of its structure and the smoothness of its glaze. Another result would follow: the blackness of the rain falling in our smoky towns would not leave its traces: these black spots would be removed by showers rather than left by them, as we find to be the case where a smooth surface is exposed to the action of wind and rain together.

Mr. Jennings obtained a medal for his general improvement in arrangements for sanitary purposes. There are some specimens in the retiring rooms of the Exhibition. There was a completeness in the arrangements and fittings which very much pleased the Jury."

Earthenware Pipes and Vessels.

"Messrs. Doulton & Co., of Lambeth (United Kingdom—2268), showed some very beautiful specimens of earthenware. Sewers were exhibited 3 feet by 2, and made in segments. The sewer is made with hollow walls, or two thin walls with a space between them. Each piece formed about the fourth part of the whole circumference, and is fitted on the others. When packed for carriage the hollow walls save a great deal of weight; and the segments being fitted on each other save a great amount of space, as one curve nearly corresponds to the other. This must effect a considerable saving in expense of carriage. The various parts are cemented; so that here there is some additional outlay in this respect; but for foreign shipments the packing and carriage must far outweigh the expense of cementing.

The principle has been applied to the formation of tubs and cisterns of earthenware. In this case the segments are dovetailed and cemented: very large vessels of earthenware may, in this manner, be made at a moderate expense. At the same time it is not at all improbable that by doing this we are cutting instead of unravelling a knot. It seems as if the manufacture of large earthenware vessels were rendered difficult rather by our ignorance, which it would be well to remove, than by natural obstructions; although a substitute for knowledge not yet attained must of necessity have some of the characteristics of the real knowledge itself, as in this fine specimen of Messrs. Doulton's pottery.

A medal was given to Messrs. Doulton; also to to Miller and Hochstetter (Austria—1390), for earthenware pipes; and to A. Richter (Austria—1393)."

Paints.

"There is a considerable amount of attention paid to hydrocarbon paints by Dupont, of Cherbourg (France—1270), and by Ruolz and others. These paints are chiefly pitch or wax, or both. The difficulty, of course, is to remove the dark colour of the pitch. This is done in some cases with a good deal of success when the colours themselves are dark; and among these, especially, oxide of iron may be mentioned. M. Dupont uses it for wood and iron.

L. Machabée (France—1380) uses fat, wax, and pitch to cover pipes, as has been done in this country.

These were shown by the Paris Commissioner; but the section did not seriously consider them, both because they were brought in hastily at the end and because they seemed not intimately connected with the subject of inquiry.

Water Pipes.

Water pipes of paper and asphalte have been made by several parties. A curious objection was found to occur in Switzerland: the paper was eaten by insects. Guicestre & Co. (France—1255) make them also of sand and pitch. M. Sebille, of Nantes, uses finely-ground slate, and makes a very fine tube. He shows the value to be in the simple mode of making a joining. The parts to be united are melted by a hot iron, and put together. When a curve is to be made the pipes are merely warmed before a fire, and bent as desired. The pipes are prepared in moulds, into which the substance is put when soft, and being pressed tightly, is left to cool. Pipes 3 inches in diameter inside can be made for 2¼d. per mètre, or, let us say, per yard. With a capital of 500*l.*, 10,000 mètres can be made in a day, according to M. Sebille. When the pipe is very large, the ends have a piece of sheet-iron inserted into them. About one-fourth of the pipe is tar, and three-fourths of slate. The pressure which they stand is said to be 10 to 12 atmospheres. M. Sebille also shows tubes made of pitch and coarse sand and cinders, useful in conveying acids. In addition, there are tubes of lead coated with tin; the coating made when the tube is being drawn. This plan seems to have gained a good deal of consideration in France. In Manchester it was tried about fourteen years ago with great care. The coating was made when the lead was soft: melted tin was placed at the top of the core, which determined the size of the bore, and the lead took up the tin when it was soft. Pipes were laid down in Salford, and specimens were examined after one, two, and three years. There was a manifest progress towards separation of the two metals even during the first year; and in the third year the spots were both numerous and large; the lead surface giving way more rapidly when the tin was removed. The manufacture was discontinued.

A medal was awarded to M. Sebille for his ingenious employment of bitumen, slate, and refuse materials."

THE INTENDED BRIDGES AT BLACKFRIARS.

After much discussion, as our readers already know, the design submitted by Mr. Joseph Cubitt for the new Blackfriars Bridge was selected, and will be carried out. The same engineer is to build the bridge for the London, Chatham, and Dover Railway, which is to span the Thames closely adjoining the new road bridge. On one page we give a representation of each of the bridges, separated for the sake of clearness.

Blackfriars Bridge will be built upon the site of the existing structure; but, being of much greater width, will be so placed that its centre line will coincide with that of the present bridge. It will consist of five arches, varying in span from 164 feet to 189 feet; the span of each of the two arches nearest the shore being 164 feet; of the arches next to them, 176 feet; and of the centre arch 189 feet. The height of the soffit of the bridge at the centre of the largest arch will be 27 feet above the level of Trinity high water, and at the centre of the arches nearest the shore 17 feet above the same level. The height of the springing or imposts of the arches above Trinity high water will vary from 5 feet at the abutments to 10 feet at the piers of the centre arch.

It will probably give a clearer notion of the accommodation to the navigation which these dimensions will afford when it is explained that it will be considerably greater than that afforded by the arches of London Bridge.

It is proposed to construct the foundations by sinking wrought-iron caissons of the same size as the piers, through the sand and gravel which form the bed of the river, and some depth into the London clay beneath. The gravel and clay in these caissons will then be excavated, and the caissons filled in solid with masonry.

The four wings of the abutments are so designed as to form bold pedestals, on each of which an equestrian statue may appropriately be placed. Above high-water mark there will be erected, at each end of each of the piers, a massive column of red polished granite, with foliated capital and base moulding. Each arch will consist of ribs of wrought iron, strongly connected together by cross bracing; the spandrils of these ribs being filled in with ornamental bracing. The arches for the entire length of the bridge will be surmounted by an ornamental cornice and parapet. The floor of the bridge will consist of plates of wrought iron resting upon the ribs above mentioned: this will be covered with a layer of concrete, upon which the granite paving will be laid.

The levels of the approaches in Chatham-place and Albion-place will not be altered; but, in consequence of the crown of the proposed bridge being much lower than that of the present one, the gradient of the road on the former will be much better than that of the latter, viz., 1 in 40, instead of 1 in 22.

The width of the new bridge will be 75 feet, giving a carriage-way of 45 feet, and two footways of 15 feet each: the total width between the parapets of the present bridge is only 42 feet.

The design for the bridge for carrying the London, Chatham, and Dover Railway across the river Thames, which has now received the assent of the Admiralty, the Conservators of the Thames, and the Corporation of the City, consists, like the road bridge, of five openings, the two nearest the shore being each 159 feet in span; the two next to them 173 feet; and the centre arch 183 feet. The soffit of the bridge will be level, and will be placed at a height of 30 feet above Trinity high water. The abutments will be built of masonry backed with brickwork, the foundations being put in by means of a coffer-dam constructed in the ordinary way. Wrought-iron caissons will be employed in the formation of the foundations of the piers. They will be sunk to a depth of about 40 feet below high-water level; and, the clay having been excavated from them, they will be filled in solid with brickwork in Portland cement up to within 6 feet of the low-water line. The portions of the wrought-iron caissons above that line will then be removed, and the pier built up solid with brickwork, faced with Bramley Fall up to about 4 feet above Trinity high-water level. Upon each pier will be placed three clusters of four cast-iron columns each; one cluster being placed immediately under each of the main girders.

The superstructure will consist of three wrought-iron lattice girders, 16 feet deep, and cross girders resting on their lower flanges. The distance between the main girders will be 25 feet.

The cost of the road bridge is estimated at 265,000*l.* Of the railway bridge, no estimate has been prepared. Messrs. Peto & Betts will execute the latter; but the contract for the road bridge is not yet let.

COMPETITIONS.

Dublin: City Hall.—A report of a committee on plans for the improvement of the City Hall recommended the design signed "Cui Bono" for a premium. Alderman Campbell said it was desirable not to proceed with the intended improvements at present. It was not unlikely that before long the Exchange-court Police-office would be transferred to another locality, whereby the Corporation might be enabled to procure some addition to the City Hall premises. It was suggested that the premium recommended ought to be paid. After some conversation, it was resolved that the subject be referred for consideration to a committee of the whole house.

Derby: Masonic Hall.—Information is asked for by competitors as to the decision in this case.

ELECTRO-TELEGRAPHIC PROGRESS.

A new discovery has been made, says the *Court Journal*. A telegraph without wires can pass through earth and sea, and every one may establish his own. It is at present a very great secret in scientific circles, adds our authority. It is evident that wonders will never cease. The idea of an electric telegraph without wires, however, though not yet fully realized, so far as we know, is not so new as our authority appears to imagine. A Dundee gentleman, lately deceased, actually laid (if we may so speak) an electric telegraph across Portsmouth harbour, without wires, and worked it too, by permission of the Government. He also telegraphed across the Tay in the same way. Although no wires crossed the river or the harbour, however, a wire with earth plates at right angles was requisite at either side. The *Court Journal's* secret would seem to realize the old original idea of the magical telegraph, which consisted simply of two alphabets set in circles with a pointer to each, but without any connecting wires, and by means of which it was said that two correspondents could mutually communicate their ideas, however far they might be separated throughout the world, so long as each possessed his alphabetic circle and its magical or magnetical needle. It was thought, naturally, that this traditional idea indicated merely the wire telegraph itself; but now it would appear that the wire is but a clumsy and unnecessary appendage, which has only been preparing the way for the reintroduction of the old original telegraph of antiquity!——The Pacific Telegraph Company have erected their wires between the Missouri and the Sierra Nevada, a distance of 1,600 miles, and thus completed the telegraphic communication between the Atlantic and Pacific in four months and seventeen days. The company have entered into an arrangement with the Emperor of Russia by which, conjointly, they will construct a continuous line through British and Russian America; across Behring Straits, and through Asiatic and European Russia, so as to connect Petersburg and Washington. This line will be 14,000 miles in length. Russia has already completed 3,500 miles, and collected materials for extending the wires from Siberia to the mouth of the Amoor, the Mississippi of Atlantic Russia.



INTENDED NEW BLACKFRIARS BRIDGE, LONDON.—THE LONDON, CHATHAM, AND DOVER RAILWAY BRIDGE, AT BLACKFRIARS.—Mr. Joseph Cubitt, Engineer.

ON STAINED GLASS.

JURY REPORTS OF THE EXHIBITION.

In connexion with the Jury's Report on stained glass and glass used for decoration, Mr. Apsley Pellatt has written this general view of the subject:—

The adoption of painted windows was concurrent with the improvement in architecture, and especially in the introduction of the Early English and Gothic, which succeeded the Saxon and the Norman. From the twelfth to the thirteenth century the large expenditure, in England and on the Continent, on cathedrals, churches, and religious houses induced a demand for decorated glass windows; and the early Archaic style was then generally introduced into windows, which were not only beautiful in themselves, but conferred a beauty upon the interior architectural decorations of these ecclesiastical buildings. At this period, and for centuries subsequently, the Archaic style was adopted: it consisted of a perfect mosaic of rosettes, flowers, leaves, and other designs. The borders consisted of small pieces of variously-coloured glass, secured by lead to the iron framework of the windows, in conformity with the outline of the design. In the centre, secured in a similar manner, were the medallions of a single figure or group of figures. The borders were usually harmonious and pleasing: the drawing of the figures was often grotesque, and in some cases almost amounting to caricature. The leading of the glass, being arranged to follow the outlines of the pattern, appears hard when viewed in close proximity; but, like the severe outlines of Raffaellesque subjects on china, when viewed at a proper distance this harshness nearly or wholly disappears. Many patrons still adhere to this severe Archaic style; while others, in keeping with the taste of the present time, admit a modification of more correct outlines of the figures. A good specimen of the coloured mosaic treatment, with its borders of a flowery kind, the lesser spandrils being fitted with a flowing ornament of various colours upon a red ground, is to be found in the circular window of the north transept of Lincoln Cathedral, as recently restored by Messrs. Ward & Hughes. The lower lights are in contrast with those above, on the grey or grisaille mosaic treatment, the chief parts of the white glass being shaded or worked with brown or black lines of enamel colours, intersected with small portions of coloured mosaics, the grey chiefly predominating. The manufacture of coloured glass in small effigies, opaque mosaics, and vessels, dates as far back as the Egyptians, Phœnicians, Romans, &c. Its introduction for windows in the style termed Archaic was during the twelfth century. The art was considered not merely as decorative, but as a pictorial representation of Scripture history, aiding Christian teaching. The repose and solemn subdued effect of light passing through the varied coloured glass contributed to the character of the subject sought to be impressed upon the mind. The first or Archaic style commenced at the latter end of the twelfth and the beginning of the thirteenth century. Examples are to be found at St. Denis and Bruges, and in Canterbury, Lincoln, and Salisbury Cathedrals. The second or Decorated style was introduced about the end of the thirteenth century. Good examples may be seen at Strasburg and Gloucester (recently releaded by Messrs. Ward & Hughes). The third or Perpendicular style, from 1380 to 1430. Another style, the Cinque-Cento, dates from 1500 to 1550, examples of which are chiefly to be found on the Continent, viz.,—at Brussels, Liège, &c.; the examples of the Perpendicular being at Cologne, Winchester, York, and at St. Margaret's, Westminster. In the Early English, such as the north transept of Lincoln Cathedral, the figures are less grotesque than in most other examples of that date. The figures were generally placed in medallions, canopies having not then been introduced. The next period, the Decorative, is marked by an extensive use of canopies: the drapery was more flowing and graceful, especially in the coloured mosaic and grisaille borders. About this period the yellow stain was introduced, which pleasing colour softened the white used in the earlier styles, and had a good effect when stained in portions, the cased red or blue being taken out to receive the yellow. The third, or Perpendicular, style is marked by its being more soft and silvery, and also more delicate and refined than the preceding; having no rounded or projecting cornices. The Cinque-Cento style is of Italian origin, and more picturesque, being evidently influenced by the progression of oil painting. All these styles obeyed the spirit of their times; glass-painting agreeing with the state of the arts of each period, and in harmony with the architecture and the taste of its various epochs. The principal difference between ancient and modern glass windows arises from the latter being brighter and of a higher key than the ancient, while it has less tone and richness, which, like the paintings of Titian and the old masters, may be viewed for any length of time without fatigue to the eye. Continental glass being thinner and of a higher key than the English, a fictitious surface and tone are obtained by enamel painting, which takes off the lurid glare, but deadens and too much lowers the tone: this ineffective imitation is easily detected. Modern windows of inferior materials, being charged with bright colour at a higher key, transmit too readily through the glass bright rays of different colours antagonistic to each other, which fatigue the eye and form an unpleasant contrast to ancient glass, or to that which has been recently made on the same principle, and which for want of a better term we shall call antique. Although homogeneous flint glass is so essential for chandeliers and household use, and especially for optical purposes, the reverse is required for coloured window glass, technically called pot metal, to imitate that of the thirteenth century. Every colour of the spectrum, viz., violet, indigo blue, green, yellow, and red, are produced in glass by the use of the oxides of the following metals, viz., gold, silver, chromium, tin, copper, iron, manganese, cobalt, antimony, nickel, and uranium: carbon also produces yellow for pictorial purposes. Window glass, although almost indestructible by time, whether coloured or of a greenish white, when long exposed to the action of the atmosphere, is liable to partial surface decomposition; and, if not too much decomposed, prevents advantageously the too free passage of the rays of light through it: old glass thus affected softens and blends the pictorial effect; and the colours remain sufficiently vivid and brilliant without fatiguing the eye. Modern amateurs and glass-painters have had their attention drawn to the fact, that the agreeable blending and harmonizing effect of ancient glass, although occasionally due to surface decomposition, owes its chief charm to the retention of the striæ and small bubbles in the body of the glass. The constituents of such glass have been perfectly vitrified, and the colours fully developed; but, being less transparent than when thoroughly fined (like the ordinary clear-coloured glass), it becomes less dazzling and more subdued. To succeed in making striated and bubbly-coloured glass, having a horny or gelatinous appearance similar to the ancient, the fining process must be arrested during the latter part of the fusion, by reducing the heat of the metal to a sufficient consistency for working before the bubbles and striæ are fully driven off: great attention is necessary on the part of the manufacturer to reduce the temperature of the furnace just at the right time to prevent the metal becoming too clear. This imitation of the ancients constitutes the chief improvement, since 1851, as regards the vitrified material. Although these gelatinous striæ and bubbles are quite apparent on close inspection, they disappear when seen from a proper distance; a portion of the light becoming absorbed, but retaining the full richness of the colours. Pot-metal blues, greens, and rubies, &c., by this system of embodying in the mass the hindrances to the too free passage of the light, are far superior in effect to those of the ordinary, cheap, modern, clear, bright-coloured glass. No person of taste should require the latter, which will fail to produce what is termed the peculiar "dim religious light" of the ancients resembling the reposing colours of the spectrum. Blue is often used as a background to groups or single figures, as well as to the drapery and borders, and may therefore be considered the prevailing colour; and after this are ruby and green, all pot-metal colours. About the year 1850, Messrs. Powell & Son commenced manufacturing antique glass of white and various pot-metal colours, a considerable portion of which, especially the blue and ruby, was equal to the best specimens of ancient glass of the thirteenth century. This was selected by Messrs. Ward & Hughes for the four windows painted by them, and erected in the Temple Church, London, about the years 1853 and 1854. Messrs. Hartley, of Sunderland, and Messrs. Lloyd & Summerfield, of Birmingham, have also produced antique glass. This glass is striated, bubbly, and gelatinous, and sometimes the ruby is streaky. Pieces of dark and light ruby are occasionally leaded separately, and placed side by side, to give the effect of shading without the use of enamel colour. A national debt of gratitude is due to Charles Winston, esq., author of a work on "Ancient Glass Printing," in two volumes, for his long, persevering, and successful efforts to revive the rich colours and low tone of ancient glass, the best specimens of which are to be seen in the four windows of the Temple Church, painted at his suggestion and under his superintendence. If the colours in these windows equal the best of the ancient, of which there is little doubt, it is owing to the various specimens he caused to be analyzed, and the synthetic experiments he made, which enabled him to reproduce the glass, and furnish recipes gratuitously to the glass-maker. Foreign manufacturers have, no doubt, availed themselves, ere this, of Mr. Winston's liberality; and as wood fuel and open pots succeed best for glass dependent upon carbon as a colouring constituent, no doubt they will ere long rival our productions of antique glass for windows. Messrs. Clayton & Bell, in their artistic treatment of the severe Early Archaic style; Messrs. Ward & Hughes, in their window for St. Anne's Church, Westminster, of the style of the thirteenth century, the figures of which are treated in keeping with modern taste, similar to those in the Temple Church; Messrs. Powell & Son, in a window wholly of antique glass, of their own manufacture; likewise Messrs. Lavers & Barraud, Heaton, Preedy, and other artists, have availed themselves of English antique glass, much of which rivals the ancient in rich colour and low tone, and has a crispness and shellac appearance so well calculated to absorb the rays and retain the richness and beauty of the ancient colours. While, therefore, most of our Continental neighbours exhibit windows of inferior material, fully equal or superior in artistic merit to their painted windows of 1851, the English, availing themselves of the superiority of the antique glass, excel their exhibits of 1851. The Exhibition of 1862 may be considered so far as a triumph over that of 1851: the artistic progress has, however, been less than might have been anticipated. The various attempts which have been made to imitate the richness and depth of the ancient material, by coating the glass with enamel paint, have produced no other effect than that of depriving it of its brilliancy, and, consequently, the glass paintings in which this expedient has been resorted to, of one of their chief distinguishing merits. In all the glass paintings of earlier date than the last quarter of the fourteenth century, until which period the glass was not over clear, substantial in appearance, or intense in colour, the artists seem to have relied for effect principally on the richness and depth of the colouring. In these works the means of representation may be said to have been reduced almost to the lowest degree. We are strongly impressed that the difference of effect between such ancient and modern glass does not depend on the state of the surface, but on the composition of the material; and this result has been strengthened by the result of some experiments recently made, by which the very great difference in the composition of modern glass of the thirteenth century is clearly demonstrated. The cheaper sorts of white and coloured glass, as alluded to in the foregoing extract from the Report of the Commissioners of 1851, counterfeit the ancient glass by coats of enamel colour, which only produces a misty and cloudy effect, merely blinding or shutting out a portion of light; but it cannot give the depth and richness of ancient colours. If varnish colour be used for such a purpose it will only serve a temporary object; and, even if the enamel colours be burnt in, they are not always to be depended on, being liable to crack off by long exposure to the action of the atmosphere. Bertini and others obscure a portion of the back by roughing, or by a layer of white or neutral colour, so that little or no light may pass through the main figure of the subject, which rather resembles fresco than transparency. The latter is generally considered to be one of the essential conditions of glass painting. Brown enamel colours, more or less dense, are used for stippling and shading white or coloured pot metal; but if too thickly laid on at one time will be liable to crack off in a few years: several coats and frequent firing are necessary to produce permanency in the various dark shades. Examples of coloured enamel painting, by Backler, may be seen at Arundel Castle, the seat of the Duke of Norfolk. They are wholly enamel, and have no pot-metal colours; similar, also, to several glass paintings designed by West, and painted by Jervis, in the royal chapel at Windsor. These may be considered as simply semi-transparent pictures, wholly out of the category of what is generally known as stained or painted glass, by mosaic or grisaille treatment for ecclesiastical purposes. Referring to former explanations on the striated gelatinous colours, called

antique, used since 1851, as they were then shadowed out by Mr. Winston, and since produced by him and adopted by many of our English artists, but as yet feebly followed by Continental painters, it is somewhat remarkable, that while clearness of metal constitutes the greatest improvement in flint glass, the reverse should be the case for window glass; in fact, that while homogeneity should be the essential property of flint glass, impurity is equally necessary for the successful imitation of the ancient glass, in attaining the same depth of colouring, and the absorption of the rays to be found in the coloured glass of the thirteenth century: it, therefore, seems anomalous that the inferior fuel, for melting the materials, also that the metals, sand, and alkali possessed by the ancients, which were less pure than those used by the moderns, should have furnished greenish white, and pot-metal coloured glass, so exactly suited to produce the best effects for pictorial windows. Resuming our remarks upon enamel painting, there was the brown painted smear, and stipple shading, also a darker enamel for lines and shadows by hatching, or repetition of lines, serving as shadow upon white or pot-metal colours. There are several methods of shading, some being smooth, employed in early examples, and the latter being darker, employed in the grisaille of larger works. It may be asked, Does the grotesque style of the past age harmonize with our present mode of thought? How far does the present Exhibition, considering the present advanced state of the fine arts, meet the requirements of the nineteenth century? We reply, it is the contrast between 1851 and 1862 that affirms the fact, that in most of the English exhibitors, and several of the foreign, the art of glass painting has advanced with the times both in style and artistic execution. It is, however, much to be regretted that few of the windows can fairly be seen to advantage, owing to too much interior light, and the exterior borrowed lights of the present building being so inferior. Continental glass artists generally adhered to the early grotesque style in imitation of the past age; and in that respect, in 1851, were superior to the English; and, with the exception of the beautiful windows painted by Bertini and his school, that style is still retained. Bertini's windows in 1851 and 1862 may be classed in the mixed style of the old mosaic, and the enamelled style of the nineteenth century. The excellence in design and execution of the former was generally admitted, although insufficient transparency was occasioned by the too great opacity of the principal central figure. The "Madonna and Child" of Bertini, of 1862, may be considered as one of the gems of this Exhibition. The art of glass painting should have a special mode of treatment, impressed upon it by the nature of the material, as oil for canvas, and fresco for ceilings and walls. Glass being the medium through which the light passes, transparency must be its condition: different degrees of transparency are admissible; but when a large portion of the glass is so opaque as almost wholly to preclude the transmission of the rays, an essential condition is infringed. The style of the sixteenth century, or earlier periods, modified by the taste and feeling of the nineteenth century, should be supported by our designers and glass painters. With good original designs, improved antique glass, judiciously leaded, with a proper degree of transparency, first-rate drawing, good shadows, and well-arranged colours, forming, as a whole, a work of art, rich, harmonious, and impressive, patrons will not be wanting for the decoration of our ecclesiastical or domestic buildings. No doubt artists are influenced considerably by their patrons, each of whom may have his settled convictions as to style, &c. We should, however, endeavour to preserve the beauties and avoid the defects of the drawing of earlier ages; but no reason exists, why, as pottery, carving, statuary, and the fine arts have generally advanced, glass painting should be impeded or restricted in its progress towards the perfection of the art.

THE HASTINGS PIER AND HARBOUR SCHEME.

The scheme for a pier and harbour for Hastings has from the first met with a great deal of opposition. The whole affair has been pushed along in Hastings in such an unbusiness-like fashion, that many who would have otherwise supported the scheme have disdained to countenance a speculation that has, we might say, been forced upon the inhabitants by a party of interested individuals. The subject has been taken up rather warmly by the town-council; but the result of these debates may be easily conceived when we learn that several influential members of the council have been the nominal promoters of the harbour scheme, and when these gentlemen gave their vote in favour of their *own* scheme, all opposition in that quarter was of course out of the question. The opponents of the *harbour* do not oppose the construction of a *pier*. They consider that the latter would be a highly useful addition as well as an attractive feature to the town. They raise many objections to the proposed harbour, and particularly to the plan brought forward by the promoters of the scheme now before the public. The insufficient depth of water at the entrance, and the want of an inner basin, are perhaps the leading engineering objections; but they have made many other objections, none of which—as far as we are aware—have been answered by the promoters. Had a fair opportunity been offered for the expression of public opinion on both sides, all *appearance of unfairness* would have been removed, and no room left to assert that "party spirit and private interest had clashed with the public business of the town-council." The reported proceedings of the council meeting (of Friday last) show that when the overruling majority gave their sanction for a lease of such corporation land as would be required for harbour purposes, the beaten minority at least defended their principles, and stood their ground to the last. We will give no opinion as to the merits or demerits of the proposed scheme: no doubt there is a great deal to be said in favour of a "pier and harbour," and also much truth in what has been stated on the other side. The construction of such a work must increase and develop the trade of the locality; but whether such a change will or will not damage Hastings and St. Leonard's-on-Sea as fashionable resorts for visitors, we cannot attempt to prophesy.

THE STEPHENSON MONUMENT INAUGURATED.

At Newcastle-upon-Tyne, on the 2nd instant, the monument to George Stephenson, by Mr. Lough, was inaugurated in presence of many thousands of people, both townsmen, and others from all parts of the country. Lord Ravensworth, whose father was the early friend of George Stephenson, delivered the inaugural address, and handed the monument over from the subscribers to the mayor and corporation of the town.

The monument, which we have before described, consists of a statue, 11 feet in height, upon a massive pedestal 30 feet high. The figure appears in the Northumbrian plaid, which Stephenson was wont to wear, and the ordinary frock coat and trousers. At the corners of the pedestal are four subsidiary and emblematical figures, representing a blacksmith, a platelayer, a pitman carrying the famous "Geordie" lamp, and an engine-driver. It is a fine work.

There was a great demonstration of the workmen of Messrs. R. Stephenson & Co., and the other factories and trades of the town and district, with the Odd Fellows, Foresters, and other clubs, and the day was held as a general holiday. A long procession, consisting of the executive committee, and chairman and directors of the North-Eastern and local railways, the mayor and corporate bodies of the towns on the Tyne and in the locality, with the gentlemen, personal friends and relatives of the deceased engineer, members of Parliament and foreign consuls, were present at the inauguration.

CHURCH-BUILDING NEWS.

Wandsworth.—The foundation-stone of a new Baptist chapel has been laid at East-hill, Wandsworth. Mr. James Cubitt is the architect, and Messrs. Adamson & Sons are the contractors. The cost of the building is estimated at 2,100*l*. It will accommodate about 700 persons; and, when the fund will enable the congregation to erect galleries, 1,000. The architecture is a modification of the Romanesque style. There will be no pulpit, but the preacher will have a platform similar to that in Mr. Spurgeon's Tabernacle, with a baptistery underneath.

Fenton (Staffordshire).—Within the last few years, extensive improvements, additions, and alterations, more particularly in the interior, have been made to Fenton Church, at the sole cost of Mr. William Baker. During the last and present year, the interior has been further embellished by the construction of a reredos across the eastern end; that in the chancel being carved, and consisting of six arches in alabaster, supported on columns of foreign marbles; those in the side aisles being continued in Caen stone, but of plainer character, and consisting of five arches on each side, supported on columns of native marble, resting on stone seats. The panels in the reredos of the chancel are filled in with fine Sheffield stone, for illumination. The fittings consist of two ranges of oak stalls on each side with standards and poppy-heads, and the fronts of open tracery. The floor is being relaid with Minton & Co.'s encaustic tiles; and the chancel arch has been remodelled with carved Bath stone capitals, on columns of red serpentine marble. On each side the chancel window are two carved niches of Bath stone with marble columns, and these as well as the organ and reredos are being illuminated by Mr. Skidmore, of Coventry. It having been decided to furnish the church with a new organ, the vestry was taken down, and a new wing projected from the north side as a sort of transept has been erected to serve as vestry and organ-room together, opening into the church by a large open arch, executed in Bath stone with carved capitals, and supported by clustered columns of French (emperor's red) and green serpentine marbles. The churchyard is being enlarged by land given by Mr. Baker. The works have been executed from the designs and under the superintendence of Messrs. Ward, Son, & Ford, of Hanley, architects; the carving by Mr. Gladwin, of Stoke; and the other works by Mr. J. Oakley, of Fenton.

Northampton.—The chief stone of a new building, intended as a cathedral church for the Roman Catholics of Northampton, has been laid. The church is not altogether a new erection, being more properly described as an enlargement of the present Church of St. Felix, on the Kingsthorpe-road. The new cathedral, which is built at the west end of the old church, is 86 feet long by 56 feet wide; the whole length of the cathedral, including the apse, being 150 feet. The new part consists of nave, with clerestory windows, and two aisles, one on each side; and the entrance will be through the east-end wall of the old church. The altar, therefore, instead of being at the east end of the church, as usual in this country, will be at the west end, as in the case of St. Peter's, at Rome.

Leicester.—The alterations lately made at St. Martin's Church are nearly completed. The work has been done from designs furnished by Mr. R. Brandon, of London, architect, the whole being carried out under the superintendence of Mr. W. Lindley, who has officiated as clerk of the works. Messrs. Dove, Brothers, of London, were the contractors for the alterations; which, when finished, will cost something like 3,500*l*. Messrs. Gregson & Hind have executed all the stone carving in the alterations. In pulling down the old tower many curiosities were brought to light. It was found to be composed of several periods of architecture, Saxon and Norman work having been used in its construction. Some old stone coffins had evidently been built in the walls and used as quoins at the angle of the tower; while some carved sepulchral crosses were discovered, forming the arch stones of the belfry windows. On getting down to the foundations they were found to consist of nothing but a mass of rubble and granite, as it were thrown indiscriminately into a hole, without being bedded down with mortar or any other kind of cement. The new tower is Early English in character, with Coxbench stone dressings and Matlock Moor walling stones. A singular optical illusion is observable in the arch facing the nave: the two shafts starting from the abacus of the capitals until they come in conjunction with the Tudor arch above, although duly upright, appear to be 3 or 4 inches each out of perpendicular. It was found necessary in the erection of the tower to tie the new work with the old walls, and it is said that the new work has given no more signs of settlement or shrinking than an eighth or sixteenth part of an inch, notwithstanding the immense weight it has to carry—something like 14,000 tons. The tower is covered with a roofing of a very temporary character, in the hope that, at no distant period, a spire will be erected, in accordance with Mr. Brandon's original design. The north transept and the turret to the ringing chamber are of a mixed style of architecture, being partly of the Early English, Decorated, and Perpendicular periods. The roof of this part is Perpendicular, as well as the mouldings. The window is a Decorated one, while the pinnacle on the buttress, and the bell turret, are Early English. The window of the north transept, which has four trefoil-headed lights, is now filled in with rough cathedral plate glass of a greenish tint. Three of the south clerestory windows have been supplied with stained glass. A new oaken roof has been put to the south transept, which has been

raised several feet. Internally the edifice, in regard to its fitting up, has received a due share of attention, the walls having been coloured, and various parts renovated.

Loughborough.—The parish church of All Saints has been reopened. The restoration was commenced on the 19th of July, 1860, under the superintendence of Mr. G. G. Scott. The contract for the restoration of the nave, aisles, and church interior and exterior, and refixing, exclusive of heating, lighting, &c., were taken by Mr. Hall, of Derby, for 7,200*l.* The contract for the tower, which is now in progress, was 1,000*l.* The old galleries, which occupied the north and south-west end of the church, and blocked up the western windows, have been removed, as also have the old high pews. The foundations round the church have been underpinned with brickwork, and cement laid upon a wide bed of concrete. The masonry, both of the exterior and interior, has been restored. The windows to the clerestory and aisles and transepts have had the old brick mullions taken out and filled in with new stone tracery. The doorways, which were all plastered with cement, have been rebuilt in the original detail. The porch at the south entrance of the church is almost wholly new. The buttresses and parapets, the aisles and chancel, and the battlements and pinnacles to the clerestory, are new. The old east window of the chancel has been replaced with a window of the thirteenth century. The pillar and arches between nave and aisles have been restored. The pillar at the south-east angles of south transept, which was considerably out of the perpendicular, has been taken down and rebuilt. The roofs of nave, aisle, and transepts have been restored. The old low-pitch roof of chancel has been removed, and a new high-pitch roof substituted. The interior of the chancel roof is carved in compartments, with vertical and horizontal mouldings, divided into squares, each square being dissected with diagonal ribs and carved bosses. The whole of the roof has been covered with new lead. The seating to the church is of oak, all open benches. The warming of the church was undertaken by Messrs. Haden; the lighting by Mr. Skidmore. The whole of the church has been covered with a layer of concrete. The floors to the aisles and passages are laid with Minton's red and black encaustic tiles. The floor of the church is covered with single Minton's encaustic tiles. The carving was executed by Mr. Irving, of Leicester. The organ has been reconstructed in the north aisle, and improved, at a cost of 190*l.*, by Messrs. Lloyd & Dudgeon, of Nottingham.

Lullington (Derbyshire).—All Saints' Church, Lullington, has been restored and reopened. The tower and spire were in a most dilapidated state. This has been restored throughout at an expense of 525*l.* The gallery which blocked up the tower has been removed, and the tower arch thrown open; thus exposing to view the restoration of an old west window. In digging for new foundations, traces of a former chancel and aisles were discovered, which served as a guide for the erection of the new building. The seats in the nave are of English oak, as are also the choir seats. The floor is laid throughout with Minton's tiles. The whole work of restoration, which has cost upwards of 2,000*l.*, was carried out by Mr. J. W. Hugall, architect, and Messrs. Elliott & Lilley, builders.

Sudbrooke.—The new church at Sudbrooke has been consecrated. The church is erected on the old site; extending, however, a little further to the east; and is built of native walling stone from the Nettleham quarries; the inside being lined with bricks. The whole of the dressings, inside and out, are of Ancaster stone. The church consists of nave, chancel, and semicircular apse. The nave is lighted by three windows on the north side, two on the south, and four at the west end. The roof, which is open-timbered, stained and varnished, plastered between the rafters, and slightly coloured, is covered with plain blue Staffordshire tiles. The west gable is surmounted with a bell gable, in which hangs a small bell cast by Mears, of London. The chancel is lighted by two windows on the south, and two on the north sides. The ceiling of the chancel is plastered on a semicircular arch, the roof of which is hidden from view. The apse is semicircular, and is lighted with three windows looking east: the ceiling is groined in stone. The whole of the inside walls are plastered in rough stucco. The flooring of the nave and chancel, together with the steps, is of Yorkshire stone: the apse is paved with Minton's plain and mosaic tiles. All the windows are glazed with cathedral glass; but it is intended to remove the glass from the apse windows, and replace it with painted glass, by Messrs. Ward & Hughes, of London. The churchyard has been enclosed on the south, east, and north sides, with a low white brick wall, covered with a half-round Yorkshire stone coping. The church has been erected by Mr. W. Huddleston, of Lincoln, builder, and has occupied a little over six months in building. The cost, including the architect's commission, will absorb the whole of the 1,800*l.* Mr. B. Asman, of Lincoln, was clerk of the works. Mr. J. E. Dobson, of Newcastle-upon-Tyne, was the architect. The men employed in the erection of the church were treated to supper (the second during the progress of the work) by Mrs. Ellison, of Sudbrooke Holme, whose late husband, Mr. R. Ellison, bequeathed the fund for the erection of the church.

SCHOOL-BUILDING NEWS.

Headley.—The Hon. Mrs. Howard, of Ashtead Park, has recently caused to be erected in the parish of Headley, Surrey, a building for a new school, which has been opened. The building, which was commenced at the end of February or beginning of March last, has been erected entirely by the workmen of the hon. lady, under the superintendence of Mr. Milne, her steward. It is built entirely of yellow bricks, made on the estate, with red brick facings. The school stands on a quarter of an acre of ground, and is calculated to accommodate about seventy scholars. It is entered from the south side by a porch 8 feet by 11, which has a pointed roof. The dimensions of the main school-room are 27 feet by 18, with no ceiling, the roof sloping upwards, exposing the polished spruce boarding and rafters. The greatest height of the room is 26 feet, and the smallest, at the side walls, 12 feet. It is lighted by two tiers of windows; the lower tier being in the side walls and the other just above in the roof. The class-room, which is entered by a door on the east side of the main school-room, is 12 feet by 18, and of the same height as the school-room. It is lighted by four windows, two large ones and two small, and the walls are plastered.

PRINCE CONSORT MEMORIALS.

Coventry.—The inhabitants of this city have decided upon placing in the north aisle of St. Michael's Church a memorial window, the window selected being one of a series intended to be filled with stained glass. The subject illustrated will be the life of Moses. The heraldic devices of the late Prince and family will also be inserted. Messrs. Heaton, Butler, & Bayne are the artists selected.

Chester.—The same firm have in hand a large east window for St. Peter's Church, Chester, as a memorial to the late Prince.

Banbury.—The Albert memorial window, to be erected in Christ Church, Banbury, has been intrusted to Mr. T. Dury, of Warwick.

Belfast.—The fund to erect a memorial to the late Prince Consort, at Belfast, amounts to nearly 2,000*l.* At a recent meeting of the committee a plan was submitted of a clock tower, which could be erected for 1,800*l.*

THE FEVER AT ROTHERHAM.

We regret to learn that the fever still rages at Rotherham. In a letter of date 30th ultimo, to the chairman of the local board of health, Dr. E. J. Shearman, the officer of health, says:—

"I have great pleasure in reporting the decrease in the number of cases of fever in Masborough and Kimberworth during the last fortnight; but fear a similar improvement has not taken place in Rotherham; for there have been 57 cases attended at the dispensary in that period; and, from the 1st July to the 30th September—three months—there have been 536 cases admitted into that institution, and about 100 casual cases relieved.

The population of Rotherham and Kimberworth (including Masborough), as returned by the Registrar-General in 1851, was 18,922, and it is not more at present.

The general mortality in Rotherham, Masborough, and Kimberworth, in July and August last, has been 44 in 1,000; and for fever alone, 22 in 1,000. This is one of the highest rates of mortality which has occurred in this country. It is an isolated occurrence; and I beg most respectfully to call your board's most serious attention to the circumstance."

The medical officer then proceeds to point attention to True Briton-yard, Westgate, where fever prevails, and which place he characterizes as one of the most filthy in the district; and also to Barker's-yard, where there are water-closets without water. He adds that the more he examines into individual cases, the more convinced he feels that want of water, want of cleanliness, and want of ventilation, are the main causes of the fearful malady which prevails.

The board were divided in their remarks on this letter; some of them reflecting on the inspectors, and others insinuating exaggeration on the part of the medical officer. The surveyor's opinion as to closet cisterns was said to be that they were large enough already.

In connexion with this subject, a correspondent, once a resident at Rotherham, but now in the West Indies, writes us thence, saying:—

"Do, pray, Mr. Editor, send your special commissioner down, and let us have the origin of these epidemics traced out, and a remedy applied so far as the knowledge and power of man can afford one. A medical gentleman has been sent down by the central authority; but these persons are too often misled, or do not devote that time to a general investigation that the necessities of the case demand; and in this case I am satisfied that a searching inquiry is required to bring everything to light. It is a hard case when a man is fighting his country's battles abroad, and endeavouring to extend her fame and commerce, that those he has left behind, in whom he has centred all his hopes and cherished in his heart of hearts, should be annoyed and exposed to the ignorance, incompetence, carelessness, or indifference of those who ought to feel it a matter of pride to be their bulwark and protectors. Pray send a discerning commissioner to take a few notes, and apply your graphic and caustic pen to these plague-spots, and I doubt not but the blessings of health will follow, and the district will gratefully acknowledge your kind exertion."

PROGRESS OF THE MAIN-DRAINAGE WORKS.

At the meeting of the Metropolitan Board of Works held last week, Mr. Bazalgette presented the following report, showing the progress of the main-drainage works:—

"The main-drainage works are progressing satisfactorily. On the middle level sewer Messrs. Brassey & Co. have constructed about six miles 3,720 feet of sewers, ranging in size from 4 feet 6 inches, 3 feet, to 12 feet by 9 feet 6 inches, at a probable cost of about 165,000*l.*; of which 150,000*l.* has been done during the past two months. On Mr. Turner's contract for the northern outfall sewer, the whole of the concrete embankment extending from the river Lea to East Ham Church, a distance of four miles, is now completed. The substructure and foundation for the remaining length of sewers, from East Ham Church to the river Thames, is also completed. About nine miles 2,640 feet of double and treble lines of sewer, 9 feet by 9 feet, have been built; and the earth embankment over the same is being rapidly pushed forward. The outlet into the Thames, near Barking-creek, has been commenced, and is fast progressing. The iron bridges have not progressed with equal rapidity, owing to some delay with the parties furnishing the ironwork. The amount of work executed is estimated at 428,147*l.*; of which about 78,000*l.* has been done during the past two months. Mr. Welsher has made a vigorous commencement on the Southern outfall works at Crossness, and has brought upon the ground a large amount of plant. About 39,000 cube yards of excavation have been excavated. At the Deptford Pumping station, under Messrs. Aird's contract, the engine and boiler houses are being slated; the chimney-shaft, coal-sheds, sewers, penstock chambers, &c., are finished, and the river-wall is about three-fourths completed. Messrs. Slaughter & Co. have got in the boilers and most of the pumps, the lifting beams, &c. Work to the value of about 93,000*l.* has been done at Messrs. Aird's contract, of which about 7,000*l.* has been executed since, my last monthly report. On the southern level, Messrs. Lee & Bowles have completed works to the value of about 184,000*l.* Their work is being carried on actively at Church-street, Deptford; Hanover-street, Rye-lane; and in De Crespigny-road, Denmark-hill. There is every probability of the contract being completed in the course of the present year. On the southern high level extension, Mr. Pearson has completed about 1¼ mile of sewer, to the value of 8,500*l.* At the Effra sewer, Brixton, Mr. Webster has done about 1,600 feet, to the value of about 3,200*l.* On the low level sewer, Bermondsey branch, Messrs. Aird have been busy making preparations for commencing their contract, getting possession of the land, sinking deep sumps or wells for the drainage of the work. The Southwark new street was opened on the 28th of July last, between High-street and the Southwark-bridge-road, and is now being continued to Great Guildford-street. About 1,320 feet of subway, and 1,375 feet of sewer, have been constructed at a cost of about 23,000*l.*; being 3,000*l.* more than at the date of my last report. The borings for the Thames Embankment along the foreshore of the river between Westminster and Blackfriars-bridge will probably be completed before my next monthly report."

The Western Main Drainage Works will be proceeded with by Messrs. Moxon.

DEATH FROM ROTTING TIMBER.

The failure of a fir upright in the gymnasium of the Royal Naval School, New-cross, has caused the death of a pupil there, R. C. W. Helier Croker. At the inquest, Mr. Renton, a surveyor, who had superintended the erection of the gymnasium in the summer of 1858, gave evidence to the effect that it was constructed upon the same principle as the gymnasium at Primrose-hill; the uprights being morticed to the extent of 2½ inches into the lower part, which was 4 feet deep underground. The material used was Crown Dantzic timber; a piece of which, where the fracture took place which led to the accident, was produced; the core of the wood being completely decayed and rotten; the outer part still retaining its fibrous character. In his (witness's) opinion the decay of the wood had been occasioned through the rain finding its way into the

mortised portion of the upright; and, in answer to questions put by the jury, he stated that a fair price (95*l.*) was paid by the council of the school for the erection of the gymnasium; and that the Dantzic timber was the next best material to English oak; of which the Primrose-hill gymnasium was composed; being intended for the use of adults.

The jury returned a verdict of "Accidental death;" with a recommendation that, in the future construction of the gymnasium, English oak should be used, with beams of greater dimensions than those existing; and that the same should be subtected to periodical professional supervision.

CONSTRUCTION OF CHIMNEYS.

In reading the communication in a recent number on chimney construction, some of the errors in the present system of construction occurred to me. In the formation of a stack of chimneys, the most important features are generally least attended to. For example;—necessary thickness of work to the external (of detached buildings) or rain surface, so that the inner temperature of the flues may not be influenced by the outer, and so help to prevent checks; perfectly sound work in the division walls, particularly the gathering wings, where, after cutting, as is usual, the splay from the brick, it leaves seldom more than 3½ inches between them: added to this, the flues are generally smaller here than in the main, and not pargetted, being difficult to get at; and, as a finish, little attention is paid to the setting of the pot: the consequence is, the rain, running down the pot, through the inefficient setting, then trickles down the inside of the flue; and, in very little time, the moisture, with the soot, forms a spongy deposit to the pargetting: the wet and frost take out the pargetting and mortar joints of the division walls, and the whole of the exposed part of the chimney becomes a series of chambers full of interstices, influenced by every wind that blows and all moisture that falls. It is my opinion that where these particulars of construction are well and properly carried out, a great deal of the evil will be abated.

Many an incurable smoky chimney would be avoided if owners of property would but consult their architects, and not go on the "penny-wise and pound-foolish system." House-agents and speculative builders are *not architects*.

James H. Gates.

BACON'S AGREEMENT WITH CHAMBERS.

More than one correspondent ask, why, in the contract relating to Chambers and Bacon, some of the words "usual reduction of *two and a half per cent.*" were put in Italics? This was done to lead to inquiry as to the apparently curious clause. An explanation has been suggested,—that at that period there was some Act of Parliament, authorizing a collection to that amount from Government salaries and contracts; a sort of income-tax, in fact; and that it was not, as others have thought, a charge by Chambers as commission on the transaction. We will make some further inquiry.

BOOKS ON BELL-RINGING.*

Sir,—Your correspondent, Mr. Jephson, asks for a book on *Scientific Change Ringing*. I beg to inform him (through the medium of your journal) the best modern work on the subject is by Henry Hubbard, "late of the Society of Norwich Scholars," and published by Fletcher & Alexander, Norwich. There is also a useful little book for *beginners*, by the late Mr. W. T. Maunsell, published by Masters, Aldersgate-street.

If Mr. Jephson communicates with the parent Society of College Youths, who hold their meetings at the Yorkshire Grey, Park street, Borough Market, he will, I am sure, obtain any information he may require on the matter. A College Youth.

PAYMENT OF ARCHITECTS' ASSISTANTS.

Sir,—What should be the salary of an architect's assistant,—one fully competent to *assist* the principal in all branches of the profession,—one who has not only been educated, but has availed himself of every advantage within his reach, to enable him to carry out with tolerable success anything that may be entrusted to him, and to honestly entitle him to the designation of an architect and surveyor? I am induced to ask this question, as advertisements appear in your paper from week to week, both from assistants and architects requiring assistance, in which the salaries asked and offered are such that it is utterly impossible for any one who has had the privilege of enjoying that position which an architect's education necessitates to exist. It is my unfortunate lot to have been brought up to this profession; and now, at an age when most men have assumed a standing in society, I find I have not a sufficient connexion to justify me in beginning to practise for my own benefit; so that my only resource is in the remuneration I receive for my services as an assistant; and this is not more than a journeyman mechanic's wages After the expense incurred in the education necessary to fit me for my duties, and the time I have spent in my studies, I ask, sir, is it fair that I should only be placed on a par with the mechanic, who earns his living from his childhood, and whose education costs nothing? Other professions are not in the same state: why, then, should the architect's assistant remain poverty-stricken? The attorney's clerk, versed in his profession, receives a more adequate reward for his labour; the skilful medical assistant is remunerated better: and even the non-resident teacher in a school, with not so much learning required as in our profession, receives more than the paltry pittance which is grudged to the architect. Mine is not a solitary case: there are hundreds who but leave the harassing toil of the office to be dunned by tax-collectors and creditors. Z. P. S. Y.

* We depart from our practice in inserting this letter, knowledge of the books on the subject not being easily attainable.

HOUSES TO BURN.

"How long are Metropolitan Buildings to be reared as if, like laid fuel in fire grates, they were intended for setting fire to."—*Builder*, July 19, 1862.

Sir,—The above pertinent query, coupled with the deplorable loss of life at Cumberland-street, Hyde-park, and the Liverpool Workhouse, has aroused public attention to the alarming and unnecessary insecurity of our dwellings; and it will be well if the strictures of the press and the warnings of architects cause greater precautions to be taken against the recurrence of such disasters in future. Were it a matter of great difficulty or expense we should have perforce to submit to the calamity; but when the cost of a perfectly fire-proof flooring and stairs, with stone or iron, is so little beyond that of wood,—say an average of about one third,—it is clearly the duty, and, I believe, the interest, of all owners of house property, especially the managers of public institutions, to construct the floors and stairs of incombustible materials.

As the patentee of a system of hollow brick fire-proof floors, I have naturally given some attention to the subject, and shall be happy to give any information in my power to assist in the prevention of such catastrophes in future; and to that end am willing to allow the use of my patent, free of all royalty or profit of any kind, for buildings of a philanthropic character, asylums, workhouses, reformatories, &c. J. Bunnett.

Deptford.

Books Received.

Simple Questions and Sanitary Facts, for the Use of the Poor: an Attempt to teach the simplest Natural Phenomena, and to explain the Functions and Structure of the Human Body. London: Tweedie, 337, Strand. 1862.

In the preface to this well-compiled and instructive little volume the author signs herself "An Irishwoman." She states that she fears the first part of her "little catechism," which is of an "extremely rudimental character," may be objected to; but that in the second portion she had deviated from her original intention, and entered on subjects which might not be considered necessary to those for whom she professes to write. Now, so far as regards ourselves, to neither of these modes of dealing with her subject would we feel inclined to object, *per se*; for she does her work well, and merits great praise; but in a "catechism" designed "for the use of the poor," it is a pity she did not restrict herself throughout to the more rudimentary mode of dealing with the whole subject; reserving the more extended mode of compilation for issue in a separate form. As it is, the poor might have had all the more essential information at a cheaper rate than 2*s.*; a price which is but too likely to deprive them of the benefit which the author is very capable of conferring on them.

The following quotations will give some idea of the author's more rudimentary matter:—

"Do you know an instance when death has occurred from overcrowding?

It is less than ten years since a fearful sacrifice of life occurred among the deck passengers on board an Irish steamer, who were ordered below by the captain on account of the badness of the weather. The hatches were closed on these unfortunates; and out of 150 no fewer than 70 died of suffocation before morning!

Was the captain punished for having occasioned this deplorable waste of life?

No; he was acquitted of all blame because he had only done what appeared to him best for the preservation of his passengers! The result being only the consequence of his astonishing ignorance of the fact, that men cannot live without having air to breathe! When I am blamed for dwelling too much on 'rudiments' in this little simple catechism, my answer will always be a reference to the fact now stated. I have only written to teach the first principles of life and health, and make it intelligible to every capacity that the air, which enters our lungs as *life*, leaves them as *poison*."

"What quantity of air does a full-grown person inhale?

I should be glad to write in letters of gold, in every household, that each individual inhales about fifty hogsheads of air in twenty-four hours; that is—we *spoil, vitiate*, and *destroy* this enormous quantity of atmospheric air in one day."

"How is the oxygen we inhale beneficial to our bodies?

It helps to build up the solid substance of the muscles, cartilages, and skin. It forms part of the material of which they are necessarily composed; and it is in this sense that oxygen is a real food; for to a certain extent we actually live on, and are fed by, the air which surrounds us."

VARIORUM.

"Patent Dock Gates. By R. A. Peacock, C.E., St. Helier, Jersey. London: Weale. 1862." The idea of the lock gates here described was taken from the firmly-fixed gate-post of an ordinary field-gate; and the design is to enable the gate to carry itself; thus obviating the necessity of using great hydraulic or manual power; so generally requisite with such gates. The patent, it appears, can be readily applied to existent dock gates, both cellular and wooden.——The October quarterly number of "The Popular Science Review" (Hardwicke) has been issued. It contains various interesting articles, by Lankester, Ansted, Breen, Buckman, and other known writers, with the usual reviews, summaries, &c.; and appears to sustain its character as a popular miscellany of entertaining and instructive articles on scientific subjects.

Miscellanea.

Window Cleaning.—A company for cleaning windows and shop-fronts has just been established at Vienna, says *Galignani*. Newly-invented machines will be made use of to prevent the accidents which so frequently occur. The price for cleaning each window is fixed at the low rate of one kreutzer and a half (about four centimes).

A London Permanent Exhibition.—A prospectus has been issued of the Universal Club and Permanent Exposition Company, with a capital of 100,000*l.*, in shares of 5*l.* each. The proposal is to establish a permanent mart in London for the exhibition of samples, patterns, and models; and to secure for the purpose certain premises in Cannon-street which are considered to be peculiarly eligible.

Zostera Marina.—Messrs. Koning & Co., of Texel, Holland, write that *Zostera marina* has been dealt in by them for some time; that it grows extensively on the Zuyder Zee; and that the collecting of it gives employment to many poor people. The grass is cut twice a year; and the extraction of the fibrous parts for manufacturing purposes must be effected on the coast. Some traders in this country have been in the habit of obtaining the plant from the Baltic.

Iron Casting in America.—Speaking of a recent casting made in Liverpool, and called "gigantic" in the English newspapers, the *Journal of the Franklin Institute* says:—"In a mechanical point of view, the casting of a similar piece at the Port Richmond Iron Works, on July 1st, shows a much greater capacity for doing this description of heavy work. The block weighs 31 tons, and to pour it 37½ tons of metal were melted in *one cupola* in four hours from the time the blast was put on. The quantity of air used in the blast was 4,000 cubic feet per minute. The coal consumed was one pound for each nine pounds of iron melted. The mould was filled in 4½ minutes pouring. The work was done with the ordinary resources of the establishment, and without any display or assemblage of visitors.

Brighton.—The Brighton Art Society has brought together an agreeable collection of pictures, from three to four hundred in number, some of them very good specimens. "The Brighton and Sussex Art-Union" has been established under good auspices, with a subscription of 10*s.* to assist in spreading these pictures abroad.——Endeavours have been made for some time past to induce the inhabitants to adopt the Public Libraries and Museums Act. A public meeting was held last week to consider the subject, when Alderman Burrows moved a resolution for the adoption of the Act; but his arguments were met by the greatest clamour and uproar, so that scarcely anything of his speech could be heard. Mr. Joseph Ellis (Bedford Hotel) and other gentlemen opposed the motion; and, after two hours of the most stormy proceedings, the mayor put the question, when only about a dozen hands appeared in favour of the motion. The contrary was put amid much enthusiasm, the meeting rising *en masse*, waving hats, umbrellas, and even chairs over their heads. A local paper says, naively, "Apart from the noise and clamour and hard words, there was not the least disturbance, and the meeting seemed influenced more by personal motives than by general principles." We should think so too: enlarged and enlightened views are greatly wanting in the governing body at Brighton.

The New Railway Station at Stockport. The pile of buildings erected by the London and North-Western Railway Company, for a station at Edgeley, is rapidly approaching completion.

Dangers of Engineers Abroad. — With reference to the disordered state of parts of Italy, it is said three of the English engineers of Messrs. Waring, Brothers, Brassey, & Co., constructors of the Southern Railway (Eboli branch), were seized by the brigands at the end of September, in the neighbourhood of Laviano, and carried off to the mountains, where they will have to be heavily ransomed. The engineers have been subjected to great ill treatment.

The Islington Reformatory.—The foundation-stone of a new structure for the Islington Reformatory, in Copenhagen-street, was laid last week, with the usual ceremony, by Sir J. Tyler. The main building is of brick, 100 feet long by 40 feet wide, with an elevation of 36 feet, the basement being divided into a series of reformatory workshops, and the upper story into one large ragged school, capable of holding 400 children, there being already 380 on the books. There are two playgrounds; and a separate building set apart for dining-rooms, dormitories, lavatories, and infirmaries. The architect is Mr. Higgins, and the builder Mr. Wheen. The estimated cost is 2,100*l.*

New Jetty at Devonport Dockyard.—An addition has been made to the "Anchor Wharf" in what is called a jetty, which, however, does not extend itself into the harbour at right angles from the face of the Anchor Wharf, but runs parallel with that erection. The jetty is 350 feet long and 40 feet wide, and stands on a row of cast-iron piles. At the average height of spring tides there is 40 feet of water at the new coaling jetty, so that the largest steam-ships at present employed by the British Government may approach it without grounding. The work was designed and has been constructed by Mr. H. Grissell, of London. Mr. G. Scott, manager at Davenport for Mr. Grissell, personally superintended the work.

Pneumatic Despatch.—The engines, boilers, discs, and other apparatus connected with this experiment in subterranean transit have been removed from their temporary site at Battersea to the Euston station of the London and North-Western Railway; the pneumatic 48-inch tube having been already laid down between that station and the whole length of Seymour-street; leaving a comparatively short distance to be completed along the end of Oakley-square and Crawley-street to the north-west district post-office in Eversholt-street; and it is expected that the entire apparatus will be ready for working in about a month. The engine will be worked at the Euston station and at Camden, to which latter point the tube will be extended for the collection, loading, and distribution of small goods and parcels, which it is expected may be transmitted at the rate of fifteen miles an hour. The Post-office have promised to use the tube on its completion.

Another Marshland Sluice Destroyed.—The outfall sluice of the Marshland Smeeth and Fen drain, an important arterial drain running into the Ouse, about 200 or 300 yards northward of the ruined Middle Level sluice, has become the subject of an accident precisely similar to that which destroyed the last-named work on the 4th of May. The result has been again to flood a portion of the Fen country, including some of the identical lands which were drowned by the bursting of the Middle Level banks, and only within the last few weeks reclaimed and brought into cultivation. The flood has also run through the culverts under the Middle Level drain; has again drowned some of the land in Broad and Short fens; and threatens Bardolph and Stow fens. At a meeting of the Marshland Smeeth and Fen Commissioners since the new accident, Sir John Rennie and Mr. Murray, C.E. (who had been making investigations in connexion with the pending suits against the Middle Level Commissioners), were called in; and under their advice the banks on both sides are being extensively raised: a dam of sheet piling is to be made about a mile and a half up the drain (just below the junction sluice between it and the Marshland sewer), and a permanent dam is to be struck at about 100 yards above the broken sluice. The Smeeth and Fen sluice (the subject of the accident) was built, and the drain itself excavated, in 1832, under the direction of Sir John Rennie; Mr. Dyson being, we believe, the builder. The still erect position of the sluice under the circumstances described is considered a proof that its foundations and brickwork are of very great strength. Its weak point is that of every such work,—the junction of the masonry with the earthwork.

Improvement in Rolling Iron, &c.—There is now in course of erection at the Dowlais Iron Works, a self-acting blooming machine, for blooming railway iron, &c. It is expected to start in a few weeks; and, should it answer expectations, it will be the greatest improvement made since rolling commenced. Mr. Charles White, of the Taff Vale Rail Works, Glamorganshire, is the inventor and patentee.

The Liverpool Surveyor and the Free Library.—Mr. Picton, pursuant to notice, moved in the Town Council recently, "That a grant be made to the surveyor, in consideration of his professional services in the erection of the Free Public Library and Museum; and that it be referred to the Finance Committee to inquire into the subject, and report to the next meeting of the Council." An amended resolution, "That it be referred to the Finance Committee to consider and report as to the propriety of making the grant," was finally agreed to.

News from Guernsey.—The foundation stone of a new Church of England structure was laid some time back by Mrs. Slade, the lady of the Lieutenant-Governor of the island. This church is situate on the Rohais road. Most of the money for building it has been raised by subscription. The Messrs. de Putron are the contractors; and Mr. Duquemin, sen., is the mason. Considerable improvements are being made in the town parish. The badly-paved and disagreeable street known as the Bordage has undergone a complete transformation. From this street some new steps will lead to Tower Hill, and will replace the inconvenient and unsafe ones that formerly occupied their situation. The Hanois Lighthouse is nearly completed. No lives have been lost, happily, during its erection. The customary houses for the keepers when off duty have been built in proximity to the lighthouse, which is two miles from land.

Sales of Property. — At the Mart. — By Messrs. Edwin Fox & Bousfield—Freehold dwelling-house, No. 368, Rotherhithe-wall, let at 38*l.* per annum—sold for 505*l.* Freehold ground-rent of 21*l.* per annum, secured upon Nos. 8 and 13, Triangle-place, Clapham — 430*l.* Freehold ground-rent of 47*l.* 5s. per annum, secured upon Nos. 8, 9, and 10, Paddington-green, let on lease for ninety-six years from 1832, rack rent, 300*l.* per annum — 1,300*l.* By Mr. Kirkman—Freehold residence, No. 1, Church-terrace, Lee, let at 70*l.* per annum—1,100*l.* At Garraway's. — By Messrs. Farebrother, Clark, & Lye — Freehold ground-rent of 2*l.* per annum, secured upon a residence at Erith—45*l.* Freehold dwelling-house, No. 4, Lessness-heath, Erith, let at 30*l.* per annum—350*l.* Freehold, a similar residence, No. 3, Lessness-heath — 350*l.* Freehold residence, No. 1, Lessness Park, let at 45*l.*—600*l.*

New Drinking Fountain in Dudley.—A new fountain, from a design by Messrs. Wells, Brothers, of London, has been erected in the market-place, and opened to the public. The basement consists of two Cornish granite steps, upon which rises a moulded pedestal with six columns, with enriched capitals, composed of the waterlily conventionally arranged. In the frieze of the cornice are masks of river gods. Above the cornice is the dome and ornamental finial, also composed of water-plants; and the whole is surmounted by a female figure, bearing upon her head a water-bottle. Upon the centre of the pedestal, surrounded by the columns, is placed a marble vase and plinth, with lions' heads, from which two streams of water are continually flowing. The design is of a temple form, 20 feet in height, the columns and pedestal being of Portland stone.

The Marple Viaduct.—The last arch of the Marple viaduct on the Hyde and Marple extension branch of the Manchester, Sheffield, and Lincolnshire Railway, has been keyed in. The first stone of the adjoining aqueduct was laid in May, 1793, and the structure was completed in May, 1800, having been seven years in construction. The aqueduct consists of three arches of 60 feet span each; its height from the bed of the river—the Goyt—being 97 feet; and it contains 8,000 cubic yards of masonry; whereas the viaduct has thirteen arches, of 50 feet span each; its height from the bed of the river being 135 feet, and the contents 18,000 cubic yards of masonry. It is constructed entirely of stone; and as the first stone was laid on the 24th September, 1861, the time occupied in the construction has been about twelve months. The work has been carried out from the plans and under the superintendence of Mr. J. G. Blackburne, of Oldham, the engineer for the line. The contractors are Messrs. Benton & Woodiwiss. The viaduct will be opened for traffic in two months.

Theatre Burnt in Belgium. — The new theatre at Namur, Belgium, which has been for some time past in progress, and which was on the eve of completion, has been destroyed by fire. The loss is estimated at about 200,000 francs (8,000*l.*). The general impression is that the fire was caused by lightning, a violent thunderstorm having visited the town at the time.

New Mode of Laying Street Dust. — A plan of getting rid of the dust without watering the carriage-way has been for some time in operation in Paris, in the Avenue des Champs-Elysées. It consists of sprinkling the road with chloride of calcium, which, being remarkable for its deliquescence, or power of absorbing moisture, soon becomes damp, and thereby prevents any dust from rising even in the hottest day. Chloride of calcium gives off no smell like chloride of lime, which is quite a different substance.

Ancient Paris.—A correspondent says,—The church of St. Leu and St. Gilles, one of the most ancient buildings in Paris, hitherto almost unknown except by the parishioners, in consequence of the old houses with which it was surrounded, is now brought to public view by the extension of the Boulevard de Sebastopol on the right bank of the Seine. This antique monument, rebuilt in the year 1322, was raised to the title of a parish church in 1617. In 1727, an architect, named Guillaume Guerin, repaired the belfry, which was ruinous.

Bridging the Channel.—*Mitchell's Steam Steam Shipping Journal* says a project for a railway ferry-boat from and to Dover and Calais will be shortly before the public. The ferry-boat is to be 3,000 feet in length, 100 feet beam, and draw but 5 feet of water. In the centre of the deck will be a covered iron tunnel, into which the carriages will steam, with goods and passengers, to be conveyed across the Channel with considerable rapidity. The speed is to be forty miles per hour. She will have rudders at both ends, and will never require to turn. Her build is to be that of a series of unsinkable tubes.

The Figure of the Earth.—A rather curious corollary on the work of Mr. Gumpach, of Jersey, lately noticed in the *Builder*, and on the correspondence which took place between him and Mr. Airy, the Astronomer Royal, has just transpired in the French Academy of Sciences; which, says *Galignani*, "has received a communication from Mr. Leverrier, on the determination of the longitude of Havre; in which the author, after commenting on the difficulties attending the operation, remarks that the latitude of a point on the earth's surface, determined by geodetic operations, often differs so considerably from those obtained by astronomical observations as to induce one to attribute them to the irregularity of the terrestrial spheroid. Hence Mr. Leverrier strongly recommends the remeasurement of the differences of longitude between the extremities of the earth's parallels, so necessary to the exact determination of the figure of our globe. We are here," adds *Galignani*, "forcibly reminded of Mr. de Gumpach's work, which we mentioned a few days ago; and we think that Mr. Leverrier's explicit admission of the ambiguity of the latitudes hitherto determined goes far to prove Mr. de Gumpach's arguments in favour of the prolate and not oblate figure of the terrestrial spheroid."

Plan for Ventilating Ships.—A trial, by order of the Lords of the Admiralty, is now being made on board the *St. Vincent* training-ship at Portsmouth, of a plan introduced to the notice of their Lordships by Mr. Phipson, C.E., of London, for ventilating the 'tween-decks of Her Majesty's ships of war. The apparatus consists of an air shaft or cylinder, 4½ feet 3 inches in diameter, continued in lengths from the upper to the lower decks. The first length from the upper deck, being made of sheet-iron, contains the fan, at a level with the ceiling of the main deck; and the remainder of the lengths between each deck are of sailcloth. The fan is worked from the main deck by a small two-horse power vertical engine. This fan consists of two blades, set at an angle of about 50 degrees, regulated by a spring placed on the spindle. Above the fan is placed a dial to indicate the amount of air supplied to the decks below. The amount supplied by the apparatus on board the *St. Vincent* is 508,000 cubic feet per hour. There is no perceptible draught, it is said, produced. So far the experiment on board the *St. Vincent* appears to have been successful; but the *St. Vincent* is not a seagoing or even an efficient war ship, being merely a harbour training-ship, with a free communication fore and aft her lower deck, and without the machinery, stokeholes, and compartments below of our iron ships.

Mr. Tite, M.P.—We understand that, having served the office of master of the Spectacle Makers' Company, Mr. Tite, on retiring, gave 1,000*l.* to the charitable funds, to establish pensions for widows of liverymen of the company.

Restoration of Monuments.—Mr. Richardson, of London, the sculptor, has been engaged to renovate the Burrell monuments in Cuckfield church. They range from the fifteenth century to works by Baun and Flaxman. The same artist restored the Temple Church Crusaders, and the mutilated Effigial tomb in Chichester Cathedral.

Edinburgh Architectural Association.—The opening meeting of the session 1862-63 of the Edinburgh Architectural Association was held on the 1st; Mr. R. T. Shiells, President of the Association, in the chair. Mr. J. M. Brydon, the hon. secretary, having read the minutes, several new members were proposed for ballot at next meeting. The chairman then delivered his inaugural address, in which he gave a *résumé* of the principal events in connexion with architecture during the past year. Professor Archer, he was glad to say, had consented to give them a lecture in the Industrial Museum on materials for building and manufacture. Mr. R. Anderson then gave a lecture on "The Domestic Architecture of France and Italy."

The New Sheriffs of London.—The inauguration dinner of the new sheriffs, Alderman James Clarke Lawrence and Mr. Hugh Jones, given at the Albion on the 3rd inst., was a sumptuous commencement of their duties. Mr. Under-Sheriff Mackrell and Mr. Under-Sheriff Farrar concurred in making the arrangements complete. About 150 gentlemen, including the Lord Mayor-elect, Sir G. Pollock, Sir C. W. Dilke, Mr. Fred. Doulton, M.P., Mr. Ex-Sheriff Hill, Alderman W. Lawrence, and many other well-known persons were present. The new sheriffs spoke efficiently: but the toasts were a little too exclusively of a civic character.

The Manchester Stonemasons' Strike.—We regret to say that the stonemasons of Manchester are still out on strike; not, as we have before stated, for increased wages, but against a supposed infringement of one of their by-laws. Their employers deny the existence of such a law; or, at any rate, deny that it is binding upon them; but between 500 and 600 men have forced themselves into idleness, thereby losing their wages and stopping important public works, such as the Assize Courts and the London-road Station, for the sake of it. It is said to have been a rule that stone should not be sent into a town ready worked, but must be worked on the spot. Determined not to be coerced, the employers have advertised that 700 or 800 stonemasons will find employment in Manchester, at 30s. per week.

Social Science in Belgium.—The *Social Science Review* of 4th October contains a full account of the proceedings at the Brussels International Congress for the Progress of Social Science; so that we may now have some idea of "the brilliancy of many of the debates" dependent on the superior arrangements of the Brussels people. Of the *fête* at the Hôtel de Ville it is said;—"If the pictorial result was less massive than that of our own *soirée* at Westminster Hall, it was more chaste and refined: it gave to the English visitor an idea of what could be done at Westminster if Belgian art prepared the *fête*." Our fellow countryman, however, who penned this complimentary paragraph, seems to have no idea of what could have been done at Westminster had *English art* prepared the *fête*. No art whatever, in fact, was called in; no expenditure in that direction having been contemplated.

A New Hotel for South Kensington.—A limited company is being formed, with a capital of 100,000*l.*, in 10*l.* shares, for the purchase of six mansions in Queen's Gate-terrace, Gore-road, South Kensington, to be converted into a first-class hotel and club, at an outlay of 62,000*l.*; the hotel to be fitted up for families, and contain a general coffee-room, reading-room, ladies' coffee-room, private sitting-rooms, and about 100 sleeping apartments, hot and cold baths, and billiard and smoking rooms. The club apartments will be separate. There will be three entrances; one for families, another for the club, and the third for the hotel. As there is no hotel in the same quarter, it is believed that the speculation will be a successful one. It is proposed to open the hotel by or before the 1st of May next. The company is named "The South Kensington Hotel Company (Limited)," and the secretary is Mr. James Knight; offices, 4, Victoria-street, Westminster. Lieutenant-General Sir James Outram is at the head of the list of patrons. Mr. C. J. Richardson is the architect.

The late Mr. James Walker, C.E.—We must content ourselves at the moment by announcing (with expressions of great regret) the death of Mr. James Walker, the engineer, which took place suddenly, on the 8th inst., at his house in Great George-street, Westminster.

The International Exhibition.—The following announcement has been issued by the Royal Commissioners:—"His Royal Highness the Prince of Wales, being anxious to mark his deep interest in the success of the International Exhibition, an enterprise which owed its origin to his beloved father, has, with the approbation of her Majesty, graciously undertaken to distribute the medals and certificates of honourable mention at a state ceremonial early in the year 1863, after the building has been cleared."

Architectural Society of Northampton. The annual public meeting of this society has been held at the Hall, in Gold-street. The High Sheriff was in the chair. The report for the year stated, with reference to the plans for labourers' cottages, that they had obtained the approbation not only of the committee, but of all the most practical cottage builders to whom they have been submitted. Mr. Sharp, of Dallington Hall, read a paper on "Roman Remains," chiefly with reference to the discoveries at Dallington; after which Mr. E. F. Law read a paper on "The Queen's Cross." It appears that the stone of which the Cross was originally built was of a kind totally distinct from that employed in the various restorations, every one of which can be distinctly traced by this difference in the material.

TENDERS

For porter's lodge, &c. at Locksbottom, Farnborough, Kent, for the Board of Guardians of the Bromley Union. Mr. F. F. Thorne, architect:—

Howden	£260	0	0
Wallbutton	245	0	0
Cook	236	10	0
Marsland & Son	230	0	0
Gill	229	0	0
Ledger	214	9	0
Francis & Son (accepted)	204	0	0

For new Kidbrooke sewers, for the Board of Works for the Plumstead district. Mr. F. F. Thorne, surveyor.—

Simms	£1,200	0	0
Pizzey	1,159	0	0
Johnson & Mallons	1,095	0	0
Richardson	1,085	0	0
Hawkins	999	0	0
Todd	960	0	0
Lewis	819	0	0
Williams & Street	778	0	0
Dowell	765	0	0
Pearson	753	0	0
Hollis	751	0	0
Pound	746	0	0
Rogers	725	0	0
Bull	679	0	0
Hartland & Bloomfield (accepted)	627	0	0
Sharon	600	0	0

For new brick bridge and approach roads, &c., over the Quaggy River, Blackheath, for the Board of Works for the Plumstead district. Mr. F. F. Thorne and Mr. T. C. Haworth, surveyors:—

Gardner	£2,700	0	0
Gooch	2,640	0	0
Pearson	2,560	0	0
Bennett	2,525	0	0
Walker	2,165	0	0
Bush	2,100	0	0
Sharon	1,890	0	0
Todd (accepted)	1,495	0	0

For new cottage at Chislehurst, Kent, for Mr. R. W. Lomes. Mr. F. F. Thorne, architect:—

Wallbutton	£362	0	0
Francis & Son	304	0	0
Marsland & Son	304	0	0
Cook (accepted)	299	0	0

For the Windmill Inn, Chislehurst. Mr. F. F. Thorne, architect.—

Pedlington	£817	5	0
Bond	799	0	0
Shilton	759	10	0
Francis & Son	746	0	0
Simms	700	0	0
Williams	687	5	0
Harwood	678	10	0
Bussey	658	0	0
Coleman	656	17	0
Egerton (accepted)	655	0	0

For cottages and shops, at Chislehurst. Mr. F. F. Thorne, architect:—

Bond	£1,708	0	0
Harwood	1,535	0	0
Simms	1,427	10	0
Shilton	1,390	0	0
Unwin	1,388	0	0
Williams	1,367	12	0
Bussey	1,291	10	0
Pedlington	1,279	7	0
Coleman	1,219	14	0
Egerton (accepted)	1,087	5	0

For the erection of new farm buildings, at Lolworth, Cambs., for Mr. Osborne Damtree. Mr. Hutchinson, architect:—

Witham	£905	0	0
Allison	873	0	0
Allin & Smith	850	0	0
Thackeray & Son	799	0	0
Bunting & Son	785	0	0

For cooking and hot-water apparatus, at the Stepney workhouse, Bromley. Mr. Henry Jarvis, architect:—

Truss	£2,110	0	0
Cottam & Co.	1,050	0	0
May	954	0	0
Benham & Son	950	0	0
Brown & Green	910	0	0
Waller	870	0	0
Frazer & Son	860	0	0
Glover	849	0	0
Bailey	797	0	0
Smith	789	0	0
Amies & Barford	575	0	0

For new buildings, Cold-bath-fields Prison. Mr. E. H. Pownall, architect:—

Ashton	£24,123	0	0
Hill & Co.	21,850	0	0
Ellis	21,140	0	0
Kirk	20,593	0	0
Taylor, jun.	20,073	0	0
Rowe	19,975	0	0
Sawyer	19,953	0	0
Palmer	19,761	0	0
Chinnock (accepted)	19,200	0	0
Earth-work and Concrete.			
Ellis (accepted)	£3,045	0	0

For proposed alterations at the White Swan, Commercial-road East. Mr. Charles Dunch, architect:—

Jacobs	£525	0	0
Wood, Brothers	510	0	0
Larke	507	0	0
Brown	489	0	0
Curtis (accepted)	485	0	0

For three houses and shops, at Notting-hill. Mr. Fuller, architect. Quantities supplied by Mr. Arthur W. Q. Nicoll:—

Taylor	£1,147	0	0
Carter	1,095	0	0
Wilhams	997	10	0
Howard	968	0	0

For the erection of a house for Mr. Bradshaw, 151, Church-street, Shoreditch. Mr. R. Parkinson, architect:—

Hardiman & Sandon	£500	0	0
Canon	449	0	0
Livermore	344	0	0

For the erection of manager's house and cottages, adjoining the gasworks, Aldershott. Messrs. Eggar & Stapley, architects:—

Birch	£870	10	0

For repairs to twenty houses, Vincent-square, Chapter-street, &c. Mr. James G. Smither, surveyor to the estate:—

J. & W. Sanders (accepted)	£723	0	0

For additional pensioners' residences at the Royal Medical Benevolent College, Epsom. Mr. George Elkington, architect:—

Andrews	£2,295	0	0
Hooker	2,252	0	0
Brown and Robinson	2,129	0	0
Hack & Son	2,077	0	0
Conder (accepted)	1,976	0	0

For alterations and additions to warehouses, Goswell-street. Mr. Hill, architect. Quantities supplied by Mr. Barnet.—

	No. 1 warehouse.	No. 2 warehouse.
Goslin	£467	£100
Gadsby	460	299
Timewell	443	278
Turner & Sons	436	342
Henshaw	374	286

For building additional wing to Middle House, Bollingbroke-grove, Wandsworth-common. Mr. G. H. Page, architect:—

Palmer	£1,498	0	0
Piper & Wheeler	1,460	0	0
King	1,425	0	0
Adamson & Sons	1,353	0	0
Bass	1,390	0	0

For cottages, Garrett-lane, Wandsworth. Mr. Page, architect:—

Bass	£660	0	0
Strong	600	0	0

TO CORRESPONDENTS.

J. R. S.—F. W.—Mr. H.—T. R.—H. P.—T.—J. T.—J. D. A.—R. C. F. M.—F. W. & Co.—F. R. W.—C. B. K.—D. R. (please send them). J. G. S.—T. A. S.—H. M.—S. H.—E. W. P.—Messrs. T.—Eagle-Eye (in type).—G. F.—C. R. K.

Note.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

☞ *Notice.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No.* 1, *York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* not *to the "Publisher."*

ADVERTISEMENTS.

Just published price 2*l.* 2*s.*

MANUAL of HYDROLOGY.

By NATHANIEL BEARDMORE, Civil Engineer.

CONTAINS

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 66, London-wall. 1862.

RIDDELL'S ELEMENTS of HAND RAILING
Third Edition, ONLY 78 COPIES for SALE, which can be obtained of
TRUBNER & CO. 60, Paternoster-row.
The Author having left England for Australia, there will not be any other Edition of this Work. The price is now raised to 20s.

Just published, price 12s.
THE TRUE FIGURE and DIMENSIONS of the EARTH, Newly Determined from the Results of Geodetic Measurements and Pendulum Observations; compared with the Corresponding Theoretical Elements for the First Time Deduced upon Purely Geometrical Principles, and considered both with reference to the Progress of Scientific Truth, and as bearing upon the Practical Interests of British Commerce and Navigation, in a Letter addressed to George Biddell Airy, Esq. M.A. Astronomer Royal.
By JOHANNES VON GUMPACH.
Second Edition, with Thirty Illustrative Diagrams.
London: ROBERT HARDWICKE.

In the Press,
RAILWAYS in the EAST, and Generally in HIGH THERMOMETRIC REGIONS.
By W. DAVIS HASKOLL, Engineer;
containing Eighty Folded Plates and Letterpress, Imperial 8vo, being the Third Volume, completing "RAILWAY CONSTRUCTION." In French, 65f. 75c.; in English, 2l. 12s. 6d. before January 1st, 1863; after, 78f. 85c. and 3l. 3s. in cloth, to match 1st and 2nd vols. Also,
A PRACTICAL TREATISE UPON MECHANICAL ENGINEERING. Twenty-eight Plates and Ninety one Woodcuts; with a CHEMICAL ANALYSIS of IRON and its ORES. By FS. CAMPIN, Engineer. Until January 1st, 1863, cloth, 21s. after, raised to 28s. or 30s.
ATCHLEY & CO. Publishers, 106, Great Russell-street, W.C. London.

SCIENTIFIC RECORD of the EXHIBITION (PRACTICAL MECHANICS' JOURNAL), Part VII. OCTOBER 1, price 2s. contains Machines for direct use, Engineering Tools, Machines for Transporting, by ROBERT MALLET, M.I.C.E. F.R.S. Textile Machinery and Manufactures, by WILLIAM JOHNSON, C.E. M.I.M.E. M.I.C.E. Sewing, Plaiting, and Felting Machines, by E. P. ALEXANDER, C.E. Illustrated by large plate Engravings of Platt's Spinning-Mule and Humphrey & Tennant's Marine Engines, and ninety Wood Engravings.
London: LONGMAN & CO. Ludgate-hill. Proprietor's Offices (Patent Offices), 47, Lincoln's-inn-fields, W.C.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13 FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

PROFESSIONAL ASSISTANCE.—Architectural Designs and Drawings of all kinds prepared. Details, Specifications, &c. Perspectives and Sketches effectively executed. Designs for Ornament and Figure Decorations.—Address, A. B. care of Housekeeper, 17, King William street, Strand, W.C.

TO ARCHITECTS, &c.—A Gentleman, of considerable practical experience, would undertake to SUPPLY DRAWINGS, SPECIFICATIONS, and QUANTITIES of BUILDING WORKS on specified terms.—Address, Mr. Earle, 2, Clifton Villas, Lansdowne-circus, South Lambeth.

AGENTS WANTED to SELL MASONS' TOOLS on COMMISSION.—Apply to J. STATHAM, Masons' Tool Factory, Ogden-street, Fairfield-street, Manchester.

TO PARENTS and GUARDIANS.
A VACANCY now occurs for an OUTDOOR APPRENTICE to the CLASSICAL and MEDIÆVAL DECORATIVE ART. For a youth having a knowledge of drawing and a taste for the fine arts, this will be a very desirable offer, as he will be under the immediate instruction of the advertiser, who is a practical decorative artist, &c. of long standing and experience, and who will, if required, impart a knowledge of the writing and general branches of the painting business, measuring, estimating, &c. Premium required.—Address, with particulars, to C. L. care of Miller & Co. 56, Long-acre.

ARTICLED PUPIL.—To PARENTS and GUARDIANS.—An Auctioneer and Surveyor, in good practice, about four miles from London, has VACANCIES for a Resident or Non-resident PUPIL, who would have opportunities of gaining a practical knowledge of every branch of the profession. A premium in either case would be required.—Address, BETA, 42, Chancery-lane, London.

AN Architect and Engineer has an OPENING for a PUPIL.—Address, A. E. Office of "The Builder."

ENGINEER FOREMAN. — WANTED, in the Engineer Department of a manufacturing business, a WORKING FOREMAN, capable of making working drawings.—Apply to Messrs. BUNNETT & CO. Engineers, New Cross-road, Deptford, Kent.

STONE and MARBLE MASONS.—WANTED, for the country, a Young Man thoroughly acquainted with Monumental Work in Stone and Marble. Constant employment.—Address, stating terms, which must be moderate, A. B. No. 15, South Parade, Trafalgar-square, Brompton, S.W.

TO STONEMASONS.—200 or 300 STONEMASONS will FIND EMPLOYMENT at Manchester, by applying to Messrs. J. & H. PATTESON, Oxford-street, Manchester. Wages, 30s. per week.

WANTED.—A TOWN TRAVELLER having an established connexion among Builders, Contractors, and other consumers of lime, cement, &c. A salary will be given. Applications, with testimonials, to be addressed to K. L. care of Messrs. King & Co. 63, Queen-street, Cheapside, E.C.

WANTED, an active and energetic Man, as SHOP FOREMAN of JOINERS. Must be thoroughly practical.—Address, by letter only, stating salary and references, to A. B. C. care of Mr. Williams, Hammersmith Gate, W.

WANTED, a Man, about 30 years of age, to call upon builders, &c. &c. to SOLICIT ORDERS in the STONE TRADE. Wages about 30s. per week. State how last employed, age, if married, and wages required. The duties can easily be learned by any labouring man with a good education. A first-rate personal character required.—Apply, by letter, to T. C. Office of "The Builder."

WANTED, a WORKING FOREMAN in a small Joiner's Shop in the country. A permanent situation.—Apply by letter, stating wages and qualifications, to A. B. No. 34, Brook street, Euston-road.

TO CIVIL ENGINEERS AND SURVEYORS.
WANTED, by the Advertiser, a SITUATION as ASSISTANT to (or IMPROVER under), a CIVIL ENGINEER or SURVEYOR.—Address, P. A. B. Post-office, Lambs' Conduit-street, W.C.

TO PLUMBERS, BUILDERS, AND OTHERS.
WANTED, by a respectable experienced practical Man, a constant SITUATION as PLUMBER and GASFITTER. No objection to fill up his time at painting or glazing. Town or country to object. Good reference if required.—Address, J. F. 66, Napier-street, Hoxton.

WANTED, an ENGAGEMENT as PAINTER, GLAZIER, PAPERHANGER, and GASFITTER. Address, J. B. 7, Milton-street, City.

TO CONTRACTORS.
WANTED, by a Bricklayer, a RE-ENGAGEMENT as FOREMAN. Understands drawing and setting out work. Good references can be given from present employer.—Address, G. Z. care of Mr. Shrimpton, Post-office, Penn, Amersham, Bucks.

TO ARCHITECTS, &c.
WANTED, by a practical Clerk of Works, a RE-ENGAGEMENT. First-class references.—Address, C. W. 25, York-street, Kingsland-road.

TO ARCHITECTS, SURVEYORS, AND OTHERS
WANTED, an ENGAGEMENT, by the Advertiser, who has an extensive and practical knowledge of building matters generally, drainage, house property, &c. Is a good plain draughtsman, a first-rate calculator and writer, and would be found a useful assistant.—Address, G. M. care of Mr. Warin, No. 41, Blackman-street, Borough, S.E.

TO ARCHITECTS.
WANTED, a RE-ENGAGEMENT in an Architect's Office. Can prepare fair, working, and detail drawings, &c. Terms moderate.—Address, M. R. Post-office, Lamb's Conduit-street.

TO BUILDERS AND BRICKMAKERS.
WANTED, by a practical Man, a SITUATION as BRICKFIELD FOREMAN. Is accustomed to clamp and kiln work of sixteen years' experience. Age 38. Can keep accounts.—Address, T. Y. 26, Cumberland-street, Hackney-road, London.

WANTED, by an ASSISTANT, a RE-ENGAGEMENT in an Architect's or Surveyor's Office. Is a good draughtsman, and can have an unexceptionable reference from his late employer.—For further particulars, address J. C. C. at Messrs. Hill & Sons', Bankers, 17, West Smithfield, City, E.C.

TO BUILDERS AND PLUMBERS.
WANTED, by a Young Man, aged 29, a SITUATION as THREE-BRANCH HAND.—Address, H. B. K. 186, Southwark Bridge-road, Newington.

TO PLUMBERS, BUILDERS, AND OTHERS.
WANTED, by a Young Man, a SITUATION as PLUMBER and GASFITTER. No objection to fill up his time painting or glazing.—Address, T. S. at Mr. Scott's, 11, Endell-street, Long-acre.

TO BUILDERS, &c.
WANTED, a SITUATION as HANDYMAN, by a good Painter.—Address, A. B. Guest's, No. 59, Avenue-road, St. John's wood.

TO ARCHITECTS AND SURVEYORS.
WANTED, by the Advertiser, aged 21, a neat and expeditious draughtsman, an ENGAGEMENT.—Address, M. A. A. 14, Arundel-street, Strand.

TO BUILDERS.
WANTED, by a good Draughtsman, a SITUATION in a large Builder's Office in the country. He has been for the last five years in an architect and surveyor's office in London, and can give excellent references Being desirous of further improvement, no salary will be expected.—Address, E. M. at Mr. Steven's, 43, Tottenham-court-road, W.

TO ARCHITECTS AND SURVEYORS.
WANTED, by the Advertiser, an experienced CLERK of WORKS, a SITUATION in that capacity. Good reference will be given.—Address, P. T. Office of "The Builder."

TO PLUMBERS, BUILDERS, AND OTHERS.
WANTED, by a Young Man, a SITUATION as PLUMBER. Willing to fill up his time with painting and glazing. References, if required.—Address, F. H. 63, Brindley-street, Harrow road, Paddington.

WANTED, a RE-ENGAGEMENT as BUILDER'S CLERK, by a Young Man accustomed to the duties. Age 24.—Address, H. Y. Office of "The Builder."

WANTED, a SITUATION as PLUMBER, PAINTER, or GLAZIER, if required.—Address, R. B. No. 10, Market-street, Edgeware-road.

TO BUILDERS.
WANTED, by the Advertiser, a RE-ENGAGEMENT as SHOP or GENERAL FOREMAN. Is well acquainted with all branches of the building trade, and can prepare detail and working drawings. Good reference.—Address, A. Z. A. Office of "The Builder."

TO PLUMBERS AND BUILDERS.
WANTED, by a Young Man, a SITUATION as IMPROVER to the PLUMBING. Has served six years as three-branch hand.—Address, W. I. 25, Bell-street, Vincent-square, Westminster.

TO BUILDERS, PLUMBERS, &c.
WANTED, EMPLOYMENT, by a good PLUMBER.—Address, A. W. Mr. Stephen's, No. 19, Great Marylebone-street, W.

TO BUILDERS AND OTHERS.
WANTED, a constant SITUATION, by a first-class plumber, gasfitter, painter, and glazier.—Address, H. R. 49, Lower Sloane-street, Chelsea.

TO BUILDERS AND CONTRACTORS.
WANTED, by a respectable Married Man, a SITUATION as TIMEKEEPER. Has been used to public works. Unexceptionable references.—Address, H. B. Blake's Coffee-house, 30, Clerkenwell green, E.C.

TO ARCHITECTS.
WANTED, by a Young Man, an ENGAGEMENT in an Office, where he would be able to increase his knowledge of design. Salary not so much an object as improvement and a lengthened engagement.—Address, A. W. 8, Castle-terrace, near Hampstead-road, Kentish-town, N.W.

TO ARCHITECTS
WANTED, a SITUATION as CLERK of the WORKS, or Office Assistant, by an Englishman, who has been for some years manager in an architect's office, in a large city in America. Is in this country on account of the great depression of business caused by the political troubles of America. Can give the very best of reference, as to ability and character. No objection to the country.—Address, T. A. B. Office of "The Builder."

WANTED, by a Young Man, a constant SITUATION as PLUMBER, PAINTER, and GLAZIER.—Address, S. P. 45, King-street, Camden-town.

TO BUILDERS, &c.
WANTED, by a general Out-door Foreman, a RE-ENGAGEMENT, to take the charge of buildings, or the entire charge of a job.—Address, A. C. Britannia Coffee-house, Tothill-street, Westminster.

TO BRICKMAKERS AND BUILDERS.
WANTED, an ENGAGEMENT, by a Practical Man. Has had twenty-five years' experience in Brick and Tile Making and Burning, and thoroughly conversant in all its branches.—Address, F. W. Post-office, Romsey, Hants.

TO BUILDERS AND GLASS AGENTS.
WANTED, by a Young Man, aged 26, a CONSTANT SITUATION as GLAZIER and GLASS CUTTER, in town or country.—Address, A. S. 7, Carbarton-street, Fitzroy square, Marylebone.

THE Advertiser offers his services to Architects and Surveyors in general practice. He is well acquainted with Church, School, and Villa Architecture; can write Specifications, take out Quantities, get out Perspectives, and generally conduct an Architect's business. Can also survey with the Theodolite and Chain, and Level. Age 30. Salary expected, 150l.—Address, G. F. C. 17, Hill street, S.W.

TO ARCHITECTS AND SURVEYORS.
THE Advertiser is desirous of a RE-ENGAGEMENT, temporary or otherwise. Is a good designer and constructionist, and thoroughly competent to prepare finished and working drawings, perspectives, take out quantities, make surveys of dilapidations, survey, &c. Would prepare plans at his own residence. High references given. Terms moderate.—Address, X. Y. Z. Trimmer's Library, Broadway, Camden Town.

TO ARCHITECTS, SURVEYORS, ENGINEERS, &c.
THE Advertiser, who is a good and expeditious Draughtsman, and has a thorough knowledge of Construction, desires an ENGAGEMENT. Would go abroad if required. Address, M. L. care of Housekeeper, Chandos Chambers, Adelphi, W.C.

TO ARCHITECTS AND SURVEYORS.
THE Advertiser, who is a good designer and perspective draughtsman, wishes for a RE-ENGAGEMENT as ASSISTANT to the above; or would be happy to render assistance at his own residence in preparing competition or other drawings.—Address, M. A. Post-office, Wellington-terrace, Barnsbury, N.

TO ARCHITECTS, ENGINEERS, AND OTHERS.
THE Advertiser is desirous of obtaining a SITUATION for a Youth in either of the above offices. Is a neat and careful draughtsman, can assist in taking out quantities, and can get out working drawings. He has no objection to go abroad. Address, WALTER W. BROWNE, 29, Alwyne-road, Canonbury, N.

TO ARCHITECTS, ESTATE AGENTS, OR BUILDERS.
THE Advertiser, a neat Draughtsman and Colourist, who has good practical knowledge in preparing details, specifications, or taking out quantities, is open to an ENGAGEMENT with either of the above (understands builders' accounts). Terms moderate.—Address, E. G. 4, Berwick-street, Pimlico.

THE Advertiser, who has just completed his articles, requires a SITUATION in an Architect's Office. In town or country. Is a good draughtsman, understands perspective and colouring.—Address, T. W. A. 2, Queen square, Bloomsbury.

THE Advertiser, who possesses a good knowledge of mathematics, is a fair draughtsman, and who has had some experience in engineering generally, wishes for a SITUATION in a first-class Office, where his knowledge would be of service. Salary not so much an object as an opportunity for improvement and advancement in the profession.—Address, F. N. care of G. F. Cook, 444, Strand, W.C.

TO ARCHITECTS AND SURVEYORS.
THE Advertiser, who can prepare working, detail drawings, and specifications, and is generally conversant with the routine of an office, also understands perspective, desires an ENGAGEMENT. Moderate salary.—Address, R. C. J. 32, Newington place, S.

CLERKS of WORKS.—WANTED, a SITUATION, by a person of great experience, competent to undertake works of magnitude.—First-class references.—Address, GREEN, 13, Euston-road, King's-cross, N.W.

TO CIVIL ENGINEERS.
A FIRST-CLASS Engineering Surveyor, Leveller, and Draughtsman, is seeking for an APPOINTMENT, or temporary Engagement, preparatory to the next Session of Parliament. Understands the laying out and construction of Railway Works generally. Is provided with instruments for the office or the field.—Address, C. E. 13½, London-wall, E.C.

TO ARCHITECTS.
AN Assistant, who has a thorough knowledge of Gothic Architecture, and has been engaged in first-class offices, is desirous of an ENGAGEMENT, or would prepare drawings at his own rooms.—Address, E. L. 40, Norfolk-street, Strand.

A CIVIL ENGINEER'S ASSISTANT desires an ENGAGEMENT. Is conversant with surveying, levelling, making general and detail plans and drawings (including parliamentary), estimates, &c. taking out quantities, and superintending works. Good testimonials. No objection to abroad. Moderate salary.—Address, T. H. V. Office of "The Builder."

TO GASFITTERS, BUILDERS, DECORATORS, AND OTHERS.
A PERMANENT SITUATION WANTED as PRACTICAL GAS-FITTER, and GENERAL FINISHER, cleaning, lacquering, and brazing, fitting steam and water pipes, repairing of plumbers' work in general, and ventilating of rooms, &c. No objection to town or country.—Address, by letter, to B. C. 24, Baldwin street, City-road.

TO BUILDERS AND GENERAL CONTRACTORS.
AN experienced General Foreman, a Joiner by Trade, is open to an ENGAGEMENT. Town or Country.—Address, E. A. Office of "The Builder."

A YOUNG MAN, aged 19 years, would be willing to ARTICLE himself to an Architect for two years. Has a good taste for drawing. No premium can be given, but a small salary would be required. He would be quite willing to make himself useful.—Address, A. Z. 17, Ranelagh-grove, Pimlico, S.W.

TO ARCHITECTS AND GENTLEMEN.
A CLERK of WORKS will be disengaged after the 15th instant. Quite conversant with Church and other Buildings. Good testimonial from present employer Country preferred.—Address, H. T. 22, Ebury-street, Chester-square, Pimlico.

TO BUILDERS AND DECORATORS.
A YOUNG MAN, who is a good Painter and Glazier, and willing to make himself generally useful, is in want of a SITUATION. Wages not so much an object as a permanency. Town or country. Good character Address, T. G. No 127, Guildford street, Walworth, S

TO ARCHITECTS AND SURVEYORS.

AN expeditious Draughtsman, who has had considerable practice in one of the best offices in London, is open to an ENGAGEMENT as above Good references.—Apply by letter to J. J. T. 23, Newgate-street, E.C.

A GENTLEMAN who has passed some years in a large Surveyor and Receiver's Office in London, is desirous of an ENGAGEMENT in the country. Salary not so much an object as a permanent and desirable employment.—Address, A. B. at W. A. Boulnois's, 1, Water co-place, London, S.W.

TO ARCHITECTS.

AN Assistant, of seven years' experience, desires a permanent ENGAGEMENT.—Address, W. B. 1, Jun ion-street, Kentish-town, N.W.

AN experienced ASSISTANT, who is a good Draughtsman, can sketch and prepare perspective drawings, and has a good knowledge of the Gothic and Italian styles, is open to an ENGAGEMENT -Address, B. Y Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

A JUNIOR ASSISTANT is open to an ENGAGEMENT. Can make fair and working drawings, and take out quantities. Good perspective. Salary, 25s. per week -Address, S. U. B, Stockbridge-terrace, S.W.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

AN Architect and Surveyor's Assistant requires a SITUATION. Can survey, sketch, colour effectively, and make himself useful in any department of either of the above offices. If an opportunity could be given of obtaining information in any practical part of the profession, only a very moderate salary would be required. Is essential to go abroad.—Address, DELTA, Office of "The Builder."

TO ARCHITECTS, BUILDERS, AND CONTRACTORS

AN experienced and rapid Quantity-taker, Measurer, and Estimate Person to an ENGAGEMENT. Has been used to first-class practice. Is also a good practical draughtsman, and capable of taking the management of works.—Address, A. B. C. Johnson's Post-office, Blackfriars-road, London.

TO ARCHITECTS AND SURVEYORS.

A YOUNG GENTLEMAN, whose articles In the office of a London architect are just expiring, and who is a good draughtsman, and able to assist in accounts, desires an ENGAGEMENT in a like Office, where he will receive a moderate salary.—Address, THETA, Post-office, Bayswater-terrace, W.

TO SURVEYORS, BUILDERS, &c.

A RESPECTABLE YOUNG MAN, aged 22, wishes to obtain a SITUATION in either of the above Offices or private where steadiness and attendance would be appreciated. Is a neat draughtsman, good accountant, and understands the general routine of offices. Has had some experience in architectural and survey offices. Unexceptionable reference will be given. -Address, E.C. Post-office, Malvern Link, Worcestershire.

A YOUNG MAN, aged 18½, who has been three years and a half in the Office of an Architect and Surveyor, desires a RE-ENGAGEMENT. Can prepare drawings from sketches, figure dimensions, take out quantities, and is tolerable accurate in surveying. Salary first year 20s. per week, second year 25s. per week.—Address, S. S. S. Westerton's Library, Knightsbridge, S.W.

A THOROUGH practical and scientific ENGINEER, lately a manufacturer, wishes for an ENGAGEMENT.—Address, S. P. Deacon's, 154, Leadenhall-street.

TO CARPENTERS AND JOINERS

A YOUNG MAN, aged 22, wishes for a SITUATION in IMPROVER in a Carpenter and Joiner's Shop. Good references, if required.—Address, J. O. No. 19, Melton-street, Euston-square, N.W.

TO CONTRACTORS, BUILDERS, AND OTHERS.

A YOUNG MAN wishes for an ENGAGEMENT in country mill business, setting out, superintending, and measuring work, preparing working drawings, taking out quantities, &c.—Address, C. H. 28, Henrietta street, Cavendish-square, W.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

A QUANTITY SURVEYOR, MEASURER, and ESTIMATOR, of twenty years' practical experience in the various counties, with leisure, offers TEMPORARY ASSISTANCE in taking off quantities, measuring and valuing builders' and other works, writing specifications, making surveys of dilapidations, &c. upon reasonable terms. Satisfactory references given.—Address, S. V. R. Office of "The Builder."

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c

DOBBIN and other CARTS, specially adapted for exportation with Wrought-iron Wheels

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W

INTERNATIONAL BAZAAR, SOUTH KENSINGTON.—If architectural effect can be marred by various wooden blinds, canvas shades, or the like, it is hoped that in the central hall of the bazaar a NEW PATENT BLIND, whereby that necessity of civilization, ornament in use, is realized.

CONTRACTS.—CAPE of GOOD HOPE RAILWAYS.—An ENGINEER, lately employed on Railways in the Colony, is now in England, prepared to give ESTIMATES and INFORMATION as the basis of contracts for the construction of the line now being formed in the Eastern and Western Provinces.—Address, C. E. Vaughan's, 3, Haymarket, London.

GILT BORDERING for ROOMS, from 1d. per foot. Real and Composition Mouldings in Lengths for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Regilding in all its branches. Oil Gilt Mouldings, 2 inches wide, per foot, 1d.; 3-inch, 1½d.; 4-inch, 2d.; 6-inch, 3d.; 9-inch, 4½d.; 12-inch, 6d.

G. REES, 57, DRURY LANE,

Four doors from Drury-lane Theatre. Established in 1841.

VENTILATION—PURE AIR.



THROUGH THE EXTERNAL WALL.

With single pulley, from 6s each; with leading pulley, from 8s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the use of dwelling-rooms without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fire is air is most required.—HAYWARD, BROTHERS, 109, Marlborough, 257 and 189 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

TO CONTRACTORS, ARCHITECTS, BUILDERS, &c.—OTLEY CHEVIN QUARRY, near Leeds, the property of Mr. POOLE, Height House, Pudsey.—STONE in any quantity to deliver from said Quarry, for sale by the undersigned every description of building, TO BE DISPOSED OF. This Stone is of a very superior quality for its durability, &c. Specimens may be had, and geological testimonials, with rates of prices, cost of transit to any part of the kingdom, on application addressed to Mr. POOLE, South Parade, Otley.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT For Damp Walls and Lining Iron Houses DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool

TARPAULINS, MARQUEES, &c. for SALE or HIRE. SCAFFOLD and HEMP ROPE FALLS. H. PIGGOTT, 69, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS

TARPAULINS for COVERING WORKS. SCAFFOLD AND HEMP ROPE FALLS. AWNINGS, FLOOR CLOTH AND FRICTION STONES. CARY & PRIER, DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING. A STOCK OF THE ABOVE ALWAYS ON HAND. JAMES LYNE HANCOCK, VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they are to Sold by all Ironmongers, and the Inventor, GEORGE JENNINGS, Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION. A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a smaller Turret Clock, from Fifteen to Twenty Guineas, suitable for schools or stables, in Class 15, No. 3,248.

JOSEPH FAIRER, Turret Clockmaker to Her Majesty's Ordnance, 198, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSE OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Lasses' Gold Fusee Watches	8	Guineas.
Gentlemen's do. do.	10	"
Ladies' or Gentlemen's Gold English Lever Watches	13	"
Strong Silver Lever Watches	8	"
Gentlemen's Gold Compensation Balance Watches	40	"
Do. Silver do. do.	25	"
Marine Chronometers	65	"

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUES of St. Cecilia, Sendmore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or repaired, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

A STONE, SLATE, and LIME WHARF, on the REGENT'S CANAL (in one portion of the premises), having termination of the present Partnership, the above Business and Premises are TO BE DISPOSED OF. The concern has been established [illegible] and is extensively and well worked. The Building Trade would be found very desirable.—For further particulars apply to S. W. JOHNSON, Esq. 5, Gray's-inn-square, W.C.

TO DECORATIVE HOUSE-PAINTERS. The Advertiser, who has been successfully carried on Business in Edinburgh for forty years as a DECORATIVE HOUSE PAINTER, now finds it necessary, from the state of his health, to retire from Business. He is therefore desirous to DISPOSE of the GOOD WILL [illegible] of SUCH A BUSINESS IN TRADE, on reasonable terms To a person of enterprise, so favourable an opportunity of entering upon a business of the highest class rarely offers. The Premises in which the business is carried on are well known. They are most eligibly situate, and are extensive and complete. The purchaser of the Business can obtain them either on a Sale or Lease.—Further particulars may be learned by addressing to X. Y. Z. care of Messrs. Robertson & Scott, News Agents, No. 19, Hanover-street, Edinburgh. Principals only will be treated with

PLUMBER, DECORATOR, and BUILDER'S BUSINESS TO BE SOLD.—Sold shop, with plate-glass front, situated in a flourishing and rapidly-improving neighbourhood. Present rental, over 100l. per annum. Most convenient premises; low rent; long lease. Coming in, 200l. Stock at valuation.—Apply to Mr. GEAPNS, Auctioneer, &c, Martin's-lane, Cannon-street, City.

TO JOBBING BUILDERS, &c.—For immediate DISPOSAL, in the West End, an old-established BUSINESS in the above line, doing a good trade. About 200l. required. Open to a reasonable offer.—Apply to Mr. JAMES REVELL, 257, Oxford-street.

A WELL-ESTABLISHED WEST-END MANUFACTURING BUSINESS, connected with the Building Trade, to be DISPOSED OF on favourable terms For private connection. Capital required, one to two thousand pounds.—For particulars, address X. Y. Z. care of Mr. Darby, No. 5, Danes Inn, Strand, W.C.

TO ARCHITECTS and SURVEYORS.—The Executors of a lately deceased gentleman intend disposing of the BUSINESS as an ARCHITECT and SURVEYOR, to a gentleman of a respectable connection in the Eastern Counties of London. The Business is established, and has been for many years carried on by Mr. JOSEPH PAPPS, 2, Percival's, Clerkenwell. The above will be an eligible opportunity for any gentleman anxious to secure an extensive practice.

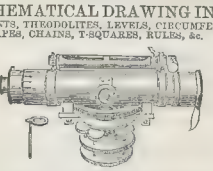
TO CARPENTERS and UNDERTAKERS. TO BE DISPOSED OF, a SMALL CONCERN, capable of extension, and requiring a small capital only. The remaining Stock, including a neat hearse and other funeral equipments, will not exceed 100l. Trade established for many years, and principally for cash. The rent is 20l. which is included in the purchase-money.—Apply to Messrs. WHITE & SONS, Auctioneers, Land Agents, and Valuers, Dorking.

TO IRONMONGERS.—A first-rate FURNISHING and GENERAL IRONMONGERY BUSINESS to be DISPOSED OF, in the North of London. It has been established for years, and has a most extensive connexion amongst gentlemen, manufacturers, and farmers.—Application by letter to P. W. care of Messrs Barber & Groom, Union-court, Holborn-hill, London.

TO PLUMBERS. -TO BE DISPOSED OF, a small but good BUSINESS in the above Line, within six miles of Charing-cross. Present tenant retires in consequence of ill-health. The house of 5 rooms and Premises, which consist of four good rooms, a workshop 30 feet long, and gateway under it, are Freehold and free from all incumbrance. 30l. SOLD. The Stock in Trade to be taken at a valuation A good and satisfactory reason can be given by the present proprietor for disposing of his interest, and he has no objection to introduce a respectable successor with his successor. -Apply, if by letter, to P. P. care of Mr. S. Henson, Western-street, Stratford, Essex, E.

TO ZINC WORKERS and GALVANIZED IRON MANUFACTURERS.—TO BE DISPOSED OF, by private contract, the LEASE, GOODWILL, and MACHINERY of a Zinc Worker, including the perforating and corrugating zinc, capable of working 25 tons per annum. The present tenant has about 1 ton to sell. The machinery includes two perforating machines, the larger one for zinc, with thirty-nine different patterns of punches and dustrices, the smaller one for pan-head tin plates; a powerful bending, corrugating, or gutter-making machine, 8 feet wide, with dies, astragal machine, draw bench, dip press for fretwork, circular cutting-off lathe, planing machine, lathes, drilling machines, and tools, worked by a 6 horse power steam-engine and boiler. The premises comprise a capital light workshop on the ground-floor, with store-room over, counting house, smithy, two-stall stabling, and yard. For further particulars, apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS, 20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre,

Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand instruments of all kinds, by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13. Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED. Recommended in "The Builder," "Civil Engineer and Architect's Journal," "Practical Mechanics' Journal," 42-inch, 5s. 6d.; 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s 6d. post free,

STANLEY'S IMPROVED DRAWING PEN.

PETROLEUM ACT, 1862.—The Metropolitan Board of Works hereby give notice, that by the 3rd Section of the 25th and 26th Vict. cap. 66, it is provided, that from and after the FIRST day of OCTOBER, 1862, not more than FORTY GALLONS of PETROLEUM shall, by the first section of the said Act it is declared shall, [illegible] any public thereof, shall give off an inflammable vapour at a temperature of less than 100 deg of Fahrenheit's thermometer, shall be kept within Fifty Yards of a dwelling-house, or of a building in which goods are stored, except in pursuance of a licence given by the local authorities; and any petroleum kept in contravention of that section shall be liable to be forfeited, and the occupier of the premises, or pier of the place in which such petroleum is kept, will incur a penalty not exceeding Twenty Pounds a day for each day during which petroleum shall be kept contrary to the Act. Notice is also given, that by the 4th Section of the Act, the local authority to grant licences in all matters not declared by the Metropolis Local Management Act, 1855, (except the city of London, and any harbour, port, dock, river, pier, or other works in or at which vessels ship or discharge goods or passengers) is declared to be the Metropolitan Board of Works.—Parties intending to keep petroleum are required to send to the Office of the Board a correct plan, and full particulars in writing, of the premises in which petroleum is proposed to be stored. Any further information may be obtained at this Office, between the hours of NINE and FOUR o'clock —By Order, JOHN POLLARD, Spring-gardens, Oct. 1862. Clerk of the Board.

TO PURCHASERS of GAS TAR.—The Manager of a Gas Works in the country, about 40 miles from town, and near to a railway-station, is open to TREAT for the SALE of the GAS TAR made at the Works -Parties wishing to treat may apply to WILLIAM WATSON, Surveyor, Henlow, Biggleswade, Beds. October 6th, 1862.

ONE THOUSAND POUNDS. — TIME and CAPITAL.—A Gentleman having the above sum and spare time at command, may secure a lucrative APPOINTMENT, with other remunerative advantages, connected with the higher position -Address, ZETA, 2, Lovereux court, Temple.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS, And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Compolitica, and every kind of Cement, at reduced prices

MESSRS. HERBERT, MODELLERS, 242 EUSTON ROAD, ST. PANCRAS.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

MARBLE AND STONE WORKS,

WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, at the INTERNATIONAL EXHIBITION, 1862. Class 10 C; and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY.

PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

BEST "PENRHYN" ROOFING SLATES,

SLATE RIDGING, GLAZED SOCKET-PIPES,
TILES, PAVINGS, &c.

Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads, to any Railway Station.—Prices and particulars may be had by applying to

HENRY BROWN & SONS, MERCHANTS,

GENERAL WOOD-CUTTING MILLS, LUTON, BEDS.

A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7*s.*

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

A VACANCY FOR AN OUT-DOOR APPRENTICE.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

TURPENTINE.—The best substitute manufactured is to be obtained from the Hydro-Carbon Oil Company, No. 42, Bridge-street, Blackfriars, London, E.C. Printers and others will find this substitute answer all the purposes of Turpentine; and it is free from the offensive odour which characterises most of the imported mineral turpentine.

In casks of 52 gallons, at 1*s.* per gallon, including cask.

Single gallon can be obtained for 4*s.* including can, at the office of the Company.

THE HYDRO-CARBON OIL COMPANY (LIMITED),
42, New Bridge-street, Blackfriars, London, E.C.

COLOURS and VARNISHES at REDUCED PRICES,

Genuine White Lead, 30*s.* per cwt.; Linseed Oil, 3*s.* 6*d.* per gallon; Boiled Oil, 3*s.* 10*d.*; Turpentine, 10*s.* per gallon; Fine Pale Oak Varnish, 8*s.* per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

PRIZE MEDAL, 1862.

HAMILTON & CO.
No. 10, GREEK STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Graining Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES

are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last twenty-five years, and may always be depended upon as the best that can be made.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.

Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 12*s.*

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.

Where also may be obtained their CELEBRATED STAINS for EVERY DESCRIPTION of WOOD, Together with all kinds of Colours and Varnishes. Warranted of the purest quality and at the lowest prices. Agents for Kershaw's Graining Machines.

IMPORTANT to BUILDERS and PAINTERS Genuine White Lead, 25*s.* per cwt.
Linseed Oil, 3*s.* 6*d.* per gallon; Boiled Oil, 3*s.* 10*d.* per gallon.
Turpentine, 10*s.* per gallon.
Fine Pale Oak Varnish, 8*s.* per gallon.
For cash, at EDWARD PRICE'S Oil and Varnish Warehouses, 30, Upper Ebury-street, and 45, Cotchill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 45*s.* per 1,000.
" 8-inch Pavings, at 27*s.* 6*d.* per 1,000.
" Floor Bricks, 40*s.* per 1,000.
Mingled Kiln Bricks, at 36*s.* per 1,000.
Rubbers, at 25*s.* per 1,000.

Cash Prices. Delivered on Trucks in London, or along the Line on the Eastern Counties Railway. Also at 2 and 3 Brick-yards on Devonshire-street Station, at 3*s.* per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Paris, Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. Stocks.
Do. Cultvert Bricks.
Plain Tiles of kinds.
Landscape Garden Tiles, &c.
Delivered on Steamer Craft in the Dock at the East Cowes Park Kilns, Isle of Wight. B. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty, 75*l.*

Licences to Make for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machine may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, No. 1,581.

A NEW BRICK and LIME WHARF, and DRAWDOCK,

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Stair, Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND PIPE GOODS;
MALMCUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.



SOLID PARQUET FLOORS,
ARROWSMITH'S PATENTED,
From 1*s.* per foot, in various woods, inch thick, grooved, cleaned, and laid together, and wedged.

For Halls, Passages, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Patented Fire-proof Ceiling, Ballast Floors, Bamboo Carpets, Roy Wood Wire Mats, Parcels of Cuttings, &c.

SHOW ROOMS,
80, New Bond-street, W.

HAMPSTEAD ROAD JOINERY WORKS.

21, HARRINGTON STREET, N.W.

NEVIL SIMMONDS,

MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.

SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.

Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,

GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.

	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. — 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1¾	2	2½
„ 2ft. 6in. sup.	1¾	1¾	2½	3
4 ft. super...	1⅞	2	2½	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 } per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13 }	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14 }	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15 }	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.

Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.

Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS,

Genuine White Lead .....30s. }
Anti-corrosian Paint 28s. to 34s. }
Linseed Oil Putty .....7s. 6d. } per cwt.
Patent Dryers .....28s. to 42s. }

VARNISHES, &c.

Fine Oak Varnish ...10s. }
„ Carriage ...12s. }
Linseed and Boiled Oil } per gallon.
Turpentine .....

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

CARSON'S

ORIGINAL ANTI-CORROSION PAINT.

Patronised by

THE BRITISH GOVERNMENT, THE FRENCH GOVERNMENT, THE RUSSIAN GOVERNMENT, | H.R.H. THE PRINCE CONSORT, MOST OF THE NOBILITY & GENTRY, THE DOCK COMPANIES, | RAILWAY AND CANAL COMPANIES THE PRINCIPAL COLLIERIES, MILL OWNERS, IRON MASTERS, &c.

It is extensively used at home and abroad for all kinds of

OUT-DOOR WORK,

And has been proved, after a practical test of 70 years, to surpass any other Paint. It is applicable to WOODEN HOUSES, FARM and other OUT-BUILDINGS, AGRICULTURAL IMPLEMENTS, MACHINES, CONSERVATORIES, PARK FENCING, GATES, &c. also

IRON ROOFING, BRIDGES, HURDLING,

AND EVERY DESCRIPTION OF IRON WORK;

FOR PUBLIC EDIFICES, MANSIONS, VILLA RESIDENCES,

And every kind of Brick, Stone, Compo, &c., it is unrivalled, presenting the appearance of fine cut stone. The Anti-Corrosion is lower in price and lasts twice as long as the best White Lead; at the same time is economical in application, as

ANY PERSON CAN LAY IT ON.

The Anti-Corrosion is a Powder, sold in all colours, and will keep any length of time.

OIL, TURPENTINE, AND BRUSHES.

Prices, Patterns, and Testimonials sent upon application to

WALTER CARSON AND SONS,

(SUCCESSORS TO THE INVENTORS,)

9, GREAT WINCHESTER-STREET, NEAR THE ROYAL EXCHANGE, LONDON, E.C.

NO AGENTS THROUGHOUT THE UNITED KINGDOM.

LITTLE CASTERTON FREESTONE,

Apply for prices, &c. to

OCTAVIUS N. SIMPSON, STAMFORD;

and see Specimens at the Office of

Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Acid, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.

Country orders promptly attended to.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

HY. GEORGE & COMPANY,

CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.

Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.

Grindstones, Steps, Bills, Coping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries. Prices and specimens forwarded on application.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered, free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at

W. F. WILLIAMS'S

Marble Works, 316, Euston-road, London, N.W.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.

THE LIZARD SERPENTINE COMPANY, LIMITED.

Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.

Communications to be addressed to the Secretary, No. 24, St. James's-street; or to Mr THOMAS GARDEN, 94, Ring street, Manchester, who is sole agent for Liverpool and Manchester.

VICTORIA MARBLE WORKS,

38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.

JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOW-ROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29, 30, and 31, Warwick-street, W.

EDWARDS, BURKE, & CO. PROPRIETORS.

The largest and most superior Stock of Chimney Pieces in Europe on view at the above named Establishment.

Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.

Estimates for every description of Marble Stone and Granite Work.

RANSOME'S IMPERISHABLE SILICEOUS STONE.

ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.

Filters and Filtering Slabs for Domestic or Manufacturing purposes

For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster or Patent Stone Works, Ipswich.

RED MANSFIELD STONE.

WHITE MANSFIELD STONE.

YELLOW MAGNESIAN or BOLSOVER LIMESTONE.

Consigned in Railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station

Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862

Red, Blue, and Grey Granite for every description of architectural constructions, decorations, monuments, and general purposes.

Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 4½, Euston-road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.

SHOW ROOMS, 6, CANNON-STREET, E.C.

London Agents—TREGELLES & TAYLOR.

Manager—JAMES J. TREVAN, Liskeard.

This Granite is selected for the New Westminster Bridge.

DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.

EDGE RUNNERS OF SUPERIOR QUALITY.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards, CUT by Steam Power, and Delivered into Railway Trucks at Weymouth. List of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

The only imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 38 and 40, Upper Belgrave-place, Pimlico, S.W.

TO BUILDERS, CONTRACTORS, &c.

SLATES, TILES, IRON, TIMBER, DEALS, &c.

WILLIAM DAWBARN & CO. LIVERPOOL,

Beg to acquaint their connexion generally throughout the Kingdom, that they have now ready their

NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application. Address,

No. 1, BOLD TERRACE, CHESTER

ROBERT WHITE, SLATE MERCHANT, SHEFFIELD.

ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor Mold Junction and Garston

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or barge. Ballast, screened or unscreened, by the score or barge. Stocks Lime and Oil Bricks. Every sort delivered, per barge, in any quantity alongside the Thames

BELLMAN & IVEY,

GENERAL AND ORNAMENTAL PLASTERERS,

Manufacturers of

SCAGLIOLA MARBLE

and

SUPERIOR PLASTER OF PARIS.

This Plaster, made expressly for their own business, is of an excellent quality, and its extreme lightness in weight ensures a saving of 50 per cent. in it, from its covering one-third more superficies than the general plaster.

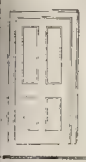
PRIZE MEDALS

were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862

PLASTER WORKS, 3, BEDFORD-STREET, LIQUORPOND-STREET, LONDON, E.C.

SHOW ROOMS AND OFFICE,

14, BUCKINGHAM STREET, PORTLAND-ROAD, LONDON, W.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and French, Boxing Shutters, Doors, Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,
110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

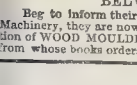
A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DISPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

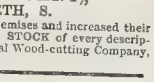
JEFFS, BROTHERS,
CORNWALL-ROAD, AND STAMFORD-STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON,
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



MOULDING WORKS.
SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near Suspension Bridge), LAMBETH, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Priced Lists forwarded on receipt of One Stamp.

CLERIHEW & LASCELLES,
(Late WATERLOW, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S-INN-LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

BUILDERS AND CARPENTERS AND OTHERS
Have submitted to their notice these very reduced Prices, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.	Laths, 28s. per load.	
Yellow Deals, sound and good	£19 10 0 per 120,	or 0s. 3½d. per foot.
Spruce Deals	16 10 0 "	0 2½ "
Yellow Battens, excellent quality	11 10 0 "	0 2 "
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 "	3 6 each.

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,
OLD BETHNAL-GREEN-ROAD, N.E. (opposite Elizabeth-street, Hackney-road).

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
½-inch Flooring	11s. 6d.	12s. 6d.	13s. 6d. per square.
⅝-inch "	12s. 6d.	12s. 6d.	13s. 6d. "
1-inch "	14s. 6d.	15s. 0d.	15s. 6d. "
1½-inch "	—	18s. 0d.	19s. 0d. "

Yellow Deals, 3 by 9 ..... £19 10s. per 120. | Pine Planks (Dry), 3 by 11 ..... 24/. per 120
Yellow Battens ..... £11 10s. " | Pine Deals do. 3 by 9 ..... 19/. 10s. "
Spruce Deals ..... £15 10s. " | ½-inch White Matched Lining .... 13s. per square

J. TERRY & SON, 109, Borough Road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from 11l. 10s. per 120
000 Pine Planks	from 3s. 6d. each	50,000 feet Spanish and Honduras Veneer	from 1d. per foot
000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot
000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,
ELM-STREET, GRAY'S-INN-LANE, and BOROUGH-ROAD, SOUTHWARK.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅛ by 7 Flooring from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 "	13s.	13s. 6d.	14s. 6d. "
1 by 7 "	15s.	15s. 6d.	16s. 6d. "
1½ by 7 "	17s.	18s. 0d.	19s. 6d. "

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD LAMBETH, S.

CEDAR of LEBANON.—The attention of Architects and Builders is solicited to the great beauty and value of this wood. A large chapel has lately been entirely fitted up with it.—Apply to Mr. MAY, Acorn Wharf, Old Kent-road.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ½ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and Alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH. — To ARCHITECTS, BUILDERS, HOUSE PROPRIETORS, &c. &c. -The Waterproof Glue makes an admirable cement for wet foundations, to prevent water rising, and the Varnish will enable damp walls to be papered over directly

Copy of a letter from Mr. T. E. Owen, architect, Southsea:—
"I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The varnish has succeeded better than any article I have known as an anti damp, the dead wall being coated with it before papering or painting. If the plastering be sodden and rotten, it should first be substituted with cement. I have used this material successfully for tank-work."

To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos street, Portsmouth. Mr. GEO WEEKS, Manager. GEO C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these works with especial reference to its destruction, whether for stucco, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1816), is ROBESON, Mount Pleasant, Gray's Inn road. The cheap country made article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster ground.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
19, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

STOURBRIDGE FIRE-CLAY WORKS.
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hiller & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tyndale; and Messrs Taylor & Co. of Cannock, near Walsall, South Staffordshire.
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME,
ORDERS ADDRESSED TO MESSRS. S & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of fine quality
RIDGES, Plain, Roll-topped, and Ornamental
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and LIDGING. Blue, Red, and Buff Terra-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Channelled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments in Green, Blue, and Red, for the different Periods Vitrified White Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

PARTS MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

Exhibition, Class 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1829)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES; COWLEY AND KENT BRICKS, AND FIRE-LIGHTS; HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c. RED DRAIN PIPES, RED CHIMNEY POTS, AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.

" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS.

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTING, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

GREAVES'S BLUE LIAS LIME

GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London or the Works, by Boat, Rail, or Cart, and to every part of the Kingdom by Canal or Rail.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Fire Bricks, &c. Stoneware Drain-pipes, &c.

No. 1, SOUTH WHARF, PADDINGTON.

F. & G. ROSHER,

LIME, CEMENT, [illegible]

LIME in Casks

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS.

MILLBANK STREET, WESTMINSTER, S.W.

KINGSLAND PASSAGE, KINGSLAND ROAD, N.E.

OLD SWAN WHARF, QUEEN'S ROAD, CHELSEA, S.W.

LIMEKILN-HILL, LIMEHOUSE, E.

Where [illegible]

GREY STONE LIME, BLUE LIAS LIME

ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.

[illegible] PATENT BRICKS.

WARD'S and RED STOCK FACING BRICKS, PLAYS, and DOG JAMBS.

RED and BUFF WALL COPING BRICKS and TILES.

YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, and BLACK GLAZED HEADERS.

WHITE, BLACK, and [illegible] CUTTERS.

STAFFORD-SHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF.

RED and BLUE [illegible] EDGING.

TURNED and MOULDED RIDGE TILES, CHANNEL TURNED and MOULDED ROOFING TILES, CRESTS, BLUE, RED, [illegible]

DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Lining, of Bath, London, Dutch, Shops, Kitchens, &c.

WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description.

GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.

RED DRAIN PIPES, TILES, and CHIMNEY POTS.

TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and FURNISHINGS, in ALL sorts.

HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.

Goods forwarded to Rail by with despatch.

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,

LIME BURNERS,

BRICK MAKERS,

SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.

ST. JAMES'S and THORNHILL WHARFS, CALEDONIAN-ROAD, LONDON.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

PATENT PORTLAND and ROMAN CEMENT,

AND PLASTER OF PARIS WORKS,

FRINDSBURY, on the MEDWAY, KENT, and CANAL ROAD, KINGSLAND ROAD, N.

MESSRS. FREEN & CO.

Beg to inform their friends, contractors, and builders, that having completed the enlargement of their works, they are prepared to supply their PATENT PORTLAND and other CEMENTS, and PLASTER OF PARIS, in any quantity, fresh from the kilns.

Orders addressed to their LONDON WORKS, Canal road, Kingsland, N. will meet with prompt attention.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, and supplied from the Company's Wharf, Liverpool and Birkenhead Docks.

The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in Limpet or Stone, packed in Bags, into Waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board Vessels at Greenfield Dock on the Dee River.

Prices and Particulars forwarded on application to Mr. EVANS, Manager, Holywell White Lime Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No [illegible] to be obtained [illegible] without a Banker's reference.

GEORGE ALLEN (late W. & T.

GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATE, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVERS WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK

With this Material Houses may be finished and occupied one fourth the usual time, as Parian Stucco may be painted or papered within forty eight hours. A finer quality produces a beautiful hard semblola imitation of marble — Manufacturers, FRANCIS BROTHERS & POTT Nine Elms, London

PORTLAND CEMENT WORKS

NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded, 1851, in respect to any quantity of the very best PORTLAND CEMENT, manufactured by them for the purpose to which it is applied — Orders received at Great Scotland yard, Whitehall, and at the Works.

PORTLAND, ROMAN, and PLASTIC CEMENT MANUFACTORY, on the River Medway, Strood, Kent,

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, on ADVANTAGEOUS TERMS, either direct from the Manufactory or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants and Bricklayers' Orders punctually executed.

PORTLAND CEMENT

GREAVES & KIRSHAW,

14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent

PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

STRINGFIELD and BLYTH

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, AND BRICK MERCHANTS,

PLASTER OF PARIS MANUFACTURERS.

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally

Country orders forwarded with despatch.

THE KEYNSHAM BLUE LIAS LIME CEMENT COMPANY, Limited, are prepared to Supply their Keynsham Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for Public Works. All communications to be addressed to the Company, at their Offices, 2, Winchester buildings, Great Winchester-street, E.C.

N.B. A Prize Medal was awarded to Captain Scott, for his Cement at the International Exhibition; and the Company have also "HONOURABLE MENTION" for the good quality of their Lime.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINTS.

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours.

GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.

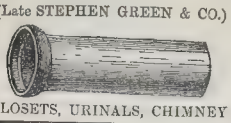
Office, 5, George-yard, Lombard-street.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

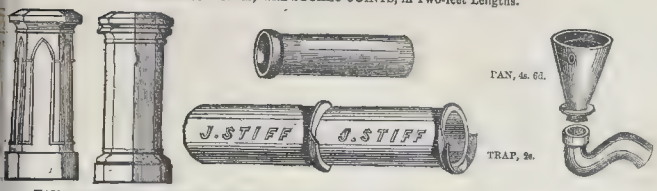
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.

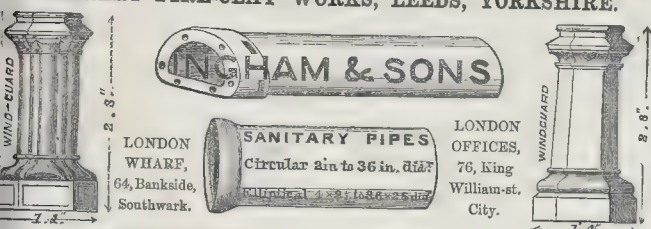


HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



LONDON WHARF, 64, Bankside, Southwark.

LONDON OFFICES, 76, King William-st. City.

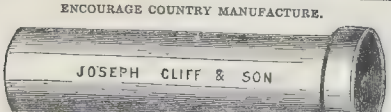
MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.

LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY,



Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

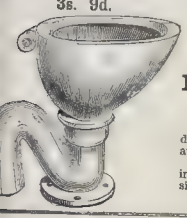
SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

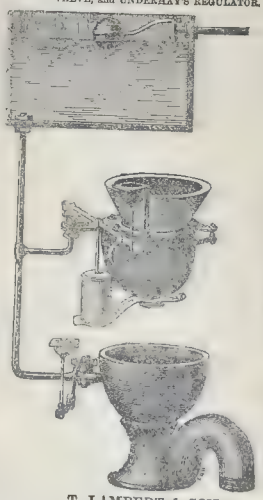
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much space as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,

FOUNDERS, HYDRAULIC AND GAS ENGINEERS, SHOLT STREET, LAMBETH.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.

A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.

PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.

W. PATTEN, Patentee and Manufacturer, Old Fish street, St. Paul's, London, E.C.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No 21 Wharf, Macclesfield street North, City road Basin. Finally, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and sole, that it is "Reports of the Jurors," page 581, of the Great Exhibition, note the grant of a First class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS, TO 30, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON TRENT.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of Specimens of the Pavements.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINE, and INSPIRIT WARRANTS BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Balance-sheets Prepared, and Meetings of Creditors Convened Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 18&19, 14, RUSSELL STREET, Covent Garden, W.C. Advances from £50 to £5000 upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope

EDWARD HARPER, Secretary.

TEN PER CENT PER ANNUM.—Sums of FIFTY POUNDS to TEN THOUSAND POUNDS may be INVESTED for SEVEN YEARS, to pay the above interest, without partnership liability, and with less risk than any ordinary joint stock enterprise. Full particulars will be forwarded post free to gentlemen giving banker's reference to A. G. Universal Advertising Office, 26, Brydges street, Covent garden.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE OF WIGHT. Second Testimonial.—"March 7th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least appearance of difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

METROPOLITAN IMPROVEMENTS.—Southwark and Westminster Communication.—Twenty-first Sale.—BUILDING MATERIALS, Blackfriars-road.

PULLEN, HORNE, and EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on MONDAY, OCTOBER 13, at TWELVE, all the excellent BUILDING MATERIALS, FIXTURES, and FITTINGS-UP of Four large Houses, extensive Factories, Warehouses, and Stables, situate Nos. 245, 246, 246A, and 247, Blackfriars road; comprising capital sound bricks, a large quantity of pan and plain tiles and slates, prime timber in roofs and floors, weather boarding and carcasing, plate-glass and other shop-fronts, sound flooring-boards, glazed sashes, cupboard-fronts, chimneypieces, doors, folding-gates and stable-fittings, York paving, lead flats, gutters, cisterns, sinks and pipes, stoves, ranges, coppers, and other useful fittings-up.—May be viewed, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

BLACKFRIARS-ROAD.—To ENGINEERS and OTHERS.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, No. 245, Blackfriars-road, on MONDAY, OCTOBER 13th, at TWO, the following LATHES, viz.:—A 10-inch Engine Turning Lathe, with 21 feet bed, overhead motion, &c.; a 6-inch ditto; and a 10½-inch ditto, with iron bed.—May be viewed, and particulars had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

LONDON, CHATHAM, and DOVER RAILWAY.—METROPOLITAN EXTENSIONS.—Building Materials of Twenty Houses, Newington-causeway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on TUESDAY, OCTOBER 14th, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS UP of Twenty Houses, being Nos. 1 to 5, Wellington-street, Nos. 14 to 20 and Nos. 28 to 35, Tiverton street, Brandon row, Newington-causeway; comprising capital stock bricks, sound timber and flooring-boards, sashes, doors, and interior fittings, tiles, slate pavement, gutters and pipes, stoves, and other useful fixtures and fittings-up.—May be viewed on Monday, and catalogues had at Mr. HOLMES's offices, 3, Frederick-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. ; and 40, Parliament-street, S.W.

Blackwall Railway First Clearance Sale, for the Brunch Line to the London Docks.—Building Materials, Royal Mint street.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Blackwall Railway Company to SELL by AUCTION, on the PREMISES, on FRIDAY, OCTOBER 17, at TWELVE, in lots, all the valuable BUILDING MATERIALS of five large houses, Nos. 97, 98, 99, 100, and 101, Royal Mint-street, Minories, to be taken down for the branch line to the London Docks; comprising 100,000 sound bricks, plain tiles, lead gutters, and pipes, useful timber in roofs and floors, sashes, doors, bricks, slates, shop-fronts, and the usual gas-fitters' fittings up. May be viewed the day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City; and 40, Parliament street, Westminster

EAST GREENWICH.—The Machinery, Plant, and Fittings of a Steam Flour Mill.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, East Greenwich, opposite Blackwall, on WEDNESDAY, OCTOBER 22nd, at TWELVE, the excellent MACHINERY, PLANT, and FITTINGS, comprising 7 pairs of French mill stones and gear complete, 150 feet of wrought-iron shafting, 4 large plummer blocks and brasses, 3 expensive silk flour dressing machines, 3 sieves with cases, 2 bolters, a jumper, flour-machine with new mahogany cylinder; 2 mixing-worms, 12 stone boxes, 50 rigger, spur, and bevel wheels; 3 wrought-iron tubes, 35 feet long; cast steam piping, 4 large mitre wheels, 2,500 flour sacks, 2,000 corn ditto, several tons of bagging, 50 fathoms of firewood, scales and weights, useful timber, and other effects.—May be viewed two days prior, and catalogues had on the premises; also at the Corn Exchange Coffee House, and Castle Tavern, Mark Lane; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, S.W. and 80, Fore-street, E.C.

TO BUILDERS AND OTHERS.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, South London Marble Works, Buckingham-place, Old Kent-road (near the Bricklayers' Arms Station), on TUESDAY, OCTOBER 28th, at TWELVE, about 100 Marble CHIMNEYPIECES, in every variety of design, consisting of statuary, black and gold, black, vein, and various coloured marbles, some of which are extremely well suited for first-class houses; also an assortment of plain Sienna and stone chimney-pieces.—May be viewed one day previous; and catalogues had on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament street, S.W. and 80, Fore-street, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.—Second Portion of the Surplus Materials and Plant used in the Works of the Metropolitan Railway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractor, John Jay, esq. to SELL by AUCTION, at the WORKS, Bagnigge-wells-road, King's-cross, and Raystreet, Clerkenwell, and Wood street, Hornsey, close to the station, on WEDNESDAY, OCTOBER 29th, and following days, at TWELVE, the second portion of the very valuable and extensive SURPLUS MATERIALS and PLANT; comprising about 300 loads of capital timber, in sticks and balk, die squares, struts, &c.; 6,000 sleepers, wheeling planks, 200 tons of contractors' rails; seventy-five nearly new ballast-waggons on springs, and built by Williams; trolleys, tip waggons, dobbin carts, 3 pile-driving engines with monkeys and crabs, lifting jacks, Murray's patent pump, 100 heavy and other barrows, scaffold poles and boards, screens, ladders, &c.; 30 tons of iron, anvils, iron skips, large rigger wheels, long chains, double and single patent blocks, useful effects of stable, and numerous other effects.—May be viewed two days prior, and Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, and 40, Parliament-street, S.W.

TO GREENHOUSE BUILDERS, MARBLE MASONS, BUILDERS, or OTHER PERSONS requiring large Premises at the West End.

MR. GEORGE BERRY is instructed to DISPOSE of the LEASE, with immediate possession, of spacious PREMISES, embracing range of Workshops, large Yard, Stabling, capital Dwelling-house, &c. held at a very low rent.—For particulars and cards to view apply to Mr. BERRY, Estate Offices, 8a, Motcomb-street, Belgrave-square.

IMPORTANT SALE, by order of an old-established Firm retiring from the Retail Trade. The goods removed in consequence of a sale on the premises having unluckily

MR. EDWIN WHITE will SELL, by AUCTION, on the UPPER SALE ROOM, 12, Hart-street, on TUESDAY next, the genuine STOCK of PAPER HANGINGS, numbering many pieces, comprising the greatest assortment ever shown in one day; and 200 GALLONS of Genuine OAK and CARRIAGE VARNISH, bottled in one, two, and five gallons.—View and catalogues MONDAY and morning of sale.

WINDSOR CASTLE BAKEHOUSE.—A piece of Freehold Land, situate on the south side of Peascod-street, in the Borough of Windsor, having a frontage to the street of 51 feet, a like depth, and 40 feet in depth from south to north, by 50 feet, or thereabouts, and containing about 24 perches, more or less, together with the several buildings erected thereon, and now forming the Old Bake-house, and will be SOLD by AUCTION, by direction of the Honourable Charles Gore, the Commissioner of her Majesty's Woods, Forests, and Land Revenues of the Crown in the county of Berks, and under the authority of the Lords Commissioners of her Majesty's Treasury, by

MESSRS. BUCKLAND & SON, at the WHITE HART HOTEL, at Windsor, on SATURDAY, 25th day of OCTOBER, 1862, at TWO for THREE o'clock, in one lot. Possession will be given on completion of the purchase.—Printed particulars and conditions of sale may be had at the Office of Woods, Forests, and Land Revenues, 1, Whitehall-place, West end of St. James's-park; of HORACE WATSON, Esq. Solicitor, Office of Woods, &c. 1, Whitehall place; and of JOHN PLUTTON, Esq. Crown Receiver, 9, Whitehall-place; and of Messrs. BUCKLAND & SON, Auctioneers, Windsor, where a plan of the property is deposited for inspection.

GUILDFORD, SURREY.—First-class Building Land, close to the Town and Railway Station; also certain Freehold Tolls, arising from the River Wey Navigation from Guildford to the Thames.

MESSRS. BEADEL & SONS are instructed to OFFER by AUCTION, at the MART, Bartholomew-lane, London, on TUESDAY, OCTOBER 21, at TWELVE for ONE, in numerous lots, the highly valuable freehold BUILDING LAND, close to the favourite town of Guildford, possessing extensive and capital frontages to the high road from Guildford to Woking and also to a proposed new road in that locality. The whole of the fronting the Woodbridge-road is laid out in plots suitable for the erection of detached or semi-detached villa residences, and each plot has also good frontage to the proposed new road; the remainder of the land is divided into plots of about half an acre, and the whole forms a most desirable property, the situation for building being superior to anything in the neighbourhood. A portion of the land is freehold, the remainder leasehold for 900 years, from Lady-day, 1757, at 2l. groundrent, and the whole is believed to be free from land-tax. The Freehold Tolls arising from proprietary or preference shares in the River Wey Navigation comprise the one-fourth or 5¼ parts in 22 of the groats or toll of 4d. and the 82-120ths and 3 10ths of another 120th or more parts in 22 of the same toll of 4d. The income of the navigation generally increasing, the proprietors of these tolls are not liable for the expense of maintaining the navigation.—Particulars, with plans and conditions of sale, may be obtained of Messrs. H. U. & N. COULTHURST, Solicitors, 13, New Inn, W.C.; of Messrs. FLADGATE, YOUNG, & JACKSON, Solicitors, 12, Essex-street, Strand, W.C.; of Messrs. LANCLEY & GIBBON, Solicitors, 3, Great James-street, Bedford-row; of Messrs. GREGORY, ROWCLIFFE, & CO. Solicitors, 1, Bedford-row, W.C.; at the Mart; and of Messrs. BEADEL & SONS, 25 Gresham-street, E.C.

MAIN DRAINAGE CLEARANCE SALE.—PECKHAM WHARF, Canal Side, Peckham, and Hither-Green Pit, Rye-lane, Surrey.—To Engineers, Contractors, Builders, Dealers in Contractors' Plant, Wood, Iron, &c.

MR. FRED. CHAPMAN is favoured by the Contractors for the Southern High Level Sewers with instructions TO SELL, on the PREMISES, on WEDNESDAY, the 15th of OCTOBER, 1862, at ELEVEN for TWELVE o'clock precisely, and on the following day should the number of lots render it necessary, on the WHARF and PREMISES, an extensive, good, portable horse engines; a capital contractors' locomotive (nearly new); vertical, horizontal, and other steam-engines; several tons of contractors' temporary rail (36 to 40 lbs. per yard); bar and cast iron 3-chain pumps, 2 "Gwynne's" patent centrifugal pumps, carts, earth waggons, trolleys, barrows, cast wheels and axles for waggons and trolleys, monkeys for ringing engine, portable forges, bellows, and smith's tools, grind-stones, sand-screens, a large quantity of chain of all sizes and lengths, sea-piles, sprits, iron buckets, several tubs of timber quarters, large quantity of temporary sleepers, crown bars, and various timbers, and other useful wood, iron, pipes, invert blocks, &c. and a valuable and numerous collection of other miscellaneous effects.—May be viewed the day preceding and in morning of sale. Catalogues had of J. J. BENNETT, Esq. Hyde-terrace, New Cross; Mr. MORRIS, Railway Tavern, New Cross; Mr. OWEN, Rose Bank, Lewisham; at the Kentish Drovers, Peckham; at the principal Inns in the neighbourhood of the Wharf; and of the Auctioneer, Park terrace, New Cross-road, Kent.

SEAMEN'S ORPHAN ASYLUM, Bow-road.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, about a quarter of an hour's ride from the Bank, on WEDNESDAY, OCTOBER 15th, at ELEVEN for TWELVE o'clock, the first portion of the excellent BUILDING MATERIALS of the late Merchant Seamen's Orphan Asylum, consisting of bricks, slates, York paving, marble and other chimney pieces, stoves, stone sills, rafters, doors and frames, window-frames, sashes, and shutters, cupboards, iron piping, a large fireproof safe, &c.—May be viewed on the Monday and Tuesday before the sale, and catalogues obtained about a week before the sale, on the Premises; and of the Auctioneer, 14, Moorgate-street, London, E.C.

ADDISCOMBE, CROYDON.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town of Croydon, on TUESDAY, OCTOBER 21st, at ONE for TWO o'clock, the Eighth Portion of the valuable PLANT and UTENSILS of the MILITARY ACADEMY at Addiscombe; consisting of about 100,000 stock bricks, a large quantity of York paving, stone steps and sills, substantial deal timber, consisting of rafters, battens, weather-boarding, doors, windows, sashes, and fire-proof safes.—Catalogues may be obtained on the Premises, and of the Auctioneer, 14, Moorgate-street, E.C.

Excellent Hydraulic Presses and Pumps, a Gun-Metal Lift-Pump, Wrought-iron Cornish Boiler, &c.

MR. NEWBURY BALL will SELL by AUCTION, on the PREMISES, Ranelagh Works, Ranelagh-road, Thames Bank, Pimlico, on WEDNESDAY, OCTOBER 29th, the remaining portion of the valuable PLANT and UTENSILS of an extensive SPERM and COMPOSITE CANDLE MANUFACTORY, including four excellent hydraulic presses, a set of PLUMBERS' BRASS WORK, of all descriptions; including about a gross of cocks of various descriptions, lead pipe, sash weights, lead pipe, rates of sheet and crown glass, embossed ditto, paper-hangings; painters' machines, trussels, and steps; diamonds, beams, scales, and weights; a Newport-Pagnel dog cart, phaeton, &c.—May be viewed the day previous. Catalogues obtained on the Premises; and of the Auctioneer, Tottenham.

ON MONDAY, OCTOBER 13th, AT TWELVE.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-town, near the Railway Station, the 2,000 feet of MAHOGANY, 1,000 planks, deals, and battens, a quantity of wide pine, large quantity of cut wood, flooring, 3,000 feet quartering, feather-edge and match boards, sabre battens, 24 doors, &c.—Auction Offices, 2, Cardington-street, N.W.

TWO DAYS' SALE of MAHOGANY and TIMBER.—FOR SALE, by PUBLIC AUCTION, in the SALE-ROOM, at F. E. BARNES & SONS' TIMBER-YARD, Camden Mart, Bethel, on WEDNESDAY and THURSDAY, the 22nd and 23rd OCTOBER, 1862, at ONE o'clock precisely. (Luncheon at Half past Twelve o'clock.) For account of Importers.

- 800 Spars, Deals, Battens, Scantling, and Lines
- 1,000 Brack and Pine Deals
- 2,000 Quebec Pine Deals
- 1,000 St. Petersburg, Riga, and White Wood Deals
- 100 Oregon Deals, Battens, and Boards
- 15 Swedish Redwood Battens
- 500 Loads Quebec Yellow Pine (New Timber)
- 30 Loads Quebec Red Pine
- 20 Loads Quebec Pine and Red Pine (New Timber)
- 70 Loads Quebec Oak
- 60 Loads Fresh Quebec Elm
- 20 Loads Quebec Birch
- 10 Loads Fresh Memel Timber
- 6 Loads Dram and Timber
- 10 Loads Wainscot Logs
- 100 Logs Wainscot Timber
- 80 Masts
- 1,000 to 1,500 inch } Fresh Christiana Spars
- 200 each }
- 100 Rickers
- 4 Hull and Rochdale Dantz and St. Petersburg Lathwood
- 30 Loads East India Teak Logs and Plank
- 10 Ratans and Bills Firewood
- Flooring

With other Goods.

SECOND DAY'S SALE, OCTOBER 23rd, 1862.

380 Logs Mahogany: Cargo arrived this day per "Enterprise," from Mexico.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Camden Mart, Bethel, October 7th, 1862.

HERTS.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on FRIDAY, OCTOBER 24, at TWELVE o'clock, in four lots: Lot 1. A very desirable PROPERTY, known as Great Cozens, beautifully situate near the excellent market town of Ware and within two miles of the railway station, in a very healthy part of the county of Herts, consisting of a very comfortable cottage residence, with attached and detached offices, capital stable and farm buildings, lawn, gardens, orchard, and enclosures of arable and meadow land, containing together 39a. 2p. This property is held on lease for an unexpired term of about 600 years, at a peppercorn, which renders it nearly equal in value to freehold. Lot 2. Cundell's Farm, a valuable Freehold Property, situate close to lot 1, and abutting on the road from Ware to Fanham's Hall, consisting of a farm cottage, garden, and farm buildings, together with 28a. 3r. 35p. of arable and pasture land. Lot 3. A valuable Freehold Enclosure of excellent meadow land, known as Shillleys, opposite lot 2, and containing 6a. 3r. 35p. Lot 4. A valuable Freehold (and small part copyhold) Property adjoining lot 2, and within a short distance of the town of Ware, consisting of three enclosures of arable land, containing together 34a. 3r. 23p. and offering very eligible sites for building. The whole of the foregoing properties are in hand, and possession may be had on completion of the purchase. May be viewed, and particulars, plans had at the SARACEN'S HEAD, Ware; of Messrs. LETHERIDGE & MACKRELL, Solicitors, 25, Abingdon-street, Westminster; at the MART; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

CHITTS-HILL, near SOUTHGATE, MIDDLESEX.—Delightful Residence, with attached and detached offices, capital stabling, beautiful pleasure grounds, gardens, park-like meadows, and building-land, containing altogether about 68 acres.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE by AUCTION, at the MART, on FRIDAY, OCTOBER 31, at TWELVE, a most valuable and desirable PROPERTY (principally freehold), known as Chitts-hill (for many years the residence of the late John Overend, esq. and his widow), delightfully situate on the high road to Southgate, about a half from the Hornsey and Colney-hatch Stations on the Great Northern Railway, and only seven from the metropolis. It consists of a very substantial and comfortable residence, placed entirely within its own grounds, in excellent repair, and adapted for the immediate reception of a moderate-sized family. It is approached by a carriage drive and ornamental lodge entrance, and has a fine view of the surrounding country, and contains six bed-chambers and dressing-room, entrance-hall, portico and stone staircase, bow dining-room, 23 feet by 17 feet 6 inches; elegant drawing-room, 18 feet by 18 feet; library, very convenient domestic offices, secondary staircase, cool dairy, and excellent cellarage; capital three stall stable, coach-house, and loft over, harness-room, yard, &c.; and at a convenient distance a farmyard and well-arranged farm buildings; beautiful lawns and pleasure-grounds, laid out with much taste, and filled with choice shrubs and plants, extensive dry shrubbery walks leading to four summer-houses, elegant conservatory, 40 feet long; hot and forcing houses, melon-pits, all heated by hot-water; very productive kitchen gardens, the walls clothed with fruit trees in full bearing, the New River winding through richly timbered park-like paddocks; the whole comprising about 68 acres. The property has a very important frontage to the high road of upwards of 2,000 feet, a portion of which is immediately available for building purposes, without in any way interfering with the enjoyment of the remainder of the estate.—May be viewed by cards only, and particulars had of Mr. ROBERT FORSTER, Surveyor, Tottenham; Messrs. W. & B. WAKE, Solicitors, Sheffield; Messrs. YOUNG, JONES, & VALLINGS, Solicitors, 2, St. Mildred's-court, Poultry; at the Mart; and with cards of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

ST. THOMAS'S HOSPITAL, BOROUGH. Preliminary Advertisement.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, early in NOVEMBER next, the important and exceedingly valuable FREEHOLD PROPERTY, lately occupied by St. Thomas's Hospital, situate in Wellington-street, Borough, immediately opposite the New street, and adjoining the stations of the South Eastern and the London and Brighton Railway Companies. It occupies the extraordinary area of nearly four acres, with extensive frontages to Wellington-street, St. Thomas's-street, Joiner-street, and to the approaches to the South-Eastern and London and Brighton Railway Stations, offering facilities with unusually convenient access for sales, warehouses, and first rate buildings of every description, in the centre of the largest and most increasing traffic in London, having also immediate connexion with the noble warehouses now built and in the course of erection by the River Side Railway Company. It is unlikely hereafter that property in lots, the frontages to Wellington-street and to the approaches to the railway stations forming a most important feature in value, the opportunity will occur of such large mercantile establishments. The new south wing, a most substantial building, with a considerable frontage to Wellington-street, will be offered in one lot; the arrangement of the remainder will be fully described in future advertisements.—Particulars and plans are preparing, and when ready may be had of MESSRS. TOOGOOD & SON, 29, Parliament-street, S.W.; of E. RYDE, Esq. Surveyor, South-Eastern Railway, London Bridge; at the Mart; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

IN BANKRUPTCY.—Estate of BLACHE & CO.—To Pianoforte Manufacturers, Upholsterers, and Cabinet Makers.—The valuable and unusually extensive and valuable STOCK, consisting of Walnut, Rosewood, Mahogany, Burr, and Maple Veneers, is now on SALE, at the BUSINESS PREMISES and WAREHOUSES of Messrs. BLACHE & CO. Nos. 31 and 39, Wilson-street, Finsbury.

HART, BROTHERS, & HAYLES, Managers and Public Accountants, Moorgate street, London.

ACCIDENTS ARE UNAVOIDABLE.

Every one should therefore provide against them.

THE RAILWAY PASSENGERS' ASSURANCE COMPANY

Grant Policies for Sums from £200 to £1000 assuring against ACCIDENTS OF ALL KINDS.

An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.

Apply for Forms of Proposal to any of the Agents to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.

1624,817 have been paid for Claims by the Company's COMPENSATION for 56 Fatal Cases, and 6,981 Cases of Personal Injury.

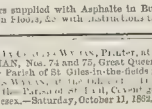
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.

Empowered by Special Act of Parliament, 1849.

64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED 1838



For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to change of temperature. This Asphalte is a perfect remedy against damp, requiring no previous coal tar, or absence of joints preventing the evaporation of moisture. For Estimates and Prices, &c. &c. apply to JOHN PALKINGTON, 15, Bush street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Area Floors, &c. with instructions how to lay it down.

London:—Printed by CHARLES WYMAN, Printer, at the Printing Offices of CHARLES WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of the Builder, No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, October 11, 1862.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1028. OCTOBER 18, 1862. PRICE FOURPENCE. *By Post, 5d.*

ILLUSTRATIONS.

New Warehouses, Peel-place, Bradford, Yorkshire. Mr. E. Milnes, Architect 731
Theatre Fittings: Improved Safety Foot-lights 745
A Beer Cellar in London: "Taking a Drain" 750

CONTENTS.

The Two Hartlepools: Condition of our Towns 741
New Materials for the Lives of British Architects 743
Notes of the International Exhibition 743
Products and Works of the Kingdom of Italy 744
The Proposed Bridges at Blackfriars 745
Theatre Fittings: Improved Safety Foot-lights 745
The Queen's Cross, Northampton 745
Paris of To-Day 747
Northern Architectural Association 748
Prince Consort National Memorial: a Suggestion 748
Albert Memorials 748
Liverpool Architectural Society 749
Hospital Sites and Hospital Teaching 749
Preservation of Food by Means of Ice 749
The Drainage and Ventilation of Cellars 750
Domestic Water-Filtering 750
New Warehouses, Bradford, Yorkshire 751
Paris 751
Works in Detroit, Michigan, U.S. 753
Slip at a Slate-Quarry 753
Competitions 753
School-building News 753
Stained Glass 753
Church-building News 754
Scottish News 754
So-called Restoration in Guildford 755
A Plea for the Exhibition Building 755
On the Decoration of Theatres 755
Payment of Architects' Assistants 755
Local Improvement 755
New Baptist Chapel, Woodhouse-lane, Leeds 755
Compensation Cases in Nottingham 756
Miscellanea 756

BUILDERS' BENEVOLENT INSTITUTION.

THE FIFTEENTH ANNUAL DINNER, in aid of the Funds of the Society, will be held at the London Tavern, on WEDNESDAY, 29th OCTOBER, 1862.

HENRY LEE, Esq. President of the Institution, in the Chair.

Stewards.

Anley, Mr. Philip
Anderson, Mr. W. C.
Ardley, Mr. A. O.
Arnaud & Co. Messrs.
Bacon, Mr. F.
Bishop, Mr. J. G.
Brass, Mr. William
Brasses, Mr. Thomas
Bird, Mr. Joseph
Bellman & Frey, Messrs
Bennett, Mr. J.
Bidwell, Mr. H. K.
Burt, Mr. H. P.
Cockerell, Mr. P. P.
Conder, Mr. E.
Cozens, Mr. Thomas
Cresswell, Mr. John
Cuming, Mr. S.
Dent, Mr. John
Dines, Mr. George
Doulton, Mr. Henry
Dove, Mr. B. D.
Dubrage, Mr. William
Dunbrge, Mr. W. M.
Ellis, Mr. William
Ferguson, Mr. Thomas
Fish, Mr. Charles
Formby, Mr. Charles
Gardiner & Bell, Messrs.
Goulter, Mr. James
Hack, Mr. Charles
Hall, Mr. Matthew
Hannis, Mr. William
Harvey, Mr. John
Head, Mr. George, jun.
Head, Mr. Richard
Howard, Mr. Thomas
Hutchens, Mr. William
Hanson, Mr. Edward
Jackson, Mr. Thomas
Jay, Mr. John
Jennings, Mr. George
Lavers, Mr. William
Lawrence, Brothers, Messrs
Lee, Mr. William, M.P.
Lucas, Brothers, Messrs.
Mann, Mr. S. L.
Marsden, Mr. G.
Mew, Mr. James
Morris Mr. John
Myers, Mr. George
Newton, Mr. Marcus Bourne
Nicholson, Mr. Wilfred
Nicholson, Mr. David
Notley, Mr. William
Notley, Mr. J. H.
Peters, Mr. William
Peters, Mr. Joseph
Pinckett, Mr. G. (Treasurer)
Ripley, Mr. Joseph
Richardson, Mr. R.
Robinson, Mr. A. A.
Robinson, Mr. Thomas
Rogers, Mr. W. B.
Sapwell, Mr. John
Sawyer, Mr. John W.
Searle, Mr. W. T.
Simms, Mr. W. H.
Smith, Mr. G. Spencer
Smith, Mr. Alfred
Stephens, Mr. S. J.
Stirling, Mr. William
Stirling, Mr. Thomas
Tatham, Mr. L. M.
Taylor, Mr. Joseph
Thom, Mr. John
Trollett, Mr. Samuel
Trimen, Mr. A.
Unwin, Mr. James
Wallis, Messrs. G. & T.
Wilson, Mr. J. S.
Wood, Mr. William
Wood, Mr. William, jun.

Gentlemen desirous of promoting the interests of the Institution by becoming Stewards, will be pleased to forward their names to the Secretary, at the Offices, 23, Southampton-street, Bloomsbury, where tickets may be obtained, 21s. each; also of the Treasurer, GEORGE PLUCKNETT, Esq. Gray's Inn road; the Stewards; and at the London Tavern

A. G. HARRIS, Secretary.

October 17, 1862.

THE METROPOLITAN BUILDING ACT,

1855, sec. 33.—The Institute of British Architects hereby give notice, that an EXAMINATION of Persons desirous of obtaining a Certificate of Competency to perform the duties of District Surveyor will take place at the Rooms of the Institute, No. 9, Conduit-street, Hanover square, W. on THURSDAY, the 30th day of OCTOBER at TEN o'clock in the forenoon.

Persons desirous to be examined must, on or before TUESDAY, the 21st day of OCTOBER, send an application, which must be accompanied by a statement according to a form to be previously obtained at the Rooms of the Institute.

JOHN P SEDDON,
C. F. HAYWARD, } Hon. Secs.

Conduit-street, October 7th, 1862.

ROYAL INSTITUTE of BRITISH ARCHITECTS.

VOLUNTARY EXAMINATION.

NOTICE is hereby given, that the FIRST EXAMINATIONS will be held on MONDAY, the 26th JANUARY, 1863, and the following days of the week. Candidates are required to deliver their Applications and Recommendations on or before SATURDAY, the 27th of DECEMBER next, being "Four Weeks before the First Day of Examination," according to the regulations.

Forms of Application, Copies of the Regulations, Course of Examination, &c. may be obtained at the Institute, 9, Conduit-street, W.

JOHN P. SEDDON,
CHAS. FOSTER HAYWARD, } Hon. Secs.

PROFESSOR DONALDSON'S LECTURES

on "Architecture and Construction," at UNIVERSITY COLLEGE,—TUESDAYS, FINE ART, 6.30 to 7.30 and 7.45 to 8.45; FRIDAYS, CONSTRUCTION, at the same hours. Syllabus of the courses, and terms, to be procured at the Office of the College, Upper Gower-street

GENERAL MECHANICAL and ARCHITECTURAL ASSOCIATION.

3, Corporation-street, Manchester.

The Association, employing first-rate Draughtsmen of every class, executes Drawings and Designs for all Descriptions of Machinery, Hydraulics, Land, Marine, Locomotive, and Agricultural Steam Engines, &c. &c. Architectural Designs furnished; Levelling, Surveying, and Plotting executed; Work inspected, Estimates given, Specifications drawn up, &c. Drawings made in private rooms for parties requiring secrecy.

E. W. YOUNG, Acting Manager.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, DECEMBER 1st, 2nd, 3rd, and 4th, 1862.

It having been determined to Erect a Gallery in Bingley Hall, the Council will have additional space at their disposal for the EXHIBITION of IMPLEMENTS and MACHINERY, and are prepared to receive applications for the same. Plans of the hall, showing situation of space, and terms, may be obtained from the Secretary. The Entries close NOVEMBER 1st.

JOHN B. LYTHALL, Secretary.

Offices, 14, Temple-street, Birmingham,
8th October, 1862.

COMPETITIONS.

TO ARCHITECTS.—PROPRIETARY COLLEGE at MALVERN (LIMITED).—The Council are prepared to receive DESIGNS from architects for the BUILDINGS required for the NEW COLLEGE. For the best design a premium of 150l will be awarded; and for the next in merit, 80l. The designs to be sent, carriage paid, on or before the 18th of DECEMBER, 1862, to the Hon. Secretary, L. STUMMES, Esq. M.D. Malvern, from whom the conditions of competition may be obtained.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the EXTENSION of the BARREL DRAIN at St. Cross, near Winchester.

Parties desirous of Tendering for this work must leave their names at the Royal Engineer Office, Portsmouth, on or before the 23rd day of OCTOBER, and pay the sum of 10s. 6d. for the use of plans, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Portsmouth, October 4, 1862.

TO CONTRACTORS.—Sealed TENDERS will be received by the Secretary of the Bridge Committee of the Town of Drogheda, up to Tuesday, the 4th day of NOVEMBER next, for TAKING DOWN the present BRIDGE over the River Boyne at Drogheda, and Building a new CAST IRON BRIDGE in place thereof, or a STONE BRIDGE, of 70 feet span, according to plans and specifications, prepared by J. NEVILL, Esq. C.E. to be seen at his Office, Fair-street, Drogheda, or at the Office of J. NEVILLE, Esq. Josephs-street, Dundalk, between the hours of TEN and FOUR o'clock every day (Sunday excepted), after the 15th SEPTEMBER instant.

TENDERS will also be received, at the same time, for BUILDING a WOODEN BRIDGE, to be called the "Western Bridge," higher up the river, in the town, according to plans and specifications prepared by the same Engineer, to be seen in like manner. The lowest or any Tender not necessarily to be accepted.

HENRY CLINTON, Secretary to the Bridge Committees, of the Corporation, Harbour Commissioners, and Grand Jury of Drogheda.

Dated, at Drogheda, this 6th day of September, 1862.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a VILLA RESIDENCE at West Hill, Wandsworth, may see the plans and specification at my Office, on FRIDAY, the 17th day of OCTOBER, and following days. The Tenders, sealed up and addressed "Tender for Residence at Wandsworth Hill," to be delivered at my office, No. 29, Golden-square, Westminster, on SATURDAY, NOVEMBER the 1st, at or before TWELVE at noon. The lowest or any other Tender will not necessarily be accepted

CHARLES LEE, Architect.

THE Committee of the BUTCHERS' CHARITABLE INSTITUTION, being desirous of ERECTING a MEMORIAL at Walham Green to the Memory of the late PRINCE CONSORT, invites BUILDERS and MASONS to send in TENDERS for the ERECTION of the same. The drawings, specification, and conditions can be inspected at the Office of the Architect, HENRY McCALLA, Esq. C.E. 25, Westbourne-place, Eaton-square. The Tenders are to be delivered, free of expense and in person, at the Freemasons' Hotel, Great Queen-street, on THURSDAY, OCTOBER 30th, at SEVEN o'clock p.m. punctual, and addressed to B. VENABLES, Esq. Chairman. The Committee do not bind themselves to accept the lowest or any Tender.

CONTRACTS.

WREXHAM LOCAL GOVERNMENT BOARD.—SEWERAGE WORKS.—CONTRACT No. I.—To Earthenware Pipe Manufacturers, Ironfounders, Contractors, and Others.—The Local Board for the District of the Borough of Wrexham, in the County of Denbigh, do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following CONTRACT

CONTRACT No. 1.—For the construction and completion of about 2,920 lineal yards of Brick Sewers; for providing, laying, and jointing about 6,750 lineal yards of Earthenware Pipes and about 300 lineal yards of Cast-iron Pipes; for constructing Manholes, Ventilation Shafts, Overflows, and Outlet Works, Lamp Gullies, and other Works.—Plans, sections, and drawings may be seen, and specifications, forms of Tender, bills of quantities, and schedules for prices may be obtained, on and after WEDNESDAY, the 22nd of OCTOBER, by the payment of two guineas, on application at the Office of JOHN JAMES, Town Clerk, and Clerk to the Local Board, Wrexham; or at the Office of JOHN LAWSON, Civil Engineer, 34, Parliament-street, Westminster. Sealed Tenders, endorsed "Tender for Sewerage Works," must be forwarded to the Clerk to the Local Board on or before WEDNESDAY, the 5th day of NOVEMBER, 1862.—The Local Board do not bind themselves to accept the lowest or any Tender.—Signed,

JOHN JAMES, Town Clerk, and Clerk of the Local Board.

Town Clerk's Office, Bryn-y-ffynnon, Wrexham, October 15, 1862.

TO BUILDERS.—Persons willing to TENDER for the ERECTION of a HOUSE in the Walworth-road, for Messrs. Brown & Son, can inspect the plans and specification at the Office of the Architect, Mr. HENRY JARVIS, 29, Trinity-Chambers, Newington, S.E. References and other particulars will be required. Messrs. Brown & Son do not bind themselves to accept the lowest Tender

TENDERS.—To CONTRACTORS, PIPE-LAYERS, &c.—The Directors of the Fylde Waterworks Company are prepared to receive TENDERS for LAYING and JOINTING MAIN PIPES, from the Reservoir, Inskermor, Peel Carrtag, to the towns of Blackpool, Lytham, and Kirkham (the laying of the Fleetwood pipes will be let subsequently). The lengths and sizes will be as follows:—12-inch pipes, 1½ miles; 10-inch pipes, 5 miles; 9-inch pipes, 1 mile; 7-inch pipes, 6 miles; 6-inch pipes, 3½ miles. The pipes will be delivered to contractors at Glasson Dock, Fleetwood, and Lytham. Plans and specifications may be seen on and after the 25th inst. Forms of Tender can be obtained on application or on payment of 5s at the Office of Mr. T. B. FOSTER, Civil Engineer, 23, John Dalton-street, Manchester. Tenders must be sent in to Mr. T. A. WILKINSON, the Secretary of the Company, at the Fylde Waterworks Office, Kirkham, not later than TUESDAY, the 4th of NOVEMBER. The contract will be let as a whole or in such portions as the Directors may decide. The Directors do not bind themselves to accept the lowest or any Tender

PARISH of ST. GILES, CAMBERWELL.—TO SEWER CONTRACTORS AND OTHERS.—The Sewers and Sanitary Committee will meet to receive TENDERS for the EXECUTION of SEWERS WORKS, comprising about 2,670 feet 3 feet by 2 feet Brick Sewer, and about 600 feet 12-in. Pipe Sewer, on the 21st of OCTOBER, at HALF PAST SIX o'clock precisely, at the VESTRY HALL, CAMBERWELL. Printed forms of tender will be supplied, and no Tender will be received unless on a printed form. The instructions contained in the specifications and conditions, and the parties tendering must be in attendance when the Tenders are opened. The Committee do not bind themselves to accept the lowest or any Tender. Plans can be obtained on application to Mr. J. C. REYNOLDS, Surveyor to the Vestry, at the Office of Works, Wellstreet, Camberwell, between the hours of ELEVEN and THREE, on and after TUESDAY, the 14th OCTOBER instant.

By order, WM. MALDEN, Vestry Clerk.

Vestry Hall, Camberwell, dated 10th October, 1862.

SALISBURY CATHEDRAL.—TENDERS are required for the General External Structural REPAIRS of the CATHEDRAL at SALISBURY. Builders desirous of TENDERING are requested to send their names to G. G. SCOTT, Esq. 20, Spring-gardens, London, on or before the 27th instant, when the conditions of Tendering will be made known. The Dean and Chapter will not pledge themselves to accept the lowest or any Tender

TO CONTRACTORS for SEWERS, and OTHERS.—The Vestry of the Parish of St. Martin's-in-the-Fields will Meet at the Vestry Hall, on THURSDAY, the 6th day of NOVEMBER next, to receive TENDERS for the SUPPLY of MATERIALS, and the Execution of Bricklayers' and Measured Works required for the Sewers and Drains within the said parish. Printed Forms of Tender and Schedules of prices upon which the Tenders must be based, and the conditions of contract, may be obtained of Mr. BURSTALL, the Surveyor to the Vestry, at his office at the Vestry Hall, any morning between the hours of TEN and TWELVE o'clock, on payment of five shillings, to be returned to parties tendering. No other form of Tender will be accepted. Tenders must be delivered, sealed up, at the Vestry-hall, before FOUR o'clock on the afternoon of NOVEMBER, endorsed "Tender for Sewer Works." The Contractor will be required to enter into a contract and bond, with two responsible sureties, for the due performance of the Contract. The Contract to be prepared, at the Contractor's expense, by the Solicitor to the Vestry. The Vestry do not bind themselves to accept the lowest or any Tender.

J. DANSEREAU, Vestry Clerk.

Vestry-hall, St. Martin's-in-the-Fields, Oct. 15th, 1862.

LLANYCHLLWYDOG, Pembrokeshire.—To BUILDERS.—Persons willing to TENDER for REBUILDING the PARISH CHURCH of Llanychllwydog, near Fishguard, Pembrokeshire, in accordance with plans and specification prepared by the Rector, the Rev. D. O. JAMES, Fishguard, on and after MONDAY, 13th instant. Tenders, on the printed forms to be delivered to the Rector on or before SATURDAY, 1st NOVEMBER. Further particulars can be obtained on application to the Architect, Mr. D. J. WITHERS, 51, Doughty-street, London, W.C. The lowest or any Tender will not necessarily be accepted.

D. O. JAMES, Rector.

Fishguard, 8th October, 1862.

[For remainder of Contracts see next Page.

CONTRACTS.

SAINT SAVIOURS UNION.—To BUILDERS.—Notice is hereby given, that the Guardians of the above Union are willing to receive TENDERS from persons desirous of CONTRACTING for the CONSTRUCTION of a PASSAGE or SUBWAY COMMUNICATION between Marlborough-street, in the parish of Christchurch, for the purpose of connecting the old Union Workhouse with the recently-erected building known as the Infirmary thereto. The Guardians have appointed THURSDAY, the 30th of OCTOBER instant, at THREE o'clock in the afternoon, for opening the Tenders, at the Board-room, in John-street West, Blackfriars-road, where all Tenders are to be addressed. Plans and specifications of the Work to be executed may be seen at the Office of HENRY JARVIS, Esq. Architect, No. 29, Trinity-square, Borough. JAMES J. BLAKE, Clerk to the Guardians.

Dated this 10th day of October, 1862.

TO BUILDERS.—TUNBRIDGE WELLS. Persons desirous of TENDERING for the ERECTION of a PUBLIC HALL at Tunbridge Wells, may inspect the plans and specification and obtain all necessary information at our Office, Brenchley, Kent, on and after the 20th instant. Bill of quantities and forms of Tender may also be obtained on payment of a deposit of one guinea, which will be returned on the receipt of a bona fide Tender. Sealed Tenders to be sent in not later than TWELVE o'clock, on TUESDAY, the 28th OCTOBER. The lowest or any Tender will not necessarily be accepted. HOOKER & WHEELER, Architects.

Brenchley, Oct. 14, 1862.

TO ROAD CONTRACTORS, STONE MERCHANTS, &c.—CONTRACTS WANTED for BROKEN GUERNSEY GRANITE, shipped at Guernsey to London or elsewhere. Address, W. S. 1, Piette-road, Guernsey.

SEWER BOOTS FOR FLUSHING, &c. INTERNATIONAL EXHIBITION, 1862. The only PRIZE MEDAL awarded for WATER BOOTS to THOMAS STACK, late POWELL'S, 187, DRURY-LANE, W.C. Contractors on Low Terms. ESTABLISHED 1832.

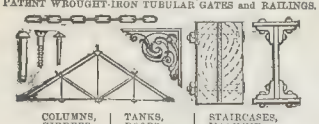
IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to RANDAL STAP, Contractor, No. 32, KING WILLIAM STREET, E.C. Where numerous Drawings and Photographs may be seen. N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

NAILS and IRONMONGERY, from BIRMINGHAM direct. Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES, A complete List of which will be forwarded upon application to FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham street, London, E.C.

BUSINESS REMOVED TO THE DOVER IRON WORKS, STAPLE STREET, LONG LANE, BOROUGH, S.E.

H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP. PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,

And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

STATION ROOFS and ROOFS of every kind GLAZED WITHOUT PUTTY, and warranted PERFECT. EVERY DESCRIPTION of BUILDINGS EFFECTUALLY WARMED with T. G. MESSENGER'S Tranquiliser Tubular Heating Apparatus.—Full particulars of the above [illegible] upon application to the Patentee, T. G. MESSENGER, Engineer, &c. Loughborough.

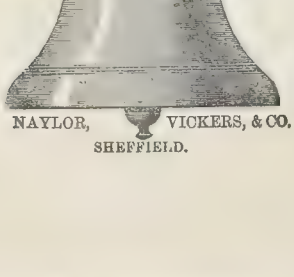
CRANE TO BE SOLD.—The Vestry of the Parish of St. George, Hanover-square, being desirous to DISPOSE of a CRANE now standing on their Wharf at No. 1, Ebury Bridge-road, are willing to receive TENDERS for the same not before TUESDAY, the 28th instant. The crane to be taken down and carried away by [illegible]. Forms to be sent in sealed, and addressed to the Clerk of the Vestry of St. George, Hanover-square, Board Room, No. 1, Ebury-street, [illegible] endorsed "Tender for Crane." The crane may be viewed by [illegible] between this and the 28th instant, at the parish wharf. By order,

JOSEPH HENRY SMITH, Clerk to the Committee.

OLD RAILS, GIRDER and BEAM IRON, FOR SALE. Apply to WILLIAM BIRD & CO. 2, LAURENCE POUNTNEY HILL, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO. SHEFFIELD.

THE ALPHA TUBE & FITTING WORKS.

WALSALL, STAFFORDSHIRE.—Established 1830.

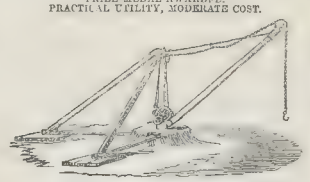
LAMBERT BROTHERS, MANUFACTURERS OF LAP-WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,

For Steam or Hydraulic Water and Gas. HIGH PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, TUBES, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS FITTINGS, GASELIERS, &c.; and of the GROVE END LEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam engine, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, Mills, to at the International Exhibition, Walsall Court, Class II. Executed Presents as sold from engravings, and printed prices of these catalogues.

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT. GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, excluding the pressure, and preventing any irregularity in the height of the flame. D. HULETT & CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

PRIZE MEDAL AWARDED. PRACTICAL UTILITY, MODERATE COST.

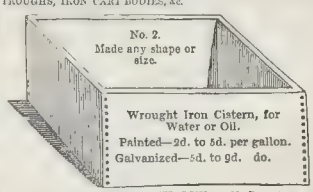


HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Sitting Cranes, Double and Single Power Cab Winches, all sizes. For further particulars apply to BOWSER & CAMERON, Springfield Iron Works, M. Nevil-street, Glasgow

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 other Articles of Bed-room Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, PUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

GALVANIZED IRON and ZINC WORKS. Galvanized or Black Sheet Iron, corrugated and plain, always in Stock. Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c. EDWARD DAVIES, SNOWHILL GALVANIZING IRONWORKS, TRADE MARK. Wolverhampton, Staffordshire.

LOSH, WILSON, & BELL, NEWCASTLE ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, STEWARTS PATENT CAST-IRON GAS and WATER PIPES. Office, No. 7, Size-lane, London.

TO IRONMONGERS, BUILDERS, &c. PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators. HULETT & CO. 55, High Holborn.

RAILWAY COMPANIES, CONTRACTORS, and AGENTS SUPPLIED with KEYS, TREENAILS, BUSHES, SLEEPERS, BARROWS, and all descriptions of RAILWAY PLANT and STORES by W. P. FRANCE, GREAT WESTERN SAW-MILLS, Bridge Wharf, Paddington.—Debentures taken in payment if required.

INTERNATIONAL EXHIBITION, CLASS 32, No. 6,521. ENGLISH and FRENCH PATENT. WESTON'S NEW PATENT TORSION SPRING, For closing or keeping open doors, gates, &c. &c. at different strengths, specially suited for all climates, and adapted for general purposes. Price Two Shillings and Sixpence To be had of the general Merchants and Factors in Birmingham and Wolverhampton; also at No. 62, Coleman street, City.

MOREWOOD & CO. (late Morewood & Rogers), Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham. PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON, PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock. Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c. Estimates given for Roofs, and every description of Galvanized Buildings, at the OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each. J. H. BOOBYER (late STURCH & BOOBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE. 14, Stanhope-street, Clare-market, London.

THE MEDAL FOR 1862. THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE MARK.

CROWN TUBE WORKS, WEDNESBURY, STAFFORDSHIRE. Warehouse—81, Upper Ground-street, London, S. JAMES RUSSELL & SONS, The Patentees and first Makers of Wrought-Iron Tubes.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS; The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Prince-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

FIRE-PROOF CONSTRUCTION.—FOX & BARRETT'S PATENT. This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private. The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages. The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material. Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one. Further information may be obtained of the Proprietor of the Patent, Mr. BARRETT, 12, YORK-BUILDINGS, ADELPHI.

CANNON IRON FOUNDRY, 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c. BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock. CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors, or their perishable coverings. MAW & CO.'S Patterns, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost, adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop—London Agents, W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of specimens of the pavement.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sadly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS, TO 50, CONDUIT-STREET, REGENT-STREET. ENCAUSTIC AND OTHER PAVEMENTS. EARTHENWARE AND PLAIN TILES. DESIGNS AND ESTIMATES PREPARED. MANUFACTORY, STOKE-UPON-TRENT.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial "March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many hundreds and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here." N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing. THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.



THE PRIZE MEDALS,

LONDON, 1851. PARIS, 1855. LONDON, 1862.

AWARDED TO

COTTAM & COMPANY,

No. 2, WINSLEY-STREET, LONDON, W.

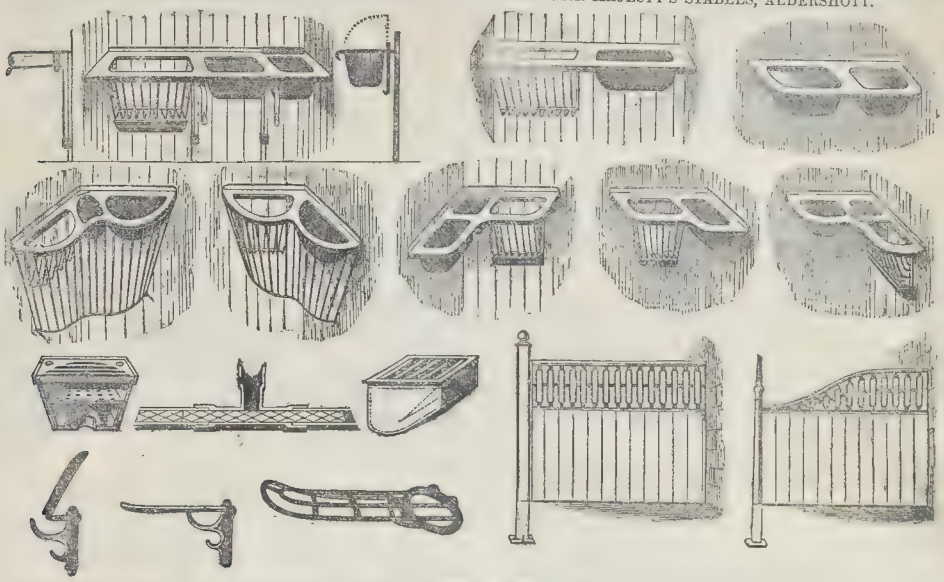
FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN

STABLE FITTINGS AND HARNESS BRACKETS.

ORIGINAL INVENTORS OF THE PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, FITTED TOGETHER AS ONE FIXTURE.



PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM, arranged for inspection in full-sized Stalls, Loose Boxes, &c. (a portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to

COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—Winsley Street is the Street opposite the Pantheon.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.

RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.

TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.

EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.

CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



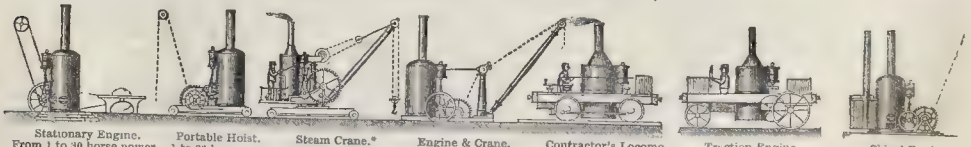
CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane.* 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

* These Cranes were selected by Her Majesty's Commissioners to receive and deposit the heavy machinery in the International Exhibition.

Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

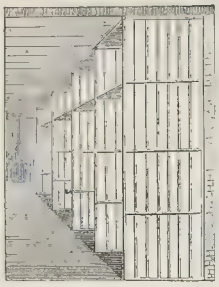
CRANSTON-HILL ENGINE WORKS, GLASGOW;

Or LONDON DEPOT, AT LAMBETH, NEAR STEAM-BOAT WHARF.

Parties are cautioned against using or purchasing imitations or infringements of these Patent Manufactures.

WROUGHT IRON WINE BINS.





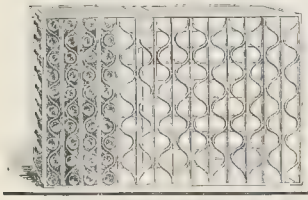
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

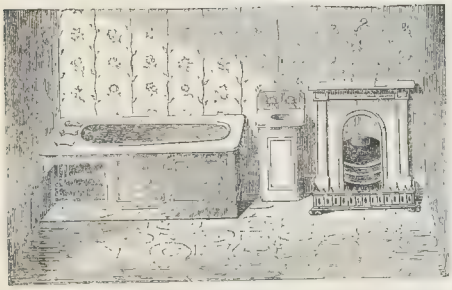
FARROW & JACKSON,

18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

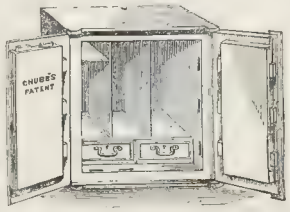
CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS,

The most secure from picklocks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the DETECTOR LOCKS.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire-resisting and non-conducting composition.

The doors are all secured by CHUBB'S PATENT DRILL-PREVENTIVE, and their Patent

GUNPOWDER PROOF LOCKS.

Illustrated Price List Gratis and Post Free.

CHUBB & SON,

No. 57, ST. PAUL'S CHURCHYARD, LONDON;

28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.

IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

SMITH & WOODS
SHOP FRONTS

WORKS, HARTS-HILL IRON FOUNDRY, Near Dudley. MAKERS of all DESCRIPTIONS of LIGHT or HEAVY CASTINGS.

LONDON OFFICE, 76, CANNON-STREET WEST, LONDON, E.C. Where PRICE LISTS And ESTIMATES MAY BE HAD on APPLICATION.

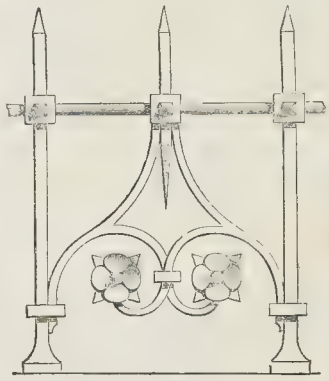
JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit street, W
Drawings at 1 Estimates furnished

HART AND SON,

53 to 58, WYCH-STREET, LONDON, W.C.; AND 20, COCKSPUR-STREET, S.W.



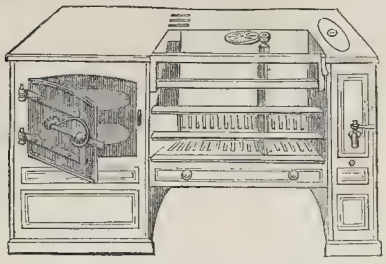
ENGRAVERS OF MONUMENTAL BRASSES, HERALDIC DEVICES, &c.; CHURCH PLATE, GLASTONBURY CHAIRS, WROUHT-IRON HINGES, GRILLES, VANES, CROSSES, &c. &c. CORONÆ, STANDARDS, BRACKETS, &c. for Gas, Oil, or Candles.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES.
COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY STREET,
OXFORD STREET, LONDON, W.





CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.
34 inches ..... 54s.
36 „ ..... 56s.
38 „ ..... 58s.
42 „ ..... 64s.

Self-acting Cottage, with Oven and Back Boiler
30 inches ..... 22s.
33 „ ..... 24s.
34 „ ..... 26s.
36 „ ..... 28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 45s. to 100s. each.
Best Cut Clasp and Rose Nails.
1-inch. 14s. | ¾-inch. 14s. | 2-inch. 13s. | 2½-inch. 13s. | 3-inch. 11s. 6d. per cwt.
Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½ in.	3 in.
Cast Rain water Pipe..	8d.	10d.	1s per yard.

Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on....	10d.	1s. per yard.

	2	3	4	5	6
Patent Line	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.
Dr. Arnott's Ventilators, 4s. each.
Brick Moulds kept in stock. Any size made to order.

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS
SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

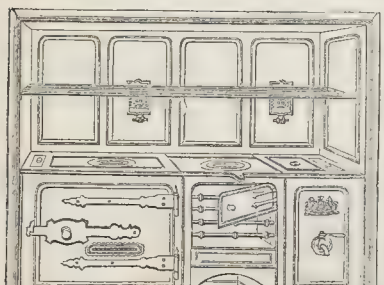
PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,
The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.
These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

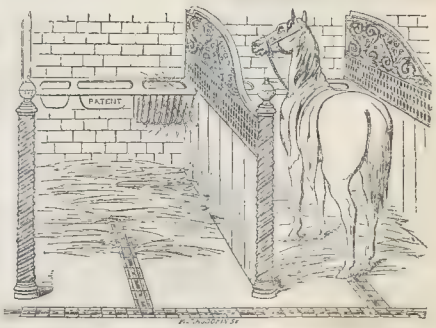
THE PATENT HARNESS FITTINGS
Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.
ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT.



TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



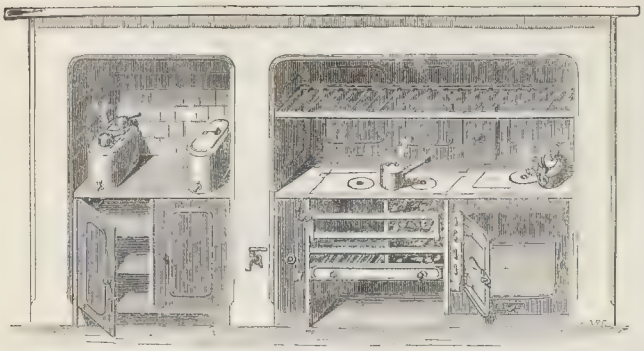
IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Birmingham, and Limehouse.
Every description of Iron Work Galvanized.
LONDON OFFICE—61A, MOORGATE STREET, E.C.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

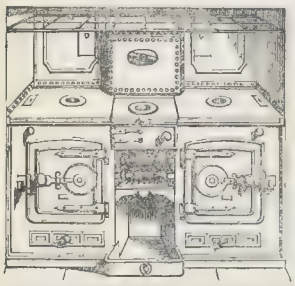
THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15s. to 33*l.* 10s.; Bronzed Fenders, with standards, 7s. to 5*l.* 12s.; steel Fenders, 3*l.* 3s. to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3s. to 18*l.*; Chimney-pieces from 1*l.* 8s. to 100*l.*; Fire-irons, from 2s. 3d. the set to 4*l.* 4s. The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.

38 & 65, YORK-STREET, WESTMINSTER.

VENTILATING STOVES—Cheap, simple, efficient, and durable. Thousands have been sold, and universally approved. Also, those suitable for Halls, Warehouses, Chemists' stories, and every situation where a close stove is required. The largest sizes are extensively used in churches, chapels, and public buildings, with great effect and economy. Prices, 50s. 60s. 70s. 90s. and 120s. Prices list with engravings, gratis and post free. In operation daily. The trade supplied.

DEANE & CO.,

Opening to the Monument, London Bridge. Established A.D. 1700.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.



NUT



PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

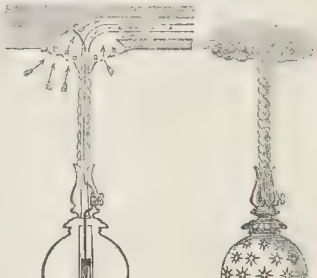
THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and particulars sent upon application.

RICKET'S & HAMMOND'S

VENTILATING GLOBE LIGHT, combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.

POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,

Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class.

OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

W. HARMER & SON,

BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.
WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.
WROUGHT IRON TUBE and FITTINGS for GAS or WATER.
CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.

W. HARMER & SON,
3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.
SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.
Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.



PATENT CLIMAX DOOR SPRINGS,

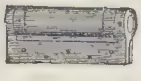
FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

MANUFACTURERS, BIRMINGHAM.



CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,
STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.
Descriptive, Illustrated, and Priced Catalogues free per post.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,
BOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, E

IMPROVED WARM-AIR STOVES, FURNACES, & HOT-WATER APPARATUS

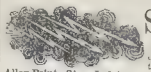
FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS.
KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION.
Manufactured and erected by J. KIRK & CO., Successors to

CUTLER & SONS,
CLARENCE IRON WORKS,
16, GREAT QUEEN-STREET, LINCOLN'S-INN-FIELDS, LONDON.
IRON-FOUNDERS, FURNISHING IRONMONGERS, GAS ENGINEERS, AND BELL-HANGERS.
Orders for EVERY DESCRIPTION of CASTINGS for ENGINEERS and BUILDERS promptly executed.
SPRING ROLLER BLIND MAKERS.
WILLIAM ASHDOWN, Manager.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the points and all staples, complete for fixing, at the following prices:—
Three-eighths-inch diameter ..... 1s. 0d. per foot.
Half-inch diameter ..... 1s. 6d. „
Five-eighths-inch diameter ..... 2s. 0d. „
R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

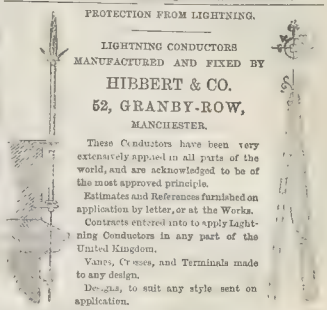
Offices—130, Strand, London.
„ [illegible] Deansgate, Manchester.
„ 57, Lord-street, Liverpool.
„ 17, South Castle-street, Liverpool.
„ Exchange Buildings, Leeds.
„ 7, Flodden-terrace, Aberdeen.



SPRATT'S PATENT

BATTERY EXCITATION COPPER LIGHTNING-CONDUCTORS, giving [illegible] inches of surface. Only 1s. per foot, complete, for fixing. Including beautiful "light-running" Platinum, Silver Alloy Point, Glass Isolators and attachments, forming a Lock, Steel Mantle for Ladies' Residences. Also SPRATT'S NEW ARRANGEMENT for SECURING POWDER MAGAZINES from the [illegible] of being ignited by electric currents. Office, 18 and 21, Middle-row, Holborn. Orders [illegible] to be addressed as above. Send for circular.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.
Estimates and References furnished on application by letter, or at the Works.
Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.
Vanes, Crosses, and Terminals made to any design.
Designs, to suit any style sent on application.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES

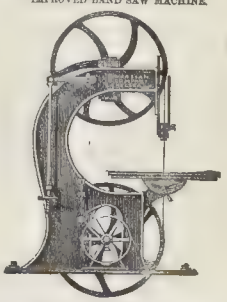
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from jute, which article has neither the STRENGTH nor DURABILITY of Flax, and [illegible] cannot give much satisfaction to the consumer
They can be obtained [illegible] Ironmongers, Merchants, Factors, &c. [illegible] Town and Country
ESTABLISHED 1774.

S. WORSSAM & CO.'S PATENT

IMPROVED BAND SAW MACHINE.



(1-inch scale.)

S. Worssam & Co. have recently made new patterns for band saw-machines of two sizes, and introduced all the latest improvements to obviate the breakage of saws, and can with the greatest confidence, recommend their new machines as the best yet out.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's road, Chelsea, S.W.

PRIZE MEDAL,
INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, CANNON STREET, E.C.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

PAPIER MACHE AND CARTON PIERRE WORKS,
49, RATHBONE PLACE, W.
GEORGE JACKSON AND SONS
(Established in 1760)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining Rooms, Libraries, &c., for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS
PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE PLACE, LONDON, W.

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.
AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

ILLUSTRATED WORKS OF ART.

THE SOUTHERN CATHEDRALS OF ENGLAND:—Winchester, Salisbury, Exeter, Wells, Chichester, Canterbury, and Rochester. With 200 Illustrations. 2 vols. Crown 8vo. 24s.

THE EASTERN CATHEDRALS OF ENGLAND:—Oxford, Peterborough, Lincoln, Norwich, and Ely. With 100 Illustrations. Crown 8vo.

HISTORY OF THE GERMAN AND DUTCH SCHOOLS OF PAINTING. By Dr. WAAGEN. Illustrations. 2 vols. Post 8vo. 24s.

HISTORY OF THE MODERN STYLES OF ARCHITECTURE. By JAMES FERGUSSON, F.R.I.B.A. With more than 300 Illustrations. 8vo.

CHILDE HAROLD'S PILGRIMAGE. By LORD BYRON. With 80 Illustrations of the most remarkable Scenes and Objects described in the Poem. Crown 4to. 21s.

LIFE AND WORKS OF HORACE. Edited by DEAN MILMAN. With 300 Illustrations of Coins, Gems, Statues, &c chiefly taken from the Antique. 8vo. 21s.

ANCIENT SPANISH BALLADS. Historical and Romantic. Translated by J. G. LOCKHART. With Illuminated Titles, Borders, and Woodcuts. 4to. 21s.

LIFE OF THOMAS STOTHARD, R.A. With Personal Reminiscences. By Mrs. BRAY. With 70 Illustrations. Small 4to.

GREECE: Pictorial, Descriptive, and Historical. By CANON WORDSWORTH, D.D. With 600 Illustrations. Royal 8vo. 25s.

ANTIQUE GEMS: their Origin, Uses, and Value as Interpreters of Ancient History and as Illustrative of Ancient Art. With Hints to Gem Collectors. By Rev. C. W. KING. Illustrations. 8vo. 42s.

ANCIENT POTTERY AND PORCELAIN. Egyptian, Assyrian, Greek, Etruscan, and Roman. By SAMUEL BIRCH. With Plates and Woodcuts. 2 vols. Medium 8vo. 42s.

MEDIÆVAL AND MODERN POTTERY AND CHINA. By JOSEPH MARRYAT. With Plates and Woodcuts. Medium 8vo. 21s. 6d.

HANDBOOK TO THE ARTS OF THE MIDDLE AGES AND RENAISSANCE, as applied to the Decoration of Furniture, Arms, Jewels, &c. By JULES LABARTE. With Illustrations. 8vo. 18s.

JOHN MURRAY, Albemarle-street.

Just published, price 2s. 2d.

MANUAL of HYDROLOGY. By NATHANIEL BEARDMORE, Civil Engineer.

CONTENTS:—
DIVISION I.—HYDRAULIC AND OTHER TABLES
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION
The Work consists of upwards of 40 pages, and there are 20 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 68, London-wall. 1862.

Dedicated, by permission, to the Right Hon. Lord Palmerston.

DESIGNS for MONUMENTS, TOMBS, GRAVESTONES, &c. price 16s. complete in one volume. By JOSEPH E. ROBINSON, Sculptor, Derby.

The Designs in this volume are suitable for either cemetery or churchyard. The book forwarded free to any part of the kingdom for post office order.

THE QUARTERLY REVIEW, No. CCXXIV. is published this day.

CONTENTS

I. VICTOR HUGO—LES MISERABLES.
II. THE PLATONIC DIALOGUES.
III. MODERN POLITICAL MEMOIRS.
IV. AIDS to FAITH.
V. BELGIUM.
VI. The WATERLOO of M. THIERS
VII. CHINA and the TAEPING REBELLION.
VIII. The CONFEDERATE STRUGGLE and RECOGNITION.

JOHN MURRAY, Albemarle street.

THE EDINBURGH REVIEW, No. CCXXXVI. was published on THURSDAY LAST.

CONTENTS

I. SOLAR CHEMISTRY.
II. The HERCULANEAN PAPYRI.
III. The MUSSULMANS in SICILY.
IV. The SUPERNATURAL.
V. The ENGLISH in the FAR EAST.
VI. The LEGEND of ST. SWITHUN.
VII. Mrs. OLIPHANT'S LIFE of EDWARD IRVING.
VIII. The MAUSOLEUM of HALICARNASSUS.
IX. HOPS AT HOME and ABROAD.
X. PRINCE EUGENE of SAVOY
XI. The AMERICAN REVOLUTION.

London: LONGMAN & CO. Edinburgh: A. & C. BLACK.

SCIENTIFIC RECORD of the EXHIBITION (PRACTICAL MECHANICS' JOURNAL), Part VIII. OCTOBER 18, price 2s. contains:—Fixation of Heavy Machinery, by E. P. Alexander, esq. C.E.; the Printing and Dyeing of Calico, Silk, and Woollen Fabrics, by Charles O'Neill, esq. F.C.S.; Paper Machinery and Manufacture, by William Stone, esq.; Rolling and Casting of Metals, by A. Tylor, esq.; Printing Machinery, Type founding and Type-composing and Distributing Machines, by E. P. Alexander, C.E.; Illumination, Gas-making, &c. by Dr. E. Frankland, F.R.S.; Glass Manufactures, Staining, and Painting, by Sebastian Evans, M.A.; Illustrated by Plate Engravings of Ramsbottom's Express Passenger Engine, London and North Western Railway, and Oscillating Marine Engines of the Imperial Yacht, L'Aigle, by MM. Maudslay & Co. Havre, with Fifty Woodcuts.

London: LONGMAN & CO. Ludgate-hill. Proprietor's Offices (Patent Office), 47, Lincoln's-inn-fields, W.C.

This day is published, New Edition, with Additional Tables, bound, 7s. 6d.

THE PRACTICAL MEASURER; or, Tradesman and Wood Merchant's Assistant: containing a variety of Tables, designed for the use of Wood Merchants, Builders, Carpenters, Joiners, Sawyers, Coopers, Painters, Glaziers, Masons, Bricklayers, &c. By ALEXANDER FEDDIE.

BLACKIE & SON, 44, Paternoster-row, London; and all Booksellers.

COLOUR IN ARCHITECTURE.

A FEW large Venetian Photographs, exquisitely and faithfully coloured by Messrs. PONTI, of Venice, to illustrate their Water-Colour Drawings, and for sale possessing anything of the kind yet produced, are now offered to the trade and the public. Price, 10s. 6d. each; the same, plain with inch of margin, 5s. each.

London: A. W. BENNETT, 5, Bishopsgate Without, E.C.

In One Volume, super-royal 4to. half-morocco, 2*l.* 16*s.*

THE CARPENTER and JOINER'S ASSISTANT, being a Comprehensive Treatise on the Selection, Preparation, and Strength of Materials, and the Mechanical Principles of Framing, with their Applications in Carpentry, Joinery, and Hand Railing; also, a Course of Instruction in Practical Geometry, Geometrical Lines, Drawing, Projection, and Perspective, and an Illustrated Glossary of Terms used in Architecture and Building.

By JAMES NEWLANDS.

Illustrated by an extensive series of plates, and many hundred engravings on wood.

"We know of no treatise on Carpentry and Joinery which at all approaches it in merit." *Mechanic's Magazine.*

BLACKIE & SON, 44, Paternoster-row, London; and all Booksellers.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

THE STRAND HOTEL COMPANY (Limited).

Capital 100,000*l.* in 20 000 Shares of 5*l.* each.
Deposit 10*s.* per share on application, and 10*s.* on allotment.
CHAIRMAN.—Sir ROBERT CLIFTON, Bart. M.P. Clifton Hall, Nottingham.
BANKERS.—London and Westminster Bank, and the Metropolitan and Provincial Bank, 75, Cornhill.

ABRIDGED PROSPECTUS.

The Strand Hotel Company is projected to supply the great want of a well-managed middle-class London Hotel.

The Directors have lately purchased Sams's Hotel, nearly opposite Somerset House, in the Strand, which will be added to the large plot of ground immediately in its rear, formerly known as Lyon's Inn, comprising half an acre of land. The new Hotel (in this very central position of London) will contain 300 bed-rooms, and during the erection of the Lyon's Inn portion of the building, "Sams's Hotel" will be carried on for the benefit of the Company. The services of the proprietor of "Sams's Hotel" have been retained, and upon the basis of the returns of that Hotel a dividend of upwards of twenty per cent. may be expected.

Interest at 5 per cent. on deposits from date of allotment. Applications for shares, with deposits of 10*s.* per share, to be addressed to the Company's Bankers. For prospectuses and forms of application for shares, apply at the Offices, 21, New Bridge-street, Blackfriars; and of the Broker, L. A. CROWLEY, Esq. 3, Copthall-court, Throgmorton-street.

W. RAY, Secretary.

THE STRAND HOTEL COMPANY (Limited).

NO FURTHER APPLICATION for SHARES will be received after FRIDAY, the 31st inst. at which date the Directors will proceed to the allotment.—By order of the Board.

October 3rd, 1862.

FARNBOROUGH AND ALDERSHOTT FREEHOLD GROUND RENT SOCIETY, LIMITED.—Applications for shares must be made on or before MONDAY, 20th OCTOBER, instant, either to the London and Middlesex Bank, 69, Cornhill; to the Society's Broker, Mr. H. FRISBY (late Foster, Brothers, & Frisby), 27, Tokenhouse-yard, E.C.; or at the Offices of the Society, No. 18, New Bridge street, Blackfriars, E.C.—By order of the Board

EDWARD CHATFIELD, Managing Director.

INTERNATIONAL BAZAAR, SOUTH KENSINGTON.—If architectural effect can be marred by various window blinds, visitors are invited to inspect in the central hall of the bazaar a NEW PATENT BLIND, whereby that necessity of civilization, ornament in use, is realized.

The Builder.

VOL. XX.—No. 1028.

The Two Hartlepools: Condition of our Towns.



HE wonderful development of our iron and coal trade, and the consequent increase of sea traffic, have had a corresponding effect upon our north-eastern maritime towns: many places that were scarcely more than fishing villages a century or so ago have now become important ports. It has also altered the face of the inland country almost past recognition. The cathedral town of Durham, for instance, once so cool, so green, so pleasant, on the steep slopes of the river Wear, looks, through the bustle and smoke, like a stray quarter of Newcastle-upon-Tyne. The landscape around, which was once so picturesque and inviting that the monks carrying the incorruptible body of St. Cuthbert from Chester-le-Street to Lindisfarne were induced to forego their intention and pitch their tent at Durham instead, is now dingy as with a bloom of coal-dust over meadows, tofts, hedges, roads, and houses alike. The dusky grass is patched with still more dingy furze, dock-leaves, and rank weeds. Even Bishop Auckland, the country residence of the Bishop of Durham, has suffered a similar transformation. The views from some of the castle windows are blotted with the black timber scaffold-work over coal-pits—presenting the outlines of grim and complicated gallows: groups of smelting furnaces, gorged with fire, are casting out flames and sulphurous smoke, and blighting every leaf within their influence: rows of cinder-colour cottages seem smouldering close by; and the country is darkened as a withered bean-field. Along the coasts, both of Durham and Northumberland, the victory of trade is forcibly apparent; but no where more so than in the rapid rise of the two Hartlepools.

About 19 miles east of Durham, as the crow flies, a broad cliff promontory juts out into the ocean, forming a sweeping bay on its south-west side. On the promontory stands Old Hartlepool: in the southernmost recess of the bay lies West Hartlepool. Between the two towns a natural channel runs some distance inland. This is called the Slake. At its mouth it has been deepened to afford passage-way for ships into the docks; for Old Hartlepool possessed the advantage of an inland pool so deep that it was easily and early converted into a dock and harbour for fishing-vessels. The greater part of Old Hartlepool lies between this pool and the south and east boundaries of the promontory. Three main streets start from the pool at short distances from one another: one to skirt it; another, equi-distant from this and the third, traversing the intermediate district and mounting the hill on which St. Hilda's storm-bleached church is standing; and the third formed of a long, irregular line of houses fronting the sea. Crossing all these at frequent intervals are smaller streets, chares, and narrow passages. The remainder of the promontory, the coast line facing the north, is scarcely occupied: it is an uncultivated tract, once occupied by St. Helen's Chapel and St. Helen's Well, and known as Farwell-field and Hart-warren, diversified with heaps and holes, on which the inhabitants spread their clothes to dry, securing them with heavy stones, on which a few pigs feed and a few stray poultry wander about. This space is, however, being gradually absorbed. Already, gas-works, engine-houses, the Durham Artillery-militia barracks, and Trinity Church,—a chapel of ease,—and its parsonage, have hemmed it in on three sides. The cliff-edge is but the moor with its length of sea frontage not yet built upon. Approaching the edge of the cliff, and looking over, you will see weird and fantastic arcades, cliff-high, jutting into the deep sea, and caves, and piled-up rocks, brown and green with sea-weeds and wares, upon the shore below. Here there are light and air and room; but in the cross streets of the town, the chares, and narrow passages, there are neither. What is that sullenness upon the waves, for a long distance out to sea, diverging from one spot among the rocks? It is the pollution of the town sewage: discharged there through a ring-bound iron tube held down by the loose rocks and exposed at low water. Following the line of sea-frontage, before we enter the town we pause before a low building running at right angles with it. It is surrounded by a wall which has miniature towers at the angles, about 3 feet higher than its coping; and before its gate lie 100 cart-loads of rubbish and refuse from the gas-works, in separate hillocks. But for an inscription its purpose would remain a mystery; but we may read that it is a militia artillery barrack, 1861. The dwarfish towers have sham loop-holes for long and cross bows; and the main buildings ensconced in this protection have the incongruities of dummy machicolations and chimney-pots, plate-glass windows and imitation bastions, and a fancy ridge tile spanning the steep slated roofs seen much above the toy ramparts. Military engineers have made some strides of late; but here they have lost an opportunity to show their skill. There is a real battery close by, with green cannons in it, and piles of red and black cannon-balls. Passing this, and a light-house and a rocket-house, we find the coast now faced with row after row of bow-windowed houses, having double doors to them,—Sedgewick-terrace, the Crescent, Albion-terrace, York-place. These are all small, neat houses, all in each row resembling each other; though on a very humble scale compared with those occupying similar positions in Scarborough, Dover, and Brighton. Out of this frontage there are various streets running inland,—Catharine-street, Rowell-street; Wood, Duke, and Hilda-streets, besides one or two more that are nameless. These consist of still smaller houses built back to back, with the smallest possible rear yards between them, which are made still smaller by a back-way reaching their whole length. The confined area of the yards makes them of little use for domestic purposes, and has led to the appropriation of the back public ways as drying-grounds; accordingly, we see every one of them full of white and coloured linen, dismally fluttering about like tattered banners that have been conquered from a foe. There are few foot-ways to these streets. It so happens that, if there is a foot-way on one side, there is seldom one on the other; and on the occasional instances in which there do happen to be two good foot-ways, the road is bad,—either unmade, or full of pools and hillocks only half trodden down. The favoured material for foot-ways, by the way, in Old Hartlepool is a sort of shingly cement, which appears to answer its purpose for some time after it is put down, but to possess the disadvantage of wearing out in patches, in which rain remains for hours after it has ceased to fall.

The cliff gradually loses its altitude along the length of road we have described; and the oldest part of the town lies so low and so close to the water that it has to be protected by a stout stone sea-wall. The road behind this wall, bordered with a raised footway, makes a good promenade, whence many a wistful eye scans the waters as storm-driven ships make for the harbour. And now from this lower quarter of the town the perplexing characteristics of the place are more apparent. Over the chimney-pots of the houses, gaze where we may, there do we see vistas of rigging beyond; and in open spaces, where there is wider view, there do we see windmills, tall planks piled up in timber-yards, and other signs of land, through veils of ropes and masts. This is the result of the position of the inland harbour mentioned. The houses facing the sea become of a more business-like character. There are dark lengths of glassless buildings whence clanking sounds as of iron on anvils are issuing, and then every house appears let out in offices. In one window is the notice of the Prussian consulate; in another, of the French; and in others, of the Russian and Belgian. The names of Danish and German merchants abound, as well as advices of ship-brokers, custom-house agents, and insurance-firms. In the cellars of these houses there are people at work,—here a man mending chairs, there a woman ironing linen; probably the custodians of the offices above, doomed, as part of their reward, to live below them. Flights of stone steps here and there lead down to narrow, dark passages under these houses into the next main street, or South-gate, behind; and in these deep and dark repulsive places—Story's Passage and others—there are tenements darker and drearier still, harbouring crowds of low and shameless women. We do not disguise this fact; on philanthropic grounds. At Hartlepool these unhappy creatures are to be seen flitting about at every turn, disappearing in their narrow alleys, and re-appearing, as in constant quest of the unfortunate seamen on whom they prey. Innumerable cases are brought before the mayor and magistrates,—the local press dishing up the reports to suit the tastes of this large community. In a single number of the *Hartlepool Free Press* which appears at the period of our visit, seven distinct cases have the following titles: "A Stocktonian among Hartlepool Sharks," "Robbery in a Brothel," "Steam-boat Molls," "Robbing a Pitman," "A Dissolute Mother," "All through Love," "A Barnard-castle Beauty." These pests, when no longer young, become irreclaimable drunkards and slatterns, live in fever-dispensing dens, and may be seen, with bare legs and feet, standing at their bleary doors, in tatters, unwashed and uncombed, smoking pipes, and setting an example to the young in their crowded neighbourhoods which no instruction or precept can counteract. These rank weeds should be rooted out; nor suffered to poison the moral atmosphere, and render unclean the condition of our towns. How is it to be done?

But all the yards between the Fish Sands' water's edge and the next streets are not so ill tenanted: there are honest fishermen living in some of them, whose wives and daughters are busy baiting hooks with mussels, whose houses have valances of fish hanging upon them to dry, whose nets are suspended on the walls. To such as these we say, all honour to honest labour and better houses to live in, where the doors need not be left open to admit the daylight, where there is room to move about in, plenty of water to wash in, and a good road before every man's door, so that it may be kept neat and clean. We see there have been some half measures adopted; for at every door at noon an old tub stands brimful of cinders, offal, and mussel shells, scattered about as play-things by crowds of children, waiting for the carts that should have conveyed the contents away soon after dawn. This is preferable to the heaped-up midden system; but more vigour and rigour are required to make it efficient here.

This sea-line of offices brings us up past the landing-stage of a ferry, by which the opposite

bank of the Slake is reached, to the Harbour-yard—a breezy, open space, on which are several brick sheds, a flag-staff with a gilded vane on it, and a wooden house beside it; spars and planks laid here and there, coils of mighty ropes, boats turned upside down, and the Coal Exchange Hotel. Steam tugs and boats are gliding to and fro in the harbour, which is nearly full of shipping.

The next street,—first, Southgate; then widening, and called the Market-place; then contracting, and ascending into High-street; then taking the name of Church-walk, as the houses on one side cease and St. Hilda's Churchyard blocks the way; and finally rounding off into Prissick-street as it nears the battery spoken of on the high cliff,—is an irregular street of shops, furnished with wares which are principally intended to catch the sea-going eye. Standing at the inland harbour end of the road, a wide view of the gently-ascending street, till it reached the cliff top, would be obtained, but for a mean little butcher's shop, which is allowed to project across the street, leaving the narrowest possible thoroughfare on one side of it, and this, too, within sight and in the line of traffic, of the harbour gates. The contents of the shops are worth a moment's pause. The inevitable ready-made clothier has a full-sized and full-rigged sailor blowing the trum of Fame, as a figure-head, over his doorway. The china-shops show mugs and jugs inscribed, "From a Sailor," "A Sailor's Present," and immense quantities of china rolling-pins, such as housewives use for making pastry, which have drawings of ships in full sail upon them, or "The Sailor's Return," or hymns in many verses, and highly-coloured representations of wreaths of flowers in numerous showy combinations. The shipchandler shows ropes, hanks of different-sized twine, mast-head lamps, cabin lamps, tarpaulins, sail-cloth, ship-carpenters' tools, padlocks, rope-ladders, handspikes, crowbars, hand leads and lines, paint-brushes, deck-scrubbers, paint tins, oil tins, life buoys, shark hooks, medicine chests, ships' bells, compasses, casks, buckets, mess-kids, culinary apparatus, scales and weights, tin canisters, log-glasses, funnels, and odd articles whose use it would be impossible to guess without having received a nautical education. The shops themselves are sometimes simply shops, with no houses over them; sometimes they have one story above, sometimes two; some few—a very few—have plate-glass windows, and look quite like London shops on a short visit. There are banks in this road,—one a new red-brick three-storied seemly building, the other an old-fashioned stuccoed house,—and the town-hall. This should have a word apart. It requires some search to find it, for it has a shop-front to it, and is easily passed and repassed before its municipal character is detected. It is a dirty, cemented, two-storied building, adjoining a butcher's shop. There is a pilaster on either side of it supporting a shabby cornice and sham pediment above. The lower story, having a double shop-front to it, is inscribed, "Central Sale-room" over the shopway, and has supplementary private doors on either side of this. As there is but little space for so many entrances, one of the pilasters has been cut away for half its breadth, to admit of the insertion of one of the doors, looking like the façade of a third-rate transpontine theatre, and forming, as a whole, as shabby a makeshift for a municipal edifice as could be well devised. The rear, too,—for we examined it, thinking perhaps a better front might face the sea-line behind,—is closely shrouded up with dilapidated back buildings.

On the same side of the way as the townhall, where the road is called Church-walk, is a two-storied house, once the marine residence of the Dukes of Cleveland, but now let out as a printing-office. Close by this is Raby-court, a passage full of old and ugly brick tenements, presenting poverty in some of its most dismal aspects. Facing these is St. Hilda's Church.

This venerable Early English edifice has undergone mutilations and additions, but has beautiful remains still. It is the choir of a large cruciform church, of which the nave and transepts and part of the sanctuary have perished. The tower, which was once at the point of intersection, is now at the western extremity, and, the arches built up, is now supported by immense flying buttresses without. Within, the condition is lamentable. The windows of the north and south aisles have been taken down and rebuilt vulgarly; part of the sanctuary has been destroyed, and the end built up vulgarly too; but the clustered pillars of the choir remain, with elegant Early English clerestory windows above them, — lancets splayed with columns, and with columns between each. An old flat wooden roof covers choir and aisles, showing, at the spring of the clerestories, marks of the ancient high-pitched roof. A gallery, at the present west end, which is the eastern side of the tower built up, occupies two bays of the choir. In this the organ is placed behind several rows of seats. There is a raised dais before the inner chancel arch, which is fitted up with tall oak pews, lined with many-coloured baize, rising with the steps, for the mayor and aldermen of Hartlepool, in which the seats have their backs to the east. This inner sanctuary arch is of Early Transitional character; but the fragment of the sanctuary is ceiled with a low plaster ceiling like a neat sitting-room. The communion-table is railed in with staircase balusters on a second dais: before this is a small brass on the floor representing "Jane Bell, a vertuous gentlewoman, late wife of the maire of the towne of Hartinpooll, 1593." The east end has a wide square-paned window of the same style as those in the aisles, *circa* Geo. I. & II., and is lined with high panelling, surmounted in the centre by two cherubim holding a spiked crown. A brief, granted by George I. in 1719, hands down word that the chancel was then "almost entirely unroofed, and the steeple, pillars, and walls of the nave so much decayed by the length of time, that the whole fabric will inevitably fall to the ground, unless speedily prevented by taking down and rebuilding the same, and repairing the decayed parts thereof." And the record of a parish meeting gives the additional information, that in September, 1721, it was agreed that the church and chancel should be continued at its full length and breadth, that the roof should be flattened to 4 or 6 feet pitch; that the north wall, if desirable, should be taken down and rebuilt,—

"But in fear of ye cash arising from ye brief may not answer ye expectation, ye said wall shall be referred unto ye last, yt ye said church shall be new flagged, pued, and whitened, and in respect of ye glory of ye antiquity of ye sd church, what repairs ye windows may want, they shall be wrought after ye same model as they now are, and as for ye chancel yt is referred until ye Earl of Scarborough's consent is got in writing, and yt ye steeple both inside and out be repaired."

Either the cash arising from the brief did not answer the expectations entertained concerning it, or the Earl of Scarborough only consented to the repair of part of the sanctuary; for half of it was abandoned, and the new wall built at half its length; and so much of "ye glory of ye antiquity" of the church, the tomb of the Royal Bruce, and all the interments that were once in the eastern part of the chancel, are now abandoned to the winds in the churchyard. The sanctuary has part of a chapel or aisle, with elaborately-moulded arches built up on either side. The north chancel aisle is a windowless coal-hole, approached by a bedroom-looking door from the passage-way dividing the pews in the aisle of the choir. The south chancel aisle, with arches similarly blocked up, and in a similarly dirty condition, is used as the vestry; the bedroom door into it corresponding. There are renovations going on. Heating pipes are being laid down. In laying down these pipes in the ambulatories, two stone coffins were struck, which were supposed to be Saxon; there was a skeleton in one of them, and two in the other; the three skulls were lying on a bench in the space under the tower, at the time of our visit,—a dirty, dark rubbish-hole. An infant's Early English stone coffin lid and other archæological relics were lying, blackened with filth, in the same charnel-like repository; various bones were also lying about, some of which corroborated the supposition that our ancestors were of superior stature to ourselves. The ascent to the belfry and top of the tower, approached from this same space under the tower, is in an equally neglected condition, probably unswept for years. About the church is the marygold-decked graveyard; and around it a common high splashed stone park wall is being built, because the children of the surrounding inhabitants, wanting recreation grounds, too frequently use the churchyard for a playground. A low wall with an open railing would have thrown the beauty of the ancient structure into the street, but the churchwardens have chosen to hide it. Around the churchyard are the Friarage—grey ruins of the Friary; a Roman Catholic chapel turned into a grocer's shop; a new parsonage; a Baptist chapel; the New Connexion meeting-house; the chapel of the "The Association," and a new Roman Catholic church, built of stone in the Early English style, all within a stone's throw; and beyond them are the labyrinths of small houses with rigging peeping up among them, and flashes of light from water in the open space where the harbour is; and, beyond all, a deep blue horizon of sea. The belfry openings are built up; one of the lintels is formed out of a sculptured stone having a galley delineated upon it. There are clearly no public-spirited antiquaries in Hartlepool. A careful examination and thorough cleansing of this fine but lamentably neglected fragment of a great historic church are imperatively called for, or, we must say as the George I.'s brief said, "the whole fabric will inevitably fall to the ground;" for, as a servant of the parish informed us, "our churchwardens are not men for discovering much; what they does is to daub and whiten the church up."

Many of the streets have no names: they are neither written up, nor do the inhabitants know them. In one case, after vainly attempting to learn the name of a street of small houses in which the road was more than usually unfinished and full of lakelets, we put the question to a resident, "How do you have your letters addressed here?" After a moment's consideration and a turn of the eye, the response was, "Near the police-station, sir." This typographical feature turned out to be in the next street, and by no means worthy of so much mark; for it is more like a small brick suburban villa in a poor neighbourhood than the abode of justice and the law. Another peculiarity that strikes a stranger is the absence of bonnets. As a substitute for this valuable head-gear, the women loitering about the streets lift their shawls over their heads instead of draping them from their shoulders. Scores and scores of little children are without bonnets, hats, or their substitutes, dirty shawls, shoes or stockings. To add unnecessarily to the disagreeables of a walk about Old Hartlepool, butchers skin, clean, quarter, and cut up bullocks in their shops open to the streets.

In skirting the pool we thread Minerva-place, a row of small houses overlooking Victoria Dock, and Friendship-lane, and coming to Middle-gate, another irregular line of shops, take a bend of the road called North-gate. Here are more shops, some with houses over them, and some without,—the Laurenson Hotel, the Cleveland Hotel; a Wesleyan chapel, heavy and sombre, and lanes and courts with no footways and gutters, and choked gratings occupying their centres. Exactly opposite Ropery-lane, a place of this description, there is a long tarred wooden shed, whose roof is sinking in, with a wooden hoarding round it. This is the theatre. It is closed and deserted, and simply cumbers the ground. Adjoining this are the gasometers of the gas company; and then North-gate turns into a road of the characteristic type of small brick houses with wooden shutters to the lower windows, and pebble footways in front of them, relieved with long lengths of hoarding enclosing timber-yards, with Baltic-street and Warren-street forking out of it, and, after running along the southern boundary of Hart-warren, passes the new chapel-of-ease — Trinity Church. This is surrounded by a black wooden paling, with wooden gates of admittance painted white. It consists of a nave with aisles, a chancel, a vestry on the north side, a porch on the south, and a bell-gable at the west end, in the Decorated style. There is a row of rain-water barrels against the north wall—an absurd, unsightly, and damp-engendering contrivance. Within the same enclosure is an Elizabethan brick parsonage. Without, the footways are made of cinders, and intolerable rubbish is strewed about. Countrywards, there are a few rows of new, small, brick houses,—Minerva-place, Dock-street, Hardwicke-street, Henrietta-street, back to back and face to face, with plenty of linen hanging out to dry between them. The small size of the houses does not prevent them from calling themselves hotels at pleasure, — one of them is pretentiously the Brunswick Hotel; another, the Raby Hotel.

Returning to the town, we observed, in Durham-street, a square occupied exclusively by cow-sheds and pig-sties. This arrangement would be as good as any other if it were further removed from human habitations, and if the limited-liability farm thus formed were kept clean. But in this case there are houses close by into which the soakage from the hovels and sties percolate; and the air is pungent with ammoniacal pollution. In the continuation of this street there is an Independent Chapel, at the corner of a row of houses called Brougham-street. There are eight three-storied houses here, let out in flats; behind each house is a tall three-storied midden, with covered suspended galleries to each flat. This singularly-arranged street brings us up to Stripe's Quarry—an immense hollow in the entanglement of streets; and then we see that St. Mary's Roman Catholic Early English Chapel is built upon its verge, so close to it that a settlement has taken place; and also note that the tower is at the east end: the apse at the west. A low wall and railing permit

us to see that the small space around the chapel is kept neatly, planted with shrubs and flowers, and furnished with rustic arbours. Of the Temperance Hall we should make some mention. When a new public building is erected there is no excuse for its not being an improvement to the vicinity instead of an eye-sore. Who is responsible for the erection of a two-storied quadrangular brick box, with long French windows in the upper floor, and chimney-pots at the angles, called by this name?

Let us turn our steps, next, to West Hartlepool.

NEW MATERIALS FOR THE LIVES OF BRITISH ARCHITECTS.

Sir John Soane.—In one of the last conversations I had with the *Builder's* well-informed correspondent and friend, John Britton (to whom illustrated England owes so much), our talk turned to a subject not much to his liking,—his old forgetful friend Sir John Soane. It arose, I remember (the subject was not of my seeking), from a discovery made by Sir Francis Chantrey (one of Soane's executors), and communicated laughingly to his "friend and assistant, Allan Cunningham," of an entry in the bank-book of Sir John Soane of a payment, to a well-known literary veteran, for what Soane considered "a good and acceptable service." The sum, if my memory does not fail me (and it is seldom wrong in matters connected with English literature and English art), was 500*l.*, and the service—the destruction, by "a well-known hand," of a portrait of Soane by Mr. Maclise. The portrait, hung in the rooms of the Literary Fund, was in no way a flattering likeness of the rich and able architect of the Bank of England, but one (to use Northcote's illustration) for the house-dog to acknowledge by a bark; unfit for "Lodge's Heads," a "Book of Beauty," or any future gallery of illustrious Englishmen. Soane thought, like Mrs. Oldfield, in Pope—

"One would not look quite horrid when one's dead,
And, Betty, give this cheek a little red;"

and with Queen Elizabeth as well, who, in her last years, never saw herself in a mirror, on canvas, panel, or coin that represented her truly. All this is written ramblingly, but still to the point. On this occasion (thus pleasantly brought to mind) Mr. Britton informed me that Soane, the son of a bricklayer, at Reading, in Berkshire, was born at Whitchurch, in Oxfordshire, and in the year 1755. If I remember rightly, he added, that he had gone to the expense of obtaining a baptismal certificate to that effect. My old friend Britton had, I suspect, some other motive than mere curiosity for obtaining the register of Soane's baptism. He got, however, the entry too late to annoy Soane (if such had been his intention); not like my clever and sarcastic friend the late Right Honourable John Wilson Croker, who, out of sweet revenge for Madame D'Arblay's refusal to aid him in his annotated Boswell, procured the entry of Madame Fanny's baptism at Lynn, and, by his skilful use of it in the *Quarterly*, threw a suspicion over the veracity of her printed "Memoirs," as I have heard Mr. Croker declare, with a sarcastic smile, and Madame D'Arblay complain of with a regretful voice and an ill-concealed tear.

I have mentioned Sir Francis Chantrey in connexion with Sir John Soane; and this mention of a name (very dear to a Cunningham) recalls an amusing anecdote of the great sculptor, touching Soane's affairs. Chantrey was left one of the architect's executors, but threw up the office partly from ill health, partly from disgust. Soane was scarcely cold in his grave when Sir Francis received the following note in the beautiful handwriting of Mr. Thomas Hill, of James-street, Adelphi, dry-salter and bibliopole, the Paul Pry of Poole, and the Hull of Theodore Hook, whose rosy and inquisitive face flits before me as I write.

To Sir Francis Chantrey, R.A., &c.

My dear Sir Francis,—When I last saw dear Sir John Soane he said in his usual kind manner, "My dear Mr. Hill, I have a book for you about my museum, but you must fetch it yourself. Come and taste my claret and take it away." Can you, as one of Sir John's executors, be the means of my obtaining this book?—I am, dear Sir Francis, yours very faithfully, Thos. Hill.

To this Chantrey thus replied, drafting his reply on the back of Hill's letter:—

To Thomas Hill, Esq.

My dear Sir,—I have resigned the Soane executorship and therefore cannot get you the book or the claret. Will you dine with me on the 26th, at ½ p. 6 and taste my claret?—Yours very truly, F. Chantrey.

Tom accepted, and was at the sculptor's table to a moment, ready for Chantrey's woodcocks (not the Holkham brace immortal in marble) and Chantrey's wines, always of the best. My rosy friend, it is right to relate, had his usual banyan or Duke Humphry preparatory meal, one day preceding the Chantrey dinner—his custom always on turtle and turbot occasions.

Of the early life of the Bank of England architect very little is known; nor was Sir John, I have heard, willing to talk of his early days. That he was at Rome in his twenty-fourth year (1779), a portrait of him in his museum, painted by Hunneman, in that year and at Rome, is our only evidence. That what he saw was not lost upon him we have ample proof in his own works and in the large collections he left behind him.

Soane got his first footing within the charmed pale of the Royal Academy in November, 1795. He was then in his fortieth year, and *West* was president. Nor was his rise from the lower class so rapid as he could have wished. His signed diploma as an R.A., or one of "forty," is dated the 8th of April, 1802. Sir William Chambers was then dead.

Soane lies buried, not with Wren in St. Paul's, or Chambers in Westminster Abbey, but near to Flaxman, in the St. Pancras burying-ground of the parish (St. Giles) in which he lived and died. The handsome cenotaph which covers his remains holds those of his wife, who died in 1815; and of John, the elder of his two sons, who died in 1823, at the age of thirty-seven. George, his youngest son, took to literature, and was somewhat harshly, it is thought, disinherited by his father. I have seen, however, a letter written in 1824, by the late Dr. Croly, the poet, to the son on the subject. The father was willing to forgive and to forget; Kitchener interposed; and the offer of the father was made to the son through Kitchener, and in these terms:—"Let my son keep to any decided or regular pursuit for two years, and I will be reconciled to him." It is painful to think that the terms were never carried out, and that the reconciliation never took place.

His looks are preserved to us by the hands of four of his contemporaries skilled in catching a likeness, and something more. Lawrence has refined upon his face with his customary delicacy; Owen has massed the features of the man of *forty-eight* with his usual breadth; Jackson has painted him when old and parsimonious, age-worn and anxious; Chantrey has caught him in all his moods—he is sagacious, querulous—thinking of Inigo and Wren, the Three per Cents., and the Belzoni Sarcophagus. The Chantrey bust bears the following inscription:—

JOHN SOANE, Esq., R.A.
Presented, as a Token of Respect, by
FRANCIS CHANTREY, Sculptor. 1830.

This was a complimentary return for the exquisite little gallery which the architect designed for the studio of the illustrious sculptor. Chantrey was not given to compliments of this kind. I can call to mind only one other instance,—the bust of Sir Walter Scott, undertaken at the instigation of my father, and presented to the great Unknown at the instigation of the same person. That Chantrey looked for more than an empty executorship from Soane was often hinted at the time, and not wholly without foundation.

And this reminds me (O! the pleasures of memory) of another anecdote. When (1829—1833) Allan Cunningham published his "Lives of the Most Eminent British Painters, Sculptors, and Architects," he made three dedications to his six volumes:—The Painters he "inscribed" to his friend, Sir David Wilkie; the Sculptors he "inscribed" to his friend and master, Sir Francis Chantrey; and, at the instigation of Chantrey, he was, for the sake of uniformity, induced (somewhat unwillingly) to inscribe his volume of Architects to Soane, with whom he had no kind of personal acquaintance.

I have seen Soane's letter of thanks to the author; but the old dedication-fee, which Chantrey laughingly foretold the architect would give, from vanity, was never offered; and, I need hardly add, never for a moment expected by "honest Allan Cunningham."

The hereafter of Soane as an architect has not been fortunate. His corridor and other work in the old Houses of Parliament a famous fire destroyed; Barry paid no Burlington reverence to his Board of Trade, Whitehall; still more recently, Mr. Cockerell has altered his Bank of England; and only the other day his well-designed "State-Paper Office" was levelled to the ground. Yet his name will live among architects for his wonderful skill of giving breadth of effect and beauty within narrow limits, and, rarer still, well-considered and seldom exceeded estimates.

The recent compulsory removal, by the costly machinery of an Act of Parliament, of the Hogarths from the Soane Museum to Fowke's-hall was an unwise proceeding. However desirable it may be to get together as many Hogarths as may be got, the wisdom of stripping a bequest, and in such a season of sight-seeing, of much of its value, holds out little temptation to other would-be public benefactors. With equal propriety, Lords Westminster and Charlemont might have been compulsorily required to lend *their* Hogarths to the South Kensington caterers; or the Soane trustees may even now, on such a precedent, be called upon to send the Belzoni Soane Sarcophagus to the trustees of the British Museum. From Lincoln's-inn-fields to Bloomsbury is not very far. Happily, *how* to get the Sarcophagus out of Soane's house into the street without pulling the house half down, is indeed a difficulty, and would form a fitting subject for a paper to be read at the next meeting of the Royal Institute of British Architects. Peter Cunningham.

NOTES OF THE INTERNATIONAL EXHIBITION.

In a very few days the wonderful collection at Brompton will be broken up and dispersed; and those who have not seen it will have matter for regret for some time to come. We urge upon all the desirability of avoiding this annoyance, and of benefiting, so far as they yet may, by the lessons it teaches and the beauties it offers. Such of our workmen as have not examined at any rate the department with which they are most concerned have thrown away an opportunity of culture and intellectual advance that may not occur to them again while they are in a position to avail themselves of it.

Some steps must now speedily be taken to ensure the preservation of, at any rate, the picture galleries, which are built for permanence and must on no account be destroyed. Some suggestions on the subject will be found on another page. It is certain, we fear, notwithstanding the assistance that will be given by the presence of the Prince of Wales for the delivery of the medals, that the whole of the building, under the terms of the contract, will remain at the close of the Exhibition the property of the contractors. We cannot bring ourselves to believe that so absurdly wasteful a course as the destruction of the building for the mere value of the materials will be permitted.

Gothic Iron Safe.—A medal has been given to Carl Hauschild for his wrought metal safe, in Gothic guise, shown in the department of the Zollverein. It is a handsome piece of work of its kind, with elaborately-wrought hinges; the plain portions of the safe being covered with a red lacquer, and terminating in a fanciful brattishing. To what extent it may be actually a fireproof safe, or whether it is but a pretty deceit, we have no means of telling: the medal is for excellence of workmanship. Looking inside, this excellence is specially apparent; and about the lock, we find a well-engraved legend, which says, if we remember it well enough to translate, it is safe against thief and fire, while it is in the Master's hands; but, unless the Lord keep watch, a lock is of no avail;—a paraphrase, in fact, of a text that will at once occur to the reader. Touching the capability of safes to resist fire, we fear many that are sold in England with that character are mere deceits. An American paper describes the proofs offered recently by the agents of two rival iron-safe manufacturers. The one was a Yankee: the other wasn't. He that wasn't told his story. A game cock had been shut up in one of his safes, and then it was exposed three days to the most intense heat. When the door was opened, the cock stalked out, flapped his wings, and crowed loudly, as if nothing had happened. It was now the Yankee's turn. A cock had also been shut up in one of his safes, with a pound of fresh butter, and the safe was submitted to the trial of a tremendous heat for more than a week. The legs of the safe were melted off, and the door itself so far fused as to require the use of a cold chisel to get it open. When it was opened, the cock was found frozen dead, and the butter so solid, that a man who knocked off a piece of it with a hammer had his eye put out by a frozen butter splinter! We don't ask for such a result as this; but we do maintain that a safe sold as fireproof should stand fire.

The Watchful Bed.—Near this safe is the mechanical bed from Hanover, fitted with mechanism (wasted ingenuity) which will first ring a gentle alarum to rouse the sleeper; strike a light for a lamp and another to boil a cup of coffee; repeat the alarum in louder tones if the first bell has failed; pull off the sleeper's nightcap if still somnolent; and ultimately, enraged by the neglect

of warnings, tilt the occupant on to the floor. It is simply a toy. We have watched the operations more than once; and beg any railway traveller, who may be led to order one by his desire not to miss the train, always when he uses it to employ some careful person to sit up with it; or he may wake one morning on the floor, with a broken arm, and only in time to escape from a house on fire.

India-rubber Mats.—Before leaving this department, look at the very elegant patterns, Moorish in style, in which the india-rubber mats of Albert Cohen, Vaillant, & Co., of Harburg, are formed. These are much more pleasant to look at than to walk over.

Consolidated Emery Wheels.—India-rubber is being used in all shapes. The proposition to make deal boards out of saw-dust used to cause a laugh; but what is that to making grind-stones out of emery and india-rubber! This has been done for some time in America; and now Messrs. Warne & Co., of Tottenham, are making them out of emery and the curious substance, a substitute for india-rubber, lately introduced by Messrs. Walton & Co., of Chiswick, called "oxydized oil." This compound, which can be manufactured at a much lower price than caoutchouc, is said to be capable of being vulcanized and hardened to any degree that may be required. The consolidated wheels, composed of hardened oxydized oil and emery, can be made of any dimensions, from a few inches up to 2 feet in diameter. For cutting, grinding, and polishing iron and steel, the speed of the surface of the periphery should be about 6,000 feet per minute. We saw one tested the other day, grinding bars of steel and iron, and we are disposed to think they will be found of considerable value. The wheel is in the Western Annex. The singular manufacture of artificial india-rubber is of itself a matter of much interest, and is likely to lead to many useful inventions.

Coal Mines.—The Eastern Annex contains some very complete and interesting models illustrative of the mode of conveying coals underground in mines, by Messrs. Lindsay Wood & John Daglish, of the Hetton Collieries, Durham: self-acting inclined plane (the gravitation of the loaded waggons passing downwards drags the light waggons up the plane); fixed steam-engine plane; double-acting pump on movable frame, worked off the axle of the tail-rope sheave, specially adapted for pumping water at considerable distances from the shaft; self-acting doors, for directing the ventilating current in mines on engine planes, by William Moor; and the mode of ventilating coal mines.

These models show systems actually in operation in the Durham district.

Blake's Stone-breaker.—This machine, which is shown in the American department, is intended for breaking stones for concrete, railway ballast, or for roads; and it crushes flints, granite, greenstone, and the most obdurate trap boulders to any dimensions required. We should like to see such a machine in use in this country; in lieu of poor men on the roads. The machine contains two jaws,—one, next the end of the machine, fixed; the other movable, working upon a pinion at the raised part of the machine just before the fly-wheels. Both jaws are armed with teeth, in the form of vertical grooves. The movable jaw inclines at an angle more or less acute, according to the dimensions it is required to which the stones should be crushed or broken. This angle is regulated by a simple contrivance behind the movable jaw, which is put in motion by the action of the fly-wheel working on a crank. The stones to be broken are put into the fore-part, as into a hopper: the movable jaw advances and recedes from the fixed jaw: the stones descend and are masticated, and issue from the lower part of the machine in fragments of the size required. The machine is worked by hand-power or steam-power, according to its dimensions. As to capacity, a three-horse machine will crush a stone 10 inches by 5 inches at the rate of four cubic yards per hour.

Beardsley's Earth Elevator.—The earth elevator is also American. It is meant chiefly for drain cutting and ditching, and has in view rapid working, and the saving of hand labour. The elevator has six spades, three on each side. The spades are made of boiler iron, and have a strong socket handle riveted firmly to the blade. They are driven into the soil one by one, at an angle through a strong iron frame. These frames have each an arm that passes by each other, and are secured together by a bolt and nut. A strong chain passes from the end of one arm to the other. This chain has a centre ring, in which the trip-hook is hooked when the elevator is ready to be drawn up. A small chain passes from each side of the trip-hook down to the elevator to open it. A brace extends from the spade handle to the next opposite handle, to keep the spades at the angle at which they are driven in the earth. When the large centre chain is dropped, a latch is pulled, and these braces are closed together, letting the spades assume a perpendicular position, and discharge their load. The elevator is hoisted in a gin, and may be worked by hand, horse, or steam power. This gin is made of four poles, 20 or more feet in length, secured in a frame at the base, and meeting together at the top. Half-way up the poles are secured timbers for a railway, on which a dumpany car is made to move, to receive and carry off the earth raised in the elevator.

Thwaite's Architectural Models.—The models of a church and other buildings, executed by Mr. C. N. Thwaite and shown in the Architectural Gallery, deserve great praise. These are carved with the knife out of cardboard, and are remarkable for delicate and careful manipulation. If models of designs were oftener made before the erection of the structure than is usually the case, advantage would result; and a better man for the purpose than Mr. Thwaite does not occur to us.

PRODUCTS AND WORKS OF THE KINGDOM OF ITALY.

The Italian Commission have published a valuable descriptive catalogue of the contributions made by the kingdom of Italy to the International Exhibition. The importance of these contributions is shown by the fact that the number of Medals and Honourable Mentions awarded to the Italian exhibitors has far exceeded that given to any country except England and France. Once properly consolidated, with Rome for her capital and political strife at an end, and a Future is open to Italy worthy of her Past. Looking through the catalogue, we avail ourselves of some of the information it presents on various points.

Marble.

A general description of the various marbles will be found. Statuary marbles the reporter divides into statuary marbles proper and those of lamellar structure, having for type the marble of Paros. The statuary marbles proper are divided into several qualities: those of the first quality are exclusively obtained from the Apuan Alps, and may be referred to four types, which are as follows:—

1st. The statuary marble of Monte Altissimo, superior to all others, and universally preferred by sculptors, is the dearest. Of this class are the marbles of Girardino, those of Tambura, and Arni, the large specimen exhibited with the breccias of Massa, and a few others.

2nd. Yellowish statuary marble of Carrara or (*giallognolo*), which is principally obtained from Cressola.

3rd. Bluish (*statuario ceruleo*) marble, having for type that of Poggio Silvestro, near Carrara.

4th. Snow white (*bianco niveo*) marble, which is represented by that of Monte-Corchia. The extreme whiteness of this variety is considered objectionable by sculptors, as rendering it unfit to reproduce the effect of flesh; and a defective quality of the grain to which it is subject renders it of inferior value to the preceding varieties.

The presence or complete absence of spots or veins, and the greater or less homogeneity of the mass, are the essential elements which determine the price of statuary marbles.

After the first class come the statuary marbles of the second class. This term is generally applied to all marbles of a defective structure.

Some of these may be grouped around well-defined types, such as the second quality of Monte Altissimo, and those of Massa and Seravezza.

The marble of Betogli, among the specimens from Carrara, forms another type belonging to this group, of which the principal characteristic is the feeble cohesion of its particles, and consequently slight durability. It has, nevertheless, rather a fine appearance; and, as it is easily worked, it commands a ready sale. This class of marbles, which are known to artists as *saloni*, should be avoided as much as possible for all works of sculpture. The well-known flexible marble of Carrara approaches very nearly to this type.

The white marbles of saccharoidal structure are those which are now principally preferred by sculptors. The most perfect blocks that could possibly be obtained are those of lamellar structure, derived from the quarries of Campigliese and the island of Elba. As regards saccharoid marbles, they are exclusively obtained from the Apuan Alps, and more especially from the wild mountains which rise above Carrara, Massa, and Seravezza. Large quantities of marble were obtained in the time of the Romans, from the mountains of Lunigiana (*Montes Lunenses*); and the name of Carrara statuary marbles is known all over the world. Leo X., Cosmo I., and Francis I., of Medicis, devoted much of their time and attention to the working of the marbles of Seravezza, the excellent quality of which was demonstrated by Michaelangelo, as well as the difficulty of obtaining them "until the mountains were lowered and the inhabitants tamed," two processes which have never been fairly accomplished until a very recent period. The extraction of the marbles of Seravezza has been re-established on a large scale, Russia alone having taken them to the amount of one million roubles (about 150,000*l.*) for the construction of the cathedral of St. Isaac, at St. Petersburg; and the population of the district of Pietrasanta has increased in thirty years (from 1819 to 1850) from 15,495 to 23,200 inhabitants, or nearly 50 per cent.

Statuary of the first quality is sold at Florence for 56*l.* per cubic metre; statuary veined, for architectural purposes, 24*l.*; clear white marble, of good quality, 16*l.*

Burnt Clays.

The use of bricks is very extensive in Italy wherever clays are met with. They are chiefly made by hand, although in some places machines are used for mixing and grinding the clay, especially in the making of perforated bricks, drain and water pipes of various shapes, tiles, bricks, posts, &c. The preference given to manual over mechanical labour arises obviously from its lower price; but its present increased dearness has caused the introduction of machinery.

Generally, these products are satisfactory. The most part of the bricks made in Italy resist a pressure of 40 to 50 kilos. without breaking; and there are instances of great works in which the walls, built exclusively of bricks, resist a permanent pressure of 13 and even of 15 kilos. per square centimètre.

As regards the superior economy of the use of baked earth and cements, lime especially, the decisive question is the cost of the fuel employed, which is generally wood. An experiment upon rather a large scale, and which gave useful results, was instituted in 1846, by the Sub-Alpine Government, with English coals, which are used in various parts of Italy. But in several places the more economic use of lignites has been introduced. These are found occasionally in the Apennines; and peat also is used, which abounds in the turbaries at the foot of the Alps.

Inlaid Stone Work.

The manufacture of mosaics in silicious stones, *pietre dure*, confined up to the present time to the Royal Gallery of the *pietre dure* of Florence, has been gradually developed elsewhere, through the efforts of several distinguished artists, who have directed their chief attention to works of a more moderate price and of larger sale. The *pietre dure*, consisting in varieties of quartz, felspar, granite, and porphyry, from different parts of Tuscany, Sicily, the Alps, and the remote regions of Russia and the East, are substituted by other stones of different degrees of hardness, which renders the work more easy, and, consequently, of lower price. This manufacture is called Florentine mosaics, a term often wrongly applied to mosaic work in general; and which, for this reason, we wish to distinguish from the work in *pietre dure* properly so called.

It is almost superfluous to remark that artists generally do not undertake important works in this material; peculiar skill being required both in design and execution.

Next to Tuscany and Florence, the best work of this kind is made in Sicily; although at Naples other stones and lava are cut, but without making mosaic work, as at Florence.

We need not descant here upon the long and laborious processes, or the difficulties which have to be surmounted in the choice of the stones, and the taste and care required, as well by the designers as by the workmen employed in cutting and adjusting them.

Sculpture in alabaster has been much developed in Volterra and Tuscany, near the localities whence the material is extracted.

At present Mr. Viti and Mr. Tangassi are the most enterprising in this branch of art: to the former we are indebted for a new method of hardening alabaster, by which means we can obtain works with ordinary labour from coloured

alabaster, which are as hard as marble and other hard substances.

Wood Carving.

Sienna exhibits the history of wood carving in all its phases. It flourished most in the fourteenth century, but declined from the seventeenth to the eighteenth. During the present century it again recovered its old position, both as to taste and workmanship, under the care of several distinguished artists.

We can trace the art of the fourteenth century in the massive structures placed in the panels of the choir of the Cathedral of Sienna in 1387. During the following centuries, we see the works of such masters as Francesco Tonghi, Thesée de Bartalino, Benedetto Giovanni de Montepulciano, and of Antonio Barili, in the cathedral, the town-hall, Mount Olivet, and elsewhere.

Antonio Manetti and Angelo Barbetti were the first to attempt the restoration of this art in our days; and it has since reached a high degree of perfection, by the works of Antonio Rossi, Pietro Giusti, Lodovico Marchetti, Anges Lombardi, Pasquale Leoncini, and Achille Lavagnani. We owe to Mr. Giusti the revival of sculpture in ivory. He is superintendent of the school of ornamental design at the Royal Institute of Sienna, which receives 150 pupils, whose attention is principally directed to sculpture.

Casting in Bronze.

The art of casting in bronze has been known in Italy from the very earliest times, as is shown by the numerous works belonging to the Etruscan and Roman periods now exhibited in our museums. Naples, Rome, Florence, Turin, and Milan have in our own day executed castings of great value: they contain several important foundries conducted with much ability. The ornament that surmounts the Arch of Peace, at Milan, representing, in colossal proportions, Peace on a triumphant car, drawn by six horses, and surrounded by four steeds ridden by Fame, was cast in bronze. This work required 640 quintals of metal. The melting and the running off were done in the Manfredini establishment, at La Fontana, near Milan. The statue of Charles Emmanuel of Sardinia was cast subsequently. In the foundry of Mr. Papi, at Florence, several pieces of sculpture, such as the Abel and Cain of Mr. Dupré, and the head of David, have been produced. It is now preparing to cast the whole of this colossal statue. We must also mention the foundries of Mr. Cali, at Naples, and of Mr. Colla, at Turin. The Manfredini establishment, having completed the works already mentioned, was compelled to bestow its attention on works of smaller size; and it is now reduced to casting bells, which are made of a new kind of bronze, invented by the Brothers Barigozzi, and differing in the proportions of the various metals from that formerly used. Many artists who had been employed in these great works, and had acquired considerable skill, established small crucible castings for timepieces, candelabra, lustres, small ornaments; so that the manufacture of articles in bronze, which already existed in Milan, increased considerably in consequence of its division. The foundry of La Fontana could still be used for every kind of casting.

The foundries of church-bells are still very numerous in Italy, and retain considerable vitality. The smaller ones also make plates of brass. In past times this art was of great importance; but even now this plate-brass is used to manufacture chandeliers, lamps, ornaments of every kind, portions of engineering instruments, taps of all sizes, &c. At Saint Apollonio, in the valley of Lumezzano, province of Brescia, there are twenty-four small foundries for making plate-brass for the hilts of weapons, and other articles in domestic use.

Works in Coral.

Coral is an important branch of industry and commerce in Italy. Genoa, Leghorn, and Naples have been from old times the three great entrepôts to which the raw material has been carried, and where skilful artificers have established themselves in order to work at its transformation. Coral is obtained in large quantities in the Mediterranean and at considerable depths, of from 200 to 600 feet. Four varieties are distinguished; — 1st. Red, which is subdivided into deep crimson red, paler red, and vermilion, which is very rare; 2nd. Black; 3rd. Clear white; 4th. Veiled white, which is the most common. The produce of the fishery varies from one year to another; and even in the richest spots the fishery should only be carried on at fixed intervals. The coasts where this precious zoophyte is found in the greatest abundance are those of Corsica, Sardinia, Provence, Africa, the vicinage of Trapani, and the Straits of Messina.

Three hundred and forty Italian barques, manned by three thousand four hundred sailors, are employed in this fishery. The profit realized on the average by each boat is from 280*l.* to 320*l.*; and the total profit may be estimated at 180,000*l.*

The raw coral is sold in the markets of Genoa, Leghorn, and Naples, where it receives its first polish, and undergoes its successive manipulations.

The price of the raw coral varies according to the size of the pieces:—

	£ s. d.	£ s. d.
The smallest, called Ferraglio de Sardaigne, by kilogramme, from ..	0 0 9	to 0 0 10
The smallest, Barbarie.....	0 1 10	to 0 2 2
Medium size, Fanagliatura.....	1 1 6	to 1 4 2
Large size, Fanagliatura of Sardinia	..	4 4 0
Large size, Fanagliatura, of Barbary	..	4 12 6

Besides several secondary establishments, there are in the city of Leghorn four principal manufactories for working in coral. Each of these employs from 250 to 300 workmen; this branch of industry thus giving occupation to a thousand women. The coral which is annually wrought into little globules, round, egg-shaped, smooth, or cut into facets, &c., amounts to 25,000 kilogrammes. The greater part is sent to the East Indies by way of Marseilles. A large portion is exported into Germany, especially for necklaces of an inferior quality, destined to serve as funeral ornaments. It is also sent into Russia, where this article is in great demand. The total value of these exportations is not less than 20,000*l.* Naples and Sicily derive an annual profit of 88,000*l.*

The quantity of coral brought yearly to Genoa amounts to 36,950 kilogrammes, worth 480,000*l.* There are twenty-four coral sellers in this city, fourteen of whom have their own manufactories.

The greater part of the coral is wrought into beads: this work, which consists of three different operations, cutting, piercing, and rounding, is executed by the country people, and principally by the women of the Val de Bisagno. The manner in which it is distributed among the inhabitants of the different communes of the valley affords a fine example of the principle of division of labour. All the workmen employed in cutting belong to about one hundred families in the *commune* of Assio; those in piercing and rounding, to about sixty families, living in other parts of the valley. Each village works exclusively at beads of a fixed size. The inhabitants go to Genoa to procure the raw material from the coral-sellers, and to take back the coral which they have wrought. In Genoa, each manufacturer employs from ten to twenty women or more, who submit the coral to a preparatory process before it is given to the workers of Bisagno.

Upwards of thirty men or women are employed in their own homes in cutting coral with facets. There are perhaps thirty engravers of cameos on coral.

Without exaggeration, it may be affirmed that from 5,000 to 6,000 persons in the province of Genoa gain their living, either by fishing, working, or selling coral; and that this craft produces a revenue of 80,000*l.* Genoa exports its coral to Austria, Hungary, Poland, England, Madras, Aleppo, and Calcutta.

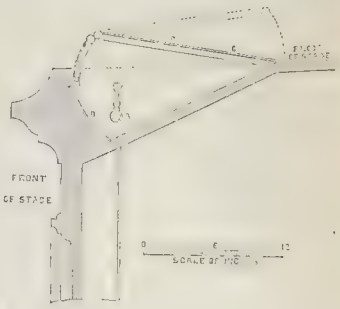
THE PROPOSED BRIDGES AT BLACKFRIARS.

Comments have reached us from several correspondents on the fact that, if the spans of the arches of the two bridges illustrated in our last were adhered to, the piers of the two bridges would not coincide, and thus serious obstructions to the navigation would be created. Considerable alarm has been, naturally, manifested. We are able to remove this. Our article correctly described the design selected by the Court of Common Council for the road bridge. Since that occurrence, however, it has been decided that the openings of the railway bridge shall be of the reduced dimensions given in the latter part of our article; and the design for the road bridge will, we are told, be so modified in execution, that the piers of the two bridges shall coincide.

We take the opportunity to supply an omission in our notice. The engineering of the London, Chatham, and Dover Railway bridge is in the hands of Mr. Cubitt and Mr. F. T. Turner jointly, as engineers of the metropolitan extensions of that railway; not of Mr. Cubitt alone, as in the case of the road bridge.

THEATRE-FITTINGS: IMPROVED SAFETY FOOTLIGHTS.

In the account this week given of works in Detroit, U.S., mention is made of an arrangement of footlights patented by Mr. G. W. Lloyd, which closely resembles the arrangement recently adopted in Paris and described in our pages. The patentee says in his schedule:—"The nature of my invention consists in placing the light



IMPROVED SAFETY FOOTLIGHTS.

A in a trough sunk in the front of the stage below the ordinary floor level, as shown; and employing a continuous reflector, B, to reflect the light at such an angle and direction as may be desired; the back of the reflector forming a screen from the audience; the arrangement admitting also of the reflecting on to the stage lights of any colour by the substitution or insertion from below, or otherwise, of suitable reflecting surfaces." A covering of fine metal wire-cloth is provided at C, above the burners, to prevent contact with the dresses of performers. This is hinged, to admit of access for any purpose.

The machinery of the new Vienna Opera House is to be worked by a steam-engine of eight-horse power.

The new theatre in Cologne is not spoken well of: it is thought unworthy of the town.

REFERENCES.

A. Gas-jets and Pipe. B. Reflector.
C. Wire Cloth Guard

THE QUEEN'S CROSS, NORTHAMPTON.*

It is pleasing to be able to record that, with the revival of Gothic architecture in our country, a great and manifest improvement has taken place with respect to memorials of the dead. Many are now to be found, not only chaste and appropriate in design, but Christian-like in character. This, I think, is especially true with reference to memorial windows, many of which are truly beautiful and expressive, and eminently calculated to improve the taste and, what is of far higher importance, to aid in the cultivation of the moral and religious feelings of the people. I might cite many examples of the former also, in proof of my opinion, but will content myself with one. What can be more beautiful, what more appropriate, than the exquisite monument by Mr. G. G. Scott, reared in the heart of that city, for ages renowned as the seat of learning and piety? I allude, of course, to the memorial of those great and noble men whose names have long since been added to the vast catalogue of that noble army of martyrs who now swell the chorus, "We praise Thee, O God." Be this, however, as it may, I think it cannot be disputed that the monument to which I have the honour of calling your attention to-day is one of the most chaste, graceful, elaborate, and, withal, beautifully appropriate specimens of memorials of the dead to be found in the United Kingdom, or in any other part of the world. Its appropriate beauty as a work of art is rendered more sublimely beautiful from the recollection that it stands on the wayside hill, not only as a memorial of one who is no more, but, at the same time, a visible and tangible manifestation of conjugal affection.

It is not my business to indulge in the sentimental; neither have I the time, if I had the inclination, to give you the history of memorial crosses in general, or of the Queen's Cross in particular. The history of the latter has been ably

* Read by Mr. E. F. Law, at the last meeting of the Northampton Architectural Society.

written by the Rev. C. H. Hartshorne, Mr. Britton, and others; and, as most of you, no doubt, are as well or better acquainted with these than myself, I shall refrain from attempting the historical, and confine myself to a description of a few particulars arising out of a discussion which took place on the occasion of the late visit of the British Archæological Association to our town, a few weeks ago.

In consequence of that discussion I have been induced, with the assistance of my sons and Mr. Irvine, the able clerk of the works at St. Sepulchre's, to make plans, elevations, and detail drawings of the Queen's Cross, from actual admeasurement. The plans and elevations are drawn to a scale of 1 inch to the foot, and most of the detail the full size of the original. I may perhaps be induced to publish these drawings; but, whether or not, I intend to present copies of them to our Architectural Society if the committee will do me the honour of accepting them; and I shall do so with the fullest assurance that, being in possession of such a society, they will become a guarantee that in any future restoration of this beautiful memorial no deterioration will be allowed to occur, other than that which may already exist.

It will perhaps be as gratifying to most of those whom I have the honour to address as it is to myself, to learn that the several restorations of Queen's Cross have been carried out in a faithful and judicious manner. After the most careful examination we have arrived at the conclusion that no material alteration of the general character of the structure, or of the detail connected therewith, has ever taken place. Indeed, so carefully, perfectly, and, upon the whole, so faithfully have the restorations been executed, that, had it not been for the varieties of stone used in the several restorations, it would have been difficult to ascertain precisely where some had been effected. Moreover, our examination has ascertained the fact that there is so much of every part of the original still remaining, that a structure exactly like the original might be made from these remnants. The drawings now before you, even of the most minute detail, have been made from portions of the original masonry.

With your permission I will now proceed to the discussion to which I have referred, and which will form the basis of the residue of my remarks.

In consequence of the sweeping assertions of Mr. Roberts, the architect, on the occasion of the meeting of the Archæological Association at Northampton, I was induced to address a letter to our local journals somewhat in opposition to these assertions; and I must confess that I was highly amused with Mr. Roberts's reply. It was kind and gentlemanly, it is true; but, instead of meeting my observations by argument and facts, he says, "Fancy the outcry that would be made if our favourite Titians, Raffaelles, Hogarths, and Turners were to have each a few square feet cut out, and replaced with new canvas and copies of the original." No doubt there would be an outcry, and very properly so too; and I should be one of the first to join in the chorus; but there is no parallel in the illustration in the case before us. Who would be such a barbarian, I had almost said barbarian and idiot, as to cut out a few square feet either from a picture or statue, or even from a stone monument, for the sake of putting it in again? But I ask Mr. Roberts, that if he possessed a "real Titian, Raffaelle, or Hogarth," and by accident, or by the effect of the ruthless hand of time, a rent or some other damage occurred to the picture, whether he would not hail with delight and satisfaction the artist who should, by great skill and judgment, restore the defect, while leaving the residue of the original untouched and uninjured in all its original beauty and purity?

I am fond and proud of the glorious works of our forefathers in every department of art, and am prepared to venerate them; but I am free to confess that I am not so antiquated in my fondness, pride, and veneration, as to allow them to become defunct rather than lend a helping-hand towards their proper and legitimate preservation.

I have said that, in my opinion, the restorations at Queen's Cross have, upon the whole, been carefully and faithfully executed; and, with all due deference to Mr. Roberts, who says that no precedent could be found for one tittle of the last restorations carried out by Mr. Blore, I still maintain it.

One of the most extensive restorations, I apprehend, took place in the year 1713, in the reign of Queen Anne, as witness the Latin inscription upon a tablet placed upon the cross at that time, a translation of which is as follows:—"For the perpetual commemoration of conjugal affection the honourable assembly of magistrates or justices of the county of Northampton resolved to restore this monument to Queen Eleanor, nearly fallen into ruins by reason of age, in that most auspicious year, 1713, in which year Anne, the glory of her mighty Britain, the most powerful avenger of the oppressed, the arbitress of peace and war; after that Germany had been set free, Belgium made secure by garrisons, the French overthrown in more than ten battles, by her own and by the arms of her allies, made an end of conquering, and restored peace to Europe, after she had given it freedom." Now, I respectfully ask Mr. Roberts whether that was a period when anything half so chaste and beautiful as the forms and detail of our cross would have made their appearance if the workmen engaged in the restoration had not most carefully copied the sound parts of the original? I trow not; for, of all periods in the history of art, that was, perhaps, the most unlikely for anything half so beautiful and pure in Gothic art to have emanated from the brains of the architects or chisels of the masons. Again, on another tablet was an inscription of which the following is the translation:—"Again repaired and restored in the second year of King George the Third, and of our Lord 1762.—N. Baylis."

Now, I think Mr. Roberts will agree with me that this was a period equally unlikely with the former to have originated design and detail like that of Queen's Cross. Then, lastly, we come to the restorations executed under the joint superintendence of Mr. Blore, the architect, and of the late Northampton historian, George Baker, Esq., and Miss Baker; and, concerning these, I have no hesitation in saying, from personal knowledge, that the most judicious and sacred care was manifested in preserving every particle possible, and every peculiar feature of the detail of the original.

The opinion I have formed from the consideration of these facts, and the conclusion at which I have arrived, after the most careful examination, is this, that few structures have suffered less in purity and beauty from the various restorations to which they may have been subjected than has Eleanor's Cross at Northampton. I am confirmed in this opinion by Mr. Irvine, who kindly volunteered his valuable aid, and who has materially assisted me by his persevering diligence in making the survey we have now nearly concluded.

Again, in the discussion to which I refer, Mr. Roberts asserted that the tracery in the tympana of the arches of the lower story of the structure was an innovation, and that the depressed ogee member of this tracery was altogether a fabrication. Now, I venture to express an opinion that it can be proved to a demonstration that a great part of the tracery in question is truly original, and that the other parts are most faithful copies of the original. I believe this to be true not only of the tracery in general, but of that feature in particular, so thoroughly condemned by Mr. Roberts; viz., the depressed ogee member immediately above the shields, and forming the heads of the panels below. I believe this can be proved, not only by the peculiar character of the stone of the original structure, but by the jointing of the masonry,—an evidence, where it can be discovered, at once invaluable and conclusive. With respect to the depressed ogee member, of which Mr. Roberts complained as being inconsistent with the Geometrical period, I can only say that I can point to many similar introductions of it. In a window on the south side of the chancel of North Fleet Church, in Kent, we find this feature, and quite as depressed as in the instance before us. We find it also in the chancel east window of St. Mary's Stratford Church, Suffolk; in the Piscina, Fyfield, Berks, and in many other places too numerous to mention. One of the most difficult points to solve connected with the discussion in question is, that of the crowning member of the cornice of the lower stage of the structure. Mr. Roberts declared this cresting to be altogether an invention of Mr. Blore. Now, there is no difficulty in proving this statement to be incorrect, inasmuch as I have here prints, published by the Society of Antiquaries, in which this member is proved to have existed long before Mr. Blore had anything to do with the cross. I am compelled, however, to confess that we have had great difficulty in determining whether this member is original or not. That greater part of it is comparatively modern I think there can be no question; but whether what is new was a copy of the original, is not so easily determined. There is certainly something so peculiar in the character of the panel-work, or tracery, found upon this member, that, from a mere cursory view of the subject, one might easily be led to the conclusion that it was altogether an innovation; but, on strict and close examination, we found that some of the quoins, or angle stones, of this member appear to be parts of the original; for they are not merely pieces put on or built into the face of the stone-work, but actually go right under the buttresses which support the superstructure, and in such a manner that we can scarcely escape the conclusion that they must have formed part of the original structure. This is especially true with respect to the north-west angle. Then, if so, they must originally have been quite plain, or worked as they now are; for, if any other kind of tracery or panel work had been worked upon the face of them, surely we should find some traces of it; for almost of necessity it would show itself in some part or other, unless we suppose that the whole member was reduced and refaced; and one can scarcely believe that any men, at any time, would have imposed upon themselves the labour of such a work, for no other apparent purpose than that of destruction. But there is positive evidence that it has not been so cut back, for the present face of the cresting is in the precise relative position with respect to the cornice below. It may be said, however, that this cresting, if entirely modern, might have been placed in its true relative position. I grant this; but with respect to the north-west angle, to which I have just referred, allow me to say that we found not only that it was in its true relative position, but constructed of the same kind of stone as the original structure; and has upon its face a portion, though small, of each of the peculiar features of this very peculiar cresting.

Another argument in support of the opinion that the member in question is part of the original is this, that a somewhat similar and peculiar ornamentation is found as the crowning member of the second story of the structure. Now, one can scarcely believe that any architect or workmen would have removed original work in two similar, but separate and distinct, parts of the same structure, to have replaced it with others; or that these particular parts should each have been so alike destroyed by the hand of time as to require restoration to the same extent, or to have involved complete renewal. Moreover, I find in the Cross at Waltham that the crowning member of the cornice of the first story of the structure is repeated in the other two stories; and, strange to say, that, although quite different from the corresponding members in the Northampton Cross; still, like it, it is somewhat inconsistent with the purity of the other parts of the structure; and yet I have never heard this disputed as being part of the original.

I quite agree with my friend, Sir Henry Dryden, when he says "a portion of stonework, like a sentence in a book, must be taken with the context; and that, in giving an opinion on architectural restorations, we should do well to look at joints as well as mouldings; in fact, joints," he says, "are much more valuable tell-tales than mouldings."

For want of attention to the principle of this suggestion, I conceive Mr. Roberts made a great mistake, not only with reference to the tracery which we have just been considering, but also in the remarks he made at St. Sepulchre's Church. He there stated his belief that the pillars on the south side of the nave, although square, with a simple chamfer, and very different in character from those on the north, were, nevertheless, of the same date; and accounted for the massive solidity of their character, as compared with the north, by the supposition that they were originally built in the mass, as they now appear, but were intended to be worked into clustered columns, as those on the north, at some future period; a plan frequently adopted, as he said, by the masons of that day. I ventured to dissent from this opinion at the time; and founded my dissent upon the fact that the jointing of the masonry offered unmistakable proofs that no such intention ever existed; for if the masons had afterwards worked these piers into clustered columns, like those on the north, many pieces would necessarily have dropped out, and the whole mass would have been considerably injured, in consequence of the manner in which the stonework was jointed.

The jointing of stonework, then, it is evident, should always occupy a prominent position in the consideration of architectural restorations, and should be well considered by all who venture to give an opinion upon these subjects.

Another argument which Mr. Roberts advances in support of the opinion that the Cross at Northampton has been sadly tampered with, is the appearance of newness of some parts of the structure. Now, much of the newness to which he refers will be found on examination to be merely

the effect of the use of the "drag," as it is called, during the execution of the restorations; and, although I regret very much the removal thereby of the quiet-toned tints of the lichens, yet I cannot admit that it affords any evidence of the destruction of any part of the original structure under consideration.

On examination of the sections of the mouldings before us, we cannot but be struck, I think, with the beauty and purity of their forms and character. Still there are indications of deterioration in one or two parts, but they are of such a nature that the eye of the uninitiated would scarcely detect them. I refer to the bead moulding in the panels of the buttresses of the lower story. The deviation from truth connected with this member enabled us to discover precisely where restorations had been effected. Wherever new work has been introduced we find a classical character given to the quirk of the bead, in lieu of the Gothic, like that of the original.

Leaving now the critical consideration of my subject, I think all will agree that such monuments of art as the one under consideration are, doubtless, capable of exercising a powerful influence over the intellectual faculties, and an inexpressible charm over the feelings of almost every passer-by; but how much more so when viewed by the eye of a cultivated mind,—a mind so cultivated as to be capable of appreciating their beauties,—and when contemplated with those feelings of devotion and veneration which the motive that dictated their erection is calculated to arouse! Entertaining these views, I venture to express a hope that such monuments may be increased in number; and, no doubt, we shall all be anxious to learn who was the architect of the memorable one under consideration.

Mr. Britton, when speaking of Eleanor's Crosses, says, "I have unsuccessfully endeavoured to ascertain who was the architect and sculptor of these structures; what orders were issued from the monarch on the occasion; what were the expenses, &c. &c." Vertue and Walpole conjecture that they were designed by Peter Cavallini, a Roman sculptor, brought from Rome either by Abbot Ware or Edward the First; but this is controverted by Pilkington. Mr. Hartshorne, in his "Memorials of Northampton," informs us that John de Bello, or de la Bataille, was the architect of the Crosses at Northampton, Stony Stratford, Woburn, Dunstable, and St. Albans; and that Alexander of Abingdon and William of Ireland were employed in the statues. He does not, however, inform us from whence he gathered this information. Whoever might be the architect and sculptor, certain it is that they have bequeathed to us a work almost without a rival.

Mr. Hartshorne is poetically eulogistic of the monuments of Edward and Eleanor in Westminster Abbey—[Qy. Where is the monument of Edward referred to by Mr. Hartshorne?]—and also of those of Eleanor's Crosses. "These monuments," he says, "display a physiognomy entirely unmarked by any of those disagreeable features peculiar to the countenances of the haughty and vicious: there is nothing but dignity and thought, yet thought mingled with earnestness and penetration, depicted in the face of the monarch: nothing but serenity and gentleness of soul beams in the soft and resigned expression of his consort. This same feeling of gracefulness and repose is observable in all of Eleanor's statues, and was unquestionably the faithful reflection of their reality." "They are graceful in their draperies, and replete with dignity and classical beauty." Moreover, he says, "The features of all these figures are precisely the same, and bear undisputable marks of coming from the same chisel. This remarkable resemblance was evidently the result of all of them being sculptured by the same artist." I fully agree with this description in general; but I can scarcely corroborate the rev. gentleman's statement with respect to the features of the statues on our Cross, for they are all so terribly mutilated. Nothing, perhaps, can exceed the beauty of the drapery of these figures; but I cannot but think that the drawing of some parts of the figures is somewhat defective. This, however, may be the result of the truth and practical application of Mr. Hartshorne's theory; viz., "that each sculptor worked with the idea of personification, and that all his efforts had a 'realistic' tendency."

Before I conclude, allow me to offer a few observations on the doubts which have often been raised as to the manner in which the Cross at Northampton was terminated. Mr. Hartshorne, in his paper read at the meeting of the Archæological Society, to which I have referred, when speaking of this subject, says, "that an entry in the accounts leads me to suppose it was finished by a figure, most likely that of the Virgin, as William de Ireland was paid 6*l.* 3*s.* 4*d.* on one occasion for making five images for the Cross at Northampton. Therefore it is evident that a figure of some kind was imposed above the four of the queen now remaining." If a fifth figure was made for the Cross at Northampton, where could it well have been placed but on the summit of the structure. It appears to me that the inference drawn by Mr. Hartshorne from the fact to which he referred is a very legitimate one, and probably the only one that can be drawn with propriety.

In the survey just made, Mr. Irvine and I have examined very carefully the broken pedestal now forming the termination. The upper part or shaft of this pedestal is undoubtedly modern; and, in fact, we know it to have been placed there at the time of the restoration by Mr. Blore. The bottom part or base of this pedestal is, however, unquestionably part of the original; and, if a base to a pedestal can be shown to have existed, and proved to be original, that a pedestal existed is the natural inference; and, if a pedestal existed, it is as natural to infer, and with equal probability, that the pedestal was surmounted by a figure; and that the fifth figure, for which money was undoubtedly advanced, was the figure required, and which probably formed the termination to this beautiful structure.

Before the restoration by Mr. Blore, the Cross at Northampton was terminated by a stone Maltese cross; but this was known to be no part of the original; and, therefore, was very properly removed. I mention this to remove an impression which appears to pervade the minds of many; viz., that the structure was originally terminated by a cross, and that it was an act of spoliation to remove it. This cross was in Mr. Whiting's yard for many years, but is now the solemn but silent indicator of the spot, in the garden of the late W. Harris, esq., where his lady fell, when summoned by death to leave this lower world.

A desire has often been expressed to see the summit completed; but, until something more definite can be discovered as to how it was originally terminated, I quite agree with Mr. Hartshorne and many others, that it will be well to leave it as it is.

In conclusion, allow me to remind you that the steps which form the foundation of this architectural gem are fast falling into decay: I therefore venture to express a hope that immediate efforts will be made to restore the dilapidations, lest by further delay the cost of restoration be greatly increased, or the structure sacrificed for want of attention.

PARIS OF TO-DAY.

An esteemed correspondent of our own, whose good Roman hand will be recognized by some of our readers, has contributed to the *Morning Post*, through the able Paris correspondent of that journal, an account of his impressions on revisiting Paris after an absence of six or seven years. We must give our readers the advantage of some of his observations.

"I remember well Paris some twelve or fifteen years ago, when the Rue di Rivoli was a wonder, and when the Boulevards were regarded as a sort of elegant garden fringing the city, and valued as appendages to the bright *cafés*, where the gay folks could sit in the open air and take their *demi-tasses* and *petits-verres* under the shade of the numerous trees, rather than as the means of business traffic in a great city. The inner streets were narrow, crooked, crowded, ill built, and very unsavoury; huge, tall houses overshadowing the way, from whose *goultières* the foot-passenger shrank in awe, and down whose streets the water flowed unheeded, or stagnated undisturbed. The Rues Richelieu, Vivienne, St. Denis, and a few others were almost the only ones which afforded easy traffic for vehicles passing each other. The other streets were as I have described them, and they ran across each other in such a manner as would have led one to suppose they were purposely laid out to perplex and bewilder the traveller. The most sordid, and, had it not been for their multiplied system of story over story, the most paltry houses inserted themselves between the unfinished palaces of the Louvre and Tuileries. Had it not been for the Quays, the Place de la Concorde, and the Boulevards, Paris, in spite of many glorious public buildings, would have taken very low rank among the cities of the Continent. How greatly and nobly it has been changed, and the methods by which this has been effected, I will now endeavour to sketch. Forgetting half my character as architect—that of the artist—I will now speak in the other half of my professional avocations, the man of business and of figures.

If you have a map of Paris corrected to the present time, and one of London spread them out before you. They will assist my description; though, of course, the improvements must be seen to be appreciated. The first features which strike the eye of the stranger are the new Boulevards. There are streets varying from 60 feet to 80 feet, and even 100 feet, in width, crossing the city in various directions. They have not the painful angular regularities of American cities, where, if you want to see a friend at one corner of the town, you must traverse two sides of a square to get at him. You must go due north and then due east, instead of following a direct route. No; each of these new streets is planned on the common-sense idea of passing in the shortest way from one important part of the town to another, or joining one active quarter in the most direct way with another. It is the principle on which Sir Christopher Wren proposed to rebuild the city of London after it was burnt in 1666; and it has been deep matter of regret that the obstinacy of the citizens of that day caused his plan to be thrown aside.

Having spoken of the general principle on which these streets have been laid out, let us now consider them more particularly. The principal of them is the Boulevard de Sebastopol. This extends from the extreme north of the city, beginning at the noble station of the Strasbourg Railway. It crosses the Boulevard St. Denis, between the arch so called and that of the Porte St. Martin. It cuts ruthlessly through the huge mass of houses which formerly lay between the Rues St. Denis and St. Martin, never deviating from a straight line; crosses the river by the Pont au Change, which has been lately rebuilt for the purpose; passes by the front of the Palais de Justice, which is now for the first time laid open to the eye of the passenger. It passes over the lower branch of the Seine by the Pont St. Michel, near which is a noble new fountain; but we must not pause to describe the recently-constructed bridges and fountains now; they must be left for another opportunity. This fine new boulevard then penetrates the old Quartier Latin, that part where it may be remembered the gutter formerly ran down the middle of the streets, and where there were no pavements, and huge lumps of stone were the only protection from the careless drivers of the *voitures;* that network of rues where we used to hunt for old books, and where we did not feel ourselves particularly safe from the cavaliers of the *franc tapis* after sunset. It pursues its course to the Boulevard de Mont Parnasse, and finishes opposite the Observatory.

But now it will probably be asked how the fine buildings near its course are treated. The line is straight, and most of them stand back at some little distance from its course. This has been accomplished with great skill. From the Boulevard to the Rue de Rivoli there is little to remark; but where the Boulevard de Sebastopol, of which we are writing, crosses this street, the first building effected is the Oratoire. The rear of this building has been restored and laid open to the view, a fine arcade connecting it with the line of the Rue de Rivoli. A little farther on was the old Place du Châtelet, with the Column of July. As this last was not exactly in the line, and as it is a beautiful and interesting feature, a very bold course was taken. The column was removed in one piece, and refixed on a new pedestal surrounded by fine fountains. A place was formed round this with a beautiful garden in the centre, on each side of which is a splendid theatre: one in place of the Cirque, the other of the Lyrique; both which are doomed to demolition, as will hereafter be stated. This principle of forming an open space planted with trees and flowers, at one side of which is the building proposed to be laid open, is pursued throughout this and, in fact, the other lines. The Hôtel Dieu and other buildings which hide Notre Dame will be pulled down, and similar gardens will take their place, and so exhibit that noble building. Opposite the Sorbonne will be a similar place, to exhibit the fine church built by Lemercier. In the like way, care will be taken that the Luxembourg and the Pantheon shall be laid open to public view in the best possible way.

The character of the construction of the Boulevard de Sebastopol is much like that of the older ones. It has a spacious macadamised roadway, with a broad footway, bordered with trees, and with frequent seats for passengers. The houses are, however, very imposing. They are entirely

built of the fine white stone with which the neighbourhood of Paris abounds, and which is easily carved. The architecture has grown up from the species of Renaissance which originated with the works at the Louvre, till it has become a distinctive style, combining the correctness of detail and purity of ornament of the Greek with greater freedom, and more fancy than the purists would formerly allow us. It is indeed an imperial style, and one on which we hope to treat at greater length at a future time. The shops are as fine as any in Paris; but there is this peculiarity of the Rue de Sebastopol: the upper floors are almost exclusively devoted to business. It is here the merchants who trade with Manchester and our great towns have their counting-houses. Here is the centre of that commerce so important to France, the silk trade.

The other boulevards partake of the same features, but they are more or less private residences as they are nearer or farther from the centres of business."

"Let our English friends who think so much of a little cut from the Strand to New-street, Covent-garden, and who suffer such thoroughfares as Chancery-lane and Cursitor-street to remain with openings wide enough for one carriage only; let them, I repeat, contemplate these works, of which about fourteen miles are complete, and about half as much more are in progress; let them suppose the line of the Strand, Fleet-street, Cheapside, and Cornhill pulled down and rebuilt in the most stately manner—the like with Holborn and Oxford-street; let them imagine wide streets from the Great Eastern, Great Northern, and Euston-square stations to the Bank, and thence to London Bridge; similar great arteries running directly and traversing London from north to south, and crossing each of our bridges—our friends may then form some little idea of what has been done, and shortly will be completed, at Paris."

In a second communication the writer says,—

"In my last letter I gave rather a hurried sketch of the principal leading feature of the improvements of Paris—the creation of wide thoroughfares, or boulevards, leading from those parts of the city of the greatest importance to others of a similar nature. The architecture is generally of rich character, but not over-decorated. It is original in idea, without any trace of the absurd and *outré* attempts at effect we so often see in England. There is also a consistent uniformity of style which, as I have said before, is a species of Renaissance with more elegance and freedom than we have been accustomed to see in the designs of the modern purists; so that in the streets of Paris we do not meet with the strange jumble we do in London, where one house is Gothic; the next Greek; the next bare brick walls, with square holes for windows, and ugly high chimneys; the next Alhambra; and the next streaked with red and black, in the manner which some folks have the effrontery to call the style of North Italy. Nevertheless, the great variety in the treatment of the architectural decorations and other adjuncts, of which this style, which I have ventured to call the Imperial Renaissance, is susceptible, gives a pleasing variety to the general effect of the street, of which we may say, in the words of the poet:—

'nec facies una,
Nec diversa tamen, qualis decet esse sororum.'

The footways are wide, and, as I have said before, are planted with trees and liberally provided with seats for the public. The roadways are macadamised, and the *trottoirs* asphalted. At night these stately architectural avenues are brilliantly lighted by elegant gas-lamps, which, in an artistic point of view, are very superior to the old glazed boxes, which are coeval with the application of gas to street-lighting. In some instances I have observed a successful attempt has been made to economize light. This is done by placing over the burning jet a metallic or porcelain reflector, which throws the whole of that portion of light which ordinarily ascends and is useless, directly on to the pavement, where it is wanted. As a friend observed in London, 'We send the best part of the light up to the sky, so that the stars might not lose their way.'

Permit me now, for the sake of clearness, before closing my observation on the general aspect of new Paris, to offer a detailed description of one house, which we may consider a type of the rest. Imagine a building six stories high, one of which would be in the roof, constructed of the beautiful white stone technically called *pierre tendre;* the great portal in the middle, which generally runs up some 12 or 14 feet, the architraves round the windows, and the cornices at top being beautifully adorned with enriched mouldings, arabesques, and festoons. The balconies are protected by elaborately designed iron railings, often partially gilt. The upper story is on the roof of the construction, commonly called a *mansard*, and is covered with zinc, the windows of which are of the form technically called *lucarnes*, and are also richly ornamented in the same metal.

Let us now suppose we enter the spacious doorway of one of these dwelling-houses, which introduces us at once into a court-yard sufficiently large for a carriage to turn round in with ease—a pleasing contrast to the grave error lately committed in London, where the court is narrow, and in which the air stagnates, and light can scarcely penetrate. On the right and left of the corridor leading to the spacious court-yard will be found the foot of two grand staircases. These ascend through all the floors, and form the means of communication to all the better appartments—as *escalier de service*, or servants' staircase, being provided in the court-yard leading to the roof, in which their apartmeats are usually placed.

Each flat or floor is provided with all the domestic necessities of modern refinement and comfort, regardless of original cost. The decorations of the *salons* are generally in good taste; not only the ceilings but the panels of the doors are enriched, and for the most part painted white and relieved with gold. The handsome mirrors found in all the apartments, together with the richly-carved marble chimney-pieces, are the landlord's property, and let with the fabric. The floors are of the old-fashioned bright oak *parqueterie;* and, briefly, it may be observed that the wood-work in these modern buildings is confined to the joinery: the joists being of rolled iron, fitted in between with bricks perforated for the sake of lightness. The glazing of the windows is usually executed in single sheets of plate glass; and the sashes are not hung to slide, as with us, but with hinges like our doors; and they are fastened with elegant *espagnolettes*. The same style of decoration is employed up to the fourth and sometimes to the fifth floors. The rent of these flats, or suites of apartments, varies from 150*l.* to 600*l.* per annum. On the right and left of the entrance-doorway will generally be found shops, which let for a very high rent. It should be observed that it very frequently occurs that a second block of building, forming one side of the court-yard referred to, is constructed immediately behind such a one as we have already described, and which we have supposed to have one side facing the street. This second set of apartments is, of course, in the rear of the first, is generally finished with elegance, and with every comfort; but the suites, as it may be easily imagined, do not let for such high rents as those which are nearer to the thoroughfares. The underground floors are not used in Paris for the purposes of residence, but are made available for cellarage.

It is hoped that a just description has now been given which will convey an idea of modern Paris. It remains to be observed that nearly all these great arteries of this magnificent city lead to parks for the recreation and health of the people. Thus we have the Bois de Boulogne, the Park Monçeaux, and the wide-spread Park of Vincennes, all of which act, as has been said of our our own parks, as lungs to the metropolis, and are immediately accessible in their respective quarters. Independent of these larger means of supplying air and health, smaller public gardens have been laid out in every place—round the column of July, round the Tuileries and Louvre, and other public buildings wherever space permitted. Here, in the morning, may be seen the juvenile population which form the rising generation of Paris, under the charge of their white-capped *bonnes*, in safety from the omnibuses and the *voitures* which traverse the streets; and in the evening the groups of quiet citizens talking over the events of the day, or the merits of the last piece at the Gaîeté or Vaudeville.

One feature that is very striking in these gardens is the introduction of almost every new plant or flower which is capable of being grown in the open air in our climate. In short, the grounds of no private estate can be better planted and more carefully kept than these gardens for the people are in imperial Paris."

NORTHERN ARCHITECTURAL ASSOCIATION.

A special meeting of this society was held at the Old Castle, on Thursday, the 9th instant,—Mr. Thomas Austin in the chair. The subject of the Royal Grammar School designs was introduced, and an animated discussion took place, which resulted in the Association unanimously passing the following resolution;—"That a deputation from this Association wait upon the Schools and Charities Committee of the Town Council upon the subject of the Royal Grammar School; and that the following gentlemen constitute the deputation;—Mr. Green, Mr. Austin, Mr. Dunn, Mr. Thompson, Mr. Ryle, Mr. Watson, and Mr. Johnstone, Newcastle; Mr. Pritchett, Darlington; Mr. Wilson, Alnwick; Mr. Moore, Sunderland; and Mr. Haswell, North Shields."

The secretary was instructed to inquire of the chairman of the Schools and Charities Committee when it would be convenient for the committee to receive the deputation; and on receipt of his answer to convene the deputation without loss of time; it being urged that an early interview should be solicited. The meeting then separated.

PRINCE CONSORT NATIONAL MEMORIAL.

A SUGGESTION.

There was a meeting of the Finance Committee at the Mansion House, on Wednesday, the Lord Mayor (Cubitt) in the chair. The amount now subscribed is 53,098*l.* The meeting passed a warm vote of thanks to the Lord Mayor for his constant attendance and unremitting attention to the objects of the committee.

After the regular business, Mr. Charles Hill stated that he had already communicated to an influential person in this matter, his intention, should the appeal to the architects for designs for a monument prove not altogether satisfactory, to suggest that the funds collected be applied to the purchase of the picture gallery of the Great Exhibition, to be called the Albert Gallery, or the Royal Gallery of the Prince Consort; and that a statue of the late Prince should be erected in the grand vestibule; thus dedicating the finest picture gallery in the world to the perpetual memory of the great and good Prince.

ALBERT MEMORIALS.

The Manchester Memorial.—A meeting of the memorial sub-committee was held at the town-hall on Wednesday; the mayor in the chair. Amongst those present were the Bishop of Manchester, the Hon. A. Egerton, M.P., and Mr. Thomas Worthington, architect. The following letter was read:

"To the Mayor of Manchester.

Sir,—We have to inform you that, at a meeting of the Manchester Brickmakers' Protection Society, held on Monday night last, a resolution was unanimously passed;—'That we supply, free from charge, as many good common bricks as will lay the foundation for the proposed monument of the late Prince Consort, to be erected on the Infirmary site.' Hoping you will accept the offer as an expression of sympathy towards our beloved Queen, we are, on behalf of the Manchester Brickmakers' Protection Society, yours most obediently,

Thos. Whitely, President.
October 8th, 1862." John Pownall, Secretary.

The offer was accepted; and the thanks of the committee were given to the Brickmakers' Society, on the motion of the Bishop, seconded by the Hon. A. Egerton. It was announced that the council had granted the request of the committee for the site. The sub-committee then adjourned to the Royal Infirmary esplanade; and it was unanimously resolved that the memorial should be erected in front of the centre of the Infirmary portico, between the fountains, and in a direct line with the Peel and Wellington statues.

The Memorial in Malvern Abbey Church.—The stained glass window, in memory of the Prince, has been placed in Great Malvern Abbey Church. The subject comprises incidents illustrative of the "Journeyings and Adoration of the Magi;" the main feature of the window being a representation of the kings at the feet of the infant Christ. This subject is treated triplet-wise across the whole width of the window, which is of three lights. Beneath this grouping are three separate scenes, illustrating respectively "The Magi led by the Star," "The Conference with Herod," and their "Dream." The tracery openings are filled with angels. At the base of the window runs the following inscription:—"In loyal and affectionate remembrance of his late Royal Highness Albert, Prince Consort of her Majesty Queen Victoria, this window is dedicated by inhabitants and visitors of Malvern. 1862." It is the work of Messrs. Clayton & Bell, and has had much study. The ancient glass, of which there is so much of fine character remaining in the abbey, has formed the basis of style for the new window.

The Dublin Memorial.—At its last meeting the committee decided that Stephen's-green should be thrown open to the public, and the memorial erected within its area.

LIVERPOOL ARCHITECTURAL SOCIETY.

On Wednesday evening, the 8th, the first meeting of the fifteenth session of this society was held in the Royal Institution, Colquitt-street. Mr. Bradley, the hon. secretary, read the minutes of a meeting of delegates from the various architectural societies throughout the kingdom, held in London in July, at which it was resolved that the isolated character of the existing architectural societies rendered it desirable that an organization should be formed whereby they would be rendered united in their action, and the establishment of new local societies in connexion with them might be aided, and that an Architectural Alliance be formed. The society deferred the consideration of the subject, that a report might be submitted from the Liverpool delegates. A recommendation being presented from the council of the society that a room be taken in the building for an architectural museum and architectural class, it was agreed, after discussion, to defer the consideration of the subject until a future meeting. Mr. Weightman, the president, read the opening address of the session. On the motion of Mr. Hay, a vote of thanks was accorded to the president for his address.

HOSPITAL SITES AND HOSPITAL TEACHING.

The 1st of October in each year is an important day in connexion with medical science; for then the great metropolitan schools of anatomy and medicine are opened for the winter season; the proceedings being commenced at each hospital with an introductory address by some eminent professor. To others, besides those more immediately interested, these speeches afford both pleasure and instruction; for in them we find expressed high principles of both religion and morality; unselfish devotion to the noble science which is the means of soothing pain, and obtaining for life something like its proper duration; and with all is combined a tender yet earnest interest in the care of the poor, the afflicted, and the suffering.

When present at one of these inaugural meetings, we could not but note with satisfaction the contrast between the appearance of the students who were then assembled and similar classes some years ago. It is to be observed, too, that throughout the profession there is apparent a more widely extended appreciation of the general laws of health, *apart from the administration of physic;* nevertheless, in studying for the medical profession, scarcely sufficient attention seems to be paid to those preventive means by which health may be preserved. On this point, in the course of an eloquent address delivered in the Middlesex Hospital by Dr. Priestley, this gentleman remarked that,—"Whatever saved life, and so brought health to sickly men and women, that they could be sent forth, even in units, to the busy working world, tended directly to the welfare of the State, and increased the wealth and prosperity of the community. But there was a far wider sense than this in which medical science might be so applied; and not only to preserve the health by units, as in the ordinary course of medical practice, but in which it might be so turned to account as to ward off disease from multitudes at once, and save entire races from untimely death. It was quite recently that public hygiène and preventive medicine had begun to assert their proper claims on the attention of the legislator and the philanthropist. We had now our sanitary laws and officers of health; journals devoted to the advocacy of public hygiène; and associations for promoting social science. Much had been done in this respect, but much still remained to be done." After noticing the success which had attended the labours of Dr. Jenner in connexion with the prevention of small-pox, Dr. Priestley repeated, nevertheless, that much in the way of prevention remained to be done. They had yet fevers and pestilences stalking about that counted their victims by thousands; and for which, possibly, preventive antidotes might be found; and there was within their very grasp the means of preventing sickness and death from thousands who now appear in our annual bills of mortality.

We are inclined to make extracts from some of the other addresses, but must now be content to refer to that delivered by Dr. Bristow at St. Thomas's (Surrey Gardens). This gentleman said, in connexion with the choice of the site of an hospital: "He considered that a healthy site was imperative; that it was worse than folly to add knowingly to the risks of those whose lives are already trembling in the balance; but" he added, that "a good deal of stuff had been talked and written about pure air." In illustration, he said that "almost every one went, for the benefit of his health, at one time or the other, either into the country or to the seaside. But" he contended that "the beneficial effects which ensued were due far less to the purity or peculiarities in the air than to perfect rest from toil and anxiety, to good sleep, good diet, and other hygienic conditions. He did not deny that there was such a thing as poisoned air; but he asserted that most sources of poisoned air were in the premises where it produced its ill effects, and not in the surrounding atmosphere; and that most of the sources were remediable, or had been remedied, and did not necessarily exist in London more than elsewhere." Dr. Bristow further remarked, that certain peculiarities of atmosphere, such as warmth, cold, dryness, moisture, &c., were best adapted to certain constitutions; but he maintained that special atmospheric conditions of this kind could hardly be consulted in the erection of a general hospital.

Dr. Bristow admitted that it is well known that patients in country hospitals recover more speedily and favourably than those in London; but attributed the advantage rather to the constitution of the patients than to the purity of the air. "The truth he asserted to be, that good, pure air was of infinite service to every one in health and disease, and that impure air was highly prejudicial; but that the purity was not the poetical purity of breezy hills; and that the impurity which was dangerous was not (except in very rare cases) the impurity of the atmosphere around an hospital, but the impurity of the atmosphere originating within its walls; and that an hospital was not to be made a healthy hospital by carrying it to some fancy site, but by attending carefully to its construction and its internal arrangements."

As regards this gentleman's arguments, every one will readily admit that much damage is caused by bad structural arrangements and by want of proper ventilation, which would make hospitals and other inhabited buildings to be unwholesome if placed in most healthy situations; but we do not see how, with the best internal arrangement, an hospital can be rendered quite salubrious in a tainted atmosphere. And how can the desirable purity be attained in the midst of a capital in which dwell three millions of people?

By the exercise of poetic fancy we can imagine a great city so laid out that through the straight and spacious streets the healthy air should sweep along. We will suppose that the soil is suitable and pure; that every part has been thoroughly paved; that drainage of the most perfect description carries away all moisture and unwholesome matters; that no exhalations are allowed to escape from the sewers; that so perfect is the scavenging, that no refuse is allowed to remain in the streets or in any part of any premises; that no tainted butchers' meat, or other description of unwholesome food is allowed; that every kind of dirt or neglect, and all overcrowding, are removed or prevented; and that in such a city we shall have no smoke, no fumes of gas, or other kinds of contamination; but streams of good air and water;—then, we might have roses and delicate plants blooming, children playing, and many old men who have reached the natural term of life, and more, living and walking in the very centre of such a population. But let us look at London as it is,—a large part of the soil poisoned with the accumulations of filth caused by the want of foresight, and neglect of generations; narrow, crooked, and overcrowded streets, courts, and alleys, existing in many parts; slaughter-houses, unwholesome manufactories; bad air passing from overcrowded and dirty houses; great accumulations of dust and refuse left decomposing in many premises; the gas, the smoke, the neglect of drainage, and a hundred other matters, all tending to derange the atmosphere and to render it less pure than that of places in the country which are free from sanitary faults. Great improvements are being carried forward, and others are hoped for. It is, however, not likely that we shall be able to make the air of such a large capital, so arranged as London is, perfect; and must, therefore, consider the placing of hospitals in the midst of the population rather a necessary evil than a commendable arrangement which may be considered beneficial to patients; nor are the advantages of the sea or country air to the pent-up Londoner—men, women, and children—to be altogether attributed to the effects of rest and diet.

Dr. Bristow considers excessive space, a large airing-ground for patients, luxuries; and says, "that there is no good object to be gained by spreading the buildings over a large surface; that an hospital is no more likely to be a healthy hospital if its wards were studded here and there over an extensive area, than if these same wards were piled over each other to the clouds."

The general tendency of the lecturer's teaching is not satisfactory;—rather, as it seems to us, deplorable. Dr. Arnott, in the Jury's Report on Section B, Class 10, in the International Exhibition, shows how it is that medical men are so often behind the public in respect of sanitary knowledge. He says:—

> "Within the present century in England plans innumerable have been proposed for obtaining conjointly the desired objects of good ventilation and warming; but the greater part of these only prove how imperfect the common knowledge of the subject yet remains. It has happened that natural philosophy, or the fundamental science of mechanics, hydrostatics, hydraulics, and pneumatics, with the science of heat, on which the arts of warming and ventilation depend, have not been sufficiently studied in the common courses of medical education; and hence medical men have not aided so much as might have been expected in the business of ventilation and warming; and have not been prepared to appreciate suggestions for improvement; the fault not being personal, but in the system of education."

Even this will scarcely account for the leading medical journal, the *Lancet*, intelligent and well informed, pointing to the Surrey Music Hall as being now completely adapted to its use as an hospital.

PRESERVATION OF FOOD BY MEANS OF ICE.

That a sufficient reduction of temperature in connexion with proper receptacles would enable all sorts of food-manufacturers, such as graziers and butchers, poulterers, dairy-men, horticulturists, and many others, to store and keep fresh immense quantities of food; killing animal food and plucking or otherwise reaping vegetable food at convenience, or when ready for use; one cannot doubt. And as to the question how long such articles, especially flesh or animal food of all sorts, could thus be kept, we may reply that really there appears to be scarcely any limit as to time; but, on a moderate calculation, say perhaps—10,000 years! Indeed, we need not say *perhaps;* for this has actually been proved to be a fact: it is no mere supposition. Every one has heard of the extraordinary discovery, some years ago, of the carcase of an elephant, encased in an iceberg off the northern coast of Siberia. This elephant was one of a peculiar and extinct breed, and covered with a thick coat of hair, as if fitted for precisely such a state of matters as that of which we lately spoke, with reference to the era of ice and drift. By geologists and others this elephant is believed to have lived in that very era; and we would suggest that it was provided with a coat of hair in order to adapt this tropical animal to a state of matters in which, as we have shown, winters of arctic intensity must have alternated with summers of tropical heat. Be that as it may, however, and seriously speaking; the flesh of this huge animal must have been preserved, for thousands of years; and that it *was* preserved in at least an eatable state was evidenced by the fact that Russian dogs did not object to partake of it. Again, and coming down a few years in our estimation of time, a paragraph has quite recently been going the round of the papers in respect to certain food stores which were deposited in the arctic regions many years ago, and which were lately found in quite a fresh and good edible condition.

If, however, animal and vegetable food could only be preserved for a few months, it must be a most important manufacturing and commercial object, in many cases, to realize such a possibility. Thus crops of potatoes, apples, peaches, and a host of other vegetable matters could be preserved for market and sold at leisure at a good price, in place of being hurried to a sale for little or nothing ere they become rotten. Thus too, when those immense shoals of herrings, mackarel, pilchards, and other fish come to hand, which are strewn upon our coasts occasionally in such profuse abundance that they cannot be sold for human food ere they rot, and are therefore carted off to the land for manure; municipal authorities and others being sometimes obliged to pay for the riddance; how easily could such windfalls be preserved for deliberate sale to the poor at a cheap rate, in large receptacles properly adjusted as to temperature by means of those steam and other ice machines now in use to a small extent among our butchers and others. In a similar way graziers and poulterers might kill their flocks by wholesale whenever they become fit for the table; so saving their feed while otherwise waiting alive for market; for that the cost of

ice, manufactured by machines now in use, is small by comparison, there is good reason to believe.

It is to Admiral Elliot, however, and not to us, the public are indebted for the idea now broached. He proposes that corporations, extensive graziers, and others, as well as joint-stock companies, should realize his suggestion into extensive practice. He has investigated the subject with reference to the capabilities and cost of ice machines and ice manufacture, and he is convinced the idea is a practicable and profitable one. There seem to be several ice machines which promise well as an adjunct; and the admiral makes special mention of one invented by a Mr. James Harrison, of Australia, and constructed by Mr. D. Siebe, of London. An ice-safe, Jolley's patent, is already in use among butchers and others in London. He mentions that all the animal and vegetable food used in the Cunard line of steamers is preserved in ice-houses during the voyage; the butcher's meat, poultry, and game, being all taken in carcass. We observe, too, from the *Mechanics' Magazine*, that another ice machine than those alluded to has been invented by a Mr. Lespine, of Paris. In short, the time seems now to have arrived when little or no difficulty will arise as to ice-manufacture on a large scale, should companies or others choose to work this important and promising idea of Admiral Elliot.

THE DRAINAGE AND VENTILATION OF CELLARS.

This is an important matter, to which we have from time to time directed attention, and it is still greatly neglected. For the preservation of the health of the dwellers in houses the proper care of the basement is of much consequence. Notwithstanding the legal provision which has been made to the contrary, thousands of families live, if it may be so called, in underground rooms in various parts of the metropolis; and within the City liberties and elsewhere there is in these underparts of houses sufficient to account for much disease. In many instances there is no other place except the cellar for the reception of the dust and other refuse, which are often allowed to remain for many weeks before they are removed. In these subterranean apartments, too, cesspools or badly-appointed water-closets are often to be found. Other cellars, both in town and country, are used for the stowage of various articles: these also require improvement, particularly those in which beer is kept. With the greatest care, even in those instances where publicans deal entirely with the large brewers, it is difficult to keep the air of these receptacles pure: there is always a certain amount of waste which gets spilled, and, together with other matters, gives the air a sour and unhealthy taint. Many cellars are deeper than the neighbouring drain. In some instances the drain is broken and the sewage leaks into the place; there are often other means of pollution from cesspools, and other impure matters, which filter through the walls of the cellar as they would into a well. Many cellars are without flagging or any other pavement; but, if even this were attended to, when the level is below the drain, purification by washing cannot easily be managed. Moreover, in nine cases out of ten there is an entire neglect of any kind of ventilation. The sketch we give from a cellar in London represents the condition of many, where drainage-matter percolates and poisons the air.



A BEER-CELLAR IN LONDON. "TAKING A DRAIN."

In many places throughout the country it is still the custom for each publican to brew the ale which he sells; and this requires, in the cellars, a large amount of care; for after the partial fermentation in the brewhouse is effected, it has to be completed in the cellars. We have been in some of those places when the atmosphere has been almost unbearable. In some, in which large stores of ale are kept to mellow with age, small pits may be seen dug for the reception of the foul half-liquid matter which finds its way into the place. "It is the winter time, you see," says "mine host," "and we are afraid of a chill;" and in consequence, the smallest crevice by which air could enter is closed with straw. Sometimes, in the parts where the fermentation is carried on, charcoal and coke fires are lighted; and this, under the circumstances, does not cause improvement. It may be good for the ale, but it is bad for human beings. It is difficult, however, to get those who are engaged in the business to see this rightly, or to agree in this opinion; and the same perversity is to be found in all ranks. We have heard a church dignitary advocate the wholesomeness of an overcrowded burial vault beneath his church, and declare that he "would not mind sleeping in it." We have heard parish churchwardens and guardians declare that the water which was in wells into which cesspool and other filth flowed was pure and wholesome; that graveyards loaded with the dead up to within a few inches of the surface could hurt no one of the living who were crowded in the dwellings around. In like manner the owners of huge dust-heaps, horse-slaughterers, tallow-melters, and a host of other health-damagers, maintain the salubrity and pleasantness of their trade arrangements, and deny that any alteration is possible or desirable. So, too, notwithstanding the strong case which Mr. Tremenheere has made against the unhealthy state of the bakehouses in the metropolis, there are bakers who will argue that the outcry is all nonsense, and resist improvement. Remembering certain visits to those places when they were so hot that it seemed scarcely possible for any creature except a salamander to exist in them, and what was seen therein, we cannot too strongly call for change.

Still, if prejudices are difficult to remove, and sanitary reforms difficult to accomplish, something has been done; and, when once the change is made, there are none who are better satisfied than those who have been forced into it.

We will venture to predict the same in connexion with the cellars of the publicans, to which, after this digression, we will return, and note that in most instances they are not arched—not even ceiled. It will be found that frequently these cellars stretch below the parlours, in which a large number of tradespeople, who live around, assemble in the evenings. The parlours are often very badly ventilated; and this, with what passes from the place below, cannot fail to cause injurious effects. Moreover, all the air in a house is impregnated with the gases which arise from the cellars; and this is most perceptible in the mornings after doors and windows have been closed.

All cellars should be carefully flagged and properly drained: there should be water-supply for cleaning, and trapped sinks in convenient situations. In the summer time, good rather than harm would be done by the free admission of air; and, where there are no means of thorough ventilation through the walls, shafts should be made which would communicate with the chimneys or the outward space. The air of the cellars should, as much as possible, be diverted from the occupied part of the house; and for this purpose arching would be of advantage; and it should be borne in mind that substantial brickwork is in itself a means of insuring the equal temperament of cellars to a considerable extent. Every householder should make a point of at once examining the condition of the basement of his residence. If this were done, many would be horrified. In many large and even important houses the basements and cellars are full of danger.

DOMESTIC WATER-FILTERING.

A pamphlet on this subject* has been issued, along with the prospectus of a "Metropolitan Water-purifying Company," which it is proposed to establish for the very useful and sanitary purpose of improving the imperfectly-purified water supplied to the metropolis by the water companies. The author of the pamphlet is the projector of the company. He appears to have gone laboriously and honestly into the subject, although too sanguine in his expectations of obtaining 10 out of every 100 houses during the first year as renters of his purifying apparatus: perhaps 10 out of every 1,000 would have been a little nearer the mark.

The apparatus in question is a simple and effective one so far as regards its action in allowing a stream of water from the common cistern to flow continuously; but whether in a completely purified state we cannot say. The apparatus consists of a strong stoneware bottle, standing on knobs as feet, and perforated in the bottom; with a silver-coated pipe issuing from the neck, and to be bent over the top of the cistern downwards to a level below the bottom of the cistern, so as to act as a syphon. The stoneware vessel is filled with animal charcoal, which Drs. Lankester, Letheby, and R. D. Thomson recommend for all such filters; but of the efficacy of which we think more evidence is still required.

These filters it is proposed to rent to householders, at the rate of 6s. to 15s. a year, according to size, keeping them in order, and exchanging them yearly, or oftener, as required.

The capital of the company is to be 25,000*l.*, in 5*l.* shares; and its temporary offices are at 36, Cannon-street, E.C.

* "Water for Domestic Use, being a Collection of the Opinions and Evidence of the leading Scientific Authorities of the Day; also a Description of Apparatus proposed to be used by the Metropolitan Water-Purifying Company. Compiled and arranged by W. A. O'Doherty."

NEW WAREHOUSES, BRADFORD, YORKSHIRE.

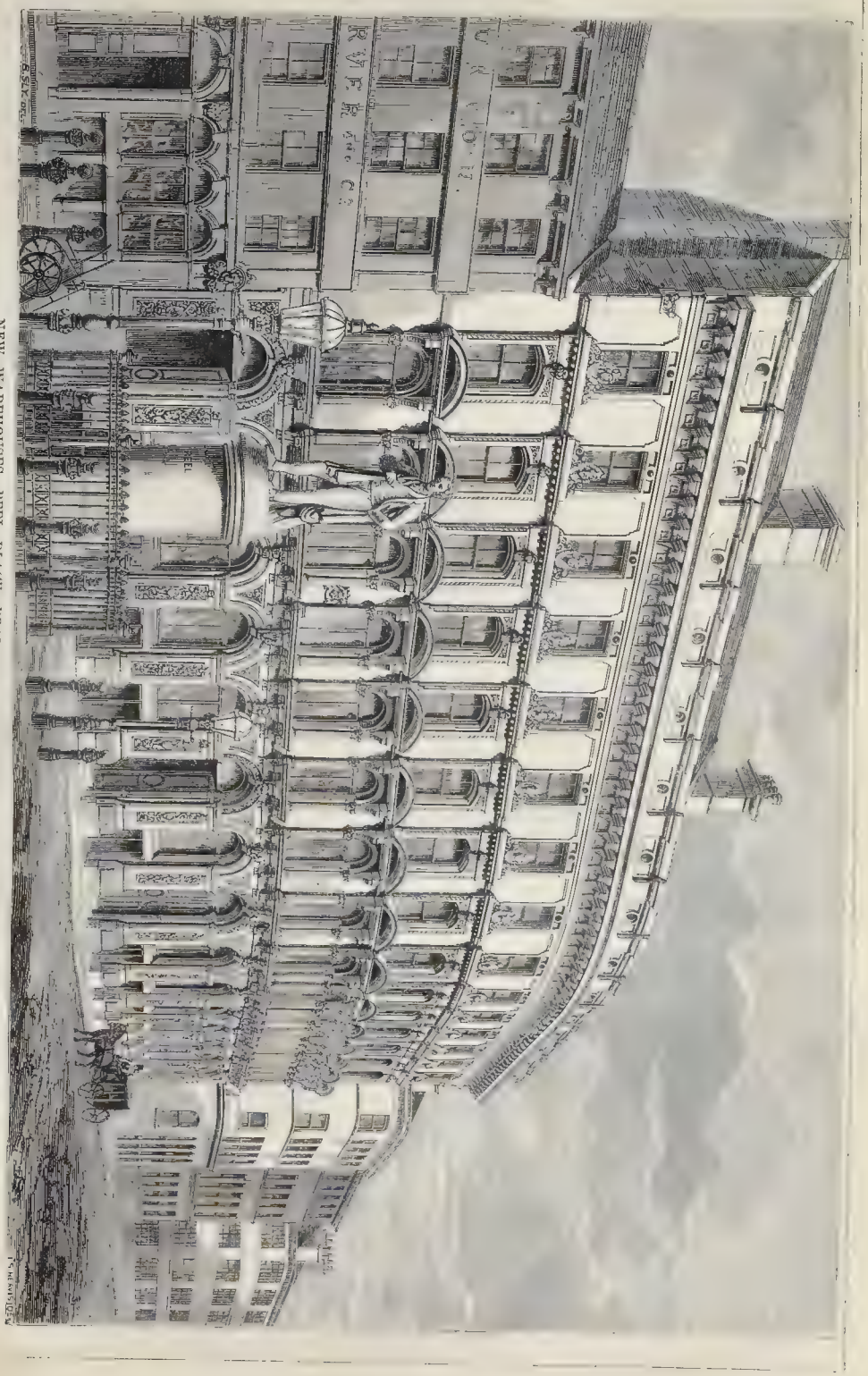
Some time ago, we described the large Warehouses which have been recently erected in busy Bradford; particularly a pile in Peel-place and Leeds-road, Italian in style, faced with Park Spring ashlar, and enriched with symbolical carving.* The length of the frontage to Peel-place and Leeds-road is about 160 feet, and the height from the causeway 64 feet. Of these buildings, which were erected from the designs of Mr. E. Milnes, of that town, architect, we now give a view. The block consists of three home-trade warehouses: two the property of Mr. David Abercombie, and occupied by Messrs. Abercombie & Arton, and James Robertson; and one large warehouse, the property of Mr. Samuel Tetley, and occupied by Messrs. McKean, Tetley, & Co. The basement floor of each consists of piece-rooms and blanket-stores; on the ground-floors are the counting-houses, grey rooms, and packing shops. The three intermediate floors are occupied as goods, stock, and sale rooms; and the top floor as making-up rooms. Hoists worked by steam power communicate with each story; and there is one principal (stone) staircase and a workmen's staircase in each warehouse. Speaking-pipes communicate from the counting-houses to the different sale-rooms, and to the making-up and packing shops. All goods can be delivered under cover.

The contracts were let in two parts; that for Mr. Abercombie's property having been executed by Messrs. J. & W. Beanland, builders; and that for Mr. Tetley's pile by Mr. Archibald Neill, builder: all of Bradford. Messrs. J. & J. Cliffe have supplied the engines, boilers, shafting, hoists, and warming apparatus. The carving was executed by Messrs. Mawer & Ingle, of Leeds. The cost of the land (about 1,000 yards in area) was nearly 12,000*l.*, and the total cost of the buildings between 12,000*l.* and 13,000*l.*

* Page 281, *ante*.

PARIS.

The new rooms of the École des Beaux-Arts are now open to the public. A third large hall has been added to the two which occupy the whole front of the new edifice on the Quai Malaquais, designed by Mr. Duban. The hall in question is on a level with the first landing-place opposite the grand entrance, and rises to the roof of the building: it is lighted by a spacious opening of glass, supported by the two lateral inclined planes which form part of the ceiling and are decorated with twelve large frescoes, by Sigalon and Boucotran, representing severally the Persian, Cumean, Erythræan, Libyan, and Delphic Sibyls, and the prophets Daniel, Isaiah, Zachariah, Jonah, Joel, Ezekiel, and Jeremiah. Fronting the semicircular recess at the further end of the room, a balcony opens into it from the landing-place of the first-floors, whence a good view may be obtained of the whole.



NEW WAREHOUSES, PEEL PLACE, BRADFORD, YORKSHIRE.—Mr. E. Milnes, Architect.

WORKS IN DETROIT, MICHIGAN, U.S.

Christ Church.—This building was commenced in 1860, by the erection of the chapel to be occupied by the congregation during the construction of the church, after which it will be used for a Sunday school and week-day services. The church was commenced the year following, and slowly prosecuted, owing to the pressure caused by political events; in spite of which, however, it is now rapidly approaching completion. The total length of the building is 159 feet by an average width of 60 feet. The external walls are entirely of limestone, in regular squared courses with rough face. The window traceries and all dressings are of a beautiful buff-coloured fine sandstone from Ohio The tower only is to be completed at present; the spire will be of stone; the whole 170 feet in height. The roof is of purple and green slate, arranged in diagonal chequered patterns laid over a covering of thick roofing felt on close boarding. The internal arrangement is that of nave, transepts, and chancel; the columns of arcades planned outside the body of pews in nave, to avoid obstruction of sight and hearing. Galleries are provided in the transepts and over the entrance vestibule. The organ-loft is over the parish room, level with the transept gallery. The ceilings are finished in plaster panels between the main timbers, and decorated with colour in stencilled patterns. The height of the church to the ridge, internally, is 55 feet. The whole of the wood fittings are of butter-nut wood, a species of walnut of bright colour and beautiful grain. The font is of marble; the bowl supported on shafts of a hard gypsum found in Michigan, finely veined and coloured from white to deep blood red, and receiving a high polish. The church will accommodate 850 persons, and the chapel 324, being a total of 1,174. The contractors for the mason-work are Messrs. Bulman & Vasey, who were for a long time employed on the works of the New Houses of Parliament at Westminster, and emigrated to America at the time of the strike there. The total expenditure will be about 30,000 dollars (6,000*l.*). The architect is Mr. Gordon W. Lloyd, a pupil of, and for some years in the office of, Mr. Ewan Christian, of Whitehall-place, and a member of the Architectural Association.

Young Men's Society.—A building has been erected for the Detroit Young Men's Society, an institution chiefly for literary purposes and self-cultivation, debates, and public lectures. The hall is also intended to be made a source of income, and is planned, therefore, for use in the varied requirements of lectures, concerts, and operatic performances. The hall is built in the rear of the Biddle House, and extends as far back as Woodbridge-street. The main and public entrance is on Jefferson-avenue, in the new portion of the hotel. From the entrance to the hall extends a corridor, 16 feet wide, in which are a ticket-office, reading-room, and gallery stairs on the right hand; and the society's library-room on the left. The hall is of an elongated octagon shape, 90 feet wide by 70 feet long, exclusive of the stage, and has the general appearance, resulting from the architectural treatment, of a lofty central hall with semi-octagonal recesses on either side containing galleries. The stage is about 30 feet deep, with an abundance of side space for scenes and dressing-rooms: over it extends an elliptical arch, having a span of 35 feet, and supported by pilasters, which, with the arch, are ornamented. The architect has devised and carried out a plan for foot-lights, which, while they are invisible to the audience, are protected by wire screens. A patent has been granted the architect for this invention. We have illustrated it on another page. On more than one occasion since its opening, the hall has contained upwards of 2,000 persons. Special attention has been paid to the heating, and the all-important point of ventilation. Cold air is brought into the heaters from the outside through a duct no less than 16 square feet in area. The air passes through the heater, entering the hall at a temperature of about 140 degrees, and is exhausted by means of four large air-shafts at the several lower angles of the building, each rising upwards of 60 feet in height. In summer the system is reversed. The heaters are on a patented principle of Mr. Ruttan, of Canada, known by his system of ventilation now in use in the cars of the Michigan Central and other railway lines. The staircases leading to the galleries are outside the hall, separated by brick walls, and are reached from the corridor. They are wide enough to allow the audience to escape in case of a sudden alarm; and, as the floor of the hall is on a level with the street, and the back entrances can be used in an emergency, additional ecurity is thus afforded. In the most important point of acoustics the hall has, after ample trial, been pronounced entirely successful, both for purposes of speaking and music. The rooms specially devoted to the use of the society are entered from the corridor, and consist of the library, 43 feet by 37 feet; reading-room, 35 feet by 26 feet; committee-room, &c. The library is lighted from above by a central lantern, supported on four Corinthian columns, the ceiling being deeply covered with enriched mouldings, and the ends of the beams supported on panelled pilasters with carved capitals. The walls are lined all round between the pilasters with cases of a strictly architectural character, and will contain upwards of 7,000 volumes. The arrangements for heating and ventilation are on the same principle as in the hall, and work with success. The building was commenced and completed by Detroit contractors in eight months, at a total cost of about 5,000*l.* The architect was Mr. G. W. Lloyd.

SLIP AT A SLATE QUARRY.

A few days ago an accident occurred at the Easdale Slate Quarries, in Argyleshire, belonging to the Marquis of Breadalbane, and immense damage to property is the consequence. One of the most extensive of the quarries is situated on a small island of about half a mile in circumference, and is exposed to a very wild and tempestuous sea. The rubbish taken out of the quarry has been generally filled into waggons and thrown over the side. This, however, of itself is not a very secure bulwark; and from the nature of the *débris* it does not consolidate, and the natural boundary between the sea and the quarry, being slate rock, was easily to a great extent lost sight of. A piece of boundary rock fell in, impelled by the great force of water from without. There was no breach, however, made, but only a large tunnel or perforation 20 or 30 feet below the surface. The steam apparatus used for drawing up the slates, consisting of pumps, cranes, cranks, pumping gear, with inclined plane and railroad for taking up the slates, and a great portion of other valuable machinery, were precipitated into the quarry, which was nearly 300 feet deep. The quarry was soon filled with water; but luckily there was no loss of life, no one being at work at the time. Means are now being taken to reach the point where the perforation in the rock has been made; and, having built a strong wall at the point, so keep out the inroad of the sea. The water already in the quarry will then be pumped out—an operation which will require months to be completed. The expense will be very great; indeed, such as that it was at one time doubted whether the recovery of the slates and sunk property would repay the cost; but the quarry is a valuable working. About eighty families were thrown out of employment by this catastrophe, but they have been provided with work at the other quarries belonging to his lordship. From 20,000 to 30,000 slates were made there per day, and the value of the slates at the bottom is estimated at 15,000*l.*

COMPETITIONS.

Proposed Cathedral in Cork.—Sixty-four designs, we understand, filling many hundred sheets, have been sent in, and are now placed in the Banquet Hall of the Athenæum for exhibition. It is known that they include works from Cologne, London, Edinburgh, Dublin, York, Liverpool, Bristol, Eton, Belfast, &c., besides a considerable number the production of Cork professionals. This display has been brought together by the offer of a premium of 100*l.* for the most approved plan, and 50*l.* for the second. Each design comprises drawings of a ground-plan, elevations and longitudinal and transverse sections, all on a scale of 10 feet to the inch, and are executed in Indian ink or sepia, coloured drawings being excluded. Each set of drawings is accompanied by an estimate of cost and a description of the materials to be used in the building. The committee has insured them against accidents by fire to the amount of 3,000*l.* The site of the proposed building is that on which the ancient Cathedral of St. Finn Barr now stands. The expenditure at present estimated, 15,000*l.* It is believed that the exhibition will be open for a month, after which the premiums will be adjudged. Disappointment is felt that many of the drawings are not hung, being simply piled on tables. These are of course placed at a disadvantage.

Dublin Winter Garden.—The designs submitted in competition from five-and-twenty architects have been exhibited. Two or three have the designer's name attached: the rest are under mottoes: our Dublin contemporary gives an account of them.

Bridgwater Town Hall.—The designs, locally, have not given great satisfaction.

Sunday Schools, Huddersfield.—The design of Messrs. Paull & Ayliffe, of Manchester, submitted in limited competition for the new Sunday Schools in connexion with Highfield Congregational chapel, Huddersfield, has been selected by the committee, and will be forthwith executed under the architects' superintendence.

Surrey (Memorial) County Hospital.—The designs for this hospital, to be erected in memory of the Prince Consort, have been sent in. A competitor says,—"The author of the chosen design, for his reward, is to be entrusted with the carrying out of the building: the authors of the second and third best designs are to receive the sums of ten and five guineas respectively. Do you think the Board are supposed to buy the two sets of drawings for these sums? No mention has been made of the Board considering them their property." We think too well of the Board to suppose they intend to get possession of two elaborate sets of drawings for these paltry sums, and have no doubt the drawings will be returned to their authors.

Tunbridge Wells Public Hall.—The committee for the above building have selected the design of Messrs. Hooker & Wheeler, of Brenchley, Kent, from a number of designs forwarded to them in response to their advertisement to architects.

Langham-place Hotel, London.—Ten sets of designs for this building were referred to Mr. Smirke, R.A., from architects of various standing. The selection has not yet been made.

SCHOOL-BUILDING NEWS.

Handsworth.—New school-rooms have been erected, in connexion with the Church of St. Michael, at a cost of 1,000*l.*, and opened for use. The structure is in the Gothic style, from the plan of Mr. E. W. Griffiths, architect; and consists of rooms for boys, girls, and infants, as well as a class-room adjoining the same. The builder was Mr. C. Barker.

Winchester.—The new Training College building, which has been erected from the design of Mr. J. Colson, has been opened. It is built in the style of the latter end of fourteenth century. It has accommodation for 56 students, with residences for the principal, vice-principal, and matron. There are a lecture-hall, 45 feet by 22 feet; two class-rooms, 25 feet by 22 feet; and a dining-hall, 41 feet by 22 feet; each of these rooms being 14 feet high. On the ground floor are waiting-rooms, students' sitting-room, masters' private room, lavatory, kitchen, stores, and offices, with cellars. The dormitories on the first floor are 16 feet high in the centre; each student having a room or stall to himself, partitioned off, but open at the top. There are also two sick-rooms. Over the students' entrance is a tower 73 feet high; which, with several gables and stone chimneys, breaks the length of the erection. The walls are faced with Swanage stone set in cement; the windows being dressed with Bath stone. The roof is covered with grey and white tiles. The building stands on a gentle elevation; the site, 5 acres in extent, being given by the Dean and Chapter of Winchester. The builder's contract was originally 7,500*l.*

STAINED GLASS.

Trinity Church, Tewkesbury.—A stained-glass window, to the memory of the late Rev. Francis Laing, of the Mythe, has been placed, at the expense of his widow, at the east end of Trinity Church, Tewkesbury. It is in eight lights (two rows of four each), with tracery above. In the tracery lights are represented angels in the act of adoration; and the larger lights represent incidents in the life of our Lord; viz.;—"Healing the Woman with the Issue of Blood;" "The Raising of Lazarus;" "Raising the Widow's Son;" "Healing the Sick Man of the Palsy;" "The Agony in the Garden;" "The Entombment;" "The Angel at the Sepulchre;" and "Christ Bearing the Cross." Each of these subjects is under a canopy; and beneath each of them is a symbolic representation; namely, in the upper row, those of the Four Evangelists; and in the lower row, the Crown of Thorns; the Pelican feeding its young with its own blood; the Phœnix rising from the flames; and the Three Nails. The window is the work of Messrs. Horwood, Brothers, of Mells, near Frome.

Erpingham Church.—A memorial window has just been placed in the north side of Erpingham church: it has two lights; in one the Saviour, in

the other Mary. The canopies are foliated and surmounted by the sacred monogram. It is from Messrs. Clayton & Bell's.

St. Mary's (R.C.), Warwick.—Mr. Dury has painted, lately, four windows for St. Mary's Catholic Church: the first representing our Lady delivering the rosary to St. Dominic, the gift of the Rev. T. Longman, founder of the church; the second, St. Helen discovering the Cross, presented by Miss Helen France, of Leamington; the third and the fourth, St. Thomas and St. Philip, subscribed for by the members of the congregation.

All Saints', Emscote (Warwick).—The chancel window of this church is approaching completion. The upper part is fitted in memory of the late Mr. Woolison, a member of the choir, and consists of four panels, representing our Saviour, the Nativity, the Resurrection, and an Angel Chorister. There are six more lights fitted with monograms, sacred emblems, &c. This part of the window was subscribed for by the fellow choristers of the deceased. There are also two more panels placed in it by the Rev. S. B. Dickens, the incumbent, in memory of his daughter Edith, representing the Good Shepherd bearing a Lamb on his bosom, and the Crucifixion. The style of the windows is Mediæval, in harmony with the architecture of the church. It has been designed and executed by Mr. T. Dury, of Warwick.

West Cranmore Church.—A stained glass window, according to the *Bristol Times*, has just been erected in the chancel of this church. The architecture of the window is in the Perpendicular style, and it contains three openings with tracery above. The subject is the Crucifixion, and it extends over the entire lower lights. The centre light contains the figure of our Saviour on the Cross, at the bottom of which, and embracing it, is seen St. Mary Magdalene kneeling: on the right is the Mother of our Lord, also kneeling in the attitude of deep humility and grief; and on the left is Mary the wife of Cleopas and mother of James the Less. These three are the only figures represented. The background contains a landscape view of the city of Jerusalem, and the "Hills which stand round about it." The upper or tracery lights are filled with Cherubim, or the Heavenly Host, on a blue ground powdered with stars. The artists were Messrs. Thomas Baillie & Co., of London.

St. Mary's, Hulme.—A painted window by Messrs. Hardman, of Birmingham, has been placed in the baptistery of this church. The centre light contains the Baptism of our Lord; the rest of the window being filled with floriated patterns.

CHURCH-BUILDING NEWS.

Haverstock-hill.—A Dominican church and priory are about to be erected by the Roman Catholics on Haverstock-hill, Kentish-town. For this purpose about three acres of land have been purchased.

Ryde.—The new Baptist chapel has been opened for divine worship. The edifice consists of a nave, with porch, lobbies, gallery, staircases, tower, and spire at the east end, and a baptistery and vestries at the west end. The style is Transition, adapted to suit the brick construction and external polychromatic decoration. White facings and red brick courses and bands are introduced, and the arches are in red, black, and white bricks. The window tracery, sills, copings, plinths, and other portions for which brick was unsuitable are executed in Bath stone. The roofs are covered with slate in bands of pink and blue. The east front presents a gable with a small tower at the north-east angle, surmounted by an octagonal lantern, and terminated by a spire covered with slate, in bands similar to the other roofs. In the centre of the front, an arcade with polished red serpentine shafts and carved capitals forms one side of the porch. Above is a four-light window with geometrical tracery. Within the porch are lobbies giving access to the aisles and gallery staircase. The nave is 65 feet 3 inches by 38 feet 3 inches in the clear, and is lighted by five double lancet windows on each side, the east window, and a three-light window with tracery head at the west end over the baptistery. There are also ten small triangular windows about mid-way up the rafters. The nave is covered with an open-timbered roof spanning from north to south, with collar-beam principals and circular braces. An arched recess is formed at the west end for the baptistery, communicating with the vestries. A gallery for an organ, singers, and children is placed at the east end. The seats are open benches. The floors of aisles, lobbies, and porch are of Minton's tiles, and also the dais on which the pulpit stands. A large school-room is attached to the west end of the vestries. The stained glass of the west window and the carvings for the pulpit are not yet completed, but are to be supplied, it is said, by the ladies of the congregation. The chapel will contain sittings for 544 persons. Mr. F. Newman, the town surveyor, and his brother, are the architects.

Powerstock.—The new church of St. Mary Magdalene, Poorton, has been consecrated. The building, which is in the Early English style, has been erected upon a site adjoining the old parish church, a small and dilapidated structure, which has been pulled down. The new edifice, which is built of native stone, consists of nave, chancel, bell-tower, and vestry. The height of the turret and spire is 52 feet. There are fourteen windows. The east or chief chancel window has three lights of stained glass, representing the Saviour on the Cross, Mary Magdalene, the Virgin, and St. John the Evangelist. The principals of the chancel are supported by six carved foliated corbels. The length of the chancel is 18 feet 6 inches, and its width 13 feet. The nave arch is decorated with two sculptured capitals, with red Mansfield columns, supported by carved figures of angels. The nave is seated with twenty-six pews, which are capable of accommodating ninety-eight adults and thirty-six children; total, 134. The principals of the roof are supported by large corbels forming a kind of cup, under which are figures of angels holding scrolls. These corbels are carved with fern and foxglove, narcissus, cinquefoil, thorn, wild rose, lily, and buttercup leaf, fern and ground ivy, maple leaf, vine leaves, and grapes. From the foliage of each corbel a bird peeps forth. The length of nave is 41 feet 3 inches; the width, 17 feet 3 inches; and height, 27 feet. The total length of the church from east to west is 59 feet 9 inches. The architect is Mr. Hicks, of Dorchester; and the work has been almost entirely done by workmen residing in the parish. The carving was done by Mr. Grassby; the east window by Hardman; and the three side chancel windows by Messrs. Bell, of Bristol. The entire cost of the church will amount to 1,400*l.*

St. George's (Shropshire.)—The new memorial church of the late Duke of Sutherland has been consecrated. The edifice is in the Pointed style, designed by Mr. Street, of London; and the work was executed by Mr. Horsman, of Wolverhampton. It consists of a nave, aisles, and chancel; and the rubble walls are built of a sort of limestone abounding in the neighbourhood, and presented by the present Duke of Sutherland. The dressings are of Grinshill stone, both inside and out. The clerestory is ornamented with two-light, quatrefoil, and one-light windows. The roof is of wrought timber, and the seats are of pitch pine. The chancel is vaulted with brick, forming a pointed arch, on ribs of stone of alternate colours. The floor is of stone, with tiles inserted in the centre. The church is built to seat a congregation of about 900.

Northampton.—The Doddridge Chapel and schools, at Castle-hill, have been enlarged. The congregation is also building a school at St. James's-end. The entire cost of the whole work is about 2,300*l.*

Great Ormsby.—The parish church of Great Ormsby has recently undergone a repair, and has been new roofed.

SCOTTISH NEWS.

Edinburgh.—The Fettes College, about to be erected at Comely Bank, will be an addition to the numerous charities with which this city has from time to time been gifted. The funds arise from the bulk of the fortune of the late Sir William Fettes, of Comely Bank, bart., who died in 1836; leaving it for the erection and endowment of a college for orphans. The fund has ever since been accumulating; and it now amounts to a very large sum, in the hands of trustees. Mr. Bryce, M.R.I.B.A., is the architect employed. The style will be Early French, the first of its kind at Edinburgh. The principal front extends to a breadth of 270 feet. The most conspicuous feature in the edifice is the central tower, which terminates in corner turrets rising from corbelled bases, and exhibiting carved attic windows between. From the tower springs a high-pitched pyramidal roof, studded on the lower stage with small dormer windows, and forming in the upper stage a clock story pillared and gableted, with crocketed angles, and surmounted by a finial, at an altitude of 190 feet. Each end of the principal elevation is flanked by square towers, corresponding in style with the centre tower, but varied in their details. Within the flanking towers are wings which project from the body of the edifice about 30 feet, exhibiting a variety of oriel windows and corner turrets, with gableted crow steps and other characteristic enrichments. Extending in rear of the centre of the front is a building, containing the dining-hall on the basement, and the chapel above. The dining-hall, which measures 65 feet by 30 feet, is lighted on the side by five traceried windows; while the chapel also exhibits a series of arched and mullioned windows, surmounted by carved open gablets; the divisions being filled up by buttresses terminating in pinnacles. The interior of the chapel will have an open timber roof. In the angles of the chapel building, and on the side attached to the main edifice, are placed octagonal staircase-towers, containing within the roof the apparatus which attracts and discharges the vitiated air from the different parts of the house. The plans are now completed; and in the course of a few months the building operations will be commenced. The inmates of the new college will be limited to fifty or sixty, while class-room accommodation will be provided for about 300; the indoor to be educated along with the out-door pupils.—An "Alhambra" has been erected in Nicholson-street, near the Surgeons' Hall. The building is so fitted up that it can be used not only as a concert-room but as a theatre. The interior is constructed as nearly as possible after the model of the Queen's Theatre, at Edinburgh; and is in size only a little smaller. There are two rows of galleries, arranged in the horse-shoe form. The entire dimensions of the interior are 80 feet by 52 feet. This space is occupied by a stage about 25 feet square; accommodation for at least 1,500 of an audience; and an orchestra. The lobbies and staircases of the building, according to the local *News*, are wide, and will allow the speedy exit of the audience. The interior decorations of the house have been superintended by Mr. Wm. Paterson, and are executed for the most part in relief, the prevailing colours being white and gold. The ceiling is panelled, and exhibits gold stars in relief on a light blue ground. The crystal chandeliers, and other gas-fittings, have been furnished by Messrs. Robertson & Cairns. The architect of the building was Mr. David M'Gibbon; and the contractors for the entire work were Messrs. Sanderson & Muirhead.

Kelso.—A movement for thorough drainage of the town, and for an abundant supply of water, has been inaugurated. The local commissioners of police have accepted a contract for the second portion of the scheme of drainage prepared by Mr. Brunlees, C.E., of London, and the works are to be immediately proceeded with. The subject of a water supply is also engaging the attention of the commissioners, and a scheme has been matured for this purpose also. It is proposed to take the water from the Tweed, a little above the town; and, after being filtered, to pump it up to a tank high enough to supply the highest houses in the town. The capital required to carry out the scheme is 2,500*l.*

Dundee.—An example of improved business premises has been set by a foreign mercantile house, who have purchased the site of the Old Sugar House in the Seagate, and are erecting new premises thereon. They are covering the whole area of the site with a building consisting, says the *Warder*, of two main divisions, the front range to be four stories in height, and the remainder two stories. The greater part of the premises are to be employed for packing and warehousing. The Seagate front will be 90 feet long, and 47 feet in height. The principal entrance to the offices, which occupy the whole of the second floor of this range, will be in the centre of this front, by an arched doorway, flanked by pilasters, and surmounted by a Venetian window and pediment, &c. Two wings are formed, slightly projecting at either end of the front, which are again divided into three compartments by pilasters, running up the whole height of the front to support arches which embrace the upper windows. The whole stands upon a rusticated basement, the windows having arched heads and projecting key-stones, and is surmounted by a cornice and parapet with pedestals and finials at the corners. The building is being erected from the designs of Mr. James Maclaren; and the mason work is being executed by Mr. J. Caird; Messrs. Kidd & Son being the contractors for the wright work.

Banff.—Plans have been prepared by Messrs. Reid, of Elgin, and ground purchased for a county lunatic asylum. The site is a space of about 20 acres, lying a little to the north of the Lady Bridge Station of the Banff, Portsoy, and Strath-isla Railway. The ground was purchased from the Earl of Seafield, at the rate of about 110*l.* per acre. The building will stand in the centre of this space,

with southerly exposure. The asylum is intended to accommodate ninety patients, and the cost will be about 12,000*l.* The general style of architecture is Elizabethan, relieved with French campanile turrets; and the plan will be T-formed; the head representing the south or front elevation. The building will cover an area of about 300 feet square, and be of two stories, with basement and attics.

Aberdeen.—A building which has of late been rising in the north-west suburb of Aberdeen, Elmhill House, is now on the eve of being opened as an institution for the treatment of cases of mental disease, being intended for the reception of patients whose circumstances enable them to obtain a greater measure of comfort than ordinary. Mr. Ramage, architect, prepared the plans of the building. The estimates for the erection, exclusive of the cost of the grounds (8,000*l.* for eighteen acres) and of furnishings, amounted to 11,000*l.*; viz., mason work, Messrs. Low & Chalmers, 5,250*l.*; carpenter work, Mr. John Clark, 5,636*l.* The building consists of three stories, besides the basement. The front extends 200 feet, and has a southern exposure: two wings recede about 110 feet on each end. On the ground-floor there is a hall, 48 feet by 26 feet, for recreative purposes; two large dining-rooms, 30 feet by 20 feet; four day-rooms; two sick-rooms; baths, &c.; with corridors, and apartments for the superintendent, assistant, and matron, and for the reception of friends of the inmates.

SO-CALLED RESTORATION IN GUILDFORD.

Sir,—In a late number of your journal, some notice was taken of the proposed restoration of St. Mary's Church, in this town, and of the interesting discoveries made by removing the pewing.

Those of your readers who are lovers of Mediæval art will be sorry to learn that in the work of reparation, so far as it has gone, no attempt has been made to preserve the original character of the edifice in its more remarkable features. One of the first steps in this so-called restoration was the walling-up of the south door, so as to obliterate every trace of it, both within and without, for no other reason, that I can learn, than that of making the church warmer. The doorway in question was one of the original entrances, as the equilateral form of its arch and the material—chalk—plainly testified. The re-opening of the western doorway, which has been closed for many years, will hardly compensate for the loss of so characteristic a feature. The south wall has undergone a further change in the erection of additional buttresses, equidistant, and alternating with the windows; also in the insertion of a lancet window in a blank space, and a change in the position of an original lancet, in order to obtain *regularity* where all before was *irregular*.

The same want of sympathy with the archaic style of the building is shown in the treatment of details, and especially in the masonry, which is in marked contrast with the old work; the result being to give quite a modern character to the exterior of a church which dates, as we are told, from the thirteenth century.

Judging from what has already been done, we may well fear that the interior restorations will be equally incongruous, unless some timely influence is brought to bear on the building committee. I hope that a remonstrance coming through your pages may receive some attention.

Ecclesiologist.

A PLEA FOR THE EXHIBITION BUILDING.

Permit me to suggest that attention be at once directed to the question of securing all the structure, except the annexes, as a permanent building. At the outset the exterior was universally condemned as ugly, and one is certainly not much impressed with its beauty; but surely it might be made much more attractive: there is the skeleton, which can be clothed by a beautiful integument. Though no architect, I would suggest that the present squat towers be heightened into elegant spires, and the long line of roof of the nave broken by a tower, carried up over the grand entrance, in Cromwell-road, somewhat in the style of the Giralda, at Seville, for instance, and the northern termination of the transepts appropriately finished off: the building would then, with the proposed mosaics and ornaments of terra-cotta, make a very respectable appearance; while I fearlessly challenge the world to produce an interior more perfect as to light, ventilation, and general effect: it is, moreover, one endeared now to thousands by most pleasing associations. Imagine, too, the effect of its being lighted by gas; sunlights on the top and a circle of jets round the drum of the dome, and a long line of lights each side of the nave. What a pity it seems to destroy all this, while the neighbouring museum is, I believe, refusing gifts for want of stowage-room; valuable collections are rotting in museum cellars; acres for the proper display of geological specimens are required; and the "hall for whales" (over which facetious members of the House made so merry) is still a desideratum.

The all-important subject financial might surely for the present be arranged between the commissioners, contractors, and guarantors, until the question of a national grant, if necessary, can be discussed. The expense, too, of demolition, and the danger in the case of the domes, will be very great; in return for which, the value of the materials will be little indeed.

Currente calamo, I would, in conclusion, suggest that the road through the Park be for ever kept open to the public, and also be made to run direct into the Exhibition-road. The bridge over the Serpentine might be easily widened by making an iron overhanging footpath on each side, replacing the present heavy stone balustrade by a light elegant railing. P. Hinckes Bird.

ON THE DECORATION OF THEATRES.

Since at this moment there seems at last some chance of reform in theatrical building, the question of decoration may not be out of place. Festoons of flowers tied up in ribbons, cockatoos sitting on sticks between lisping nymphs, and such-like work, one would wish to see burnt, with much other rubbish stored away in old lumber-rooms of theatres. But a very beautiful decoration might be painted with the same materials. Let us fancy a trellis-work thickly intertwined with lovely creepers full of rich-coloured blossoms, and birds interspersed here and there amongst the leaves: the whole thing would be full of rich colour; and yet in no place would there be any prominent object to attract the eye from the whole: the effect would be continuous. The trash we hear talked of in certain quarters about flat treatment everywhere, always flat, leaves made flat, everything flat, would here receive a lesson that the "flat" law is not absolute. Flat ornament is good in places, but is not to abolish well drawn and coloured nature altogether. An excellent example of natural treatment is the Japanese: the bushes, birds, and flowers are very lovely, full of feeling for nature, and would be good *motifs* for a European version of the same. Another excellent style for decoration of theatres would be the Indian and Persian foliage patterns: this is, more or less, on the flat-treatment principle.

Nothing can be more sickly than the Munich, Belgian, and French wall decoration,—thin, washy colours, with bad adaptations of bygone styles in ornamental parts. In this style it would be better to take white or some rich body colour, and powder it with conventional ornament in gold or silver; lacquered, to take off the monotony of dead gold. I do not enter much upon a higher class of ornament, namely, some legend told throughout the whole theatre in one continuous picture all along the panels; as this would require great painters, and could only be absurd in the hands of inferior workmen. Benozzo Gozzoli, in the Campo Santo at Pisa, calls up ideas of what such a decoration might be. All ornaments in relief, particularly plaster relief or bits of wood nailed on, are totally out of place in a theatre, as they catch the dust, cannot easily be cleaned, and, if they could, would give unnecessary labour; moreover, the hangings with which a theatre is covered at night continually pull them off, break, and dirty them. Surfaces should be flat in a theatre. The proscenium should of course be treated as a frame to a picture, without any attempt at architectural effect in shape of pillars, pediment, or the like; and the drop-scene should not, consequently, be treated as a curtain in folds, but as a flat surface, with panels of painting, somewhat on the *motif* of an Early Italian altar frontal. To have an effect of folds is doubly offensive as the curtain either goes up or falls. The top hanging should go straight across on the principle of a super-frontal. As to the ceiling, its decoration must be considered in connexion with the new system of lighting introduced in Paris at La Gaieté, of which I am not able to speak. As to hangings of boxes, I should suggest cloth of gold or silver on a coloured ground suited to light. A. W.

PAYMENT OF ARCHITECTS' ASSISTANTS.

Sir,—Your correspondent of last week draws a very pitiful picture of the position of architects' assistants at the present time; and, as one of that body, I should be very sorry if I could believe all his statements to be generally correct. If he is "one fully competent to assist the principal in all branches of the profession," I think he has been most unfortunate; as I venture to add there are many architects at the present time who would be glad to offer what may be termed a respectable salary for such services. My experience has taught me that there are comparatively few calling themselves "assistants" who really possess the qualifications entitling them to high remuneration. Architects have been so pestered and troubled with young men who, setting themselves forth as "thoroughly qualified," turn out to be nothing more than "copying clerks," that I admit it is not an easy matter to obtain the salary which an assistant who knows his duties ought reasonably to expect. It is as much trouble for an architect to be continually directing his assistant(?) in his progress as it would be to perform the work entirely himself; and hence the low salaries frequently offered. I believe architects to be as liberal as any other body of professional men; although they, of course, desire to get their work done at as cheap a rate as possible, as the advertisements in your columns occasionally inform us; where, for example, an "Artistic Draughtsman" is wanted, the salary (in brackets) not to exceed 100*l.* per annum! But we find artistic draughtsmen are not to be obtained for that amount; for lo! in the following week, the advertisement is repeated, with a tempting bait of 20*l.* added to the previous sum. In reference to your correspondent's query, "What should be the salary of an architect's assistant?" this will, of course, in a great measure be influenced by the ability of the party; but I believe it is generally admitted that from 130*l.* to 150*l.* per annum is a fair remuneration, assuming the hours to be from ten to four; and no architect, in these days of competition, ought to grudge an extra 10*l.* or 20*l.* per year to one possessing the additional qualification of being a first-rate colourist. Let your correspondent search the field, and I have no doubt he will find some one through whose liberality he will be enabled to wipe his hands clean of "tax-collectors and creditors."

An Architect's Assistant.

SOCIAL IMPROVEMENTS.

What is the use of travelling if we neglect taking advantage of improvements that may strike us in the manners and customs of our Continental neighbours? A week's sojourn in Paris brought many under my notice, some of which possibly you may deem worthy of a place in your columns.

The shop shutters have two handles placed near the bottom of each, by which means they are lifted with great ease into their place without the chance of breaking the windows or crushing the fingers, as is often the case in closing our shops.

The sun-blinds are quietly wound out or in by machinery fixed in the wall, on the same principle in use with us for our iron revolving shutters.

Men are constantly employed with brooms and barrows to remove the horse-dung from the carriage way, whereby a greater purity of atmosphere is obtained, and the roads are always kept clean.

When the inside of an omnibus is full, the conductor places a notice to that effect in large legible letters, "*Complet.*" In this country how often do we observe elderly ladies and gentlemen, at vast discomfort to themselves, wading through the muddy roads, after hailing an omnibus, to be informed, in a coarse, brutal manner by the conductor, "Full inside."

We have a great many drinking-fountains in this metropolis; but they are kept in such a dirty state, by a parcel of urchins, that respectable people cannot avail themselves of their advantages. Why do the police ignore this kind of property? In Paris men are specially appointed to look after and keep in proper repair and cleanliness the numerous fountains adorning that gay metropolis.

A very pretty idea is that of surrounding statues with flowers and shrubs, well worthy of imitation here. Look at the bare appearance of the Duke of Wellington's statue at the Royal Exchange: within the iron railing, at the base, we find mud and orange-peel,—why not some evergreens?

In the theatres of Paris ladies are accommodated

with a foot-stool—a great comfort to many during the evening.

The management at the railway stations to facilitate the entry into the carriages is superior to ours, though open perhaps to some objection. Instead of rushing from all quarters of the compass to the ticket-office, and fighting for position, you have to take your turn singly in rotation as you arrive: might is not allowed to triumph over weakness or right. Possessed of your *billet* you pass on; and, presenting it to an attendant, he directs you into a large and lofty waiting-room, divided into three classes, into one of which you enter according to the price of your ticket. A door in each of the compartments opens on to the platform. As soon as the train is drawn up ready to receive passengers, the first-class door is opened; and, when they are comfortably seated, the seconds are allowed to proceed to their seats; and thus, all that driving and confusion visible upon our platforms is removed, to the great comfort of the nervous and unprotected.

I think there is room for improvement in many of the before-mentioned things in this country, which only require to be pointed out to be adopted by my practical countrymen. EAGLE EYE.

NEW BAPTIST CHAPEL, WOODHOUSE-LANE, LEEDS.

SIR,—I observe you ask the question, "Are we to understand that the first prize is to be awarded to one design, and that another design is selected to be carried out?"

In reply, I beg to hand you an extract from the conditions of competition, by which you will at once see that, as Messrs. Paull & Ayliffe were engaged to erect the chapel, they could not receive the first prize: it was therefore awarded to Messrs. Lockwood & Mawson:—

"Two prizes will be given,—one of 20*l.*, the other of 10*l.*,—in order of merit, considering the nature of the ground and the funds in the hands of the committee. Should, however, the architect whose plan is most preferred be engaged as architect for the erection of the chapel, the prizes will be given to the second and third in order of merit."

This clause was inserted at the special suggestion of several of the competing architects; in order that, as far possible, their efforts might meet with some acknowledgment. JAMES HOLROYD.

COMPENSATION CASES IN NOTTINGHAM.

THREE important arbitrations under the Lands Clauses Act have just been concluded in this town between the Midland Railway Company, who are taking portions of certain building lands for the purpose of erecting a bridge over the Wilford-road, and the owners of the lands in question, Messrs. Whitehead & Davies; the charitable trustees of Nottingham; and the trustees of the late Robert Booth. In the first two cases, Mr. Thomas Hawksley, C.E., was the arbitrator appointed on the part of the claimants, and Mr. Thomas Huskinson, surveyor, on the part of the railway company. In the last case, Mr. Frederick Jackson, engineer and architect, was appointed by the claimants, and Mr. Huskinson again by the railway company. Mr. Jeremiah Matthews, of Birmingham, was the umpire in all three cases.

The arbitrators and umpire sat at the George Hotel, in Nottingham, for several days in the months of June and July last, for the purpose of holding their inquiry; when Mr. Field, barrister, appeared on behalf of all the claimants, and Mr. Welsby on behalf of the company. A very full investigation of the respective claims took place; and on the part of Messrs. Whitehead & Davies the following professional gentlemen gave evidence:—Mr. S. Hickson, Mr. F. Williamson, Mr. T. C. Hine, Mr. F. Jackson, Mr. R. Jalland, Mr. J. Jackson, and Mr. J. S. Norris; and also Mr. Simpson and Mr. Dennett, builders, all of Nottingham. The witnesses for the charitable trustees were Mr. Jalland, Mr. F. Jackson, Mr. Norris, Mr. Hine, Mr. Hickson, and Mr. Simpson; and for Booth's trustees, Mr. Norris, Mr. Hine, Mr. Williamson, Mr. Hickson, and Mr. Dennett. The witnesses on behalf of the railway company were Mr. Crossley, their engineer; Mr. John Bromley, of Derby; Mr. H. Goddard, of Lincoln; Mr. Pownall and Mr. Shaw, of London; and Mr. F. R. Booker and Mr. Sutton, of Nottingham.

A considerable difference existed in the estimates of the gentlemen on either side; and, the arbitrators failing to agree, all three cases passed into the hands of the umpire, who last week published his award, and adjudged the railway company to pay to Messrs. Whitehead & Davies, 2,700*l.*; to Booth's trustees, 2,380*l.*; and to the charitable trustees, 513*l.*; and also to construct certain retaining walls upon the claimants' lands, which will become the property of the latter, and will probably involve an outlay of 800*l.* or 1,000*l.* more; making the total compensation to the three claimants about 6,500*l.*, exclusive of the costs of the inquiry, the whole of which on both sides will be paid by the railway company.

Miscellanea.

THE HARTLEY INSTITUTION, SOUTHAMPTON.—The new Institution was opened by Lord Palmerston on Wednesday last. A view of the building will be found in an earlier volume of our journal.

NUMBERING OF HOUSES.—A correspondent again urges, that if all those persons who wisely put a gas lanlight over their doors would have the numbers of their houses painted thereon, it would be a great convenience to many. The cabmen need not leave their box to examine the door, nor the footmen get down to examine it, while many a wet head would be spared to an octogenarian cab-traveller.

ST. PAUL'S SCHOOLS, ISLINGTON.—These schools, substantial brick erections, with arches of black and red brick, after the fashion of the day, are now open for their good purpose. They will accommodate 180 boys and 150 girls, and include residences for the master and mistress. Mr. Mathews was the architect under whose superintendence they have been erected; and Messrs. Hill & Son were the contractors. The number of churches, chapels, and schools recently erected or now in progress in Islington is as remarkable as it is gratifying.

ANTIFROST WATERPIPE PROTECTOR.—An apparatus has been patented by a Mr. Jones, and is sold by Messrs. Bury & Pollard, of Southwark, whereby, it is said, frost is prevented from stopping or bursting supply-pipes. The apparatus includes a pipe containing a rod connected with valves, and by means of which the supply is let on and off, all water remaining in the pipe of the apparatus being allowed to run off; so that no water remains which can be frozen. The apparatus can be made self-acting when the supply is constant and at high pressure.

ELECTRO-MAGNETIC ENGINE.—Mr. George Fuller Guy, of Bury St. Edmund's, according to the local *Post*, has discovered an apparent solution of the problem, how to apply electro-magnetic force to the production of a continuous and equable rotary motion, such as might be available for machinery, at an expense sufficiently small, per horse-power, to enable it to compete with steam; especially when to its safety and portability should be added other advantages most valuable under peculiar circumstances. From a small working model of his machine, Mr. Guy has had built, by Mr. Boby, of Cornhill, an engine of considerable power, which was exhibited to the members of the British Association at Cambridge, at their concluding *soirée*.

IRON RAILWAY BRIDGE FOR INDIA.—The third of a series of twelve spans which are to constitute an iron lattice bridge over the river Jumna, near Delhi, has been completed by Messrs. Ormerod, Grierson, & Co., of Hulme. The bridge is for the East Indian Railway Company, and is from designs by Mr. A. M. Rendel, C.E., London. It is constructed so as to answer the double purpose of a railway and an ordinary road, the railway being along the top, and the roadway beneath it. Each girder is 216 feet long, and this gives a clear span of 205 feet between the piers, of which there will be eleven. The twelve spans will therefore form a structure having a total length of over half a mile. Confining attention to a single span as representing the main features of the entire bridge, it may be described as consisting of two principal girders, with two tops and two bottoms, formed of ⅜-inch plates; each top and bottom being united by diagonal lattice-bars, so as to form one main girder, which is united to a similar one transversely by means of strong cross girders. Between the upper side of the lower roadway and the under side of the railway there is a clear height of 16 feet; and the total breadth of the bridge at its centre is 18 feet. It has a slight rise towards the middle; being constructed with a camber of 5 inches. None of the rivet-holes in this bridge are punched: multiple drilling-machines, five in number, were constructed specially for the purpose. We understand that the Messrs. Cochrane, of the Woodside Ironworks, Dudley, were the first who applied this ponderous machinery to bridge-building. The holes made in this manner, besides being more accurate than when punched, are said to leave the iron much stronger, and its fibre uninjured. The iron has been supplied by the Shelton Bar Iron Company, near Stoke, and was required to bear a tensile strain of twenty-one tons to the inch of section. The breaking strain is estimated at from 2,500 to 3,000 tons, equally distributed.

WORKING MEN'S COLLEGE, GREAT ORMOND-STREET.—At the commencement of the first term or the season, on Monday next, the principal, the Rev. F. D. Maurice, M.A., will deliver the opening address.

STEAM-MANUFACTURED PAPER-HANGINGS.—The *Bristol Mirror* describes samples of paper-hangings printed by steam, and equal, the writer says, to anything manufactured by hand-power. They are facsimiles of the only specimens of steam-printed wall-papers sent to the Exhibition; and, being printed by steam, they are turned out at about half the cost at which they could be produced by hand labour. The patterns are various.

NEW JETTY, DEVONPORT DOCKYARD.—Mr. Henry Grissell writes as follows:—"I read in your notice of the new jetty at Devonport dockyard, 'that the work was designed and has been constructed by Mr. H. Grissell, of London.' I am always pleased when I hear my work is approved of, as in all cases I desire to do my best; but, at the same time, honour should be given to whom honour is due: in this case I am not the designer, but simply the constructor. The work was designed for the Admiralty Board, in the Office of the Director of Works at Somerset House; and the credit of the design belongs entirely with that officer's department. I did my best to execute the works well and substantially, and shall be quite satisfied by my share in the work giving satisfaction."

NEW PAVILION HOSPITAL AT WOOLWICH.—The new Herbert General Military Hospital, now building for the Government on Kidbrook Common, by Messrs. Myers, of Lambeth, at a cost of 160,000*l.*, is ready for roofing in. The building stands upon seven acres of land, having a frontage of 900 feet by 500 feet, with seven pavilions 300 feet long from north to south, containing 22 wards, each of which will be fitted with 32 beds. It has also a dispensary, bath rooms, separate wards for lunatics, and numerous offices. There are 800 men employed upon the works; Lieutenant Newsome, Royal Engineers, acting as inspector for the Government. The facings of the building are of the best Suffolk white bricks, with Bath-stone dressings for the windows and doors. All the floors are fire-proof on Messrs. Barrett's patent—filled in with concrete. The site was selected by the late Lord Herbert and the Army Sanitary Commission; and the building will form the most extensive military hospital in the kingdom.

DOINGS OF THE NEWCASTLE CORPORATION IN CONNECTION WITH THE NEWCASTLE ARCHITECTS. At the last meeting of the Newcastle council, Mr. Oliver called attention to an alleged dereliction of duty on the part of the schools and charities committee. The subject related to the contemplated new grammar school, in connexion with which the services of Mr. Johnston Hogg had been secured; the cause of complaint being the non-compliance with the resolution of the corporation of the 3rd of July, 1861, by which the committee were authorised to advertise for plans and specifications for the intended erection. The matter has been taken up by the members of the Northern Architectural Association, who, apparently not satisfied with the explanation of the chairman, have appointed a deputation of their number to wait on the schools and charities committee, with the view, no doubt, of urging the claims of the local profession to consideration. The decision of the committee in the engagement of Mr. Hogg was, we understand, not unanimous.

MONUMENTAL.—The statue of the late Mr. Herbert Ingram, at Boston, has been inaugurated. The statue has been erected in the churchyard, near to the Market-place. The foundation and erection of the monument were carried out by Mr. J. H. Baker, of Boston. The foundation consumed about sixty tons of materials. The base and pedestal of the statue consist of polished Peterhead granite, weighing about thirty tons. In the front of the pedestal is a niche for the fountain, which is not completed. The pedestal and base are 14 feet high. The statue, designed and sculptured by Mr. A. Munro, is 10 feet high, and is of fine white Italian statuary marble, weighing about four tons. The figure stands erect, with head uncovered, and a volume in the hand. The total cost of the statue has been about 2,000*l.*

——Mr. John Steell, R.S.A., Edinburgh, has accepted the commission for a statue of Mr. Baxter, to be erected in the Baxter-park, Dundee, and has undertaken to have it completed and erected in the park by the 31st July, 1863.——

The bronze statue of Boissy d'Anglas, which stood in the Champs Elysées, in front of the Palais d'Industrie, has been removed to his native town, Annonay. The inauguration took place amidst an immense concourse of the inhabitants of the department of Ardèche.

Excavations at Rome.—An important discovery has just been made at Rome, on property belonging to Mr. Randanini, situate outside the St. Sebastian Gate, of an ancient Jewish cemetery, with paintings, inscriptions, and sarcophagi. Up to the present time, few monuments of the kind have been discovered.

The Stafford County Surveyorship.—This office is vacant by the death of Mr. Charles Trubshaw. His appointment as conuty surveyor took place in 1850, on the retirement of Mr. Smith. Mr. Trubshaw was also consulting engineer to the millowners on the Trent, acted as arbitrator in many important architectural and other matters, and gave valuable evidence on important railway bills. As a Freemason, he took the highest degrees, and filled the office of P.G.S.W. Of the Staffordshire Knot Lodge he was the founder.

Church Building in Yorkshire.—At the annual *soirée* of the Bradford Church of England Literary Institute, the Rev. H. J. Burfield, M.A., of that town, made a speech, in the course of which he said, that since the see of Ripon was reconstituted, in 1836, there had been no less than 145 new churches added to the West Riding of Yorkshire. He found that, in addition to that number, 17 churches, of which the Leeds parish church was one, had been entirely rebuilt and considerably enlarged; making a grand total of 162 churches consecrated in that particular diocese in the space of 26 years, or something like one church every two months extending over that period.

Partial Opening of London, Chatham, and Dover Railway.—A portion of the metropolitan end of the London, Chatham, and Dover Railway has been opened. This new line will have two entrances into London,—one running into the Victoria station at the West-end; the other running into Farringdon-street, in the City, with a connexion between the two. It is this connexion that has been opened, trains having commenced to run from the Victoria station through Battersea, Stockwell, Clapham, Brixton, Walworth, and Newington, to the Elephant and Castle. This curve line performs, in fact, for the south of London, very much of what the North London Railway does for the suburbs on the Middlesex side. The distance is accomplished in twenty-five minutes.

The Marshland Inundation.—The endeavour to exclude the sea-water from Marshland Fen drain by raising the banks from the ruined sluice to the earth dam, 400 yards above, has been so far successful, and the tides are now less lessening. It remains to be considered what is best to be done for preventing a renewal of the calamity by works of a permanent character. The inundated district, especially in Marshland Fen, still presents a most desolate appearance; and in passing along the Wisbeach Railway, one sees the water extending on both sides as far as the eye can reach. Mr. Harding, C.E., is the engineer acting for the Marshland Smeeth and Fen Commissioners. He has a confident expectation of devising an outlet for the drainage which shall have all the efficiency of sluices, in cases where navigation is not concerned, without the danger and expense that constantly attend these structures.

Deodands: Coroners' Inquests.—"Within my memory," says an inquirer, "when an accident occurred, it was customary to inflict a kind of fine or penalty thus: supposing a boy was run over by a vehicle, the verdict was recorded 'Accidental death, with a deodand of one shilling upon the cart.' As this appears to have fallen into desuetude, I imagine there must be some statute repealing such an enactment. Can you refer me to it? Further, did the deodand go to the lord of the manor or the Crown originally? One would be inclined, from the derivation, to say to the Church. To amplify this query, can you inform me if coroners' records are preserved, and where?" To this the editor of *Notes and Queries* replies,—The *deodandum* of our jurisprudence may be reckoned among the mysterious things of history. The deodand is philanthropic, it is religious, and it is so far clerical, that its value, when levied, was handed over to the clergy. Fleta, a commentator on English law, *temp.* Edward I., says that the deodand is to be sold, and the price distributed to the poor, for the soul of the king, his ancestors, and all faithful people departed this life. Yet it was not *ecclesiastical*: it cannot be recovered by suit in the courts of canon law, but only in the courts of the king's coroner, either for counties, or for all England. This ancient custom was abolished by act 9th and 10th Vict., cap. 62, which enacts that subsequent to September 1st, 1846, there shall be no forfeiture of chattels in respect of homicide.

Lecture on Glass.—Mr. Alderman Hartley (says the *Gateshead Observer*) lectured at Sunderland, on Monday night, "On the Manufacture of Glass." The rector of Bishopwearmouth presided.

Imitation of the Human Voice.—We hear from Paris of the exhibition, on the Boulevard Magenta, of the figure of a woman so constructed as to sing various songs. A tube of india-rubber represents the larynx: the voice has a compass of two octaves. The inventor is Mr. Faber, formerly professor of mathematics in Germany.

The Machine goes by Steam.—There is a story of one of the hangers-on who get offices because they need them, and had been appointed engineer, a business of which he had no knowledge. The day after his appointment, a gentleman and two ladies had the curiosity to look at the engine-room and its machinery, where they found the new office-holder on duty merely as usher; practical engineers doing the real duty of the so-called "assistant engineer." "How many horse-power is your engine?" "Horse-power!" replied greeny, with a look of mingled pity and contempt, "don't you know the machine goes by steam?"

The New Town-hall for Hull.—The foundation-stone of this intended edifice was laid by the newly elected mayor (Alderman Hodge), on Thursday, 9th inst., with much ceremony. The architect is Mr. Cuthbert Brodrick, of Leeds and London, whose design was selected by Mr. Tite for the first premium from about forty sets of drawings. Mr. C. Pulman is clerk of the works. Mr. Addy, of Leeds, contracts for the whole of the works, except the warming and ventilation: the amount of his contract is 20,000*l*. The ironwork will be done by Mr. Nelson, of Leeds; and the plastering by Mr. Mountain, of Leeds. We understand that the building is to be completed in two years.

Telegraphic Communication with China.—The *Journal of St. Petersburg* of the 4th inst. contains an important announcement. An order of the day of the Director-General of Ways and Public Works states that the construction of the line of Siberian telegraph, which has already reached Omsk, and will, in the course of 1863, be extended to Irkutsk, has, with the assistance of the post, allowed of a more rapid interchange of communications between Europe and China; and arrangements have been carried out to enable the Western Powers to correspond with China *viâ* Russia. Despatches from the interior of the empire, destined for Kiachta and Pekin, will be received for transmission at the telegraph stations at St. Petersburg, Moscow, and Nijni-Novgorod.

Schinkel's Architectural Collections.—The large and curious collection of relics and drawings in the Schinkel Gallery, which forms part of the Architectural Academy in Berlin, is at last under careful examination, with a view to its being re-arranged and catalogued, by his son-in-law, Baron Alfred von Wolzogen. The *Athenæum* says,—The versatile and prolific industry of the Prussian artist hardly enjoys sufficient credit at the time present. He worked during a period when Greek architecture was all-in-all—when a Prussian and a Bavarian sovereign would have, by his Spree or his Isar, an Acropolis reproduced, or a Pompeian house built, or a Pantheon arranged for statues of the heroes and men of geuins of Christendom. Schinkel had, further, to execute his dreams and commissions under thwarting influences. The last king but one was given to use the pruning-knife's economy without mercy or consideration for the pictorial fancy of the architect: the last was almost a more dangerous patron, being himself a *dilettante* who interpolated fancies and imposed conditions when a garden-house was to be built or a capital was to be laid out: for one of the royal visions which Schinkel was expected to embody amounted to nothing less than a new metropolis, with churches, palaces, market-places, municipal buildings, streets, squares, public gardens and statues, all to be provided for beforehand. Under conditions of office such as these, the actual visible result of marble, brick, or stucco left, hardly decides the merit of the architect. But the mass of drawings and plans left by Schinkel fully attests it. In one portfolio is the design for a superb and elaborate Gothic cathedral, with every working plan and detail prepared with exquisite finish: in another lies buried for ever the notion of a Crimean palace bespoken hard by Balaklava for the Empress of Russia. Then, for all his works, Schinkel, who began life as a painter, provided the decorations, designed the frescoes to be executed, and the statues.

The Leicestershire Architectural Society. The usual bi-monthly meeting of this society was held in the Town Library, Guildhall, Leicester, on the 29th ult. Several presentations were made, and objects of interest exhibited and described. Mr. James Thompson then read a short paper on Latimer's house at Thurcaston; and the Rev. J. H. Hill some notes on Allexton Church, Leicestershire, the restoration of which is placed under the management of Mr. Millican, of Leicester.

Chester Architectural, Archæological, and Historic Society.—The opening meeting of the session was held in the Society's room, St. Peter's Churchyard, on Thursday, 9th instant, when Mr. Horatio Lloyd read a paper on "The Discovery of Roman Remains upon the Site of the Ancient City of Uriconium at Wroxeter;" and Mr. James Rogers exhibited a number of curiosities and coins, recently discovered while excavating in Farringdon-street, London.

The Cheltenham Borough Surveyorship. This office is now vacant; serious illness, attended with symptoms of mental aberration, having recently incapacitated Mr. Dangerfield, who for the last ten years has discharged its duties. Mr. Dangerfield's appointment has been cancelled with the understanding that any candidate elected to supply his place shall resign in the event of Mr. Dangerfield's recovery within six months. Three gentlemen are named as candidates for the vacant office,—Mr. D. J. Humphris, Mr. Knight, and Mr. T. Darby.

Strike among the Dudley Nailmakers.—A strike, it appears, has taken place among the Dudley nailmakers, in consequence of the masters reducing their wages. The Lye Waste nailmakers having been receiving the full price, the Dudley nailers have been to Lye Waste, and persuaded the men there to strike until the Dudley people got the same rate conceded. A man named Joseph Pearson, at the Lye, refused to strike; and in consequence a threat was made "that he would have his wind stopped before long, if he did not strike." This threat was carried into execution on Wednesday night, when Pearson's shop was entered, and a pair of blast bellows cut.

Determined Attempt to Murder an Inventor.—Mr. Mallon, a mechanic, living in Holbeck, Leeds, has recently invented a coal-cutting machine, by which the work of twelve men can be done in a day's labour; and so has excited a mistaken but deadly enmity on the part of the miners in his neighbourhood. He was knocked down by three of them the other day, and one of the miscreants passed a rope round his neck and attempted to strangle him. Mallon, however, with great presence of mind, thrust his hand into his assailant's eye with such force, that the scoundrel screamed out, and left hold of Mallon, but the other two ruffians pitched him into a lock. Mallon fell some nine feet before reaching the water; but, being fortunately an excellent swimmer, he managed to get out again. He has repeatedly been threatened by letter of late, and advised to "insure his life."

The Archæological Societies of Norfolk and Suffolk.—A joint meeting of these societies has been held at Beccles; the Ven. Lord A. Harvey, president of the Suffolk Institute of Archæology, in the chair, in the absence of Sir John Boileau, the president of the Norfolk Archæological Society. Mr. Tymms read a short paper on the etymology of the word Beccles, by Mr. Churnock, who found its derivation in the Latin for church, with the word for beautiful as a prefix (*Bella ecclesia*). Another paper on the same subject, by Mr. Spurdens, and read by Mr. Manning, gave as the origin of the word the name of a distinguished family who dwelt in the neighbourhood in ancient times; but neither explanation appeared to be very satisfactory to the members. Mr. S. Wilton Rix then commenced a very long paper on the Antiquities of Beccles, in which he stated his belief that the town was of Saxon origin. The party then repaired to Beccles Church; and next inspected a Tudor ceiling in the house of Mr. Woolnough, cabinet-maker; after which they partook of luncheon in the Assembly-rooms. The party then proceeded to Gillingham Church, where an explanatory paper, contributed to the 7th vol. of the *Archæological Journal* by Mr. J. L. Pettit, was read by the Rev. C. R. Manning. Gillingham Hall, a Tudor house standing near the church, and the residence of Admiral Eden, was also visited; after which the party returned through Beccles to Rose Hall, an old Tudor House, only partly tenantable. Here Mr. Tymms read a paper in reference to Roos Manor. The last place visited was Barsham Church, where the rector, the Rev. J. Yelloly, read a paper on the edifice.

Paris Academy of Arts.—Sixty pupils of the Architectural class have entered a protest against the bestowal of the architectural prize on a work which they allege to be the least deserving one sent in.

The Metropolitan Underground Railway. When opened, trains will start from Paddington and Farringdon-street every ten minutes from eight o'clock in the morning to eight in the evening. From six to eight o'clock in the morning, and eight to twelve o'clock at night, the trains will run only every twenty minutes. Express trains will run every hour, running the whole distance from Paddington to Farringdon-street in ten minutes. All other trains will stop at the intermediate stations, the entire journey occupying fifteen minutes. Twopence will be the lowest fare, and this will be charged between any intermediate stations, the lowest through fare being threepence. All the classes of carriages, third as well as first, will be lighted with gas. The line is to be entirely worked by the Great Western, at a charge of 45 per cent. on the gross receipts, the remaining 55 per cent. being secured to the company, who will likewise derive a revenue from tollage on the through traffic between the Great Northern and Great Western. The total expenditure on the line has been about 1,125,000*l.*, raised by shares and debentures. Additional capital to the extent of 300,000*l.* has been raised, against which the company hold a large quantity of surplus land, which it has been thought advisable not to dispose of until after the railway is in complete operation, when its value will probably be enhanced.

Compressed Air as Motive Power laid on like Water.—A Mr. Jowitt, of Birmingham, proposes to concentrate all the steam power in a town to one establishment, and to transmit it through pipes of a size in proportion to the power required, to be distributed by means of steam-engines at the different establishments; compressed air being the agent for transmission. At the central establishment steam-engines would be employed compressing air into a reservoir, from which the power would be transmitted to the place where it was wanted by the pipes. At certain distances there would be boxes with valves across the pipes, so that, if at any time there should be discovered a leakage, each length of pipe could be tested separately, without it being necessary to break up the road until the faulty pipe had been found. In fact, the idea is to have power turned on to any place where it may be required from a common main pipe, just as we have gas and water turned on at our houses. At Liverpool, says a Birmingham paper, it has been determined at no fewer than three thousand warehouses to employ the power so transmitted for lifting or hoisting purposes. Mr. J. Woore, it is added, has a 2½-horse engine, worked by power transmitted through pipes half a mile in length, and lifting a ton, employed every day at his foundry and engineering works. A company has been registered in Liverpool, and an Act of Parliament applied for, in order to enable the scheme to be carried out with regard to the other warehouses.

Improved Cottages at Copford, in Essex.—Some new cottages for labourers have just been erected at Copford by the Rev. Peter A. L. Wood, the rector of this parish, in order to stimulate others to follow his good example. The new cottages, like the old, are adapted for four families, and are built of white bricks, with bands and arches of red, open-timber porches, and as much external effect as can be produced without increasing the cost. The two centre cottages have on the ground floor a living-room, containing 130 square feet, with Nicholson's cottage range with oven; an ironing board on swing legs in front of window, and a small dresser with pot-board under; a ventilated larder with two tiers of shelves; a scullery, with copper and sink; and a fuel closet under stairs. On the upper floor are three bedrooms. The two end cottages are similar in accommodation, but only have one bed-room on the ground and two on the upper floor. All the rooms have a distinct access from the porch, with the exception of the centre cottages, where the staircase ascends from the scullery; and all have a window opening to the external air. The sleeping apartments have in addition a ventilator in the ceiling; and one bed-room in each cottage has a small fire-grate, in case of sickness. There is at the back, common to the four cottages, an oven, with shed, for making bread; rain-water tank and pump; with other conveniences. The buildings were designed and superintended by Mr. Henry M. Eyton, of London, and the cost has been 460*l.*, or 115*l.* each. The rents will realize nearly 21*l.* per annum, or 4½ per cent. on the outlay.

Progress of Discovery at Jerusalem.—The Russian journals give an account of the works of restoration proceeding at Jerusalem. The engineers have laid bare foundations which they ascribe to the time of Solomon.

Clifton Suspension-bridge.—The contract for putting up the chains of the late Hungerford Bridge and completing the suspension-bridge at Clifton has been taken, and the works are expected to be commenced in about three weeks. In anticipation of this long-unfinished structure being at length completed, Sir Greville Smyth, of Ashton Court, has sold 125 acres of land for the purpose of building villas on the Somersetshire side of the Avon.

Utilization of Town Sewage.—A Manchester firm, under the rather flash title of "The Eureka Sanitary and Manure Company," recently sent a deputation to the Earl of Derby for the purpose of explaining their mode of procedure; which appears to consist in something very like a return to the barbarous and objectionable practice of ignoring drainage altogether; collecting the most offensive matter in boxes; and actually boiling it into "pulp" for mixture with sifted ashes for manure on the one hand; and into liquor for washing and cleansing establishments on the other. True, they speak of first deodorizing it by anticipation, or before the boxes are placed in the closets; but, however well such practices may look in theory (and this one does not look well, even in theory), we hope never to see it put into practice, as is threatened, at Manchester, or in any other town, large or small; although there may be cases in which the system might be permissible, or even advisable. The Earl of Derby appears to have preserved a discreet silence in regard to the explanation of the "Eureka" deputation, whose main object was to obtain the reward offered by the earl, and lately announced in our columns.

TENDERS.

For rebuilding No. 73, Little Britain, for Mr. Wood. Mr. Cæsar A. Long, architect:—

Rummens (accepted)	£400 0 0

For Denmark House, facing the sea, Hastings, for Mr. Frederick Waters. Mr. Hopkinson, architect:—

Kenwood	£1,019 0 0
Pattenden	786 19 4
Longhurst	777 7 7
Broadbridge	760 0 0
Hoadley	726 0 0
Vidler (accepted)	689 10 0

For works and repairs at 24, Westbourne-terrace. Mr. J. T. Wimperis, architect. Quantities supplied:—

Smith & Taylor	£510 0 0
Foxley	517 0 0
T. W. Smith	499 0 0
Fish	485 0 0
Duncanson & Moultrie	469 0 0

For building a new photographic house, for Mr. Marks, Minories. Messrs. Scurry & Wright, architects:—

Meers	£129 0 0
Scrivener & White	98 0 0
Narrish	92 0 0

For repairs at a house, No. 8, Fleur-de lis-street, Norton Folgate; also the erection of three houses adjoining. Mr. G. H. Simmonds, architect:—

	Old House.	New Houses.
Longmead	£215 0 0	£1,496 0 0
Outhwaite	325 0 0	1,330 0 0
Read & Son	318 0 0	1,314 0 0
Pritchard & Son	255 0 0	1,320 0 0
Scott	255 0 0	1,315 0 0
Riddle	253 0 0	1,310 0 0
Wood & Son	230 0 0	1,329 0 0
Norman & Son	190 0 0	1,200 0 0
Hudson & Son	289 14 0	1,149 3 0
Maeers	215 0 0	950 0 0

For works at Mr. Tripp's, Blackheath Hill. Messrs. Smith & Williams, architects:—

Little	£2,349 0 0
Lawrence	2,140 0 0
Warburton	2,100 0 0
Pritchard & Shelton	2,044 0 0
Pritchard & Son	1,994 0 0
Maaers	1,988 0 0
Hill, Keddell, & Co. (accepted)	1,968 0 0

For new church, St. George's-square, Pimlico. Mr. Cundy, architect:—

Trollope	£13,557 0 0
Lucas	13,366 0 0
Robinson	13,690 0 0
Holland	12,910 0 0
Dowus	12,844 0 0
Panson	12,578 0 0
Higgs	12,557 0 0
Myers & Sons	12,545 0 0

For repairs to house, situate Rhodeswell-road, Stepney. Mr Herbert Ford, architect:—

Rawlings	£187 0 0
Henshaw	175 0 0
Prince	149 0 0
Ramsey	139 0 0
Larke	118 0 0

For national schools and teachers' residences, Holy Trinity parish, Paddington. Messrs. Francis, architects:—

G. Mansfield & Son	£3,704 0 0
Myers	3,406 0 0
Cowland	3,247 0 0
W. Lawrence & Sons	3,194 0 0
Fish	3,128 0 0
Keyes & Head (accepted)	3,125 0 0

For St. Luke's Church, Paddington. Messrs. Francis, architects:—

G. Mansfield & Son	£5,996 0 0
Chinnock	5,954 0 0
Lawrence & Sons	5,700 0 0
Myers	5,329 0 0
Cowland	5,232 0 0
Keyes & Head	5,040 0 0
Fish (accepted)	4,990 0 0

For three sets of stables, Bayswater. Messrs. Francis, architects:—

Holland & Hannan	£1,166 0 0
Cowland	1,098 0 0
Fish	1,040 0 0
Keyes & Head	998 10 0
G. Wood	994 0 0

For sundry alterations and additions to Rectory House, Southrepps, Norfolk. Mr. Withers, architect:—

Buston	£2,518 0 0
Smith	2,220 0 0
Summers	2,118 11 0
Chapman	2,032 0 0
Greengrass	1,996 10 0
Murray & Son	1,990 0 0
Cornish	1,989 0 0

For taking off old roofs and putting on new roofs to Belton Church, Lincolnshire. Mr. Withers, architect:—

Kelsey	£520 0 0
Clark	489 10 0
Stamp	455 0 0
Whitehead	384 4 0

For new church at Hautbois Magna, Norfolk. Mr. Thos. Jeckyll, architect:—

	Original.	Reduced.
Hubbard	£997 0 0	£976 0 0
Cork	980 0 0	900 0 0
Bartrum	912 0 0	827 0 0
Burrell & Baldwin	949 0 0	812 10 0

For new wing, kitchen offices, and repairs to Borde Hill, Cuckfield, Sussex, for Major Mac Adam. Mr. E. A. Gruning, architect:—

Dancy	£1,710 0 0
T. Anscombe	1,369 0 0
A. Anscombe	1,275 0 0
Fish	1,258 0 0
Cheeseman & Son	1,240 0 0
Timewell	1,187 0 0

TO CORRESPONDENTS.

A White Slave.—Twenty Years' Assistant.—C. F.—An Old Clerk.—F. S.—J. A. (next week).—J. M.—W. & J. F.—Another Victim.—Butts.—E. A.—Capt. S. (at office).—T. J.—C. M. E. (we decline to recommend).—J. S. N.—T. W. C.—A. O. (take the advice of a competent person, who can examine the site and see if opposite neighbour will really be damaged to any extent).—T. E.—R. C.—G. A. P.—C. J. P.—E. R. H. C.—A West-End Surveyor.—Mr. T. (declined with thanks).—W. S. (in type).—T. A. S. (ditto).—G. A. P. (ditto).—Fanny-a-liner (ditto).—T. M.—R. J. A. (we cannot advise).

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender; not necessarily for publication.

Note.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

☞ *Notice.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* not *to the "Publisher."*

ADVERTISEMENTS.

MR. WILLIAM ELLISON
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13 FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

GLASS PAINTERS, possessing good abilities, WANTED.—Apply, with drawings, or by letter, to Messrs. WARD & HUGHES, 67, Frith-street, Soho-square, London, W.

TO BRICKLAYERS.

GOOD and steady Workmen can have a WINTER'S WORK by applying at the CONTRACTOR'S OFFICE, Royal Marine Barracks (Extension Works), Chatham.

STAFFORDSHIRE.—Persons desirous of undertaking the Office of SURVEYOR of BRIDGES and PUBLIC WORKS within the County of Stafford, from the 1st day of JANUARY, 1863, are requested to make application in writing, accompanied with testimonials to character and ability, sealed up, addressed "To the Clerk of the Peace, Stafford," with the words "County Surveyor" in the left-hand corner of the envelope, on or before the first day of DECEMBER next. The County Surveyor will be required to reside at or within a mile of Stafford.

The salary of the Surveyor will be 200*l.* a-year, including all expenses. The duties of the County Surveyor, and any further particulars relative to his office, may be obtained from the Clerk of the Peace, Stafford. Candidates for the County Surveyorship are requested not to send their testimonials or to make any application to magistrates individually, or to the committee of magistrates appointed to examine the testimonials of candidates.

PERMANENT-WAY INSPECTOR.—WANTED, a thoroughly practical Man for the above. No one need apply who has not filled a similar situation on a trunk line, and can give satisfactory reference and testimonials from the last engineer he was with, as to qualification, sobriety, and integrity Wages, 2l. per week.—Applicants to state age, and to apply to their own Landwriting, to the ENGINEER, Monmouthshire Railway and Canal Company's Office, Dock-street, Newport, Monmouthshire.

TO STONEMASONS.

TWO HUNDRED or THREE HUNDRED STONEMASONS will find EMPLOYMENT at Manchester, by applying to Messrs. J. & H. PATTESON, Oxford-street, Manchester Wages 30s per week

WANTED, a good Architectural and Perspective DRAUGHTSMAN and COLOURIST. Terms, four guineas per week.—Apply, with references, to SKIDMORE'S Art Manufactory Company, Coventry.

WANTED, a useful working FITTER of CAST IRON, as FOREMAN Apply to J WEEKS & CO. Horticultural Builders, King's-road, Chelsea.

TO BRICKLAYERS

WANTED, Six or Seven good POINTERS. Apply to Mr. DOVER, Builder, Cowley-road, or at the Corn Exchange, Oxford

WANTED immediately, on an Estate in the country, under an architect, a SUPERINTENDING MAN. He must have a practical knowledge of building, painting, and estimating, and must be of good address. Salary, 2l. per week Apply, by letter only, stating full particulars of previous engagements and capabilities, to Mr. W. FOWLEY, 2, Townsend place, Union street, Borough, S.E.

WANTED immediately, a MAN to make TERRA COTTA GOODS and CHIMNEY-POTS. None but good and steady workmen need apply.—Apply, by letter, stating wages required and where last employed, to the MANAGER, Dripenhall Salem Works, Farnham, Surrey.

TO BRICKLAYERS.

WANTED, an experienced BRICKLAYER to TAKE some WORK (in the country) by the piece. Must be thoroughly conversant with gauged work, and must send particulars of previous employment, that strict inquiries may be made.—Apply to B. H. U. Office of "The Builder."

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, to go out to Denmark, an ARCHITECTURAL ASSISTANT.—Apply (post-paid), stating age, previous employments, references, and salary required, to E. B. Post-office, Wolverhampton.

WANTED, as SUPERINTENDENT or OUT-DOOR MANAGER, by a Company Working some Patents in connexion with the Building Trade, an active, pushing Man, with good address and knowledge of that business.—Address, M. N. care of James Wright, esq. 12, Copthall-court, E.C.

TO ARTISTS.

WANTED, a Gentleman who either has made or is willing to make ECCLESIASTICAL ART (as applying to Glass Painting and Wall Painting) his study. To the former a liberal remuneration would be offered.—Apply by letter, stating the nature of former engagements, to A. B. S. Office of "The Builder."

TO ECCLESIASTICAL DECORATORS.

WANTED, a PERSON who is a good draughtsman, and understands wall decoration practically.—Apply to LAVERS & BARRAUD, Bruton-street, Bloomsbury.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man (a Builder's Son), a SITUATION as FOREMAN or BRICKLAYER'S. Can make plain working drawings. Understands measuring up and can set out work. Age 27 years.—Address, C. D. Old St Pancras-road Post-office, N.W.

WANTED, by a Young Man, a SITUATION as CLERK and ASSISTANT to a Builder. Good references.—Address, G. V. P. 176, High-street, Mile Town, Sheerness

TO BUILDERS, PLUMBERS, &c.

WANTED, EMPLOYMENT, by a first-class experienced Plumber, who can fulfil a respectable situation, and can give satisfactory references as to ability and respectability, on a job; or would take Plumber's Work at per cwt. either with or without materials Town or country no object. Address, T. HILLS, 3, Cottage-place, Brompton, S.W.

TO BUILDERS AND GENERAL CONTRACTORS.

AS GENERAL FOREMAN, CLERK of WORKS, or to Manage a Business. An experienced practical Man, a Joiner by trade, is open to an ENGAGEMENT as above. Is a good estimator and measurer. Six years' reference to last employer. Address, E. A. Office of "The Builder."

WANTED, by a Young Man, aged 21, a SITUATION as GRAINER, PAINTER, and GILDER, in town or country. Wages not so much an object as constant employment.—Address, H. T. F. care of Mr Cooke, 12, Religion, Old Town, Clapham.

WANTED, by a Young Man, a constant SITUATION as PAPERHANGER. Is willing to fill up his time with Painting.—Address, C. M. 17, College place, Chelsea.

TO CIVIL ENGINEERS, LAND AGENTS, AND SURVEYORS.

WANTED, an ENGAGEMENT, by a Land and Engineering SURVEYOR, Leveller, and Draughtsman, with a due experience of the laying out and construction of railway work.—Good references or testimonials.—Address, A. B. C. Post-office, Derby.

TO RAILWAY COMPANIES, CONTRACTORS, AND OTHERS

WANTED, an ENGAGEMENT as INSPECTOR of PERMANENT WAY, or General Work by a thoroughly practical Man. Understands masonry and earthwork well. Has lately had charge of large Jersey works. Testimonials of the best description. Address, W. T. 4, Upper Dorset street, Pimlico, S.W.

TO CONTRACTORS.

WANTED, by a BRICKLAYER, a RE-ENGAGEMENT as FOREMAN Understands drawing and setting out work. Good references can be given from present employer.—Address, G. Z. care of Mr. Shrimpton, Post-office, Penn, Amersham, Bucks.

TO BUILDERS, &c.

WANTED, an ENGAGEMENT in a Builder's Office by the Advertiser, age 23. Is a first draughtsman and a good accountant. Can prepare estimates and measure works.—Apply to A. Z. 78, Theobald's road, W.C.

WANTED, by two experienced MEN, STAIRS, RAILS, or JOINER'S WORK Piecework or otherwise. No objection to the country.—Address, J. WHITE, 4, Exmouth-street, Euston-square, N.W

TO ARCHITECTS AND SURVEYORS.

WANTED, by a practical CLERK of WORKS, a SITUATION in that capacity. Good reference can be given.—Address, W. T. 5, Office of "The Builder."

TO CONTRACTORS.

WANTED, a RE-ENGAGEMENT as MANAGER of WORKS Is accustomed to Gothic work. Twelve years' character. Aged 36.—Address, A. B. 107, Cambridge-terrace, Ranelagh-road, Pimlico, S.W.

TO CARPENTERS AND JOINERS.

WANTED, by a Young Man, aged 22, a SITUATION, to the above, as IMPROVER. Wages not so much an object as a desire to improvement.—Address, T. J. 28, Great Titchfield street, Oxford-market, W.

TO BUILDERS, PLUMBERS, GLAZIERS, AND PAINTERS.

WANTED, by a practical Man, a SITUATION as GENERAL or WORKING FOREMAN, or to TAKE CHARGE of a BUSINESS. Highest order references given Address, B. H. 32, Berners-street, Walworth.

TO TIMBER AND STONE MERCHANTS.

WANTED, a RE-ENGAGEMENT as WHARF CLERK and SALESMAN No objection to travel. Is well acquainted with the building-trade. Good reference.—Address, S. W. 24, Elizabeth-street, Pimlico, S.W.

TO BUILDERS.

WANTED, by a good Draughtsman, a SITUATION in a large Builder's office in the country. He has been for the last five years in an architect and surveyor's office in London, and can give excellent references. Being desirous of further improvement, no salary will be expected.—Address, E. M. at Mr. Stevens's, 42, Tottenham-court-road, W.

TO BUILDERS.

WANTED, PLASTERER'S WORK, by a practical man. Materials and labour, or labour only; in town or country.—Direct, X. Y. 147, Lillington-street, Pimlico

TO BUILDERS, PLUMBERS, PAINTERS, AND GLAZIERS.

WANTED immediately, by an experienced Oil and Soft Wood Grainer, a permanent SITUATION, or to conduct a business for a widow or otherwise, as Foreman. Understands the plumbing, painting, and glazing, in which he has no objection to assist in the absence of grahing. Can also measure up work, and estimate. London preferred; reference if required.—Address, N. B. stating terms, to Office of "The Builder."

WANTED, by the Advertiser, a SITUATION as GENERAL FOREMAN, Clerk of the Works, or to manage a business in town or country, who has had more than twenty years' experience, and a thorough practical knowledge of the trade in all its branches Ground work, ornamental and landscape gardening Can make drawings, take out quantities, and estimate.—Address, T. G. S. 93, Norton Folgate, N.E.

TO BUILDERS' FOREMEN.

WANTED, to PLACE a YOUTH, 16 years of age, of good connexions, under the CARE of a respectable JOINER (being a Builder's Foreman), where he can be boarded in the house and apprenticed to learn the business. A liberal premium will be given to an eligible party.—For terms, &c. apply to Messrs. JENNINGS & SON, Proctors and Solicitors, 18, Bennett's-hill, Doctors' Commons.

TO PLUMBERS AND BUILDERS.

WANTED, by a first-class Plumber, constant EMPLOYMENT as THREE BRANCH HAND.—Address, M. E. M. 3, Charlotte-place, Old Church-street, Paddington-green

TO BUILDERS

WANTED, by an experienced Staircase Hand and General Joiner, a JOB of WORK, by the day or by the piece, or as Working Foreman Address, Good reference.—Address, A. B. N. 4, James street, Old Kent road, S.E.

WANTED, a SITUATION as GRAINER, WRITER, and PAINTER if required, either in town or country Address, N. E. 11, Denbigh-terrace, Notting-hill, London. All letters post paid

WANTED, an ENGAGEMENT, as IMPROVER, in an Architect's Office.—Address, W. J. W. 8, Sussex-street, Bedford-square, W.C.

TO BUILDERS, &c.

WANTED, by the Advertiser, a RE-ENGAGEMENT as FOREMAN. In the painting and glazing department twelve years. Satisfactory reference from last employer, who is retiring from business.—Address, E. L. 94, Newton-street, St. John's-road, Hoxton.

WANTED, a RE-ENGAGEMENT, as CLERK of WORKS, or SHOP FOREMAN, by a thorough practical Man. Can be well recommended by last and previous employers. No objection to an engagement in the country.—Address, G. F. C. 8, Mansfield-street, Dalston-gate.

TO NOBLEMEN, ARCHITECTS, AND BUILDERS.

WANTED, by a first-class practical JOINER, a RE-ENGAGEMENT as CLERK of WORKS or Managing Foreman. Understands taking out quantities, estimating, &c. He is a good draughtsman, and well versed in preparing details. Thirteen years' experience in London. Undeniable references from present and previous employers. Age, 40 years. No objection to go abroad Address, OMMER, Post office, Broadway, Hammersmith, Middlesex.

TO BUILDERS AND DECORATORS.

WANTED, by a Young Man who is a good HOUSE-PAINTER, and who can also grain well, a SITUATION. Wages not so much an object as permanency.—Address, J. F. 31, Judd-street, Euston-road.

TO ARCHITECTS.

WANTED, a RE-ENGAGEMENT in an Architect's Office. Is a good draughtsman; can prepare working and detail drawings from rough sketches, colour perspectives, and has a knowledge of design.—Address, B. J. 19, East-street, Red Lion-square, W.C.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION as WORKING FOREMAN, by an experienced Man, at a moderate salary Has had good experience in shop-fronts, staircases, and frames, and boxing shutters; can make out working drawings, estimate, and measure up work. Address, SMITH, 15, Hanover-square, Kennington Park.

TO BUILDERS AND CONTRACTORS.

WANTED, a SITUATION as CLERK, by a respectable Young Man, aged 24. Is a good writer and fair draughtsman, can keep prime cost, and assist in taking out quantities. Good references to former employers.—Address, H. S. No. 8, Wellington road, Camberwell, S.

TO IRONMONGERS, BUILDERS, &c.

WANTED, by a practical Man, aged 30, a CONSTANT SITUATION as SMITH, BELL HANGER, and GAS-FITTER. Is thoroughly acquainted with bath and hot-water work. Good reference. Town or country.—Address, J. W. 4, St. Mark's-road, Kennington.

TO BUILDERS OR PLUMBERS.

WANTED, a SITUATION, by a PLUMBER who is about leaving his present engagement. Has been used to the best of work in new buildings. Three years' reference. Will turn his hand to other branches of the trade.—Address, W. W. No. 10, Victoria-terrace, St. John's-wood.

TO MASTER BUILDERS, PLUMBERS, &c.

WANTED, a SITUATION, by a good PLUMBER. Town or country. No objection to a job.—Address, PLUMBER, No 7, Northampton-row, Clerkenwell.

WANTED, by a practical Builder, by trade a Joiner, an ENGAGEMENT to take the Management of a Job, in town or country. Can prepare detail drawings and measure up work.—Address, S. M. Office of "The Builder."

TO MASTER STONE AND MARBLE MASONS.

WANTED, by a Young Man, CONSTANT EMPLOYMENT in the above line. Thoroughly understands monuments, work. No objection to the country.—Address, L. S. 9, Kingsland-row, Dalston, N.E.

TO SURVEYORS, BUILDERS, &c.

WANTED, by the Advertiser, aged 22, a SITUATION in either of the above Offices, or in any other capacity where trust and confidence would be appreciated. Is a neat draughtsman, good accountant, and understands the general routine of an architect and surveyor's office. Unexceptionable references will be given.—Address, E. C. Post-office, Malvern Link, Worcestershire

WANTED, by an experienced DRAUGHTSMAN, a RE-ENGAGEMENT in an Architect's or Surveyor's Office. First-class references, and salary moderate.—Address, M. B. Money-order Office, 9, High Holborn, W.C.

TO BUILDERS AND DECORATORS.

WANTED, by a Good PAINTER, Paperhanger, and Glazier, a Constant SITUATION, in town or country. Good reference.—Address, W. B. No. 2, Lillington-street, Vauxhall-road, Pimlico, S.W.

TO BUILDERS, &c

WANTED, by a Young Man, a Carpenter and Joiner by trade, a RE-ENGAGEMENT as SHOP or GENERAL FOREMAN, or to take charge of a job; in town or country, either as a permanency or otherwise; or would take the entire management of a small concern. Has been in business. Good references, &c.—Address, N. R. B. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

WANTED, by a Gentleman who has been four years in an architect's office, a SITUATION. Is a neat and careful draughtsman. Should he meet with a suitable engagement, would be willing to join in partnership in the course of a short time.—Address, ARCHITECT, Pavilion-place, Turnham-green, W.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a good designer and perspective draughtsman, wishes for a RE-ENGAGEMENT as ASSISTANT to the above, or would be happy to render assistance at his own residence in forming competition or other drawings.—Address, M. A. Post-office, Wellington-terrace, Barnsbury, N.

TO CIVIL ENGINEERS, CONTRACTORS, AND BUILDERS.

THE Advertiser, having had considerable experience in the construction of railways and Government works, desires an ENGAGEMENT to SUPERINTEND WORKS at home or abroad. Is well acquainted with surveying, levelling, measuring up, plan drawing, &c.—Address, B. A. 37, Westmoreland street, Pimlico.

TO CIVIL ENGINEERS, RAILWAY CONTRACTORS, AND OTHERS.

THE Advertiser, who was several years Assistant to the Engineer of a Railway and Canal Company, and subsequently employed by eminent contractors, desires a RE-ENGAGEMENT He has considerable experience in town and country surveying, levelling, laying out works, measuring up, &c.; is also a good draughtsman. References and testimonials.—Address, SURVEYOR, 141, Sloane street.

TO MASTER PLUMBERS AND BUILDERS.

THE Advertiser is in WANT of a constant SITUATION as good PLUMBER. No objection to fill up his time in painting or glazing, if required. Good character.—Address, B. G. No. 3, Woodbine-cottages, John-street, Upper Holloway, N.

THE Advertiser wishes to receive OFFERS to BUILD for him several six-roomed HOUSES at Hammersmith. Also BUILDING LAND TO LET. Plans may be seen at Mr. FLEMING'S Office, 22, Cadogan street. References required

THE Advertiser, who possesses a good knowledge of mathematics, is a fair draughtsman, and who has had some experience in engineering generally, wishes for a SITUATION in a first-class Office, where his knowledge would be of service. Early attention would be looked on as an opportunity for improvement and an advancement in the profession.—Address, P. N. care of G. F. Cook, 444, Strand, W.C.

THE Advertiser, aged 20, who has been in the Office of an Architect some years, desires a RE-ENGAGEMENT. Good references.—Address, W. D. 165, Aldersgate-street, E.C.

TO BUILDERS AND CONTRACTORS.

THE Advertiser wishes for a SITUATION as FOREMAN of BRICKLAYERS, or Brickwork by the Rod. Has superintended several large jobs. First rate testimonials from late employers.—Address, S. M. No. 11, Stanmore-street, Old St. Pancras

TO BUILDERS, &c.

THE Advertiser, who is thoroughly competent, and well versed in all descriptions of work, desires a SITUATION as CLERK. Address, M. O. at Stanley's Post office, 179, Sloane street, S.W.

TO ARCHITECTS AND SURVEYORS

THE Advertiser, who is just completing his articles with an eminent architect, desires a SITUATION as ASSISTANT, in a similar office, at a moderate salary.—Address, THETA, Post-office, Bayswater-terrace, W.

TO SURVEYORS, BUILDERS, &c.

THE Advertiser, who has had considerable experience in the offices of surveyors of eminence, is desirous of knowing with an engagement. Is competent to set out and build.—Address, G. G. 7, Bury-street, Brompton.

TO BUILDERS, PLUMBERS, AND DECORATORS.

THE Advertiser requires a SITUATION as CLERK and ASSISTANT. Eleven years connected with the trades, can measure, estimate, keep prime cost, and a good bookkeeper; would not object to fill up time at light work. Most satisfactory references.—Address, A. B. Mr. Cole's, 4, Cross-street, Newington.

TO ARCHITECTS.

THE Advertiser, a first-class Draughtsman, with a thorough knowledge of construction and perspective, is desirous of obtaining a SITUATION in an Architect's Office.—Address, O. S. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

THE Advertiser is desirous of a RE-ENGAGEMENT, temporary or otherwise, in town. Is a good designer and constructionist, and thoroughly competent to prepare finished and bold working, perspective, specifications, take out quantities, make surveys, levels, sections, &c. Would prepare plans at his own residence. High references given. Terms moderate. Address, X. Y. Z. Plummer's Library, Broadway, Camden town.

THE Advertiser is desirous of an ENGAGEMENT, either temporary or permanent, in an Architect's Engineer's, or Surveyor's Office, or on Works. Ample testimonials as to competency, &c.—Address, A. Z. S. 71, Charlwood street, Pimlico, S.W.

TO ARCHITECTS AND SURVEYORS.

REQUIRED by the Advertiser, aged 22, an ENGAGEMENT as an ASSISTANT Unexceptional references can be given.—Address, R. W. T. Office of "The Builder."

PLUMBING WORK CONTRACTED FOR on the most moderate terms by a Practical Man. Labour only. Address, PLUMBER, 26, Wigmore street, Cavendish square.

OXFORD, CAMBRIDGE, DUBLIN, and DURHAM MISSION to CENTRAL AFRICA.—WANTED, to join the Mission, a CARPENTER, who is able generally to work well at his trade, and has some knowledge of Masonry and Building. Terms of agreement, salary, 30l. per annum, with food and clothing. The party applying (who must be a communicant of the Church of England) must agree to give his services for three years.—Apply by letter to the Hon. Secretary of the Mission, 5, Mitre court, Temple, London, E.C.

TO PLUMBERS, BUILDERS, AND OTHERS.

EMPLOYMENT WANTED, in the THREE BRANCHES, by a Young Man of respectability, used to the management of work in all the branches. Country preferred. Address, X. X. Office of "The Builder."

CLERK and BOOK-KEEPER.—The Advertiser, aged 26, who has had many years' experience, wishes for an ENGAGEMENT in a Builder's or Surveyor's Office. He is a thorough accountant, a rapid writer, can assist in drawing if required. Is active, sober, and honest; ex cellent testimonials from former employers.—H. SELBY, 7, Grove-place, Lisson grove, N.W.

CLERK, aged 30.—A good Draughtsman, Accountant, and of business habits, seeks a SITUATION where he would be of service to his employer, either out door or in the office. References first-class. Security if required.—Address, A. B. C. 8, St. George's-road, New Kent-road, S.E.

A GENTLEMAN who has passed some years in a large Surveyor and Receiver's Office in London, is desirous of an ENGAGEMENT in the country. Salary not so much an object as a permanent and desirable employment.—Address, A. B. at W. A. Boulnois's, esq. 6, Water'oo-place, London, S.W

TO ARCHITECTS.

A COMPETENT ASSISTANT desires TEMPORARY EMPLOYMENT. The advertiser understands perspective and water-colour drawing, and has had long experience in design of all kinds.—Address, D. R. B. Office of "The Builder."

A FIRST-CLASS THREE-BRANCH HAND WANTS a constant SITUATION. Is a good gasfitter and paperhanger, can take up and situate work. Address, J. R. S. 11, Henry street East, Avenue-road, St. John's-wood, N.W.

AN experienced LAND and ENGINEERING SURVEYOR, thoroughly conversant with setting out railways and their works, levelling for working sections, estimates, &c., of earthwork, and all the details of the profession, and who is a good draughtsman, will be DISENGAGED at the beginning of November. The most satisfactory references as to character and ability can be given. Age, 26.—Address, C. S. Office of "The Builder."

A THOROUGHLY Practical Man wants EMPLOYMENT Age, 40 Has been twenty-five years in the building trade. Is a good draughtsman and measurer, &c. understands road making, cranes, &c. Has been used to superintend working. Good reference Would not accept such an object as constant employment.—Address, BETA, Mr. Cook's, Builder, High-street, Aldershott

TO ARCHITECTS.

A CLEVER Architectural DRAUGHTSMAN desires a RE ENGAGEMENT in a London Office. Is fully competent to prepare finished and detail drawings, or design from rough sketches; well versed in construction and perspective, accustomed to superintend works, of good artistical ability, and some knowledge of the Mediæval styles.—Salary, 80l.—Address, E. S. 57, Garnault-place, Clerkenwell, E.C.

TO LANDLORDS AND AGENTS.

A PRACTICAL WORKING BUILDER (with small capital), is willing to take GROUND to BUILD on, or to Old Houses and Grounds for ditto, where advances can be had. Building generally or repairs contracted for.—Address, C. H. W. Office of "The Builder."

AN ESTIMATOR, first-rate QUANTITY SURVEYOR and MEASURER, who is a good draughtsman, thoroughly acquainted with carpenters' and joiners' specifications, and surveying, &c., desires, and has had the superintendence of extensive works, is open to an ENGAGEMENT, either temporary, permanent, or partial, on moderate terms.—Address, ALPHA, Seymour's Advertising Office, 18, Bear-street, Leicester-square, W.C.

TO SURVEYORS AND CONTRACTORS

A GENTLEMAN, who has been engaged with a London surveyor four years, desires a RE-ENGAGEMENT. Is a first-rate draughtsman, can measure, abstract, &c., and thoroughly up in abstracts, and having good practice can furnish good reference.—Address, A. B Post-office Birmingham.

TO ARCHITECTS.

AN ASSISTANT, who has a thorough knowledge of Gothic, and has been engaged in first-class offices is desirous of an ENGAGEMENT in town, or would prepare designs and working drawings for Architects on reasonable terms.—Address, P. Q. Office of "The Builder."

AN experienced ASSISTANT, who is a good designer, constructionist, and perspective draughtsman, competent to prepare working and detail drawings in the Gothic and Italian styles, is open to an ENGAGEMENT.—Address, B. Y. Office of "The Builder."

TO ARCHITECTS AND BUILDERS.

A WELL-QUALIFIED Architect's Assistant, having first-class testimonials, desires a DAILY ENGAGEMENT; is not particular as to terms, 3l. per week. Address, DILIGENS, Office of "The Builder."

TO BUILDERS, ESTATE AND HOUSE AGENTS &c

AN active and energetic Man, aged 25, joiner and carpenter by trade, wishes to obtain EMPLOYMENT. Is a good fixer, being a clever scholar. Could take the entire management or an estate of house property. Good references. Security if required. Salary not so much an object as the desire to obtain permanent employment. Must be in town.—Address, E. B. 1, Carlton road South, Mile-end, E.

AN Architect's Assistant is in want of a RE-ENGAGEMENT. Address, H. B. Messrs. Hamilton, Adams, & Co. 33, Paternoster-row, E.C.

TO ARCHITECTS, SURVEYORS, AND BUILDERS

A QUANTITY SURVEYOR, MEASURER, and ESTIMATOR, of twenty years' practical experience in the various works connected with the trades, offers TEMPORARY ASSISTANCE in taking off quantities, measuring, abstracting bills, quantities, making drawings, writing specifications, taking surveys of dilapidations, &c. upon reasonable terms. Satisfactory references given.—Address, S. V. R. Office of "The Builder."

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Balk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TO TIMBER-DEALERS, WHEELWRIGHTS, and OTHERS.—TO BE SOLD, by TENDER, upwards of ONE HUNDRED and THIRTY ELM and OTHER TREES, now growing and standing near the roadside, at New Cross, on land belonging to the Worshipful Company of Haberdashers, Governors of Jones's Charity.—Particulars and forms of Tender may be seen at the Offices of Mr. WM. SNOOKS, the Surveyor to the Governors, 6, Duke-street, London Bridge, S.E. where the Tenders are to be delivered by TWELVE o'clock at noon, on SATURDAY, the 1st day of NOVEMBER next, after which time no Tender will be received. The Surveyor does not bind himself to accept the highest or any Tender

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS, And every description of cast work for internal and external decorations, executed in Keene, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

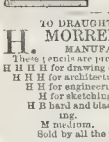
MESSRS. HERBERT, MODELLERS, 242 EUSTON ROAD, ST. PANCRAS.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH. — To ARCHITECTS, BUILDERS, HOUSE PROPRIETORS, &c. &c. The Waterproof Glue makes an admirable cement for Foundations, to prevent water rising, and the Varnish will enable damp walls to be papered over directly.

Copy of a letter from Mr. T. E. Owen, architect, Southsea:—

"I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The varnish has exceeded better than any article I have known as an anti-damp, the damp wall being coated with it before papering or painting. If the plastering be sodden and rotten, it should first be substituted with cement. I have used this material successfully for tank work."

To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos-street, Portsmouth. Mr. GEO. WEEKS, Manager. GEO. C. WARDEN & CO. General Agents, 19, London-street, London, E.C. where specimens of its application can be seen.



WINDOW BLINDS and SPRING ROLLERS OF FIRST-RATE QUALITY, AT REDUCED PRICES.

E. ADKINS,

HIGH-STREET, ST JOHN'S WOOD, REGENT'S PARK, N.W.

Illustrated List of Prices on receipt of one postage stamp.

TO DRAUGHTSMAN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade.

H H H for drawing on wood.	F F light and shading.
H H for architectural use.	F for general use.
H for engineering.	B black for shading.
M for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
	B B B B ditto ditto.
M medium.	

Sold by all the principal Stationers in town or country.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation, with Wrought-iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL, EDSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Regilding in all its branches to the trade. ½-inch Gilt Beads, 7s. per dozen 6-feet lengths; best ditt., 12s.

G. REES, 57, DRURY LANE, Four doors from Drury Lane Theatre Established in 1840.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d. These Ventilators are arranged so that the requisite quantity of air may be admitted for the ventilation of a room, but without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is in active need. HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 127 and 128), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

TARPAULINS, MARQUEES, &c. for SALE or HIRE. SCAFFOLD and HEMP ROPE FALLS. H. PIGGOTT, 59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS

TARPAULINS for COVERING WORKS. SCAFFOLD and HEMP ROPE FALLS. AWNINGS FOR FOUNDATION STONES. CARY & PRIER, DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK, VULCANIZED INDIA-RUBBER WORKS, GOSWELL MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor, GEORGE JENNINGS, Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION. A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,248.

JOSEPH FAIRER, Turret Clockmaker to Her Majesty's War Department, 188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER of THE GREAT CLOCK FOR THE HOUSE OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches		8 Guineas.
Gentlemen's	do. do.	10 ,,
Ladies' or Gentlemen's Gold English Lever Watches		18 ,,
Strong Silver Lever Watches		6 ,,
Gentlemen's Gold Compensation Balance Watches		40 ,,
Do.	Silver do. do.	25 ,,
Marine Chronometers		23 ,,

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of Ladies' Gold Jewelled Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

TO DECORATIVE HOUSE-PAINTERS. The Advertiser, who has most successfully carried on Business in Edinburgh for forty years as a DECORATIVE HOUSE PAINTER, now finds it necessary, from the state of his health, to retire from Business. He is in consequence prepared to DISPOSE of the GOODWILL of his BUSINESS and his STOCK-IN-TRADE, on reasonable terms. To a person of enterprise, so favourable an opportunity of entering upon a business of the highest class rarely offers. The Premises in which the business is carried on are well known. They are in excellently situated, and are extensive and complete. The purchaser of the Business can obtain them either on a Sale or Lease. Further particulars may be learned by addressing to X. Y. Z. care of Messrs. Robertson & Scott, News Agents, No. 13, Hanover-street, Edinburgh. Principals only will be treated with.

TO IRONMONGERS.—A first-rate FURNISHING and GENERAL IRONMONGERY BUSINESS to be DISPOSED OF, in the North of England. It has been established 60 years, and has a most extensive connexion amongst gentlemen, manufacturing and farmers.—Apply in first instance by letter to P. W. care of Messrs. Barber & Groom, Union-court, Holborn-hill, London.

TO PLUMBERS.—TO BE DISPOSED OF, a small but good BUSINESS in the above Line, within six miles of the General Post Office. Possession to be taken when existing contracts are complete. The Lease of the House and Premises, which consist of four good rooms, a workshop 30 feet long, and gateway under it, enclosed back and front, with folding gates, TO BE SOLD. The Stock in Trade to be taken at a valuation. A good and satisfactory reason can be given by the present proprietor for disposing of his business, and he has no objection to make an engagement with his successor.—Apply, if by letter, to P. P. care of Mr. S. Herson, Western-street, Stratford, Essex, E

TO PLUMBERS, PAINTERS, and GLAZIERS. — An Old-established BUSINESS, situate within forty miles of London, TO BE SOLD. The rent is 40l. per annum. — For further particulars apply to Messrs. JOSEPH CHOLER & SONS, Glass and Lead Merchants, St. Dunstan's-hill, London

TO MACHINISTS, SMITHS, &c.—TO BE DISPOSED OF, on most advantageous terms, the BUSINESS and PLANT of Mrs. B. GORTON, Music Smith and Smith in General, of 4, Cleveland-street, Middlesex Hospital, carried on for many years most successfully by her late husband. Capital required, about 300l. This will be found a most desirable opportunity for any young man wishing to commence business. Apply, in first instance, to Mr. THOS. SMITH, Ironmonger and Engineers' Valuer, 14 and 15, St. Swithin's-lane, E.C.

TO PLUMBERS, DECORATORS, and GENERAL CONTRACTORS.—An excellent and unusual offer presents itself to any steady practical workman who can command 150l. The connexion consists of first-class customers in a business established 100 years, and a few miles from London.—Apply to Mr BRIGHTON, late Messrs Attwood, Glass Merchant, Bridge-street, Blackfriars.

TO PAINTERS, DECORATORS, OILMEN, and OTHERS.—A first-class BUSINESS in the above line (to which is added the very important branch of Retail Paper-Hanging), situate in the most fashionable and thriving watering-place in the west of England, is for DISPOSAL by Private Contract. The Trade has been successfully carried on by the present proprietor for the last seventeen years, and who now wishes to retire therefrom. The Stock, Workshops, and Residence, with the Business, may be had on reasonable terms, or an eligible Partnership with a practical man would be entertained. All further particulars may be obtained on application to BARNARD THOMAS & CO. Public Accountants, Albion Chambers, Bristol.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 1850), 34, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or compelled to for an advance, and no reduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.
SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.
KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

HAMPSTEAD ROAD JOINERY WORKS.
21, HARRINGTON STREET, N.W.
NEVIL SIMMONDS,
MANUFACTURER OF ALL KINDS OF JOINERY OF THE BEST DESCRIPTION, AT THE LOWEST SCALE OF PRICES, FOR CASH.
SHOP-FRONTS, SASHES AND FRAMES, SHOP AND OFFICE FITTINGS, GLASS SHOW-CASES, STAIR-CASES, HANDRAILS, BOXING SHUTTERS, DOORS, &c. ON THE SHORTEST NOTICE.
Price Lists and Estimates for all kinds of work connected with the Building Trade, forwarded upon receipt of Stamp

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.
WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.
PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JOHN DOULTON, BROTHERS, & CO.
LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO STREET, LIVERPOOL,
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

LITTLE CASTERTON FREESTONE, Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

HAM HILL STONE, from the white or yellow bed, of the best description, in block, or worked at the quarry, consigned in railway trucks, and delivered free from injury, at any railway Station.—Apply to JOHN TRASK, Norton, near Ilminster, Somerset.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.
THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequences of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
Communications to be addressed to the Secretary, No. 24, St. James's-street; or to Mr THOMAS OAKDEN, 24, King street, Manchester, who is sole agent for Liverpool and Manchester

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

RED MANSFIELD STONE. (WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

PURE STATUARY MARBLE, and in slabs of large dimensions, can be obtained at
M. W. JOHNSON'S MARBLE WORKS,
363, EUSTON-ROAD, London, N.W.
Prices moderate.
M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, Always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards, CUT by Steam Power, and Delivered into Railway Trucks at Weymouth. List of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wootton Wawen, near Henley-in-Arden, are working a Quarry of this very superior and durable Stone (belonging to Ceft. Rangoi, at Pistyowy, Nant, near Wrexham. It is used extensively in Liverpool, Manchester, &c. and can be supplied at reasonable rates at any railway station.

STONE CHIMNEY-PIECES.
GOODCHILD & TELLING are prepared to supply
STONE BOX CHIMNEY-PIECES,
with 8 inch Piers and Moulded Caps and Bases, fitted to any opening, for 6s. 6d.
10, CONDUIT PLACE, LONDON STREET, PADDINGTON, W.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DRAIN, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connexion generally throughout the Kingdom, that they have now ready their
NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns, delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application.—Address,
No. 1, BOLD-TERRACE, CHESTER.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.
MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Art., the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article
Chimney-pieces, Billiard tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

GREEN SLATES ALL SIZES.
HENRY MARYON,
56, SMITH-STREET, JUBILEE-STREET, MILE-END

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet street, City. Sand from above or below Bridges, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

STRATFORD BRICKFIELDS, E.
BEST YELLOW STOCKS, 30s. per 1,000. Also grizzles, rough stocks, and place, can be obtained in any quantity by applying to JOHN COSH, as above.—Bricks delivered to any distance at a low rate, by J. C.'s carts.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridgeshire, offers
Red Pantiles, at 47s 6d per 1,000.
" 9-inch Pavings, at 57s. 6d. per 1,000.
" Flour Bricks, 30s. per 1,000.
Malgled Kiln Bricks, at 30s. per 1,000.
Ridge Tiles, at 75s per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire street Station, at 24s per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Blue Gutters
Fancy Moulded Bricks of many patterns.
Best Lord Kiln-burnt Common Bricks, in large quantities.
Do. 9 Inches.
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge-tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight.
R. LANGLEY, Agent.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two thirds of the working expenses of other machines
Price, including royalty, 75*l.*
Licenses to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Smith's Brick-fabont one mile from the station, Kingston on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,816.

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam, Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM CUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

WANTED to HIRE or PURCHASE, a MORTAR-MILL, to work by steam.—Address, A. X Lincolnshire and Spalding Free Press Office Spalding

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES, BURKE, & CO. PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY.

PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

BEST "PENRHYN" ROOFING SLATES,

SLATE RIDGING, GLAZED SOCKET-PIPES,
TILES, PAVINGS, &c.

Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads, to any Railway Station.—Prices and particulars may be had by applying to

HENRY BROWN & SONS, MERCHANTS,

GENERAL WOOD-CUTTING MILLS, LUTON, BEDS.

A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,
INTERNATIONAL EXHIBITION, 1862.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. — 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

15 oz.	4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1½	2	2½
„ 2ft. 6in. sup.	1½	1¾	2¼	3
4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

15 oz. (per 100 ft.)	15 oz.	21 oz.
20 by 12	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.
} per cwt.

Fine Oak Varnish ...10s.
„ Carriage ...12s.
Linseed and Boiled Oil
Turpentine .....
} per gallon.

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

WINDOW GLASS! WINDOW GLASS!
Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and Large Quantities. Plate Glass Warehouse at
GRIST'S CITY GLASS WAREHOUSE,
47, Chiswell-street, opposite Whitbread's Brewery, E.C

TO BE SOLD, a CONSERVATORY, 40 feet by 20 feet, with semicircular ends and domed roof. The building is new, and the sash-bars copper, fitted with hot-water pipes, boiler, &c. complete. The conservatory has attached to it a semicircular shower, fitted with mahogany and cane seats. For price and to view, apply to GEORGE CLARK & SON, Contractors, Bodorgan, near Bangor.

GLASS, EMBOSSED, ENAMELLED, AND PAINTED,
To be had at
LONG'S ORNAMENTAL WINDOW-GLASS MANUFACTORY,
No. 17, Queen's-road, Bayswater, W. at greatly reduced prices.
Memorial and other Windows designed and executed

PLATE-GLASS for SHOP-FRONTS.
Messrs. TOZER & CO. PLATE GLASS MERCHANTS,
No 18, Devereux-court, Temple,
Are enabled to supply Plate Glass for glazing purposes, and Looking-glasses, at prices defying competition; also every description of ornamental glass, writing, embossing, &c. Estimates given, and approved bills taken in payment.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

EXHIBITION PLATES OF THE
ST. GOBAIN, CHAUNY, and CIREY PLATE GLASS COMPANY, comprising:—
One 173 by 117 UNSILVERED PLATE.
Two 138 by 86 SILVERED PLATES in plain frames.
One 120 by 74 SILVERED PLATE in handsome gilt frame.
One 70 by 46 SILVERED PLATE with fine bevelled edges, in handsome gilt frame.
One Large SILVERED PLATE in plain frame.
Also, about 5,000 feet of French PLATE GLASS in show cases. All to be sold cheap.—Inquire for particulars, &c. &c. of Mr. A. DE GRAND RY, Paul's-wharf, 23, Upper Thames street, E.C. where a large assortment of plate glass, of both glazing and silvering qualities, will be found, as we have about 600 cases packing, some the latter of which will be sold for a mere song.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—
WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

TO PURCHASERS of GAS TAR.—The Manager of a Gas Works in the country, about 40 miles from town, and near to a railway-station, is open to TREAT for the SALE of the GAS TAR made at the Works. Parties wishing to treat may apply to WILLIAM WATSON, Surveyor, Hemlow, Biggleswade, Beds. October 6th, 1862.

PETROLEUM ACT, 1862.—The Metropolitan Board of Works hereby give notice, that by the 3rd Section of the 25th and 26th Vict. cap. 66, it is provided, that from and after the FIRST day of OCTOBER, 1862, not more than FORTY GALLONS of PETROLEUM, which by the first section of the said Act it is declared shall include any product thereof that gives off an inflammable vapour at a temperature of less than 100 deg. of Fahrenheit's thermometer, shall be kept within Fifty Yards of a dwelling-house, or of a building in which goods are stored, except in pursuance of a licence given by the local authorities; and any petroleum kept in contravention of that section will be liable to forfeiture, and in addition thereto, the occupier of the place in which such petroleum is kept, will incur a penalty not exceeding Twenty Pounds a day for each day during which petroleum is kept in contravention of the Act. Notice is also given, that by the 6th Section of the Act, the local authority to grant licences in the metropolis, as defined by the Metropolis Local Management Act, 1855 (except the city of London, and any harbour, port, dock, river, pier, or other works in or at which vessels, ship or discharge goods or passengers) is declared to be the Metropolitan Board of Works.—Parties making application for licences are required to send to the Offices of the Board a correct plan, and full particulars in writing, of the premises in which petroleum is proposed to be stored. Any further information may be obtained at this Office, between the hours of NINE and FOUR o'clock.—By Order, JOHN POLLARD,
Spring-gardens, Oct. 1862. Clerk of the Board.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DESPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,
CORNWALL ROAD, AND STAMFORD STREET, LAMBETH, S.

N.B. Price List on application.

JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,
110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



MOULDING WORKS.
SMITH & McGAW


(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

MOULDING WORKS.
WM. GEO. WARDLE,
STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

CLERIHEW & LASCELLES
(LATE WATERLOO, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

BUILDERS, AND CARPENTERS, AND OTHERS,
Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square. Laths, 28s. per Load.
Yellow Deals, sound and good.....£19 10 0 per 120, or 6s. 3½d. per foot.
Spruce Deals..... 16 10 0 „ 0 2½ „
Yellow Battens, excellent quality ..... 11 10 0 „ 0 2 „
Pine Planks, dry, 12 feet 3 inches by 11 feet ..... 21 0 0 „ 3 6 each.
Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
⅞-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1¼-inch „	0s. 0d.	18s. 0d.	19s. 0d. „

Yellow Deals, 3 by 9..... £19 10 per 120.
Yellow Battens ..... 11 10 „
Spruce Deals ..... 16 10 „

Pine Planks (dry), 3 by 11 .....£24 0 per 120.
Pine Deals, ditto, 3 by 9 ..... 19 10 „
⅜-inch White Matched Lining ..... 0 13 per square.

J. TERRY & SON, 109, Borough-road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards ..... } from 11s. 6d. per square
10,000 Pine Planks .....from 3s. 6d. each
8,000 Yellow Deals .....from 3s. 3d. each
14,000 Spruce ditto .....from 2s. 9d. each

5,000 Yellow Battens..... from £11 10s. per 120
50,000 Feet Spanish and Honduras Veneer ..... } from 1d. per foot
Maple ditto ..... from 1d. per foot.

SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 12s. 9d.; ¼ White, from 11s. 6d. Carriage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,360 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T-SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second Hand Instruments of all kinds, by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.
Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY,
late STANLEY & ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal" 42 inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 3s. 6d.
Mathematical Instruments of every description, of the most reliable make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN,
LONDON, W.C.
Pens 2s 6d post free.
STANLEY'S IMPROVED DRAWING PEN.

STOURBRIDGE FIRE-CLAY WORKS
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, breakwaters, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co., Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges Alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terra-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Red, Capped, and Pinnacled Ridge Tiles of different Patterns and Grooves. Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

PARTS MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

Exhibition, Class 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND PAN OVEN TILES

COWLEY AND KENT BRICKS, AND PLASTERERS' HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.

RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.

" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

GREAVES'S BLUE LIAS LIME

GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom, by canal or rail.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.

No. 1, SOUTH WHARF, FRAED-STREET, PADDINGTON.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLDSWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.

Wharf can be obtained, of the best quality:—

GREY STONE CHALK, FLARE, and BLUE LIAS LIME.
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also, BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS, and TILES, of every description on Sale.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

LONDON WHARF, BELVIDERE ROAD, LAMBETH

PLASTER OF PARIS.—The only London

maker, the best and the oldest established (1830), is ROBESON, Mount Pleasant, Gray's Inn road. The cheap country made article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster ane-pailed.

GREY STONE LIME.

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS:

19, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

PURE HYDRAULIC LIME, Manufactured

from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK.

With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard sculptor's imitation of marble.—Manufacturers, FRANCIS BROTHERS & POTT Nine Elms, London

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

PORTLAND, ROMAN, and PLASTER

CEMENT MANUFACTORY, on the River Medway, Strood, Kent,

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT.

GREAVES & KIRSHAW,

14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

THE KEYNSHAM BLUE LIAS LIME and

CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

JOHNS & CO.'S PATENT PERMANENT

STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours.

GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.

Office, 5, George-yard, Lombard-street.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE GOODS MERCHANTS,

ST. JAMES'S and THORNHILL WHARFS, CALEDONIAN-ROAD, LONDON.

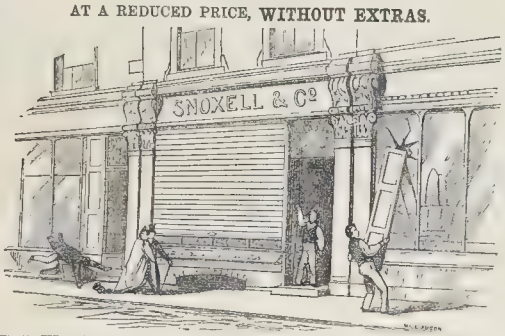
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.
THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.
Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.
BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

ORIGINAL PATENTEES.
SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,
AT A REDUCED PRICE, WITHOUT EXTRAS.
IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.
SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.
Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents.
Blind Makers to her Majesty, by appointment.
No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. BUNNETT & CO. ORIGINAL PATENTEES AND MANUFACTURERS.
Invite the attention of Architects, Builders, and the Public, to their recent Improvements in
REVOLVING IRON SHUTTERS,
Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT.
BUNNETT & CO.
Invite the attention of Architects to a completely new
Combination of the Revolving Iron Shutter and the Louvre Blind,
(See Model at International Exhibition, Class X. No. 2,216),
Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

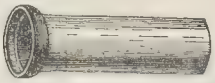
PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. BUNNETT & CO. ORIGINAL PATENTEES AND MANUFACTURERS.
Invite the attention of Architects, Builders, and the Public, to the last Improvements in
BRASS, COPPER, ZINC, AND IRON SASHES,
STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

JAMES STIFF & SONS,

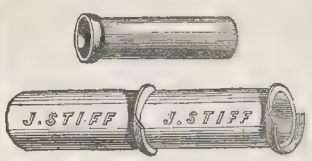
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



LONDON WHARF, 64, Bankside, Southwark.

LONDON OFFICES, 76, King William-st. City.

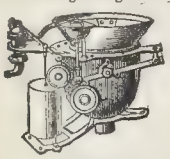
MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.

LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

THOMAS LAMBERT & SON,

No. 1. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



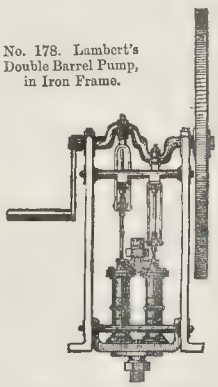
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME legibly marked thereon.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, **TO LET ON HIRE**, by the Week or Month.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

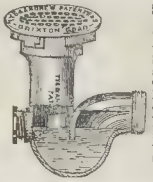
ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.

N.B. Steam Power, with Workshops, to Let

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY FOUR SHILLINGS.
A SELF-CLOSING COTTAGE CLOSET, 12s 6d.
PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.
W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.



TYE & ANDREWS NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S stains may be had at the Factory, 44, James-street Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure for them a quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
*** Also Manufacturers of the Patent Indiarubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 6d per gallon; Boiled Oil, 3s 10d.; Turpentine, 11s per gallon; Fine Pale Oak Varnish, 8s. per gallon, for cash, at P. LANGTON'S Colour Warehouse, 143 and 144, Whitecross street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKIN'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Graners' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.
ESTABLISHED 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty four years, and may always be depended upon as the best that can be made.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 35, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
20, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 5d. per gallon; Boiled Oil, 3s 10d. per gallon.
Turpentine, 10s. per gallon.
Fine Pale Oak Varnish, 9s. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Cleveland-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

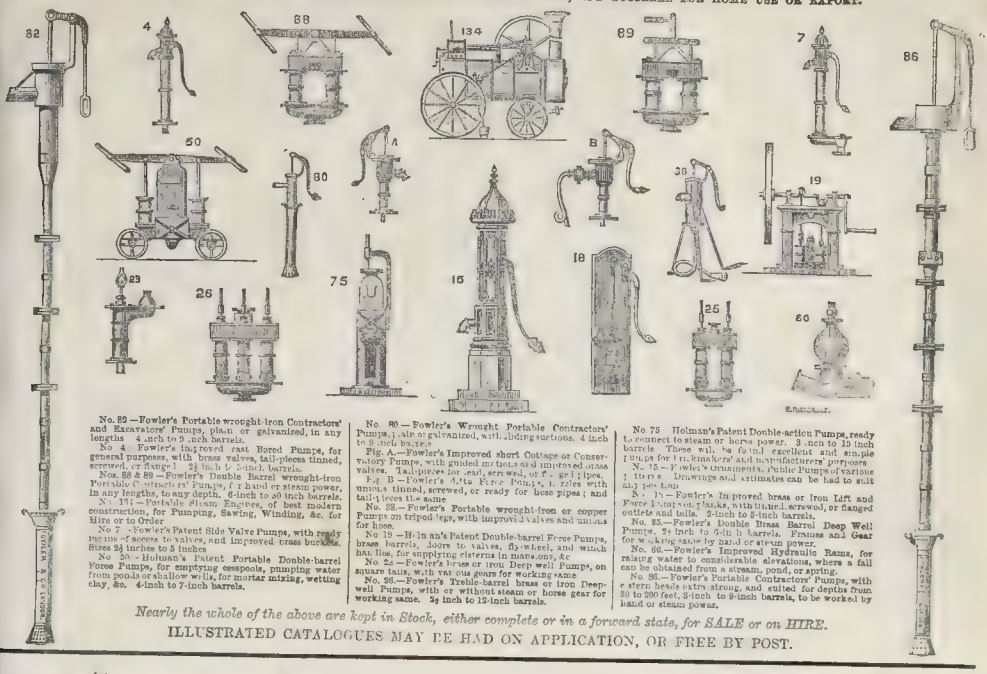
PRIZE MEDAL—INTERNATIONAL EXHIBITION, 1862.
CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the exact properties and acts precisely in the same manner, as the great natural agent provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c. as well as by use in the bath for promoting and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 1s. 2s. or 4s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.
Wholesale of the Patentee, Battersea, Surrey, S.W.

BENJAMIN FOWLER & CO., WHITEFRIARS-ST., FLEET-ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DEEP OR SHALLOW WELLS, CUTTINGS, TANKS, &c., FOR MANUFACTURING, DOMESTIC, AGRICULTURAL, CONTRACTING, AND ALL OTHER PURPOSES;

TO BE DRIVEN BY HAND, HORSE, WATER, WIND, OR STEAM POWER, AND SUITABLE FOR HOME USE OR EXPORT.



No. 82.—Fowler's Portable wrought-iron Contractors' and Excavators' Pumps, plain or galvanized, in any lengths 4 inch to 9 inch barrels.

No. 4.—Fowler's Improved cast Bored Pumps, for general purposes, with brass valves, tail-pieces tinned, screwed, or flanged 2½ inch to 7-inch barrels.

Nos. 88 & 89.—Fowler's Double Barrel wrought-iron Force Pumps, for hand or steam power, in any lengths, to any depth. 6-inch to 20 inch barrels.

No. 134.—Portable Steam Engines, of best modern construction, for Pumping, Sawing, Winding, &c. for Hire or to Order

No 7.—Fowler's Patent Side Valve Pumps, with ready means of access to valves, and improved brass buckets. Sizes 2½ inches to 5 inches

No 50.—Holman's Patent Portable Double-barrel Force Pumps, for emptying cesspools, pumping water from ponds or shallow wells, for mortar mixing, wetting clay, &c. 4-inch to 7-inch barrels.

No. 80.—Fowler's Wrought Portable Contractors' Pumps, plain or galvanized, with sliding suctions. 4 inch to 9 inch barrels.

Fig. A.—Fowler's Improved short Cottage or Conservatory Pumps, with guided motions and improved brass valves. Tail-pieces for lead, screwed, or flange pipes.

Fig. B.—Fowler's 4-in Force Pumps, handles with unions tinned, screwed, or ready for hose pipes; and tail-pieces the same

No. 38.—Fowler's Portable wrought-iron or copper Pumps on tripod legs, with improved valves and unions for hose.

No 19.—Holman's Patent Double-barrel Force Pumps, brass barrels, doors to valves, fly-wheel, and winch handles, for supplying cisterns in mansions, &c

No. 25.—Fowler's brass or iron Deep well Pumps, on square rails, with rack and gearing for working same.

No. 26.—Fowler's Treble-barrel brass or iron Deep-well Pumps, with or without steam or horse gear for working same. 2½ inch to 12-inch barrels.

No 75 Holman's Patent Double-action Pumps, ready to connect to steam or horse power. 3-inch to 15 inch barrels. These will be found excellent and simple Pumps for Brickmakers' and manufacturers' purposes

No. 75.—Fowler's Ornamental Public Pumps of various patterns. Drawings and estimates can be had to suit any locality.

No. 16.—Fowler's Improved brass or iron Lift and Force Pumps, on planks, with tinned, screwed, or flanged outlets and bolts. 2-inch to 5-inch barrels.

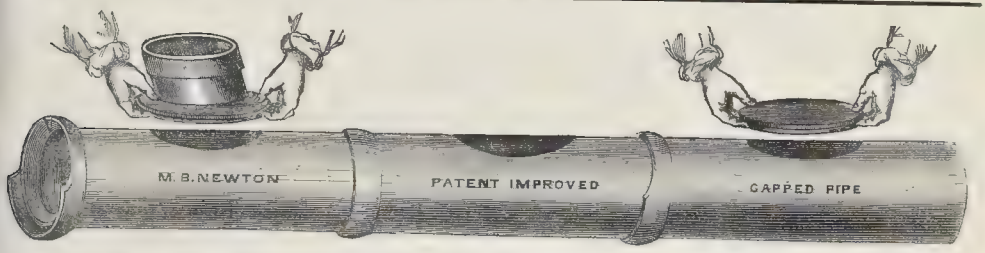
No. 25.—Fowler's Double Brass Barrel Deep Well Pumps, 2½ inch to 6-in h barrels. Frames and Gear for working same by hand or steam power.

No. 60.—Fowler's Improved Hydraulic Rams, for raising water to considerable elevations, where a fall can be obtained from a stream, pond, or spring.

No. 36.—Fowler's Portable Contractors' Pumps, with extra heads extra strong, and suited for depths from 20 to 200 feet, 3-inch to 9-inch barrels, to be worked by hand or steam power.

Nearly the whole of the above are kept in Stock, either complete or in a forward state, for SALE or on HIRE.

ILLUSTRATED CATALOGUES MAY BE HAD ON APPLICATION, OR FREE BY POST.



The ABOVE INVENTION WILL RECOMMEND ITSELF to Architects, Engineers, and others interested in Drainage, for its SIMPLICITY of construction; there being NO COMPLICATION OF PARTS.

The "Manhole" is sufficiently large to admit of the DRAIN being THOROUGHLY CLEANSED WITHOUT A SINGLE PIPE BEING REMOVED.

It DOES NOT at all INTERFERE WITH THE FLOW OF WATER in the Drain.

It IN NOWISE WEAKENS THE PIPE; and

It ADMITS of the ready INSERTION OF A JUNCTION by removing the "Manhole" cover, and replacing it with a loose Junction Arm.

Manufactured solely by

JOSEPH CLIFF & SON, WORTLEY, near LEEDS;

For MARCUS BOURNE NEWTON,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON, N.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths Price ONE PENNY per Square Foot.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. and sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6549.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

SALES BY AUCTION.

EAST GREENWICH.—The Machinery, Plant, and Fittings of a Steam Flour Mill.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, East Greenwich, on part of the Tenant's Property, WEDNESDAY, OCTOBER 22nd, at TWELVE, the excellent MACHINERY, PLANT, and FITTINGS, comprising 7 pairs of French mill stones and gear complete, 150 feet of wrought-iron shafting, 14 large Lancaster blocks and brasses, 3 expensive silk flour-dressing machines complete, 3 smutters with fans; 2 bolters, a jumper, flour-machine with new mahogany cylinder; 2 mixing-worms, 12 stone bosses, 50 rigger, spur, and bevel wheels; 3 wrought-iron tubes, 35 feet long; cast steam piping, 4 large mitre wheels, 2,500 flour sacks, 2,000 corn ditto, several tons of bagging, 50 fathoms of firewood, scales and weights, useful timber, and other effects.—May be viewed two days previous, and catalogues had on the premises; also at the Corn Exchange Coffee House, and Castle Tavern, Mark Lane; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

TO BUILDERS AND OTHERS.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, South London Marble Works, Buckingham-place, Old Kent-road (near the Bricklayers' Arms Station), on TUESDAY, OCTOBER 28th, at TWELVE, about 100 Marble CHIMNEYPIECES, in every variety of design, consisting of statuary, black and gold, black, vein, and various coloured marbles, some of which are richly sculptured, and suitable for first-class houses; also an assortment of plain Sicilian and stone chimney-pieces.—May be viewed one day previous; and catalogues had on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, and 80, Fore-street, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.—Second Portion of the Surplus Materials and Plant used in the Works of the Metropolitan Railway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractor, John Jay, esq. to SELL by AUCTION, at the WORKS, Bayswater-walls-road, King's cross, and Ryestreet, Clerkenwell, and Wood green, Hornsey, close to the Station, on WEDNESDAY, OCTOBER 29th, and following days, at TWELVE, the second portion of the very valuable and extensive SURPLUS MATERIALS and PLANT; comprising about 350 loads of capital timber, in sticks and balk, die scraps, struts, &c.; 6,000 sleepers, wheeling planks, and 30 tons of contractors' rails; seventy-five nearly new balla-t-waggons on springs, and built by Williams; trolleys, tip waggons, dobbin carts, 3 pile-driving engines with monkeys and crabs, lifting jacks, Murray's patent pump, 100 navvy and other barrows, scaffold poles and boards, screens, ladders, &c.; 30 tons of iron, anvils, iron skips, large rigger wheels, long chains, double and single purchase crabs, boarded enclosures of stables, and numerous other effects.—May be viewed two days previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, S.W.

GUILDFORD, SURREY.—First-class Building Land, close to the Town and Railway Station; also certain Freehold Tolls, arising from the River Wey Navigation from Guildford to the Thames.

MESSRS. BEADEL & SONS are instructed to OFFER by AUCTION, at the MART, Bartholomew-lane, London, on TUESDAY, OCTOBER 21, at TWELVE for FIVE, in numerous lots, the highly valuable first-class BUILDING LAND, close to the favourite town of Guildford, possessing extensive and capital frontages to the high road from Guildford to Woking, and also to a proposed new road intersecting the property. The land fronting the Woodbridge-road is all sold in 1 lot suitable for the erection of detached or semi-detached villa residences, and each plot has also good frontage to the proposed new road; the remainder of the land is divided into plots of about half an acre, and the whole forms a most desirable property, the situation for building being superior to anything in the neighbourhood. A portion of the land is freehold, the remainder is leasehold for 999 years, from Lady day, 1757, at 20s ground rent, and the whole is believed to be free from land-tax. The Freehold tolls arising from proprietary or preference shares in the River Wey Navigation comprise the one-fourth or 5½ parts in 22 of the groats or toll of 4d. and the 82-120ths and 3 10ths of another 12th of nine parts in 22 of the same toll of 4d. The income of the navigation is steadily increasing, and the proprietors of these tolls are not liable for the expense of maintaining the navigation.—Particulars, with plans and conditions of sale, may be obtained of Messrs. E. U. & N. COULTHURST, Solicitors, 13, New Inn, W.C.; of Messrs. FLADGATE, YOUNG, & JACKSON, Solicitors, 12, Essex-street, Strand, W.C.; of Messrs. LEMAN & GIBSON, Solicitors, 52, Great James-street, Bedford-row; of Messrs. GREGORY, ROWCLIFFE, & CO. Solicitors, 1, Bedford-row, W.C.; at the Mart; and of Messrs. BEADEL & SONS, 23 Gresham-street, E.C.

TWO DETACHED FREEHOLD RESIDENCES, and Valuable BUILDING LAND, Seven Sisters'-road, Holloway, facing the Station of the Great Northern Railway.

MESSRS. WARLTERS & LOVEJOY are instructed to SELL by AUCTION, at GARRAWAY'S, Change-alley, on THURSDAY, OCTOBER 30, at TWELVE, by order of the Freeholder, with the consent of the Mortgagee, a very valuable and improving ESTATE, land tax redeemed, consisting of about 2½ acres of land, with a building frontage of about 250 feet to the Seven Sisters'-road, the corner of Hanbury Lane, together with two Detached Residences, there called Rose Cottage and the Grange, in the occupation of respectable tenants at 45l. and 40l. per annum. The land is peculiarly eligible for building purposes, being directly facing the Railway Station. The Great Northern running into the Metropolitan line, about to be opened, will render it immediately available. It therefore offers an opportunity for a good and safe investment.—Particulars may be had on the Premises; of Messrs. MASLEMAN & UPFILL, Solicitors, 15, Clifford's-inn, Fleet-street; at GARRAWAY'S; and of the Auctioneers, 35, Chancery-lane.

BATTERSEA.—TO BUILDERS, CARPENTERS, &c.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, York-road, on WEDNESDAY, OCTOBER 22nd, at TWELVE, a large quantity of NEW STUFF, viz. Floor, Joist, Feather-edge, and Yellow Deal Boards, Pine-plank ditto, Quartering, Slating Battens, &c.; and a few useful OLD MATERIALS.—Auction Offices, Carlington-street, Haunsted-road, N.W.

TO TIMBER MERCHANTS, BUILDERS, and OTHERS.—FOR SALE by PUBLIC AUCTION, at GARRAWAY'S COFFEE HOUSE, Change-alley, on TUESDAY, 28th OCTOBER, at half-past 12 (by order of the importers, without reserve, at a minimum of 11 per load,—

Mahogany, ...	330 Logs Honduras	Northern wood of superior quality and good dimensions, being the entire cargo just landed at the East Wool Wharf, West India Docks, per "Rooster" and "Baltic"
Cedar	16 do. do.	
Santa Maria Wood	1 do. do.	
Mahogany. .	68 Logs Cuba.	
Cocoa	31 do.	
Rosewood. .	175 Planks Bahia.	
	29 do Hondu as.	
Cocoa Wood	12 Tons do.	
Walnut Wood	175 Logs Cuba.	
Deals.....	100 Spruce.	
Rafters	2,000 Archangel.	

Catalogues to be had at the Docks, and at of THOMAS ROBERTS & CO. Bucklersbury, E.C.

FREEHOLD first-class BUILDING LAND, rising beautifully from the Railway Station to the highway, at Wandsworth, Surrey.

JOHN DAWSON & SON will SELL by AUCTION, at the MART, near the Bank of England, on THURSDAY, OCTOBER 30, 1862, at TWELVE o'clock, TWENTY ACRES of FREEHOLD LAND, most attractively situate in delightful sunny slope commanding a vast extent of scenery, embracing the Cemetery, Surbiton Villa, Richmond Hill, and the Downs. This valuable estate will be sold in two lots; each lot will include its own access from the Ridgway, and both present a large frontage on the Worpleway, which, within a very limited period, will be made into a capital public road to the railway station.—Particulars and conditions of sale may shortly be had of Mr. D. MASON, Land Agent, Wimbledon; of Mr. HENRY RICHARDS, Solicitor, Croydon; and at Messrs JOHN DAWSON & SON'S Land and Auction Offices, Kingston, and Marlborough chambers, 49, Pall mall.

River-side Freehold Property, unusually inviting as a site for a first-class Residence, facing the Home park and gardens of Hampton Court, or for several villas with grounds, either detached or in a terrace, unfailing in attractions for gentlemen fond of angling and boating, and within a pleasant walk of the railway stations at Esher, Ditton, and Kingston.

JOHN DAWSON & SON will SELL by AUCTION, at the MART, near the Bank of England, on THURSDAY, OCTOBER 30, at TWELVE o'clock, in one lot all that capital and highly important FREEHOLD ESTATE, eligibly situate on the Surrey bank of the Thames, on a good elevation, and possessing every possible attraction and convenience to adapt it for building purposes, having about 300 feet of river frontage, and nearly as much on the public road to Hampton Court. Note.—This, it is believed, is the only attainable property directly verging on the river, and it forms a line of embankment almost continuous with the celebrated grounds of Boyle Farm and Ditton House. For many years and till now the place has been used as a wharf, and has a powerful crane. There are also a commodious dwelling-house, three other messuages, stabling, &c.; but all these now merge in the important and daily increasing value indeed by the railway accommodation, and the enjoyments of the river.—Particulars, with conditions of sale and plans, may shortly be had of Mr. CHARLES WALTER, Kingston on Thames, Solicitor; at the Auction Mart; and at Messrs JOHN DAWSON & SON'S Auction and Agency Offices, Kingston, and Marlborough chambers, 49, Pall mall.

GOSPORT.—TO CONTRACTORS, BUILDERS, and OTHERS. Important Sale of General Contractors' Plant

BRYETT & SON are instructed by Messrs. Rogers & Booth, contractors, &c. to SELL by AUCTION, in their YARDS, Clarence-place and New-road, on THURSDAY, OCTOBER 30, 1862, and following day, at TWELVE o'clock precisely each day, a large portion of CONTRACTORS' SURPLUS PLANT, used in constructing extensive Government works, which are now completed: consisting of about 15,000 feet run of wheeling plank, a number of navvy barrows, twenty dozen of scaffold boards, 200 scaffold poles, cords and ropes, pile-driving engines, hydraulic lifting-machine; portable steam-engine, 7-horse power (by Barrett, Exall, & Andrews), nearly equal to new; contractors' pumps, capital 2-ton iron crane, two 10-ton barges, several casks, tubs, trassels, and centering. Also a quantity of useful materials in standing, rough boards, firewood, slabs, drain and flue pipes, which will be enumerated in catalogues to be obtained six days prior to sale (by post on application) of Messrs. ROGERS & BOOTH, Residence; or of BRYETT & SON, Auctioneers, Gosport. May be viewed the day preceding and mornings of sale.—Approved bills at three months taken for payments over 20l.

SWANAGE, ISLE of PURBECK, DORSETSHIRE.—To be SOLD by AUCTION, by

MESSRS. WATERMAN & HABGOOD, at the VICTORIA HOTEL, Swanage, on THURSDAY, the 30th OCTOBER, 1862, at THREE in the afternoon (subject to the conditions then to be produced), the following FREEHOLD PROPERTY, situate in the parish of Swanage, in the Isle of Purbeck and county of Dorset, viz.—

LOT 1.—The lease of pasture land called "Upper Sentry," occupied by Mr Thomas Randell, and containing 22a. 2r. 39p.; and the cliff and valuable stone quarries adjoining, containing 15a. 2r. 7p., forming Durlston Bay, from whence the stone can be shipped without the expense of cartage.

LOT 2.—The two closes of pasture land called "Middle Sentry," in the occupation of Mr. Thomas Randell, and containing 25a. 0r. 0p. There are valuable stone quarries in the land.

LOT 3.—The close or meadow land called "Lower Sentry," occupied by Mr. William Vye, and containing 3a. 3r. 10p.; also the garden adjoining, occupied by Mr. Thomas Randell, containing 1r. 10p.; and the cottage and garden also adjoining, occupied by Henry Strickland, containing 2p. The timber on this lot, which numbers several fine elms, will be included in the purchase.

The whole of the property lies within a ring fence, and there are many eligible sites for building, commanding picturesque and extensive views of Swanage Bay, &c. Possession will be given on the 6th APRIL next.—For further particulars application may be made to the Tenants. Printed particulars and a plan may shortly be had of Messrs. C & F. FILLEUL, Solicitors, Wareham, Dorset.

CROYDON, Surrey.—Excellent BUILDING MATERIALS

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town of Croydon, on TUESDAY, OCTOBER 21, at ONE for TWO, the highly desirable MATERIALS of the MANSION and PREMISES of the MILITARY BUILDINGS belonging to the Addiscombe College: comprising about 100,000 good stock bricks, 270 feet of Portland stone, 7 iron columns, superior York paving stone, slate, tiles, lead, &c.; also the fittings, consisting of principals, joists, frame, flooring, and other boards, doors, backflats, fireplaces, &c. May be viewed on the SATURDAY and MONDAY before the sale. Catalogues may be obtained of the Foreman on the Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

IN BANKRUPTCY.—Estate of BLACHE & CO.—To Pianoforte Manufacturers, Upholsterers, and Cabinet Makers.—The well selected seasoned and valuable STOCK, consisting of Walnut, Rosewood, Mahogany, Birch, and Maple Veneers, is now on SALE at the BUSINESS PREMISES and WAREHOUSES of Messrs. BLACHE & CO. Nos. 21 and 39, Wilson-street, Finsbury.

HART, BROTHERS, & HAYLES, Managers and Public Accountants, Moorgate-street, London.

SEVENTEEN PER CENT.—To BUILDERS and SPECULATORS in SMALL PROPERTIES. Members of BUILDING SOCIETIES, and OTHERS.—The LEASE of a PROPERTY, with about 2½ acres of LAND, TO BE SOLD by AUCTION, which, after deducting the ground-rent, will pay the above per centage. The Property consists of the whole of Queen-street, High street, Deptford, and is situate near the Dockyard Gates, and in a neighbourhood where there is a great demand for four-roomed houses, which could be erected on the vacant land, and would fetch 6s a week. There are on the Estate thirty-eight weekly rentings, that realize 90l. per annum; Six Houses held by the year, for 78l.; a Plot of Land, let at a ground-rent of 23l. 8s per annum; and about 220 feet of Building Land, of the same rental value, with or without the right of shooting. For commanding beautiful and picturesque views, in a very pleasant and healthy locality, a good neighbourhood, and within half a mile of a first-class railway station; with the right of shooting over about 1,000 acres of land (of which about 500 acres are woodland), the same agent which has been preserved. All the tenants are publicans, living in about 2 acres of water, with boat, boat-houses, &c. The above mansion has been recently furnished with elegant and modern furniture of a choice and recherché description, and will be let with or without the pasture land, and with or without the right of shooting.—Apply to Messrs. HAYWARD & SON, Solicitors, Needham Market, Suffolk; or Messrs. POWNALL, SON, & CROSS, No. 9, Staple Inn, Holborn, London.

TEDDINGTON, MIDDLESEX.—TO BE LET or SOLD, an eligible BUILDING ESTATE in this favourite locality, in plots of from one to five acres, for the erection of villa residences, which are in great demand. Well situate on the high road from the village of Teddington, in close proximity to Bushey Park and the River Thames, and within five minutes' walk of the new station on the Charing Cross and London Bridge Railway Sidgrave. For plans and particulars apply to Messrs. LAWS & DENNISON, architects, 12, Doughty-street, Mecklenburgh-square.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Catcham, Kingston, and some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

HOXTON.—HABERDASHERS' ESTATE.—TO BE LET, by TENDER, a FREE PUBLIC HOUSE and THIRTY-FIVE DWELLING HOUSES, in Haberdashers'-street, and NINETEEN DWELLING HOUSES, in Aske's terrace; also TWELVE HOUSES, in Haberdashers'-place West, half-hour's ride from the London Bridge Terminus, good roads, good water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Builder, Sutton, S.

EXTENSIVE MANUFACTURING PREMISES, Southwark.—TO BE LET, on LEASE, EXTENSIVE MANUFACTURING PREMISES, occupying a very large area, situate in the Borough-road, Southwark. The Buildings, which are very substantially erected, comprise a very large factory, of three lofty floors, with basement; a smaller factory, of four floors, adjoining; a very spacious and lofty ground-floor factory, yard, a capital family residence and offices, two gateway entrances, and three dwelling-houses fronting the Borough-road, Nos. 77, 78, and 79, which can be readily let off if desired.—For further particulars apply on the premises; or to Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-street, E.C.

FREEHOLD BUILDING LAND on the Banks of the Thames, in a delightful locality. TO BE SOLD, in lots to suit purchasers, Admirably adapted for villa residences.—Apply to Mr. C. STUART BARKER, Land Agent and Surveyor, 12, Buckingham street, Strand.

WATERWORKS FOR SALE.—Shortly will be SOLD, by the direction of the Court of Chancery, in a suit of Gunning v. Gunning, the WATERWORKS at Charlcombe, Bath, as established and carried on for many years by the late Colonel Gunning, together with the usual rights for continuing the water-supply from the unsold portions of the colonel's estates, but subject to certain stipulations for fulfilling the engagements entered into by him for the supply of water to certain parts of the estate sold by him, and also for the supply of water to houses which may be built hereafter on the unsold portions of his estates. These Waterworks are most advantageously situate at Lyncombe, close to the city of Bath; and the reservoir is at an elevation which is capable of supplying any part of the city; but as the primary object of the late Colonel Gunning's estates with water, they have never been worked to their full extent; but from their position, from the purity of the water, and the increase of buildings on the Lansdown side of Bath, they are capable, at a comparatively small outlay, of great improvement and extension. The present net income exceeds 200l. a year. Any parties desirous of purchasing such an undertaking, are hereby invited to make such offers as they may be ready; and are requested to apply to Messrs PALMER, NETTLESHIP, & ELAND, Solicitors, 4, Trafalgar-square, London, W.C.; or to Messrs. LITTLE & SON, Solicitors, Bladud-buildings, Bath.

KING'S-CROSS.—Wanted, in this neighbourhood, or on the way between it and the City, a PLOT of BUILDING LAND about 200 by 100, or of equal area.—Apply, with particulars, to Mr. E. A. GRUNING, 39, Old Broad-street, E.C.

SEVERAL well-built, seven-roomed CARCASES TO BE SOLD CHEAP, or LET at a ground-rent. The purchase-money can be paid by instalments if desirable.—Apply on the Premises, Upper Brunswick-place, Upper Holloway, N.

BUILDING LAND.—TO LET, in the HIGH STREET, HOMERTON, a SQUARE PLOT of FREEHOLD GROUND, nearly three acres in extent, suitable for the erection of detached houses, for which there is an increasing demand.—Apply to Mr. WM. MOXON, Surveyor and Auctioneer, 3, St. Martin's place, Trafalgar square.

TO ARCHITECTS AND SURVEYORS.

GUYER & COMPANY, Lithographers, Stationers, and Printers, Grocers' Hall Court, Poultry, E.C. beg to invite attention to the resources of their Establishment as above, for LITHOGRAPHING and COPYING BILLS of QUANTITIES, Specification, Detail Drawings, &c. Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly engaged on the premises, they are enabled to guarantee superiority of style, correctness, and expedition.

Specimens and Terms of Charges, post free.

N.B. Any number of copies of a set of quantities lithographed in a few hours.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents, their cost, and the mode of procedure to be adopted, issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Measuring Buildings and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Month, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

THE ARCHITECT'S, BUILDER'S, CIVIL ENGINEER'S, and MACHINIST'S DRAWING CLASSES.—Offices, 7, Old-street, City-road. INSTRUCTION given in DAY and EVENING CLASSES, in Architecture, Machinery, Civil Engineering, and Practical Building. Lithography, and Photography, and Perspective Drawing. Tuition, and all other charges, &c. Day Classes, 3l. 3s. per Quarter; Evening, 1l. 1s. per Quarter. For prospectuses apply at the Offices, to Mr. T. J. HILL; or, Mr. WALTON.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of THE BUILDER, No. 1, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, October 18, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1029. OCTOBER 25, 1862. PRICE FOURPENCE. *By Post, 5d.*

ILLUSTRATIONS.

The Paris Permanent Universal Exhibition: Central Entrance and Cupola.—Mons. Lianlier, Architect 769
Egress Gateway of Paris Permanent Universal Exhibition 768

CONTENTS.

The New Theatres in Paris 761
Exeunt 762
Capo di Monte Porcelain: Neapolitan 763
Evil Efforts against Sanitary Improvements 763
Painted Glass 763
Preservation of Stone 764
St. Albans Architectural and Archæological Society 765
Worcester Diocesan Architectural Society 765
Glasgow Architectural Society 765
Death from Arsenic 766
A Colour-brush for Large Washes 766
Railway and Water Carriage of Coal to the Metropolis 766
Uphill's Improvements in Iron Bedsteads 767
Reformatories and Prisons 767
Dr Salviati's Architectural Enamels 767
The Oxford Workhouse Question 767
The New Grammar Schools, Newcastle, and the Northern Architectural Association 767
Death-Rate of Torquay 767
The Paris Permanent Universal Exhibition and Bazaar 768
Strand Music Hall 768
Wesleyan, Congregational, and other Chapels 771
Church building News 771
Provincial News 771
School-building News 772
Why Not a New Language? 772
Evans's Meditations on the Bayswater Fountains 772
The Gothic Works of the Day 772
Quantities and Competition in Glasgow 772
Taking out Quantities; and Competitions 773
Payment and Treatment of Architects' Assistants 773
Fonryn Granite 773
Paris Permanent Universal Exhibition 773
Dr. Croly's Monument: St. Stephen's, Walbrook 773
Books Received: Anderson on Gunpowder (Weale); Beeton's Universal Dictionary; Variorum 773
Miscellanea 774

THE CONVERSAZIONE and OPENING MEETING of the ARCHITECTURAL ASSOCIATION will take place on FRIDAY EVENING next, OCTOBER 31st, at EIGHT o'clock, at the ROOMS of the ASSOCIATION, 9, Conduit-street, Regent-street.

Musical Arrangements under the direction of ALFRED GILBERT, Esq.

Gentlemen wishing to join the Association are requested to communicate with the Honorary Secretaries

CHAS. J. ADAMS,
H. AITWOOD REEVES, } Hon Secs.

PAINTERS', OTHERWISE PAINTERS STAINERS' COMPANY.

On SATURDAY, the 18th instant, the following PRIZES were AWARDED by the MASTER, Mr. Comfort, esq., in full court, at the Hall of the Company, to the following members of the painting trade, for work done in the year at the Inter-Colonial Exhibition.—

SILVER MEDALS to Mr. J. Kensett, for graining; Mr. W. Read, for marbling; Mr. J. Bradley, for marbling; and Mr. J. L. Coulton, for decorating.

BRONZE MEDALS to Mr. W. A. Grant, for graining; Mr. W. Maslin, for marbling; Mr. W. Pitman, for writing; and Mr. H. Earle, for decoration.

A certificate of merit to Mr. G. Lainson, for decoration; and honourable mention was made of decorative work by Mr. John and Mr. James Rodgers, of Sheffield; and of writing, by Mr. Pembury.

By order of the Court,

P. N. TOMLINS, Clerk.

Painters' Hall, 9, Little Trinity lane, E.C.

CHARITIES to AGED BLIND MEN and WOMEN, distributed by the PAINTERS', otherwise PAINTERS STAINERS' COMPANY, in London, the gift of John Stocker, formerly of Bromley, deceased, painter; Mrs. Shaub, of Peckham, widow, deceased; and of Mary Granger, of Cripplegate, widow, deceased; and others, for the purpose of paying Pensions of 10l. a year each to Blind Men and Women, under the regulations hereinafter mentioned—widows and single women only being eligible to be elected to Mrs. Shaub's Charity. Notice is hereby given, that the Court of Assistants of the said Company will hold at the Painters' Hall, 9, Little Trinity-lane, near Queenhithe, London, on WEDNESDAY, 10th DECEMBER next, at ONE o'clock, to ELECT proper PERSONS to such PENSIONS as are become vacant by the death or removal of the pensioners since the last election; and, to prevent fruitless applications, notice is also given, that no person can be elected to the said charities who has ever been a common beggar, or has received alms from any parish or place as a pauper, or who is in possession of an income exceeding 10l. per annum, or receives any benefaction to that amount. Those only can be admitted to petition who are 61 years of age complete, were born in England, have been totally blind for three years, are inhabitants of the parish of their present residence for three years, are of sober life and conversation, and unable to provide for themselves. All these circumstances must be attested under the hands of the minister and churchwardens of the parish or place where the person resides, and a certificate of total blindness by a surgeon or oculist of credit annexed to the petition. Blank petitions and instructions can be procured at the Clerk's Office at the Hall, between the hours of TEN and TWO o'clock, from the 25th of October until the 30th of November, which must be returned, properly filled up, on or before the 1st of DECEMBER, prepaid. It is requested that notice be immediately sent to the Office of the death, of any pensioner, or of any fraud attempted or committed on the Charities. The names and addresses of the successful candidates will be advertised in this paper immediately after the election. By order of the Court,

P. N. TOMLINS, Clerk.

Painters' Hall, 1st October, 1862.

BUILDERS' BENEVOLENT INSTITUTION.—NEXT WEDNESDAY.—The FIFTEENTH ANNUAL DINNER will be held at the LONDON TAVERN on WEDNESDAY next, the 29th instant. HENRY LEE, Esq., President, in the Chair.—Tickets may be obtained (5s. each) at the Office, 23, Southampton-street, Bloomsbury; of the Treasurer, GEORGE PLUCKNETT, Esq. Gray's-inn-road; the Stewards; and at the London Tavern.

A. G. HARRIS, Secretary.

October 24, 1862.

AUTUMN EXHIBITION of BUILDING INVENTIONS at the GALLERIES of the ARCHITECTURAL SOCIETIES, 9, Conduit-street.—Exhibitors at the International Exhibition and others are informed that SPACE may be taken at One Guinea per yard run. Will be open from NOVEMBER to the end of JANUARY.—Apply to Mr. MOODY, on the premises.

THE BIRMINGHAM CATTLE AND POULTRY SHOW, DECEMBER 1st, 2nd, 3rd, and 4th, 1862. It having been determined to Erect a Gallery in Bingley Hall, the Council will have additional space at the disposal for the EXHIBITION of IMPLEMENTS and MACHINERY, and are prepared to receive applications for the same.—Plans of the hall, showing situation of space, and terms, may be obtained from the Secretary. The Entries close NOVEMBER 1st.

JOHN B. LYTHALL, Secretary.

Offices, 14, Temple-street, Birmingham,
8th October, 1862.

TO CIVIL ENGINEERS, SURVEYORS, and ARCHITECTS.—FOR SALE, a first-rate 5-inch Transit Theodolite, by Street; a 6-inch Transit Theodolite, with extra powerful Telescope; a 20-inch Transit Instrument, by Fairer; Dumpy Levels, by Troughton & Simms, Elliott, &c.; a large Magazine Case of first-class Drawing Instruments, by Elliott Brothers; and a large variety of excellent Second-hand Instruments of all descriptions; apply to Messrs. Troughton & Simms, Holland, &c.—For particulars apply to JOHN ARCHBUTT & SONS, 21, Westminster Bridge road, Lambeth, Surrey, S.

COMPETITIONS.

TO ARCHITECTS.

A PREMIUM of TWENTY GUINEAS will be given for the APPROVED DESIGN for the Front Elevation, Staircase, and Lantern of a Building required for a Wholesale and Retail Ironmonger. All parties are requested to apply to Messrs. REED & POWELL, 6, Broad-street Buildings, London, E.C. The Plans must be sent in before the 10th NOVEMBER. A letter by last mail enable Messrs REED & POWELL to extend the time for receiving Plans to 15th November.

CONTRACTS.

TO CONTRACTORS.—Sealed TENDERS will be received by the Secretary of the Bridge Committee of the Town of Drogheda, up to the 1st day of NOVEMBER next, for TAKING DOWN the present BRIDGE over the River Boyne, at Drogheda, and Building a new CAST IRON BRIDGE in place thereof, on a STONE BRIDGE, of seven spans, with Iron Trussed Girders, as prepared by J. NEVILLE, E.E., C.E. to be seen at my Office, Parliament-street, Drogheda, or at the Office of J. NEVILLE, Esq., Jervis-street, Dundalk, between the hours of TEN and FOUR o'clock every day (Sunday excepted), after the 15th SEPTEMBER instant.

TENDERS will also be received, at the same time, for BUILDING a WOODEN BRIDGE, to be called the "Western Bridge," higher up the River, in the town, according to plans and specifications prepared by the same Engineer, to be seen in like manner. The lowest or any Tender not necessarily to be accepted.

HENRY CLINTON, Secretary to the Bridge Committees, of the Corporation, Harbour Commissioners, and Grand Jury of Drogheda.

Dated, at Drogheda, this 5th day of September, 1862.

TO ENGINEERING CONTRACTORS.—PROPOSED BRIDGES OVER RIVER BOYNE, DROGHEDA. Bills of Quantities can be obtained at the office of HENRY TWELVELOW, C.E. 67, Amiens street, Dublin.

WREXHAM LOCAL GOVERNMENT BOARD.—SEWERAGE WORKS.—CONTRACT No. 1.—To Earthenware Pipe Manufacturers, Ironfounders, Contractors, and Others.—The Local Board for the District of the Borough of Wrexham, in the County of Denbigh, do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following CONTRACT:—

CONTRACT No 1.—For the construction and completion of about 2,500 lineal yards of Brick Sewers; for providing, laying, and jointing about 6,700 lineal yards of Earthenware Pipes, and about 200 lineal yards of Cast-iron Pipes; for constructing Manholes, Ventilation Shafts, Overflows, and Outlet Works, fixing Gullies, and other Works.—Plans, sections, and drawings may be seen, and specifications, forms of Tender, bills of quantities, and schedules for same may be obtained, on and after WEDNESDAY, the 29th of OCTOBER, by the payment of two guineas, on application at the Office of JOHN JAMES, Town Clerk, and Clerk to the Local Board, Wrexham; or at the Office of JOHN LAWSON, Civil Engineer, 34, Parliament street, Westminster. Sealed Tenders, endorsed "Tender for Sewerage Works," must be forwarded to the Clerk to the Local Board on or before WEDNESDAY, the 5th day of NOVEMBER, 1862. The Local Board do not bind themselves to accept the lowest or any Tender.—Signed,

JOHN JAMES, Town Clerk, and Clerk of the Local Board.

Town Clerk's Office, Bryn-y-pydoun, Wrexham, October 13, 1862.

THE Advertiser wishes to receive OFFERS to BUILD for him several TERRACED HOUSES at Hammersmith. Also BUILDING LAND TO LET. Plans may be seen at Mr. FLEMING'S Office, 29, Cannon-street. References required.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION, at Mumbles, near Swansea, in the county of Glamorgan, may inspect the plans, drawings, and specification at the Coast Guard Watch room, at Mumbles, or at the Office, between the hours of TEN and FOUR, from MONDAY, the 20th instant, to SATURDAY, the 1st NOVEMBER, both days inclusive, Sundays only excepted.

Tenders to be sent to this Office, not later than TWELVE o'clock at noon of the 3rd NOVEMBER, under seal, and directed to the Commissioners for Controller General of Coast Guard, and endorsed "Tender for Mumbles Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 18th day of October, 1862, at the Admiralty Coast Guard Office, 12, Spring-gardens, London, S.W.

SAINT SAVIOUR'S UNION.—To BUILDERS.—Notice is hereby given, that the Guardians of the above Union are willing to receive TENDERS from persons desirous of CONTRACTING for the CONSTRUCTION of a PASSAGE or SUBWAY COMMUNICATING between Marlborough-street, in the parish of Christchurch, for the purpose of connecting the old Union Workhouse with the recently-erected building known as the Infirmary thereto. The Guardians have appointed THURSDAY, the 30th of OCTOBER instant, at THREE o'clock in the afternoon, for opening the Tenders, at the Board room in John-street West, Blackfriars-road, where all Tenders are to be addressed. Plans and specifications of the work to be executed may, on the same day, be seen at the Office of HENRY JARVIS, Esq. Architect, No. 29, Trinity-square, Borough.

JAMES J. BLAKE, Clerk to the Guardians.

Dated this 14th day of October, 1862.

LONDON AND NORTH-WESTERN RAILWAY COMPANY.—To CONTRACTORS and BRICKMAKERS.—The Directors are now ready to receive TENDERS for the SUPPLY of about THIRTY MILLIONS of BRICKS for the Viaduct at Rugby, in the Acton and Bletchley Railway. Three-fourths of the above quantity will be required on the Buckinghamshire and the remainder on the Leicester side of the River Nene. Parties desirous of Tendering are to obtain all necessary information upon application to Mr. WILLIAM BAKER, Engineer, Euston Station. Tenders, addressed to the Secretary, at the Office, to be sent in on or before MONDAY, the 10th of NOVEMBER. The Directors do not bind themselves to accept the lowest Tender.—By order,

CHAS. B. STEWART, Secretary.

Euston Station, October 20th, 1862.

TO CONTRACTORS and OTHERS.—Persons willing to CONTRACT with the Marshland Smeeth and Fen Commissioners for the CONSTRUCTION of a SEA DAM at the Outlet of their Main Drain into the River Ouse, are requested to deliver TENDERS for the same at my Office in Wisbech on or before FRIDAY, the 31st OCTOBER instant, at TEN o'clock in the forenoon. A specification and drawings of the work may be seen on application to THOS. PAGE, Esq. C.E. Middle Scotland yard, London; or at my Office in Wisbech, on and after MONDAY, the 27th OCTOBER inst. The Commissioners do not pledge themselves to accept the lowest or any Tender. By order,

EDWARD JACKSON, Clerk to the Commissioners.

Wisbech, 18th October, 1862.

FYLDE WATER WORKS.—SLUICE COCKS AND AIR VALVES.—TENDERS are required for the supply of the following SLUICE COCKS:—Six 12-inch diameter of pipe; Two 9-inch diameter; One 9-inch diameter, Three 7-inch diameter; Twenty-nine 6-inch diameter. All to be double-faced, iron faces, weight two screw, astragal cut, and to inclose spigot and socket end. Also, about Twenty six 4-inch air valves, to act under pressure. Tenders for the above, with drawings, to be sent to Mr. T. B. FOSTER, C.E. 23, John Dalton street, Manchester, on or before NOVEMBER 1.

BUILDERS willing to TENDER for BUILDING FOUR ALMSHOUSES as a memorial to the memory of the late Prince Consort, for the Butchers' Charitable Institution, at Wandsworth, are to inspect the plans and specification at the Office of the Architect. Tenders are to be addressed to J. P. PENABLES, Esq., and delivered free of expense at the Freemasons' Tavern, Great Queen Street, Lincoln's-inn-fields, on FRIDAY, 24th, at SEVEN o'clock p.m. The Committee reserves to itself the right of rejecting the lowest or any Tender.

HENRY M. CALLAWAY, Architect
Office, 25, Westbourne-place, Eaton square, S.W.

TO CAPITALISTS and BUILDERS.—TENDERS are invited by the Trustees of the Estates of St. Botolph, Bishopsgate, for the LETTING, on Building Leases, for 99 years, about 13 Acres of LAND, fronting Devonshire-lane, Bow. The Estate is a very choice domain, finely timbered, well watered, and a well adapted for the erection of dwelling-houses or manufacturing premises. The subsoil is gravel. Tenders to be sent on or before the 2nd NOVEMBER to A. H. CULHAM, Esq., solicitor, 11, Liverpool street, Bishopsgate, from whom all further particulars may be obtained: or of Messrs. HOVENDEN & HEATH, Surveyors, 4, Broadstreet Buildings, E.C. The Trustees do not bind themselves to accept the highest or any Tender.

A. H. CULHAM,
14, Liverpool street, Bishopsgate, Solicitor to the Trustees.

TO BUILDERS.—TUNBRIDGE WELLS. Persons desirous of TENDERING for the ERECTION of a PUBLIC HALL, at Tunbridge Wells, may inspect the plans and specification and obtain all necessary information at our Office, Brenchley, Kent, on and after the 16th instant. Bills of quantities on which Tender may also be obtained on payment of a deposit of one guinea, which will be returned on the receipt of an acceptable Tender. Sealed Tenders to be sent to us not later than TWELVE o'clock on TUESDAY, the 28th OCTOBER. The lowest or any Tender will not necessarily be accepted. HOOKER & WHEELER, Architects.

Brenchley, Oct. 14, 1862.

[*For remainder of Contracts see next Page.*

CONTRACTS.

TENDERS. To CONTRACTORS, PIPE-LAYERS, &c. The Directors of the Fylde Waterworks Company are prepared to receive TENDERS for LAYING and JOINING MAIN PIPES from the Grimsdale Reservoir, near Garstang, to the town of Blackpool, by way of, and including the laying of the Fleet Wood pipes will be let subsequently). The length of mains will be as follows:—12 inch pipes, 8½ miles; 9 inch pipes, 1 mile; 7 inch pipes, 3 miles; 6 inch pipes, 2½ miles. The pipes will be delivered free on the banks at Glasson Dock, Preston, and Lytham. Plans and specifications may be seen on and after the 15th inst. Specifications and Forms of Tender can be obtained on payment of 5s at the Office of Mr T. B. FOSTER, Civil Engineer, 24, John Dalton-street, Manchester. Tenders must be sent into Mr T. A. WILKINSON, the Secretary of the Company, at the Fylde Waterworks Office, Kirkham, not later than TUESDAY, the 4th of NOVEMBER next. The contract will be let as a whole or in such portions as the Directors may decide. The Directors do not bind themselves to accept the lowest or any Tender.

POLYTECHNIC Exhibitors at the International Exhibition of Works of Art, Machinery, New Patented Articles, &c. are respectfully informed that they can have a moderate amount of SPACE free of charge at the Institution.
JOHN HENRY PEPPER, Honorary Director

POLYTECHNIC.—Last Week of the following most successful Lectures and Entertainments:—Professor J. H. Pepper's Lecture on "Some of the Chief Scientific Novelties of the International Exhibition." The present Comedy by the Rev. F. Bayford and Mr. Sutton Vane. Mr. George Buckland's Buffo Musical Entertainment, which has for upwards of 150 nights elicited the hearty applause of very large audiences, will be given every evening at 8 o'clock, and on Saturday next, October 25th, at 3 o'clock. The Illustrations of British and Australian Industry at 4 and 8 o'clock. N.B. Professor Pepper's Laboratory is always open for pupils and analyses.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH. To parties erecting Public Buildings, Warehouses, &c. the above Premises, and Wharf, ON SALE, GAULT BRICKS, TILES, POTTERY, BURHAM and GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully solicited that Samples of any pattern or design can be seen at any time at the Company's Works, erected on the banks of the Broadway of the late Thames Quay. They would also call the attention of the public to the very superior quality of their Portland Cement.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining the highly decorative and economical substitute for ordinary floors in the shape of encaustic tiles. MAW & CO'S Pattern Book, designed by M. Digby Wyatt, Esq., together with a special Report and Diagrams of the system of laying and fixing them, by Mr. Lewis Vulliamy, Architect, Surveyor, &c. will be sent on application to Builders, Architects, Schools, &c.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent-street.

London Agents—W. B. SIMPSON & SONS, 376, West Strand, where they have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c. Notice is hereby given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sadly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and Sadly, that the "Reports of the Juries," page 881, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS, TO 50, CONDUIT-STREET, REGENT-STREET. ENCAUSTIC AND OTHER PAVEMENTS. EARTHENWARE AND PLAIN TILES. DESIGNS AND ESTIMATES PREPARED. MANUFACTORY, STOKE-UPON-TRENT.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART PODDLES, &c.



BURNEY & BELLAMY. Mill-wall, London.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER, THOMAS ROX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet offered to the public.
N.B.—The usual discount to builders and the trade.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

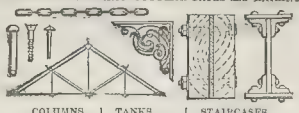
NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, No. 24, Davies-street, Three Doors from Oxford-street. For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade generally, who may prefer dealing in connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurius Gas Regulator. Complete Pattern-book and Illustrations, 12 stamps. No. 1 to 50, Hatton Garden.

VICTORIA LEAD WORKS, ELIZABETH STREET SOUTH, PIMLICO. JOHN GOODSON, Manufacturer of every description of Plumber's Work for Builders, Chemists, Gas, Paper, Candle, and Alum Makers; Ornamental Rain-Water Pipes, Heads, Boxes, &c. Water-closet Stops, in 6lb. lead, for 8s. each. Cannot choke, and contain no loose parts.
Five minutes' walk from the Grosvenor Hotel

NAILS and IRONMONGERY, from BIRMINGHAM direct. Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES. A complete List of wants will be forwarded upon application to FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 10, Great Union-street, London, E.C.

BUSINESS REMOVED TO THE DOVER IRON WORKS, STAPLE STREET, LONG LANE, BOROUGH, S.E.
H. G. COOMBS, IRONFOUNDER, &c. INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.
PATENT WROUGHT-IRON TUBULAR GATES and RAILINGS



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

CAST-IRON TANK.—WANTED, ONE Second hand, to hold from 40,000 to 50,000 gallons. Also, a Quantity of Cast-iron Floor plates.—Send full particulars to A. B. 22, Basinghall-street, City.

TO BUILDERS, IRONMONGERS, &c. TO BE SOLD, at greatly REDUCED PRICES, A SURPLUS STOCK OF STOVES AND FENDERS. For further particulars apply to COTTAM & CO. 2, WINSLEY STREET, OXFORD STREET, W.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 500 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles street, Clerkenwell, E.C. near the Gas Light Bridge.
E. GOLLOP, SOLE PROPRIETOR.
A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor springs, Gate hinges, Rising hinges, Rising spring hinges, Noiseless Spring hinges, Double acting Spring-hinges, Rising and Sash rising Door lock springs, &c.
Price List and Drawings on application as above.

PORTLAND STONE and MARBLE MACHINE SAWING MILLS. SAWS of the best quality, of any length, width, or thickness, by STEAM POWER. Manufactured by ELI RICHARDS, 89, New Park street, Southwark. The Trade supplied on terms such as will suit any house in the kingdom

WANTED, a Second-hand RACK SAW-BENCH, with wood or iron top, from 10 to 30 feet long, reversing gear, and all appurtenances, to cut 18 inches at saw direct in diameter.—Apply, stating price, to W. BEACHIM, Kilmeredon, near Bath.

PRIZE MEDAL—INTERNATIONAL EXHIBITION, STAND 1159.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES. MUSGRAVE'S PATENT IRON COW HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing many reasons to suggest to those found in applying to them made.
At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS received a SILVER MEDAL and two awards of "highly commended," being the only prizes conferred on any competition of the kind.



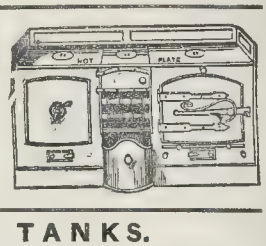
MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent Artificial Ventilation.
It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In Halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours at a cost of Three-pence, and consuming of special attention, by reason of its safety, healthfulness, durability, and extreme simplicity.



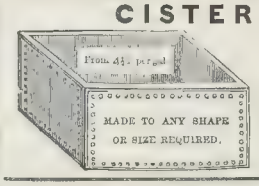
Full particulars will be sent on application to the Inventors and Makers.

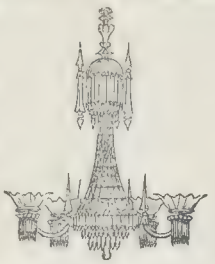
MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

THE LEAMINGTON PRIZE KITCHENER.
These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.
The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.
A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.
All Goods delivered free within five miles.
BURT AND POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS.
83 and 65, York-street, Westminster.



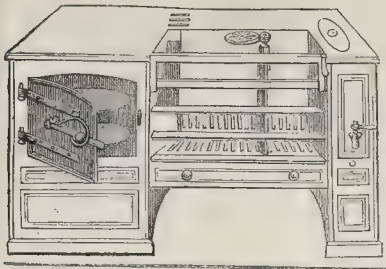
CISTERNS AND TANKS.
GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61A, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.





INTERNATIONAL EXHIBITION, Class 31 and 34.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
THE NEW CRYSTAL STAR AND SUN LIGHT.
J. DEFRIES & SONS,
ENGINEERS, GAS-FITTERS, AND MANUFACTURERS
Of MEDIÆVAL and every Description of GAS-FITTINGS, CRYSTAL, BRASS, and ORMOLU CHANDELIERS, VESTIBULES, &c. &c.
Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other public and private Buildings. HOT-WATER PIPES for heating Conservatories, Warehouses, &c. &c. supplied and fitted on the most Improved and Economical Principles. Public and Private Gas-Works Erected.
Works—London and Birmingham.
Principal Depôt and Show-rooms—147, *Houndsditch, City.*

PFEIL AND STEDALL,
IRON MERCHANTS AND WHOLESALE IRONMONGERS,
5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.

34 inches	54s.
36 „	56s.
38 „	58s.
42 „	60s.

Self acting Cottage, with Oven and Back Boiler.

30 inches	22s.
32 „	24s.
34 „	26s.
36 „	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Cornice Check Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 40s to 100s. each.
Best Cut Clasp and Rose Nails.

1-inch.	1½-inch.	2 inch.	2½-inch.	3-inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½-in.	3-in.
Cast Rain-water Pipe ..	8d.	10d.	1s per yard.

Cast Gutters, 4-in. 7d. per yard.

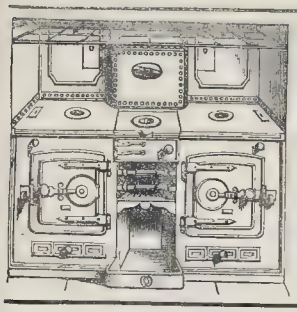
	4-in.	4½-in.
O G Gutters, with Clips on....	10d.	1s. per yard.

	2	3	4	5	6
Patent Line..	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock. Any size made to order.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3l. 15s. to 33l. 10s.; Bronzed Fenders, with standards, 7s. to 5l. 12s.; steel Fenders, 3l. 3s. to 11l.; ditto, with rich ormolu ornaments, from 3l. 3s. to 18l.; Chimney-pieces from 1l. 8s. to 100l.; Fire irons, from 2s. 3d. the set to 4l. 4s. The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS
SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,
The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.
These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS
Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

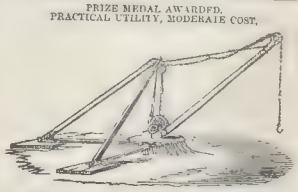
EVERY DESCRIPTION OF STABLE FURNITURE.
ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.

INTERNATIONAL EXHIBITION, 1862: CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,
being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

PRIZE MEDAL AWARDED.
PRACTICAL UTILITY, MODERATE COST.



HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards to be seen working in the Exhibition. Makers of Portable Cranes from 20 cwt. upwards, Setting Frames, Double and Single Power Crab Winches, &c. &c. For further particulars apply to BOWSER & CAMERON, Springfield Iron Works, McNeil-street, Glasgow.

THE ALPHA TUBE & FITTING WORKS.

WALSALL, STAFFORDSHIRE.—Established 1830.
LAMBERT BROTHERS,
MANUFACTURERS OF LAP WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,

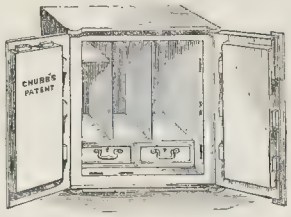
For Steam or High pressure Water and Gas. HIGH PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS FITTINGS, GASELIERS, &c. proof of the GROVE BEDSTEAD WORKS, WALSALL. A GENERAL selection of current Manufactures for the Steam-engine, Water Supply, Gas works, Distilleries, Brewery, Chemical Works, Mills, &c at the International Exhibition, Walsall Court, Class 31. Exhibited precisely as sold from engravings, and printed prices in trade catalogues.

CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS,
The most secure from pick-locks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the DETECTOR LOCKS.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire-resisting and non-conducting composition.

The doors are all secured by CHUBB'S PATENT DRILL-PREVENTIVE, and their Patent

GUNPOWDER PROOF LOCKS.

Illustrated Price List Gratis and Post Free.

CHUBB & SON,
No. 57, ST. PAUL'S CHURCHYARD, LONDON;
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

CASTINGS, ANY WEIGHT AND QUANTITY,

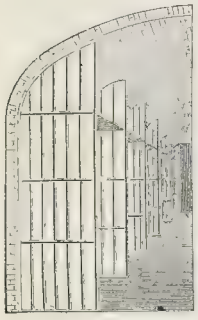
With the utmost despatch, at Country Prices.

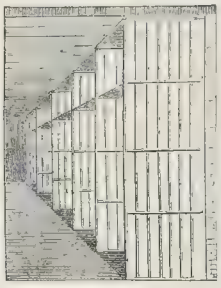


HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



WROUGHT IRON WINE BINS.





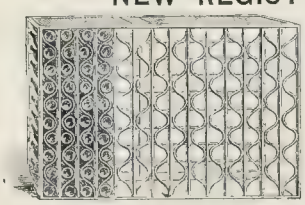
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

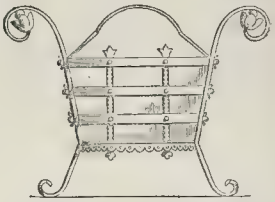
FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

HART AND SON,

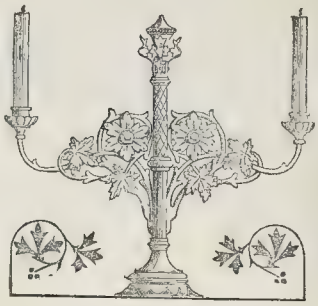
53 to 58, WYCH-STREET, LONDON, W.C.; AND 20, COCKSPUR-STREET, S.W.



ENGRAVERS OF MONUMENTAL BRASSES, HERALDIC DEVICES, &c.; CHURCH PLATE, GLASTONBURY CHAIRS, WROUHT-IRON HINGES, GRILLES, VANES, CROSSES, &c. &c. CORONÆ, STANDARDS, BRACKETS, &c. for Gas, Oil, or Candles.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.

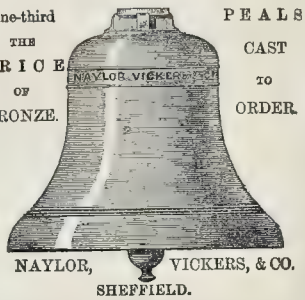


COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES

of which he is now making three qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

IMPROVED WARM-AIR STOVES, FURNACES, & HOT-WATER APPARATUS

FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS.

KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION.

Manufactured and erected by J. KIRK & CO., Successors to

CUTLER & SONS,

CLARENCE IRON WORKS,

16, GREAT QUEEN-STREET, LINCOLN'S-INN-FIELDS, LONDON.

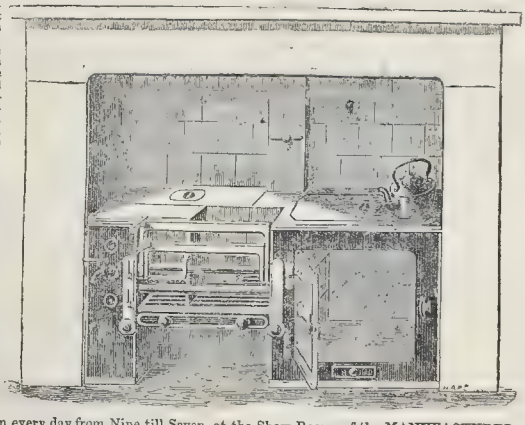
IRON-FOUNDERS, FURNISHING IRONMONGERS, GAS ENGINEERS, AND BELL-HANGERS.

Orders for EVERY DESCRIPTION of CASTINGS for ENGINEERS and BUILDERS promptly executed.

SPRING ROLLER BLIND MAKERS.

WILLIAM ASHDOWN, Manager.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.



This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Check, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,

Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 114, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter..... 1s. 0d. per foot.
Half-inch diameter ..... 1s. 6d. ,,
Five-eighths inch diameter ..... 2s. 0d. ,,

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—130, Strand, London.
,, Gateshead-on Tyne.
,, 27, Pale street, Manchester.
,, 68, Anderston-quay, Glasgow.
,, 17, South Castle street, Liverpool
,, Exchange buildings, Dundee.
,, 7, Frederick street, Aberdeen.



SPRATT'S PATENT

BATTERY EXCITATION COPPER LIGHTNING-CONDUCTORS, giving 3 inches of surface. Only 1s. per foot, complete, for fixing. Including beautiful "reproducing" Platinum Silver Alloy Point, Glass Isolators and attachments, forming a Lock, Steel Magnets for Lateral Discharge. Also SPRATT'S NEW ARRANGEMENT for SECURING POWDER MAGAZINES from the possibility of being injured by Lightning; Beer in Breweries from spoiling; Milk in Dairies Souring by electric causes. Office, 18 and 21, Middle-row, Holborn. Orders over 10 feet carriage free. Send for circular.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY-ROW,

MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

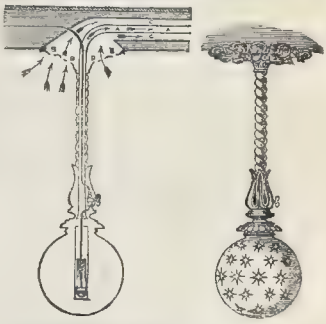
Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

RICKET'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages claimed are these.—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

THE MEDAL FOR 1862
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE MARK.

CROWN TUBE WORKS,

WEDNESBURY, STAFFORDSHIRE.

Warehouse—81, Upper Ground-street, London, S.

JAMES RUSSELL & SONS,

The Patentees and first Makers of Wrought-iron Tubes.

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW.

Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 25, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

DEVAUX'S VIEILLE MONTAGNE
THICK ROOFING ZINC.

This invaluable metal, if laid by Mr. TYLER on the new principle introduced by J. EDMISTON, Esq. F.I.B.A. will last as long as lead, at one-third the cost.

For Prospectuses, Samples, Models, and Estimates of Works to be done with the Roofing Zinc, in large or small quantities, in Town or Country, apply to

Mr. J. W. TYLER, 4, WOOD-STREET, WESTMINSTER, S.W.

If the Metal is laid by Mr TYLER, who has become so well known among Architects and Builders, superior and careful workmanship may be depended upon, and a guarantee given for its durability, if the woodwork is prepared according to directions given.



THE PRIZE MEDALS,

(LONDON, 1851. PARIS, 1855. LONDON, 1862.)

Awarded to

COTTAM & COMPANY,

2, WINSLEY STREET, LONDON, W.

For progressive and general improvements in

STABLE FITTINGS AND HARNESS BRACKETS.



Awarded a prize at the Paris Exhibition,

Patronised by the English and French Governments, as well as by the principal Nobility, Gentry, and Hunting Establishments in the Kingdom

In use at her Majesty's Stables, Abbotshott and Balmoral.

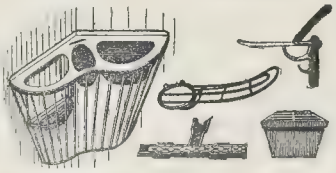


COTTAM & COMPANY, Winsley street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Water-trough, and Wrought-iron Rack, united to an iron top-plate, and forming one complete and useful fixture, having COTTAM'S PATENT NON-SLIPPERY Guide and Collar Rein attached, which is taken to the back of the manger, and works with ease and freedom up or down the guide-bar.

COTTAM'S NEW PATENT SEED-BOX, an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, is a most essential addition to their fittings; it is never in the way; can be placed and replaced in an instant, while its cheapness, simplicity, and utility in keeping the centre of the troughs clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED



can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT-IRON VENTILATING BRACKET preserves the shape and allows a free admission of air to the under parts of the saddle.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accounts, and can be easily cleaned out.

COTTAM'S CAST-IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain

PATENT LOOSE BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanized, and enamelled. Iron gates, fencing, hurdles, &c.

Illustrated Catalogues and Estimates gratis, upon application to

COTTAM & CO. 2, WINSLEY STREET, Oxford Street, London, W.

WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

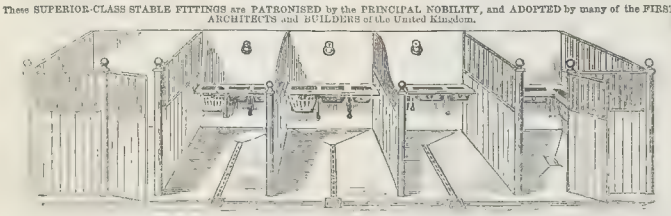
N.B.—WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.

These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

A new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

LOSH, WILSON, & BELL,

NEWCASTLE ON TYNE,

Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and

STEWART'S PATENT CAST-IRON GAS and WATER PIPES.

Office, No. 7, Size-lane, London.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.

HULETT & CO. 55, High Holborn.

MOREWOOD & CO.

(late Morewood & Rogers),

Dowgate Dock, Upper Thames-street, London: and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the

OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

VENTILATING STOVES—Cheap, simple, efficient, and durable. Thousands have been sold, and universally approved. They are suitable for Halls, Warehouses, Conservatories, and every situation where a close stove is required. The largest sizes are extensively used in churches, chapels, and public buildings, with great effect and economy. Prices, 50s. 60s. 70s. 90s. and 120s. Prospectus with engravings, gratis and post free. In operation daily. The trade supplied.

DEANE & CO.,

Opening to the Monument, London Bridge. Established A.D. 1700.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to

RANDAL STAP, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

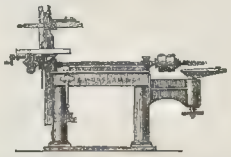
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, and can be made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRIDGE STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

S. WORSSAM & CO.'S PATENT

THE GENERAL JOINER.



(4-inch scale)

This exceedingly useful and novel machine is adapted for sawing, cross-cutting, grooving, tonguing, rebbeting, tenoning, moulding, and boring, and will be found invaluable in any joiner's or builder's establishment. It is especially useful for box-making, and is fitted with a slide-plate for squaring the edges of drawers, &c. For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

PRIZE MEDAL.

INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

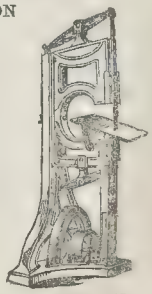
AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, CANNON STREET, E.C.

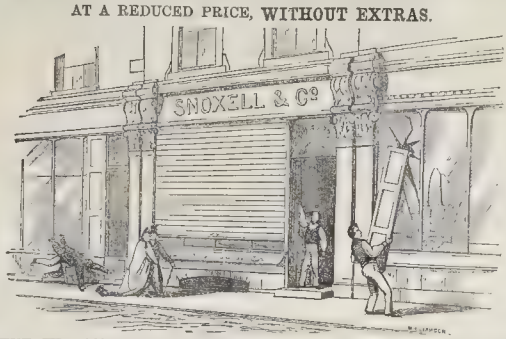
ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents. Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246),

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.



REDUCTION IN PRICE
OF

CLARK'S

NEW PATENT REVOLVING SHUTTERS,

FOR

SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4l. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge. OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

MARBLE AND STONE WORKS,

WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the South Kensington Museum, at the International Exhibition, 1862. Class 10 C; and at the Architectural Exhibition, Conduit-street, Regent-street. ESTIMATES WILL MEET WITH PROMPT ATTENTION.

THE GENERAL VENTILATION and ATMOSPHERIC FIRE-GRATE COMPANY (LIMITED) — (BATTY'S PATENTS).—Capital, 30,000l. in 1,500 shares of 2l. each, of which 5s. per share is payable on application, and a further sum of 5s. per share upon allotment.

Chairman—Frederick Begg, esq., Spring mount, Champion Hill.
Deputy-Chairman—J. B. Hartwell, esq., Brunswick-place, Regent's park, N.W.
Solicitors—Messrs. Vallance & Vallance, 20, Essex street, Strand, W.C.; and 1, George-yard, Lombard street, E.C.
Bankers—Union Bank of London (Temple bar Branch).
Offices—230, Strand, Temple bar, W.C.

ABRIDGED PROSPECTUS.

This Company is formed for the purpose of introducing Batty's valuable improvements and invention for warming and ventilating rooms and buildings.

The system has been tested by eminent professional and scientific men, and pronounced to be the only simple and natural one by which warmth, combined with pure ventilation, can be obtained without the aid of any mechanism.

The invention has been applied to a great number of grates in private houses and public buildings, and in every instance it has answered the most sanguine expectations. Amongst the many advantages of the stove are these—Effectual cure of smoky chimnies; the fire always burns brightly.

A system of perfect ventilation is effected, by which all impure air is carried away, and pure, warm, or cool air supplied at pleasure.

Saving in fuel of upwards of 50 per cent. with superior heating qualities.

The principle can be applied, at a comparatively small cost, to the ordinary fire grate, and to all buildings, including those where imperfect methods now exist.

The actual transactions, up the present time, justify the Directors in believing that a large and remunerative return on the paid-up capital will be realized.

Detailed prospectuses, with forms of application for shares, can be obtained at the Offices of the Company, 230, Strand, Temple Bar, W.C. where the Grates can be seen in operation.—By order of the Board,
W. A. BARRS, Secretary.

THE STRAND HOTEL COMPANY
(Limited)
Capital 100,000l. in 20,000 Shares of 5l. each.
Deposit 1 per share on application, and 1 on allotment.
Chairman—Sir ROBERT CLIFTON, Bart. M.P. Clifton Hall, Nottingham.
Bankers—London and Westminster Bank, and the Metropolitan and Provincial Bank, Lynn.

ABRIDGED PROSPECTUS.

The Strand Hotel Company is formed to supply the great want of a well-managed middle class London Hotel.

The Directors have lately purchased Salisbury House, nearly opposite Somerset House, in the Strand, which will be added to the large plot of ground immediately in its rear, formerly known as Lyon's Inn, comprising half an acre of land. The new Hotel (in this very central position of London) will contain 300 bed-rooms, and during the erection of the Lyon's Inn portion of the building, "Sams's Hotel" will be carried on for the benefit of the Company. The services of the proprietor of "Sams's Hotel" have been retained, and upon the basis of the returns of that Hotel a dividend of upwards of twenty per cent has been paid.

Interest at 5 per cent. on deposits from date of allotment. Applications for shares, with deposits of 1 per share, to be paid to either of the Company's Bankers. For prospectuses and forms of application for shares, apply at the Offices, 21, New Bridge street, Blackfriars; and of the Broker, L. A. CROWLEY, Esq. 3, Cornhill-court, Throgmorton-street.
A. W. RAY, Secretary.

THE STRAND HOTEL COMPANY
(Limited).
NO FURTHER APPLICATION FOR SHARES will be received after FRIDAY, the 31st inst. at which date the Directors will proceed to the allotment.—By order of the Board.
October 3rd, 1862.

ACCIDENTS ARE UNAVOIDABLE.
Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100l. to 1,000l. assuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, or the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
105,817 have been paid for this Company's COMPENSATION for 50 Deaths, and 7,611 for Personal Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS.
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

INTERNATIONAL BAZAAR, SOUTH KENSINGTON.—If architectural effect can be marred by various window boxes, shops are invited to inspect the central hall of the bazaar—a NEW PATENT BLIND, whereby that necessity of ventilation, cream, is made as realized.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very expensively used, and with great success. They are very simple, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

TO BUILDERS, PAINTERS, &c.
OAK GRAINING in Oil, 1½d. per yard, in quantities not less than 60 yards, or by Contract. Writing, &c. References given. Apply to C. PETIET, 12, Maida-hill, Edgware road.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES
are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Fatal lished 1777
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per gallon: Boiled Oil, 3s 10d. per gallon.
Turpentine, 10s. per gallon.
Fine Pale Oak Varnish, 9s. per gallon.
For cash, at EDWARDS' PRICES Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Colesbill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10d.; Turpentine, 10s. per gallon; Fine Pale Oak Varnish, 9s. per gallon; for cash, at P. LANGDON'S Colour Warehouse, 143 and 144, Westminster-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stopping Brushes, Gilders' and Grainers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

PETROLEUM ACT, 1862.—The Metropolitan Board of Works hereby give notice, that by the 3rd section of the 25th and 26th Vict cap 66, it is provided, that from and after the FIRST day of OCTOBER, 1862, not more than FORTY GALLONS of PETROLEUM, which by the first section of the said Act it is declared shall include all products of that class of an inflammable description at a temperature of less than 100 deg. of Fahrenheit's thermometer, shall be kept within Fifty Yards of a dwelling-house, or of a building in which goods are stored, except in pursuance of a licence given by the local authorities; and any petroleum kept in contravention of that section will be liable to forfeiture, and in addition thereto, the occupier of the place in which such petroleum is kept, will incur a penalty not exceeding Twenty Pounds a day for each day during which petroleum is kept in contravention of the Act. Notice is also given, that by the 4th Section of the Act, the local authority to grant licences in the Metropolis is declared to be the Metropolitan Board of Works. Parties making application for licences are required to send to the Offices of the Board a correct plan, and full particulars in writing, of the premises in which petroleum is proposed to be stored. Any further information may be obtained at the Offices, between the hours of NINE and FOUR o'clock.—By Order,
JOHN POLLARD,
Spring-gardens, Oct. 1862. Clerk of the Board.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION
(Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 1l. to 1,000l. upon Freehold and Leasehold Property for any term up to 60 years. Mortgages redeemed, and the advance can be repaid by easy instalments. Policies purchased or made up to pay off the loan, or to secure the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or compulsion for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINE, and SPIRIT WARRANTS. BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Balance Sheets Prepared, and Meetings of Creditors Convened Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate street, Bank, London.

TO IRONFOUNDERS and MACHINISTS.
TO BE SOLD, by PRIVATE CONTRACT, the whole of the PLANT, STOCK, and GOODWILL of the extensive FOUNDING BUSINESS carried on for many years by Messrs. Still, in Winchester, and now for absolute Sale.—For particulars and to treat, apply to Mr. JOSEPH STILL, Milford, near Salisbury; or to Mr. T. S. MORRIS, Auctioneer, &c. Winchester.

TO CARPENTERS and OTHERS.—A BUSINESS TO BE DISPOSED OF, near New Oxford-street. Address, E. H. 5, Arthur street, W.C.

TO IRONMONGERS.—A first-rate FURNISHING and GENERAL IRONMONGERY BUSINESS to be DISPOSED OF, in the North of England. It has been established 60 years, and has a first-rate connection among gentlemen, manufacturers, and farmers.—Application by letter to P. W. care of Messrs. Barker & Groom, Union-court, Holborn-hill, London.

TO PAINTERS, DECORATORS, OILMEN, and OTHERS.—A first class BUSINESS in the above line (to which is added the very important branch of Retail Paper-Hanging), situate in the most fashionable and thriving watering-place in the west of England, is for DISPOSAL by Private Contract. The Trade has been successfully carried on by the present proprietor for the last seventeen years, and who now wishes to retire therefrom. The Stock, Workshops, and Residence, with the Business, may be had on reasonable terms, or an eligible Partnership with a practical man would be entertained. All further particulars may be obtained on application to BARNARD THOMAS & CO. Public Accountants, Albion Chambers, Bristol.

TO BUILDERS.
E. SNOXELL, 28, Halfmoon Crescent, Barnsbury road, Islington
Every description of Blinds made.
Venetian Blinds painted any colour 6d. per square foot.

In the Press, in two volumes,
RAILWAYS in the EAST, and Generally in HIGH METEOROLOGIC REGIONS.
By W. DAVIS HASKOLL, Engineer.
Containing Eighty Folded Plates and Letter-press, Imperial 8vo. completing "RAILWAY CONSTRUCTION." In French, 65f. 75c.; in English, 2l. 12s. 6d. before January 1st, 1863; after, 73f. 85c. and 3l. 3s. in cloth, to match 1st and 2nd vols. Also,
A PRACTICAL TREATISE UPON MECHANICAL ENGINEERING. Twenty-eight Plates and Ninety-one Woodcuts; with a CHEMICAL ANALYSIS of IRON and its ORES.
By PERCY CAMPIN, Engineer.
Until January 1st, 1863, cloth, 21s; after, raised to 26s. or 30s.
ATCHLEY & CO Publishers, 106, Great Russell-street, W.C. London.

THE SOCIAL SCIENCE REVIEW for OCTOBER 25th, 1862. Price 3d. Eight columns extra. Contains:—The Last Capital Outrage—Electric Telegraphy in the Lost Organ—Modern Mesmerism. The Fire Insurance and its Inventor—The Vices of the English Poor Law—Professor Miller on Chemistry and Mineralogy—Incombustible Garments—Taxation in Russia—Social Classics—False Homage to Ladies—The Day.
Office—10, Wandrington street, Fleet street
Sold by all Newsvendors in Town and Country.

GALBRAITH AND HAUGHTON'S SCIENTIFIC MANUALS.
Now ready, in fcp 8vo. price 3s. sewed, or 3s. 6d. cloth,
MANUAL of MECHANICS; Sixth Edition, greatly improved.
By the Rev. J. A. GALBRAITH, M.A. and the Rev. S. HAUGHTON, M.A. F.R.S. Fellows of Trinity College and Professors in the University of Dublin.
Also, new and improved Editions of the following MANUALS by the same Authors:—

ARITHMETIC 3s	PLANE TRIGONOMETRY... 2s
ASTRONOMY ..... 3s.	ALGEBRA, Part I. ..... 2s.
HYDROSTATICS ..... 2s.	EUCLID, 2 Parts each ..... 2s.
OPTICS ..... 2s.	MATHEMATICAL TABLES ..3s.

Or all three Cook Manuals, both lettered.
London: LONGMAN, GREEN, & CO. 11, Ludgate Hill.

Just published price 2l. 2s.
MANUAL of HYDROLOGY.
By NATHANIEL BEARDMORE, Civil Engineer.
CONTENTS—
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of upwards of 400 pages, and there are 21 large plates.
London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 & 66, London-wall. 1862.

THE QUARTERLY REVIEW, No. CCXXIV is published this day.
CONTENTS:—
I. VICTOR HUGO—LES MISERABLES.
II. The PLATONIC DIALOGUES.
III. MODERN POLITICAL MEMOIRS.
IV. ADDIS to FAITH.
V. BELGIUM.
VI. The WATERLOO of M. THIERS.
VII. CHINA and the TAEPING REBELLION.
VIII. The CONFEDERATE STRUGGLE and RECOGNITION.
JOHN MURRAY, Albemarle street.

This day is published, New Edition, with Additional Tables, bound, 7s. 6d.
THE PRACTICAL MEASURER; or, Tradesman and Wood Merchant's Assistant: containing a Variety of Tables, designed for the use of Wood Merchants, Builders, Carpenters, Joiners, Sawyers, Plasterers, Painters, Glaziers, Masons, &c. &c. &c. By ALEXANDER PEDDIE.
BLACKIE & SON, 44, Paternoster-row, London; and all Booksellers.

The Builder.

VOL. XX.—No. 1029.



The New Theatres in Paris.

THE completion, in Paris, of new theatres wherein novel methods of lighting and ventilation have been adopted, hasled to expectation that we should give some account of the arrangements, which are obviously of much importance to decision of questions of procedure in the future planning and general architecture of the class of buildings. Without being able at the moment to comply fully, we can at once afford some particulars which will be interesting.

It may be well first, for the information of those who may visit the French metropolis, to explain what are the theatres recently completed or in progress,—since some of the London morning journals have correspondents in Paris, who do not take trouble to be correct in names and identification of sites. Mr. Boucicault's recent letter moreover, in another morning paper, does not seem to us quite correct as to the number of new buildings actually completed.

The prolongation of the Boulevard Prince Eugène, north-westerly, to join the Boulevard du Temple at the northern end of the latter, near the Château d'Eau, has entailed the destruction of, we believe, six theatres which stood altogether, lining the eastern side of the boulevard within the short space required for the new opening. These theatres are or were the Théâtre du Cirque, the Théâtre de la Gaieté, the Théâtre des Folies Dramatiques, the Théâtre des Funambules, the Théâtre des Délassemens Comiques, and the Théâtre du Petit Lazari. It is possible that we have named the Théâtre Lyrique or Historique, also, as one of the buildings to be destroyed. We are now informed however that the building on the Boulevard du Temple will remain, being only made to revert, from its later use as an opera-house, for which it has been considered ill-adapted, to something resembling its original destination, or to the provision of a home for one of the companies ejected from the neighbouring buildings. The new Théâtre Lyrique, which it is hoped will fulfil all the conditions of acoustics concerned in the effect of musical performances, is one of the buildings which we have to give some account of.

Besides the buildings completed, or which may have been commenced, in different quarters of Paris, in partial substitution for those now destroyed, there are at least two other works of theatrical architecture to be counted as of the current time, those of the new opera-house on the Boulevard des Capucines, in place of the building in the Rue Lepeletier; and the additions (not touching the *salle*) to the Théâtre Français, which include a new, a south, front to the *place* recently formed between the Palais Royal and the Rue Richelieu, where the latter enters the Rue St. Honoré.

Of the seven theatres we have named as on the Boulevard du Temple, the theatre lately called Lyrique, and previously Historique, or Montpensier, is the most recent in date. Illustrations of it will be found in one of our early volumes, of about the time when the building was erected. The *salle* is remarkable for width, great in proportion to the other dimension measured from the proscenium to the boxes. The Théâtre du Cirque (sometimes called Cirque Impérial, as well as Cirque Olympique), which was next to the building last named, on the boulevard, was built about the year 1826, for Franconi, who succeeded the Astleys in the management of equestrian performances in Paris. Though retaining its name, it was lately devoted to ordinary theatrical entertainments, and was arranged accordingly. This building must not be confounded with the circus of which Mr. Hittorff was architect, Cirque Napoléon, Boulevard des Filles-du-Calvaire, which is on the same line of eastern boulevards, any more than with the circus, Cirque de l'Impératrice, of the Champs-Elysées, also a work of Mr. Hittorff. The Théâtre des Folies Dramatiques was built in 1830-1 on the site which was that of the original theatre *de l'Ambigu*, built in 1786 with an interior "de style gothique," and destroyed by fire in 1827. The new Théâtre des Folies Dramatiques, of which the building is now being roofed in, is in the Rue de Bondy, near the Marché aux Fleurs. The Théâtre des Délassemens Comiques on the boulevard, was built in 1841, occupying only three months in its construction. A building which preceded it, having been erected in 1815, was under the direction of Madame Saqui, and was celebrated for pantomime and rope-dancing. A previous building erected in 1768 was called at different times "Théâtre des Associés" and "Théâtre sans Prétention." The company of the Délassemens Comiques was to quit the boulevard on the 15th of April last; and it has we believe, since that time, found a home in the Rue de Provence, opposite the end of the Rue Lepeletier, in premises, altered for the purpose, which lately were in part the gallery of works of art, called the "Galerie des Arts-Unis." The Théâtre du Petit Lazari dated from 1821. Till 1830 it was a theatre of *Marionnettes*. We are not aware whether there is any new building in progress. The date of the Théâtre de la Gaieté we have not at hand. This theatre had been celebrated for some time past, for the representation of "Le Courrier de Lyon," a drama which is still running at the new building, which is in the Rue du Caire, close by the Square des Arts-et-Métiers and leading out of the Boulevard de Sebastopol, Rive Droite.

When it became apparent that new theatres would have to be built, urgent applications were addressed to the Prefecture of the Seine, and the Prefecture of Police, in favour of remedying the insufficient ventilation and other defects of the existing buildings. Conditions of the construction were therefore imposed upon the directors of the new buildings. The ultimate effect of these stipulations was that the city of Paris was itself obliged to undertake the building of the two edifices, the Théâtre Lyrique, and the Cirque Olympique, or Impérial.

The new Théâtre Lyrique, and the Cirque or Théâtre Historique as the latter new building seems to be now generally called, stand on the quay on the right or northern bank of the Seine their entrance fronts filling opposite sides of the Place du Châtelet. Coming from the south across the Pont St. Michel, and the Pont au Change, the elegant fountain surrounded by trees, is in face; the Théâtre Lyrique is at the right, and the Circus or Théâtre Historique is to the left.*

The designs of the two theatres resemble one another in many of their main features. An open *loggia* in one building, in the story above the street, replaces the glazed windows of the other; the attic story is somewhat differently treated; and segmental heads to the entrance-doorways are substituted for semicircular: but the two buildings have a like form of roof-rovering, a vast segment carried by an attic, which last, in one or both of the buildings, is set-in from the main external walls. The effect of the whole from any distant point of view, is in simple truth, a vile blot on the picture; and we are assured it is impossible that the architect, Mr. Davioud, — who moreover shows by beautiful treatment of details in these as well as others of his works, his competency as artist-architect,—could have perpetrated uncontrolled such a combined eye-sore.* One building indeed there is, which is equally bad in the effect of its roof, and equally pernicious in a prospect of its quarter of Paris; we mean the Palais de l'Industrie; which nevertheless, equally with the theatres, has remarkable beauty in many of its details. The details in the theatres, minute in their treatment like those generally of the modern French school, enter little into the effect from the opposite side of the river. Also, as the Cirque is a somewhat longer building than the Théâtre Lyrique, the spectator seems to feel that symmetry was intended, and that even that attempt has failed. When the first impression is that of a *failure*, what can be the effect of any work of *art*? Some considerable time after the roofing had been seemingly finished, the effect was again deteriorated by the addition of a small louvre or ventilator on the summit of each building. This feature, it was impossible to help thinking, was so placed, and left undecorated, in pure listlessness as to the power of making such an effect as was that of the roof, any better or any worse. In fact, something like the mistake in the Westminster Palace, was made: the architect was set to work; and the buildings were commenced, before a commission to which we shall hereafter refer, had finished its labours; thus, certain *conduits* which had been provided for one method of ventilation, were eventually demolished. The critics in the French press have been by no means satisfied with the flanks of the theatres, those fronting the Seine, but attribute the result to the shops, which it was considered by the City could not be spared from rental. In such view of the matter, we consider these authorities entirely mistaken. Even shops might have been treated without great detriment to architectural effect; and the tendency to destruction of such effect by sign-boards, like what is manifested on the Boulevard de Sebastopol, might have been repressed by one of those stipulations so easily enforced under the French municipal system. The Royal Exchange, London, at least before the fronts of many of the shops were allowed to be brought forward, showed what might be done; but marked features of recession and projection on plan, as of grouping and proportion of stories in elevation, are what are wanting to the otherwise admirable character of French architecture, as we have in these pages before observed.

The work of reconstruction of this part of Paris, comprised the rebuilding of the bridge in a slightly modified line of crossing, the removal of the Fontaine du Châtelet (which was effected bodily), and the arrangement of the area about it, planted with trees, and the erection of numerous buildings, to the north, and eastward to the Hôtel de Ville, nearly all of striking architectural character,

* The contributor to the columns of a morning journal quoted from in our last number, is not correct in some parts of his account of Paris. The line of the Boulevard de Sebastopol *does* deviate "from a straight line," as we have heretofore said. The deviation which takes place north of the bridge, has been instanced in proof of certain views opposed to the action of the municipality. Moreover, the July Column is not in the Place du Châtelet, but in the Place de la Bastille, which is far away eastward, at the end of the Rue St. Antoine; the Oratoire is not where the boulevard crosses the Rue de Rivoli, but is a quarter of a mile to the west, opposite the Louvre; and the churches of the Sorbonne and the Panthéon, and the Palace of the Luxembourg, not only will be, but are already, "laid open to public view," in accordance with the original plan for the improvements. We notice these slight errors lest any of our readers not acquainted with Paris, should find difficulty in making the matter in the *Morning Post*, which was in many respects excellent, harmonize with our own published particulars.

* Our principal illustrated contemporary, in one of his views of Paris meant to show the exact appearance of the quays subsequent to the time of erection of the two theatres, omitted those buildings altogether from his view.

and some of them profusely enriched with sculpture. The north side of the Théâtre Lyrique is seen from the Rue di Rivoli across the Avenue Victoria and the new square in which is the tower of St. Jacques-la-Boucherie.* The lines of route and traffic from the bridge, past the theatres, take such sharp turns round the planted area, that accidents must certainly occur. We have already once, or oftener, mentioned this great defect in the planning, which is exceptional in Paris to the general merit of new street lines. The angles should now be cut off, and the inner area made octagonal. This short notice of the street improvements connected with the theatres, would not be complete without mention of the alteration that has been made in that part of the quay (Quai de la Mégisserie, and Quai de Gèvres,) on which these buildings are situated, by raising the level. This is in continuation of work of the same kind which has been effected elsewhere along the river, and by which the highest rise of the water is now kept within the proper channel. A large number of old houses along the quay and north of it, thus have been destroyed to make room for the theatres, or in result of the alterations in the level. English visitors, staying a week in Paris, and writing their impressions, weep over the destruction of picturesque features, some of which too are interesting historically; but they should attach some value to the sanitary and other ameliorations, if not to the decorative aspect of the new streets and buildings. Whether as to the picturesque, or the matter of history and association, the value of the old streets and houses has been much overestimated. We speak with knowledge obtained after walking miles of such streets or alleys,—*ruelles* is the French word,—as there still are south of the Quai Conti, north and south of the Rue St. Antoine, north and east of the Panthéon, and elsewhere; and we say that it requires a much higher estimate of the interest and utility of ancient monuments, landmarks, and associations, than even we possess, to make possible the tolerance of quarters of a town so deficient in the prime requisites of habitations and streets, as are such as those quarters we have named. So bad, whilst so extensive and so numerous, are and have been those quarters, that to find fault whether with tendency to annihilation of them, or with the present duration in contrast with the magnificent frontages, betrays alike ignorance of the whole question for Paris, and that of improvement generally in towns and cities.

The recent elevation of level of the "Quai de la Mégisserie" appears to be the fourth or fifth operation of the kind, which has been found necessary thereat. The quay was first constructed in the year 1369, in the reign of Charles V., when it was called Quai de la Saunerie. This name was changed to that of Vallée de Misère, or Quai de la Poulaillerie, for one portion of the quay to the east, and to that of Quai de la Mégisserie for the portion ending where now is the Pont Neuf; and in 1529, under Francis the First, the whole seems to have been reconstructed. In 1769, under Louis XV., the quay again was repaired and enlarged, after which it acquired the name of Quai de la Ferraille, on account of the dealers in old iron and "batteries de cuisine" who established themselves there. One of the principal dealers in articles of the latter description, alluded to in one of our recent papers on cooking apparatus, is still attached to the same quarter. The Quai de la Ferraille became by day, the resort of *saltimbanques*, flower and bird sellers, and recruiting-parties; and by night a scene of disorder in which the knife is said to have often played its part. One of the most notorious places was a gambling-house called the "Biribi des Vertus." A wit of the time wrote of the uproar by day:—

> "Il est enjoint aux vieux *ferrailleurs*,
> D'aller porter leur vieux *fer ailleurs!*"

In the reign of Louis Philippe, or between 1833 and 1836, the Quai de la Ferraille was again reconstructed, and greatly improved, at a cost of 700,000 francs. At this time an archway which led from the river under the houses of the quay was removed. Lastly, in 1860, the roadway was raised so as to leave the old houses at eight or ten feet below the new level, and render necessary the demolition and reconstruction which is the work of the present year.

The system of lighting and ventilation which eventually determined structural arrangements of the two buildings that have been completed in the locality we have spoken of, was founded on a report, or reports, made by Messrs. Boussingault, Pelouze, and Dumas, and the Général Morin. These authorities, according to Mr. Devinck in the Corps Législatif (*Moniteur*, 28th June, 1861), stated that 8 to 10 cubic mètres of air per hour were necessary for each spectator, whilst there was no theatre in Paris answering those conditions. A number of the *Revue et Gazette des Théâtres*, of September, 1861, speaks of a report drawn up by General Morin, for the commission appointed by the Prefect of the Seine, and forming a thick volume; in which report, the fresh air required, and capable of being provided, was stated as 30 mètres for each spectator, in the course of each performance. The bulk of the matter of the reports, and the results of numerous experiments by General Morin, which extended to the subject of lighting of the stage and auditory, will doubtless be found in the *Comptes-Rendus* of the *Académie des Sciences*, and the *Annales du Conservatoire Impérial des Arts et Métiers*. The conclusions arrived at appear to have been turned to account in the Théâtre de la Gaieté in the system there, of lighting, which is spoken of as the invention of Mr. Cusin, the architect of that new theatre.

Postponing any account of the plan and decorative details of the new theatres on the quay, we may say that the system of lighting and ventilation consists in what has been called "exclusive lighting," or like what is in use at the House of Commons, combined with the utilization of the heat in the roof-space which is above the glazed ceiling, as extracting force. The first application of the method of lighting, in Paris, was made in the *salle* of the *Corps Législatif* in February last. In that case, instead of the central chandelier, or *lustre*, there is in the ceiling, a central space of ground-glass, above which are numerous jets of gas backed by a large reflector. The light, when the arrangement was first adopted, was found to be much better than that of the old system. The question suggested is as to cost of gas. If we may credit one writer, the expense per night in one of the old theatres was one fourth what it is in the new building. But we imagine that the difference will be greatly reduced by application of the best forms of reflectors and after general study of the subject. In the Western Annex of the International Exhibition building is a new form of magneto-electrical apparatus, shown to be applicable to lighthouses; and in which, constant meeting of the charcoal points, and non-intermittence of the light, are fully attained. The ingenious machinery by which this is managed, would require longer explanation than might be adapted to this present article. One feature of the machine is the use of a small steam-engine, which turns a large wheel, on the periphery of which are placed the magnets. Mr. F. H. Holmes the inventor. In fact, the whole subject of artificial lighting is in its infancy; and if we mistake not, the French will make something of Mr. Holmes's invention as well in the lighting of buildings and streets, as in their lighthouses, which are most assiduously looked after. As to another question in the application of the system of "exclusive lighting," a thermometer in the luminous chamber of the *salle* of the Corps Législatif has shown 90 degrees, centigrade scale, of heat, or equal to 194 Fahrenheit. Such heat would seem to involve danger, unless where there is special construction; an opinion similar to one which was freely expressed by the architect of the Houses of Parliament, when the method in question was adopted by the Commissioners of Works. In the Théâtre Lyrique, and in the Théâtre Historique (as we shall probably be right in now calling the circus), the architect has of course formed the roof-framing wholly of iron; and he has brought a large amount of constructive skill to this part of his task. What degree of heat is necessary in the case of the theatres, as motive power, we do not at present know.

One of the earliest proposals for the improved ventilation of theatres was that of Darcet, described as comprising admission of air, supplied from the basement, by numerous openings in the front of the boxes, and its escape by an opening in the roof, below which was the great chandelier, or *lustre*. This method, in principle, and in some details, therefore is the same as that of the London theatres. The defect of the system has been considered to be that it renewed only that portion of the air which was the least vitiated; and that, as inducing a current of sound from the stage to the ceiling, it was unfavourable to hearing and especially unsuited to opera-houses. As wrote Mr. About in *Le Constitutionnel*, "the public of the *orchestra* and the boxes obtain of music little, and breathe of bad air much." Darcet's arrangements it is said, were much improved upon by Mr. Charpentier, an architect, in the Théâtre de l'Opéra-Comique; but whatever the later improvement was, it has since been got rid of by one or other management of the theatre. It has been proposed to adopt the system of a downward current in theatres, with the opening of escape, or exhaustion, in front of the stage; but this has not been carried into effect in any building in Paris. The only improvement we can discover as having been made prior to the construction of the new buildings, was that in the *rampe*, or "float," for lighting the stage, which we described when it was first introduced at the Grand Opera-House. We attributed the suggestion of this arrangement to Mr. Lissajoux, to whom we were indebted for information; and Mr. About following the *Annales d'Hygiène* prefers the claim of the professor to the credit of the invention. Such credit General Morin in his report has omitted to accord, receiving himself whatever praise may be due for it. Mr. Lloyd's patented plan illustrated in our last number has points of difference from the French arrangement, originally described by us; but there is much in his arrangement that would be suggestive to the French, especially in connexion with the point, to which we referred at the time, the necessity of making the elevation of the reflector above the floor line of the stage, as slight and as sightly as possible. Mr. Lloyd's arrangement as shown and described* would allow the smoke and gaseous products of combustion to take their usual course, producing an effect which interferes with the view of the *scène* from the house, and perpetuating the inconvenience and prejudicial results to actors and singers. In the French arrangement, on the other hand, as noticed by us, the lights are completely encased; the front next the stage is not wire-gauze, but ground glass; and the ends of the tube or chamber have each attached to them at the sides of the stage, a perpendicular tube for the escape of the products of combustion from the chamber. What modifications in the form have been made in the new theatres, we are not yet aware. We have more to say, however, than can be pressed into one article.

* The word *square*, which is now French, means a space bounded by street, inclosed with railing or balustrade, and arranged as a garden, in fact has the same meaning as the designation of the London squares: the Paris squares however being much more ornately decorated, besides open to the public. The word *place* however may be retained in some instances where the open spaces have gardens in the centre, as in that of the Place or Square Louvois, perhaps from having been applied before the garden there was made.

EXEUNT.

Bit by bit the cumbrous pile known as the Great Globe, in Leicester-square, is being removed: rib by rib its odd skeleton is disappearing; and in a very few days

> "The great globe itself,
> Yea, all which it inherit, shall dissolve;
> And, like this insubstantial pageant faded,
> Leave not a rack behind."

Will it leave behind the statue of George I., which formerly occupied the centre of the square? If not, it should be looked for, perhaps dug up, and replaced. This statue appears to have been the work of Van Nost, a sculptor from Mechlin, and was made for Canons, a residence of the Duke of Chandos. It was originally gilt. It should most certainly be reinstated. What is to be the after-fate of Leicester-square, formerly Leicester-fields? The enclosure of the "square" seems to have taken place very soon after 1700. The recent condition has been discreditable. Let us hope that improvement is in sight. The best thing that could be done would be to throw open the whole area, bordering a few walks with suitable trees. At any rate, keep it free of buildings. The present tendency, unluckily, is to fill up our open spaces,—a suicidal act. The railway stations, for example, should not have been admitted into the New-road and at Trinity Church.

Hungerford Market has disappeared. The buildings have been levelled, and a large area is opened to become the terminus, or, to speak more safely, a station of the Charing-cross Railway. The "Compensation cases" here must have been numerous. It is but thirty years since the then inhabitants of the site were paid and turned out; and now the market, with its penny ices, and its Hall of Clairvoyance (do we not remember Madlle. Prudence here before the days of scoundrelly Fosters?), gives place to more promising things. Even the bridge, with Mr. Bunning's towers, is changing its ways: it will cease to hang, and

* See p. 745, *ante*.

send its chains to Clifton. And so one year blots out another.

The State-Paper Office is gone. Barry did his best to wipe out Soane; and, being gone, Scott follows up the game. Scott'sspongehas yet to come.

The East-India House—Jupp improved by Cockerell—has had a longer innings than the other buildings we have named. It has gone out at the early age nevertheless of sixty-three years. Nothing remained when we saw it a few days ago, but the portico, with the younger Bacon's sculpture in the pediment; and by this time probably that also has disappeared. Charles Lamb, who left on the shelves there what he calls his true works, "filling some hundred folios," would not know the place. Offices, soundly built, are rising in its stead; but how long they will remain depends entirely upon accident. Talk of permanent buildings! We make but forms in a dissolving view.

CAPO DI MONTE PORCELAIN: NEAPOLITAN.

The breakfast-service of Capo di Monte porcelain belonging to Miss Burdett Coutts, now in the Loan Collection at South Kensington, ornamented with raised and coloured groups of heathen deities, in connexion with other specimens there of the same manufacture, has led several of our readers to seek particulars of it. Mr. Marryat has brought some together in his valuable "Collections towards a History of Pottery and Porcelain," easily accessible, but we will give a few notes on the subject for those who are unable to look them out for themselves. King Charles III. established the manufactory at Capo di Monte in 1736; and often worked there with his own hands. The interest he took in it is strikingly shown by a letter printed in the "Chatham Correspondence," dated 1760. This says that, during a fair held annually in the square before the king's palace, there was a shop for the sale of this china; and that a note was brought to the king daily of what was sold, with the names of purchasers, on whom he looked often favourably. When he afterwards left Naples and assumed the crown of Spain, he took away with him twenty-two persons acquainted with the manufacture, and founded an establishment in the gardens of the Palace of El Buen Retiro, near Madrid, the productions of which are well known.

Mr. Pettigrew has printed a letter in his "Memoirs of Nelson," wherein the great admiral mentions a visit to the "magnificent manufactory of china" at Capo di Monte; and how pleased he was to find, on ordering a few busts in china, and seeking to pay for them, that the king had directed whatever he chose should be delivered free of all cost. "It was handsome" of him, says Nelson.

The manufactory dwindled, and became extinct in 1821, when the early models were transferred to the Ginori factory at Doccia.

At the Ginori-Lisci stall in the International Exhibition, to which we referred in a recent number, there are some modern specimens of the ware, in the shape of cups and saucers with raised and coloured groups upon them; and others with handles in imitation of a branch of red coral,—a decoration, together with small coloured shells, often made use of in this manufacture; and constituting, indeed, its distinguishing beauty. The modern productions, however, are very inferior, both in modelling and colour, to the earlier works. At the stalls of some of the English manufacturers in the Exhibition there are imitations of the ware to which the same objection applies. There are two valuable ewers in the Loan Collection, modelled from shells, with their imitative red-coral handles, and ornamented in relief with smaller coloured shells adhering to the sides.

Specimens of the genuine ware are rare. The best collection, according to Marryat, is in the Royal Palace, at Portici, of which Lady Blessington gives a vivid description in her "Idler in Italy." Lady Blessington had herself at Gore House, hard by where the Exhibition now stands, some capital cups and saucers of the ware, as we well remember; and the mention of them brings back clearly to the mind's eye of the writer a *conversazione* in that well-appointed house, and a group of four standing at a small table in the drawing-room, talking of this very china. One of the four, holding a cup in his hand, and speaking moodily, is Prince Louis Napoleon, now Emperor of the French; and the incident is the more distinctly remembered, because within a very few hours afterwards he made his repulsed descent on Boulogne! The tea-cups have taken us into history, and we will not return.

EVIL EFFORTS AGAINST SANITARY IMPROVEMENTS.

In sanitary matters, as in others, there occur now and then reactions of opinion which, for a time, cause facts which have been established to be disputed, and, to some extent, discredited. Then discussions take place, which are not without their use; and eventually the truth is established on a surer basis than ever. Recently, an inquiry which has been made by the *Lancet* into the effects of railway travelling on health has caused the expression of a variety of opinions in various journals. Amongst other singular views, it has been stated that the pure air of the sea-shore is of little value as regards health; and one writer in an influential magazine states that impurities of air do not sensibly affect health, as is seen by the thousands who daily breathe impure air with impunity. It is said that the air of a crowded railway-carriage, which is so close that it is noxious and unpleasant to the senses, can do no harm; and that, although the air may in this way be tainted, "The rapid circulation of the air always suffices to keep up a due amount of oxygen; and, however oppressive the sensation of 'stuffiness' may be when windows of a crowded carriage are closed, the utmost physiological effect is a lowering of the respiration, and a consequent lowering of the vital functions, which immediately recover their activity on fresh air being admitted." The same views will, we suppose, apply to omnibuses, and to the crowded cabins of steam-packets, &c. It is admitted that there is a *lowering of the respiration, and a consequent lowering of the vital functions*; and, however high the scientific authority may be to the contrary, we cannot, in our common-sense view of the matter, consider such a state of air to be beneficial or even indifferent or insignificant to health.

Dr. Angus Smith has shown, by his process of testing the purity of the atmosphere, that a given amount of permanganate solution is decomposed by different volumes of air, according to its state of purity. The numbers below given show the volume of air capable of decomposing an amount of the solution of the permanganate,—the same in every case. The figures, therefore, represent the proportionate purity of the air. The highest numbers represent the purest.

Manchester.

	Cubic inches.
Air at All Saints', inside my laboratory	72,000
Front of the house	74,000 to 76,000
Bed-room looking to the back	64,000
Same room in the morning, after having been slept in	56,000
Bank of the Medlock, behind dirty houses	44,000
High ground, thirty miles from Manchester	175,000 to 209,000
Closely-packed railway-carriage	8,000
When the strong smell of a sewer entered my laboratory	8,000

We believe that the varied conditions of the atmosphere which have been tested materially affect health; and that it will be found, on investigation, that there occur a greater percentage of deaths and a larger amount of sickness at the bank of the Medlock and behind dirty houses than in the air of All Saints, which shows the comparative figures 72,000 cubic feet against 44,000 feet behind the dirty houses. Nor can we think the air of the closely-packed railway-carriage, or the atmosphere of Dr. Smith's study when the smell from a sewer entered it and reduced the figures of purity to 8,000 cubic feet, can be as wholesome as that to be found in a well-drained, thoroughly-dried, and well-ventilated house, built upon a rightly-selected point of the high ground thirty miles from Manchester, where the figures are given at 209,000 cubic feet.

It has been asserted that, if we take the comparatively small amount of labour which is borne by those dwelling in the country into consideration, it will be found that there is little difference between the conditions of health in the country and in the towns. If, however, we regard the class of agricultural labourers, it is certain that the amount of work which they do is as great and even greater than that by many town mechanics; and yet, take at random 100 of the former, and compare their healthy countenances with 100 of the pent-up artisans of Whitechapel or Bethnal-green, and the difference is but too obvious; and this, although, in nine cases out of ten, the villages and small towns are deficient in sanitary arrangements; the farm-houses poisoned by neglected drainage; and the houses unfit, by the faultiness of their construction, the want of ventilation, and deficiency of superficial space, for the accommodation of families. Nor is the quantity or quality of the food which can be obtained by the limited wages of the peasantry likely to favour health; notwithstanding which, the death-rate of most rural districts is very low when compared with that of many towns.

We readily admit that certain pursuits materially affect the duration of existence, and that the hard "wear and tear" of professional and business life materially shorten man's days; but this is not sufficient to account for the startling difference which is to be met with in varying districts of the metropolis, and for the death-rates of towns ranging from 40 to 20 and 18 in the 1,000. A reference to the Registrar General's figures, and an examination of the sanitary state of neighbourhoods, will, however, clearly account for a large amount of this difference: provided, that is, that the evil power of bad air be not disregarded. The writers here and there, medical and otherwise, who are seeking so industriously to prove that pure air is of so little value, always contrive to put in a protest against being considered the advocates of impure air. Away with such sham! They are the advocates of impure air; preachers of error; the worst, because insidious and disguised, foes of sanitary progress.

PAINTED GLASS.

The following letter from the Rev. G. A. Poole to the Rev. T. James, "On Painted Glass, with especial reference to the relative importance of White or Grisaille Glass," was read at the annual meeting of the Northamptonshire Architectural Society, held on the 2nd instant:—

You will remember that, at the meeting of our Architectural Society, held at Thrapston last year, I passed from a description of the glass in Lowick Church to a comparison between ancient and modern windows. Will you allow me, in the form of a letter to yourself, to pursue the subject a step farther; requesting you to communicate my remarks to the meeting on Thursday next, with my apology for not rendering them in person?

My former observations, being limited very closely to the texture of the glass, no farther exhausted the subject of glass-painting, its uses and happiest conditions, than a discussion of the merits of several kinds of paper would exhaust the subject of drawing in water-colour; but, just as the glass itself is the substratum of all that is painted on it, so does its proper texture underlie every practical question that can be raised upon glass-painting, whether it be viewed as a mere handicraft, or as claiming some remote cousinship with one of the fine arts.

My former conclusions are, indeed,—at least in my own eyes,—so essential to a just view of the whole matter, that I shall beg leave to re-state them, though in a greatly-compressed form.

I claim, then, a certain magical effect for ancient as compared with modern glass; and I attribute this to its semi-opaque texture, which gives a tone—an atmosphere, if the term be more expressive—to the light which it transmits, which is not comparatively, but absolutely, wanting in every modern window. The causes of the defect in our modern glass are various, but they all mount up to this one,—that, though we are sensible enough of the charm of the ancient effect, we have never set to work to produce it by the same means. We have attempted to imitate it by contrivances reaching only the surface; whereas the whole texture of the entire material is essential to its production.

And the question concerns all glass now made, as compared with all the old glass. It is not only the white or only the coloured glass in which the difference is apparent, or in which it is all-important. There is more tone—and I need not say how important tone is as distinct from colour—there is more tone in any square foot of glass in York Minster, white or coloured, than in all the acres of glass, white and coloured, put together in the International Exhibition of this present 1862. And, to use the all-powerful *argumentum ad crumenam*, I trust there is yet so much discrimination in the patrons of glass-workers that one square foot of tone, though it were only in one colour, or in grisaille, would have secured more orders for its exhibitor than any amount of glaring transparent colour.

I cannot help regretting, *en passant*, that Mr. Winston, who has done more than any one else to direct attention to the tone of old glass; to its beauty, and to its causes; has yet, in his practical, or at all events in his successful, efforts, begun and stopped short at the reproduction of the ancient colours. When, however, the more important, and far more fundamental, difficulty of a

texture producing tone has been overcome, the merit of first pointing to the right path will belong to him. We can hardly expect him to re-enter the heated arena of the glass-house. He serves a jealous mistress; and, having been admitted into the Temple of Themis by the golden door, he is right not to provoke her to turn him out by the glass window.

Deserted, then, by Mr. Winston, whither shall we turn? There are three parties concerned. There is the producer of the pot-metal: there is the maker of the window: there is the general customer, or the public; and standing by, not without a presumptuous hope that he may let drop some word helpful to all, is the fidgety, crotchety ecclesiologist. The influence of these parties is inversely as their power. The maker of the pot-metal could do it if he would, but perhaps at the cost of some experiments, and certainly not without a special preparation of his kiln; for the pot-metal could no longer be melted together with glass requiring perfect fusion. Without a strong pressure from without he will not, therefore, help us, though he could. The maker of the window, unless he is a mere craftsman, ought to feel the need of a better medium, that he may satisfy his own higher aspirations; but he is "driving such a roaring trade," that the timid whisper of his æsthetic conscience is not heard through its din: if it were, he would not rest till he had succeeded in procuring, or even in producing for himself, as every glass-worker of old was obliged to do, a better material. The general customer is, of course, utterly without directly productive power; but only let the true state of the question become known (and here comes in the voice of the ecclesiologist), and the demand for good glass, or none, will insure the supply. It will be like the old woman taking her pig to market: the ecclesiologist begins to touch the public: the public begins to jog the painter: the painter begins to poke the maker: the maker begins to dress his kiln; and the glass that pours out is fit for use.

But now, for argument's sake, let us suppose that we have that semi-opaque texture in our glass, after which, I wish I could say our glass-workers were feeling. There are some consequences, all of them of happy omen, which would naturally follow. First (and it is the only one that I shall pursue at present), white, that is grisaille, glass would rise immensely in the scale of importance; and this alone would work a revolution in the whole practice of window-making. Taken as the base of a window, white glass would hold its own as compared with the most varied and gorgeous colours. A pattern window—that is, a window composed of a ground of white glass, diapered with tendrils of plants, leaves, and flowers, and enlivened with devices of colour interlaced or scattered over it—would be once again duly appreciated. But for a constitutional dread of paradox, I would venture to hint that this is really the most appropriate and refined application of the glass-worker's handicraft. There seems to me to be no comparison in respect of real refinement of beauty, combined with appropriateness to their use, between the five sisters in the north transept at York and the great east window in the same minster, both admirable of their kind; the former a very subdued pattern window, the latter filled with countless subjects from Scripture history.

The question between windows of grisaille and of figures of deeper colour has, indeed, practically received an unfortunate answer from apparently remote circumstances. We have been feeling after church decorations of a higher order than cherubs' heads and royal arms over pulpits and gallery fronts; and for some reason, I know not what, we have been more courageous in the treatment of our windows than in the treatment of our walls. Though the Puritan of old broke every head in a window with a mitre or a glory upon it, which he could reach with fist or halbert, his spirit, transmitted to our day, has been more tolerant of saints and bishops in glass than in any other material. We have decorated our windows thus because we have not so decorated our walls. It is inconceivable that, if wall and window were equally at our disposal, we should paint our pictures on the window and leave the wall untouched. A transparent medium, and that by which the light is admitted, must be the worst possible, a wall reflecting the light must be the very best, situation for a picture. Certainly we have set our pictures in the worst place, and left the best place bare. Well, it was better than none; but now we are beginning to perceive our mistake, and what will be the result? We shall have pictures on our walls; but, unhappily, they will not be brought out, but killed by more glaring pictures already peering through our windows. The resource will be to run into another error,—to restore the figures on our walls to their due prominence, by overloading them with colour,—that is, by sacrificing tone to brightness,—the greater to the less,—as we have already done on our windows; and so bad windows will exact bad pictures to out-stare them.

Given, then, the wall pictured as it ought to be: what better handmaid can it have than a grisaille pattern window? When Raffaelle covered interiors with the highest productions of human art, did he ask for gorgeous figures or for a soft grey light in the windows opposite? For which did he ask, even while all the glass employed was good? Much more, if we could have another Ary Scheffer to decorate our churches, would he tolerate our modern glaring figure windows over against his refined conceptions, when he might hope, even as a remote possibility, for the pearly light of the grisaille pattern? Again I ask for glass toned by a proper texture, that we may be worthy to employ the highest art for our wall-paintings.

We have now reinstated grisaille glass in its proper dignity in itself, and as an accessory to other ecclesiastical decorations; but it has also lost its due place in figure windows. What can be more monstrous, as a work of art, than a cartoon for a window of high pretensions, into which scarcely a single piece of grey is admitted,—grey, which harmonizes all colours, and bathes all true pictures in the dews of heaven? The more pretentious such cartoons are the worse are they; and, bad as they are, they are tenfold better than the windows made after them, where all colour, being on a transparent medium, is intensified by transmitted light; and where, therefore, if anywhere, grey, grey, more grey, is wanted to subdue and harmonize the whole. In the best days of glass-painting, whole figures are often grey; drapery is grey; the ground, the surrounding buildings are grey; and on the grey glass is the best, almost the only painting—robes diapered with the greatest grace and care, faces finished with almost microscopic delicacy, porches and pavements carried into the background with such perspective as the artist could command; and this is as it should be; for, on coloured glass, all but comparatively coarse shading and diapering will be thrown away. Quiet, sober grace is thus thrown over the whole window. But now do not suppose that I ask for more modern white glass: it is simply and absolutely inadmissible; but I do ask for a large introduction of toned grisaille, when it can be had; and I do say that, without this, there can be no good figure window.

Whether or no the use of white glass was ever excessive I do not know; but I never saw even a Perpendicular window in which there was too much; and I should desire more in most Decorated windows. There is, however, a curious item in a contract for the glazing of the Beauchamp Chapel at Warwick (which I quote from memory), which provides that as little white or green glass should be used as possible. This indicates either a fear that too much white glass might destroy the effect, or a determination to get all that could be had for the money. I suspect that the almost total exclusion of white glass from high-priced windows at present arises from a fear, on the part of the glass-workers, that they will be suspected of "scrimping" if they do not give plenty of colour. But surely customers would not estimate pot-metal before art in the production, or tawdriness before refinement in the result.

Having now claimed its proper place for white glass, when white glass has become what it should be, I have exhausted the main subject of my letter. But one word more, to obviate a probable consequence of so frequent an assertion of the superiority of old over new windows.

I do not for an instant advocate a servile copying of old windows. Only let us emulate what is good in them, and do better, if we can do better, in everything else. Even in the particular thing which I most admire in them, it is quite conceivable that we may excel them. Our aim should be to combine the greatest possible translucency with the smallest possible transparency. In its present condition, at least, old glass rather fails in translucency. Let us aim to excel old glass in this respect, but it must not be at the hazard of admitting the smallest transparency. If we do this, we negative every other advantage. We laugh, perhaps, and justly enough, at the figures in the old windows: let us not imitate their grotesqueness or their bad drawing; but let us, at all events, escape the monstrous absurdity of figures that can be seen through.

What would William of Wykeham have said to his glass-worker if he had seen a pair of magpies traversing the nimbus of St. Agnes, or trees waving in the water of St. Christopher's ford, or a chubby-faced school-girl peeping through the folds of St. Ursula's mantle?

PRESERVATION OF STONE.

In your journal of the 11th I find there is a report of a paper read by Professer Ansted at the Cambridge meeting of the British Association, "On Artificial Stones," at the conclusion of which, as you state, a discussion ensued on the preservation of stone, which was several times referred to in the paper.

As that discussion was raised by myself in consequence of Professor Ansted's mention of the preservation of stone in connexion with Mr. Ransome's method of making artificial stone, I am desirous that my remarks on this subject should become public.

On the merits of the particular method of making artificial stone described in the paper, I have nothing to say; nor should I have ventured to make any remarks on this paper, had the writer confined himself to the subject of artificial stone, and not referred to that of the preservation of stone, as being borne upon by his communication, and that in a manner which seemed to me open to objection. Having some years ago devoted considerable attention to the decay and preservation of stone, I believe that I am able to offer an opinion as to the general probability of success attaching to any method of preservation, not only as a chemist, but also with the advantage of having specially studied the subject. Being familiar with the effects of the method proposed by Mr. Ransome for preserving stone, and with the effects of various similar methods devised by myself and others, I could not assent to the view put forward by Professor Ansted, that the method of making artificial stone, by immersing a pasty mass of sand and silicate of soda in a solution of chloride of calcium, and the results obtained by that method, bore upon the subject of preservation of stone; or to the opinion that there was any kind of analogy between the striking experimental illustration which he gave of that method of making stone, and the method proposed by Mr. Ransome for preserving stone, which consist in applying solutions of silicate of soda and chloride of calcium successively to the face of stone in buildings.

My reasons for denying this connexion and analogy between the two cases are the following: In making artificial stone by the method referred to, a mass or block of paste is first made by intimately mixing sand with a solution of silicate of soda. This pasty mass, when immersed in a solution of chloride of calcium, is converted into a solid hard mass by reason of the mutual decomposition of silicate of soda and chloride of calcium, giving rise to the production of insoluble silicate of lime as a cementing material throughout the mass.

The merest tyro in chemistry would never doubt that, under these circumstances, silicate of lime would be produced; or that silicate would also be produced when solutions of silicate of soda and chloride of calcium are successively applied to a stone wall; although I have heard it foolishly stated that, in reference to these methods, a doubt existed among chemists as to whether silicate of lime was produced in these cases. The important difference, however, between these two cases is this,—that, in making the artificial stone, one of the materials giving rise to the production of silicate of lime is of necessity intimately incorporated with and distributed throughout the mass in which, by immersion in chloride of calcium, the insoluble silicate of lime is to be produced. In the method for preserving stone, on the other hand, the silicate of soda can be introduced only by the absorption taking place when the vertical face of the stone is washed with the solution.

When a block of stone is immersed in a solution of silicate, absorption may take place to a very considerable depth; but, under the circumstances in which the method is applicable to the face of a wall or building, the absorption takes place only to a very limited extent, even by very frequent washing; so that, when the chloride of calcium solution is applied, the silicate of lime is deposited only superficially in the pores of the stone, and chiefly on the surface, where it lies like whitewash. I have invariably found this to be the result of all attempts to fill up the pores or interstices between the particles of stone and render it impervious by the deposition of insoluble substances, *whenever the number of washings applied to the stone was limited by a due regard to the practical applicability of these methods to*

buildings. By long-repeated washing, or by immersion, indeed, it is possible to effect a deposition of insoluble material to a great depth in blocks of stone; but such specimens have no practical significance as regards the preservation of stone in buildings.

In making the artificial stone, on the contrary, the silicate solution having been, by an easy mechanical process, introduced into the mass; it is easy to conceive that, when it is immersed in the chloride of calcium, the production of silicate of calcium would take place to the very centre of the mass. The silicate of soda which it contains would, in virtue of its chemical relation to chloride of calcium, facilitate and, as it were, form a road for the penetration of this solution. The depth to which the production of silicate of calcium might extend in this case would be merely a matter of time dependent on the size of the mass.

These strong and decided facts of difference it was which induced me to object to Professor Ansted's reference to Mr. Ransome's method of making artificial stone, as illustrative of the action and probable efficacy of that gentleman's method for preserving stone. At the time I spoke, I was not aware Professor Ansted was one of the committee entrusted with the inquiry into the subject of decay and preservation of the stone at the New Palace at Westminster; but, had I known this, my reasons for objecting to the suggested illustration of Mr. Ransome's method for preserving stone would not have been less strong.*

Professor Ansted remarked, in reference to the method for preserving stone, "that the objection so strangely felt, that the material thus deposited would probably be in the form of unconnected grains rather than a cementing film, seems answered by the formation of a stone so solid as the specimens shown." That objection was, I believe, first put forward by myself as the result of my experiments on this subject; and it applied to the production of the deposit, upon the surface and in the pores of the stone, as a powder liable to be washed away by rain. This is what I have found to be really the result in applying Mr. Ransome's or any similar method for the preservation of stone; and I cannot consider this objection in any degree answered by a result so totally dissimilar to the preservation of stone as the production of this artificial stone.

Not having had, during the last four years, an opportunity of knowing what had been done as regards the preservation of stone, I was anxious to learn whether the opinion Professor Ansted appeared to have in favour of Mr. Ransome's method was based upon any experimental or other results affording an *à priori* probability of the efficacy of that method. In reply to my inquiry, he described some observations as to the depth to which solutions had been found to penetrate stone when applied to its face, which I have since found to be contained in the reported evidence given on this subject before the Commission of which he was a member; but I was unable to elicit from him any information as to the real purport of my inquiry; which was, whether any data had been obtained, showing the extent to which solutions applied to the face of a building penetrated into the stone, *with the effect of producing in its pores a deposit of insoluble material, bearing any notable proportion, in its bulk, to the interstices of the stone, and to what depth such a deposition could be effected, at a reasonable cost, in practice*, so as to be fairly and reasonably expected to have a practical value as a preservative of stone? Whatever penetration of the solution may take place, without this effect being produced, must obviously be of no importance as regards the preservation of stone, even if it be admitted that such a deposition of material in the stone would be a preservative against decay.

Such data, I believe, have never been furnished by any of those who have essayed to preserve stone; and it was the attempt to obtain such data which led me to abandon this mode of preservation as hopeless. It might have been expected that those in whose power it was to authorize the application of projected means of preservation to such buildings as the new Palace at Westminster would have insisted on being furnished with such data as would afford reasonable probability of the success of the methods, when judged of by competent persons, before permitting the walls of that building to be plastered over with the secret and trumpery nostrums of a questionable inventor.

Mr. Ransome's attempts to obtain the desired result I believe to have been earnest and sincere; but, at the same time, I believe he has no chance of success in the direction he has been working. He has acquired a vague perception of a principle which is, at first sight, plausible; and which, some years ago, led me to devote much attention to the subject of stone preservation; at first with considerable hopes of success, which gradually disappeared under the test of practical application.

The principle embodied in the methods suggested by Mr. Ransome and myself—that of rendering stone impervious to air and water, by depositing in its pores a substance not liable to be acted upon by those agents of destruction present in the atmosphere and in rain-water—has, as usual, met with a host of imitators, proposing plans more or less impracticable; and I cannot but express my opinion that Mr. Ransome, in consequence of chemical misguidance, has adopted the very worst of all possible means of carrying that principle into effect; namely, the deposition of silicate of lime as the preservative material. Among insoluble silicates this substance is well known to be, above all others, the most liable to alteration and decomposition under the influence of precisely those agents which determine the decay of stone; viz., the carbonic and nitric acids of the atmosphere; the sulphuric and hydochloric acids arising from the combustion of coal, and from chemical works; aided by the solvent action of water on the stone, which has been chemically altered by the action of these substances.

I hope, however, that his method of making stone may prove more successful; and that it will furnish him with a reward for his labours in endeavouring to arrive at a means of preserving stone.

Benjamin H. Paul.

* Another correspondent, fully acquainted with the proceedings of that committee, takes stronger exception to the course pursued by Professor Ansted on this occasion, on the very ground of his having been a member of the committee.

GAS.

The Eton Gas Company have declared a dividend at the rate of 7½ per cent. per annum, which seems to have been the average of profits ever since the establishment of the company.——The Sheffield Gas Company's directors recommend the usual dividends of 10 and 8 per cent., leaving 807*l.* to their reserve fund. They speak of a reduction in price to 3s. 6d., and think "there cannot be a doubt that a reduction in price will cause an increase in consumption;" for which they are accordingly preparing by the purchase of ground on which to erect a set of new works.——The gas company at Newport, near Montrose, magnanimously gave their gas consumers the benefit of a reduction in price from 12s. 6d. to 10s.; and they now seem surprised to find that, "*notwithstanding* of this reduction, the company are still able to pay the usual dividend of 5 per cent. to the shareholders, and to set aside 28*l.* odd to account of tear and wear; and the reserve fund is at the highest limit allowed by the company's contract."——The Surrey Gas Consumers Company have declared a dividend at the rate of 8 per cent. per annum, payable on the 27th instant.——The Great Northern Railway Company are lighting their carriages with portable gas, instead of the oil lamps, often only sufficient to make darkness visible. A practical difficulty remains, however, to be overcome. The sudden rush of air, on entering a tunnel, is apt to put out the gas-light.

ST. ALBAN'S ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.

At a general meeting of this Society, held at the Court-house, St. Alban's, on the 14th instant, —the Earl of Verulam, president, in the chair,—a paper was read by the Rev. Richard Gee, entitled "The Story of an Illustrious Neighbour, Lord Bacon."

The meeting was well attended; many feeling an additional interest in the subject from the circumstance that the noble earl who was to preside was the grandson of that Grimston, Earl of Verulam, who made a ruin of Bacon's house, and built a quarry above-ground in the shape of the heavy mansion a bowshot off the chosen home of the great Lord Chancellor of human nature.

Mr. Gee was not very well "up" in his subject; omitting any reference, even by name, to the most recent work upon it. Lord Verulam was more than usually attentive; and not less so the audience, when his Lordship rose to "justify" and "vindicate" his grandfather. A note of what his Lordship said will be read with interest.

"I am here," said Walter James Grimston, Earl of Verulam, "to 'accept' all that is said in favour of Lord Bacon, and to 'repudiate' all that is said against him . . . And now I must be allowed to allude to a matter personal to myself. Persons have often said that my grandfather pulled down Lord Bacon's house and sold the materials. When a boy I inquired about this. I learned that it was not a comfortable house, and that architects had said it was impossible to restore it: no architect asked would give a plan for its restoration: no one agreed in the possibility of preserving it. It was, therefore, pulled down, and the present much larger mansion built on the estate. My grandfather was anxious to keep the house intact as long as he could: underpinning would not have preserved it; and the end of it was, 'he gave it up and built a new house.' My family have always taken great interest in everything belonging to Lord Bacon: my father's sisters devoted more than eleven years in collecting 'whatever' would illustrate Lord Bacon's 'Life of Henry VII.'" . . .

A vote of thanks was then moved to the noble chairman, and the meeting adjourned. Is the vindication satisfactory?

WORCESTER DIOCESAN ARCHITECTURAL SOCIETY.

On Monday, the 13th inst., the annual meeting of this society was held at the Natural History Room. The attendance was small.

The Rev. H. G. Pepys read the annual report of the committee. This contained, amongst other matter, a statement of all the transactions with reference to the endeavour to prevent the destruction of the Guesten Hall. Our readers, however, are fully conversant with this deplorable and discreditable act.

At the *conversazione* in the evening, the Rev. Maurice Day (head master of the Cathedral Grammar School) read a paper, entitled "Historical Reminiscences of Worcester."

After an interval, Mr. E. Lees read a paper "On the Street Architecture of Worcester; with Notices of the Ancient and Modern Names given to the Ways and Avenues of the faithful City."

The Rev. B. Arthure said that with reference to the derivation of the name "Dolday," which Mr. Lees ascribed to Old Hay, from the Saxon haga, he had heard it ascribed to the dole or alms given there by the Franciscan Convent which existed in that neighbourhood.

Mr. Severn Walker then made some few observations relative to the timber houses which had been spoken of, and read a short paper on the religious houses of Worcester.

GLASGOW ARCHITECTURAL SOCIETY.

The annual meeting of this society was held on the evening of Monday, the 20th of October, within the Scottish Exhibition-rooms, Bath-street, when the secretary's and the treasurer's reports were read by Mr. Maclean and Mr. Howatt. The reports were unanimously adopted; and, on the motion of Mr. Gildard, a vote of thanks was awarded to Mr. Maclean and Mr. Howatt for their services. The following gentlemen were elected office-bearers:—President, Mr. Alex. Thomson, architect (re-elected). Vice-presidents, Mr. James Boucher, architect, and Mr. Walter Macfarlan, ironfounder. Honorary secretary, Mr. William Maclean, writer. Honorary treasurer, Mr. James Howatt, measurer. Councillors: Messrs. Salmon, architect; Malloch, glass merchant; M'Guffie, architect; Steele, modeller; Douglas, architect; Watson, Mason; MacConnel, ironfounder; Clarke, architect; Herbertson, measurer; Angus Kennedy, architect; Bowie, painter; and Watt, architect.

Afterwards, Mr. Shields, measurer, read an essay on "The History and Present Practice of Measuring Artificers' Work, with Statement and Comparison of different Modes of Estimating," which was followed by an animated discussion.

Mr. Salmon, architect, said that, after five-and-twenty years' experience, he was now quite convinced that the Glasgow system of re-measuring the work was exceedingly defective, and strongly urged the general adoption of the slump-sum system. He was supported in these views by Mr. M'Guffie, Mr. Honeyman, and Mr. M'Cord. On the other hand, the merits of the Glasgow system were energetically advocated by Mr. Howatt, measurer; Mr. Boucher, Mr. Gildard, Mr. Watt, Mr. Kennedy, and others. On the motion of Mr. Salmon, a large committee was appointed to consider the subject and report to a future meeting. Mr. M'Guffie, architect, exhibited specimens of, and made some remarks on, a silicate for preserving stone, prepared by Jesse Rust & Co., of London.

DEATH FROM ARSENIC.

At an inquest on the death of a young girl in the City, who had sucked the arsenical green colour from an artificial grape, Dr. Letheby gave evidence in the form of a report on the case in question, and on the danger of arsenical colours generally. The jury found that the deceased had been poisoned by sucking the arsenite of copper from artificial grapes; but it was proved in evidence that she had a chronic ulcer in the stomach, through which food had passed; and that no arsenic existed in the stomach or bowels, though there were traces of it in the liver. A single grape, according to Dr. Letheby's report, contained scarcely more than a quarter of a grain of arsenite, but he had once seen such a case, showing the narcotic effects of a small dose of arsenic. The ulcer might have given way from the irritation of the poison. The report then went on to say:—

"At the present time there are many arsenical greens, going by the names of Scheele's green, Swedish green, Siskin green, Parrot green, Brunswick green, Nenwied green, Mountain green, Schweinfurt green, Vienna green, Imperial green, Mitis green, &c.; and they contain from 58 to 71 per cent. of arsenic; the pigment being in some cases reduced with chalk or plaster of Paris to lower the depth of the colour. These dangerous pigments are put upon paper, toys, artificial flowers, and even ladies' dresses. A wreath of fifty green leaves may contain poison enough to kill ten persons; and a green tarletan dress of 30 yards would contain about 900 grains of white arsenic; and, considering how loosely the poison is attached, it is marvellous that very serious results do not often occur from it. It has been affirmed by a Berlin physician who has inquired into this matter that a lady's dress might give off sixty grains of the poisonous pigment in the course of a single evening, scattering a dust of poison in the air of a ball-room. It is time that some measures should be adopted for the prevention of this practice. I think it right to say that there is a very easy means of discovering whether a green is poisonous or not. A drop of a strong solution of ammonia put upon the colour will acquire a deep blue if copper is present, and copper is rarely present without arsenic."

The Coroner stated that, as corroborating Dr. Letheby's report, he might mention that a case had come within his own observation in which two sisters were taken ill after making a green dress for a lady; and the lady herself became ill after wearing it one night in a ballroom.

Something must be done to prevent the use of such materials.

A COLOUR-BRUSH FOR LARGE WASHES.

A correspondent, "T. A. S.," sends us a sketch of a colour-brush for laying on large washes of colour in architectural and other drawings. His description, however, will suffice to convey his suggestion:—

In colouring a drawing in which you have to work at several points at once, without allowing the colour to dry, is a difficulty increased by having to supply the brush with colour from the pallet; and, by continually dipping therein, you lose much time, by allowing the colour to dry. To overcome this I propose to have the colour within the handle of the brush, so as to let a proper quantity into the brush at pleasure, without having to supply it from the pallet. This I accomplish by making the handle of the brush of *glass*, similar to the sketch. The bristles of the brush are fastened around the bottom end of the tube; and at the top of it is formed a neck (fitted with a cork), through which the colour is put in before using it. In the neck of the tube is a small perforation; and over this is worked a small india-rubber air-valve by a lever, having a fulcrum about the centre of the brush and coming to the lower end, where the fingers rest in holding the brush. This valve is kept closed by a small spring underneath the lower end of the lever.

To use the brush, mix the colour, put it into the tube, and cork it air-tight; then, by pressing one of the fingers or the thumb (by which it is held) upon the lever, the valve is opened, and admits air to the interior, and the colour then comes into the brush; and this is stopped again by allowing the valve to close. The spring is made strong enough to resist the pressure necessary to hold the brush, so that to open the valve it must be pressed a little more. When the valve is open the colour fills the brush, but it does not drop off the end of it, unless touched by something—as the paper, when in use; and when the valve is closed, the colour may all be wiped out of the brush, and the bristles will not draw any more in until the valve is again opened.

I have made a rough model of it; but, in lieu of the valve and lever, I placed the end of the finger of my left hand on the top of the tube where the cork ought to be, so that, by raising my finger or pressing it on the end, I could admit air or exclude it in a similar manner to the action of the valve. The brush kept a good point; and, altogether, the model quite realized my expectations.

RAILWAY AND WATER CARRIAGE OF COAL TO THE METROPOLIS.

After the commencement of the railways, the late George Stephenson long had an idea of forming throughout the central districts of English industry, from north to south, a railway; or, as he would sometimes call it, "a sort of strong current of steam," expressly for the conveyance of minerals and heavy goods. In this were to be used engines of great power; and not so much was to depend on excessive speed, as on the ability to convey large quantities at a moderate cost. This scheme was not carried out; but the immense quantity of coal which is at present brought to the metropolis by the railways by an arrangement more expensive and inconvenient proves the correct judgment which George Stephenson had formed of the extent to which the traffic by railways would increase in a few years from the time of their commencement. To illustrate this, it is worth while to give the following tables, which show the extent of this traffic, and also enable us to compare the supplies of coal which were carried to London in the month of September in the present year:—

	Tons.	Cwt.
London and North-Western	66,422	17
Great Northern	31,191	16
Midland	23,200	0
Great Eastern.....	11,071	9
Great Western	10,339	0
South Western	1,108	10
Chatham and Dover.....	250	2
Tilbury and Southend.....	76	0
	143,659	14

There have, in the same month, been carried to the metropolis by canals 9,009 tons of coal. Of sea-borne coal there have come to London,—

	Tons.
From Newcastle	95,855
Hartlepool and West Hartlepool	47,360
Sunderland	72,422
Seaham.....	15,593
Middlesborough.....	5,542
Blyth.....	1,688
Scotch	1,372
Welsh	14,092
Yorkshire.....	2,016
Duff	379
Small coal	2,218
Cinders.....	1,062
	260,199

Taking the nine months of the present year, the proportion of land coal is not so large; for, during this period, the coal brought by railways is 1,052,224 tons 16 cwt.; and that by sea, 2,467,614 tons; and it is to be observed that this vast supply falls considerably short of that during the same time last year,—a circumstance which may be to some extent accounted for by the general mildness of the season and depression in some branches of industry.

Notwithstanding the carriage of coals by railways, the increase of sea-carriage has been great, particularly in the port of Sunderland. About thirty years ago, Hartlepool and West Hartlepool, Seaham and Middlesborough, scarcely shipped any coals; while, in the month of September last, 68,495 tons of coals were sent from these recently-formed ports to London; and the exports to France and other foreign countries have been also largely increased.

UPFILL'S IMPROVEMENTS IN IRON BEDSTEADS.

The use of iron bedsteads has become very considerable, and with good reason, for they have many advantages. Any improvement in them must interest many of our readers. Formerly, the several parts of such bedsteads were connected together by screws and nuts; but as the latter constantly became loose, and the whole framework consequently rickety and uncomfortable, the introduction of the dove-tail joint and socket, now generally adopted, was regarded as an important improvement; and so it was. These dovetail joints and sockets have hitherto been made of cast-iron, on the end and side rails and the pillars of the bedstead. Now the brittleness of cast-iron is well known, and there are few persons who have used iron bedsteads who have not had to complain of some of the joints having given way.

Mr. Wm. Upfill, of Upfill, Morton, & Co's., of Birmingham, has, by a recent ingenious application of wrought-iron in place of cast-iron, obviated this inconvenience, so that the joints can scarcely be damaged except by the intentional employment of force. For all practical purposes metallic bedsteads provided with Mr. Wm. Upfill's improvements would now really seem to be indestructible. In addition to this constructional improvement above referred to, Mr. Upfill has rendered metallic bedsteads much more capable of ornamentation than heretofore, by a simple and inexpensive application of perforated metal to the corner posts; thereby giving to metallic bedsteads a more solid and substantial appearance than they have yet had. We shall not be surprised if these improvements tend to create a greatly enlarged demand for this description of furniture, and repay Mr. Upfill for his endeavours.

COMPETITION.

Langham Hotel, London.—The referee reduced the number of designs submitted, first to three and then to two. From these the directors have selected the design sent by Mr. John Giles, architect.

REFORMATORIES AND PRISONS.

The great importance of this subject has led us, since the publication of some notes expressive of our strong belief that the reformatory or industrial schools should be kept apart from institutions for the reception of boys and youths convicted of criminal offences, to make careful inquiry at industrial schools, for the purpose of learning their method of working, and hearing the opinions which have been formed by the managers of these establishments. All that we have heard confirms, in a striking manner, the statements which, on several occasions, we have made on reformatory schools, as they are at times called.

In order to show the nature of the industrial schools which have been opened in many parts of the metropolis, and in some large provincial towns, we will first call at the St. Pancras Industrial School, now situate in Gray's-Inn-road, to which locality it has been removed from Britannia-street.

The house in which the new school is now carried on is of considerable size. There is a shop in which shoe making and repairing are carried on; and in the basement there is accommodation for breakfasting, dining, and so forth. Above are sleeping-rooms, which are scrupulously clean and comfortable. At the back of the premises are a yard and a workshop, in which the boys are employed in cutting wood, &c.: here twenty-two boys, of ages ranging from about seven or eight years to fifteen or sixteen, find a shelter. In connexion with this establishment there are two ragged schools,—one in Britannia-street, and the other in Brunswick-street: from these places many children, who were in the most destitute condition, have been brought, or have come of their own accord, to the house in Gray's-Inn-road. We were here shown photographs of boys, taken at the time of admission; and anything more ragged and miserable than the appearance of some of them cannot well be imagined. One child, who had no father, but a drunken and most depraved mother, was found in his miserable home actually naked: every article of clothing, or anything which could produce a penny, had been pawned and sold for the purpose of procuring drink. We can well imagine the fate of this little boy, had he not been thus fortunately removed: he is now an intelligent youth, and doing well in a responsible situation. Some of the inmates have no parents: some have lost their mother; and this is often a greater loss than that of the father: others have step-fathers and step-mothers, who sometimes hate, neglect, or ill use the children. As a rule, none who are known to have been convicted of theft or crime are admitted; but there is one case so remarkable and so illustrative of the working of these schools, that it is worth while to give a sketch of it. A boy of about eleven years of age attended one of the ragged schools above referred to. He was dirty and most neglected; and frequently bore the marks of blows and ill usage: sometimes the hair was entirely cropped off his head. It was found that this boy had a step-mother; that the father did not look much after him; and that the hair-cutting, blows, tying to bed-posts, and other barbarous means were used by the step-mother to punish the child. At length he ran away, or was driven from home altogether; and at last, in the most extreme hunger and distress, he applied for admission into the Industrial School. After he had been here for

some weeks, and his conduct had been quite satisfactory, it came to the knowledge of the master that this lad had been guilty of many acts of theft. With the particulars of some of these he was acquainted; and he took the opportunity of calling the boy to him in private, and charged him with having been a thief. With grief and sobbing, which made the heart of the master ache for him, the boy acknowledged that it was so. He was then asked what was the largest sum he had stolen; and he said a sovereign, which had for some purpose been entrusted him. He told the master that he had divided this money with other boys. One considerably older than himself, and who had probably prompted him to steal the money, received 10s.: another companion received 3s. 3d.; and the boy himself paid 6s. 9d. for a pair of shoes. The shoes were soon parted with; and the boy slept in empty houses, in areas, under arches, or in the parks or fields: he had stolen two loaves of bread: he had also stolen a cheese, part of which was eaten, and the remainder bought by a person who should have been prosecuted for doing so; but this could not be done without convicting the boy. From this time, and indeed from the time he entered the school, the boy we speak of was truthful; and, although anxiously watched by the master, he was faultless. He was sent to the house of a clergyman, to assist in cleaning the plate and knives; receiving a weekly sum, and coming to the school every evening after his work was finished. In the family of this gentleman he continued for two years to give great satisfaction; and he has left for a better situation, and will soon be able to provide honestly for himself. Altogether, this boy has been more than three years in the Industrial School; and the master says that he has not known him to tell the least lie, or take the most trifling article that did not belong to him. We suspect that if this boy had been sent to prison the result would have proved different. The youth who got the 10s. has been often committed, and is now a confirmed reprobate. As regards the lad who has been saved from mischief, his faults, although known to the master, were not betrayed to his companions; and, left to the working of his better nature, and to the action of that spirit of right pride which is so likely to prevent evil, this boy seems to have been redeemed from a condition which was almost hopeless.

At six o'clock in the morning all the boys are washed and dressed; and from six till eight o'clock they are taught spelling, reading, writing, and the simple rules of arithmetic. After breakfast some go to work as errand-boys; or to assist in gentlemen's houses. One youth was in the receipt of 10s. a week. The accounts are altogether very hopeful and satisfactory. The boys, after a trial, are left to their own will: they go without restraint to and from their work; and have time allowed for recreation. The younger inmates have occasional trips to Hampstead and elsewhere; and, altogether, we saw so much cheerfulness and promise in these boys, that we more than ever felt an earnest desire for the extension of schools of this description, as they were originally planned; not allowing the admixture of those boys who have been, and still must be, subjected to a sort of prison discipline. We found this experience confirmed in other instances.

Although our more immediate purpose in recording these few notes was to speak of industrial schools for children who are not criminals, we may append a few particulars as to a farm-school reformatory for juvenile offenders.

At Redhill, in Surrey, the Philanthropic Society have a farm-school, well known to those connected with the movement for the reformation of young criminals. The farm consists of 240 acres of land, 40 of which are pasture, and the rest arable. On this estate there are some large buildings; or, as they are technically termed, "houses;" each fitted up with every convenience for the health and comfort of fifty boys. There are baths, airy dormitories, dining-rooms, and workshops; a master, a matron, and mechanics qualified to instruct the boys in the different trades of carpenters, brickmakers, tailors, shoemakers, and blacksmiths. They are also trained to all kinds of farm work,—digging, draining, reaping, milking, the care of stock, &c. There is also a church on the estate, with a chaplain. To gain admission into the institution it is necessary that a boy must first commit some crime and be convicted of it; and he must be between ten and sixteen years of age. The committee send annually about forty or fifty boys as emigrants, to Australia, Canada, or Africa. This is entirely a private institution; but the committee have agreements with nine counties and five boroughs to take their criminal boys sentenced for long periods; and they believe that from 70 to 80 per cent. of those who come under their care go forth reclaimed. The number of boys now in the school is 254. Since 1849, 1,500 boys have been received into this school, of whom 650 emigrated.

DR. SALVIATI'S ARCHITECTURAL ENAMELS.

The use of these enamel mosaics, we are glad to say, has spread in this country since we first made our readers acquainted with them. We mentioned recently that Dr. Salviati had received a commission for a spandrel in St. Paul's Cathedral; and now, with the sanction of her Majesty, they are to be used in the vaulting of the little chapel known as the Wolsey Chapel, in the Chapel Royal, Windsor. This is probably the first instance of their introduction into our Gothic buildings north of the Alps since their being made use of in the thirteenth century, in the tombs of Edward the Confessor and Henry III., in Westminster Abbey. A more magnificent mode of decoration can scarcely be imagined; and it has in this country the great advantage of not being liable to injury from the dampness of the climate.

The common base is glass, but glass subjected to such varied treatment that it is difficult to recognize it in all the forms which it is made to assume. The characteristics of these coloured *smalti*, or plates, are that they may be produced in an infinite variety of shades; that they are pretty nearly indestructible; and can be cut readily into the most minute sections. In them the colour is diffused universally throughout every particle of the plate; but the gold and silver *smalti* are produced apparently by laying a thin sheet of metal on discs of glass, and then adding the thinnest possible coating of glass over it, so that the original brightness of the gilding can never be tarnished or damaged by any external influence. Of their adaptability to all kinds of works we have numerous examples in the building, and have already spoken pretty fully.

THE OXFORD WORKHOUSE QUESTION.

At a special meeting of the local board of guardians to decide on the report of the building committee, the report in question was read, of which the following is an abstract:—

"Twelve tenders were sent in for the building of the house and appurtenances upon the plan of Mr. Fisher, unanimously selected by the board on the second competition. Three of them are below the maximum cost of 9,000*l.*; so that the requirements of the conditions already published have been fulfilled, and Mr. Fisher is entitled to 5*l.* for his plan, unless the board shall select him as the architect to superintend the erection of the building, as shown on his plans. The committee is unanimous in recommending that the superintendence should be entrusted to Mr. Fisher. The committee has not selected the lowest tender, and now recommends that the tender No. 2, sent in by Mr. Curtis, should be accepted. The committee recommend that the front and main building, with the necessary offices and sheds, be at once proceeded with; and that, so soon as the necessary authority of the Poor Law Board can be obtained, the infirmary be erected.

"The committee further recommend that they be permitted to appoint a clerk of the works at an early date, at a reasonable salary. As Mr. Curtis proposes to make the bricks on the ground, and as his tender must be looked upon as including the bricks for the whole of the buildings named therein, in order that he may reimburse himself for his outlay for plant, it will be necessary to make arrangements with him to leave sufficient bricks on the ground, for which the Board will have to pay, unless an order from the Poor Law Board can be obtained for proceeding with the other buildings so soon as the main building shall have been completed."

The following is the list of tenders referred to in the report:—

Dalrymple, Kidlington..	(bricks made)	£11,295	0	0
,, ,, ...	(not made)	11,866	0	0
Sawyer, Cannon-street, London	(optional)	11 685	0	0
Tutcher, Salisbury.....	(made)	10,500	0	0
,, ,, ...	(not made)	10,80	0	9
Young & Co., Oxford	(made)	10,24	0	0
,, ,, ...	(not made)	10,440	0	0
T. Jones, Oxford.....	(made)	9,516	10	0
,, ,, ...	(not made)	10,119	10	0
Dover, Oxford.....	(made)	9,551	7	2
,, ,, ...	(not made)	9,926	2	2
Joseph Castle, Oxford	(not made)	9,870	0	0
Cowley, Oxford	(made)	9,158	5	0
,, ,, ...	(not made)	9,722	5	6
Horseman, Wolverhampton ..	(made)	9,212	10	1
R. Evans, Oxford	(made)	9,000	0	0
,, ,, ...	(not made)	9,195	0	0
Curtis, Oxford.....	(made)	8,991	0	0
,, ,, ...	(not made)	9,647	0	0
T. Green, Cassington	(made)	8,989	2	5
,, ,, ...	(not made)	9,552	16	7

The Board, on consideration of the report, received the same, and appointed Mr. Fisher architect of the works; accepted Mr. Curtis's tender; postponed the question of appointing a clerk of works; and left it to the committee to close with the contractor with or without the aid of a solicitor.

THE NEW GRAMMAR SCHOOLS, NEWCASTLE, AND THE NORTHERN ARCHITECTURAL ASSOCIATION.

As agreed, a deputation from the Northern Architectural Association, consisting of Mr. Wilson, Alnwick; Mr. Haswell, Shields; and Mr. Dunn and Mr. Austin, Newcastle; waited upon the Committee of Charities of the Corporation of Newcastle, on the 20th inst., to protest against a decision of a committee of the council, which they considered antagonistic to the interests of the architectural profession. It would appear that, when the erection of the new Grammar Schools was resolved upon, it was mooted at the same meeting that the profession should be invited to compete; but, instead of this being done, the committee were understood to have purchased duplicate plans of a school recently built near London, and to have engaged a person to superintend their erection. The deputation was courteously received, Dr. Newton occupying the chair. Mr. Austin explained that the object of the visit was to protest, in the name of the Newcastle architects, against the purchase of ready-made plans for the Grammar Schools. He added that the views of the deputation had been materially modified on learning that the person chosen to superintend the works was a member of their own body (Mr. Hogg); but that it was still the feeling that the committee would have done better had they invited the public competition mooted. Mr. Dunn, in a few words, extended the importance of the subject by showing that it was a matter that affected not the Newcastle architects only, but the whole profession. In reply, Dr. Newton said that, before the committee could take any definite step towards the erection of the proposed school, plans were obliged to be laid before the Court of Chancery; that the plans in question were exactly suited to the requirements of the committee; that they had adopted them as the speediest mode of bringing the matter before the Court; and that no slight was intended to the profession; one of the body being duly commissioned to superintend the carrying out of the chosen design. Mr. Lockey Harle and Mr. Phillipson made observations to a similar effect. The deputation accepted the explanation, and withdrew.

DEATH-RATE OF TORQUAY.

In a late impression of your paper you gave a statement of the death-rate at health resorts, in which *Torquay*, though a place of considerable population and not of very large area, and consequently more liable to the epidemics and death-causes of large towns, takes a very high standard, having a death-rate of no more than *the entire* district of the Isle of Wight, viz., 17·1 in a thousand. It is well known that Torquay is the resort of great numbers of invalids suffering from pulmonary diseases, for which it possesses two admirable institutions, viz., the Western Hospital, for consumption; and the Erith House Institution, for diseases of the chest: in addition to these there is a general hospital, the Torbay Infirmary and Dispensary, to which has been lately added a *fever* department.

It may be interesting to compare notes with the state of things twelve years ago, before the introduction of the Public Health Act.

Comparing the estimated population of the period from 1846 to 1848 with the registrar's returns, we find the death-rate to have been 24·33 in a thousand; thus showing a diminution, during the last fifteen years, of 7·2 deaths in a thousand.

Since the adoption of the Public Health Act, the whole of the town and greater part of the district have been thoroughly sewered; and a supply of water, with only one degree of hardness, brought into the town from the borders of Dartmoor, at a cost of upwards of 50,000*l.*

Other sanitary works, the importance of which the Local Government Board are fully alive to, have been and are being carried out.

I think, sir, facts like the above speak well for the working of the Health Acts, and should be an inducement to other places to follow the example of the wide-awake inhabitants of Torquay, who know too well the advantage of keeping their visitors by making Torquay, as it is, really and truly a health resort.

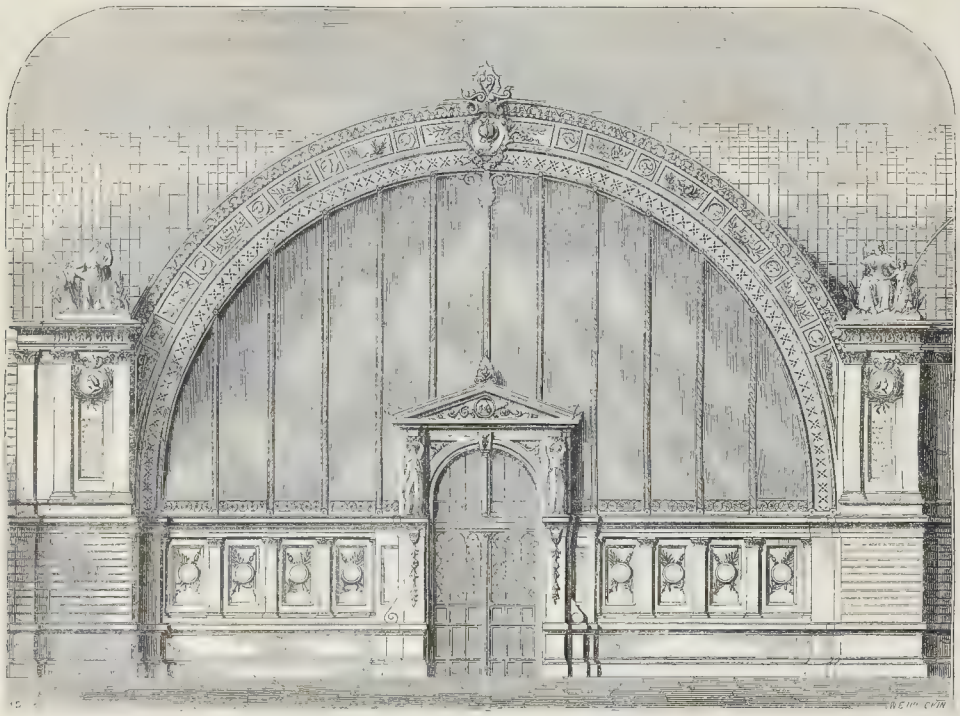
Edward Appleton,
Surveyor to the Local Board.

THE PARIS PERMANENT UNIVERSAL EXHIBITION AND BAZAAR.

In a recent number* we gave a view and a ground-plan of the building in course of construction at Auteuil. The importance of the undertaking, and the merits of some of the details, induce us to present our readers with an enlarged view of the central chief entrance, with the dome, or, more properly, cupola; and one of the gateway in the opposite side of the edifice. Since our former notice the works have been advanced with great energy, both by day and by night; advantage being taken of the illuminating powers of the electric light. The stone walls are already several mètres above ground: the castings are in a forward state; and the ironwork of the flooring and girders is all ready. The chief entrance will be richly adorned with sculpture, and surmounted by groups of figures on pedestals, the central one being about 16 feet high. Across the great arch, 53 feet in width and 68 feet in height, will be a screen, constructed entirely of iron, recessed 26 feet from the front line of the building. The lower part of this screen will be filled in with grilles of hammered iron; the upper portion with coloured glass. The archivolt of the opposite gateway, which is distinguished as the gate of egress, will be of bronze, inclosing panels of majolica in gold and divers colours.

The cupola, constructed entirely of iron, will be covered with fluted glass, manufactured after a novel method. This glass, refracting and tempering the sun's rays, will obviate the use of awnings, so damaging to effect, as may be seen in the present Exhibition, where one cupola is completely hidden from internal view by a great awning stretched across it. This cupola is not designed for mere ornament: it is destined to cover a majestic group of cedars, which has been preserved just at the intersecting point of nave and transepts, and which sets off its proportions. All who saw the Exhibition of 1851 remember the impression conveyed by the view of the trees which were then inclosed in that fine glass case.

In comparing domes which aspire to both internal and external effect, it is necessary to regard the relative proportions of diameter and altitude. Mere vastness without symmetry is never pleasing: much less pleasing is the breadth of a giant's shoulders set on the legs of a dwarf. The much-abused cupolas of South Kensington have failed to produce the desired impression of grandeur, mainly because their springing line is very low. With an internal diameter of 135 feet, the height to the springing line is only 100 feet; whereas the inner dome of St. Paul's, 100 feet in diameter, springs at a height of 168 feet, and the outer dome, 112 feet in diameter, at a height of 215 feet from the floor-line. The great dome of S. Maria



THE PARIS PERMANENT UNIVERSAL EXHIBITION: EGRESS GATEWAY.

Florence, octagonal on plan and 139 feet in diameter, springs at a height of 175 feet from the ground. That of St. Peter, Rome, circular on plan and of a like diameter with the last, springs at a height of 275 feet from the floor-line.

The cupola now illustrated is on plan an equilateral polygon, 131 feet in diameter. At a height of 110 feet from the floor a gallery will run inside and outside: above this will be constructed a tympanum or drum, 21 feet high, from which the cupola will rise to an internal height of 227 feet, the whole being surmounted by a lantern. Braced girder ribs, 6 feet 6 inches in depth at the springing, will diminish to a depth of 3 feet 6 inches at the apex. The external diameter of the cupola at the springing line will, therefore, be 144 feet.

It has been said that, "Among all the compositions of the ancients, we find no cupola raised above the necessary loading of the hemisphere, as is seen particularly in the Pantheon. In after ages the dome of Florence and of the great church of Venice were raised higher." And, again, "The cupola of the church of St. Augustine at Rome, built in 1483, although not important by its dimensions, forms an epoch in the history of cupolas. All those which had been erected up to that period were either, like the Pantheon, supported on walls or on pendentives united to the arches of the nave, as at S. Sophia and S. Marco; or on low tambours, as at the cathedrals of Pisa, Sienna, and Florence. The cupola of S. Augustine is the first which was established on a *tour de dome*,—a happy idea more fully carried out in the dome of St. Peter's." The drum feature is fully developed in our own metropolitan cathedral. Among domes constructed for a useful purpose, without affecting external grandeur, that of the reading-room of the British Museum may be mentioned as entitled to a foremost place: its internal diameter, 140 feet, being less than that of the ancient Pantheon by 2 feet only—a very foolish falling-short, by the way.

We may mention that Mons. Liandier, the architect of the new Parisian Palace, has associated with himself Messrs. Lehmann & Peigniet, architects, and Mr. Schmitz, engineer; and these gentlemen say that the works will be finished by next August.

* See page 637, *ante*.

STRAND MUSIC-HALL.

As our readers are aware, a company has recently been formed to erect a music-hall on the ground now the site of Exeter Change; embracing the late office of the *Literary Gazette*, and the building recently occupied by the English and Irish Church and University Insurance Society, 345, Strand; and which, among other events in its history, was at one time the office of the *Courier;* and in the handsome room of which, on the first floor, Lord Palmerston is supposed to have made his maiden speech. The whole of the building will be removed and replaced by an ornate structure, comprising a music-hall, to hold 2,000 persons, and a restaurant and dining establishment. The company have already instructed Messrs. Eversfield & Co. to sell the building materials and clear the ground. The working drawings are in a forward state, under Mr. E. Bassett Keeling, the company's architect. The building will be commenced as soon as the ground is cleared. It is stated that enough capital is already subscribed to carry out the building; which, we understand, will be in a sufficiently forward state to apply for the spirit license in March next.



THE PARIS PERMANENT UNIVERSAL EXHIBITION: CENTRAL ENTRANCE AND CUPOLA.
MONS. LIANDIER, ARCHITECT.

WESLEYAN, CONGREGATIONAL, AND OTHER CHAPELS.

Wesleyan Chapel, Walsall Wood.—This new chapel is built in the Early English style. The elevations are executed in limestone, relieved round all the windows and doors, as are also the quoins of the building, with sandstone dressings. In the centre of the front elevation is a large window constructed in sandstone; and on each side is a Gothic light window, executed likewise in sandstone. In the side elevation are six twin Gothic head-lights. The entrance to the chapel is from a porch on each side. The roof is slated with blue Bangor and red Carnarvon slates, three courses alternately. The ridges are covered with ornamental crest tiles. In the roof are eight lucarnes, four on each side. These appear like small roofs intersecting the principal roof. The interior of the chapel is 37 feet 6 inches long, and 27 feet wide. The vestry is 10 feet by 9 feet; and under it provision is made for a heating apparatus. The aisles and porches are laid with 6-inch blue and red quarries. The timber of the roof is of Memel deal, and is exposed to view. The pews, free sittings, and woodworks, are stained and varnished; and the ironwork painted blue. The outside woodwork is of grained oak. The total cost of the chapel and site is about 470*l.* Mr. Samuel Loxton, of Wednesbury, was the architect.

Congregational Chapel, Newmarket.—The chief stone of a Congregational chapel in this town has been laid by Mr. John Crossley, mayor of Halifax, and chairman of the English Congregational Chapel Building Society. The building is to be erected on the site of the Newmarket Palace of King Charles II. The dimensions, as given in the plans, are, within the walls, 68 feet long by 42½ feet wide. It will be constructed of flints, interspersed with bricks, and surmounted in front by on ornamental clock tower. The style will be Gothic.

Baptist Chapel, Ashby-de-la-Zouch.—The general Baptists at Ashby have just erected a new chapel, calculated to seat about 600 persons, with schoolrooms and vestries attached. The entire cost of the chapel is 1,600*l.*

Wesleyan Chapel, Worksop.—The foundation-stone of a new Wesleyan chapel at Worksop has been laid. Messrs. Wilson & Crosland, of Sheffield, are the architects; and Mr. John Duke, of Sheffield, is the builder. The structure will be in the Early English style. It will be constructed so as to seat 800 persons; the present building being only capable of containing 300 seats. The building will be of wall stone, with Steetley stone dressings. The committee have also determined to build schools, which will be placed behind the chapel, with vestries and offices; and the cost of the whole will be upwards of 2,000*l.*

Methodist Chapel, Selby.—The new Primitive Methodist chapel here, the foundation-stone of which was laid last Good Friday, has been opened. The edifice is capable of holding about 500 persons; and is built of brick, faced with stone. Mr. Herbert Fippard, of York, was the architect; and Mr. Bairsto, of Selby, the builder. The land was given by Lord Londesborough.

Methodist Chapel, Crowle.—The Primitive Methodists of this place having purchased a site in one of the principal thoroughfares on which to erect a new chapel and school-room, the foundation-stone has been laid. The plans and specifications for the chapel have been prepared for the trustees by Mr. W. Hall, of Hull. The tender of Mr. W. Cowling, of Crowle, has been accepted for the erection of the buildings. The entire outlay will be about 800*l.*

Congregational Church, Darlington.—The new Congregational church here has been opened. It is erected on the site of the old chapel in Union-street, and on that of adjacent buildings. It is erected as a memorial of the two hundredth anniversary of the ejectment of the 2,000 nonconforming clergy of the Church of England, on Bartholomew's day, August 24th, 1662. The edifice is arranged on the cruciform plan, and consists of nave, aisles, and transepts, with a vestry behind, under an organ gallery. There is a narrow gallery round the sides and front, supported by light iron pillars, rising to the springing of the wood arches which carry the roof. At the front entrance is a lobby with staircase at each side leading to the galleries, each having separate entrances, but communicating also internally: there is also an entrance and staircase from the back, leading to the vestry and organ gallery. The church is in the Middle Pointed style, and is built with stone, in random courses, with ashlar dressings. The front has a five-light window, with a double doorway beneath: at each side, at the end of the aisles, is a single doorway, with a smaller window over. The end of the aisle nearest Northgate is surmounted by a lantern tower and spire 100 feet high to the summit of the cross, and forms a conspicuous object from the northern part of the town. The church will seat 600 adults, allowing 20 inches clear for each person, and 100 children, allowing 14 inches for each. The cost, including lighting, warming, and ventilating, is 1,900*l.* Messrs. Pritchett & Son, of Darlington, were the architects; and Mr. Thomas Robson the contractor for the whole of the works, except the plumbing and glazing, which have been executed by Mr. Francis Forster, one of the congregation.

Wesleyan Chapel, Newcastle-upon-Tyne.—The Wesleyan Chapel, Prudhoe-street, in connexion with the United Methodist Free Church, has been opened. The present building replaces that in New Bridge-street. The style adopted by the architect, Mr. G. Kyle, of Newcastle, is Italian Gothic. The prevalent deep red-coloured front has been relieved by the stone facings. The columns which support the gallery are of iron. The builders are—Mr. J. Kyle for the masonry, and Messrs. Wilson & Beary for the carpentering. The estimated cost was 3,500*l.*, of which sum 2,000*l.* has been raised. The building will accommodate 800 persons.

Presbyterian Church, Carlisle.—A new church, constructed to accommodate between 700 and 800, is in course of erection in Warwick-road, Carlisle, for a congregation in connexion with the English Presbyterian Church. Plans were obtained from Mr. Raeburn, architect, Edinburgh. The edifice is a simple Gothic building, with a square tower 75 feet high, supported by buttresses, and surmounted by ornamental turrets. The sides of the church are divided into four bays by buttresses. There will be a large triplet window at each end. The interior of the church consists of ground-floor, with front and side galleries. The area is several feet above the level, so that space is found beneath for a hall, capable of accommodating 500 or 600 people, and which may be used either for meetings, or day or Sunday schools. A residence for the minister is to be built in connexion with it. The chief stone has just been laid.

CHURCH-BUILDING NEWS.

Rand (Lincolnshire).—The church here was re-opened on 28th ult., by the Bishop of Lincoln. The chancel has been entirely rebuilt, and a vestry added at the cost of the rector. Some new seats have been placed in the nave. The reredos is of marble inlay, executed by Mr. H. Earp. Mr. Wallis, of Wragby, was the builder; Mr. Withers, the architect.

Dalby.—The parish church of Dalby has been rebuilt. The new edifice, though only a small one, is large enough to accommodate the whole of the parishioners. It is built in the Flowing Decorated style. Its exterior is of Ancaster stone. The architect was Mr. James Fowler, of Louth. Instead of a large west window, there are two single-light windows, and between these runs a projecting buttress, which carries an octagonal bell-turret; besides which the building consists of nave, chancel, and south porch. The whole is covered with slate. The interior is entirely of brick, banded with stone. The floor is paved with Minton's tiles. The fittings are of pitch pine. Mr. White, of Alford, has been the builder.

Outwell (near Wisbech).—The parish church at Outwell, in Norfolk, was reopened on Thursday, the 9th inst., after considerable repair and restoration. The roofs had for many years been much neglected; and had, consequently, fallen into a sad state. At the east end of the chancel a canal had been made so near to the walls as to cause them to give way very considerably; and, on examination, it was evident that many years ago an attempt had been made to remedy the evil by taking down the chancel walls to the level of the cills of the windows, and rebuilding them; but, as nothing was done to improve the foundations, the work was not successful. The walls again gave way, and some most unsightly iron ties had to be inserted. The chancel and the east end of the aisles have been entirely rebuilt. The old stones of the windows and buttresses are reset, without being refaced. A new roof has also been provided, in character with the other roofs. All the old roofs, excepting that on the Lynn Chapel, have been restored, at a considerable expense. New seats have been provided to accommodate 480 persons. The pulpit is of oak, with carving by Mr. Forsyth, of London. The old brass eagle found in the church has been refixed on an oak pedestal, and is now properly used. The paving in the chancel has borders of Minton's tiles. The cost of the works has been 2,200*l.*, and much has been deferred on account of want of funds. The architect employed was Mr. William Smith, of New Adelphi Chambers.

Brighton.—The new church of St. Mary Magdalen has been opened. It is of humble pretensions, and situate in a poor and densely-populated neighbourhood. The site is in Bread-street. The building is considered as a temporary church, and as a branch of St. Paul's, West-street. It is capable of holding 600 or 700 persons. The architect was Mr. G. F. Bodley; and Mr. Fabian was the builder.

Worcester.—The sculptures just completed by Mr. Boulton for the spandrels of the great east window of the cathedral are now placed. There are figures of angels, Saints Oswald and Wulstan, the four Evangelists, the Nativity, and Christ bearing the Cross; the angels holding scrolls. These figures stand out in bold relief, some 7 inches from the wall, between the two ranges of lights. Perhaps similar ones are wanting to balance them in the spandrels of the upper lights. Precedents for these spandrel carvings are found in Lincoln Cathedral and the transept windows of Westminster Abbey. The nave of the cathedral will very shortly be scraped of its whitewash, and the aid of the sculptor probably brought in to relieve the excessive plainness of the clerestory and triforium in that portion of the building.

Perry Barr (Staffordshire).—A new school-church here has been formally opened. The building, which has been erected from plans furnished by Mr. T. Plevins, is situate at the angle of the Aldridge and Perry Barr roads. It is in the Geometric style, and will accommodate 200 children. It has been erected at a cost of 800*l.*

PROVINCIAL NEWS.

Isle of Thanet.—Extensive alterations and additions are being made at the Isle of Thanet Union Minster;—new infirmary and fever wards, lavatories, bath, and nurses-rooms; also a detached chapel, boundary walls, and a long range of buildings used as stables, chaise-house, vagrants' ward, dead-house, coal-stores, &c. The four infirmary wards are each 75 feet long, 20 feet wide, and 12 feet high, the lower, and 13 feet the upper stories. The fever wards are each 20 feet square and 13 feet high. The upper window sashes are the patent of Mr. Edward Byng, Ramsgate, and admit of cleaning from the inside. There are four easy flights of stairs to the upper story, two leading to the open airing courts. The chapel is a brick and slate Gothic building, 61 feet by 37 feet, with an open-timbered roof. The architect is Mr. Francis Edwards, London: the builders are Messrs. Stiff & Richardson, Dover: Mr. S. Harrison is clerk of works.

Trowbridge.—The new Market-house, which has been erected by Mr. W. Stancomb, the lord of the manor, at an outlay of between 6,000*l.* and 7,000*l.*, has been opened. The architect was Mr. C. E. Davis, of Bath. The front of the building consists of an arcade, supported by six columns, the caps of which represent the four seasons and the trade of Trowbridge. This carving has been executed by Mr. G. Porter, of Bath, sculptor. The interior is 71 feet wide by 110 feet long; and a glass roof, set in ornamental iron work, supported by fluted iron columns, affords the building an abundance of light, which is also increased by the windows at the sides. Over the arcade are five rooms, well adapted for public purposes. Mr. W. Long, of Bradford-on-Avon, was the builder. The ironwork was supplied by Messrs. Stothert & Pitt, of Bath. The smiths' work was executed by Messrs. Davis & Son, of Bath; the plumbing and glazing by Mr. Joseph Berry, of Trowbridge; the plastering by Mr. Harris, of Trowbridge; and the carpentering by Messrs. Davis & Son, of Frome.

Reading.—Labourers have been employed, under the direction of Mr. W. Carter, in pulling down the last remains of Middle-row.

Bristol.—The volunteers' club-rooms, &c., at the top of Park-street, have been inaugurated with a banquet in the large reading-room. The building has a freestone front, and is surmounted with a square tower. The front entrance opens into a hall some 30 or 40 feet in height. The ceiling, which is grained, has been coloured in what the local *Times* calls the Owen Jones style of decoration. The principal room upon the first floor is the morning- and reading-room, 50 feet long by 25 feet wide. It is lighted by three windows on either side; and the ceiling is ornamented with three large plaster centre-pieces, from which depend chandeliers. The whole of the alterations in

the old building were carried out under the direction of Messrs. Fripp & Ponton, architects. Mr. Baker was the general contractor for the carpenters, painters, and plumbers' work; and Messrs. Hale & Co. supplied the gas-fittings. The large drill-hall, in the rear, is rapidly approaching completion. The dimensions are 100 feet by 50 feet, or 94 feet by 46 feet in the clear. The height of the hall in the centre is 35 feet. The hall is built from the design of Mr. Hansom, architect, whose plan was submitted to Mr. Barlow, C.E., and, after some slight alteration by that gentleman, was approved by him. The general contractor for the work is Mr. J. C. Harris, of Clifton; and Mr. Stephens has undertaken the masons' and Mr. Allen, of Clifton, the smiths' work. The cost of its erection will be under 2,000*l.* The racquet-courts are in course of erection, at the rear of the drill-hall. One of the courts will be 65 feet by 30 feet, and the other 60 feet by 30 feet. The cost of erecting the two courts will be about 1,500*l.* Attached to the racquet-courts will be gymnasium, smoking-room, dressing-rooms, and bath, supplied with hot and cold water.

Milton.—It is intended to erect additional blocks of buildings at the Milton Barracks. The tender of Mr. Palmer, of London, has been accepted for that purpose, and the building will commence at once. The cost will be nearly 18,000*l.*

Swansea.—A scheme for the erection of a large public hall for Swansea is now launched. About 1,700*l.* having been subscribed, a preliminary meeting of the subscribers has been held in the Guildhall.

Bury.—A memorial having been presented to the Town Council complaining of the heat, want of ventilation, and resonance of the new Corn Exchange, the Council have referred the matter to the architect.

Blackburn.—The committee of the new Exchange Company have let the works for their proposed new building, the foundations of which were completed long since; and operations will be commenced forthwith. The contractors are Messrs. Farrell, the contractors for the Assize Courts, Manchester; and the contract price for the completion of the building is 7,900*l.*

SCHOOL-BUILDING NEWS.

Tunbridge.—At Tunbridge School, extensive alterations are about to be made. The old school is to be raised, and a new one on a much larger scale to be built at the rear of the present edifice. An addition is to be made to the masters' house and library, and new stables and a laundry are to be built. The style of the building will be Gothic. The architect is Mr. Burnell, of London. Mr. George Punnett is the contractor. The tenders were as follows:—

	School.	Masters' House.	Stables, &c.	Total.
Holland & Hannen	£14,690	£2,729	£1,730	£18,949
Lawrence	14,590 ..	2,673 ..	1,650 ..	18,763
Ashby	13,723 ..	2,554 ..	1,659 ..	17,781
Brown & Robinson	13,455 ..	2,504 ..	1,635 ..	17,394
Mansfield	13,197 ..	2,492 ..	1,661 ..	17,300
Coleman	12,925 ..	2,485 ..	1,589 ..	16,794
Punnett	12,009 ..	2,439 ..	1,482 ..	15,310

The quantities were supplied by Mr. Roberts' architect and surveyor, London. It is understood that the works will be completed in about fifteen months.

Wargrave (Reading).—The new schools at Wargrave have been opened by the Bishop of Oxford. The building is situate on the high ground to the right of the public road leading from Wargrave to Hare Hatch. It has been erected for the accommodation of the children of Piggott's charity school, and the children of the national school. The four sides of the structure are to some extent ornamental. The length of frontage is upwards of 100 feet, and the wings stand 10 feet forward from the centre portion. The right wing consists of a large class-room and a board-room. The infant school, 20 feet by 18 feet, is in the left wing; and the master's house is at the back. In the centre of the building is a lofty apartment 70 feet long, and which can be partitioned off for boys' and girls' classes. A turret rises from the central roof. The body of the building is built with flint and white stone. The architect was Mr. Ferrey, of London; and the builder, Mr. Owthwaite, of Henley. The estimated cost of the building was 2,050*l.*; the actual cost 1,920*l.* The site was presented by Lord Braybrooke, with a donation of 100*l.*

Henley.—The new school for the district of Highmoor has been opened. The building was commenced at the close of last May, by Mr. R. Scott, of Henley, under the superintendence of Mr. Hews, surveyor (who has given his services gratuitously), and consists of a school-room for forty children, with a residence for a mistress,—all built of flint and brick.

Liverpool.—The new schools in connexion with Great Homer-street Wesleyan Chapel have been opened. The schools, which are in Prince Edwin-street, and of which Mr. C. O. Ellison was architect, will accommodate about 650 scholars.

WHY NOT A NEW LANGUAGE?

Sir,—Now that the subject of the "new style" is being discussed in your columns, it may interest some of your readers to know that the propriety of introducing a new language also is advocated in the pages to which I have the honour of being a humble contributor. I write, sir, for the *Hourly Hoaxer;* and I assure you that the most horrible murder or ghastly tragedy will fall flat upon the public ear owing to the "cut and dry" phraseology in which we *littérateurs* are wont to present it. I have no doubt that it is the same with architecture; and feel sure that, if properly advertised, the "new style" for Anno Domini 1863 will prove a success.

But, if our architecture is worn out, and, as it were, nothing better than dry bones, it must not be forgotten that neither can our language "be said to be fitly representative of the nineteenth century; not having resulted from the growth of modern ideas; and emanating, as it does, from an entirely different state of society." We too, in the Press, have met our difficulties "with an infinite originality of genius,"—by introducing slang phrases,—by adopting foreign words—to give piquancy to the composition, and cover the limited extent of our resources; but it appears to me that nothing worthy of the present age will be written until we possess a language "more capable of expressing our sentiments and more adaptable to modern exigencies than any at present in use." The language of England, like its architecture and its navy, must be reconstructed. "Modern civilization is pre-eminently distinguished by boldness of thought and subtlety of investigation."

I can only vaguely outline for your readers the most original scheme for a new language which has appeared in the columns of the *Hourly Hoaxer*, and refer them to its pages for more detailed information. The writer suggests that musical notes should be substituted for the letters of the alphabet: each chord should spell a word, and so sentences would be formed, and so on. Our newspapers would then present the appearance of the last new waltz; and the pen, like the pencil, would "speak the tongue of every land." For conversation and public speaking a small stringed instrument would be carried about. The originator of "this style" says: "Language would then combine the beauties of music; and music have all the advantages of poetry of the highest order: we should then have no more 'songs without words.' This style of language would also be universal; and, being confined to no nation or continent, would be very convenient for international exhibitions."

The subject is so great and interesting, that it is to be hoped literary men and public speakers may be awakened to the serious consideration of such a contingency as the institution of a new language; and I am quite sure the public will have no prejudice against its advent, but would rather feel interested in its success; for it has often puzzled them why writers and orators go on contented with repeating, *ad nauseam*, the ideas handed down to them by their ancestors.

Sympathizing, as I do, sir, with those gentlemen who find it difficult to supply the public with original architecture at so much the yard,

I remain, &c.,

A Penny-a-liner.

JENNER'S MEDITATIONS ON THE BAYSWATER FOUNTAINS.

Furtively removed from my first selected prominent position in company with heroes and kings,—a well-earned one, if what the poet says be true,—

"A wise physician, skilled our wounds to heal,
Is more than armies to the public weal,"—

and deposited here somewhat abruptly, and by dark, in these sequestered shades; seated in my arm-chair; having much time for quiet meditation and serious contemplation of the scenes around me; my eyes (and, I may feelingly add, my nose) have been naturally directed to what lies nearest; and sadly have I bemoaned the gross waste of public money and the wanton destruction of one of the prettiest features of these noble gardens.

For twenty thousand pounds, and doubtless a supplemental little bill "looming in the distance," there are four filthy tanks (with such slimy, putrefying contents that, were I not of bronze, I should have been prostrated with typhoid fever long since); some affairs called fountains, forsooth (on which, though I pass my strictures, I burn to descend from my pedestal and give professional aid, presenting as they do various stages of water-work incapacity); a smoke-vomiting, ugly engine-house, obstructing the fine view up the Serpentine,—a two-year-old disgraceful nuisance;—the destruction of many fine old elms; the dispersion of the pleasant cawing rooks, and the annihilation of all the quiet and rustic character of this quarter, once so dear to duck-feeding children.

My thoughts have naturally turned to what might have been accomplished: my spirit has flitted across to the neighbouring wonderful International Exhibition; and I find that, for one quarter the sum expended, a mass of rockwork, close to the Bayswater-road, might have been constructed which would have concealed the engine-house; and over this rockwork, by means of Gwynne's centrifugal pump, one of the finest cascades in England might have been poured; the present path crossing over the impetuous stream by a rustic bridge; and thus the whole of the water at this end of the gardens would be preserved and beautified. A much less expensive plan would have been to have utilized the fall from the Round Pond, and conducted a small cascade under the arches of the still-existing old bridge, paying a certain rent for supply from the neighbouring water company: and it may even now be worthy of consideration whether, after all, the whole of the existing hideous rubbish, the laughing-stock of all intellectual observers, had not better be swept clean away, and things brought (including my statue) *in statu quo ante*. But, alas! the fine old trees are not so easily replaced, nor the cawing rooks recalled.

Edwd. Jenner, M.D.

THE GOTHIC WORKS OF THE DAY.

Sir,—We frequently hear men trumpeting in your valuable paper about a new style. Would it not be better that old models should be fairly copied and understood before we talk so much about new? A great neglect, and of course an error, makes its appearance in the Gothic work of the day, merely from want of a closer inspection and proper measurements taken from our ancient works; viz., the battering of the faces of all buttresses connected with the tower, which was universally carried out by our architects in the Middles Ages. My advice is, to know and to be thoroughly acquainted with our old models before we bother our brains about a new one.

A Mediæval Mason from my Youth.

QUANTITIES AND COMPETITION IN GLASGOW.

In the sensible article on the above subject, which appeared in the *Builder* last week, reference is made to the mode of estimating artificers' work in Glasgow. Perhaps some particulars of our system may be interesting to your readers, if the discussion on the subject does no further good.

The work of taking out quantities from the architect's plans and specifications is invariably performed by a measurer,—a business synonymous, I presume, with that of the surveyor in London. Each item is minutely particularized in a schedule, with the amount of each, and each trade has a separate schedule. The contractor fills in a rate to each item, and extends the sum to the column prepared for it, the amount of which sums decides the competition. At the end of the schedule, the terms of contract and the description of the materials to be used are set forth; and the letter of offer is written out and left blank, to be filled up and signed by the contractor. The contract is made on the plans and specification, in conformity with the rates contained in the schedule and corresponding slump [or gross] sum in letters of offer, and to the extent of the measurement. It is usually stipulated that the work shall be measured when finished, and charged at the contractor's rates, regulated also by the slump sum. The architect employs the measurer, who is paid one half by the proprietor, and one half by the

successful contractor, at the rate of from 1 to 2 per cent. on the amount of the measurement.

Measuring constitutes a business here, the members of which are both numerous and respectable, and generally enjoy the confidence of all concerned. The advantages are appreciated of having a middleman, who is equally in the interest of both proprietor and contractor. The system works well, there being few disputes, considering the amount of business transacted. The danger of the measurer making too much of his business—making the items of his measurement needlessly minute, and so giving the contractor an opportunity of increasing the amount of the cost—is understood to be counteracted by the competition among contractors. The only disadvantage at present felt in the system is that of the measurers having arbitrary rules of measurement, such as allowances over and above the exact quantities, not always uniformly followed, nor generally understood. This, however, does not apply to the mason and brick work, regarding which specific rules were mutually agreed to and published some years ago, as the "Glasgow new mode of measurement," and which have since been followed.

If the architect furnish sufficient drawings and specification, and exercise moderate supervision, there is little fear of abuse in the system. The schedule ought in no case to supply the place of a specification; nor ought the specification to be left to the measurer,—a temptation to do which occurs when the architect is pressed for time, and the building of an ordinary character.

ROBERT GOODWIN.

TAKING OUT QUANTITIES; AND COMPETITIONS.

SIR,—Your very just remarks upon "Quantities and Competition" cannot fail to produce a beneficial effect, and lead to some discussion on that hitherto neglected subject, which, it is to be hoped, will bring about some very essential reform. That such a state of things should be allowed to exist in 1862, is not very creditable to the building profession. All who glance at your lists of tenders—and there are very few of your readers that do not—must often be impressed with a feeling of disgust at the disgraceful disparity in the amounts of builders' estimates; but few ever think of looking to the basis upon which these estimates are prepared for an explanation, except those well acquainted with the subject. The fact is, that a very great deal depends upon the architect, the surveyor, and the builders that estimate. As regards the first, his details may be very familiar to one builder, whilst another has never seen any of his productions. If it be a Gothic architect, the former builder's tender is almost invariably the highest, and the reverse is the case if it be a Classic architect. This is more noticeable when builders take out their own quantities. Exactly the same may be said as regards the surveyor; for, if a builder have once made an estimate from a surveyor's quantities, he will be acquainted both with his accuracy or inaccuracy, and his style of describing details; and he will prepare his estimate in accordance with his former experience. Again, surveyors may hold the same relationship to the architect that the builders do: one may be familiar with the details of the latter; and another may be as ignorant of them as the man in the moon; but, even when architects and surveyors have been connected for years, in the majority of cases the quantities are incorrect. The inaccuracy, however, is not always in favour of the builder, as your remarks would seem to imply.

Now, as regards builders and contractors, any person that has had experience with more than one of these gentlemen knows that their individual ideas differ as much as the amounts of their tenders. A building erected by one may cost one-third less than if erected by another; and even in cases where clerks of the works are employed this is sometimes the case. I have seen as bad workmanship and material produced by one of our most eminent metropolitan builders as ever disgraced the productions of a Notting-hill speculator; and there is scarcely an architect in London whose designs he has not carried out; consequently, he knows what amount of bad workmanship, &c., he may treat each to; and he does not fail to profit by his experience. His men are almost all underpriced, and his foremen are noted for the strength of their lungs and their muscular powers. I need scarcely say that this is not an isolated instance; but, that it will account, in a great measure, for the difference in contractors' estimates, cannot be denied. I.

PAYMENT AND TREATMENT OF ARCHITECTS' ASSISTANTS.

SIR,—I am sure that every architectural assistant of any experience will heartily concur with every word contained in the excellent letter of "Z. P. S. Y." in the *Builder* of the 4th instant, on the inadequate remuneration they receive for their services; for, as he truly states, the pay of a competent assistant does not exceed, in the majority of cases, the wages of a journeyman mechanic.

The chief cause of this deplorable state of things is the present crowded state of the profession, brought about mainly by the system of taking in pupils wholesale: in fact, with many architects, this is their principal source of income. These pupils are lured into the profession partly by the flattering prospects held out to them on entering; and partly by the notion prevalent with the public that it is a gentlemanly money-making profession, and that the duties are of an exceedingly light and easy character; and they only find out, when it is too late to repent, that they have entered a profession where they will have to work like galley-slaves (but with a T-square instead of an oar) to secure a bare existence.

Now the question has been raised, I think we ought not to allow it to drop, as I think that a great deal might be done by combined action towards reforming our position; and I am confident that, as a known friend of progress, you will give us the benefit of your assistance in the matter.

There is another subject on which architects' assistants feel very strongly,—the question of the Saturday half-holiday, which has been adopted in very few London architects' offices: indeed, as yet, and in some of these, it has been obtained only by means of what I must call "a strike."

All the public museums, libraries, and galleries are for the most part virtually closed to us for the purposes of study, from being open only during the daytime.

In conclusion, I am certain that architects would find it very much to their advantage to give this slight relaxation to their assistants; and I would suggest that the names of those few architects who have been enlightened enough to adopt the Saturday half-holiday should be published in the *Builder*. The claims of every other class of assistants have been supported by the press; and I am sure that the architectural press would earn our gratitude by doing the same for us.

As an instance of the treatment that assistants receive in some architects' offices, will it be believed that in the office where I have the misfortune to be engaged, we have had the greatest difficulty in obtaining even a single day to visit the International Exhibition?

ANOTHER VICTIM.

PENRYN GRANITE.

SIR,—We observe in your number of the 4th inst., that the specimens of granite exhibited by us in the International Exhibition are censured by the Jury in their report on account of "faulty design," while the character of the "noble material" is admitted, and we have had the satisfaction of receiving the award of a medal in very honourable terms.

We are sorry to come under the censure of the gentlemen who have reported for the Juries, and hope you will allow us to explain that our object was simply to exhibit duplicates of designs which have been intrusted to us for execution; and the inquiries made by the public during the Exhibition have proved that they have received very favourable notice. W. & J. FREEMAN.

PARIS PERMANENT UNIVERSAL EXHIBITION.

SIR,—So many workmen seeking employment apply here (Leadenhall-street) daily for engagements, that you will do your artisan readers good service by saving their time, if you will allow me to notify to them, through your columns, that this is the office of negotiation for exhibitors, and unconnected with the *construction* of the building, which is entirely under the control of the architect, Mons. Laudier, of Paris. A. JENOURS,

Secretary to the British Commissioners.

DR. CROLY'S MONUMENT: ST. STEPHEN'S, WALBROOK.

SIR,—The parish authorities of St. Stephen's, Walbrook, have, within the last week or two, placed on the walls of this church the bust of their late eminent rector, Dr. Croly. This bust was a few years since presented at the Mansion-house to Dr. Croly as an expression of esteem and regard by many parishioners and friends; and was bequeathed by him to the parish, over which he had been the pastor for a quarter of a century.

Can you not urge upon the authorities of St. Stephen's the desirability of selecting a better position for this artistic memorial than the present one? It is placed nearly at the end of the left-hand aisle, and so high and altogether so inconveniently, that it is with difficulty a visitor can get an imperfect view of it, or read the epitaph on the marble beneath it.

Any one acquainted with our cathedrals or our old London churches which escaped the Great Fire of 1666 knows well that our forefathers had the wisdom and good taste to avoid placing monuments or inscriptions in inconvenient or inaccessible places.

In Walbrook church there is ample space for doing justice to the monumental bust of Dr. Croly. I would, for instance, point to the opening on the right-hand side by the pulpit, where the transverse aisle passes from north to south. All that is requisite is, to remove a few feet of panelling, and to incur the slight expense for labour necessary in making the transfer from the present shady altitude. UTILE DULCI.

Books Received.

Sketch of the Mode of Manufacturing Gunpowder at the Ishapore Mills, in Bengal; with Experiments on Value of Charge, Windage, &c. By Col. WILLIAM ANDERSON, C.B., late Agent at Ishapore. With Notes and Additions by Lieut.-Col. PARLBY. London: Weale, High Holborn.

THE word "Sketch" scarcely indicates the extended and detailed nature of this volume of 300 pages imperial octavo. The subject of which it treats is pretty fully discussed in all its bearings; and the result is an interesting and important treatise on gunpowder, its history and composition, mills and manufacture, powers and uses; illustrated by various engravings, notes, and appendices.

Gunpowder is known to have been in use from extreme antiquity. The Chinese, it appears, have records of its existence for 2,000 years amongst themselves; and, although not much used by them in warlike operations till comparatively recent times, the Indians are known to have used it in war many hundreds of years since.

"Philostratus, who lived about the year 244, wrote the life and travels of Apollonius Thyaneus, a philosopher who is considered to have made extended travels in the East and in Hindostan. On the authority of this traveller, it is recorded, 'that when the Indians of towns are attacked by their enemies, they do not rush into battle, but put them to flight by thunder and lightning.' On the same authority it is said, 'that Hercules and Bacchus, attempting to assail the Indians in a fort where they were intrenched, were so roughly received by reiterated strokes of thunder and lightning launched upon them from on high by the besieged, that they were obliged to retire.'"

Marcus Græcus, in the ninth century, describes several ways of encountering an enemy by launching fire upon him; and among others gives the following: Mix together one pound of live sulphur, two of charcoal of willow, and six of saltpetre; reducing them to a very fine powder in a marble mortar. He adds that a certain quantity of this is to be put into a long narrow and well-compacted cover, and so discharged into the air. This is a clear description of a rocket; and the entire extract speaks of the composition and the effects of gunpowder. The composition was known as Greek fire. There were several kinds of Greek fire, however, spoken of by different authors.

Roger Bacon, in 1216, mentions that "from saltpetre and other ingredients we are able to make a fire that shall burn at what distance we please." The other ingredients appear to have been studiously concealed at first under a transposition of the letters: thus—*lura mope can ubrie* stood for carbonum pulveri. The celebrated friar and magician afterwards revealed his secret; and the ingredients appeared by name in subsequent works.

When Toolwee Khan, in 1228, after the death of Chungeez Khan, marched from Central Asia to the southern districts of China, he is said by Persian historians to have betaken himself to Jadoee, for the purpose of discomfiting a large Chinese party. But "the Tatar magicians or sorcerers had a means, by the use of certain stones thrown into the air, of producing heavy clouds, thunder, lightning, and a discharge of rain or stones. Incantations, figures, and ceremonies, were previously in secret performed."

A Toorkee Dictionary gives Juduh kash; Arabic, Hejr-al-metr; Persian, Sung-yuddah;—"a stone used by the Tork magicians; which, being thrown into the air, produces all sorts of convulsions of the elements; but which are often turned by the Almighty against those who employ such impious means."

In the metaphor snow of China, Colonel Anderson traces well-purified saltpetre; and fairly argues, from the adoption of a foreign name, that the substance named did not exist in any country nearer Arabia than a frontier station of China. This last appellation is constantly applied to articles reaching Persia from any stations eastward of the meridian of Herat; and any produce of Bokhara would, under certain periods of history, have been considered Chinese.

Of the buildings requisite in the manufacture or storing of gunpowder, the author of the work before us gives the following precautionary remarks:—

"The distance between buildings containing powder should be beyond the range of the quantity contained in each house. The range of powder forced by resistance into one direction is as the quantity; but, when left unconfined, will perhaps be as the square root of the quantity. The distance between the Ishapore Mills, say 60 yards, is proved by experience to be well calculated for about 80 to 100 lb. of powder, and may be assumed as the unit; hence for the press houses and corning houses, containing upwards of 400 lb. of powder, the interval should be double at least.

All the houses should be as large as possible, for the purposes of room in which to work, and for free circulation to the fluid in case of explosion: they should also be as high as possible, to remove all beams and rafters from the flame: these should also be as heavy as possible, with due regard to economy and convenience, that they may be carried by the explosion to as little distance as possible.

From the flight of burning beams or splinters lies the great secondary danger from explosion.

Perhaps the better form of walls would be strong corners or plinths in any position from which it is desirable to turn the blast, with fillings-up of very weak masonry, to give way before the fluid in any more safe direction.

As few door or window frames as possible should be inserted, with as little wood-work as is compatible with convenience."

The author and the editor give some interesting particulars as to attempts to use other compositions as substitutes for gunpowder, including gun-cotton, or pyroxyle; powder made from nitrate of soda instead of nitre proper, or nitrate of potash; powder made from nitrate of ammonia; and powder made with chlorate of potash; in respect to which last, by the way, we observe a recent suggestion made on the erroneous idea that this is a novelty in such compositions; whereas this astonishingly powerful compound was suggested as a substitute for gunpowder by its discoverer, Bertholet, in

1785; and it was actually used by Napoleon I. in his wars; but the disadvantages and dangers attending the use of compositions containing chlorate of potash have been found greatly to overbalance any advantages to be gained from their superiority in projectile force.

At a critical and important epoch in the art of war such as the present time, and especially with so many thousands of volunteers on the *qui vive* as to everything warlike or smelling of gunpowder, the publication of a work such as this on the grand material is important.

Beeton's Dictionary of Universal Information: The Sciences, Arts, and Literature. London: Beeton.

Beeton's "Dictionary of Universal Information" appears to be intended to consist of a series of separate dictionaries, each comprised within its own alphabetical limits, apart from the others. The present volume is the first of a dictionary of the sciences, arts, and literature; and ends with the word "Confiscation." So far as it extends, the work seems to be well compiled: the type is small, and the volume contains an immense mass of information;—not without its errors, of course; for no such work will ever be quite correct in all its quiet corners;—*e.g.*,—Bromine does *not* produce a sore immediately on contact with the skin; although the hydracid of Fluorine does;—but, on the whole, this promises to form an excellent dictionary, and unusually free from errors.

VARIORUM.

"Meteorology; its Study important for our Good: with a Description of the Anemometer at the Birmingham Institute. By T. L. Plant. Birmingham: Plant, Camp-hill. 1862." The chief purpose of this pamphlet is to give a description, illustrated by engravings, of Osler's anemometer, whereby wind and rain are registered at all times as they occur. The subject of meteorology is an important one, and is increasing in public interest ever since our intelligent "clerk of the weather," Admiral Fitzroy, took his seat at the Admiralty.

Miscellanea.

Salisbury Cathedral.—The Ecclesiastical Commissioners for England having voted a sum of 10,000*l.*, together with interest thereon at the rate of 3*l.* per cent. per annum from the 29th day of September, 1860, to be expended in effecting such structural repairs and improvements in Salisbury Cathedral as have become necessary by reason of its great antiquity, and of the want of due reparation in times past, the Dean and Chapter intend to proceed with the works under the direction of Mr. G. G. Scott, who has made a survey of the building, and particularly of the tower, and prepared plans and specifications of the works, chiefly external, proposed to be done.

The Thames Embankment; Metropolitan Board of Works.—At the ordinary meeting last week, the chairman called attention to the steps required to be taken for giving effect to the provisions of the Thames Embankment Act. He said that important questions had arisen with reference to certain deviations which were necessary, and it was most important to fix an early day for taking these matters into consideration: he would suggest that some day should be appointed which would not interfere with the ordinary meeting of the Board. After considerable discussion, Mr. Healy moved that the engineer report to a committee of the whole Board on the scheme of the Thames Embankment. The motion, having been seconded by Mr. D'Iffanger, was passed.

The Wroxeter Excavations.—Within the last few weeks operations have been recommenced at Wroxeter. The site selected was a field which adjoins the old Watling-street road, and where the ancient town wall and city gate are alleged to have been situate. Foundations were observed showing where the wall had been, but there were no traces of the city gateway. The committee have also put men to trench the field adjoining that which goes by the name of the Cemetery, and there excavations have been recently carried on. Several cinerary urns and earthen bottles, one lachrymatory, and a silver buckle, have been found. Six fragments, of some white metal, which when put together form a circular plate, evidently a speculum or mirror, have been found. An earthen lamp has also been dug up, and the men have laid bare some underground building, not yet examined.

Roof Raising.—It is stated that the Sainte-Marie circus at Rome has just been raised about 7 feet, by the roof being pushed up in a single block, in order to enable performances to be given similar to those by which Leotard has gained celebrity. The operation was effected, the account goes on to say, not only without accident, but without even a pane of glass being broken in the construction.

Paper Materials.—Dr. Collyer has perfected a process, under which he claims that one ton of "half-stuff," worth 26*l.* can be produced for from 12*l.* to 16*l.*, according to the material used, which may be wheat or oat straw, flax waste, Indian corn stalks and leaves, refuse sugar cane, &c. He estimates that upon a capital of 400*l.* a yearly profit of 3,000*l.* may be realized! This announcement tends to explain Dr. Collyer's adverse interest in *Zostera marina*, against the claims of which to notice as a substitute for cotton he recently gave his opinion in the daily press.

The Congregational Union Memorial Hall. The Congregational Union of England and Wales have had a three days' conference in the Weighhouse Chapel, London, at which the report of the committee on the "Memorial Hall" was read. It stated that the Congregational library had been used for denominational purposes for about thirty years; but the wants of the body had outgrown the capacity of that building. What the committee contemplated was the building of such a pile as would suitably represent the sentiments and feelings of the Congregationalists of the year 1862, in relation to the true principles of Nonconformity. The building should contain offices capable of accommodating the committees representing all the denominational movements having their centres in the metropolis. There should be a large hall capable of holding at least 1,000 persons. To erect such a building, a sum of not less than 24,000*l.* would be required. A resolution approving of the project was unanimously adopted.

The Burial-place of John Milton.—The interior of the ancient Church of St. Giles, Cripplegate, has been partially restored in honour of the memory of John Milton, the author of "Paradise Lost," whose remains are here interred. A monument has also been erected, as a memorial of the poet, in the south aisle of the church, near the chancel. The cenotaph is nearly 13 feet high, and about 8 feet wide at the base; and the body of the work, consisting of carved Caen stone, is divided by pillars of coloured marble, thus forming three canopied niches. In the central niche the bust of the poet, which was executed by Bacon, and is still in a fine state of preservation, has been placed. Beneath this is the marble tablet, with the following simple record:—"John Milton, author of 'Paradise Lost.' Born December, 1608. Died November, 1674." The date of his father's death in 1646, and the name of Mr. Samuel Whitbread, who placed the tablet in the church in 1793, are also engraved thereon. The cost of the restoration of the church and the memorial has been defrayed by public subscription.

Antiquarian Diggings at the Barmekyne of Echt.—The *Aberdeen Journal*, in an interesting notice of explorations at the curious fort called the Barmekyne, which is situate on the summit of the hill of Dunecht, in Echt parish, Aberdeenshire, says:—"In view especially of the recent diggings on the Cheviots, which have brought to light so many traces of the early tribes, it is of some public interest to mention that, lately, Lord Lindsay commenced some explorations at the Barmekyne fort. His lordship's taste in such matters is well known; and he had the valuable assistance of Mr. Stuart, secretary to the Scottish Society of Antiquaries. The entrances to the entrenchments were found to be circuitous. In the way of the actual discovery of remains at the Barmekyne not very much has to be told; but the foundation or pavement of a hut was found, resembling in its features those recently discovered in Northumberland, on a spot upon the hill near to which was discovered, several years ago, a hammer, now in the museum of Marischal College. The hut is supposed by Lord Lindsay to date as far back as Wrad, one of the Pictish kings. The interest shown by his lordship in carrying on these diggings led, indirectly, to a still further antiquarian discovery, or rather to the value of a former discovery being brought out. One of the tenants now brought a pillar stone, which he some time ago discovered on the shoulder of the Barmekyne. This contained within a circle a Greek cross of a primitive type; and, as suggestive of the Transition period between the Pagan pillar stones and the Christian cross which followed, is of great value and interest in an antiquarian point of view."

Completion of the great Windows in Glasgow Cathedral.—The four great windows of the cathedral at Glasgow—the east, the west, the north, and the south—presented by Government, by the Duke of Hamilton, by the Messrs. Baird of Gartsherrie, and by Mrs. Cecilia Douglas of Orbiston, are now completed by the erection of the Douglas window. The first window of the series, which commences at the north-west angle of the aisle on that side, is to contain the story of Adam's Fall. In those which follow we shall have, in chronological order, representations from the the Old Testament in fifty-two pictures. In the great west window, designed by Moritz von Schwinde, are depicted four important events in the history of the chosen people. In the great north window, by Heinrich von Hess, are figures of the prophets who prophesied the coming of the Saviour, with St. John the Baptist, who proclaims the advent.

Hay's Waterproof Glue and Varnish.—We are constantly asked to recommend some material to be applied to damp walls. If the testimonials which have been forwarded to us with reference to Hay's patent waterproof varnish may be depended on, here is a material that will answer the purpose. Thus the proprietor of the King's Rooms at Southsea writes as to part of his building:—"It stands close to the sea; is built over a tank; and, by the negligence of the builder, the mortar used in its construction was mixed with sea water: of course the walls were perpetually steaming: every remedy was tried in vain; till we had recourse to the patent glue, which, I am happy to say, proved a complete success. In forty-eight hours after its application we were enabled to paper the walls; and, during the whole of the past humid spring, not a spot of damp has made its appearance." It is certainly worth a trial. The glue itself seems very strong.

Distribution of Prizes by the Painters' Company.—We have already mentioned that this year the Painters' Company did not have an exhibition of their own; but certain judges appointed by them proceeded to the International Exhibition and awarded prizes for work deserving such notice, the principle of the award being that it be made to the person performing the work, and not to any firm merely getting up the work by the aid of various workmen. The prizes were presented on Saturday last by the master, Mr. J. Comfort, in full court, at the ancient hall of the company, to the following; viz.;—Mr. J. Kensett, for graining; Mr. W. Read, for marbling; Mr. J. Bradley, for marbling; Mr. J. L. Coulton, for decoration, a silver medal each. To Mr. W. A. Grant, for graining; Mr. W. Maslin, for marbling; Mr. W. Pitman, for writing; Mr. H. Earle, for decoration, a bronze medal each. To Mr. G. Lainson, for decoration, a certificate of merit; and honourable mention was made of decorative work by Mr. James and Mr. J. Rodgers, of Sheffield, and to Mr. Pembury, for writing in an altar-piece by Messrs. Cox.

A New Nail-making Machine.—The *Standard* says:—"To the already numerous features of interest contained in the machinery annex at the Great Exhibition has lately been added a wonderful machine for making nails, due to the ingenuity of Mr. C. Gustafson, a Swede. Iron nails hitherto used have either been forged or cut by machinery from sheet-iron or iron-wire. Nails thus made are necessarily costly: the first-named by reason of the slowness of the manufacture, and the two latter by using too expensive material. This new machine supersedes all others by combining in itself the process of rolling, pointing, cutting off, and heading, and produces from bar-iron an excellent nail at very low cost. The rapidity with which the nails are produced by this invention is truly marvellous. Using bar-iron three-eighths of an inch square, the machine, with the labour of only one man or even a boy, will turn out in a day of ten hours as many as 15,000 three-inch nails. The nails produced are of the very highest quality, the nail being compressed by the rolling process, and always having the grain of the metal in the direction of the length. The nails are formed with fluted sides, which is the most advantageous of all forms, but very expensive to produce by any other process hitherto resorted to. By slightly altering and readjusting certain parts of the machine, different sizes and forms may be produced. In working iron the bars are heated red-hot in a small furnace placed at the side of the machine; but, as no fire is allowed in the Exhibition building, the machine can only be shown working such metal as can be worked cold. The practical efficacy of these nail-making machines is placed beyond all doubt by the fact that they have been tested by the experience of two years' constant work."

A Working Men's College at Ipswich.—A public meeting was held at the Town-hall, Ipswich, on the 7th instant, for the purpose of inaugurating a Working Men's College, for which preparations have been making. The chair was occupied by Mr. Allan Ransome. A flourishing institution is expected to be established.

Fatal Scaffold Accident.—On Monday, Mr. Langham held an inquest at Charing-cross Hospital, touching the death of Henry Bitterson, residing at No. 11, Bolsover-street, Marylebone, who expired in the above hospital on Friday last. It appeared that deceased was a painter; and whilst engaged with others in painting the front of the Union Club-house, Trafalgar-square, by some means the boards on which deceased and the other men were standing were overturned, and they were all precipitated into the stone area beneath. The jury returned a verdict "That deceased died from fracture of the skull from accidentally falling from a scaffold."

Maps of the American War.—Messrs. Bacon & Co. have published a series of cheap maps, of interest at the present moment. The "Shilling Military Map" shows the whole of the American states and territories in three colours, as they are now divided—Federal, Confederate, and Border Slave States. The "Virginia and Maryland" designates over 3,000 towns and streams around Richmond, Washington, and Harpur's Ferry, and supplies a want; while the "Shilling Army Map" is projected on a scale which admits of some interesting features. The names in the first might advantageously be a little clearer; and any subsequent issues of the last should be dated.

Sales by Auction: Materials for the Valuer.—At the Mart.—By Messrs. Edwin Fox & Bousfield.—Freehold estate, known as "Great Doods," Reigate, Surrey, comprising residence and grounds, in all 63a. 3r. 29p. of land—sold for 13,000*l.* Freehold, 2a. 3r. 36p. of building land at Reigate—650*l.* Freehold ground-rent of 18*l.* 10s. per annum, secured upon houses in Kingsland—440*l.* Leasehold residence, No. 13, Delamere-street, Paddington, term unexpired 86 years, let at 65*l.* per annum, ground-rent 8*l.* 10s. per annum—670*l.* By Mr. Murrell.—Freehold premises, comprising factory, warehouse, stabling, and dwelling-house, in Moor-lane, Cripplegate, let at 115*l.*—2,250*l.* By Mr. Marsh.—Freehold dwelling-house, 14, Mellor-street, Bermondsey, let at 26*l.* per annum—sold for 250*l.* Freehold, eight houses, 3 to 9½, Marble-court, Mellor-street, let at 123*l.* 18s. 6d. per annum—1,100*l.* Freehold, eight houses, 1 to 8, Gloster-place, Upper Clapton, let at 116*l.* 10s. per annum, subject to a lease of 76½ years from 1811, at 30*l.* per annum—310*l.* Leasehold, six houses, in Newington-causeway, let at 91*l.* 10s.—term unexpired, free of ground-rent, 47½ years—610*l.* Leasehold, three houses, 44, 45, and 46, Hill-street, Walworth, let at 58*l.* 10s. per annum, ground-rent, 9*l.* 9s., term 68 years from 1822—320*l.*

The Census.—The first volume of the census for England shows that, on the 8th of April, 1861, the population of England and Wales, with the Isle of Man and Channel Islands, including the army at home and the navy and seamen in the ports, rivers, and creeks—that is to say, all the persons in the kingdom—amounted in number to 20,209,671. The returns for Scotland having been also revised, the population of Great Britain on that day is found to have been 23,271,965; and the returns for Ireland, when the revision of these also is completed, will bring the population of the United Kingdom to above 29,000,000. The increase in England and Wales alone since the census of 1851 has been 2,138,615, notwithstanding that, in the interval, 2,250,000 persons emigrated from the United Kingdom, of whom it is calculated that 640,316 were English. Since the census of 1851, the male population of England and Wales has increased 11·33 per cent.; the female population, 12·50 per cent. The excess of females over males—365,159 in 1851—had grown to 513,706 in 1861. These figures do not include the army, navy, and seamen out of the kingdom. On the census night 62,430 persons were on board vessels in the harbours, rivers, and creeks of England and Wales, without reckoning persons in barges on canals: in the metropolitan district, 8,084 persons were on board vessels in the docks and the Thames. In England and Wales, 124,962 persons were in workhouses and workhouse schools, 13,456 in hospitals, 24,207 in lunatic asylums, 26,395 in prisons and reformatories, 23,598 in orphan asylums and other principal charitable institutions, without reckoning in any instance the official staff in charge of these institutions: 80,839 persons, military and families of military, were in barracks.

Accident at Tottenham.—For the last two or three months several hundred men have been employed in the construction of a large building, intended for an oil-cloth factory, at Greenpark, Tottenham, between Philip-lane and Hanger-lane. Whether the side walls had been run up to a height out of proportion as compared with their width, or the late heavy rains injuriously affected the work by washing away out of the joints the binding portion of the cement, the whole has tumbled down before it was completed.

Preserving Wood.—All fence-footings, gate-posts, garden stakes, and timber that is buried in the earth, may be preserved from decay by the following simple process:—Take 11 lb. of blue vitriol to twenty quarts of water: dissolve the vitriol with boiling water, and then add the remainder. The end of the wood is then put into the solution, and left to stand four or five days: for shingles three days will answer; and for posts 6 inches square, ten days. Care should be taken that the saturation takes place in a well-pitched tank or keyed box, for the reason that any barrel will be shrunk by the operation so as to leak: instead of expanding an old cask, as other liquids do, this shrinks them. Chloride of zinc will answer the same purpose, but it is dearer.—*Exchange.*

Purifying Water from Lead.—In a letter written some time ago by Dr. Faraday to Sir John Burgoyne on this subject, with reference to military stations near the sea, Dr. Faraday says: There is much difference and uncertainty about the mutual action of lead and water in different cases. When rain-water falls upon surfaces of lead, it is apt to act on them; and the water thus contaminated, by standing exposed to air, generally clears itself from the dissolved lead; the metal separating as a carbonated precipitate, and falling to the bottom. But when the sea spray has access to the leaded surfaces, the action of the rain-water is such that the dissolved lead does not separate in this way; or, if it does, only after a much longer time. It is such water as this that I recommend to be treated with carbonate of lime. Enough whitening or levigated chalk is to be mixed with the fluid to make it of the consistency of good milk (though more will do no harm), and the whole is either to be filtered or to stand until clear. I have never yet found any sample of water, poisoned as above, that was not freed from the lead by this process.

Cut-throat Lane; Chalk Farm.—Almost every part of England has its "Cut-throat-lane;" a lonely by-way, which is generally thought to take its name from actual or probable murder there done, or to be done. A writer in *Notes and Queries* says,—In Stanford's large map of London, 6 inches to the mile—of which I recommend every one to get his own district at least—the scale allows these by-lanes to be named. I find "Cut-throat-lane" in one case, and "Cut-through-lane" in another: surely the first has been the second, and is but a corruption of it. Another corruption has given the name of Chalk Farm to a spot which the adjacent lump of clay called Primrose-hill proves to have been without chalk since the days of Professor Owen's pets with the hard names. The old village of *Chalcot* is the source of the name. The Board of Works having merged Chalcot Villas in the Adelaide-road, to my great convenience; no testimony to the old name remains on the spot. This note will make future readers of "N. & Q." as wise as if they had consulted Camden, whose maps would show them both Upper and Lower Chalcot.

The Sea and the Drainage at Brighton. In the course of a lengthened report on this subject, the *Lancet* states that from a series of microscopical and chemical examinations of the sea and well waters of Brighton, conducted by Dr. Dundas Thomson, F.R.S., it is apparent that the sea, precisely at those parts at which bathing is carried on, and along the front of the best parts of the town, is deeply polluted by sewage matters of the foulest description. Fully three-fourths of the town of Brighton are drained into cesspools in the porous chalk, and the soil is so infiltrated that the pump and well waters contain unoxydized and crude sewage matters. One-fourth of the town is drained into the sea off the Old Steyne and opposite Waterloo-street, polluting the waves over an extent of hundreds of acres. A method of drainage may be completed within twelve months by which the whole sewage of the town may be carried for three miles to the east, and utilized for agricultural purposes, or then carried out to sea. The former alternative is strongly recommended. The death-rate of Worthing is considerably less than that of Brighton, notwithstanding the two towns are so closely adjacent.

The Architectural Association.—The association will open their session on Friday, the 31st instant, with a *conversazione.* Music is to be a feature.

The Additional Lunatic Asylum for Surrey.—A recommendation of the committee of visitors, that the surveyor's plans and estimates submitted, amounting to 80,000*l.*, should be approved, has been agreed to by a majority of nineteen magistrates to nine against it. It was also then agreed that a sum, not exceeding 80,000*l.*, should be raised by the Finance Committee in the usual way.

Terrible Railway Accident in Scotland. Our readers will have already heard of the fearful accident which happened on the Edinburgh and Glasgow Railway, near Winchburgh, about fourteen miles from Edinbugh; when eighteen persons were killed and 150 wounded. The accident occurred at a cutting where there was only one line of rails; and the pointsman, who is said to have been taken on only a few hours before, and seems to have had no one with him as instructor, mistook one train for another, and allowed a passenger-train from Glasgow to run into another passenger-train from Edinburgh. The setting apart of one engine only to go to and fro on such a single line would prevent the possibility of such accidents.

Sanitary Condition of Aberavon.—Illness is very prevalent among all ages in this place, says the *Cambrian*, especially among children, scores of whom have been and are suffering from measles. Many attribute the rifeness of fevers in the lower parts of the town to the filthy condition of the streets and lanes. Since this wet weather has set in the heaps of dirt and offal that were permitted to accumulate in every corner have been swept along the roads, rendering the before filthy mass of corruption, in short, a slough of despond. This is the state of things at the end of the first year's mayoralty, under the new charter of incorporation. Some legal "hitch" is as yet in the way of effecting improvements in the town; but surely, for the sake of decency, something ought to be done to cart off the filth which blocks up the lanes and by-ways.

Land Compensation.—An inquiry regarding a claim for land compensation at Plymouth, which commenced on Wednesday last, was concluded on Saturday. Mr. Drake was assessor. Mr. Lloyd and Mr. Johnson appeared for the applicant; and Mr. Hawkins, Q.C., and Mr. Hannen, for the War Department; it being a question of fortifications. The residence, Brookland House, and the land, have been many years in the family of Mr. Gennys. The property is situate two or three miles north of Plymouth. The amount claimed was 45,000*l.* The Government in the first place offered 20,000*l.*, and was, it is said, prepared to compromise before going to a jury. The amount awarded was—for the house and gardens, 4,000*l.*; compensation for severing a stream of water, 2,000*l.*; for absolute purchase and compensation for clearance rights, 25,158*l.* 10s.; total, 31,158*l.* 10s. The land absolutely taken is about 98 acres. The clearance rights are exercised over 166 acres. Mr. Gennys made a claim for increased value on account of mining royalties, but it did not appear to have much weight with the jury. One Plymouth architect valued the building land at 300*l.* per acre; another at 275*l.*

Architectural Society of Durham and Northumberland.—This association, recently founded at Durham, has just held its third and final meeting for the present year at Bishop Auckland. The members proceeded to Auckland Castle, where the Bishop received the party. Mr. W. S. Gibson read a paper on the "History and Architecture of Auckland Castle," in the great drawing-room of the castle. The paper gave a comprehensive sketch of the history of Auckland Castle, and of the changes which the edifice had from time to time undergone; and embraced anecdotes of the great bishops of former days who are connected with its architectural history. Every part of the castle was opened to the visitors; and they inspected the ancient chapel and several parts of the castle to which Mr. Gibson had directed attention. The members afterwards had luncheon in the great dining-room, when about fifty gentlemen sat down. The Bishop, in responding to a vote of thanks, took occasion to remark on the injury which many ancient edifices had suffered from ignorance of Church architecture on the part of clergymen; and on the great advantages which might be expected to result from the establishment of a society like the present. On leaving the castle, some of the party proceeded to inspect the old parish church of St. Andrew, Auckland.

The Cheltenham Surveyorship.—The local Improvement Commissioners have elected Mr. D. J. Humphries as their surveyor, *vice* Mr. H. Dangerfield, incapacitated by illness. Mr. Humphries was vice-chairman of the board, and resigned that post to become a candidate. Only 14 out of the 30 members comprising the board were present. There is a feeling against honorary members of a board stepping down into the position of one of its paid officers.

St. Paul's: very likely. — A daily paper says that a Danish visitor to St. Paul's Cathedral, glancing at the words,—"*Si monumentum quæris, circumspice,*" which terminate the inscription in honour of Sir Christopher Wren, believed them to embody in English a judgment on the merits of the building and the mortuary sculptures which it contains; and read them thus;—"Ze monument am queerish, kirk am spicy." What has become of this inscription, by the way?

Iron and Steel direct from the Ore.—In the conversion of cast, pig, or other iron into steel, Messrs. Gardner, of New York, propose to subject it, when in a molten state, to the combined action of crude potash or other alkali, carbonate of lime, oxide of manganese, and charcoal. The invention also consists in the purifying or refining of the iron preparatory to such process of conversion, either during its reduction from the ore in a smelting furnace, or during a subsequent melting by the use of ores of zinc, or the pure metal (zinc) itself, and of jets of steam or water. By means of these improvements steel may be manufactured directly, or by a continuous process, either from the ore or from pig-iron.

The Lendal Bridge at York.—The Bridge Committee have reported on the cost of this bridge, as given in a report by Mr. Page, the engineer employed to superintend the alteration and completion of it since the fall of the lattice girders. The committee state that Mr. Page estimates the probable cost of the alteration of the bridge, when complete, to be 10,477*l.*; while his original estimate was 8,800*l.*, with 900*l.* for contingencies, making the total estimated cost 9,700*l.* The reason of the excess, as given in Mr. Page's report, was the unexpected alteration required in the foundations, the substitution of stone facings in the approaches, the employment of cement for lime in the walls, and the improved subway to the North-street Postern. The total cost of the bridge has been about 34,000*l.*, subject to a deduction of about 1,000*l.* on sale of materials. The report has been adopted by the council.

Fall of a Floor in Rochdale.—A fatal accident, caused by the fall of a warehouse floor in the Banner, Rochdale, has deprived three men of their lives, and about six or seven others have been severely crushed. A sale by auction was going on in the third story. On the floor of this room, with other machinery, stood a carding engine, weighing about three tons, and a scutching engine of considerable weight. About eighty persons assembled in the room; and, while the sale was proceeding, without giving any warning, a portion of the floor under the engines, about 27 feet square, gave way, and broke through the second and first flooring into the cellar, burying a number of persons in the *débris*, while others escaped with severe bruises. Twenty or thirty persons, who still remained on that portion of the third floor which did not give way, were rescued from their perilous position with the aid of the fire-escape.

The Birmingham School of Art. — At a meeting of the council of this institution the eighth annual report has been received. It should be understood that, owing to a want of funds and other causes, the council have been compelled to retire from action, not, however, before the hon. secretary, Mr. C. B. Mander, had sustained serious pecuniary loss. In order, nevertheless, to prevent the extinction of so useful an institution, Mr. Loveridge and others have liberally come forward as guarantors for any deficit which may arise, and have determined, under a new committee of management, to reopen the school, and again give the public an opportunity of evincing their sympathy with the objects of the institution. The report of the council now assigned as the reasons why the school must be of necessity closed, that it had not received adequate local support; and that it had been refused that aid from the Science and Art Department which, looking at what was extended to schools in other towns, they had a right to expect. The report was adopted. It will be a perpetual disgrace to Birmingham if such a town allow its School of Art to be closed from want of adequate pecuniary support.

The Randall Fountain at Maidstone.—This work of art, by the late Mr. John Thomas, and of which we gave an engraved view on 20th September last, is now nearly completed. The sculptures representing the four archangels have been placed in their positions. The Local Committee of Pavement Commissioners have called a public meeting to decide whether the Water Company shall be allowed to put on their water at one of the sides.

The Model Lodging-house, George-street, Bloomsbury.—We have received a statement of objections to the present management of this house from a lodger, who has been ejected for "making complaints and interfering with the management." Some of the objections, if correct, certainly call for the attention of the important society to whom the house belongs. Another tenant, referring to the improvements which, as he says, followed the observations made by us about two years ago, and asking for further interference on our part, seems to confirm the first correspondent.

Albert Memorials.—At Hastings, final arrangements have been made with Mr. Stirling, the contractor, for completing the clock tower to be built as a memorial of the late Prince Consort. The site has been marked out at the Priory Obelisk, and the work will be at once proceeded with. Most of the work will be done under a sub-contract by Hastings tradesmen. —— The Royal College of Surgeons in Ireland have just received a marble bust of the Prince from the studio of Mr. Theed. The likeness is an exact counterpart of the last bust of his Royal Highness now in the possession of her Majesty, and by the same artist; her Majesty having permitted the college to obtain a copy of it.

Mr. and Mrs. German Reed's Entertainment.—The Gallery of Illustration is announced to close on the 12th of November. Though, to meet the special requirements of the Great Exhibition year, the season has been unusually long, its success, we are glad to hear, has been very great indeed; and large and numerous audiences still testify to the merit of the entertainment by their loud and prolonged laughter and applause. In the "Family Legend" Mr. Reed has skilfully introduced the attraction of dramatic effect without sacrificing the refinement and characteristic features which essentially belong to this class of amusement. The Family Legend, which is beautifully got up as regards scenery, continues to be followed by Mr. Parry's Musical Narrative of a Colleen Bawn.

Monumental.—The trustees of the Green Coat School, Hertford, have erected in the parish church a marble monument, to record the gift by Mr. Daniel Costeker, of Stratford, Essex, of 40*l.* per annum for ever, to enable the trustees to provide for the clothing and education of an increased number of children belonging to the town, on condition of the trustees maintaining his mother's tomb, in the churchyard of All Saints', in good repair for ever. The monument consists of a plain Gothic arch, with pilasters of dove-coloured marble. Within the arch is a scroll, and between the pilasters a panel, all of white marble, and the whole resting on a base, with ornamental Gothic trusses or corbels.——A monument, with an inscription by Mr. W. S. Landor, has been erected at Venice over the grave of Mr. G. P. R. James, the novelist.

The Preservation of Embankments.—Mr. Robert Scott Burn (who addressed a letter to the *Times* as "An Agricultural Engineer," recommending stopping the breach in the Middle Level Bank by gradual deposition of materials from the stream in open interlaced cradles) has a paper in the last number of the *Journal of Agriculture*, "On Embanking Lands from Seas and Rivers," illustrated by diagrams, and in which paper he says;—"The formation of embankments is in one sense a much easier thing than the keeping of them in perfect repair when made; although this is by no means the popular view of the subject, as witness the remarkable indifference of the Middle Level Commissioners to the first inroads of the water. They might have learned a lesson as to the value of immediate prevention from the story with which surely all are familiar,—of a little lad who, watching on one of the embankments of Holland, saw with dismay the water making its way through a tiny aperture in the bank; but knowing well the rapidity with which it would operate, and that no time was to be lost, thrust his little hand and arm in the gap to stop the flow, and lay there all the livelong winter night exposed to the biting blast till help came in the morning. That little boy's hand possibly saved a province from destruction."

Ventilation of Collieries.—In the course of a very interesting article on Fuel in the International Exhibition, the *Times* says, — The ventilation of collieries is a matter of vast moment. The circulation of the air is determined either by the direct agency of heat, on principles which we must assume are generally understood, or by machinery acting by propulsion or exhaustion. An instructive model of a ventilating furnace in use at the Hetton Colliery, under the direction of one of the greatest practical colliery workers of the day, Mr. Nicholas Wood, is shown under No. 413. Nixon & Co. exhibit drawings of a mechanical ventilating apparatus, No. 251, which, if we understand them correctly, consists essentially of two gigantic pistons, working alternately, each in its own chamber. Mr. Struvé, the present manager of the great Cwm Avon Works, many years ago devised and constructed an exhausting ventilating apparatus, of which the efficiency and value have been amply established by long practice. We have seen this apparatus at work at the colliery between Swansea and Llanelly, under the management of Mr. Struvé, and it appeared to work most satisfactorily. Recently a large apparatus on this principle has been erected at an extensive newly won colliery in North Wales. A furnace at the bottom of a shaft is in general a thoroughly efficient and very economical method of promoting ventilation; but there are circumstances in which it may become a source of great danger. We all remember the terrible calamity at the Lundhill Colliery, where a fire suddenly broke out in the pit, arising from the ventilating furnace, and cut off a large number of unfortunate victims from access to the shaft. It was impossible to reach them, and it was essential to extinguish the conflagration. This could only be done by deluging the pit, so that if any survived beyond the scene of the fire they would certainly be drowned. Even in one of Mr. Nicholas Wood's collieries—and no pits in the world can be conducted with greater care and with a more earnest desire on the part of the proprietors to insure the safety of their colliers—an explosion attended with considerable loss of life occurred not long ago, which, if we mistake not, would not have happened if there had been no ventilating furnace. But these observations must not be taken in disparagement of ventilating furnaces. We have heard a great deal of late about the necessity of double shafts, and the expediency of abolishing by legal enactment single bratticed shafts. The attention of the public to this point was excited by the horrible catastrophe at Hartley. But something might be said about the state of the underground workings in certain collieries, which are as fertile a source of danger as any single shaft can possibly be.

TENDERS.

For works at Grove Hall Lunatic Asylum. Mr. James Tolley, architect:—

Watts	£552 0 0
Hedges	525 0 0
Ennor	499 0 0
Hack & Son (accepted)	497 0 0

For new dwelling-house, Penshurst, Kent. Mr. T. J. Hill, architect. Quantities by Mr. Barnet:—

Coleman	£1,500 0 0
Sewell	1,498 0 0
Henshaw	1,465 0 0
Timewell	1,346 0 0
Constable	1,330 0 0
James & Ashton	1,177 0 0

For alterations and additions to Mr. Ingold's premises, Whetstone. Mr. G. W. Denham, architect:—

Mann	£221 0 0
Simmonds	178 0 0
Richards	147 0 0
Lewis	129 0 0

For alterations, additions, &c., to premises, Milk-street, City, for Mr. Taylor. Messrs. Tillott & Chamberlain, architects:—

Willis	£1,255 0 0
Myers & Sons	1,250 0 0
Piper & Wheeler	1,171 3 0
Woodward	1,118 0 0
Cannon	995 0 0

For fittings, &c., at premises, Newgate-street, for Mr. Franz Steigerwald. Messrs. Tillott & Chamberlain, architects:—

Foxley	£995 0 0
Henshaw	962 0 0
Piper & Wheeler	945 0 0

For mahogany fittings, &c., for the Lord Palmerston Tavern, Hampstead-road. Mr. T. Muncey, architect:—

Duncanson & Moultrie	£398 0 0
Selleck	303 0 0
Simmonds	239 0 0

For two shop-fronts, Notting-hill. Mr. T. Muncey architect:—

Selleck	£143 0 0
Duncanson & Moultrie	120 0 0
Simmonds	98 0 0

TO CORRESPONDENTS.

Discolouration of Cement.—"A Torquay Builder" writes,—"I shall be glad to hear from some of your practical readers of a cure for the discolouration that appears on the stucco of the external walls of our villas in this neighbourhood. In some instances it has become such a pest as to defy all attempts to kill it, either by frequent washing over or painting in lead and oil. The ventilation of this subject will be very acceptable to many."

Dale Church.—F. C. (next week).—G. H. (ditto).—P. H. B. (ditto).—J. A. C.—J. N.—J. B.—C. D.—Mr. R. (already mentioned).—J. S.—J. R.—H. C.—Messrs. H. & J. D. M. (already mentioned).—F. H.—T. J. S.—Stamford-hill (is quite right in his definition of "party-wall").—M. P.—Mr. U.—R. G.—F. G T.—F. W.—B. H. P.—W. F.—J. G.—J. H. jun.—Mr. P. (thanks).—W. M. M.—Z. P. S. Y.—R. M. S.—R. K. (thanks).

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES :— 13 FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

PARTNERSHIP.—A Land Agent, Drainage Engineer, and Surveyor, practising in a Midland County Town, with a good connexion, is desirous of taking into PARTNERSHIP an Architect. A preference given to one having had some experience in Farm Building.—Address, F. S. Post office, Stafford

GLASS PAINTING.

A GENTLEMAN, possessing great abilities in the above Art, is open to receive PUPILS, to give Lessons on Figure and Ornamental Drawing, and the Art of Glass Painting in the Mediæval Style, &c. For particulars address W. M. No 1, Castle street, Newman street, W.C.

A SURVEYOR in London is in WANT of an ASSISTANT accustomed to the business of parochial assessments and matters connected with the rent charges.—Apply by letter to A. B Post office, Tunbridge, Kent.

ARTICLED PUPIL.—To PARENTS and GUARDIANS.—An ARCHITECT and ENGINEER, filling the office of Borough Surveyor in a large town in the Midland Counties, where extensive works are in progress, has an OPENING for a PUPIL.—Address, C. Office of "The Builder"

BIRMINGHAM EXCHANGE BUILDINGS COMPANY, Limited.—CLERK OF THE WORKS.—Candidates for the appointment of Clerk of the Works are requested to forward their application, stating terms, and their testimonials, to the Architect, Mr. EDWARD HOLMES, 4, Waterloo-street, Birmingham, on or before MONDAY, the 3rd NOVEMBER.

Offices, 24, Waterloo-street, HENRY HOWELL,
Birmingham, October 22nd, 1862. Secretary.

IN-DOOR APPRENTICE to a CARPENTER and JOINER, in town or country.—WANTED, a MASTER doing a good business, for a strong Youth in his fifteenth year.—Direct, with full particulars, to Mrs. HAYDON, 15, John-street, Pentonville, London

REQUIRED, the SERVICES of a good DRAUGHTSMAN.—Address, A. M. Office of "The Builder."

STAFFORDSHIRE.—Persons desirous of undertaking the Office of SURVEYOR of BRIDGES and PUBLIC WORKS within the County of Stafford, from the 1st day of JANUARY, 1863, are requested to make application in writing, accompanied with testimonials to character and ability, sealed up, addressed "To the Clerk of the Peace, Stafford," with the words "County Surveyor" in the left-hand corner of the envelope, on or before the first day of DECEMBER next. The County Surveyor will be required to reside at or within a mile of Stafford.

The salary of the Surveyor will be £600 a year, including all expenses. The duties of the County Surveyor, and any further particulars relative to his office, may be obtained from the Clerk of the Peace, Stafford. Candidates for the County Surveyorship are requested not to send their testimonials or to make any application to magistrates individually, or to the committee of magistrates appointed to examine the testimonials of candidates.

TO STONEMASONS.

TWO HUNDRED or THREE HUNDRED STONEMASONS will find EMPLOYMENT at Manchester, by applying to Messrs. J. & R. PATTESON, Oxford-street, Manchester. Wages, 30s summer; 27s. winter.

TO STONEMASONS. — WANTED, an INSPECTOR of BRIDGE MASONRY, who will be required to measure up work, and to make himself otherwise generally useful to the Contractor.—Apply, stating qualifications, age, and terms, to Messrs. THOMAS & JOHN SAVIN, Contractors' Office, Aberystwith and Welsh Coast Railway, Aberdovey.

WANTED, a DRAUGHTSMAN; one thoroughly acquainted with the details of first-class suburban Italian villas. Required for a few weeks. Terms, under £5. per week. Address, CYMA, Office of "The Builder."

WANTED, a Gentleman who can command 500*l.* to join the Advertiser in manufacturing an article of universal consumption. A profit of 20 per cent. can be guaranteed, and a salary to assist in managing the business.—Apply by letter, with name and address, to E. V. Post-office, Bridge-road, Battersea.

WANTED, for a constancy, an experienced PLUMBER, in a Jobbing Shop, at the West-end. Would be expected to fill up his time. Wages, 5s. 6d.—Address, L. R. Office of "The Builder."

WANTED, a first-class FIGURE CARVER. One accustomed to Mediæval work, in soft and hard stone. Apply, by letter, with references, terms, and testimonials, to JOHN HARDMAN & CO. Stone Carving Works, Dublin

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, and for a Permanency, an experienced and able ASSISTANT. Terms liberal and prospective.—Apply, by letter, to PAULL & AYLIFFE, India Buildings, Cross street, Manchester.

TO ARCHITECTS' ASSISTANTS.

WANTED, in town, an experienced ASSISTANT, who is a good draughtsman, capable of preparing plans, specifications, and used to superintend works. Apply, stating terms and age, to C. V. Jerusalem Coffee House, E.C.

WANTED, by a first-class THREE-BRANCH HAND, a Constant SITUATION. Is a good gas-fitter and paper hanger, and understands general repairs in all its branches. Good references.—Address, X. Z. 11, Henry-street East, Avenue-road, St. John's-wood

WANTED, by a Young Man, a SITUATION as Jobbing Plumber and Gas Fitter, and to fill up his time in painting and glazing.—Address, J. A. 7, Alpha-place, Regina-street, Kentish Town, N.W.

TO RAILWAY COMPANIES, CONTRACTORS, AND OTHERS

WANTED, an ENGAGEMRNT as INSPECTOR of PERMANENT WAY, or General Work by a thoroughly practical Man. Understands masonry and earth and rock work. Has lately had charge of large railway works. Testimonials of the best description.—Address, W. F. 4, Upper Dorset street, Pimlico, S.W.

WANTED, a SITUATION in a Builder's or Architect's Office, by a Young Man of good practical experience. Good references given.—Address, Z. No. 8, Vincent-terrace, Islington, N.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, a SITUATION in the office of the above. Is a fair draughtsman, and thoroughly acquainted with the usual routine of the office. Unexceptionable references given.—Address, J. M. at Dodd's, News Agent, 5, Upper Southwick street, Hyde Park, W

TO CARPENTERS AND JOINERS

WANTED, by a Young Man, aged 22, a SITUATION as the above as IMPROVER. Wages not so much an object as a desire for improvement. Town or country.—Address, C. F. 16, Dorset-street, Portman square, W.

WANTED, EMPLOYMENT, by a competent Architectural Assistant, either at Home or in an Office. Good references, and terms moderate.—Address, W. No. 5, Oxford-terrace, King's-road, Chelsea.

WANTED, by a Young Man, a SITUATION as CLERK. Has been four years in the principal office of an eminent Land and Building Firm, and is a rapid penman and expert accountant.—Address, S. W. No. 62A, New Oxford-street, London.

TO ARCHITECTS AND BUILDERS

WANTED, a RE-ENGAGEMENT, by a thoroughly practical Clerk of Works, or General Out-door Builder's Foreman. Is a good working and detail draughtsman, and has a perfect knowledge of the Building Trade.—Address, J. W. Barcroft-place, Old Market, Bristol.

TO BUILDERS.

WANTED, a SITUATION as CLERK, TIMEKEEPER, &c. Good references given.—Apply to A. B. 17, Gray's-inn-lane, Holborn End, W.C.

TO ARCHITECTS.

WANTED, in Birmingham if possible, a SITUATION as ASSISTANT DRAUGHTSMAN, by a Young Man of eight years' experience, who can prepare specifications, full working, detail, and perspective drawings. Both competent to furnish unexceptionable references.—Address, H. W. 30, Green Lanes, Birmingham

TO BUILDERS AND OTHERS

WANTED, by a Young Man, a permanent SITUATION as CARPENTER and JOINER. Town or country.—Address, stating wages, to F. A. No. 22, Bedford-row, Holborn, W.C.

TO BUILDERS, &c.

WANTED, a RE-ENGAGEMENT, as FOREMAN of JOINERS, or to superintend building works. No objection to the country.—Address, L. H. 25, St. Andrew's-road, New Kent-road, S.E.

TO CARPENTERS AND JOINERS

WANTED, by the Advertiser, a SITUATION as IMPROVER in a Carpenter and Joiner's Shop, in town or country. No objection to bind himself for twelve months. Good reference if required.—Address, R. W. 31, Ernest-street, Hampstead-road, London, N.W.

TO CONTRACTORS, BUILDERS, AND STEAM JOINERY AND SAWING MILL PROPRIETORS

WANTED, by a practical Foreman, of long experience, an ENGAGEMENT as SHOP FOREMAN or MANAGING FOREMAN over a large Steam Joinery and Sawing Mill. Good judge of timber, quick at full detail drawing, well up in joinery machinery; a joiner by trade; held a good situation as manager and director of a large steam works.—Address, B. V. J. 4, Upper Dorset-street, Pimlico, S.W.

TO CONTRACTORS

WANTED, by a practical Bricklayer, a RE-ENGAGEMENT as FOREMAN. Understands drawing and setting out work. Can be well recommended by present employer.—Address, G. Z. Mr. Shrimpton's, Post-office, Penn, Amersham, Bucks

TO ARCHITECTS

WANTED, a RE-ENGAGEMENT in an ARCHITECT'S OFFICE. Can prepare fair working, and detail drawings, and used to the general work of an office.—Address, B. K. Post-office, Scott's-place, Lower-road, Islington.

WANTED, a SITUATION as FOREMAN or MANAGER in the Lime, Brick, Tile, Pipes, and Fancy Goods, and likewise Pottery. Good references.—Address, S. M. Perseverance house, Betts road Avenue, Southampton

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, who writes a good hand, an ENGAGEMENT as CLERK. Is a good bookkeeper and draughtsman, has some knowledge of quantities, and is generally competent to fulfil the requirements of a builder and contractor's office.—Address, W. M. Office of "The Builder."

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a steady and industrious Man, a SITUATION as CLERK, &c. Has a good knowledge of the building trades, and can make himself generally useful. Excellent testimonials.—Address, G. C. I, Glen Vue, East Grinstead, Sussex.

TO ARCHITECTS AND SURVEYORS

WANTED, by an Experienced CLERK of WORKS, a RE ENGAGEMENT in that capacity. Is used to measure up work, &c.—Address, G. H. D. 4, Portland-place, Commercial-road East, London.

TO BUILDERS AND OTHERS.

WANTED, by a Married Man, aged 30, a SITUATION as TIMEKEEPER, Storekeeper, Messenger, or in any other capacity. Unexceptionable references. Address, G. C. 72, Union-street, Clarendon-square, St. Pancras, N.W.

WANTED, a SITUATION as PLUMBER. Painting and Glazing if required.—Address, W. B. No. 10, Market street, Edgware road

TO BUILDERS, PLUMBERS, GLAZIERS, AND PAINTERS.

WANTED, by a Practical Man, a SITUATION as GENERAL or WORKING FOREMAN, or to take Charge of a Business. Unexceptionable references given.—Address, B. H. 32, Beresford-street, Walworth.

WANTED, a RE-ENGAGEMENT as CLERK of WORKS by a thoroughly Practical Man. Can be well recommended. Age 35. A carpenter and joiner by trade.—Address, F. G. 58, Sun-street, Bishopsgate.—N.B. No objection to the country.

TO DECORATORS AND OTHERS.

WANTED, a SITUATION as CLERK, by a Young Man, aged 20. Is a good accountant, draughtsman, and colourist, with a practical knowledge of the above, and the finer branches of Art, &c. Salary not so much an object as permanent employment. Reference a first-class.—Address, J. S. 8, St. George's-road, New Kent road, S.E.

TO BUILDERS AND OTHERS.

WANTED, by the Advertiser, a RE-ENGAGEMENT as SHOP or GENERAL FOREMAN. Is well acquainted with all branches of the building trade. With good reference.—Address, Z. JESSOP, No. 12, St. Alban's-place, Edgware-road, W.

TO ARCHITECTS.

WANTED, a RE-ENGAGEMENT in an Architect's Office. Can prepare working and detail drawings, also perspectives. Salary not so much an object as improvement.—Address, R. C. J. 32, Newington-place, Kennington, S.

WANTED, by TWO experienced WORKMEN, STAIRS, RAILS, or CARPENTER'S and JOINER'S WORK. Piecework or by the job. Town or country.—Address, W. G SUTTON, 102, Grove-street, Camden Town, N.W.

WANTED, by a good Joiner and Staircase-hand, a SITUATION as WORKING SHOP FOREMAN; or to take charge of a job. Has filled a similar situation; and can have good references. Wages moderate.—Apply, E. G. 4, Andover-terrace, Shrubland road, Dalston.

WANTED, by an experienced DRAUGHTSMAN, a RE ENGAGEMENT in an Architect's or Surveyor's Office. First-class references, and salary moderate.—Address, H. H. care of Mr Davey, 3, Harleyford terrace, near St. George's Church, Camberwell, S

TO MASTER BUILDERS, PLUMBERS, &c.

WANTED, by a Young Man, constant EMPLOYMENT, as PLUMBER, PAINTER, and GLAZIER Town or country.—Address, W. G 45, King-street, Camden town.

TO IRONMONGERS, &c

WANTED, by a steady Young Man, who has a knowledge of bell-hanging, gas-fitting, &c. a SITUATION as an IMPROVER. Wages not so much an object as a desire for improvement. Town or suburbs preferred.—Address, H. H. 1, Lascelles place, Broad-street, Bloomsbury, W.C.

WANTED, by a General Out-door FOREMAN, an ENGAGEMENT for the management of buildings, or the entire charge of a job. Country not objected to.—Address, A. B. 19, Westminster Bridge-road, S.

TO ARCHITECTS, BUILDERS, AND CONTRACTORS.

WANTED, by a thorough active and practical Man, a SITUATION, as FOREMAN of BRICKLAYERS, or BRICKLAYERS and PLASTERERS, or as GENERAL FOREMAN, or to TAKE PIECEWORK. Can estimate, measure up, and make out working drawings. Five years' character from last employer.—Address, C. R. 51, Star street, Edgware road, Paddington.

TO BUILDERS AND CARPENTERS

WANTED, for a respectable YOUTH, a SITUATION as APPRENTICE (indoor), where he would have opportunities of acquiring a good knowledge of his business.—Address, with terms, &c. W. H. care of Messrs. Hills & Sons, Booksellers, Ely.

TO ARCHITECTS AND SURVEYORS.

WANTED, by an ASSISTANT, aged 21, an ENGAGEMENT; is a good Draughtsman, and understands perspective. Terms moderate.—Address, X. M. X. Office of "The Builder."

WANTED, a SITUATION as CLERK and ASSISTANT to a Builder. A joiner by trade.—Address, G. V. P. 170, High street, Mile Town, Sheerness

WANTED, by the Advertiser, a SITUATION as SHOP FOREMAN of JOINERS, or Foreman of Works. Is well acquainted with the building trade in all its branches. Can estimate, measure up, make out working drawings, &c.—Address, G. H. A. No. 10, Great Warner-street, Clerkenwell, E.C.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, a good designer and perspective draughtsman, wishes for a RE-ENGAGEMENT as ASSISTANT to the above; or would be happy to render assistance at his own residence in preparing competition or other drawings.—Address, M. A. Post-office, Wellington terrace, Battersea.

TO BUILDERS AND CONTRACTORS.

THE Advertiser wishes for a SITUATION as FOREMAN of BRICKLAYERS, or Brickwork by per Rod. Has superintended several large jobs. First-rate testimonials from late employers.—Address, A. M. No. 11, Stanmore-street, Old St. Pancras

TO ARCHITECTS

THE Advertiser is desirous of giving TEMPORARY or WEEKLY and EVENING ASSISTANCE. Is acquainted with perspective and other styles of drawing. References good. Terms moderate.—Address, L. L. Office of "The Builder."

TO BUILDERS AND OTHERS

THE Advertiser is open to TAKE any quantity of WORK, in Plumbing, Painting, Glazing, or Paperhanging, with materials, or by the job, on the very lowest terms. References if required.—Address, E. W. Office of "The Builder."

TO ARCHITECTS, SURVEYORS, ENGINEERS, &c.

THE Advertiser, who is a neat and expeditious DRAUGHTSMAN, and can assist in quantities, measuring, &c. desires an ENGAGEMENT. Would go abroad if required. Address, R. S. care of the Bankers, Messrs. Chandos-Chambers, Adelphi, W.C.

TO ARCHITECTS, ENGINEERS, AND CONTRACTORS.

THE Advertiser desires an ENGAGEMENT as DRAUGHTSMAN or Superintendent of Works. Can design, make full size working drawings, and has practically acquainted with works.—A. Z. 63, Fleet-street, London, E.C.

TO BUILDERS, JOINERS, &c.

TWO respectable Young Men, Joiners by trade, are in want of a JOB at the BENCH. Nine and a half to ten years' experience. Moderate wages taken. References given if required.—Address, B. & D, 67, Prebend-street, Islington, N.

THE Advertiser, aged 20, who has been some years with an architect, is desirous of a RE-ENGAGEMENT Good references.—Address, W. D. 161, Aldersgate street, E.C.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser is open to an ENGAGEMENT as an ASSISTANT. Is competent to prepare working and finished drawings, and under hands the general routine of an office.—Address, H. W. Office of "The Builder."

THE Advertiser, aged 16, desires a SITUATION in a Builder, Surveyor, or Agent's Office Can write a good hand, and copy or trace plans, &c. Has no objection to the country. Address, Mr. WILLIAM SMITH, Architect, 12, Copthall-court, City.

TO BUILDERS, HOUSE DECORATORS, &c.

THE Advertiser, a Young Man, is in want of a SITUATION where energy and business habits are needed; has been fourteen years in the trade, is a rapid and neat writer of copy drawings, specifications, &c. Good references. Three years with last employer. Town or country. Wages moderate.—Address, E. B. Office of "The Builder."

TO ARCHITECTS, ENGINEERS, AND BUILDERS

THE Advertiser, aged 27, who was several years with an architect of large practice, and is now leaving an engineering business, desires a RE-ENGAGEMENT.—Address, A. Z Post-office, 98, Jermyn-street, S.W.

THE Advertiser, a Carpenter and Joiner by trade, is in want of EMPLOYMENT Day work or piece. Is a thorough workman.—Address, W. G. 2, Raglan-street, Forest-hill, S.E.

EVENING EMPLOYMENT.—A Young Man of business habits would be glad to meet with Evening EMPLOYMENT, such as tracing, making out accounts, plans, or quantities, writing, or copy drawings, specifications, &c. &c.—Address, A. B. Sayer's News-office, Maryland point, Stratford, E.

A GENTLEMAN who has passed some years in a large Surveyor and Receiver's Office in London, is desirous of an ENGAGEMENT in the country. Salary not so much an object as a permanent and desirable employment.—Address, A. B at W. A. Boulnois's, esq. 6, Waterloo-place, London, S.W

AN ESTIMATOR, first-rate QUANTITY SURVEYOR and MEASURER, who is a good draughtsman, thoroughly acquainted with construction, preparing specifications, and surveying Dilapidations, and is prepared to undertake any extensive works, is open to an ENGAGEMENT, either temporary, permanent, or partial, on moderate terms.—Address, ALPHA, Seymour's Advertising Office, 16, Bear-street, Leicester square, W.C.

TO SURVEYORS AND CONTRACTORS.

A YOUNG MAN, who has been engaged in the office of a Surveyor in London four years (and previously with an architect in the country for three years), desires a RE-ENGAGEMENT. Is a fair draughtsman, quick and correct at figures, and thoroughly up in abstracting and bill of quantities. Can furnish good reference.—Address, C. B Post-office, Burmoglam.

TO ARCHITECTS, &c.

AN Assistant of experience in the preparation of finished, working, and detail drawings specifications, &c. and taking charge of an office, is desirous of an ENGAGEMENT, either in the office, or to superintend works. Unexceptionable reference given.—Address, E. H. No. 28, Vaughan-terrace, Shepherdess walk, Hoxton, N

TO BUILDERS, CONTRACTORS, AND OTHERS.

A SURVEYOR of experience would be happy to treat with the above for PREPARING DESIGNS, PLANS and SPECIFICATIONS, taking out quantities, measuring extras, and pricing bills, at half the usual charges Bills priced up to 1,000*l* for 7*s.* 6*d.* if an unsuccessful tender, and for every additional 1,000*l* 5*s.*—Address, B. Z. A. 19, Upper Newberry-place, Kentish Town, N.W

TO CONTRACTORS AND BUILDERS

A QUANTITY and ESTIMATING CLERK, who has a thorough knowledge of building, and has superintended works of magnitude, desires a RE-ENGAGEMENT. He is also a good draughtsman. Good references.—Address, R. X. A. Office of "The Builder."

TO BUILDERS AND GENERAL CONTRACTORS.

AS GENERAL FOREMAN, CLERK of WORKS, or to Manage a Business. An experienced practical Man, a Joiner by trade, is open to an ENGAGEMENT as above. Is a good estimator, and can set out. Most satisfactory reference to last employer. Address, E. A. Office of "The Builder."

TO BUILDERS, SURVEYORS, &c.

A SITUATION of responsibility and trust is required by a Young Man, aged 27, educated as an Architect and Surveyor, and who has been some years in business as a builder Is fully qualified to take the management of a Business.—Address, W. S. Mr. Bean's, 1, James-terrace, New North-road, Hoxton.

TO BUILDERS, ESTATE AND HOUSE AGENTS, &c.

AN active and energetic Man, aged 35, joiner and carpenter by trade, wishes to obtain EMPLOYMENT. Could take the entire management of an estate of house property, or take it by estimate; or any place of trust in the trade. Highest reference from last employer as to character.—Address, C. C. Office of "The Builder."

TO COMPETING ARCHITECTS.

A GOOD DRAUGHTSMAN and first-rate COLOURIST wishes for an ENGAGEMENT (Gothic). Terms, one guinea per week. Architects wishing perspectives coloured, the advertiser will be happy to show specimens.—Address, T. B. 9, Warwick-place, Pimlico, S.W.

TO BUILDERS AND ESTATE AND HOUSE AGENTS

AN active and energetic Man, aged 25, joiner and carpenter by trade, wishes to obtain EMPLOYMENT. *Is* a good foreman, or could take a situation as timekeeper or collector of rents, &c. to an estate. Good references and substantial security if required. Salary not so much an object as the desire to obtain permanent employment.—Address, H. L. 1, Carlton-road South, Millwall, E.

AN ARCHITECT, of good experience, is desirous of PREPARING General or Working Drawings, Perspective, and Ideas of Any Kind and Ornamental Design Address, H. 580, St. Paul's-road, N.W.

TO ARCHITECTS.

A GENTLEMAN, who has had experience in town practice, desires a PARTNERSHIP.—Address, by letter, stating full particulars, terms, &c. to K. H. at the Office of "The Builder," prepaid

A YOUNG MAN, married, wishes for a SITUATION as THREE-BRANCH HAND, having served his time to the same. Is at present working for one of the first establishments in town We desire to make an object an important employment Reference if required. London preferred. — Address, C. M. Plumber, 14, Robert street, Bedford-row, W.C.

TO ARCHITECTS.

A PRACTICAL CLERK of WORKS, aged 43, wishes for a RE-ENGAGEMENT as CLERK of WORKS. No objection to the country.—Address, B. C. 8, Banner-street, St. Luke's, E.C.

TO ARCHITECTS.

A NEAT and expeditious DRAUGHTSMAN desires a RE-ENGAGEMENT in a London office. Is fully competent to prepare finished and detail drawings, or design from rough sketches; well versed in construction and perspective, accustomed to prepare working drawings, details, sections, &c. and has some knowledge of the Mediæval styles.—Address, E. S. 27, Garnault-place, Clerkenwell, E.C.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

A SURVEYOR, of considerable practical experience, is desirous of meeting with an ENGAGEMENT for part of his time in taking out quantities, writing specifications, measuring, and making up bills, clerk of works, disputes or otherwise. Referees as to character and abilities.—Address, SURVEYOR, 40, Mornington road, Regent's park

TO MASTER GILDERS AND PAINTERS.

A YOUNG MAN wishes for a SITUATION as a THREE-BRANCH HAND. Is a glider, frame maker, and painter. Can be recommended.—Address, A. P. C. Mr. Bushby's, Stationer, Greenwich.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

A QUANTITY SURVEYOR, MEASURER, and ESTIMATOR, of twenty years' practical experience in the various branches connected with the building world, is desirous of meeting with architects, surveyors, or builders, for taking off quantities, measuring, cat mating, pricing bills, quantities, making drawings, writing specifications, taking surveys of dilapidations, &c. upon reasonable terms. Satisfactory references given.—Address, S. V. R. Office of "The Builder."

TO ARCHITECTS.

AN ASSISTANT, who has a thorough knowledge of Gothic Architecture, and has been engaged on first-class works, desirous of an ENGAGEMENT, can submit specimens of his drawings.—Address, F. B. 44, North-st. street, Strand.

TO PARENTS AND GUARDIANS.

AN Architect and Surveyor in the Midland Counties has an OPENING for an IN DOOR PUPIL.—Address, JOHN BLOUGHALL, Esq. Solicitor, Stroudwater

TO BE SOLD, 300,000 Suffolk White FACING BRICKS. For cash price.—Apply to W. R. THOMPSON, Rendlesham, Suffolk.

BRICKS FOR SALE.—A Large Quantity of good Old Stock Bricks.—Apply to Mr NEWCOMBE, on the PREMISES, at Thomas Chapel, Lambeth bridge Price, about 18*s.* per thousand

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47*s.* 6*d.* per 1,000.
„ 8-inch Pavings, at 37*s.* 6*d.* per 1,000.
„ Floor Bricks, 40*s.* per 1,000.
Mingled Kiln Bricks, at 36*s.* per 1,000.
Ridge Tiles, at 75*s.* per 1,000.

Cash Price Delivered in Trucks in London, or along the Line on the Eastern Counties Railway About 20,000 Bricks lying at Devonshire street Station, at 24*s.* per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. 6 inches.
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge-tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines

Price, including royalty, 75*l.*
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,310.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam, Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM BRICKS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where to arrive.

TO BE SOLD, a bargain, a LATHE, fit for Turning Wood or Iron. Six-inch bed, 6-inch centres, with wide rests and chucks complete. Apply to W. HEATH, 4, Priory, Hampton Wick.

BRICKLAYERS willing to CONTRACT for LABOUR and SCAFFOLDING to Brickwork in the Erection of first class Houses at the West End of London, may apply for particulars at No. 26, Prince's-terrace, Prince's-gate, S.W.

NOTICE.—Messrs. BRANSON & GWYTHER beg to inform their numerous patrons and friends that they have RETIRED from the BUSINESS of Builders and Contractors, which they have so long carried on in Belmont row, Birmingham, and at the same time tender their grateful thanks to the public for the very liberal support received by them during a period of twenty-five years. The BUSINESS will still be CONTINUED by Mr. BRANSON, Jun. and Mr. DAVID MURRAY, who will execute all commissions entrusted to them in the same style of workmanship, and with the same promptitude and punctuality, by which the retiring Firm has uniformly endeavoured to sustain its reputation. All OUTSTANDING ACCOUNTS due from B. & G. will be PAID, on application at their Office, on and after the 1st day of NOVEMBER next.
Belmont-row, October 15, 1862.

GLUE.—PRIZE MEDAL, 1862.

PROCKTER & BEVINGTON are compelled (in consequence of many imitations), to acquaint dealers and consumers, that they are the ORIGINAL and ONLY manufacturers of

IMPERIAL GLUE.

They have obtained a Prize Medal.—Sold by all respectable ironmongers and oilmen. Works, Grange-road, Bermondsey, London, S.E.

POLONCEAU and LIMMER ASPHALTE.



For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables for which purpose, the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TO TIMBER-DEALERS, WHEELWRIGHTS, and OTHERS.—TO BE SOLD, by TENDER, upwards of ONE HUNDRED and THIRTY ELM and OTHER TREES now growing and standing near the toll-gate, at New-cross, on land belonging to the Worshipful Company of Haberdashers Governors of Jones's Charity Particulars and forms of Tender may be seen at the Office of Mr WM. SNOOKE, the Surveyor to the Governors, 6, Duke-street, London Bridge, S.E. where the Tenders are to be delivered by TWELVE o'clock at noon, on SATURDAY, the 1st day of NOVEMBER next, after which time no Tender will be received. The Surveyor does not bind himself to accept the highest or any Tender.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decoration, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.

MESSRS. HERBERT, MODELLERS, 242 EUSTON ROAD, ST. PANCRAS.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, HOUSE PROPRIETORS, &c. &c.—The Waterproof Glue makes an admirable cement for wet foundations, to prevent water rising, and the Varnish will enable damp walls to be papered over directly.

Copy of a letter from Mr. T. E. Owen, architect, Southsea:—

"I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The Varnish I consider better than any article I have known as an anti-damp, the damp wall being coated with it before papering or painting. If the plastering be sodden and rotten, it should first be substituted with cement. I have used this material successfully for both work."

To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos-street, Portsmouth. Mr. GEO. WEEKS, Manager. 6250. C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

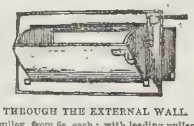
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, especially adapted for exportation, with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.

GEORGE ELL,
EUSTON WORKS. 366 and 368, EUSTON-ROAD, N.W.

GILT BORDERING for ROOMS, from 1*d.* per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Regilding in all its branches to the trade. 2-inch Gilt Beads, 7*s.* per dozen 6-feet lengths; best ditto, 12*s.*

G. REES, 57, DRURY LANE,
Four doors from Drury-lane Theatre. Established in 1800.

VENTILATION—PURE AIR.



Sheringham's Day and Night Ventilator for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6*s.* each; with leading pulley, from 6*s.* 6*d.*

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union street, Borough, London; and of all respectable Ironmongers, Builders, &c.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
99, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS.
SCAFFOLD and HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION SIGNES.
CARY & PRIER,
DE BEAUVOIR FACTORY SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON, Manufacturers and ONLY Patentees of

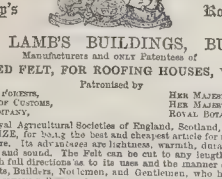
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronised by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK,

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing: also used for under slates at the Royal Agricultural Society's House, in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a good article, and on lengths best suited to their roofs. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactories, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOTT, CURRAGH, SHORNCLIFFE, and COLCHESTER (upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of near One Million Feet. A Liberal Discount allowed to the Trade.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.
The only MEDAL for "STONEWARE PIPES" has been awarded to
HENRY DOULTON & CO., LAMBETH.
Extract from Jurors' Report:—
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from
H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

TURNED MARBLE and STONE
COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

THE BRITISH and FOREIGN MARBLE
GALLERIES, Warwick House, 142 and 144, Regent-street; and 29 30, and 31, Warwick-street, W.
EDWARDES, BURKE, & CO., PROPRIETORS.
The largest and most superior Stock of Chimney-pieces in Europe on view at the above-named Establishment.
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.
THE LIZARD SERPENTINE
COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
Communications to be addressed to the Secretary, No. 24, St. James's-street; or to Mr THOMAS OARDEN, 94, King-street, Manchester, who is sole agent for Liverpool and Manchester.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention

LITTLE CASTERTON FREESTONE,
Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

G. W. WADDINGTON, STONE
MERCHANT, Whitby, Yorkshire.
Supplies the Trade or others with BRAMLEY FALL BLOCK STONE, in any movable size, in lifts up to 7 feet, from Nidd Valley, West Riding, and Whitby Freestone, on rail at King's-cross, or other railway stations; on board at Selby, Hull, Whitby; in ports on the east and south coasts; and in the Thames, below and above bridge.
Prices, specimens, and further particulars on application to Mr. JOSIAH MORTIMER, 1, Edward's-place, Coburg-road, Old Kent-road, London, S.

VALE of WARDOUR FREE STONE,
TISBURY QUARRIES, WILTSHIRE—Geologically this stone is identical with the Portland Oolites; the beds vary in texture, the upper being as stiff roach, of which large blocks are readily obtained, and is suitable for heavy works, such as bed stones for engines, girders, machinery, &c. or for waterworks. The under beds produce a stone of fine texture, which is well adapted for carving, mouldings, tracery, balusters, plinths, cornices, copings, sills, ashlar, and for building purposes generally; also for tombs, gravestones, chimney-pieces, steps, paving, hearth-slabs, troughs, &c. Numerous buildings of considerable antiquity attest the durability and texture of the stone of this district. Amongst those now erected Salisbury Cathedral, Tisbury Church, the Poultry Cross at Salisbury, Wilton Abbey, &c. erected from Chilmark and other quarries immediately adjacent to those under notice.—Specimens of the stone may be seen at Messrs. POOLE & SON'S Marble and Stone Works, Great Smith-street, Westminster, S.W. and in the Museum of Practical Geology, Jermyn-street, Nos. 311 and 312, Case V. London; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Tisbury Quarries. Orders for worked stone carefully executed at the Quarries. Samples forwarded, and any other information may be obtained of Mr. T. P. LILLY, Gillingham, Dorset.

BELLMAN & IVEY,
GENERAL AND ORNAMENTAL PLASTERERS,
Manufacturers of
SCAGLIOLA MARBLE
and
SUPERIOR PLASTER OF PARIS.
This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent. in use, from its covering one-third more superficies than the general plaster.
PRIZE MEDALS
were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862.
PLASTER WORKS, 3, BEDFORD-STREET, LIQUORPOND STREET LONDON, E.C.
SHOW ROOMS AND OFFICE,
14, BUCKINGHAM-STREET, PORTLAND-ROAD, LONDON, W.

HY. GEORGE & COMPANY,
CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Block. Cargoes shipped direct from the Quarries.
Prices and specimens forwarded on application.

MARKET WHARF, REGENT'S PARK
RABIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice. Country orders promptly attended to.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wootton Wawen, near Henley-in-Arden, are working a Quarry of this very superior and durable Stone (belonging to Cefn Range), at Plaspower, Nant, near Wrexham. It is used extensively in Liverpool, Manchester, &c. and can be supplied at reasonable rates at any railway station.

GRANITE.—The Cheesewring Granite
Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

ABERDEEN POLISHED GRANITE
WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, decorative, monumental, and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards, CUT by Steam Power, and Delivered into Railway Trucks at Weymouth. List of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injure at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

STONE CHIMNEY-PIECES.
GOODCHILD & TELLING are prepared to supply
STONE BOX CHIMNEY-PIECES,
with 8 inch Piers and Moulded Caps and Bases, fitted to any opening, for 8s. 6d.
10, CONDUIT-PLACE, LONDON-STREET, PADDINGTON, W.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connexion generally throughout the Kingdom, that they have now ready their
NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application.—Address,
No. 1, BOLD-TERRACE, CHESTER.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.
MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 89 and 40, Upper Belgrave-place, Pimlico, S.W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

RANSOME'S IMPERISHABLE
SILICEOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decoration executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes
For estimates and priced illustrations and inspection of work, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster or Patent Stone Works, Ipswich.

TO ARCHITECTS AND SURVEYORS.
GUYER & COMPANY, Lithographers,
Stationers, and Printers, Grocers' Hall Court, Poultry, E.C. beg to invite attention to the resources of their Establishment as above, for LITHOGRAPHING and COPYING BILLS of QUANTITIES, Specifications, Detail Drawings, &c. &c. Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly engaged on the premises, they are enabled to guarantee superiority of style, correctness, and expedition.
Specimens and Lists of Charges, post free.
N.B. Any number of copies of a set of quantities lithographed in a few hours.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—34, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings: Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evening per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 34, Guilford-st. Russell-sq.

THE ARCHITECT'S, BUILDER'S, CIVIL ENGINEER'S, and MACHINIST'S DRAWING CLASSES.—Offices, 70, Gt. Queen-street, City notice. INSTRUCTION given in DAY and EVENING CLASSES, in Architectural, Mechanical, Engineering, and Perspective Drawing. Taking out quantities and estimating, &c. Terms—Day classes, £5 5s. per quarter; Evening, £2 2s. per quarter. For prospectuses apply at the Offices, to Mr. T. J. HILL; or, Mr WALTON.

BRYCESON'S ORGAN FACTORY,
BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1830.—Apply for PRICED CATALOGUE of St. Cecilia, Science, and cottage Organs usually in Stock. Also at the Factory, any of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

BATH STONE OF THE BEST QUALITY.

PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BEST "PENRHYN" ROOFING SLATES,

SLATE RIDGING, GLAZED SOCKET-PIPES, TILES, PAVINGS, &c.

Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads, to any Railway Station.—Prices and particulars may be had by applying to

HENRY BROWN & SONS, MERCHANTS,

GENERAL WOOD CUTTING MILLS, LUTON, BEDS.

A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

A VACANCY FOR AN OUT-DOOR APPRENTICE.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,

GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. — 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

15 oz.	4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1⅝	2	2½
„ 2 ft. 6 in. sup.	1½	1¾	2¼	3
4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

15 oz.		21 oz.
20 by 12	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

per 100 ft.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.
} per cwt.

Fine Oak Varnish ...
„ Carriage ...
Linseed and Boiled Oil
Turpentine .....
} per gallon.

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS. JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 33, Soho-square, London.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.
(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Postfree, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:— Cardington Street, Hampstead road, London.



PAINTED and STAINED GLASS WINDOWS—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford street, Manchester. Prize Medallists, Class 24 A, 1862.

WINDOW GLASS! WINDOW GLASS! Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at GRIST'S CITY GLASS WAREHOUSE, 37, Chiswell-street, opposite Whitbread's Brewery, E.C.

TO BE SOLD, a CONSERVATORY, 40 feet by 20 feet, with semicircular ends and domed roof. The building is iron, and the sashbars copper, fitted with hot-water pipes, boiler, &c. complete. The conservatory has attached to it a semicircular alcove, fitted with mahogany and rose seats.—For price and to view, apply to GEORGE CLARK & SON, Contractors, Bodorgan, near Bangor.

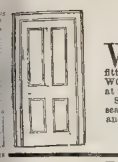
STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

EXHIBITION PLATES OF THE ST. GOBAIN, CHAUNY, and CIREY PLATE GLASS COMPANY, comprising —
One 173 by 127 UNSILVERED PLATE.
Two 183 by 8 SILVERED PLATES in plain frames.
One 139 by 70 SILVERED PLATE in handsome gilt frame.
One 73 by 49 SILVERED PLATE with fine bevelled edges, in handsome gilt frame.
One Large SILVERED PLATE in plain frame.
Also, about 8,000 feet of French PLATE GLASS in show cases. All to be sold cheap—Inquire for particulars, &c. &c. of Mr. A. DE GRAND RY, Paul's-wharf, 23, Upper Thames street, E.C. where a large assortment of plate glass, of both glazing and silvering qualities, will be found, as well as 600 or 600 empty packing-cases, the latter of which will be sold for a mere song.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 22, Soho-square, W. and George-yard, Cross-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

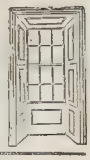
WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for oak.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application



JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DESPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,
CORNWALL ROAD, AND STAMFORD STREET, LAMBETH, S.

N.B. Price List on application.

JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,
110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.



MOULDING WORKS.
SMITH & McGAW


(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅜ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅞ by 7 ,, ...	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,, ...	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,, ...	17s.	18s. 0d.	19s. 6d. ,,

160 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

CLERIHEW & LASCELLES
(LATE WATERLOO, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

BUILDERS, AND CARPENTERS, AND OTHERS,
Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square. Laths, 28s. per Load.
Yellow Deals, sound and good.....£19 10 0 per 120, or 0s. 3½d. per foot.
Spruce Deals..... 16 10 0 ,, 0 2½ ,,
Yellow Battens, excellent quality ..... 11 10 0 ,, 0 2 ,,
Pine Planks, dry, 12 feet 3 inches by 11 feet ..... 21 0 0 ,, 3 6 each.
Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
½-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,, ...	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,, ...	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,, ...	0s. 0d.	18s. 0d.	18s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10 per 120.
Yellow Battens ..... 11 10 ,,
Spruce Deals ..... 16 10 ,,

Pine Planks (dry), 3 by 11 .....£24 0 per 120.
Pine Deals, ditto, 3 by 9 ..... 19 10 ,,
⅜-inch White Matched Lining..... 0 13 per square.

J. TERRY & SON, 109, Borough-road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards ..... } from 11s. 6d. per square
10,000 Pine Planks .....from 3s. 6d. each
8,000 Yellow Deals .....from 3s. 3d. each
14,000 Spruce ditto .....from 2s. 9d. each

5,000 Yellow Battens..... from £11 10s. per 120
60,000 Feet Spanish and Honduras Veneer ..... } from 1d per foot
Maple ditto ..... from 1d. per foot.

SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 2s. 2d.; Spruce, from 2s. 6d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; ¾ Yellow Battens, 11f. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¼ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,248.
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 ,,
Ladies' or Gentlemen's Gold English Lever Watches ...	18 ,,
Strong Silver Lever Watches	5 ,,
Gentlemen's Gold Compensation Balance Watches	40 ,,
Do. Silver do. do.	25 ,,
Marine Chronometers	35 ,,

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

CROGGON and COMPANY,
Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,
For Damp Walls, and Lining Iron Houses,
DOWGATE HILL, London; and 2, GOREE PIAZZA, Liverpool.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non absorbent.
Shipments on the shortest notice.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour. PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Inglesthorpe, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The inherent Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS BROTHERS & POTT Nine Elms, London

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Iron Wharf, Broadway, London.
N.B. Shipping Merchants and Brokers Orders promptly executed.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, and BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830), is ROBESON, Mount Pleasant, Grey's Inn-road. The cheap country-made article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster unequalled.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
19, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

GREAVES'S BLUE LIAS LIME
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS,
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRADD-STREET, PADDINGTON.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Where can be obtained, of the best quality:—
GREY-STONE CHALK, FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Dutch and Dutch WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS, for DUTCH CLINKERS.
Dutch and ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GLAZED
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TRAPS, and CHIMNEY POTS.
TERRA-COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Imitation of the
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED



SANITARY GOODS.

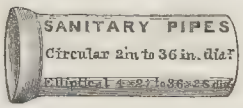
FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.

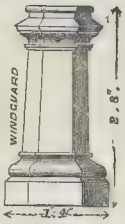




LONDON WHARF, 64, Bankside, Southwark.



LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.

LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

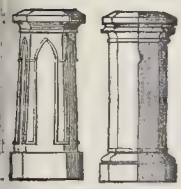
JAMES STIFF & SONS,

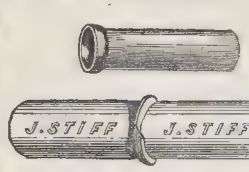
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connection.

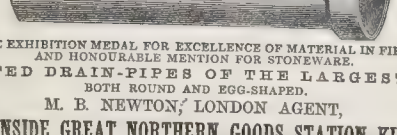
Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adopted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY,



Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

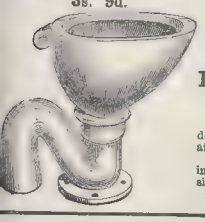
SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London Atmosphere

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

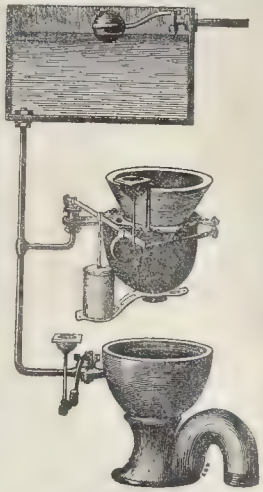
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,

FOUNDERS, HYDRAULIC AND GAS ENGINEERS, SHORT STREET, LAMBETH.

A PAN-CLOSET, BLUE BASIN, SUNK DISH, and APPARATUS, complete, TWENTY-FOUR SHILLINGS.

A SELF-CLOSING COTTAGE CLOSET, 12s. 6d.

PATTEN'S HIGH-PRESSURE and SELF-ACTING CLOSETS, URINALS, LAVATORIES, &c.

W. PATTEN, Patentee and Manufacturer, Old Fish-street, St. Paul's, London, E.C.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH, Near Astley's Theatre.

Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.

Only Medal awarded for "excellence of construction of Mathematical Instruments"

T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 6s. and 7s 6d; 31 inch, 3s. 6d. and 5s 6d.; 24 inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, to be on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use. Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d. post free.

STANLEY'S IMPROVED DRAWING PEN.



SOLID PARQUET FLOORS, ARROWSMITH'S PATENTED,

From 1s. per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture-Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 80, New Bond-street W.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in stating that they have received the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATERS of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

TO BUILDERS AND OTHERS.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, South London Marble Works, Bucknall-street, Old Kent Road (near the Rifle Players' Arms Station), on TUESDAY, OCTOBER 28th, at TWELVE, about 10 Marble CHIMNEYPIECES, in every variety of design, consisting of statuary, black and gold, black, vein, and various coloured marbles, some of which are highly sculptured, and suitable for first-class houses; also an assortment of plain Sicilian and stone chimneypieces.—May be viewed one day previous; and catalogues had on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, and 80, Fore-street, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.—Second Portion of the Surplus Materials and Plant used in the Works of the Metropolitan Railway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractor, John Jay, esq. to SELL by AUCTION, at the WORKS, Ragnigge-wells-road, King's-cross, and Raystreet, Clerkenwell, and Wood-green, Hornsey, close to the Station, on WEDNESDAY, OCTOBER 29th, and following days, at TWELVE, the second portion of the very valuable and extensive SURPLUS MATERIALS and PLANT; comprising about 500 loads of capital timber, in sticks and balk, die square, struts, &c.; 6,000 sleepers, wheeling planks, 200 tons of contractors' rails; seventy-five nearly new ballast waggons on springs, and built by Williams; trolleys, tip waggons, dobbin carts, 3 pile-driving engines with monkeys and crabs, lifting jacks, Murray's patent pump, 150 heavy and other barrows, gullet screens, ladders, &c.; 20 tons of iron, anvils, iron skips, large rigger wheels, long chains, double and single purchase crabs, boarded enclosures of stables, and numerous other effects. May be viewed two days previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, and 40, Parliament-street, S.W.

TO CONTRACTORS, RAILWAY COMPANIES, and OTHERS.—Nearly new Ballast Waggons, used in the construction of the Metropolitan Railway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Contractor, John Jay, esq. to include in the Sale of the Surplus Materials and Plant, at the WORKS, Ragnigge-wells-road, and Wood-green, Hornsey, on WEDNESDAY, OCTOBER 29th, and following days, SEVENTY FIVE very nearly new Ballast WAGGONS, on springs, to carry six tons, and built by Williams, Abbey-street. May be viewed two days previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, and 40, Parliament-street, S.W.

STRAND.—Extensive Sale of the Building Materials of Sixteen Modern-built Houses, the property of Mr. Prince Hall, as Lease Change, to clear the Site for the Erection of the new Strand Music Hall.

PULLEN, HORNE, and EVERSFIELD are instructed by the Directors of the Strand Music Hall Company (Limited) to prepare for SALE by AUCTION, on the PREMISES, in the early part of next month, the valuable MATERIALS and FITTINGS UP of SIXTEEN HOUSES and SHOPS, of modern erection, forming the whole of the Arcade, extending from Wellington-street North to Catherine-street, Strand, and known as Exeter Change, and including one large house, adjoining the Offices of the "Morning Post," which might be had at the purchaser's early convenience, the offices of the "Literary Gazette;" comprising a large quantity of very valuable and useful materials, detailed particulars of which will be given in future advertisements. The days of sale will be shortly announced in the papers, when ready maybe obtained at the Offices of E. BASSETT KEELING, Esq. Architect, 1, Vernham-buildings, Gray's-inn; at the Offices of the Company, 345, Strand; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City, E.C.

FREEHOLD first-class BUILDING LAND, riding beautifully from the Railway Station to the Ridgway, at Wimbledon, Surrey.

JOHN DAWSON & SON will SELL by AUCTION, at the MART, near the Bank of England, on THURSDAY, OCTOBER 30th, 1862, at TWELVE o'clock, TWENTY ACRES of FREEHOLD LAND, most attractively situate on a delightful sunny slope commanding a vast extent of scenery, embracing the beautiful Surrey and Sussex hills and the Downs. The valuable estate will be sold in two lots; each lot will include its own access from the Ridgway, and both present a large frontage on the Worple-way, which, within a very limited period, will be made into a capital public road to the Railway Station. Plans and further particulars may shortly be had of Mr. D. MASON, Land Agent, Wimbledon; of Mr. HENRY RICHARDS, Solicitor, Croydon; and at Messrs. JOHN DAWSON & SON'S Land and Auction Offices, Kingston, and Marlborough-chambers, Pall-mall.

River-side Freehold Property, unusually inviting as a site for a first-class Residence, in the Home park and garden of Hampton Court, approached by a drive with gardens, and fronting a broad open terrace, unfailing in attractions for gentlemen fond of angling and boating, and within a pleasant walk of the railway stations at Esher, Ditton, and Kingston.

JOHN DAWSON & SON will SELL by AUCTION at the MART, near the Bank of England, on THURSDAY, OCTOBER 30th at TWELVE o'clock, in one lot all that capital and highly improvable FREEHOLD ESTATE, slightly situate on the Surrey bank of the Thames, on a good elevation, and possessing very possible attraction and convenience to adapt it for building purposes, having above 300 feet of river frontage, and nearly as much on the public road to Hampton Court. Note.—This, it is believed, is the only available property directly verging on the river, and it forms a line of embankment almost continuous with the celebrated grounds of Boyle Farm and Ditton House. For many years past till now this place has been used as a wharf, and has a powerful crane. There are also a commodious dwelling-house, three other messuages, stabling, &c.; but all these now merge in the important and daily increasing value imparted by the railway accommodation and the enjoyments of the river.—Particulars, with conditions of sale and plans, may shortly be had of Mr. CHARLES WALTER, Kingston-upon-Thames, Solicitor, at the Auction Mart; of Messrs. JOHN DAWSON & SON'S Auction and Agency Offices, Kingston, and Marlborough-chambers, Pall-mall.

GOSPORT.—TO CONTRACTORS, BUILDERS, and OTHERS. In prime Style of General Contract for Plant

BRYETT & SON are instructed by Messrs. Rogers & Booth, contractors, &c. to SELL by AUCTION, in their YARD, Clarence-place and New Road, on THURSDAY, OCTOBER 30, 1862, and following days, at TWELVE o'clock precisely each day, a large portion of CONTRACTORS' SURPLUS PLANT used in the Gosport Railway and Government works, which are now completed: consisting of about 15,000 feet run of wheeling plank, a number of navvy barrows, twenty dozen of scaffold boards, 200 scaffold poles, cords and ropes, pile-driving engines, hydraulic lifting-machine; portable steam-engine, 7-horse power (by Barrett, Exall, & Andrews), nearly equal to new; contractors' pumps, capital 2-ton iron crane, with radius bar; weighing-machine, timber, and other effects. Also a quantity of useful materials in scantling, rough boards, firewood, slabs, drain and fine pipes, which will be enumerated in catalogues to be obtained on days' prior to sale (by post on application) of Messrs. ROGERS & BOOTH, Builders; or of BRYETT & SON, Admiralty Auctioneers, Gosport. May be viewed the day preceding all portions of sale.—Approved bills at three months taken for payment over £20.

TWO DETACHED FREEHOLD RESIDENCES, and Valuable BUILDING LAND in Seven Lots, in Holloway, facing the Station of the Great Northern Railway.

MESSRS. WARLTERS & LOVEJOY are instructed to SELL by AUCTION, at GARRAWAY'S, Change alley, about THURSDAY, OCTOBER 30, at TWELVE, by order of the Freeholder, with consent of the Mortgagee, a very valuable and improving ESTATE, let on a repairing lease, consisting of about 25 acres of land, with a valuable frontage of about 2,400 feet to the Seven Sisters-road, the corner of Blackstock lane, together with two Detached Residences (known as Red Cottage and the Grange), at the east part of the estate, and fronting that road; also 11 Building Plots, the whole peculiarly eligible for building purposes, being close to the Railway Station. The GREAT NORTHERN RAILWAY into the Metropolitan line, about to be opened, will present it in a short time, and is therefore offers an opportunity for a good and safe investment.—Particulars may be obtained on the Premises, of Messrs. MAPLEMAN & UFFILL, Solicitors, 15, Clifford's inn, Fleet-street; at GARRAWAY'S; and of the Auctioneers, 35, Chancery-lane.

CHITT'S-HILL, near SOUTHGATE, MIDDLESEX.—Delightful Residence, with attached and detached offices, capital standing beautiful pleasure grounds, gardens, park-like meadows, and building land, containing altogether about 58 acres.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE by AUCTION, at the MART, on WEDNESDAY, NOVEMBER 5, at TWELVE, a very desirable and valuable PROPERTY (generally freehold), known as Chitt's-hill (for many years the residence of the late John Overend, esq. and his widow), and pleasantly situate on the high road to Southgate, about a mile and a half from the Hornsey and Colney-hatch Stations on the Great Northern Railway, and only seven from the metropolis. It consists of a very substantial and comfortable residence, placed entirely within its own grounds, in excellent repair, and adapted for the immediate reception of a moderate-sized family. It is approached by a carriage drive and ornamental lodge entrance, commands a fine view of the surrounding country, and contains six bed chambers and dressing room, entrance-hall, portico and stone staircase; bow dining-room, 23 feet by 17 feet 6 inches; elegant drawing-room, 30 feet by 16 feet; library, very convenient domestic offices, secondary staircase, cool dairy, and excellent cellarage; capital three-stall stable, coach-house, and loft over, harness-room, yard, &c.; and at a convenient distance a farmyard and well-arranged farm buildings; beautiful lawns and pleasure-grounds, laid out with much taste, and filled with choice shrubs and plants, extensive dry shrubbery walks leading to four summer-houses; elegant conservatory, 40 feet long; hot and forcing houses, melon-pits, all heated by hot-water; very productive kitchen gardens, the walls clothed with fruit trees in full bearing, the New River winding through the richly timbered park-like paddocks; the whole comprising about 58 acres. The property has a very important frontage to the high road of upwards of 2,000 feet, a portion of which is immediately available for building purposes, without in any way interfering with the enjoyment of the remainder of the estate.—May be viewed by cards only, and particulars had of Mr. ROBERT FORSTER, Surveyor, Tottenham; Messrs. W. & B. WAKE, Solicitors, Sheffield; Messrs. YOUNG, JONES, & VALLINGS, Solicitors, 2, St. Mildred's-court, Poultry; at the Mart; and, with cards, of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange.

ISLINGTON.—SALVAGE STOCK, MUST BE SOLD.—Richly sculptured Statuary, Plain and Tooled Vein and Sicilian, St Ann's and Colonial Marble Chimneypieces.

MR. WAGSTAFF will SELL, on the PREMISES, 20, Halliford-st. Islington, on THURSDAY, NOVEMBER 6th, 1862, at TWELVE, the ENTIRE STOCK of a MARBLE MASON, including about One Hundred Marble and Stone Chimneypieces, the whole of excellent manufacture and of great variety.—On view and catalogues two days prior—Auctioneer's Offices, 176, Upper-street, Islington.

TO BUILDERS, DECORATORS, SHIPPERS, AND OTHERS.

MR. EDWIN WHITE'S SALE at 12, HOLBORN BARS, on TUESDAY next, at TWO punctually, will include about 900 pieces of PAPERHANGINGS, consisting of Flocks, Golds, Satins, Grounded goods, Marbles, &c.; 20 boxes French decoratives, Designs of many kinds, borders, centres, &c. Satin, grey, and other marble chimney-pieces; some good hard stone chimney-pieces; 20 cwt. white lead, several cwt. paint and grounds etc.; 2,000 feet gilt cornice in lengths; and other items.—View and catalogues on MONDAY and morning of sale.

TO BUILDERS, PLUMBERS, COUNTRY GENTLEMEN, AND OTHERS. The STOCK IN TRADE of an IRONMONGER. One ton white lead, stoves and ranges, plumbers' and fitters', 600 wrought-iron hurdles and numerous other Builders' goods.

MR. WM. HOLLINGSWORTH will SELL by AUCTION, at the Central Sale Rooms, 13, High Holborn, on MONDAY next, at TWO o'clock precisely, BUILDERS' IRONMONGERY and BUILDERS' FITTINGS generally. Full particulars in catalogues to be had at the Auction Offices, 13, High Holborn.

SWANAGE, ISLE of PURBECK, DORSETSHIRE.—The Sale of Freehold Property, advertised to be Sold by Auction at the Victoria Hotel, Swanage, on Thursday, the 30th of October, 1862, WILL NOT TAKE PLACE

C. & F. FILLITER, Solicitors, Wareham, Dorset.

October 18, 1862

CROYDON.—Important Sale of Building Land, having upwards of 3,000 feet frontage in the principal main and other roads, close to the town, both North and the West Croydon Station.

MR. CRISPE has received instructions to SELL by AUCTION, in lots, at the GREYHOUND HOTEL, Hall-road, Croydon, on SATURDAY, OCTOBER 25, at TWO for THREE o'clock, ONE HUNDRED PLOTS of FREEHOLD BUILDING LAND, occupying an extensive area, and having valuable frontages to the several roads, viz. Hall-road, Cherry Orchard-road, Dalmore grove, and continuation of Church street. A portion of the land is enclosed, and will be ready for delivery. This valuable building estate, from its proximity to the town, and a considerable portion of the frontage overlooking public grounds, and commanding beautiful views of Waddon and Beddington, is suitable for the erection of villa residences, and is situate within a few minutes of West Croydon Railway station, the nearest to the parish church (to which one of the roads is the main approach), and the beauty of the scenery, present many varied attractions. A further portion is available for shop and cottage property, and a commanding corner plot will be reserved as a desirable site for a country inn. The limits of this announcement are precluded the minute and particular details of this eligible estate, which, from position and local advantages, is one of the most important offered for many years in the highly favored town. Particulars, with conditions of sale and plans, may be had of Messrs. DEAN, CHURB, & SAUNDERS South-square, Gray's-inn; and at Mr. CRISPE'S Offices, 145, High-street, Croydon.

MAIN DRAINAGE CLEARANCE SALE, Peckham Wharf (Canal side) and Hanover Park, Rye-lane, Peckham, Surrey.—To Engineers, Contractors, Builders, Dealers in Contractors' Plant, Wood, Iron, &c.

MR. FRED. CHAPMAN is favoured by the Contractors for the Southern High-Level Sewers with instructions to SELL by AUCTION on WEDNESDAY and THURSDAY, NOVEMBER 12 and 13, 1862, at TWELVE PRECISELY each day, on the Premises, the whole of the WORKING PLANT and MATERIALS; comprising about 600 yards of 3-feet Timber Tramway, with Cast-iron Rails, Chairs, Keys, and Fastenings complete; 6 good Portable 6 and 8 horse Vertical, Horizontal, and other STEAM ENGINES, eight Locomotive Boilers, several useful small horses, carts, earth and mortar waggons, mortar mills, barrows, &c.; also several tons of contractors' temporary rail (36 to 40 lbs per yard); the erections of stabling and sheds, and a large quantity of manure; and on the following day, at the same hour, at Hanover Park, a large quantity of iron and timber, warehousing, fittings, portable forges, bellows, and smiths' tools; grindstones, sand-screens, chains, &c.; several balks of timber, stacks of temporary sleepers, wood, and other useful effects. May be viewed the day preceding, and Catalogues had of Messrs. BENNETT, Esqs. Nos. 6, Hyde-terrace, Bayswater; of Mr. MORRIS, Builder, Tay Tay Cross, Mr. OWEN, Roebuck, Lewisham; the Kentish Drovers and Hanover Arms, Peckham; at the principal Inns in the neighbourhood of the wharf, and of the Auctioneer, Park-terrace, New Cross-road, Kent.

IN BANKRUPTCY.—COLVILLE SQUARE, BAYSWATER. 10 BUILDERS AND OTHERS.

MR. BAKER has been favoured with instructions from the Assignees to SELL by AUCTION, on the PREMISES, Colville-square, Westbourne Park, Old Lawn Chambers, on TUESDAY, OCTOBER 28th, at TWELVE PRECISELY, the valuable STOCK IN TRADE of a BUILDER, comprising timber in planks, battens, deals, scaffolding, new painted sashes, doors, bricks, and other materials, boilers, stoves, grates, ranges, ironmongery, glass, lead, and other effects. May be viewed the day previous, and Catalogues had of Messrs. BENNETT, Esqs. No. 6, Hyde-terrace, Bayswater; of the AUCTIONEER, Park-terrace, New Cross, Kent; and at the Offices.

IN BANKRUPTCY.—COLVILLE SQUARE, BAYSWATER. 10 BUILDERS AND OTHERS.

MR. BAKER has been favoured with instructions from the Assignees to SELL by AUCTION, on the PREMISES, Colville-square, Westbourne Park, Old Lawn Chambers, on TUESDAY, OCTOBER 28th, at TWELVE PRECISELY, the valuable STOCK IN TRADE of a BUILDER, comprising timber in planks, battens, deals, scaffolding, new painted sashes, doors, bricks, and other materials, boilers, stoves, grates, ranges, ironmongery, glass, lead, and other effects. May be viewed the day previous, and Catalogues had of Messrs. BENNETT, Esqs. No. 6, Hyde-terrace, Bayswater; of the AUCTIONEER, Park-terrace, New Cross-road, Kent; and at the Offices.

STROOD, KENT.—To CONTRACTORS, BRICKMAKERS, and OTHERS.

MR. A. E. KIDWELL has been favoured with instructions to SELL by AUCTION, on TUESDAY, OCTOBER 28th, 1862, at TWO exact, on the WHARF and PREMISES, Strood, a large quantity of 9IN. OAK, and other PILES, 1,000 new sleepers, a quantity of posts, rails, useful wood, fire-wood, &c.; the property of Mr. J. H. Ball, who has completed a contract.—Catalogues of the Auctioneer, Rochester.

RUTT'S TIMBER YARD, Bear-lane, Southwark, required immediately for the construction of the London, Chatham, and Dover Railway.—To TIMBER MERCHANTS, CARRIAGE MANUFACTURERS, PIANOFORTE and CABINET MAKERS, and OTHERS.

MESSRS. EDWIN FOX & BOUSFIELD are instructed to SELL by AUCTION, on the PREMISES known as Rutt's Timber Yard, Bear-lane, George-street, Blackfriars, on MONDAY next and following day, at ELEVEN for TWELVE each day, on account of the number of lots, the extensive well-seasoned TIMBER STOCK; comprising upwards of 5,000 feet mahogany panelling, 1,000 feet mahogany and other veneers, 10,000 feet yellow Labrador planks, mahogany boards, in boards, 12 inches, 3,000 feet; several loads fine hornbeam, ash plank, 23 loads American birch; 12 pear trees, 5 walnut butts; an immense quantity of birch, ash, sycamore, and mahogany planks in thousands; nurseries, deals, battens, spruce, and yellow planks; pine, cedar, and Spanish mahogany; yew, lime, chestnut, beech, elm, floor boards, &c.; also a useful mare, a capital light spring cart, a heavy ditto; a four-wheel phaeton; pit saws two pair screws, cross-saws, &c. On view, and catalogues had on the Premises; of Messrs TAYLOR & JAQUET, Solicitors, South-street, Finsbury; and at Messrs. EDWIN FOX & BOUSFIELD'S Offices, Coleman-street, Bank.

On MONDAY, OCTOBER 27, at TWELVE.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Railway-arches, Cundentown, the STOCK of a BUILDER, removed for convenience of sale.

3,500 feet of Mahogany
2,500 Yellow Deal, Pine, and Spruce Planks, Deals, and Battens.
400 feet of Wainscot
600 feet Yellow and White Planks, Deals, and Battens.
112 squares of Flooring.
7 cwt of Quarterings
Scaffold-poles, boards, and cords, 10 ladders, 20 doors, ironmongery, spring cart, and a clearance of yard

Auction Offices, Cardington-street, Hampstead-road.

TO ESTATE AGENTS and OTHERS.—WANTED to RENT, with option of purchase, a LARGE MANSION, adapted for a public institution. It must stand within its own grounds of not less than 20 acres, and be near a Railway Station, not more than 10 miles from London.—Address, with full particulars, to A. Z. care of J. Tolley, esq. 13, Angel-court, Throgmorton-street, E.C.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 97, Prince Albert's-road, W.

BUILDING LAND TO LET.—At Hackney, close to the Railway Station, for Shops, TO LET about 60L.; and Dwelling-houses, at 30L. At Norwood, close to the Crystal Palace, for Villa Residences, TO LET about 50L. At Feltham, for Villas, with large gardens. All with roads made. Brick Earth and advances, if required.—Apply to Mr. GREEN, Architect, 25, College-hill, Cannon-street, E.C.

MR. CRISPE begs to intimate that in laying out the above Estate of nearly SEVEN ACRES, he has reserved an important CORNER PLOT as a SITE for a PUBLIC-HOUSE. As the other roads are laid out on the Estate south of the Wandle, it will be found worthy of the attention of Brewers, speculators, and others.—Mr CRISPE is authorized to say that orders have been given for the erection of a Railway Station within a few hundred yards of this lot.

CROYDON. — FREEHOLD GROUND RENTS.—In the above sale, these will be included, and form a first-class investment.—Plans and particulars sent free by post.

GUILDHALL, October 16, 1862.—The Committee for Letting the City Lands will meet at GUILDHALL, on WEDNESDAY, the 29th NOVEMBER next, at ONE o'clock precisely, to receive PROPOSALS for a BUILDING LEASE for 80 years of a piece of ground on the north side of Queenhithe Dock, in the City of London.—Plans of the ground may be seen, and further particulars and Forms of Tender obtained, upon application at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

FOR PRIVATE SALE.—Several substantially built FREEHOLD HOUSES facing Victoria Park, one of the most healthy and desirable localities round London. Well let. Also, a number of smaller HOUSES, in the same neighbourhood (from one to fifty). Trains to the spot, by the North-London Railway, every quarter of an hour. Also, some eligible GROUND RENTS, for every quarter of an hour. Also, some eligible GROUND RENTS, for investment.—Apply to Messrs. RAW & GURNEY, Solicitors, 7, Furnival's-inn; or to Mr. WM. WHITE, 62, Francis-terrace, Hackney Wick, Victoria Park.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The leases will contain a clause entitling the lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Catford, Kingsbury, and other very eligible SITES in the Grove road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 7, Church-street.

HOXTON.—HABERDASHERS' ESTATE.—TO BE LET, by TENDER, a FREE PUBLIC HOUSE and THIRTY FIVE DWELLING HOUSES, in Haberdashers'-street, and NINETEEN DWELLING HOUSES, in Aske's-terrace; the TWELVE HOUSES, in Haberdash-place (Nos. 1 to 12), fronting the high road, which may be converted into shops, on Leases for twenty-one years from Michaelmas next. Particulars and Form of Tender (which must be sent in by THURSDAY, the 27th of NOVEMBER) to be obtained at Haberdashers' Hall, Gresham street West, E.C.; and of Mr. SNOOKE, Surveyor, 6, Duke-street, London Bridge.

JOHN CURTIS, Clerk.

FOR SALE, several PLOTS of FREEHOLD BUILDING LAND, on the Benhill Estate, Sutton, Surrey, from 20 to 30 feet frontages, in lots to suit purchasers, convenient for the Sutton Railway Station, half-hour's ride from the London Bridge Terminus, and supplied with water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Builder, Sutton, S.

EXTENSIVE MANUFACTURING PREMISES, Southwark, TO BE LET, or LEASE, EXTENSIVE MANUFACTURING PREMISES, occupying a very large area, situate in the Borough-road, Southwark. The Buildings, which are very substantially erected, comprise a very large factory, of three lofty floors, with basement; a smaller factory, of four floors, adjoining; a very spacious and lofty ground floor factory, yard, a capital family residence and offices, two cottages, and a lofty brick shot tower, 150 feet in height, forming the Borough road, Nos. 77, 78, and 79, which can be readily let off if desired.—For further particulars apply on the premises; or to Messrs. FULLER & HORSEY, Billiter-street, Fenchurch-street, E.C.

London: Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of the Builder, No. 1, York-street, in the Parish of St Paul, Covent-garden, both in the County of Middlesex.—Saturday, October 25, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1030. NOVEMBER 1, 1862. PRICE FOURPENCE. *By Post, 5d.*

ILLUSTRATIONS.

The Mansion of Baron Rothschild, M.P., Piccadilly, London. Messrs. Nelson & Innes, Architects 787

Plan of First Floor of Baron Rothschild's Mansion 788

CONTENTS.

Steps Backward at the Institute of Architects 777

The Two Hartlepools: Condition of our Towns 777

The New Theatres of Paris 777

Sketch of the History and Present Practice of Measuring Artificers' Work in Glasgow, with Statement and Comparison of Different Modes of Estimating 780

Surrey Archæological Society 783

Notes upon some Northamptonshire Antiquities 783

Mark Masonry: New Railway Viaduct near Dunkeld 784

A Child viewed as an Investment 785

The Church of St. Nicholas du Chardonneret, Paris 785

Thames Embankment: Metropolitan Board of Works 785

Baron Rothschild's New Mansion in Piccadilly 786

The Condition of the Bankruptcy Courts 786

Population and Houses 786

Prevention of Decay in Timber 787

King William's College, Isle of Man 789

From Melbourne and Victoria 789

Stained Glass 789

Church-building News 790

Provincial News 791

Schools of Art 791

The Condition of Dale Church, near Ockbrook: Who's to Blame? 791

The Hartley Institute, Southampton 791

The Builders' Benevolent Institution 792

Compressed Air as Motive Power 793

Queen's Cross, Northampton 793

Mosaics *versus* Frescoes 793

The Provincial Architects' Association 794

What is a "Writer"? Metropolitan Building Act 794

Earth Closets and Steam Stoves 794

Competitions 794

Demolition of a House: Metropolitan Management Act 795

Patents connected with Building 795

Miscellanea 795

ARCHITECTS' BENEVOLENT SOCIETY.

Sir Robert Smirke. A. J. B. Beresford Hope, Esq. M.P.

PRESIDENT—Sydney Smirke, Esq. R.A.

TRUSTEES.

Philip Hardwick, Esq. R.A. | Charles R. Cockerell, Esq. R.A.

TREASURER—William Tite, Esq. F.R.S. M.P.

The List of Subscriptions and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM HOSKINS, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 52, Great Ormond-street W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Public Establishment of the Department of Public Works in India will, in the year 1863, be open to public competition.

A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the subjects in which candidates will be examined at the Examination, and as respects the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter. (Signed) T. G. BARING.

India Office, 28th June, 1862.

N.B.—All communications to be addressed to the "Under Secretary of State for India."

LECTURES to WORKING MEN.—ROYAL SCHOOL of MINES, Jermyn-street.—The first Course, consisting of SIX LECTURES on our KNOWLEDGE of the CAUSES of the PHENOMENA of ORGANIC NATURE, by Professor HUXLEY, F.R.S. will be commenced on Monday, the 3rd November, at Eight o'clock. Tickets may be obtained by working men only, on Monday, the 3rd inst. from Ten to Four, upon payment of a fee of 6d. for the Six Lectures. Each applicant is requested to bring his name, address, and occupation, written on a piece of paper, for which the ticket will be exchanged. TRENHAM REEKS, Registrar.

AUTUMN EXHIBITION of BUILDING INVENTIONS at the GALLERIES of the ARCHITECTURAL SOCIETIES, 9, Conduit-street.—Exhibitors at the International Exhibition and others are informed that SPACE may be taken at the Gallery aforesaid from the 1st to the 15th of NOVEMBER, and that it will be open from NOVEMBER to the end of JANUARY.—Apply to Mr. MOODY, on the premises.

TO INTERNATIONAL EXHIBITORS.

TO BE LET, until the END of FEBRUARY, the spacious GALLERY of the SOCIETY of BRITISH ARTISTS, Suffolk-street, Pall Mall East, consisting of Five Large Rooms, suitable for the reception and display of light goods, &c.

T. ROBERTS, Secretary.

COMPETITIONS.

TO ARCHITECTS.

A PREMIUM of TWENTY GUINEAS will be given for the APPROVED DESIGN for the Front Elevation, Staircase, and Lantern of a Building required for a Wholesale and Retail Ironmonger. All particulars can be obtained from Messrs. REED & POWELL, 6, Broad-street Buildings, London, E.C. The Plans must be sent in before the 15th NOVEMBER. Advices by Post-mail can be made Messrs. REED & POWELL to extend the time for receiving Plans to 15th November.

CONTRACTS.

COAST GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST GUARD STATION, at Mumbles, near Swansea, in the county of Glamorgan, may inspect the drawings and specification at the Coast Guard Watch House, at Mumbles, or at this Office, between the hours of TEN and FOUR, from MONDAY, the 20th instant, to SATURDAY, the 1st NOVEMBER, now next ensuing, and both inclusive (Sunday excepted).

Tenders to be sent to this Office, not later than TWELVE o'clock at noon of the said NOVEMBER 1st, under seal, addressed to the Commodore Coast Guard, and endorsed "Tender for Mumbles Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 18th day of October, 1862, at the Admiralty Coast Guard Office, 12, Spring-gardens, London, S.W.

NOTICE to BUILDERS.—TENDERS are required for the ERECTION of the Second Portion of the BUILDINGS for a COMMISSARIAT ESTABLISHMENT, on the Maudstone-road, near Chatham, in the Medway District.

Parties desiring to Tender for the execution of these works must leave their names at this Office on or before MONDAY, the 10th NOVEMBER, 1862, and pay the sum of Ten shillings and sixpence for the bills of quantities, which will be forwarded to each party as soon as prepared by the Government Surveyor.

The Secretary of State does not bind himself to accept the lowest or any Tender.

Royal Engineer Office, Chatham, 27th October, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to SHIP BUILDERS, EXCAVATORS, and OWNERS of DREDGING BARGES and FLOATS.—TENDERS are required for TAKING IN and BERTHING the Steam Ship "MERMAID," in the harbour at Queen Victoria Dock, Dublin.

Parties desirous of Tendering can obtain every information, and inspect the drawing of the site and section of the bed of the harbour, at the Office of the District Commanding Royal Engineer, Dublin, between the hours of TEN and FOUR o'clock, on any day (Sundays excepted), commencing on the 22nd OCTOBER and ending on the 20th NOVEMBER, inclusive, and the Tender, on application, either personally or by post, to the undersigned.

The Vessel requires to be delivered to the Admiralty Contracts War Office, Pall-mall, London, S.W. on or before the 15th NOVEMBER next.

The Secretary of State for War does not bind himself to accept the lowest or any Tender.

Office of the Commanding Royal Engineer in Ireland, Dublin Castle, October 24, 1862.

WREXHAM LOCAL GOVERNMENT BOARD.—SEWERAGE WORKS.—CONTRACT No. 1.—To Earthenware Pipe Manufacturers, Ironfounders, Contractors, and Others.—The Local Board for the District of the Borough of Wrexham, the County of Denbigh, do hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following CONTRACT:—

CONTRACT No. 1.—For the construction and completion of about 4,000 lineal yards of Brick Sewers, from 15 inches to 3 feet 6 inches in diameter, about 1,000 lineal yards of Earthenware Pipes, and about 500 lineal yards of Cast-iron Pipes; for constructing Manholes, Ventilating Shafts, Gratings, and Other Works, Sluice Gullies, and the Whole of the Sewers, and drawings may be seen at the Local Board Surveyor's Office, Hope Chambers, Wrexham, and the Specifications for the same obtained, on and after WEDNESDAY, the 22nd of OCTOBER, by the payment of two guineas, on application at the Office of JOHN JAMES, Town Clerk, and Clerk to the Local Board, Wrexham; or at the Office of JOHN LAWSON, Civil Engineer, 34, Parliament-street, Westminster. Sealed Tenders, endorsed "Tender for Sewerage Works," must be forwarded to the Clerk to the Local Board on or before WEDNESDAY, the 5th day of NOVEMBER, 1862. The Local Board do not bind themselves to accept the lowest or any Tender sent in.

JOHN JAMES, Town Clerk, and Clerk of the Local Board.

Town Clerk's Office, Bryn-y-ffynnon, Wrexham, October 15, 1862.

LONDON and NORTH-WESTERN RAILWAY COMPANY.—To CONTRACTORS and BRICKMAKERS.—The Directors are desirous of receiving TENDERS for the SUPPLY of about THIRTY MILLIONS of BRICKS for the Viaduct at Runcorn, on the Aston and Ditton Branch Railway. Three-fourths of the bricks required will be prepared in the Lancashire coal and the remaining fourth on the Cheshire side of the river Mersey. Parties desirous of Tendering may obtain all necessary information upon application to Mr. WILLIAM BAKER, Engineer, Euston Station. Tenders, addressed to the Secretary, at this Office, to be sent in on or before MONDAY, the 10th of NOVEMBER next. The Directors do not bind themselves to accept the lowest Tender. By order,

Euston Station, October 29, 1862. CHAS. E. STEWART, Secretary.

TO CAPITALISTS and BUILDERS.—TENDERS are invited by the Trustees of the Estates of the late R. Tuppin, Esq., for the LETTING, on Building Leases, for 99 years, about 13 Acres of LAND, at the Dittons, near Esher.

Very short distance from the Esher road Station of South Western Railway.

Plans and particulars of the Estate may be seen. Tenders, sealed and addressed to the undersigned, to be delivered on or before the 20th NOVEMBER next to A. H. CLAPHAM, Esq. Solicitor, 14, Liverpool street, Bishopsgate, from whom all further particulars may be obtained; or of Messrs. HOVENDEN & HEATH, Surveyors, 4, Broad street Buildings, E.C. The Trustees do not bind themselves to accept the highest or any Tender.

A. H. CLAPHAM,
14, Liverpool street, Bishopsgate, Solicitor for the Trustees.

RODE CHURCH, Lawton, Stoke-upon-Trent.—Persons desirous of TENDERING for the WORK are requested to apply to Mr. G. G. SCOTT, 20, Spring Gardens, London, on or before MONDAY, NOVEMBER 10th, when they will be informed as to the conditions of the competition. Mr. Scott does not bind himself to accept the lowest or any Tender.

CONTRACTS.

TENDERS.—To CONTRACTORS, PIPE-LAYERS, &c.—The Directors of the Fylde Waterworks Company are prepared to receive TENDERS for LAYING and JOINTING MAIN PIPES, from the Grizedale Reservoir, near Garstang, to the Town of Blackpool, by the 4th of DECEMBER next. The casting of the Firwood pipes will be set about presently. The lengths of pipes will be as follows:—29-inch pipes, 12½ miles; 10-inch pipes, 5 miles; 9-inch pipes, 1 mile; 7-inch pipes, 5 miles; 6-inch pipes, 2½ miles. The pipes will be delivered to contractors at Glasson Dock, Fleetwood, and Lytham. Plans and sections may be seen on and after the 10th inst. Specifications and forms of Tender can be obtained on payment of 5s. at the Office of Mr. T. B. FOSTER, Civil Engineer, 24, John Dalton-street, Manchester. Tenders must be sent in to Mr. T. A. WILKINSON, the Secretary of the Company, at the Fylde Waterworks Office, Kirkham, not later than TUESDAY, the 4th of NOVEMBER. The contract will be let as a whole or in such portions as the Directors may decide. The Directors do not bind themselves to accept the lowest or any Tender.

TO CONTRACTORS for SEWERS, and OTHERS.—The Vestry of the Parish of St. Martin's-in-the-Fields will Meet at the Vestry Hall, on THURSDAY, the 6th day of NOVEMBER next, to receive TENDERS for the SUPPLY of MATERIALS, and the Execution of Piping and Masonry Works required for the Sewers and Drains will in the said Parish. Printed Lists of Each Parcel of Articles of Materials and Tenders must be Sealed, and the conditions of contract, may be obtained of Mr. BURSALL, the Surveyor to the Vestry, at his office at the Vestry Hall, any morning between the hours of TEN and TWELVE o'clock, on payment of five shillings, to be returned to parties tendering, and no other form of Tender will be accepted. Tenders must be delivered sealed up, at the Vestry-hall, before FOUR o'clock on the said 6th of NOVEMBER, endorsed "Tender for Sewers Work." The Contractor will be required to enter into a contract and bond, with two responsible sureties, for the due performance of the contract. The Contract to be prepared, at the Contractor's expense, by the Solicitor to the Vestry. The Vestry do not bind themselves to accept the lowest or any Tender.

J. DANGERFIELD, Vestry Clerk.

Vestry-hall, St. Martin's-in-the-Fields, October 16th, 1862.

TO MASONS and PAVIORS.—The Vestry of the Parish of St. James and St. John, Clerkenwell, will MEET at the VESTRY HALL, Old Street, Saint Luke's, on THURSDAY, the 6th of NOVEMBER at HALF-PAST SIX o'clock in the evening, to receive TENDERS for PAVING the ROADWAY of Goswell-road and Guildford-place, and for WIDENING the FOOTPAVEMENTS, as per specification which may be seen at the Office, daily, from TEN till FOUR. The work to be commenced immediately. Sealed Tenders to be sent in to CLERK [illegible] day next, endorsed, "Tender for Paving." Persons or their agents must be in attendance at the time named for receiving the Tenders. The Vestry do not bind themselves to accept the lowest or any Tender.—By order,

ROBERT PAGET, Vestry Clerk.

Vestry Hall, Clerkenwell, October 30th, 1862.

TO BUILDERS. — Builders willing to TENDER for RE-BUILDING ST. ISSEL'S CHURCH, near Saunderton, Buckinghamshire, may see the plans and specification at the Office of Mr. WILSON, 15, Hanover-street, Hanover-square, London, W. Sealed Tenders to be delivered sealed and endorsed, "Tender for re-building St. Issel's Church," to Mr. WILSON, [illegible] on or before the 11th DECEMBER next. The lowest or any Tender will not necessarily be accepted.

FREDERICK R. KEMPSON, Architect.

Hereford, October 1, 1862.

GLYNN SCHOOLS, KINGSWINFORD. Persons desirous of CONTRACTING for the ERECTION of a NATIONAL INFANT SCHOOL and SCHOOL MISTRESS'S DWELLING, [illegible] may see the plans and specifications and necessary information at my Office, Union Chambers, Stourbridge.—Tenders to be addressed to the Rev. C. GIRDLESTONE, Rector of Kingswinford, and forwarded to me on or before the 7th day of NOVEMBER next, for the "Glynn Schools," on or before the 7th day of NOVEMBER instant.

F. SMALMAN SMITH, Architect.

Stourbridge, Oct. 28th, 1862.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—To BUILDERS and IRONFOUNDERS.—The Directors of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the CONSTRUCTION and ERECTION of a WROUGHT-IRON ROOF over part of the Brighton Station. Drawings and specifications may be seen at the Office of the Engineer, Mr. JACOMB HOOD, 7, Parliament-street, Westminster, A.M. on and after MONDAY, the 3rd NOVEMBER. Tenders must be delivered to the undersigned, London-bridge Terminus, not later than TWELVE o'clock, on THURSDAY, the 13th proximo.

N.B. The Directors will not be responsible for any Tender.

[illegible] SMITH, Secretary.

London Bridge Terminus, Oct. 30th, 1862.

MIDLAND RAILWAY.—To CONTRACTORS and OTHERS.—The Board of Directors are ready to receive TENDERS for PURCHASE of [illegible] BUILDING MATERIALS, now lying on the ground [illegible] Tenders must be sent in [illegible] on or before TUESDAY, the 11th day of NOVEMBER, 1862. Drawings and specifications may be seen at the Office of the Engineer, [illegible] Tenders must be addressed to the undersigned, and delivered not later than TWELVE o'clock, on THURSDAY, the 13th proximo.

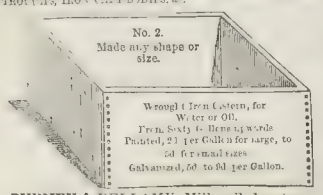
The Directors will not be responsible for any Tender.

[illegible] SMITH, Secretary.

Derby, 29th October, 1862.

TENDERS from practical and skilful [illegible] are invited by the undersigned, to be delivered to [illegible] on or before MONDAY, the 10th day of NOVEMBER next, to the Office of the Local Board of Health, for DRAINING the TOWNSHIP of [illegible] HASLETT-MARKET-LANE, in the south division of the township of [illegible] on behalf of the 18th of NOVEMBER next, to the Office of the Local Board of Health. Tenders for the [illegible] to be accompanied with testimonials as to experience and suitability. The Board will not bind themselves to accept the lowest or any other Tender.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, ROOFS, &c. plain or galvanized, CATTLE TROUGHS, HOT-WATER BOILERS, &c.



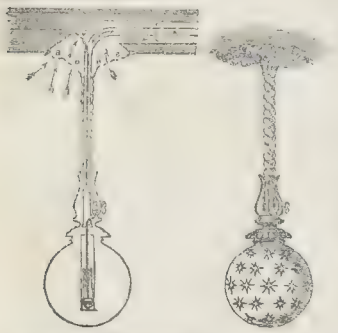
BURNEY & BELLAMY, Mill-wall, London.

THE MEDAL FOR 1862.
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE MARK.

CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought Iron Tubes.

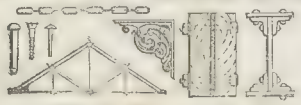
RICKET'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 6 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour
5, AGAR STREET, STRAND, LONDON, W.C.

BUSINESS REMOVED TO THE DOVER IRON WORKS, STAPLE STREET, LONG LANE, BOROUGH, S.E.

H. G. COOMBS, IRONFOUNDER, &c
INVENTOR AND MANUFACTURER OF THE PATENT ROTARY SHOP.
PATENT WROUGHT IRON TUBULAR GATES and RAILINGS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

TO BUILDERS, IRONMONGERS, &c.
TO BE SOLD, at greatly REDUCED PRICES, A SURPLUS STOCK OF STOVES AND FENDERS.
For further particulars apply to
COTTAM & CO. 2, WINSLEY STREET, OXFORD STREET, W.

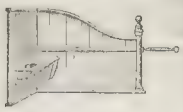
A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FOR FRENCH WINDOWS;
The above are now respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London, and SUCH ONLY are WARRANTED.

VENTILATING STOVES—Cheap, simple, efficient, and durable. Thousands have been sold, and universally approved. They are suitable for Halls, Warehouses, Conservatories, and every situation where a close stove is required. The largest size (to burn 2 tons of coke) is capable of heating a building of 10,000 cubic feet, with great effect and economy. Prices 7s. 6d. to 50s. and 12s. Prices with ornamental grate-work, &c. from 12s. to 40s. Illustration daily. The trade supplied.
DEANE & CO.,
Opening to the Monument, London Bridge. Established A.D. 1700.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, STAND 6150.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing more real advantages to be found in anything hitherto made.
At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS received a SILVER MEDAL and two awards of "highly commended," being the only prizes conferred on any competitor in this class.



MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Watering by Hot Water, and an excellent Aid in Ventilation.



It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. It boils will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours at a cost of Threepence; and deserving of special attention, because of its safety, Healthfulness, durability, and extreme simplicity
Full particulars will be sent on application to the Inventors and Makers.

MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

DRAUGHTS & DUST ROUND DOORS & WINDOWS
EFFECTUALLY PREVENTED BY
GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS
(*Can be had any Length or Pattern*).
The neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work, OLD or NEW
Self-acting Spring Slides for the bottom of doors.
The most imperfect door can be made air-tight without re-hanging.
The Trade supplied on liberal terms.
JOHN GREENWOOD, PATENTEE,
10, Arthur-street West, London Bridge.





REGISTERED MEDIÆVAL SUN-BURNER.



INTERNATIONAL EXHIBITION,
Class 31 and 34.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
THE NEW CRYSTAL STAR AND SUN LIGHT.
J. DEFRIES & SONS,
ENGINEERS, GAS-FITTERS, AND MANUFACTURERS
OF MEDIÆVAL AND EVERY DESCRIPTION OF GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS, VESTIBULES, &c. &c.
Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other Public and Private Buildings,
HOT-WATER PIPES,
For Heating Conservatories, Warehouses, &c supplied and fitted on the most improved and economical Principles.
PUBLIC AND PRIVATE GAS WORKS ERECTED.
Works—London and Birmingham.
PRINCIPAL DEPOT AND SHOW-ROOMS,
147, *Houndsditch, City.*

CLAYTON, SHUTTLEWORTH, & CO.
ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,
STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.
Descriptive, Illustrated, and Priced Catalogues free per post.

W. HARMER & SON,
BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.
WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.
WROUGHT IRON TUBE and FITTINGS for GAS or WATER.
CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.
W. HARMER & SON,
3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

GALVANIZED IRON AND ZINC WORKS.
GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.
VAVASSEUR AND CO.
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

IMPROVED WARM-AIR STOVES, FURNACES, & HOT-WATER APPARATUS
FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS.
KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION.
Manufactured and erected by J. KIRK & CO., Successors to
CUTLER & SONS,
CLARENCE IRON WORKS,
16, GREAT QUEEN-STREET, LINCOLN'S-INN-FIELDS, LONDON.
IRON-FOUNDERS, FURNISHING IRONMONGERS, GAS ENGINEERS, AND BELL-HANGERS.
Orders for EVERY DESCRIPTION of CASTINGS for ENGINEERS and BUILDERS promptly executed.
SPRING ROLLER BLIND MAKERS.
WILLIAM ASHDOWN, Manager.

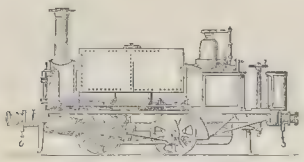
ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers (all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.
TRADE MARK.

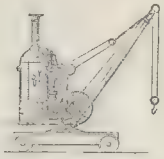
TO BUILDERS, CONTRACTORS, and OTHERS.—BLOCKS, CRAB & CRANES, JACKS of all kinds, and TRAVELLING JENNIES (of all sizes, to lift any weight from one to fifty tons,
Manufactured by ELI RICHARDS, 55, New Park-street, Southwark.
Foreign orders executed with despatch.
Chain for Slings, Cranes, and Blocks, in lieu of rope; equal to hoist any weight; warranted of the best iron and workmanship, and tested by patent machinery; on the lowest possible terms.

VICTORIA LEAD WORKS, ELIZABETH STREET SOUTH, PIMLICO.
JOHN GOODSON, Manufacturer of every description of Plumber's Work for Builders, Chemists; Gas, Paper, Candle, and Alum Makers; Ornamental Rain-Water Pipes, Heads, Bends, &c. Water-closet S Traps, in 6lb. lead, for 8s. each. Cannot choke, and contain no foul air.
Five minutes' walk from the Grosvenor Hotel.

NEW PATENT
PORTABLE STEAM ENGINES & BOILERS.


Contractors' Locomotive.


Stationary Engine.


Portable Steam Crane.


Portable Hoisting Engine.

STATIONARY ENGINES.

THE Engine is strongly attached to the Boiler, which requires no Chimney-shaft nor any BUILDING WHATEVER. The Boiler rests on a strong cast-iron base plate, which forms the ash-pit, and is provided with a door for removing the ashes and regulating the draught, thus giving complete control over the power of producing steam in the boiler. There is, by the adoption of the base plate, no necessity for any brickwork whatever connected with these Engines, which have only to be set up on any secure foundation, and even, with perfect safety from risk of fire, on an upper wooden floor, with the addition, in such case, of an ordinary water ash-pan. The furnace-door is so constructed, with a simple patent apparatus, as to afford more perfect combustion of the gases arising from the fuel which is being consumed.

The Boilers are of the most improved tubular construction, consuming less fuel, and generating steam more quickly than the ordinary dome variety, and are tested to more than double their working pressure. Dome boilers, however, can be supplied if desired. A further great improvement in the smaller sizes of these Engines is, that the crank shaft is so constructed as to admit of the fly-wheel being placed on either side, or a pulley at the side opposite to the fly-wheel to drive additional machinery, this being much superior to the old over-neck crank, which does not possess such advantage. *The Cylinders of the Engines have a greater diameter—thus giving more power—than other Engines offered at the same price. The Engines are delivered free in Glasgow, Hull, Liverpool, or London, at the prices quoted.*

They are superior in finish as well as construction to any other Engines of similar description. Being very carefully made of the best materials, they may be perfectly relied on to work satisfactorily, and from their self-completeness they may be erected and set to work by any ordinary mechanic to instructions supplied. These improved Engines have the great advantage of being applicable to a variety of purposes, the small space they occupy rendering them available where ordinary Engines cannot be used.

Engines mounted on flanged railway or plain roadway wheels, at 10 per cent. extra to the prices quoted. *All Engines are fitted with improved steam pressure gauge without extra charge.*

PRICES OF ENGINES AND BOILERS COMPLETE.

Delivered Free in Glasgow, Hull, Liverpool, or London.

1	Horse Power,	Cylinder	3½in.	×	6½in.	Stroke	...	...	£45	9	Horse Power,	Cylinder	9½in.	×	16in.	Stroke	...	... £180
2	,,	,,	4½ ,,	×	9	,,	...	...	65	11	,,	,,	10¾ ,,	×	18	,,	...	... 210
3	,,	,,	5½ ,,	×	11	,,	...	...	85	13	,,	,,	11 ,,	×	20	,,	...	... 240
4	,,	,,	6½ ,,	×	13	,,	...	...	105	16	,,	,,	13 ,,	×	22	,,	...	... 275
5	,,	,,	7½ ,,	×	14	,,	...	...	125	20	,,	,,	14½ ,,	×	24	,,	...	... 310
7	,,	,,	8½ ,,	×	14	,,	...	...	150	25	,,	pair Cyldrs.	11½ ,,	×	20	,,	...	... 370

HOISTING ENGINES.

MOST of the Improvements so successfully introduced into the Stationary Engines have also been introduced into the Portable Hoisting Engines. They are made of the best material, finished in the best style, *and are guaranteed in every case to work satisfactorily.* The Steam Cranes have a great advantage over other Steam Cranes, that they are provided with a *pair of Cylinders* instead of only one—thus making the Cranes work more effectually and easily. The combined power of the pair of Cylinders is also greater, hoisting much heavier weights; and they are sold at the usual prices, as quoted under, *delivered free in Glasgow, Hull, Liverpool, or London, and fitted with improved steam pressure gauge, without extra charge.*

PORTABLE STEAM CRANE (Illustrated above), for a Wharf or Railway, on Wrought-iron Carriage and Roadway or Railway Flanged Wheels, with Link Motion, Foot Brake, &c., all under the easy control of one man. The Engine and Boiler swing completely round on the central pillar, and counterbalance the load. The Jib is adjustable, and the larger-sized Cranes are made to hoist lower, and turn round in either direction by Steam—the smaller sizes hoist and lower by Steam, and twist by hand. THESE MAY ALSO BE WORKED AS HAND CRANES WHEN THE STEAM IS DOWN.

PRICES, Delivered Free in Glasgow, Hull, Liverpool, or London.

4-Horse Power, to Hoist, with Return Chain and Block, 35 cwt., pair of Cylinders, 4¾in. Diameter × 10in. Stroke...																	£190
5	,,	,,	,,	,,	,,	50	,,	,,	5	,,	,,	× 10	,,	...	...	...	235
7	,,	,,	,,	,,	,,	70	,,	,,	6	,,	,,	× 10	,,	...	...	...	285
8	,,	,,	,,	,,	,,	6 tons		,,	7	,,	,,	× 10	,,	...	...	...	380

Larger Sizes in proportion.

PORTABLE HOISTING ENGINE (Illustrated above) on Wood Carriage and Roadway or Flanged Wheels, with Crab Winch on front of Carriage, but without Post or Jib. The Engine, Brake, and Disengaging Clutch are under the easy control of one man.

PRICES, Delivered Free in Glasgow, Hull, Liverpool, or London.

2-Horse Power,	one	Cylinder	4½in.	Diameter	×	9in.	Stroke,	to hoist,	with	single	Chain	or	Rope,	about	12	cwt....	£95
3	,,	,,	5½	,,	×	11	,,	,,	,,	,,	,,	17	,,	...	...	...	120
4	,,	,,	6½	,,	×	13	,,	,,	,,	,,	,,	23	,,	...	...	...	135
5	,,	pair of	Cylinders	5½	,,	×	10	,,	,,	,,	,,	28	,,	...	...	...	165
7	,,	,,		6½	,,	×	10	,,	,,	,,	,,	40	,,	...	...	...	195

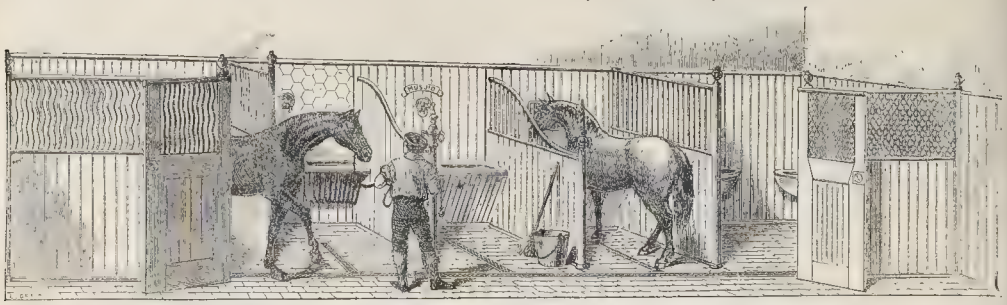
By a simple modification of the Gearing, any of the above Engines may be made to hoist more or less weight, at a slower or faster rate, according to the requirements of the case; or they may be adapted for doing other work when required.

*** *Prices and Particulars of Contractors' Locomotives, Engines applicable for Pumping and other purposes, on application.*

J. B. BROWN & CO. 18, CANNON STREET, CITY, LONDON, E.C.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

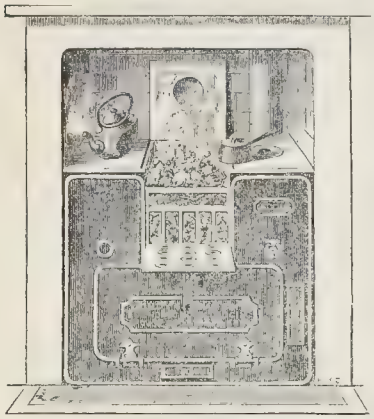
EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

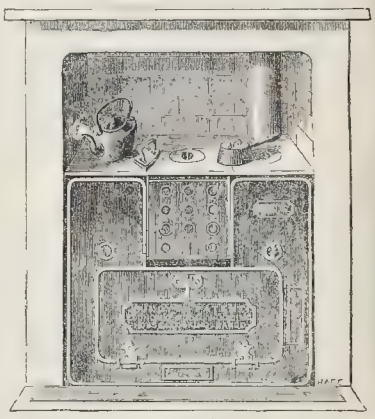
OLD SAINT PANCRAS ROAD, LONDON, N.W.

CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of THE MANUFACTURER,



WHEN CLOSED.

WILLIAM ADDIS, Nos. 6, 7 & 15, LEICESTER-ST. LEICESTER-SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.

RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.

TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.

EVERY DESCRIPTION OF BUILDERS' CASTINGS.

ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of



ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.

CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

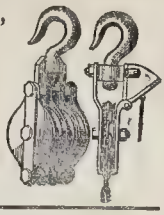
Orders requiring Despatch and Punctuality can be executed in a few days.

CASTINGS, ANY WEIGHT AND QUANTITY,

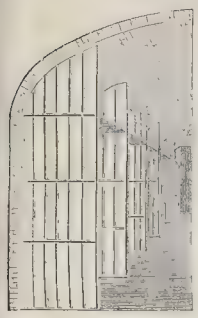
With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



WROUGHT IRON WINE BINS.





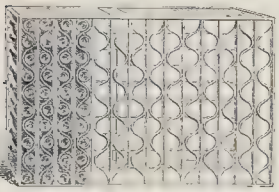
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

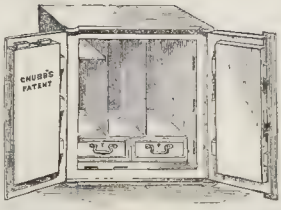
J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS,
The most secure from picklocks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the DETECTOR LOCKS.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire-resisting and non-conducting composition.

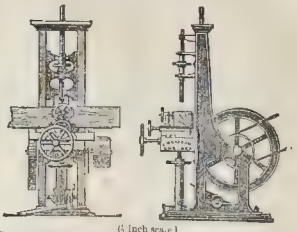
The doors are all secured by CHUBB'S PATENT DRILL-PREVENTIVE, and their Patent

GUNPOWDER PROOF LOCKS.

Illustrated Price List Gratis and Post Free.

CHUBB & SON,
No. 57, ST. PAUL'S CHURCHYARD, LONDON;
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.

S. WORSSAM & CO.'S PATENT
IMPROVED POWER MORTISING MACHINE.



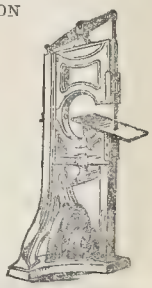
(¼ inch scale.)

Combines many improvements not to be found in any other mortising machine. A single machine, worked by a man, with a boy to assist in removing the stuff, will do as much work as ten chisellers, or as four hand machines. For prices, illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,

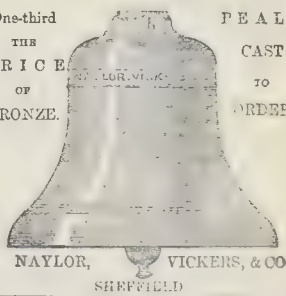
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.
MACHINERY TO BE SEEN AT WORKS IN ROCHDALE
LONDON OFFICE, CANNON STREET, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD

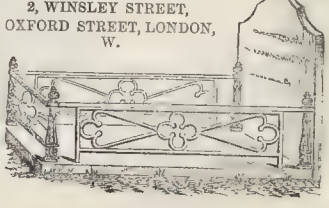
JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS.

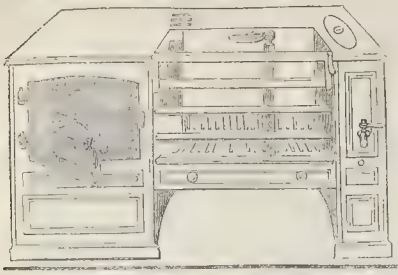


Manufactory, 180, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

IRON RAILINGS for ENCLOSING

TOMBS and GRAVES.
COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY STREET,
OXFORD STREET, LONDON, W.





CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.

24 inches	54s.
30 „	56s.
36 „	58s.
42 „	60s.

Self-acting Cottage, with Oven and Back Boiler

30 inches	22s.
32 „	24s.
34 „	26s.
36 „	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 40s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	¾-inch.	2-inch.	2½-inch.	3-inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s per cwt.
Best Cut Lath Nails, 14s. per cwt.

2-in.	2½-in.	3-in.
Cast Rain-water Pipe.... 8d.	10d.	1s. per yard.

Cast Gutters, 4 in. 7d. per yard.

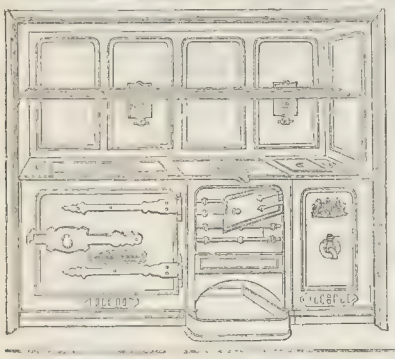
4-in.	4½-in.
O G Guttors, with Clips on.... 10d.	1s. per yard.

2	3	4	5	6
Patent Line .3s. 6d.	4s.	5s.	7s.	9s. per gross.

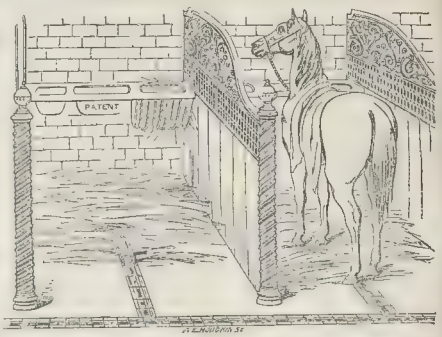
6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock. Any size made to order.



[illegible] & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
[illegible],
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
[illegible] KEPT.





THE PRIZE MEDALS,
LONDON, 1851. PARIS, 1855. LONDON, 1862.
AWARDED TO
COTTAM & COMPANY,
No. 2, WINSLEY-STREET, LONDON, W.
FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN
STABLE FITTINGS AND HARNESS BRACKETS.
PATENTEES AND ORIGINAL INVENTORS OF
THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,
PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.





SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

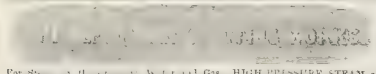
COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

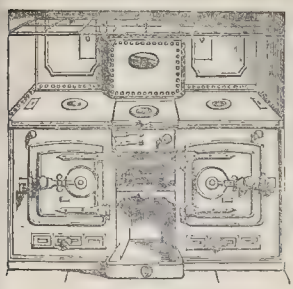
N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.



WALSALL STAFFORDSHIRE—[illegible]
LAMBERT BROTHERS,
MANUFACTURERS OF LAP WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED PIPE,

For Steam, Hot Water, Coal Gas, HIGH PRESSURE STEAM and WATER VALVES, FIRE and GARDEN ENGINE WORK, PUMPS, HYDRANTS, WATER-CLOSETS, IRON and BRASS GAS FITTINGS, GASELIERS, &c.; and of the GROVE BEDSTEAD WORKS, PARTICULARS, GENERAL and steam Wrought Metal Manufacturers for the Supply of Gas, Water Supply, Gas-works, Distilleries, Brewery, Chemical Works, &c., &c., at the International Exhibition, Western Court, Class 21. Illustrated Price-list to be had from engravings, and printed prices in trade catalogues.

NAILS and IRONMONGERY,
from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the
LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham street London, E.C.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gasoliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.



THE LONDON WARMING AND VENTILATING COMPANY,

LIMITED,

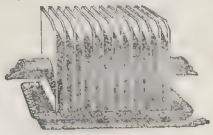
26, GREAT GEORGE-STREET, Westminster, S.W.

MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known Plans.



The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL. the various offices of the "Department of Science and Art," and at the Architectural Societies' House, 9, Conduit street, Regent-street

Particulars and testimonials forwarded on application.

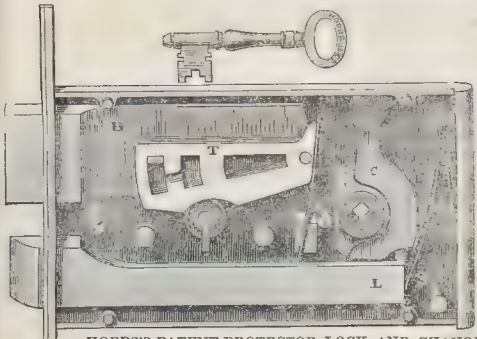
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, S, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8*s.*

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.





PATENT CLIMAX DOOR SPRINGS,

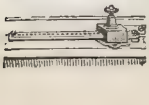
FOR SINGLE AND DOUBLE-ACTION DOORS.





PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.

Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

MANUFACTURERS, BIRMINGHAM.

MOORE'S PATENT VENTILATOR.

NOTICE OF REMOVAL.

In consequence of the expiration of the Lease at 81, Fleet-street, all Communications are respectfully requested to be made at the Works. JOSIAH MOORE, Patentee.

SEKFORDE WORKS, ST. JAMES'S WALK, CLERKENWELL, E.C.

PRIZE MEDAL—INTERNATIONAL EXHIBITION, 1862.

CONDY'S PATENT FLUID is adopted by

the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OZONE), possesses the exact properties, and acts precisely in the same manner, as the great agent that provided by Nature for purifying the air we breathe, called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying impure water, sweetening putrid casks, removing and preventing taints in meat, game, fish, &c. as well as by use in the bath for promoting and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 1*s.* 2*s.* or 4*s.* each; or per Gallon, 10*s.* ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.

Wholesale of the Patentee, Battersea, Surrey, S.W.

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one

Further information may be obtained of the Proprietor of the Patent,

MR. BARRETT,

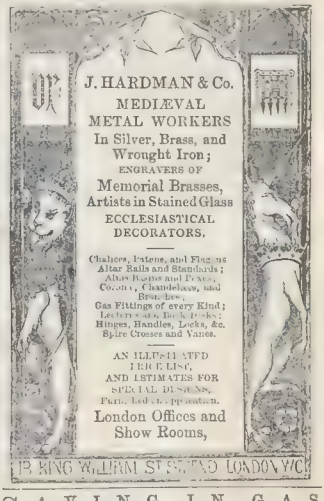
12, YORK-BUILDINGS, ADELPHI.

CANNON IRON FOUNDRY, 156, Goswell-

street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Hand Rails, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.



SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Meteorial Gas Regulator is the only effectual instrument for ensuring a uniform and uniformly bright gas flame, thereby preventing any irregularity in the height of the flame.

D. HULETT & CO. 55, High Holborn, London,

Manufacturers of Gas Chandeliers, Glass Lustres &c. &c.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of
FIRST-CLASS WOOD-CUTTING MACHINERY,
being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.
By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c, now on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,
OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,
MOREWOOD & CO.,
DOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.
THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.
BOND & SCAMMELL (late Thomas Pugh & Co.)

NUT PLATE.
WHOLESALE IRONMONGERS,
13, KING STREET, SNOW HILL, LONDON.
We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.
New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.
THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.
A most complete and extensive stock of every description of locks, latches, brass fittings, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.
*** Illustrations and particulars sent upon application.


BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.
DESCRIPTION AND PRICES ON APPLICATION.
ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.

IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.
ILLUSTRATED CATALOGUES POST FREE.
WORKS.—Birmingham, and Limehouse.
Every description of Iron Work Galvanized.
LONDON OFFICE—61A, MOORGATE STREET, E.C.

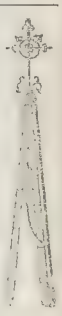
CASTINGS AND WROUGHT IRONWORK
OF EVERY DESCRIPTION.
CLOVER, BROTHERS,
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.
Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

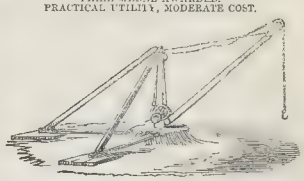
The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
of which he is now making three qualities, and is strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—
Three-eighths-inch diameter..... 1s. 0d. per foot.
Half-inch diameter ..... 1s. 6d. „
Five-eighths-inch diameter ..... 2s. 0d. „
R. S Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.
Offices 130, Strand, London.
„ Gateshead-on-Tyne
„ 27, Dale-street, Manchester.
„ 68, Anderston-quay, Glasgow.
„ 17, South Castle-street, Liverpool
„ Exchange-buildings, Dublin.
„ 7, Frederick-street, Aberdeen.


SPRATT'S PATENT BATTERY EXCITATION COPPER LIGHTNING-CONDUCTORS, giving 3 inches of surface. Only 1s. per foot, complete, for fixing. Including beautiful "reproducing" Platinum Silver Alloy Point, Glass Insulators and attachments, forming a Lock, Steel Magnets for lateral discharge. Also SPRATT'S NEW ARRANGEMENT for SECURING POWDER MAGAZINES from the possibility of being injured by Lightning; Beer in Breweries from spoiling; Milk in Dairies Souring by electric causes.—Office, 18 and 21, Middle-row Holborn. Orders over 10s. feet carriage free.—Send for circular.

PROTECTION FROM LIGHTNING.

LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.
Estimates and References furnished on application by letter, or at the Works.
Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.
Vanes, Crosses, and Terminals made to any design
Designs, to suit any style sent on application.

PRIZE MEDAL AWARDED.
PRACTICAL UTILITY, MODERATE COST.

HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Crab Winches, all sizes.—For further particulars apply to BOWSER & CAMERON, Springfield Iron Works, McNeil-street, Glasgow

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 80, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

HART AND SON,
53 to 58, WYCH-STREET, LONDON, W.C.
AND 20, COCKSPUR-STREET, S.W.

ENGRAVERS OF MONUMENTAL BRASSES, HERALDIC DEVICES, &c.; CHURCH PLATE, GLASTONBURY CHAIRS, WROUHT-IRON HINGES, GRILLES, VANES, CROSSES, &c. &c. CORONÆ, STANDARDS, BRACKETS, &c. for Gas, Oil, or Candles.

REVOLVING SHUTTERS, TWO SHILLINGS PER FOOT.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

CLARK & CO. PATENTEES,

And Manufacturers to the Honourable Board of Works,

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

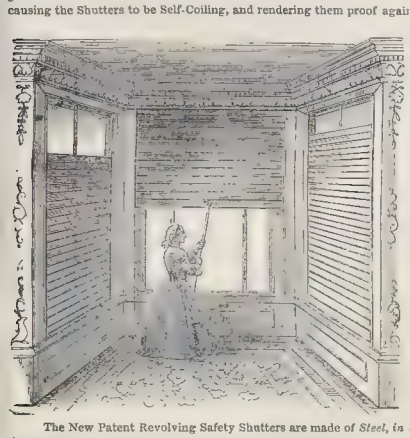
PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.

CLARK'S Patent Self-Coiling Iron Shutters, 3/ per Foot.

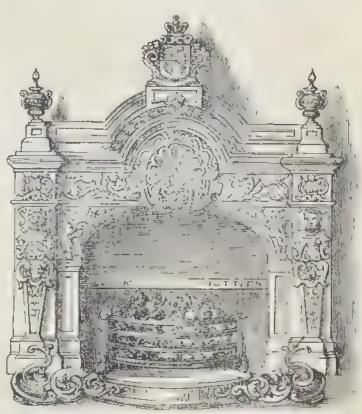


CLARK'S Patent Self-Coiling Wood Shutters, 2,6 per Foot.

The utility of Revolving Shutters for closing Shop Fronts, Windows of Private Houses, Fire-places, and every description of opening, is universally acknowledged; but the cost has hitherto prevented their general adoption. This objection Messrs. CLARK & CO. have met by introducing their PATENT SELF-COILING SHUTTERS, in Steel, Iron, and Wood, which, in addition to being less expensive than the ordinary shutters, have the advantage of being remarkably simple, and, consequently, not liable to get out of order. The Wood Shutters are constructed of laths of wood rebated together, having numerous mortises, through which pass a series of tempered steel bands, causing the Shutters to be Self-Coiling, and rendering them proof against Burglars.



CLARK'S PATENT SELF-COILING STEEL SHUTTERS, 3,6 per Foot.



The New Patent Revolving Safety Shutters are made of *Steel, in one sheet* (without either chain, links, rivets, or pins); the steel is corrugated transversely, which gives the appearance of laths, and enables them to be coiled into a small space. The corrugations render the Shutter exceedingly rigid, transversely and remarkably pliable, and self-coiling longitudinally. They are light, and can be pushed up and drawn down without the aid of machinery of any description. It is absolutely impossible for them to get out of order.

From the strength and hardness of the material of which they are composed, and being in *one sheet*, they cannot either be cut or broken through, as there is no opening or a lever or other instrument to be inserted as in the ordinary lath shutter, rendering them doubly secure, as any attempt to break through or open them will give an immediate alarm through the building. Their numerous advantages, coupled with the lowness of price, must insure their universal adoption, both in SHOP FRONTS and PRIVATE HOUSES.

These Shutters are Manufactured solely by the Patentees, Messrs. CLARK & CO. and are the only Revolving Shutters made that do not require machinery or gearing apparatus, while the cost is the same as the ordinary Lifting Shutters.

BRASS SASH BARS, STALL-BOARD PLATES, AND SUN BLINDS FOR SHOP FRONTS.

PROSPECTUSES AND WORKING DRAWINGS FORWARDED FREE ON APPLICATION.

Architects should be particular in describing the description of Shutter they require used.

15, GATE STREET, LINCOLN'S INN FIELDS.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

PAPIER MACHE AND CARTON PIERRE WORKS,
49, RATHBONE PLACE, W.
GEORGE JACKSON AND SONS
(Established 1 1 1 1789

Beg the attention of Architects, Builders, Decorators, &c. the trade in general, to their large assortment of Enrichments for Ceilings and Cornices in the Gothic, Elizabethan, Italian, Renascence, Louis XIV, XV, XVI and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Cups, Mouldings of all sizes, and their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Cornices and Pilaster Capitals essential in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining Rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Plaster Tenders are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam power and machinery, enables them to offer superior advantages in materials and speed; while the design, quality, relief, and finish, they flatter themselves they stand unrivalled

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.

DESIGNS MADE FOR ANY WORKS.
PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE PLACE, LONDON, W.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.
AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

KELLY'S PRACTICAL BUILDERS' PRICE BOOK; or, Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an Abstract of the New Building Act for regulating the Construction of Buildings. Revised and corrected by Nicholas Cox, Author of the Present Value of Materials and Labour. Arranged by an Architect of examining practical surveyor, and practised Measuring surveyors. Illustrated by Diagrams. Demy 8vo. Engraving and Numbers. Royal 8vo, 12s. 6d. half-bound.

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL; and may be had of all Booksellers.

Of whom may be had, New Editions of the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET MAKING, Revised by TREDGOLD: being a new and complete System of Lines, for the Use of Workmen; founded on Geometrical and Mechanical Principles. Ten parts at 3s. or in boards, 30s.; containing upwards of 120 Steel Plates, and many Wood-cuts.

2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING (revised by TREDGOLD), both plain and ornamental; containing a new and complete System of Lines for Stone Cutting, for the Use of Workmen; the Formation of Mortars, Cements, Concrete, to which is added a variety of new designs for Chimney-pieces, Tombs, Gravestones, Grates, &c. &c.; and a description of the various materials employed. Ten Parts at 3s. or in boards, 30s.; containing upwards of Ninety Steel Plates and Numerous Woodcuts.

3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the FIVE ORDERS of ARCHITECTURE, in which the Principles of Proportion and Harmony in them in the purest style; including an historical Description of Gothic Architecture. Illustrated by upwards of One Hundred Steel Engravings, executed by Artists of first-rate talent, including numerous Diagrams, &c. Twelve parts at 3s.; or in boards, 36s.

4. DESIGNS for COTTAGE and VILLA ARCHITECTURE: containing Plans, Elevations, Sections, Perspective Views, and Details, for the Erection of Cottages and Villas. By S. H. BROOKS, Architect. Beautifully engraved on Steel, with Directions for Building and Specifications and Cost of each Design. Twelve parts at 3s.; or in boards, 38s.

5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views and Details of Churches, Chapels, Schools, Mechanics' Institutes, Alms-houses, Market, and other buildings for public purposes. By S. H. BROOKS, Architect. Beautifully engraved on steel. Ten Parts, at 3s. or 32s. boards.

6. THE HOUSE DECORATOR and PAINTER'S GUIDE: containing a series of Designs for Decorating Apartments with tasteful and appropriate Colours, and Arabesque Work. By H. W. and A. ARROWSMITH, House Decorators to her Majesty. Ten Parts, at 3s.; or in boards, 32s.

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION: containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the Origin of Colour, the Laws of Harmonious Colouring, the Manufacture of Pigments, Oils, Varnishes, &c. By W. E. HIGGINS, Esq. Accompanied by actual specimens of Hard Brush Graining and Marbling. Ten Parts, at 3s.; or in boards, 32s.

8. THE ENGINEERS' and MECHANICS' ENCYCLOPÆDIA, a new and enlarged edition, comprehending Practical Illustrations of the Machinery and Processes employed in every department of Manufacture of the British Empire. Illustrated by upwards of 2,000 Wood Engravings. By LUKE HEBERT, Civil Engineer, &c. The rapid progress of Mechanical Science has developed many of the important facts since the first publication, in 1836, of the Encyclopædia. The Illustrations and descriptions previously given have engaged the sedulous attention of the Editor; for, as the value of each was tested by experiment, a description was accordingly prepared. By the selection of new articles, and care in the revision of old ones, this edition has now become systematically enriched; so that it may be received as fully and faithfully expressing "the existing state of Engineering and Mechanism, adapted to the wants of Practical Men." In two large 8vo volumes, cloth lettered, price 30s.

SCIENTIFIC RECORD of the EXHIBITION (Practical Mechanics' Journal).—Part IX. November 1st, Price 28s contains Glass Manufactures, Staining, and Painting, by Sebastian Evans, M.A.; Pottery, by R. W. Binns, F.S.A.; Sewerage of Northern Cities, by Leslie Ward, Esq., C.E.; Paints, Oils, Soaps, &c. by Professor Field, F.C.S.; Perfumes, by S. Piesse; Chemical Manufactures, by Dr. Paul, F.R.S.E., F.C.S.; Paper, by Thomas Routledge, F.S.A.; Paper Machés, and Sixty Woodcuts.

London: LONGMAN & CO. Ludgate hill. Proprietors' Offices (Offices for Patents), 47, Lincoln's-inn-fields, W.C.

THE ART-JOURNAL for NOVEMBER (price 2s. 6d.) contains the concluding portion of the ILLUSTRATED CATALOGUE of the INTERNATIONAL EXHIBITION, as originally announced; but the Proprietor, to make the Catalogue as complete as possible, has added to it engravings of the more so, as that issued by the Royal Commissioner "is a dull and most unsatisfactory book, with a few fine plates, unbound, and themselves."—*Times*. Among the illustrations included in this number are Rock Crystal Candelabra, Watches, Jewellery, Silver Candelabra; Articles in Gold and Silver; Examples of the Ornaments from the Royal Horse Guards; Iron Gates; Balusters; Hat-stands; Balcony Panels; Ornamental Castings; Medieval Metal work; Russian Engraved Glass and Silver Chasings; Wall Papers; Pianofortes; Carvings in Marble and Wood; Sideboards; Cabinets; Bookcases; Carpets; Damasks; Heraldic Devices; Bog-oak Ornaments; Porcelain, &c. &c. The literary contents include "Foreign Sculpture in the International Exhibition," by J. Beavington Atkinson; "Art Exhibitions in Liverpool;" "Notabilia of the Exhibition;" "Rome and her Works of Art," by James Dafforne, Esq. Illustrated; "The Gore House Estate and the Albert Memorial," &c. &c. The Line Engravings are—"Rest," engraved by J. Cousen, after J. Linnell; the "Birdcage," engraved by C. H. Jeens from the picture by J. M. W. Turner, R.A. in the National Gallery.

London: JAMES S. VIRTUE, 25, Ivy lane, Paternoster-row, E.C.

Just published, Part I. containing Plates, Maps, and Text of

MODERN ARCHITECTURE: ECCLESIASTICAL, CIVIL, and DOMESTIC. Illustrated by Views and Plans of Churches, Warehouses, Schools, Villas, Street Fronts, &c. &c. and Interiors, Details, Fittings, &c. &c.

By JAMES MURRAY, F.R.I.B.A.

The work will consist of Interior and Exterior Views and Plans of Churches, Town halls, Exchanges, Warehouses, Schools, Villas, Street Fronts, &c. &c. and Interiors, Details, Fittings, &c. &c. Published Monthly, each Part to be sent direct to Architects, Builders, &c. on receipt of Postage Stamps for 1s. 6d.

Office of Publication, 2, Warwick-street, Regent-street, W.

GALBRAITH AND HAUGHTON'S SCIENTIFIC MANUALS.
New Editions just published, Foolscap 8vo, cloth,

MANUAL of MECHANICS; Sixth Edition, greatly improved.

By the Rev. J. A. GALBRAITH, M.A. and the Rev. S. HAUGHTON, M.A. F.T.C.D. Fellows of Trinity College and Professors in the University of Dublin.

A Series of Enlarged and Improved Editions of the following MANUALS by the same Authors:—

ARITHMETIC ..... 3s. | PLANE TRIGONOMETRY... 2s.
ALGEBRA ..... 2s. | MENSURATION ..... 2s.
HYDROSTATICS ..... 2s. | EUCLID ..... 2s.
OPTICS ..... 2s. | MATHEMATICAL TABLES .. 3s.

Or 6d. more each Manual in cloth lettered.

London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

This day is published, New Edition, with Additional Tables, bound, 7s. 6d.

THE PRACTICAL MEASURER; or, Tradesman and Work Man's Assistant: containing a variety of Tables, designed for the use of Wood Merchants, Builders, Carpenters, Joiners, Painters, Founders, Glaziers, Masons, Bricklayers, &c. By ALEXANDER PEDDIE.

BLACKIE & SON, 44, Paternoster-row, London; and all Booksellers.

Just published price 2l. 2s.

MANUAL of HYDROLOGY. By NATHANIEL BEARDMORE, Civil Engineer.

CONTENTS—

DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II. ON RIVERS AND FLOW, PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.

The Work consists of upwards of 400 pages, and there are 19 large plates.

London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 to 68, London-wall. 1862.

THE QUARTERLY REVIEW, published this day.

CONTENTS—

I. VICTOR HUGO—LES MISERABLES.
II. THE PLATONIC DIALOGUES.
III. BODLEIAN POLITICAL MEMOIRS.
IV. AIDS to FAITH.
V. BELGIUM
VI. The WATERLOO of M. THIERS.
VII. CHINA and the TAEPING REBELLION.
VIII. The CONFEDERATE STRUGGLE and RECOGNITION.

JOHN MURRAY, Albemarle street.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 18 & 19, Vict.), 18, RUSSELL STREET, Covent Garden, W.C. Advances from 100*l.* to 1,000*l.* upon Freehold and Leasehold Property for long or short terms. Mortgages redeemed, and the advance can be repaid by easy instalments. Parties offering loans to purchase the houses they occupy, and thus pay off the mortgage, have the most advantageous terms offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectuses and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, HOUSE PROPRIETORS, &c. &c.—The Waterproof Glue is an admirable cement for wet boards, &c., as it resists water strong and the Varnish will enable damp walls to be papered over directly.

Copy of a letter from Mr. T. R. Owen, architect, Southsea:—

"I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The varnish has succeeded better than any article I have known as an undercoat, the damp wall being coated with it before papering or painting. If the plastering be sodden and rotten, it should first be substituted with cement. I have used this material successfully for tank work."

To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos-street, Portsmouth. Mr. GEO. WEEKS, Manager. GEO. C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description at the very lowest prices. Regilding in all its Branches to the trade. Gilt Gut Beads, 7s. per dozen 6 feet lengths; best ditto, 12s.

G. REES, 57, DRURY LANE,
Four doors from Drury-lane Theatre. Established in 1800.

The Builder.

VOL. XX.—No. 1030.

Steps Backward at the Institute of Architects.

HERE are the discreet and experienced men who founded, fostered, and achieved the success of the Royal Institute of British Architects? Are they absent from its councils, or are their voices no longer listened to? A new policy has been inaugurated by the officials of 1862,—a backward policy, a bad policy: a policy of retention; of secrecy, and, as certainly as darkness follows night, of jobbery hereafter when the occasion offers.

Giving up that openness and entire publicity which have long characterized the proceedings of the Institute; which have contributed greatly to its popularity abroad and at home; and to which not a single valid objection has been advanced; the newly-appointed managers, scarcely warm in their seats, have taken upon themselves to imitate an evil course pursued at a neighbouring Institution, to which the strongest objections have been again and again expressed, and are still felt: they have even increased its objectionable features. The regulations which lead us to these observations will speak for themselves. They have been forwarded to us with a note from the hon. secretaries directing attention to them, and in which they say, they trust we shall "find them advantageous rather than objectionable." *We* may; but most certainly the Institute will not:—

Extract from Report of Committee on Publication of Papers, &c., adopted by Council, 14th July, 1862:—

Resolved: 1st.—"It is not desirable that the papers should be published *in extenso* in the public journals, as it tends to depreciate the value of their copyright, and of their subsequent publication in the 'Transactions' of the Royal Institute of British Architects."....

Also—"That a competent reporter should be appointed by the Royal Institute of British Architects, to attend the meetings, and that no other reporter should be admitted; and that no one else, without the authority of the Council, should be allowed to furnish for publication any report of the proceedings of the Royal Institute of British Architects.

That a full abstract report of all papers and meetings should be furnished by the Royal Institute of British Architects [the printed notice to members says, 'by the hon. secretaries'], on payment of one guinea for each report; and that a short abstract, as at present furnished to other journals, according to the instructions of Council, May 12, 1862, should be furnished to such journal as may desire it, without payment; and that it is very desirable that, to forward this object, the papers intended to be read at the Institute should be presented to the hon. secretaries previously to their being read.

The Committee consider, further, that the conditions of By-Law No. 44* should be hereafter strictly adhered to; and that the papers should be issued three times during the session, instead of only at the conclusion of it, as at present."

The papers read are not to be published in the journals, the Council say, because such publication "tends to depreciate the value of their copyright." On whom does this asserted loss fall? The papers are the property of the Institute, who print just sufficient copies to supply each member (say 350) with one. The "Transactions" are not for sale. There can be no loss there: and the Council will scarcely venture to place the Institute on such low grounds as to say, that any eligible member of the profession refrains from becoming a member of the Institute because he can read in the *Builder* the papers read before it. The value of the papers, instead of being depreciated by wide publication, is immensely increased if they be good for anything: thousands have the benefit of the information they may contain, instead of a few hundreds: the public have the advantage, and the Institute in no way suffers. "In no way suffers," did we say? The Institute is greatly benefited by the step: its reputation is spread, and its character advanced, while the art should be advantaged by the enlightenment of the general public. The papers themselves have been better because of their intended publication in the journals, and in some cases (as we know) would not have been read there at all but for that publication. The more the matter is thought about, the more unwise and short-sighted the resolution appears.

So, too, with that for shutting out the reporters, and supplying, at a guinea each, official reports, cooked or not, as it may be. And in saying "cooked," we mean nothing personal: we are dealing with human nature. Under other Councils, every effort was made, on special occasions, and wisely too, to induce the journals to send reporters and to spread the fact abroad, east, west, north, and south, that the Royal Institute of British Architects was at work, fulfilling its mission, and justifying the sovereign in the bestowal of its charter. The new resolution, which, instead of inviting reporters to come, stupidly forbids admission to those who may be good enough to do so, is a step backwards with a vengeance. People, by and by, will be wanting to know who was president, and who were on the council, when such an enlightened course for the avoidance of publicity was taken.

It must not be supposed that, in making these observations, we are speaking in the interest of the *Builder*. We speak wholly and entirely in the interest of the Institute, the art, and the profession. For years past, in compliance with the special request of what we must consider a wiser Council, we have uniformly published the papers read before the Institute, and accurate reports of the discussions, sometimes with much inconvenience, and with the feeling that the space might have been better occupied. From our pages these memoirs and reports have been republished in America, India, &c., and translated in Belgium, France, Italy, and Germany. To be relieved from the necessity of always printing these papers will be an advantage rather than otherwise, so far as we are concerned; but to the Institute, and to the art, we have no hesitation in asserting the discontinuance will be a great injury. The Institute has had an unvarying friend for years in the *Builder*. The *Builder* owes no thanks to the Institute. For our own sake, we are perfectly indifferent in the matter; but for the sake of the Institute we sincerely hope it may not be too late for the re-consideration and ultimate withdrawal of these unworthy and unwise resolutions.

* Extract from By-Law No. 44:—"Every paper which may be presented to the Institute shall, in consequence of such presentation, be considered the property of the Institute; and the Council may publish the same in any way and at any time they may think proper, unless there shall have been any previous engagement with the author to the contrary."

THE TWO HARTLEPOOLS:

CONDITION OF OUR TOWNS.*

To go to West Hartlepool from Old Hartlepool there is choice of two ways,—a roundabout route by rail, or a short cut across the Slake by ferry. We will convey our readers by the latter route, pointing out that there are opposition ferry-boats splashing and plying to and fro all day, lettered, self-sacrificially, "Live and let live." Landing in a long covered gallery,—clean, and paved with stone,—and emerging from it, we are on the opposite seashore, which is strewed with wuifs of the wreck of the seventy-five ships that were lost in the memorable storm in 1859—piles of ship timber, rusty and water-worn. Facing the sea is a long tarred wooden shed, placarded, with clanging, clashing, reverberating noises escaping from the broken-paned windows; and drying in the air are rows and rows of sailors' shirts. Then the cindery road is bordered on one side by rows of two-storied small brick houses, one of them telling of the meeting of nations in its foreign title—the Voltigeur tavern: these face the sea. The next row turn their backs to the ocean, and their fronts to the country across the Slake. From one of them an old lady comes forth as we pass, and throws a pailful of slops into the road, which we observe is balked up with cinders to prevent the same from returning to her premises. The back of one of these poor places is labelled, "Police-station;" another, "Post-office." Then we come to wooden sheds in Californian profusion, mostly built of wreck; their proprietors dealing in marine stores, and festooning their property with rusty cables, and tasselling it with bunches of rusty anchors, hooks, bars, &c.; a space of ground paled with pieces of wreck, containing a slaughter-house, before the door of which a dog is in charge of a sheep in the last stage of fatigue, and rows of props and clothes'-lines, on which more blue shirts are fluttering; a few more rows of small brick houses; and so find our way to the spacious docks of the West Hartlepool Company.

Behold a broad quay-side, with a well-paved margin. It is laid with many tram-roads for trucks. Black-hulled ships are moored alongside, lading and unlading; others are still riding without the tide-gate on the dimpled waters, waiting for the puffing, bustling little tugs to tow them in. There are queer cranes bordering the water's side, acting on a principle akin in effect to that of elephants' trunks,—slowly drawing up package after package from the deep holds, and depositing them on stages conveniently for removal; there are hanging bridges, at great elevations, at regular intervals, bringing trucks of coal over the decks of vessels, which are so contrived that at the withdrawal of a fastening the bottom falls down as a flap, and the coals are precipitated into the hold with a rushing noise as of a whirlwind, followed by a clap of thunder; white wooden rocket-houses and look-outs, like eccentric bathing-machines; a brazen bell, in a tall wooden frame, with a gabled cover over it; powerful horses dragging trucks along the tramways; immense warehouses, newly built of stone, covering acres of ground; brawny men, with their sleeves turned up, busy in little knots—to be seen in glimpses through the cobwebs of rigging as we walk. Close at hand, a vessel, painted black picked out with white, is taking in a cargo of empty wine bottles: next to this, a schooner, painted green picked out with red and white, is unloading a cargo of pit-props; further on, another ship is taking on board a load of iron rails for railroads. A dingy line of houses overlooks the busy scene at this point, occupied by a ship-baker; a ship-chandler; an earthenware depôt, where, parenthetically, the best price is given for old rope; a ship-smith, &c., appropriately. As we still circuit the docks in the direction of the monster warehouses, a railway train passes, at full speed, in unpleasant proximity to the water's edge, considering we are between the two; but locomotives appear to be taken into everybody's confidence in this district. The lines upon which they run are crossed and recrossed by multitudes as ordinary road-crossings; and in colliery villages—such as Castle Eden colliery village, seven miles distant from Hartlepool, not to deal in generalities—a line, with all its traffic, runs through the place before the cottage-doors, without a plank or pale to keep folks off.

The new warehouses at West Hartlepool might be classed under the head of naval architecture. They appear, as they are approached from a distance, to be built upon the model of the hulk of a man-of-war, with a deck-awning up, pierced, tier after tier, with port-holes. On examination, we are glad to admit some few pounds have been expended in their construction to gratify the eyes of the nations who will look upon them. The largest warehouse is built upon high open arches, covering as much space as a Belgravian square. There are four stories above this, besides further stowage-room in a high-pitched slate roof. The ornamentation alluded to is simply a corbel table under the eaves, which, though slight, is not without an effect for which the eye is grateful, remembering the uncompromising plainness of dock warehouses erected at an earlier date. Adjoining the docks are timber depôts, where there are stacks of pit-props, scaffold-poles, masts, battens, baulks, and planks; and the foot falls silently on a road littered with bark. Close, also, upon the docks are Piles' iron-ship building yards. Two immense ships are in their cradles,—the iron plates being fastened to one; the iron skeleton of the other, riddled with

* See page 741, *ante*.

rivet-holes, being in formation; and platers, angle-iron smiths, riveters, holders-up, helpers, heaters, and blowers—men and boys—are as busy as they can be. In all these regions devoted to commerce, every contrivance appears to be adopted that is conducive to the most orderly despatch of the business to be performed, whether in the bringing of goods to the dock, the carrying of them away, their stowage on the spot, the lading or unlading of over-sea ships, or ship-building. Steam, machinery, division of labour, large outlays in the first instance, with constant vigilance to maintain every accessory in working order, are brought to bear upon a subject when profit is concerned. Would that the same comprehensive management, the same energy, the same forethought, could be extended to the housings of the workers after they have ceased their labour for the day, and profit is no longer in question!

The town lies to the south-west of the docks. Victoria-terrace leads the way; this is a long row of second-rate shops with cellars below them, pinched yards, a long dock-shed and a dirty alley with a gutter in the middle of it behind them, and houses above them overlooking a large waste tract, at the boundary of which a coal railway is in full swing. The railway crosses the end of the road; there is a wooden bridge for foot-passengers, but everybody prefers to cross the lines. On the other side of the rail is the first and main street in West Hartlepool proper; it turns at a right angle from the line we have followed, having the Murray Royal Hotel at the corner, with the Customs House next to it, and the Post Office close upon that: all substantial buildings, in a handsome, wide, well-paved street of good shops. Although the land is not of metropolitan value here, we see that the plan of underground kitchens has been adopted; and all inspection of goods in the shop windows is marred by the obtrusion of spectacles of people preparing or eating meals below. At the other end of this street, which is called Church-street, there is a cruciform church filling in the perspective effectively, the apse pointed to the centre of the street, to which we turn our steps, noting as we near it that it has for a background a set of boys, girls, and infants' national schools, with residences for the masters and mistresses at the return angles, all built in red brick. As we pass we have vistas of second-rate new streets, with neat bow-windows at every crossing, showing streets turning out of them again, of a third-rate character, yet mostly neat. At the corner of one of these transverse roads stands the Athenæum, two-storied, with a glass chamber on the top of it, and a stationer's shop entering into the pilastered composition of the ground-floor. Passing this, we begin to get a nearer view of the church. The plot on which it stands is polygonally enclosed with a low wall and iron palings, having a gate-post at every angle, of the same type as those at the entrance gates. The tall slim tower of the church is at the west end, eccentrically leaving a light pyramidal turret to crown the junction of the transepts. There are rose-windows in the transepts, and crosses in the gables over them, with anchors intertwined in them. The rest of the windows are lancets. There are no clerestories, consequently the roof comes down into sight: it is red-tiled, with a black diamond pattern upon it. In the interior of the church this eccentricity of treatment is carried to a greater length. A gallery is placed at the west end, supported by flat stone arches; the organ is in one of the aisles of the transepts, the font in another; and all the plaster-work is coloured a light grey. The details are all massive—the standards, for instance, are wrought of thick oak. The effect of this massive treatment, and the absence of height, induce an impression that it is almost necessary to stoop; and a certain gloominess, which, but for the relief afforded at the junction of the transepts by the skylight admitted through the pyramidal toweret and in the transepts by the rose-windows, would be serious. With the exception of these drawbacks, the design is very commendable, more especially when it is reviewed in connexion with its position. Opening from the church are the commencements of three new roads: one of them is a row of small villas, in which glass greenhouses have been brought into the composition of some of the front elevations.

There is an American air of a new settlement about West Hartlepool. Instead of being the growth of centuries, as most of our towns are, this has sprung up like a gourd. Some of the roads appear to have been scarcely trodden upon: in Scarborough-road,—a long double line of light, two-storied, bow-windowed houses, letting at 14*l.* a year,—the roadway is green with grass growing upon it. In Moseley-street the road is formed of stones in lumps so large that a century's traffic will produce little effect on them. A great many streets have been commenced, and but few finished. Builders appear to build on one side of a street, and then proceed with a side of a parallel street, leaving the front of the one to look upon the back of the other, and a piece of unoccupied ground, which is in every instance used as a drying-ground, between them. Thus Swaneon-street consists of two houses; Raglan-place of two, with two opposite; and there appears to be no present intention of adding to the extent of either, as every indication of building has been removed. The waste plots are strewed with rubbish, and in most instances planted with props for hanging out clothes-lines. One of the smallest streets, with about a dozen houses in its length, perpetuates the highly unsanitary arrangement of no back windows. The backs of the houses are in one straight blank wall.

There are various chapels. A striking Congregational chapel, with schools beneath it, stands on an acutely-triangular corner open to three sides of streets, built in the Decorated style, with nave and transepts, and brick and stone spire, the windows being filled with imitation quarry glass; a Primitive Methodist Chapel of a less ornamental kind; and a Presbyterian Methodist Chapel adopting the traditional barn form, with large window-openings filled with rough plate glass. There is a theatre, too, which might be anything else as far as its purpose is marked in its façade—a vast blank, with a round arched entrance into it. Besides these, West Hartlepool owns another place of public resort—a large covered market, with inclosed cattle-market attached. These have been built on a scale which present appearances scarcely seem to justify. On the day we viewed it there were a fire-engine, two potato-stalls, two crockery ditto, one four-post bedstead, a half-tester, and a small second-hand iron bedstead, in exclusive possession of the whole market. It has an iron-rod roof, in the fashion of a railway station, and is paved with Anderson's asphalte. It is lined with small shops, and has for a centre a large round stone basin or trough full of water, which appeared to have had all the vegetables in the market washed in it. The cattle-market is not appreciated nor frequented by the neighbouring stock-rearers; and it has been planted with avenues of posts for clothes-lines, extending from one end of it to another; and the corners near the large, open iron-work entrance-gates has been made a retreat, probably by the board of health, for a disused travelling asphalte boiler and a road-scraper. Without the confines of the market are unbuilt-upon tracts, full of holes and covered with heaps of rubbish, on which idle men are playing rackets. In this Hartlepool, as in the other, many of the small houses are called hotels; and, round about the market-house, these delusive titles are pretty frequent. The Market Hotel, the Ward Jackson Hotel, the Commercial Hotel, are the size of ordinary public-houses; but the Durham Hotel is not larger than a small private residence.

Besides the districts described, there is towards the sea an older quarter, where everything is more worn out, and gritty and smoky. In this are situated Tennant-street, Ann-street, Mill-street, Hope-terrace, Newton-street, Marine-terrace, St. John's-street, Pilot-street, and Dock-street. They shelve down towards the shore, which is heaped up with large loose rocks. The sea glowers over a submerged forest, now and then casting up acorns and other tokens of the captives it has taken. A coal railway runs along the shore, at an elevation as high as the house-tops. Passing beneath this, the sea laps and laves the rocks at our feet. Jutting out upon them, and beyond them, is the main sewerage pipe of this new maritime town. It is always the case that in the old and well-populated districts of a town,—where everything is in hard wear, and constant traffic creates constant need of scavenging,—less is done for them by the local boards of health than for the prim, smart, newly-built quarters into which the well-to-do remove. As we have said elsewhere and often, such should not be the fact. The more dirt the more need of cleansing. Keep every poor street and every back-way scrupulously clean, and the example will be imitated by the householders.

To regain the ferry we take the opposite side of the docks to that we traversed on our entrance, and perceive from twenty to thirty red-brick Italian villas, so dovetailed into one another that, although in one row, some of them face the sea and others the harbour. A terraced walk, with a massive wooden balustrade, lies before those that look seawards, and the broad approach to the quay-side before those that face the harbour. These are the residences of a company of Scotch fishermen.

The railway station at West Hartlepool is built of sea stones, with rocky quoins and a timber roof. Although it is not in first-rate trim, it is in incontestably superior condition to that by which we leave Old Hartlepool, which is no more than a dirty brick shed, whitewashed inside, with a whitewashed, common carpenter's timber roof over it, open at one end. There are two lines of rails in it, with a platform, dangerously narrow, between them; and the general arrangement and accommodation of booking-office, waiting-room, and retiring-places are disgraceful, insufficient, and dirty.

The small new Cemetery buildings stand by the wayside as the train emerges from the station into the open coally country. They are enclosed with a bright red wall, with red copings, and are themselves bright red, being built of red brick. There is a square tower to the chapels; all the window openings are round-headed.

Such are the present conditions of the two Hartlepools, familiar by names to most people from the loud outcry sent thence for a harbour of refuge. The one is an old town, once a small fishing place, gradually developed by maritime commerce into consequence; the other, a new town brought into existence by the speculative enterprise and energy of one man,—Ward Jackson,—commenced on too large a scale in its main features, without a proper reference to the maintenance of decency and order in small things. A wide main street was planned, with a church at the end of it; streets were laid down at right angles with this new street, and an enormous market built; but details have not been considered. No house is provided with a yard large enough for any domestic purpose, the consequence is, that housewives are drying linen all day long at the street corners and in the market. And when the town comes to be better populated, this packing of back premises will prove a sanitary evil as well as an intolerable domestic inconvenience. We have spoken as gallant steersmen would—to guard good ships from wreck; to guide their course in a progressive direction based upon a proper regard for the social and sanitary welfare of the units whose combined industry makes the wealth of the land and of the seas.

THE NEW THEATRES OF PARIS.*

Although there may be points of difference in the lighting and ventilating arrangements, and Mr. About has even been assured that the conclusions of the report of the commission have been adopted for one building on the quay and rejected for the other, we are not able to discover that there is really any difference which can affect the accuracy of our present description, which moreover is helped by our own notes made at the new Théâtre Lyrique. The fresh air is there drawn from a shaft which descends in the garden of the square of Saint Jacques. The conduit, having an area of section of about 9 square mètres, passes under the Avenue Victoria to the basement of the building, where in winter the air will be warmed by two large *calorifères*. Thence, after passing through two systems of conduit, capable of acting separately or together, it is distributed to the *salle* by an opening in front of the *rampe*, or "float," and by a series of openings which exist under each "balustrade," or front of boxes. The quantity of air capable of being introduced by each of the two "systems," is calculated as not less than 30 mètres per hour and for each person of the audience. The air will have its final escape by the lantern in the roof, already mentioned. The description of the method of ventilating for which we are indebted to the *Moniteur* and other French journals, however, leaves the most interesting details, those requiring drawings for their adequate appreciation, unnoticed. Every part of the house, for example each separate box, is provided with its opening of escape, and its channel of passage for the bad air to the before-mentioned space in the roof where the lighting of the house is managed. Thus, the partitions between the boxes and the *couloirs*, or box-corridors, are almost entirely made up of square flues, each one of which is formed of plate-iron. These flues turn horizontally when they arrive above the ceiling of the house; and the whole of this part of the building, when we saw it in the spring, showed what an amount of contrivance must have been required in the formation of those numerous veins of circulation. The construction of the roof, both of that

* See p. 761, *ante*.

portion of the building which includes the lighting arrangements and ventilating flues, and of the other portion belonging to the stage, which is connected with many ingenious contrivances for support and working of the scenery, would deserve careful and detailed description. In the case of the circus or theatre opposite, the air is drawn from the bank of the Seine by a conduit passing under the quay; and one account in the *Moniteur* speaks of apertures of escape in the glazed ceiling or *plafond*. This surely would be a return to the old system.

The plans of the theatres of Paris, even the best of them, fall short of what we have strongly urged as the demands in buildings for the assemblage, for purposes of amusement, of large numbers of people; our advice and even predictions having been fully justified by events. Without recapitulating all that we recommended, we may briefly instance the completely isolated site; a separate entrance for each part of the house, or rather in a perfect plan, one for each price of admission; well-planned staircases; and exit-ways in excess of entrances, as amongst the objects to be attained. Drury-lane Theatre, as planned and as originally *worked*, is still the only modern building we know that approaches to such requirements. The Paris theatres, however, seem to ignore such demands altogether. The prices of seats are twice or three times as numerous as those in London theatres: the pit-corridor, for example, may give access to four or five kinds of places, including *baignoires* (pit-boxes), and *avant-scènes* (stage-boxes): eight or ten kinds of checks are issued at the same pay-place; you are directed to your proper place by the *logeuses* or box-keepers; and between the acts, you may quit your *fauteuil d'orchestre*, or *loge*, ascend to the *troisièmes*, and having duly wondered how people can live up there, or enjoy anything in a stifling heat as that of all the older theatres, you can descend again to your proper seat, if you have left only a handkerchief or bill of the play attached to it. There is no thrusting to get in; the police would prevent that; and indeed no one helps to make confusion, as do the various classes of ill and well dressed "roughs" at English places of amusement, going in and coming out. Planning, therefore, *may be* different, and less risk incurred. In the new theatres, even, an entrance-hall, which occupies the length of the front in each building, is common to nearly all parts of the house, as likewise is the *foyer* or saloon over it. The circus, or Théâtre Historique, however, seems to be better provided in the matter of entrance and exit ways than the other building. A covered way for carriages intersects the building, running parallel with the entrance-hall or vestibule, with which it is in direct communication.

The Théâtre Lyrique occupies an *emplacement*, or site, of nearly 1850 square *mètres*. An arcade, of five openings, forms the entrance from the Place du Châtelet, and gives access to the entrance-hall or vestibule, which is 25 mètres in length and 6 mètres in breadth. Thence leads the entrance to the pit, and thence ascend the grand staircases leading to the principal places in the *salle*, and others to the secondary places, which have staircases for exit communicating one south with the Quai de Gèvres, and the other north with the Avenue Victoria. In the Avenue is the entrance for the Emperor, who will ascend a staircase to his box. Cloak-rooms, pay-boxes, and other accessories, are attached to the entrance vestibule. The box-lobby or corridor, *couloir*, at each story, does not simply follow the curve of the *salle*, but may be said to take in the square angles, where, near the staircases, couches are placed. In an *entresol*, each side the *salle*, are offices of the direction and other rooms. On the first story above the ground story, and level with the principal tier of boxes, is the grand *foyer* or saloon, equal in dimensions to the vestibule below it, and having a small saloon at each end of it. The *foyer* is lighted by five large windows with balconies, and is decorated with the busts of celebrated composers. At the same level, next the quay, are five *foyers* (green-rooms), for singers, chorus, and dancers. Over the grand *foyer* is an open gallery, or loggia, from which a fine view is obtained. On the same level is a library and a room for copyists of music. A third and even a fourth story exist; and these stories contain a saloon for the secondary places, rooms for study of parts, workshops and stores. There are four tiers of *galeries* (this French word applied to theatres being used in its signification); and as usual, the *parterre*, or pit, extends under the first tier. One account speaks of an *amphithéâtre* (our "gallery"), as a further division of the house. There is still much difficulty in comprehending the divisions of a French theatre, so numerous are they, and so variously are they named, even after a recent order of the Minister of State, intended to improve the nomenclature. The boxes (*loges*) of the two principal tiers, have, to each box, a *salon* or ante-room; the lower tier has as usual a *balcon*; and the pit is surrounded with boxes, called in that situation *baignoires*. The dimensions of the plan of the *salle* have been stated at 20 mètres of length, and the same of breadth, with a height of 19 mètres from the floor of the pit to the centre of the ceiling; and the number of persons accommodated has been variously stated as 1,500 and 1750. The dimensions are said to be nearly equal to those of the Théâtre Français, the places in which are usually set down as 1,522. But, above the pit-floor, the two houses cannot be alike. In that portion of the *salle* which contains the *avant-scènes*, or stages boxes, there are no columns or projections which can impede the view. Indeed, the *scène*, or stage, is well commanded from all parts of the house. What we saw of the decoration of the boxes was in very good taste. White and gold were to be prominent, and the interiors of the boxes were to be red. The cove of the ceiling, around the large circle of light-diffusing glass, is decorated elaborately with allegorical figure-compositions in colour. These can hardly have the effect intended, considering the method of lighting. The stage has the same depth as that of the Opera Comique, and 7 mètres 50 centimètres greater width; but the depth is certainly less than would have been desired. One account gives the dimensions 25 mètres of width and 15 mètres of depth. But such figures in the case of a theatre, are insufficient for information unless marked on drawings; and these should include *all* plans and sections. The plan of a single story or tier, especially in the case of Continental theatres, must give erroneous impressions; and comparisons of the numbers accommodated on the lower floors of two *salles* which published plans represent to have the same area, will necessarily be fallacious, without it be said whether the back and sides of the pit extend under the boxes. One feature of the distribution of the French theatre is the great height of the interior in proportion to the length of the axis of the plan measuring from the curtain. This distribution is retained and indeed intensified in the Théâtre Lyrique; and the form and effect of the *proscenium* and curtain-opening, and the convenient accommodation of a large proportion of the audience, are not enhanced by it. In judging of the Continental arrangement however it must be recollected that the rows of seats in upper boxes or *galeries*, are few in comparison with those in our theatres, and that the gallery (*paradis*, or *amphithéâtre*) is of comparatively slight importance, and in some theatres may be found generally with only about a dozen occupants. All accessories of the stage, or machinery, in the Théâtre Lyrique are very complete.

It is part of that which is the merit of the French school of architecture, that it is in advance of the resources of written description; as we have often endeavoured to point out, real art will always be. Yet the correspondent of one of our contemporaries, falling into the manner of writing which is so general and so baneful, can speak of the new theatres as "innocent of any particular style of architecture," evidently believing that he has discovered something which is ground for reproach. We can neither name the *style* of the architecture of the best recent works in Paris by a word, nor find at hand designations of decorative features, as columns and window-dressings, that would otherwise than mislead. Even drawings must be to a large scale, and exceedingly well executed, to give the information desired,—considering, too, that much of the detail would be utterly naught in any other atmosphere than the clear one of the French capital.

In Louis Philippe's time, the Renaissance of François I., or Henry II., and Henry IV., was one of the styles in vogue; and the admirably-executed work of restoration, or rather completion, of the river-front of the old Louvre under Mr. Duban, after the Revolution of 1848, doubtless contributed to that taste for elaborate ornamentation, foliated and sculptural, which had commenced, and has continued to play so large a part in French architecture. With this influence worked that of the Gothic, always kept up in France by the restoration of the cathedrals; there are however few features of that style which any one, not a practised observer, would discover in the architecture of Paris; yet, they exist. With the true Renaissance, contributed the Greek, the sixteenth century Italian, and that of a still later period; the revived Roman of the reigns of Louis XV. and Louis XVI., and the Empire; and the true Louis XV. style, all, to make an entirely new style; of which the works of architects who, like Mr. Davioud, are generally connected with the municipality, may be regarded as the best exemplification. The architecture in which the Greek element most prevails, may be seen in some of the Mairies, of which we have given illustrations; and it is generally characteristic of the architectural scenery displayed on occasion of public *fêtes*, many of which temporary erections evince considerable taste. This latter variation of the French style approaches in character to that of the German Greek of Klenze, certainly remarkable for originality, and much of beauty, combined. Much of this character is exemplified in the base or podium, and doorcase, spanned by the great arch of the "Egress Gateway" of the Paris Permanent Universal Exhibition building, shown at page 768 in our last number, as well as in the dwarf pilastrade of the attic of the central entrance, shown on the page opposite, in the same number. The French critics sometimes speak of the manner as Etruscan; and it evidently gets some inspiration from architectural details on the vases, and from such remains as those of the Roman tombs of early date. Variations not to be thus described with a reference to the Greek, we can scarcely deal with descriptively, further than by saying that they are not Gothic, not Greek, and not any well-remembered manner of any Vignola, Sansovino, or Palladio. Perhaps the most tangible feature about them for present description,—other than the feature of richness in carved decoration, and that of the constant recognition of *sculpture* as an art forming part of the art-architecture,—is that of the very slight projection of everything of the nature of moulding. The cornice will be proportioned not to the height of the building, as it was where there were superimposed orders, by some of the best Italian architects; but it has scarcely the dimensions requisite for an upper order. A member, quite new to any English architects who have not travelled, is introduced above the cornice, and accounts for the slight projection. This member is the *chéneau* or decorative facing of the gutter, generally in stone, and always treated as a marked feature of decoration. It has very often a scolloped outline which places it in the same rank as decoration with the Tudor flower of late Gothic architecture, and with the Vitruvian scroll and *antefixæ* of the monument of Lysicrates. There are however, a considerable number of works in Paris, which are more or less reproductions of the Louis XV. style proper. They are chiefly detached residences. The architecture of the new theatres then, is not Greek, or Gothic, or Roman, or Cinque-Cento, or later Italian, or Louis XV., but is something of all combined, though not in the manner of features recognizable at once as taken from one or the others. Particular details in them are excellent, chiefly those which are in the ordinary sense of the term with architects, *ornamental* in character. Speak of ornament, sculpture, and panelling, indeed, and *porte-cochères*, and you have got very far through a summary of what constitutes the architecture of Paris; and it might well deserve inquiry how effect such as there is, can be produced whilst qualities of grouping and proportion are so largely deficient. In windows, and especially in doorways, Mr. Davioud has succeeded better than he has in either of the buildings on the Place du Châtelet; he has however, not, we think, produced better ornament. The best of this was originally accessory to two medallions, in the front of each theatre. These were in the coloured enamelled ware of Mr. Devers, similar to what he shows in the French Court of the International Exhibition. The heads in the case of the Théâtre Lyrique, represented Poetry and Music. We speak of these very creditable works using the past tense, since we last heard of them as about to be removed, as inappropriate for the situations. The carving about them of course would be left.

The Cirque, or Théâtre Historique, seems to have undergone many changes recently. When we saw it, the chief difference between it and the opposite building, other than in points of detail named in our last article, consisted in the greater length of the building of the Théâtre Historique, which allowed of greater depth in the stage,—for, differently to the Cirque Napoléon and Cirque de l'Impératrice, there is a stage,—and in the recession of the centre of the upper story in the principal front, whereby the angle-blocks have more the character of pavilions. The entrances and exit-ways and staircases also appear to be more numerous. The *couloirs* of the boxes appear to be nearly 4 mètres in breadth. The principal *foyer* has not less than 25 mètres length by 7 mètres breadth.

At each of its ends is a fine stone chimney-piece, "in the style of the Renaissance." In front of this *foyer*, or looking on to the *Place*, is the loggia. The piers of the arches, or reveals, seen from the Place, have an effect of thinness, which, if not amounting to one of insecurity, is still very objectionable. If columns could be arranged in face of these piers, inside the loggia, they would be seen from below, and the defect would be materially lessened. The interior of the loggia is decorated in fresco. Four statues representing Music, Comedy, the Drama, and History; elegant candelabra on the balustrade of the loggia; and groups of *genii*, decorate the front. Since the early part of this article was written, we have heard that important changes in some of the windows, have been made, intended to diminish the flatness of the south front. Over the principal *foyer* is another, which is preceded by a terrace.

The *salle* nearly equals in its dimensions those of the *salle* of the Grand Opera; and it will contain 3,000 persons, or many more than any other theatre in Paris. The old Cirque, or theatre, on the Boulevard du Temple, which would till lately, have contained the largest number, was generally estimated to hold 2,000. There are four tiers of *galeries*. The principal tier has a *balcon* and thirty-six boxes with ante-rooms. Each box has a sofa and eight leather-covered chairs. The lower tiers of boxes are supported by ornamental iron columns and arches, nine bays in number; and the corresponding spaces above are divided so as to form double the number of bays and arches. The second tier of *galeries* has five rows of stalls, and the third tier six rows; whilst the *amphithéâtre* has seven rows of seats. The stage, which is smaller in the opening than was the old Cirque, though otherwise as large as that of the Opera, is provided with annexes at the sides; and at the back of it is a large court lighted from the top, added to a store for scenery; by which extraordinary effects can be produced; the distance attainable from the curtain being 45 mètres. The arrangement in the *salle*, of bringing the ordinary sweep of boxes to the proscenium, without the decorative feature of stage-boxes, is considered to make the body of the house lighter in appearance. The decoration, consisting of flowers and gilding on white ground, is rich and elegant. The upper part of the *salle* is decorated with medallions, containing the portraits of celebrated monarchs; and it has been noticed that some of these heads are placed curiously, beneath inscriptions recalling their personal qualities or the circumstances of their reigns. Napoleon is associated with tragedy, Charlemagne with comedy, Cæsar with the drama, Alexander with vaudeville, Francis I. with *spectacle*, and Louis XIV. with the ballet. When the theatres were first opened, some dissatisfaction was expressed with the lighting,—rather, as we gather, with the management of it, than with the principle,—but these complaints seem to have subsided; and those which had reference to the subdued light, or *crépuscule* as it was called, of the house, when the curtain was raised, probably were without much reason. We must suspend judgment, however, and defer much matter of description till we can revisit the buildings and judge for ourselves. Meanwhile we may assist some of our friends in saying that the results of General Morin's researches up to April 1861, may be found in a publication separate from the "*Annales*" named in our last.* A letter from an English architect now in Paris, received since the foregoing matter was in type, says that, in one of the theatres, occupants of the *fauteuils* are troubled by draught; but that, on the whole, the ventilation is the best he is acquainted with. The ceiling-light, he speaks of as oval, and the glass as ground and coloured. Consequently, and without referring to another point noted in our last, the electric light could not be at present applied: experiments at South Kensington, lately, have shown that it has little power to pass through ground glass. There are some single lights under the projecting *balcon*, to light the back of the pit. The pit-floor has iron gratings; but the object of them could not be ascertained. The proscenium is surrounded by trellis-work, which seems to be for admission of air, for which the escape appears to be at the sides of the glazed part of the ceiling. The *rampe*, as we feared, conceals the feet of the actors. The stalls, our informant says, are the most uncomfortable he is acquainted with. They "have seats placed on a centre; and to allow a person to pass, you *must* get up, and your seat follows you." Some of the French journals call the Cirque, Théâtre du Châtelet.

As to the Théâtre de la Gaieté, the new building in the Rue du Caire, near the Square des Arts et Métiers, opened in September, we must confine ourselves almost to description which we find in the French journals, our recollection of the unfinished building not extending beyond the crowning feature of the front, a large segmental pediment like that of Temple Bar, which as blocked out, did not promise well. The interior, however, seems to be judged of favourably, at least in the decoration and in the lighting, of which we have already spoken. The lower story of the front is an arcade of five openings. Four of these give access to the grand vestibule, whence two staircases ascend to the *couloirs* or box-lobbies. The *salle* has four tiers of *galeries;* and the stage is said to be well seen from every part. If that be no exaggeration, the form of the *salle* must be vastly superior to that of any French or English theatre that we are acquainted with. There are six staircases, namely two for the *amphithéâtres* and four for the other places. The seats of the *fauteuils d'orchestre*, on the occasion of the inauguration, were found much too close. The fault is very general in French theatres. The *loges d'avant-scène*, or stage-boxes, in this theatre are retained as a distinct feature of effect, being decorated with gilt shafts which are surmounted by statues. Several of these boxes have a *salon*, or ante-room, with a divan, fireplace and mirror, besides a window. A *foyer*, or saloon, to each of the two principal tiers of galleries, forms a feature of the plan. The chief of these saloons appears to be very elaborately decorated. Five bays on the side next the *salle*, correspond with five windows of the front; the piers have detached Composite columns carrying archivolts, the spandrils being, as we understand, enriched with medallions. The central bay is richly decorated as the chief entrance; and the other bays form openings to the box-lobby of the first tier; moreover, above, there are balconies from the lobby of the second tier, so that the occupants of these boxes can, between the acts, look down into the principal saloon. This feature is a not uncommon one in French theatres; and it is very favourable to effect. The portraits in the medallions are those of Beaumarchais, Shakspeare, Molière, Schiller, and Regnard. They are by Mr. Jovet Duval, who executed also paintings on the ceiling, friezes, and other parts of the saloon, the effect of which in colour and gold is described as very rich. The chimney-pieces, one at each end of the saloon, not finished at the date of our account, appear to be treated, or as to their mirrors, in a novel manner of decoration, including the arms of cities on a gold ground, and friezes representing one Melpomene in a tragic scene, and the other Terpsichore in a bacchanalian. At the angles of the saloon are allegorical figures. The saloon above, belonging to the second tier of boxes, is still we believe in process of decoration by Mr. Duveau. A large composition will represent the famous Nicollet and his primitive company, and a crowd of actors in costumes of the pieces, more than two hundred, played at the old theatre; the ancient boulevard "du Crime," latterly "du Temple," being in the distance.

The ventilation is said to be on the same system as that of the theatres of the Place du Châtelet; but this is not quite clear, since the *lighting*, stated to be the invention of Mr. Cusin, the architect, is described as somewhat different. The lighting indeed is from the top of the *salle;* but the account would seem to describe a sun-burner with drops of cut-glass, and several lustres as satellites to the centre of the system, rather than the system of exclusive lighting proper, which seems to us essential to the working of General Morin's ventilating arrangement, and to obviate the recognized inconveniences, referred to in our last, of the central chandelier or *lustre*. But we must wait for precise particulars. We read however of other light-distributing arrangements, in the form of a series of arches, glazed, at the springing of the vault or ceiling of the *salle*.

The alterations to the building of the Théâtre Français, consist chiefly of a new south front, returning the Tuscan or Doric colonnade and general architecture adjoining, of the Palais Royal. From the new gallery thus formed, will open various dependencies of the theatre. Above is an order of Composite pilasters, an attic-story, and a balustrade crowned by vases and trophies, and a mansard roof; and many of the features, as the lintels of windows, and the consoles, are much enriched. Mr. Chabrol, "Architecte de la Couronne," and architect for the Palais Royal, has had the conduct of the works.

At some future time, in returning to the subject of the Paris theatres, we may give some account of the design and works of the new Opera-house. The grand hotel, and many buildings surrounding the site, are completed: but the architecture of them is inferior to what the French can produce.

Whilst on this subject, we would express regret that Mr. Barthelemy's drawings of his proposed improvements in the arrangements of theatres, which are in the Western Annex of "the Exhibition," are so placed that it is impossible to examine them properly. They are not inviting in appearance; but, knowing that there was value, or at least suggestiveness, in Mr. Barthelemy's proposals, some of which he has carried into effect in France, we endeavoured to possess ourselves of the useful hints, but were at length obliged to give up the attempt, as we have been in like manner in the case of much useful matter which we know to be in the collection now to be dispersed, and we fear, after little use, of the sort intended by its promoters and well-wishers, made of it.

* "Etudes sur la Ventilation." 8vo. pp. 79. Paris. Imp. Bourdier et Cie. [Extrait des Annales du Conservatoire des Arts et Métiers." Avril, 1861.]

SKETCH OF THE HISTORY AND PRESENT PRACTICE OF MEASURING ARTIFICERS' WORK IN GLASGOW, WITH STATEMENT AND COMPARISON OF DIFFERENT MODES OF ESTIMATING.

It would form an interesting and instructive study to trace the history of mensuration, as applied to the work of artificers; and it is believed that the materials for such a history are in existence, as there have been upwards of sixty works published on mensuration, besides a profusion of treatises on weights and measures, price lists, builders' tables, school-books, and other publications relating more or less directly to the subject. The first British treatise on mensuration of which I have found any notice was published in 1556, about twenty years after the Bible was printed in England; and succeeding works have appeared at short intervals since.

Mensuration, as a profession (if I am not mistaken it is called the art and science of measuring, in apprentices' indentures), has attained its present proportions by slow and gradual steps: it has been so materially affected by locality, and by the different substances used in building, as to form a very diffuse and ill-defined system. The influence of individual members of the profession must also have had considerable effect on the practice, although no name stands out with so much prominence as to stamp its peculiarities on the existing state of things. It may be worthy of notice, however, to observe that among those who have shed lustre on the profession are Palissy the Potter (with the circumstances of whose romantic life many of you must be familiar), who, while prosecuting the researches for which he has become so celebrated, was frequently employed as a measurer or surveyor; and the Shakspeare of mechanics, the illustrious James Watt, who, in our own city, less than a hundred years ago, while occupied with his manifold inventions, was also occasionally engaged in measuring artificers' work. The profession did not reflect lustre on him, if Arago's opinion is to be received, which is:—

"We see, in fact, the creator of an engine destined to form an epoch in the annals of the world, undergoing without murmur the indiscriminating neglect of capitalists during eight years, lowering the lofty powers of his genius to the getting up of plans to paltry levellings, to wearisome calculations of excavatings and embankings, and courses of masonry."

I have made efforts to procure copies of some of Watt's measurements, but hitherto without success.

The following is a copy of his probable estimate for a quay wall at Greenock. It is dated Glasgow, 9th December, 1773:—

"For the hewn stone in the facing, average length 1 8 105 cube feet, at 4d.	£1 15 0
For the capping long stones quite across the wall, 13½ feet (supl.) at 5d.	0 5 7½
For the rubble stones, and leading 5½ yards, of 2 feet thick, at 1s. 3d.	0 6 10½
Building hewn stone and rubble, 12½ yards, of 2 feet thick, at 1s. 2d., that is, 42s. per rood	0 14 4½
Total expense of stone work, per running yard, casting the foundation, and drainage	£3 1 10½

The wall was to be 15 feet high, 7 feet thick at the bottom, including scarcements, and 4 feet thick at top."

The importance of the subject under consideration will be apparent from the frequent dependence of architects' designs on quantity and cost, besides the fact that to the measurer of Glasgow is entrusted the arrangement of tradesmen's accounts, amounting, on the average, to nearly a million a year. It is creditable to the intelligence and the integrity of the profession that, amidst the diverse interests at issue, and the multifarious questions

which, from the nature of things, arise in the transaction of such a mass of business, the disputes which are referred to courts of law or to other external arbitrement, are very few in number.

Mensuration is geometry applied to practical purposes; and, so far as it forms the subject of this paper, may be defined to be the art of taking dimensions from plans and from the actual work, and computing the quantities of all things connected with buildings of every description, together with the adjustment of the value of these quantities from the tradesmen's prices, as fixed by contract.

In former times the ordinary method of valuing artificers' work, even in extensive undertakings, was to have the work measured when it was completed; and the tradesman attached the rates himself, occasionally guided or assisted by the measurer. Sometimes a list of prices was fixed before commencing the work; but frequently there was no agreement as to rates, so long as the population of the city was comparatively small, and the tradesmen were few. These simple arrangements appear to have wrought satisfactorily, guided by the Dean of Guild Court, which was instituted in 1605, and to which was entrusted all disputes betwixt merchants and craftsmen, and all questions about weights and measures.

It is worthy of notice that, so recently as 1815, a new mode of measurement for mason-work was sanctioned by the Dean of Guild Court and the masons of Glasgow, but it never came into general use.

Contracts by slump sum were occasionally made throughout the country, and probably in Glasgow also. As an example, we have the melancholy case of Nasmyth, a builder in Edinburgh, and grandfather of the landscape painter of that name, who, in 1712, contracted with Government to build a fort at Inversnaid; but having with two men been deforced by Rob Roy and his followers, and exposed to the storms of winter without shelter of any kind, was not only ruined from failure to fulfil his contract, but died shortly afterwards from the effects of the violence to which he had been subjected.

Towards the end of last century, the natural resources and advantages with which our city is favoured, together with the extending trade with America, gave immense impetus to the growth of the city; and the arrangements for measuring and valuing artificers' work gradually became better defined as buildings rapidly increased in number.

In the earliest years of the present century estimating by lists of prices was frequent: then came estimates similar, but simpler, to those of the present day. Year by year these became more numerous; although, in 1812, as we learn from the circular of a measurer commencing business, which bears that "he had great experience in measuring all kinds of artificers' work, and is able also to measure plans and prepare estimates" (I am quoting from memory), it may be gathered that preparing estimates was then a subordinate branch of the business. Prior to 1820, many of the specifications, explicit enough in other respects, made no provision whatever for estimating; while in others of the same period were clauses as follow:—

"1812. The estimate to be either by slump or by measure, as the proprietor may think proper."

"1814. Should any alterations or additions be made by the proprietor, which may either increase or diminish the contract price, the same to be paid for, or deducted by measure, as the case requires."

"1816. The estimate is to specify a slump sum, for which the whole work is to be executed and finished agreeably to the plans and this description, together with prices by the rood, yard, &c.; and should any alterations be made by the proprietors, which may either increase or diminish the slump sum, the same shall be fixed and settled by the said contract prices. The price will be punctually paid by reasonable instalments as the work proceeds."

There is reason to believe, that to the measurers who were practising in this city during the first twenty years of the present century, and to the influence of the tradesmen then in business, is owing the system of estimating which prevails to this day.

In the Glasgow Directory of 1810 are the names of four measurers, only one of whom, so far as I am aware, is now living, the venerable and respected Mr. Donald Macintyre, in whose office I made acquaintance with the business, and from whose books I have recently gathered part of the information now given. To the Glasgow Architectural Society it may be interesting to know, that in 1810 there were seven architects practising in the city (one of them had his office in Bridgegate); and that twenty-one years later, while the measurers had scarcely increased, the architects had doubled their number, and the seven of 1810 were all still in business.

In the Directory of 1831, there is an ordained measurer, a title which has never been general in Glasgow, although frequent elsewhere. The formula for ordination consists in undergoing an examination on the theory and practice of mensuration, and the successful candidates are rewarded by a diploma. It might be a question for the profession in Glasgow to consider whether something of the kind might not be useful.

It would be impossible within the limits of such a paper as this, to refer with any degree of minuteness to the *mode* of measuring the various kinds of work, and to those conversant with the subject, lengthened detail is unnecessary: a few remarks, however, may be allowed.

In regard to mason work, a very loose system of measurement was in general practice previous to 1840. Here are specimens (from a schedule in 1835:—

"2-feet droved ashlar front wall, with polished window-dressings, corners, base, cornice, and blocking, per elevation. (The rate, 16*l.* a rood.)

2-feet rubble walls, with droved dressings. (The rate, 7*l.* 10*s.* per rood.)"

In 1840 appeared the rules and regulations for the measurement of mason work, which are at present in general use; but after a brief trial they were again superseded by the preceding system, which maintained its sway until 1853, when it was finally abolished.

The rules and regulations now in force are a great improvement on the old system, yet they are not perfect by any means, and are occasionally the subject of dispute from the different meanings attached to some of the rules. An attempt was made some years ago to make alterations on them, but it did not succeed.

As to carpenter work, it may be observed that the method of charging rough timbers of buildings, such as joisting and roofing, by the square yard, is not strictly accurate, as the first joist or spar is partly additional to the quantity. The method of reporting joisting and roofing by the lineal foot, which is in vogue in some places, is free from this objection; so is the system of rating them by the cubic foot, as is occasionally done in the case of bound roofs.

In the measurement of other departments of building operations there does not appear to be anything calling for special remark; and in regard to the Glasgow mode of measurement, as a whole, it is satisfactory to note that, for a number of years past, the tendency has been to state things exactly as they are; and by dispensing with allowances, measure and half, double measure, and the like, to report quantities correctly and explicitly, leaving the difference in workmanship to be determined by differences in the rates. Besides being just in principle, this method has the advantage, by removing the elements of chance in offering, of ensuring closer estimates. The practice of reporting quantities by the measure, or denomination in which the materials are sold to the tradesmen, has also been more general.

At the present time, the ordinary course of procedure by a measurer in regard to estimated work is somewhat as follows:—

His duties commence by receiving the architect's instructions, which almost universally form the substitute for the specification of former times. From the plans and these verbal instructions—or written specification when there is one—the measurer prepares detailed estimates of the several works required in the erection: besides their legitimate purpose, these estimates are generally made the specification, or description of the manner of executing the work. As architects frequently desire to have the schedules so framed as to provide for the cost of extra work, the practice of increasing the net quantities is general. Copies of the estimates—technically called schedules—are issued to the tradesmen, to be filled up by them as their offers. Occasionally there is some discrimination employed in selecting the tradesmen, so as to have them somewhat equal in standing and respectability; but frequently highly respectable men are called to compete with inferior tradesmen. In the absence of any reservation to the contrary, custom has constituted it a breach of faith to accept an offer which is not the lowest.

Before the offers are accepted, it is occasionally the practice to send the schedules to the measurer to be examined; and it is desirable to have this done in all cases, as at present the measurer frequently does not see the accepted schedule until the work has been executed and re-measured; and, as it is his duty to make this examination, and to correct the extensions and summations, if they are erroneous, it sometimes happens that a considerable per-centage is added to, or deducted from, the offer, to make it correspond with the rates.

As this statement will not be quite explicit to some, an illustration may be allowed. Take the case of two offerers filling up schedules for the same contract: the first has his calculations correct, and his offer amounts to 500*l.*: the second has his calculations underrated to the extent of 20*l.*, and his offer is 490*l.*; consequently he obtains the work, his offer being lowest. It is obvious that the second offerer's rates must be higher on the whole than those of the first offerer; yet his offer is 10*l.* less, and he would be paid only 490*l.* if his estimate were final. When the remeasurement is prepared, adopting his rates merely, he would get better prices for his work than the first offerer would have done if he had executed the work; and it may be said that he lost the contract because his rival was a bad arithmetician: consequently, justice requires that the 20*l.* of errors should be deducted from the measurement.

The converse of this case would be an offerer overstating his calculations to the extent of 20*l.*, and yet his offer is the lowest; when, for the same reason, that sum would require to be added to the measurement in awarding justice.

The misconceptions which prevail on this subject will be my excuse for referring to it at length.

The lowest offerers having obtained the contracts for the several works, are forthwith instructed to commence; and, as the erection is proceeded with, the measurer is called from time to time to take the dimensions of such portions as may be about to be covered up, or may become inaccessible; and, at the completion of each contract, he takes all the dimensions which are necessary for preparing a detailed measurement of it, except in the cases where the estimates are held to be final. The whole dimensions of every portion of the building, and of every department of work contained in it, are taken; although, as is frequently the case, the area, the height, and the general arrangement of the building remain unaltered, and the deviations from the plans have been trifling. The measurer may, therefore, be considered as performing, very inefficiently, however, part of the duties of the clerk of works.

When the dimensions of each department have been taken, the final measurement is prepared, the calculations of the quantities made, and the rates in the estimate attached. If the estimate provides for everything which has been executed, the measurement is completed, and sent to the tradesman, to be by him rendered as his account. If, as much more frequently happens, there has been work done for which the estimate does not provide, the measurement, with the estimate rates attached, is sent to the tradesman for the prices of the extra work; and, when these are obtained, the measurer compares these extra rates with the estimate rates, makes them conformable so far as he can, and then completes the document. When the tradesman gets the completed measurement, he renders it to the architect, who makes such a comparison of the measurement and estimate as enables him to certify that the measurement is correct.

Such is a brief outline of the practice of measuring artificers' work in Glasgow. Its prominent features are these;—its flexibility in permitting the arrangements for the erection of a building, such as the plans, the details of the parts, and style of work to be determined as the erection is proceeded with; its apparent justice to both parties, in providing that the proprietor shall pay only for the work performed, and that the tradesman shall be paid for all the work which he executes; its uncertainty to both parties, the measurement frequently amounting to a larger sum than the proprietor anticipated, and occasionally to less than the tradesman expects; its tendency to degrade the estimate from the gravity of a covenant, and to make it merely the instrument of procuring work, which, in the hands of unscrupulous tradesmen may be taken on unremunerative terms in the expectation that the re-measurement will afford them opportunities for increase; its expenditure of time in re-measuring the work and in adjusting and examining the accounts to the annoyance and injury of the tradesman. The fallacy of supposing that equal amounts in offers by different tradesmen represent the same value in materials and work is perpetuated by the acceptance of the lowest offers of tradesmen competing, without being selected: this practice, although not confined to Glasgow, is more prevalent there than elsewhere.

For the purpose of comparison, this system may be called the Glasgow system of estimating.

The system of estimating which, in various forms, prevails throughout the empire, with the sole exceptions, so far as I can learn, of Glasgow and the places influenced by it, is to make the estimate final, and to have no re-measurement of

the work after it is executed, excepting in the case of alterations on the plans or mode of execution; and then the re-measurement is confined to the work which has been altered.* There are different methods of preparing the estimates for this system. In some cases the plans and specifications are given for a day or two, each to a number of tradesmen, from which they prepare their own offers. This method is decidedly objectionable, and is the cause of the great discrepancies in amounts of offers by it. A reference to the lists of competitions, where the quantities are not supplied, which appear in the weekly journals devoted to building interests, will show this. In some places, where measuring does not form a separate profession, the estimates are prepared by the architects themselves; and in some places, where there are measurers or surveyors, the practice is for the proprietor to choose one measurer, and the tradesman whom the proprietor has selected to offer choose another, and the estimates are prepared betwixt them. Throughout Scotland, however, in the places where there are measurers, the estimates are prepared as in Glasgow, with the fundamental difference that there shall be no re-measurement when the plans are thoroughly matured and an explicit specification accompanies them. Accurate estimates of the different works can be prepared, but in the hands of an unscrupulous architect (it is to be hoped there are not many such), who purposely conceals or misrepresents, the contracting tradesmen may be injured.

The salient points of this system, which is generally known as that of slump sums, and from its extensive application may be called the national system, appear to be these:—

Its inflexibility, in requiring that all the arrangements for the proposed building shall be fixed and determined before the estimates which form the tradesmen's offers are prepared.

Its obviating delay in the settlement of accounts.

Its unison with the spirit of the age which requires definite and fixed contracts.

Its means of acting prejudicially to the tradesmen by a dishonest architect.

The chief argument employed in favour of the Glasgow system is, that the remeasurement, being a measurement of the actual work, is more accurate than a measurement from the plans can be: when the difficulties which occasionally occur in obtaining a correct re-measurement, and the chances of error in preparing it, are considered, the probabilities of accuracy, on the whole, appear to be in favour of the national system, assuming that the measurements under both systems are prepared by competent parties.

An important argument in favour of the national system is, that by its adoption uniformity would be produced; and in these days of rapid travelling and extended intercourse, it is desirable that the same rules should be of general application, so that architects and tradesmen together may be placed on an equality with those of other places. Any hope of extending the Glasgow system beyond its present limits appears to be utterly futile.

Comparing the two systems together, and assuming that in all cases it is necessary to have the plans matured, the following propositions are submitted for consideration:—

1. If the building has been erected according to the plans and specification and a carefully prepared estimate, any re-measurement is unnecessary.

2. If the deviations from the plans have been slight, a re-measurement of the differences only is necessary.

3. If the deviations from the plans have been extensive, involving an entire re-measurement, the present system, as administered in Glasgow, is frequently liable to abuse.

These propositions being granted, the national system of estimating is entitled to the preference.

The liability to abuse just referred to consists in the advantage occasionally taken by tradesmen to obtain higher prices than their estimate warrants for extra work; and, while it is the measurer's duty to see that the terms of the offer are strictly enforced, it is sometimes impossible, from the nature of the alterations, to have this thoroughly accomplished. If the practice of causing the measurer to decide all questions of extra rates became general, this difficulty might be remedied; but the increasing dislike of proprietors to uncertainty in the cost of their buildings, and to the excess which so often occurs on estimates, is tending to bring into disfavour the Glasgow system of estimating; which, to the architect, has the advantage of leaving him unfettered.

In the mean time, it is worthy of note that the use of the national system is advancing in Glasgow, and that year by year the contracts made under it are constantly increasing in number.

A few questions are given, the consideration of which may assist in the solution of the subject, viz.:—

Which of the systems is most just to all the parties concerned?

Under which system are disputes and misunderstandings most prevalent?

Have tradesmen, on the whole, been gainers under the Glasgow system?

Has architecture been benefited by the Glasgow system of estimating? or has it been injured by the national system?

In regard to the tradesmen, it will be generally admitted that, in proportion to the ability displayed and the capital employed in the execution of artificers' work in Glasgow, they are not properly remunerated; and that looking back over a series of years, they have scarcely maintained their position. The excessive competition which prevails does not sufficiently account for these facts.

Neither of the systems of estimating which have now been considered will assist in restoring architecture to its true position as one of the fine arts. If the architect is to be considered as an artist, it is obvious that the design, with its manifold details, must be the result of much time and study, and must proceed with the erection of the building, and so render estimating impossible; but as the Lamp of Sacrifice about which Ruskin discourses so eloquently is now burning dimly, and is threatened with extinction by the suffocating fumes of utilitarianism, it is to be feared that the opportunities for erecting buildings as works of art will be few and far between. The great work of the erection of St. Paul's, for instance, was carried on by Sir Christopher Wren as architect, assisted by a surveyor, a clerk of works, and a clerk of the check, all at yearly salaries; Sir Christopher's being the moderate sum of 200*l.* a year.

The national system of estimating will yet prevail in Glasgow; but if the prediction should prove erroneous, there remains the alternative of the creation of a class of persons who shall be manufacturers of buildings; who shall give plans and erect buildings quite independently of rules of art; and whose advent shall be distinguished by the overthrow of architects and measurers and tradesmen, as they at present exist.

If the length of this paper should be among the objections which may be made to it, I have to say that it has been required a month before it was due, and would plead the excuse which Pascal made for his sixteenth letter, that I have not had time to make it shorter.*

* The drains, underbuilding, and other portions of the erection which may be affected by site, nature of foundation, &c., or any other matter regarding which uncertainty prevails, being usually re-measured when executed, and valued by the estimate rates.

* Read by Mr. John Shields, at meeting of the Glasgow Architectural Society, as mentioned in our last.

SURREY ARCHÆOLOGICAL SOCIETY.

The ninth annual meeting of this Society has been held this year in the neighbourhood of Lingfield and Crowhurst. The excursionists met at the Godstone Railway Station, and thence went to Crowhurst. The first object which gained the attention of the party was the ancient yew-tree, supposed to be the oldest in England. It was mentioned by Aubrey, in the reign of Charles I., as measuring in his time about 10 yards round, at 5 feet from the ground. Its present girth is about 33 feet. They found, on a framed, written description near the tree, that its age was computed by Humboldt, on the authority of Decandolle, to be about 1,450 years. The same author gave the ages of the following:—

Brabourne Yew, in Kent (supposed to be dead)	3,000 years.
Fartingal Yew, in Scotland	2,500 ,,
Crowhurst Yew	1,450 ,,
Ripon Yew, in Yorkshire	1,200 ,,

The Crowhurst Yew was hollowed out about 1820. In 1845 the upper branches were blown off by a great storm. A cannon-ball was found in the centre of the tree when hollowed out in 1820. This ball was exhibited to the company. In the inside of the tree there is room sufficient to accommodate six persons comfortably seated. Mr. George Russell French gave an account of the church and its monuments. After which the party visited Crowhurst Place.

This fine old moated house was opened for the inspection of the members of the Society by permission of Mr. William Borer, M.D., who resides there. The party entered by crossing the moat by means of a wooden bridge, passing through the washhouse, which, in all respects, as regards its wide open fireplace; a wood fire with the sticks resting upon "dogs," &c. &c., carried one back into the Middle Ages. The company proceeded onwards to the kitchen, once the ancient hall. Here a paper was read by Mr. Charles Bailey, who commenced by stating that, as a general rule, whenever our ancestors were about to build, they adapted to their use the materials most ready to their hands. They were therefore not surprised to find in this part of the country so many of the old domestic buildings constructed for the most part of wood; for in the fifteenth and sixteenth centuries the wealds of Surrey and of the adjoining counties of Kent and Sussex were covered with vast forests of timber, and chiefly of oak. The English manor-house and the houses of the better classes of the yeomanry and gentry of the southern districts were very simple in plan, and often exhibited a singular uniformity of design. The lecturer then described in detail the mode of building such houses, mentioning the internal arrangements as regards the number and position of rooms, doors, windows, &c., and pointing out their leading characteristics generally. In speaking of the carved Gothic tracery and foliage with which these old relics of antiquity were elaborately adorned, he said the only examples now remaining were at Crowhurst-place, Ightham, and the old house at Penshurst. The covering of the roof varied according to circumstances. The most humble covering was a thatch of straw, and was often used. Tiles of burnt earth were much used in Kent. In Surrey and Sussex they used flakes of a stone, which easily cleaned, and was known by the name of Horsham slate. Mr. Napper, of Guildford, said quarries at Horsham were still in existence, and the stone was used in the present time for various purposes. Mr. Bailey said that stone was still to be found in many of the old houses, and made a very excellent covering when properly laid on.

Starborough Castle was afterwards visited, and here Mr. G. R. Corner, F.S.A., read a paper on the castle; the company having assembled for that purpose in the room of a building (within the moat) erected with some of the fragments of the old castle by Sir James Burrow. Mr. Corner's observations included a brief account of the history of the castle; showing that it was once garrisoned; being occupied by the Parliamentary forces. The castle appeared to have had a round tower, with a dome at each corner, and a court in the centre. The drawbridge was shown. Exclusively of the moat, there was half an acre and some square pools of ground.

After the company had visited Lingfield Church, the annual meeting was held in the school-room at Lingfield; Mr. G. L. Gower, president, in the chair.

The President, in his address, said such societies as the present had done much good in the archæological world. There was ample ground for research; and much light had, through their instrumentality, been thrown upon many obscure points in the history of our country, and the scenes so familiar to our forefathers. It was too much the custom throughout the Georgian period to look with contempt upon science; when, it would be remembered, churches and chapels were built and restored by such and such "churchwardens." The latter, fortunately for the society of the period, never forgot to hand down their names; so that posterity could learn to whom they were indebted for many instances of vandalism and bad taste. To such functionaries might be attributed the removal of the beautiful old carved oak, to make way for ugly substitutes. But conceit and ignorance would always be found together. These societies must, therefore, be highly beneficial in preserving the relics of antiquity yet left to them. He was glad to see so many ladies present; and to them he would say that many precious relics had been preserved by means of a lady's pencil.

Workmen's Visit to International Exhibition.—On Thursday last Mr. Richard Thomas, builder, of Circus-road, St. John's-wood, treated 200 of his workmen to a visit to the International Exhibition. The men, with their wives and children, were also handsomely entertained in the refreshment department of the building at the cost of their employer. They were conveyed to and from the Exhibition in omnibuses. Well done, Mr. Thomas.

NOTES UPON SOME NORTHAMPTONSHIRE ANTIQUITIES.*

The county of Northampton teems with localities and objects of antiquarian interest. Going back to the earliest historic times, we find that, previous to the arrival of the Romans, this district was inhabited by an ancient British tribe, called the "Coritani," "Coritavi," or "Cor-Iceni," which tribe was subordinate to the "Iceni," the great tribe of the Eastern Counties. The presence of this pre-Romanic people at certain spots is marked by the occasional but rare discovery of implements (whether of warfare or of domestic use) wrought in flint, vessels of coarse pottery, and coins—the last of a peculiar character, and unlike any found in other countries. Some of the ruder flint implements are possibly the relics of a still earlier or pre-Celtic race—of a people of whom we have no historic knowledge whatsoever.

Peculiar hills, usually conical or semi-conical in form (the natural elevation of which has been generally artificially increased), occur throughout the county. Some of them were undoubtedly occupied by the Britons for offensive and defensive or for religious uses, and, with others, were subsequently used as military posts and fortifications by the Romans, the Saxons, or the Danes. Danes' Camp, and Clifford Hill, near Northampton; Burrow Hill, near Daventry; Gawburrow and Thornburrow Hills, near Brington; and the Toot Hill, at Peterborough (the last probably entirely of a religious origin); will readily occur to memory as examples.

Not many weeks ago, in making a cutting for a new road upon the estate of Beriah Botfield, esq., M.P., at Norton, near Daventry, the workpeople found a skeleton, and with it an urn and a flint implement. Accompanied by the Rev. H. L. Elliot and Mr. Irvine, members of our local antiquarian committee, I last week drove over to Norton. We found that the material through which the cutting is carried is a loose sandy gravel of a late geologic period: this is covered by from 12 to 18 inches of surface soil, which, in the wall of the cutting, at the spot where the remains were found, dips into the gravel about 2 feet; a similar dip being observable at a little distance on the other side. It is evident that a trench had crossed diagonally the line of the present cutting. In the bed of this trench the remains had been deposited, and the trench then filled in.

Mr. Botfield informs me that the skeleton has been interred in Norton churchyard, and that the urn is deposited in the museum of the Society of Antiquaries at Somerset House. The flint implement, which is in the possession of Mr. Taylor, jun., of Northampton, is to-day exhibited by him, who, I believe, liberally intends to deposit it in the future county museum.

Mr. Botfield, himself an eminent antiquary, has kindly informed me that the urn, which I have not seen, is Early British, and precisely similar to urns of the same period found in tumuli at Burrow-hill and elsewhere.

Through the kindness of Mr. Taylor, I have had an opportunity of having a drawing of the implement made, exhibiting both sides and the edge.

This drawing I forwarded to Mr. John Evans, a prominent member of the Society of Antiquaries, and a great authority upon this class of antiquities. Mr. Evans describes the implement as a "spear-head or dagger, of a class of weapons which, though not common, have been found in various parts of England," and "which certainly belong to the so-called 'stone period,' and probably to the latter part of it, where the use of stone overlaps, as it were, the use of bronze." A period, I may remark, which was probably long anterior to the Roman invasion.

This body was evidently buried without burning. The urn might have been of a religious character, or simply a vessel ordinarily used by the deceased. The flint "spear-head or dagger" (perhaps of his own manufacture) was probably his customary weapon, and might have had a two-fold use, and been applied also to purposes not warlike.

During the Celtic period, both burying the dead and burning the dead were contemporaneously practised by different tribes; but there are reasons for concluding that burying the dead without cremation was the more ancient custom.

A flint implement (perhaps an axe) is exhibited by Mr. Bass, of the Market-square. This implement, which is of much later date than that from Norton, was found in Thrift-street, near the County Asylum, about 4 feet below the surface, on the 8th May, 1855; it is of extraordinarily fine workmanship, and much resembles the smoothing stones used in ancient Roman potteries.

Some years ago, an ancient British gold coin (afterwards deposited in the British Museum) was found at Ecton. This coin had a horse on the obverse, and on the reverse the letters "A. N. D. O." It belongs probably to a date somewhere about the period of the first Roman invasion,—perhaps the last century before Christ. Another British gold coin, of a kindred type, but without any lettering, found in the churchyard at Earl's Barton, I believe during last year, was exhibited at the first meeting this year of the London Numismatic Society. The occurrence of this coin in such a spot induces me to mention suggestively an impression I had previously entertained—that, in some instances, our modern Christian churches may occupy the sites of Roman Pagan temples, which themselves had been built upon sacred spots of the still more ancient Druidical worship,—a succession and a transition which, if proved, must have a twofold interest to every Christian antiquary.

The Romans came to Britain in 55 B.C., led by Julius Cæsar, who landed (as calculated by Halley, the astronomer, from certain lunar cycles) on the 26th of August in that year. They made no permanent footing in this country, however, nor penetrated so far as this county, until the reign of Claudius, a hundred years afterwards. From that period until their final withdrawal, in the reign of the Emperor Honorius (about A.D. 420), the history of Northamptonshire is inseparably mixed up with the history of the Roman career in Britain.

This part of the history of the county was treated most ably and at length in a lecture upon "Roman Northamptonshire," delivered in this town, about six months ago, by the Rev. J. N. Simkinson. This lecture, doubtless, if not heard, has been perused with equal information and pleasure by all present.

The area now called "Northamptonshire" (for we must not conclude that the modern confines of the county date so far back as the Roman period) was intersected in Roman times by two main roads: one to the north, the "Ermine-street," and one to the north-west, the "Watling-street," and by several subsidiary roads; and the "Car Dyke" (which united the Nene and the Welland, and extended as far as the Witham, near Lincoln),—a work combining in one a drain and an embankment, a water-way and a road-way,—traversed its north-eastern extremity. In the same district was situate the important town of Durobrivæ (the present Castor), the pavements, the pottery, and other remains of which are so well known. Some specimens and fragments of pottery, bronze ornaments, and other objects, glass, beads, an imitation gem, and other relics from Castor and its neighbourhood, will be found in the present local collection.

About seventeen or eighteen years ago, in levelling the area of the present Wansford station yard (which, although actually in Huntingdonshire, is separated only by a road from the Nene, which divides that county from this), were discovered a series of sub-surface ovens (similar to those which had been found at Castor many years before), and numerous fragments of pottery.

This, though probably a mile and a half from the Roman area of Durobrivæ, was doubtless a suburb or outlier of that then increasing manufactory of earthenware. But more curious remains than these were found at the Wansford station. They consisted of some statuary in fragments (of which I have never seen any notice in print, excepting a paragraph in the *Stamford Mercury*, written by myself at the time), comprising the mutilated figure of a Roman general, bare-headed, and less than life-size; and two figures (about half the scale of the former) of Hercules and Victory, the latter holding a wreath. These, evidently, had constituted a group, representing a Roman general, supported, on the one hand, by Hercules, symbolical of strength (he also having been the patron of the Roman soldier), and on the other by Victory, indicating the successes which the general, whoever he might be, had achieved.

If I recollect rightly, the material used was Barnack stone, the quarries of which (four miles and a half due north of the station) are known to have been worked by the Romans.

This group may have commemorated some event of Mr. Simkinson's "frontier period," or perhaps was of a later date—perhaps never actually erected at all. The spot where it was found (associated as it was with the pottery ovens) may have been the site of the workshop in which it was wrought, and from which it had never been removed. I do not know, certainly, what became of this interesting relic; but I am inclined to think that the Duke of Bedford claimed it as lord of the manor, and that it went to Woburn.

Glancing at the Ordnance map of Northamptonshire, we shall find it studded with Roman stations, encampments, and fortifications; and Roman coins are sown broadcast over the whole district. Coins occur the most numerously in the small brass form; those of Carausius (the usurper but ultimately the acknowledged Emperor in Britain), and of his treacherous friend, general, murderer, and successor, Allectus, being particularly abundant around Barnack. Large and middle brass Roman coins and denarii are by no means scarce, and a few gold coins (generally in fine preservation) are also found. These Roman coins range in date from the time of Augustus, B.C., down to the departure of the Romans in the reign of Honorius, A.D. 420; but they are much too numerous and too varied (both as to reigns and to type) to allow of any description in this notice. Some years ago, a fine gold coin (an aureus of Augustus) was found at Upton, near Castor, having on the obverse the head of the Emperor, and on the reverse, a bull walking, with the simple word "Avgvstvs."

Four or five miles westward of the present Wansford station, the Romans worked the iron-stone of the inferior oolite, in the locality now represented by the lordship of King's Cliffe; and here, recently, was found a gold coin, in fine preservation, of Magnus Maximus, a Roman general of Spanish birth, who, holding command in Britain, usurped and maintained, from A.D. 383 to 388, imperial title and power in this country. If his high-sounding name was at all indicative of his personal dignity and power, this Roman must have been a great man indeed. The coin is the property of Mr. Fletcher, of Sheep-street, and is lent by him for this occasion.

Thus, completely as the area of Northamptonshire and adjacent counties was occupied by the Romans, it is not surprising that, from time to time, indications of their occupation should be discovered in places previously unassociated with the Roman name; and, in fact, such discoveries not unfrequently occur. About twenty-five years ago, a cinerarian urn was found near the Paper-mill, at Wansford (at a spot about three miles due west of Castor), contained in a covered inclosure or chamber, made up of five large stones, bearing evident marks of fire, the top being only a few inches beneath the surface, which for ages had been ploughed over. This chamber was of about the capacity of a bushel measure; the urn stood in the centre, and was surrounded to the depth of several inches by ashes and charred fragments of bone. The urn, to about a third of its depth, contained what appeared to be earthy matter, a few small fragments of bone, and the crown of a molar tooth, beautifully preserved. Upon my solicitation, some years afterwards, the urn and contents were presented by the owner of the property, the late Richard Newcomb, esq., to the Stamford Institution, from which I have borrowed them for to-day's meeting.

About the same time some (one or more) skeletons were turned up near Warmington (a few miles from the last locality), and with them an urn, or rather jar, apparently of a later date than the Wansford urn, but undoubtedly Roman. This jar and a skull came into my possession, and were given by me to the Stamford Institution. The skull is not forthcoming, but the jar and some teeth, which I retain, are here.

The most interesting and important discovery of a Roman house, at Apethorpe, in the same neighbourhood, some three or four years since, has been made familiar to all by the able and learned treatise by the Rev. Edward Trollope, published in the annual volume of our Associated Societies for 1859, and needs no further allusion from me.

[Mr. Sharp then gave a description of the Roman remains discovered at Dallington, an account of which appeared in the *Northampton Herald*, in a report of a meeting of the local committee, at the time.]

Mr. Sharp then proceeded—

The Saxon age succeeded to that of the Roman, and to the very short Romano-British period. The Saxon race (however modified by numerous after intermixtures with other races) was, undoubtedly, the foundation stock of the present English people. The point of civilization to which the Saxons attained has from time to time been illustrated at the meetings of this society, by the collection of rich personal ornaments exhibited by Sir Henry Dryden; while an enduring testimony of their

✠

* By Mr. Samuel Sharp, F.G.S. Read at the late meeting of the Architectural Society of the Archdeaconry of Northampton.

complete inhabitancy of this county is found in the remarkable churches of Brixworth, Earl's Barton, Whittering, and some others.

It has been suggested that the tower of Barnack church, from its peculiar ornamentation, is Anglo-Danish (or rather, perhaps, Saxo-Danish, if I may be permitted to coin a word), and that it was built in the time of Canute, who, it is said, in the desire to make reparation, rebuilt many churches which had been destroyed in the predatory excursions of his countrymen.

The name of "Danes'-hill" (though purely traditional) serves as a memorial of the presence here of those old "sea-kings." The intermixture of the Danish blood aided in that old time to strengthen and ennoble the character of the English races; and it is confidently hoped that the intermixture of the like Danish blood with the present royal blood of England (so soon to take place) will be attended with a no less happy result.

The successful invasion by the Normans in 1066 inaugurated a new era, and another commingling of races. Though derived from the same stock as the Danes, the Normans had become a distinct people. By their settlement in this country, what I will call the "aristocratical element" was introduced. They left the footprints of their power and grandeur in their noble churches, their castles, their hereditary nobility.

The building of the Castle by Simon St. Liz, of St. Sepulchre's, St. Peter's, and St. Giles's churches, in Northampton, with innumerable other churches, and additions to churches, in the district, and of Peterborough, the subsequent well-worthy diocesan cathedral, sufficiently identifies the Normans with Northamptonshire.

Peterborough Cathedral, with its successive styles, seems to link the Norman with succeeding ages. During its progress towards completion occurred the troubles and contentions of Stephen's time. Passing over these, and coming to the year 1161, we find a great assemblage at Northampton, on the occasion of the embittered meeting and contention of Henry II. with the haughty primate, Thomas a'Becket—an event which has left its mark in the traditional name of "Becket's Well.

During that progress also passed the crusading reign of Richard the Lion-hearted. Those extraordinary and enthusiastic expeditions to the Holy Land wrought up to the highest pitch the chivalry of Europe in Mediæval times; and they have left their memorials in this county in numerous sepulchral effigies of cross-legged armoured knights.

To this period may be assigned a bronze seal found near Duddington. This bears, in a kind of quatrefoil, a shield divided by a plain cross, separating four escallop shells, with, for crest, a leopard's face; it has the very unusual form of inscription (probably in Norman French), "Sigelis d'Harphe." I have been unable to find in any heraldic book either the name or the arms, but the escallop shells tell us that the owner also had been in Palestine.

Some years ago, in repairing the foundation of some part of Peterborough Cathedral, a small gold ring was found, ornamented with a rose of five ruby garnets surrounding a minute emerald, having also this peculiarity, that the stones have been cut after they were set. I have been told that this is a Mediæval ecclesiastical ring. I know nothing of its character, however, nor of the period to which it belongs.

Before the beautiful front of Peterborough Cathedral had received its crowning spires, Edward I. had come to the throne, and they were not yet completed when the solemn procession conveying to Westminster the corpse of the royal Eleanor traversed the county. It passed onwards and away; but the exquisite crosses of Geddington and Northampton uprose, like fairy emanations, upon the resting-places of the body of the much-loved queen.

Referring to Mr. Poole's Synchronological Table of English Bishops, I find that, from 1370 to 1407, Henry Spencer was Bishop of Norwich. He bore the arms, and was evidently a member of the great and noble Northamptonshire family of that name. During his time there were a Pope and an anti-Pope. The Neapolitan Urban VI. filled St. Peter's chair at Rome, from 1378 to 1389, while the French Clement held, at the same time, a second Papal court at Avignon. Henry Spencer raised an army of several thousand men in this country, and passed over to the Continent to support Urban; hence he was called the "warlike bishop."

A Papal "bull" or leaden seal of this Urban VI. was, a few years ago, thrown up in digging a grave at Ufford, in this county. On one side, are two very different heads facing, rudely executed; over them are the letters "SPASPE"—in abbreviation of "Sanctus Paulus, Sanctus Petrus." On the opposite side are the words "Urbanus P.P. [for Papa] VI.," divided by eagles' heads, and with two spread eagles beneath. Whether this bull has anything but a synchronous connexion with the warlike expedition of Bishop Spencer, there is nothing to show.

In less than a century after this period, we find the country desolated by the fratricidal Wars of the Roses,—Northampton wreathed as it were with a battle-field—and contending armies traversing and re-traversing the county. Among the indications of these events are numerous Late Perpendicular churches, which have been built to replace others (probably of a better type) destroyed by the ruthless hand of war. These wars (though differing in their origin) offer a miniature parallel to the equally fratricidal, but colossal and most lamentable, contention which is raging on the other side of the Atlantic; and which can only result in the severance of that federation which was founded by the descendant, and which adopted nationally the arms, of the Washingtons of Brington.

But the long-festering quarrel between the great rival houses was at last healed by the defeat and death of Richard III. upon the field of Bosworth, and by the marriage of the Lancastrian conqueror, as Henry VII., to the Yorkist Elizabeth, daughter of Edward IV.; and England for a time had peace.

During the subsequent years, at Colley-weston, the ancient seat of the ancestors of the Wellesleys and of the Dukes of Wellington, sometimes resided one of the most eminent and most excellent of English ladies. In the previous century, John of Gaunt, "time-honoured Lancaster," had obtained from that same Urban VI., a bull for the legitimation of his children by Catherine Swinford, and they took the name of "De Beaufort" from the castle in which they were born. By this line, and in the fourth degree, was descended from John of Gaunt the lady I have referred to, Margaret Beaufort, Countess of Richmond, mother of the King. She had for a third husband Thomas Stanley, first Earl of Derby; and from her (by her first and third marriages) has descended by three lines (which ultimately merged), and through thirteen generations on the male and fourteen on the female side, the present, the fourteenth, Earl of Derby. This Margaret Beaufort founded the Colleges of Christ and St. John, at Cambridge; and it is from her that the latter has derived its landed possessions in this county.

In Peterborough Cathedral was buried, in 1536, Catherine of Arragon, the repudiated wife of Henry VIII., not very many weeks before the beheading of Anne Boleyn, her hapless rival and successor.

The reign of Elizabeth is great in the annals of this county; but is disgraced by the damning and cruel act of the decapitation of her cousin, Mary Stuart, at Fotheringhay. When James came to the throne he exhumed in Peterborough Cathedral, and re-buried in pomp, at Westminster, the body of the mother he had failed to save from the axe.

The unfinished building at Lyveden—that unsolved enigma—and the beautiful, though equally incomplete, market-house at Rothwell (both the work of the father of the conspirator Tresham), call ever to remembrance the famous "Gunpowder Plot:" these, the numerous family associations of the other conspirators, and their several places of rendezvous in the county, connect (but not with credit) Northamptonshire with the reign of James I., styled by the Duke of Sully, "the wisest fool in Europe."

Of the reign of Charles I., the battle of Naseby Field is the point of interest to this county. This battle was fought on the 14th June, 1645, and was the last great encounter between the "Cavaliers and the Roundheads;" and here, virtually, Charles lost his crown.

Mr. James has several interesting relics found on Naseby Field, and I have a sword—found on the field of the still greater battle of Marston Moor of the previous year—the blade of which exceeds 3 feet in length, and this will give some idea of the kind of sword used at Naseby.

After some vicissitudes, Charles obtained shelter in the royalist city of Oxford; but being tempted thence by promises of protection from the Scotch, he proceeded, in disguise, to join their army before Newark, passing through Stamford—(where he slept at the house of Ald. Wolph) on the night of May 3, 1646—"for the last time as a free man." He was accompanied in this flight by Mr. Michael Hudson, rector of Uffington, near Stamford, who was afterwards barbarously murdered by a party of Parliamentarians at Woodcroft House, near Peterborough. This curious old moated house still remains.

Charles was speedily betrayed by the Scotch, upon payment to them by the Parliament of an alleged debt of 200,000*l.*; and on the 16th of February, 1647, he was conveyed to Holmby House. A prisoner, in the heart of Northamptonshire, I leave the misguided but ill-fated monarch, and here close my epitome.

Rapid and incomplete as my sketch has necessarily been, I think I have borne out my opening statement, and shown that there are in Northamptonshire numerous localities, and an abundance of objects of antiquarian and historical interest; and I think that all must regret, with me, that as yet there is no museum in which the treasures from so rich a field can be collected and preserved.

In the formation of a county museum, I think the chief attention should be directed to the collection of objects connected with the county, which should form a separate and the most important department.

Besides the antiquarian field, Northamptonshire contains an unusual range of geologic strata, exceedingly rich in fossil remains, of which a most valuable and interesting collection might readily be made. Illustrations of the present natural history of the county should also be added.

It is useless, however, to accumulate a quantity of valuable material unless all necessary provision be made for its preservation, classification, and arrangement; so as to allow of the display of certain objects, and of access to all, for the purpose of examination, without disturbance or damage; and an efficient curator should be constantly employed to maintain the museum in order and in progression.

Innumerable objects of local interest and value (the existence of which is oftentimes unknown to any who can detect their significance and importance) are spread about the county, in the possession of persons who are not collectors, and who, perhaps, would generally be glad to deposit them in a receptacle where they would be preserved, and, at the same time, open to public observation.

If a sound and practical scheme, embracing such arrangements, were propounded, I believe we should speedily have a museum in Northampton which would be of great interest and utility to the public, and a source of honour and pride to the county.

MARK-MASONRY.

NEW RAILWAY VIADUCT, NEAR DUNKELD.

THE newspapers have mentioned that the Duke of Athole, assisted by the Freemasons, recently laid the first stone of a new bridge across the Tay, in connexion with the Inverness and Perth Junction Railway, and have reported the good advice the Duke gave to navvies,—not to spend their money so fast as they do. On that occasion a stone cup or bowl was presented to the Duke, on the part of the navvies. The cup bears carved masonic emblems on the exterior, and in the bottom the arms of his Grace are neatly carved. The cup is of Ayrshire stone, about 7 inches in depth, and about 12 or 13 inches in diameter; it was cut out by G. Gunn, one of the overseers on the line. The cup was furnished with a masonic base of black marble, executed by Mr. Brodie, sculptor, and presented by the architects. It bears the following inscription:—"Presented to his Grace the Duke of Athole, K.T., by the navvies employed on the Dunkeld contract of the Inverness and Perth Junction Railway."

Mr. Gowans, one of the contractors, in presenting it at the request of the men said, that Gunn, who had cut out the cup, was a good mark-mason—a thing which he was sorry to see was rather lost sight of in their craft. Referring to mark-masonry, Mr. Gowans said that he had given the subject a good deal of study; and he found that the masonic marks which were on the base now presented, produced the whole of those lines of architecture which had been admired from the time of the Egyptians, through the Roman and Grecian periods and Middle Ages. Mark-masonry was an excellent study, because it brought out the fact that truth, whether in form or anything else, was immutable. Beauty was a true thing, and anything that was founded on a true figure must produce beauty. That was a secret which had been handed down to the masons, and he had shown it on this base to tell that they had not altogether lost sight of that portion of their craft. He concluded by remarking that on this occasion he could not well say what he felt, and he knew he

could not well say what the men felt. It was a blessed thing that they had bright spots in their lives. When they came into this part of the country they found the Duke of Athole to help them forward with the undertaking, and he begged to thank the Duke in the name of the men.

A CHILD VIEWED AS AN INVESTMENT.

Following up this view, which has been presented before now by the *Builder*, Mr. Edwin Chadwick, in his address at Oxford, said:—

Treating each child as an investment of capital to be applied productively in honest industry, it is a total loss if he fail from moral defaults. If he turn mendicant, pauper, or thief, he will still levy a maintenance on the public; as a thief most wastefully by spoil, as a criminal in prison or in convict establishments, he will be kept at, generally unproductively, double the expense of maintaining a pauper. The insurance table would give him, from the tenth year, the chances of forty years of life and waste, and this waste would be under-estimated at the keep of a pauper, or a total loss of 480*l.* on every case of failure. As a matter of fact coming within my own personal investigations under the Poor-Law Commission of Inquiry, not above one-third of the children reared in the old parish workhouses with adult paupers, after leaving the workhouses, could be traced into respectable service in self-supporting conditions; and where the old conditions are permitted to continue, there is a total loss of two out of every three investments. The case of the Royal Military Asylum, Chelsea, for the children of soldiers, which is a school of mixed physical and mental training, may be presented as another example of educational power and economy in result. In the investigation of the sources of juvenile delinquency or of mendicancy, and the parentage of the delinquents, one common answer was, "Father a soldier," or a sailor, "mother dead," or "mother unable to maintain him," "deserted;" and there cannot be a doubt that, in the absence of any care or provision for that class of children, the great mass of them must be economically total losses of capital. The following are the results of the returns of their characters from the commanding officers of the regiments which they have joined:—Out of 376 children, 87 were returned as exemplary, 261 as good, 23 as indifferent, and only 5 as bad. But equally important is the evidence of the increased value given to the investments by good training, including the physical as well as the mental training, as displayed in the ranks attained by a large proportion of the children, and those ranks denoting the increased value which may be imparted to the investments by improved training. Twelve were staff-sergeants, 25 sergeants, 32 corporals, 95 trumpeters or drummers, and 210 as privates. Out of this school seventeen had become commissioned officers. I attach much importance to schools of this description, as imparting, with the physical training, those moral virtues, or, speaking more correctly, economically, those values implied in the term discipline—attention, prompt and exact obedience, patience, self-restraint—so important for productive applications. I am glad to find that his Royal Highness the Duke of Cambridge and the Council of Military Education are in advance in educational improvement, as they have ordered a reduction of the hours of sedentary application to an average of about three hours daily; and, as the head-master assured us on a recent visit with foreign commissioners, without any reduction of the amount of mental progress. Another school — the Naval School at Greenwich—I would cite as an example of the economical value of good teaching power, as proved by rare statistical evidence—for it is rare to get direct statistical evidence of the results of any particular course of education, or of education in general, for there is no systematic outlook on their course after they leave school. In respect to the district school, the results are obtained by the inquiries of chaplains at their places of service. In the instances to which I have last referred, the results are obtained by regular returns from the commanding officers. Some years ago, when the education given at the Naval School at Greenwich was on an ignorant notion of a low education and training being all that was requisite for a sailor, then there was great moral disorder, great waste, as shown by desertions. The statistics with which I have been favoured by the Rev. Mr. Fischer, the principal of the school, made up from the officers' returns for a series of years, and the school returns of intellectual progress, prove that the rise of intellectual improvement is accompanied by a closely corresponding rise in moral, and also in economical result, in fewer and no desertions, in the advancement of the value of the service obtained—as shown by the increased proportion of petty officers, and the appearance from amongst them of superior officers. The general economical deduction from this evidence is, that were the same methods of physical and mental training made general, as they might be, we should, in this special service as in the civil service, get equal or greater power with from one-fourth to one-third fewer men to enlist, feed, clothe, carry, and pension on retirement, which would be much longer deferred, and consequently that we could afford to pay them better, and better compete for voluntary enlistment with the civil service market. The progress of mechanical improvement in gunnery, with which it is the province of the mechanical section to deal, as members of that section specially conversant with the topic agree, is to give greater power to fewer men, with higher aptitudes, such as sound physical and mental training alone will ensure. The tendency of those improvements is to give the battle to economic science, husbanding and wielding capital, with the aid of mechanical means, applied by skilled artisans as engineers, under scientific commands. Educational statistics, such as those to which I have referred, demonstrate the practicability of completely abolishing the whole of that waste incurred by juvenile mendicancy and delinquency, and the great mass of habitual delinquency. So certain is the training and educational power as applied under the half-school time system, that contracts might be made for the attainment of economical as well as moral results in these respects. Under existing circumstances it is well to subscribe to reformatories as to hospitals for the treatment of the sick, but giving exclusive attention to them is like giving exclusive attention to the foundation and maintenance of hospitals for the alleviation of marsh and foul air diseases, without regard to the drainage of the marshes, or to the removal of the sources of the foul air whence the diseases arise.

THE CHURCH OF ST. NICHOLAS DU CHARDONNERET, PARIS.

The *tracé* of the Boulevard St. Germain has opened to view the church of St. Nicholas-du-Chardonneret, on the Boulevard St. Germain. The building has recently been thoroughly repaired and newly fitted up, and is just now run after as a novelty. This church, in its internal architecture, is a small model of St. Peter's at Rome, which the architect Lebrun was desirous of copying, less the dome, which is here only represented by a small cupola.

A porch is about to be erected for this church, for it has never been completed, and no principal doorway exists.

Contemporary with St. Roch and St. Sulpice, the church of St. Nicholas-du-Chardonneret bears a great analogy to them: it is gaily lighted, as was the fashion in the seventeenth and eighteenth centuries, when they celebrated the *messes musquées*. Commenced in 1656, and consecrated eleven years afterwards, it was then far from being terminated, nor is it at the present day. The works, interrupted for years, were resumed in 1705, and in 1709 the church was left in its present state. The style of St. Nicholas is the semi-circular, with groups of pilasters in the piers. In the lateral chapels there are some works of art, and the tombs of several illustrious personages. The chapel of St. Pierre is adorned by a sculpture in wood, representing the Prince of the Apostles at the moment of the Crowing of the Cock. This tableau was carved in the seventeenth century. In another chapel the recess opposite the altar is occupied with the tomb of Jerome Bynon, Avocat Général to the Parliament of Paris in 1621, who died the same year that the church was founded. This mausoleum is surmounted by a bust of the personage, by Girardon, who, according to a contemporary, never saw him; so that the likeness is only imaginary.

The chapel most noticeable is that of Saint Charles, which the painter Lebrun decorated for his mother's tomb, and which also contains his remains. The ornamentation is profuse in marble sculptures and fleurons in the rich and heavy style of the period. In the panel opposite the altar, Tuby and Colignon, sculptors of the seventeenth century, have represented a scene of the Last Judgment,—an angel, in high relief, boldly sculptured, floats through the air above the clouds, and blows a trumpet, while below, in a half-opened tomb, appears the mother of Lebrun, in her grave garments. The mausoleum of the painter is composed of a simple pyramid on a pedestal, the base of which is ornamented by a bust, by Coysevox. In 1818, to this church were transported the remains of Sainteuil, who died at Dijon, 1697. The Duke de Bourg is said to have killed him, in a practical joke, by putting a strong pinch of Spanish snuff into his wine-glass.

THAMES EMBANKMENT.

METROPOLITAN BOARD OF WORKS.

At the usual meeting of the Board, last week, Mr. Bazalgette brought up his report on the scheme of the Thames Embankment, referred to in the Act of last session, in accordance with the minutes of the Board of October 17, 1862.

The report stated that the Thames Embankment Act, and plans referred to therein, defined in general terms the main features of the work, but left the Board to determine the details. The powers of the Board for the compulsory purchase of property would cease after the expiration of five years from the passing of the Act; but the execution of the work was not limited to that period. The Act provided that the Board should not deviate more than 5 feet from the levels defined in the sections of the Act, and should not deviate beyond the limits of deviation delineated in the said plans, without the consent of the persons through whose land such deviation should be made, nor carry the line of the Embankment-wall further into the stream than 3 feet, without the consent in writing of the conservators, and under no circumstances to carry the deviation more than 100 feet from the lines laid down in their plans, even with the consent of the conservators.

The face of the Embankment was to commence at the northern abutment of Westminster Bridge, in a line with the existing embankment of the Houses of Parliament, and would extend in a slightly-curved line to the northern brick pier of Hungerford Bridge. From thence it would continue to the first pier of Waterloo Bridge. The solid Embankment would terminate on the eastern side of the Temple Gardens. A roadway, 100 feet wide, would be formed upon that portion of the Embankment nearest the river, from the junction of the roadway of Westminster Bridge, passing under Hungerford and Waterloo bridges to the east end of Temple Gardens. From thence the roadway would be continued, at a width of 70 feet, on columns, to the level of Chatham-place, Blackfriars Bridge, on an incline of 1 in 60. The report then entered into details, showing that, if the Embankment were to be carried out to the second arch of Waterloo Bridge, it would show a more uniform section of embankment, would give a better current to the stream, and tend to prevent deposits on the south bank of the river, and would, besides, reclaim about 8 acres additional of land. But, the limits of deviation not extending so far, it would be unwise to go beyond the first arch. The approaches, or connecting roads between the Embankment and the existing streets, to be carried in the form of a crescent to the foot of Norfolk, Surrey, and Arundel streets, in the Strand. The new street to be formed from Wellington-street, opposite the end of Somerset House, falling at an inclination of 1 in 40 under Hungerford Bridge, near Northumberland Wharf, and connected with Whitehall-place by a prolongation thereof. Branch connecting streets from the new street were to be made in continuation of Cecil-street, Salisbury-street, Buckingham-street, and Villiers-street. A street connecting Whitehall, opposite the Horse Guards, with the Embankment roadway, was to be formed through Whitehall-yard and Whitehall Stairs, nearly on a level.

The report suggested the consideration of a plan for a road between Charing-cross and the roadway of the Embankment, for the purpose of relieving the traffic from the Strand and Fleet-street; and pointed out two routes through which it might be made; but provision had not been made for such a line of communication.

After dealing with several matters of detail, the report stated that the borings for the foundations were nearly completed; and the result up to the present time indicated that it would be necessary to carry them down to the blue clay, which, on the average, would be about 25 feet below the present bed of the river. The most economical way of effecting this would be by sinking iron caissons filled with concrete for the foundations, and by raising upon them, from below the level of low-water mark, a solid granite face embankment, without the aid of a coffer-dam.

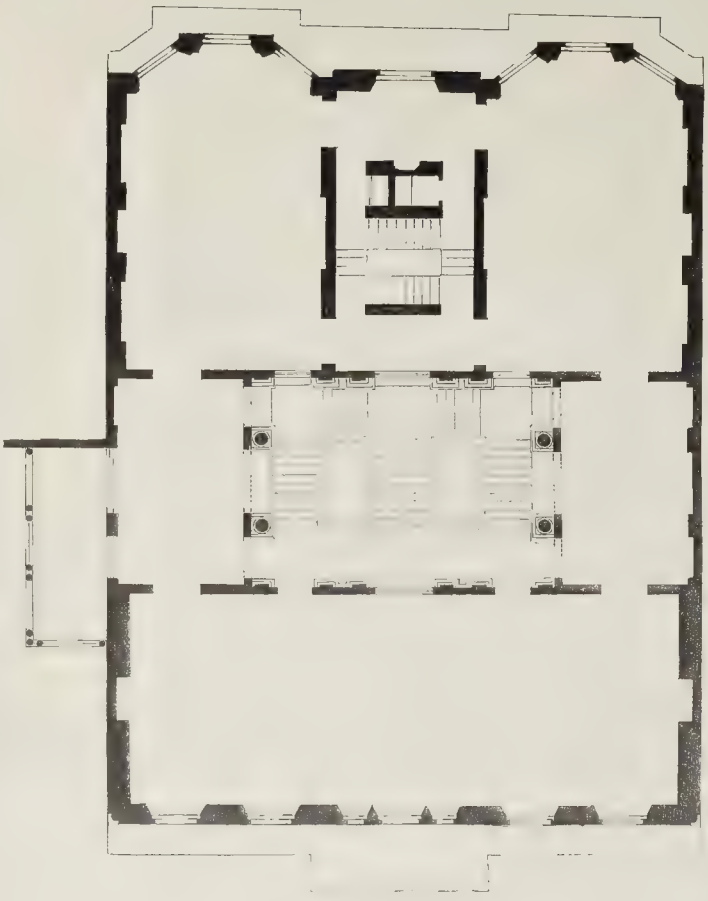
This report was referred to the Thames Embankment Committee for consideration and report.

BARON ROTHSCHILD'S NEW MANSION IN PICCADILLY.

The mansion which has been erected for Baron Rothschild, M.P., in Piccadilly, next Apsley House, occupies a site with about 67 feet frontage and 90 feet in depth, exclusive of the forecourt and garden in rear. We give a plan of the first floor and a view of the front.*

The house is built upon a bed of concrete, extending over the whole surface of the basement story. The walls throughout are built with stock bricks, in Portland cement from the Wouldham Cement Works, on the Medway. The front wall is entirely built of Portland stone: the side and back fronts are cased with Portland stone. The Portland stone is from Messrs. Steward's quarries in the Island of Portland. The floors throughout are constructed with cast-iron girders and tile arches. The ironwork is from Messrs. Grissell's works, Eagle Wharf-road. The roof is wholly covered with lead; and the chimney-stacks throughout are of Portland stone.

The basement story in the main body of the house includes servants' hall, menservants' pantries, steward's room, housekeeper's room, still-room, sleeping-rooms for the principal menservants, wine-cellars, strong-rooms, and hot-water apparatus. Under the terrace in the garden are the kitchen, scullery, pastrycook's room, &c. Under the forecourt next Piccadilly are cleaning-room, bed-rooms for footmen, store-rooms, &c.



PLAN OF FIRST FLOOR.

On the ground-floor the entrance-hall is the centre of the frontage, 19 feet by 19 feet, leading to the principal staircase and saloon, with which all the principal rooms communicate. There are four sitting-rooms on this floor. The dining-room and library, each 36 feet by 22 feet 6 inches, are on the garden front, with bay windows, and an ante-room between opening upon the garden terrace. Fronting Piccadilly (on each side of the hall) are two rooms, 24 feet by 20 feet.

The principal staircase is of marble. The centre flight, 8 feet wide, is opposite the entrance-hall door: from the landing of the centre flight two side flights spring right and left to other landings; and thence two return flights reach the main landing level with the first floor. The side and return flights are 6 feet wide, and the principal landing is of the same width. The landings as well as the stairs are of marble; the main or principal landing connects the two ante-rooms on the first floor; and the ante-rooms are divided from the staircase by marble screens of columns and arches. These ante-rooms communicate with the first floor reception-rooms, viz., the two principal drawing-rooms over the dining-room and library on the ground-floor, connected together below with an ante-room, opening upon a wide balcony over the garden entrance. One room occupies the whole of the Piccadilly front, 62 feet by 24 feet, and communicates with the ante-rooms and the principal landing of the staircase. At the rear of the great staircase is a second staircase leading to the bed-room stories, and also communicating with the ground and basement stories.

The second or principal bed-room story includes five principal bed-rooms and three dressing-rooms. These rooms open upon a corridor with marble columns surrounding the principal staircase.

The third or bed-room floor contains two principal bed-rooms and dressing-rooms, with several smaller rooms for the women servants. Attached to the second staircase are a lift from the basement to the upper floor, water-closets, and a shaft containing the gas, water, and waste pipes.

The principal and second staircases are lighted by outer and inner skylights; and between the roof and the ceiling of the upper bed-room floors is a garret floor, containing the cisterns, tanks, bells, &c. The basement story is 12 feet high; the ground floor, 15 feet; the first floor, 19 feet 6 inches; the second floor, 13 feet 6 inches; and the third floor, 11 feet.

Messrs. Nelson & Innes, of Whitehall, are the architects; Messrs. Myers & Sons are the builders; Mr. Bawden, is clerk of the works.

* The house stands some distance back from the public way. The figures introduced by the artist might convey a different impression. The flank of the ground-floor, though shown in our view, is hidden by the office-buildings of Apsley House.

THE CONDITION OF THE BANKRUPTCY COURTS.

We have on many occasions directed attention to the wretched accommodation and bad arrangements for heating and ventilation of several of the metropolitan police courts. Some improvement has since then taken place, but in such a case as Marlborough-street Police Court, in order to ensure comfort it would be necessary to reconstruct it altogether. Bad as this public office is, the Courts of Bankruptcy in Basinghall-street are at present, however, much worse suited for the transaction of the large and important business there carried on. These courts were very inconvenient before, but since the alteration of the bankruptcy laws has caused the removal of all the matters connected with the Insolvent Courts from Portugal-street to Basinghall-street, things have become far worse, in fact, it is difficult to conceive the scenes of confusion which take place there except by witnessing them. The house in which the Commissioners sit, and in which are several offices besides the court-room, is a large old-fashioned house, never intended for the purpose to which it has been put; and now the rooms are shocking in their sanitary arrangements, and often crowded to suffocation. Persons who are forced to go there, and who are obliged in certain instances to wait for hours, have complained loudly of the poisonous atmosphere; so have the lawyers and officers connected with the courts. The other day, one of the Commissioners was obliged to beg for a little air, and hinted that the room would be the death of him. The opening of a small window afforded some relief; but the winter and the cold weather are coming, when the people will not be willing to throw open windows, and then the air of those courts will not be bearable. There can be no doubt that the state of these public offices is very dangerous. It must, even, if the arrangements go on satisfactorily, be some years before the central halls of justice can be reared, and it is necessary to do something effectual here at once.

POPULATION AND HOUSES.

The revised census returns show that on the 8th of April, 1861, the number of houses inhabited by the population of England and Wales was 3,739,505. There was, therefore, one house to every 5·36 persons, or 536 persons to 100 houses. In 1851 there were 547 persons to 100 houses, so that, notwithstanding increased numbers, there is rather more house-room than there was. In the metropolis, however, taken as a whole, these returns show that the crowding is rather greater than less than it was; in 1851 there were 772 persons to 100 houses; in 1861, 780 persons. At the date of the census of 1861 there were 27,305 houses building in England and Wales; and in the same year the number of children born was 260,232 greater than the number of persons who died. The number of houses in England and Wales returned as "uninhabited" in 1861 is 184,694, an increase of 31,200 over 1851; but it must not be supposed that this means empty houses: it merely implies that in that number of houses no person sleeps. In the city of London, for instance, the "uninhabited houses" have, since 1851, increased from 1,059 to 1,576; but at least 1,200 or 1,300 of these are occupied during the day, though left tenantless at night.



THE MANSION OF BARON ROTHSCHILD, M.P., PICCADILLY, LONDON.—Messrs. Nelson & Innes, Architects.

PREVENTION OF DECAY IN TIMBER.

Messrs. York & Co. are circulating a translation of an "Essay on the Prevention of Decay in Timber," by a new system of carbonization, written by Mons. de Lapparent, Inspector General of Timber for the French Navy,* and which system, it appears, is extensively adopted at the present moment in the French Government dockyards for their line-of-battle ships, as well as by railway companies both in that country and Spain, for the preservation of their sleepers, &c. The advantage of putting the butt of a gate-post, for example, into a fire before placing it in the earth, is perfectly well known in England. The difficulty found in effecting this charring has prevented a more extensive use of the process.

Mons. de Lapparent says:—

"The methods of carbonization which I first employed at Cherbourg, and which, by the order of his Excellency the Minister of Marine, are about to be extended to all the dockyards of the empire, are free from these objections; and realize, on the contrary, all the conditions to be desired, whether of simplicity, facility, safety, or economy. They consist of strong inflammable gas.

Suppose a gaspipe, for instance, be brought into the dockyard. An india-rubber tube is screwed on, the other end of which, furnished with a joint, should be fixed at the side of the bench at which the men work. To this joint another end of a tube of sufficient length is fixed, and on that a little brass end is placed, similar to that of a fire-pump, but having inside a small pipe communicating with the reservoir of a foot bellows on the bench. The object of this bellows is, first, to mix with the gas the air necessary to obtain a complete combustion; and, in the second place, to impinge on the jet of flame such a force that it may be directed in every way, and made to act not only on the surface of the wood, but in the holes, joints, bolts, mortises, &c., and in general on every part of the timber. The combustion takes place with the most perfect regularity; and, as can be proved, without the least danger; which, be it understood, does not exclude the precautions commonly prudent to adopt whenever fire is employed either on shipboard or in the dockyard."

The operation can be facilitated by smearing the face of the timber, in the first instance, with a little tar. He would apply the process to all joists and other timbers in house-building embedded in wall or shut in from the air by plaster or otherwise. Where gas is too expensive, or cannot be procured, he uses a small apparatus which has been found successful:—

"It consists of a small clay cupola, at the bottom of which is a grate filled with small pieces of coke. It stands on an ash-pan in which are two openings: into one the air-pipe of a small foot-bellows is inserted, and by the other the ash-pan can be removed and the cinders taken away. The cupola is surmounted by a dome, also of clay, forming a reflector; and in its surface are apertures for the entrance of the wood to be carbonized.

For railway sleepers, the size of the cupola ought to be that of the sleeper (say about 30 centimètres, or 12 inches diameter): this is placed on rollers, and is gradually and slowly introduced.

For hop-poles and vine props the diameter of the cupola will be reduced at most to 15 centimètres, or 6 inches. This apparatus, as simple as possible, may be placed on a light cart or wheelbarrow, and carried wherever it is wanted. Though we see that the gas of oxide of carbon burns in the open air in proportion as it is formed, yet it must be admitted that there will be a great loss of caloric, and in that respect the cost would be greater than when ready-made gas is employed."

To prevent the growth of fungi, the author proposes the use of a paint having flour of sulphur as a basis, and linseed oil as an amalgamator. He considers it proved that by smearing here and there either the surfaces of the length of the ribs or below the ceiling with this paint, a slightly sulphurous atmosphere will be developed in the hold, which will purify the air by destroying, at least in part, the sporules of the fungi. The arrangements for the working of this patent in Great Britain have been undertaken by Messrs. York & Co.

* McKewan & Co., 46, London-wall.

KING WILLIAM'S COLLEGE, ISLE OF MAN.

Visitors to the Isle of Man during the last season will have noticed considerable additions to this well-known college; and, as the building usually excites interest in tourists, a short description of the improvements may not be uninteresting. The main block of building was commenced in 1830, the foundation stone being laid by that popular governor of the island, Cornelius Smelt. In 1833 the college was opened, and in 1844 almost totally destroyed by fire. Great energy, however, was displayed, and in about twelve months the college again was habitable, the original design having been carefully preserved. The entire pile is sufficiently imposing. A main front of 210 feet is broken into three gables, flanked with octagon turrets, both being finished with battlements. The work is rather rude in character, economy requiring wood mullions to the windows, and a total want of good freestone obliging rough imitations for battlements, label mouldings, strings, &c. A commodious chapel extends at right angles from the centre of the college, a tower, 120 feet high, rising from near the intersection, giving character to the general mass. In style we may say King William's College is Late Henry VII., partaking strongly of the Hampton Court quadrangle. About 100 pupils are educated here.

It will scarcely be credited that an establishment so important should for many years have been worked with a kitchen not 14 feet square, the outer offices generally being on an equally Lilliputian scale. The inconvenience at length however, became so great, that the trustees determined to remedy the defects; and the new buildings are now completed, presenting an additional frontage of about 60 feet, and inclosing nearly three sides of a quadrangle. They consist of a dining-hall, 45 feet by 24 feet, and 14 feet high; a kitchen, 30 feet by 20 feet, with its pantries, closets, and good scullery; arched larder, with double walls, stores for vegetables, &c.; large bakehouse and oven, proportionate to the wants of such an establishment; and shoe-house, with convenience for drying wet shoes—articles much worn by the boys. Four large dormitories for servants, with private staircase, form portions of the upper story of the new building, and three large hospitals another part. The hospitals have separate staircase from the vice-principal's house, W.C., housemaid's sink, supplies of hot and cold water, &c. Convenience in the matters of cooking-apparatus, hot and cold water supplies, rain-water, &c., are arranged for in the new buildings. The dinners to dining-hall are served direct from the kitchen, through a buttery hatch. The various departments are kept quite distinct, a vestibule being common to all, connecting the various classes of servants' rooms, dining-hall, kitchen, old portion of college, and private entrance for pupils. In addition to these various works, the boys are provided with a corridor, 80 feet long, in which to amuse themselves in unfavourable weather.

The new works necessarily partake of the general character of the old: greater regard has been paid to comfort and convenience than to pictorial effect.

The works have been executed from the designs of Mr. George Holme, of Liverpool, by Mr. F. Stowell, of Castletown.

FROM MELBOURNE AND VICTORIA.

It is generally believed that business has at last taken a turn for the better; and, as fine weather has again appeared after several months of almost incessant rain, it is hoped that a marked improvement will also be observable in building operations.

A start has been made with the town-hall, Hotham, of which Mr. Flanagan is architect. It is a plain, unpretending building: indeed, the architect could not accomplish much with the limited amount (1,200*l.* or 1,300*l.*) placed at his disposal.

When alluding to the Haymarket Theatre, in Bourke-street, I ought to have mentioned the stained-glass window which has been erected there by Messrs. Fergusson & Urie, showing that we have among us men by no means poor workmen. The subject of the centre window is the immortal Shakspeare; whilst on either side are figures emblematical of the purposes for which the hall is used.

Messrs. W. Powell & Co., ironmongers, have not long completed their new retail warehouse at the corner of Collins and Swanston streets, which, although not presenting any striking architectural features, is considered one of the best, if not the best, examples in brickwork which we have in the colonies, and is peculiarly adapted to the business for which it was designed. The architects were Messrs. Crouch & Wilson.

From designs by the same architects was erected, about twelve months since, a very commodious Wesleyan Church, in Fitzroy, one of the suburbs, capable of seating 1,350 people, at a cost of about 3,000*l.* The general effect of the building is sufficiently pleasing, and the acoustics are pronounced very good. From the cost it will be clear that no money has been squandered. The internal fittings, with the exception of the pulpit, are all of deal, stained and varnished. The pulpit is a good piece of workmanship, of best cedar, French polished. The style is something after the American Rostrum.

Additional buildings are being put up at the University, which have been the cause of considerable discussion in and out of the local papers. It is generally considered to be a covert attempt to secure the National Museum to the University; whilst it was only temporarily committed to the care of the professors until accommodation could be provided in the Public Library, a building more centrally situate, and a great resort, during their leisure hours, of those citizens who prefer reading to more unprofitable occupation.

Another failure in the attempt to introduce salmon has to be recorded. Why the parties on your side (says our correspondent) should charter a steamer coming out under canvas to transmit such precious and delicate freight, such vessels being notoriously slow, is a matter of considerable speculation.

Memorials to the intrepid Burke and his coadjutor Wills have been inaugurated at Castlemaine and Sandhurst; and another is shortly to be commenced in Ballarat. Nothing will be done in Melbourne until the bodies are brought down for public funeral. The leader of the party sent out for that purpose, *inter alia*, has been ordered to break up the depôt at Cooper's Creek, and bring the bodies down, since the last of the parties out has come in. A very interesting ceremony took place a few evenings ago, when his Excellency the Governor, in one of those neat speeches for which he is notorious, presented to King, the survivor of the first expedition, the gold watch of the Geographical Society, transmitted through the Duke of Newcastle. There was a very large attendance of members of the Royal Society and their lady-friends; and, to add to the interest of the occasion, Landesborough, the second to cross the continent from north to south, arrived in town during the day, and reported himself at the meeting.

The prospectus of the British and Australian Steam Navigation Company is now before the public, and the shares reserved for colonists are being rapidly taken up. The capital is 2,000,000*l.*, and they propose to run 7,000- or 8,000 ton steamers, which will receive the mail subsidy. The calculations of the promoters are said to have been approved by eminent engineers in England, and they show a large margin for profit.

Large sums of money are being transmitted from here, as well as the other colonies, for the relief of distressed operatives in Lancashire.

Experiments have been tried with a new projectile, invented in the colony. The first shot worked some improvement over the old round shot; but the two other shots were failures, inasmuch as, from some defect in the metal, they burst shortly after being discharged from the gun.

The shipwrights have been out on strike, through an attempt on the part of the masters to reduce the wages from 13*s.* to 10*s.* per day. The strike has been successful, so far that the old rate of wages has been resorted to.

STAINED GLASS.

Sibsey Church (*Lincolnshire*).—A large stained-glass window has been put up in this church to the memory of the late Thomas Foreman Gape, lay impropriator, who rebuilt the chancel in 1856, by subscription amongst his tenantry and other friends. The window consists of five lights and several tracery openings, the largest one a cinquefoil in the centre, in which our Lord is represented as seated upon a throne, with arms extended, as saying,—"Come unto me all ye that are weary;" and surrounded by a choir of angels playing harps; the background having stars on a deep blue ground. The foils, on which are the angels, are on a ruby ground. The openings of the tracery are filled with foliage of oak, ivy, &c., upon ruby and blue ground. The five principal lights are filled with fifteen medallions, the subjects illustrating the life of our Lord, commencing with "The Annunciation," "The Adoration of the Shepherds," "The Presentation in the Temple," "The Flight into Egypt," "Our Saviour sitting amongst the Doctors," "The Lamb of God," "The Baptism of our Lord," "Christ entering Jerusalem," "Christ clearing the Temple," "The Agony in the Garden," "Christ before Pilate," "The Scourging of Christ," "Christ bearing His Cross," "The Crucifixion," and, lastly, "The Ascension." The entire window is a mosaic: the pattern running over the window between the medallions is composed of the vine, naturally coloured upon a ruby ground. The cost amounted to about 200*l.* The artists were Messrs. Ward & Hughes, of London. This is the fifth window in the church of St. Margaret's, Sibsey, by the same artists.

Farnsfield Church (*Notts*). — Two memorial windows, presented by Mr. T. Parkinson, of Hexgreave Park, have just been inserted in the apse of the church. That portion of the structure

contains three similar windows in the Decorated style, each consisting of two lights and tracery. The one on the left hand contains two subjects from our Lord's life, preceding the Crucifixion, viz., the "Agony in the Garden," and "Bearing the Cross," under architectural canopies, surmounted with foliage. Beneath these (the two principal groups) are two smaller ones, in which are depicted the Old Testament types of the same, viz., the "Distress of Jacob on being shown the bloody Coat," and "Isaac carrying the Wood to burn the Sacrifice." The larger opening in the tracery contains the scape-goat as emblematic of our Lord's Passion; the others are filled with ornamental glass. This window is erected to the memory of the late Miss Milward, of Hexgreave Park. The window on the right of the apse contains, for the principal groups, "Our Lord's Ascension from the Mount of Olives," and "Our Lord seated in Glory;" the Old Testament types being the "Translation of Elijah," and "Solomon on his Throne." The larger opening in the tracery contains the "Agnus Dei." This window is erected to the memory of the late Mr. R. Milward, of Hexgreave Park. The remaining window, the gift of the Rev. H. and Mrs. Anders, was inserted at the end of last year; and, being the centre one in the apse, contains two subjects suitable to an east window, viz., "The Crucifixion and Resurrection of Our Lord;" the typical groups in the lower panels being "Abraham's Sacrifice of Isaac," and "Jonah cast forth of the Whale." The larger central piece of tracery contains "The Brazen Serpent reared on the Pole." This window is erected to the memory of the late Mr. John Parkinson and Mrs. Parkinson, of Ley Fields. In these three windows, which have been designed and executed by Mr. Wailes, of Newcastle, the same treatment is adhered to; so that, although varied in detail, the general effect is similar.

St. Peter's, Marlborough.—It is in contemplation to place two stained-glass memorial windows at the western end of the church. It has been suggested that one should be placed to the memory of Lord Herbert, which suggestion has met with the approval of the Marchioness of Ailesbury. The Prince Consort has also been thought of as a fitting subject to whom the other may be dedicated.

St. Matthew's, Bankfoot, near Bradford.—A stained window has been placed in this church to the memory of the late incumbent. The window is of the Flowing Decorated period, A.D. 1320, and consists of two lights, trefoiled, with quatrefoils in the head. The subjects of the main lights are "Our Lord's Conversation with Peter," when he asked him, "Simon, son of Jonas, lovest thou me?" &c., John xxi. 15, 16, 17; and "Peter healing the Cripple at the Beautiful Gate of the Temple," Acts iii. 6, 7. These subjects are in large medallions, above and below which are the Evangelistic symbols, the lights being filled in with conventional foliage. The artist was Mr. F. Barnett, of Leith, near Edinburgh.

CHURCH-BUILDING NEWS.

Notting-hill.—St. Mark's Church is in rapid progress, under the superintendence of Mr. E. Bassett Keeling, architect. It is a Gothic structure, in coloured bricks and Bath stone, with a Continental touch in it, and will have a slate spire 130 feet high. The arrangement consists of nave, side aisles, transepts, and chancel, with a vestry on one side and small chapel or aisle on the other side of chancel. The nave will be supported by iron columns, set back, from which is a gallery, through transept, side aisles, and west end of nave. The staircases, which will be spacious, come at the back of the west gallery, and over the staircases is an upper gallery reached from the tower, which forms an entrance porch on the ground floor. The nave principals will be supported by small marble columns on carved Bath-stone brackets and carved capitals. The whole of the interior will be finished in ornamental brickwork, the only plaster used being in the roof and soffits of galleries. The church will seat 1,380 persons, including children's gallery; and the contract has been taken by Messrs. Dove, Brothers, at 6,011*l.*, which includes font, pulpit, altar fittings, &c., of a plain character.

Rodmarton.—The church of this place has been restored and re-opened. Additional accommodation has been provided, and the whole building put in repair. A block of masonry which stood between the nave and north aisle has been removed. The square pews have been replaced by open sittings. The flooring has been renewed throughout, and a great many other improvements effected. The works have been executed, mainly by Messrs. Eassie & Co., of Gloucester.

Cutcombe (Taunton).—Early in 1861 it was determined by the vicar of Cutcombe to attempt the enlargement and restoration of the parish church. Mr. Giles, architect, was consulted. The old parish church of Cutcombe consisted of a nave and chancel, with a north aisle and north chapel. Mr. Giles recommended to balance the building by the addition of a south aisle; to which the vicar subsequently resolved, under Mr. Giles's direction, to add a south chapel, thereby rendering the whole complete. The contract was taken by Messrs. Pearse, of Minehead, and Hole, of Dunster, who have completed it. The red stone, as hard almost as granite, found in large blocks upon the surface amidst the heather of Dunkery Beacon, has been used in the columns of the arcade. The capitals, of white freestone, have been carved by Mr. Seymour, who has introduced the wild ferns of the surrounding hills. In the south chapel has been placed a stained glass window, in two compartments, by Messrs. Clayton & Bell. One compartment is a copy of the very old window in Christ Church Cathedral, Oxford, which represents at full length, in his sacerdotal vestments, Robert King, last Abbot of Osney and first Bishop of Oxford. This figure is matched in the other compartments by a similar one of the late Walter King, Bishop of Rochester.

Allesley (Coventry).—The ancient parish church of All Saints', Allesley, near Coventry, is about to be restored, and have the south aisle and chancel entirely rebuilt. Mr. Murray, of Coventry, is the architect; Mr. Mault, the contractor. The following were the tenders received for the restoration, &c., of this church:—Robinson, 2,300*l.*; Dutton, 1,950*l.*; Marriott, 1,680*l.*; Mault (accepted), 1,620*l.*

Lower Crumpsall.—The foundation-stone of the church intended to be dedicated to St. Thomas, at Lower Crumpsall, has been laid by the Bishop of Manchester. The church will be in the Decorated style, and will accommodate 450 persons. Its extreme length will be 102 feet; the nave being 76 feet long by 34 feet wide, and the chancel 26 feet by 18 feet. The nave will consist of six bays. The east window, of three lights, and the west window, of four lights, are intended to be of large size. The roof will be open timbered. The church will be built of stone, with a wooden belfry of perforated work, a vestry to the north of the chancel, and a decorated porch, in the second bay, on the south side. The site of the church and intended parsonage measures 4,500 square yards, and adjoins the Crumpsall schools. The erection of the church will cost about 2,800*l.*, of which 1,500*l.* is already raised. The builder is Mr. G. Shaw, of Saddleworth.

Bradford.—St. Thomas's Church, the fifth of the ten churches to be built in five years by the Bradford Church-building Society, has been consecrated by the Bishop of Ripon. The church, the style of which is Middle Decorated, is situate at the angle of Wigan and Ashton streets, on ground gratuitously devoted to the purpose by Mr. F. S. Powell. It consists in plan of a nave, north and south aisles, chancel, organ chapel, vestry, and south porch. The first stages only of the proposed tower and spire are now completed, and temporarily roofed in at the height of the chancel eaves. This, when complete, will rise to the height of 140 feet. The nave is divided from the aisles on each side by five Pointed stone arches, rising from octagon stone cylinders with foliated capitals. The chancel arch is supported by clustered columns with enriched capitals. The funds not permitting the erection of a regular clerestory, additional light for the nave is obtained by a series of gablets, filled in by tracery patterns and coloured glass. The woodwork throughout is stained and varnished. Externally, the walls are of delf stone, with ashlar quoins and dressings. The windows vary from five lights to one light in width, the heads being filled with geometric tracery. A bell-turret, rising 70 feet in height, surmounts the west gable. Accommodation is provided for 700. The site is inclosed by a stone fence and wrought-iron gates. The architects were Messrs. Lockwood & Mawson, of Bradford and Leeds; and the works have been carried out by Messrs. J. Burnley & Son, as masons; Messrs. Taylor & Son, as joiners; Mr. Bollans, as plumber; Messrs. J. Hill & Sons, as slaters; and Messrs. Briggs & Mensforth, as painters. The whole has been executed under the superintendence of Mr. Joseph Johnstone, of this town.

Skipton, Yorkshire.—The parish church of Linton in Craven, after having undergone a restoration under the personal superintendence of Mr. John Varley, of Burnsall, architect, has been re-opened for Divine service by the bishop of the diocese. Several fragments of an Early Norman church have been built into the vestry wall; and two altar slabs which were found under the floor of the church have been taken care of, as well as the sepulchral recesses in the walls of the nave, and an ancient piscina showing the position of one of the chantry chapels. The vestry screen is made of the blue stone from Oulton. The carving has been executed by Mr. Brooks, of Huddersfield, and Mr. Jacques, of Easingwold. The committee, for want of funds, have been obliged to abandon the building of a tower, as designed by the architect. The church has throughout been restored in the Early Decorated style, except the chancel roof, which has been made like the one existing in the seventeenth century, and which in Dr. Whitaker's "History of Craven" was described as being covered up by a plaster ceiling. The works have been executed by Messrs. O. & R. Wood, stonemasons, and Francis Verity, joiner, of Grassington.

Penistone.—The parish church of Penistone, Yorkshire, has been restored and re-opened. The work of restoration has been confined to the interior, and is scarcely yet completed. In addition to several minor alterations, the whole of the plaster has been stripped off the pillars and walls of the nave and side chapels. The west gallery has been pulled down, and the tower-arch opened out. The entire pewing has been swept away, and in its place open benches in the nave, and stalls in the chancel, have been substituted. The work has been done by Mr. Shaw, of Saddleworth.

Sunderland.—A new church, to seat 1,000 people, is about to be erected at Bishop Wearmouth, Sunderland, from the design of Mr. James Murray. The contract has been taken by Mr. James Young, of Sunderland.

South Shields.—St. Mary's Church, between South Shields and the Tyne Docks, has been consecrated. The building is in the Gothic style, and consists of a nave, 84 feet by 25 feet; terminating with a chancel, or altar recess, 18 feet 6 inches by 22 feet, having open timber roofs, the apex of which is 52 feet from the ground. There is a north aisle, 66 feet by 12 feet, and a south aisle, 79 feet by 12 feet; both having open timber roofs, the apex of which is 40 feet from the ground. There is also a vestry at the east end of the south aisle. The church contains sittings for 528 adults on the ground floor, and for 136 children in the gallery; making a total of 664 sittings. A new organ will be built by Herr Schulze, the German organ builder, who has recently completed the organ for Doncaster parish church. The pews are all open, with broad seats, sloping backs, and kneeling-boards. The cost of the building has been upwards of 4,000*l.* The church is designed to have a tower at the west end of the north aisle, of the height of 100 feet from the ground. This tower, has, however, only been carried to the height of 40 feet, and covered temporarily with an ornamental pitched slate roof. It is intended shortly to take steps to carry the tower to its full height. The architect for the building was Mr. J. Dobson, of Newcastle; and the contractor for the works was Mr. J. Elliott, builder, North Shields.

Newcastle-upon-Tyne.—The following account of the restorations which have been effected at St. John's Church, during the present year, is from the local *Courant*:—The south transept, children's gallery, and lower elevation seats have been entirely removed, with a view ultimately to reseat this portion of the church. The whole of the roofs on the north and south transept, nave, and aisles of the church have been uncovered, by the removal of the plastered ceilings, exposing to view an oak roof, some parts of which are moulded and enriched. The principals and longitudinal rafters have been stained and varnished. The walls have been scraped, washed, and finished in a light tint colour. Amongst the external restorations, an outside stone staircase, leading up to the children's gallery, from which a doorway had been cut through the west side of the transept window, has been removed. The stonework of three windows on the east, and one on the west, sides of the south transepts has been entirely renewed; also, of another on the south of the same transept. The stonework of the eight clerestory windows has also been restored; and the north transept end window will be proceeded with immediately. The designs for the present restorations were furnished gratuitously by Mr. Johnston, architect. The contractor for the works has been Mr. E. Spoor, of Newcastle. The glass for the windows was from the establishment of Mr. Wailes. The church has been re-opened for divine service.

PROVINCIAL NEWS.

Pembroke, &c.—At a meeting of the Committee of Visitors of the Joint Lunatic Asylum for the Counties of Pembroke, Cardigan, and Carmarthen, the following resolutions were adopted:—1. Mr. Brandon's plan having been laid this day before the committee, and Mr. Brandon's explanation having been heard, the committee are satisfied that there is no unnecessary detail work in them, and that the estimate of 108*l.* per patient is not extravagant; and that the committee will apply to the Commissioners in Lunacy to be allowed at present to build only for 212 patients; but if their consent cannot be obtained, the committee think it more expedient to carry out the present plans than to make any further alteration, as that would cause a further delay, which the committee are of opinion would be most undesirable. 2. That Mr. Brandon be instructed to explain to the Commissioners that portion of the proposed Lunatic Asylum the erection of which might be postponed without prejudice to the completion of the plan as originally proposed.

Leeds.—The contractors for the enlargement of the Leeds Workhouse Infirmary are as follow:—Excavation and brickwork, Messrs. Swales & Brown, 670*l.*; masons' work, Mr. C. Jackman, 465*l.*; joiners', Mr. W. Britton, 509*l.*; plumbers', Mr. S. Powell, 239*l.*; ironwork, Messrs. Simpson & Tennant, 142*l.* 9s. 6d.; plasterers', Mr. R. Branton, 135*l.*; slating, Messrs. Watson & Wormald, 122*l.*; painting, Mr. H. Nelson, 11*l.* 9s.

Lambton Castle.—The work of restoring this residence is progressing under the care of the architect, Mr. Dobson, of Newcastle. A few years ago, several large cracks were made in the castle walls, owing to the old coal workings underneath having given away. Numbers of workmen were employed in building up these workings with brickwork. This was accomplished; and, after a certain time had elapsed for the purpose of discovering whether any further cracks appeared, the present work was commenced. Already a considerable portion of the south front is finished. Very considerable alterations, chiefly internal, have been made; but the main outline of the castle will be preserved.

Wigan.—It has been determined to erect a new town-hall and gaol at Wigan.

SCHOOLS OF ART.

The Birmingham School.—We are glad to be able to contradict the report that this school is in a sinking condition. On the contrary, it has never been in a more healthy state; and although there was a deficiency in the last year's accounts of 80*l.*, this arose from the current receip's, which, in fact, exceeded the current expenditure by 151*l.*, having had to meet law charges amounting to 231*l.*, and due to the renewal of certain trust deeds connected with the local Society of Arts, virtually the committee of the school. The head-master, Mr. Rainbach, states that the surplus of receipts is thus rapidly clearing off a moderate amount of liabilities incurred in former years.

The Coventry School.—The eighteenth annual meeting of this school has just been held; the mayor in the chair. The report calls attention to a very marked improvement evinced in the drawings exhibited on the present occasion. "The individual and collective merit of the productions," it continues, "is best exemplified by the gratifying fact that thirty drawings have obtained medals, and twenty-four besides have been honourably mentioned. This large number of medals would have been still further increased by the addition of six others had it been in the power of the Government inspector, Professor S. A. Hart, R.A., to have awarded them. This distinction of obtaining thirty medals at one exhibition has only been equalled in one previous instance, when the same number was gained at Manchester, in a school where four masters are engaged in the superintendence of eight hundred pupils. At the last annual meeting," continues the report, "reference was made to the preliminary steps taken, and the amount of subscriptions raised, towards the erection of new buildings for the school of art in Coventry; when a letter was read from Mr. Samuel Carter, jun., stating his intention of giving the munificent sum of 500*l.* towards the furtherance of that object. The committee have now to record the gratifying fact that the chief stone of the new school was laid on the 18th of August last, by Mr. Carter; and that the building, under the direction of Mr. Murray, and the weekly supervision of members of the committee, is progressing most satisfactorily towards completion."

The Nottingham School.—A new School of Art building is about to be erected in Nottingham, upon a plot of land adjoining the Arboretum, and which has been presented to the school committee by the corporation. The new school will contain drawing and painting rooms for male and female students, model room, library, private rooms for head master, residence for porter, &c. On the first floor there will be an exhibition room, 76 feet long by 30 feet wide, top lighted. The plans (which have received the approval of the Government Department of Science and Art) have been prepared by Mr. F. Bakewell, of Nottingham, architect.——The introductory lecture of a series on science has been delivered in Nottingham by Mr. J. C. Buckmaster, of the Science and Art Department. The lecture was explanatory of the aid afforded by the Committee of Council to students of art and science, and of the working of the system. The lecturer was introduced by the mayor, who presided.

The Southampton School.—The annual drawing examination of this school, by Mr. E. Crowe, the Art inspector, has just taken place. The inspector awarded nine medals and two honourable mentions. The room occupied by this school since its establishment in 1855 has become too small for its requirements; and the more advanced students pursue their studies under difficulties that would be much diminished, if not altogether done away with, by the contemplated removal of the School of Art to more commodious rooms in the Hartley Institute.

The Kidderminster School.—The examination of this school, which has only been established five months, has just taken place. It was also conducted by Mr. Eyre Crowe; and 140 students were examined, including those from the various public and private schools in connexion with the institution. There were twenty works by students, ten of which obtained medals. This result is very creditable to Mr. Kennedy, the master of the school.

THE CONDITION OF DALE CHURCH, NEAR OCKBROOK.

WHO'S TO BLAME?

Until the dissolution of the monasteries in 1539, there existed in the lovely spot called Depe Dale, near the village of Ockbrook, and about five miles from the town of Derby, the noble Abbey of Dale, founded (tradition says) in 1204. It had its sixty-six abbots; and, as the poet writes,—

> "An altar first, then chantry, chapel, church;
> And last, in full magnificence it reared
> Its pillar'd cloisters, pinnacles, and towers.
> Time mark'd its rise; and time, whose rapid march
> Is oft involved in clouds and storms, has pass'd
> Again, in desolation, o'er the pile.
> Alone, *now*, of its greatness and its pride,
> *One* monumental arch alone remains."

This lone noble arch stands in the midst of a grass field. A few pieces of the stonework of the west end are discoverable against the cottages in the hamlet, and but one other relic is to be found. Its past grandeur, however, may be conceivable from the solitary remnant left.

Let us turn from what we need not draw too deeply from our imagination to picture,—this edifice, dedicated to God's service,—to the present condition of Dale and its church. He must be a keen observer who can now discern the so-called church. It consists of a crazy barn-like building, attached to a small house (now a farm-house), with a dove-cote in the roof. A pointed small door, unlocked, led us to the interior of the church. The floor is of old uneven brick: the walls are of rough stucco; the seats huddled and tumbling together, with apertures for rats which infest the place. The pulpit is a white-painted tub-like erection, in the south-east corner: a painted, *uncovered* box, 3 feet by 2, like a gude housewife's meal-tub, forms the altar. The interior is about 20 feet square, with a corner taken out of the north side. Over the west end is a gallery, approached from the outside by stone steps, formerly a store-room to the adjoining house; to which house, also, there is access from the church, but lately used by the singers to pass through for refreshment; the house having been, in the memory of many, a *public house*,— the whole savouring of irreverence, dirt, and neglect. The hamlet contains between 400 and 500 inhabitants. There *is no school*; consequently startling ignorance and infidelity prevail.

In a corner of the churchyard stands the former handsome octagonal stone font, the carving of which is still discernible. This, placed by the side of a soft-water tub, doubtless assists it in its duty; while it is replaced by a white washing basin in the church.

One service only in the week is all that these 400 or 500 beings are favoured with. It was remarked that Dale Church surpassed in neglect and devastation any church that could be found in Lincolnshire (proverbial for its bad ecclesiastical village edifices) or Cornwall. Can the eminent and elegant-minded author of the "Life of Pitt," to whom this hamlet of Dale belongs, be aware of the neglected state of this part of his estate?

THE HARTLEY INSTITUTE, SOUTHAMPTON.

Although we have already given descriptive details as well as a view of this building before it was erected, we may take occasion of its opening to quote from the local papers some particulars of its actual construction.

The principal entrance is in High-street, and is protected by a porch supported by four caryatides, symbolising "Manly Vigour," between which are three carved keystones, representing "Wisdom," supported by "Navigation" and "Commerce." Within the porch are three sets of double doors, falling back into the thickness of the wall, with inner swing glass doors. These doors lead into the hall, 26 feet 6 inches by 23 feet, and 13 feet 6 inches high, from which a straight corridor, 10 feet wide, leads direct into the ground-floor of the lecture theatre. Between this main corridor and the hall is, on the left-hand side, the principal staircase; and, on the right-hand side, a lobby, opening on two ground-floor class-rooms, one 22 feet by 14 feet 8 inches, and the other 23 feet by 20 feet 6 inches. A small staircase leads down to the basement floor, the whole of which is vaulted. The foundations go down to more than 20 feet below the level of the street, and rest upon 9 feet of concrete.

At the extreme end of the main corridor, on the ground-floor, is a cross corridor, 10 feet 9 inches wide, leading, by means of four wide entrances, on to the lecture theatre, and also having at either end staircases leading to the galleries of the lecture theatre. These staircases are of Portland stone, 4 feet 6 inches wide, and are built with a solid wall on either side of the flights, so as to prevent all danger in case of panic. This is also provided for by the sixteen windows of the ground-floor of the lecture-hall being carried down to the floor and made to open upwards.

The lecture theatre itself consists of a ground-floor, 64 feet by 56 feet, with a semicircular end, and two tiers of galleries 10 feet deep, supported by cast-iron columns 11 feet apart. It is designed to accommodate 2,000 persons. The lecturer speaks from a recess or platform on the first-floor, over the public corridor, 34 feet by 12 feet deep. At the back of the platform is a retiring room for the lecturer and committee, 18 feet by 10 feet; and, opening from it, a room, 30 feet 6 inches by 10 feet, always kept warm by hot water, for the storing of apparatus or the preparation of philosophical experiments. The roof over the lecture theatre is a mixed one, of timber and iron, having curved laminated ribs over the central portion, and flat ceilings over the galleries, and being in one span from wall to wall outside, and the whole tied together with iron rods. The ceilings in the lecture theatre are deeply panelled, and a semicircular arch is turned over the lecturer's platform. In the centre of the ceiling are three large perforated flowers for ventilation, communicating with ventilators in the roof.

The museum is placed on the ground-floor, at the side of the main corridor which gives access to it, and consists of a ground-floor with two galleries, the whole being 50 feet by 27 feet, and 35 feet high. The roof consists of ordinary trusses, panelled on either side, and glazed between at the line of the exterior with Hartley's rough plate-glass. The museum galleries are reached from the principal staircase. All the corridors and the hall on the ground-floor, as well as the lobby at the head of the principal staircase, are laid with encaustic tile pavement, from the works of Messrs. Maw & Co.

The whole of the frontage on the first-floor is devoted to a reading-room, 70 feet by 23 feet, and 19 feet high, with a balcony over the porch below. This room has Corinthian columns and pilasters at either end, and a deeply-paneled ceiling, with enriched cornices, the beams being formed round the wrought-iron girders necessary to carry the floor above. The library opens on to the reading-room, and consists of a room 30 feet by 14 feet 8 inches, and 12 feet high.

A small mezzanine floor over gives a class-room 18 feet 6 inches by 15 feet, and two small studies, one 10 feet by 8 feet 6 inches, and the other

11 feet 6 inches by 8 feet, and the whole 8 feet 6 inches high.

On the upper floor is placed the School of Art, 46 feet by 23 feet, and 14 feet 6 inches high; and by the side of it a class-room, 23 feet square, and of the same height. At the rear of the School of Art is a class-room, 28 feet by 15 feet, and 13 feet high, and a small study, 9 feet by 6 feet 6 inches. These rooms are ventilated through the roof.

The whole of the frontage consists of Portland stone, with brick-backing, of which latter material the whole of the rest of the walls are constructed. The building is warmed throughout by means of hot-water coils. The coils of pipes are enclosed in enameled slate coil-cases, by Mr. Magnus, who has also supplied the whole of the chimney-pieces.

The contracts were taken by Mr. Gambling, of Southampton; and the carving has been executed by Mr. Mabey, of Westminster. Messrs. Green & De Ville were the architects. The total cost of the works, exclusive of the architect's commission, salary of clerk of works, &c., will be 10,900*l.*, and this sum did not include the decorations. Mr. D. Geddes, of Southampton, was the clerk of works.

THE BUILDERS' BENEVOLENT INSTITUTION.

The fifteenth anniversary festival of the Builders' Benevolent Institution was held on Wednesday evening last, at the London Tavern.

Upwards of 200 gentlemen sat down to dinner. Among those present were Mr. Alfred Lawrence, Mr. George Plucknett, Mr. Edward I'Anson, Mr. Alfred Smith, Mr. W. R. Rogers, Mr. Thomas Robinson, Mr. W. M. Dunnage, Mr. J. Rupell Freeman, Mr. David Myers, Mr. George Lee, Mr. Tilson Lee, Mr. John Barnett, Mr. John Barnett, jun., Mr. George Dines, Mr. John Cumber, Mr. David Nicholson, Mr. Joseph Bird, Mr. F. Sneezum, Mr. Cotton, Messrs. Wood & Sons, Mr. A. Armani, Mr. Thomas Cozens, Mr. Hutchons, Mr. John Thorn, Mr. Richard George Lane Head, Mr. J. Harvey, Messrs. Dove, Brothers, Mr. T. Ferguson, Mr. R. Thomas, Messrs. Thomas and William Stirling, Mr. Hall, Mr. J. Morris, Mr. Wilfred Nicholson, Mr. John Maw, Mr. W. Boutcher, &c.

In the absence of the President, Mr. Henry Lee, the chair was taken by Mr. Alderman and Sheriff Lawrence.

The Chairman, in proposing the health of the Queen, observed that we had the privilege of enjoying under her Majesty's reign the utmost amount of individual liberty compatible with order, and that when Englishmen drank the toast of "The Queen," they expressed their attachment and loyalty for a Sovereign who had set an example which might be followed with advantage by the other crowned heads of Europe.

The next toast, the "Prince of Wales," having been cordially responded to,

The Chairman gave "The Army and Navy, and Volunteers," observing that the toast was always a popular one, because the English people always considered that the army and navy belonged to the people. These services were proud of the good opinion of their fellow-subjects, and it was their desire to maintain that high reputation, which inspired them to those glorious deeds of valour which characterized the Army and Navy of England. The Volunteers were also especially entitled to the gratitude of the country, because it was mainly through their instrumentality that the Government had been able to dispense with a large standing army.

Captain Smith returned thanks on behalf of the Volunteers, observing that as their services would not be required except in case of actual invasion, he hoped that the day would never come when the Volunteers would have to take the field.

The Chairman then gave the toast of the evening, "Prosperity to the Builders' Benevolent Institution." He observed that, after having proved their loyalty to the Crown and their attachment to the army and navy, by whom peace was preserved, he now arrived at a toast which was of more importance to them, individually, than any of those which had preceded it. What could he say to recommend to their best attention the Builders' Benevolent Institution? Many of those whom he addressed were, no doubt, familiar with its history. All, however, who heard him, might not, perhaps, be aware that this was its fifteenth anniversary; and that there was no trade or profession which required a benevolent institution more than that to which so many of those whom he addressed belonged. There was, in fact, no trade in which there were so many fluctuations and vicissitudes. The practical experience of those whom he addressed would, he was sure, satisfy them that there were many changes of fortune in the building trade, and that many instances had occurred in which persons who were carrying on a large business, and who seemed on the fair road to fortune, had, by some misfortune, learned how vain were all their expectations. It would be found, too, in reference to the history of the Institution, that not only small men, but some of the largest in the trade, who reckoned their trade by tens of thousands, hundreds of thousands, and even, in one case, by sums exceeding a million, had eventually become applicants for relief from the Institution. These facts ought, he thought, to induce them all to take a warm interest in the society, as no man could tell what vicissitudes were in store for him; and, therefore, it behoved all those who were blessed with present abundance to lend a helping hand to an institution which opened wide its doors, as far as its funds would admit, for the relief of the less fortunate members of the trade, whose necessities might compel them to appeal to it. At present the sum of 8,353*l.* was invested, of which 6,006*l.* was to the credit of the relief fund, and 2,340*l.* to that of the building fund. There were thirty-five pensioners on the books, namely,—fifteen males and twenty females; and there were eleven candidates for the November election. The managers were disposed to admit three pensioners at the next election, as they reckoned with confidence on the liberality of the friends of the society on the present occasion. They felt persuaded that whenever the members of the building trade were assembled, and were assured that there was an urgent necessity for their benevolence, they would not be found wanting. When that appeal was made, he was persuaded that those who were blessed with fortune would not show themselves unmindful of their less favoured friends, and that, when once the society called them together, they would prove, by their acts as well as their words, that they were true friends to the Builders' Benevolent Institution.

The toast having been very cordially responded to,

Mr. Plucknett, the treasurer, said it now became his duty to propose a toast which he was sure all who heard him would drink with great cordiality and pleasure, namely,—the health of their excellent chairman. They were much indebted to him for his presence among them that evening; and he was sure it would be gratifying to that gentleman to reflect that this was the first charity dinner over which he had presided since he had been appointed to the high and honourable office of one of the sheriffs of the city of London. He (Mr. Plucknett) trusted that Heaven would long grant their chairman health to fulfil those important duties for the discharge of which he was so well fitted; and he was sure the friends of the Builders' Benevolent Institution were proud that they had one so highly gifted belonging to their body.

The Chairman, in returning thanks for the compliment, said he was much gratified at the kind and cordial manner in which his health had been drunk. He felt great pleasure in consenting to take the chair on the present occasion, because he felt that he could not refuse a request of the kind, coming from such a source as their president, Mr. Lee. It had previously been arranged that he should, in virtue of his office of sheriff, assist that evening in entertaining her Majesty's judges at the Old Bailey, but upon being requested to preside at the festival of the Builders' Society, he had communicated with the Lord Mayor, who was kind enough to say that in consenting to preside that evening, he was but doing his duty, and that he (the Lord Mayor), would take care to state that his absence from the judges' entertainment was to be attributed to an act of charity. Moreover, it was a source of gratification to him to think that on the first occasion since his election, he had presided at the anniversary of the Builders' Society. He trusted that whatever might be the position he was called upon to occupy, he would never forget his connexion with the Builders' Society, and ever remember his association with the many friends who took an interest in its welfare. He trusted that Providence would give him health to show that, while holding the distinguished office of one of the sheriffs of the City of London, he would be as willing to assert the rights and privileges of his fellow citizens as to assist in extending the many charitable institutions of the metropolis, and promoting works of benevolence among all with whom he might be brought into contact.

The next toast was "The President of the Institution;" and in giving it,

The Chairman observed that every one knew that Mr. Lee's heart was in the right place, and that he had conferred the greatest benefits upon the Institution. He was sorry Mr. Lee was prevented by indisposition from being present, and he was sure they would drink to his better health, and couple with it the sincere expression of their hope that he might long be spared to take an active part in the affairs of every charitable institution with which he was connected.

Mr. George Lee returned thanks on behalf of his father, and assured those who had so warmly responded to the toast, that the president of the Society had its best interests at heart.

The Chairman said that the next toast on his list was "The Architects and Surveyors." He was sure that he gave expression to the sentiment of those who heard him, when he stated that they were pleased to see among them that evening some members of a profession to which the builders of London were deeply indebted. He did not know anything in which the builder more delighted in carrying on his operations, than to observe the skill of the design submitted to him; and he was convinced that nothing gave him more genuine pleasure than to work to the wise designs of an able architect. He therefore trusted that, whenever the builders met together, they would find among them, and welcome as friends, the members of the architectural profession. He was glad to be able to associate with the toast a name as well known as it was universally respected,—that of Mr. I'Anson. It was a familiar name to most of them, and, indeed, to the builders of London generally, who were always gratified at having relations with Mr. I'Anson. He therefore proposed the health of the architects and surveyors, coupling with the toast the name of their respected friend, Mr. I'Anson.

Mr. I'Anson, in acknowledging the compliment, said that he felt very grateful to the chairman for the kind manner in which he had referred to his name, and to the company for the cordial way in which they had responded to the toast. He might say, on behalf of the architects and surveyors, that they felt that they were banded together with the builders in directing some of the most important social works which any country could carry on. They directed in common a large amount of capital, and the energy and strength of a great number of their fellow-countrymen. Their enterprises demanded the exercise of refined conception and artistic skill; with regard to the latter, they could not fail to call to mind the exertions of such men as Skidmore, Minton, and others, who had done so much of late years to improve and elevate the public taste. He remembered being struck with an observation made by an architect to some of his colleagues in the profession, when contemplating finished work, that in days to come the beholder would inquire, not who was the architect of the building, but who were the artificers. The architect had not only to bring to his work artistic thought, but critical judgment. He had not only to look judicially and carefully, but judge honestly and conscientiously between the builder and his client. As a body they had also to wield thoughtfully a large amount of capital, so as to deal with it financially in a careful manner, and in addition, they had to deal with the occasional turbulent commotions of large bodies of their fellow-countrymen. Having all this to do, he trusted that they would all conjointly discharge their duty to the British public, and at the same time reap the rewards to which they were entitled.

The Chairman next gave "The Health of Mr. Thomas Cozens, the Founder of the Institution," and observed that it must be a most gratifying circumstance to that gentleman to find that the society was making steady progress, and had more than realized the expectations of those who had been its original promoters.

Mr. Cozens, in responding to the toast, said that the very fact of the present being the fifteenth anniversary festival of the Institution, was in itself a gratifying circumstance. To himself personally, as being a very humble individual in the trade, it was also a source of satisfaction to find that he had been instrumental, with the assistance of friends, in realizing a sum of money which had been made available towards the necessities of their less fortunate fellow-labourers. The society was now in a position that left no room for any apprehension as to its stability. It was now fairly established; and so long as its friends continued to gather round it as they had done that evening, there could be no doubt of its permanent prosperity.

The Chairman then gave the health of Mr. Plucknett, the treasurer of the Institution, and

observed that the sincerest pleasure which they could give that gentleman, and the best manner in which they could exhibit their gratitude for his services, was to place in his hands a liberal subscription that evening.

Mr. Plucknett having returned thanks for the honour done him, said it was true as stated by the chairman, that the trustees of the Institution had the sum of 8,000*l.* funded to its credit. This however, was but a small sum, regard being had to the importance of the trade and to the pressing claims upon the benevolence of its members. When he called to mind the great wealth of many of those belonging to the building trade, and to the fact that the Institution had been established upwards of fifteen years, he thought he was justified in saying that more might have been done. He trusted, however, that the next and following years would show a considerable increase in the funded capital of the Society.

Mr. Harris, the secretary, then read a long list of donations, amounting in the whole to about 520*l.* The following were among a few of the donors:—The President of the Institution, 50 guineas; the Chairman, 20 guineas; Mr. Allchin (late of the firm of Cubitt & Co.), 100*l.*; Mr. Joseph Bird, 5 guineas; Mrs. Joseph Bird, 5 guineas; Mr. H. W. Ferguson, 5 guineas; Messrs. Lawrence, Brothers, 10 guineas; Mr. Thomas Brassey, 5 guineas; Messrs. W. Cubitt & Co., 10 guineas; Mr. G. Jennings, 5 guineas; Messrs. Lee, Son, & Smith, 10 guineas; Messrs. W. & J. Freeman, 10 guineas; Mr. Edward T'Anson, 10 guineas; Mr. G. Myers, 5 guineas; Mr. John Barnett, 5 guineas; Mr. D. Murray, 5 guineas; Messrs. Dove, Brothers, 7 guineas; Messrs. Smith & Hill, 5 guineas; Mr. Thomas Lambert, 5 guineas; Mr. Charles Hack, 3 guineas, &c., &c.

The Chairman then gave "The Brighton Branch of the Institution,—the Chairman, Directors, and Honorary Secretary," and expressed his gratification at the progress which it had made, and his hope that it would continue to increase its usefulness in connexion with the parent stem.

Mr. Joseph Bird observed, in reply, that, as he had been the person to introduce the Institution to the builders of Brighton, he thought he ought to return thanks for the honour which had been done them. He hoped the Brighton branch would steadily increase, and realize the expectations formed of it.

In proposing the "Health of the Committee," the Chairman spoke in suitable terms of the obligation which the Institution was under to those gentlemen who had devoted so much valuable time to its interests, and through whose instrumentality much of its success was to be attributed.

Mr. John Thorne returned thanks on behalf of the committee, and observed that they were amply rewarded for any trouble and loss of time incurred by them, by the reflection that the Institution continued to prosper and to enjoy the confidence of its members.

One or two other toasts of a complimentary character followed, and the company separated.

COMPRESSED AIR AS MOTIVE POWER.

In reference to a paragraph in our issue of 18th October, titled "Compressed Air as Motive Power laid on like Water," a correspondent, Mr. J. Newton, suggests that the power of the tides might be made useful in the production or accumulation of such power at little or no working cost. For London he proposes that the power should be generated at Greenwich, where a tunnel, lined with iron, could be made underneath the Park-hill, as a power-reservoir, with pressure-modifying apparatus, by means of which the compressed air could be safely conducted through tubes to town. At a time when parcels, and even human beings, are blown through tubes by means of exhausted air, there are more unlikely schemes than this. The idea of using the power of the tides for the compression of air is an exceedingly feasible one; and if it should turn out that the Liverpool experiment is a successful one as regards the practical uses of such a power, this idea might prove to be of substantial service in a pecuniary sense. Tide power might even be made available for the production of power by the exhaustion of air, as with the Pneumatic Despatch Company, as well as in various other ways;—as, indeed, was long since suggested in a general form by an American projector. There was a German Baron, however, who made strenuous efforts to introduce compressed air (in iron retorts) for locomotive purposes, but nothing came of it. Our correspondent, Mr. Newton, has in view the supply of self-moving cabs, velocipedes, &c., by means of some such power, as suggested in the *Builder*; as well as for fire and stationary engines.

QUEEN'S CROSS, NORTHAMPTON.

A fortnight since you inserted a paper, read by Mr. Law, on this subject, the objects of which were to vindicate the purity of the Cross, and to attack me.

The whole matter had been, as I think, exhausted locally; and I presume the paper was sent to you so as to serve the purpose of attack in a new and extended form. The extensive circulation of your journal renders it necessary that I should offer to you, as I have done to the Northampton newspapers, some reply to the violent displays which are made against me for simply having propounded an unpleasant truth.

In August, as your report of the proceedings shows, the British Archæological Association visited Northampton for one day, and the Cross was viewed. It did not happen, however, that the learned antiquary who was selected to give its history was an architect; and I, as an officer of the Association, expressed, pretty decidedly, my judgment upon some of its details. Unfortunately, Mr. Blore's name was put into my mouth by one of the local *savans;* and I attributed all the variations from the purity of the work to his pencil, and hence the attacks on me.

There are many parts of absolute baseness of design, and which no more belong to the original Cross than do the west towers at Westminster to the Abbey; but it has been since discovered that two extensive "restorations" were made in Queen Anne's and George the Third's time. No doubt some *amende* was due to Mr. Blore for having supposed him capable of perpetrating such enormities as were considered good in 1713 and 1762; and I have already made it, as an honest antiquary should do; but there is still this to add, that Mr. Blore *did* copy some of the details, and kept to the principles of the false restorations of the previous ages.

Mr. Law's paper throughout bears the impress of a deprecating spirit, as though he knew perfectly well that it has suffered; indeed, he directly admits it in another part of his lecture, and leads his readers, nevertheless, to infer that from his intimacy with Mr. Scott, that gentleman agrees with him. I should like Mr. Scott, who *does* know good from bad, to undeceive the lecturer.

I must, in conclusion, disclaim any assumption of superior knowledge. We are all now aware that the Gothic of Mr. Blore's time was small as compared with the present; and we most of us know of the earliest Gothic work of our regretted Barry, and how much landed that work was, and how much the school would now give if they could destroy the evidence of the ignorance of its principles thirty-five years ago.

Of the Gothic (!) of Queen Anne's reign, no reader of this time would require me to say anything. It is, unhappily, too often visible in the restorations of our most beautiful monuments, and much more frequently met with than even antiquaries are yet aware of. I have constantly to point it out to audiences, and have that regret which every lover of Mediæval work must have at seeing the best specimens ruthlessly tampered with by zealous but incompetent workmen. My professional engagements have prevented an earlier reply, and now preclude me from entering into minutiæ. The Association's Journal will contain an account of my opinions, and to that I must refer Mr. Law, and all others interested in the dispute.

Edward Roberts.

MOSAICS *versus* FRESCOES.

The Great Exhibition has, for the first time in the history of one branch of art, challenged the inquiries of those who are interested in the beautiful art of pictorial *mosaic* decoration.

The designs of Messrs. Hook & Cope, on the external walls of the building, intended as an experiment, are to be executed in mosaic work.*

The exquisite mosaics in the Roman and Russian Courts; the pavement in the Ceramic Court of Minton; and the mosaic, executed by Messrs. Maw;—all indicate that the time has arrived when the subject of *mosaic illustration* is destined to inspire a new impulse into the public mind.

When we consider how wonderfully certain foreign and British mosaics have been preserved for nearly 2,000 years;—how they embody the history, the mythology, the costumes, and customs of ancient peoples;—it leads irresistibly to the conclusion that they are well adapted to preserve to the remotest posterity, by pictorial representations, the great events in the history of this country. "*Esto perpetuum*" seems the appropriate motto of the mosaic fabric.

The incidents of British history, the Druidical or British period; the invasion of the Romans, the Saxons, the Danes, and the Normans; the granting of Magna-Charta; the institution of the Garter; the Spanish Armada; and other notable events of history, which relate to the Reformation, the Revolution, &c., and which constitute the organic changes of the political life of our country; or those special events which are landmarks in the nation's progress, could as easily be pepetuated to the end of time, as similar monuments have been handed down to us, in the imperishable mosaics of Carthage and Halicarnassus, of Italy, France, Spain, and Britain.

The mosaics of Britain have never been sufficiently investigated, either as works of art, or as remarkable evidences of the history of this country coeval with the literature of the post-Augustan age.

Recently, a discussion in the House of Lords, on the subject of Frescoes in the Houses of Parliament, elicited the fact that the greater part of the frescoes have perished, or are in the process of decay; and notwithstanding the great cost of the works, they appear to be a great failure, not so much from the want of skill of the artists employed to design them, as from the inevitable decay incidental to the climate, and from the alteration of colour by chemical decomposition. Whatever may be the facts connected with their deterioration, it was stated that they were fast decaying.

Fortunately for the artistic resources of this country, there are proved means by which the same grand objects of the frescoes can be carried out in the adoption of the mosaic art.

Let us examine a little what the mosaics are and what experience has shown regarding them. The method of pictorial representations by mosaics is one of very ancient date: it was practised by the Persians, Phœnicians, Greeks, and Romans, and by the latter with singular success. In early times, the Persians, as mentioned in the book of Esther, and the Greeks, used marble as the ordinary material, varied with beautiful stones, porphyry, granite, the rosso-antico, giallo-antico, and verd-antico: even precious stones were occasionally used for particular parts. In Mediæval times gold and coloured glass have been much adopted.

In Britain the mosaics are chiefly constructed of natural stone, brick, and other clays, hardened in the furnace, and coloured by heat acting on the oxides of metals. The numerous and remarkable specimens of mosaics in Britain are well worthy of consideration. Those discovered at Bignor, at Woodchester, Cirencester, Wroxeter, Caerleon, Horkstow, and, indeed, over all England, show how extensively the Romans adorned their public buildings, their palaces, halls of justice, temples, theatres, and baths, as well as the private villas of generals and prefects. In the flowers of *spring*, representing one of the four seasons in the mosaic at Cirencester, the ruby has been found, as stated by Messrs. Newmarch & Buckman, in their elegant "Remains of Roman Art;" and in the breast of the peacock found in Leadenhall-street, a rich dark-blue glass has been employed. I need scarcely refer to the splendid ancient mosaics of Italy, those in Rome, in the Vatican, the Baths of Diocletian, Titus, and Caracalla, and the Villa Borghèse; those in Naples and Pompeii, from which latter place some fine examples are now to be seen in the Temple collection in the British Museum. There are two governments which have taken under their special care the mosaic art,—the Papal and Russian. The traveller who has visited Rome will be astonished to see the splendid modern mosaics in St. Peter's and St. Paul's, which rival the glorious pictures of Raffaelle and Michelangelo, and other great masters of Italy.

The Papal Government has shown great foresight and judgment in executing mosaics, for these will endure when canvass and oil, and frescoes have passed into oblivion; when "the effacing fingers of time have not left a trace behind" of those perishable materials.

Happily we have a proof and a guarantee that mosaics can now be made which, for variety and richness of colour, for brilliancy and indestructibility, equal if not surpass any mosaic composition

* Much improved, we hope, or not at all.—Ed.

and it now becomes the duty of the Government to use this noble art.

The example of constructing mosaics in our public edifices is about to be set by making no less than eight mosaics in St. Paul's cathedral, in London; a most praiseworthy and enterprising effort. St. Paul's and St. Peter's at Rome contain numerous splendid mosaics illustrating Scripture; and we may take some shame to ourselves for our unaccountable apathy, while the Papal Government has made such extraordinary efforts with small pecuniary means; whereas we possess unlimited wealth and artistic capacity.

It is lamentable that the great mosaic of the Seasons has been placed in a bye corner, among tiles where no one passes. That important specimen of British art ought to have been placed in the most conspicuous part of the Exhibition.

R. Wollaston, M.D.

THE PAYMENT OF ARCHITECTS' ASSISTANTS.

Sir,—Seeing that "a contented mind is a priceless treasure," I am glad to find that all assistants do not consider themselves so hardly dealt with as my inquiries amongst them led me to imagine; some, no doubt, thinking with the ancient Brahmin that "to be satisfied with a little is the greatest wisdom; for he who increaseth his riches increaseth his cares." But I must say that I do not see anything very encouraging in "An Architect's Assistant's" letter of last week, the purport of which is, that, after five years' study as a pupil, and an outlay by my friends of from 500*l.* to 1,000*l.*, I am worth, supposing I have exerted myself and acquired a thorough knowledge of my profession, but 150*l.* per year at the utmost; so that if I cannot command a practice, this is my doom for life: married or single, 150*l.* per annum is the *summum bonum* of my existence. Married, did I say? But how is this possible, seeing that the sum named is totally inadequate to support a wife in the position from which it may be assumed I should take her? Moreover, how could the children of such a marriage be educated? Could they be articled to any of the learned professions? ("God save the mark!") Could they be fitted for the Church or the Bar?

> "But stay; what right have I to wed? Love's for the gilded great;
> For those form'd of a nobler clay, who dine off golden plate."

At least so it appears, if the architect's assistant is not to stand higher, in a pecuniary view, than where your correspondent considers he is now fairly placed. But to the ground of complaint.

An architect's work is essentially personal, and his need for an assistant only arises when the work so crowds upon him that the call upon his time is greater than a prudent regard for his health permits him to bestow. The ability of an assistant, therefore, depends greatly upon that of the architect; that is, the architect will satisfy himself that the assistant's course of study has been the same as his own; that his taste has been tutored to the same ends, and his experience, as far as it goes, has led him to the same results; that the two minds, in fact, are shaped in the same moulds, so that his ideas can be grasped and worked out so successfully that he will not be ashamed to own them when the conception is matured. In short, he will be satisfied that he can safely delegate to his assistant the work confided to himself. For the work so performed a certain charge is made; and I maintain that this charge, less a moderate profit, and the expense of office, &c., should form the basis of an assistant's salary; for I have yet to learn where else the labourer does not receive the benefit of the public marketable value of his work, whether that work be mental or manual. It is well known that, taking the year round, the assistant does not receive a fourth of the amount paid for the work he performs. Ere the architect complains of the unremunerative character of his labour, let him see to it that he does not lower its value in the eyes of the public by the ungenerous return he makes for that labour when performed by one depending upon him.

I have fonnded my letter hitherto upon your correspondent's statements; but here let me take exception to them; for in the whole course of my experience I have found but few qualified assistants who receive more than about 100*l.* per annum for working, not from "ten to four," as assumed by your correspondent, but from nine or half-past nine to five. Now that the Institute has taken upon itself to see that assistants are properly qualified, would it not be as well for them also to see that they are properly paid?

Z. P. S. Y.

Sir,—I am quite prepared to believe that your correspondents who have written to you on this subject have real and serious cause of complaint. Will you allow me to point out to them a means of to some extent improving their condition, which is now for the first time about to be placed within their reach?

An architectural assistant, *known* and proved to be competent and well-informed, can generally command a fairly good salary. The difficulty is to establish the claim to such a salary. Should your correspondents be young men whose ability, education, and skill are such as would fairly entitle them to a higher salary, or, at least, to a moderately good one, they will, no doubt, be able to pass the Institute voluntary architectural examination next January. Let them do so; and the day the list of successful candidates appears, let them ask for the salary they think they ought to get. I will engage to say that, if it is at all at a reasonable rate, that salary will be at once forthcoming,—if not from their present employer, certainly from any employer capable of appreciating the test now about to be established; or, in other words, from almost every respectable architect in the kingdom.

The incompetence and limited knowledge of many youths are the reasons of their salaries being so low. So far as this is their own fault, they must abide the consequences. If in any cases it is more the fault of others, the young men are sincerely to be pitied; but they may, by exertion and diligence, succeed, without doubt, in remedying their misfortune.

Tristram.

WHAT IS A "WITHE?"

METROPOLITAN BUILDING ACT.

Mr. R. Cleave, builder, of Chenies-street, was summoned by Mr. C. Fowler, district surveyor, for an alleged infringement of the 14th clause, 20th section, of the Metropolitan Building Act. The district surveyor said the defendant was doing certain repairs and alterations to a house in Great Russell-street, Bloomsbury; and in some of the upper rooms new fire-places were being constructed against a party wall 11 inches thick. These fire-places were carried on stone corbels projecting 9 inches from the face of the party wall, and a thickness of 4½ inches was cut out, leaving 9 inches at the back; chases 4½ inches wide were then cut in the party wall vertically, and the new work built up and secured to the old wall. The Building Act required that a "withe should be properly secured to the party wall at least 4½ inches thick." His view of the meaning of this was, that a thickness of 4½ inches new work should be built against the old wall and parallel thereto, thus forming the back of the flue entirely of new work. Mr. S. Hewitt, who appeared for the defendant, contended that the chimneys were built in strict conformity with the Building Act. He found authorities all to agree in considering the word "withe" to mean a division between two or more flues: some actually gave it as the "vertical division or partition between flues." He could also refer to the Building Act itself, which would show that this view was correct. In the 6th clause of the same section the several parts of a flue were distinctly enumerated. This clause seemed to show that the original framers of the Act of Parliament knew pretty clearly the meaning of the term "withe;" and, according to this clause, the part of the flue which Mr. Fowler required to be new is called the "back." Mr. A. Newman, Mr. C. Sewel, and Mr. J. Johnson, architects, corroborated this view of the case. Mr. Corrie decided that the defendant had constructed the flues in conformity with the Act of Parliament, and dismissed the summons.

EARTH CLOSETS AND STEAM STOVES.

The Rev. H. Moule, vicar of Fordington, Dorset, an account of whose sanitary and economic inventions we have already given in the *Builder*, has issued a new edition of some of his pamphlets on the subject. Improvements have been made in his patent earth-closets, which are now made self-acting in one form, and workable with a screw arrangement in another, for transferring the soil to a shaft, dry cesspool, or other place of deposit. He has also made his patent vapour-fed stoves applicable to frames and hot-houses, and thinks they would also be suitable for churches and halls. The chief object of the steam, as our readers may recollect, is to aid in the production of heat in the stove so as to economize the expenditure of fuel. The dry-earth closets must be a decided improvement in rural districts, where there are often not even decent cesspools, far less drainage; but we cannot agree with the rev. inventor that it ought to take the place of drainage in towns, far less in London; even to which he appears to desire its application. Did he ever estimate the quantity of dry earth per annum with which it would be requisite to supply the metropolis (or even any large town) on his system? It is not on this account, however, that we object to such a system in towns. Were the theoretical operation of his closets to be always depended on in practice, including perpetual and universal care and attention as to the supply of earth, thorough deodorization, and other circumstances, the offence to sense and health *might* not be very great; but the rev. inventor does not seem to make sufficient allowance for inevitable, wide-spread, and perpetually-recurring neglect, indolence, recklessness, and ignorance, which would to a certainty render his system one of the most abominable town nuisances in existence,—worse even than cesspools.

COMPETITIONS.

Dublin Winter Garden.—Several competitors are asking as to the decision. We have not been informed of it.

Cork Cathedral.—A correspondent says (we give his opinion for what it may be worth), that out of the sixty-eight designs submitted, the following, not placed in order of merit, deserve special attention:—"Truth," "Labor ipse voluptas," "Is it time for you, O ye that dwell in your ceiled houses, and this house lie waste?" "Con amore," "Peace be within you," "Experience," "Laus Deo," "Esto perpetuo," "Proportion," "Prêt d'accomplir," "Non nobis Domine," "Most heartily do I beseech the Court to give judgment," "Salvis," and four marked with monograms, viz.—A fish, 209 in shield, a circle with apertures in it, and a triangle in a circle. The drawings will be exhibited for some time.

Surrey County Hospital.—The designs have been referred to a sub-committee. It is understood that as soon as their report shall have been delivered, and the decision of the general committee come to, arrangements will be made for the exhibition of the designs.

DEMOLITION OF A HOUSE: METROPOLITAN MANAGEMENT ACT.

At Wandsworth Police-court, Mr. Henry Cooper, of Upper Tulse-hill, Brixton-road, appeared before Mr. Ingham to answer an adjourned summons, at the instance of the Wandsworth District Board of Works, for the non-payment of 6*l.* 18s. 6d., being expenses incurred for demolishing a portion of a new house, erected by the defendant in the Lower Atkin's-road, Clapham Park, without giving seven days' notice in writing, as required by the 76th section of the Metropolis Local Management Act.

On the first hearing of the case, Mr. Robinson, the barrister, instructed by Mr. Corsellis, the clerk of the Wandsworth District Board of Works, appeared in support of the summons; and Mr. A. S. Edmunds, for the defendant. On the present occasion Mr. Robinson did not attend, and the case was conducted by Mr. Corsellis.

The case for the Board was as follows:—During the last four years the defendant and his father, who reside at Peckham, have been engaged in building operations in the district. On three separate occasions, in erecting a house in the Atkin's-road, Mr. Cooper, sen., failed to give the Board the proper notice; and in the correspondence that afterwards took place between the parties the defendant acted on behalf of his father. After the third instance of neglect a letter was sent to Mr. Cooper, sen., informing him that if he commenced to build another without notice the Board would proceed forthwith to demolish it. About ten days before the meeting of the Board, on the 30th of July last, Mr. Johnson, the surveyor to the Board for the parish of Clapham, heard that a fourth house was being erected without notice. On the 26th he visited the works, and measured as to the line of frontage. On the 28th he made a report to a committee of the Board; and at the ordinary meeting of the Board, on the 30th, they issued directions for the demolition of the house. On the following evening, from seven till eleven o'clock, men were engaged in carrying out the Board's order; and the building, which had reached the first story joist, was knocked down. The amount claimed was for the cost of the works; and it was submitted that the charges were reasonable.

At the onset Mr. Edmunds informed the Court that an action had been brought against the Board for the trespass, and he asked for an adjournment of the summons until the cause had been tried.

Mr. Corsellis said that the Board had adopted the present proceedings as being the most inexpensive mode of trying the question.

Mr. Ingham refused to comply with Mr. Edmunds's request, and the case proceeded.

For the defence it was stated that the defendant had nothing to do with the other houses; but even in those cases the proper notices were sent to the Board. The defendant admitted that he was the builder of the house in question; and he swore positively to posting a notice to the Board on the 5th of July, stating that he was getting out the ground, and that he would commence building on the Monday (the 7th). He stated, however, that he commenced on the 8th.

Mr. Corsellis and a number of witnesses were called, to prove that the letter containing the notice was never received.

Mr. Edmunds then took several legal objections. He contended that he had complied with the Act in giving notice, and also that the defendant was not bound to wait seven days after giving such notice before he commenced. He also argued that the Board were bound to give them

notice before they demolished, and that the law never contemplated that they should be the administrators of the law.

With reference to the latter argument, Mr. Ingham called attention to the 211th clause of the Act, which gave the defendant power to apply to the Metropolitan Board for compensation within seven days after the act of the District Board.

Mr. Edmunds took other objections, one of which was that by the 82nd section it was required that all works should be done properly in the day-time; and he argued that the works of demolition were unlawful, as they were carried out in the night-time.

Mr. Ingham went through the various objections, and decided against the defendant, subject to a case in the Court of Common Pleas. He made an order for the payment of the money and 5*l.* costs.

Mr. Edmunds then put in the necessary bail for the prosecuting of the case.

PATENTS CONNECTED WITH BUILDING.*

Improvements in Screw Wrenches or Spanners.—*P. B. O'Neill.* Dated Jan. 6, 1862. Here, when constructing a wrench, the inventor employs a suitable rod or metal bar, one end of which is formed as a handle, and the other end is forked. To the ends of the two prongs of the forked bar one jaw of the wrench is fixed firmly: the other, or movable jaw, has a slit formed in it, through which the prongs of the fork pass; so that the movable jaw may be capable of sliding on the forked bar towards or from the fixed jaw. For securing the movable jaw two spring catches, turning on a pin or pins, are fitted into the slot through the jaw, so that they stand in the space between the prongs of the forked bar, and teeth are formed on the inner sides of each prong of the fork for these catches to take into. Hence, in order to shift the movable jaw from one position to another, it is only necessary to free the spring catches from the teeth on the forked bar to slide the jaw to the position required, and allow the catches again to drop into the teeth. Modifications are included.

An Improved Mode of and Apparatus for Propelling by the Agency of Electricity.—*H. Cook.* Dated Jan. 8, 1862. The patentee claims the application of the tractive power of electric coils to cause an armature of iron constructed in the form of a hollow vessel casing carriage (made to contain articles of various kinds) to pass along a continuous line of rails placed within and extending throughout series of tubular electric coils, as herein set forth.

Improvements in the Construction and Fitting-up of Stalls and Horse-boxes.—*J. Carrington.* Dated Feb. 8, 1862. Here the object is to provide stables with stalls or boxes, and fittings of an improved construction, which, amongst other advantages, will admit of being readily removed, when required, without defacing the walls of the building to which they are applied; will give increased facilities for flushing drains; and provide an efficient means for accustoming young horses to the bit. The invention can not described apart from the drawings.

Improved Modes of Protecting Iron Boilers, Tanks, and Vats from Wear arising from Galvanic Action.—*G. T. Bousfield.* (A communication.) Dated Feb. 19, 1862. This consists: 1, in interrupting the galvanic action which is produced in iron boilers, tanks, vats, &c., by their connexion with pipes, pumps, condensers, faucets, or other fixtures of brass, copper, or other metals electro-negative to iron, by the use of insulating joints, by which the two metals are separated by a packing of indiarubber or other non-conducting substance; 2, in arresting and depositing from the water, before it is admitted to the boiler, tank, or vat, the copper or other metallic salts held in solution by it, which it has taken up in its contact with the copper or brass fixtures through which it has passed, by first passing the water through a vessel containing zinc in small pieces, or its equivalent in galvanic properties, on which the copper or other metal negative to iron will be deposited, and not be carried into the boiler or tank to produce there a galvanic action, so destructive to the iron vessel.

* Selected from the lists published in the *Mechanics' Magazine*, and the *Engineer*.

Miscellanea.

Kingston-upon-Thames.—In knocking down the western front and pediment of brickwork which disfigured the parish church, a Norman doorway has been brought to light. It is found that it cannot be restored.

Water-Purifying Apparatus.—The apparatus referred to by us on 18th ult., in an article on "Domestic Water-filtering," is said to have been invented by Mr. F. Hahn Danchell, of 38, Red Lion-square, a Danish engineer.

Wesleyan Chapel in Paris.—A new Wesleyan Chapel was opened a few days ago, near the new Boulevard Malesherbes, close to the Madeleine. It is Gothic, with some architectural pretensions. It has cost, we are told, about 5,500*l.* The Rev. W. M. Punshon, of London, preached a remarkable sermon on the occasion.

The Clock-tower at Plymouth.—The tower in course of erection to receive the clock presented by the mayor is nearly completed, and the *Devonport Independent* gives an engraved view of it. The tower is built of limestone up to the bell-turret, which, with the spire, is to be formed of ornamental ironwork. About half way up the tower on each side there is a device with the borough arms, cut in Portland stone; and on each of three sides of the base there is a drinking-fountain, with an entrance-door in the fourth side, by which access is gained to the interior of the structure. The height of the tower to the top of the spire will be 56 feet; the height to the base of the bell-turret 39 feet 6 inches. Messrs. Call & Pethick, builders, Plymouth, are the contractors for the erection of the tower; which will be completed for the sum of 314*l.* The ornamental stonework has been intrusted to Messrs. Tucker & Ross, of Plymouth, statuaries; and the ironwork has been cast at Moir's foundry, Stonehouse. The tower was designed by Mr. H. Hall, architect, London.

Accident in Tooley-street.—At the premises in course of reconstruction which were destroyed by the great fire on the 22nd of June, 1861, three of the arches just completed, or nearly so, each 417 feet long, and abutting upon the waterside, have, one after the other, given way. Three men, who were at work at the time nearly under them, were completely buried amid some tons' weight of bricks and mortar. One man was taken out alive, but so much injured that it became necessary to remove him to Guy's Hospital. Two other unfortunate men were found to be completely imbedded in the ruins, and a considerable time elapsed before they could be got out, and then both were found to be dead. The cause of the accident is not precisely known; but from the examination made by the district surveyor, he ascertained that men had been engaged driving piles into the river during the day, and the inference was that the vibration caused upon the shore of the river had so shaken the foundations of the arches as to make them give way; and in consequence he gave orders that no more piles were to be driven in at present.

The New Opera-house, Paris.—The works of this vast edifice, says *Galignani* (supplementing our article of to-day), are proceeding with grea activity; and a considerable portion of the structure already rises above the level of the soil. We say already, although it has taken a whole year to arrive at this point, owing to the immense difficulties with which the architect, Mr. Charles Garnier, has had to contend. It is not generally known that the whole quarter of the Chaussée d'Antin is built over a sheet of water, covered with a solid crust 6 mètres in thickness. All the houses of the quarter rest upon this crust, as their only support; and the new Opera-house might have been built upon it equally well, without any danger of its giving way, were it not that it was necessary to secure sufficient depth below the stage for the scenes. The old Opera-house has a depth of 11 mètres below, which is utterly insufficient, since a tree, for instance, must be made up of the trunk rising from below, and a fly coming to meet it from above; but as the upper part rarely coincides with the lower, the effect is disagreeable. Mr. Garnier had his choice of either raising the stage or lowering the foundations, in order to obtain the requisite depth of 14 mètres. But the level of the stage is already so high, and the number of steps to be mounted in order to reach even the first tier of boxes is so considerable, that it would have been very unadvisable to increase that height; so that nothing remained but to sink the foundations to the level of the water beneath; and it became, therefore, necessary to proceed to the herculean task of imprisoning a sufficient portion of the subterranean sheet of water within four strong walls, resting on iron-shod piles driven into the earth, and then emptying out the water by means of four powerful steam-engines. But this was not enough: the portion of the main walls destined to remain under water had to be protected against the infiltration of moisture, which would infallibly have spoiled all the scenes. For this purpose a double row of piles was driven in all round the foundations: the space between the two rows was sunk to a sufficient depth, and the earth replaced by a mass of concrete, which now effectually separates the walls from the surrounding water.

Fever at Boston, Lincolnshire.—Typhus fever, we regret to learn, has made its appearance in Boston. No time should be lost in giving careful attention to cleanliness in streets and dwellings, and also to ventilation, especially of bed-rooms.

The Middle Level Drain.—Nine out of the sixteen syphons which are to be substituted for the destroyed sluice have been placed over the dam, and have on more than one occasion been got to work, discharging an immense quantity of water; but whether, when complete, they will be sufficient to carry off the vast stream which flows down the drain after long-continued rains is a question on which, according to the *Norfolk Chronicle*, very serious doubts are entertained by many practical men.

Wood Dye.—Mr. Em. Monnier recommends the following method for dying wood of a rose colour by chemical precipitation:—A bath A is prepared with 80 grammes of iodide of potassium per litre of water; and a bath B in another vessel with 25 grammes of bi-chloride of mercury. The wood to be dyed is first put into the bath A, where it is left for several hours: it is then dipped into the bath B, when it assumes a beautiful rose colour. The wood thus dyed is afterwards varnished. The baths will last a long while without any necessity for renewal.

Gas.—A Dover gas consumer having recently written a letter to one of the local journals, complaining of the quality of the article supplied, and suggesting new works, the lessees of the Dover Gas Works (Messrs. Anderson & Jones) have had the impudence to commence an action against him. The public have begun an indignation subscription; and there is little doubt that considerable opposition will arise to a renewal of the gas contract when it expires; and that Messrs. Anderson & Jones will shortly be made to feel as if they had brought a nest of hornets about their ears. —— New gas works, in Botesdale, erected by Messrs. Porter & Co., of Lincoln, from plans by and under the superintendence of Mr. Methven, of the Bury Gas Works, have been opened. The works are situate nearly in the middle of the town.

The Glasgow Cathedral Windows. — The work of filling in stained glass into the windows of this cathedral is still going on. Another addition to those already erected in the aisle has just been made. The donor is Mr. A. Campbell, of Blythswood, and the artist Mr. George Fortner. It is of Munich manufacture. The subject is, "Suffer little Children to come unto Me;" and as in the other windows containing precepts of our Lord, in this an angel hovers in the upper part of the centre light, bearing the text. Beneath is a group representing a Christian family. As a means of expressing that the invitation is to all, in the other lights of the window the red and black races are bringing their children to the Saviour. No. 18 in the nave is about being completed. The artist of it is Mr. Henry Ainmiller; and the donors are the Messrs. Lumeden, of Glasgow. The subjects are—1st, Esther and her uncle Mordecai; 2nd, or centre, Esther crowned Queen; 3rd, Esther entreats for her people. In the choir window the background of the centre group is a view of the east end of the Cathedral. The group is surrounded by verdure and flowers.

Architect and Builder.—There is a story on record of an architect insisting on the difference between a builder and an architect, in the case of the late Mr. Alexander, the architect of various buildings in the county of Kent. He was undergoing a cross-examination in a special jury case at Maidstone, by Serjeant (afterwards Baron) Garrow, who wished to detract from the weight of his testimony; and who, after asking his name, proceeded thus:—"You are a builder, I believe?"—"No, sir; I am not a builder: I am an architect."—"Oh, well! architect or builder, builder or architect: they are much the same, I suppose?"—"I beg your pardon, sir, I cannot admit that: I consider them to be totally different."—"Oh, indeed! Perhaps you will state wherein this great difference consists."—"An architect, sir, prepares the plans, conceives the designs, draws out the specifications—in short supplies the mind. The builder is merely the bricklayer or the carpenter: the builder, in fact, is the machine; the architect the power that puts the machine together, and sets it going."—"Oh, very well, Mr. Architect — that will do! And now, after your very ingenious distinction without a difference [foolish barrister], perhaps you could inform the court who was the architect of the Tower of Babel?" The reply was as smart as it was prompt,—"There was no architect, sir; and hence the *confusion*."

REGIMENTAL MEMORIALS.—Mr. Richardson, sculptor, has just forwarded to Cawnpore a duplicate memorial to the one he executed for the 32nd Light Infantry, in Exeter Cathedral. As a coincidence, the Cawnpore tablet was shipped on the day announcing the decease of the gallant colonel of the 32nd regt., Sir John E. M. Inglis, K.C.B., &c., who took a deep interest in these memorials. Mr. Richardson has also, among other works in hand, two regimental memorials for the 31st regt., now serving in China, to officers of that regt., deceased.

A HEAVY FORGING.—Messrs. Peel, Williams, & Peel, of the Soho Ironworks, Manchester, have just completed a main shaft for a water-wheel, measuring in length 30 feet, and in diameter 22 inches. This mass of metal has been made entirely of small scrap iron, and now weighs 13 tons. The men have been working at it night and day, and have managed to turn it out in about nine days; a steam-hammer weighing seven or eight tons being employed to beat the metal together. The wheel for which it is intended will weigh eighty tons.

THE LONDON CROSSINGS AND THE COMMISSION OF SEWERS.—A subject which has occasionally been urged in our columns for years is at last forcing itself upon the notice of the authorities. Deputy Lott, in the City Commission of Sewers, last week moved a resolution to the effect—"That it be referred to the General Purposes Committee to consider the practicability of constructing iron bridges over certain portions of the streets, by which passengers might cross without danger, delay, or difficulty." The mover of the resolution complained strongly of the difficulties and dangers of the City crossings, and was well supported by others of the Commissioners; but this is not a subject which needs now to be expatiated on in our columns. The motion referring it to a committee was agreed to.

AN EXHIBITION IN TURKEY.—The *Levant Herald* says:—"The example of the International Exhibition seems not to have been lost on the Porte. A grand show of native produce and industry has been decided on, and will be held in Stamboul during the coming Ramazan. To secure the successful realization of this idea, special local delegates are to be at once appointed in all the principal districts of the empire, for the collection and classification of samples. These last will be forwarded to the capital free of all custom or other dues, and at the Government expense. As in London, sales of the articles exhibited will be allowed; and, in the event of their not being so disposed of, the Government will engage to buy all the smaller parcels. Prizes, in money or medals, will also be given to the successful exhibitors.

THE NEWTON STONE OF ABERDEENSHIRE.—At the Cambridge meeting of the British Association, the Rev. G. Williams read a paper by the late Dr. Mill, of Cambridge, on the decipherment of the inscription on this stone. The paper was illustrated by a cast of the stone, and several diagrams. The cast showed that the stone was a fraction of some columnar erection. Dr. Mill argued that the stone is of Phœnician origin, and found its way to its place of deposit by reason of the constant navigation of Phœnicians from Gadir (Cadiz) and Tartesus, as well as Carthage, into the British seas. After analyzing the inscription and dwelling elaborately on the form of the characters, Dr. Mill, citing his authorities on all points, arrives at the final conclusion that the stone is inscribed *in the Hebrew* alphabet, and (the incription is imperfect), collocating the characters with their representatives in the ordinary Hebrew alphabet, as they lie on the stone, the translation would read:—"To Eshmún, God of Health, by this monumental stone, may the wandering exile of me, thy servant, go up in never-ceasing memorial: even the record of Han-Thanit-Zenaniah, magistrate, who is saturated with sorrow." The Chairman having invited remarks, Mr. Wright said he differed from the suggestions of Dr. Mill, and contended that the inscription was *in Latin*(!) of the rude character, and certainly belonged to a period ulterior to the visit of the Romans to the island. It was an epitaph, so far as he could make out, and would read (allowing for fractures), "Hic jacet x Constantinus x filius,"—an epitaph to the memory of Constantinus, son of somebody!! Dr. Leonidas Drachasis said that he and Dr. Simonides agreed at first sight that the name in the second line was "Constantine." Mr. Cull said he was of opinion that the inscription *was Greek* (!), and the Master of Trinity thought so too (!). It was then arranged that rubbings of the stone should be forwarded to the most eminent interpreters of such matters. Perhaps some Edie Ochiltree may settle the question.

DEFRIES'S CANDELABRUM.—Although too late to be of much service, we must direct attention to the large glass candelabrum recently completed at the International Exhibition. It is 22 feet high, and contains many thousand pieces of cut crystal glass.

LARGE CASTING.—At Woolwich, on Thursday, a new anvil for one of the large steam-hammers was cast. As the metal reached the required heat at one o'clock in the morning, the whole of the hands had to attend at that hour. The volume of boiling metal, weighing upwards of 50 tons, was then drawn from the various crucibles, termed "cupolas," and was received in a capacious and well-heated furnace, whence, after remaining six hours, it was again drawn off and run into the mould pit. It was there buried up in black sand, to cool gradually, which process will occupy no less than four or five weeks.

HASTINGS.—A correspondent writes,—The memorial to the late Prince Consort has been commenced. There has been some little difficulty in getting out the foundation, the site fixed upon being the place formerly occupied by the old bridge. The structure, which contains a clock, will not only be an ornament, but of great service to the public. The London and County Bank, which stands opposite the memorial, is built of Tisbury stone, Wiltshire. The scaffolding is being removed. Mr. Parnell, of London, is the architect. Mr. Howell, of Hastings, is the contractor. The carving is now being executed by Mr. Thomas Colley, of London. The clerk of works is Mr. Brunnell.

PRESERVING WOOD BY SALT.—A correspondent of an American paper says:—"I have used common salt for the preservation of mill shafts or water-wheel shafts, and it has had a good effect in staying the decayed timber. Take a two-inch auger, bore holes into the stick of timber, and fill up with salt, and then plug up the holes tight. In a large stick of timber like a water-wheel shaft, bore a hole through the centre, like a pump, and fill up with salt and plug up, and there is no telling how long this may last, as it has been tried with us, and has answered very well. No man would believe what effect it will have till he tries it. I have used it in a mill shaft that was decaying, and it certainly has helped it wonderfully. I have never seen a salt barrel but what was sound, and will stand more wet weather than any other barrel or stave of its kind."

MEMORIALS AND STATUES.—Mr. Noble has received instructions from the Albert Memorial Committee in Bath to execute a colossal bust of the late Prince Consort, which is to be placed in the new building to be added to the Bath United Hospital.——Kepler, who was born at the little village of Magstadt, in Wurtemberg, is now to have a statue erected to his memory in the neighbouring provincial capital, the small town of Weil die Stadt. The sum already subscribed amounts to 450*l*.——There has just been erected in the churchyard of Inveresk a monument to the memory of the late Rev. A. B. Sclanders, late minister of the parish. The monument, designed by Mr. R. W. Robertson, consists of an obelisk 8½ feet high, placed on a pedestal 8 feet. On the under part of the obelisk is sculptured in full relief a pigeon on the wing, rising from an open Bible.——The tomb in Beaconsfield churchyard, of the poet Edmund Waller, is being at last restored. The work has been confided, by the present Waller family (the poet's representatives), to Mr. Harley, statuary and mason, Windsor.

RAILWAYS IN ITALY.—The following is an enumeration of the extensive network of railways in Italy conceded to M. Bastoggi:—"1. A grand line starting from Ancona, skirting the Adriatic, and serving Pescara, Termoli, Foggia, Barietta, Bari, Brindisi, and Lecca, with a branch from Bari to Taranto on the Ionian Sea, which together will form an extent of 750 kilometres, or 468 English miles. 2. A branch line from Foggia, passing by Ascoli, Cauza, and Eboli, as far as Salerno, where it joins the line already constructed to Naples; length about 181 kilometres, or 113 miles. 3. A branch line starting from Ceprano (where it meets the line already constructed from Rome to Naples) by Sora, Celano, Sulmona, and Popoli, to Pescara, about 231 kilometres, or 145 miles. 4. A branch of 28 kilometres, or 17½ miles, from Voghera to Pavia. And 5, another branch of 167 kilometres, or 104 miles, from Pavia to Brescia, passing by Cremona. As to this branch, however, the Lombard and the Central of Italy Company claim a right of preference by reason of a previous concession. The extent of the lines to be constructed is 1,357 kilometres, or about 848 miles."—*Galignani.*

THE ALBERT MIDDLE-CLASS SCHOOL AND COLLEGE, IN SUFFOLK.—At the sixth meeting of the Executive Committee on this college, held at Framlingham, the committee inspected the architects' designs, which were arranged on screens prepared for the purpose. It was determined that the drawings should be open to the public for two days, and afterwards exhibited at Ipswich for a fortnight, notice being given of the time and place by advertisement, after communication with the authorities. Sir Edward Kerrison and Sir Fitzroy Kelly were requested to ask permission from Pembroke College to commence raising brick-earth immediately in the vicinity of the site.

DIVIE VIADUCT ON INVERNESS AND PERTH RAILWAY.—This viaduct is now far advanced towards completion. The bridge is one of seven arches, the span of each being 45 feet, while the height of the two centre ones, which form the water way, is 110 feet. The side arches and the embankments are also high. The bridge, when fully finished, will have four turrets or towers at either end, the tops of which will be 120 feet above the surface of the water. Three of the arches are nearly finished. The piers are built of large, square blocks, of a sort of whinstone, quarried a few yards up the Divie from the bridge; and the arches are cast with freestone blocks from the Nairn quarries, taken by railway to Forres, and thence carted for nine miles to Edinkillie.

SANITARY CONDITION OF CROYDON.—From a printed report on the quarterly mortality of the parish of Croydon, from July 1 to September 30, it appears that the number of deaths in the summer quarter was at the rate of about 15½ per annum in every 1,000 of the population. There is a considerable variation in the different districts; Norwood only, ranking highest, 17½; the northern district, including Norwood, somewhat less; the central district, including the Union House, under 16½; the southern district, under 14; and the eastern (for several years the most unhealthy) district, showing the remarkably low figure of 7½ per 1,000. The type of disease was not so favourable as in the corresponding quarters of the last two years, but still, on the whole, presented a greatly-improved result upon the average of the last ten years. One hundred and fifty-nine notices for new houses were approved by the local Board of Health.

TENDERS.

For alterations, &c., at No. 56, Cannon-street, for the Leather Cloth Company. Mr. Henry Jarvis, architect:—

Turner	£483 0 0
Tarrant	475 0 0
Macey	470 0 0
Henshaw	454 0 0
Sharpington & Cole	397 0 0
Prince	349 0 0

For new schools at Hulme, Manchester, for the Methodist New Connexion. Mr. R. Scrivener, architect. Quantities supplied:—

McLean	£1,067 0 0
Griffiths	950 0 0
Metcalf & Waterson (accepted)	879 0 0

For premises, Commercial-street, Shoreditch, for Mr. J. Biggs. Mr. W. G. Bartlett, architect. Quantities by Mr. Campbell:—

Downs	£2,850 0 0
Wood	2,793 0 0
Heath	2,782 0 0
Ashby & Sons	2,756 0 0
Pritchard	2,752 0 0
Scott	2,725 0 0
Ryder	2,690 0 0
Norman	2,645 0 0
Condor	2,590 0 0

For warehouse and grainery, for Mr. Stephen Banks, Meadow-road, Hastings. Mr. Hopkinson, architect. Quantities supplied.—

Hoadley & Co.	£551 0 0
Jones	480 0 0
Wellard	463 0 0
Loughurst	449 10 0
Pattenden	448 17 7
Howell	448 0 0
White	431 0 0
Parks	426 0 0
Vidler	424 0 0
Sacie	422 0 0

For new church at Egremont, Cheshire. Messrs. W. & J. Hay, architects. Quantities supplied:—

Jones & Co.	£6,140 10 0
Thomas	5,747 0 0
Fisher	5,319 0 0
Allen	5,196 0 0
Nelson (accepted)	5,179 0 0

For Holy Trinity Schools, Ipswich. Mr. F. Barnes, architect:—

Luff	£1,218 0 0
Pells	1,129 0 0
Smith (accepted)	1,084 0 0
Grayston	988 0 0

For house and premises, New Park-street, Southwark, for Mr. Joseph Sutton. Mr. E. C. Wade, architect:—

Fox	£555 0 0
Bottom	539 0 0
Baguley (accepted)	535 0 0

TO CORRESPONDENTS.

W. P. J.—J. H.—W. R.—W. B.—W. A. O'D.—Dr. W. J. H. M.—W. F. (the necessity for good workmanship in laying zinc and the usefulness of the material when it is laid properly, have been pointed out at considerable length in our pages).—T. C. H.—Quondam (Exhibition is not yet opened).—A. W. A.—T. M. R.—Veritas.—S. H.—H. K. (we shall be glad to see the drawing).—A Learner (must think a little more on the subject).—J. Y.—H. N. H.—A. W.—E. B. D.—C. W.—D. T. A. (next week).—A pile of letters on "Quantities," 'Architects' Assistants," and the "New Style Question," will have attention.

We are compelled to decline pointing out books, and giving addresses

Al. statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

ADVERTISEMENTS.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:— 13 FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

GLASS PAINTING.

A GENTLEMAN, possessing great abilities in the above Art, is open to receive PUPILS, to give Lessons on Figure and Ornam ntal Drawing, and the Art of Glass Painting in the Mediæval Style, &c.—For particulars address W. M. No. 1, Castle-street, Newman-street, W.C.

ARTICLED PUPIL.—To PARENTS and GUARDIANS.—An ARCHITECT and ENGINEER filling the office of Borough Surveyor in a large town in the Midland Counties, where extensive works are in progress, has an OPENING for a PUPIL.—Address, C. Office of "The Builder."

CANTERBURY SAW-MILLS.—WANTED, immediately, a WORKING FOREMAN. Must have a good recommendation as to character and ability. Apply, by letter, to G. F. SMITH, Jun. Steam Saw mills, Canterbury.

TO SURVEYORS, LEVELLERS, AND DRAUGHTSMEN.

EXPERT HANDS, disengaged, are requested to STATE TERMS and EXPERIENCE, in letter, to C. E. care of Mr. Ingram, 12 A, Bridge-street, Westminster.

TIMBER TRADE.—WANTED, an active steady Young Man as SALESMAN in a Retail Deal and Mahogany Yard. Must understand the business, and have a good character for honesty, &c.—Address by letter, prepaid, stating age, where last employed, and salary required, to A. Z. care of Housekeeper, Rolls Chambers, 24, Chancery-lane.

WANTED, immediately (in London), Good SURVEYORS, LEVELLERS, and DRAUGHTSMEN. None need apply, unless thoroughly experienced in sewerage and drainage works.—Address, K. P. office of "The Builder," giving age, salary, qualifications, and reference.

TO SMITHS' FOREMEN.

WANTED, a WORKING FOREMAN. He must thoroughly understand every description of kitchen works, hot water, steam, gas, and the general routine of a smith's shop.—Apply, by letter only, with references, to Mr. CORNICK, Ironmonger, Hampstead.

TO BRICKMAKERS.

WANTED, a WORKING FOREMAN, having a thorough, practical knowledge of time, bricks, tiles, and lottery.—Apply, stating qualifications, age, terms, &c. to J. K. COOPER, Maidenhead, Berks.

TO BUILDERS.

WANTED, by a Practical Man, a SITUATION as WORKING FOREMAN. Has had good experience in shop fronts, stairs, sashes and hangings, and bedsteadings.—Can make out working drawings, estimate, and measure.—Address, SMITH, 15, Harewood-place, Bennington Park

TO CARPENTERS AND JOINERS

WANTED, by a Young Man, aged 19, a SITUATION to the above as IMPROVER. Wages no consideration.—Address, G. H. Post-office, Church-street, Westhall.

TO SAW-MILL PROPRIETORS, BUILDERS, AND OTHERS.

WANTED, by a sober steady Man, a SITUATION to Saw-mill, or Work at a Circular Saw bench Address, P. Z. A. Office of "The Builder."

TO ARCHITECTS, BUILDERS, &c.

WANTED, a SITUATION as CLERK of WORKS, or Foreman over Gothic Job.—Address, T. B. Temperance Reading room, West street, Reading

TO BUILDERS, PLUMBERS, &c.

WANTED, EMPLOYMENT as PLUMBER. Can fix iron, lay water pipes. Good references Address J. H. P. No. 9, Cavendish-street, Chelsea.

WANTED, a SITUATION with an Architect, Surveyor, or other, where an extensive knowledge of matters connected with building, &c. combined with being a good pen draughtsman, estimator, and writer, might be made available.—Address, A. W. care of Mr. Horne, 73, Newington Causeway, S.E.

TO ARCHITECTS.

WANTED, a RE-ENGAGEMENT in an Architect's office, by a neat and expeditious draughtsman. Can prepare parliamentary, working, and detail drawings, &c. also from rough sketches. Terms moderate.—Address, B. J. Office of "The Builder."

TO CARPENTERS AND JOINERS

WANTED, by a Young Man, aged 21, a SITUATION as IMPROVER to the above. Wages not so much an object as a constant home.—Address, A. C. J. Clayton's, Bee Kensington road.

TO ARCHITECTS AND SURVEYORS.

WANTED, by a Gentleman who has been four years in an Architect's office, a SITUATION. Is a neat and careful draughtsman. Should he meet with a suitable engagement, would be willing to join in Partnership in the course of a short time.—Address, ARCHITECT, Pavilion-place, Turnham green, W.

TO PLUMBERS, BUILDERS, &c.

WANTED, EMPLOYMENT as PLUMBER, &c. Has had good experience. Good references given.—Address, P. H. 42, Shouldham-street, Bryanston-square, W

TO PLUMBERS, BUILDERS, &c.

WANTED, by a first-rate PLUMBER and GASFITTER, a SITUATION. Is a good painter, glazier, and paperhanger. Good reference.—Address, C. M. care of Mr. Marle, 22, Judd street, Euston-road.

TO BRICKMAKERS AND BUILDERS.

WANTED, by a practical Man, a SITUATION as BRICKFIELD FOREMAN. Is accustomed to clamp and kiln work. Four years' reference. Set the bricks if required.—Address, A. Z. Oxshot Brickfield, near Leatherhead, Surrey.

TO BUILDERS, PLUMBERS, GASFITTERS, &c.

WANTED, a SITUATION, by a good Plumber and Gasfitter. Could fill up his time with painting or glazing, if required.—Address, B. B. 23, Cirencester-place, Fitzroy-square

TO ARCHITECTS, BUILDERS, AND OTHERS.

WANTED, by a practical Carpenter and Joiner, a RE-ENGAGEMENT, as CLERK of WORKS or BUILDERS' FOREMAN (shop or job) in town or country.—Address, T. H. 8, Queen's road West, S.W.

WANTED, by a Young Man, a RE-ENGAGEMENT in the Office of an Architect and Surveyor, either in town or country. Has had 3½ years' experience. Can prepare drawings from rough sketches, assist in taking out quantities, and thoroughly understands the usual routine of the office. Salary, 23s. per week.—Address, H. S. Post-office, Great Marlow, Bucks.

TO BUILDERS AND PLUMBERS.

WANTED, a SITUATION as PLUMBER. Can do a little painting or glazing, if required. Town or country.—Address, W. P. No. 27, Philip-street, Kingsland road

WANTED, by the Advertiser, who has just completed his apprenticeship, a SITUATION in a Builder's or Architect's Office.—Address, A. B. Post-office, Hampstead, N.W.

TO LARGE ESTABLISHMENTS AND OTHERS.

WANTED, by a respectable Young Man, a SITUATION as PLUMBER, PAINTER, GLAZIER, and PAPERHANGER, and to make himself generally useful. Unexceptionable reference can be given if required.—Address, SCOTT, Mr. Langton's, Uxbridge Moor, Middlesex.

WANTED, by the Advertiser, a SITUATION in an Architect's Office. Can make out perspectives, draw out plans and specifications, and understands the routine of an office. Has been in the profession upwards of five years. Salary moderate.—Address, J. B. C. 19, Alexander square, Brompton.

TO MASTER BUILDERS AND PLUMBERS.

WANTED, by a Young Man, EMPLOYMENT as PLUMBER, PAINTER, and GLAZIER. Town or country.—Address, R. P. 45, King-street, Camden Town.

TO GLASS MERCHANTS.

WANTED, to APPRENTICE a YOUTH, age 15 (indoors), to learn the general business of glass-cutting, glazing, & All respectable duties in GLASS WORKS.—5, High-street, Camden Town.

WANTED, by a Young Man, a constant SITUATION as PLUMBER'S LABOURER. Can fill up his time with painting or glazing. Good reference. Town or country.—Address, A. Z. 24, Carnaby-street, Golden-square.

WANTED, by a general OUTDOOR FOREMAN, a RE-ENGAGEMENT as FOREMAN of BUILDINGS. Is well experienced with the finishing generations of the building trade; can take out detail drawings, and measure up work. Address, JOINER, Britannia Coffee-house, Tothill-street, Westminster.

WANTED, by the Advertiser, LAND, containing brickearth, or a BRICKFIELD, of four acres, within six miles of London, or by the riverside.—Direct, stating particulars, to A. B. Post-office, Brentwood.

TO BUILDERS, CONTRACTORS, &c.

WANTED, a SITUATION, as CLERK, by a Young Man, aged 24. Is a good accountant, draughtsman, &c. Good references given.—Address, Y. Z. Post-office, 9, Holborn.

TO MASTER PAINTERS, GAS-FITTERS, AND PAPERHANGERS.

WANTED, by a Young Man, a constant SITUATION as PAINTER, Glazier, Gasfitter, and Paperhanger. Can do a little in writing, grining, and taking out to take charge of work. Ten years' good character.—Address, H. D. 6, Three Colts court, Worship-street, Finsbury.

WANTED, by a Young Man, aged 24, a good TRADESMAN, a SITUATION in a London Shop as Painter and Sign or Decorative Writer. Can undertake a constant situation.—Address, A. B. 31, Georgiana street, Camden-town.

TO ARCHITECTS AND SURVEYORS.

WANTED, by an experienced CLERK of WORKS, a RE-ENGAGEMENT in that capacity. Is used to measurement works, &c. Address, G. H. D. 4, Lowder-place, Commercial-road East, London.

TO BUILDERS AND PAINTERS.

WANTED, a PERMANENT SITUATION as WRITER and GRAINER. No objection to fill up time at plain painting.—Address, T. V. 30, Prospect-row, Ball's pond, Islington.

WANTED, EMPLOYMENT, by a Young Man, a CARPENTER and JOINER. Is a good tradesman. Address, W. H. C. Regent-terrace, Pimlico.

TO PLUMBERS, BUILDERS, &c.

WANTED, a SITUATION, by a first-class PLUMBER and GAS-FITTER, as FOREMAN or otherwise. No objection to good country work. References.—Address, H. Plumber, No. 2, Manby-street, Stratford, E.

TO PLUMBERS, BUILDERS, &c.

WANTED, by a Young Man, aged 25, a SITUATION as IMPROVER to PLUMBING. Has been four years in the trade. Could undertake small jobbing. Wages not so much an object as improvement.—Address, B. C. 86, Gloucester-terrace, West Westbourne-square.

TO BUILDERS.

WANTED, a RE-ENGAGEMENT as SHOP FOREMAN of JOINERS. Experienced in steam joinery. Can refer to present and former employers.—Address, K. L. Mr. Marden, 81, Chester 34, Parkstreet, Islington, N.

WANTED, a SITUATION as IMPROVER in the GAS-FITTING and BELL HANGING. Is a good Jobbing Smith.—Address, A. Z. Post-office, East Dereham, Norfolk.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, a RE-ENGAGEMENT as WORKING FOREMAN of BRICKLAYERS, or should prefer PIECEWORK. Has no objection to the country. Is well up in setting out work. Good references.—Address, to A. A. No. 7, Hasker-street, Main's street, Chelsea.

WANTED, a RE-ENGAGEMENT in an Architect's Office, by a Gentleman who has been four years in the country and one in London. Is well up in the routine of an architect's office. Good references.—Address, A. Post-office, Finchley, N.

WANTED, by an experienced DRAUGHTSMAN, a RE-ENGAGEMENT in an Architect's or Surveyor's Office. First-class references, and salary moderate.—Address, H. H. care of Mr. Davy, 4, Ridgefield Terrace, Bridge road, near St. George's Church, Camberwell.

TO ARCHITECTS, ENGINEERS, AND BUILDERS

THE Advertiser, aged 27, who was several years with an architect of large practice, and is now leaving an engineering firm, is desirous of a RE-ENGAGEMENT.—Address, A. Z. Post-office, 98, Jermyn-street, S.W.

TO GLASS PAINTERS AND CHURCH DECORATORS.

THE Advertiser, a Young Man, having been four years a Decorator in several good Firms in London, now seeks EMPLOYMENT. Wages not the object.—Address, P. 3, York-place, Pelham road, Brompton, S.W

TO CIVIL ENGINEERS AND SURVEYORS.

THE Advertiser, who is a good draughtsman, surveyor, and colourist, is open to an ENGAGEMENT.—Reference to last employer. Salary moderate.—Address, R. A. 489, Oxford-street, W.C.

TO CIVIL ENGINEERS, CONTRACTORS, AND BUILDERS.

THE Advertiser, having had considerable experience in the construction of railways and other works, desires an ENGAGEMENT. Is also well acquainted with surveying, levelling, measuring up, setting out, &c. Is a good draughtsman and accountant.—Address, R. B. A. Office of "The Builder."

TO ARTISTS IN STAINED GLASS AND MANUFACTURERS.

THE Advertiser, thoroughly practical, is desirous of a SITUATION. Used to the pencil, can set out work, and cut and glaze. Acquainted with the various tooling styles. Address, J. W. 253, Marylebone-road, N.W.

TO PAINTERS, DECORATORS, GILDERS, AND OTHERS.

THE Advertiser, aged 26, of good experience, requires a RE-ENGAGEMENT as CLERK; would make himself generally useful, fill up time at painting or glass-cutting, &c. or would manage a branch business. Most satisfactory references, &c.—Veritas, A B Mr. Cole's, 1, Cross-street, Newington.

THE Advertiser is desirous of taking the SITUATION of ASSISTANT CLERK of WORKS upon a large building. A bonus will be paid.—Any reply must be in writing, and addressed to W. H. E. 30, High-street, Pimlico, S.W. accompanied by the name of the building to be employed upon.

TO ARCHITECTS, &c.

THE Advertiser is desirous of an ENGAGEMENT. Is a good draughtsman and colourist, understands surveying, &c. and the usual duties of an architect's office.—Address, R. JOHNSON, [illegible], Rochester, Kent.

THE Advertiser, aged 22, who is a good architectural draughtsman, colourist, &c. wishes for a SITUATION in an office, in which [illegible] Two years country.—Address, G. H. G. Office of "The Builder."

TO CARPENTERS AND BUILDERS

EMPLOYMENT WANTED, by a Young Man, a Carpenter, as an IMPROVER at the BENCH. Moderate wages required, as a home is all persuasion.—Address, J. H. I, Noah's Ark-place, Stangate

CLERK of WORKS.—A thorough Business Man, aged 34, a good Measurer, Draughtsman, and Accountant, [illegible] contracts, desires an ENGAGEMENT as above, or as Foreman over extensive brickworks. First-class references as to ability. Salary moderate.—Address, J. S. WILSON, North Newbald, near Brough, Yorkshire.

TO ARCHITECTS.

AN ASSISTANT, who has a thorough knowledge of Gothic Architecture, and can assist in [illegible] desires an ENGAGEMENT, or would prepare drawings at his own rooms.—Address, E. L. 40, Norfolk-street, Strand.

TO ENGINEERS AND ARCHITECTS

A YOUNG MAN, 18 years of age, who has had three years and a half experience, and can speak and [illegible] desires an ENGAGEMENT as DRAUGHTSMAN.—Address, R. D. 5, Mansfield-place, Gospel-road, Kentish-road.

TO BUILDERS AND CONTRACTORS.

AS GENERAL FOREMAN or Manager. The advertiser, a joiner by trade, who has had considerable [illegible] desires a SITUATION as above, or as Foreman of a SITUATION [illegible] Has had 20 years' experience, is a sober and steady man, and can take out plans, &c. Address, S. S. B. Office of "The Builder."

A GOOD PLUMBER is open to an ENGAGEMENT [illegible] Address, B. D. No. 80, Eaton-street, Manchester-square, W.

TO BUILDERS OR PLUMBERS.

A THOROUGHLY good practical Plumber is in want of a constant SITUATION, or on a Job. Four years' [illegible] Has no objection to take large drainage [illegible] when slack. Is a good glazier.—Address, B. D. No. 80, Eaton-street, Manchester-square, W.

TO [illegible] ARCHITECTS.

A COMPETENT ASSISTANT desires temporary EMPLOYMENT. The advertiser understands perspective and water-colour drawing.—Address, J. H. D. Office of "The Builder."

A BUILDER'S FOREMAN is open to an ENGAGEMENT as the above, or CLERK of WORKS, or to TAKE CHARGE of an ESTATE under a Steward. Has just completed some extensive works, is a good draughtsman and measurer, and able and willing to work, if required.—Address, A. B. Mr. Baker's, the Lancaster Gate, Westbourne-street, Hyde-park.

A YOUNG MARRIED MAN wishes to obtain a CONSTANT SITUATION, in town or country, as good JOBBING PLUMBER and GLAZIER, PAPERHANGER, GRAINER, PAINTER, and GLAZIER. Has no objection to general repairs. Both town and country references. Could be seen.—Address, W. G. Mrs Shanly's, 1, Clifton-place, West Kensington, near Hammersmith.

TO ARCHITECTS.

A PRACTICAL CLERK of WORKS, aged 43, wishes for a RE-ENGAGEMENT as CLERK of WORKS. No objection to the country.—Address, B. C. No. 8, Banner-street, St. Luke's, E.C.

TO ARCHITECTS, &c.

A GOOD DRAUGHTSMAN, who served his articles to one of the first architects in London, will be open to an ENGAGEMENT on 1st NOVEMBER. Good testimonials Commencement as land surveyor and leveller.—Address, DAVID OLD FIELD, 45, Pancras road, N.W.

TO ENGINEERS, &c.

A HIGHLY confidential and respectable Man, aged 30, with considerable experience at lathe, vice, drawing, calculations, accounts, &c. and in the Colonies, at pit-saw, saw-mills, &c. much wants a permanent SITUATION in an Office, and to be otherwise useful. Wages moderate. Satisfactory reference and security given.—Address, X. 1, Celbridge-place, Westbourne-park, W.

TO BUILDERS AND CONTRACTORS.

A THOROUGH, practical MASON wants EMPLOYMENT as WORKING FOREMAN, or to take charge of a JOB. Is used to soft and hard stone. First-class references to last employer, and to architects. Wages moderate. Locality immaterial.—Address, A. B. 57, Great Portwood-street, Stockport, Cheshire.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

AN Architect and Surveyor's Assistant is desirous of a RE ENGAGEMENT. Is a neat and artistic draughtsman, a good colourist and surveyor, and is well acquainted with office work generally. Terms very moderate.—Address, ALPHA, Post-office, Stoney Stratford, Bucks.

TO CONTRACTORS, ARCHITECTS, AND OTHERS.

A PRACTICAL CARPENTER and BUILDER, who has had several years' experience both in England and America, is also a neat Draughtsman, and can measure and set out work, and take out quantities, is in want of a SITUATION as CLERK, FOREMAN, or SUPERINTENDENT of WORKS. Does not look for a high salary.—Address, L. U. R. at Messrs. Brooks & Oakey's, Sandbrook court, Bedford-street, London.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

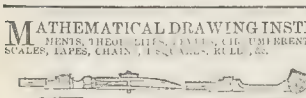
A QUANTITY SURVEYOR, MEASURER, and ESTIMATOR, of twenty years' practical experience in the various works connected with building, wishes to get [illegible] with architects, surveyors, or builders, for taking out bills, measuring, estimating, preparing specifications, working drawings, writing specifications, making surveys of dilapidations, &c. upon reasonable terms. Satisfactory references. Address, S. V. R. Office of "The Builder."

TO CONTRACTORS AND BUILDERS.

A QUANTITY and ESTIMATING CLERK, who has a thorough knowledge of building, and has superintended works of magnitude, desires a RE ENGAGEMENT. He is also a good draughtsman. Good references. Terms moderate.—Address, R. X A. Office of "The Builder."

TO PAINTERS, DECORATORS, OIL-MEN, AND OTHERS.—A first class BUSINESS in the above lines (which is added the very important branch of Bill Posting and Hanging), situate in the most fashionable and thriving watering-place in the west of England, is DESIRED to be PURCHASED or rented. The Trade has been successfully carried on by the present proprietor for the last seventeen years, during which time he has realized from the Stock, Workshops, and Residence, with the Business, may be had on reasonable terms, or an eligible partnership with a practical man would be entertained. Additional particulars cheerfully furnished on application to BARNARD THOMAS & CO. Public Accountants, Albion Chambers, Bristol.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIVIL ENGINEERS', SCALES, TAPES, CHAINS, PANTOGRAPHS, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Late of 169, Fleet-street.

Respectfully inform the public that their Stock is well selected and of the best quality, and that their prices will be found as low as those of any other house in the trade. They are enabled to do this from having had the whole of their instruments made to their own order, and from their long experience in the trade. Every article warranted. Second hand Instruments of all kinds, by the best makers, always on sale.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13. Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late WARNER & ROBINSON'S IMPROVED T Square, Recommended in "The Engineer," "The Engineer and "Practical Mechanics' Journal" 42-inch, 5s. and 7s. 6d.; 31 inch, 3s. 6d. and 5s. 6d.; 25 inch, 2s. 6d. and 4s. 6d.

Mathematical Instruments of every description of the best possible make, and highest finish, sent on the Premises.

Scales, Protractors, Parallel Rules, Tapes, Drawing Boards & Pins, Drawing Paper, Pencils, Colours, Cases, Portfolios, Compasses, &c.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price list post free.

STANLEY'S IMPROVED DRAWING PEN.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL

With single pulley, from 6s. each; with leading pulley, from 8s. 6d. These Ventilators are supplied in various sizes, to admit any quantity of air may be admitted for the well attended to without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed in the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation, with Wrought iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.

GEORGE ELL,
EUSTON WORKS, 30 and 32, EUSTON-ROAD, N.W.

TO BUILDERS, PAINTERS, PAPERHANGERS, AND OTHERS.

WORK TAKEN by CONTRACT, by SMETHAM, BROTHERS,
Contractors for Builders' Painting, Paperhanging, and Glazing,
363, Frances-street, Chelsea.
Work executed in Town or Country. Terms, Cash.

PURE STATUARY MARBLE, and in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS,
363, EUSTON-ROAD, London, N.W.
Prices moderate.
M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established [illegible].

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company does not intend to uniform Avenue to the Lizard and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.
Communications to be addressed to the Secretary, No 24, St. James's-street; or to Mr THOMAS OAKDEN, 94, King street, Manchester, who is sole agent for Liverpool and Manchester.

VICTORIA MARBLE WORKS,
38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

LITTLE CASTERTON FREESTONE, Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 39, Sutton-row, London, and at the Museum of Practical Geology, Jermyn street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is almost free from bed, it can be had in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a feather-saw, and is wrought at a cheaper rate than any stone in the kingdom.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplied direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London S.W.

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wootton Wawen, near Henley-in-Arden, are working a Quarry of this very superior and durable Stone (belonging to Colt Read), at Platsowes, Nut, near Wrexham. It is used extensively in Liverpool, Manchester, &c. and can be supplied at reasonable rates at any railway station.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards, CUT by Steam Power, and Delivered into Railway Trucks at Weymouth. List of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, monuments, curbs, and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TREATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

TO BUILDERS, CONTRACTORS, &c.

SLATES, TILES, IRON, TIMBER, DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connexion generally throughout the Kingdom, that they have now ready their
NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons. Price forwarded and estimates given on application.—Address
No. 1, BOLD-TERRACE, CHESTER.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE.
No. 24, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and all Trades requiring Wholesale prices. In connection with his Old Establishment, No. 18, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 65 and 66, High Holborn.

TO BE SEEN in the HARDWARE COURT, INTERNATIONAL EXHIBITION, Stand 6042, and HARDWARE COURT, CRYSTAL PALACE, SYDENHAM, the only PATENT COOKING STOVE that has received THREE PRIZE MEDALS. England, 1851; France, 1855; International, 1862; for a new mode of heating and purifying ovens. Good Workmanship and ECONOMIZING FUEL in Kitchen Ranges.—DULEY & SONS, Manufacturers, Northampton.

TO BE SOLD, at half its original cost, about 340 yards of 6-BAR IRON FENCE, including gates and cast-iron standards.—For particulars, apply to J. M'LACHLAN, Builder, Clapham Common.

WANTED, SELF-ACTING CIRCULAR SAW BENCH.—Address, W. H. No. 84, London-road, Southwark.

STATION ROOFS and ROOFS of every KIND GLAZED WITHOUT PUTTY, and warrantied PERFECT. EVERY DESCRIPTION OF BUILDINGS EFFECTUALLY WARMED with T. G MESSENGER'S Triangular Tubular Heating Apparatus.—Full particulars of the above, and references supplied, upon application to the Patentee,
T. G. MESSENGER, Engineer, &c. Loughborough.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr Arnott's Improved Ventilators.
HULETT & CO. 65, High Holborn.

MOREWOOD & CO. (late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Bingham's Heath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Roadways also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

THE GENERAL VENTILATION and ATMOSPHERIC FIRE-GRATE COMPANY (LIMITED)—(BATTY'S PATENTS).—Capital, 50,000l. in 1,500 shares of 2l. each, of which 5s. per share is payable on application, and a further sum of 5s. per share [illegible] allotment.
Chairman—Patrick Bell, Esq. Spring-mount, Champion hill, S.
Deputy-Chairman—J. B. Hartwell, Esq. 1, Brunswick-place, Regent's-park, N.W.
Solicitors—Messrs. Vallance & Vallance, 20, Essex street, Strand, W.C.; and 1, George-yard, Lombard-street, E.C.
Bankers—Union Bank of London (Temple-bar Branch) Offices, 230 Strand, Temple-bar, W.C.
ABRIDGED PROSPECTUS.
This Company is formed for the purpose of introducing Batty's valuable improvements and invention for warming and ventilating rooms and buildings.
The system of perfect ventilation is effected, by which all impure air is carried away, and pure, warm, or cool air supplied at pleasure.
Saving in fuel of upwards of 50 per cent. with superior heating qualities.
The principle can be applied, at a comparatively small cost, to the ordinary fire grate, and to all buildings, including those where imperfect methods have existed.
The actual transactions, up the present time, justify the Directors in believing that a large and remunerative return on the paid-up capital will be realized.
Detailed prospectuses, with forms of applicant on for shares, can be obtained at the Offices of the Company, 230, Strand, Temple Bar, W.C. where the Grates can be seen in operation.—By order of the Board,
W. A. HARRIS, Secretary.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,

GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¾	1½	2	2½
„ 2ft. 6in. sup.	1½	1½	2¼	3
4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 } per 100ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13 }	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14 }	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15 }	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s. }
Anti-corrosian Paint 28s. to 34s. }
Linseed Oil Putty .....7s. 6d. } per cwt.
Patent Dryers .....28s. to 42s. }

Fine Oak Varnish ... }
„ Carriage ... }
Linseed and Boiled Oil } per gallon.
Turpentine .....

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

BEST "PENRHYN" ROOFING SLATES,

SLATE RIDGING, GLAZED SOCKET-PIPES,
TILES, PAVINGS, &c.

Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads, to any Railway Station.—Prices and particulars may be had by applying to

HENRY BROWN & SONS, MERCHANTS,

GENERAL WOOD-CUTTING MILLS, LUTON, BEDS.

A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

STONE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT

J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.

A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS, AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,

COMPLETE FOR 7s.

N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for lamp floors, under carpets and floorcloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

TO BRICKMAKERS and OTHERS.—WANTED, 150,000 good STOCKS. State lowest price to be delivered in Hammersmith.—Address, EVANS & KAY, 14, Fitzroy-street, Fitzroy-square, W.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
„ 8-inch Pavings, at 57s. 6d. per 1,000.
„ Floor Bricks, 40s. per 1,000.
Mingled Kiln Bricks, at 26s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire street Station, at 24s. per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. 6 inches.
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge-tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollo Bricks per day, at two-thirds of the working expenses of oth machines.
Price, including royalty, 75*l.*
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founder Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about on mile from the station), Kingston-on-Thames; and also in action, the International Exhibition, Class 8, No. 1,310.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

GLUE—PRIZE MEDAL, 1862.

PROCKTER & BEVINGTON are compelled (in consequence of many imitations), to acquaint dealer and consumers, that they are the ORIGINAL and ONLY manufacturers of

IMPERIAL GLUE.

They have obtained a Prize Medal.—Sold by all respectable ire mongers and others. Works: Grange road, Bermondsey, London S.E.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is [illegible] (see shadow above), from the existence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,

And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices

MESSRS. HERBERT, MODELLERS,
242 EUSTON ROAD, ST. PANCRAS.

PETROLEUM ACT, 1862.—The Metropolitan Board of Works hereby give notice, that by the 3rd Section of the 25th and 26th Vict. cap 66, it is provided, that from and after the FIRST day of OCTOBER, 1862, not more than FORTY GALLONS of PETROLEUM, which by the first section of the said Act it is declared shall include any product thereof that gives off an inflammable vapour at a temperature less than 100 degrees of Fahrenheit's thermometer, shall be kept within Fifty Yards of a dwelling-house, or of a building in which goods are stored, except in pursuance of a licence given by the local authorities; and any petroleum kept in contravention of that section will be liable to forfeiture, and in addition thereto, the occupier of the place in which such petroleum is kept, will incur a penalty not exceeding Twenty Pounds a day for each day during which petroleum is kept in contravention of the Act. Notice is also given, that by the 4th Section of the Act, the local authority to grant licences in the metropolis, as defined by the Metropolis Local Management Act, 1855 (except the city of London and the Inner Temple), are [illegible] wharf, jetty, lock, river, pier, or other works in or at which vessels, ship or discharge goods or passengers, as declared to be the Metropolitan Board of Works. Parties making application for licences are required to deposit at the offices of the Board a correct plan, and full particulars in writing, of the premises in which petroleum is proposed to be stored. Any further information may be obtained at the Office, between the hours of NINE and FOUR o'clock.—By Order, JOHN POLLARD,
Spring-gardens, Oct. 1862. Clerk of the Board.

CONSERVATORY TO BE SOLD.—The whole of the Frames, Sashes, Lights, Iron Columns, Spandrils, together with the Glass, Leadwork, and Down-pipes, as now fixed, at OAK LODGE, Addison-road, Kensington. It is of modern construction, 35 feet by 29 feet, in a good and substantial condition, and only removed in consequence of re-building.—Offers to be made in writing, and addressed to Mr. HERING, Architect, 11, Argyll-street, Regent-street, W

TO BE SOLD, the GLASS of the GREAT EAST WINDOW of ST. GEORGE'S CHURCH, DONCASTER, consisting of eight lights each, 23 feet by 2 feet 2 inches, and tracery, measuring 636 feet, or thereabout.—Tenders to be addressed to HENRY WHITAKER, Esq. Doncaster, on or before the 10th of NOVEMBER

GLASS.—WANTED to PURCHASE, a SHOP MIRROR, about 100 inches by 70. A good frame is not requisite.—Address, T. A. E. No. 47 High-street, Hampstead.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246),

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,

COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.

STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY, AND **IRON EDGED,** OFFERING ALL THE SECURITY OF **SOLID METAL.**

SHOP FITTINGS, SASH BARS, AND STALL-BOARD PLATES, OF EVERY DESCRIPTION.



THIS PATENT IS WITHOUT MACHINERY, BEING MOST SIMPLE AND SECURE, AND IS WORKED FROM WITHIN EASILY BY A BOY, AS SHOWN.

Messrs. SNOXELL Possess ample testimonials of its superiority over other Patents. Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

BATH STONE OF BEST QUALITY

RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY

PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES, BURKE, & CO. PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

JOINERY OF EVERY DESCRIPTION.

STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,

110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET

(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

CLERIHEW & LASCELLES

(LATE WATERLOO, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DESPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL ROAD, AND STAMFORD STREET, LAMBETH, S.

N.B. Price List on application.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

MOULDING WORKS.

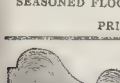
WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

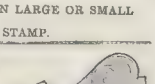
SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.



MOULDING WORKS.

SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and well-seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass-show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS, AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square. Laths, 2s. per Load.
Yellow Deals, sound and good ..... £19 10 0 per 120, or 0s. 3½d. per foot.
Spruce Deals ... ... 16 10 0 „ 0 2½ „
Yellow Battens, excellent quality ... ... 11 10 0 „ 0 2 „
Pine Planks, dry, 12 feet 3 inches by 11 feet ... ... 21 0 0 „ 3 6 each.
Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce	White.	Yellow
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
½-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d. ...	15s. 6d. „
1¼-inch „	0s. 0d.	18s. 0d. ...	18s. 0d. „

Yellow Deals, 3 by 9	£19 10 per 120.	Pine Planks (dry), 3 by 11	£24 0 per 120.
Yellow Battens	11 10 „	Pine Deals, ditto, 3 by 9	19 10 „
Spruce Deals	16 10 „	½-inch White Matched Lining	0 13 per square.

J. TERRY & SON, 109, Borough-road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens.....	from £11 10s. per 120
10,000 Pine Planks	from 3s. 6d. each	500,000 Feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot.
11,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

JOINERY WORKS,

21, HARRINGTON STREET, HAMPSTEAD ROAD, N.W.

NEVIL SIMMONDS,

SHOP FRONTS, SASHES, DOORS, &c.

Price Lists and Estimates on receipt of Stamp.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames. For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.S.

SEASONED WAINSCOT OAK,

30,000 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 8d.; Mahogany, 6d.; ¾ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 14, James street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect [produced], by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated

PAINTING and GENERAL BRUSH MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest Improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to R. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.

And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W.

Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,

30, LONDON WALL, E.C.

Where also may be obtained their

CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,

Together with all kinds of Colours and Varnishes,

Warranted of the pure quality as at the Lowest Prices.

Agents for Kershaw's Graining Machines.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 20s. per cwt.

Linseed Oil, 3s. 6d per gallon; Boiled Oil, 3s 10d. per gallon.

Turpentine, 10s. per gallon.

Fine Pale Oak Varnish, 3s. per gallon.

For cash, at EDWARD TRIGG'S Colour and Varnish Warehouse, 30, Upper Ebury-street, and 9, Colehill-street, Pimlico, S.W.

Every article for the Trade at the lowest price.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 20s. per cwt.; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10d.; Turpentine, 10s. per gallon; Fine Pale Oak Varnish, 3s. per gallon, for cash, at P. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of

C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Grainers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Various and extensive Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

POLYTECHNIC.—THE COTTON FAMINE. Zoetrope Marbled Effects, Jute, and other Fibres, Professor J. H. Pepper's New Lecture, Monday, November 3, at 8 o'clock, illustrated with the Oxy-Hydrogen Microscope, Experiments, and an entirely New Series of Dissolving Views designed and painted by J. A. Boswell, Esq. "New Medical and Historical Effects produced by J. A. Cooper, Esq. entitled "The Seven Ages of a Great City." Engagement of the London Vocal Quartett Union,—Artistes: Miss Leffler, Mrs. Rose Hersee, and Messrs. Cutler, Winsloe, and Lee Sylvester. Herr Wagner the Wonderful Conjurer. Master Hamilton, the favourite Wilson of Scottish Song. Experiments by J. L. King, Esq. illustrating "Substitution Warfare, and the Means of Repelling Boarders from Iron Ships." The Laboratory is always open for Pupils and Analyses. Open from 11 to 5, and half past 7 to 10.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERERS' HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. Its fine quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS BROTHERS & POTT Nine Elms, London

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants and Brokers' Orders promptly executed.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours,
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
ROMAN CEMENT made at the above works may be had fresh from the kilns daily,—a great advantage to dealers and sewer contractors, especially in winter time.
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in hand. This cement will carry more sand than any of the lias cements so much of which is now brought into the market and sold as Portland.
PLASTER OF PARIS, both coarse and fine, of very superior quality at Leal or
LIME.—Grey Stone, Chalk, and Blue Lias Lime well burnt, by the barge or yard, and may be had fresh ground daily, by steam power, for concrete
BRICKS from our fields in Kent, by the barge alongside, in the river or canals, or by cart from the above wharfs, of good quality and real Red paste.
A large Assortment of Glazed Stoneware Drain pipes, Yorkshire Drain, Pan, and Paving Tiles, Hair, Laths, Chimney-pots, &c. always kept in stock.
BRICK-FIELDS, LIME WORKS, CHALK, PLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PEAED-STREET, PADDINGTON.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour. PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY,

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

GREAVES'S BLUE LIAS LIME
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:—

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.

LIMEKILN-HILL, LIMEHOUSE, E.

Wherever coals is obtained, of the best quality:—

GREY STONE CHALK, FLARE, and BLUE LIAS LIME.

ROMAN, PORTLAND, ROMENT, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.

COWLEY and KENT BRICKS.

WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.

Ditto and ditto WALL COPING BRICKS and TILES.

YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.

WHITE, BLACK, and RED RUBBERS.

STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS

TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS

Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.

DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.

WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS, and TILES, of every description and size.

GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.

RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.

TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.

HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.

Goods forwarded by Railway with despatch.

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830), is ROBESON, Mount Pleasant, Gray's Inn-road. The cheap country-made article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster unequalled.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.
(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Postfree, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:—
Cardington Street, Hampstead road, London.



WINDOW GLASS! WINDOW GLASS!
Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at GRIST'S CITY GLASS WAREHOUSE, 47, Chiswell-street, opposite Whitbread's Brewery, E.C.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 415, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
20 and 21, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars

GLASS, EMBOSSED, ENAMELLED, AND PAINTED,
To be had at
LONG'S ORNAMENTAL WINDOW-GLASS MANUFACTORY,
No. 17, Queen's-road, Bayswater, W. at greatly reduced prices.
Memorial and other Windows designed and executed.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These Pencils are prepared in various degrees of hardness and shade.

H H H H	for drawing on wood.	F F	light and shading.
H H H	for architectural use.	F	for general use
H H	for engineering.	B	black for shading.
H	for sketching.	B B	ditto ditto.
H B	hard and black for drawing.	B B B	ditto ditto.
		B B B B	ditto ditto.
M	medium		

Sold by all the principal Stationers in town or country.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.

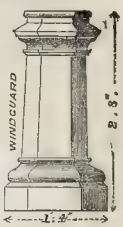


INGHAM & SONS

LONDON WHARF, 64, Bankside, Southwark.

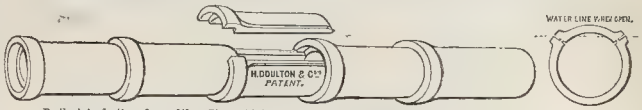
SANITARY PIPES
Circular 2in. to 36 in. diam.
Elliptical 4" by 3" to 36 by 26 diam.

LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.
Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.
MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.



HENRY DOULTON AND CO.'S
PATENT COMBINED SMOKE AND AIR FLUES.
BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

Manufactured in terra cotta for smoke-flues equal to 12 in. 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

Small models will be forwarded to architects on application to
Henry Doulton & Co. High-street, Lambeth.

ARMANI AND CO.
IMPORTERS DIRECT FROM THE MINES OF
PRIZE MEDAL, LONDON, 1851. Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL, PARIS, 1844.
SEYSSEL ASPHALTE,
AND BY H.M.'S ROYAL LETTERS PATENT,
MANUFACTURERS OF
METALLIC LAVA.
FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.
MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

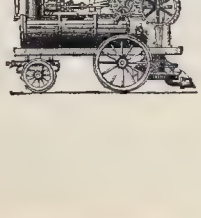
MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS OF ALL DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



PORTABLE STEAM PUMPING-ENGINES,
From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

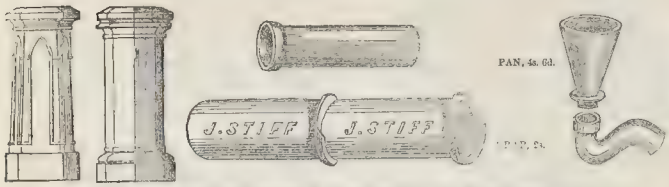
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions formed, in the event of repair and further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

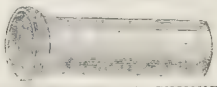
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED

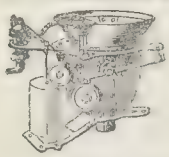


SANITARY GOODS.

FLUSHING CLOSETS, URINALS, CHIMNEY FLUES, &c.

THOMAS LAMBERT & SON,

No. 1. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and Lever Valves manufactured by them, have their NAME *in the handle thereof.*

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

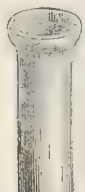
STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.



The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

INTERNATIONAL EXHIBITION, 1862.
CLASS 33, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that its strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



UNDERHAY'S PATENT REGULATOR CLOSETS

for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

now manufactures on HIS OWN ACCOUNT his Patent Regulator Water Closets, Valves, Gun Metal Work, and the same may be had at CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

THE ARCHITECTURAL POTTERY

COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAID MOSAIC TILES; also of the TESSELLATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as gables, fronts of shops, panels, &c. and white glazed tiles for baths, dairies, &c.; also, the Architectural Pottery Company's patent arcade flue Boxes. Various examples of the above may be seen, and every information obtained at the Offices of the Company, No. 6, Lighting-street, S.W. Specimens also on view at the Crystal Palace, Sydenham; Jones, the Architectural Repository, 9, Great Russell-street, Bloomsbury; Mr. Tite's, 42, Lincoln's-inn-fields; Mr. Digby Wyatt's, 21, Regent-street, Regent-street, Kensington Museum, the Fine Arts' Academy and the Offices of the Architectural Publication Society, 9, Conduit street, Regent-street, Kensington Museum, Jones's, the Architectural pottery Company, 36, Parliament-street, S.W.; or Poole, Dorset.

THE VILLAGE CLOCK.—

A serviceable, well-made, and warranted TURRET CLOCK, to go and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the Village or Parish Church.



INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 2,248.

JOSEPH FAIRER,

Turret Clockmaker to Her Majesty's Woolwich Arsenal,

189, Strand (next Exeter Hall), London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and

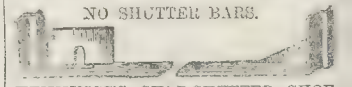
MAKER OF THE GREAT CLOCKS FOR THE HOUSES OF PARLIAMENT,

Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Clocks.

Ladies' Gold Foreign Watches	8	Guineas.
Gentlemen's do. do.	10	,,
Ladies' or Gentlemen's Gold English Lever Watches	18	,,
Strong Silver Lever Watches	5	,,
Gentlemen's Gold Hunting or Repeating Watches	25	,,
Do. Silver do. do.	25	,,
Marine Chronometers	25	,,

Gold and Silver Keyless, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of Ladies' and Gentlemen's Gold Chains, Keys, &c.

DENT, 61, Strand, and 34 and 35, Royal Exchange; and to the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE ORDINARY AND INEFFECTIVE SHUTTER BAR. Shutters to any description of Shop or Window can be SHOD and SECURED in a few minutes, without any alteration to the Shutters or Frame.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Tube Works, Holywell-street, Strand.

DURABILITY of GUTTA PERCHA TUBING.—

Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have determined, giving full weight to the opinion of Sir RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state that which satisfactory, as many months and other persons have lately examined it, and there is not the least [illegible] that it is to be adopted largely in the houses that are [illegible]."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the Isle of Wight has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

INDIA-RUBBER MILL BANDS,

WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.

A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel	Height.	£ s. d.
2½ in.	about 1 ft 7 in.	Fitted for lead pipe 1 5 0
2½ „	long 2 ft 3 in.	gutta percha 1 4 0
3 „	long 3 ft 5 in.	or cast iron 1 15 „
3 „	long 3 ft 6 in.	flanged pipe 1 15 „
4 „	long 3 ft 6 in.	as required 2 5 0
2½ „	8 ft. with 10 feet of lead pipe attached, ready for fixing	1 15 0
2½ in.	long ditto, ditto	2 0 0

No. 36½.

WARNERS' IMPROVED CAST IRON

LIFT AND FORCE PUMP,

The Barrel lined with Brass.

2½ inch £2 15 0
3 „ ..... 3 15 „



No. 69.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works

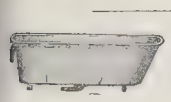
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive lining and guide are unnecessary rendering the price considerably less than Pumps made on the old plan.

2½ inch £4 4 0
3 „ 5 5 0
3½ „ 6 6 0
} Larger sizes when required.

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch £3 10 0
3 „ 4 4 0



WARNERS' Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 40s. to £10 each. J. W. & SONS also supply all Fittings requisite for the same

TWO PRIZE MEDALS FOR BELLS HAVE BEEN AWARDED TO JOHN WARNER and SONS,



AT THE GREAT EXHIBITIONS IN 1851 AND 1862.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in Peals.

TUNED BY MACHINERY.

Old Bells recast or taken in Exchange

An experienced Bell-hanger sent to inspect, report, and advise on the state of Peals out of repair. Estimates furnished for New Oak Frames and Fittings, and for Repairing Old Ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384. No. 383.

WARNERS' HIGH-PRESSURE COCKS are made with Gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and re-leathered with facility

All Warners' Cocks are tested with Hydraulic Pressure

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Stuice Cock.

JOHN WARNER & SONS,

BELL and BRASS FOUNDERS to HER MAJESTY.

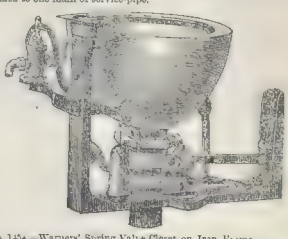
INTERNATIONAL EXHIBITION.

Class 8. WESTERN ANNEXE. Pumps, Beer Engines.
Class 9. EASTERN ANNEXE. Garden Engines, Syringes, &c.
Class 30. Near EASTERN DOME. Water closets.
Class 31. SOUTH-EAST TRANSEPT. A Peal of Eight Bells and Chiming Apparatus.
Class 31. HARDWARE COURT. Bells, Urns, Lamps, Brazery Goods, Bath Stove Fittings, Plumbers' Cocks.

Illustrated Catalogues forwarded on application at the Manufactory, 8, Crescent, Cripplegate, London.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service-pipe.



No. 1434.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin ... £3 15 0
Sunk Handle, extra ... 0 3 0
Blue Basin, extra ... 1 6

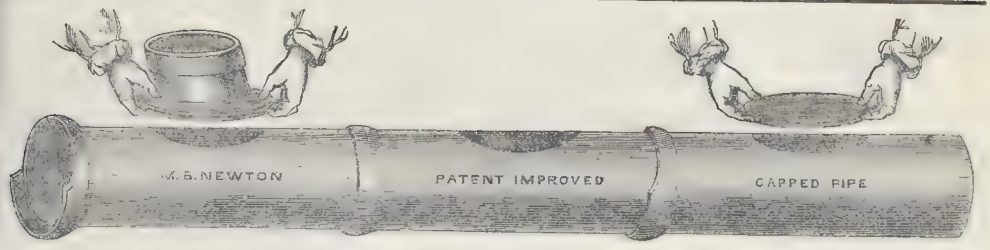


No. 1434.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin ... £2 0 0
Sunk Handle, extra ... 0 2 0
Blue Basin, extra ... 0 1 0

The above prices are subject to a liberal discount.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.



The ABOVE INVENTION WILL RECOMMEND ITSELF to Architects, Engineers, and others interested in Drainage, for its SIMPLICITY of construction; there being NO COMPLICATION OF PARTS.

The "Manhole" is sufficiently large to admit of the DRAIN being THOROUGHLY CLEANSED WITHOUT A SINGLE PIPE BEING REMOVED.

It DOES NOT at all INTERFERE WITH THE FLOW OF WATER in the Drain.

It IN NOWISE WEAKENS THE PIPE; and

It ADMITS of the ready INSERTION OF A JUNCTION by removing the "Manhole" cover, and replacing it with a loose Junction Arm.

Manufactured solely by

JOSEPH CLIFF & SON, WORTLEY, near LEEDS;

For MARCUS BOURNE NEWTON,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON, N.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.

They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

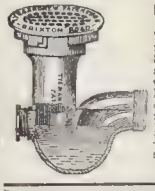
Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S.; or from the WORKS, near POOLE, DORSET.

Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.

A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 9, Conduit-street, Regent-street, W.



TYE & ANDREWS NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

ASPHALTE.—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1864.—TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by steam power, laid down in the best manner, or supplied in any quantity. Information for using forwarded with material. Post-office orders or references in London promptly attended to. Estimates given for every kind of the above work.

SALES BY AUCTION.

TO ENGINEERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the WAREHOUSE, adjoining the Wool-quay Works, Bated-ferry-road, Lambeth, on TUESDAY, NOVEMBER 25th, at ELEVEN o'clock, in lots, a COLLECTION of ENGINEERS' TOOLS, many of them quite new, including lathes having turning and screw-cutting, lathes, from 4 to 12-inch centres, beds 7 feet to 23 feet long; two self-acting planing-machines, to take 2 feet in width, and 6 feet and 8 feet in length; self-acting drilling machine, one bed-and-one wall drilling machine, self-acting shaping-machine, five eccentric punching-machines, one hand-slotting machine, a quantity of vices, with caps and dies, thirty pairs double and treble-purchase iron sheave-blocks, a 6-horse power horizontal steam-engine, 150 feet of turned bright shafting, 250 feet ditto, well bright, 1½ inch, 1¾ inch, and 2-inch-bar-iron, fly-press, grindstone, pair of circular bellows, cast-steel tools, bar and rod iron, and numerous other effects.—To be viewed on Monday previous and morning of sale, when catalogues may be had, on the Premises; or previously, of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY, NOVEMBER 25th, as above, a powerful Self-acting TENONING MACHINE (quite new), by Mahu McDowell & Sons, with cast-iron column and bed-plate, circular saws, planing gear, and counter-shaft.—To be viewed with the other effects; and catalogues had at 13, Billiter-street, London, E.C.

TO MILITARY GUN-MAKERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY, NOVEMBER 25th, as above, a costly RIFLING LOCK LENGTHING MACHINE, by Greenwood & Batley; a Gun-barrel Stock-bedding Machine, and a Gun-stock Grooving Machine.—To be viewed with the other effects; and catalogues had at No. 13, Billiter-street, London, E.C.

TO DRUG AND SPICE GRINDERS, MUSTARD MAKERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY NOVEMBER 25, at the BELVEDERE ROAD, Lambeth, a PAIR of 6-RANITE-EDGE RUNNERS, 4 feet 6 inches diameter, 13 inch face, an 8 hole sifting frame, 48 silk and wire sieves, 3 wrought iron oil tanks, and a large mahogany table.—To be viewed with the other effects; and catalogues had at No. 13, Billiter-street, London, E.C.

TO BUILDERS, CABINET-MAKERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, near the Camden-road Railway Station, N.W. on MONDAY, NOVEMBER 10th, at TWELVE o'clock, the useful STOCK, viz., 1,300 feet mahogany, 1,750 feet planks, deals, and battens; 3,000 feet of wide pine, 6,000 feet quartering, 136 squares of flooring, a large quantity of cut stuff, &c.—Auction Offices, Cardington street, Hampstead road, N.W.

ADDISCOMBE COLLEGE, CROYDON, Surrey.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, near the town of Croydon, on MONDAY, NOVEMBER 3rd, at ELEVEN for TWELVE o'clock, the first Portion of the excellent BUILDING MATERIALS of the Addiscombe College; comprising the modelling house, 85 feet by 40 feet, with all lights complete, of wrought and rugated iron, supported by six pairs of wrought-iron principals, with tension rods, ornamental cast-iron bed-plate round the whole building, and three circular sky-lights, in one lot; also, 100,000 good stock bricks, a quantity of excellent York paving, stone steps and sills, slates, Dutch clinkers, deal timber, consisting of beams, joists, rafters, floor-boards, sashes, windows, doors, ironblinkets, fencing, &c.; and some pale fencing.—May be viewed on the FRIDAY and SATURDAY before the Sale; and catalogues obtained of the Foreman on the Premises; and of the Auctioneer, 14, Moorgate-street, London, E.C.

ACTON, MIDDLESEX. Eligible FREEHOLD BUILDING LAND

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on WEDNESDAY, NOVEMBER 5, at TWELVE for ONE, thirty-three Lots of FREEHOLD LAND, in the village of Acton, fronting to Bridge-road, Back-lane, and Hanbury-road, and thereform, called Hanbury-road, and eligibly situate for building purposes. Nine-tenths of the purchase money may remain on mortgage or contract, to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time.—Particulars, plans, and conditions of sale may be obtained three days before the sale, of the Auctioneer, No. 14, Moorgate street, London, E. C.; of Messrs. RUSSELL & DAVIES, 29, Coleman-street, London, E.C.; at the Inns in the neighbourhood, and the Place of Sale.

BOW ROAD.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on FRIDAY, NOVEMBER 28th, 1862, at TWELVE for ONE o'clock, in Seventy-four Lots, the first portion of the eligible FREEHOLD ESTATE, lately occupied by the Merchant Seamen's Orphan Asylum, abutting on the Bow-road, and the Bow Railway Station, and having a frontage of 120 feet to the Bow-road, and likewise a considerable depth from the said Main-road and British Roads. There possess the estate among twenty-three, and the Bow Railway Station is within five minutes' walk. Nine-tenths of the purchase-money may remain on mortgage or contract, at 5 per cent. to be paid in nine years, by half-yearly instalments; but the whole or any part of the balance may be paid off at any time, without notice. Particulars, plans, and conditions of sale may be obtained about a fortnight before the Sale, of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Foreman, on the Estate; of the Auctioneer, 14, Moorgate street, London, E.C.; and at the Place of Sale.

KINGSTON.—A valuable Freehold Building Site, adjoining the Surbiton Park Estate, and a Plot of Grass land, near Wood Green Station.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, NOVEMBER 11, at TWELVE, in two lots, a portion of that Acre of FREEHOLD LAND, situate in and having a frontage of 120 feet to the St. Leonard-road, in the immediate neighbourhood of the Kingston Station, and in a neighbourhood where houses of a good class are in great demand; also a PLOT of FREEHOLD LAND, having a frontage of 60 feet to the Clarence-road, and a depth of 120 feet to the Clarence-road, near Wood Green Station. Wood Green already possesses many churches, and now that the new metropolitan line affords direct railway communication, it will probably become one of the most favourite suburbs.—Particulars of T. G. BULLEN, Esq. Solicitor, 19, Cannon-street West; and of the Auctioneers, 80, Cheapside.

MAIN DRAINAGE CLEARANCE SALE, Peckham Wharf (Canal side) and Hanover Park, Bye-lane, Peckham, Surrey. To Engineers, Contractors, Builders, Dealers in Contractors' Plant, Wood, Iron, &c. &c.

MR. FRED. CHAPMAN is favoured by the Contractors for the Southern High-Level Sewers with instructions to SELL by AUCTION, on WEDNESDAY and THURSDAY, NOVEMBER 12 and 13, 1862, at TWELVE for ONE o'clock precisely, on the first day, at the WHARF and PREMISES, a valuable good Portable 6 and 8 horse Vertical, Horizontal, and other STEAM-ENGINES; capital contractors' locomotive, several good useful cart-horses, harness, timber, ironwork, &c.; a large quantity of contractors' temporary rail (36 to 40 lbs. per yard); several portable contractors' offices, stabling, sheds, and a quantity of manure; and on the following day, at the same hour, at Hanover Park, a large quantity of iron wheels and axles for waggons and trolleys, portable forges, bellows, and smiths' tools; grindstones, sand screens, chain, &c.; several balks of timber, stacks of temporary sleepers, wood, and other useful miscellaneous effects.—May be viewed the day preceding and morning of sale; catalogues of Mr. J. BENNETT, Esq. No. 1, Hyde terrace, New Cross; Mr. MORRIS, Railway Tavern, New Cross; Mr. OWEN, Roebuck, Lewisham; the Kentish Drovers and Hanover Arms, Peckham; at the principal Inns in the neighbourhood of the wharf; and of the Auctioneer, Park-terrace, New Cross-road, Kent.

TO PLUMBERS, PAINTERS, GLAZIERS, AND HOUSE DECORATORS.—STOCK, LEASE, and GOODWILL.

MR. J. A. SMITH will SELL by AUCTION, on the PREMISES, King-street, Hammersmith, on WEDNESDAY, NOVEMBER 5, at TWELVE, the Beneficial LEASE and GOODWILL of the convenient HOUSE and capital BUSINESS PREMISES, successfully established for thirty years; also, in suitable lots, the STOCK-IN-TRADE, comprising the usual effects. Pony and harness, spring cart, &c.—May be viewed; catalogues and particulars of the Auctioneer, Hammersmith, W.

TWO MILLION BRICKS FOR SALE.—LUTON BRICKFIELDS, near Chatham, Kent.—To Builders, Contractors, and Others.

MR. W. MAILE is instructed to SELL by AUCTION, on the PREMISES, on THURSDAY, the 6th of NOVEMBER, 1862, about TWO MILLION BRICKS; consisting of stocks, grizzles, flonts, cutters, shippers, pavers, place, &c. in lots which will be arranged to suit purchasers.—Catalogues may be obtained four days previous to the Sale, at the inns in Chatham; of the Auctioneer, at his Auction and Estate Offices, Faversham; and of Mr. B. KERR, 81, Chancery-lane, London. The Sale will commence at ONE o'clock in the afternoon to a minute. The Field is situate about a mile from railway and water carriage.

ON VIEW THIS DAY.—To BUILDERS, PLASTERERS, MODELLERS, SCAGLIOLA-MAKERS, and OTHERS.—Important Sale of the valuable Stock-in-Trade, Plant, and Effects of the Marmorean (Marble) Company: consisting of elegantly-designed chimney-piece, slabs, table-tops, and centres, in manufactured marble of the most rare description; a quantity of unpolished material, handsome plaster pedestals, vases, trusses, brackets, &c.; moulds and patterns in plaster, wood, and wrought iron; a very powerful hand expensive double hydraulic press, the erection of boiler, furnace, and bellows; tools, large deal tables, shewing, several strong inside packing-cases, 50 cwt. of superfine cement and plaster of Paris, and various other items.

MR. CHARLES TEAGUE has been honoured with instructions from the Directors to SELL by AUCTION, on MONDAY, November 3rd, TWELVE precisely, without the slightest reserve, on the PREMISES, Seymour House, Jubilee place, Chelsea, the above valuable STOCK.—May be viewed November 1; and catalogues had on the Premises: of C. SHEPHEARD, Esq. Solicitor, 24, Moorgate-street; and of the Auctioneer, 11, Poultry, City.

Preliminary Advertisement. The College of Advocates, commonly called the College of Doctors of Law.

MESSRS. NORTON, HOGGART, & TRIST have received instructions to offer for SALE, at the MART, on FRIDAY, NOVEMBER 14, at TWELVE, in one lot (unless previously disposed of by private contract, of which notice will be given), the valuable FREEHOLD PREMISES, for many years known as the College of Advocates, commonly called the College of Doctors of Law, situate in the Great Knightrider-street and Bennet's-hill, Doctors'-commons. The present arrangement consists of several houses, occupied by the Doctors of Law with the court; noble dining-room and library, large open and irregular area and garden. There are upwards of 140 rooms, exclusive of basements, which would of themselves produce a very large income. The great value will, however, in all probability be found in appropriating the space to some large and profitable purpose, either as offices, an hotel of magnitude, or warehouses, which are much required in the City of London. The property possesses a frontage to Great Knightrider-street and Bennet's-hill, to Bennet's-hill of 60 feet, and a foot access to Thames-street; the total area involving the important space of 34,138 feet more than three quarters of an acre. The contemplated new street to the Mansion House will pass directly through the gardens, the result of which would be to give it a very large additional and most valuable frontage. That will not now possess.—Maps can be viewed, and plans and particulars had shortly of Messrs. DAWES & SONS, Angel-court, Throgmorton-street; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad-street, Royal Exchange, E.C.

CITY OF LONDON. Important and very valuable Freehold Property, occupying an area of nearly 11,000 square feet, with early possession.

MESSRS. NORTON, HOGGART, & TRIST have received instructions from the Executors to offer for SALE by AUCTION, at the MART, on WEDNESDAY, NOVEMBER 19, at TWELVE, the very valuable FREEHOLD PROPERTY, known as Wilton's Gun Manufactory, situate adjoining the Synagogue in Great St. Helen's, close to Bishopsgate-street Within, extending in the rear to the Ship and Turtle Tavern, and the Original Steam Navigation Company's premises in Leadenhall-street, one of the most important and improving positions in the City of London. It consists of a substantial pile of lofty warehouses, workshops, warehouse-stores, and other capacious dwelling rooms, yards, &c. so as to form one compact and convenient range of premises, the whole comprising the large area of nearly 11,000 superficial feet. This important property presents a most eligible site for a large public building, and is also adapted for the erection of superior mercantile offices, now so much in request in this locality.—May be viewed, and particulars with plans, had of R. GREGSON, Esq. Solicitor, 8, Angel-court, Throgmorton-street; and of Messrs. NORTON, HOGGART, & TRIST, 62, Old Broad street, Royal Exchange.

ISLINGTON.—SALVAGE STOCK, MUST BE SOLD.—Richly sculptured Statuary, Plain and Tressel Vases and Stellar, St. Ann's and Coloured Marble Chimney pieces.

MR. WAGSTAFF will SELL, on the PREMISES, 40, Hollingsworth-street, Barnsbury, in consequence of the late fire, on THURSDAY, NOVEMBER 13th, 1862, at TWELVE, the ENTIRE STOCK of a MARBLE MASON, including about One Hundred Marble and Stone Chimney-pieces, the whole of excellent manufacture and of great variety. On view and catalogues two days prior. Auctioneer's Offices, 176, Upper-road, Islington.

GUILDHALL, October 16, 1862.—The Committee for Letting the City Lands will meet at Guildhall, on WEDNESDAY the 12th NOVEMBER next, at ONE o'clock precisely, to receive PROPOSALS for a BUILDING LEASE for a term of years of a piece of ground on the north side of Queenhithe Dock, in the City of London. Plans of the ground may be seen, and further particulars and forms of Tender obtained, upon application at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

FOR PRIVATE SALE.—Several substantially built FREEHOLD RESIDENCES, facing Victoria Park, one of the most healthy and improving localities round London. Well let. Also, a number of smaller HOUSES, in the same neighbourhood (from one to fifty). Trains at the spot, by the North London Railway, every quarter of an hour. Also, several eligible GROUND RENTS, for investment.—Apply to Messrs RAW & GURNEY, Solicitors, 7, Furnival's-inn; or to Mr. WM. WHITE, 62, Francis-terrace, Hackney Wick, Victoria Park.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences erected required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Kingston, and some very eligible SITES in the Grove road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

HOXTON HABERDASHERS' ESTATE.—TO BE LET, by TENDER, a FREE PUBLIC HOUSE and THIRTY-FIVE DWELLING HOUSES, in Haberdashers'-street, and NINETEEN DWELLING HOUSES, in Ashe's-terrace; also TWELVE HOUSES, in Queen-street, Hoxton, forming the high road, which may be converted into shops. A Lease for twenty-one years from Midsummer next.—Particulars and Form of Tender (on which a separate Tender is required) on THURSDAY, the 6th NOVEMBER, to be obtained at Haberdashers' Hall, Gresham-street West, E.C.; and of Mr. SNOOKE, Surveyor, 6, Duke-street, London Bridge.

JOHN CURTIS, Clerk.

DESIRABLE FREEHOLD BUILDING LAND TO BE LET, near Vauxhall and Nine Elms Stations, at 17s. per foot frontage in depth, at 14s. per foot for dwelling-house. Apply to H. BATES, the Priory, Wandsworth-road, S.

FOR SALE, several PLOTS of FREEHOLD BUILDING LAND, on the Bedhill Estate, Sutton, Surrey, from 20s. to 30s. per foot frontage, land-tax redeemed, conveyance free; five minutes' walk from the Sutton Railway Station, half-hour's ride from the London Bridge Terminus, good roads, good water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Builder, Sutton, S.

TO BE LET, with immediate possession, a newly opened BRICK, TILE, and POTTERY WORKS, situate within seven miles of London, in the very increasing neighbourhood of Ealing, with railway accommodation within a quarter of a mile. There is an unlimited supply of clay, is surrounded with good roads, and near to one of the principal thoroughfares leading to the metropolis. Plant to be taken at a valuation. Terms very moderate. For particulars, address, JAMES COLLIER, Drayton Green, Ealing.

TO BUILDERS.

WANTED to PURCHASE, CARCASE of FOUR- or SIX-ROOMED HOUSES, within twelve miles of London.—Address, B. A. 12, Carlton-place, High-street, Stoke Newington.

IMPORTANT CLAY WORKS, &c.

TO BE LET, on Lease, for 21 years, the LEE MOOR CLAY and BRICK WORKS, with Railway to Plymouth Harbour.—The Directors of the Lee Moor Porcelain Clay Company are now prepared to TREAT for the LEASE of the above WORKS, which are near to Plymouth, and well suited for a large and important business. The bed of clay is considered inexhaustible, and particularly rich in china clay of a very superior quality. The fire-bricks made from the refuse of the china clay have never been surpassed in quality. Printed particulars of the terms on which the Directors are prepared to treat may be obtained on application personally, or by post, as under. Proposals will be received by the Directors on or before the 27th of NOVEMBER next, at No. 1, Mount Pleasant-terrace, Plymouth.

W. HARRIS, Secretary and Manager.

Lee Moor Clay Works, Plympton, Devon, October 25th, 1862.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have on SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. As Lessees of Builders' Rubbish, they are enabled to supply any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt, Esq. Works and Builders are respectfully informed that goods of

The Builder,

AN ILLUSTRATED JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1031. NOVEMBER 8, 1862. PRICE FOURPENCE. By Post, 5d.

ILLUSTRATIONS.

The Prince Consort Memorial, proposed to be erected in Manchester. Mr Worthington, Architect 803
Ventilation of Shops: a Cut through a House in the City 804

CONTENTS.

Results of "The Exhibition" 797
A National Scandal: The Housing of the Army 797
New Materials for the Life of Grinling Gibbons 797
Architectural Progress 798
Inquiry into the Best Mode of Distributing the Sewage of Towns 799
Liebig on Drainage and British Agriculture: The "Eureka System" 800
Conversazione of the Architectural Association 800
The Lancashire Distress 802
Health of the Navy 802
The Licensing of Cow-sheds 802
Music and the Drama 802
Metropolitan Board of Works 803
Prizes offered by the Institute of Civil Engineers: Session 1862-63 803
Ventilation and Warmth 803
The Ventilation of Shops, Offices, and Work-rooms 804
The Manchester Albert Memorial 804
Home and Foreign Travel 807
Competitions 807
Church-building News 807
Congregational Chapels 808
Stained Glass 808
School-building News 808
Provincial News 809
Cases under Metropolitan Management Act: "The Regular Line of Buildings" 812
Queries, Despatches 813
Comfort for Pedestrians in Wet Weather: Is it Utopian? 813
The Preservation of Stone 813
Doings in Manchester Cathedral 813
Miscellanea 814

AUTUMN EXHIBITION of BUILDING INVENTIONS at the GALLERIES of the ARCHITECTURAL SOCIETIES, 9, Conduit-street.—Exhibitors at the International Exhibition and others are informed that SPACE may be taken in One Guinea per yard run.—Will re-open from NOVEMBER to the end of JANUARY. Apply to Mr. MOODY, on the premises.

MINERALOGY.—Mr. WARINGTON W. SMYTH, M.A. F.R.S. will commence a COURSE of FORTY LECTURES on MINERALOGY, on MONDAY next, the 10th of NOVEMBER, at ONE o'clock, at the ROYAL SCHOOL of MINES, Jermyn-street; to be continued at the same hour on each succeeding Tuesday, Thursday, Friday, and Monday. Fee for the Course, £6.
TRENHAM REEKS, Registrar

MINING.—Mr. WARINGTON W. SMYTH, M.A. F.R.S. will commence a COURSE of SIXTY LECTURES on MINING, on MONDAY next, at HALF-PAST THREE o'clock, at the ROYAL SCHOOL of MINES, Jermyn-street; to be continued at the same hour on each succeeding Tuesday, Thursday, Friday, and Monday. Fee for the Course £4.
TRENHAM REEKS, Registrar.

CONTRACTS.

TO BUILDERS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said city on TUESDAY, the 18th day of NOVEMBER instant, at TWELVE o'clock at noon precisely, to receive TENDERS for the CONSTRUCTION of SEWERS and works in connection therewith in certain streets and courts of the said city, agreeably to plans and specification to be seen at the Office of the Engineer to the said Commissioners in the Guildhall. Security will be required from the Contractor for the due execution of his contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any unless legal advantageous, and no Tender will be received after TWELVE o'clock on the day of treaty.
JOSEPH DAW, Principal Clerk.
Sewers' Office, Guildhall, November 1, 1862.

CONTRACTS. — Building Contractors are respectfully invited to TENDER for the TAKING DOWN of the OLD NAG'S HEAD PUBLIC HOUSE, and adjoining Buildings, in the George-yard, at the back of the old Building Estate, near Butcher Bank, in Newcastle-upon-Tyne, and ERECTING upon the sites thereof a RANGE of BUILDINGS, the drawings and specification of which may be seen, and bills of quantities obtained, on application at my Office on and after SATURDAY, NOVEMBER 22nd, 1862. The lowest or any Tender will not necessarily be accepted.
66, Northumberland-street, Newcastle-upon-Tyne.

TO BUILDERS. — Parties desirous of TENDERING for COMPLETION of the CARCASES at Colney Hatch, are requested to apply to M. C. W. HORNE, Architect and Surveyor, 13, Guilford-street, Russell square.

TO BUILDERS. — BAPTIST CHAPEL, WOODHOUSE-LANE, LEEDS.—Drawings and specification, in duplicate, of contract, may be seen at the Offices of Messrs. RICHARDSON & TURNER, Solicitors, 27, East Parade, Leeds, after MONDAY, the 17th, to SATURDAY, the 22nd inst. Quantities supplied, and written specifications and copies to be made to be before WEDNESDAY, the 12th inst. Tenders may be for the whole of the Works, or in separate trades.
PAULL & AYLIFFE, Architects,
India buildings, Cross-street Manchester.
Dated November 3rd, 1862.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—NOTICE to SHIP BUILDERS, EXCAVATORS, and OWNERS of DREDGING BARGES and FLOATS.—TENDERS are required for TAKING IN and BERTHING the Ship "MERMAID," in the harbour at Pigeon House Fort, Dublin.
Parties desirous of Tendering can obtain every information, and inspect the drawing of the site and section of the bed of the harbour, between the hours of TEN and FOUR o'clock, on every day (Sundays excepted), between the 20th OCTOBER and 12th NOVEMBER, inclusive, and obtain forms of Tender, on application, either personally or by post, between the same dates.
The vessel is now lying at Purfleet, but will be brought over and placed opposite Pigeon House Fort, by the Admiralty.
The Tenders are to be delivered to the Director of Contracts, War Office, Pall-mall, London, S.W. on or before the 18th NOVEMBER next.
The Secretary of State for War does not bind himself to accept the lowest or any Tender.
Office of the Commanding Royal Engineer in Ireland,
Dublin Castle, October 24, 1862.

WAR DEPARTMENT CONTRACT.—NOTICE to BUILDERS.—TENDERS are required for the ERECTION of a BUILDING for the accommodation of Nurses at the Garrison Hospital, Stoke, near Devonport.
Parties desiring to Tender for these Works must leave their names at this Office on or before the 17th day of NOVEMBER, 1862, and pay the sum of 10s. 6d. for the bills of quantities, which will be prepared by the Government Surveyors.
The Secretary of State does not bind himself to accept the lowest or any Tender.
RICHARD CUNLIFFE OWEN,
Colonel Commanding Royal Engineers, Western District.
Royal Engineer Office, Devonport, 4th November, 1862.

COAST-GUARD CONTRACT.—NOTICE to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST-GUARD STATION at Sandown, in the Isle of Wight, may see the drawings and specification at the Coast-guard Watch-house, at Ryde, or at the Office, between the hours of TEN and FOUR, from WEDNESDAY, the 5th, to WEDNESDAY, the 12th, of NOVEMBER, now next ensuing, and both inclusive (Sunday excepted).
Tenders to be sent to me, not later than TWELVE o'clock at noon of THURSDAY, the 27th NOVEMBER, under seal and directed to the Commodore Controller-General of Coast Guard, and endorsed, "Tender for Sandown Station."
The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders
Dated this 29th day of October, 1862, at the Admiralty
Coast-Guard Office, 13, Spring-gardens, London, S.W.

TO PRINTERS and STATIONERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for PRINTING and the SUPPLY of STATIONERY, for one year, from Christmas next. Schedules of the articles likely to be required may be seen, and any further information obtained, at the Office of the Board, as below, between the hours of TEN and FOUR. Tenders are to be sent in under seal to the Board, on or before TUESDAY, the 10th inst. endorsed "Tender for ——." The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District.
ARTHUR ALEXR. CORSELLIS, Clerk to the Board.
Battersea-rise, Wandsworth, S.W. 4th November, 1862.

LONDON and NORTH-WESTERN RAILWAY COMPANY.—To CONTRACTORS and BRICKMAKERS.—The Directors are desirous of receiving TENDERS for the SUPPLY of ABOUT THIRTY MILLIONS of BRICKS for the Viaduct at Rugeley, on the Acton and Dittons Branch Railway. Three-fourths of the above quantity will be required on the Lancashire side and the remaining fourth on the Staffordshire side of the river Murray. Further details of Tenders may obtain all necessary information upon application to Mr. WILLIAM BAKER, Engineer, Euston Station. Tenders, addressed to the Secretary, at this Office, to be sent in on or before MONDAY, the 10th of NOVEMBER. The Directors do not bind themselves to accept the lowest Tender.—By order,
JAMES E. STEWART, Secretary.
Euston Station, October 29th, 1862.

TO CAPITALISTS and BUILDERS.—TENDERS are invited by the Trustees of the Estates of St. Botolph, Bishopsgate, for the LETTING, on Building Lease, for 99 years, about 13 Acres of LAND, in Bath, Devonshire, and Hoe Estates, in very short distance from the Bow and Bethnal Green Stations, and adapted for the erection of dwelling-houses or manufacturing premises. The Land is now let, and Tenders to be sent in before the 20th NOVEMBER to A. H. CLAPHAM, Esq. Solicitor, 14, Liverpool-street, Bishopsgate, from whom all further particulars may be obtained; or of Messrs. HOWENDEN & HEATH, Surveyors, 4, Broad-street Buildings, E.C. The Trustees do not bind themselves to accept the highest or any Tender.
A. H. CLAPHAM,
14, Liverpool-street, Bishopsgate, Solicitor to the Trustees.

TO BUILDERS. — Builders willing to TENDER for RE-BUILDING ST. ISSELL'S CHURCH, near Saunder-foot, Pembroke-shire, may see the Plans and specifications, on application to E. WILSON, Esq. Head Castle, St. Issell's, between the hours of NINE and FOUR, from the 27th inst.—Tenders to be delivered, sealed as "Tender for Rebuilding St. Issell's Church," to E. WILSON, Esq. on or before the 1st day of DECEMBER next. The lowest or any Tender will not necessarily be accepted.
FREDERICK R. KEMPSON, Architect.
Hereford, October 1, 1862.

LYSS, HAMPSHIRE.—To BUILDERS. Persons wishing to TENDER for the ERECTION of a PARSONAGE HOUSE at Lyss, near Petersfield, Hants, on a site about half a mile from the Lyss Railway-station, on the London and Portsmouth Railway, are requested to call at the parsonage-house, Lyss, for information and to see the plans, specifications, and conditions of contract, from the 17th to the 25th instant. Sealed Tenders, endorsed "Tender for Parsonage," to be delivered before TWELVE o'clock on WEDNESDAY, 26th instant, to the Architect, Mr. R. J. WITHERS, 51, Doughty-street, London, W.C. where copies of the drawings may be inspected, and forms of Tender obtained. The lowest or any Tender will not necessarily be accepted.
F. H. FREETH, Incumbent of Lyss.
Lyss, Petersfield, 4th November, 1862.

CONTRACTS.

METROPOLITAN BOARD of WORKS. MAIN DRAINAGE of METROPOLIS SOUTHERN LOW-LEVEL SEWER.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give Notice, that they will meet at the Office of the Board, Spring-gardens, S.W. on FRIDAY, the 12th day of DECEMBER next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of BRICK SEWERS, 9 miles 2,895 feet in length, or thereabouts, with other works in connection therewith. The sewers will commence at High-street, Putney, and be carried along Window-tax-lane, Love-lane, High-street, Kingsbury, York-road, Battersea-road, Nine Elms, Wandsworth-road, New Bridge-street, Vauxhall, Bridge-road, Lambeth, Lower-road, Islington, Old Kent-road, Walworth-road, Newington-causeway, Blackfriars-road, Harleyford-road, Kennington Oval, Harleyford-street, Cumberland-road, Grosvenor-street, Grosvenor Park, Albany-road, St. George's-road, Brunswick-road, Neate-street, Old Kent-road, and terminate at High-street, Deptford, in the counties of Surrey and Kent. Parties desiring to submit Tenders may, on and after WEDNESDAY, the 12th instant, upon payment of £1 5s. obtain plans sections, specification, form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m.; or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 11th day of DECEMBER next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last-mentioned day; and no Tender will be received after that hour. The parties tendering must be in attendance at the Board on WEDNESDAY, the 17th day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the Works
JOHN POLLARD, Clerk of the Board.
Spring-gardens, S.W. November 5, 1862.

TO CONTRACTORS.—TO BE LET, the several WORKS required in the ERECTION of a NEW WESLEYAN CHAPEL, at Shepherd's Bush, London. Plans and specifications may be seen on the Vestry of the Wesleyan Chapel, Bayswater, and Drawings for Plans, Sections, and Bills of quantities may be obtained, on written application, at the Architect's Office in Bradford, from TUESDAY, the 11th, to MONDAY, the 17th NOVEMBER, both inclusive.—Tenders to be delivered not later than TUESDAY Morning's Post, addressed, the Rev. J. RATTENBURY, Hornsey-crescent, Notting-hill, London, and endorsed "Tender for Chapel."—By order,
LOCKWOOD & MAWSON, Architects,
Park-row, Leeds, Post-office Buildings, Bradford, November, 1862.

TO STONE MERCHANTS, DRAIN-PIPE MAKERS, MASONS and PAVIORS, CONTRACTORS, and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLY of BROKEN GUERNSEY GRANITE and other STONE and MATERIALS; also, for the supply of drain pipes; also for the execution of masons' and paviors' works, and of the various jobbing works, in repairing and making good to sewers and gullieys, and for laying drain pipes; also for the supply of horses on hire, and for barge work, in the several parishes of Battersea, Clapham, Putney, Streatham, Tooting, Graveney, and Wandsworth; and also for dusting in the parishes of Clapham, Putney, and Wandsworth, and for sweeping in the parish of Clapham. The contracts are to be for one year from Christmas next, with the exception of that for the supply of drain pipes, which is to be for one, two, or three years, at the option of the Board. Separate Tenders are to be sent in for each parcel. The specifications may be seen, and forms of Tender may be obtained, at the Offices of the Board, Battersea Rise, between the hours of TEN and FOUR. Tenders are to be sent in under seal to the Board, endorsed "Tender for ——, Parish of ——," on or before TUESDAY, the 18th instant. Security will be required for the due performance of the respective contracts. The Board do not pledge themselves to accept any Tender. By order of the Board of Works for the Wandsworth District.
ARTHUR ALEXANDER CORSELLIS, Clerk to the Board.
Battersea Rise, Wandsworth, S.W. November 4th, 1862.

THE LOCAL BOARD of HEALTH for the District of West Ham, in the county of Essex, are prepared to receive TENDERS for SUPPLYING and LAYING YORK FLAGGING and GUERNSEY GRANITE CURB, and also for such stone-work as may be required in the formation and repairing certain roads in Hallsville Canning Town and the vicinity of the Victoria Docks, with the drains and sewers leading to the same, specifications and conditions prepared by C. MARSHALL, the Surveyor of the Board, and which may be seen at his Office, at Rokeby House, in Stratford (East London), where, also, forms of Tender may be obtained, together with the Plans of the roads, &c. Tenders, addressed to the Chairman of the Board, at the Offices, and endorsed "Tender for Roads," are to be sent to me on or before the 24th NOVEMBER proximo.—By order of the Board,
CHARLES WILSON, Clerk to the Board.
Rokeby House, Stratford, E. October 28th, 1862.

TO BUILDERS and CONTRACTORS.—ROYAL BERKS MILITIA DEPOT, READING.—Persons willing to TENDER for certain ALTERATIONS and ADDITIONS to the above Depot, may see the Plans at the Architect's, Mr. M. Ly. WORNUM, 2nd, Finsbury-street, Bowling-green, E.C. 5th NOVEMBER, in order that arrangements may be made for each person to have the opportunity of inspecting and quoting for estimate. No quantities will be supplied, and the lowest Tender will not necessarily be accepted.
GEORGE B. MORELAND, Clerk of the Peace.
Abingdon, October 31st, 1862.

NORTH-EASTERN RAILWAY.—To CONTRACTORS.—The Directors are prepared to receive TENDERS for the ERECTION of a GOODS STATION, at Northallerton, in the North Riding of the county of York, to be sent in on or before the 17th NOVEMBER, on application at the Office of the Company, Victoria Station, Pimlico, London, S.W., at which Plans and Specifications may be seen on and after the 10th NOVEMBER. The Directors do not bind themselves to accept the lowest or any Tender.
York, October 31, 1862. J. CLEGHORN, Secretary.

[For remainder of Contracts see next Page.

CONTRACTS.

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the CONSTRUCTION of about 1,270 feet of BRICK SEWER in Garratt and Inner Lanes, Streatham. The specification, plans, and sections may be seen, and all further information obtained on application to Mr JAMES BARBER, the Streatham Surveyor, at Lyndhurst, No. 3, BALHAM PLACE, Balham, between the hours of NINE and ELEVEN a.m. Tenders are to be sent in, under seal, to the Board, at their Offices, as below, endorsed "Tender for Sewer," on or before the 18th instant. Security will be required for the due performance of the Contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth district,

ARTHUR ALEXANDER CORSELLIS, Clerk to the Board.
Battersea Rise, Wandsworth, S.W. 4th Nov. 1862.

TO ENGINEERS, &c.—ENGINEERS and OTHERS who are experienced in the ERECTION of the most approved MACHINERY for the MANUFACTURE of SUPERPHOSPHATE of LIME, and other Chemical Manures, are respectfully invited to send description of the same, and price (free), to Messrs J. CARVEY & QUIBELL, Newark-on-Trent, who are about to extend and introduce New Machinery into their works.
Newark, Nov. 4, 1862.

TO BE SOLD, the GLASS of the GREAT EAST WINDOW of ST. GEORGE'S CHURCH, DONCASTER, consisting of eight lights each, 25 feet by 2 feet 2 inches, and tracery, measuring 636 feet or thereabout.—Tenders to be addressed to HENRY WHITAKER, Esq. Doncaster, on or before the 10th of NOVEMBER.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c., combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS. JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford-street, Manchester. Prize Medallists, Class 34 A, 1862.

WINDOW GLASS! WINDOW GLASS! Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes tilted for the Trade. Sheets. Prices given for Contracts and large quantities. Plate Glass Warehouse, at
CRISTY'S CITY GLASS WAREHOUSE,
47, Chiswell-street, opposite Whitbread's Brewery, E.C.

STAINED GLASS and WALL PAINTING
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROSSHEAT, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price lists forwarded free on receipt of business card addressed to
R. MEETAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

GLASS, EMBOSSED, ENAMELLED, AND PAINTED,
To be had at
LONG'S ORNAMENTAL WINDOW-GLASS MANUFACTORY,
No. 21, Seymour-street, Euston-square. Wood Blocks for Embossed Glass. Metal and Plate Work of every description executed.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. Reflectors now furnish, as prior to cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

LOSH, WILSON, & BELL, NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Pipes, &c.
EWART'S PATENT CAST IRON GAS AND WATER PIPES.
Office, No. 7, Size-lane, London.

SEVEN-HORSE PORTABLE ENGINE FOR SALE nearly new, price 140*l*.
TWO-TON IRON CRANE, with foundation stours, &c. complete, price 35*l*.
TWO NEW PILE ENGINES, price 14*l*. the two
Apply to ROGERS & BOOTH, Contractors, Gosport.

TO ENGINEERS AND BRASS FINISHERS.
ANDREW COTTON, of Loam Pitt Hill, Lewisham, in the County of Kent, begs to give NOTICE that [illegible] intends shortly PURCHASE the GOODWILL, PLANT, FIXTURES, and EFFECTS, of the BUSINESS of a BRASS and GUN-METAL FOUNDER [illegible] UNION STREET, Borough. [illegible] ANDREW COTTON will be prepared to SELL UPON HIS IMMEDIATE PERSONAL SUPERINTENDENCE.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOORBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOORBYER (late STURCH & BOORBYER), establishe[illegible] nearly 200 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare-market, London.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES in lieu of
SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER-TIGHT WATER BAR; and
SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princess-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

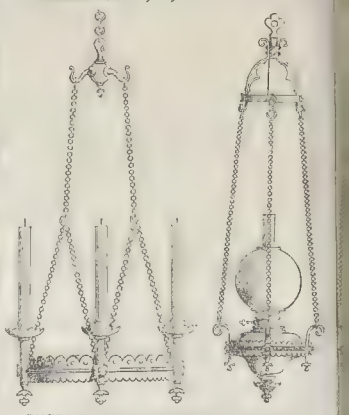
TO BE SEEN in the HARDWARE COURT, INTERNATIONAL EXHIBITION, Stand 6042, and HARDWARE COURT, CRYSTAL PALACE, SYDENHAM, the only PATENT COOKING STOVE that has received THREE PRIZE MEDALS. England, 1851; France, 1855; International, 1862; for a combination of heating and purifying ovens. Cooking and Hot and ECONOMIZING FUEL in Kitchen Ranges.—DULEY & SONS, Manufacturers, Northampton.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 25, High Holborn.

THE GENERAL VENTILATION and ATMOSPHERIC FIRE-GRATE COMPANY (LIMITED).—BATTY'S PATENTS.—Capital, 30,000*l* in 15,000 shares of 2*l* each, of which 5*s*. per share are payable on application, and a further sum of 5*s*. per share upon allotment.
CHAIRMAN—Frederick Begg, Esq., Spring-grove, Camden-hill, S.
DEPUTY-CHAIRMAN—J. B. Hartwell, esq. 1, Brunswick-place, Regent's-park, N.W.
SOLICITORS—Messrs. Vallance & Vallance, 20, Essex-street, Strand, W.C.; and 1, George-yard, Lombard street, E.C.
BANKERS—Union Bank of London (Temple bar Branch).
Offices 2*a*, Strand, Temple bar, W.C.
ABRIDGED PROSPECTUS.
This Company is formed for the purpose of introducing Batty's valuable improvements and invention for warming and ventilating rooms and buildings.
The system has been tested by eminent professional and scientific men, and pronounced to be the only simple and natural one by which warmth, combined with pure ventilation, can be obtained without the aid of complicated machinery.
The invention has been applied to a great number of grates in private houses and public buildings, and in every instance it has answered the most sanguine expectations. Among the many advantages of the stove are these—Effectual cure of smoky chimneys; the fire always burns brightly.
A system of perfect ventilation is effected, by which all impure air is carried away, and pure, warm, or cool air supplied at pleasure.
Saving in fuel of upwards of 50 per cent. with superior heating qualities.
The principle can be applied, at a comparatively small cost, to the ordinary fire grate, and to all buildings, including those where no perfect method now exist.
The actual transactions, up to the present time, justify the Directors in believing that a large and remunerative return on the paid up capital will be realized.
Detailed prospectuses, with forms of application for shares, can be obtained at the Offices of the Company, 230, Strand, Temple Bar, W.C. where the Grates can be seen in operation.—By order of the Board,
W. A. HARRIS, Secretary.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give such satisfaction to the consumer.
They can be obtained of all Ironmakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774.

HART AND SON,
WORKS, WAREHOUSE, AND SHOW-ROOMS,
58 to 58, WYCH-STREET, STRAND, W.C.
SHOW-ROOMS, 20, COCKSPUR-ST.



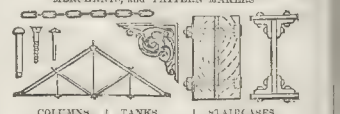
ENGRAVERS OF MONUMENTAL BRASSES, HERALDIC DEVICES, &c.; CHURCH PLATE, GLASTONBURY CHAIRS, WROUGHT-IRON HINGES, GRILLES, VANES, CROSSES, &c. &c. CORONÆ, STANDARDS, BRACKETS, &c. for Gas, Oil, or Candles.

PRIZE MEDAL AWARDED
PRACTICAL UTILITY, MODERATE COST.



HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 3*c*wt. upwards; Setting Frames, Double and Single Purchase Crab Winches, all sizes.—For further particulars apply to BOWSER & CAMERON, Springfield Iron Works, McNeil-street, Glasgow.

COOMBS & McCALL, Dover Iron Works, Staple street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 86*a*, Great Guildford street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.
GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS



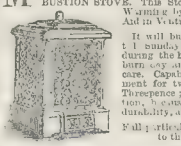
COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE CASTINGS,
And every description of Ironwork, wrought or cast, for Builders' or other purposes, estimated for and executed. Designs furnished.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, STAND 6150.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing many advantages not to be found in anything hitherto made.
At the late meeting of the Royal Agricultural Society of [illegible], Musgrave's Patents received a SILVER MEDAL and two awards of "[illegible] commended" being the only [illegible] a complete [illegible] and better than [illegible]



MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent And in Ventilation.
It will burn in Churches from Saturday to Monday Evening, without attention during the hours of worship. In halls will burn very small light for weeks, with little care. Capable of warming a large apartment for twenty-four hours at a cost of Threepence; and deserving of special attention, because of its safety, no dirtiness, durability, and extra adaptability.
Full particulars will be sent on application to the Inventor and Makers



MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



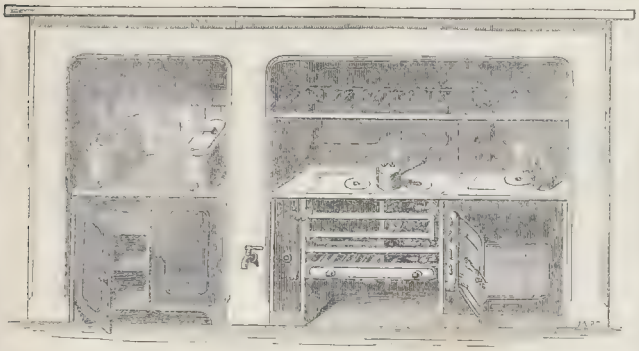
CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

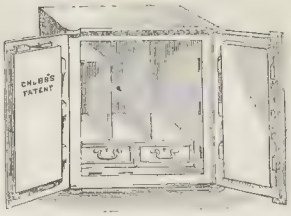
OLD SAINT PANCRAS ROAD, LONDON, N.W.

CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS,
The most secure from pick-locks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the DETECTOR LOCKS.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire-resisting and non-conducting composition.

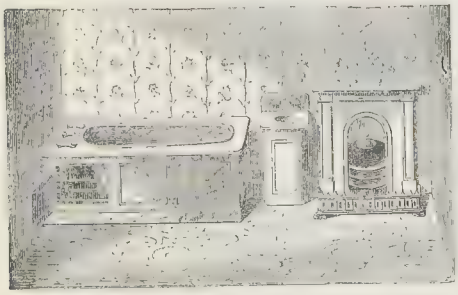
The doors are all secured by CHUBB'S PATENT DRILL-PREVENTIVE, and their Patent

GUNPOWDER PROOF LOCKS.

Illustrated Price List Gratis and Post Free.

CHUBB & SON,
No. 57, ST. PAUL'S CHURCHYARD, LONDON;
28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

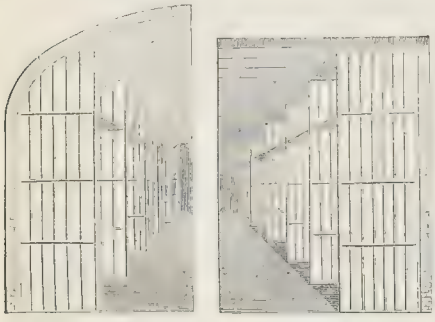
BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

WROUGHT IRON WINE BINS.



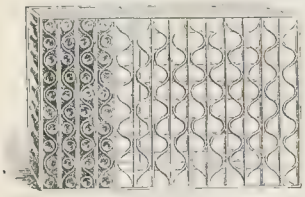
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

CASTINGS, ANY WEIGHT AND QUANTITY,

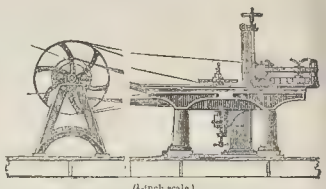


With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



S. WORSSAM & CO.'S PATENT
IMPROVED TENONING MACHINE.



(1-inch scale.)

This machine is adapted for working either hard or soft wood, and is fitted with an arrangement for cutting double tenons. It is made in two sizes, the smaller being adapted for builders' and joiners' purposes, and the larger for railway carriage builders, &c.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

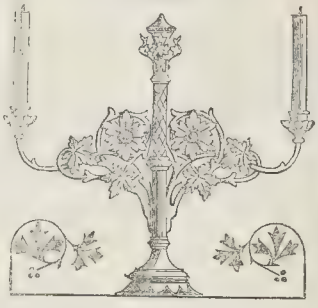
PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON
and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, CANNON STREET, E.C.

JOHNSTON, BROTHERS,
MEDIÆVAL METAL WORKERS AND GASFITTERS,



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

IRON ROOFING of CORRUGATED IRON,
Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 13s.—Nos. 25 and 26, High Holborn.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane.* 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

* These Cranes were selected by Her Majesty's Commissioners to receive and deposit the heavy machinery in the International Exhibition.

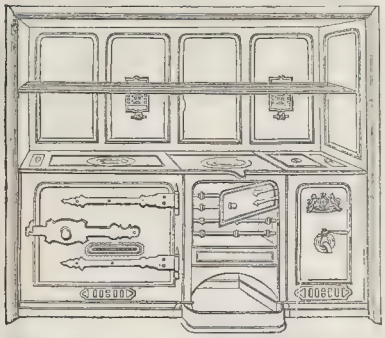
Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

CRANSTON-HILL ENGINE WORKS, GLASGOW;

Or LONDON DEPOT, AT LAMBETH, NEAR STEAM-BOAT WHARF.

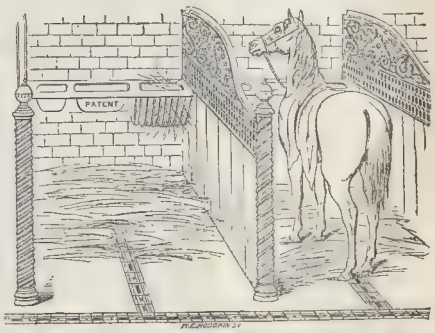
Parties are cautioned against using or purchasing imitations or infringements of these Patent Manufactures.

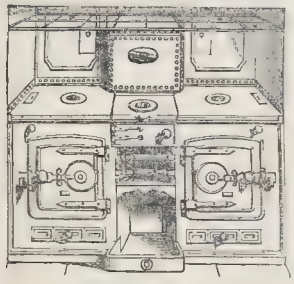


ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.

A LARGE STOCK
OF OTHER
CASTINGS KEPT.





FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

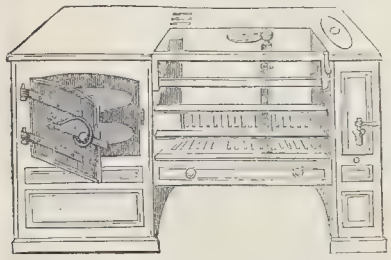
WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 560 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.

159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Open-the-back Register	
24 inches	54s.	20 inches	22s.
28 ,, ...	56s.	32 ,, ...	24s.
36 ,, ...	58s.	34 ,, ...	26s.
42 ,, ...	60s.	36 ,, ...	28s.

Register Stoves, with Strong Bars, from per inch, 4d.

Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch

Best ditto, with Fire-brick Back, from per inch, 5d.

Bright Stoves, with Two Fires, 40s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	1½ inch.	2 inch.	2½ inch.	3 inch.
14s.	14s.	15s.	12s.	11s 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.

Best Cut Lath Nails, 14s. per cwt.

	2 in.	3 in.	4 in.
Cast Rain water Pipe...	8d.	1s.	1s 4d per yard.

Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on	10d.	1s. per yard.

	2	3	4	5	6
Patent Line..	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s 6d. per cwt.

Dr. Arnott's Ventilators, 4s each.

Brick Moulds kept in stock. Any size made to order.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

DOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

NAILS and IRONMONGERY,
from BIRMINGHAM direct.

Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,

A complete List of which will be forwarded upon application to

FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham-street London, E.C.

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

PLAIN or CORRUGATED, and CURVED, of all Gauges Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPES, &c. All kept in Stock.

Also, Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the

OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.

POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,

Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class.

OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

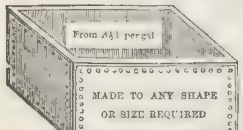
J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61A, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

IMPROVED WARM-AIR STOVES, FURNACES, & HOT-WATER APPARATUS

FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS.

KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION.

Manufactured and erected by J. KIRK & CO., Successors to

CUTLER & SONS,

CLARENCE IRON WORKS,

16, GREAT QUEEN-STREET, LINCOLN'S-INN-FIELDS, LONDON.

IRON-FOUNDERS, FURNISHING IRONMONGERS, GAS ENGINEERS, AND BELL-HANGERS.

Orders for EVERY DESCRIPTION of CASTINGS for ENGINEERS and BUILDERS promptly executed.

SPRING ROLLER BLIND MAKERS.

WILLIAM ASHDOWN, Manager.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.

J. W. GRAY & SON, 113, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples complete, fixing, at the following prices:

Three-eighths-inch diameter..... 1s. 0d. per foot.
Half-inch diameter ..... 1s. 6d. "
Five-eighths-inch diameter ..... 2s. 0d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices 108, Strand, London
" Gateshead on Tyne
" 27, Dale-street, Manchester.
" 98, Argyle-street, Glasgow.
" 17, South Castle street, Liverpool
" Exchange-buildings, Dublin
" 7, Frederick street, Aberdeen.



SPRATT'S PATENT

BATTERY EXCITATION COPPER LIGHTNING CONDUCTORS, giving 3 inches of surface. Only 1s per foot, complete, for fixing. Including beautiful Copper-topped Patent Silver Alloy Point, Glass Insulators and attachments, forming a Lock, Steel Magnets for lateral discharge. Also SPRATT'S NEW ARRANGEMENT for SECURING ROPE MAGAZINES from the possibility of being injured by Lightning; Beer in Breweries from spoiling; Milk in Dairies Souring by Electricity. Offices, 18 and 21, Middle-row Holborn. Orders over 100 feet carriage free.—Send for circular.

PROTECTION FROM LIGHTNING.

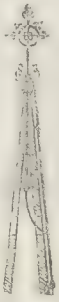


LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY-ROW,

MANCHESTER.



These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design

Designs, to suit any style sent on application.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Each's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made in any size or form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRIDGE-STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

HAWKINS'S PATENT CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS F. HAWKINS, 27, Dale-end, Birmingham.

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW.

Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS,

Wolverhampton, Staffordshire.

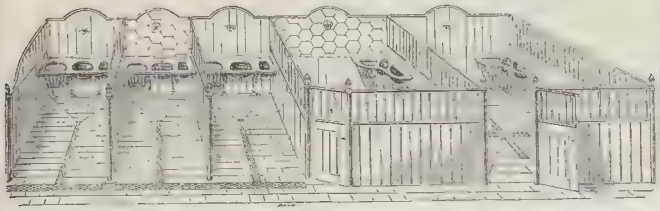


THE PRIZE MEDALS,

(LONDON, 1851. PARIS, 1855. LONDON, 1862.)
Awarded to

COTTAM & COMPANY,

2, WINSLEY STREET, LONDON, W.
For progressive and general improvements in
STABLE FITTINGS AND HARNESS BRACKETS.
PATENTEES AND ORIGINAL INVENTORS OF
THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,
COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.

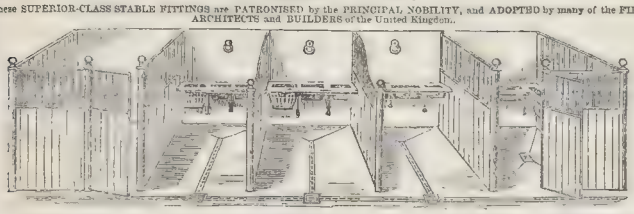


The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation, preventing foulness in the rack, facility in fixing, safety from accident, durability in construction, and cleanliness in use.
STALL FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.
COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.
ILLUSTRATED CATALOGUES FREE, on application to
COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.
COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.
N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR

BARTON'S PATENT STABLE FITTINGS.

AND ENAMELLED MANGERS.
These SUPERIOR-CLASS STABLE FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.



J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.
A new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps
JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,
5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.

THE ALMA TUBE & FITTING WORKS.

WALSALL, STAFFORDSHIRE.—Established 1830.
LAMBERT BROTHERS,
MANUFACTURERS OF LAP WELDED BOILER TUBES, LOCOMOTIVE AND MARINE ENGINE FITTINGS, WROUGHT IRON WELDED TUBE,
For Steam or Hot Water and Gas HIGH PRESSURE STEAM and WATER VALVES, FINE GOLDEN ENGINE BORE, PUMPS, HYDRANTS, WATER CLOSETS, IRON & BRASS GAS FITTINGS, Cast Lathe, and Gas and Coal Tubes LAID WORKS, Wrought Mills, &c. at the International Exhibition, Windsor Locks, Chester, Liverpool, Derby, Chemical Works,

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge. OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, at the INTERNATIONAL EXHIBITION, 1862. Class 10 C; and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street. ESTIMATES WILL MEET WITH PROMPT ATTENTION.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY.
PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

BARTLETT BROTHERS & CO.
DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,
INTERNATIONAL EXHIBITION, 1862.

BEST "PENRHYN" ROOFING SLATES,
SLATE RIDGING, GLAZED SOCKET-PIPES,
TILES, PAVINGS, &c.

Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads, to any Railway Station.—Prices and particulars may be had by applying to
HENRY BROWN & SONS, MERCHANTS,
GENERAL WOOD-CUTTING MILLS, LUTON, BEDS.
A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

STONE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.

HUBBUCK'S PATENT WHITE ZINC PAINT.
BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

COMPLETION OF CHARLES KNIGHT'S HISTORY OF ENGLAND
This day is published, with a Dedication to His Royal Highness the Prince of Wales, the Eighth Volume, price 12s. and the Fifth Part, price 3s. 6d. being the Completion of the
POPULAR HISTORY of ENGLAND.
By CHARLES KNIGHT.
Bringing the History to the final Extinction of the Corn-laws, in 1849. With an Appendix containing Brief Annals of Public Events and of National Progression from 1849 to 1861.
*** The work is sold separately in Volumes: Vols. I. to VI. price 2s. each; Vol. VII. 1os. 6d.; Vol. VIII. 12s.; and also in Parts, I. to LIV. price 1s. each.; LV to LVIII price 3s. 6d. each.
London: BRADBURY & EVANS, 11, Bouverie-street, E.C.

Just published price 2*l.* 2s.
MANUAL of HYDROLOGY.
By NATHANIEL BEARDMORE, Civil Engineer.
CONTAINS—
DIVISION I.—HYDRAULIC AND OTHER TABLES
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of upwards of 400 pages, and there are 20 large plates.
London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 to 68, London-wall. 1862.

On the 20th November will be published,
THE BRITISH ALMANAC for 1863.
Sewed in a Wrapper, price 1s.
THE COMPANION to the ALMANAC.
Sewed in a Wrapper, price 2s. 6d.
CONTENTS:
LONDON in 1863. By CHARLES KNIGHT.
DISTRESS in LANCASHIRE: its Social, Moral, and Economic Effects. By JOHN PLUMMER.
PRODUCTS and INDUSTRY of the BRITISH COLONIES, with reference to the International Exhibition of 1862. By GEORGE DODD.
BRITISH COLUMBIA: its Description and Present State.
BRIEF LOGARITHMIC TABLE. By J. LE CAPPELAIN, Actuary of the late Albion Life Assurance Company
FIRES and FIRE-BRIGADES at HOME and ABROAD.
CHARACTERISTICS of the PRESENT STATE of the FINE ARTS in EUROPE, as shown in the International Exhibition of 1862. By JAMES THORNE.
ARCHITECTURE and PUBLIC IMPROVEMENTS, 1862. With Woodcuts.
THE BURSTING of the DYKES in the FEN COUNTRY, and Present State. By G. R. BURNELL, C.E.
With the other usual Articles on the Legislation, Statistics, &c. of 1862.
THE BRITISH ALMANAC and COMPANION.
Together in Cloth Boards, lettered, price 4s.
London: KNIGHT & CO. Fleet street; and sold by all Booksellers in the United Kingdom.

This day is published, New Edition, with Additional Tables, bound, 7s 6d.
THE PRACTICAL MEASURER; or,
Tradesman and Wood Merchant's Assistant: containing a variety of Tables, designed for the use of Wood Merchants, Builders, Carpenters, Joiners, Sawyers, Plasterers, Painters, Glaziers, Masons, Bricklayers, &c. By ALEXANDER PEDDIE.
BLACKIE & SON, 44, Paternoster-row, London; and all Booksellers.

In the Press, in two Volumes,
RAILWAYS in the EAST, and Generally in HIGH THERMOMETRIC REGIONS,
By W. DAVIS HASKOLL, Engineer.
Containing Eighty Folded Plates and Letterpress, Imperial 8vo. completing "RAILWAY CONSTRUCTION." In French, 65f. 75c.; in English, 2*l.* 12s. 6d. before January 1st, 1863; after, 7*l.* 85s. and 3*l.* 3s. in cloth, to match 1st and 2nd vols. Also,
A PRACTICAL TREATISE UPON MECHANICAL ENGINEERING. Twenty-eight Plates and Ninety-one Woodcuts; with a CHEMICAL ANALYSIS of IRON and its ORES
By FS. CAMPIN, Engineer.
Until January 1st, 1863, cloth, 21s.; after, raised to 26s or 30s.
ATCHLEY & CO. Publishers, 106, Great Russell-street, London, W.C.

THE QUARTERLY REVIEW,
No. CCXXIV is published this day.
CONTENTS:—
I. VICTOR HUGO—LES MISERABLES.
II. The PLATONIC DIALOGUES.
III. MODERN POLITICAL MEMOIRS.
IV. AIDS to FAITH.
V. BELGIUM
VI. The WATERLOO of M. THIERS
VII. CHINA and the TAEPING REBELLION.
VIII. The CONFEDERATE STRUGGLE and RECOGNITION.
JOHN MURRAY, Albemarle street.

BRYCESON'S ORGAN FACTORY,
BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

The Builder.

VOL. XX.—No. 1031.

Results of "The Exhibition."



THE International Exhibition of 1862 may be said to have terminated on Saturday last; and many persons who have felt the value of such assemblages of the products of art and industry, are doubtless thinking of results. We do not refer to the returns, important though they were to be considered, which are those that the newspapers generally, have kept before the public mind. These returns, it seems to be commonly understood, have sufficiently accrued to pay the cost of the building and of the management, together, but less a deduction to which the contractors for the building are said to have assented, though with what justice to themselves, supposing work to have been executed to the amount of their entire claim, we do not exactly see. We are, however, not in the confidence of the Commissioners, so cannot say whether we shall or not be their debtors for that *modicum* of professional experience which might have been involved in the adjustment of probably the largest claim for builders' extras that has been for some time seen. In common with those who were the best friends of the Exhibition of 1851, and even earlier exhibitions, we are thinking of results that were the originally contemplated objects for which much exertion was made in a series of years leading up to 1851, and others that were aimed at in the excellent idea, attributed to Prince Albert, of extending such exhibitions and making them international. Like as it is the duty of the chairman of a meeting, from time to time to keep the attention of those over whom he is presiding to the point which was being pursued, we deem it to be ours, to interfere, with what authority might be accorded to us, and bring back those who may have been wandering, to the perception of objects which we cannot discover to have been adequately held in view during the last six months, and which so far as this country's action is concerned, might prove to be indefinitely warded off. Every one has somewhere heard said that there "will never be another Exhibition"; or that this one has been "a huge bazaar"; or that it has been "nothing like 1851": in short, the multitude who should have learned by it, as even the few to whom it might have been a grand mirror and chronicle of facts essentially valuable to future progress, have fallen into the habit of underestimating it, or not recognizing the desirableness of repetitions of such exhibitions. These several cases of misconception may be all summed up in the statement that the ignorant who should have been struck, by the sight of the collection, with the sense of their ignorance, and the minority of inquirers and instructors whose materials and appliances lay in the collection, have neither of them had the opportunity for seeing what is known to have been in the building. Such a state of affairs and present results is not only not a gain, and is a circumstance attendant upon and co-existent with some loss in the ordinary business of a year, but it is full of evil in the view of the future. This situation may be all traced to the same causes, the confused arrangement of the articles in the building; the disposition of the plan of the building itself; the classification, and the extraordinary number of exceptions to that of the catalogue, and to the designated arrangement of classes; to the want of order in numbers, which made the catalogue a mere encumbrance in the building, and useless in refreshing recollection at home; to the incomplete state of the building and collection during the only month in which it was comparatively free of crowds, and the absence then of many essentials such as the directing-boards, as names of schools in the picture-galleries; and to many other instances of bad management, which have consumed the time of persons desiring to extract value from the collection, without allowing them a chance of performing duties which it is one of the proper objects of such exhibitions to facilitate in every way. In speaking of management, we must not confine our comments to the British commissioners: several of the foreign and colonial divisions did not get out their catalogues till within a month of the date of closing; and some of them we rather think, within a fortnight of the time. Catalogues were printed, by the colonies especially, which were never to be found at the stalls; and no list of these different records was issued by the commissioners; though a daily *bulletin* should have been a necessary feature of the management. In truth, however, owing to the want of consecutive numbering in the exhibited objects, few of the catalogues which were not *catalogues raisonnés* like the Austrian catalogue, and the Italian, could, issued late as they were, be worth the cost of printing. The official catalogues,—whether the Industrial Department Catalogue, which gave three lines to the designation of a hundred different articles that happened to be by the same manufacturer; or the Illustrated Catalogue, costly and late in appearance, and which gave the largest space of description to the least deserving objects; or the Fine Arts' Catalogue, for which the Commissioners engaged an incompetent hand to write on architecture and other branches of fine art, and from which they omitted the information really necessary to a parallel of the schools, as well as a list or lists of the artists,—are however not to be instanced as illustrations of good management of the portion of the Commissioners' duty in question, and will be of no value as records. Thus the matter which should have been in print, to rectify unavoidable shortcomings, to enable a desiring student to turn chaos into order, existed not at all; and foreigners who had made the journey to London, specially in the view which we have held ourselves as prominent in the intention of such gatherings of products of art and industry, have gone back lamenting to us, that they had, owing to the absence of this rectification, obtained nothing to compensate them to the degree they had reasonably anticipated, for the derangement of leaving home. The very reports of the Juries, creditable as many of them are under the circumstances under which they were chiefly prepared, namely, before the articles themselves were completely arranged, do not reach the object of providing an adequate and appreciatory record of the numerous illustrative items of progress that were brought together. We suppose it would not enter into the mind of any one to now defend the awards that were made at the early period of the Exhibition at which the Juries were disbanded. Every possible variation of blunder we now know, was made by men, most of whom were the best that could have been chosen for their acquaintance with the subjects respecting which they were called in to adjudicate; and every absurdity of superlative upon superlative, the refuge of critics who, desiring to be just, have not time to analyze, and to note real *points*,—was ushered forth in the bulky volume which already would fetch but the price of waste paper. The "Reports," which are by individual members of these juries, and some of which, we believe, notwithstanding the juries were disbanded, have been touched up, must not be placed in the same rank with the publication of awards; but they are not the record which we should have fairly demanded to have had left at the close of the Exhibition. Utterly repudiating that this Exhibition should be the last; believing that it is necessary periodically to view and report progress, unless the world is to stand still, we propose hereafter to endeavour to show, whilst experience is fresh, some of the points which must be attended to in future undertakings of the same nature, at home and broad.

A NATIONAL SCANDAL.

THE HOUSING OF THE ARMY.

SOME years ago we exposed, with pen and pencil, the disgraceful and destructive manner in which our soldiers were crowded together in ill-ventilated apartments; and showed that this was quite sufficient to account for the frightful mortality which had prevailed amongst them. We figured, too, their crowded reading-rooms and guard-rooms, and the abominable manner in which married soldiers and their wives were lodged.* A Royal Commission, which was soon after issued, confirmed to the fullest extent all that had been said. Some improvements were made; and the death-rate, according to official statements, fell considerably. Various statements were made, too, as to the improved accommodation provided for married soldiers and their wives; and we had reason to hope that such scandalous scenes as we had witnessed were not likely to occur again. That we were premature in this belief a brief relation will show.

At the top of the island of Portland there is barrack accommodation for the soldiers who are placed there to guard the convicts; and we had an opportunity recently to see over the whole of the establishment. To our great surprise we were shown into a room (not a large one), which was occupied both for *living and sleeping purposes*, by two soldiers and their two wives, two children, and two servant girls, of about thirteen or fourteen years of age; making in all eight persons in one room; and this is permitted, if not authorized, or even enforced, by the Government of our land!

Another room was occupied by two soldiers and their two wives, but they had no children, and consequently did not require the service of servant girls. Our readers will be prompted to doubt the truth of the statement, but they may rely on its accuracy. It is no secret on the spot, and is pretty freely talked about.

We shall be glad to know on whom the responsibility rests of permitting the continuance of such an outrageous state of things.

NEW MATERIALS FOR THE LIFE OF GRINLING GIBBONS.

WITHIN the last few years—since the life of Gibbons was written at any length—the place of his birth has been determined past all future doubt. From his nativity, cast by his contemporary, no less a person than Elias Ashmole, we learn that he was born, not in London, as had been too readily believed, but in Rotterdam, on the 4th of April, 1648. The figure of his nativity was discovered by Mr. W. H. Black, among the Ashmole MSS., and may be seen, with many others, in the Ashmolean Museum, at Oxford. As far as I can decipher the planetary arrangements at his birth, his unrivalled excellence in wood carving was apparently unforeseen.

That he was of English descent I see reason to believe, for I find in the Works Accounts of the Crown of the time of Charles I. the mention of *Simon Gibbons*, a skilled carpenter, employed under no less a master than Inigo Jones. Of this Simon Gibbons I have found no other trace.

We first hear of Gibbons from Evelyn, in a well-known entry. That well-accomplished English gentleman found the sculptor, then (1671) unknown, busy at Deptford, with an elaborate

* See also "Town Swamps," p. 75, &c.

carving in wood from Tintoretto's cartoon of the Stoning of St. Stephen. Where is this carving? I have never seen a person who has seen it or can tell me where it now is, and I have been diligent in my inquiries. Horace Walpole had evidently never seen it; Allan Cunningham, I can state, had never seen it. What is known about it?

This miracle of carving in wood *was* at Cannons, in Middlesex, the princely seat of the Duke of Chandos. From Cannons it was "brought" to Bush-hill, near Edmonton, in the same county, the seat, late in the last century, of Joseph Mellish, esq. Mrs. Catherine Mellish, his widow, was in possession of it at her death, in October, 1794, and from that period I have lost all trace of it. "The architectural parts," says Lysons, "Environs," ii. 260 (writing in 1794-5), "are particularly fine."

Before I produce the many curious entries I have had the good fortune to discover touching our great sculptor, I will ask another question about a work by Gibbons, of which I can learn nothing more than the fact of his having executed such a work, and in whose hands it once was Among the effects (1730) of Mrs. Oldfield, the celebrated actress, was the following article:—

"The Earl of Strafford, a whole-length, finely carved in ivory by Mr. Gibbons."

Think of the Vandyck collar, and in ivory, and by Grinling Gibbons. Walpole's point-lace cravat would surely fade before it. Where is this statue or statuette? Remember that it is no less a person and poet than Pope, who tells us that Mrs. Oldfield was a judge of lace:—

"Odious! in woollen! 'twould a saint provoke
(Were the last words that poor Narcissa spoke):
No; let a charming chintz and Brussells la e
Wrap my cold limbs, and shade my lifeless face:
One would not, sure, be frightful when one's dead—
And, Betty, give this cheek a little red."

And that her "maid" assures us she was buried in Westminster Abbey, "in a very fine Brussells lace head, a Holland shift with a tucker and double ruffles of the same lace, and . . . . a pair of new kid gloves." * Mrs. Oldfield was the very lady to possess and value such a Grinling Gibbons example; and I repeat my question,—where is the *ivory* Earl of Strafford, by the great G. G.?

I will now introduce entries of payments made to him by the Crown for "work done." Here is a Whitehall entry:—

"To *Grinlin Gibbons*, carver, for carving the Crown sceptre and tasseli, with 9 boses of wood over the canopy, and for vallens, festoones, cornishes, and other carved works on the front of the organ, for the Tabernacle and all its relieves, and 14 figures in the *Chapel*; for a marble holy-water pot; and for a chimney-piece in the Great Bedchamber and another in the Little Bedchamber,—340*l.* 17*s.* 9*d.*"
Works—Rebuilding Privy Gallery at Whitehall, 1685-6.

Here is another:—

"To Grinling Gibbons, carver, for carving and sculpturing by him done in her Majesties New Chapel at Whitehall, by Treasury order of 27 May. 1690,—361*l.*"
Works at Whitehall, 1690-1.

Here is a third, and one of historical importance (unknown to Macaulay), to be explained hereafter:—

"The said *Grinlin Gibbons* and *Arnold Quellin*, for making and carving the *great altar-piece of white marble*, veined, wrought according to a design and contract, they finding all materials and workmanship, with two marble columns under the throne, fluted, with capitals and bases (besides 14*l.* 18*s.* 2*d.* abated for a square white marble pillar delivered them),—1,875*l.* 1*s.* 8*d.*"
Works—Rebuilding Privy Gallery at Whitehall, 1685-6.

Quellin made *Squire* Thynn and his coachman's monument in Westminster Abbey—famous, additionally, through Mr. Joseph Miller, better known as "Joe."

Stepping westward, we come to Kensington Palace,—Gibbons worked at Kensington:—

"To *Grinling Gibbons*, for 1,405 feet of Ionick modillion and hollow cornish, 942 feet of picture frame over the doors and chimneys, 89 feet of astreyal moulding about the glasses in the chimneys; carving the king's arms, supporters, crown, and garter, the railes and balisters in the *Chapel*, and several other services in and about the said buildings,—536*l.* 14*s.* 7*d.*"
Works at Kensington, 1st Oct., 1689, *to 30th Sept.*, 1691.

"To *Grinling Gibbons*, carver, for work done in the New Gallery building in the King's Great and Little Closet, in three rooms under the King's Apartment, in the King's Gallery, and other places,—839*l.* 0*s.* 4*d.*"
Works at Kensington, 1st Oct., 1691, *to 31st March*, 1696

Windsor is next in our way. The following payments are new, and of moment. What was, and where is now to be seen, "the extraordinary fine piece of carved work made by Gibbons, and given by Charles II. 'as a present to the Duke of Florence'"?

"*Grinling Gibbons*, carver, for an extraordinary fine piece of carved work made and carved by him for his Matie, and sent by his Matie as a present to the Duke of Florence, 150*l.* And more to him for his pension, after the rate of 100*l.* per ann., according to his Matie's warrant, and due to him for half a year ended at Midsummer, 1682,—200*l.*"
Works at Windsor, 1st Oct., 1680, *to 30th Sept.*, 1682.

"*Grinling Gibbons*, carver, for 2 chimneypieces carved with flowers and fruits set in the Queen's Privy Chamber and the King's Drawing Room, and for 26 foot of Picture-frame carved,—63*l.* 5*s.*
Works at Windsor, 1st Oct., 1678, *to 30th Sept.*, 1680.

"*Grinling Gibbons*, carver, for sundry carved works by him performed, viz., for sixty panels carved with flowers, fruits, shells, and several other ornaments, set over the chimney in the angles of His Maj^ty's Great Bedchamber, Little Bedchamber, and Closet, 60*l.* For carving 2 picture-frames set in the Queen's Chapel, 2*l.* 14*s.* Carving and Cutting the 4 white marble panels of ye Pedestal of his Maj^ty's [Charles II.'s] Statue on Horseback, 400*l.* And for cutting and carving the mouldings and ornaments for the Pedestal of the *large Dial* in the North Terrace, and for 17 foot of white marble for the 2 end panels of ye Pedestal of *His Maj^ty's Statue on Horseback*, 16*l.* In all as by 4 bills, 482*l.* 4*s.*"
Works at Windsor, 1st Oct., 1678, *to 30th Sept.*, 1680.

"*Grinling Gibbons*, carver, for carving work done and laid upon 28 seats and stalls carved with fruit, flowers, palms, laurels, pelicans, pigeons; 5 foot of cornice that has two members, enriched with leaves between each seat; 20 foot of framing to every seat, according to contract, 518*l.* More to him for carving the six vases with thistles, roses, and two boys, laurels, palms, and other ornaments, in the front and upon the top of the *King's Seat*, with drapery, fruit, flowers, crootesacs, stars, roses, and several other ornaments of carving about the altar, pews, and other places in and about the *King's Chapel*, he finding timber and workmanship according to contract, 498*l.* 0*s.* 5*d.*—1,016*l.* 0*s.* 5*d.*"
Works at Windsor, 1st Oct., 1680, *to 30th Sept.*, 1682.

"*Grinling Gibbons*, carver, for carving work done round the wainscot in *St. George's Hall* round the inside of the Pedestal panels to the cornice over the panels; for carving 141 feet 5 inches of great leaf cornice upon the Pedestal; 118 foot 6 inches of swelling moulding round the five doors in the Hall for carving 226 foot 3 inches of moulding in the upper moulding of the rail going up the stairs into the *King's Closet in the Chapel*, the panel in front of the stairs, the garter and festoons about the two Compass doors, the two Georges, the upper and lower rails on both sides, the panels and mouldings at the Throne in *St. George's Hall*, with several other ornaments belonging to the said Throne, 328*l.* 15*s.* 11*d.*"
Works at Windsor, 1st Oct., 1682, *to 30th Sept.*, 1684.

"*Grinling Gibbons*, carver, for carving several frames over the chimneys, picture-frames and altarpieces, in the *King's and Queen's Chapel*, ye Queen's old Bedchamber and Dressing Room, and several other lodgings, 96*l.* 19*s.* 9*d.*"
Works at Windsor, 1st Oct., 1684, *to 30th Sept.*, 1686.

"*Grinling Gibbons*, carver, for carving two foliage panels for the *Confession chair* in the King's Chapel, 40*s.* And for carving a model for the founder to cast the copper pipes that convey the water into *the Queen's* bathing cisterns, 10*s.* 5*s.*"
Works at Windsor, 1st Oct., 1686, *to 25th Sept.*, 1688.

"To *Grinling Gibbons*, carver of her Majesty's works at *Windsor Castle*, for his allowance of 100*l.* per ann. for looking, cleansing, and repairing the said carved works for half a year ended Xmas, 1688,—50*l.* And for ten years' allowce at ye said rate ended Micas 1701 allowed by warr^t of ye late Lords Commiss^rs of the Treasury dated ye 1st of December, 1691, which were confirmed and directed to be executed by ye said late Lords Commiss^rs by 12th of April, 1695,—1,000*l.* In both, 1,050*l.*"
Roberts's Acct. of Works at Windsor from April, 1688, *to 30th Sept.*, 1702.

"*Grinling Gibbons*, carver, for carving ye hollow of ye cornice over ye marble chimney piece in the *Queen's* New Closet by ye Gallery, mending and new making some pieces that were lost of ye carving in y^e *Queen's* Bathing Room; mending and altering the carving in y^e *Queen's* Closet, in the Long Gallery, and making new pieces, and for other carved works by him done as by two bills of ye particulars appear, 5*l.* 14*s.* 4*d.*"
Roberts's, &c. [same service and time].

"*Grinling Gibbons*, carver, for carving a chimney piece in lime tree with fruit, flowers, and birds, in y^e *Queen's* Dressing Room; carving six frames; carving a cock's head for y^e *Duchess of Marlborough's* side board, and a snake's head for a basin at y^e *Queen's* back stairs; for carving a plum for a glass in her *Majesty's Dressing Room*, and other workes, &c. by three bills,—39*l.* 19*s.* 10*d.*"
Works at Windsor, 17[illegible]

Gibbons says Walpole "had several disciples and workmen." He mentions Selden and Watson, and to these I now add a *third* and hitherto unknown assistant:—

"*Grinling Gibbons* and *Henry Phillips*, carvers, for severall sorts of carved works by them performed [at Whitehall] upon th Chimney-pieces, Pedestalls and Picture frames of the King's great and little Bedchambers and Presence, his Ma^tes Closet, Musicke Room, Eating Room, Withdrawing Room, and Back-stairs, the Queen's Withdrawing Room, Bedchamber, and Gallery, and in four rooms at the Duchess of Portsmouth's Lodgings.—623*l.* 14*s.*"

The Crown Accounts contain a further joint payment to them of 614*l.* 17*s.* 8*d.* for works at Windsor. My extract is, unfortunately, imperfect.

The historical entry touching King James II., to which I have referred as new and unknown to Lord Macaulay, runs as follows:—

"To *Grinling Gibbons*, Master Carver, for taking down the *Marble Altar Piece*, with the Columns, Ornaments, and Figures thereto belonging, in the *late King James the Second's* Chapel at *Whitehall*, and loading the same into barges, and delivery thereof at Hampton Court, according to contract.—130*l.* More to him for carving cornishes, mouldings, and picture frames for architrave frese, subbase, and other carver's work by him done in and about the said buildings—520*l.* 7*s.* 4*d.*"
Works at Hampton Court, 1st April, 1694, *to 31st March*, 1696.

Who, after reading this, will look on the altar-piece at Hampton Court Palace without recalling (forced as it were upon him) an instructive train of historical associations. That ill-suited altar-piece cost King James II. three kingdoms, placed his son-in-law, "the hero William," and his two daughters, on the throne of England, and was a primary cause that James died in exile at St. Germains.

Gibbons survived his wife between nine and ten months, the register of St. Paul's, Covent Garden, recording her burial on the 30th November, 1719, and that of Gibbons himself on the 10th August, 1720. Of their children—nine or ten in number—I can learn nothing but their names and the dates of baptism and burial of each in their father's and their own parish church of St. Paul's, Covent Garden.*

PETER CUNNINGHAM.

* Egerton [*i.e.* Curll's] Life of Mrs. Oldfield, p. 209.

* For some account of Mr. Rogers's restorations of Gibbons's carvings at Belton House, Lincolnshire, see the *Builder* of 12th July, 1856.

ARCHITECTURAL PROGRESS.†

On such occasions as the present our view naturally ranges over a somewhat broader horizon than that which closes round our own sphere of action. We remember that we are an institution of respectable age, especially if age is to be reckoned by the march of events and the progress that has been made in our profession since we were established; in which progress we have had an active and useful share. But while we congratulate ourselves upon the past and present, our business is with the future. The architecture of today has been determined by events some of which are now long past, and whose influences will far outlast our time; but the architecture of the future will be in a great measure what we shall make it. We begin, then, by urging upon our members the acquisition of a thorough knowledge of the art of past ages as a preparation for future progress. We strongly advocate the study of professional practice as it now exists; but we do not profess to remain satisfied with it: if we did, our association must soon cease to be. There is little room in the world for societies intended to maintain things as they are: every body of men must have an active principle as a bond of union, and cannot properly seek to remain unaffected by external or internal influences. We desire to cultivate a habit of looking somewhat in advance of the present time, both in the projects of public usefulness, in which we are called upon to assist, and in the quality of art which we are expected to produce. It is necessary to avoid leading our younger members into a morbid desire for novelty; but it is not less desirable to preserve them from the opposite error: lead them, while they are studying the art as they find it now, to expect that practice and opinions will change considerably during a very few years, and to be prepared to take an active part in the labours and responsibilities that such changes involve.

To those who are able to remember several of our annual meetings, it is interesting to call to memory the different subjects that were prominent in our minds, year after year; and to note the alteration in our views and feelings, that the lapse of a few years can produce. If we look at the many excellent drawings in the Architectural Gallery, in the International Exhibition,—still more if we look back in our illustrated periodicals,—we are struck by the wonderful change in taste that has taken place amongst the more active minds in the profession. New ideas that once caused some excitement have ceased to be novelties, and have been absorbed in modified forms into the practice of design. They may have been simply reproductions from ancient examples; but being new to us, they have to some extent satisfied our desire for change, and have certainly infused variety and life into the particular class of art to which they belonged. For many years past such a process as this has been going on; nor do I think it has come very near its conclusion. The present is an age of discovery; in which, although much ground has been thoroughly examined, much has been left comparatively untouched. We are far from being able to say that we know all the beauties of Gothic art; while the discoveries of late

† From the President's address, Architectural Association, elsewhere mentioned.

years amongst Classical remains have been very valuable, and have done much to provide that kind of variety which was at one time so greatly needed. It is natural to avail oneself first of the ideas which come readily to hand, and which are of acknowledged excellence; and not till new discoveries become rare, and a pressure for original invention arises, is it likely to greatly prevail. The invention which is now exercised by the professors of the different styles is of a far more healthy kind than in years past: copyism is less encouraged: you cannot so frequently as formerly point to a whole building, or part of a building, as taken from a particular example. The architect works freely in his chosen style: he does not justify a fault by appealing to his copy; but says very fairly, "This is my design,—let me bear the praise or blame."

This may be very far from what some of the more advanced theorists upon architecture desire to see; but let them not be too impatient: forces are in operation which will allow nothing to stagnate, and will turn even the slowest of arts into a channel in keeping with the feelings of the age. We have had a comparatively quiet period for the study and revival of ancient styles: we are probably entering upon a period of activity in architectural matters for which we are scarcely prepared. It has happened that Gothic art, which has been so largely used in our new churches, has answered very admirably the demands made upon it; but it can hardly be so with all styles, when we apply them to the great variety of demands to which advanced civilization and wealth have given rise. In our own country, these demands are rapidly increasing; and at the same time new materials are being brought into use, which much increase the powers of the architect in matters of construction, and even in design, also. I hope to see amongst those architects who are celebrated for skill in design a much stronger disposition to avail themselves of new materials wherever their adaptability in point of economy can be fairly proved. Not until continued efforts have been made to treat a new material artistically should the attempt be abandoned; and we should never abandon it when, by so doing, we leave it in the hands of persons who will use it without caring anything for its artistic treatment. To me these things, under disguises, instead of taking the trouble to discover a form which becomes them, is as great a loss to art as is the attempt to supply some new want of modern times by twisting the design for an ancient building out of its proper use, instead of trying to supply the need from more original sources. I have alluded to these matters, though they are by no means novel ones, because I believe that while we are calling for more originality, we are throwing away very important opportunities for developing it; and because it is specially our business here to see that no occasion of doing a good thing shall pass; and, if it be at the same time a new thing, we profess to be better pleased. I will only say further, that such questions as these, where truth is involved, are above and beyond mere questions of style; and that any style which refuses to adapt itself to new purposes, and to use novel means, will in no long time become an antiquity, and give place to a more pliant rival.

We must, then, endeavour to promote originality, wherever a proper opportunity arises; but in doing so, I sincerely hope that nothing will be done to greatly check the strong feeling which men now have for the style in which they work. There is so little of enthusiasm in the world that it would be matter for the greatest regret to see that which exists so strongly amongst us reduced to a cold impartiality which could not be very far from indifference. Wherever work is to be done that is difficult, and not always agreeable, the man whose heart is in it is the man to do it. The study and revival of ancient styles is of a nature to produce feelings of a very strong kind: if it were not so, the art of architecture would be as dull and prosaic as any ordinary business in life: but, happily for us, we are employed in a pursuit in which we may, if we will, take a warm interest: we may feel that it is endeared to us by the labours which it has cost us, the friends who have aided us in it, the opponents against whom we have defended it. The man who has spent his best years for study either in foreign travel or in seeking out the exquisite remains that are scattered up and down his native country, can never be truly impartial. It is for the man who has done neither of these, or the man who has done both and cares for neither, to serve out justice with one weight and one measure. But we may be sure that it is by no such judgment that the fate of parties will be settled: the profession will settle the matter amongst themselves in the ordinary course of events. That style, the followers of which practise it with the truest feeling, and are at the same time most confident in its powers to supply the wants of the age, will contribute most largely to the style of the future.

But speaking as I do without professing to be impartial, I may be allowed to suggest that it is for the interest of all parties and for the great cause which through all our differences we profess to serve, that we should seek to temper our enthusiasm with a larger information upon the beauties and advantages that we claimed for the style which we do not profess to practise. We may depend upon this, that no very large body of professional men has become attached to any style by accident; and if we were to take some trouble to find out its merits instead of seeking for defects, we should be gainers in information, in liberality of idea, and in the power of judging correctly as to matters more immediately connected with our own pursuit. We should be able to discuss matters fairly open to dispute with something like good temper and with something like sound logic; and by being compelled to inquire into the hidden principles of that beauty which seems to us so obvious, but which does not affect all in the same degree, we should be more competent to produce designs claiming to be original, and could more safely leave the beaten track for fields now unexplored, but whose treasure may be not less rich than that now lying in our hand.

INQUIRY INTO THE BEST MODE OF DISTRIBUTING THE SEWAGE OF TOWNS.

THE commission appointed to inquire into this subject have issued their second report, and come to the following

Conclusions.

We submit the following conclusions as the result of these our further investigations:—

1. That the pollution of the rivers of the country is so great and general as to become a national evil.

2. That this pollution has progressively increased in recent years; is still rapidly increasing; and, unless arrested, must necessarily continue to do so in proportion to the increase of population, the progress of house-drainage, and the extension of manufactures.

3. That, although one of the chief causes of this pollution is the practice of discharging sewage as it comes from towns into the nearest rivers or watercourses, thus converting them into sewers; yet the pollution from this cause is by no means confined to towns which have adopted systematic measures for improved sewerage. Nor is the amount of pollution in proportion exclusively to the completeness of such works; for, in many of the towns in which the bulk of the foul refuse is still retained in cesspools and middens, the neighbouring rivers are in a highly offensive and noxious condition, even where the cesspool system is maintained on the alleged ground of preserving the local rivers from contamination.

4. That, besides the pollution of rivers by the discharge of sewage into them, they are in general made the common and ready receptacles of an immense amount of offensive matter from factories, dye-works, gas-works, iron foundries, mills, and other establishments, while cinder-heaps and masses of rubbish of every description that cover their banks, and the large stones and other refuse that obstruct the beds, testify to the general neglect and ill-usage of rivers.

5. That by far the greater part of the solid matter which is held in suspension in water is readily deposited in rivers, covering the banks with mud; permanently raising the beds; gradually destroying the scouring power of the water, and partially silting such rivers up; and that in some instances these deposits have accumulated to such an extent as to impede navigation, to render the surrounding country subject to floods, and to entail a vast expense in periodic cleansing.

6. That, however the appearance of the water may be improved after these deposits have taken place; yet the deposited matters, lying in the bed of the current, are under conditions favourable for putrefaction. And, when the foul mud is disturbed by the presence of rain and during floods, it sends forth its effluvia amidst the populations which are near, and even in the course of the rivers far distant.

7. That this condition of rivers is a public and national nuisance: it interferes with the convenience and comfort of all classes of the people: it damages various and important interests, as those connected with manufacturing establishments, canals, fisheries, and so on: it deteriorates property to a large extent; and, as interfering with a main source of water supply, is of serious importance to the public health.

8. That this state of things has grown up in consequence of the anomaly that while important powers of river conservancy have from time immemorial been conferred on local authorities; while special powers have been vested in improvement commissioners and companies for isolated local improvement, for drainage, for navigation, and so on; and while even private water-rights and ownerships in streams have been recognized and conferred; no general jurisdiction whatever has been exercised over the whole waters of the country; no protection has been accorded to the many great and varied interests connected with rivers.

9. That the only radical way of restoring the rivers to their original purity is to prevent the discharge of foul matters into them, and especially the discharge of sewage and other refuse of large towns; but that, in various cases where this radical treatment has been deemed inadmissible, expedients for the purpose of depriving the sewage of its offensive and noxious properties have been brought into practical operation, and have been attended with more or less success.

10. That among those methods, of which experience is most satisfactory, no one is suited to the circumstances of all towns; some towns presenting much greater difficulties than others; yet the more this subject has been investigated, the more convincing is the evidence that there is no town which might not, with reasonable care and at moderate cost, greatly mitigate the existing evils where it may not be practicable wholly to remove them.

11. That, for example, the chief part of the nuisance arising from the discharge of sewage into rivers and streams, may be obviated by simply arresting the solid matter in suspension in the liquid; particularly in towns of small populations, where the sewers discharge into considerable streams of water. In these cases it may be practically sufficient to adopt simple means of deposit combined with mechanical appliances for arresting the solid matter; and these may be of the most inexpensive character: in other cases, however, and especially during summer, the addition of chemical agents may be required for the more complete separation of the solid and the deodorizing of the liquid sewage. But although, by such means as the above, sewage may be rendered inoffensive to smell, we cannot guarantee that, even after the best practicable application of such means, sewage can be allowed to flow into brooks or rivers without rendering the water unsafe and improper for drinking.

12. That among deodorizers, the material which up to the present time has been found to be the best for this purpose, is perchloride of iron, the only objection to its general use being its comparatively high price; but in many cases the employment of the cheaper material, iron, may suffice.

13. That the value of the solid portions of sewage being small, all attempts at realizing profits from its preparation as manure have signally failed; but, mixed with sweepings and other dry refuse of towns, a ready sale is found for it at 2s. or 3s. per ton, which is sufficient to pay a large proportion of the necessary working expenses for preventing nuisance.

14. That the cost of the operation has in various instances ranged from ½d. to 3d. per head of the population per annum, including interest on the outlay for works: there can therefore be no difficulty on the ground of expense in requiring the adoption of adequate means of a removal of nuisance in every case in which injury or inconvenience is shown to arise.

15. That the most beneficial and most profitable method of disposing of sewage, where circumstances will admit of this use of it, is by direct application in the liquid form to land: where such applications can only be conveniently effected near habitations, it may be desirable to employ some deodorizing agent; but usually, if proper arrangements are made for conveying sewage on to the land, this expense need not be incurred.

There is reason to hope that trials and experiments instituted by the commission, and still in progress, in relation to the irrigation of land with sewage, will remove some doubts and difficulties which have hitherto prevailed in retarding a more general adoption of this desirable mode of disposing of and utilizing the sewage of towns.

Recommendation.

Having now fully stated our conclusions as to the means of disposing of the sewage of towns,

and shown that the remedies for the evils which are experienced, although various, are both practicable and economical, we beg to repeat our conviction that the only security for a general and continued employment of such means will be the establishment of responsible conservancies throughout the country, armed with adequate powers for preventing damage and for effecting improvements. We believe that these powers would be best vested in independent local authorities, such as the present commissions of sewers, acting under certain Government regulations in respect to borrowing money and other matters. Our inquiry, however, has of necessity been of too imperfect a character to enable us to set forth for consideration any decided measures in detail on so large and important a question. There are many subjects to be inquired into; vast interests to be considered; which are beyond our present power or our province to enter upon. We can only respectfully but earnestly recommend that such inquiries should be instituted into the various points bearing on the subject; so that measures may be submitted which will enable Parliament to deal with the existing evils in a way most conducive to public interests.

(Signed) Essex.
Henry Ker Seymer.
Robert Rawlinson.
J. Thomas Way.
J. B. Lawes.
T. Southwood Smith.
John Simon.
Henry Austin.

LIEBIG ON DRAINAGE AND BRITISH AGRICULTURE.

THE "EUREKA" SYSTEM.

Professor Liebig, in a new introduction to his "Agricultural Chemistry," makes some remarks on the cultivation of the land, which the high reputation of this chemist renders worthy of serious consideration.

After referring to the evil effects of exhaustive agriculture, which impoverishes the soil until at length it is no longer able to produce crops; this, says the professor, is a process which may extend over many hundreds of years, and in some cases even up to a thousand. At length the exhaustive effects reach a point when they become too clearly visible: expedients are then resorted to, one after another, each of which recognizes the deterioration of the soil. English agriculture exemplifies the disturbance of Nature's economy on the part of a highly-civilized nation. In the last quarter of the eighteenth century was commenced the importation of bones into England, which continues uninterruptedly to this very day. "The importation of guano began in 1841: in 1857, 286,000 tons were brought to England; while the average importation of bones has risen to from 60,000 to 70,000 tons a-year. One pound of bones produces in three seasons 10 lb. of corn, while 1 lb. of guano, in a course of five years, makes 5 lb. of corn. It may be supposed, without danger of falling into a mistake, that in the fifty years between 1810 and 1860, 4,000,000 tons of phosphates have been imported into England in the form of bones, linseed cakes, rape-seed, &c. These, in the same time, have produced 40,000,000 tons of corn, sufficient for the sustenance of 110,000,000 of people. Supposing that, from 1845 to 1860, that is, in fifteen years, the English fields have received an addition of 15,000,000 tons of guano, the corn produced by this artificial manure must be estimated at 7,500,000 tons, sufficient to feed 20,000,000 of people. Again, it is self-evident that if the phosphates imported since 1810, and the guano forwarded to England since 1845, had not exhausted part of their productive powers by employment upon the fields, these fields would have possessed in 1861 the essential conditions for the production of food for 130,000,000 of people. But with this calculation must be contrasted the astounding fact, that Great Britain is not able to produce the amount of food required for its 29,000,000 of inhabitants.

The introduction of closets into most parts of England results [at present] in the loss annually of the material capable of producing food for 3,500,000 people; the greater part of the enormous quantity of manure imported into England being regularly conveyed to the sea by the rivers."

After remarking that the same process of self-destruction is still going on, but in smaller proportion, in all the great towns of the Continent, Professor Liebig remarks that, "Nobody knows the sum total of nutritive element in the soil; and it is but thoughtless to suppose it to be inexhaustible; though what it yields every one may easily ascertain for himself. The object in view is not to extort the greatest possible quantity out of the soil, but to learn to economise our resources;" and further on, that, "all those countries of the globe where the fields have not had restored to them by the hand of man the elements necessary for the return of the crops, we may follow in their downward course from a period of the densest population to the ultimate condition of barrenness and desolation;" and that great Britain deprives all countries of the conditions of their fertility. "It has raked up the battle-fields of Leipsic, Waterloo, and the Crimea: it has consumed the bones of many generations accumulated in the catacombs of Sicily; and now annually destroys the food for a future generation of three millions and a-half of people. Like a vampire, it hangs upon the breast of Europe, and even the world; sucking its life-blood without any real necessity or permanent gain to itself. It is impossible to imagine that such a sinful disturbance of the divine order of things should be allowed to go on for ever with impunity; and the time will probably arrive for England, earlier even than for the rest of Europe, when, with all its wealth in gold, iron, and coal, it will not be able to repurchase the thousandth part of those essential conditions of life so frivolously wasted for centuries past."

Such are the views of the German professor on this most important subject; but great as is our respect for his chemical knowledge, there are some of his deductions from which we are forced to dissent. It is clear that the waste of the manure of our towns and cities is a matter to be greatly deplored; but it is also certain that in such situations as the metropolis it was impossible longer to continue the large sacrifice of human life occasioned by those bad sanitary arrangements which allowed poisonous refuse to accumulate in cesspools, and even in defective drains: such refuse would be valuable, certainly, if distributed over the land; but it was certain death to allow it to remain amongst the crowds of the living.

Although the great fertilizing quality of the sewage which has been passed from London and other towns into the Thames was well understood; in the metropolis especially, with such a vast population, no scheme was devised which could purify the dwellings, except by a thorough plan of drainage, which would effectually, and at once, carry off all night soil, and other matters which are dangerous in cities, to a distance; and the same may be said in connexion with most other towns; but earnest and able men are at work, studying how best to economize, without danger to health, the sewage which is at present allowed to run to waste; and no doubt, ere long, this task will be successfully achieved. All the outlet plans connected with the outfall of the metropolitan drainage have been laid out with a view towards rendering the sewage of the capital useful to the purposes of agriculture.

As to the "vampire" charge which is brought against us, it can scarcely be established in truth. From barren rocks, and in distant seas, British vessels have brought guano for the purpose of fertilising our fields and making up for that deficiency of which Professor Liebig complains. But for English enterprise, these foreign manures might have been likely to remain untouched and useless for the good of man for ages. With all this aid,—by means of improved farming, by the utilization of sewage, and by the cultivation of what are now barren wastes,—it is doubtful if Great Britain, as manufactures of various kinds extend, will be able to depend upon home produce for the feeding of our increasing population. Nor is this so necessary, under existing circumstances; for the wonderful extension of commerce, the application of steam to shipping, and the increase of the vessels of our own and foreign countries have brought the nations of the world more closely together; and enable us, as their great workshop, to depend, to a considerable extent, on the cornfields of other lands; and especially of the certainly unexhausted and scarcely exhaustible continents of America; for part of our bread and other necessaries of life. Nevertheless, no efforts should be left neglected,—nor do we believe they will be,—in the joint endeavour to improve the condition of the land.

The fact that for the present the animal and vegetable refuse of our towns is allowed to run to waste, although this be a very secondary consideration by comparison with the sanitary benefit already conferred throughout our town populations by the progress of drainage, has led, as our readers well know, to many commercial projects for turning town refuse to profitable use in a pecuniary sense. In general, however, as we have before said, these seem to be better adapted to small or rural populations than to towns of any extent; and amongst this order of commercial speculations we have classed the system of the Rev. H. Moule, and the "Eureka" system, as it has foolishly been called. Of this latter system we had occasion recently to speak, in a paragraph on the utilization of town sewage, in which we alluded to the rather flash title of "The Eureka Sanitary and Manure Company" of Manchester,—an allusion which appears to have been taken "in high dudgeon" by the chairman of that company; who has written us a long and angry lecture, in consequence, on his own superior sanitary knowledge, and on our sanitary ignorance (grown grey though we may well be said to be in the long years of our sanitary pioneering); and this ill temper has evidently been all the more especially displayed, inasmuch as we had the temerity to risk the spoiling of the Manchester prospects of this Eureka Company by expressing a hope that their scheme would not be put into practice there, "although there may be cases in which the system might be permissible or even advisable." After pouring out the not well-deodorized vials of his wrath over a large sheet of paper, the chairman concludes, of course, by modestly "hoping" we will "insert" this not very sweet-smelling nosegay in our "valuable journal;" which the company have hitherto considered it essential to take in; "believing that in it they *would* find an honest exponent of all schemes in which bricks and mortar were *concerned*;" and they trust that, by this insertion, "they will find that they have not been mistaken." Now, before all else, we must tell the chairman of the Eureka Company, that neither Eureka night-stools nor bricks and mortar are the interests in which we are "concerned" in this instance; but municipal health and human life. As for the question put to us whether we think we are "justified in applying the term 'flash' in any way to the company"; and apart altogether from the merits or demerits of the scheme itself; we are certain that at least nine-tenths of the readers of our paper, in which the term objected to appeared, will think with us that we *were* justified in applying it to such a word as "Eureka," so ostentatiously, so indiscreetly, and with such short-sighted policy, incorporated with the very title of such a company; and that it would indeed require a high order of merit in the scheme itself to enable it to withstand the ridicule attachable to the ludicrous and catch-penny association of the Eureka dirt with the Eureka shirt, the Aquascutum cloak, the Panniscorium shoe-leather, *et hoc genus omne*.

CONVERSAZIONE OF THE ARCHITECTURAL ASSOCIATION.

The members of this Association held their opening meeting and annual conversazione on the 31st ult., at their rooms, in Conduit-street. There was a numerous attendance of members and their friends. The chair was occupied by the president, Mr. Blashill. A donation of books from the Institute of British Architects was announced.

Mr. C. J. Adams, hon. secretary, read a report of the proceedings which had taken place during the session, 1861-2: with these our readers are already acquainted. A report of the Class of Design was also submitted. The condition of the class was said to be satisfactory, but the number attending was not so large as was desired. Sixteen new members of the Association were proposed.

The judges then delivered their report with regard to the competition for prizes. The following awards were made; and the successful candidates, as they advanced to receive the premiums which they had earned, were greeted with applause:—

First prize, Class of Design, E. J. Tarver.

Second prize, Class of Design, R. Phené Spiers.

Prize for Westminster Abbey sketches, E. J. Tarver.

Extra prize, presented by the president of the Association and the president of the Class of Design, to Mr. Walter Paris.

Prize Essay on the Westminster Abbey Visit, to Mr. Lacy W. Ridge.

The president afterwards proceeded to deliver his address, part of which we give elsewhere.

Professor Donaldson said he had, unfortunately, not been present in time to hear the whole of the very interesting and suggestive address just delivered; but to the portion read whilst he was in the room he had listened with much pleasure. Allusion was made in that address to Mr. Skid-

more's paper on iron work, and to that particular branch of art as one deserving the study of the Association. He must say that the collection of iron work exhibited at South Kensington afforded a remarkable illustration of the progress of manufactures and taste in this country. Such were now the superiority of design and facility of execution, that the hard material seemed to be rendered as pliant as clay itself, and put on a beauty of form which commended itself to all. It was a study of great interest; and the results gave evidence of a revival bidding fair to go beyond what had been attained in ancient times. With regard to the closer union of architectural societies, no doubt union was force; but sometimes there was great strength likewise in disunion, as it afforded room for a great variety of opinions, which were marked by an energy of purpose often wanting where matters went on in one common course. The co-operation of architectural associations in the larger towns might doubtless be productive of beneficial results; but it would be very difficult for the smaller ones distributed throughout England to take any effective combined operation. In conversation with professional brethren in the north of England, where he had lately been, he ascertained that the local organization had long become effete, owing to the limited number of architects and the difficulties lying in the way of energetic action. The president had invited them all to become talkers, and to cultivate the happy art of discussion. Now, there were two classes,—the talkers and the thinkers; and it sometimes happened that those who talked most thought least, and those who thought least talked most. What was requisite, therefore, was, that the talkers should become thinkers, and the thinkers talkers, and that no one should speak unless he had something to say which others could think about. There was always great danger in inducing a spirit of talkativeness: a thoughtful spirit was the one which students should cultivate. They should have a certain reserve and modesty in expressing an opinion, unless previously they had formed it carefully. When they had done this, they would become talkers to some purpose,—talkers to improve others and talkers to improve themselves. The chairman had further alluded to education, and to the scheme thrown out by the Institute, which he hoped would be productive of great advantages to the profession. It consisted of two departments—the theoretical and the practical. It was extremely desirable that the theoretical portion of the scheme as laid down should be acquired by young men, because it formed the basis and groundwork of that to which they were to owe their future success. Combined, however, with that theoretical instruction, it was highly desirable that there should be practical knowledge; and just as engineers send their young men into the workshop, to familiarise themselves with the materials and to handle the tools; he believed it would be desirable for young architects also to go into the workshop; to pass a short time there; to become accustomed to all the classes of materials employed in their profession, and to the use and combination of those materials. Thus they would learn in the very best manner the practical application of their theoretical acquirements. Allusion had been made in that evening's address to the architecture of the day; and a desire for progress had been expressed. But it was very desirable that such progress should take place in the right direction. Progress was made during the various phases of Mediæval art because people were not satisfied with the beautiful combinations of form, and the magnificent conceptions which distinguished the art of the twelfth century. What had been the result of departing from these simple principles of Gothic architecture instead of observing them more and more? The desire for novelty produced the Flamboyant style in France: in England it resulted in the Perpendicular order of architecture. So that the progress in art of that day was really a retrogression, and a departure from those high elements distinguishing the architecture of the twelfth century. Any progress which might now be attempted ought to be a wise progress, and not springing from a mere desire for novelty. It was not sufficient to produce something new: there must be a desire for higher excellence. Mere novelty was like fashion, which vaunted itself in all the extremes of form and shape and size. In bonnets, for instance, there had been two degrees—the high bonnet and the low bonnet: the high bonnet had carried the day. There were other developments of fashion, to which he would not allude further than to express a hope that further novelties would assume a wholesome direction. "Variety" was another word of much the same signification as "novelty." There was no doubt the mind sought for novelty; that even the best things tired; and that some new idea, some new impression, some new excitement, was eagerly sought; but variety also should be prosecuted in the right direction. It would then be honourable to those who succeeded in producing it,—satisfactory to those having the enjoyment of it;—and then indeed it would be truly progress.

The Chairman having invited Mr. Kerr to favour the assembly with a few remarks, that gentleman said he remembered, when the Architectural Association was started, sixteen years ago, in Lyon's Inn Hall, two gentlemen came down to assist at its inauguration. One of these gentlemen had just spoken. The other (Mr. Godwin) was likewise present; and it would be discreditable to the Association if so old a friend were not called on in the first instance to address those present.

Mr. Godwin said he was unfortunately not well enough to take any very active part in the conversation, but would with pleasure add a few words to what had been already so well said. He had left the room to which he had been confined for several days, because he wished to manifest the interest he always felt in the progress of the Architectural Association. The present, moreover, was an occasion on which the Architectural Association was specially bound to be up and doing. The announcement of the voluntary examinations, the arrangements for which had been organized by the Institute, would, he was quite sure, set a great number of members of the Association on the *qui vive;* and lead them to prepare themselves at once to go before the tribunal which would be formed. He did not know who the examiners might be: he had not yet heard; but he sincerely hoped they would be men of discretion, and men who would see in qualities like intellect and the power of application more virtue than in the simple power of answering questions, the result of cram. He had no doubt that such would be the case, and that the examiners would not endeavour to show their own abilities by exercising their power of placing young men in an unpleasant position in rejecting as many of them as they could; but rather, in making evident the powers of those young men, they would show the world that the rising generation of architects were preparing themselves creditably to take the places of those who had gone before them. He was not one of those who viewed with much favour an enforced diploma; but this voluntary examination was altogether different. It afforded an opportunity, to those who had carefully and thoroughly studied their profession, of proving that they had done so; and furnished them with the means of taking a position above the mere workers of rule by thumb, or those who had neglected the advantages held out to them. In parenthesis, he might observe, that no greater evidence of the advantages resulting from the Architectural Association could, perhaps, be pointed to than the excellent addresses delivered year after year by the successive presidents; and this he said without intending any flattery to the gentleman then in the chair. Had anybody stated sixteen years ago that such a series of addresses as they had listened to, or read, would have been forthcoming, they would have been told that such expectations were altogether out of the question. The series of presidents whom it had elected out of its own members was one of the strongest proofs of the value of the Association, and the ability which it had developed. He attached rather more importance than his friend Professor Donaldson to the mere power of talk. It was more necessary, no doubt, to think; but the thinker stood a chance of being hustled aside in the busy world if not gifted with a fluency of speech. It was necessary, in order to mature thoughts, to express them freely; to rub them against the opinions of others; and thus to acquire a facility of expressing, and, if need be, of defending them. It was this power which the Architectural Association, at its ordinary meetings, sought to develope; and he was sure the effort had proved of great advantage to all those who attended these meetings. In the present day, there was a great cry out for a new style. What Professor Donaldson had said on that subject was perfectly true. A new style would not come by crying for it; but if all worked earnestly with the new materials towards supplying the new wants of the period; bringing to bear the whole of the skill which they possessed; they would, depend upon it, leave a mark on the architecture of the nineteenth century to be recognized hereafter. He saw on the wall the face of a well-known old fellow, in cement, laughing at him. That same face was to be seen on the key-stone of thousands of doors in London,—a fact which showed the poverty of design that for a long time had been manifested; but which showed, likewise, how much pleasure might be given and good done by the artist. He entertained a notion that in the union of painting, sculpture, and architecture lay one great means of creating the new style of the nineteenth century; and he, therefore, hailed with satisfaction the endeavours made by the Association to establish a modelling class, which might train men in their future action to exercise a thoroughly artistic skill. He offered his best thanks to the Association for all they had done; and urged them to persevere; and he assured them that, to the extent of his humble power, he should always endeavour to co-operate with them.

Mr. Kerr said, referring to the remarks of Professor Donaldson, concerning the importance of practical knowledge, he would venture to point out one view of the question which had lately taken a strong hold upon his mind. All who heard him being in a manner fresh from the contemplation of the International Exhibition, the building and its contents; he would plainly ask why it happened that that great and important building stood, as it did, a direct discredit to the country; admitted on all hands to be so. He would not have it forgotten that the architectural profession had in good time resolutely protested against the design itself, and the employment of an engineer as designer, and that their protest had been deliberately set at nought. What, then, could be the reason of this? It was almost within the memory of living men that the English profession of civil engineers first came into existence. It was not in rivalry with the architects of that day as regarded architectural building, but purely from the necessity of the age, in respect of the more ponderous works of construction, that a class of men should devote themselves to the element of scientific building exclusively. Since that time the engineers had acquired, not in England alone, but in England in many respects peculiarly, a degree of skill which was matter of the highest pride. At the same time, the architects of England, in their more delicate and fanciful province, had done even greater wonders. He might again repeat what he had frequently affirmed, that the English school of architects of the present day, take them and their works as a whole, displayed an amount of ability in design which far exceeded any precedent in the world's history. In such circumstances, then, why was their protest in respect of the great work for the International Exhibition so deliberately set aside? An answer might be found in an argument which he had heard stated as the opinion, amongst others, of one whose happy memory would be affectionately remembered by every person in our land for ages to come—the late Prince Consort. This was the language which that intelligent and accomplished man was reported to have sometimes used:—"If we want any work done of an unusual character, and send for an architect, he hesitates, debates, trifles: we send for an engineer, and he *does it.*" Now he, for one, must give it as his opinion that *this was true.* Give the architect an ordinary commission,—a church, a mansion, or what not,—and his skill was matter of national pride; but go out of this track and demand an extraordinary effort, and the architect—it could not, need not, be denied—showed the want of that power and nervous action which the engineer therefore claimed as his own. What was to be said to this? It must no longer be. Some twenty years ago, or less, the architectural mind in this country turned itself to attack artistic weakness,—precedent, copyism, the supernatural authority of antiquity. The assault had proved successful: the artistic element of design had been set free from these principles. The architects of England, therefore, could now afford to take up a new course. As artists, it was vain to deny them the very highest honour. Why not, then, turn now to science? Let the intellect of the profession devote itself as resolutely to this new conquest as it did twenty years ago to that which had been since so gloriously achieved. The task would be by no means so difficult, either; whilst also the means of its accomplishment were evidently far more at command. It would be the duty of the profession within the next few years, in a word, so to apply themselves to scientific study, that it would be no longer possible for a man able and intelligent, and a little before his age, to argue that, because the architect was a hesitator, he was obliged to hand over to the engineer the architect's proper work; that, because the price to be paid for the element of art was the acceptance of scientific incapacity, he must be content to forego grace that he might secure

power. And this led him naturally to speak of the educational scheme which the Institute had recently promulgated. It had been prepared with the greatest care; and he would now claim from the Architectural Association, as the junior society, founded on educational grounds, and ever since its foundation firmly adhering to its educational programme, that the project of the Institute should be fairly accepted. There was nothing in it which the student could afford to dispense with,—nothing in it that he could profess to be beyond the limits of ready acquisition; and the supporters of the Architectural Association would not be true to themselves if they neglected frankly and unreservedly to meet the demands which the Institute had, at length, after infinite anxiety and trouble, found itself able to offer for their fulfilment.

Professor Donaldson said his friend and brother professor, Mr. Kerr, had passed some strictures on the Exhibition building; and he believed that public opinion went with him in these criticisms. But if that building was peccant in taste and in construction, it certainly contained one redeeming feature. Let them, therefore, pay honour where honour was due. He alluded to the services of his friend, Mr. Crace; who, by the elegance of the forms which he had introduced; by the combination of beautiful colours; and by the contrast of tones, had given life, and grace, and animation to a building which structurally wanted every one of these. They ought, therefore, to bear in mind how much they were indebted to him for redeeming the English character in point of taste, and for the pleasure which he had conferred on all those who went to the Exhibition.

Mr. Billings said there was high authority for the statement that, from the first, it had been decided—and a most insulting decision it was—that no architect should be employed in connexion with the edifice at South Kensington. Admitting to the fullest extent the services which Mr. Crace had rendered, it was impossible for any colouring to redress the structural errors of the building. An ugly form, no matter how it might dress itself, would still be ugly. He could not agree with all the observations which Professor Donaldson had made; especially with regard to departures from the architecture of the twelfth century. He recommended that style to all who wanted to get their per-centages easily. Professor Donaldson alluded to the Flamboyant style: he must know, although, doubtless, he had forgotten it, that the Flamboyant was the perfection of the combination of curves. Hogarth traced the line of beauty; and that was the form that prevailed in Flamboyant from beginning to end. As regarded the merits of the Perpendicular architecture of this country, he would refer to King's College Chapel, at Cambridge; and he would rather see any individual building in this kingdom perish than that chapel, which to his mind was the perfection of form, of mathematical science and calculation. If anybody would take the trouble to get up to the groining, or to go to the choir, and look into the stalls, he would see not only wonderful form and balancing of weights, but the most exquisite detail; many of the carvings being equal to anything which Benvenuto Cellini ever did. There was a wonderful amount of talk about a new style; but why did not somebody produce it? There was enough of iron and glass for the purpose; why not do it, instead of merely talking? As one of the oldest members of the Association, he congratulated them upon the meeting of that evening; on the steady progress they had made; and on the resuscitation of the body from all their former difficulties. He believed they were now upon a firm footing, and might take credit not only for having established an Architectural Exhibition, but for introducing the ladies to the dry details of architectural subjects. He had great pleasure in proposing a vote of thanks to the president for his able conduct in the chair.

The motion passed by acclamation.

Mr. Hayward gave a short explanation of the rules recently adopted by the Institute of British Architects, affording access to their library to "temporary students." Gentlemen who had applied for lists of the books to be used in the examination next January, must have seen that they contained the names of books in the library of the Institute. The Institute would be glad that greater facilities existed for obtaining access to these books; but there were certain rules which they could not in any way alter; and these rules prescribed the manner in which access was to be obtained to the volumes.

The Chairman said he was sure those present must all have congratulated themselves on hearing the speeches which had been delivered that evening. The formal business of the Association was now at an end for the evening; and the remainder of the proceedings would be left in the hands of the professors of a sister art, who had kindly consented to entertain them.

The musical arrangements for the evening were then entered upon; and the visitors had every occasion to feel obliged to the following artistes, who kindly gave their gratuitous services:—Madame Gilbert, Miss Susanna Cole, Miss Palmer, Miss Beckingham (a promising pupil of Madame Gilbert's), Mr. John Morgan, Mr. Wallworth, Mr. J. Cheshire, Mr. W. Evans. Conductor—Mr. Alfred Gilbert.

THE LANCASHIRE DISTRESS.

EACH week the news from Lancashire has a more gloomy aspect: constantly the distress is deepening; and although soon after the suspension of a considerable amount of labour the Registrar-General's health-bill showed a decrease in the number of deaths, this is chiefly to be attributed, as we have before mentioned, to the unusual care which the women out of work were able to bestow upon their children. We fear, however, that ere the winter has passed we shall have to record a less satisfactory state of health; for almost invariably, in both old and modern history, do we find fever and sickness closely connected with a short or famine supply of food: the bodily stamina becomes decreased, and is rendered more susceptible of the evil effects of bad drainage and atmospheric impurities. Besides, there is danger in the necessity which obliges the poor Lancashire workers to contract the accommodation of their homes; and, as the coldness of the weather increases, there is increased danger in consequence of the short and insufficient supply of clothes, bedding, and firing, causing the people to close all apertures and render their homes nurseries of typhus and other disorders of this class. We hope that in this instance we may prove untruthful prophets; but so generally certain are the rules of health, that we trust every endeavour will be made to increase the quantity, and give variety to the food supply which is needed for feeding so many thousands, so that they may be better able to bear up against disease.

But, besides this, sanitary precautions should not be neglected. We trust that a supply of winter clothing will be forthcoming, and that every opportunity will be taken to instruct the people as to the danger of overcrowding, particularly if accompanied with want of ventilation.

In order to increase the supply of food, far larger subscriptions will be required; for it is to be feared that the distress, having affected so many parts of this population, it will, without borrowing, be impossible to increase the relief granted by the parishes. The extent of the demand is enormous. We hope to be able next week to give some information as to the actual sanitary condition of the people.

HEALTH OF THE NAVY.

THE statistics of the sanitary condition of the navy for the year 1859 have just been published. The total mean force afloat during the year was 52,825 of all ranks and ratings. The number of cases of disease and injury placed on the sick-books was 81,325, or in the ratio of 1540·2 to 1,000 of mean force. The number invalided was 1,994, and dead, 886; in the ratio per 1,000 respectively of 37·7 and 16·7. As compared with previous years these numbers are said to show a decrease under each head; although in 1859 the number of wounds received in service in China and of cases of death from yellow fever in two vessels on the West Coast of Africa had the effect of making these proportions greater than would otherwise have been the case.

Tables are given which show the distribution of these totals among the various stations, including the irregular force, or vessels going to and returning from stations or despatched on special service. From these it appears that the average number of daily sick is lowest on the Australian and Cape of Good Hope stations; being 42·1 on the former and 44·7 on the latter; and highest on the East India and China station; being 94·6, or nearly 10 per cent. of the whole force. On the North America and West India, the Home and Mediterranean commands, the losses were respectively in the ratio of 49·9, 50·2, and 51·5 per 1,000, or about 5 per cent.; and on the Brazilian station the per-centage was 5½. The ratio on the Pacific is 65, a little in excess of the West Coast of Africa, which is 63·6.

The proportion to be ascribed to various classes of diseases of the average daily sick is;—for diseases of the respiratory organs, 367, though half this sickness is ascribed to common cold or sore throat; for diseases of the stomach and bowels, 243 (a large proportion belonging to the Chinese service); for rheumatism, gout, &c., 247·6; for diseases of the eyes and ears, 49·5; for genito-urinary diseases, 542, or 10·2 per 1,000 of mean force, equal to the removal from the effective strength of the navy of the entire crew of a 50-gun ship; and for diseases of the skin and cellular tissue, on which the greatest loss has taken place, 782, or equal to the crew of a ship of the line or second rate.

The total number of days' sickness in the navy has been 1,145,529; and, dividing the latter by the number of days in the year, the quotient shows the number of persons daily inefficient, or on the sick list, to be 3,138 (out of 52,825). These results show "how necessary it is to husband well the health and strength of those on whose efficiency depend not only the safety of the ships in which they sail, but it may be the safety and honour of the country."

THE LICENSING OF COW-SHEDS.

IN the parish of St. Pancras alone application has been made for licenses for more than ninety cow-sheds. On inspection some were found to be in the most filthy condition, poisonous to the surrounding neighbourhood, and unfit in space and other accommodation for the animals. A large cow-shed near Argyle-square was greatly complained of by the inhabitants of that neighbourhood, who were obliged to keep their windows shut, and even then the smell was unbearable: lodgers had left in consequence; and for other reasons the place was reported to be a nuisance. Notwithstanding, this shed is better than many, being ventilated at the roof, &c. Obstinately opposed to any improvement as most of the London cow-keepers were, now that this most useful law has come into operation they seem willing to set their places in order; and the medical officer has advised the use of a little patience, in consequence of the short time which has elapsed since this Act was passed; and in doubtful cases the magistrates have determined to inspect the premises.

Although under the present circumstances we do not object to forbearance, it is to be hoped that after a short time the provisions of this Act will be firmly carried out. This, indeed, will be to the advantage of the cow-keepers and their neighbours, and a necessary act of mercy to the pent-up animals. If with care these places cannot be kept pure, they must eventually be removed. Might it not be worth while to try some of the disinfecting means, which are said to be cheap and effective?

While inspecting the cows, let us hint that it would be well to see about the pigs, for there are many more of them, in places where they have no business, than is generally supposed.

MUSIC AND THE DRAMA.

Royal English Opera, Covent Garden.—"Love's Triumph," composed by Mr. Vincent Wallace and written by Mr. Planché, was produced on Monday evening last with remarkable success. The house was crowded to the ceiling, and the repetition of the greater number of the solos, duetts, and concerted pieces was compelled by the unanimous and spontaneous nature of the demand. "Though all too poor the painter's art," and "Night, Love, is creeping," ballads sung by Mr. Perren, who, with a good voice, is a poor actor; "Carelessly cantering down a lonely dell," and "Those withered flowers," by Miss Louisa Pyne; "I'm a model page," by Madame Laura Baxter; the trio, "For me if you would garlands twine," by Madame Baxter, Mr. Weiss, and Mr. Henry Corri, whose acting in the piece is excellent; a choral part song without accompaniment, "Corin, for Cleora dying"; and the sestet, "In mystery shrouded," are amongst the gems of the opera. Miss Pyne, who plays two parts,—a princess and a burgomaster's daughter,—leaves nothing to be desired. Mr. Harrison, with less singing to his share than usual and more acting, materially conduces to the success of the opera. He will probably do more hereafter with the buffo song, "Patience, Prudence, Circumspection." The music, as it seems to us from one hearing, is remarkable for a flow of melody rather than scholarship. The libretto is admirably written, terse, pointed, and elegant, and should lead our composers to insist on something better than the slipslop to

which they are content to wed their music. When we remember, however, that Mr. Planché's ability in this direction has never been called on to aid since he produced "Oberon" (a model opera-book), the desired result is not so certain as might be expected. A little appropriate dancing and some pretty groupings at the end of each act assist in producing a successful whole.

The Princess's Theatre.—The new management have strengthened the company, and made it strong, by the addition of Miss Amy Sedgwick, who has been playing in the "Love Chase" and the "Hunchback." The latter play is exceedingly well done, notwithstanding that a younger heroine is desirable. Mr. Marston, Mr. Belmour, and Mr. Vezin give due force to the parts of *Master Walter, Fathom,* and *Clifford;* and Miss M. Oliver's *Helen* is unaffectedly charming. A new piece will be produced on Monday.

The Music of the Future.—We allow a correspondent, A. W., who has before written as to Wagner's music, to state his own views, for the sake of discussion:—"In former letters I have called your readers' attention to Wagner's music, and I would now turn especially to what seems to me the inconsistency of the *Athenæum* in its criticism upon his works. This paper usually bestows great praise upon the Pre-Raffaellite paintings; but the musical critic never ceases to sneer at Richard Wagner. The Pre-Raffaellite and Gothic architecture movements arose from the desire to oppose the academic conventional manner of treating nature, and from the wish to found a system of building upon true constructive principles. In like manner Wagner laboured to found a school of music untrammelled by the laws of melody taught throughout Europe. The critic I speak of never ceases to insinuate that Wagner cannot write melody; and to this I must answer, that Wagner never intends, nor has he any thought of, writing melody in the commonly accepted sense. He holds, that by the ordinary form of melody, the musician cannot aid the poet to express the sentiment of the words to the extent necessary; that he cannot vary in expression to the same extent as the poet; that he is, therefore, confined and cramped; that if he is confined to the ordinary form of melody he cannot write music *descriptive* of sentiment; he cannot paint in music as the poet paints in words. There is more descriptive effect in a chord than in a single note. Therefore, according to Wagner, poetry, in an opera should be aided by a web of tone, a continuation of chords to express the meaning of the words. His music is thus a descriptive symphony, without any melody, in the ordinary meaning. The singers recite the words of the poem, the orchestra aids the latter by this web of tone. Poetry being the nobler art, music is second to it, or rather equal with it; both working together to represent the legend. This, I believe, is the true and natural aim of music. Some critics are constantly crying out against modern singing; comparing it with the past age—with the Rossini singers. Now, I maintain, in common with Young Germany, that these singers were not good; that their voices were spoiled by the continued bravura singing. The perfection of execution of these singers I can compare only to the machine-like polish and finish of modern work. Of Rossini's melody I can only say that it was written to please by itself, to tickle the ears; that it has no moral aim; that there is no attempt to aid the poem; that modern Italian operas are nothing but a certain quantity of airs strung together, without any attempt at forming a continued poem in music. These views, put forward by Wagner, are entirely opposed to all received notions of music, and in the end they will triumph, I doubt not, because founded on nature and truth. Moreover, they are the earnest convictions of an earnest man. Any one may imagine how quaint and grotesque a comic opera written on his principles will be, and how grand a legendary opera. Two fine specimens will be his, 'Hans Sach' and 'Tristan and Isolde,' when produced, as they will contain the full developement of his system, which is only partially heard in his 'Tannhäuser' and 'Lohengrin.' Of old music, more or less illustrating Wagner's principles, I may mention Palestrina's, but especially Beethoven's 9th symphony, and the D Mass. The Mediæval French music, and the earliest known English, are excellent as simple works, descriptive of the sentiment of the poetry. All the German opera composers, such as Mozart, Gluck, Weber, have worked more or less on the Italian model, and cannot be said to have done anything for *nature* in music. What I desire to see is fair play, and with this I have no doubt Wagner will gain for himself esteem in this country."

METROPOLITAN BOARD OF WORKS.

THE report of the Metropolitan Board of Works, pursuant to the Act of Parliament of 18th and 19th Vict., c. 120, s. 200, presented to the board 15th August, 1862, has just been published. The document is of considerable length; but as we have ourselves given very full reports of the progress of the drainage works and other improvements of which it chiefly treats, we need not at present go into the subject at any length. We may merely revert briefly to the state of the drainage works generally, according to the report of Mr. Pollard, the clerk to the Board.

Of the three great sections into which these important works have been divided upon the north side of the river, one is actually finished, a second is half complete, and the third is well in hand. The first, or northern high-level sewer, extending from the Gospel Oak-fields at Hampstead to Old Ford on the river Lea, is completed throughout and in full operation. Of the middle-level sewer, which forms the second portion of the work, and is about twelve miles and a half long, about half is actually finished. The most important of all the sections—the low-level sewer—has been unavoidably delayed by the ambiguities which have beset the formation of the Thames Embankment. From Whitehall to Blackfriars Bridge it will be constructed within the new embankment, and will thus avoid the Strand, Fleet-street, and Cannon-street.

On the south side, the two great lines of sewer are commenced, but neither is in so forward a state as those on the north side.

There is one point in Mr. Pollard's report to which we may more particularly advert;—namely, as to the district surveyors' returns of building operations. The result of the monthly returns for the year 1861 is given as under:—

Works.	Building Operations.	Fees.
New buildings in 1861, in respect of which fees have been received	4,095	£8,266 1 3
Additions, alterations, and other works, in respect of which fees have been received	4,723	5,168 1 11
Arrears of former years received:		
New buildings	2,816	5,794 2 6
Additions and alterations, &c.	2,474	2,357 17 0
Total works and fees thereon, during the year ending 31st December, 1861	14,008	£21,586 2 9

This total is not precisely correct, considering that it includes arrears of former years, the fees of which amount to 8,151*l.* 19s. 6d. out of the sum total of 21,586*l.* 2s. 6d. The fees for the year ending December 31st, 1861, therefore, strictly speaking, only amounted to 13,434*l.* 8s. 2d.; but then, on the other hand, there are the arrears of 1861 to be considered.

PRIZES OFFERED BY THE INSTITUTION OF CIVIL ENGINEERS.

SESSION 1862-63.

A LONG list of subjects for essays on which premiums are offered has been published. We select a few. For the first three, pecuniary awards will be made, not exceeding in each case twenty-five guineas, in addition to the honorary premiums:—

Accounts of existing water-works; including the source of supply, a description of the different modes of collecting and filtering, the distribution throughout the streets of towns, and the general practical results. (Twenty-five guineas.)

On the results of the use of tubular boilers, and of steam at an increased pressure for marine engines; noticing particularly the difference in weight and in speed, in proportion to the horse-power and the tonnage. (Twenty-five guineas.)

On the manufacture of large masses of iron for the purpose of warfare, as armour-plates, &c. (Twenty-five guineas.)

On the manufacture of bricks by machinery, and their comparison with hand-made bricks.

On the methods of constructing foundations for large structures, in deep water, and on the various systems of driving piles.

On the construction of suspension bridges, with rigid platforms, and the plans of anchoring the stay-chains.

On the various modes adopted for moving earth in tunnels, cuttings, or embankments, with the cost.

On the mechanical methods of boring and of sinking large shafts; of introducing the tubbing and the impervious lining; and of traversing running sand and other difficult strata.

On the drainage and sewerage of large towns; exemplified by accounts of the systems at present pursued, with regard to the level and position of the outfall, the form, dimensions, and material of the sewers, the prevention of emanations from them, the arrangements for connecting the house drains with the public sewers, and the disposal of the sewage, whether in a liquid form, as irrigation, or in a solid form after deodorisation.

On the construction of tidal or other dams, in a constant or variable depth of water.

VENTILATION AND WARMTH.

THE season for blazing fire-hearths has now set in; and the hard inhabitant, rather than admit the chill atmosphere, will totally exclude it. Many modes of moderating its access have been practised. Louvre openings of glass have long been in use. A new patented appliance of the same character, covered with wire gauze, or perforated zinc, has also been presented to the jury; but none of these are considered worthy of a prize, since it is cold air that is admitted by them; and rather than admit air at the external temperature, when the thermometer is down to about 45°, the inmates of houses in our clime will rather exclude it in totality.

There are several varieties of heating and ventilating stoves in use for large structures, and even for warming the halls, staircases, and galleries, or corridors, of large houses. These, to a certain extent, do secure a genial atmosphere, by keeping up fires specially for their use and object; but on visiting the Architectural Gallery, Conduit-street, the writer was struck by the models of two stoves, one for large buildings, or for mansions whose separate fire-places are constructed for their use; the other for small houses, or sets of chambers. In these a new system, or rather a new application of old principles, is adopted. The air is admitted in full volume below the range or floor: it is collected in a chamber or cavity around the stove; and for some height in the chimney-shaft a tubular smoke-flue ascends from the stove (into which it is close-shouldered), thus forming a hot-air chamber of the ordinary smoke-flue; and from this chamber, stopped off at any desired height, warm-air ducts are directed to the chimney itself, or to other rooms, for the purpose of ventilation.

From the constant supply of fresh atmosphere, and its free distribution, the air thus served is not burnt, nor deprived of its life-sustaining properties; and the small iron flue of 6 or 8 inches in diameter is found to carry off the smoke more effectually, a great part thereof being consumed, and this also aiding in combustion, whilst it provides a perfect immunity from smoke.

Where it is desired to raise the temperature a blower is applied; so that any moderate and sustainable degree of heat may be attained; the whole system of air tubes or conduits being under perfect control, so that the supply can be regulated.

In the larger model stove there is a coil of hot-water pipes, which is enclosed in a chamber, and made to serve any other rooms, halls, or staircases, or adjoining buildings, that may be designed in construction. Having studied the subject, on further inquiry, and reference to the houses in which these new stoves are applied, I was surprised at the equability and geniality of the temperature, and more especially at the fact that there is not the slightest taint of burnt air perceptible from the smaller cottage or room stove; and still more, that the quantity of fuel in combustion, and producing such results, was no more than an ordinary fireplace might consume,—in fact, a mere hatful!

These models were not at the Exhibition, and therefore have not come under notice of the jurors. Would it not be worthy the attention of large stove manufacturers to take up these simple but efficacious stoves; to make them ornate and attractive, as they please; but also to turn out a number at a cheap rate; suitable for the private chamber and the poor man's lodging, with a handful of coals?

QUONDAM.

THE CASTLE AT HEIDELBERG.—These interesting and beautiful ruins have been damaged by the construction of a tunnel under the castle for the Neckar Railway. The promptest and most efficient means should be adopted to secure them. The tunnel should not have been permitted there.

THE VENTILATION OF SHOPS,

OFFICES AND WORK-ROOMS.

Sanitary conditions which we now think of with complacency will be looked upon by the coming generation with feelings of surprise not unmingled with disgust. We recently printed some notes on the ventilation of cellars which excited surprise; and investigation will show that, particularly in the old parts of the metropolis, there are, notwithstanding the alterations which are going forward, many shops so constructed as to add to the evils which are likely to arise from the neglected state of the cellars.

In many situations, such as the narrow and crooked streets which are near St. Paul's Cathedral, particularly on the south side, the carrying out of proper sanitary arrangements is a matter of difficulty; but in all cases much good is to be done by making the necessity for alterations clear. In these parts there are chandlers' shops, for example, in which candles, bacon, cheese, soap, butter, red herrings, and a hundred other miscellaneous articles, are thickly stored. In most instances, although the fronts may have been improved and modernized, the interiors are unchanged. Generally, the ceilings are low, and the shop extends as far as the space will allow until it comes in contact with the adjoining premises. What has been originally a small back yard has been built over. In some cases a skylight has been provided; in others not; but often where there is a light, it is made so that it cannot be opened,—in order, as the tenants say, to prevent the visits of thieves. Even when the skylight is made to act as a ventilator, it is not used.

An examination of a number of these premises shows that, originally,—say at the time of the rebuilding after the Great Fire of London,—they were not intended for shops; but, as the requirements of the neighbourhood demanded it, the ground floor of the dwelling-house has been transformed into a place of business. In some houses a passage has been left, which allows a separate entrance to the dwelling-rooms; but more frequently the passage has been, at some time or the other, joined to the shops; and there is no communication except through this with the upper apartments.

If chandlers' shops are bad, those of the butchers are often worse. The accompanying engraving represents a characteristic example of the arrangement of many business premises in different parts of the metropolis. A is the cellar, in which are the closet, water-tank, pickling tubs, &c.: B is the shop; C a small office, which has been built upon what was once a back-yard. This is lighted by one of the skylights to which we have referred. This little apartment has been built out close to the wall of the neighbouring house. E is the kitchen, which is situate as many City kitchens are, on part of the first-floor: D is a sitting-room. The way to these is from a dark, narrow, and inconvenient staircase, leading from the shop. F F are bed-rooms. A worse arrangement than this can scarcely be imagined. All the bad air collected in the cellars must pass to the shop; for, except by a small grating in the front, there is no other means of exit.

In a butcher's shop, in the day-time, the unglazed windows admit a good supply of air; and provided that openings are left through to the back, there is sufficient current; but it is not so with some other shops, in which the windows are glazed; and where, often, particularly in cold weather, the door is kept nearly or entirely closed. To return to our illustration. Into such cellars as that shown in the sketch, sheep are pushed down, and other animals slaughtered. We trust, however, that the law which enforces the licensing of slaughter-houses in the metropolis, and their regular inspection, has put a check on such disgraceful practices. Apart from these, however, there is much impurity in such cellars. Some are infested by large rats, which find their way there from sewers and broken drains; and if the rats can come so, the foul air is sure of a passage also.

At night, and during Sundays, the shop is closed by shutters; and at night the sky-light is fastened for fear of thieves. At times, occasionally on Saturday nights, quantities of meat are left unsold; and in the summer, and in dull, heavy weather, it is by no means unusual by the Monday morning to find this stock green, putrid, and quite unfit for food. This material vanishes in the morning; for although it is unsaleable by the butchers, and unfit for food, it notwithstanding finds a market; and we fear is often, in a highly seasoned state, sold in the shape of sausages. This trade should be more closely watched. Now, it is evident that, what with the cellar and what with the shop, those who dwell above are not well placed. The floors of those old-fashioned houses are saturated with grease; and there are other things, such as boxes for waste fat, collecting for the tallow-chandler, which cannot well, under the circumstances, be otherwise preserved; or it would surely be done; for it is evidently to the advantage of the butchers to attend most scrupulously to cleanliness, as nothing sooner taints all kinds of animal food than want of attention in that respect. Some modern butchers' shops are spacious, and thoroughly ventilated: the floors are of stone, and the walls of a polished substance, so that they can be thoroughly washed with water and easily purified.

To a greater or less extent, the remarks above made apply to other shops of a similar construction; and we have been led to make them because, at no great cost, the healthiness of such houses and shops might be much improved. The cellars should be kept scrupulously clean: if it be a necessity that the ashes and dust should be there, a dust-bin with a tight-fitting lid should be fixed, and that should be emptied once or, if it can be done, twice a week: the ground should be flagged; the sinks and closet trapped in the most effectual



A Cut through a House in the City.

manner; the front grating enlarged to the greatest possible extent, and the place lime-washed at least four times in the year. This would sweeten the superstructure; and then every means should be used for keeping up a good current of air through the shops, during both night and day. This might be to a certain extent managed by perforated glass in both the windows and skylights; or, where it is possible, by openings at the back, and by open iron gratings over the doors, which might be so constructed as to defy thieves and prevent the admission of rain and snow.

"A Sufferer" complains of the close and unwholesome state of many architects' and engineers' offices, which he has occasion to visit on business; but especially of the assistants' offices, which are frequently quite offensive. Now this is not only selfish, but it is stupid, and quite inconsistent even with an intelligent selfishness; inasmuch as the vigour of the brain depends directly and immediately, as well as momentarily and continuously, on the proper aëration of the blood; and if employers could only see or estimate the actual shortcomings and losses to themselves from such a source, they would probably be more desirous of providing a free supply of that cheap commodity, fresh air, to their assistants than even to themselves. They may depend on it their contempt for such considerations does not arise from superior sagacity on their parts, but from superior ignorance of the inevitable laws of physiology, and of health and vigour of brain and body. In the case of foolish slave-ship captains, who stow their poor slave passengers under close hatches, and kill them by hundreds from want of fresh air, were some intelligent underling to warn any one of them that the want of fresh air was the cause of the deaths, we doubt not he would be snubbed for his impudence, sneered at as a pragmatical and conceited fool, and his advice or entreaty despised; but how evidently it would have been for the benefit of the owners, as well as of the slaves, to have given the utmost attention to such advice, there are few who cannot see. Why, then, should employers of all kinds be so stupid as they are in respect to the welfare of those, the value of whose higher labours is far greater than that of mere slaves; and although there are but too many masters who care little whether their servants be killed by slow degrees while serving *their* purpose, such masters ought seriously to consider whether their purpose really be best served without regard for the health and vigour of those dependent on them for a livelihood.

THE MANCHESTER ALBERT MEMORIAL.

Our readers are already informed of the character of the structure designed by Mr. Thomas Worthington, in which it is proposed to place the statue of the lamented Prince Consort, executed by Mr. Noble, and presented to the town by the mayor, Mr. Goadsby. In laying before them, however, a view of the memorial, it may be desirable to repeat the description already given. The structure consists of an open, arched, and four-sided canopy, within which the figure stands upon a high pedestal. The base of the erection rests upon the top of a flight of five steps, and is protected by a grille of metal-work, perhaps of bronze, divided into compartments, and filled with quatrefoils. The basement is divided into two stages, the upper of which, on each side, contains five panels enriched with armorial bearings. Each corner of the basement supports a pier, ornamented with a shield, emblazoned with the arms of the Prince, surmounted by a coronet. At the inner edge of the piers are clustered spiral columns of marble, with elaborately-foliated capitals. The mouldings of the four arches, also of spiral work, like the columns, spring from the capitals of the piers; and running along the under edge of the arch will be a cusping. Above each arch rises a gable, adorned with crocketings on its outer edges, and terminating with the figure of an angel blowing a trumpet. The gable is pierced with a circular opening, enriched with light tracery, and filled with two intersected triangles. The three spandrils of each gable will be filled with arabesque work, in basso-rilievo. Each of the four piers supports a pinnacle in two stages, the lower of which is decorated with spiral marble columns. The upper part of each pinnacle consists of an open canopy, elaborately adorned with crocketings, finials, and lesser pinnacles, supported by spiral columns, and sheltering a small emblematic statue. From between the gables rises a small octagonal spire, to a height from the ground of 75 feet, where it is terminated by a metal crown. "The style of the structure is that which prevailed in Florence and throughout Tuscany between the ages of Brunelleschi and Giotto." The length of the steps at the base is 35 feet. The base of the memorial proper at the top of the steps measures 19 feet on each side. Height of basement, 13 feet 6 inches; pedestal, 21 feet; figure, 9 feet. The total cost will be about 5,000*l*.

The view represents the memorial as placed in the centre of the Infirmary esplanade. But since the committee decided to place the memorial there, the question of site has been generally discussed, and an opinion exists that the prevailing vertical lines of the Mediæval structure would be discordant with the horizontal lines of the Ionic portico of the Infirmary.

It has been suggested that a suitable site might be obtained at the junction of Portland-street with Piccadilly, by cutting off the acute angle of the Infirmary grounds and forming a large triangular paved "place," in the centre of which the memorial might stand, leaving a street all round



THE PRINCE CONSORT MEMORIAL, PROPOSED TO BE ERECTED IN MANCHESTER.
MR. WORTHINGTON, ARCHITECT.

it equal at least to the width of Portland-street. If so placed, the memorial would be a striking object approaching from Oxford-street; and, being altogether detached, would separate itself completely from the adjoining buildings and statues.

As opinions differ on this point, the committee have determined to put up a wooden framework, or skeleton outline, of the memorial, in the centre of the esplanade; boarding the solid portions; in order that the actual effect may be judged of. Had this discussion as to site not arisen, the foundations would now have been in progress; Mr. Worthington being anxious to get this part of the work advanced, and time allowed during the winter months for consolidation before commencing the superstructure. We agree with those who object to the esplanade, and incline to the last-named site. The proposed rough model will scarcely show the discrepancy that would be apparent if the memorial were erected in front of the Infirmary.

HOME AND FOREIGN TRAVEL.

Of the five or six millions of visitors who will have been attracted to the International Exhibition, many will have gained most valuable information, which will not be without effect on our manufactures, artistic and otherwise. But this is not the only advantage; for numbers who have come from the provinces and from foreign parts have extended their investigation to the great works of the metropolis. Many foreign citizens and apprentices, too, have been enabled, by assistance of their Government, to make tours of inspection to the scenes of various kinds of industry in which they are interested throughout this kingdom. This national expenditure will not be lost; for besides the teaching which in this way will be obtained, there will be a stimulus given, by this selection of well-conducted and clever men and youths, to the whole class of skilled workmen throughout France, Germany, Italy, and elsewhere.

When we remember the jealous exclusion practised by a large body of manufacturers only a few years ago, when most of them had secrets on which they considered their success depended, and that the works were as closely guarded as a beleaguered castle in the olden time, we think with pleasure of the change which has taken place. Our greatest manufacturers, at some trouble, now throw open their establishments to those who are likely to take an intelligent interest in them.

While thus gladly welcoming those connected with foreign industry, we should not neglect to avail ourselves for our own workmen of similar opportunities which may be offered in France, Belgium, Germany, and elsewhere; but take advantage of the International Exhibitions which may be opened, and of invitations which may be offered to our workmen, to see what can be usefully gathered from abroad. But in order to enable Englishmen to do this with complete effect, it is very essential that they should be able to speak the French language with some degree of fluency. In many parts of London, and in all important towns, there is, in connexion either with the Mechanics' or other institutions, opportunity for young men learning this and other valuable branches of education after the hours of labour; and it must be borne in mind that in the case of selection of persons for foreign travel, those will be chosen who are best fitted, by their skill, education, and character for perseverance, for such missions.

While acknowledging the great value of foreign travel, we fear that matters at home have been by far too much neglected, particularly by the educated classes. During the progress of Mr. Gladstone through parts of Northumberland and Durham, the Chancellor of the Exchequer repeatedly expressed his astonishment at what he saw. He contrasted the ancient castle at Newcastle-upon-Tyne, which has stood for about 800 years, &c., with new and modern wonders, which every way met the eye. The great manufactories of engines of all kinds; others for the making of electric cables; chemical works, of an extent which could scarcely be credited without being seen; ship-building yards, for iron and other vessels of war and the merchant service; Sir William Armstrong's manufactory for rifled cannon; marine and hydraulic and other engines; Stephenson's works; glass works; anchor and chain makers; docks of immense extent; and colliers, and fleets of vessels engaged in various trades: besides these were coal staithes and drops, from which the multitudes of waggons coming by railways from the inland collieries are unloaded; the high-level bridge, and buildings of either one description or another, stretching, almost without a break, from below Newcastle to the bar of the sea, a distance of about twelve miles, where the busy hands of man are contending with the ocean in making a harbour which it is hoped will not only prevent the loss of life and property on this dangerous coast, but also be of advantage to the Port of Shields and River Tyne. All this is marvellous, and it is more wonderful when looked at in detail, and it is remembered that the greater part of all this industrial progress has been made within thirty years.

Nor are the great labours of other parts of Northumberland and Durham; of Birmingham and its neighbourhoods; of Sheffield; the Yorkshire cloth works; the mills of Lancashire and Cheshire, which we wish soon to see busy again; the vast mercantile trade of Liverpool, and a hundred other matters which might be mentioned, less worth the study, particularly of those who, when college or school life has ended, have some time to spare before commencing those duties to which they are devoted, and which for some years will hold them tight and tighter. Nor are such journeys without pleasure. We have cathedrals and churches, and picturesque landscapes and seacoasts to be looked at; and, while this home-travel is being performed, the wayfarer has an opportunity of forming an estimate of the varied character of his countrymen. In one sentence, while foreign travel has undoubted advantages, a knowledge of his own country and its productions, gained by careful personal examination, should be considered absolutely necessary by every Englishman who has health and his senses.

COMPETITIONS.

Malvern Proprietary College Company. — Dr. Stummes writes,—"I wish to correct an erroneous impression current amongst the competing architects of plans for the College buildings, that the successful architect is obliged to take a certain number of shares. The instructions and conditions to architects do not contain such an absurd stipulation."

Albert School and College, Suffolk. — The sixteen designs sent in have been exhibited for ten days. The majority are Gothic: the sum to be spent is 10,000*l.* The competitors are Mr. Wilson, of Bath; Mr. Peck; "East Anglian;" Mr. R. M. Phipson, Ipswich; Mr. E. S. Blackburne, London; Mr. E. Ellis, London; "Fiat;" Elmslie, Franey, & Haddon, Parliament-street; "Aut disce, aut discede;" "Probatum est;" Mr. A. Allom; Messrs. Habershon & Pite; and "Excelsior." An architect, well known, has addressed to us a statement of certain doings in this matter, as between the secretary and the design of his relative, a Maidstone architect, the publication of which would probably subject us to an action for libel. We must content ourselves with advising the committee, which includes men of the greatest respectability, to exercise an unbiassed and impartial judgment.

Leicestershire Militia Buildings.—The committee offered a premium for the best design for buildings on a specified site; and have awarded it, we are told, to a plan suggesting the erection of the cottages required round a different site!

Rhyl British Schools.—The committee for the intended British Schools have selected the designs of Mr. F. D. Johnson, of Bennett's-hill, Birmingham.

CHURCH-BUILDING NEWS.

Market Rasen.—The church of St. Thomas the Apostle has been restored and re-opened. The tower and some parts of the chancel are now the only portions of the old edifice remaining, except some of the best portions of the nave, which have been incorporated with the newly restored parts. The entire body of the church has been either renovated or restored. A portion of the old nave walls has been restored, and a new chancel arch erected, with pillar caps enriched with figured mouldings. On the north are four new windows, three on the south, two on the west, and one large eastern window above the communion. These windows have hoods and bosses of grain, fruit, and flowers, carved by Mr. Scrivens, of Doncaster. The clerestory windows are eight in number, all new, with bosses and heads. An organ chamber has been built over the vestry, in the eastern part of the south aisle: this communicates by a triple arcade of pointed arches and pillars with the chancel. The bell-house is now open to the nave, showing the whole of the tower-arch. The roof is open, and constructed of red pine stained, covered with slates and Staffordshire ridging. The flooring is of Minton's tiles. The seats are open benches throughout, of pine (hereafter to be stained). The gas-fittings have been furnished by Mr. Oliver, of Louth. Two bells have been recast by Messrs. Warner, of London, and the whole re-tuned. These, with the glazing of the western window, are the only alterations made in the tower. The rough stone used in building the walls, has been given by Mr. H. R. Boucherett, of Willingham House. The windows are of Ancaster stone, from the Park Spring Quarries. The entire work has been executed by Messrs. Smith & Binns, of Lincoln, under the direction of Mr. Fowler, of Louth, architect.

Kibworth.—The re-opening of Kibworth Church, St. Wilfred's, has just taken place. Though this re-opening has followed the restorations that have been recently effected, says the *Leicester Advertiser*, it was intended also to serve as a commemoration of the various works of improvement or restoration which have been gradually going on for several years. When the tower and spire fell down in 1825, carrying with them the tower arch, this latter was never restored, but a plain whitewashed wall formed the west end, shutting out the tower and west window. An entirely new tower arch has now been constructed, and the west window improved. Two new buttresses have been built in the angle of the tower outside. The ceiling and old roof of the nave have been replaced by a new open roof, leaded rather higher than the original pitch. The clerestory windows have been repaired and scraped, showing for the first time the stone-work. The walls have been relieved of their white-wash and rough stucco. The chancel and the gable of the nave have been rebuilt and raised with new coping and gable cross. Two windows have been opened on each side of the chancel arch, and have been filled with stained glass, the gift of Mr. W. Slater, the architect: one is a diamond-shaped four-light quatrefoil window, the other a square three-lighted one, with Flamboyant tracing. Both were blocked up probably for many generations. The porch windows, also hitherto blocked up, have been opened, and glazed with green cathedral glass. An ancient stone staircase leading from the floor to the top of the screen has been restored to view. About 780*l.* have been expended, raised by voluntary contributions, which, with the restoration of the chancel, which cost more than 300*l.*, and the earliest improvements in the church above mentioned, make a total of about 1,150*l.* expended on the church, independently of the open seating and new interior fittings.

Northfleet.—The vicar and churchwardens of Northfleet have for a considerable time past had it in contemplation to restore the chancel of this fine old parish church; and the consent of the trustees of the late Mr. E. Murrell (who are bound to repair the chancel only) having been obtained, the work of restoration has commenced under the supervision of Mr. E. Godwin, architect. The present pews will be removed, and the level of the floor will be altered. The estimated cost of the proposed restoration will be about 500*l.* or 600*l.* If sufficient funds are obtained, a stained glass window will be placed at the east end, which will be erected as a memorial to the late Prince Consort. The nave of the church was restored about eleven years ago, and a set of gates have recently been erected at the entrance to the graveyard.

Leigh (near Tunbridge).—The church here has been restored, or rather rebuilt. The galleries have been taken away, and a new tower built of Kent rag and Speldhurst sandstone dressings. The stone has been given by Mr. Chas. Powell, of Speldhurst. A new vestry has been built: the roof and the whole of the fittings are new except the pulpit. Mr. Charles Bailey is the honorary architect. Mr. H. Constable, of Penshurst, was the builder. The chancel has been rebuilt from designs of Mr. George Devey, architect; and the work has been done by Mr. H. Constable also.

Southampton.—St. Paul's church has been consecrated. The church has been enlarged with the view to providing free accommodation for the poor, to the extent of 300 sittings. Mr. Snook was the builder, and Mr. Brain the stone-carver employed. The east windows were by Messrs. Warrington & Sons, of London. Mr. Edmund Scott, of Brighton, was the architect who designed and superintended the whole work.

Bettiscombe.—The parish church here has been consecrated. The style of the new building is Early Perpendicular, after the type of its predecessor, but more elaborate in detail, and of so much greater dimensions that it will now conveniently accommodate a congregation of 160 on the ground floor, instead of only 90 as heretofore,

even with the aid of a gallery; while the high pews have been substituted by open seats. Three of the old windows have been preserved and re-inserted; one in the west face of the tower, which opens immediately into the nave, and the others on each side of the chancel. On the north side of the nave an arcade of three arches opens into the aisle, the piers consisting of clustered pillars with moulded caps; and, besides the nave and this north aisle, there is a chancel, with vestry on the north side, besides a porch on the south, and a tower at the west end. The walls are built of flints in random work, with bands of native stone, though the arches, doors, &c., are of Ham Hill. Open-timbered hammer-beam roofs give height to the nave and aisle, the corbels being carved into designs of fruits and flowers; and the roof of the chancel is also of open-stained deal, though the ribs are arched and somewhat pointed, springing from moulded corbels. The east window, it is to be hoped, will be filled with stained glass, as two have already been promised for the chancel by Mrs. Scott, widow of the preceding rector, as well as the third by another benefactor. Mr. J. Hicks, of Dorchester, was the architect, under whose superintendence the work has been carried out by Mr. E. Brooking, of Weymouth; the carved work having been executed by Mr. Burge, of Chiselborough.

Worfield.—The church of Worfield (between Wolverhampton and Bridgnorth), has been re-opened. The plaster which obscured the ancient roofs has been removed, and brought to light a specimen of Decorated oak timber. The irregular square parlour-like pews, made of deal, have been swept away; open kneelings of solid oak, with geometrical tracery, being substituted: the pattern of the oak carving and mouldings which were found concealed under the deal, has been adhered to. A new south porch has been added, in keeping with the Decorated character of the church. A new four-light window has been introduced at the west end, filled with stained glass, the work of Mr. A. Gibbs, of London, presented by Mr. Peter Joynson, of Manchester, as a memorial to his parents. It represents "The Four Acts of Mercy." The whole of the church is now filled with painted glass. The south-west window, executed by Messrs. Hardman & Powell, depicts "The Day of Judgment." The north-west represents "The Anointing of the Feet of Christ," "The Woman touching the Hem of His Garment," and "The Appearance of Christ to Mary in the Garden after the Resurrection." The subjects of the remaining ones are, "The Parable of the Talents," "The Good Samaritan," "The Conversation with Mary and Martha, and with the Woman of Samaria, at the Well;" "The Good Shepherd:" the latter is the gift of the cottagers of the parish. There is also one painted by Mr. Evans, representing "The Angel at the Tomb of our Lord" and "The Journey to Emmaus." All these windows, with the exception of the last, were executed by Mr. A. Gibbs. Mr. W. S. Davenport, the patron of the living, has almost rebuilt the chancel, which has a five-light and seven other side windows painted by Mr. Gibbs. The stalls are of oak; the flooring and borders of encaustic tiles. Messrs. F. & H. Francis, of London, were the architects; and Mr. R. Yates was the builder employed.

Jackfield.—The first stone of Jackfield new church has been laid. The written parchment deposited in the stone after "Laus Deo" gives "laus" enough to the rector and churchwardens by recording their names, but no such compliment to either architect or builder.

Newcastle-upon-Tyne.—The foundation stone of a new church and schools for the United Presbyterian congregation, hitherto worshipping in the High Bridge, Newcastle, has been laid. The church will be a plain structure, and will be built on a site situate in Gresham-place, Elison-place. The schools will be underneath the church, below the basement. The architect is Mr. Cairns, of Newcastle; and the works will be carried out under the superintendence of Mr. Hogg, builder.

CONGREGATIONAL CHAPELS.

Colchester.—The foundation-stone of Lion-walk new chapel has been laid. The old octagonal building, having stood nearly a century, has been razed for the site of the present structure, which will be in the Geometric style of English Gothic, of Kentish rag and Caen stone. The dimensions are to be 88 feet long by 53 feet wide, with a tower and spire 125 feet in height. The west end has a centre gable with a four-light window, 26 feet high by 10 feet wide, finished on a moulded stone string course, below which is the principal entrance, opening on to a stone staircase, branching right and left to the galleries. On the north-west angle is a tower and spire 125 feet high, forming an entrance porch to the ground floor, and to the gallery, and a corresponding entrance on the south-west corner. The north and south fronts have five gabled windows, the three centre windows being two-lights, and the ends three-lights, 24 feet high, standing on a moulded string course. The interior is divided into three widths transversely by arched principals of timbers resting on cast-iron columns, which also support the galleries, and five similar arches on each side divide the length into as many bays under the principal purline of the roof. The ceilings will be formed with wrought boarding, the rafters and other timbers being exposed, and stained and varnished. The gallery will extend along the north and south sides, and at the west end over the entrances, where a separate staircase is provided for the school children, in a stone turret, which is made a feature in the west elevation. The pulpit and dais will be at the east end, with the organ gallery behind, in an apse, finished with stone tiers and arch, 40 feet high, moulded. Vestries for the minister and deacons, and a congregational library, are provided at the east end, and a lecture-room, 40 feet by 24 feet, with open roof. The exterior of the buildings will be finished with Kentish rag stone and dressings of Caen stone. The mode of heating will be by warm air, and the lighting with gas star-lights from the arches of the roof, and ornamental brass fittings. The seats will be open benches throughout of pitch pine varnished, moulded on the edges, and finished with carved finials and trefoils. The number of sittings will be about 1,050. The architect is Mr. F. Barnes, of Ipswich, and the contractor Mr. H. B. Smith, of Ipswich, whose estimate for the work of 3,633*l.* was accepted.

Chelmsford.—The Congregational Chapel, New London-road, has been considerably enlarged, and improved in its exterior appearance. The principal enlargement has been effected by carrying out an octagonal back which affords, on the basement, class-rooms adjoining the schools. The ground-floor has additional sittings, which will accommodate about 80 persons; and there is also space for a platform for public meetings, &c., which are sometimes held there. The gallery contains an organ-loft, and sittings for 300 children belonging to the Sunday schools, with the singers' pew in front; the old gallery formerly occupied by the children having been converted into free seats for nearly 150 adults. Two sun-lights are fixed to the ceiling, each containing thirty-five jets, the light being reflected by a cone of enamelled iron. Ventilation is also thus afforded by means of warm and cold air tubes, communicating with the external atmosphere through the roof. A new heating apparatus has been fixed by Messrs. Haden & Son, of Trowbridge. The whole of the works have been carried out by plans supplied by Mr. Bray, architect, Chelmsford, and under his superintendence, at a cost of about 1,400*l.*; the builders, and the several tradesmen of the town, being, we are informed, employed without competition.

Abingdon (Berks).—A new Independent Chapel has been opened here. The building was designed by Mr. J. S. Dodd, of Reading, architect. It is in the Italian style, the façade being formed with pilasters supporting a cornice and pediment, and executed in Bath stone. The light is derived principally by means of a large skylight in the ceiling, of ground glass, with coloured borders, the roof being of thick glass; and there are besides windows above the gallery. The front of the gallery is filled with ornamental cast-iron balusters, painted white and relieved with gilt work, backed by marone-coloured cloth. The pillars supporting the galleries are painted Sienna marble, with gilded and white capitals, and the pulpit and balusters of the stairs to it are also white and gold, the pews being the modern low ones, and stained oak colour and varnished, and are estimated to provide sittings for 800 persons. The new edifice is erected in front, and partly on the site, of the old one; the remainder being left and converted into a suite of school-rooms, vestry, &c. Messrs. Winterborne & Rowles, of this town, were the builders.

Farnworth.—A new Congregational Church has been opened in the Albert-road, Farnworth. It originated with the Sunday-school at Dixon-green. The chapel is built of patent brick, with ornamental Yorkshire stone dressings. The style is Grecian. The internal dimensions are 60 feet (exclusive of the organ gallery) by 46 feet. The building will accommodate, with galleries, 800. In the rear of the church there are the minister's vestry, lecture-room, school-room, and various offices. The whole building is heated by hot-water pipes. The estimated cost of the building is 2,500*l.*

STAINED GLASS.

Pinner Parish Church.—A cheap memorial east window has been put up at Pinner, by Messrs. Heaton, Butler, & Bayne. The memorial consists of five principal lights, about 2 feet wide by 12 feet high, with tracery above, — a large window for a parish church of ordinary dimensions. The four Evangelists, with the Saviour (each figure a little above life size), occupy the central portion of the five great lights, having grisaille foliage work above and below them; while another kind of grisaille work fills the tracery of the upper portion of the window. By confining the more expensive work exclusively to the execution of these five figures, this window has been furnished at the small outlay of 70*l.*; while a small window in the same edifice, less than one-third the size, cost more than 200*l.* A correspondent residing in the neighbourhood calls attention to the fact that a large proportion of grisaille in painted windows, while reducing the cost in an extraordinary degree, not only admits more light than a window crowded with richly-coloured subjects, but is more effective, as the one principal line or group of figures is seen, he remarks, to much greater advantage than when several groups are introduced. We can scarcely urge, however, efforts to cheapen stained glass, the excellence of which ought to be the first consideration.

Gloucester Cathedral.—Another painted window is about to be placed in this cathedral, in memorial of Dr. Jenner. The window to be embellished is that at the extremity of the south aisle of the nave, corresponding with the Lucius window. The dean and chapter have contributed 100*l.* towards the window, and the remainder will be raised by subscription. There are now only two windows in the south aisle and west end of the nave which are not painted.

St. Nicholas's, Newcastle.—Two stained-glass windows, the bequest of the late Mr. James Dale, are now complete. Mr. Wailes, of Newcastle, is the artist. The windows are placed in the chancel at the south-east angle, one facing the south and the other the east. The stonework was done by Mr. J. Patterson, of Newcastle. The east window is immediately to the south of the large east window erected last year to the memory of the late Dr. Ions. It consists of five lights or compartments, occupied by a picture of "The Ascension of our Saviour from Mount Olivet." The figure of our Lord occupies the centre light, the adjoining lights on each side being filled by figures of ascending angels in the act of praise and adoration. In the foreground of the mount the eleven Apostles are represented. Each light is surmounted by coloured architectural canopy work; the design in the three centre lights having been carried up into the tracery of the window so as to give an idea of greater space above the ascending figures. In niches of the canopy work angels are represented bearing scrolls. The south window is divided into four compartments; and the design with which it is filled is "Christ blessing Little Children;" being intended as a memorial to the four deceased children of the late Mr. Dale. Under the principal subjects are panels with canopies containing angels bearing scrolls. Above the principal figures are canopies containing angels in niches with harps. The tracery of the window is filled with ornamental foliage surrounding the crest, and monograms of the deceased gentleman.

SCHOOL-BUILDING NEWS.

Wibsey.—The foundation stone of a new school, in connexion with the Independent Chapel at Wibsey, has been laid. The school is intended to be a memorial of the late pastor, the Rev. John Paul. It will be built on ground adjoining the chapel, and from the designs of Mr. M. Brayshaw, architect. It will consist of one large room, 16 yards by nine, having a partition in the middle, so as to form two class-rooms, one for boys, and the other for girls and infants. The style of architecture will be Italian. With the furniture and fittings the outlay will be more than 500*l.* The principal contracts are let to Messrs. J. Roberts & Co., masons, and Mr. C. Wadsworth, joiner.

Stockport.—A new school for infants has been built adjoining the National School. The building is of brick, with stone dressings, and is sur-

mounted by a small balcony. The builders were Messrs. Thackrah & Peirce, of this town; and the architect was Mr. Thomas Allen, surveyor, Shaw Heath.

Sydney.—The foundation-stone of Bicentenary Memorial School-rooms, in connexion with the Congregational Church, Sydney, was laid on the 25th of August.

PROVINCIAL NEWS.

Gloucester.—At a recent meeting of the town council the town clerk read a minute to the effect that at a meeting of the Cattle Market Improvement Committee, on the 20th October, the following tenders were received:—

T. Dunn & Co., Manchester	£6,555	0	0
Randel Stap, London	5,341	0	0
Griffiths & Thomas, Newport	5,155	0	0
Bevan & Son, Bristol	4,999	0	0
Clarke & Williams, Hereford	4,763	17	6
Hardy & Bolt, Newport	4,694	18	8
L. B. Moore, Newport	4,573	0	0
Banson & Murray, Birmingham	4,519	8	1
Shepherd & Meredith, Gloucester	4,386	4	0
O. Estcourt, Gloucester	4,300	0	0
C. Clarke & Son, Wotton, Warwickshire	4,265	14	9
Niblett & King, Gloucester	3,528	0	0
Jones & Son, Gloucester	3,375	0	0

There were also the following separate tenders for iron work:—

J. M. Butt & Co.	£1,315	0	0
Hill & Smith, Brierley Hill	1,216	0	0

The committee resolved that it was desirable that one contractor should undertake the whole of the work, and that the council be recommended to accept Messrs. Jones & Son's tender, it being the lowest. This minute, after some not very seemly discussion, was agreed to.

Clifton.—Messrs. Popes, Bindon, & Clark, architects, of Bristol, have prepared the drawings and specifications for the new Clifton Hotel, and the contracts have been taken, fixing the cost at 20,000*l*. It will stand on a site near the Post-office. The hotel will have a length of 180 feet; and, including the underground offices and attics, it will be six stories high. There will be on the ground-floor a coffee-room, 65 feet long by 30 feet wide, attached to which will be a reading-room, 23 feet square. The dining-room will admeasure 40 feet by 23 feet, and there will also be a ladies' coffee-room, of the same dimensions as the reading-room. On the first-floor will be a drawing-room, measuring 45 feet by 30 feet, and on that and the second-floor will be suites of rooms adapted to the requirements and convenience of families. The hotel will contain sleeping accommodation for about ninety guests, and it will also be provided with a billiard-room, a smoking divan, a Turkish and other baths. The erection of the structure will be carried out with as little delay as possible.

Abergavenny.—The contract for the construction of the new horse, sheep, and cattle markets, known as the Cricket Field, in this town, has been taken by Mr. Moore, of Newport, who has commenced the work. The markets will cover an area of about 4 acres. The plan was prepared by Mr. T. D. Steel, engineer, of Newport. The contract stipulates that the work shall be completed by the 31st of March next.

Salford.—A new wing has been added to the town-hall. The new wing is 204 feet 4 inches in length by 33 feet in width, and comprises two stories. The ground-floor is divided into office-rooms for the town clerk, the inspector of nuisances, and the district surveyor, besides three rooms for the meetings of committees, and one for the hall-keeper. On the second story, one of the principal rooms is appropriated to the Court of Record. The public entrance to the court is at the north end of the building from West Market-street; but there is also an entrance from the corridor, which separates the two wings. The court is approached by a flight of stone stairs. The interior dimensions are 52 feet 8 inches by 28 feet 7 inches. The walls are divided into panels by marginal lines and ornamental corners. In the panel above the judge's seat the royal arms will be placed; and in the corresponding panel on the south wall the arms of the Duchy of Lancaster. Over the central window, on either side of the room, the arms of Lord Sefton, the high steward of the hundred; and those of the borough of Salford will decorate the panels. The other important room in the new wing is the Council Chamber, which has been used for some time, though it has only been decorated of late. The ornamentation of the walls and ceiling is chiefly conventional. The cove of the ceiling is also divided into panels, which are separated on the sides by figures representing the arts and sciences. The new wing is separated from the old one on the east by a corridor, 131 feet long by 12 feet wide, paved with encaustic tiles. The corridor is covered by a glass roof, and there are open iron trellis-work galleries running the whole length of the corridor on each side. The architectural features of the new wing are Roman Doric. Messrs. H. Southern & Son, builders, contracted for the work; and it was executed under the superintendence of Mr. J. Evans, surveyor of the Salford hundred, and from plans furnished by that gentleman.

Newcastle-upon-Tyne.—The Tyne Improvement Commissioners have resolved to proceed immediately to remove the old stone bridge at Newcastle, and to substitute for it a structure less obstructive to the improvement of the river, and more in accordance with the requirements of trade.——The foundation stone of the Volunteer Drill House was laid on the conclusion of the ceremony of the inauguration of the Stephenson Monument. The site of the building is to the east of the Northumberland Cricket Ground, and a short distance from Ellison-place. The architect supplying the plans of the new building is Mr. Thomas Prosser, of this town, and the contractors are Messrs. I. & W. Lowrey and Messrs. Scott & Reid. The building is not merely intended for the use of the various Volunteer corps, but for many public purposes.

Shields.—The new offices of the *North and South Shields Gazette*, situate in King-street and East-street, South Shields, have been opened for business. The new premises extend from King-street to East-street, and occupy an area of 341 superficial yards—the length from back to front being 96 feet. The publishing-offices are in King-street—the front shop being used as such, and also occupied by booksellers, stationers, &c. This part of the building has been fitted up by Mr. John Purvis, joiner and cabinetmaker, South Shields. The rooms above will be let for offices. Adjoining the publishing-office is the office of the Electric Telegraph Company. The new printing-office behind, facing East-street, is built of white and red brick, with stone facings. The proprietors (says the *Gazette*) were anxious, if possible, to make an ornament to the town; and, notwithstanding considerable difficulties, from the situation being in a back street, the architects have managed to make it prominent, chiefly by means of a projecting oriel window, on the angle next the market-place, similar to those still to be found in old cities on the Continent.

Leith.—The corn market and general exchange building is now completed, and will be opened for business purposes on the first Wednesday of November. The frieze panel on the side facing Constitution-street is emblematic of agriculture, and the corn, wine, and wool trade; and has been executed by Mr. Rhind, of Edinburgh, sculptor. The hall is free from pillars or other obstructions, the roof being supported by abutting walls and a combination of iron and wood joisting, decorated. The hall is lighted from the roof by day, and at night by two circular brass gaseliers. The stalls, fifty-two in number, are ranged round the sides, and made to shut in.

Falkirk.—The number of buildings at present in course of erection in this town and neighbourhood (says the *Falkirk Herald*) have made the mason trade so extremely busy that it is almost impossible to procure the services of men to perform small jobs. Mr. Mitchell, inspector, stated, at the commissioners' meeting on Tuesday evening, that none of the masons in town could undertake to build a couple of street gratings, in consequence of the brisk state of trade.

CASES UNDER METROPOLITAN MANAGEMENT ACT.

"THE REGULAR LINE OF BUILDINGS."

At the Clerkenwell Police-court, on Thursday, the 30th ult., *Mr. James Harding*, of Park-place, Kennington-cross, appeared before Mr. D'Eyncourt, at the instance of the vestry of the parish of St. James and St. John, Clerkenwell, "for that you did, in the month of May last, without the sanction, in writing, of the Metropolitan Board of Works, erect a building in Goswell-road beyond the regular line of buildings in the said road or street in which the same building was situate, the distance of such line of buildings from highway not exceeding 30 feet, contrary to the enactment in that behalf of the Metropolis Management Act, 1855, and the other statutes in that bill, of which buildings so erected as aforesaid you were and are the owner."

Mr. Raymond, barrister, appeared on behalf of the vestry; and Mr. Lewis, sen., solicitor, for the defendant.

The matter had been argued on a previous day.

Mr. D'Eyncourt delivered his judgment as follows:—

"In this case it is conceded by both parties, for the purpose of enabling me to arrive at a decision on the meaning of the 75th sec. 25-26 Vic., cap. 102, that the offence complained of is to be taken as completed before the passing of that Act. This being so, the question is whether the remedy given by that section is applicable; and I am of opinion that the section is inapplicable to the present case. It is provided by the 143rd sec. of 18 and 19 Vic., cap. 120 (the Metropolitan Local Management Act), that no building shall be erected beyond the regular line of buildings without the consent of the Board of Works, where the distance of such line exceeds 30 feet from the highway,* and the vestry are empowered to demolish any building erected contrary to the provision. The recent Act repeals that section, and the Board of Works ask the magistrates to make an order under the 75th section for a breach of the 143rd section of the former Act. The 75th section of the new Act is enacted in lieu of the 143rd section of the former Act; but it appears to me, from the very terms of it, that it cannot apply to things already done under the 143rd section. The 75th section contemplates a future and different state of things; *viz.*,—a building beyond the line of street where the distance does not exceed 30 feet from the highway; the object being, I suppose, to get wider streets than were contemplated under the old Act; and the remedy for any building erected contrary to this Act, without the consent of the board, is to apply to a magistrate for an order directing the demolition of such building. The new remedy is applied to a different state of things; but Mr. Raymond asks me to apply the remedy to a breach of the 143rd section of the old Act. It is clear to me that the consent required under the new Act is a consent to any building being made within certain newly-prescribed limits; and the magistrate's jurisdiction only arises when a building has been erected without such consent. The consent under the former Act was required where the limits prescribed were different, and the building without such consent was an offence provided for in a different way. The summons would, therefore, be dismissed."

After some discussion it was understood that the vestry would apply for a *mandamus* calling on the magistrate to adjudicate.

Looking at the case on its merits, it seems to us that Mr. Harding needed no consent, the addition not being "beyond the regular line of buildings in the street;" although it projects beyond the adjacent houses on one side. The vestry have since determined not to proceed further in the matter.

COUNCIL DESPOTISM.

Sir,—I most fully agree in your remarks on the despotic proceedings at the Royal Architectural Institute. The Engineers' Institution has up to this time been the most despotic of any in this metropolis. The architects may possibly rival us in time. I almost, however, doubt this. The mutterings against the Great George-street doings, if not loud, are earnest and deep. To carve all the loaves and fishes in secret must be pleasant, if outsiders will only look on in admiring silence.

I hope some general and public protest will be made. I enclose my name.

An Engineer.

COMFORT FOR PEDESTRIANS IN WET WEATHER.

IS IT UTOPIAN?

It has been asked, "Why not lay on hot air to warm our dwellings, as well as gas to light them?" On my road to the City this week, I could not but envy the dryness of the pavement in front of the bakers' shops, owing to the heat generated by their ovens. Pondering upon this, the thought struck me, if iron pipes could be laid down beneath the pavement, and supplied with heated air from furnaces erected at convenient distances, what a great comfort it would be during the winter months to pedestrians of all classes to have a dry pavement to walk on: what a saving in the wear and tear of boots, shoes, clothes, &c. How many doctors' bills would be saved, as well as the many valuable lives that are lost solely through disease brought on by damp feet. Last, though perhaps not least in this money-making age, what an enormous increase of custom our tradesmen would derive from the circumstance of the ladies—the "spending power" in the community—being enabled to go out "shopping" every day in the week, instead of, as now, only once or twice a week. Surely, for all the advantages I have pointed out,—comfort, health, and increase of trade,—our householders would not object to being rated to pay the expense incurred. There is nothing impossible in sanitary reform, provided man will but use his inventive faculties properly, and for the benefit of his fellows; and I am in hopes

* This is not our reading of the clause; but it does not seem to us of much consequence in this case.

some of your readers may be able to reduce my "theory" into some practical utility, if you will kindly grant space in your columns for it. Is it Utopian, or have I found the germ of a sanitary truth, requiring only practical heads to bring it out?

EAGLE EYE.

THE PRESERVATION OF STONE.

I TROUBLE you with a few words on the subject of a communication made by me at the late meeting of the British Association, on the subject of artificial stones. In that memoir I said a very few words, which I will take the liberty to quote *verbatim*, on the subject of preservation of stone; and on these words the discussion arose alluded to by Mr. Paul in your Journal of the 25th October.

To his letter I now beg to reply as briefly as possible. My remarks were these:—

"In the application of this subject to the preservation of stone, there seems a probability that some valuable result will follow, from the suggestion of Mr. Ransome to effect the deposit of an insoluble silicate within the pores of an absorbent stone by double decomposition. The objection, strongly felt, that the material thus deposited would probably be in the form of unconnected grains, rather than a cementing film, seems answered by the formation of a stone so solid as the specimens show; and although it is unlikely that any contrivance can render absolutely permanent a stone that has once advanced far in decay, it will be a great step gained if poor and doubtful stones can be rendered almost indestructible before being placed in a building and exposed to danger."*

I am quite at a loss to understand the objection taken by your correspondent to these, or indeed to any other remarks of mine on the subject, on the ground of my having been a member of the committee of last year; unless, indeed, it is to be understood that a public investigation, undertaken, completed, and reported on, is to close the mouths of all engaged in it for ever.

After my paper was read, Mr. Paul opened a discussion on the preservation question. I had not alluded to the subject generally; only connecting it, as I could not help doing, with the account and history of Mr. Ransome's new material. Mr. Paul, in his remarks, asked several questions, most of which are repeated in his letter. To these I replied so far as my experience enabled me; but, as both in the report of the late committee and personally on my own account, it had been expressly stated that the question of success or failure in the preservation of stone in buildings was still regarded as *sub judice*, I did not think it necessary to allude further to the subject. I am still of the same opinion.

Mr. Paul's communication to you evidently assumes that in the paper I read, and in the remarks that followed, I went somewhat out of the way in recommending Mr. Ransome's suggested process for preserving stone. In this he entirely misunderstood me.

I thought and I still think that the principle of obtaining an impermeable and comparatively indestructible stone by depositing within the substance of an absorbent material a hard mineral, indestructible by ordinary atmospheric agency, is the right principle, and will ultimately lead to some good practical result. I also thought and still think, in spite of Mr. Paul, that if Mr. Ransome's new stone is a success, which I agree with him in hoping it will be, there will be some proof that the same method applied to absorbent natural stones may be successful. It will then certainly be of great value if only in rendering poor stones indestructible at a cheap rate.

I cannot yet see the difference between soaking a porous mass of incoherent mineral matter with the silicate of soda, and afterwards dipping it in chloride of calcium, and treating a porous but coherent mineral mass of the same material in the same way.

If the silicate of lime formed is an effectual and permanent cement in one case, why is it not in the other? and if, as Mr. Paul states, silicate of lime is the most liable of all insoluble silicates to alteration and decomposition, under the influence of those agents which determine the decay of stone, how is it that mortars, cements, and concretes have so long held their ground against all comers? how is it that Mr. Ransome's concrete stone has the chance of success which I understand Mr. Paul to admit?

D. T. ANSTED.

* From the *Journal of the Society of Arts*, vol. x. p. 698. Mr. Foster, the secretary of the Mechanical Section, who was in possession of the paper, published it in the Journal without revision by the author.

DOINGS IN MANCHESTER CATHEDRAL.

SIR:—Will you allow me, through the medium of your valuable journal, to call the attention of archæologists to the destructive works now being carried on in Manchester Cathedral; and the so-called restoration. When I visited the cathedral in 1858, the choir floor had several brasses; the choir screen was perfect; and a very fine fifteenth century brass eagle lectern stood in the nave. I went to the cathedral again last month, and found the lectern gone. The verger said it was sold, and is now at Bury. The choir screen, on pretence of its hindering congregational worship, has had its western half and gates taken away; but the planners of this destruction have, in their wisdom, glazed the remaining part of the screen, and hung a tawory blue curtain in place of the old oak gates; so that for all practical purposes the choir is worse than before. A new pavement has been laid down in the choir, but the brasses are gone (probably sold), and nothing remains to mark where they once lay. I might enumerate other things, but will only mention the noble western tower, which has been half pulled down (I hear without any urgent need for such strong measures), and intended apparently to be so left; as a railing has been placed on it for the safety of visitors. In conclusion, I would ask if there is no one in a city famous for its Fine Art Exhibition, and whose citizens are noted for their patronage and love of art, who will exert himself to save their cathedral from further vandalism; and if possible restore it to its former glories. Knowing how earnestly you have worked for the preservation of our country's antiquities, I hope you will now exert your powerful influence in so good a cause.

H.

Miscellanea.

INSTITUTE OF BRITISH ARCHITECTS.—The first meeting under the "silent system" was held on Monday evening last. The president delivered an address; and a notice of Monsr. Nepven was read. We have received half a dozen letters from Fellows, protesting against the ridiculous resolutions come to by the Council, and commented on in our last; but we do not think it worth while to print them. The writers have the remedy in their own hands. An official report of proceedings has been sent us, but we respectfully decline to insert it.

LEEDS SCHOOL OF ART: PUBLIC SCHOOL PRIZE.—A year ago the committee of this School of Art announced by circular to schoolmasters that funds had been placed at the disposal of the committee for the encouragement of drawing in public or elementary schools. It was resolved by the committee—"That in order to offer an honourable inducement to national and parochial schoolmasters to take an interest in the drawing-classes of their schools, a prize be established, to be called 'The Public School Prize,' to consist of 5*l.* 5*s.*, to be awarded annually, after each examination of the School of Art, to the school having the largest number of pupils who pass examination before the inspector for art." The prize has been won this year by Mr. Tinker, head-master of Messrs. Marshall's school, Holbeck; thirty-two of whose pupils passed a successful examination.

THE LIVERPOOL FREE PUBLIC LIBRARY.—The annual report, which has just been printed, states that, during the past year, 456,372 volumes have been issued at the Reference Library and returned; being an increase of 59,816 compared with the previous twelve months. The reading-room still continues to be crowded, particularly in the evening, when from 400 to 500 readers are frequently present at one time. During the year, 1,541 volumes have been added to the library; viz., 1,282 by purchase; 84 by donation; 38 Parliamentary Papers; and 137 from the Commissioners of Patents; making the present contents of the library 36,522 volumes. The attendance of visitors at the Museum has been very large. The total number from the 18th of October to the 1st of September (a period of forty-five weeks) amounts to 321,714; giving a daily average of 1,739.

PRESERVATIVE ACTION OF SULPHATE OF COPPER ON WOOD.—The experiments of Mr. Kœnig are said, by the *Repertoire de Chimie*, to have demonstrated that sulphate of copper deprives wood of the nitrogenous matter which acts as a ferment, this matter being found in the solution of copper. At the same time a combination of resin and copper is formed, which closes up the pores of the wood and preserves it from the action of the air. The wood, however, is still susceptible of decomposition, in consequence of the variations of temperature and humidity. Mr. Weltz, while occupied with the solution of the last questions, has arrived at the following conclusions:—He has remarked that the wood gradually blackens as the layers of metallic copper are produced on it. The sulphate of copper is fixed in the wood: this salt decomposes itself into metallic copper and sulphuric acid. The latter chars the wood; and it is through this layer of charcoal, the preserving agency of which has been so often remarked, that the wood is enabled to resist the action of humidity.

POMPEII.—In one of the structures recently discovered, the bedrooms for the men, instead of receiving light from the door as customary, have long windows, in one of which pieces of glass have been found, which evidently served to close the window space. The wall is lined with lead, to prevent dampness: over this the stucco had been laid on; and on this the frescoes were painted.

SANITARY INFLUENCE OF DRAINAGE.—An instance of the influence of town drainage on the public health is shown in a report which has just been issued by the sanitary committee of the Halifax corporation. Great sewerage works have been constructed since 1851; and between that period and the present the death-rate has decreased from 25·39 per 1,000 to 21·48 per 1,000. This is in the town of Halifax itself: in the union the mortality has only decreased 1¼ per cent.

SANITARY CONDITION OF LEAMINGTON.—The drainage question is at present exciting much interest in Lymington, and ere long, if steps be not taken to mend matters, the want of proper drainage will lead to serious consequences. The river bed at the quay is saturated with the vilest filth from the town drains; and when the tide is low the effluvium arising from the deposit is most sickening and overpowering. Cases of fever in the neighbourhood are becoming frequent; and should the winter be of a mild and humid character, the state of the drains, &c., will produce the most serious results.

THE FEN DISTRICT.—In connection with the recent disaster at the Marshland Smeeth and Fen drain, it may be stated that the commissioners have agreed to have a dam made across the breach, and a new sluice built. Mr. Page, C.E., who was consulted by the commissioners, promised that the dam should be completed in a fortnight, and the new sluice finished in ten weeks; and if these predictions are realized, the Smeeth and Fen will be restored to its former position. As regards the Middle-Level drainage, the nine syphons erected are said to have worked satisfactorily. When they were put in operation the water was reduced in two days, at March Bridge, a distance of 16 miles from the dam, from 7 feet 9 inches to 4 feet 7 inches. When the other seven syphons proposed to be erected are completed, of course the discharging power organized will be increased. A new board of commissioners is formed to secure the drainage of the Middle Level, and the new board will borrow on mortgage 32,000*l.* This amount represents the injury so far sustained by the commission from the disasters against which it has had to struggle.

NATURE'S VENTILATION.—Upon the proper adjustments of the dynamical forces which keep up the ceaseless movements of the atmosphere, the life of organic nature depends. If the air that is breathed were not taken away and renewed, warm-blooded life would cease: if carbon and oxygen, and hydrogen, and water, were not in due quantities dispensed by the restless air to the flora of the earth, all vegetation would perish for lack of food. That our planet may be liable to no such calamity, power has been given to the wayward wind, as it "bloweth where it listeth," to bring down from the pure blue sky fresh supplies of life-giving air wherever it is wanted; and to catch up from the earth, wherever it may be found, that which has become stale; to force it up, there to be deflagrated among the clouds, purified and renovated by processes known only to Him whose ministers they are. The slightest change in the purity of the atmosphere, though it may be too slight for recognition by chemical analysis in the laboratory, is sure to be detected by its effects upon the nicer chemistry of the human system; for it is known to be productive of disease and death. No chemical tests are sensitive enough to tell us what those changes are; but experience has taught us the necessity of ventilation in our buildings, of circulation through our groves. The cry, in cities, for fresh air from the mountains or the sea, reminds us continually of the life-giving virtues of circulation. Experience teaches that all air, when pent up and deprived of circulation, becomes impure and poisonous. In referring to ventilation, we are never to forget that, in order to secure nature's pure air, it is essential to guard against the many sources of its pollution. The air which descends to us is pure; but it is left to man to maintain it so; hence we have to drain our marshes, empty foul ditches, remove cesspools, and see that our streets are sewered and paved. The Deity has given laws for the moral government of society; but He leaves to man, on whom He has bestowed intelligence, the discovery and the application of those scientific means which are necessary to health and physical happiness.—*Captain Maury.*

Accident at Whitehaven.—The wall of the North Harbour at Whitehaven has given way, and sunk 3 or 4 feet. To repair the damage, it seems, will cost some thousands of pounds.

The Wolverhampton School of Art.—A member of the committee of the School of Art in Wolverhampton, which had been lately given up, informs us, we are glad to say, that, through the exertions of Dr. Wollaston and two or three others, the school has been started afresh, with a new committee, and under the tuition of Mr. Sturtevant, of Dudley; and that there is every prospect of success.

Edinburgh Architectural Association.—The second meeting of the session was held on Wednesday night, the 29th ult. Mr. R. T. Shiells, president, in the chair. After some preliminary business, Mr. Alexander Ballantine read a paper "On stained glass." After remarks from most of the members present, it was intimated that at the next meeting, on November 26th, a paper will be read on "Church Decoration," with particular reference to local churches.

The Bristol Harbour - Improvement Scheme.—The Bristol town council have decided, by a majority of thirty-seven over fifteen, to effect various improvements in the Avon, with the view of facilitating the navigation of the river. These improvements are of a heavy and costly character, and will involve the imposition of 14,000*l.* annually, in the shape of dues, on the shipping and commerce of the port. It is stated that the amount required for executing the work will be 550,000*l.*, which it is proposed to raise on the guarantee of city property, as well as on the rates and dues levied on the shipping.

Utilization of Waste Heat.—An invention has recently been patented by Mr. J. S. Joseph, of Rhostyllan, North Wales. It consists in constructing a large retort built up of fire-brick or other suitable material, and surrounded by an outer shell of the same, so that a space may be left all round the retorts, the ends of the latter passing through the ends of the enclosing structure, and being provided with suitable doors. In order to support the retort, he forms piers of fire-brick or other suitable material underneath the same. This retort oven he employs either for making coke, charcoal, or for any other similar processes. At or near the top of the retort he forms suitable openings, through which the combustible gases formed inside the same by any of the above-mentioned processes pass into the surrounding space. He introduces small jets of atmospheric air, and thus causes the complete combustion of the combustible gases, thereby creating an intense heat. The hot products of this combustion by preference he employs for generating steam, making illuminating gas, firing pottery, heating drying-stoves for general purposes, for calcining ores, for burning bricks, or for burning lime in kilns.

Marseilles.—Great alterations have been made in Marseilles. It is new Paris in miniature. *Galignani's* correspondent says:—Demolitions here and magnificent buildings there—new streets—new palaces—new everything, exactly as in Paris itself, and in the same style of magnificence. The *cafés* are as luxuriantly decorated. The broad thoroughfares are as animated. There is nothing, in fact, to remind one that this is a provincial town. The Bourse is new and handsome: there is a new palace for their Majesties facing the sea: a cathedral is rising which promises to be magnificent. Even the little, plain old church of Notre Dame de la Garde, which, on the hill overlooking the Mediterranean, receives the votive offerings of sailors who have been preserved from shipwreck—even this simple structure is too simple and too modest for the taste of the day. A little while hence and the poor mariner who ascends with his votive offering, a picture of the Virgin smiling compassionately upon his ship in distress, will find himself dazzled and perplexed by the showy marble with which the new church will be encrusted. But let us come to the docks. The word is an importation; but the idea conveyed is not exactly the same as that attached to the English expression, for it is confined to the bonded warehouses. The new docks, opened yesterday for the first time, compose, in fact, a line of warehouses resembling in size and appearance the mighty private structures to be seen at Liverpool. They do not border the basin like the buildings in the London Docks, but stand away on the quay, leaving the port free and unencumbered. When we English say "docks," we mean the whole together, basin and warehouses; but the French mean the warehouses taken separately. France is really beginning a new career of commercial life, and is borrowing from England both plan and system.

The Winter Exhibition.—The annual Winter Exhibition of Cabinet Pictures by Living British Artists (the tenth) is now open, at the French Gallery, Pall-mall. It includes a number of interesting works.

The Arrangements of Model Lodging-houses.—A Leeds correspondent, under the signature of "Observer," points attention to various defects in the management and arrangements of model lodging-houses, particularly that at Leeds, where the treatment of lodgers, he says, is such occasionally, that no one with self-respect would continue to reside where such management is allowed. The closeness of the bed-closets, too, he states, is such that their doors have to be kept open by day; to the loss, at times, of those renting them, from petty thefts by the less reputable and more itinerant of the lodgers. The comfort and health of the residents in such dwellings ought to be well studied; and at Leeds some such arrangement as a visiting committee appears to be requisite.

The Liability of Churchwardens to Repair a Church.—At the Norwich Police-court a case has been tried, in which the Local Board of Health were the plaintiffs, and the churchwardens of the parish of St. John, Maddermarket, were the defendants; who were called upon to answer to an information laid by the city surveyor, Mr. T. D. Barry, as to neglect of notice that the church was ruinous and dangerous and must be repaired. The wardens had urged that the building was as sound as it had been for forty years. In court, however, they merely pleaded that they were not liable, the rector being responsible. After evidence *pro* and *con* was led, the magistrate ordered the wall to be pulled down; and it appeared to be understood that the wardens would be called on to pay the expense.

A New Cross-cut Saw.—A machine for cross-cutting large logs of timber, made by Messrs. Worssam & Co., of Chelsea, is described, with an engraving, in the *Mechanics' Magazine* of 24th ult. This particular one was ordered by Captain Schwartz, Russian Imperial Minister in England, for the Government dockyards at Cronstadt. The saws are 42 inches in diameter, having a traverse of 4 feet 6 inches, the counter-shaft making 100 revolutions per minute. The whole machine weighs about three tons, and requires an average of 6-horse power to drive it. It is intended to cut round or square timber up to 30 inches in diameter. The cut is made by two circular saws working in the same plane one above another; the lower half of the log being cut by the bottom saw, and the other half by the top one. The principal and most important novelty about this woodcutting tool consists in the use of two smaller saws instead of one large one. To do the work of these 42-inch saws a 7-feet diameter saw would be required, costing 123*l.*, wholesale price; measuring in thickness No. 10 wire gauge (about ¼ inch); being difficult to get sound, and also liable to wobble while doing its work. One 42-inch diameter saw costs 9*l.*; measures one-half of the thickness of a 7-feet one; and takes, therefore, so much the less power to drive it; there being, at the same time, much less risk in its use and its manufacture; while the fact of less power being required, enable a slighter and therefore cheaper frame to be used.

The Mineral Oil of Canada.—A special commissioner sent from London by a company recently established here, to inquire into this subject, states that he has seen unmistakable evidences of the existence of oil over a tract of country twenty miles square round the present Oil Springs. In Canada West, he says, the Canadian native oil is an article of common use in railway carriages, hotels, and private houses. It is mixed with common oil to modify the light, as its own illuminating power is of extreme brilliancy (a quality it possesses in a degree far beyond most of the Pennsylvanian oil). Moreover, large establishments at Niagara, Toronto, St. Catharine's, and elsewhere, are lighted up with gas produced from it (6,000 feet from a barrel of crude native oil), far surpassing coal gas, and at less than half its price. The gas is made in an apparatus that will go in about the size of a pig-stye in a backyard, and such as any household servant, or even ignorant labourer, could manage safely. There is no more art in making this gas, says the *Montreal Gazette*, than there is in putting a shovel of coals on a fire, or a log of wood into a stove; and the combustion that makes the oil into gas is kept up by the refuse product of distillation. This quality of producing fine gas will create a large demand for Canadian petroleum in Russia, Germany, Italy, and France, where fuel is scarce and light a high-priced commodity. Experiments for saponifying the oil have been successfully carried out.

Liverpool Architectural Society.—The last meeting was presided over by Mr. W. H. Weightman. Several donations of books were announced. A new method of laying down flooring, the invention of Mr. Bellis, of Chester, was explained; as was also a model of a wrought-iron girder supplied with tubes containing water, which might be applied in case of fire. A report from Messrs. Hay, Weightman, & Stubbs, delegates to the London Architectural Alliance, was read and approved. Some routine business was then disposed of, and the meeting adjourned.

Jarrow.—A large public building and institute, for the use of the working men of Jarrow, is about to be erected upon a piece of ground near the railway-station, liberally presented by Sir Walter James, Bart. The designs have been prepared by Mr. Archibald Dunn, of Newcastle, architect; and, in addition to a large room, to contain 800 persons, there is a library, refreshment-rooms, smoking-rooms, and club-rooms, for the use of the working men. There are also washing-rooms and baths attached to the building. The establishment of such an institution, it is confidently expected, will be of the greatest benefit to the working classes, who have themselves liberally contributed towards the funds necessary for the erection of it.

A-n Ice Architect.—Mr. Hassel, an architect who has been engaged in similar undertakings in Russia, has issued proposals for the construction, by means of subscriptions of shareholders, of an ice palace in the St. Lawrence, opposite Montreal, in the approaching winter. The building is to be 40 feet high, 144 feet long, and 56 feet deep, surrounded by a colonnade and topped with a dome; all, except the windows and doors, to be built of ice. A large skating ring is proposed to be annexed to the building. The rooms, which will include a large ball-room, ladies' and gentlemen's rooms, and halls, are to be "all heated by stoves, and warranted not to melt!" It is stated that the palace could be built in three or four weeks, and at a cost of about 3,500 dollars. The architect is understood to be a very cool hand.

The Manchester Assize Courts.—Considerable progress has been made with the New Assize Courts, Strangeways. With the exception of those of the great hall and front entrance, the roofs are now covered in; and, in a short time, the whole of the roofing will be complete. By Christmas, it is hoped every part of the structure will be under cover. But for a delay of three weeks, in consequence of a stonemasons' strike, this desirable object would have been already attained. The judges' lodgings are now near completion; and some of the stained-glass windows in the upper rooms have recently been put in. Strenuous endeavours are being made to get the building ready for occupation by August, 1863. The works in the interior are being entered into with energy. The ceiling of the Civil Court is finished, and its moulded timber beams are fixed. Preparations are also being made to fix the ceiling in the Criminal Court. The upper part of the main entrance has been raised, and the windows of the Grand Jury Room have been erected. The front is now ready to receive the chief gable, and its erection will be proceeded with at once.

Aberdeen: the New Public Buildings.—At a meeting of the general local committee on the new public offices for the county and city, the question as to providing a county hall, or whether accommodation could be made adequately for county meetings without it, having been raised; it was resolved that, in any plan of the new buildings, a hall should be included. A good deal of the property on the site belongs to the town; and it is estimated that the property that would require to be bought from others would amount to between 4,000*l.* and 5,000*l.* The plan contemplates widening Broad-street at the bottom about 10 feet. The buildings appear to be composed of a centre with two wings; the main entrance having a large corridor and staircase intended for the use of both wings. The county offices occupy the east wing. The arrangements for the court-house generally, we understand, are taken from the plan of Messrs. Peddie & Kinnear, adopted by the county committee. The west wing is devoted to the accommodation of the public business of the town. The town-hall on the west of the main entrance corresponds in position with the county hall on the east; there being five large offices on the ground-floor to Union-street. The town-hall is 66 feet by 40,—a good deal larger than the present hall; and the accommodation for the town clerk, &c., adjoins it. Toward Broad-street the building would be of three stories, with two large shops on the ground-floor: the wings to Union-street and Castle-street are of two stories.

HARTLEPOOL.—The Hartlepool Harbour Commissioners have taken up the question of having a harbour of refuge at that port, and have appointed a committee to consider and report on the various plans that have been proposed for the attainment of the object in view.

PHOTOGRAPHIC PROGRESS IN AMERICA.—A New York photographer is making a good deal of money by exhibiting photographs of the slain as they lie on the battle-field of Antietam. These pictures are said to have a terrible distinctness. By the aid of the magnifying-glass the features of the slain can be distinguished.

THE LATE ACCIDENT IN TOOLEY-STREET.—At the inquest a great number of witnesses were examined, who ascribed the accident to the fact that the mortar had not set sufficiently when the centres were struck. The mortar, it also appeared, had been kept from drying by the recent rains and the water of the Thames, which, during the flood, had percolated through the wall. The jury, having consulted, returned a verdict of "Accidental Death" in each case. They at the same time recommended that greater care should be used by skilled workmen in future in striking the centres of similar buildings, and not until it was known that the mortar used was fully set. The foreman said the jury had made this remark owing to the great number of similar warehouses and wharfs that were being erected in the immediate neighbourhood at the present time. The district surveyor, Mr. Hesketh, wishes us to state that he did not assign the fall of the arches to the pile-driving going on; but to the premature removal of the centres.

THE SANITARY CONDITION OF COCKERMOUTH. The Guardians of Cockermouth have appointed a committee to be the local authority to carry out the provisions of the Nuisances Removal Act, 1855, the Diseases Prevention Act, 1855, and the 23 and 24 Vict., cap. 27, amending them. Mr. Wyndham, the mover of the resolution, spoke of Cockermouth as the most unhealthy town in the kingdom; and said he had been at some trouble in obtaining statistics of deaths from the registrars and elsewhere. From these it appeared that the average death-rate, for ten years, in 1,000, was as follows:—Keswick, 19; Cockermouth, 25; Workington, 23; Maryport, 21. From this it would be seen that the death-rate in Cockermouth was greater than in any other district in the union. It was proved then that the neighbourhood was healthy; and to what must they ascribe the enormous per centage of death in the town? Clearly to the nuisances which existed in it; and foremost amongst them he placed midden-steads, which were allowed to stand uncleansed for as long as eight months. It was said that if they were not allowed to remain the interests of the farmer would be interfered with. Now, they might see that thirty-five dead bodies were annually conveyed to the cemetery more than need be; and he argued that the farmer might as well claim these bodies as that the midden-steads should be retained. The Cockermouth people had refused to govern themselves in this matter; and he therefore hoped the board would not refuse him this committee; which, as we have said, has therefore been appointed.

IMPROVEMENTS AT OXFORD DURING THE LONG VACATION.—As has been the custom for many years, advantage has been taken of the Long Vacation to carry out various improvements both in the University and the city. Most of the colleges, halls, and churches, according to reports in the local papers, have undergone more or less renovation and alteration; but in many instances the work of restoration has assumed a more important shape. The chief work during the past three months has been the continuance of the extensive restoration of St. Mary's Church, by Mr. Gardiner, builder, under the architectural superintendence of Mr. Buckeridge. The work is now in a very advanced state. At Christ's Church, the extensive alteration by the pulling down of Fell's-buildings has been in active progress. The architect of the new building is Mr. Deane, and the builder, Mr. Symm. A new window is being fitted into the western end of All Souls' Chapel. A very extensive restoration and enlargement is being carried out at St. Aldate's Church, by Mr. Curtis. The Corn Exchange is rapidly progressing. The woodwork of the roof has been finished, and the workmen are now engaged in putting in the glass, which is of immense thickness. The town council have determined to construct brick arches or cellars under the whole extent of the building, at an estimated cost of 500*l*. On the outskirts of the city considerable progress is being made in the building of private residences.

BARON ROTHSCHILD'S HOUSE.—With reference to the notice in our last number, we have to mention that the girders are of *wrought* iron, not cast.

INSTITUTION OF CIVIL ENGINEERS.—The weekly meeting of the Institution of Civil Engineers will be resumed on Tuesday next, the 11th instant, when a paper on "The Railway System of Germany," by Mr. Robert Crawford, of Homburg, will be read.

APPLICATION OF HYDRAULIC POWER TO THE LIVERPOOL DOCK GATES.—On the recommendation of the Docks and Quays Committee, it has been agreed to apply hydraulic power to the gates at the Wellington Half-tide Dock, the Huskisson Locks, the Sandon Dock Entrance, and the outer storm gates at the two last-named docks; and to provide two hydraulic capstans on the pier heads of Sandon Basin, at an estimated cost of 9,205*l*. The building for the weights of the engine will adjoin the present engine, and form part and parcel of it on the east side of the Huskisson Lock. It will open four pairs of gates. Three minutes will be required to open the first four pairs; then there will be an interval of five minutes to elevate again, and then four more pairs can be opened.

WATERPROOF GLASS ROOFS.—A patent has been taken out by Messrs. Showell, of Manchester, for waterproof glass roofs, recommended as especially applicable to railway stations and horticultural buildings. The invention consists of plates of glass, with the edges only turned up; and, where they meet one another, protected by a metal cover. The top edge of the glass rests upon a horizontal flange ⌊ iron purlin, and the bottom edge on the edge of the vertical flange; so that the top edge of the glass is overlapped by the bottom edge of the plate above. A screw bolt passes through the bottom end of one cover between the two adjacent plates of glass under this cover, through the top of the cover immediately under it, and between the edges of the two adjacent plates of glass under this cover, and is then secured through the horizontal flange of the ⌊ iron purlin. A pin passes through the sides of the bottom end of the covers, and prevents the glass plates from slipping down, by catching their turned-up edges. There is a further improvement, in which the top and bottom edges of the plates of glass are turned the one up and the other down. In this form a more secure joint, it is said, is effected at the top and bottom edges of the glass, and with a less lap. The top end of each cover prevents the glass plate next above it from slipping down by catching its turned down edge, and no pin is required. By this new form of construction no putty is needed in the joints; and expansion and contraction, or any other slight movement, can go on without impairing the waterproof construction.

TENDERS.

For a house and warehouse, No. 55, Bishopsgate-street Without. Mr. Edmeston, sen., architect:—

Piper & Wheeler	£930	0	0
Goslin	910	0	0
Woodward	890	0	0
Scrivener & White	859	0	0

For subway at St. Saviour's Workhouse. Messrs. Roper & Jarvis, architects:—

Dover	£167	10	0
Downs	248	0	0
Rudkin	235	0	0
Kent	225	0	0
Baguley (accepted)	215	0	0
Deards	213	0	0

For six cottages at Ash, Surrey, for Messrs. Crooke. Mr. Henry Peake, architect, Guildford:—

Stevens	£952	0	0
Goddard	919	0	0
Duke	887	0	0
Garnett	878	0	0
Wadey	875	15	6
Beagley	866	0	0
Strudwick	837	10	0
Pollard	816	0	0
T. & J. Loe	810	0	0
West	805	0	0
Mason	802	0	0
Smith	786	10	6
Cooke (accepted)	780	19	0
Foster (made an error in estimate of 125*l*.)	626	0	0

For alterations and new story to house, Pembridge Villas, Bayswater. Mr. H. H. Collins, architect:—

Goodwin	£770	0	0
Ring	728	0	0
Newman & Mann	694	0	0
Rolfe	695	0	0

For various works, alterations, &c., to house and premises, George-street, Hanover-square. Mr. H. H. Collins, architect:—

Elmes	£261	0	0
Drew	238	0	0
Ring	196	0	0

For coach-house and stables, Woodville-street, Woolwich, for Mr. Francis Sales. Messrs. W. Gosling & Son, architects:—

Smith	£350	0	0
Warner	317	13	0
Mills	312	10	6
Sonnex	310	0	0
Ledbetter	289	0	0
Thompson	275	0	0
Griffiths	273	0	0

For additions to dwelling-house, situate at Bowater-crescent, Woolwich, for Mr. Richard Ruegg:—

Smith	£195	0	0
Sonnex	189	0	0
Mills	170	0	0
Lonergan	158	0	0
Thompson	149	0	0
Ledbetter	145	0	0

For building model lodging-houses, Commercial-street, Whitechapel, for the directors of the Jewish and East London Model Lodging-house Association. Mr. H. H. Collins, architect. Quantities supplied:—

Patman & Fotheringham	£6,594	0	0
Brown & Robinson	6,441	0	0
Brass	6,437	0	0
Fish	6,327	0	0
Longmire & Burge	6,279	0	0
Myers	6,193	0	0
Ashby & Sons	6,024	0	0
Wills	5,931	0	0
Newman & Mann	5,916	0	0
Ring	5,885	0	0
Coleman	5,889	0	0
Perry & Judson	5,804	0	0
Stapp	5,338	0	0

(These estimates are without fire-proof flooring, which will be additional)

For building a new warehouse for Messrs Corney, Little Britain. Mr. Trehearne, architect. Quantities supplied:—

Mansfield	£1,300	0	0
Thompson	1,271	0	0
Howard	1,137	0	0
Palmer & Sons	987	0	0

For erecting a house in Walworth-road, for Messrs. Brown & Son. Mr. Henry Jarvis, architect. Quantities not supplied:—

Rudkin	£1,589	4	5
Maeers	1,497	0	0
Warne	1,472	0	0
Chessum	1,418	0	0
Ward	1,398	0	0
James & Ashton	1,373	0	0
Furnivall	1,291	0	0
Kent	1,285	0	0
Sharpington & Cole	1,255	0	0
Thompson	1,212	0	0
Tarrant	1,192	0	0
Sawyer	976	0	0

TO CORRESPONDENTS.

Proposed Examinations (the half dozen correspondents who ask for information as to the examinations, should apply to the secretaries, in Conduit-street).—E. L. T.—Tyro.—H. A. R.—F. I. B. A.—Old Member.—One ashamed of the Council.—A. G. C.—J. P. S. & C. F. H.—C. I.—R. H.—Architect, Dublin (write to the Institution, Great George-street, Westminster).—J. S. (declined)—M. B., Langport (remittance is wanted).—O. J.—L. S.—F. E. S. (will find report has been corrected).—F. E.—H. A. D.—Rev. C. D.—A.—M. A.—A. W (award might be set aside if dishonesty could be proved. Better leave it alone).—C. H. F.—A Clerk.—An Aspirant.—E. B. K. (ought to have been correct in his statement).—E. C.—F. T. D.—R. M. F.—H. A. C. (the parties in London have nothing to do with the construction of the building).—E. F. L.—C. H.—F. R. (we are forced to decline "circular" articles).—Mr. V.—Pro Patria.—R. H.—A. S.—R. R. P. (too late.)—P. P. (in type) T. M. R. (ditto).

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13 FENCHURCH-BUILDINGS, FENCHURCH STREET, E.C.

TO LONDON SMITHS' FOREMEN.

WANTED, in a small General Factory, a FOREMAN. He must thoroughly understand every description of kitchen-work, hot water, steam, and the general routine of a smith's shop.—Apply, by letter only, to R. A. care of Messrs. Kenlands, 67, Upper Thames street.

WANTED, immediately, a BUILDER'S WORKING FOREMAN, well up in all the branches.—Apply, by letter only, with references, stating wages required, to BUILDER, 42, Hanway-street, Oxford-street.

INTERNATIONAL EXHIBITION 1862, CLASS 10, No. 2,345.
WANTED, an AGENT for WHITE and RED BRICKS, &c. The above specimens being selected by the War Office.—Apply to C. STUTTER, Woolpit Brick Works Suffolk.

TO ARCHITECTS' ASSISTANTS.

WANTED, an experienced PERSPECTIVE DRAUGHTSMAN and COLOURIST.—Address (letter only), ARCH, Mrs Hemmingway, 28, Charterhouse-square, London. E.C.

WORKING BLACKSMITH WANTED, by December 1st, for the Sussex Lunatic Asylum; wages, 26s. Also a STOKER; wages, 18s.—Address, stating age and experience, to Dr. ROBERTSON, Hayward's Heath.

TO SAW-MILL PROPRIETORS, BUILDERS, AND OTHERS.

WANTED, by a sober steady Man, a SITUATION to Sharpen and Work at a Circular Saw-bench. Address, C. Z. A. Office of "The Builder."

TO CARPENTERS AND JOINERS

WANTED, by a Young Man, aged 19, a SITUATION to the above as IMPROVER. Wages a secondary consideration.—Address, G. H. Post-office, Church-street, Woolwich

TO BUILDERS AND CONTRACTORS

WANTED, by a respectable Young Man, a SITUATION, as YARD FOREMAN, to superintend, sending out materials, &c. Willing to make himself generally useful. Good references.—Address, A. B. 10, Aylesford-street, Grosvenor-road, Pimlico, S.W.

TO PLUMBERS AND GENERAL CONTRACTORS.

WANTED, by a Young Man, a teetotaller, a SITUATION as PLUMBER and GASFITTER; could fill up his time in glazing, if required. Wages not so much an object as constant employment and first-class work for improvement. Town or country.—Address, M. C. 57, Wellington-street, Victoria-park, N.E.

TO BUILDERS AND MANUFACTURING JOINERS.

WANTED, by the Advertiser, a SITUATION as IMPROVER at the Bench; or willing to work piece work. Has served 5½ years to the trade.—Address, G. Z. Post-office, Twickenham.

WANTED, by a Man who has had twenty years' practical experience, an ENGAGEMENT to take the MANAGEMENT of a BRICKFIELD. Would prefer to take the work by contract. Would not object to go abroad.—Address, W. S., at J. J. Daniel's, Grocer, White Horse-road, Croydon Common, Surrey.

WANTED, a RE-ENGAGEMENT, by an energetic Man, as INSPECTOR or FOREMAN over large BRICK and EARTHWORKS. No objection to the country. First-class testimonials.—Address, M. J. T. 85, Kingsland-road, N.E.

TO NOBLEMEN, GENTLEMEN, AND OTHERS.

WANTED, by an experienced practical London Builder, a SITUATION, as AGENT, STEWARD, or SUPERINTENDENT of WORKS on an ESTATE. The Advertiser will be disengaged at the beginning of the next year, having been engaged for twelve years in carrying out extensive improvements in Gloucestershire, on the estate of a deceased nobleman, in building farm houses, cottages, farm-buildings, and other improvements.—Testimonials first rate.—Address, W. 21, Osborne-terrace, Clapham-road, London.

WANTED, by the Advertiser, who has had twelve years' general experience in first-class offices, a RE-ENGAGEMENT as ASSISTANT to an Architect, Engineer, or Builder. Address, A. Z. Post-office, 98, Jermyn-street, S.W.

WANTED, EMPLOYMENT, by a Young Man, as PAINTER and GLAZIER. Can make himself very useful at plumbing and gasfitting.—Address, W. F. T. 70, Alfred-place, New-road, Chelsea.

WANTED, by a Young Man, aged 20, a SITUATION as PAINTER and GLAZIER. Can measure, square up, or would make himself generally useful. A small salary required.—Address, W. C. P. 45, College-place, Oakley-square, N.W.

TO BUILDERS.

WANTED, by the Advertiser, WORK, by the Piece or Job. Sashes and frames, doors, stairs, shop-front, or any work in the building line, at the lowest price.—Address, Mr. BROWN, 167, Brook-street, Kennington-road.

TO ENGINEERS, SURVEYORS, OR ARCHITECTS

WANTED, a SITUATION for a Young Gentleman, who is a good draughtsman, has an extensive theoretical knowledge of land surveying and architecture, and is strictly handy, sober, and industrious. The advertiser hesitates not in saying that he would be found a most valuable adjunct to any office. Would be glad to serve a month on trial, and would not object to an engagement for three years, receiving board and lodgings, or an equivalent.—Apply to WM DOVE, Principal, Commercial College, Ripponden, near Halifax, Yorkshire.

TO CARPENTERS AND JOINERS

WANTED, by the Advertiser, aged 19, a SITUATION as IMPROVER in a Carpenter and Joiner's Shop, in town or country. No objection to bind himself. Good reference.—Address, P. C. 168, Strand, London.

WANTED, by an experienced Man, SITUATION in a Brickfield, to dig, make, and burn.—Address, T. C. No. 12, Swale's Cottage, Bradmore, Hammersmith, W.

TO BUILDERS, &c.

WANTED, a SITUATION, by a Young Man acquainted with accounts.—Address, J. JONES, The Cottage, Wellington-street, Chelsea.

WANTED, a SITUATION in a Builder's or Surveyor's office, by a Young Man of good practical experience. Good reference given.—Address, S. S. No. 8, Vincent-terrace, Islington, N.

TO BUILDERS AND CONTRACTORS.

WANTED by the Advertiser, a SITUATION as SHOP FOREMAN of JOINERS, General Foreman, or Foreman of Works. Can make working and detail drawings, measure up work, take out quantities, &c. Is well acquainted with all branches of the building trade. Good references.—Address, stating terms, M. A. Office of "The Builder."

TO BUILDERS, &c.

WANTED, by a Three-branch Hand, a constant SITUATION. First-class reference.—Address, A. B. No. 1, Rawstone-street, Goswell-road.

WANTED, a RE-ENGAGEMENT as Out-door FOREMAN of CARPENTERS, or to Take Charge of Works. Can give first rate references from late employers.—Address, A. B. 57, Caledonian road, King's cross, N

WANTED, a SITUATION as GLASS-CUTTER and GLAZIER, by a Young Man who is thoroughly acquainted with the glass and shade trade. First-rate references. Address, G. P. S. Office of "The Builder."

TO BUILDERS, SURVEYORS, &c.

WANTED, by a First-rate STAIRCASE HAND and General Workman, EMPLOYMENT, or as Working Foreman of Joiners.—Address, G. G. Office of "The Builder"

WANTED, a SITUATION as CLERK to a BUILDER, DECORATOR, or PLUMBER, &c. by a Young Man, aged 28, with a fair knowledge of drawing. Is a good book-keeper and writer, and well acquainted with the usual routine of an office. Salary moderate. Three years' first-class reference from last employer.—Address, A. B. 45, Weston-street, Tooley-street, Borough, S.E.

TO ARCHITECTS AND SURVEYORS.

WANTED, by a good Draughtsman, accustomed to quantities, and the duties of an architect's office, an immediate ENGAGEMENT in town or country, temporary or otherwise.—Address, A. V. 13, King Edward-street, Westminster-road, Southwark, S.

TO PLUMBERS AND BUILDERS.

WANTED, by a first-class steady WORKMAN, aged 28, a SITUATION as PLUMBER. Can fill up his time at gasfitting, lead and sash glazing, &c. Address, S. B. Plumber, 13, Windsor terrace, City road, London

WANTED, by an experienced Practical Man, a RE-ENGAGEMENT as FOREMAN, or to take brick or rag-stone work as per measure.—Address, T. ALLEN, near Old Church, Ealing, Middlesex.

TO BUILDERS, &c.

WANTED, by an Out-door Foreman, an ENGAGEMENT to TAKE the CHARGE of a JOB, in town or country. Joiner by trade.—Address, C. D. M. Office of "The Builder."

TO IRONMONGERS, SMITHS, AND BUILDERS.

WANTED, by a Young Man, who is a good locksmith, bellhanger, and gasfitter, a JOB. Good references, &c.—Address, J. G. 50, Henry-street, Vauxhall, S.

TO ARCHITECTS

X. OFFERS his SERVICES as an effective and expert Artistic Colourist and Perspective Draughtsman, possessing also a sound practical knowledge of the various details of building. Reference for two years and a half is offered to present principal, and satisfactory reasons assigned for leaving.—Particulars on application by letter, care of Messrs. Grave & Skinner, 70, Blackman-street, Borough, London.

TO HOT-WATER AND GASFITTERS, BRASS FINISHERS, &c.

THE Advertiser, who has worked for some time in the above branches, wishes for EMPLOYMENT, as IMPROVER or ASSISTANT Town, country, or abroad.—Address, H. C. 31, Upper Marylebone-street, Marylebone, W.

TO PLUMBERS, BUILDERS, AND OTHERS

THE Advertiser, a Good PLUMBER, Painter, Glazier, and Gasfitter, wishes for a PERMANENCY.—Address, W. A. 1, White Hart-court, Bishopsgate-street Without, E.C.

TO ARCHITECTS AND ENGINEERS.

THE Advertiser, who has had the management of one of the largest offices in London, is desirous of ENGAGING himself, on mutually advantageous terms, to do finished and working drawings, specifications, or other work requiring experienced assistance. Has had much practice in iron construction and taking out quantities.—Address, X. X. 2, Snowden Villas, Carlton-road, N.W.

TO SURVEYORS, BUILDERS, AND OTHERS

THE Advertiser (age 33) desires EMPLOYMENT. He is a good penman, capable of conducting business correspondence, and has an aptitude for drawing. Can give first rate references, and security if required. Having a certain income, a moderate remuneration would be accepted.—Address, J. G. No. 115, Borough-road, Southwark, S.E

TO ARCHITECTS

THE ADVERTISER is desirous of a RE-ENGAGEMENT. Is a good geometrical and perspective draughtsman, and is conversant with the routine of an architect's office. Salary not so much an object as an opportunity of improvement.—Address, G. S. E. Deacon's, Leadenhall street, E.C.

TO SHOP FOREMEN OF JOINERS.

THE Advertiser desires to place himself as an IMPROVER in a good shop.—Address, R. H. B. Office of "The Builder."

TO LAND SURVEYORS AND CONTRACTORS.

THE Advertiser, who is thoroughly conversant with surveying and levelling, Parliamentary work, setting out railway and other works, calculation of earthwork, and measuring up; who is also a good draughtsman, and has considerable knowledge of construction, is open to a RE-ENGAGEMENT. Seven years with last employer, who will give the most satisfactory testimony as to trustworthiness and ability. Aged 26.—Address, C. S. Office of "The Builder."

CLERK of WORKS, GENERAL FOREMAN, BUILDER'S CLERK, or in an ARCHITECT'S OFFICE. Seven years' testimonials. No objection to go abroad.—R. W. 1, Charlotte-street, Caledonian-road, N.

AN ESTIMATOR, first-rate QUANTITY SURVEYOR and MEASURER, who is a good draughtsman, thoroughly acquainted with construction, preparing specifications, and surveying dilapidations, and has had the superintendence of extensive works, is open to an ENGAGEMENT, either temporary, permanent, or partial, on moderate terms.—Address, ALPHA, Seymour's Advertising Office, 16, Bear-street, Leicester-square, W.C.

TO ARCHITECTS.

AN ASSISTANT, who has a thorough knowledge of Gothic Architecture, and has been engaged in first-class offices, is desirous of an ENGAGEMENT, or would prepare drawings at his own rooms.—Address, R. L. 40, Norfolk-street, Strand

GLASS PAINTING.

A GENTLEMAN, possessing great abilities in the above Art, is open to receive PUPILS, to give Lessons on Figure and Ornamental Drawing, and the Art of Glass Painting in the Mediæval Style, &c.—For particulars address W. M No. 1, Castle-street, Newman-street, W.C.

TO ARCHITECTS' SURVEYORS, &c.

AN Assistant of experience in the preparation of finished, working, and detail drawings, specifications, &c. and the general routine of an office, is desirous of an ENGAGEMENT, either in the office, or to superintend works. Unexceptionable reference given. — Address, SPES, Arbutus Cottage, Upper Clapton, N.E.

AN ARCHITECT and SURVEYOR, in practice, but having time at his disposal, would undertake tracings, surveys, and getting out contract and working drawings and specifications from sketches.—Address to K. care of Porter, Gresham House, E.C.

TO BUILDERS, PLUMBERS, PAINTERS, AND GLAZIERS

A YOUNG MAN, married, wants EMPLOYMENT as THREE-BRANCH HAND, having served his time to same. Reference if required. No objection to town or country.—Address, C. M. PLUMBER, 14, Robert-street, Bedford-row

TO ARCHITECTS

A PRACTICAL CLERK of WORKS wishes for a RE-ENGAGEMENT as CLERK of WORKS. Age, 43. No objection to the country.—Address, B. C. S, Banner-street, St. Luke's, E.C.

Mr J. H. LEONARD,

ARCHITECTURAL DRAUGHTSMAN, ARTISTIC COLOURIST, and LITHOGRAPHER, No. 21, MONTAGUE-STREET, RUSSELL-SQUARE, W.C.

TO CIVIL ENGINEERS AND SURVEYORS.

A FIRST-RATE ENGINEERING SURVEYOR, Leveller, and General Draughtsman, is open to an ENGAGEMENT. Terms, to the end of the month, 17s. 6d. per day.—Address, R. Y. W. Office of "The Builder."

TO MASTER BUILDERS.

A FRENCH JOINER-CARPENTER wishes to obtain a SITUATION in London.—Address, R. M. 4, New Wharf-road, Caledonian road, King's-cross.

A YOUNG MAN who has been articled desires EMPLOYMENT in the office of a builder, architect, or civil engineer. Can draw, trace, square dimensions, &c.—Address, 94, Shoreditch

TO ARCHITECTS.

A FULLY-QUALIFIED ASSISTANT desires a RE-ENGAGEMENT in a London Office. Is a neat and expeditious draughtsman, and well versed in construction.—Address, E. S 27, Garnault-place, E.C.

AS BRICK (WHITE or RED) or PIPE MAKER, and Close Kiln Burner. Can be well recommended, with six years' good character from last situation.—Address, H. S. Robson's Library, near Norwood, S.

TO ARCHITECTS AND SURVEYORS.

A THOROUGHLY COMPETENT ASSISTANT desires an ENGAGEMENT in an Office. Is conversant with the usual quantities, estimating, and making practical working drawings.—Address, X X X 2 9, Maida Vale, Paddington, W.

CLERK OF WORKS.

A THOROUGH BUSINESS MAN, aged 34, sober, steady, and of strict integrity, a fair draughtsman, correct measurer, and quick accountant, with a practical knowledge of every branch of the building business. References first class. Salary moderate.—Address, J. S. WILSON, North Newbald, near Brough, Yorkshire

TO BUILDERS, &c

A THOROUGHLY EXPERIENCED SURVEYOR and BUILDER'S ACCOUNTANT is desirous of an ENGAGEMENT. Good references.—Address, W. L. M. Post-office, Spalding.

A QUANTITY and MEASURING CLERK is open to an ENGAGEMENT. Terms, two guineas a week. First-class references.—Address, A. L. P. Office of "The Builder."

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.

THE LIZARD SERPENTINE COMPANY, LIMITED.

Works—CARLEON COVE, LIZARD, CORNWALL
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.

Communications to be addressed to the Secretary, No. 24, St. James's-street; or to Mr THOMAS OAKDEN, 54, King-street, Manchester, who is sole agent for Liverpool and Manchester.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 132 and 144, Regent-street; and 29, 30, and 31, Warwick-street, W.

EDWARDES, BURKE, & CO PROPRIETORS.

The largest and most superior Stock of Chimney-pieces in Europe is now at the above named Establishment

Manufactories: Carrara, Brussels, Peterbead, and 17, Newman-street, Oxford-street, London, W.

Estimates for every description of Marble Stone and Granite Work.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at

W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial Road, Pimlico, London.

JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

LITTLE CASTERTON FREESTONE, Apply for prices, &c. to

OCTAVIUS N. SIMPSON, STAMFORD;

and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Slabs, Landings, &c. cut on the shortest notice.

Country orders promptly attended to.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wrexton Wawen, near Henley-in-Arden, are working a Quarry of this very superior and durable Stone (belonging to Cefn Rauge), at Plasyower, Nant, near Wrexham. It is used extensively in Liverpool, Manchester, &c. and can be supplied at reasonable rates at any railway station.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. THATHAN, Liskeard.

This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS made and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or DOLSOVER LIMESTONE.
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards, CUT by Steam Power, and Delivered into Railway Trucks at Weymouth. List of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset.

PORTLAND STONE and MARBLE
MACHINE SAWING MILLS.
SAWS of the best quality, of any length, with full kerf.
Estimates given for any extent of work.
Machinery by FLI RICHARDS, 5, New Park street, Southwark.
The Trade supplied on the most favourable terms.

HY. GEORGE & COMPANY,
CAEN and AUBIGNY QUARRYMEN and GENERAL
STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of
Sawn Slab in Parkspring, Harehill, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Rock Landings shipped direct from the Quarries
Prices and specimens forwarded on application.

BELLMAN & IVEY,
GENERAL AND ORNAMENTAL PLASTERERS,
Manufacturers of
SCAGLIOLA MARBLE
and
SUPERIOR PLASTER OF PARIS.
This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent. in cost, from its covering one third more superficies than the general plaster.
PRIZE MEDALS
were awarded Messrs. Bellman & Ivey for their Works at the
Exhibition of 1851, and again in 1862.
PLASTER WORKS, 3, BEDFORD-STREET, LIQUORPOND-STREET, LONDON, E.C.
SHOW ROOMS AND OFFICE,
14, BUCKINGHAM-STREET, PORTLAND ROAD, LONDON, W.

RANSOME'S IMPERISHABLE
SILICEOUS STONE
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster, or Patent Stone Works, Ipswich.

ROBERT WHITE, SLATE MERCHANT,
SHEFFIELD.
ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor Mold Junction and Garston.

SLATES. — MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application. Address,
No. 1, BOLD-TERRACE, CHESTER.

TO BUILDERS, CONTRACTORS, &c.
SLATES, TILES, IRON, TIMBER,
DEALS, &c.
WILLIAM DAWBARN & CO. LIVERPOOL,
Beg to acquaint their connexion generally throughout the Kingdom, that they have now ready their
NEW and IMPROVED PRICE LISTS, Home and Export Edition for Midsummer, 1862.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.
MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Bath-tables, Table-tops, Baths, Wall-linings, &c. a New illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime and old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For prospectuses, apply at the Establishment of Messrs.
HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—34, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, & Surveyors. DAY and EVENING INSTRUCTION in Architecture, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications; Taking out Quantities, Estimating, Builders' Work, &c. Terms—Two Guineas per Quarter; Evening Pupils One Guinea per Quarter. Three Lessons per Week from 7 to 10. Thermometer system. The Pupils have inside the whole of the above, with the use of Drawing, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 34, Guilford-st. Russell-sq.

TO ARCHITECTS AND SURVEYORS.
GUYER & COMPANY, Lithographers and Printers, Grocers' Hall Court, Poultry, E.C. beg to [illegible] for LITHOGRAPHING and COPYING BILLS of QUANTITIES, Specifications, Legal Documents, &c. Having had the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly employed, they can confidently recommend their establishment to [illegible] post free.
N.B. Any number of copies of quantities or specifications lithographed in a few hours, and if the drafts from the country be received by [illegible] post, the copies will be returned the same evening

POLYTECHNIC.—THE COTTON FAMINE, Zostera Marina, Flax, Jute, and other Fibres, Professor [illegible] Novel Lecture, Mr. [illegible] Novel Stock, illustrated [illegible] Mr. [illegible] Novel Mechanism, &c. Splendid entirely New Series of Dissolving Views, designed and painted by J. A. Bennett, Esq. New Musical and Historical Entertainment, by G. A. Cooper, Esq. entitled "The Seven Ages of a Great City." Engagement of the London Vocal Quintett Union,—Artistes: Miss, Leslie, Mr. [illegible] Mr. [illegible] Mr. [illegible]

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1⅛	1¾	2	2½
„ 2 ft. 6 in. sup.	1½	1¾	2½	3
4 ft. super...	1⅞	2	2¾	3¼

Orchard House Sizes.

	per 100 ft.	15 oz.	21 oz.
20 by 12		4ths 12s. 6d.	4ths 17s. 0d.
20 by 13		3rds 15s. 0d.	3rds 21s. 6d.
20 by 14		2nds 18s. 0d.	2nds 28s. 0d.
20 by 15		1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.
} per cwt.

Fine Oak Varnish ...
„ Carriage ...
Linseed and Boiled Oil
Turpentine .....
} per gallon.

Milled Sheet Lead and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,
BOTH ROUND AND EGG-SHAPED.
M. B. NEWTON, LONDON AGENT,

WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

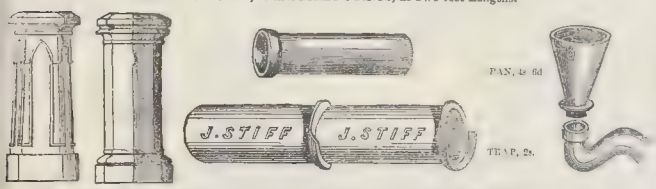
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers as above.

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

SAMUEL CALLEY,

BRIXHAM, DEVON,

Manufacturer of the celebrated TORBAY IRON ORE PAINTS, in various colours, and of TORBAY METALLIC OCHRES. These Paints, celebrated for their durability, have been fully tested for several years, and it has been proved that 56 lb. of these Paints will effectually cover as much surface as 112 lb. of either genuine White or Red Lead Paints. Also Manufacturer of Patent Compositions for Ships, Metal Sheathing for Iron and Wood Ships, and for other surfaces. Manufactory NEW ROAD, BRIXHAM, where prices and testimonials may be obtained.

PATENT GRAINING APPARATUS.—

TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 32, High-street, Marylebone, London, W.

N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

T. KENT'S PAINTING-BRUSH

MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

Also Manufacturers of the Patent India-Rubber Knife-boards, Cocoa-Nut Matting, Mats, &c.—See catalogue.

KENT'S PAINTING BRUSHES

are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty four years, and may always be depended upon as the best that can be made.

GRAINERS and the TRADE SUPPLIED

with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his Sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.

Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

IMPORTANT to BUILDERS and

PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s 10d. per gallon.
Turpentine, 10s. per gallon.
Fine Pale Oak Varnish, 5s per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 15, Cobbill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

COLOURS and VARNISHES at

REDUCED PRICES.
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10d.; Turpentine, 10s. per gallon; Fine Pale Oak Varnish, 5s. per gallon, for cash, at P. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No. 10, GREEK STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL
PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Grainers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

THE VILLAGE CLOCK.—

A serviceable, well-made, and warranted TURRET CLOCK, to go night and day, and strike each hour, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,825.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
158, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and

CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 „
Ladies' or Gentlemen's Gold English Lever Watches	18 „
Strong Silver Lever Watches	5 „
Gentlemen's Gold Compensation Balance Watches	40 „
Do. Silver do.	24 „
Marine Chronometers	25 „

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

CARTS, LADDERS, BARROWS, &c.—

GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation.
with Wrought-iron Wheels
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c.
LENT ON HIRE.
Price Lists on application.

GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246),

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, **WITHOUT EXTRAS.**

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents. Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

JOINERY OF EVERY DESCRIPTION.

STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,

110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET

(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DESPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL ROAD, AND STAMFORD STREET, LAMBETH, S.

N.B. Price List on application.

CLERIHEW & LASCELLES

(LATE WATERLOO, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.



MOULDING WORKS.

SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from £11 10s. per 120
10,000 Pine Planks	from 3s 6d. each	50,000 Feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 3s. 3d. each	Maple ditto	from 1d. per foot.
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	0s. 0d.	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £10 10 per 120.
Yellow Battens ..... 11 10 ,,
Spruce Deals ..... 16 10 ,,

Pine Planks (dry), 3 by 11 ..... £24 0 per 120.
Pine Deals, ditto, 3 by 9 ..... 19 10 ,,
¾-inch White Matched Lining ..... 0 13 per square.

J. TERRY & SON, 109, Borough-road, S.E.

BUILDERS, AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square. Laths, 28s. per Load.
Yellow Deals, sound and good ..... £19 10 0 per 120, or 3½d. per foot.
Spruce Deals ..... 16 10 0 ,, 0 2½ ,,
Yellow Battens, excellent quality ..... 11 10 0 ,, 0 2 ,,
Pine Planks, dry, 12 feet 3 inches by 11 feet ..... 21 0 0 ,, 3 6 each.
Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 ,,	13s.	13s. 6d.	14s 6d. ,,
1 by 7 ,,	15s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.

MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

JOINERY WORKS,

21, HARRINGTON-STREET, HAMPSTEAD ROAD, N.W.

NEVIL SIMMONDS,

SHOP FRONTS, SASHES, DOORS, &c

Price Lists and Estimates on receipt of Stamp.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & R. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow A Discount of 15 per cent upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d; Pine Plank, from 3s. 3d.; Mahogany, 6d; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. YENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least appearance of its having in any way, or to any extent, decayed, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,

18, WHARF-ROAD, CITY-ROAD, LONDON.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,

LIME BURNERS,

BRICK MAKERS,

SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,

ST. JAMES'S and THORNHILL WHARFS,

CALEDONIAN-ROAD, LONDON,

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants' and Brokers' Orders promptly executed.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS BROTHERS & POTT Nine Elms, London

STRINGFIELD and BLYTH,

SOLE CONSIGNEES OF

NELSON'S BLUE LIAS LIME.

ORDERS ADDRESSED TO MESSRS S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, AND BRICK MERCHANTS,

PLASTER OF PARIS MANUFACTURERS.

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.

Country orders forwarded with despatch.

GREY STONE LIME.

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS:

19, UPPER GROUND STREET, BLACKFRIARS, S.

7, NORTH WHARF ROAD, PADDINGTON, W.

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and

14, SOUTH WHARF, PADDINGTON, W.

L. M. TA'HAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC LIME

ADAMANTINE CLINKERS.

BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.

BLACK GLAZED HEADERS, RUBBERS, and BRICKS.

BEART'S PERFORATED BRICKS.

BROSELEY TILES.

BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.

CEMENTS, Roman, Portland, Keene's, Parian, and Lias.

CUTTERS, Red, White, Black, and Yellow

COPING TILES and BRICKS.

CHIMNEY POTS of every sort.

DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.

DOOR JAMBS, White and Red.

ENCAUSTIC TILES.

FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.

FIRE CLAY, FLUE LININGS.

GROUND LIME.

GUERNSEY GRANITE.

GARDEN EDGING.

GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.

GROOVED VITRIFIED STABLE BRICKS.

HAIR for PLASTERERS.

INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.

KENTISH RAG-STONE and FLINTS.

LATHS.

LIME, Grey Stone, Chalk, Flare, and Blue Lias.

MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.

ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.

PLASTER of PARIS.

RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.

RIDGES, Plain, Roll-topped, and Ornamental.

ROAD MATERIALS.

SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.

SLATES from Penmant's Quarries.

STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.

SAND and BALLAST.

TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.

TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.

URINALS.

WHITE GLAZED BRICKS and TILES.

YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.

YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order

Post-office Orders payable at Vauxhall or Edgeware-road.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND F. OVEN TILES.

COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.

RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.

" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS.

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OARDEN.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.

The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.

Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS.—

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLDSWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.

LIMEKILN-HILL, LIMEHOUSE, E.

WHERE MAY BE HAD, IN GOOD QUALITY,

PURE STONE LUMP, PLAST or BLUE LIAS LIME.

ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.

COWLEY and KENT BRICKS

WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.

Ditto and ditto WALL COPING BRICKS and TILES.

YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.

WHITE, BLACK, and RED RUBBERS

STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF.

TERRO METALLIC GLAZED and TILE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS

Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BUFF, RED, and GREEN

DUTCH and WHITE GLAZED TILES, for Wall Linings, Hoarding Panels, Dressing Rooms, Kitchen Ranges, &c.

WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS, TILES, CLAY, and SAND.

GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.

RED DRAIN-PIPES, TILES, and CHIMNEY POTS

TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.

HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.

Goods forwarded by Railway with despatch

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works. All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.

N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours.

GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.

Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.

No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830), is ROBESON, Mount Pleasant, Gray's Inn-road. The cheap country-made article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster unequalled.

PORTLAND CEMENT WORKS

NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, block for breakwaters, or concrete, or otherwise

LONDON WHARF, BELVIDERE ROAD, LAMBETH.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour PAVING TILES in various colours and designs

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Pire Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS.

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Eitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS

COWLEY, KENT, and ESSEX BRICKS,

IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade.

N.B.—Every Description of the Building Goods of the Trade always in Stock.

STOURBRIDGE FIRE-CLAY WORKS

E. BAKER & CO.

(Contractors to Government),

24 WHARF, HARROW ROAD, PADDINGTON, W.

Every Article manufactured at their own Works and Mines, Brierly Hill.

FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.

Shipments on the shortest notice.

PORTLAND CEMENT WORKS

NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

PORTLAND CEMENT

GREAVES & KIRSHAW,

14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND BATH, and LIAS CEMENTS of the BEST QUALITY

BENJAMIN FOWLER & CO., WHITEFRIARS ST., FLEET ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

TO BE WORKED BY STEAM, HORSE, OR HAND POWER, FOR TEMPORARY OR PERMANENT USE; ALSO OF SINGLE OR DOUBLE PURCHASE CRABS, PULLEY BLOCKS, SCREW AND HYDRAULIC JACKS, &c.



PORTABLE STEAM ENGINES,

IN GOOD SOUND WORKING ORDER,

WITH or WITHOUT PUMPS, to DISCHARGE a LARGE or SMALL QUANTITY OF WATER FROM ANY DEPTH, ready for delivery to order at a DAY'S NOTICE, or, upon very reasonable terms, ON HIRE.

FOWLER'S PULLEY AND SNATCH BLOCKS,

of every size and description. These are strong, well-made blocks, and will be found in all points as good in quality and as low in price as those made by any house in London.

RUBBISH WHEELS OF VARIOUS SIZES.

FOWLER'S USEFUL SINGLE, DOUBLE, and TREBLE PURCHASE CRABS.

B. F. & Co. have a variety of Patterns, strong and light, at prices which will meet any requirement.

WESTON'S PATENT DIFFERENTIAL BLOCKS,

To lift from half a ton upwards, with chain to suit, at the LOWEST PRICES.

A LARGE STOCK IS KEPT READY FOR PROMPT DELIVERY, AND CAN BE INSPECTED AT THE WORKS.

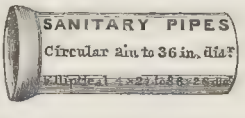
Price Lists of Pumps, &c., forwarded on application.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.

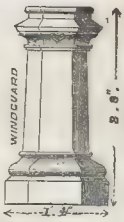


NGHAM & SONS

LONDON WHARF, 64, Bankside, Southwark.



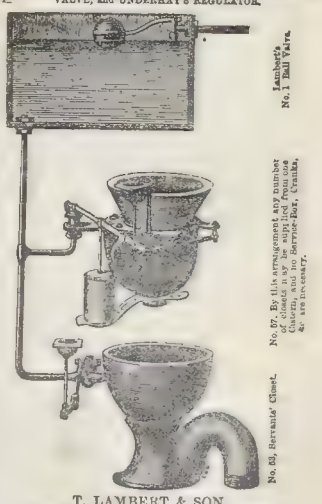
LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS, SHORT STREET, LAMBETH.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

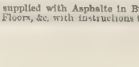
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Pavements, Floorings of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for [illegible], the absence of joints prevents the generation of sewer gas. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

SALES BY AUCTION.

TO ENGINEERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the WAREHOUSE, adjoining the Wood-carving Works, Belvedere-road, Lambeth, on TUESDAY, NOVEMBER 25th, at ELEVEN o'clock, in lots, a COLLECTION of ENGINEER'S TOOLS, many of them quite new, including ten self-acting turning and screw-cutting lathes, from 6 to 12-inch centres, beds 7 feet to 25 feet long; two self-acting engine planing-machines, to take 2 feet in width, and 6 feet and 8 feet in length; self-acting drilling-machine, with 18-inch traverse; self-acting shaping-machine, self-acting slotting machine, five eccentric punching machines, one band sawing-machine, twelve sets of stocks, with taps and dies, thirty pairs double and treble-purchase iron screw-blocks, 4-horse power horizontal steam engine, 150 feet of turned 1-inch shafting, 250 feet lamb, 40 feet 3-inch steel wire to 14 gauge, wood handles, by gross, grindstone, pair of cylinder bellows, cast-steel tools, bar and rod iron, and numerous other effects. To be viewed on Monday previous and morning of sale, when catalogues may be had, on the Premises; or previously, of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY, NOVEMBER 25th, as above, a powerful Self-acting TENONING MACHINE (quite new), by John McDowell & Sons, with cast-iron column and bed-plate, circular saw, adjusting gear, and counter shaft.—To be viewed with the other effects; and catalogues had at 13, Billiter-street, London, E.C.

TO MILITARY GUN MAKERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY, NOVEMBER 25th, as above, a costly RIFLE LOCK LETTING-IN MACHINE, by Greenwood, Bailey, & Barrel Block-bedding Machine, and a Gun-stock Grooving Machine.—To be viewed with the other effects; and catalogues had at No. 13, Billiter-street, London, E.C.

TO DRUG AND SPICE GRINDERS, MUSTARD MAKERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY, NOVEMBER 25, at the BELVEDERE MILL, Lambeth, a PAIR of GRANITE-EDGE RUNNERS, 4 feet 6 inches diameter, 15-inch face, an 8-hole sifting-frame, 48 silk and wire sieves, 2 wrought iron oil-tanks, and a large mahogany table.—To be viewed with the other effects; and catalogues had at No. 13, Billiter-street, London, E.C.

MAIN DRAINAGE CLEARANCE SALE, Peckham Wharf (Canal side) and Hanover Park, three min. Pe Kham, Surrey.—To Engineers, Contractors, Builders, Dealers in Contractors' Plant, Wood, Iron, &c. &c.

MR. FRED. CHAPMAN is favoured by the Contractors for the Southern High-Level Sewers with instructions to SELL by AUCTION, on WEDNESDAY and THURSDAY, NOVEMBER 12 and 13, 1862, at TWELVE for ONE o'clock precisely, on the first day, at the WHARF and PREMISES as above, good Portable 6 and 8 horse Vertical, Horizontal, and other STEAM-ENGINES; capital contractors' locomotive, several good useful carthorses, carts, earth waggons, mortar mills, barrows, &c.; a large quantity of contractors' temporary rail (36 to 40 lbs. per yard); several portable contractors' offices, stabling, sheds, and a quantity of manure; and on the following day, at the same hour, at Hanover Park, a large quantity of iron wheels and axles for waggons and trolleys, portable forges, bellows, and smiths' tools; grindstones, sand-screens, chain, &c.; several balks of timber, stacks of temporary sleepers, wood, and other effects. Both lots of effects May be viewed the day preceding and morning of sale. Catalogues had of J. J. BENNETT, Esq. No. 3, Hyde-terrace, New Cross. Mr. MORRIS, Railway Tavern, New Cross, Mr. OWEN, Rockrest, Lewisham; the Kentish Drovers, and Hanover Arms, Peckham; at the principal Inns in the neighbourhood of the wharf; and of the Auctioneer, Park-terrace, New Cross-road, Kent.

BOW ROAD.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on FRIDAY, NOVEMBER 28th, 1862, at TWELVE for ONE o'clock, in Seventy-four Lots, the first portion of the eligible FREEHOLD ESTATE, lately occupied by the Merchant Seamen's Orphan Asylum, situate on the north side and from the Bank, on the high road from London to Stratford, the last-mentioned portion to the Bow Road, and known as Asylum Villas, Asylum-road, and Asylum and British Roads. Omnibuses pass the estate every twenty minutes, and the Bow Railway Station is within a few minutes' walk. Nine-tenths of the purchase money can remain on mortgage or contract, at 5 per cent. to be paid in nine years, by half-yearly instalments; but the whole or any part of the balance may be paid off at any time, without notice. Particular plans and conditions of Sale may be obtained about a fortnight before the Sale, of Messrs. RUSSELL & DAVIES, 30, Coleman-street, London, E.C.; of the Foreman, on the Estate; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale

CRIMNEY PIECES—Sale to Stock—Must be sold.

MR. WAGSTAFF will SELL, on the PREMISES, 30, Hollingworth-street, Barnsbury, on THURSDAY, NOVEMBER 13th, at TWELVE, in consequence of the selection not to be sold on account of clearance of premises), about One Hundred Marble and a few Stone CHIMNEY-PIECES, including fine-class carved statuary, excellent vein and Sicilian truss, a large selection of black and gold, fossil and coloured marbles, and an assortment of plain and carved slated grates on the Premises, and 176, Upper-street, Islington.

TO BUILDERS, CABINET-MAKERS, AND OTHERS.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES near the Camden-road Railway Station, N.W., on MONDAY, NOVEMBER 10th, at TWELVE o'clock, the valuable STOCK, viz.:—Best mahogany, 1-in. planks, deals, and battens; 3,600 feet wide figured pine, 6,000 feet quartering, 136 squares of flooring, a large quantity of cut stuff, light spring cart, harness, &c.—Auction Offices, Carlington-street, Hampstead road, N.W.

THE SUN SAW MILLS, CANAL ROAD, KINGSLAND.—LEASE and VALUABLE PLANT, now in full work.

MR. C. FURBER is instructed to submit to PUBLIC AUCTION, on the PREMISES, as above, on MONDAY, NOVEMBER 17th, 1862, at TWELVE for ONE o'clock precisely, by order of the Mortgagee, first in one lot, and, if not so sold, then in numerous lots, the LEASE and VALUABLE PLANT of the SUN SAW MILLS; comprising two excellent Cornish boilers, 16 feet long by 3 feet 6 inches, with 3-feet tubes running through each; engine and gearing, driving two saw-frames with double-cut saws, valuable planing machine, by Robertson & Co. of Perth, on Branley Fell foundations; a circular saw bench, by Parsons, with self-acting feed motion; three wood-framed circular saw benches, one iron bench with spindle, one moulding machine by Worssam & Co. iron tank, timber stage, large quantity of valuable shafting, with drums, riggers, plummer blocks, driving bands, &c. The whole forms a very compact plant, with good wharfage to the Canal, and affords an opportunity for any man of small capital to secure a sound and lucrative business May be viewed; catalogues had on the Premises; of Messrs. BLOXAM & ELLISON, Solicitors, 1, Lincoln's-inn-fields; and at the Auction Offices, in Warwick-court, Gray's-inn.

Nine Acres of very valuable Freehold Building Land, in the midst of the rapidly increasing eastern suburbs of London, about three miles from the City, half a mile from the Eastern and Bromley Stations, and a mile from those at Stepney and Limehouse

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, NOVEMBER 25, at TWELVE, in one lot, nine acres of very valuable FREEHOLD BUILDING LAND, situate in Devon's-road, at the Parish of St. Leonard, Middlesex, opposite Messrs. Moses, Son, & Davis's india-rubber manufactory. The land possesses a frontage of 460 feet to the Devon's-road, and affords an eligible site for the erection of small houses or manufacturing premises. A fine opportunity is here offered to small capitalists desirous of obtaining sites for dwelling-houses, working classes, or for speculation. Each lot is but a minute's walk from the new station on the Bromley line.—Particulars, with plans, of CHARLES DYSON, Esq. Surveyor, Stratford; of Messrs. HOBBS & COLLINS, Solicitors, Reading; and of the Auctioneers, 80, Cheapside.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 26th day of NOVEMBER, 1862, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For sundry Timbers

- 28,000 Spruce Deals, Battens, Scantling, and Ends
- 3,200 Quebec Pine Deals
- 1,000 St. Petersburg 12 Load White Wood Deals
- 3,000 Oregon Red Deals, Battens, and Boards
- 40 Logs Quebec Yellow Pine (New Timber)
- 20 Logs Quebec Red Pine
- 20 Loads Quebec Red Pine
- 40 Loads Quebec Oak
- 50 Loads Quebec Elm
- 25 Loads Quebec Birch
- 100 Loads Fresh Memel Timber
- 100 Fresh Waingoat Logs
- 100 Loads Swedish Timber
- 50 Masts
- 1 to 4 Cubic inch Fresh Norway Spars
- 20 4-inch
- 20 3-inch
- 2 R. oaders
- 20 Bolts ins Hemlock and Deals, Battens, Lath, and Flooring

Well-other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, November 4th, 1862.

INTERNATIONAL EXHIBITION.—French Department.—Second Sale.—To Proprietors of Museums, Libraries, Jewellers, Cutlers, Literateurs, Statesmen, Booksellers, and Others.—Extensive Sale of Showcases.

MR. T. SIDNEY SMITH has received instructions to SELL by AUCTION, in the ROOMS, 54, Old Bond-street, on THURSDAY and FRIDAY, NOVEMBER 13 and 14, at TWELVE for ONE precisely each day, 150 well-made plate-glass and oak glazed SHOWCASES, of various and extensive dimensions, and specially adapted for the display of the various articles of vertu, &c. forming the above exhibition. Catalogues, with conditions of sale, may be obtained of Mr. T. SIDNEY SMITH, Auctioneer, at the Upper Rooms, 99, Cannon-street, E.C.

FOR BENEFIT OF CREDITORS—BY ORDER OF ASSIGNEES.

MR. EDWIN WHITE will SELL, at 12, HOLBORN-BARS, on TUESDAY, NOVEMBER 18, at TWO o'clock precisely, 250 ENGLISH and FOREIGN CHIMNEY-PIECES, wrought in the following costly marbles:—Pure statuary, fossil black, rouge-royal, Belgium grey, the new Garibaldi marble, Italian and Sicilian vein, &c.; a number of hard stone chimney-pieces, fine pieces of French and Pyrenean, Egyptian, Irish, Devonshire, golds, satins, grounds, tinta marbles, decorations, &c.; two tons white lead in colours, and a large assortment of gilt moulding, and frames. Wine and other effects. May be viewed the day preceding and morning of sale. Catalogues had of the Auctioneer, Moorgate-street, City.

UNDER A BILL OF SALE.—To BUILDERS, HOUSE-AGENTS, and PARTIES REPAIRING.

MR. BETTS will SELL by AUCTION, at his ROOMS, 68, Leadenhall-street, City, on TUESDAY next, at ONE, without reserve, a STOCK of 10,000 pieces of PAPERHANGINGS, in a variety of patterns; 3 tons best white lead and dryers also 6 dozen Kent's Improved Scales, nearly new, marking of sale; and catalogues had at the Rooms.

GUILDHALL, October 16, 1862.—The Committee for Letting the City Lands will meet at Guildhall, on WEDNESDAY, the 7th NOVEMBER next, at ONE o'clock precisely, to receive PROPOSALS for a BUILDING LEASE for 80 years of a piece of ground on the north side of Queenhithe Dock, in the City of London.—Plans of the ground may be seen, and further particulars had (on Tuesday next) at the Chamberlain's Office, Guildhall, and of the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the Locality. Soil gravel, situation healthy, and water excellent. These grounds are now partially laid out in Roads, and the City is prepared to rapidly fill up the Lots. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND and PREMISES to be viewed, and application at the Architect's Office, Guildhall.

FOR SALE, several PLOTS of FREEHOLD BUILDING LAND, on the Benhill Estate, Sutton, Surrey, from 25 to 50 feet front by 100 feet in depth, commanding extensive views, five minutes' walk from the Sutton Railway Station, half-hour's ride from the London Bridge Terminus, good roads, good water, dry soil, &c.—Apply to Mr. JOHN TRIBE, Builder, Sutton, S.

IMPORTANT CLAY WORKS, &c.

TO BE LET, on Lease, for 21 years, the LEE MOOR CLAY and BRICK WORKS, with Railway to Plymouth Harbour.—The Directors of the Lee Moor Porcelain Clay Company are now prepared to TREAT for the LEASE of the above WORKS, which are near to Plymouth, and well suited for a large and important business. The clay is considered inexhaustible, and of a superior quality in china clay of a very superior quality The fire-bricks made from the present china clay refuse are very much esteemed. Printed particulars of the terms on which the Directors are prepared to treat, may be obtained on application personally, or by post, as under. Proposals will be received on or before the 27th of NOVEMBER next, at No. 1, Mount Pleasant-terrace, Plymouth.

W. HARRIS, Secretary and Manager.

Lee Moor Clay Works, Plymouth, Devon, October 25th, 1862.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, to be erected in the rear part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

TO BUILDERS, CAPITALISTS, and OTHERS.—TO BE SOLD, at less than cost price, in one or more lots, SEVERAL PAIRS of SEMI-DETACHED VILLA CARCASES, in the rapidly improving neighbourhood of Kilburn, and near the Railway Station.—Full particulars of Mr. C. H. KNAPP, 12, Taunton-place, Park-road, Regent's-park.

TO BE LET, on lease or otherwise, suitable for a factory of any description, with engine of 10-horse power, drying rooms, blacksmith's shop, office, and outbuildings, alongside of canal, 1½ miles from the City.—Also, on the same estate, several cottages, and three acres of ground, lately worked as a brickfield, and could be worked so again. If worked as a brickfield, everything ready to start, wash-mills, pug-mills, brick and pipe making machine; the best earth for pipes. Inquire on the Premises, Steam Brickfield, Northolt, near Harrow-on-the-Hill; or at Mr. R. CHAPMAN'S, Roxeth, Harrow-on-the-Hill, Middlesex, N.W.

BUILDERS' PREMISES TO BE LET, near the City; comprising light shop, yard, sheds, &c.—Address, D. B. WILLIAMSON, Lee-street, Kingsland-market.

WEST MALVERN PARK.—This ESTATE is now laid out for the ERECTION of PRIVATE RESIDENCES, and photographs of plans and printed particulars may be obtained of Mr. HENRY WEBB, Surveyor, Worcester; or G. MASEFIELD, Esq. Solicitor, Ledbury.

TO FREEHOLDERS, LEASEHOLDERS, and OTHERS WANTED, Ipar midiate sites for a Mews, PLOT of GROUND, for the Erection of either Large or Small Houses. The Advertiser would much prefer to meet with one who would advance liberally, he having plenty of scaffolding and a good stock of materials. He could build Thirty per rent, but if things were fair would be immaterial.—Address, with particulars, to J. O. P. Office of "The Builder."

BUILDING LAND.—TO BE LET on LEASE for 99 years, direct from the Freeholder, very beautiful Sites in South Norwood Park, on the high level, about six minutes' walk from the Norwood Station.—Apply to Messrs. RICHARD THESS & CHAMBERS, Architects, 27, Queen-street, City.

ROTHERHITHE.—To BUILDERS and OTHERS.—FREEHOLD PROPERTY, belonging to St. Bartholomew's Hospital, TO BE LET on a Building Lease, with a frontage of 100 feet to the river. The plan may be seen at Mr. HARDWICK'S Office, No. 1, Henrietta-street, Cavendish-square, where further particulars may be ascertained. WILLIAM WILBY, Clerk.

St. Bartholomew's Hospital, October, 1862.

UPPER THAMES STREET.—St. Bartholomew's Hospital.—To Builders and Others.—TO BE LET on a BUILDING LEASE for 70 years, the valuable and eligible FREEHOLD ESTATE, belonging to this Hospital, comprising the Premises Nos. 148, 149, 150, and 151, Upper Thames-street, with a frontage of 98 feet towards Thames-street and 70 feet towards Suffolk-lane. For further particulars apply at Mr. HARDWICK'S Offices, No. 1, Henrietta-street Cavendish-square.—Tenders are to be sealed up and delivered at the Clerk's Office, within the Hospital, on TUESDAY, the 11th day of NOVEMBER, at a QUARTER BEFORE ELEVEN precisely.

WILLIAM WILBY, Clerk.

St. Bartholomew's Hospital, October, 1862.

SIX FREEHOLD HOUSES, well situated near the Junction-road, Holloway, TO BE SOLD for 2001. each. Per Lease, may remain on mortgage.—Ap. ly by letter to L. B. Post-office, 116, Edgware road, W.

TO SMALL CAPITALISTS, FREEHOLD LAND or BUILDING SOCIETIES.—THIRTY ACRES of BUILDING LAND, admirably situate close to a station, half an hour from the City by rail, TO BE SOLD on advantageous terms.—Apply by letter to E. Z. Post-office, 116, Edgware road, W.

TO ARTISTS and ARCHITECTS.—TO BE LET, an excellent STUDIO and Two other Large Rooms.—Apply to Mr. LEIGHTON, 40, Brewer-street, St. James's, W.

MANUFACTURING PREMISES, BELGRAVIA, TO BE LET or SOLD, 70 feet by 45 feet, with forges, and light and dry lofts. Has been used by a coach-builder, wheelwright, &c.—To view apply to Mr. UPCOTT, No. 44, Kinnerton-street, Knightsbridge.

MILE-END-ROAD.—To BUILDERS, BREWERS, DISTILLERS, and MANUFACTURERS.—TO BE LET, on Lease, for a term of 81 years, a desirable PLOT of BUILDING GROUND, with a valuable frontage on the high road of 216 feet, eligible for shops; and another frontage of 276 feet, let in from north to south 250 feet, being the site on which the Jews' Hospital now stands, and eligible for the erection of genteel private residences, a public institution, or business premises. Land-tax redeemed.—Terms may be known on application to Mr. MASON, Estate Agent, 15, Finsbury place South, E.C.

FARNBOROUGH and ALDERSHOTT FREEHOLD and GROUND RENT SOCIETY, LIMITED.—The Directors give notice that they are now prepared to receive APPLICATIONS for BUILDING SITES on the Society's Estate at Farnborough. Applications for plans, and all other information, to be made to the Society's Architect, Mr. HENRY CURREY, 4, Lancaster-place, Strand, W.C. Advances to Builders, if required.—By order of the Board. EDWARD CHATFIELD, Managing Director.

15, New Bridge-street, 6th Nov. 1862.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have FOR SALE, GAUGE BRICKS, TILES, POTTERY DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Artists and Builders are invited to inspect a variety of Chimney pieces of bright and fine red stone, at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & SON'S Patents, designed by A. Digby Wyatt, esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, &c. &c. will be sent on application to the Broseley Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, W.

London Agents—W. B. SIMPSON & SONS, 150, West Strand, who have on view a great variety of specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPÔT of PEAKE'S is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Kindly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and kindly, that the large page 681, of the Great Exhibition, note the grant of a First class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS, TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE-UPON-TRENT.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term not less than ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the payment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or expectation for an advance, and no deduction from the loan. No preliminary fee. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINE, and SPIRIT WARRANTS. BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Balance-sheets Prepared, and Meetings of Creditors Convened Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul Covent-garden, both in the County of Middlesex.—Saturday, November 8, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1032. NOVEMBER 15, 1862. PRICE FOURPENCE. By Post, 5d.

ILLUSTRATIONS.

New (R.C.) Church of Killeshandra, County Cavan, Ireland.—Mr. W. Hague, Junior, Architect 823
Boots and Shoes 822

CONTENTS.

Sanitary and Social Jottings in Manchester 813
The Heroes of the Loom and Trench 814
Works in Precious Metals, Jewelry, &c., in the Exhibition: Jury Report 814
The Past and Future International Exhibitions 815
The Gagging System at the Institute of Architects 817
Ancient Rings 818
Sheffield 819
Competitions 819
Fall of Arches on the Hammersmith and City Extension Railway 820
Certificate of the "Operative Bricklayers' Society" 820
Thames Embankment (South Side); and Main Drainage: Metropolitan Board of Works 820
Guildhall on Lord Mayor's Day 820
Life, Growth, and Development in Architecture 821
Boots and Shoes: a Plea for Square Toes, and a Word about Heels 822
The Rotherham Water-supply and Fever Question 822
New (R.C.) Church of Killeshandra, County Cavan, Ireland 822
Stained Glass 825
Church-building News 825
School-building News 825
Accidents 826
The New Style 826
Architects' Assistants and Pupils 826
Queen's Cross, Northampton 826
Patent Specifications 826
A Hydraulic Difficulty 827
Sanitary Condition of St. Pancras 827
Responsibility of Accidents: Recent Fall in St. Martin's Hall 827
Compensation Case; Differences 827
Law of Awards 828
Patents 828
Books received: Scott and James on Photozincography (Longman); Jervis on Minerals of Italy (Stanford); Hickle's Arithmetic (Simpkin & Co.) 828
Miscellanea 828

AUTUMN EXHIBITION of BUILDING INVENTIONS at the GALLERIES of the ARCHITECTURAL SOCIETIES, 9, Conduit-street.—Exhibitors at the Internal and Exhibition of Models are informed that Space may be taken at One Guinea per yard run. Will be open from NOVEMBER to the end of JANUARY.—Apply to Mr. MOODY, on the premises.

ARCHITECTURAL UNION COMPANY (Limited).—Notice is hereby given, that the Fifth Annual Ordinary General Meeting of the Architectural Union Company (Limited), will be held on WEDNESDAY, the 3rd DECEMBER next, at THREE o'clock, p.m. at the Premises of the Company, No 5, Conduit-street, Regent-street, to receive the Directors' Report and the Audited Balance Sheets, to declare a Dividend, and to Transact the Business required to be transacted at the Ordinary General Meetings of this Company.

CARPENTERS' COMPANY.—TWICKENHAM ALMSHOUSES.—A VACANCY has occurred in the above Almshouses, Applicants must be Liverymen or Freemen of the Company, of the age of 55 years or upwards, or Widows of Liverymen or Freemen of the Company, of the age of 50 years or upwards. Applications are to be left at Carpenters' Hall, on or before SATURDAY, the 29th day of NOVEMBER, 1862. Forms of Application may be obtained at the Beadle's Office, at the Hall.
EDWARD B JUPP, Clerk of the Company.

TO ARCHITECTS.
META, whose Drawings have been commended by the Institute, and who offers the highest references, will be happy to hear from any gentleman requiring an ASSISTANT, able in all matters of detail, and of superior artistic attainments.—Address, 19, Windsor-street, Kingston-upon-Hull.

CONTRACTS.

LUNATIC ASYLUM for the COUNTIES of CARMARTHEN, CARDIGAN, and PEMBROKE, and the TOWN and COUNTY of HAVERFORDWEST. To BUILDERS.—The Committee of Visitors appointed for Providing a PAUPER LUNATIC ASYLUM for the Counties of Carmarthen, Cardigan, and Pembroke, and the Town and County of Haverfordwest, are desirous of receiving TENDERS from persons willing to Contract for the Erection of the same, on a site at a distance of one mile and a half from the Town of Carmarthen, according to plans and a specification, which may be seen at my Office, in Quay street, Carmarthen, on and after the 20th day of DECEMBER next. The party whose Tender for the work may be accepted will be required to enter into a written contract and bond, and to find competent security in 5,000*l.* for the due execution of the same works. The quantities will be taken out by two surveyors, one to be appointed by the Architect, and the charges of each surveyor are to be paid by the Contractor whose Tender may be accepted. Persons desirous of submitting Tenders for erecting the Asylum are requested to send their names and addresses forthwith to D. BRANDON, Esq. the Architect, No. 24, Berkeley-square, London. The Tenders must be delivered at my Office on or before TWELVE O'clock of the morning of the 3rd day of FEBRUARY, 1863, sealed and endorsed, "Tenders for the County Lunatic Asylum."

The Committee do not pledge themselves to accept the lowest or any Tender, and each party must state in his Tender the names of the sureties proposed by him.—By order of the Committee,
CHARLES HENRY HUGHES, Clerk.
Quay-street, Carmarthen, Nov. 6th, 1862.

CONTRACTS.

TO BUILDERS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said city on TUESDAY, the 18th day of NOVEMBER instant, at TWELVE o'clock at noon precisely, to receive TENDERS for the CONSTRUCTION of SEWERS and works in connection therewith in certain streets and courts of the said city, agreeably to plans and specification to be seen at the Office of the Engineer to the said Commissioners in the Guildhall. Security will be required from the Contractor for the due execution of his contract. The Commissioners do not pledge themselves to accept the lowest Tender, or any unless deemed advantageous, and no Tender will be received after TWELVE o'clock on the day of treaty.
JOSEPH DAW, Principal Clerk.
Sewers' Office, Guildhall, November 4, 1862.

CONTRACTS. — Building Contractors are respectfully invited to TENDER for the TAKING DOWN of the OLD NAGS HEAD PUBLIC HOUSE, and adjoining Buildings, in the George-stairs, and the large old Building fronting the Butcher Bank, in Newcastle-upon-Tyne, and ERECTING upon the sites thereof a RANGE of BUILDINGS, the drawings and specification of which may be seen, and bills of quantities obtained, on application at my Office on and after SATURDAY, NOVEMBER 15th, 1862. The lowest or any Tender will not necessarily be accepted.
JOHN WARDLE, Architect.
66, Northumberland street, Newcastle-upon-Tyne.

COAST-GUARD CONTRACT.—NOTICE is hereby given to BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a COAST-GUARD STATION at Sea Town, in the Isle of Wight, may inspect the drawings and specification at the Coast-Guard Watch room, at Ryde, or at this Office, between the hours of TEN and FOUR, from WEDNESDAY, the 5th, to WEDNESDAY, the 19th, of NOVEMBER, now next ensuing, and both inclusive (Sunday excepted).

Tenders to be sent to this Office, not later than TWELVE o'clock at noon of THURSDAY, the 20th NOVEMBER, under seal, and directed to the Commodore Controller-General of Coast Guard, and endorsed, "Tender for Seadown Station."

The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 29th day of October, 1862, at the Admiralty Coast-Guard Office, 12, Spring-gardens, London, S.W.

TO CAPITALISTS and BUILDERS.—TENDERS are invited by the Trustees of the Estates of St. Botolph, Bishopsgate, for the LETTING, on Building Lease, for 99 years, about 13 A. 1 R. 25 P. LAND, fronting Devonshire, Bow, the Estate an very short distance from the Bow-road Railway Station, and is well adapted for the erection of dwelling-houses or manufacturing premises. The subsoil is gravel. Tenders to be sent on or before the 20th NOVEMBER to A. H. CLAPHAM, Esq. Solicitor, 14, Liverpool-street, Bishopsgate, from whom all further particulars may be obtained; or of Messrs. HOVENDEN & HEATH, Surveyors, 4, Broadstreet Buildings, E.C. The Trustees do not bind themselves to accept the highest or any Tender.
A. H. CLAPHAM,
14, Liverpool street, Bishopsgate, Solicitor to the Trustees.

TO BUILDERS. — Builders willing to TENDER for RE-BUILDING St. JAMES'S CHURCH, near Saunder-foot, Pembrokeshire, may see the plans and specifications, on application to E. WILSON, Esq. Hean Castle, St. Issel's, between the hours of NINE and FOUR, from the 27th inst.—Tenders to be delivered sealed and endorsed, "Tender for re-building St. Issel's Church," to E. WILSON, Esq. on or before the 1st day of DECEMBER next. The lowest or any Tender will not necessarily be accepted.
FREDERICK R. KEMPSON, Architect.
Hereford, October 1, 1862.

METROPOLITAN BOARD of WORKS. MAIN DRAINAGE of METROPOLIS SOUTHERN LOW-LEVEL SEWER.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give Notice, that they will meet at the Office of the Board, Spring-gardens, S.W. on FRIDAY, the 12th day of DECEMBER next, at TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of BRICK SEWERS, 9 miles 2,295 feet in length, or thereabouts, with other works in connection therewith. The sewers will commence at High-street, Putney, and be continued along Wandsworth-lane, Love-lane, High-street, Ram-lane, York-road, Battersea-road, Nine Elms, Wandsworth-road, New Bridge-street, Vauxhall, Harleyford-road, Kennington Oval, Harleyford-street, Camberwell New-road, Grosvenor-street, Grosvenor Park, Albany-road, at Georgerow, Brunswick-road, Neate-street, Old Kent-road, and terminate at High-street, Deptford, in the counties of Surrey and Kent. Parties desiring to submit Tenders may, on and after WEDNESDAY, the 12th instant, upon payment of 6*l.* 6*s.* obtain plans sections, specification, form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m.; or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 11th day of DECEMBER next. The Tenders are to be addressed to the Clerk of the Board, and must be delivered at this Office before FOUR o'clock on the last-mentioned day; and no Tender will be received after that hour. The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the Works.
JOHN POLLARD, Clerk of the Board.
Spring-gardens, S.W. November 5, 1862.

NORTH-EASTERN RAILWAY.—To CONTRACTORS.—The Directors are prepared to receive TENDERS for the ERECTION of a PORTICO to the Central Station, Newcastle-on-Tyne. Plans and Specification may be seen, and further information obtained on or after the 14th NOVEMBER, on application at the Office of the Company's Architect, Newcastle-on-Tyne. Sealed Tenders, marked "Tender for Portico at Newcastle," to be sent to the Secretary at York not later than TWELVE o'clock on THURSDAY, the 20th NOVEMBER. The Directors do not bind themselves to accept the lowest or any Tender.
York, October 31, 1862. J. CLEGHORN, Secretary.

CONTRACTS.

TO BUILDERS.—TENDERS are required for the ERECTION of a SCHOOL-CHURCH for the District of St. Andrew (St. Pancras), Haverstock-hill. The drawings, &c. may be seen on application to the Architect, Mr C. F. HAYWARD, No. 8 Adam-street, Adelphi, on SATURDAY, 22nd NOVEMBER instant; and Tenders will be required to be delivered on or before SATURDAY, the 29th instant, endorsed "Tenders for School-church," to the Rev. H. J. CARTER SMITH, 31, Queen's-terrace, Haverstock-hill. Neither the lowest nor any Tender will be necessarily accepted.

THE BOARD of WORKS for the PLUMSTEAD DISTRICT.—To MASONS, PAVIORS, and OTHERS.—Persons desirous of submitting TENDERS for LAYING DOWN NEW CURBING and CHANNELLING to the ROAD and FOOTPATHS in the BLENDINGTON ROADWAY, in the parish of Lee, within the said district, are requested to deliver the same before FIVE o'clock, p.m. of THURSDAY, the 4th day of DECEMBER next, at the Office of Mr. F. F. THORNE, in Dacre Park, Lee, Surveyor, where the plan and specification of such works may be seen, and all further particulars connected therewith may be obtained.—The lowest or any Tender will not be necessarily accepted.
By order, CHARLES AUGUSTIN SMITH, Clerk to the Board.

BRISTOL WATER WORKS.—CONTRACT for WORKS.—The Directors are prepared to receive TENDERS for the FORMATION of a RESERVOIR and other WORKS in the parish of Barrow Gurney, according to plans and specification, which, with the form of Tender, may be seen by intending Contractors at the Office of the Company, SMALE STREET, Bristol, on and after WEDNESDAY, the 26th day of NOVEMBER. Sealed Tenders, endorsed "Tender for Reservoir and other Works," are to be delivered at the Company's Office before TWELVE on FRIDAY, the 5th day of NOVEMBER, addressed to Mr CHAS. WM. BRAGGE, the Secretary. The Directors do not pledge themselves to accept the lowest Tender; nor any Tender until the security be approved.
Small street, Bristol, 7 Nov 1862.

TO BUILDERS.—TENDERS are required for the ERECTION of a NEW CHURCH at Derby. Persons desirous of Tendering are requested to send their names to G. G. SCOTT, Esq. 20, Spring-gardens, London, not later than MONDAY, the 24th instant, when they will be informed of the conditions. The Committee will not bind themselves to accept the lowest or any Tender.

LEEDS CORPORATION WATER-WORKS.—TENDERS WANTED for making, erecting, and setting to work, at Archington, near Leeds, a CORNISH PUMPING-ENGINE, with boilers complete, capable of lifting 3½ millions of gallons, twenty feet high, per day. The specification and drawing to be obtained on and after MONDAY, the 17th instant, at the Office of Mr. EDWARD PILLITER, C.E., Borough Surveyor, and Engineer to the Waterworks, Town Hall, Leeds, to whom Tenders, addressed to "The Waterworks Committee," Town Clerk's Office, Leeds, to be sent in not later than TEN o'clock in the forenoon of FRIDAY, the 19th DECEMBER.—By order, JOHN EDWD. SMITH, Town Clerk.
Leeds, 7th November, 1862.

TO PRINTERS and STATIONERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for PRINTING and the SUPPLY of STATIONERY, for one year, from Christmas next. Schedules of the articles likely to be required may be seen, and any further information obtained, at the Office of the Board, as below, between the hours of TEN and FOUR. Tenders are to be sent in under seal to the Board, on or before TUESDAY, the 10th inst. endorsed "Tender for ——," The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,
ARTHUR ALEXR. CORSELLIS, Clerk to the Board.
Battersea-rise, Wandsworth, S.W. 10th November, 1862.

TO STONE MERCHANTS, DRAIN-PIPE MAKERS, MASONS and PAVIORS, CONTRACTORS, and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the SUPPLY of BROKEN GUERNSEY GRANITE and other STONE and MATERIALS, also, for the supply of drain-pipes; also for the execution of masons' and paviors' works, and of the various jobbing works, in repairing and making good to sewers and gulleys, and for laying drain pipes; also for the supply of brick ballast, and for cleansing, filling, and repairing the several parishes of Battersea, Clapham, Putney, Streatham, Tooting, Graveney, and Wandsworth; and also for dusting in the parishes of Clapham, Putney, and Wandsworth, and for sweeping in the parish of Clapham. The contracts are to be for one year from Christmas next, with the exception of that for the supply of drain pipes, which is to be for one, two, or three years, at the option of the Board. Separate Tenders are to be sent in for each article. The conditions may be seen, and forms of Tender may be obtained, at the Offices of the Board, Battersea Rise, between the hours of TEN and FOUR. Tenders are to be sent in under seal to the Board, endorsed "Tender for ——," for each Parish respectively, on or before TUESDAY, the 18th instant. Security will be required for the due performance of the respective contracts. The Board do not pledge themselves to accept any Tender.
By order of the Board of Works for the Wandsworth District,
ARTHUR ALEXANDER CORSELLIS, Clerk to the Board.
Battersea Rise, Wandsworth, S.W. November 4th, 1862.

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the CONSTRUCTION of about 1 mile of BRICK SEWER, in Greyhound-lane, Streatham. The specification, plans, and sections may be seen, and all further information obtained, on application to Mr. JAMES BARBER, the Streatham Surveyor, at his Office, No. 1, BALHAM PLACE, Balham, between the hours of NINE and ELEVEN a.m. Tenders are to be sent in, sealed, to the Board, at their Offices, as below, endorsed "Tender for Sewer," on or before the 18th instant. Security will be required for the due performance of the Contract. The Board do not pledge themselves to accept any Tender.—By order of the Board of Works for the Wandsworth District,
ARTHUR ALEXANDER CORSELLIS, Clerk to the Board.
Battersea Rise, Wandsworth, S.W. 4th Nov. 1862.

[For remainder of Contracts see next Page.

CONTRACTS.

TO RAILWAY CARRIAGE BUILDERS.—The Directors of the Blackpool and Lytham Railway are prepared to receive DESIGNS and TENDERS for about Six First and Twelve Third-class CARRIAGES, suitable for a six-coupé railway.—Tenders to be sent in to the Secretary, Mr. T. FAIR, Whalley-street, Preston, on or before the 29th instant.

BUILDERS desirous of TENDERING for a HOUSE, to be built at Gordon-road, Peckham, for Mr. Colley, can see the plans and specification at the Office of the Architect, Mr. HENRY JARVIS, 39, Trinity-square, S.E. The Tenders are to be delivered at the Architect's Office on MONDAY, the 24th NOVEMBER inst. Mr. Colley does not bind himself to accept the lowest or any Tender.

DISPENSARY.—BARNSLEY.—To BUILDERS, MASONS, CARPENTERS, PLUMBERS, and OTHERS.—Persons desirous of submitting TENDERS for the execution of the several WORKS required for the above Institution, viz.—1. Excavator's, Mason's Bricklayer's, Slater's, Plasterer's, &c. Work. 2. Carpenter's and Joiner's Work. 3. Plumber's, Glazier's, Painter's, and Bell-Hanger's Work, may inspect the Drawings and Specifications at my Office, Barnsley; or at the House of Mr AMOS TAYLOR, Cockerham-road, Barnsley, on and after the 15th NOVEMBER instant, where also the Quantities can be furnished at £1. 1s. per Copy, after which date Tenders are to be delivered at the Union Bank, in Barnsley, under seal, addressed to "J. S. BECKETT, Esq." on or before the 1st DECEMBER next. The lowest or any Tender will not necessarily be accepted.

Nov. 1862. EDWARD APPLETON, F.I.B.A. Architect.

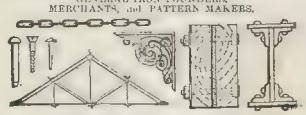
ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.

LOSH, WILSON, & BELL,
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

SEVEN-HORSE PORTABLE ENGINE FOR SALE, nearly as good as new, price 165l.
TWO-TON IRON CRANE, with foundation stones, &c. complete, price 45l.
TWO NEW PILE ENGINES, price 14l. the two.
Apply to ROGERS & BOOTH, Contractors, Gosport.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 1st, Union-street, and 3&4, Great Guildford-street, Borough, S.E. inventor of the Return-bend Pipe, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.
GENERAL IRON FOUNDERS,
MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders' or other purposes, estimated for and executed. Designs furnished.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equal over the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres &c. &c.

MOORE'S PATENT VENTILATOR
NOTICE OF REMOVAL.
In consequence of the expiration of the Lease at 81, Fleet-street, all Communications are respectfully requested to be made at the Works.
JOSIAH MOORE, Patentee,
SEKFORDE WORKS, ST. JAMES'S WALK, CLERKENWELL, E.C.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY and ENGINEERING WORKS, DERBY.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, Cocks, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.
J. H. BOOBBYER (late STURGE & BOOBBYER), established nearly 250 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare market, London.

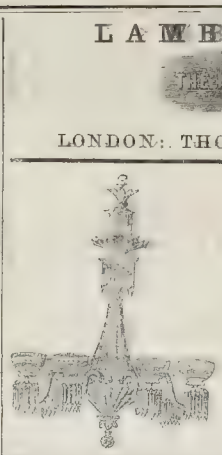
VICTORIA LEAD WORKS, ELIZABETH STREET SOUTH, PIMLICO.
JOHN GOODSON, Manufacturer of every description of Plumbers' Work for Builders, Chemists', Gas Fitters, Candle, and Alum Makers; Ornamental Rain-Water Pipes, Heads, Bends, &c. Water-closet Traps, in silk and, for 8s. each Cash Price, and contain no foul air.
Five minutes' walk from the Grosvenor Hotel.

A CONTRACTORS' LOCOMOTIVE is REQUIRED, either a New one or second hand: one in good condition.—Write with price and particulars, to Mr. TAYLOR, No. 4, Wharf, Baldock-road, Lonsdale.

STOVE FOR SALE.—A large Ornamental WARM-AIR STOVE (taken down from Offices of the International Exhibition), with two fires and descending flue. Size, 3 feet wide, 4 feet high.—To be seen at the Vulcan Foundry, Smart's Buildings, High Holborn.

GLASGOW CORPORATION WATER-WORKS.—PUMPING ENGINES FOR SALE.—The Glasgow Corporation Water Commissioners are prepared to SELL Two Powerful PUMPING ENGINES, used up to March, 1860, in supplying the city with water, namely:—1 good second-hand timber Plunger Engine with cast-iron standards and fly-wheel, 40 inches diameter by 9 inches broad, 8 feet stroke, and the other Engine complete but to be altered to 145 feet. For further particulars apply to Mr GALE, Engineer, Water-works Offices, 23, Miller-street, Glasgow; or to
4th November, 1862. JOHN BURNET, Secretary.

LAMBERT, BROTHERS,



THE ALPHA TUBE & FITTING WORKS,
WALSALL.
LONDON: THOMAS LAMBERT & SON, LAMBETH.

INTERNATIONAL EXHIBITION,
Classes 31 and 34.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
THE NEW CRYSTAL STAR AND SUN LIGHT.
J. DEFRIES & SONS,
ENGINEERS, GAS-FITTERS, AND MANUFACTURERS,
OF MEDIÆVAL AND EVERY DESCRIPTION OF GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS, VESTIBULES, &c. &c.
Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other Public and Private Buildings.
HOT-WATER PIPES,
For Heating Conservatories, Warehouses, &c. supplied and fitted on the most improved and economical Principles.
PUBLIC AND PRIVATE GAS-WORKS ERECTED.
Works—London and Birmingham.
PRINCIPAL DEPOT AND SHOW-ROOMS,
147, *Houndsditch, City.*

NO CHIMNEY WANTED
FOR RICKETS & HAMMOND'S PATENT CALORIFERE GAS STOVES, in Churches, Halls, or Shops; and for Conservatories, or any close apartment, a Pipe can be attached to carry away the burnt air.



AGAR STREET, STRAND, LONDON.
DISCOUNT TO THE TRADE.

GALVANIZED IRON AND ZINC WORKS.
GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.
VAVASSEUR AND CO.
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of
FIRST-CLASS WOOD-CUTTING MACHINERY,
being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

PRIZE MEDAL AWARDED.
PRACTICAL UTILITY, MODERATE COST.



HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt upwards; Setting Frames, Double and Single Power Crab Winches, all sizes.—For further particulars apply to BOWER & CAMERON, Springfield Iron Works, M'Neil-street, Glasgow.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the
LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street, London, E.C.

VENTILATING STOVES. Cheap, simple, efficient, and durable. Thousands have been sold, and universally approved. They are suitable for Halls, Warehouses, Conservatories, and every situation where a close stove is required. The largest sizes are extensively used in churches, chapels and public buildings, with great effect and economy. Prices, 5s. 6d., 7s. 6d., 9s. and 12 s. Prospectus with engravings, gratis and post free. In operation daily. The trade supplied.
DEANE & CO.,
Opening to the Monument, London Bridge. Established A.D. 1700.



THE PRIZE MEDALS,

LONDON, 1851. PARIS 1855. LONDON, 1862.

AWARDED TO

COTTAM & COMPANY,

No. 2, WINSLEY-STREET, LONDON, W.

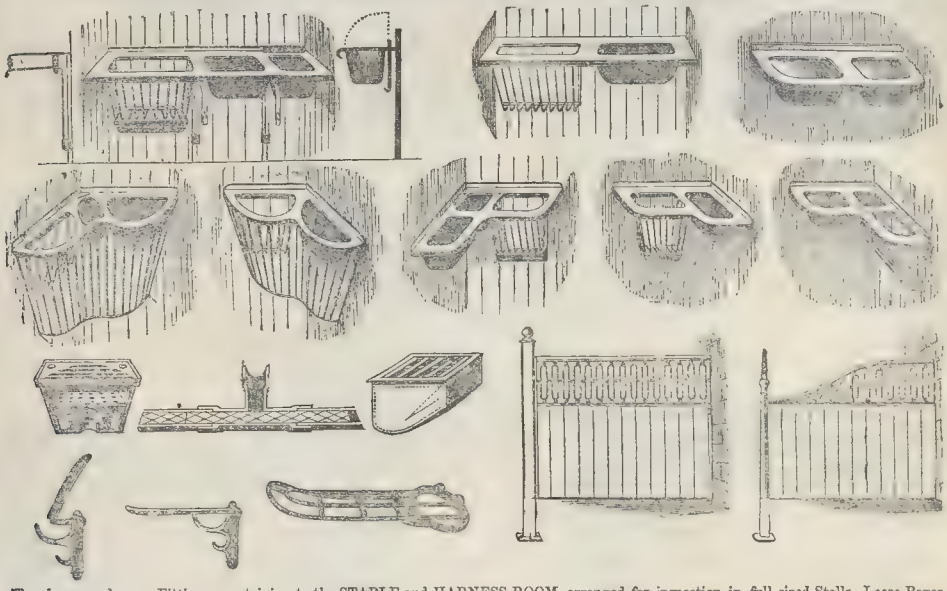
FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN

STABLE FITTINGS AND HARNESS BRACKETS.

ORIGINAL INVENTORS OF THE PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, FITTED TOGETHER AS ONE FIXTURE.



PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



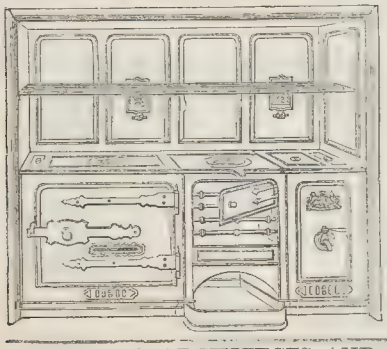
The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM, arranged for inspection in full-sized Stalls, Loose Boxes, &c. (portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to

COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

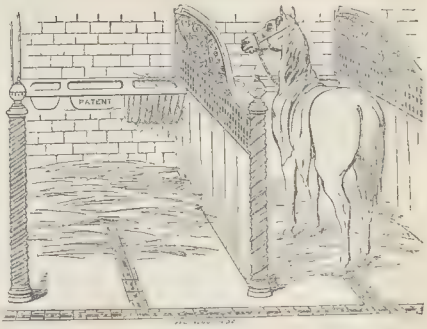
N.B.—Winsley Street is the Street opposite the Pantheon.



ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
[illegible],
AND
STABLE FITTINGS.

A LARGE STOCK
OF OTHER
CASTINGS KEPT.



TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Beller and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

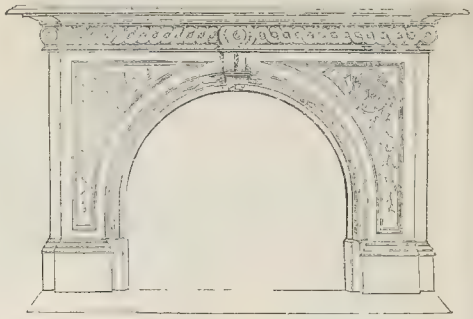
THE RICHEST ASSORTMENT OF CHIMNEY-PIECES

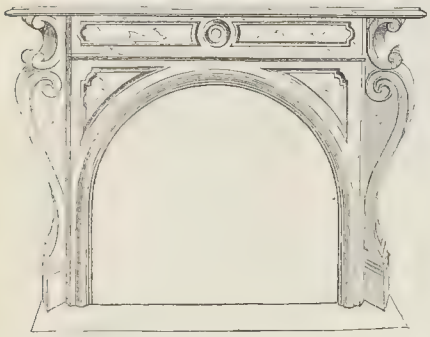
IS AT

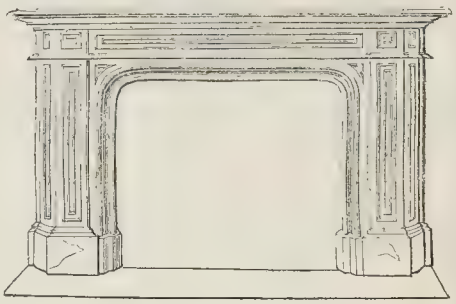
WILLIAM S. BURTON'S.

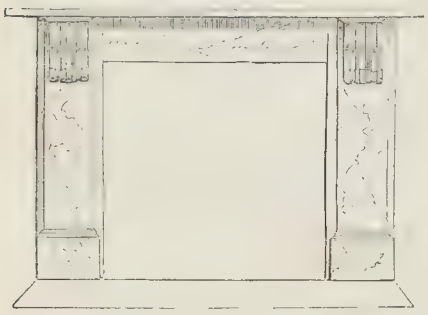
It embraces the following Foreign and English Marbles:—Italian Statuary, Brocatelle d'Italie, Brocatelle d'Espagne, Brocatelle Brune, Griotte d'Italie, Jaune Fleuri, Vert Antique, St. Remis, Black and Gold, Black, Rouge Royale, Vein, &c. &c.; and it includes the undermentioned styles: Renaissance, Louis XIV., Louis XV., Pompadour, Louis XVI., Moderne, à Balustres, &c. &c. Most of the designs are new; while several, from their rich and exquisite sculpture, are veritable works of art. A complete assortment of Enamelled Slate Chimney-pieces is also on show, including many elegant designs. The Prices range from 1*l.* 8s. to 100*l.*

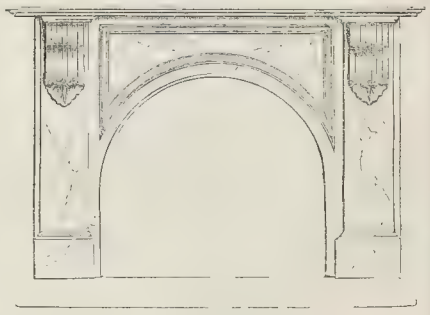












WILLIAM S. BURTON'S

GENERAL FURNISHING IRONMONGERY CATALOGUE

MAY BE HAD GRATIS, AND FREE BY POST.

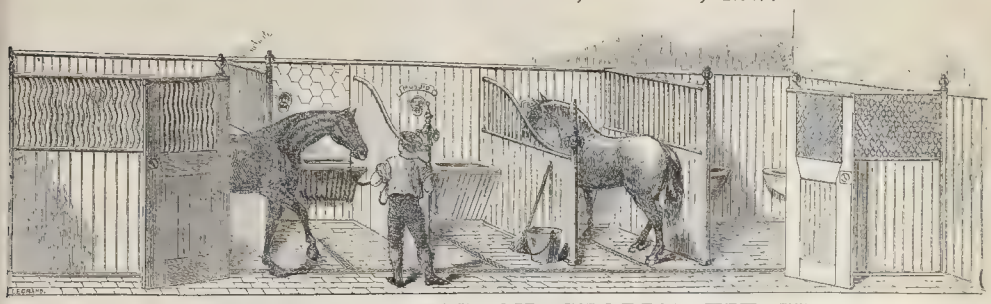
It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro Plate, Nickel Silver and Britannia Metal Goods, Dish Covers, Hot-Water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays, Urns, and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed-room Cabinet Furniture, &c. with Lists of Prices and Plans of the TWENTY LARGE SHOW-ROOMS at

39, OXFORD-STREET, W; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE; and 1, NEWMAN-MEWS, LONDON.

ESTABLISHED 1820.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

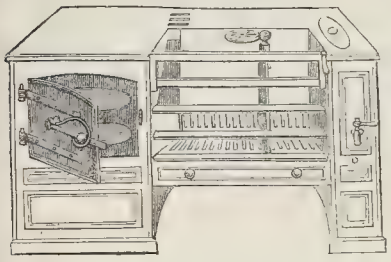
Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.

159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler	
34 inches	54s.	30 inches	72s.
36 "	56s.	32 "	74s.
38 "	58s.	34 "	76s.
42 "	60s.	36 "	78s.

Register Stoves, with Strong Bars, from per inch, 4d.

Improved New Pattern Circular Check Register, with strong Bars and Frixets, 4d. per inch.

Best ditto, with Fire-brick Back, from per inch, 5d.

Bright Stoves, with Two Fires, 45s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	1½ inch.	2 inch.	2½ inch.	3 inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.

Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½-in.	3-in.
Cast Rain-water Pipe....	8d.	10d.	1s. per yard.

Cast Gutters, 4 in. 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on....	10d.	1s. per yard.

2	3	4	5	6
Patent Line..3s. 6d.	4s.	5s.	7s.	9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock. Any size made to order.

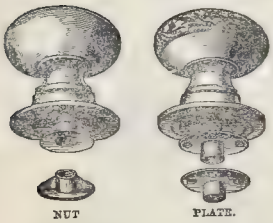
SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.



NUT PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid &c. &c. or to any design.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and particulars sent upon application.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,

STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogues free per post.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

PRIZE MEDAL—INTERNATIONAL EXHIBITION, 1862.

CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It destroys Noxious Effluvia (ANYKIND), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocious and wholesome nature, and being without colour or stain, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable, such as purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c., as well as in the bath for preserving and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 1s. 2s. or 4s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.

Wholesale of the Patentee, Battersea, Surrey, S.W.

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the Kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

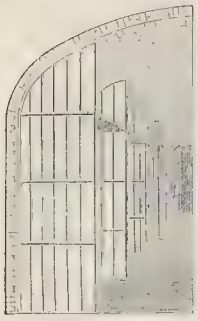
Further information may be obtained of the Proprietor of the Patent,

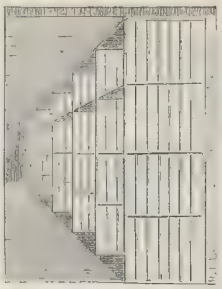
Mr. BARRETT,

12, YORK-BUILDINGS, ADELPHI.

TO BE SEEN in the HARDWARE COURT, INTERNATIONAL EXHIBITION, Stand 1042, and HARDWARE COURT CRYSTAL PALACE, SYDENHAM, the only PATENT COOKING STOVE that has received the LIST PRIZE MEDALS—England, 1851, France, 1855, International, 1862; for a new mode of heating and purifying cast and wrought iron and ECONOMIZING FUEL in Kitchen Ranges.—DENLEY & SONS, Manufacturers, Northampton.

WROUGHT IRON WINE BINS.





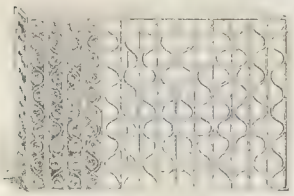
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,

18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

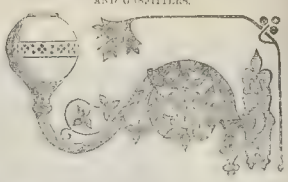
FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

BUSINESS REMOVED TO THE DOVER IRON WORKS, STAPLE STREET, LONG LANE, BOROUGH, S.E.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

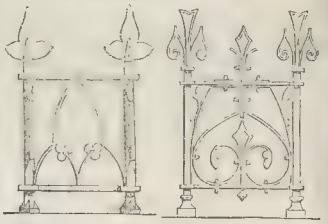
Specimens at the Architectural Exhibition, Conduit-street, W. Drawings and Estimates furnished.

HART AND SON,

WORKS, WAREHOHSE, AND SHOW-ROOMS,

53 to 58, WYCH-STREET, STRAND, W.C.

SHOW-ROOMS, 20, COCKSPUR-ST.



ENGRAVERS OF MONUMENTAL BRASSES, HERALDIC DEVICES, &c.; CHURCH PLATE, GLASTONBURY CHAIRS, WROUGHT-IRON HINGES, GRILLES, VANES, CROSSES, &c. &c. CORONÆ, STANDARDS, BRACKETS, &c. for Gas, Oil, or Candles.

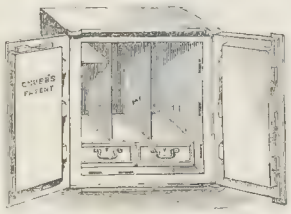
CHUBB & SON.—"For Perfection of Workmanship and Construction of Locks. Also for the Manufacture of Iron Safes." Prize Medal awarded, International Exhibition, 1862.

CHUBB'S PATENT DETECTOR LOCKS,

The most secure from pick-locks and false keys, are strong, simple, and durable, and made of all sizes and for every purpose to which a Lock can be applied.

Cash, Deed, and Paper Boxes of all sizes, Travelling Bags, Letter Bags, Writing Boxes, and Desks, all with the DETECTOR LOCKS.

It will be observed that no locks or safes of inferior quality are made by Chubb & Son. The whole of their locks and and safes sold to the public at large are exactly the same in security and excellence of workmanship as those supplied to her Majesty, the Government Offices, the Bank of England, Stock Exchange, and other public establishments.



CHUBB'S PATENT FIRE-PROOF SAFES afford the greatest security from fire or burglars. They are constructed in the best manner of strong wrought iron, and lined with the best known fire-resisting and non-conducting composition.

The doors are all secured by CHUBB'S PATENT DRILL-PREVENTIVE, and their Patent

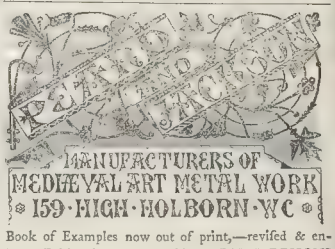
GUNPOWDER PROOF LOCKS.

Illustrated Price List Gratis and Post Free.

CHUBB & SON,

No. 57, ST. PAUL'S CHURCHYARD, LONDON;

28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horseley Fields, Wolverhampton.



Book of Examples now out of print,—revised & enlarged Edition shortly, meanwhile, SPECIAL DESIGNS & ESTIMATES for WROUGHT IRON & BRASS Gates, Screens, Grilles, Altar & Tomb Railings, Hinges, Vanes, Crosses, GAS-FITTINGS,—Brackets, Standards, Gasteliers, Coronæ, &c., and *EVERY* other *DESCRIPTION* of METAL WORK for Domestic & Ecclesiastical purposes: As also for COMPLETELY & EFFICIENTLY Lighting Churches, Chapels & Public Buildings,—including SERVICE PIPES, METERS, &c., will be submitted upon application.

CASTINGS, ANY WEIGHT AND QUANTITY,



With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.

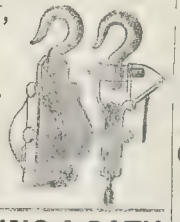
IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

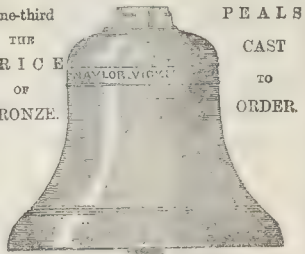
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.

CANNON IRON FOUNDRY, 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Wheel Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

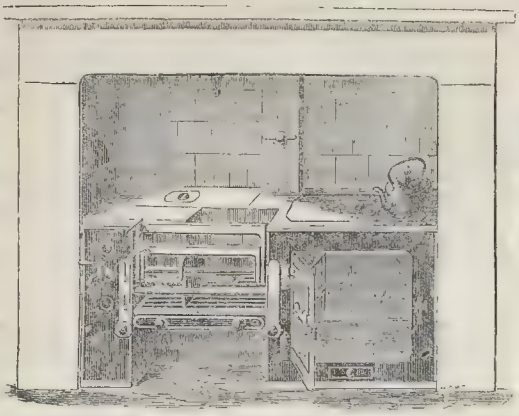
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

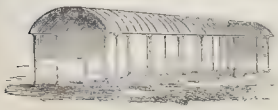
6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Birmingham, and Limehouse.

Every description of Iron Work Galvanized.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

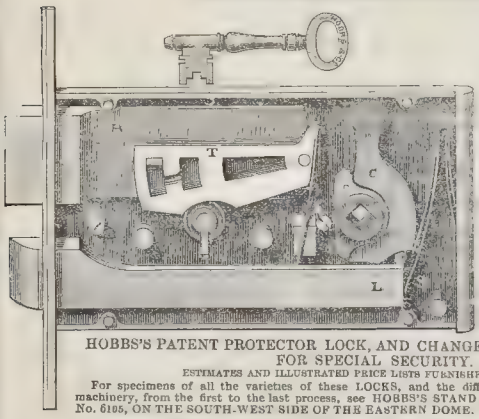
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

W. HARMER & SON,

BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.

WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.

WROUGHT IRON TUBE and FITTINGS for GAS or WATER.

CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.

W. HARMER & SON,

3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.

ESTABLISHED 1817.

IRON RAILINGS for ENCLOSING TOMBS and GRAVES.

COMMUNION RAILINGS, SCREENS, GATES, &c.



Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY STREET,

OXFORD STREET, LONDON, W.

PRIZE MEDAL.

INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE, LONDON OFFICE, CANNON STREET, E.C.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates; Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation

For Designs and Estimates apply to

RANDAL STAP, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS MANUFACTURED AND FIXED BY

HIBBERT & CO.

52, GRANBY-ROW,

MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.



SPRATT'S PATENT

BATTERY EXCITATION COPPER LIGHTNING-CONDUCTORS, giving 3 inches of surface. Only 1s. per foot, complete for fixing, forming beautiful "reproducing" Platinum Silver Alloy Point, Glass Insulators and attachments, forming a Lock, Steel Magnets for several discharges. Also SPRATT'S NEW ARRANGEMENT for SHIELDING POWDER MAGAZINES from the possibility of being injured by Lightning; Beer in Breweries from spoiling; Milk in Dairies Souring by electric currents. Office 18 & 21, Rhodes row Holborn. Orders over Two feet carriage free.—Stamp for Circular.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the joint and all staples, complete for fixing, at the following prices:

Three-eighths inch diameter..... 1s. 0d. per foot.

Half-inch diameter..... 1s. 6d. "

Five-eighths inch diameter..... 2s. 0d. "

R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

Offices—161, Strand, London.

" Gateshead-on-Tyne

" 27, Dale-street, Manchester.

" 20, Anderston-quay, Glasgow

" 17, South Castle-street, Liverpool

" Exchange-buildings, Dundee.

" 7, Frederick-street, Aberdeen.

GALVANIZED IRON and ZINC WORKS



TRADE MARK.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Pipes, Wire Netting Galvanized Cisterns, and every description of Hollow Ware. All Kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Cisterns, &c.

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

PAPIER MACHE AND CARTON PIERRE WORKS,
49, RATHBONE PLACE, W.
GEORGE JACKSON AND SONS
(Established in 1730)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining Rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large amount of their works, and the recent adoption of steam power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS
PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE PLACE, LONDON, W.

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.
AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,
ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES
VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.
JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

THE BRITISH AND FOREIGN MARBLE GALLERIES,
WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.
EDWARDES, BURKE, & CO. PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.
List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to
BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY.
PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.
Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to
BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

Just published, price 2s. 2d.
MANUAL of HYDROLOGY.
By NATHANIEL BEARDMORE, Civil Engineer.
CONTAINS—
DIVISION I. HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of upwards of 400 pages, and there are 20 large plates.
London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 to 68, London-wall. 1862.

Just published, 1s. 6d.
AN ANTIDOTE to the SANITARY EVILS of TOWNS and CITIES in the PATENT EUREKA SYSTEM, by which the contents of the cesspits, &c. form a great fertilisers of the soil, and promoter of the growth of all kinds of farm produce.
May be had from A. HEYWOOD, Oldham-street; and JOHN HEYWOOD, Deansgate; and at the Company's Office, Newall's Buildings, Manchester. J. KERSHAW, Secretary.

Just published, half sheet imperial, in stiff cover, price 10s 6d
SUGGESTIONS for the FORMATION of a NEW STYLE of ARCHITECTURE, specially adapted to CIVIC PURPOSES
By T. MELLARD READE, Architect, Liverpool.
Containing Seven Plates and a Treatise on the Growth and Development of existing Styles, and an Inquiry into the Principles by which they have been evolved.
All on finest Plate Paper.
London: JOHN WEALE, 59, High Holborn.

DWELLINGS of the WORKING POPULATIONS.—The Society for Improving the Condition of the Labouring Classes has published the following WORKS, which may be obtained at the Office, 21, Exeter Hall, Strand:—"The Dwellings of the Labouring Classes, their Arrangement and Construction, with Descriptions, Plans, &c. of existing Model Houses, and Designs for Dwellings adapted to Towns as well as Agricultural Districts." "The Model Cottages of the late Prince Consort and of the Windsor Royal Society." By HENRY ROBERTS, Esq. F.S.A. Fifth Thousand, enlarged edition, price 1s. cloth. "Home Reform; or, What the Labouring Classes may do to Improve their Dwellings; an Address to Working People." Third Thousand, price 3d. "The Physical Condition of the Labouring Classes resulting from the State of their Dwellings and the Benefits Effects of Sanitary Improvement, adapted in England." By HENRY ROBERTS, Esq. F.S.A. Price 2d. Working Drawings at a large scale, with Specifications, &c. for Agricultural Labourers' Cottages, and for Dwellings adapted to Towns or Villages. Each Design complete on one Sheet.

COLMAN'S MAGAZINE.—Price One Penny, weekly; Monthly Parts, Sixpence, with Illustrations.
To appear DECEMBER 6th. Thirty-two pages, Demy 8vo.

TO STATUARIES AND MASONS
Just out, Two New Works of
DESIGNS for MONUMENTS, TOMBS, GRAVESTONES, &c.
Apply to J. B. ROBINSON, Sculptor, Derby, who will forward particulars free by post.

"THE BUILDER."—WANTED, the VOLUME for 1859 COMPLETE, bound or unbound.—Apply to the Publisher, at the Office, 1, York-street, Covent Garden, W.C.

GLEIG'S SCHOOL SERIES, NEW PART.
Now ready, in 18mo price 1s. and KEY, price 9d.
TREATISE on LOGARITHMS; with copious Tables of Selected Logarithms, adapted to the Author's Elements of Trigonometry; explaining in a simple manner the Nature and Use of Logarithms and Logarithmic Tables, the Principles and Methods of their Construction, and their Applications in Arithmetic, Mensuration, and Trigonometry. With numerous Examples and Exercises.
By the Rev. J. HUNTER, M.A.
London: LONGMAN, GREEN, & CO. 14, Ludgate hill.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

POLYTECHNIC.—THE COTTON FAMINE, ZOSTERA MARINA, FLAX, JUTE, and other Fibres. Professor J. H. PEPPER'S NEW LECTURE, illustrated with the OXY-HYDROGEN MICROSCOPE, Experiments, and an entirely New Series of Dissolving Views, designed and painted by J. A. Benwell, Esq. New Musical and Historical Entertainment, by G. A. Cooper, Esq. entitled "The Seven Ages of a Great City." Engagement of the London Vocal Quintett Union.—Artistes: Miss Leffler, Miss Rose Hersee, and Messrs Carter and De Fontainer. Conductor: Mr. F. O. Williams. Herr Winkler, the Wonderful Calculator. Master Hamilton, the Juvenile Wilson of Scottish Song. Experiments by J. L. King, Esq., illustrating "Sub-marine Warfare, and the Means of Repelling Boarders from Iron Ships." The Laboratory is always open for Pupils and Analyses.

The Builder.

VOL. XX.—No. 1032.

Sanitary and Social Jottings in Manchester.

BAD as things now are in the districts suffering from the Cotton famine (not wholly due, by the way, to the civil war at this time raging in America), worse times,—frightful times,—must be looked for; and it behoves all to do what they may in their specialty to lessen their horrors and save human life. It is not easy, without long and very careful study, to grasp the present social and sanitary condition of a great centre of British industry like Manchester, where now unfortunately the labours of the workers are to a large extent suspended; but it is evident to a more casual inquirer that measures are needed which not only in the time of the present distress, but in future years, will lessen the chance of sickness, and lengthen life. Many changes are going forward there which show the good results of sanitary improvement. For instance, in Manchester, in 1858, the death-rate was 36 in the 1,000; in 1859 it became reduced to 30⅔; and in 1860 to 30½; but even the last figures are discreditable enough. Respecting this, Mr. William Royston, in his report to the Manchester and Salford Sanitary Association, says,—"We frequently contrast Manchester with Liverpool, and say with some complacency that, bad as Manchester is, Liverpool is worse; but if we refer to the constitution of both districts, we shall find that Liverpool is all urban, but that Manchester has twelve other townships incorporated with it, all more or less sub-urban: this connexion has reduced the rate 2¾ per cent. per 1,000 during the last twenty years." But it is also to be noticed that it is not correct to say that the death-rate of Liverpool is greater than that of Manchester, for in 1858 the deaths in Liverpool were 36 in the 1,000; in 1859, 30½; and in 1860, 28¾. The excessive mortality of both Manchester and Liverpool is cause for much anxiety, and shows the need of increased exertions, and of better plans of house construction not only in the old portion, but also in the new parts of both these important places.

In some respects the present condition of Manchester very much resembles the present state of London. In the old city the dwellings are rapidly giving way to substantial structures, some for business purposes and others for the use of various institutions; and new streets are rapidly stretching to Salford, Broughton, Cheetham, Newton, Ardwick, Chalton, Hulme, Salford Pendleton, and elsewhere. Few business men now remain in the town, but live at a distance from it of six, seven, or even more miles. Nor is this to be wondered at when we see the murky atmosphere which coats everything with smoke, even at a time when many manufactories are idle. For the last two or three mornings there has been a heavy fog, and the thickly-loaded air, which causes headache and much unpleasantness to strangers, is worse than we remember to have noticed it at similar times in the metropolis; and we are told that this smoke spreads for many miles according to the direction of the wind, blackening windows and soiling clothes; and this is not the worst, for over Manchester hangs a heavy and oppressive air, which is sufficient to account for much sickness and death.

Without going into details respecting the antiquity and growth of Manchester, the reader may be reminded that the Romans invaded Lancashire, and erected a fort or castle on a space of ground at the southern extremity of the town. This spot still retains the name of Castle-field or Camp-field. About the year of our era 627, the Saxons regained possession of the ancient Mancunium, and the town began to be reformed, and was placed under the dominion of a lord or thane, who, it is supposed, had his habitation on the site of the College. In the year 446 Manchester was made a parish. In the tenth century it was fortified by Edward, King of the Mercians; and in Domesday-Book it is so mentioned under the name of "Mancestre." In the year 1301 the town was made a free borough; and in 1422 the present cathedral was built: while about the same time the College was founded. In the reign of Henry VIII. Leland describes Manchester as being "one of the fairest and best-built towns in Lancashire;" and about this time it became noted for certain cloths, manufactured here, and called "Manchester cottons."

In 1563 Manchester was visited by "a sore sickness;" this was succeeded, twenty years afterwards, by a famine, which prevailed throughout the whole of Lancashire. In 1651 a library was founded by Humphrey Cheetham; and fourteen years afterwards the Cheetham Hospital was established. About this time Manchester was described as being one mile in length, with good streets and buildings, and the people more industrious than in other parts of England. In 1722 a post-office was first established in Manchester, and letters were then despatched three times a week. In 1758 the Duke of Bridgwater, with the assistance of Brindley, commenced making his canal, which was opened in 1761; and in 1787 the first post-coach was established: it left Manchester at four o'clock in the morning, and was expected to arrive at its destination on the next evening.

In 1832 the cholera appeared in Manchester. It commenced in May; continued until January, 1833, and made great havoc amongst the working classes. Nor is this to be wondered at; for, notwithstanding the cholera deaths, the Statistical Society says that, in 1836, out of 169,000 inhabitants of Manchester and Salford, 12,500 lived in lodging-houses, and more than 700 slept in cellars with the bad tenants of these places. According to the police report for 1843, there were within the police limits of Manchester (population 235,139) 5,529 cellars, of which 4,445 were occupied by 18,217 persons, with only 6,950 beds. In the cholera year (1832), a report stated that of 687 streets 284 were not paved, 53 only partially paved; 112 were ill-ventilated, and 352 contained heaps of refuse and stagnant pools; 2,565 houses were infected to such a degree as to require immediate whitewashing; 960 required repair; 452 were ill-ventilated, and 2,221 were reported as wanting privies. Notwithstanding that improvements have been made and many of the cellars closed, there are still in the old parts of Manchester numbers of noisome underground places, damp and ill-ventilated, which are occupied by a considerable population. The walls and ground are damp, the windows of the smallest dimensions, and the door is scarcely sufficient to admit the entrance of a man or woman of ordinary size. To add to the mischief, there is nothing but surface-drainage, and most of the houses have no means of thorough ventilation. For the chief part they are very small, some being not more than 6 feet in height from the floor to the ceiling. The closet accommodation is very unsatisfactory, in several instances there being only one closet for fifteen or sixteen houses, which are crowded with people. In all cases the soil of the closets is allowed to remain until it can be carried away during the night-time by the scavengers. But it is not only in connexion with these old-fashioned houses that this abominable plan is in use, but the same thing is allowed to be continued in newer neighbourhoods; and it is chiefly to this that the unpleasant odour of parts of Manchester is to be attributed. It is admitted that, with proper management, this town might be well drained by the streams which flow throughout the neighbourhood; but then comes the question of utilizing the sewage, and preventing the dangerous pollution of the water-courses.* This is, however, but a secondary consideration in comparison with the saving of life. Complaints are made here of the large mortality of children. On this point we have before remarked; and, while acknowledging that there is great want of management on the part of the mothers, much of this evil is to be attributed to the sanitary conditions to which we have referred. The water-supply is understood to be constant. There are but few casks or cisterns, but the water can be turned on by means of taps; and in eight cases out of ten the people endeavour to keep their houses and back-yards clean. The bad state of the pavement interferes with this. There is but little provision for drying clothes; so the people are obliged to take them to open places in the town, where they can have accommodation on payment of a small sum.

In many of the poorer kinds of houses there are small and inconvenient shops, which greatly require care; for often the family live in a close apartment at the back, which is without any window or other kind of ventilation. The cesspool and the dust are generally in a confined situation,—in some instances the soil is retained in boxes, which can be carried away by the scavengers. A contrivance of this kind was in use in a large school, but the smell was so bad in the closets and passages that it has been wisely determined to communicate with one of the large drains which pass through most parts of the town, but which are chiefly neglected. In schools here the drainage is frequently deficient. There should be well-trapped water-closets in those situations, and a separate office for boys and girls; playgrounds are also wanted in some Manchester schools.

In buildings of considerable consequence here there has been trouble to get proper ventilation. In the Public Free Library, in Camp Field, a large expense has been recently incurred, and matters are now more satisfactory than they were. This is a splendid institution, supported by a small rate levied on the whole of Manchester, which amounts to about 4,000*l.* a year. This building is of great extent, and consists of an apartment on the ground-floor, and another above it. To the lower room any one is admitted. Here there usually come each day more than 3,000 young men and others, for the purpose of reading the newspapers, nearly seventy of the leading periodicals, and a large collection of standard books. Volumes are lent to readers at home, and in this way 480,365 loans of books were made in the last year. In the upper room there is a large collection of specifications of patents, which is much consulted. A total of upwards of 30,000 of these specifications has been examined, the chief part being in connexion with textile manufactures. Besides the chief library there are branches at Hulme, Ancoats, Ardwick, and Rochdale-road. This establishment must work great good; and it is to be regretted that we have nothing of this kind on the same liberal scale in the metropolis. In other ways a disposition in Manchester to do liberal things is shown, and we have visited with gratification some of the sewing schools, which are the chief means of feeding a large number of young girls and women. These are also useful in keeping them employed and out of the way of mischief. Many will receive an amount

* At the present time, the river Irwell is in a bad state·

of useful instruction in needle-work, which they would not have had except for the calamity which has come upon this county. The rooms in which these females are gathered are fitted up for, it is hoped, only a temporary occasion; but care should be taken to ventilate them: one of these places we found especially close. Amongst the people a more than common amount of intelligence is apparent, and this we trust will eventually lead to better management.

Accident leads us across the Irwell river, which separates Manchester from Salford, where a thoroughfare called Greengate continues to the district of St. Matthias, the population of which is over 8,000.

Along the main street, towards the Broughton-road, on each side, are numerous narrow courts, in which, for the most part, are small and very unwholesome houses. The entrance to Ravald's-court is not more than 3 feet wide, by about 6 feet in height; and others are not much better in this respect. At the back of some are large buildings, which prevent the circulation of fresh air,—an unfortunate circumstance, particularly when we consider that there are here the same noisome ash-pits and closets to which we have already referred.

Most of the houses in the main street are seemingly about a hundred years old; some much more; but near the church of St. Matthias, which stands at the corner of "Paradise" (a spot which, like some others, belies its name), are numerous streets of small houses, much resembling a large portion of the property which has been planted on the ground at Bermondsey, parts of Bethnal-green, and other metropolitan neighbourhoods. Some of these houses appear to be about fifteen or twenty years old, and have all the faults of the small dwellings of this date; and here is also found the usual want of closet accommodation. Another evil is that the greater number of the houses are built back to back. There are no gardens in front; nor in many cases are there yards behind. It is to be remarked that in this and most other parts of Manchester there is not a bit of greenery to be seen, and very few attempts are made to grow window-plants: the general aspect is dingy and depressing in the extreme.

A few years since, a portion of St. Matthias's district, called the "Adelphi," and some other parts, had a most notorious character. There were dwelling about, a number of very poor Irish people, and also many thieves and disreputable persons, who were most troublesome to the police. Certain houses were infested with these characters, and idle boys and youths assembled in the open spaces of ground for the purpose of gambling and playing; but when the present rector came, a few years since, he set vigorously about effecting some reform. Both this gentleman and his assistants began to move amongst the people, and they, as well as the Scripture reader, went frequently from house to house; the clergymen themselves going, after church service on the Sunday evenings, to the crowded public-houses, and in the tap-rooms distributing tracts and offering advice to the men. All this was attended with such advantage, that it was determined to erect a building for a working-men's club, and a plain but substantial structure has been raised for this purpose in the midst of what was once the very worst part of the district. Here are reading-rooms, which at night are well warmed and lighted. There is a library, which contains about 1,000 well-chosen volumes, with newspapers and periodicals; there are also a lavatory and other convenience provided; besides these there is an "*amusement room*," in which are draught and chess boards, and opportunities for playing other games; there is also a lecture-room, in which various friends to the institution give popular lectures, which are well attended.

Soon after the opening of this place, a deputation of workmen waited upon the rector to ask him if he would have any objection to such of them as wished smoking their pipes when they came to the club. Thinking it better to allow this, and so get the men here instead of driving them to the ale-shop, the rector had a smoking-room prepared near the top of the house, to which they may take their pipes and books. On the roof of the building are fixed seats and telescopes, so that those who feel so disposed, in summer time, may get a view of the surrounding scenery; which, however, is not of the most tempting description.

Such an example as has been set here by the rector of the district is so worthy of imitation, that in the hope that it may be useful, we give the rules of the club, which consists of more than 200 members.

The management is under the president (the rector), secretary, treasurer, and a committee, one half of whom shall be *working men*. No one under eighteen years of age is to be admitted a member. The club to be open to working men of every class. The subscription, a penny a week, payable in advance. Any person wishing to enter the club shall propose himself to the committee one week, and be admitted the next; one or more of the committee to be present at the club-house every Monday evening, to receive proposals and enrol new members. Any member shall forfeit his privilege until the subscription be paid; but should circumstances prevent his attendance for three months, he may be re-admitted as a new member. A register to be kept for the entry of members' names and subscriptions. The club-house to be opened every evening at six o'clock, and closed at ten; and the committee to meet once a month for the transaction of business.

Formerly, in St. Matthias's district, a strong force of police was needed, and decent wayfarers could scarcely get through the place without insult: now it is orderly, and a policeman is scarcely ever seen. The district has been tamed by kindness and well-directed exertion.

We must break off for the present; but would first say one word to those who are exerting themselves to obtain funds to supply the nearly starving multitude, thrown out of work, partly by the want of cotton, and partly by previous over-production and the stoppage of demand. It is not merely money and clothes and occupation that are needed at the present moment, but a vigilant and enlightened supervision, so that those injurious conditions which are known, especially under circumstances of deprivation, to produce fevers and other illnesses, may be removed or ameliorated. We shall endeavour hereafter to point to some of the special blots and dangers that exist in the stricken districts, anxious to bring attention to bear on evils which, if not removed, will unquestionably increase immensely the accumulating miseries of the coming winter. We use the telling words of another below, to aid in moving the generous heart of the country in the same direction.

THE HEROES OF THE LOOM AND TRENCH.

A FEW evenings ago the officers of the Royal Artillery gave some theatrical performances at Woolwich in aid of the Lancashire Relief Fund, and prefaced them with an admirable prologue, which they owed to the kindness of an accomplished writer. The public will thank us for giving it a wider circulation; and we shall be surprised if its touching words do not materially aid in awakening that sympathy and evoking that aid which our nobly-enduring countrymen and countrywomen in the North eminently need and deserve:—

"When threaten'd, England's honour or repose,
The British soldier well his duty knows;
To mount, to march, to fight, to fall, to die,
But never weakly yield, nor basely fly.
We boast not this—all who deserve to bear
The name of soldier, so would do and dare;
But claim with honourable pride we may,
The courage to *endure* and to *obey*.
Need you the proof? 'Tis not in battles won,
The shatter'd colours, nor the captured gun;
Not in the charge, though Balaklava's vale,
Of hopeless valour, saw the sanguine trail!
Nor in the shock—though Inkermann's dark hill
Could tell of iron nerve, and iron will!

'Tis in the frozen trench,—the fever'd camp,—
The famish'd fort,—the pestilential swamp,—
Where war is stripped of all its pomp and pride,
The metal of the manly heart is tried!
Who can forget? Sure none of British strain,
The ship that founder'd in the Indian main?*
Upon whose deck, steady as on parade,
Their last command the noble band obey'd;
And to the grave,—of all but their renown,—
Shoulder to shoulder, in their ranks went down.
If we, as soldiers, glory in such deed,
Must we not honour those in bitter need,
Who, with like courage, face *their* fearful doom?
The humble heroes of the Mill and Loom!
No frenzied outbreak of despairing men
Scares the dull town,—disturbs the quiet glen;
No wail of suffering woman renders less
Their brave endurance of prolong'd distress!
Of all that to privation lends a smart,—
Of hope deferr'd that maketh sick the heart!
No trumpet cheers them in their struggle hard,
No cross, no clasp, their valour will reward:
Their only prayer throughout this trial dread,
Again to labour for their daily bread.
Pale, patient, mute, around the factory door,
Which opens to the living stream no more;
In groups they stand, or wandering o'er the plain,
Cull herbs which yield no medicine for *their* pain!
Brave fellow warriors! honour ye we do,
And muster here to-night to help you too!
Receive it as the soldier's tribute paid
To gallant conduct—not as alms—but aid.
Would we could more: but what we can we will.
Friends! for our cause forgive our want of skill.
It is a cause—if e'er one was—demands
The best support of English hearts and hands.

J. R. PLANCHÉ.

* The *Birkenhead*, lost off Cape of Good Hope, 1852.

WORKS IN PRECIOUS METALS, JEWELRY, &c., IN THE EXHIBITION.

JURY REPORT.

THE jury of Class XXXIII. preface their awards with the following observations:—

This class contains the works of the jeweller, goldsmith and silversmith, including plated, electro- and galvano-plastic works, cameos, and enamels. Jewelry is subdivided into real and imitation; and in like manner gold work into *doublé* and merely gilt. The *doublé* industry is principally carried on in Paris, and is described in the award to A. F. Savard (*France*, 3,241).†

Works in this class, by reason of the value and richness of the materials employed, are highly interesting and very attractive. Yet the richness of this industry ought not exclusively to occupy the attention: the beauty of the objects exhibited is due rather to the perfection of their workmanship than to the value of the materials of which they are composed: the merit of the work should occupy attention rather than the dazzling richness of the collections.

In jewelry the first work to be noticed is that of the lapidary, upon whose skill in cutting and polishing the stone so much of its beauty depends. The jeweller, by his delicate work, sets the stones so cut to the best advantage; combining, by exquisite workmanship, delicacy and lightness with necessary solidity.

In goldsmith's work gold, silver, and other metals take the first place, and the stone becomes secondary. This handicraft has no limits: the workman possessed of good taste, by the help of enamel and precious stones, may produce works the most refined and beautiful of which art is capable.

To the silversmith's work the same remarks apply: the beauty of the metal employed renders every object attractive, but its merit and value, beyond that of the mere metal, depend entirely upon the art bestowed upon its production.

In plated goods produced by the old process of uniting plates of silver and copper by heat, the employment of art is limited to form, and pewter solder is required to bring on any ornamentation. But there is no limit to the art which may be employed in the production of plated goods by the new process of electro deposit; and for articles of daily use it is now found to be quite as durable as the old process. It also possesses this great advantage, that if after long use the silver should be

† "Jewelry in *doublé d'or*, of which Parisian industry claims the invention, requires skilful workmanship: the metal used is composed of copper plate and a layer of gold, the thickness of the latter being to that of the former as 1 : 11, and the adhesion is produced by means of solder. The metal is reduced to the required thickness by flattening or drawing; and in working it, great care and mechanical contrivance become necessary in order to keep the surfaces together. The efforts made by Mr. Savard to give to this industry all the perfection and extension of which it is susceptible, are worthy of praise. The *doublé d'or* dates from 1834, when it was received with very great mistrust by the French Government: it was only after the loss of several law-suits that it consented to this manufacture, and assigned to it a particular mark on which is inscribed the word 'doublé.' Thus authorized, the doublé became developed by the application of stamping upon dies of steel which Mr. Savard introduced. This new system in the manufacturing completed the perfection, and rendered the price of fashion much less expensive."

worn away in some prominent parts, the article being composed of German silver or white metal, the unsightliness of copper is avoided. Copper deposits are now only used in cases of reproduction.

At the Exhibition of 1851 Messrs. Elkington & Co. first exhibited works plated by this process: it was then treated as a new and untried discovery, and the jury spoke hesitatingly as to those advantages now so generally admitted; and for the successful result we are much indebted to the enterprise and liberality of Messrs. Elkington, who held the patent, and yet permitted a number of competitors by granting licenses. Their enterprise was rewarded by a Council Medal in 1851, and in Paris, in 1855, by the Medal of Honour.

The galvano-plastic process is in principle the same as electro deposit: it was first exhibited by Messrs. Elkington in 1851, and is described in the award made to C. Christofle (*France*, 3,204).*

The art of cameo cutting was formerly almost exclusively carried on in Rome, but there are now many artists in Paris and London who successfully compete with those of Rome.

Enamelling admits of the highest art, and is now very generally applied to gold, silver, and copper. Precious stones and pearls can be imitated, and very good specimens of imitation are exhibited.

It is highly gratifying to the jury, after a most careful and attentive examination of all the objects exhibited in this class, to acknowledge and report very decided and considerable progress in art since 1851: outlines are improved, and greater attention given to details of workmanship. They are also glad to observe that England, with admirable emulation, has profited by the works of France, and now takes a prominent position.

The jury, in accordance with their instructions, have awarded Medals and Honourable Mentions for merit, without any distinction of degree, to the exhibitors of the various countries represented; and have attached to each award a statement of the grounds upon which it is made: these observations having been made with care, will show what, in their estimation, are the merits of the works, artistic or otherwise.

England is chiefly represented by some eminent houses which have large capital at their command; very few of these firms are manufacturers: when they are not manufacturers their orders are given to others, and their productions are deficient in those tasteful ideas which result from constant and immediate contact with men of educated tastes. Thus too often in England the ideas are those of the manufacturer, guided only by the trader or his assistant, when they should be those of the educated classes themselves. The trader should be a manufacturer possessed of taste; and, as much as possible, should draw his inspirations from his customers: in fact, the goldsmith and jeweller should combine a knowledge of architecture and sculpture, and be well skilled in archæology, that he may not confound the styles of different periods. Great commendation is, however, due to several of the first English manufacturers, who, free from all prejudice of country, have, at great cost to themselves, and without possibility of immediate reward, nobly engaged the highest talent they could secure.

The awards, and especially the observations attached thereto, will record the opinions of the jurors as to the merits of the different exhibitors; but the jury feel it is their duty to mention the names of two eminent manufacturing firms, Messrs. Elkington & Co., and Messrs. Hunt & Roskell, who are precluded from award, members of their firms having had the honour conferred upon them of being elected jurors; and the highly artistic character of the works exhibited by both these firms fully justifies the choice which has been made. They each employ a large staff of artists; and, if any proof were wanting of the excellence of their works, it is found in the fact that two artists from each house have had medals conferred upon them.

Some of the works of Messrs. Elkington & Co. are described in the awards to their artists, Ladeuil Morel and W. A. Willms. Those of Hunt & Roskell in the awards to Antoine Vechte and H. H. Armstead. The evident object of these houses has been utility combined with the highest possible artistic excellence: they have endeavoured with success to make the object, whether an ornament for the table, a testimonial, or a memorial, valuable, not only for the metal of which it is formed, but also for the workmanship with which it is adorned; and in so doing they have carried out the intentions which have actuated all the most renowned workers in the precious metals: thus their works compare with the best produced in any age or country.

In France the industry of this class possesses a different feature to that of England. There the manufacturer has not so large a capital at command; therefore the sacrifice is not so much in money as in labour, intelligence, and time. The traders being usually manufacturers, have the advantage of intercourse with men of taste, and meet with continual inspiration at every step without the interference of a mediator.

The Zollverein exhibition, not wanting in taste, takes a commercial position. The exhibitors of Pforzheim jewelry have arrived at great economy of labour, and the low standard of gold (fourteen carats) enables them to compete with the cheaper manufacturers of Paris: several thousands of hands are employed in their works.

Prussia exhibits some very important works in silver, objects given to the Crown Prince and Princess Royal of England on the occasion of their marriage. The merit of these works is very great.

Bavaria exhibits heraldic engravings by an artist of Munich, which merit commendation, and have been rewarded by a medal.

Frankfort and Hesse Cassel have made great progress.

Würtemberg is well represented.

Belgium has exhibited very little.

The Netherlands exhibit some silver and gold work: the best portion of their exhibition is that of the diamonds by Mr. Coster.

Norway and Sweden exhibit creditable works.

Denmark shines like a star amidst the industry of the north. She has found in the treasures of her museums types of Runic jewels of remarkable beauty, and restored them truthfully: her works prove that taste and design are cultivated and encouraged at Copenhagen.

Greece is not represented.

The Ionian Islands exhibit some few works.

Spain, if we except some beautiful damascene, exhibits but little: this with all her opportunities is to be lamented.

Brazil exhibits a few articles of skilful workmanship.

Russia is admirably represented: the works are of a highly artistic character, and possess a marked individuality.

Switzerland does not exhibit any silver work. In jewelry, engraving, and enamelling her position is well maintained.

Austria exhibits some well executed jewelry, and preserves her superiority in the cutting and mounting of small garnets.

Rome exhibits some very beautiful and highly artistic cameos.

Italy, in the collection of Signor Castellani, restores to us the most beautiful jewels of the Greek, Etruscan, Roman, and Cinque Cento epochs, from existing originals.

Egypt, by his Highness the Viceroy, contributes a collection of antiquities of the highest possible interest.

[Of these antiquities the jury say elsewhere,—This collection, contributed by his Highness from his new museum, possesses great archæological interest: many of the objects composing it exhibit a far higher degree of refinement in art than has been supposed to exist at the remote period assigned to them. These antiquities form part of the discoveries of Mr. Auguste Mariette; and, with the exception of a few of the rings and two ear-pendants, were found at Thebes on the mummy of Queen Aah-Hotep, who lived about 1500 B.C. They consist of a poniard with a gold blade, upon which is engraved the combat of a lion and bull: the cartouch is that of King Amosis, son of the queen and first king of the eighteenth dynasty. A diadem, on each side of which are couching sphinxes. A hatchet, the symbol of divinity: on the blade is a representation of Amosis immolating a barbarian: the whole legend of the same king is inscribed on the handle. A square pectoral or brooch, which has the appearance of being enamelled, but which is in reality inlaid with coloured stones. King Amosis stands on a bark between two divinities, who are pouring over him the waters of purification. A decoration, formed of three bees in massive gold. A gold chain of woven pattern, 3 feet long, from which is suspended a scarabæus. A bracelet in massive gold, ornamented with repoussé figures reposing on a ground of lapis lazuli, with the figure of Amosis. A boat in massive gold, mounted on four wheels of bronze. This relic was deposited with the mummy of the queen, a symbol of the deportation of the soul to its final resting-place. The rowers are of silver: at the prow is engraved the cartouch of King Rameses, the husband of Aah-Hotep, and father of Amosis. These several relics present no trace of enamel: the colours are produced by the inlaying of stones, such as turquoises, carnelians, and lapis lazuli. The two large ear-pendants, in the form of discs, bear the cartouch of Rameses of the twentieth dynasty, and were found at Abydos, near the great temple discovered by Mr. Mariette. In the collection are also other objects of great beauty and interest.]

Japan, for the exhibition of which country we are entirely indebted to Sir R. Alcock, K.C.B., contributes a surprisingly interesting collection.

India is well represented by objects of great interest.

[Some observations on Indian enamelling are afterwards made with reference to an award to the Rajah of Jeypore for an enamelled gold spice-box. This is an exquisite specimen of the Indian art of enamelling, and peculiar to the city of Jeypore. The process of colouring is maintained a secret amongst the workers, and descends in their families from one generation to another. The mode in which the enamel is produced is of the most primitive character. The furnace employed consists of a circular hole in the earth of about 1½ foot in diameter, and a passage to it below for the fuel and air. Over this is placed a thin hemisphere, also built of earth, in which are five holes for the draught, and under which, in the inside, are placed small earthen vessels for holding the fused glass, over the surface of which the flame plays as it passes out of the air-holes. The glass is made in these earthen vessels; and when fused, the colouring substances are added. The whole is then allowed to cool, and in this state is kept for use. Only pure silver or gold articles are enamelled. The best enamel is only applied on gold, which must be free from alloy. The pattern required is first carved out. The enamel having been ground to an impalpable powder and made into a paste with water, is placed on the pattern so carved. The article is then placed in the furnace until the enamel fuses. As soon as removed the workmen exert the full power of their lungs in blowing upon it as quickly and as violently as possible. The hardest colours are first placed in the furnace and fused, and then those which melt more easily. Afterwards the surface is ground and polished.

The dark and light blues are the only colours respecting which positive information exists. They are made from an oxide of cobalt, which is found in the copper mines of Khetree in Jeypore, where it occurs between the veins of copper.]

Ceylon exhibits creditable work.

New South Wales, Australia, Victoria, exhibit well, and show a stage of development such as could scarcely have been anticipated.

It only remains for the jurors, in concluding their task, which has been one of extreme gratification, to express the great pleasure they have felt at being privileged to report on works showing so much advancement; and to urge upon exhibitors to continue in the path which they have entered. It is by their aid that International Exhibitions not only mark the advance of art and science, but also cement the friendship of nations, and call forth their best feelings as competitors.

* "The table and tea-service in galvano-plastic are examples of the great advantages obtainable by this process in economy of production: they possess solidity and neatness of execution. The same remark applies to the collection of artistic ornaments used in bronze furniture, locks, &c. The "Prima vera de la Vita" statue of Mr. Maillet, executed in galvano-plastic, gilt and silvered; and the "Fawn and Goat," by Mr Fesquet, in bronze, are admirable specimens of galvano deposit, which has become developed since the first International Exhibition, and the merit of which is now generally acknowledged. These figures are made of two shells, obtained from moulds in gutta-percha, in which the metal is deposited: a single soldering around is sufficient to unite the two parts: thus the production of the artist is stereotyped."

THE PAST AND FUTURE INTERNATIONAL EXHIBITIONS.*

It is needless to remind our readers that the Exhibition of 1851 was nearly being shipwrecked by the delay about the settlement of the preliminaries for the commencement of the building. The course of these arrangements, during which our profession was appealed to, was lately referred to in a very prominent manner. We are surprised that those who knew the facts, should have forgotten them so far as to misrepresent them. The appeal to architects had more than the usual defects of such appeals, responded to in what are called architects' competitions, arrangements

* See page 797, *ante*:—"Results of 'The Exhibition.'"

where the acknowledged difficulty lies in framing terms of the advertisement or "instructions," in getting those whose time is valuable to respond at all, in finding men competent as judges, and in procuring from them the devotion of time necessary; and in contending against that embarrassment and distortion of judgment, which unquestionably are incidental to a competition in which the number of designs is considerable. Before saying that the appeal failed, it would be right to call to mind whether a proper appeal was ever made. All that we need say now, is that no pecuniary inducement was offered; whilst we recollect, that so far from the designs sent in being less meritorious than might have been expected, several competitors had claims to have furnished the idea which germinated in the "palace" of iron and glass. The proceeding, next, upon the rejection of these designs, which was taken by a committee composed both of architects and engineers, is generally understood to have fallen through, from the difficulty of erecting a brick building, at least one that would be dry, in the limited time, as well as by the opposition raised to the erection of a permanent structure in one of the parks. The Committee we may infer, could not bring themselves to believe in the destruction of a building to be raised at enormous cost, recollecting also that large area, roofed over, for winter garden, exhibition, and many purposes of recreation and education, and of advancement of art and science, had long been one of the wants of London. That this view of the economic and educational points was justifiable, we believe was shown subsequently by the agitation for the retention of the building in the Park, by the eventual removal to Sydenham, or rather new building there, by the reasons adduced for the purchase of the South Kensington Estate, and by the design of the present Exhibition building, or main portion of it, as permanent. The building of 1851 met the difficulty of a peculiar combination of circumstances: its plan did not in the least respond to the publication of requirements as made to the architects: it allotted no particular location or amount of space to any group or class of articles; and merely essayed to roof over the entire area of ground, providing the best contrivance for lighting, but with some disadvantage as to keeping out the weather. The real planning commenced only with the arrangement of the articles in the building. The question then, placed before those who arranged the Exhibition of this year, and submitted by them to Captain Fowke, may thus be described to have been, and probably was, between a mere case, or shed, to inclose the largest area, and the planning which would immediately respond to the requirements of classification, and of the circulation of great multitudes. The result, instead of improvement upon the shed of 1851, has been seen in arrangements which, aggravated only by the crowding of "trophies" and general limitation of passage-room, have helped to harass and weary the bulk of inquiring visitors since June last, and produce a *bouleversement* of ideas in the strongest heads rather than enlightenment.

To make the Babel worse, every kind of melody and clang was set to work, to draw away or to distract the attention from what we must regard as objects more important than music played by little boys or girls; who surely were listened to, not from any love of *music*, or from the desire to test qualities of an instrument exhibited, but from that diseased taste which runs after *phenomena* and prodigies. Those who were the really able performers on the piano, have been heard to say that, on the shilling days, it was scarcely possible to play well. Why our contemporaries, who suggested the musical performances as features of "the Exhibition," should not have seen that any music, in a place where the main object to be regarded was study, would approach to being an annoyance and a source of injury, we cannot understand. We should as soon think of setting up an orchestra in one of the galleries of the British Museum, or in the reading-room itself of the library, or of expecting the sounds of an organ to assist the calculations of Mr. Babbage, as to look for good result from music in such a case as that of the late Exhibition. Whether the circumstance may have been due to one element of the confusion, or generally to the tumult and distraction that were intensified by the defects of building-plan, we do not say; but, it is the fact that in one week, an eminent London physician had three cases of persons attacked with apoplexy just after they had quitted the building, and attributed the attacks to the Exhibition. Such cases will be regarded as exceptional; but, really, they but represent extremes of the sensation produced in multitudes of people, who not having known where to go for what they might have been specially interested in, and being wearied with struggling through narrow passage-ways, realized fatigue of body and mind, so much as to prevent repetitions of their visits. The bulk of the visitors seem to have been strangers to London, who spent a week in town, and endeavoured in that time to get through all the regular sights, and shows and meetings which were got up in abundance. Generally what these visitors expressed themselves most pleased and impressed with, were not the building and contents of "the Exhibition," but the perspective of the interior, and the works of art, of the Crystal Palace. School-children, in the saddest of all processions, as an Andrew Combe would have said, were dragged through the building, and were not able to see over the heads of the crowd; and parties of holiday-makers spent much time in the refreshment-rooms and in looking for one another, and in searching for the cow-milking machine, the piping bullfinch, and other curiosities. We charge upon the management, such absence of profitable result, if only because of their omission to publish a sufficient plan, and to exhibit one on a large scale, and coloured, in the building. We do not say that a single visit to such a collection of objects as there were at South Kensington might not be valuable to a child, or a labouring man; and least of all do we think that an educated mechanic might not have found profit, even taking into account the loss to him of a day's wages, besides to some individuals a positive sum paid for a substitute in the duties of a place. It is the especially ignorant, of all ages and classes, who presume themselves the reverse; and there is no means of striking home to, and forcing the conviction in, people of this sort, that they are veritably ignorant, equal to the means contained in such a grand collection as that lately brought together. For this end, however, probably, there must be something more than a general impression of extent of an exhibition, and something retained beyond the sense of tumult and confusion. Any class of objects well studied, or any perception of what were the subjects designed to be illustrated by the Exhibition, and of the mere names and geography of the countries contributing to the illustration, would be something of result, positive. But, how small was the chance to any one who had not previously become acquainted with the scheme of the Exhibition, and with the intricate arrangement of the building, of getting even so far as the point alluded to! In what parts of the world are "Zollverein," Ecuador, Hayti, Dominica, and even Queensland; and why are Norway and Sweden, which are under the same king, kept separate? There are many clever people who would be puzzled by such questions. Or supposing we want to learn something about places of which we have read, as the Sandwich Islands, Liberia, Madagascar, and Siam, where are we to find the articles from those countries which we have heard are in the building?

Regarding the general plan of the building without now adverting to the external design, the arrangements for exhibition and the circulation of crowds, must be regarded as a lesson of what should be avoided in future. The indeterminate division between British and foreign exhibited articles; the reference in the catalogues, and published plans, to a "central transept" which was not sufficiently marked in the building; the staircases, difficult to be found, partly from the crowding of the nave; the disposition of the annexes, to enter which was sometimes impossible, by reason of the struggling crowds who were returning and entering by the same narrow ways; the steps up and steps down again, which many ladies audibly expressed wonder at, and could not to the last find reason for, unless it were to annoy them; and the darkness under galleries, and especially in galleries such as that of the Indian Court and Stationery Court, are some of the defects with which we hold the design of the building, even taking it as not seeking primarily to subserve classification of the articles, to have been distinctly chargeable. There was no entrance from the outside, to the Western Annex, for the general public; and there was similarly none to the Eastern Annex, for some time after the want of one had become apparent. The walk through rain and mud, from the omnibus stopping-place to the building; and then, still unsheltered, to either entrance, was itself an instance of bad management; and it was of a nature to affect the financial returns. As to the lighting, even the picture-galleries were from some cause, perhaps not of structure or plan, inferior to their original the Sheepsbanks Gallery. The calico appeared much too thick; at least (we suppose, not having been made to draw), it was left, no matter how dark the day, to obstruct a large quantity of light; and towards the close of the Exhibition, when the material had become very dirty, the pictures were scarcely to be seen at all. The light was the best in the square rooms in the angle towers of the building, where the calico was suspended by one edge from the centre of the lantern. In these rooms, however, especially the western, the little space as allotted to foreign schools, led to the piling up small pictures to a height at which they could not be seen.

As to the external design enough has been said. We cannot however leave the question of it, without registering protest against the idea that what is big, and a great feat of engineering, is necessarily a beautiful thing, an idea which starting from the "great feature" which somebody thought would "look well" in the building for 1851, as it was first designed, has gone fructifying to the domes of the present building, and seems even in danger of affecting the French, judging from their work, shown in one of our recent numbers, which looks so well on paper. It is not the possession of the biggest dome, so to speak of it, that makes merit of a design, or goes to realize the effect of beauty, which was the object; size may be an element of grandeur; but mere dimensions are relative to others which can be contrasted with them. But, more, the effect of duplicating such domes as these of the Brompton building,—not secondary but principal domes,—is to reduce the grandeur of each one. One dome as a culminating "great feature," indeed may be a noble object; but for that, it must be seen clear of the roof of the building from most points of view, like the dome of St. Paul's. And, a more lame result than that produced by either of the Exhibition building domes externally, whether regarding the arrangement of the *tambour* or support, or the effect which results from the use of glass, was certainly never realized in attempted architecture. Again, the idea, so pertinaciously fostered by the press, and by some who are merely adulators of the Commissioners, that an original bad design may be made good, is fraught with error of a kind which, persisted in, would for ever retard improvement in our art.

The difficulty of planning the building to subserve classification of exhibited articles, which arrangement it may be said could not be completed till the collection was ready for the opening, and this latter difficulty of the classification itself, however, form no justification of the crowding of the articles, and of the absence of sufficient indication, especially during the early period of the Exhibition, of the whereabouts of "classes." Even when the title, as "Civil Engineering," was lettered and hung up, the *number* of the "Class" was omitted. But, we are obliged to say that the classification as in the catalogue, is open to revision, and that the arrangement in the case of the objects in the building of 1862, has been radically wrong. For, a foreign country might have its raw materials, say, exhibited in one or more of half a dozen different places; so that it became a matter of insurmountable difficulty to know where to look for them. They might be in the nave, or in the "court" itself, of the main building, or in the gallery, and scattered and separated in several places; or they might be in the Western Annex like Krupp's iron; or they might even be in one of the courts of the Eastern Annex, British division of the building, like the minerals of Portugal, and certain specimens of the marbles of France and Russia. Impossible was it, without immense trouble, to know where you could find what you would be interested in; or whether you had not omitted something of essential importance to the subject you were inquiring into. The collection was like a vast library, without order on the shelves, and without a catalogue. The result of all the mistakes is a serious deduction from the usefulness of the "Exhibition" and from the sum of results; and, as we said in our former article we could not believe that the recent occasion would be the last of the kind, we propose to offer here certain suggestions for the avoidance of errors in future. Those who feel that such gatherings are useful every ten years or thereabouts, must set about preparations, or at least the consideration of means for avoiding mistakes, at once. It seems to us that the question of *plan* of a building, and that of site, require more attention than they have received. The shed form, which defers arrangement and planning till the articles are brought into the building, or which seems as much unfavourable to the arrangement and classification as the reverse, has we apprehend been now proved to be unequal to the demands. The question, moreover, should now be of a building which might be permanent,—whether "the Exhibi-

tion" should be permanent, or merely repeated at certain intervals. To pull down even such a building as that which exists, whilst covered space is wanted so much, is mere waste; and which permits expenses to weigh again heavily on an undertaking at a future time.

In a future case, the nave must be left still less encumbered with "trophies" and stalls, than it was even after the improvement in the arrangement made some time after the Exhibition was opened; a much larger proportion of area must be given to passage-ways everywhere; and the space for exhibited articles must be so great that objects may be never crowded together or overlapped, in a manner to interfere with study of them. The site, moreover, must be one to be reached with less difficulty than was the present building. It is worth considering, therefore, whether such a site must not be one to which there may be ample means of communication from most parts of the metropolis, by railway or by the river. We are supposing that the opposition to a permanent structure in Hyde Park would, of course, be again manifested. But the difficulty of obtaining sites more accessible than that at Brompton, would not be so great as might be supposed; though every year diminishes the field of selection. The construction of the embankment, both sides of the river, increased number of bridges, improved steam-boats, railways and tramways, all, together, and properly devised, would allow many sites to be available which are now not thought of. Several times, when treating the question of bridge-communications, we have noted the fact of much ground in the geographical centre of London, occupied by houses of a very inferior description; and now that the achievement of the embankment is likely to place more ground at disposal of the public, we think the question of one and many of the wants of London for which sites are required, might be revived. The French indeed, have not hesitated to appropriate ground not merely in a central site, but forming part of the chief "lung" of Paris, the Champs-Elysées, to a building, which, correcting the blunder of 1851, they erected as permanent. This building is in constantly recurring use for purposes analogous to those for which an ample area of covered space is so repeatedly wanted in London. An exhibition of designs for the Opera-House; the exhibition every two years of works of painting and sculpture by modern artists, pending consideration of the question of a special building; and the temporary housing and display of the products of the French colonies, and of the works of art of the Campana collection, are some of the purposes for which the Palais de l'Industrie has been found most convenient.

Viewing the objects to be served, and seeing that the operation of planning must not be cramped by boundaries of an irregular site, as came to pass in the case of the building and its annexes at South Kensington; and admitting difficulty, as well as the importance, of obtaining the site; we may do well to state what appear to us points to be attended to in the plan of a building for International Exhibitions, and in the arrangement and classification of the objects.

The freedom of circulation of crowds; symmetry and simplicity of *plan*, which may assist us in finding the way from one part of the building to another, and in finding classes, or articles exhibited; and grouping in the internal *effect* of the building, or the arrangement of primary, secondary, and subordinate or dividing features, which may catch the eye and help recollection of places,—the latter the opposite of the glass-and-iron shed system where the tendency is to have all parts alike, and to hide the actual building in the partitions and cases,—should be the first principles of such a design. There should be a central space or nave; but it should be regarded mainly as a passage, or hall of access to the "courts" in which would be the articles exhibited. These courts, opening out from the nave each side, should be so distinct from one another in appearance of the frontage, and in the boundaries, as to make it impossible to mistake and to wander from one to the other. In short, the principle aimed at in the arrangement of the principal foreign courts on the north side of the nave, but only loosely carried into effect, should be rigidly adhered to; and it would be better to leave or shut off some space unoccupied, than to allow the general plan to be confused. The aim should be to allot every class and court its frontage, not to leave courts hid away, like the Processes court, the Brazilian, the Greek, and many others which were at the back of the frontages in the present building. The articles belonging to each class should not invade the nave, except it were desired to place some prominent object opposite the entrance of each court. Thus, had the principle been adhered to this year, the Norwich gates, Messrs. Peters's coach, and the "food trophy" either would have been not where they were, or the classes to which they belonged would not have been away from them. The separation in like instances was only an inconvenience, and a source of confusion. The courts should be arranged so that the crowds should circulate out of and into the nave, as shown by the dotted line in this rough diagram, in which N shows the



N

nave from which the recesses formed by partitions would open out. Any gallery space appropriated to a foreign country should not be detached from ground-floor space of the same country, or accessible only through a walk to a distant staircase, other classes and objects of interest intervening. The non-separation would be most desirable, even should it be necessary to have a staircase for each country. But were the classification by countries abandoned in favour of an observance of other classification throughout the building, much difficulty could be overcome.

As to such arrangement, however, in the numbered classes, as in the catalogue, something must be attempted in the way of amendment or correction of it. Classes, 1, 10, and 31, in which with 30, 34, and 35, we may be considered most interested, were arranged by each country on different principles; and the English edition of the catalogue for Italy says:—

"If an opinion were asked respecting the classification of the International Exhibition, it could scarcely be given, unless accompanied by the observation that the articles comprised in Class X. properly belong to one or other of several classes. In fact, we run risk of being involved in confusion when we have to consider the origin of certain articles and the uses to which they are destined."

Although it is not shown in this, what should be substituted for the arrangement resulting in Class 10, we have great reason to speak of that of the materials and contrivances belonging to architecture, building, and furniture, as embarrassing and time-consuming. And the system through which a sideboard,—one in which there is a good subject painted by Mr. Hancock,—can be found not with "Furniture," but with the objects of the Eastern Annex, surely needs revision. There is certainly a distinction between bricks and tiles, and mechanical contrivances such as shutters and window-fastenings, or between any of those and filtering apparatus. Somehow, between the two different systems, one the classification by materials, and the other by manufactured articles, much of the instructiveness of such an arrangement as it has been possible to follow in the Kew Museum, where each vegetable substance is shown accompanied with the different forms and articles into which it is manufactured, was lost. Great part of the difficulty indeed results from the immensity of the whole undertaking; and much might be done now to correct the short-comings, by supplementary exhibitions, devoted to a single subject, and its illustration complete.

We hope that the Commissioners, or the Society of Arts, will not rest satisfied with any pecuniary result, or even with the publication of the reports, but will even now that the Exhibition is closed, make efforts to extend the value of it. As to records, Mr. Hunt's Handbook, which for the British Division justifies what we said in favour of it, will effect little for the Foreign Divisions: the author must have laboured hard to do what he has done, so well. Of the models and plans of French public works, owing to their inconsecutive and crowded arrangement chiefly, there will be no adequate record, we fear, for some time, even in our own pages, where considerable space has been given to several of them. The value and interest of them was great; but we are told that with the exception of members of the jury, not more than four architects or engineers gave any study to them. What is to be done with many of the articles which would be most valuable in a permanent museum? We would ask the question as to nearly all the specimens of materials, both those of the United Kingdom, and those of foreign countries, things which would be of the greatest interest kept together, and may hardly pay cost of carriage back again. The valuable Zollverein collection, we have only heard, was refused by those to whom it was offered, from want of space. The Canadian collection, we have learned in answer to inquiry, is going back, like coals to Newcastle. Surely Sir W. Logan must have extraordinary occasion for it; or he would hardly do otherwise than leave it where it might be so useful to both Great Britain and the colony. Why in this colonizing country, have we not a Colonial Museum, into which the bulk of the colonial products which are exhibited might find place, one as well looked after as the India Museum? We have referred to the fact that the French have such a collection for their colonies. It formed a most instructive, because thoroughly well-arranged part of the French Division of "the Exhibition;" and we doubt not, has paid over and over again the cost of its maintenance. Indeed those who have the superintendence of that Museum, looking forward to the results for Algeria, consider that the knowledge obtained of her products during the last few months, will be as a new stage in her life. What is to become of all the photographs of buildings in the colonies, which it was vain to try to see in the Exhibition? What will be done with the geological maps of portions of Australia, and with the plans of towns? The "Educational Works and Appliances" which were sent by all countries, in answer to a special request; are these not to be left, gathered together as the comprehensive collection which was the original intention? We are informed by persons belonging to the Austrian Commission, that the collection from Vienna, only a very small portion of which could be found room for, will be scattered, some of the articles going to the Home and Colonial School Society, and some to other places.

Every exertion should be made, late as it may be to commence, to collect and leave for use and reference in the next ten years, the legacy of records and results, which it was the intention of friends and promoters of "the Exhibition" should be left; and which, more than benefit to individual manufacturers, would justify the cost and trouble of the undertaking; and every point that those best acquainted with the arrangements during the last few months, may have noted as a defect, should be at once made to tend to the greatly improved plan of a building, and classification and arrangement of its contents, in the future.

THE GAGGING SYSTEM AT THE INSTITUTE OF ARCHITECTS.

SIR,—The provincial members of the Institute are especially aggrieved by the new regulations of the Council. In the *Builder* we found word of all that transpired at the meetings within a few days after it had taken place. We shall now be left in ignorance of every information till it is too far out of date to be of current value. Do reconsider our case, and oblige other country members besides your OLD SUBSCRIBER.

SIR,—The publication of papers in the *Builder* has long been felt and acknowledged to be a general convenience, and a public good: it is to be hoped that the Council will retrace their ill-advised steps, in an unwise attempt to narrow this question, and prevent that proper diffusion of information. It argues ill of that liberal feeling with which fine art and sanitary questions should be considered, and is an unwise, illiberal, and retrograde policy. The useless expense proposed to be incurred might be added to the salary of what we now more than ever want,—"An efficient well-paid secretary." F. I. B. A.

SIR,—I believe you to be entirely right and the Council entirely wrong. Though an old member of the I.B.A., I should never read the "Transactions" when they come months after date; but on Friday night I look regularly for my *Builder*, and spell every word that has been said and read in Conduit-street; and I must confess these reports have made me proud of being an architect, and proud that a large public at home and abroad can, through your pages, see what the architects, both as writers and speakers, are capable of. I feel assured that the reports in the *Builder* must have tended immensely to advance the profession in the eyes of the public. M.

SIR,—On reference to the charter of the Royal Institute of British Architects, it will be observed that the Institute was established "for the *general* advancement of civil architecture, and for *promoting and facilitating* the acquirement of the knowledge of the various arts and sciences connected therewith."

Some light may be cast on the question, how far the new resolution,—"It is not desirable that the papers should be published *in extenso* in the

public journals," is likely to promote the original object of the founders of the Institute, by their successors' conclusion, that such publicity "tends to depreciate the value of their copyright, and of their subsequent publication in the 'Transactions.'"

In plainer words, the present Council seek less the "*general* advancement" of architecture than that of the funds of the Institute. For, first, it is clear that the enforced restriction of valuable papers to private volumes of the "Transactions," not for sale, and thus of narrow circulation, and the exclusion of such papers from public journals of wide circulation among all classes—except in the form of "full abstracts," of limited utility, on payment, or short abstracts, practically useless—must retard rather than promote the "*general* advancement" of architecture.

Secondly, it is extremely unlikely that the copyright of the 300 or 400 impressions of "Transactions" will be so enhanced in value, and that the sale of the "abstracts" at one guinea for each paper will tend so greatly to augment the funds of the Institute, as to render it politic and desirable, on these grounds alone (for none other are stated), to exclude full reports from absolutely the only channels in which they can readily meet with wide circulation. That the object of the resolution is a covert one, to allure subscribers for the sake of the "Transactions," it is impossible to believe; since such a wail of distress would be too significant to avail aught in propping up a public and corporate body compelled to resort to virtually limiting information, hitherto open to all, as a means of support.

But it is questionable whether, according to the charter, the Council are free to enforce regulations with the sole object of increasing the value of their copyrights and swelling their funds, if such regulations shall appear framed more with regard to private profit than public utility, and to clash, in their narrow exclusiveness, with the broad and enlightened spirit of an institution for "promoting and facilitating" the "general" advancement of the art; for it is laid down that, "no resolution or by-law shall, *on any account or pretext whatever*, be made by the said body politic and corporate in opposition to the *general scope*, true intents, and meaning of this our charter, or the laws or statutes of our realm; and that if any such rule or by-law shall be made, the same shall be absolutely null and void to all intents, effects, constructions, and purposes whatsoever."

I know, sir, that I am but, in a measure, paraphrasing your own able and sensible leader; but the argument is grave, and admits of reiteration and amplification. E. L. Tarbuck.

I think the resolution of the Council most unwise and likely to be eminently injurious, both to the Institute as a body, and to architecture as an art. Three other past vice-presidents have signified to me their strong conviction that the arrangement is most injudicious. In fact, I can find no leading member of the Institute willing to take the responsibility of the change, and am told it has originated in such a mean motive that a precise statement would bring no honour to its authors. I hope revocation may save the necessity for further discussion.

A Past Vice-President.

ANCIENT RINGS.

In the last part of the valuable catalogue of works on loan at the South Kensington Museum, Mr. Edmund Waterton, F.S.A., gives the following introduction to the list of rings:—

This collection of rings has been formed for the purpose of illustrating the history of finger-rings from the earliest date. Consequently they have been arranged, as far as possible, in chronological order, and it is this peculiar feature which distinguishes the *Dactyliotheca* now exhibited from other existing ones, and constitutes its chief interest and value.

The series commences with those of Egypt. Signet rings were much worn by the ancient Egyptians. Their rings were made of gold, of silver, of iron, and of bronze, and were frequently set with revolving *scarabæi*. The lower classes wore rings of ivory and porcelain. Examples of these rings are exhibited, Nos. 3 and 7. The Greeks are supposed to have derived the use of the ring from Asia. As no mention is made in Homer of rings, Pliny concludes that in those days they were unknown. As with the Egyptians, the primitive use of the ring was to serve as a signet, hence, to prevent fraud, Solon enacted a law that no seal engraver was to keep by him the impression of a ring he had cut; whilst Pythagoras, out of reverence, forbade the images of gods to be worn in rings. In the earlier ages the rings were all of metal, then stones were set in them. The art of gem-engraving became in consequence much cultivated, and the Greek engravers arrived at a high degree of perfection in it. No gems certainly known to be of the Phidian period exist. It is believed that gems were not mounted in rings prior to the LXII. Olympiad. Alexander the Great appointed Pyrgoteles to be his "engraver in ordinary," and alone to execute his portrait in gems, just as Apelles and Lysippus in marble. Greek rings occur of gold, of silver, and of bronze; women wore them of ivory and amber. The Greeks wore their rings generally on the annular or fourth finger of the left hand. The Etruscans were marvellously cunning goldsmiths, in which art their skill has never been surpassed. They had a peculiar method of fusing and joining metals without the use of solder, and this is the secret how to detect Etruscan jewellery in its genuine state. Gem-engraving was practised with them at a very early period: it was rude at first, but subsequently of such a nature as to rival that of Greece. The Etruscans rarely worked in cameo; this collection, however, contains an example, but in a modern setting. Rings of extraordinary beauty are found in the tombs of Etruria; in fact they abound, yet seldom do two occur of the same design or pattern. Silver rings are rarer than those of gold; iron and bronze rings are for the most part gilt; specimens of all sorts are in the collection. The so-called Egypto-Phœnician rings come from the excavations in Sardinia.

There is no nation with whose individual and personal history the finger-ring is so closely connected as the Roman. At first the Romans wore rings of iron, the gold ring being given to those senators only who were sent abroad as ambassadors; then it was adopted by the senators. Under the Republic and the Empire its use was regulated by laws. The ring of gold was the sign of equestrian rank, and the *Jus annuli aurei* became the height of a Roman's ambition. Prætors and quæstors had the right of conferring the *jus annuli*. In later times the privilege was much abused; and in consequence the distinction became depreciated in public estimation. Then the use of rings became immoderate in number and inconvenient in size. People no longer contented themselves with one ring; they sometimes wore rings on every finger, and even on every joint. One Charinus, according to Martial, wore daily a little matter of some sixty rings; that is, six to every finger; and, what is more remarkable, he loved to sleep in them. They seem to have chosen at pleasure the devices or subjects for their rings; some wore the portraits of their ancestors, or the representation of some event connected with their personal history, or that of their family. Every man's signet was his ring; the impression of it was affixed to all official acts and deeds. Hence Cicero, writing to his brother Quintus, governor of Asia Minor, admonishes him to be careful in the use of his signet: "Sit annulus tuus non ut vas aliquod, sed tanquam tu ipse; non minister alienæ voluntatis, sed testis tuæ." The circumstance that not merely individuals but states had their seals, perhaps explains the great correspondence of many gems in rings with coin types. Roman rings occur of gold, of silver, of iron, of brass, of ivory, of lead, of amber, and of glass, and of one piece of stone; examples of all of which, with the exception of ivory, are represented in the Dactyliotheca.

The Roman rings are followed by those of the Early Christian period. Clement of Alexandria, reproving the heathen custom of wearing lascivious subjects cut on their rings, suggests to the Christians that they should have engraved devices of symbolic meaning, having reference to their holy faith; such as a dove, which symbolizes life eternal and the Holy Spirit; a palm-branch, peace; an anchor, hope; a ship in full sail, the church; a fish or ἰχθύς, and the like.

Passing over the few Gnostic rings, and those of the lower empire, which need no comment, we come to the Byzantine ones. The nobles of Byzantium wore generally signet rings of metal; *i.e.*, unset with stones, having the letters of the cognomen arranged in the form of a cross: of this class of signets an example is given. There are also two other rings ornamented with niello; and a signet set with a bloodstone intaglio of St. Theodore.

The Merovingians were fond of employing precious stones for the ornamentation of their jewelry, and frequently in such a manner as to represent cloisonné enamel. Some examples are given, and also a remarkable specimen of filigree, or rather gold-work appliqué. The chief feature in Merovingian rings is that the bezels are for the most part circular, and project considerably.

The goldsmith's craft was much cultivated not only by the Anglo-Saxons, but by the whole of the Teutonic race.

In Beowulf we read:—

> "For one of wondrous gift
> a goldsmith's art
> is provided.
> Full oft he decorates
> and well adorns
> a powerful king's noble,
> and he to him gives
> broad land in recompense."

Owing to the ravages of the Danes, and the needy Norman adventurers under William the Conqueror, whose appreciation of the fine arts was overcome by their thirst of plunder, few examples of the skill of our Saxon forefathers in the precious metals have been spared to us. Amongst the examples of rings of this period may be enumerated the ring of Alhstan, Bishop of Sherburne, A.D. 823—867; a massive gold signet with the name ALFRET, or AVFRET; and a silver ring of North Saxon make: the bezel is ornamented with lacertine work, and which is, as far as can be ascertained, the only existing ring of the kind.

Having now arrived at the eleventh century, we must diverge for a while, and consider the rings which come next in order, viz., papal rings, and others.

The sovereign pontiff, on his promotion to the see of St. Peter, receives no ring, being already a bishop, and invested with the episcopal insignia. Neither does he receive a ring at his coronation. For some centuries the sovereign pontiffs have used a seal ring, styled the Ring of the Fisherman, so called because it represents St. Peter, the prince of the Apostles, seated in a boat, and drawing a net from the waters. It has been used for the sealing of those documents called briefs apostolic, from the fifteenth century; but prior to that time it was employed for the private letters of the popes. The earliest mention of it occurs in 1264. Writing to his nephew from Perugia, on the feast of Saints Perpetua and Felicitas, Clement IV. says: "Non scribimus tibi, neque familiaribus nostris sub bulla, sed sub *piscatoris sigillo*, quo Romani pontifices in suis secretis utuntur." On the death of every pope it is broken and a new one made. The Ring of the Fisherman is never worn by the pope. That used by the Sovereign Pontiff Pius IX. is of plain gold, rudely executed, and weighing one ounce and a half; it is always in the keeping of the Magister ab Admissionibus, or Lord Chamberlain; whilst a small stamping die is used in its stead by the Secretary of the Briefs. The use of the large brass rings with papal arms and emblems, of which several are in the collection, remains a mystery. The earliest one of which the writer knows, is that of Gregory XI. 1370—1378; the latest, that of Julius II. (1503—1513). Many exist with the names and arms of the same pope; thus, I know of eight of Pius II. (Piccolomini, 1458—1464.) Various conjectures have been made as to their use, that they were given by way of credentials; that they were given by the Holy See when erecting a fief; that they were used for the statue of St. Peter, in the Basilica of St. Peter's at Rome; but in the absence of more certain data, the writer's opinion is that they were used to contain filings of the chains of St. Peter, and sent as presents by the holy father. This practice of enclosing filings of St. Peter's chains in rings was in vogue as early as the eighth century.

Cardinals on being raised to their high estate are invested with a ring in the public consistory by the sovereign pontiff. It is unknown when the ring was first given to them, but in the twelfth century it is spoken of as being then an old custom: cardinals' rings are always set with a sapphire. The ring is one of the earliest of the episcopal insignia, and its primitive form and use was a signet. Until the introduction of large official seals, the ring of the bishop was his signet; and of this we have abundant proof in charters of the sixth, seventh, eighth, and ninth centuries, cited by Mabillon and others. The device engraved on the rings seems to have been selected at the pleasure of the wearer. St. Augustine had on his ring the head of a man in profile. Sometimes the ring of the bishop was called the "Annulus Ecclesiæ." Finally, in 1194, Innocent III. ordained that the bishop's ring should be henceforth of solid and pure gold, and set with a gem, on which nothing should be engraved. If bishops were deposed their rings were taken from them. Abbots who have received from the holy see the

privilege of using the episcopal insignia, wear also the ring.

Amongst the varieties of the fourteenth and fifteenth centuries, one very pleasing class is formed by the "Iconographic rings;" that is, of rings which have, either on the bezels or on the shoulders, the figures of our Blessed Lady and Child, or of saints. They are nearly all of the same style of workmanship, and those of silver are always of much ruder make than those of gold. Their date may be assigned from 1390 to 1520 at the latest, and they are peculiar to England and Scotland. These are followed by devotional rings with sacred monograms, and others with inscriptions, some with the holy names, such as IESVS, MARIA; others with the names of the three kings, spelt in all manner of ways; others with the title upon our Lord's cross, IESVS . NAZARENVS . REX . IVDAEORVM. Many of these were worn against the cramp. Then, again, we have charact rings of superstitious use, which were charms in the forms of inscriptions, such as ANANIZAPTA; and strange barbaric words and combinations, such ✠ ES. ✠ EBER ✠ DIABIR ✠ SABAVS. One ring in particular has a most curious legend on the hoop: IESVS . AVTEM . TRANSIENS . PER . MEDIV . ILLOR., which words were held to render the wearer invisible. Many other rings of this class have cabalistic names and words utterly unintelligible.

The class of signet rings contains many interesting varieties. The earliest of the Mediæval ones (including in that term the period from the sixth to the sixteenth centuries) are those with *siglæ* or monograms; these were much used from the fourth to the tenth centuries. These *siglæ* very probably led, at a later period, to the adoption of certain arbitrary signs, called merchants' marks. Merchants and others not entitled to armorial bearings used to have engraved on their rings these devices. They were much used in England and on the Continent. Pyers Plowman speaks of "merchantes merkes ymedeled in glasse." Another class of signets are those set with antique gems. During the eleventh, twelfth, thirteenth, and fourteenth centuries the art of gem-engraving had nearly died out; and hence we often meet with Roman intaglia set in rings, and a legend engraved on the metal setting. Then, again, there are rings with punning devices called a "rebus." Amongst those with heraldic emblems, and shields of armorial bearings, there are some which are set either with crystals or white sapphires, and which have the tinctures represented underneath, in enamels, thus blazoning the arms. The earliest known example of this work is the ring of Jean Sans-Peur, Duke of Burgundy, who was assassinated in 1419. Another interesting example of this class is the signet ring of Mary, Queen of Scots, now in the British Museum.

We now come to the different varieties of wedding-rings. The fyancel or wedding-ring is doubtless of Roman origin, and was usually given at the betrothal as a pledge of the engagement. Its primitive form was a signet or seal ring. Amongst the wedding-rings there are three Roman ones; one of gold, with the *fede*, or two hands joined, which Baronius calls the "hieroglyphicum concordiæ et amoris;" another of silver, set with an intaglio of the same device: and a third, all of silver, with the *fede*, and inscription NIKAS. Then there are the "posy" rings, with inscriptions; formerly called "chançons," then "resous," or "reasons;" and finally posies or poesies (from ποίησις). Another variety of the wedding-ring is the "gimmel" ring, or double ring, which opens and shuts together again; but this term is only applicable to rings which divide, and, when divided, play into each other. Many of these gimmel rings have the *fede*, and the hands open and clasp each other. There is also another variety, which consists of rings with three hoops, opening on a pivot, and disclosing under the bands two hearts. Strange as it may seem, the Jews did not adopt the wedding-ring until after they saw it in general use with other nations. Several of the Jewish wedding-rings are in the collection. Some are curiously ornamented with filigree and enamel; and they all have the inscription, in Hebrew, MAZUL TOUB, "God be with you." These rings are made for the use of the synagogue, where they serve in the celebration of the marriage ceremony, being placed on the finger of the couple at a certain part of the rite.

During the Middle Ages many stones were worn in rings, and highly esteemed for the talismanic and medicinal properties and virtues which they were held to possess. The ruby, the emerald, the heliotrope, and others were much esteemed. The turquoise was likewise valued, and it will be remembered that Shylock prized his "turkoyse" beyond a "wilderness of monkeys." The toadstone or crapaudine, which is in reality a fossil, but which, for many ages, was believed to be engendered in the head of a toad—and hence its name—was much worn. Rings set with crapaudines constantly occur in old inventories. A ring made of the hoof of an ass was held to be good against epilepsy.

Resuming again the chronological order of the rings from the thirteenth century, there appear some rude bronze rings set with glass, found in a stone coffin in the neighbourhood of Oxford, and some very beautiful examples of the fourteenth century. These are followed by some silver rings with nielloed portraits, which are of rare occurrence; and a series of rings of the Renaissance. It is somewhat difficult to meet with rings of this period, with the original stones in them. The settings are exceedingly elegant, and frequently display a graceful combination and adaptation of classical figures for the shoulders of the hoop. Several marvellous rings of the Renaissance, the work of Benvenuto Cellini, are, or were, at least in 1858, preserved in the Gabinetto delle Gemme, in the Uffizij at Florence.

Amongst the miscellaneous rings of this date may be enumerated a leaden ring, with the heads of the Emperor Charles V. and his empress, which is made to serve as a whistle; and also a curious copper ring, with the head of Medusa, which can be used as a squirt. Then there come some momento or mourning rings, with death's heads, such as were often bequeathed by will in the sixteenth and seventeenth centuries.

Finally, there are two shelves of miscellaneous rings, consisting of Indian, and Caffre, and others, which require no observations.

In preparing this brief sketch, the remarks have been arranged as much as possible to suit the order in which the rings are placed in the case.

Several of the rings show the early use of niello; one of Late Roman work is ornamented with it, as also two of Byzantine make. Then there is the Anglo-Saxon ring of Alhstan; and the fourteenth and fifteenth centuries present numerous other examples.

SHEFFIELD.

Sanitary State of the Town.—A report by Ald. G. L. Saunders to the Health Committee of the Town Council, dated Nov., 1862, says:—"By resolutions of the council passed the 12th of February, 1862, an elaborate statement of the health of the borough for the year 1861 has been obtained from the registrars. From the varied statistics contained in their returns, it is evident that the health of the inhabitants has greatly improved, and that Sheffield is now far below, as respects its death rate, any other town of similar character and size. (?) That much has yet to be done, both with respect to drainage and proper ventilation and improvement of the dwellings of the poor, is but too certain. The want of the means for securing cleanliness amongst a large portion of the humbler classes, together with overcrowding and poverty, are doubtless great causes of disease and death. Could anything be done to remedy or modify these evils the death-rate would assuredly present a different aspect, since it is evident by the returns of the Registrar-General that much of the existing unhealthiness of all large towns arises from the dirty habits of the poor, combined with want of proper food and clothing. The diseases that chiefly arise from bad sanitary arrangements are reported to have materially diminished. Of sixty-three grinders whose deaths are recorded during the year, forty-eight died from consumption or grinders' disease, and fifteen from other complaints; showing how necessary are increased precautionary measures to protect those engaged in this branch of the Sheffield trade; although much blame, we hear, is attributable to a sort of defiant and stupid recklessness on the part of the men themselves, who will use no precaution. Of cutlers sixty-three died, twelve from old age, and fifty-one from various complaints; a large proportion from consumption. Of file-cutters forty-one died, nineteen from consumption, and twenty-three from other causes. The loss of infant life is as usual sadly great, 2,365 deaths, or about 50 per cent., from birth to five years old; those deaths in a large proportion occurring amongst the poorer classes; who lack the means, too often, of properly taking care of their offspring.

The School of Art.—The annual meeting of the local School of Art has been held in the board-room, under the presidency of Mr. Stirling Howard. The following is an extract from the report of the council, which was read by Mr. Young Mitchell:—"The council have much pleasure in being able to announce to the members that the school continues to maintain its high reputation, as exemplified by the success of its pupils at the recent International Exhibition. Early in the year the Department of Science and Art, wishing to obtain a good illustration of the education afforded by schools of art, issued a circular inviting all the schools of art to compete for the following money prizes:—For the best design for execution in wrought or cast iron, such as park-gates—1st prize, 15*l.*; 2nd ditto, 5*l.* For the best design to be executed in gold or silver, such as centrepieces for table, epergnes, candelabra, &c.—1st prize, 15*l.*; 2nd ditto, 5*l.* Works in competition were sent in from eighteen schools; and of the five prizes awarded, three were gained by pupils of this school; the first prize of 15*l.* for ironwork being gained by Hugh Stannus, for a design of park-gates and railing. The present number of pupils is 216, a good average as compared with former years, but less than should be found, in a town like Sheffield, to avail themselves of the advantages of such an institution. The treasurer's account showed that the building fund has now been closed, leaving the school under a debt of 1,560*l.* There is no other new feature in the accounts for the current year. The report and statement of accounts were adopted; and it was resolved—"That this meeting has great pleasure in acknowledging the very efficient manner in which the instruction has been conducted by Mr. Young Mitchell, the head-master, and Mr. Lionel Legge and Mr. H. D. Lomas, the assistant-masters."

The Free Public Library.—In the sixth annual report of the committee of this library, they state that during the last twelve months there has been a considerable increase, both in the aggregate and daily issues of books from the library. From September 1, 1861, to August 31, 1862, the issues have been:—

From the reference department....	13,065 volumes.
From the lending department.....	141,456 volumes.
Or a total of.....	154,521

From October 1, 1860, to September 30, 1861, the issues were:—

From the reference department....	11,187 volumes.
From the lending department.....	114,859 volumes.
Or a total of.....	126,046

COMPETITIONS.

City Prison, Exeter.—At a recent meeting, the town clerk read the following report:—"The Special Gaol Committee, to whom the plans for the alteration of the city gaol were referred, beg to report that the plans and accompanying papers sent in for competition are as follow:—No. 1. Five plans from Messrs. Kennedy & Rogers; No. 2. Six plans from Messrs. Hickes & Isaacs, Bath; No. 3. Three plans for alterations, and four for a new prison, with two reports, from Mr. G. R. Crickeney; No. 4. Two plans and a report from Mr. Aaron Walters, Paddington; No. 5. Four plans and report from Mr. G. H. Julian; No. 6. Five plans and report from Mr. Henry Lloyd. No. 7. Five plans and report from Mr. H. Prosser, 24, Melton-street, Euston-square; No. 8. Four plans and report from Mr. A. S. C. Baker, 52, Lower Belgrave-place, Pimlico; No. 9. Eight plans and report from Mr. Joseph Neale, St. Leonard's Chambers, Bristol; No. 10. Four plans and report from Mr. W. Cross, Queen-street, Exeter. They further beg to report their opinion that the premium for the best plan should be awarded to Mr. W. Cross—No. 10; and that the premium for the second best plan should be awarded to Mr. H. Lloyd—No. 6; and they recommend the council to award the said premiums accordingly." The report was adopted.

New United Presbyterian Church in Glasgow. We learn that the United Presbyterian congregation of East Campbell-street, under the pastorate of the Rev. Alexander Wallace, having some months ago resolved to take down their present church and erect another on its site, solicited designs for the new building from several architects in Glasgow. The building committee and congregation have of late held several meetings to inspect the several designs submitted to them; and after deliberation they chosethat of Messrs. Haig & Low, architects, West George-street. The front will be of a plain and simple character. The interior will afford accommodation to not less than 1,400 persons. The cost will amount to about 4,500*l.*

New Cemetery at Pewsey.—The Burial Board of Pewsey have, from a number of designs submitted by various architects for the mortuary chapel, &c., in answer to their advertisement, unanimously

selected those sent in by Mr. C. J. Phipps, of London and Bath; and we understand the work will commence immediately.

FALL OF ARCHES ON THE HAMMERSMITH AND CITY EXTENSION RAILWAY.

THE daily papers have already made known that on the evening of Thursday, the 6th, a fall of brick arches, and the consequent death of six men, took place on the Hammersmith and City Viaduct Railway, a line of about three miles in length, joining the Great Western at a point a short distance from Paddington, and running thence to Hammersmith, with a branch to Shepherd's Bush. By means of the Metropolitan Railway it will be brought into connexion with the City. To the north of Notting-hill it is carried through fields at a considerable height over the level of the locality. As it approaches Walmer-road, which leads from Notting-hill to Wormwood Scrubs, the permanent way is laid upon a series of brick arches. Nineteen of them had been completed to the east of Walmer-road, and of these fourteen came down.

Of course it is stated that the accident was beyond the power of human control. Mr. Fowler, who is the engineer, and Mr. Rummens, the contractor, conclude, according to report, that the accident arose from the subsidence of one of the nineteen piers between two bridges, which subsidence they supposed to be due to the existence of an old sewer that had been in disuse for fifty or sixty years. It is stated that the first symptom of subsidence manifested itself on Thursday morning, and it was not until ten hours before the accident happened that any outward indications of danger appeared. The piers had been built for some months.

CERTIFICATE OF THE "OPERATIVE BRICKLAYERS' SOCIETY."

WE have received from Mr. Coulson, the secretary, a copy of the engraved certificate of membership of the "Operative Bricklayers' Society," to which we referred, if we remember rightly, at the time the design was made by Mr. A. J. Waudby. It has been well engraved by Mr. J. H. Le Keux, the figures by Mr. C. H. Jeens, and is very superior to such certificates in general. The structure, which is made to show, in its openings, London, Rome, and various incidents in connexion with bricklaying, has Science and Art for foundation, Truth and Prudence for supporters, and Justice presiding at the summit. We receive it with the more gratification, because the Society say, "We beg you will accept it as a memento of our respect in remembrance of the dignified course that you pursued in matters that affected the interest of our class."

Caring no less for one class than another, avoiding partizanship, and seeking earnestly in class disputes to do what seems right, we have run the ordinary risk, in such a course, of pleasing none. To find our motives understood and appreciated when the heat of a fight is over, and men reason calmly on what has passed, is a reward for which we are grateful. Let masters and men, alike, be guided by the principles set forth on the Operative Bricklayers' certificate, and we shall have no more ruinous strikes, with their demoralizing and destructive accompaniments.

THAMES EMBANKMENT (SOUTH SIDE): AND MAIN DRAINAGE.

METROPOLITAN BOARD OF WORKS.

At the meeting of the Board, held on the 7th inst., the following report was read from Mr. Bazalgette:—

"THAMES EMBANKMENT (SOUTH SIDE), FROM LONDON BRIDGE TO NEAR VAUXHALL-BRIDGE.

Engineer's Department, Spring Gardens, November 6, 1862.

Gentlemen,—In my preliminary report upon the Thames Embankment of the 15th ult., I suggested for your consideration the principle upon which an embankment might be advantageously constructed on the south side of the river between London and Westminster Bridges, and the outlay thereof defrayed at a moderate cost to the public. I now submit, pursuant to your instructions, a plan showing the line of such embankment as I recommend. It would form a continuation of the line of the new embankment in front of Mr. Alderman Humphery's wharf, at London Bridge, commencing on the west side of St. Mary Overy's Dock, and continued in a curved line to the south abutment of Southwark Bridge, and thence to the south abutment of Blackfriars Bridge. Up to this point the embankment would not encroach upon the river further than is required to convert the present irregular line of frontage into a regular line, and to reface the present wharfs.

It is moreover proposed to cut off a small portion of the wharf wall which now projects into the river beyond the abutment of Southwark Bridge, and therefore the narrowest gorge of the stream, and so far to widen the river at this pinching point. From Blackfriars Bridge the line of the proposed embankment gradually extends into the river as the river widens, until it reaches the first pier of Waterloo Bridge, and the new Charing-cross Railway bridge, from whence it passes, in a line nearly parallel with the present foreshore of the river, to the south embankment of Westminster Bridge.

The present docks would all be thus maintained and lengthened, and about 13 acres of land would be added to the wharfs. The river is at the same time so wide opposite the localities where the embankment extends into it that there is, if desirable, abundance of room for the storage of timber upon the foreshore, as at present, and the value of the land reclaimed ought to refund a considerable portion of the cost of reclaiming it. In my preliminary report I estimated the cost of this work at 250,000*l.*; but as it will be prudent to provide for deeper foundations than I at that time anticipated, and allowing for contingencies, I now estimate it at 350,000*l.*

The embankment recommended by the Royal Commissioners between Westminster and Chelsea bridges is estimated to cost 1,100,000*l.*, inclusive of compensations. Probably the most useful part of this scheme consists in the formation of a roadway from Westminster Bridge and the Palace New-road to a point near Vauxhall Station, whence six or seven important lines of thoroughfare diverge in different directions.

To accomplish this object, I propose to construct a roadway similar to that recommended by the Royal Commissioners up to Lambeth Bridge, but not extending quite so far into the river, and to form a junction with that bridge at its southern abutment. This line would form a better approach to the bridge, and would not interfere with its construction, as the line recommended by the Royal Commissioners must necessarily do. I propose to terminate the embankment a little above the bridge, and to cut off the projecting point of land, and thus widen the river at its narrowest gorge, opposite Millbank Penitentiary. Thence, I propose to continue the roadway in nearly a straight line to the point near to Vauxhall Station, at which the roads above referred to converge. The embankment and roadway above this point are of less importance, and might for the present, with less public inconvenience, be postponed. Those premises above Vauxhall Bridge which are now subjected to flooding at high tides can be secured against this by raising their wharf walls 3 or 4 feet higher, at a very small cost to the owners thereof. The estimated cost of the works above Westminster Bridge herein recommended is 250,000*l.*, which, added to the cost of the embankment from London Bridge to Westminster Bridge (viz., 350,000*l.*), makes a total of 600,000*l.* for works, and leaves a margin of 500,000*l.* upon the estimate of the Royal Commissioners (viz., 1,100,000*l.*) to cover compensations,—an amount which, without having gone into the matter in detail, I believe will be found to be ample for the purpose.

I have appended to this report a table showing what the width of the river will be at various points between London and Vauxhall bridges after the embankments have been completed."

It was ordered that this report should be printed; and the engineer was directed to prepare plans showing the present state of the banks of the river, and what they would be if his plan were carried out.

The Board then proceeded to consider the question of applying to Parliament for powers to make a new street from Blackfriars Bridge to the Mansion House; and, after some discussion, the following resolution was adopted, on the motion of Mr. Deputy Harrison:—

"That the solicitor be directed to serve the necessary notices for a Bill empowering the Board to make a new street from Blackfriars Bridge to the Mansion House, and also for continuing the embankment of the Thames from Blackfriars Bridge to Southwark Bridge, and for the formation of a street from that point to the Mansion House."

The Main Drainage.

The following report of the engineer on the progress of the main drainage works was read and ordered to be printed:—

"The progress of the main drainage during the past month has been satisfactory. Messrs. Brassey & Co. have now completed in connexion with the middle-level sewer about 7 miles 1,072 feet of sewers, varying in size from 4 feet 6 inches by 3 feet to 12 feet by 9 feet 6 inches, at an estimated cost of 180,000*l.*, 15,000*l.* of which was done in the last month. Under Mr. Furness's contract for the northern outfall sewer, the ironwork over the Tilbury and North Woolwich railways, and the waterworks river, has been completed, and the other bridges are in rapid course of construction. The brickwork of the sewers on the embankment and substructure is being pushed forward; about 8,000 feet having been constructed during the past month; and the earth embankment over the same is being made up. The formation of the new line of the Stratford road is approaching completion. The special work of construction into the river Thames is fast progressing; about 11,000 cubic yards of excavation having been got out; and a cofferdam is being constructed along the foreshore of the river. The total value of the work done under the contract is about 445,000*l.*, being about 27,000*l.* more than at the date of my last report. At the southern outfall works, Crossmeas, Mr. Webster is proceeding rapidly with the excavations and concrete foundations. His pumping-engines are fixed and other preliminary works are executed. The total value of work done under the contract up to the present time is about 23,000*l.* Messrs. Aird & Son, under their contract for the Deptford pumping station, have now completed the river wall and barge bed, and have executed various other works of detail, at a total cost of about 94,000*l.*, of which 1,000*l.* is due to the past month. Messrs. Saughter & Co. are getting in the sewage pumps and other works. On the southern high-level sewer Messrs. Lee & Bowles have executed during the past month works to the value of about 4,000*l.* The total length of sewers constructed under the contract is about 9½ miles, and the estimated cost is 188,000*l.* About 700 feet of sewer still remain to be executed to complete the contract. Mr. Pearson has completed ½ mile of the southern high-level extension sewer, at a cost of about 9,900*l.*, of which 1,400*l.* was done in the last month. In connexion with the Effra sewer works at Brixton, Mr. Webster has completed about 3,370 feet of 6-feet barrel sewer, at a cost of about 5,850*l.* Messrs. Aird & Son have made a commencement with the Bermondsey branch sewer at Jamaica level, and they have completed their preliminary preparations for carrying on the works at China-hall-gate and Griffin-street, Deptford. The Southwark-street subway and sewer are nearly completed between High-street and Great Guildford-street, being a length of about 1,500 feet. The cost up to the present time is about 22,500*l.*"

GUILDHALL ON LORD MAYOR'S DAY.

MR. BUNNING, the City architect, was more than usually successful in his decoration of the hall and adjacent apartments on the last occasion, and the result was particularly effective. The coming of age of the Prince of Wales gave the leading idea. The lobby entrance was decorated with a fine statue of Europe, by Durham, which in bronze will form part of the 1851 memorial. The decorations of the great hall were exceedingly appropriate to the occasion. In the centre of the eastern window, at the back of the upper table, was the fine statue of her Majesty, also by Durham, which was intended to have been placed on the summit of the memorial of 1851, in the Horticultural Gardens at Kensington, but for which, at the request of the Prince of Wales, a statue of the Prince Consort has since been substituted. Above this statue there was a plume of the Prince of Wales's feathers, formed of spun glass. On the right of the statue of her Majesty was a full-length portrait of the Prince of Wales, and on the left an equestrian portrait of his affianced bride, the princess Alexandra of Denmark. Over the screen which lines the lower portions of the sides of the hall, each compartment into which the walls are divided contained in the centre an allegorical figure of the principality of Wales, holding a Welsh harp, and on each side of the figure is a portrait of a former Prince of Wales, the series commencing with Edward, the first prince, and ending with George, eldest son of King George III. In the western window was placed a large painting, representing the presentation of the first Prince of Wales by King Edward I. to his Welsh subjects at Caernarvon; painted by Mr. Fenton, and deserving of praise. The hall was lighted in the usual manner by innumerable gas jets, arranged in conformity with the architectural outlines of the building, and two large transparent gaseliers suspended from the ceiling.

In the other apartments the "Reading Girl," the "Dancing Girl Reposing" (belonging to the Art-Union of London), and some clever scenic representations by Fenton, were the great features.

At the dinner Lord Palmerston was probably the only speaker who made himself heard over the whole hall; and Lord Brougham was the only person who had really something to say, and to which it is to be hoped the new world will listen.

LIFE, GROWTH, AND DEVELOPMENT IN ARCHITECTURE.

The partisans of the imitative school seem to lose sight of the absolute necessity which exists for the introduction of some life-giving element into architectural design: without life there cannot be either growth or development; and to say that a new style must result from spontaneous development, is to imply a principle of action in architecture itself. It is strange how little power over the form art takes is by such writers conceded to the individual; and how apt people are to take refuge in the belief that the beautiful cannot be created, moulded, developed, and guided at will; but must needs follow its own course unknowingly and without aim. To argue that art, as applied to building, must always repeat itself in the selfsame circle, is to hold an opinion at variance with established facts. We know very well that the progress of architecture in Greece was marked by the *invention* of distinct *orders;* so that by applying such reasoning, we arrive at the conclusion that the development of Gothic art should have gone through the same process. On the contrary, we see that such was not the case; that there is nothing at all answering to the five orders contained in Gothic architecture. After the introduction of the pointed arch, several distinct varieties were developed, and Gothic rapidly passed through many phases. Again, in no other architecture can we discover the same distinctive or strongly-marked divisions into periods,—not even in Saracenic or Byzantine,—and certainly not in the architecture of the ancient world? May we not assume, then, that our future style is to come in a different form, and pass through phases differing from any preceding style? We may justly say that architecture should adapt itself to modern wants, and not be forced into them. It should also take its form in a measure from the materials employed, the system of construction adopted, and the sentiments and fancy of the individual and age. To force architecture by the combination of indiscriminate fragments of old styles, is what no man in his senses could possibly uphold, though in certain quarters the aims of myself and others are deliberately represented to tend in that direction. How such an idea could have gained ground, it is difficult to discover; for were this my object, could I ground the claim I make for a radical change in our architectural practice on the alteration which has taken place in our habits, feelings, and requirements? It is to meet these that all sensible men wish for an intelligible art in place of dead conventionalities or unmeaning contortions. The foundations of a modern style must be laid on a groundwork of common sense, and an attention to the legitimate demands of modern society. Modern requiremeats are forced into a casework of Classic or Gothic, to which they are compelled to fit like feet in a pair of tight boots. Architecture should be designed upon the *plan*, and while planning and holding the requirements in view, the external composition should never be lost sight of; neither should one unduly yield to the other; for the greater beauty of a design lies in the harmony existing between the plan and the external composition. This is one of the first principles that claim the attention of all practised in design, and should never be departed from. I could point to a dozen examples of first-class works where these principles have been overlooked; and how, in fact, can it be otherwise? If the architecture will not bend to the requirements, the requirements must bend to the architecture! St. George's Hall is a notable instance of this; for, with all the grandeur of the work and the consummate ability of the architect, it is still a building designed to fit a classical case, and the ingenuity displayed in adapting it must have been a painful task. Again, the Houses of Parliament, though also undoubtedly a great work, is a building designed to fit a Gothic case. In neither does the style flow naturally from the exigencies of construction or utility; and both buildings are, consequently, enormously costly. When shall we leave off this dressing up of dolls—this arraying our work in borrowed plumes,—and strive to inaugurate a more natural and graceful method? It is this impracticability, distinguishing all our art, which brings so much discredit on architects and architecture; and, what is more, so vastly increases the cost without any adequate result. This is my aim and object; and to effect it something more than *gradual growth* will be required; nay, it would seem to demand little short of a convulsion of nature before the deeply-seated and narrow-minded prejudices in which we have been nurtured can be uprooted.

The arguments which have been brought forward in favour of a system of combination as contrasted with adherence to ancient types have not yet been met, much less refuted; but the adoption of such a system, which would quickly revolutionize our practice and ideas of art, is advocated in a more or less mild form by several contemporary writers. It is strange and curious how, starting with the avowed intention of correcting prevalent fallacies in the rising school of architects, who have set themselves against the omnipotence of precedent, they adopt ideas first promulgated by those they wish to refute, and parade them under a slightly changed name or aspect; leaving the reader to infer that they are the result of their own investigation. Though the leading axiom that the principal styles have resulted from the combination or blending of the features of opposite styles individualised by after development has been conceded by contemporary writers; yet, fearing, I suppose, to travel too far at one stage, they urge that the combination is always effected by gradual growth. Let us but for a moment investigate this point, and see how the argument tumbles to pieces at the first reference to facts; but by all means let us avoid dealing in those high-sounding philosophical generalities under cover of which the art critic, after discharging his piece, retires for shelter. To speak of styles being the result of indigenous spontaneous development out of preceding styles is to deal with words without corresponding ideas; nor is it necessary to study nationalities or habits in order to elaborate a new style; but such phrases sound learned, and go down with the multitude. Mysticism seems to be the order of the day; and it betrays a lamentable absence of clear ideas to attempt to impart knowledge otherwise than by the simplest and clearest language at command.

If we take a retrospective glance at the rise of several styles, we shall find that so far from being gradual, the first change has usually been rapid, if not violent. To go no further back than the Pointed style, the introduction of the arch which has given it its name very soon revolutionized the architecture of the day; and though much the same *feeling* swayed the artists from the commencement of the Norman to the close of the Early English, the styles are distinctly individualised. The after varieties of the Gothic styles resulted from more than mere elaboration—from the efforts of creative fancy; now the peculiarity of modern architecture is, that none is *systematically* displayed in it. Here and there we see, perhaps, striking and creditable instances to the contrary; but generally, modern work is lamentably deficient in fancy, or simply vicious in principle. In most of the styles adopted, unless some radical change be first made, we cannot even elaborate; for they have received their utmost elaboration already; and the employment of antique styles may be fitly characterised as the wearing of dead men's clothes.

In the Byzantine style, again, the infusion of Oriental ideas brought on a rapid change. Indeed, it cannot reasonably be otherwise, for great changes always are rapid; though, no doubt, circumstances are prepared beforehand for the reception of a different class of ideas. There are several transition styles, and more especially the Gothic of Italy, that, not having been fully developed, possess innate resources sufficient, I believe, for the foundation of a new, though hardly modern, style. Art is many-hued, and its varied forms cannot be bound by conventional fetters, forged even by the greatest of masters. The learned student (and students we should wish to be as long as we live), if animated with a proper spirit, will find that the forms of art, so far from being immobile, possess wonderful plasticity and power. If our minds had not been cramped by dwelling too closely on examples, such would never have been doubted, nor should we have arrived at our present imbecility of thought.

Macaulay, in his "History of England," mentions, during the reign of James II., a divine who, by the vast amount of learning he had crammed into his brain, had smothered the small mental spark which originally illuminated his judgment. That has been our position with respect to architecture: too much knowledge has extinguished original invention.

The description given in the *Builder* of the sultan's palace on the Bosphorus proves more clearly than any other modern example I know of that original treatment results not from the analytical study of styles, but from the working of a mind untrammelled by useless rules, seizing hold of the salient points of two or more styles, and adapting or combining them. Analysis is not what is wanted, but creative imagination; an exactly opposite operation of the mind. Our invention is weakened by the very means recommended for its improvement and guidance; and we resemble the man who, wishing to write a book upon a certain topic, revolved in his mind the matters to be treated upon so often, and took so many views of the subject, that when he sat down to write he found that he actually had no ideas to put upon the paper. Let us, at all events, make a start; and even if the first attempt should prove not so favourable as was anticipated, we shall have the satisfaction of knowing that we are cultivating the qualities of mind which will lead us to the desired goal.

Having shown that the first commencement of a style requires a complete revolution in the combinations of form, it is equally to be observed that this must be followed up by development; the work of not one but many minds; but unless the art possess the germs of life, it is impossible it should grow, however great the ability displayed in it. Gradual growth is *one* element in the formation of a perfect style, and I am combating for the adoption of a style which will admit of it. No sane man would propose the introduction of a perfected style, even if it were possible; for then we should be relatively in the same position we are in now with the dozen styles in use; all of which may be said to have arrived at their culminating development. When a style has reached this stage it is time to look for the introduction of some new element which will change its character and give it fresh vitality. The human mind must move: if not upwards it will certainly move downwards. If I may be allowed the illustration, it may be compared to a man or horse in training; for when either has arrived at its greatest physical health, trainers well know that the condition cannot be kept up beyond a few days. A style being the result of a certain arrangement of lines and forms, whereby distinctive effects are brought prominently forward, individualizing it as in the case of the general characteristic features of several races of men, it stands to reason that once having obtained a set expression, every effort further tends to exhaust the possible combinations of form which can be made, without destroying its individuality. Now I am of opinion that a style is possible that shall possess much greater versatility than any yet formed. This is what we require, that all may have scope for invention; for though there is no necessity for the lineaments to correspond in each man's work, it is evident that a certain homogeneity should characterize all, that they may be entitled to rank in the same style. If the leading principles are the same in all, the feeling displayed in various designs will not clash when the buildings are placed in juxtaposition. In the present chaotic state, it is difficult to discover whether we are Goths or Greeks, Romans or Saracens, Chinese or Hindus; whether we live in the year 600 B.C., or the twelfth, thirteenth, fourteenth, or fifteenth century: each is equally "another of those things that no fella can understand."

To say that a style must be the result of centuries of labour, is simply to prohibit invention; and it is no less humiliating than distressing to think that we are all contributing towards some result in the far-off future, which no one can understand or interpret, but which only future generations are to enjoy. Such labour would prove more unsatisfactory than that of Sisyphus; for we should roll up our rock for the sole pleasure of future generations seeing it roll down again. What interest can any human being feel in his work, unless directed by a definite aim, and he sees some prospect of beholding his endeavours realized; or, at all events, can trace the tendency of his work? He can find no more pleasure in his pursuits than a blind mill-horse, whose continual occupation is an eternal going round and arriving nowhere! Indiscriminate combination is what no man, to my knowledge, has recommended; and the accusation is only the invention of some one who spends his time in beating the air and slaying shadows.

A style is called for which possesses vitality; for without it growth cannot take place; and to expect development is premature, when we have little or nothing to develope. Until the complacency of leading professional men is disturbed, or a new school of architects grow up, it is useless to hope that unity should pervade our work. Many sensible men already yield a tacit consent to the principles promulgated; while weak minds and small wits resort to the splenetic ridicule and starved jokes of a penny-a-liner, who, if not wasting paper, is at least much too handsomely paid at even that low rate of remuneration.

T. Mellard Reade.

BOOTS AND SHOES.

A PLEA FOR SQUARE TOES, AND A WORD ABOUT HEELS.

The response we invariably find amongst our readers when any few words appear in our pages relative to costume, always with good intention, might lead us to give more space to the subject if circumstances permitted. It is only occasionally, however, that we can venture upon it. Wandering, not long ago, in a public gallery, pained to a certain extent by a pair of new boots, of the shape now usually worn, we were led to look at the taper toes of the visitors, male and female. In the course of this observation the mind ran back to numerous varieties of shoes and boots which have been fashionable at various periods of English history. There have been high heels and low heels, and toes of various forms, from a long point which terminated as sharply as an arrow, and which it was necessary to fasten to the front of the hose, to the square toes of Henry VIII.'s and some other reigns. On these latter, in the present circumstances, we look with some feelings of regard. In those days the labours of the chiropodist would be but little called for; and, for the purposes of locomotion and for comfort, the old square toes must have been preferable to the narrow ones; "but, then," thousands will exclaim, "just look at the things;" and it must be confessed that this is a posing argument, for the eyes get so accustomed to matters which are in present and general use, that notwithstanding the absurdity and inconvenience of portions of our costume, we fail to notice their incongruities, and stoutly oppose all attempts at reform. We can, however, laugh at the Chinese ladies, and feel pity for their sufferings during the process of dwarfing the proportions of their feet. If, however, we look at home in the present days, there is really not much less reason for feeling surprise. Notice, for instance,



the sole of a lady's fashionable shoe; mark its extreme narrowness from toe to heel: such was never the natural form of a human foot, which in these instances, as in those of the Chinese women, has been trained and pinched into the required shape.

Look at the foot of a young child before the



beauty of its form has been spoiled by the wearing of shoes now in use. See the narrowness of the heel, and how the sole of the foot widens until you find the greatest width across the part from which the toes spring. Then notice how the toes branch out like a fan; and how perfect is their adaptation to the purpose of assisting the general action of the feet and legs.

There is a quaint proverb that "Pride feels no pain," and certainly many will suffer much in attempting to increase personal attractions; but there can be no doubt that as regards our boots and shoes, the present form cannot be considered a true standard of beauty. Sadly pinched, we examine with interest the feet of some of the famous statues of the Greeks and Romans, which are ranged in the British Museum galleries, and find that in all of them the natural and healthy form of the feet is preserved, and we can not but think how completely out of keeping with the general beauty of form would be the boots or shoes of modern device. In our climate, in muddy streets of the metropolis and elsewhere, the wearing of sandals or the feet-covering of the Roman ladies would be impossible. There is nothing, however, if we could only be made to see that our present style of boots and shoes is unsuitable and ugly, and that they deform the feet and cripple the power of walking, to prevent shoes being made which, without those objections, would also be a sufficient protection against the weather. Some will not believe it, but it may be that the spread of scientific knowledge, together with the uncomfortable effects of the narrow toes, may cause a revival of the square toes, or at any rate a compromise between them and those which are at the present moment a source of some trouble.

Look, too, at the height of the heel on the boots of some of the demoiselles, which throws all the weight on the toes, and distorts the foot



abominably. Here is one sketched on the spot, belonging, it must be confessed, to a little fairy of a woman. Such boots are dangerous things. Few persons can walk in them without unduly exercising some muscles and throwing others out of action; producing a description of lameness. Women ought not to walk in that artificial way, but naturally, lightly, trippingly, and gracefully. Neither are the boots of men by any means perfection: they are heavy and inelegant in shape: they might be much improved by a knowledge of anatomy; but it would be of no use for a shoemaker to attempt it in the present prejudiced state of the public mind, for the public would not support him. We shall not be the intelligent people we ought to be until the principles of physiology are taught in schools,—until boys and girls know what the laws of their lives are, as well as they do the multiplication table.



We give two or three additional illustrations. No. 4 is a Roman shoe found in London, which is well constructed. No. 5 is sketched from an effigy of Queen Elizabeth. No. 6 is of Charles II.'s reign: neither of the latter can be said to be constructed on physiological principles.

Let us add a word of abuse of the ugly "tongues" of elastic boots, which are allowed by careless ladies, in nine cases out of ten, to stick out before and behind, at ankle and heel, and produce a slovenly and ugly appearance.

THE ROTHERHAM WATER-SUPPLY AND FEVER QUESTION.

A stir is now again being made in the local board of health towards an increase of the sources of water-supply for the new works. At a recent meeting of the board, a member said the epidemic which had lately visited the town had made the board increasingly anxious to obtain an abundant supply of water. The services of Mr. J. Lawson, C.E., of London, had been engaged, and he had laid before them a scheme for accomplishing that purpose, at a cost of 12,000*l*. The purchase of ground on which to construct reservoirs, Parliamentary expenses, &c., would increase that sum to about 16,000*l*. Mr. Lawson, who was present, gave some details and explanations, keeping in view a rival scheme suggested by a member of the board for taking a shallow mill-dam for a reservoir, and using the Rother water. This scheme was unfavourably criticised also by the chairman and others. As to the state of the fever, it was announced that the Privy Council medical department were now in correspondence with the board, especially on the subject of the water-supply, which tends so far to explain the stir on that subject. Dr. Shearman, the local officer of health, reports an improvement in the health of the district as regards fever, the general mortality being 49; from fever alone, 6. This reduces the mortality from 44 to 37 in the 1,000. A great number of deaths are returned as diarrhœa—a disease of the same class as typhoid fever. Forty fever patients had been admitted into the dispensary during the month. The total number of patients visited during the last four months was 2,271; the number of deaths being 109. A vast number of the population have had the disease slightly, without applying for medical treatment.

NEW (R.C.) CHURCH OF KILLESHANDRA, COUNTY CAVAN, IRELAND.

The new Church of Killeshandra stands upon a commanding site, near a village of the same name, in the county of Cavan, and is intended to supply the place of the present dilapidated and unsuitable edifice which forms the parish church. The foundation stone of the new building was laid by the Right Rev. Dr. Brown, R.C. Bishop of Kilmore, with the usual ceremonial, in May last, and the works are now far advanced.

The plan comprises nave and side aisles, north and south transepts, chancel, with chapels on the north and south sides, sacristy on the south-east side, and two porches leading to aisles at the west end. The tower and spire are situate at the north-east angle of the building, and will form an important feature in the design when viewed from the main road, which passes by almost parallel with the east end of the church, and at a short distance from it.

The total internal length, from west to east, is 95 feet; width across nave and aisles, 50 feet; and across transepts, 70 feet. The chancel is 25 feet wide in the clear, and the side chapels are 12 feet each. The height from floor of nave to ridge of roof is 50 feet; and the height to top of wrought-iron cross on spire, 135 feet.

An arcade of five bays of moulded arches (resting on cylindrical shafts) and piers divides the nave and chancel from aisles, transepts, and chapels on either side; and in the spandrils of the arches are circular quatrefoil recesses for medallions. The shafts between nave and aisles are of polished Kilkenny marble, with moulded sandstone bases set on square tall plinths of dark grey stone, and sandstone caps with square abaci hereafter to be carved.

The principal entrance is at the west end, through a boldly-treated doorway, with recessed jambs and shafts of Cork red marble, resting on moulded bases, with carved caps sustaining a deeply-moulded and enriched arch. The other entrance-doorways, in porches, &c., have square heads, the arches inclosing stone tympanums for sculpture.

The tower opens into north transept and chapel through moulded archways formed in the thickness of the walls, and will display a stone groined ceiling under bell-ringers' floor.

The roofs will consist of wrought and framed trusses open to the ridge, with curved and moulded braces resting on corbels. The chancel and chapel roofs will be panelled and moulded between the trusses, which are carried on marble shafts with caps and bases set on stone corbels. A double truss divides the chancel from nave in lieu of the usual chancel arch. All the roofs will be boarded on the back of rafters, and varnished. Between the boarding and slating a layer of felt will be introduced; and the slating, banded in colours, will be surmounted at ridge by a foliated cresting of wrought and galvanized iron.

The flooring, altars, railing, and other works necessary to complete the building, will be proceeded with gradually, as the funds permit.

Local stone, disposed in various colours, as obtained in the neighbourhood, is being used for the general walling; forming a contrast with the external dressings of light grey limestone. Sandstone, from the Dungannon quarries, has been used for the interior works, with marble shafts for nave piers and chancel roof trusses, &c. The tracery in windows will be Caen or Dungannon stone. The carving will be done hereafter.

The floors are intended to be formed of Yorkshire paving, with black and red tiles in passages of nave and aisles; and the chancel and chapels will be laid with encaustic tiles, in patterns. The altars and reredos will be executed in Caen stone, with marble shafts, panels, &c. All the glazing will be done in tinted cathedral glass, set in lead lights, diamond shaped, with coloured borders.

Mr. W. Hague, jun., of Dublin and Cavan, is the architect; and the works are being carried out under his superintendence by Mr. J. Higgins, the clerk of works, no builder being employed.

Amicable Society's Schools, Scarborough. Forty-one designs were submitted for the above schools. The first premium was awarded to Mr. Stewart, of Scarborough; the second to Mr. T. C. Sorby, of London.



NEW (R.C.) CHURCH OF KILLESHANDRA, CAVAN, IRELAND.—Mr. W. Hague, Jun., Architect.

STAINED GLASS.

Datchet Church.—Early in the year, it was suggested to some of the inhabitants of Datchet to place a stained-glass window in the church as a memorial of the Prince Consort. The idea proved acceptable, and a collection was made throughout the parish, to which almost all, both rich and poor, heartily contributed. The amount realized was about 185*l.* Three leading firms were invited to compete, and the work was eventually intrusted to Messrs. O'Connor, of London. It was found that three windows could be erected; and last week, according to the *Windsor Express*, they were fixed. The east window in the chancel contains three figures,—the centre that of our Lord, the head being taken from a copy of a fresco, by Andrea del Sarto, at Florence. Beneath his feet are two angels, bearing a scroll with the words, "Come, ye blessed of my Father." On one side stands St. Paul, representing Faith, with the words, "Being justified by faith, we have peace with God through our Lord Jesus Christ." On the other side St. John, representing Love, with the words, "God is love, and he that dwelleth in love dwelleth in God and God in him." In the lower compartment of the window are the Prince's coat of arms, with the inscription dedicating the window to his memory. One of the south-aisle windows bears two main figures,—St. Peter with the raising of Dorcas, and St. Matthew with the scene of his call. The window in the vestry, also visible from the church, is in colour, but without figures.

Llanymynech Church.—The triplet window in the western end of the parish church has been filled with stained glass by the Ven. Archdeacon Evans. The artist was Mr. F. Burrow, of Milnthrope. The subjects are as follow:—The first compartment represents Christ healing the Sick, with the symbols of St. Matthew and St. Mark; the middle, the Virgin and the infant Jesus; the third, Christ blessing little Children, with the symbols of St. Luke and St. John. This window has been erected to the memory of the Archdeacon's father and mother, as also several of his brothers and sisters.

CHURCH-BUILDING NEWS.

Wormley (Herts).—Wormley Church was re-opened on the 9th, after the addition of a south aisle, with other alterations, carried out through the munificence of Mrs. Grant, of Wormleybury, under the direction of Mr. Joseph Clarke, diocesan architect. This church was repaired and beautified in stucco, in the usual style of twenty or twenty-five years ago. The work now carried out is a return to the old style of church-building. The new aisle is built of flint, with Bath stone dressings. The side windows are arcaded internally, divided by marble shafts. The roof is solid and open: the benches are stained. A small Scudamore organ is placed at the west end, to lead the choir, next the new vestry. A fine early font remains, which has been thrown open. The sacrarium has been re-arranged, and will be re-laid with Godwin's tiles; the brasses carefully preserved; and new altar-rails by Hart are introduced. The gallery, which extended about two-fifths down the church has been shortened about a third; and it is to be hoped this may be entirely removed some day, and the church wholly re-seated; the square high *individual* pews in the rest of the church being more than ever out of place, contrasted with the benches.

Great Malvern.—The chief stone of a church to be erected at Newland, in connexion with almshouses also to be erected, from a fund of 60,000*l.*, bequeathed by the late Earl of Beauchamp, has been laid. The piece of ground on which the church and almshouses will stand, is about eight acres in extent, and the plan of the buildings is for three sides of a quadrangle, the fourth side being open to the south, the yard having a garden in the centre, and a terrace walk all round. The chaplain's house will be at one angle of the establishment, and the church at another, being connected by means of a covered cloister. The chaplain's dwelling is in an advanced state, and will probably be roofed in by Christmas next. It is built of brick, with Bath-stone dressings, ornamental barge-boards to gables, and the style is Domesticated Gothic. It also includes a board-room for the trustees, 35 feet long by 18 feet wide, with an open timber roof, and here the inmates of the almshouses will assemble on festive and other occasions. The church will be in the Early Decorated style, with chancel, chancel aisle, nave, and bell-turret. The walls will be of rubble, with Bath-stone dressings. There will be a porch on the north side of the nave for the public entrance of the parishioners, and on the south side of the chancel aisle a porch, forming a kind of campanile, underneath which the almspeople will pass from the cloister into the church. At the east end of the aisle an organ is to be placed. The chancel will be arranged after the manner of collegiate churches, as set apart for the body attached to the establishment; so that the almsmen will occupy the chancel, and the almswomen the aisle adjoining, while the general parishioners will sit in the nave. Altogether there will be 230 sittings. The east window will be of three lights, with geometrical tracery, and the font from the old church will be placed in the new structure. It is contemplated to pull down the old church, and throw the whole site into the new burying-ground. Mr. Hardwick, of London, is the architect of the church and the whole establishment. Mr. Oliver Estcourt, of Gloucester, is the contractor and builder. The entire cost will be some 16,000*l.*, and the work is to be completed by the end of 1863.

Liverpool.—The church of St. Mary Magdalene, Finch-street, has been consecrated by the Bishop of Chester. This church is the first of those erected in Liverpool under the auspices of the local clergy, headed by the Rev. Rector Campbell, as a free church—one in which the sittings, without exception, are entirely open for the use of any persons who may choose to enter the building. The edifice is simple in its proportions, and has been erected at a limited cost, consistently with the purpose to which it is devoted. The design (Gothic) was prepared by Messrs. Hay, of this town, and the building contracted for by Mr. J. Pooley.

Harrogate.—A new Wesleyan Chapel has been opened at Harrogate. It is in the Italian style, and occupies a prominent position at the angle of Chapel-street and Cheltenham-parade. Its principal front is decorated by Corinthian columns and pilasters, supporting an entablature and pediment. The principal entrance is by three arched doorways in front, leading to an inclosed corner vestibule, from which the chapel aisles and the gallery stairs are reached. The chapel, internally, is 70 feet by 52 feet, exclusive of the organ recess, and is galleried round on three sides. The pillars of the gallery are continued up to the roof, which is thus divided into three compartments, the central one being raised and circular. Accommodation, on the ground-floor and gallery, is provided for 1,000 persons. A basement story contains class-rooms, large vestry for tea-meetings, and a residence for the chapel-keeper. The architects were Messrs. Lockwood & Mawson, of Bradford.

Bensham.—Extensive repairs and improvements have been effected at St. Cuthbert's Church. The roof was found to be very imperfect. The slates have, therefore, been removed and relaid in mortar on deal sarking, which has been oak-stained and varnished. The open stoves have been removed. Standing opposite to each other, if the one burned well, it generally (says the *Newcastle Courant*) provoked a down-draught in the other; and future inconvenience has been obviated by the introduction of a hot-water apparatus, with tubular boiler, by Mr. Weeks. Four double rows of pipes traverse the church from end to end; two of them skirting the side walls, and thus preventing the usual condensation of heat and generation of cold in that part. Mr. G. Wailes (who successfully heated St. Andrew's, Newcastle) has devised and superintended this part of the alterations. Mr. W. Wailes, in addition to re-glazing all the other windows, has given a stained glass window on the south side, the subject being taken from the Parables. Gas-fittings have been introduced throughout the church. They are of polished twisted brass; and, together with the corona in the apse, have been manufactured by Messrs. Mills & Son. The whole of the seats have been re-stained and re-varnished, and the walls coloured.

Blyth.—A new Roman Catholic Church at Blyth, dedicated to "Our Ladye and St. Wilfred," has been consecrated and opened. The edifice, which is designed in the Early-Pointed style, and consists of a body, or nave, 120 feet long and 36 feet wide, is covered by an open timber roof, supported at the sides by buttresses. The east end terminates in an apsidal form, the centre portion being projected slightly forward, and is raised above the roof with a gable containing a tracery window, filled with stained glass by Mr. Barnett, of Newcastle, representing the patron saints of the church, &c. Externally, the division of chancel and nave is not perceptible; but, inside, a distinction is made in the design of the woodwork of the roof, and in the decoration of the ceiling, which is sprinkled with white stars on a blue ground, the walls also being relieved with colour. At present, only one of the two transepts is built; that on the south side, in the upper part of which is placed the organ, slightly projected through an archway into the church, the lower portion serving as a sacristy, to be connected by a corridor with the presbytery; which is of red brick and stone, with Continental character in the design. A bell-turret, being a substitute for tower and spire which it is intended afterwards to erect, stands in the angle formed by the junction of the chancel and transept. The whole has been carried out from the designs and under the superintendence of Mr. A. M. Dunn, of Newcastle. The contractor was Mr. J. How, of Cowpen; the carved work being executed by Mr. Beal, of Newcastle. The church will afford sitting accommodation for nearly 900 persons, and has been completed for little more than 2,500*l.*

Wold Newton.—The parish church of All Saints, Wold Newton, has been rebuilt and re-opened. The edifice has been seated for the accommodation of 150 persons. The architect was Mr. Fowler, of Louth.

Wolverhampton.—The Congregational Church, Snow-hill, has been re-opened after undergoing a restoration of the interior, including an apparatus for heating the building by hot water. The whole has been carried out under the superintendence of Mr. Veall, architect, at an expense of about 260*l.* Mr. Cockerill was the contractor for the builders' work; Mr. Swindley for the cleaning, decorating, &c.; and the hot-water apparatus was supplied by Messrs. Rudge & Griffiths, of Stafford.

Glasgow.—A new Free Church is to be erected for the Rev. Mr. Howie's congregation. The site is on the east side of Charlotte-street; so that the front, which is towards the west, will be well seen from London-street, and the east gable will be a conspicuous object from the Green. The area is divided into three aisles by iron columns supporting the galleries and roofs, and the aisles terminate with gables at both ends. At the east end is a hall, 57 feet long by 28 feet wide; and also a beadle's house, session-house, vestry, and retiring-rooms. The style of architecture adopted is the Early English, and the effect of the front is enhanced by the use of a black stone—obtained from Carnock, near Dunfermline—which is freely introduced in bands, and for small pillars in the window jambs and arcading. The church will accommodate about 1,100 persons; and the estimated cost, exclusive of the hall and other back buildings, is 3,000*l.* The architect is Mr. Honeyman, of Glasgow.

Calais.—A new English church has been opened at St. Pierre, Calais, by authority of the Bishop of London. The Church of the Holy Trinity at St. Pierre, as it is called, has been built at a moderate cost, and is said to be a good specimen of architecture: it stands in the midst of a manufacturing population of about 1,500 English.

SCHOOL-BUILDING NEWS.

Long Eaton.—New schools were lately opened at Long Eaton, near Derby, by the Vicar of Sheffield. The schools were erected from designs made by Messrs. Wilson & Thompson, of Derby, architects and surveyors. They are in the Gothic style, built with bricks and stone dressings, with coloured bricks inserted in bands and courses. The principal front is a gable, occupied by a traceried window, and the entrance porch. The gable is surmounted by a stone bell-turret, 40 feet high from the ground. The interior has an open-timbered roof, stained and varnished; the iron-work being painted light blue. The erection forms one continuous range, in consequence of occupying a narrow slip of land. The first room is 40 feet by 18 feet in the clear, lighted by three three-light windows at the side, and the traceried window already mentioned. The other school-room is 58 feet by 18 feet, lighted by nine three-light windows. The class-room is 15 feet by 12 feet 6 inches. The design was carried out by Mr. Morris, of Long Eaton, builder.

Woolaston.—The new school-buildings at Woolaston, Gloucestershire, are just completed. The ground plan comprises one large school-room, affording accommodation for 120 children of both sexes; a class-room, with gallery, &c.; entrance-hall, and master's house, all in accordance with the Government requirements. The walls are constructed of local stone of a deep purple colour, contrasting with the Bath stone used for the dressings. The roof of the large room is open-timbered; and this and all the other woodwork is stained. The roofs are covered with slate, two

kinds—blue and purple—being used, and thrown in alternately. The playground is surrounded with dwarf walls, with coping of Bath stone. The cost, including the site, has been borne chiefly by Mr. Morgan, of Tidenham House, near Chepstow. Mr. Durke, of Coleford, was the builder; and Mr. Purchas, of Ross, the architect.

ACCIDENTS.

Fall of a Church.—At Beaufort, one of the most ancient and remarkable buildings in the district was the old church of Waun-y-pound. Religious services were held there before any ironworks were started on the hills. Most of the old inhabitants talk of having been taught to read in the church when they were young. This edifice, however, has been used for a stable for some time past, and has long been in a most dilapidated condition. During the late boisterous weather, the old church was blown down, and it now remains a solitary heap of ruins.

Fall of a Tower.—A large portion of the Jubilee Tower on Moel-Fammau has also fallen during the recent fearful storms of wind and rain. It was erected in 1810, to celebrate the 50th year of the reign of George III. The tower was from a design of the late Mr. Harrison, of Chester, and the work cost upwards of 6,000*l.* Being erected on the highest part of the Clwydian range of hills, it was a very conspicuous object.

Fall of a House.—At Port Royal, Exeter, an old house has fallen, killing and burying several children, and injuring others. The house had been in a dilapidated and dangerous state for some time, but no owner could be found for it, the property being in Chancery.

Fatal Fall through a Floor.—At 46, The Stowage, Deptford, a woman was coming downstairs from the room on the first-floor, when the flooring broke in under her, although a very light person, and she fell; one of her legs being thrust completely through the ceiling of the room on the ground-floor. She was far advanced in pregnancy, and the injury sustained was so great that, notwithstanding medical aid was promptly obtained, she expired from loss of blood within an hour. A piece of the flooring was produced before the coroner's jury: the wood was completely destroyed from dry rot. The coroner, in summing up, remarked that legally the owner of the property was liable to be proceeded against by the husband of the deceased for the loss sustained by the death of his wife. The jury recorded a verdict in accordance with the facts, and at their request the coroner undertook to communicate with the district surveyor, and also the police authorities, upon the dangerous state of the house.

Collapse of a new Gasometer.—A singular accident has happened to a gasometer in Halifax. The gasometer, a new one, 100 feet in diameter, and weighing 70 tons, was being tried with air; and owing, it is supposed, to the imperfection of the metal tank, one side of the gasometer was caught, causing the immense body to break through the middle.

THE NEW STYLE.

The letters of your two correspondents, the "Penny-a-liner" and the "Mediæval Mason," offer, each in his peculiar way, an admirable comment on the "utterings and strivings" after a new style which have lately appeared in your columns.

Will you let another, following in their footsteps, repeat in another form the inquiry, if the two great streams of Classic and Mediæval art are quite dried up, and if we are to accept as an unquestioned fact, that these two grand styles have served "their day and generation," and, like great men, *must* "fall on sleep"?

I cannot think that the advocates of the new style, though undoubtedly bold men, will be sufficiently venturous to give an open and affirmative answer to the question, however much they may seek to imply it, particularly when they must see around them, in their own and foreign lands, evidences of the life which each still possesses, and constant proofs of the ability of the great masters of our noble art to adopt styles which had their origin in past ages to the wants of the present day. Viewing the subject in the broadest possible light; and taking, first of all, Mediæval art; I would remark that its ablest followers among us rarely fail on the one hand to adapt it to modern requirements, or on the other to produce originality in their designs; and, above all, we never find them dissatisfied with the style they employ on the score of want of elasticity or other defect. If we look at Classic art as practised in France and Belgium at the present day, we see, in the new buildings of the Louvre, and of the new Boulevards in Paris, and in the new buildings of Lyons and Brussels, many indications that life is not yet extinct, and that in these productions there is anything but servile copyism of either the forms or the ornamentation of the fifteenth century.

In fact, I believe that in architecture and its two leading styles, as in all systems, there is present an active and secret principle analogous to that which is known in the human body as the *vis medicatrix naturæ*; and that, by the cherishing of this principle, healthy life in these, as in all systems, will be maintained: in other words, I am confident that what to our friends has seemed a barren field would, with laborious working and careful cultivation, yield a rich harvest.

One hardly knows whether to characterize these manifestations as the working of impatient, disappointed, or restless spirits: they are, at all events, dissatisfied, and one would feel curious to hear some account of their labours in a particular branch of art which they now feel disposed to throw over, describing it as barren, unsuited for present objects, and only capable of being servilely reproduced. It would also be instructive to know how long time has been spent in the study of a particular style,—the Mediæval, for instance;—how many ancient buildings visited; what amount of actual and careful measurements taken; and many more particulars which I cannot now enumerate; for there is a very grave suspicion that these gentlemen have neither spent the time nor given the trouble in seeking after the capabilities which the old styles possess, and of which they so loudly proclaim the want.

I would ask you, sir, in conclusion, if you have ever fallen in with an essay contributed some time ago by the "Country Parson" to *Fraser's Magazine*, "Concerning Veal, with Thoughts on Immaturity"? If not, I can recommend it to your serious consideration; and I would particularly ask you, sir, to use all your power and wage an exterminating warfare against this Architectural Veal of the nineteenth century. It must soon come to an end; but, in the present state of affairs, must have an unsettling, not to say, baneful effect on those students and young men who are commencing their architectural career; and hence the sooner it is stopped the better. At any rate, the lovers of Classic and Mediæval art may both rest assured that the foundations of each are too firmly set to admit of their being puffed away by a breath which is only strong enough to blow bubbles from a tobacco-pipe.

X. Y. Z.

ARCHITECTS' ASSISTANTS AND PUPILS.

Sir,—With reference to recent letters in your paper, it unfortunately happens that there are too many architects who only care to obtain pupils without thoroughly instructing them; and I regret to state that there are many who never do employ an assistant when it becomes necessary to pay him a salary. A friend of mine was articled in the cathedral city of Lincoln, to an architect there: his father was a farmer, and paid a good premium with him, and he remained, I believe, for upwards of five years; thus making a total outlay for him of from 800*l.* to 1,000*l.* When his articles were completed, he received some splendid testimonials from the persons by whom he was employed; left their office; and remained out of a situation for upwards of half a year. At last, through an advertisement in the *Builder*, he obtained a situation for a few months, to help out a press of work in an office at Hull. He then returned home to his friends, where he remained some months, notwithstanding that he advertised; and at last, by an advertisement in your paper, obtained a situation, I believe at Wrexham, at the enormous salary of 80*l.* per annum; taking the entire management of an architect's office there! I suppose that he did not like to refuse the offer for fear that he should not hear of a better; and so preferred the small salary to remaining longer out of a berth. The fact is, architects, like you printers, ought to employ a given number of assistants in proportion to the number of their pupils; but I regret to say that the majority of architects' offices in the country are *rat* offices, without, even in most cases, *one* assistant besides the principal. It is nonsense of "Tristram" to say that a competent man can *command* a good salary, for he must know that wages are, like bricks and mortar, a marketable commodity, governed by the law of supply and demand; and so few assistants being kept, and so many being yearly grown, the overstocking of the market is the consequence; and, therefore, in consequence of the great competition, the decrease in salaries. True it may be, that a man having had twenty or thirty years' experience can command a good salary; but when first starting in the world, an architect's assistant meets with but poor encouragement; and having had such a fortune sunk, he gets but poor interest for his money, letting alone a year's slavish work.

Pro Patria.

QUEEN'S CROSS, NORTHAMPTON.

Sir,—Your correspondent, Mr. Roberts, appears to be highly indignant at the idea of my presuming to express an opinion upon the above subject at variance with his own, and is as reckless in his assertions concerning me as he was in his remarks upon the cross.

When speaking of my paper, he says, "The objects of which were to vindicate the purity of the cross, and to attack me;" and again, "I presume the paper was sent to you so as to serve the purpose of attack in a new and extended form." With respect to the alleged personal attack, neither of these assertions has any more foundation in fact than had his sweeping condemnation of the restoration at the cross. I did not send the paper to you; nor do I know from what source you obtained it; and, therefore, could not have sent it for the purpose of "attack" in any form. But suppose I had sent it: I have yet to learn that I should have been guilty of more pride or imprudence than is Mr. Roberts in sending *his letter* for insertion. As to the paper being intended as an "attack" upon Mr. Roberts, I can only say that if we may not express an opinion upon archæological subjects, at variance with the assumed infallibility of some of the students thereof, without incurring the risk of being charged with personality; why then there is an end to all controversy; and those who assume infallibility must be regarded as archæological oracles.

Mr. Roberts, in the impetuosity and excitement of his feelings, gives utterance to another statement, as far, and *even further*, removed from fact, than those to which I have already referred. He says,—"Mr. Law's paper throughout bears the impress of a deprecating spirit, as though he knew perfectly well that it has suffered; indeed, he directly admits it in another part of his lecture; and leads his readers, nevertheless, to infer that, from his intimacy with Mr. Scott, that gentleman agrees with him. I should like Mr. Scott, who does know good from bad, to undeceive the lecturer." This statement, so far as it relates to Mr. Scott, can best be described in Mr. Roberts's own favourite language, as applied to Mr. Blore's restoration of the cross—"It is altogether a fabrication and invention" of Mr. Roberts. It is patent to all who may have read my paper, that I only once refer to Mr. Scott; and that is in the prefatory remarks, where I venture to eulogize his beautiful work, the "Martyrs' Memorial," at Oxford.

Moreover, Mr. Roberts says "the whole matter has been, as I think, exhausted locally,"—I suppose he means when he issued his mandate in the *Northampton Mercury*. Allow me to say that I think that was only, as it were, the *beginning* of the subject; for, in consequence of what Mr. Roberts then said, I was induced, with the assistance of my two sons and Mr. Irving, to make a careful survey of the cross; and have since prepared a series of drawings, including plans and elevations and sectional details of every moulding in the structure, from actual admeasurement. I intend to present a copy of these drawings to the Architectural Society of the Archdeaconry of Northampton, in the library of which they may at any time be seen and commented upon by any person interested in the subject.

E. F. Law.

*** The correspondence having become entirely personal, must end here.

PATENT STONE AND BRICKS.

Sir,—In a late number of the *Builder* you say Mr. Westmacott has left for your inspection two specimens of artificial stone for which he has taken out a patent; one of which consists of lime, sand, carbonic acid, and water; and that white pit or silver sand was used, with a pressure of five tons to the square inch, to compress it to the required shape; but what pressure they will sustain you are not able to pronounce. The other specimen was composed of *calcined* river sand, *faced* with silver sand, and had four tons compression, &c.

Now, sir, in the onset, allow me to say my re-

marks are not made with any spirit to deteriorate another's invention, but rather by way of emulation as to the superiority of patents for this material. Doubtless there are good points in many, or indeed all of these; and it is, in my judgment, a very important matter to discuss, as it tends to the advancement of science, and also to the comfort of the population of this kingdom and of other places in the world.

The Emperor of the French and his Government have recently lent their sanction and influence to an invention of the same kind by Mr. Coignet (an article on the subject may be found in the report of the Scottish Agricultural Society, published by Messrs. Blackwood & Sons). The Paris Universal Permanent Exhibition being about to open, it may be well to exhibit some specimens, and endeavour to outvie Mr. Coignet. It appears strange that the old system of brickmaking, with all the vicissitudes of the elements to contend against, and the advancement of science in the present age, should scarcely have advanced any important step.

I have lately been making bricks and other articles of an ornamental nature (and which are also patented), I take it of a less complicated nature; inasmuch as the process does not require skilled labour; is exceedingly simple and inexpensive; requiring only wood moulds, a shovel, and an old trowel.*

The articles produced are the colour of Portland stone, and can be made on any spot where either gravel, pit sand, road sand, or chalk abounds; or, indeed, any hard material: in fact, they are simply concrete: they present an even surface, square and good arris, are very hard, and can be used in a few hours after they are made: one other advantage is, they are nearly non-absorbent.

With regard to pressure, I would merely quote from the report made on these bricks by an authority at the South Kensington Museum:—

"Concrete brick at a pressure of,—
3 tons 15 cwt., symptoms of fracture.
9 tons 10 cwt., broke through centre.
10 tons, crushed.
Chilton's Suffolk brick,—
3 tons 15 cwt., broke at once.
Chilton's Suffolk Malms,—
3 tons 15 cwt., broke at once.
Common stock brick,—
6 tons, broke in centre.†
Bodmin Brothers' compressed lime and sand brick, 10 tons,—no result.

These experiments were made between iron and iron," (and, it is added) "the concrete brick is decidedly good, Bodmin's brick superior, but they are double the price of the concrete brick."

My desire is to arrive at the best way of producing these articles. Doubtless there are good points in the different modes, and something may be gathered from each which may produce an approach to perfection.

I might add that in this place (Reigate) sand of many shades of colour, from silver sand to red, is found in large quantities. J. W. Sumner.

* This process appears to be identical with that pursued at Reading.—Ed.

† A good stock brick would bear very much more than this.—Ed.

A HYDRAULIC DIFFICULTY.

I have been much perplexed by a circumstance that has occurred in the course of bringing a supply of water by pipes to my house, which appears to me quite inexplicable on the received doctrines of statics and hydraulics, as usually laid down in the books.

The case is this: pipes were laid from a tank about 30 feet above the level of my ground-floor, with a uniform fall for about 300 feet; then, with a rise of 4 feet for about 200 feet, when they enter the house: there are two or three horizontal elbows, but no syphon-shaped rise and fall.

On opening the communications, I expected of course an immediate flow of water; but, to my great surprise, for three whole days not a drop of water reached the taps in the house. It then occurred to try the effect of a force-pump. Accordingly the pump was applied at the lower extreme of the pipe, and two or three buckets of water injected, by which means the air in the pipes was driven backwards into the tank. On removing the force-pump the water immediately flowed, and has continued to flow ever since.

I believe practical men are quite aware of the power of air to stop the flow of water in pipes: can scientific men give any explanation? As far as I know, the books are quite silent on this point, though one of so great importance. To me it is quite inconceivable how air in a pipe, open at both ends, can possibly resist, and actually stop the flow of water pressing upon it with a head (in my case) of 30 feet.

The water is pure spring-water; and I am satisfied no sediment or obstruction of that kind could possibly have occurred so as to account for the stoppage in question. P. P.

*** The size of the pipes is not given, or we might see what was due to friction.

SANITARY CONDITION OF ST. PANCRAS

The sixth annual report on this subject, for 1861, by the local medical officer of health, Dr. Hillier, has been printed by authority of the vestry. We may quote the following passages from it:—

"If the population in the middle of the year be taken to be the same as was determined by the census in April, namely, 198,788, the death-rate is found to have been 2·3 per cent., or 230 per 10,000.

In London, as a whole, the death-rate was very nearly the same, about 2·317 per cent. It was lower than this in the other northern districts of the metropolis, so also in the western districts and the southern districts. The death rate was higher in the eastern districts, about 24 per 1,000, and higher still in the central districts, about 25 per 1,000. These facts are exhibited in detail in Table A.

As compared with preceding years, the death-rate in 1861 was higher than in 1860, about the same as in 1859, lower than in 1858, higher than in 1857, and about the same as the mean death-rate from 1848 to 1857.

The relative infantile mortality of the several sub-districts stands in the same order as their relative density of population, Kentish-town being the least densely populated, and Somers-town the most densely, while Regent's-park stands second, Camden-town third, Gray's-Inn-road fourth, and Tottenham-court-road fifth on the list.

It is thus seen that crowding exercises an important influence on the mortality of different parts of the parish; this is quite in accordance with what is found to be the case in other places. Whatever exists to contaminate the air is of course much intensified by density of population, and diseases of an infectious nature are more readily spread in thickly-populated localities."

"There are a few houses in this parish occupied by as many as fifty persons, and a great many occupied by twenty-five or thirty, and as most of the air passes up from the street-door into the dwelling-rooms on the basement, and from them into the staircase, and thence into the rooms above, and so on upwards till it reaches the top story, it can easily be understood how much it has lost of its oxygen or life-giving portion, and how much it has become charged with carbonic acid and other products of decomposition which are death-giving or disease-breeding ingredients, before it reaches the roof. At this point it is frequently stagnant, and as there is no window which will open, or any skylight or opening to the roof, there is no means of its being renewed near the top of the stairs.

To diminish the evils attendant on this state of things, free openings on the staircases and in the roof are required, as well as windows in the dwelling rooms which open from the top as well as at the bottom."

"It has been estimated that the amount of sickness prevalent in a place bears a tolerably constant proportion to the mortality.* The law of the proportion is found to be 'that the numbers constantly suffering from acute sickness at any year of age (from fifteen and upwards) will amount to double the number of yearly deaths; and the number of invalids or permanent sufferers from past sickness will be equal to the number of annual deaths.' Consequently, as the deaths in St. Pancras during 1861, at the age of fifteen years and upwards, numbered 2,327, we may conclude that there were, on an average, constantly on the sick list,—unable to work, dependent on past savings, or on the assistance of friends, or compelled to throw themselves on the parish,—6,681 adult persons, of whom one-third were permanently disabled, so that they will never again be able to work for their maintenance. The adult population—that is, the population above fifteen years of age—was, in 1851, about 68 per cent. of the whole: if the same proportion existed in 1861, the number living above fifteen years of age at the census would be 135,179; so that we should have one person out of every twenty constantly sick; and of these, one-third, or one of every sixty persons in the population, permanently disabled. A large proportion of these was amongst the poor, many of whom were thus brought on to the rates, for there is no cause of pauperism so prolific as sickness.

The numbers above bear no reference to the sickness of children; but it must be borne in mind that very much of the permanent disability occurring in adult life, and the liability to diseases which interrupt the work of adults, is dependent on the sickness of childhood.

Every sickness of an adult is a money loss, representing either an increased burthen on a family, or a tax upon the purse of the ratepayers. It has been estimated by Dr. Farr that the average period of acute sickness is about thirty-six days, so that the loss is equivalent to about one-tenth part of the year's work. Now, seeing that about one in thirty of the community was constantly suffering last year from acute sickness, and each one on the average was ill about thirty six days, it follows that to every three adults there was, on the average, one attack of acute sickness during the year.

By sanitary measures, we have good reason to expect that the mortality may be reduced in St. Pancras from 4,579, or twenty-three per thousand, to 3,379, or seventeen per thousand,—a reduction of 1,200 lives in one year. The amount of prevalent sickness would probably be still more reduced, because not only would the number of attacks be much reduced, but the duration of attacks which ended in recovery would be much shortened; for nothing retards and protracts the period of convalescence so much as impure air."

The Appendix to the report contains some valuable tables, such as on the mortality of mews, &c.

* "On the Statistics of Health," by T. R. Edmonds, esq., B.A., Appendix to Report of the Proceedings of the Fourth Session of the International Statistical Congress, page 450.

RESPONSIBILITY OF ACCIDENTS.

RECENT FALL IN ST. MARTIN'S HALL.

The case Sabey *v.* Stephens, tried in the Bail Court a few days since, was an action for the recovery of damages as compensation for the death of the plaintiff's son through the alleged negligence of the defendant. The defendant pleaded not guilty.

Mr. Serjeant Parry and Mr. Day were counsel for the plaintiff: Mr. Hawkins, Q.C., and Mr. H. James were counsel for the defendant.

This was a second trial, and occupied the whole of the day. On the first trial the jury were discharged without agreeing to a verdict. The deceased was a carpenter, earning 33s. per week, and contributed mainly towards the support of his widowed mother, the present plaintiff. The defendant was a zinc-worker in Old-street-road, St. Luke's, and had contracted to fix the zinc sun-lights in St. Martin's-hall, for which purpose it was necessary to cut away a portion of the roof; and in order for the men to do their work a scaffold was necessary. The defendant, accordingly, procured the necessary materials, and employed men, who constructed a swing scaffold for the use of the workmen. On the 3rd January last six men, including the defendant, were on the scaffold, when one of the poles broke, and all the men, with the exception of the defendant, fell to the ground; the defendant escaping by holding fast to a gas-pipe, suspended as it were in the air, until a ladder was procured, and he was rescued from his perilous position. The deceased and another man were killed, and three others were seriously injured. The evidence went to prove that the materials of the scaffold were good and sound; and the negligence imputed to the defendant was his not employing proper persons to construct it. It was also urged that three poles instead of two should have been used for the planks to rest on.

The jury, after being locked up about an hour, returned into court with a verdict for the defendant.

COMPENSATION CASE · DIFFERENCES.

Nichols and the North London Railway, City Branch.—A compensation case has been recently heard at the Law Institution, before Mr. Lockyer, as arbitrator, which presents some points of interest. The proposed City branch of the North London Railway will pass through the west side of Nichols-square, Hackney, belonging to Mr. John Bowyer Nichols, the patriarch of printers; and the inquiry to which we allude was for the purpose of ascertaining the amount to be paid by the Railway Company for the houses they propose to take, as well as to assess any damage that might be occasioned by reason of the railway passing through the property. Nichols-square lies between Hackney and Kingsland-road, and occupies a rather peculiar position, having but one entrance from the Hackney-road, protected by a lodge, and having no communication with the surrounding streets. The square contains 122 houses, let at rents varying from 22*l.* to 26*l.*, and covering an area of about 5 acres, and is inhabited by a rather superior class of tenants. The houses proposed to be taken by the Railway Company comprise the whole of those on the west side of the square and five houses on the north and south side, producing a gross rental of 472*l.*, and occupying an area of 2 roods 18 perches, including two pieces of vacant ground 70 feet by 12 feet 6 inches and 70 feet by 5 feet 6 inches. Mr. Driver, Mr. Clifton, Mr. I'Anson, and Mr. Foster were called on the part of the claimant, Mr. Nichols, and were examined by Mr. Phipson; and Mr. Pownall, Mr. Shaw, Mr. Charles Lee, and Mr. Clark were called on behalf of the Railway Company, and were examined by Mr. Lloyd, who was counsel for the Company.

Mr. Driver estimated the value of the property taken, including 10 per cent. for compulsory sale, at 9,010*l.*, and considered that the rest of the property would be depreciated to the extent of one-fifth, being the difference between twenty and sixteen years' purchase, which latter amount he assumed would be all the property would realize if an inferior class of tenants were substituted for the present yearly tenants. Mr. Clifton valued the compensation at 14,610*l.*, being 8,965*l.* for the houses taken, 5,515*l.* for the depreciation of the rest of the property, and 100*l.* for the two pieces of ground.

Mr. I'Anson made the total 14,837*l.*, or 9,064*l.* for the houses and ground taken, 5,000*l.* for the damage to fifty-five houses, and 773*l.* for the depreciated value of the reversion to forty-three houses let on building leases.

The witnesses for the claimant all agreed in capitalizing the net rental as worth twenty years' purchase from the compactness of the estate and the character of the tenants.

For the Railway Company Mr. Pownall and Mr. John Shaw had prepared a joint valuation, in which they estimated the value of the houses, &c., required, as worth 18 years' purchase, or 7,405*l.*, and assessed the damage to six houses, three on each side of the railway, in the same manner, at 432*l.*, making a total of 7,837*l.*

Mr. Charles Lee capitalized the rack rents at 14½ years' purchase, or 7 per cent., and the ground-rents at 28 years' purchase, with 10 per cent. for compulsory sale, making a total of 7,595*l.* Mr. Lee made no allowance for the vacant ground, nor for any depreciation to the remaining part of the square; and observed, in giving his evidence, that he had considerably modified his views as to the damage caused to house property by railways, and had found by experience that the popular apprehension that had existed on the subject was not borne out by results.

Mr. Clarke took the same view as Mr. Lee, and estimated the property to be worth 18 years' purchase, with 10 per cent. for compulsory sale, or 7,306*l.*; and observed that under ordinary circumstances he should not have considered it as worth so much; but looking to the peculiar situation of the property, and the care that had been exercised in its management, he had formed a more liberal estimate of the value.

The arbitrator has not yet made his award.

LAW OF AWARDS.

The London Dock Company v. *the Parish of Shadwell.*—This case (in the Queen's Bench, before Mr. Justice Wightman and others) involved an important principle as to the rating of property of dock companies. The company in this case having been rated at a value of 30,000*l.*, appealed, and the matter was referred to arbitrators, with an umpire. The award reduced the value to 26,300*l.* The company were not satisfied, and applied to the umpire to state the principle of his assessment. Under the advice of Mr. Phipson, Q.C., he stated that the principle he had adopted was to fix the value of the rent which might be obtained from a tenant from year to year, first fixing the value of the whole docks, and then dividing the value among the different parishes, according to the area.

Mr. Bovill, Q C., upon this moved for a rule to remit the award back to the arbitrators, as made on a wrong principle.—Rule *nisi*.

PATENTS CONNECTED WITH BUILDING.*

A Material or Sand for the Formation of Moulds for Casting Iron, and for other like Purposes.—*J. Gjers.* Dated March 4th, 1862. The patentee claims the use of furnace slag reduced to the required state of fineness or division (either alone or mixed with natural sand) in the formation of moulds for casting iron or other metals.

Improvements in Machinery for Breaking Stone.—*J. L. Charcouchet.* Dated Feb. 27, 1862.—A strong cast-iron frame-work contains, or encloses, a sifting apparatus formed by a series of parallel bars of the shape of prisms, on which the stone to be broken is placed. The sides of the sifting apparatus are firmly bolted to a timber frame, to the longitudinal cross timber of which a powerful hinge is fixed, whereon two movable anvils work underneath the sifter. These anvils have grooves or channels cut on their faces, so as to correspond with the bars of the sifter into which they fit when the anvils are in their uppermost or horizontal position. These anvils are raised to a horizontal position, and lowered alternately to an angle of about 45°, by means of eccentrics, working on a shaft at the top of the cast-iron standards of the machine. From these eccentrics connecting-rods descend, one on each side of the machine, and are attached by hooks to the hammers. Above the hinges of the anvils a broad leather or steel band passes over a copper pulley, and is attached to the hinged extremity of the anvils by means of a projection or stop running along the ends of the channels. Two cranks on the same shaft, which works the eccentric, give a vertical reciprocating motion to two connecting-rods, at the lower end of which a heavy block or hammer is attached. These hammers, aided by guides in the standards, are consequently caused to descend upon the stone placed on the sifters and movable anvils. The stone is thus broken into pieces, the size of which may be regulated according to the spaces between the bars of the sifters.

Improvements in Ventilating Carriages for Common Roads.—*J. F. Woodall.* Dated April 4th, 1862. The patentee claims the application to carriages or vehicles for common roads, wherein fresh air is admitted through openings formed in the front or sides, or both, of the carriage, whilst the internal air is roused to escape either directly through an opening formed in the roof, or through an opening into a conducting tube, whence it passes out through an opening at the back of the carriage; the said openings for the ingress or egress of the air being either uncovered or more or less hidden by suitable gratings or ornaments, and either provided or not with suitable valves for regulating at pleasure the extent of ventilation, as described.

* Selected from the lists in the *Mechanics' Magazine*.

Books Received.

On Photozincography and other Photographic Processes employed at the Ordnance Survey Office, Southampton. By Captain A. de C. Scott, R.E., under the direction of Colonel Sir Henry James, R.E., F.R.S., &c. London: Longman & Co., 1862.

The photographic processes employed on the Ordnance Survey have now, it appears, been brought to a high state of perfection; and it is interesting to know how this has come to pass. The volume under notice has been published by permission of the Secretary of State for War; and, besides details of all the materials and modes of manipulation used, it contains specimens of maps, documents, and engravings copied and reduced by the processes described, and which fully corroborate what has been said as to the state of excellence in such processes to which the officials have arrived.

The chief feature in the photozincographic process is thus described under the head of "The Preparation of the Positive Photographic Print in Greasy Ink":—

"This part of the process is based on the property possessed by the bichromates, during their reduction by the action of light, of rendering insoluble certain organic substances, such as gum, gelatine, and albumen, with solutions of which they may be mixed.

In virtue of this property, if a solution of gelatine and bichromate of potassa is spread on paper, and, when dry, exposed to light under a negative of an engraving or a plan, the lines of the drawing will be represented by insoluble lines on the coated paper; while the ground, having been protected from the action of the light by the dense negative, will remain soluble. If the paper is now coated with greasy printers' ink, and damped at the back, the soluble parts will swell, and the lines will be in intaglio: and when rubbed gently with a sponge dipped in gum and water, the ink overlying the soluble parts (now again viscid, and in a dissolving state) will be removed, while it will adhere to the insoluble parts. The engraving or plan will then appear in black ink, which can be transferred to the surface of zinc or stone. This is the gist of the whole process; but, though it appears so simple, in practice it requires care and judgment, and many difficulties were met and overcome before very good results were obtained."

The zinc-plate is completed by an etching process. There is, also, a photolithographic process in use at the Ordnance Office, as well as a photo-papyrographic one for taking a few copies inexpensively.

The first attempts to use photography in the reduction of the Ordnance maps were made by Pouncey's carbon printing process, as explained in the preface; but we observe, from a communication by Mr. Pouncey in the daily papers, that he claims much more than this; and proposes to exhibit publicly the production on stone of photographs taken direct from nature, while his previous process, identical as he claims in principle with that of Sir H. James, and simultaneously with that of Mr. J. W. Osborne, of Melbourne, in Australia, refers only to copies.

One of the several steps made towards an easy mode of lithographing photographs is that of Herr Burchard, of which it is said, — "A method has at length been discovered which is likely to cause an entire revolution in this particular branch,—a revolution hardly less sweeping, and perhaps even more important in its effects, than the starting of lithography by Senne-felder, or the rise of the photographic art under the hands of Mr. Talbot. For this progress we are indebted to Herr Burchard, a working engineer in the central staff of the Prussian army; and who, from the multiplication of geographical photographs, was led to extend his researches to the more difficult field of drawings and pictorial designs. The process, so far as it regards the transference of the photographic negative to the stone, and the preparation of the latter for print, is the secret of the inventor. Once prepared for print, the stone, which is taken from the well-known Solenhofen quarries, looks exactly like the common lithographs, but in so far differs from the inferior products of the simple art, that it admits of an almost unlimited number of copies being taken. One instance will suffice to give an idea of this latest progress in the photographic art. On a variety of drawings being lately exhibited for a new town-hall in one of the German capitals, a certain design of Herren Schmidt and Strauch attracted considerable attention; but, as it happened to become a subject of jobbery, and was not to be accepted in consequence, would have been hardly accessible to larger circles of connoisseurs without the invention of the new art. Availing themselves of Herr Burchard's process, the architects have now issued an edition of their designs for 3*l.* 10s., which they would not otherwise have been able to offer under ten times the price. It may be mentioned, as another striking advantage, that they were enabled to get the copies struck off in a few days; while, by the old process of lithography, and the necessary reduction of the original drawings to a smaller standard, a year would have been consumed, if not more." By comparison with the progress at the Ordnance-office, there does not appear to be anything particularly new in this quotation; unless it be involved in the obscurity of the "secret" hinted at.

International Exhibition, 1862. *The Mineral Resources of Central Italy; including a description of the Mines and Marble Quarries.* By W. P. Jervis, F.G.S., Assistant-General to the Italian Special Commissioners for the Exhibition. London: Stanford. 1862.

A very detailed account is here given of the mineral resources of central Italy, chiefly in marble and alabaster quarries. Serpentine, boracic acid and rock salt, iron, copper, lead, and other metals and minerals are also included in the description; and there are portions devoted to Etruscan metal work, and to the mineral fuel and soils of Italy. Some of Mr. Jervis's notices of the mineral riches of central Italy appeared in the Journal of the Society of Arts. The present appearance of the work is well timed.

Arithmetic: its Principles and Application; designed for the Use of Schools. Modernized and adapted to the present state of Commerce. By James Hickie. London: Simpkin, Marshall, and Co. 1862.

This appears to be a laborious and carefully prepared volume. It embraces, besides the ordinary run of such books, arithmetical matter connected with building and loan societies, with a glossary of arithmetical and business terms, and information on a variety of subjects calculated to interest the man of business. The author was formerly, he states, for many years mathematical master in the Liverpool Institute, and he is the author of a Key to Rutherford's edition of Hutton's Course of Mathematics. His present volume ought to come into use.

Miscellanea.

The Prince Consort Memorial.—Four of the architects engaged in preparing designs for the proposed national memorial of the Prince Consort addressed a joint letter to Lord Derby, the chairman of the Queen's Committee of Advice, asking for an extension of the time allowed for that purpose, from the 1st of December to the 1st of January. The committee have acceded to the request, but with an intimation that no further extension beyond the 1st of January can be allowed. We understand that the committee have asked for a great amount of work, as to design, and ten or twelve large drawings.

The Railway Bridges across the Thames in London.—The Thames will shortly be crossed by no less than five bridges for railways. The Charing-cross Railway will have two of these bridges, one at Hungerford, and a second at Cannon-street, for the City extension. The London, Chatham, and Dover will have one near Blackfriars, to bring that railway into Farringdon-street. There is a bridge now nearly completed higher up the river, for the North and South London Junction, which will admit of the trains of the London and North-Western and Great Western Railways passing to the Surrey side, and these can re-cross the river by the railway bridge at Battersea, and avail themselves of the West-end station at Pimlico.

An Example to Working Men.—The following notice of a Kidderminster man, now residing at Wilton, where there are carpet manufactories, appears in a Salisbury paper: — "We have much pleasure in recording the success, through study and perseverance, of William Young, a weaver, in the employ of Mr. G. F. Lapworth. From the Southern Counties Adult Education Society, which holds annual examination for the purpose of encouraging education among the working classes, Mr. Young has obtained the following certificates and prizes, viz.:—In 1859, for an examination passed in May, a certificate of the second degree, with a prize of 10s. in books; in 1861, a first prize of 2*l.* for an essay on 'Ventilation and Cleanliness;' in 1862, for an examination passed in March, a medalist's certificate, a prize book, and bronze medal; and for an essay sent in June last, on 'The Principles of the Friendly Society and Savings Bank, their Differences and Excellencies,' another prize of 2*l.* We trust that the above facts will be an inducement to other working men to pursue a similar course."

MR. LEECH'S SKETCHES.—Mr. John Leech's admirable *Punch* sketches, full of fun, and as pure as a mother's teaching, are now to be seen at the Auction Mart, near the Bank, to which place they have been removed from the Egyptian-hall. Several new pictures, not previously exhibited, are added.

AN ALBERT SCHOOL OF ART.—A project has been started at Hanley to convert the School of Art there into a memorial of the Prince Consort. About 1,200*l.* are required to carry out the design; and the Mayor of Hanley, Mr. H. Boothroyd, has offered a donation of 150*l.*, on condition of the whole sum required being obtained. Upwards of one-half of the amount has been already promised.

LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.—A meering of this society was held at the Royal Institution on Wednesday evening, the 5th inst.; Mr. Weightman, the president, being in the chair. Mr. Dixon exhibited a new plan for making French casements watertight; and the hon. secretary announced some donations by Mr. Ellison and Mr. Griffiths of plates and books to the society. Mr. Frank Howard then read a paper, entitled, "The History of Modern Art in England." The next paper will be read by Mr. S. Higgins on the 19th of November, and will be entitled, "Renaissance and Italian Architecture, and their English, French, and Transalpine Offshoots."

ALNWICK SEWAGE EXPERIMENT.—The Duke of Northumberland has forwarded to the Newcastle Farmers' Club a paper prepared at his Grace's instance, in order to show the results of experiments instituted under his directions at Denwick for the purpose of testing the utility of town sewage in agricultural operations. The results are rather unsatisfactory; the sewage, it was considered, being too much diluted; and after the paper, with its detailed reports from 1859 to 1862, inclusive, had been read, the general opinion of the farmers present, according to the report in the *Newcastle Courant*, seemed to be that the application of town sewage in agriculture, especially where increased water supply in towns produced excessive dilution, would prove unprofitable; unless, as in the Meadows at Edinburgh, the expense of pumping machinery be rendered unnecessary by the suitability of the natural level of the soil. Several speakers remarked that the agricultural world were not the less indebted to his Grace for his communication because the experience therein recorded had not proved successful: on the contrary, his Grace had thus considerately erected a warning beacon to those who might otherwise have gone to the expense of costly machinery, only to result in disappointment. Many persons were ready enough to publish the results of experiments which had proved successful, but it was not every one who had the moral courage to publish the results of experiments which had turned out unsuccessful.

TOWNHALL AND MARKET IMPROVEMENT AT CARLISLE.—A plan for these purposes, by Mr. J. Gordon, the City Surveyor, has been lithographed by authority of the Carlisle town council, and exhibited in the townhall for public inspection. The townhall, on this plan, would front towards English-street, and would contain, besides various other accommodation, a post-office, 112 feet by 35 feet; an assembly-room, 90 feet by 60 feet; and eight first-class shops. The material would be stone. A new street commences opposite the hall, and in line with Victoria-place. St. Alban's-row is widened and set back to the same line; as are also the guildhall and adjoining buildings; so that there would be a straight line of street from near the corner of Castle-street to the end of Spencer-street and Burlington-place. The corner of Castle-street is rounded and set back so as to widen the entrance to that street. The breadth of Fisher-street, at top, is doubled; and Rosemary-lane is removed to the end of the Friends' Meeting House, so as to form nearly a straight line from Castle-street, through Brown's-lane to Scotch-street. The covered market would be 240 feet long by 120 feet broad, surrounded by a wall which would be a party-wall between the corporation and the purchasers of the front shops which abut thereon. The following statement of cost is given with the plan:—

Total estimated cost of property required to complete the proposed improvements	£96,150
Cost of building new townhall, market, and grain stores, and other expenses as shown in report	19,500
	£115,650
Deduct value of new building sites which can be sold by the corporation	90,963
	£24,687
Interest at 4 per cent., 988*l.*; estimated income, 1,735*l.*	

THE MIDDLE-LEVEL CATASTROPHES.—At a recent meeting of the Middle-Level Commissioners, the clerk read the report of the general committee, from which it appeared that the engineers had estimated the cost of the sixteen syphons at 13,000*l.* or 14,000*l.* Eleven were already fixed, and five more would be ready by the end of the month. They had been tested three times, on the 30th of September, 18th of October, and the 25th and 26th, on which occasion they had acted to the utmost satisfaction: on one of the trials the water was reduced 2 feet throughout the level. The report was adopted.

A GLASGOW CHURCH OF FIRE.—The first fruits of the usual winter's harvest of flue and stove conflagrations in churches, took place on Sunday before last, at the commencement of the afternoon service in Eglinton-street U.P. church, Glasgow, when a cry of fire was raised, which speedily dispersed the congregation. The firemen commenced operations by tearing the rafters from the building, while a copious supply of water soon had the effect of extinguishing the flames. The accident, according to the local *Herald*, is believed to have arisen from the heating pipes getting over-heated and communicating with the timber (as usual) in their immediate vicinity.

THE METROPOLITAN RAILWAY.—The disappointment and delays with which the Metropolitan Railway had to contend at its earlier stages appear to follow it. The engineer of the line stated in his last report that everything would be ready for the opening on the 1st of October. Since that time there have been numerous excuses put forward as the reason for not opening the line to the public. Christmas is now spoken of. The experience we once had of a "pleasure trip" on the line (before completion) leads us to suspect want of management somewhere. Can it be, as reported, that the tunnel has been built too small for the carriages of the Great Western Railway?

THE OPENING OF NEW LAMBETH BRIDGE.—This new bridge has been opened for public traffic. Mr. Hodges, the distiller, did it by crossing to the Middlesex side on his new fire-engine. Having declared the bridge opened, there was an immense rush of people on to the bridge from both ends, and several cabs and light carts crossed. The vibration consequent upon the traffic is not so great, it seems, as was expected, and much less than that experienced on the Hungerford Bridge. The carriage-way is intended to accommodate any description of traffic. It is formed of square blocks of wood, laid down upon asphalte, and the interstices filled up with the same material, and is about 20 feet wide. The footways are paved with flagstones, and are about 5 feet wide. There is an entire absence of ornament about the bridge. The papers give a lengthened account of this bridge, from which we may quote a few particulars, although we have before given some account of it. It has been constructed by a public company, at a cost of not more than 45,000*l.*, or about one-sixth of the cost of any of the existing bridges. Its length is about 900 feet. Rigidity has been accomplished by means of a diagonal bracing, which connects the supporting girders with the cables of the bridge. So complete is this system of bracing, that Mr. Barlow, the engineer, was willing to have undertaken the building of the bridge even before the chains were thrown across the towers,—to build, in fact, a suspension bridge without having any cable to which he could suspend it. Now that the work is completed, and the power of the system of cross-bracing has been severely tested, the engineer and contractors express the most confident opinion that, even if the chains were to be cut asunder, the bridge would not fall. The cables, which are intended to carry the weight of the bridge, differ from any hitherto used in this country, though in the United States similar ones have been frequently made, and also at Fribourg, in Switzerland. They are of wire rope, and were manufactured by Messrs. Newall & Co., on the spot where they are brought into use. Along each side of the bridge there are fourteen of these cables, each cable formed of seven strands. These strands in their turn consist each of seven smaller strands, in each of which again are seven wires 3-10ths of an inch in size, and of the best charcoal iron. Each of these cables will bear a strain of forty-five tons to the square inch, while it is calculated that seven tons will be the maximum of pressure which can at any time be brought to bear upon them. The tested strength of the bridge is thus nearly six times in excess of that which will ever be really required. We are forced to express regret that it is not larger and handsomer.

DISCOVERY OF A VALUABLE FOREST.—Intelligence has been received by the Dutch Government that Dr. Burnstein, while undertaking a scientific expedition for the Colonial Government of the Netherlands to the Molucca Islands and New Guinea, has made a discovery in the Island of Batjan which may lead to important results in the spice trade. In his ascent of the Sabella range, he discovered, at an elevation of from 2,600 to 3,800 feet above the level of the sea, a very extensive forest of nutmeg-trees, laden with fruit of unusual size and excellent quality. Dr. Burnstein's official communication reports that this nutmeg-tree forest extends over a very large tract of country.

EXPLOSION ON THE GREAT WESTERN.—Last Saturday the boiler of a locomotive burst about a mile and a half from Paddington, and killed three men. Some idea may be formed of the terrific force with which the boiler was rent asunder from this fact—that a piece of boiler plate, weighing at least three quarters of a ton, was shot across the main line into a carriage yard at a distance of about 100 yards. On entering the yard it struck a truck, carrying away some heavy iron railing that surrounded the latter; but this did not stop it. It proceeded till it met a train of waggons, two of which it smashed before falling to the ground. Attached to a corner of this piece of boiler plate was a wrought-iron bracket, weighing about 200lb.

LETTERS CUT BY PRESTON PRISONERS.—A writer in *Notes and Queries* says,—In the interesting memoir (by his son) of *The Prison Chaplain; the Rev. John Clay*, we read how the completion and decorations of the prison chapel at Preston Gaol were due to the labours of the prisoners.

> "It was by prisoners that the panels in the roof were painted blue and spangled with yellow stars, or adorned with ecclesiastical devices; that the Creed, Lord's Prayer, Ten Commandments, and chosen Texts, were gilded on the wall on either side the altar."

This word *gilded* scarcely expresses the full extent of the prisoners' work in this particular. It is nine years since Mr. Clay pointed out to me the various items of interest in that prison chapel of which he was so justly proud; and my memory is somewhat hazy on this especial point of the gilding. But I well remember that Mr. Clay called my particular attention to the circumstance of each individual letter being *cut out* and then affixed to the wall; and that, in the majority of cases, this was done by prisoners so totally illiterate as not to know the letters of the alphabet, or how to form them, except by the patterns supplied to them, or how to fix them so as to make them "stand on their heels," without being amply directed. I also remember Mr. Clay making some very pertinent observations on the prisoners thus *making* commandments that they had so grievously broken. The circumstance of the *cut* letters for the Commandments, &c., seems to deserve a note.

THE YARMOUTH SCHOOLS OF ART AND NAVIGATION.—The annual distribution of prizes connected with these schools has taken place in the town-hall, which was crowded by students of both sexes, as well as by the principal inhabitants of the borough. The aid afforded by the Department of Science and Art has been very considerable. While the fees have only amounted to 114*l.*, the Government aid has been nearly double that amount, being 209*l.* From a report just published by the Department, it appears that 848 pupils belonging to the public schools of this town receive art instruction, while from private schools there is not a single pupil. The report stated that, with respect to the School of Navigation, the classes had been better attended during the past year than at any time since its establishment: the Government Inspector had reported most favourably of the progress of the scholars; and the result of the examinations showed that the Yarmouth School was second only to Hull, and far above the other navigation schools. In the School of Art the attendance at the classes had been 89 as against 123 of the previous year; the falling-off being in the general day and evening classes. Of school-boys taught, there had been 845, as against 890 in 1860 61. Her Majesty's inspector, Mr. R. G. Wylde, had twice examined the school, when numerous medals and prizes were awarded. The general average results of such examinations throughout the kingdom shows that one in every fourteen students gains a prize; whereas, in Yarmouth, one in eight has done so. The treasurer's report for two years, from 1st of September, 1860, to 31st of August, 1862, showed the total receipts to be 449*l.* 9s. 5d.; while the expenditure had been 517*l.* 13s. 11d. less than the receipts.

EXHIBITION OF LOCAL ART AT LEICESTER.—There is to be an exhibition at Leicester Museum of Art local to the town and county. As the admission to the town museum is free, no charge will be made at the doors, and each visitor will be provided with a catalogue.

DAMAGING DRINKING-FOUNTAINS. — At the West Riding Magistrates' Court, recently, George Aspinall, of the Belle-vue public-house, Ashbrow, was charged with damaging the ladle of a drinking-fountain situate in Bradford-road, near the bottom of Brook-street. The magistrates ordered the defendant to pay the damage, and fined him 10s. and expenses. He ought to have had a little corporal chastisement. There are but too many Aspinals in London, as we frequently observe the fountains deprived of their cups; but we scarcely ever hear of the discovery and punishment of the idle scamps who thus deprive hundreds of their fellows of a refreshing draught of fountain water. The police might easily entrap some of them, and make an example of them.

THE CIRENCESTER DRAINAGE. — At a recent meeting of the town commissioners the estimate for the proposed drain from Gloucester-street to Watermoor was presented. The cost is stated to be 560*l.*, exclusive of compensation. A plan and explanatory statement, showing the advantages which must necessarily accrue to the owner of the abbey property, had been laid before Lady Carteret, with an appeal to her ladyship for assistance, on the ground that though benefited, she would not be called upon to pay town rates, the abbey being beyond the limits of the old borough. The steward of the abbey estates now sent a written reply to the memorial, stating that it was a matter of indifference to Lady Carteret, who did not feel called upon to bear any part of the expense. The population of Cirencester was at the last census 6,334; and, according to facts stated at the meeting, the present rate of mortality is about 22 in the thousand annually.

EXAMINATIONS FOR THE CIVIL SERVICE OF INDIA.—A copy of the printed regulations on this subject has been forwarded to us by the secretary to the Civil Service Commissioners, Dean's-yard, London, to whom all communications by intending candidates are to be addressed. From these regulations it appears that in June or July, 1863, an examination of candidates will be held in London for those desiring to go out to the several presidencies. Any natural-born British subject is entitled to be examined provided he transmit certain certificates to the commissioners on or before 1st May, 1863; but the number to be selected will of course be restricted within certain practicable limits for each presidency. An opportunity is now afforded by these regulations to many enterprising young men, without patronage or interest, of entering the civil service in India, which has heretofore been virtually closed to all such aspirants.

THE RUGBY WATER-SUPPLY.—The local board, at a special meeting held on the 29th of October, passed a resolution "to take steps to obtain a supply of water for the use of the town from the river Avon." At a meeting of ratepayers just held, resolutions were unanimously agreed upon to memorialize the local board not to go to the river for water, both on account of the great expense it would incur, and also on account of its unfitness for domestic purposes. It was urged that if Mr. Rammell's plan had been fully carried out, by extending the surface drainage (of which only one-half has been done), a superabundance of water would be obtained; because, in the driest seasons, the minimum quantity sent into the town daily was five gallons per day per head for the whole of the inhabitants; and also, that at least one-third of the houses, great and small, have not the water laid on. Mr. Hawksley, it was said, estimates (he terms it a liberal estimate), that the whole of the cost of surveying the river for twenty miles down, and of a special Act of Parliament, besides compensation to mill-owners on the stream, and to the railway company, farmers, and others, together with the erection of engine-houses, &c., &c., will not exceed 7,000*l.*; but the ratepayers do not believe in this estimate. Their faith appeared to be entirely shaken as to his judgment, and reference was made to his theory of the artesian well which he caused to be sunk at the Water Tower, and which turned out a failure after some years' time, and 4,000*l.* had been sacrificed. The meeting appeared to make a stand against the river water being adopted; and if a special Act is applied for, they agreed that a petition should be sent to Parliament against it. This was the first meeting of the ratepayers as counteracting the doings of the local board since its establishment.

SANITARY CONDITION OF PRESTON: TYPHOID FEVER.—In describing the shocking amount of filth in many parts of Preston, we fully prognosticated the advent of fever; and we regret now to learn that our prediction is but too soon fulfilled, as typhoid fever now prevails in Preston; and when we consider that to the depressing influence of foul localities must be added the prostrating influence of want, it is fearful to contemplate the probable result.

THE HALSTED WATER SUPPLY. — The local Board having been specially summoned to determine the question of water-works, the two plans prepared respectively by Mr. Syrett, of Bury, and Messrs. Gotto & Beesley, of Westminster, were considered. Mr. Syrett's would cost 2,000*l.*; Messrs. Gotto & Beesley's, 4,007*l.* The chief distinction in the plans was that the latter provided a low level well and high level reservoir, in opposition to Mr. Syrett's high level well and reservoir combined. After some discussion, Mr. Syrett's scheme, as sanctioned by the Government inspector, was adopted. It was resolved that Mr. Tanner of Chelmsford's tender for constructing the works for 2,372*l.* be accepted, upon condition that he guarantee to keep them in working order for two years after completion.

"THE CULTIVATION OF MUSIC DETRIMENTAL TO WORKHOUSE BOYS!"—Having been to some extent instrumental, as other members of the Press have been, in obtaining for poor workhouse boys and their elders the innocent and harmless recreation of a little music, it is incumbent on us to record, as we now do, that at a recent meeting of the Stafford board of guardians, the Hon. and Rev. A. C. Talbot, the chairman, moved, "That the juvenile band in connexion with the workhouse be broken up;" and urged in support of his motion that the cultivation of music was "detrimental to the boys," as it would unfit them for the pursuits in life which they would have to follow, and lead them into dissolute habits!! The motion having been seconded by Mr. Ginders, the Rev. E. Perry, in an eloquent address, moved as an amendment, "That the band be continued, but not allowed to attend *fêtes* and other places of amusement as heretofore." The rev. gentleman, says the *Wolverhampton Chronicle*, after commenting somewhat severely upon the proposition of the chairman, and replying to the arguments adduced in its support, entered elaborately into the subject of musical education; and instanced the cases of two boys, who, previously to joining the band, were in a state of mind bordering upon imbecility; and who were now possessed of an average degree of intelligence; as convincing proofs of the absurdity of the idea that music had a tendency to unfit those who cultivated it for the duties of life. Another amendment was moved by the Rev. F. Bolton, that the matter be referred to a committee. This amendment was carried.

MANCHESTER ACADEMY OF FINE ARTS.—The annual meeting of the members of this academy has been held in the Royal Institution at Manchester. The Chairman said the Manchester Academy of Fine Arts had now entered on the sixth year of its existence, and the third since it became a sectional part of the Royal Institution. The report would show that both funds and members were increasing. The council were negotiating with an historical painter and able teacher in London, to deliver two lectures in character and fine art, and character in ornament. The annual report was then read. The council recommended that the exhibitions should be held at a later period. In a report presented to the council of the Manchester Royal Institution, the council urged that the exhibition in this city should be second only to the Royal Academy; and that, so long as the Liverpool Academy gave an annual 50*l.* prize, the Manchester Academy stood in an unequal position. The council of the Royal Manchester Institution had resolved to award two prizes of 25*l.* each, or the Heywood gold medal, for the best figure painting, and the same amount for the best landscape contributed by the artist. A communication had since been received from the council of the Institution, recommending the following pictures, with the approval of the council, to receive the award of the Heywood gold medal, or 25*l.*; viz., J. Noel Paton's "Dawn, Luther at Erfurt," for the best figure painting; and Henry Clarence Whaite's "The Rainbow," for the best landscape; both these pictures being the property of the artists. The selection was cordially approved by the council. A return was handed in, showing an average attendance of 280 per day; and that thirty-three pictures had been sold for 340*l.* The Art-Union pictures have yet to be bought.

NEW EXCHANGE BUILDINGS, BIRMINGHAM.—According to the local *Journal*, the tenders for these buildings (of which we have given an engraving) from thirteen builders were opened by the committee; and, being all informal and differing from the requirements of the committee, were all rejected. Messrs. Branson & Murray, who tendered, subsequently attended the Board, and made a tender on the conditions and in the form originally required. That tender, viz., 19,300*l.*, the whole of the works to be executed in Hollington stone, was accepted.

HARTLEPOOL.—Sir: Your correspondent (p. 777), writing of the houses, speaks of "one of them telling of the meeting of nations in its foreign title—the Voltigeur Tavern." It may be interesting to some of your readers to know that this tavern takes its sign from the race-horse Voltigeur, winner of the Derby, bred at Hart, hard by. On his conquest, every one in these districts, from its noble owner's housemaid and "Lanky Jack," the York "tout," to the peer and senator, pocketed winnings. One gentleman alone may I name, Mr. "Billy" Williamson, received and paid away a no less sum than 30,000*l.* to various persons near Hartlepool; being commissions on backing Voltigeur for the Derby! No wonder that horse is a household word.—EBORACUM.

TENDERS.

For a residence for Mr. G. Harmer, Buckhurst-hill. Mr. S. Hylson, architect. Quantities not supplied:—

Redmore	£859	0	0
Carter	825	0	0
Cushing	820	0	0
Cornish	807	0	0

Accepted for Allerburn House, Alnwick — a new residence for Dr. Geo. Wilson. Mr. F. R. Wilson, architect:—

For Boundary Walls and Sewage Tank.			
R. & J. Wilson	£357	0	0
For Carriage Roads and Drains.			
Elliott	£341	6	0
For Water and Gas Mains.			
Wilkin & Dickman	£78	10	6
For House, Offices, and Stables.			
Yeaman, masonry	£1,692	0	0
Ross, joinery	1,163	2	9
Wilkin & Dickman, smiths and plumbers	260	0	0
Dixon, slating	130	0	0
Pickard, plastering	159	0	0
Robertson, glazing	107	0	0
For Entrance Gates and Lodge.			
Hudspill, masonry	£116	10	0
Ross, joinery	46	16	0
Wilkin & Dickman, smiths and plumbing, including gates	31	5	0
Burnett, slating	24	10	0
Pickard & Burnett, plastering	6	18	0

For new wing, kitchen, offices, and repairs to Borde Hill, Cuckfield, for Major M'Adam. Mr. E. A. Grumitog, architect:—

Dancy	£1,710	0	0
T. Anscombe	1,389	0	0
A Anscombe	1,275	0	0
Fish	1,258	0	0
Cheeseman & Son	1,240	0	0
Tunewell	1,187	0	0

For the erection of a house, shop, &c., in Wood and Manor streets, Brompton, Kent, for Mr. T. W. Wood. Mr. T. H. Andrews, architect:—

Jennings	£1,209	0	0
Sampson	1,150	0	0
Naylor & Son	1,032	0	0
Mills	1,019	0	0
Pankhurst	1,001	0	0
Garrett	991	0	0

For erecting the first portion of the wall to inclose the ground for the new French Protestant Hospital at Victoria Park, London:—

I'Anson & Co.	£518	0	0
Mansfield & Co.	499	0	0
Turner	486	0	0
Burton	442	0	0
Brown & Robinson (accepted)	427	0	0

For additions and alterations to Mr. Cuff's premises, Charing-cross. Mr. W. Barron, architect:—

Hayward	£1,460	0	0
Howard	1,349	0	0

TO CORRESPONDENTS.

Fleas in Floors.—A correspondent asks what means he can adopt to destroy fleas in a new house. "They come up from between the boards by the dirt." The [illegible] the second floor.

A. S.—Inquirer (will find some particulars as to fee-houses in a previous volume of the *Builder*).—R. B.—G. P.—Mr E.—C. C. N. [illegible] paragraphs [illegible] in our number.—C. L. Smythe.—G. P.—P. T. D.—C. J. H.—C. B.—G. & K.—C. J. P.—J. L. (should be deducted).—Constant Reader.—W. J.—J. R.—W. P.—H. Liverpool (not published. Signature of note illegible).—R. M. L.—J. J. F. B.—Quondam (in type).—J. H. (thanks).—W. A. H.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than FIVE o'clock, p.m., *on Thursday.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13 FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

Mr J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLOURIST, and LITHOGRAPHER.
No. 21, MONTAGUE STREET, RUSSELL SQUARE, W.C.

PARTNERSHIP. An opportunity offers for an Architect of ability who can command from 500l. to 1,000l. to join another in the PURCHASE of a thoroughly established PRACTICE in the North of England. Communications strictly confidential—Address by letter, T. T. Office of "The Builder."

PORT and HARBOUR of BELFAST.—The Harbour Commissioners of Belfast having resolved to appoint a RESIDENT ENGINEER, to assist in superintending the extensive works about being carried out for the Improvement of the Port and Harbour of Belfast, request that all persons who may be desirous of becoming candidates for the appointment will lodge their applications and testimonials with the Secretary to the Commissioners, on or before 15th DECEMBER next. In making the election, a decided preference will be given to such candidates as may have had experience in similar works to those which are now in contemplation. The salary to be fixed per annum.—Further particulars may be obtained on reference to the Secretary.
WILLIAM THOMPSON, Secretary.
Harbour Office, Belfast, 29th October, 1862.

WANTED, a COLLECTOR of RENTS, to reside on the property at the east end of London. Age not to exceed 35, and the strictest references to security will be required. No house agent need apply.—For salary and further particulars address A. B. care of Messrs. Paine & Layton, Gresham House, Old Broad-street.

TO FOREMEN OF BRICKLAYERS.
WANTED, an active experienced MAN in the above capacity. None need apply who have not filled a similar situation. Testimonials of character and ability will be required.—Address, Mr. JOHN POTTER, Builder, Welshpool.

WANTED, IMPROVERS from First-class Offices, Gothic or Classical.—Apply personally, with specimens, to J. G. STAPELTON, Jun. Esq. Architect, 62, Cannon-street, E.C.

TO CARPENTERS AND JOINERS.
WANTED, a SITUATION to the above as IMPROVER at the BENCH. Age 22. Has been at the trade six years. Character if required. Wages not particular. Address, R. B. 24, Belvedere-road, Lambeth.

WANTED, by a practical Man of good experience, a SITUATION as CLERK, FOREMAN, or to Manage the Building Works on an Estate. Has had great experience in estate work, preparing plans and specifications for the erection of farm buildings, cottages, and general estate improvements, and measuring up work.—Address, ALPHA, 21, Grafton-road, Kentish-town.

TO BUILDERS, CONTRACTORS, AND SURVEYORS
WANTED, by the Advertiser, a SITUATION. He is thoroughly acquainted with book-keeping, and the various branches of the building trade, and has been engaged in a surveyor's office. No objection to go abroad.—Address, ALPHA, 19, Montpelier-terrace, Wellingt n-road, Stoke Newington, N.E.

TO BUILDERS AND CONTRACTORS
WANTED, a JOB as WHEELWRIGHT and SMITH combined.—Address, R. W. 42, Great Suffolk-street, Borough, London.

TO CONTRACTORS, CARMEN, AND OTHERS.
WANTED, by an experienced middle-aged Man, a SITUATION as MANAGING FOREMAN, or to Take the Entire Charge of Horses, at home or abroad. Nine years' character from last employer.—Address, FOREMAN, No. 14, Forest-row, Dalston.

TO RAILWAY ENGINEERS, MARINE ENGINEERS, CONTRACTORS, &c.
WANTED, by the Advertiser, aged 20, an ENGAGEMENT. Writes a good hand, speaks French well, can draw and trace, and is a good arithmetician. Has served five years with a large engineering firm. Has a good testimonial. No objection to go abroad.—Letters to be addressed to H. T. No. 105, City News rooms, Cheapside, E.C.

WANTED, by a Person who has been in a large business as a Builder and Contractor for twenty years, a SITUATION as FOREMAN or MANAGER of a Business Town preferred. Is thoroughly acquainted with the practical as well as theoretical part of the business. Testimonials to capability can be forwarded by bona fide parties, and full particulars.—Address, Prepaid, W. J. 22, Providence street, Ipswich, Suffolk.

TO WRITERS AND GRAINERS
WANTED, by a Young Man, a SITUATION to IMPROVE himself in Writing and Graining. Has had some experience. No salary required for the first six months.—Address, W. M. Clarence Cottage, High-street, Kensington.

TO BRICKMAKERS AND OTHERS.
WANTED, by the Advertiser, a SITUATION as FOREMAN of a Brickfield of Clamp and Kiln Work. Would rather take the work by contract. First class reference. No objection to go abroad.—Address, THOS. W. Eaton Farm, Cobham, Surrey.

TO ARCHITECTS.
WANTED, by an experienced ASSISTANT, who is well versed in the various details of the Art, an ENGAGEMENT.—Address, W. S. Office of "The Builder."

TO ARCHITECTS, BUILDERS, &c.
WANTED, by a Married Man, aged 29, a RE-ENGAGEMENT as GENERAL ASSISTANT. Has a good practical knowledge of taking out quantities, as well as office routine. Salary moderate.—Address, F. W. 3, Randolph-road, Thames Bank, Pimlico, S.W.

TO PLUMBERS AND BUILDERS
WANTED, by a good PRACTICAL PLUMBER, aged 27, a SITUATION. Can fill up his time at gasfitting, zinc work, &c. Could take the charge of a branch business if required.—Address, H. S. Mr. Wilmot's, No. 3, Talbot-court, Gracechurch-street, City.

TO BRICKMAKERS AND BUILDERS.
WANTED, by a Practical Man, a SITUATION as BRICKFIELD FOREMAN, in consequence of the present works closing. Practical in clamp and kiln work. First class references.—Address, A. B. Oxshot Brickfield, near Leatherhead, Surrey.

TO BRICKMAKERS AND BUILDERS.
WANTED, an ENGAGEMENT by a Practical Man. Has had twenty-five years' experience in brick and tile making and burning, and thoroughly conversant in all its branches. Good reference, if required.—Address, J. K. Mitchelmarsh, Romsey, Hants.

TO CONTRACTORS, BUILDERS, &c.
WANTED, by a Young Married Man, a SITUATION in the Office of the above. He is a thoroughly efficient assistant, has a general knowledge of the business in all branches, a good draughtsman, and an excellent quantity and estimate surveyor. Undeniable references for the past twelve years, being seven years with one large firm.—Address, A. J. Office of "The Builder."

WANTED, by an experienced first-class steady Workman, an ENGAGEMENT as FOREMAN of JOINERS, or the Management of a small Business. First-class reference. Age, 39. Can make working drawings, &c.—Address, ALBERT, London Mechanics' Institution, 22, Southampton-buildings, Chancery-lane.

WANTED, a SITUATION as SHOP FOREMAN of JOINERS, or to take charge of a Job, by a thoroughly practical Man. Can measure up and estimate. Good references. No objection to the country.—Address, A. J. Office of "The Builder."

TO BUILDERS AND PLUMBERS.
WANTED, EMPLOYMENT as PLUMBER, or to take the Three Branches. Has been in last place six years, and has been in the habit of measuring and estimating for work.—Address, A. PETTIT, 19, St. John's-wood-terrace, St. John's-wood, London.

TO BUILDERS, &c.
WANTED, a PIECE JOB of any sort, being fully up to the mark in planes, rods, &c. Is a thorough, efficient staircase hand. Locality no object.—Address, J. D. F. 11, Prince's-street, Story's-gate, Westminster.

WANTED, a RE-ENGAGEMENT in an Architect and Surveyor's Office, by a Young Man, aged 18, who has had three and a half years' experience. Can assist in taking out quantities, prepare drawings from rough sketches, and understands usual routine of the office. Reference unexceptionable. Salary moderate. Address, A. S. Westerton's Library, Knightsbridge, S.W.

TO BUILDERS AND PLUMBERS.
WANTED, by a respectable Young Man, a SITUATION as PLUMBER and LEAD GLAZIER. Can do painting, if required. Good references can be given.—Address, C. W. Pitcher, 7, Modena street, Edgware-road, W.

TO PLUMBERS, BUILDERS, AND OTHERS
WANTED, by a first-class PLUMBER, a constant SITUATION. Understands hot-water work, also deep well pump work in all its branches. No objection to fill up his time, &c. Town or country. Good reference.—Address, W. C. No. 33, Little-orange street, Hampstead road, London.

WANTED, by a Carpenter, an ENGAGEMENT as JOBBING HAND. Can take any branch in house repairs; bell-hanging, gas fitting, plumbing, painting, paper-hanging, &c. Town or country.—Address, W. H., Wolz, Baker, opposite the Burial ground, Cooler's College.

TO ARCHITECTS AND SURVEYORS.
WANTED, by a Gentleman who has been four years in an Architect's office, a SITUATION. Is a neat and careful draughtsman. Should be meet with a suitable engagement, would be willing to join in Partnership in the course of a short time.—Address, ARCHITECT, Pavilion-place, Turnham green, W.

WANTED, a RE-ENGAGEMENT by an experienced DRAUGHTSMAN, who is competent to prepare complete Sets of Drawings, and understands Perspective and Construction.—Address, W. S. Office of "The Builder."

TO PLUMBERS AND BUILDERS
WANTED, by a Young Man, a SITUATION, as PLUMBER and GASFITTER. Is well used to jobbing work, &c. Good reference will be given if required.—Address, P. L. Office of "The Builder."

TO BUILDERS AND CONTRACTORS
WANTED, by an experienced CLERK, a RE-ENGAGEMENT. Will up in measuring, estimating, taking out quantities, &c. Wages not the first object. Address, S. A. J. 6, Caroline-place, Fulham-road, Hammersmith, W.

TO BUILDERS AND CONTRACTORS.
WANTED, by the Advertiser, a RE-ENGAGEMENT as SHOP FOREMAN of Joiners, Foreman of Works, or to take charge of a Job. Can make working and detail drawings, and measure up work of any description.—Address, A. M. Office of "The Builder."

TO BUILDERS AND CONTRACTORS
THE Advertiser wishes for a SITUATION as FOREMAN of BRICKLAYERS, or Brickwork by the Rod. Has superintended several large jobs. First rate testimonials from late employers.—Address, A. M. No. 11, Stanmore-street, Old St. Pancras.

TO ARCHITECTS AND SURVEYORS
THE Advertiser desires a RE-ENGAGEMENT, temporary or otherwise. Is thoroughly competent to prepare working and sketch drawings, perspectives, specifications, take out quantities, survey, &c. Would prepare plans at his own residence. High references given. Terms moderate.—Address, R. T. Ager's Library, Park-street, Camden-town.

TO BUILDERS, DECORATORS, AND OTHERS
THE Advertiser, requires a RE-ENGAGEMENT as CLERK and ASSISTANT. Has a general knowledge of the trade, and would make himself generally useful. Good bookkeeper, can measure and prepare work. Most satisfactory references.—Address, H. S. 1, Beaumont-grove, Prospect-row, Walworth, S.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.
THE Advertiser wishes for a SITUATION. He is a good draughtsman, can take out quantities, measure work, write specifications and generally assist. Terms per week. Good references.—Address, M. M. 3, Office of "The Builder."

TO CIVIL ENGINEERS, CONTRACTORS, AND BUILDERS.
THE Advertiser having had considerable experience in Railway, Government, and other Works, desires an ENGAGEMENT as SUPERINTENDENT or Inspector. Is also conversant with surveying, levelling, setting out, measuring up, good draughtsman, and accountant.—Address, F. B. Office of "The Builder."

AN ESTIMATOR, first-rate QUANTITY SURVEYOR and MEASURER, who is a good draughtsman, thoroughly acquainted with construction, preparing specifications, and carrying out alterations, and who could occasionally superintend extensive works, is open to an ENGAGEMENT, either temporary, permanent, or partial, on moderate terms.—Address, ALPHA, Seyman's Advertising Office, 16, Bear-street, Leicester-square, W.C.

A WELL-EDUCATED YOUTH, who writes a good hand, and has some knowledge of drawing, is WANTED in an ARCHITECT'S OFFICE.—Address, stating age, and salary required, to R. S. Office of "The Builder."

TO ARCHITECTS, SURVEYORS, AND BUILDERS
A QUANTITY SURVEYOR, MEASURER, and ESTIMATOR, of twenty years' practical experience in the various trades connected with buildings, would be glad to treat with architects, surveyors, or builders, for taking off quantities, measuring, estimating, pricing bills, quantities, making drawings, writing specifications, making surveys of dilapidations, &c. upon reasonable terms. Satisfactory references given.—Address, S. V. R. Office of "The Builder."

TO BUILDERS, &c.
A RESPECTABLE YOUNG MAN, aged 24, wishes to meet with a SITUATION in a Joiner's Shop as IMPROVER. Is a good fixer. Good references. Wages moderate.—Address, ALPHA, Post-office, Sydenham.

TO BUILDERS, &c.
A FIRST-RATE GRAINER is desirous of a PERMANENCY. Has had many years' experience in the business. Good reference. Locality no object.—Apply by letter to A. B. 16, Great Marylebone-street, W.

TO ARCHITECTS AND SURVEYORS.—MANAGING CLERK.
AN experienced CLERK, good Draughtsman, Surveyor and Measurer, &c WANTS an ENGAGEMENT. Address (free), A. Z. Boddington's Library, Notting Hill Gate, W.

TO ARCHITECTS AND SURVEYORS
A YOUNG MAN, who has had more than three years' experience in an Architect and Surveyor's Office, wishes to ARTICLE himself to a Gent'eman who would accept his services in exchange for board and lodging. He can prepare drawings, assist in taking out quantities, &c.—For further particulars, apply to A. B. C. 9, Raphael-street, Brompton, S.W.

A THOROUGHLY Practical ASSISTANT, qualified to prepare designs, details, specifications, and superintend works, desires an ENGAGEMENT on Temporary Occupation, at home or at the Office. Terms moderate.—Address, C. D. Burn's Library, Kennington-green, S.

TO ARCHITECTS AND BUILDERS.
A LONDON ARCHITECT is desirous of PLACING his SON, aged 17 (and who has been in his office nearly two years) with a COUNTRY PRACTITIONER, where he would have an opportunity of acquiring a knowledge of both branches. Or the advertiser would exchange for a youth of a similar age.—Address, EXCHANGE, Office of "The Builder."

A FULLY-COMPETENT PAINTER, Paperhanger, Distemperer, &c. requires EMPLOYMENT. Is capable of taking charge of work, or a business if necessary. Also an experienced man as FOREMAN, or to conduct a business. Twenty years' reference. Town or country.—Address, AMIGO, Mr. Ager's, 86, Park-street, Regent's Park, London.

A RESPECTABLE YOUNG MAN, a HOUSE PAINTER, GLAZIER, and WRITER, &c. seeks EMPLOYMENT. If a constancy is offered, moderate wages would be taken.—Y. L. 109, Hall Place, Paddington.

TARPAULINS, MARQUEES, &c.
for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

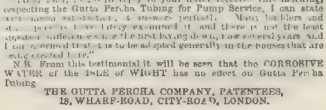
TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD and HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS,
WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially suited for exportation, with Wrought-iron Wheels
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. for SALE or HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

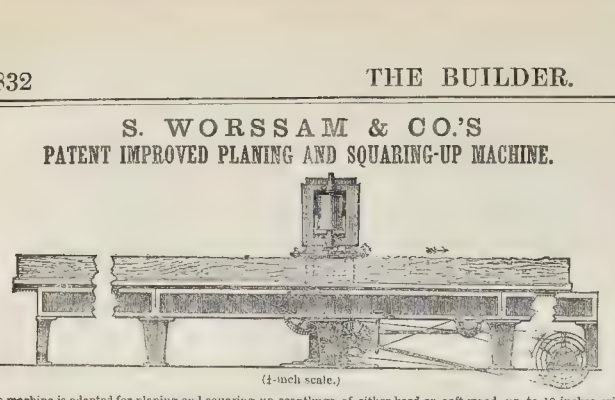
NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every principal city in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in submitting the following extract from Sir RAYMOND JARVIS, Bart. VENTNOR, ISLE OF WIGHT, dated 3rd instant:—"Many thanks for your letter received this morning, respecting the Gutta Percha Tubing for Pump Service. I can state with much satisfaction, it has been in use for upwards of two years, and the pipes have lately been examined, and there is not the least appearance of decay. It is now being done to several yards and I can recommend it as to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE OF WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

S. WORSSAM & CO.'S
PATENT IMPROVED PLANING AND SQUARING-UP MACHINE.



(¾-inch scale.)

This machine is adapted for planing and squaring up scantlings of either hard or soft wood, up to 18 inches wide and 9 inches thick. The cutter-disc is furnished with a set of Wilson's Patent Cylindrical Gouges, which will last as long as eight sets of the ordinary gouges without being sharpened.

For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

TO ENGINEERS and OTHERS. - An opportunity offers for the immediate TRANSFER of S. HAWKINS'S PATENT SCREW TABLE EXPANDER, comprising the firm for so many years carried on at Manufactory, John-street, Kingsland-road. For particulars, &c. inquire of Mr. SAMUEL HAWKINS, Dyke-road, Brighton.

STEAM-ENGINE.—FOR SALE, a 12-horse power OSCILLATING ENGINE and a CORNISH BOILER, now in full work, driving saw mill machinery.—Apply to W. WILLIAMSON, Iron Works, Newton-street, High Holborn.

THE VERTICAL ARCHIMEDEAN GAS APPARATUS (Patented). - This apparatus can be used at will, either with Coal or Oil, and in this respect is unique. Not only is the quantity of gas produced from the same weight of coal at least 30 per cent greater than by the retorts at present in use, but the rapidity with which this quantity is evolved contributes very greatly to the general economy in time, labour, and space so as to reduce the cost, as compared with the prices now charged, nearly 50 per cent. Adopted in our colonies, and in climates where vegetable oil is both oils are plentiful, this apparatus will be found invaluable.—Sole manufacturers, JOHN H. FORTER & CO., Eleo Works, Tividale, near Birmingham, and 10, Cannon-street, London.

THE LONDON LOCK-MAKERS IN THE INTERNATIONAL EXHIBITION

MESSRS. HOBBS & CO. beg to inform Bankers and the Commercial World, that their PATENT LOCK in the English section did not reach the Jet of MAY to the Jet of NOVEMBER, for want of a workman, who could pick it. THIS WAS THE ONLY LOCK EXHIBITED that invited and dared the ingenuity of the mechanician to fraudulently open it. Seven days were allowed to examine the interior, and thirty days to operate on the security of the works; yet, during the 188 days the Exhibition was actually open, not one single application was made! In 1851 this Lock was tried for 123 days without the slightest approach, it was in success

MESSRS. HOBBS & CO. are Prize Medallists from the Exhibitions of America, Austria, and France; and London in 1851 and 1862.
76, CHEAPSIDE, LONDON.

TO BUILDERS, CONTRACTORS, and OTHERS. BLOCKS, CRAB & CRANES, JACKS of all kinds, and TRAVELLING JENNIES of all sizes, to lift any weight from one to fifty tons.
Manufactured by ELI RICHARDS, 19, New Park street, Southwark.
For good assortment with despatch
Chain for Slings, Cranes, and Blocks, in lieu of rope; equal to half any weight; warranted of the best iron and workmanship, and tested by patent machinery; on the lowest possible terms.

STATION ROOFS and ROOFS of every kind GLAZED WITHOUT PUTTY, and warranted PERFECT. EVERY DESCRIPTION OF BUILDINGS EFFECTUALLY WARMED with T. G. MESSENGER'S Triangular Tubular Heating Apparatus.—Full particulars of the above, and references supplied, upon application to the Patentee.
T. G. MESSENGER, Engineer, &c. Loughborough.

OLD RAILS, GIRDER and BEAM IRON, FOR SALE
Apply to
WILLIAM BIRD & CO.
2, LAURENCE POUNTNEY HILL, E.C.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Slabs, Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the lowest possible prices
N.B. Estimates given. Country and foreign orders executed with punctuality and personal attention.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.
THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, also execute in the best manner any work intrusted to them.
Communications to be addressed to the Secretary, No. 24, St. James's-street; or to Mr. THOMAS OAKDEN, 94, King-street, Manchester, who is sole agent for Liverpool and Manchester.

LITTLE CASTERTON FREESTONE, Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for waterworks, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

PURE STATUARY MARBLE, and in slabs of large dimensions, can be obtained at
M. W. JOHNSON'S MARBLE WORKS,
363, EUSTON-ROAD, London, N.W.
Prices moderate
M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards. CUT by Steam Power, and Delivered in to Railway Trucks at Weymouth. List of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods.—SCOLES & WOOD invite the attention of Masons, Builders, and Others, to their Stock as above, where every thing will be charged at the lowest prices. Headstones, Ledgers, Steps, Landings, &c. cut on the shortest notice.
Country orders promptly attended to.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 37, Millbank-street, London, S.W.

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wootton Wawen, near Henley-in-Arden, are working a Quarry of this very superior and durable Stone (belonging to Capt. Baugh), at Pleasley, Notts, near Worksop. It is used extensively in Liverpool, Manchester, &c. and can be supplied at reasonable rates at any railway station.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medallion 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, for monumental and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 8, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE.
Consigned in all sizes by Rail direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION
MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Tmany imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application.—Address,
No. 1, BOLD-TERRACE, CHESTER.

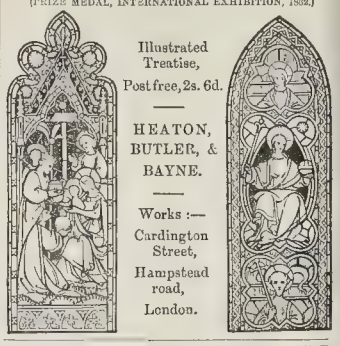
RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested, or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

FOR SALE, the PEWING of a CHAPEL, part being nearly new.—Apply to Mr. SAMUEL STONE, Builder, High-street, Hampstead.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

TO BUILDERS, GAS FITTERS, &c.
PATENT SILVERED GLASS REFLECTORS (round, or four-sided for Desks and Shop-windows) Lamp Pillars, Globes, Half Globes, Tubing, Chandelier Centres, &c may be had of the Manufacturers, COCK & JOHNSON, Lower Kennington-lane, S.
N.B. Hollow Glass Articles of any description silvered.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.
(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Post free, 2s. 6d.
HEATON, BUTLER, & BAYNE.
Works:—Cardington Street, Hampstead road, London.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METCALF & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Cheapside, E.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

GLASS, EMBOSSED, ENAMELLED, AND PAINTED,
To be had at
LONG'S ORNAMENTAL WINDOW-GLASS MANUFACTORY,
No. 17, Queen's road, Bayswater, W. at greatly reduced prices.
Memorial and other Windows designed and executed.

HARD CORE or DUST PICKINGS, for Road-making or Wharfing purposes.—A large quantity of this material to be GIVEN AWAY. Apply or send barges to MARK TOMKINS & CO. St. George's Wharf, 31, Wapping-wall, E.

PLUMBING WORK CONTRACTED FOR (Labour only), by a Practical Man, on the most moderate terms.—Address, PLUMBER, 26, Wigmore street, Cavendish-square.

A LARGE Quantity of BRICKBATS TO BE SOLD at COTTON'S WHARF. Parties wishing to see the above will be pleased to inquire about them at the Counting-house between 20 and 21, Tooley-street, Southwark, S.E.

NEW SUBSTITUTE for TURPENTINE. TURPENZINE, the best substitute yet discovered for Turpentine. For painters, colour makers and printers, turpenzine will be found superior to ordinary Turpentine, and is free from the rank odour peculiar to mineral Turpentine. It is adapted to all purposes for which Turpentine is used, and is less than one third the price.—Samples gallons sent on receipt of 4s. which includes price of can Wholesale Consignees: CASSELL, SMITH, & CO. 80, FENCHURCH STREET, London.

HAY'S PATENT WATERPROOF GLUE and INDIA RUBBER VARNISH — To ARCHITECTS, BUILDERS, HOUSE PROPRIETORS, &c. &c. The Waterproof Glue makes an admirable cement for wet foundations, to prevent water rising, and the Varnish will enable damp walls to be papered over directly.
Copy of a letter from Mr. T. E. Owen, architect, Southsea:—
"I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The varnish has succeeded better than any article I have known as an anti-damp, the damp wall being coated with it before papering or painting. If the plastering be sodden and rotten, it should first be substituted with cement. I have used this material successfully for tank work."
To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos-street, Portsmouth. Mr. GEO. WEEKS, Manager. GEO. C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

GLUE—PRIZE MEDAL, 1862.
PROCKTER & BEVINGTON are compelled (in consequence of many imitations), to acquaint dealers and consumers, that they are the ORIGINAL and ONLY manufacturers of
IMPERIAL GLUE
who have obtained a Prize Medal.—Sold by all respectable Ironmongers and oilmen.
Works: No. 124, Grange-road, Bermondsey, London, S.E.

GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description at the very lowest prices. Regilding in all its branches to the trade. ¼-inch Gilt Beads, 7s per dozen 6-feet lengths; best ditto, 12s.
G. REES, 57, DRURY LANE,
Four doors from Drury-lane Theatre. Established in 1800.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1⅝	2	2½
„ 2 ft. 6 in. sup.	1½	1⅞	2½	3
4 ft. super...	1⅞	2	2½	3¼

Orchard House Sizes.

	per 100 ft.	15 oz.	21 oz.
20 by 12		4ths 12s. 6d.	4ths 17s. 0d.
20 by 13		3rds 15s. 0d.	3rds 21s. 6d.
20 by 14		2nds 18s. 0d.	2nds 28s. 0d.
20 by 15		1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s. } per cwt.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.

Fine Oak Varnish ...
„ Carriage ... } per gallon.
Linseed and Boiled Oil
Turpentine .....

Milled Lead in Sheet and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,
PATENT INDURATING SOLUTIONS,
For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,
INTERNATIONAL EXHIBITION, 1862.

BEST "PENRHYN" ROOFING SLATES,

SLATE RIDGING, GLAZED SOCKET-PIPES,
TILES, PAVINGS, &c.

Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads, to any Railway Station.—Prices and particulars may be had by applying to

HENRY BROWN & SONS, MERCHANTS,
GENERAL WOOD-CUTTING MILLS, LUTON, BEDS.

A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

STONE AND MARBLE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.

N.B Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

PATENT GRAINING APPARATUS.—

TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working; they only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B.—One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s

PRIZE MEDAL, 1862.

HAMILTON & CO.

No 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL
PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Grainers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

KENT'S PAINTING BRUSHES

are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty four years, and may always be depended upon as the best that can be made.

GRAINERS and the TRADE SUPPLIED

with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his Sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest quality and at the lowest prices.
Agents for Kershaw's Graining Machines.

IMPORTANT to BUILDERS and PAINTERS

Genuine White Lead, 30s per cwt.
Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s 10d. per gallon.
Turpentine, 10s. per gallon.
Fine Pale Oak Varnish, 9s. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury street, and 45, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

COLOURS and VARNISHES at REDUCED PRICES,

Genuine White Lead, 30s per cwt.; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10d.; Turpentine, 10s. per gallon; Fine Pale Oak Varnish, 9s. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 144 and 141, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

STAINING DEAL TO IMITATE ALL

KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT, and at HALF

the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Cuttiemuir, near Forfar, N. Milton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
H. STEPHENS, Chemist, 16, St. Martin's-le-Grand, E.C. late of 34, Stamford-street, S.

CROWDEN and GARROD

(successors to THOS. KENT & CO.), the celebrated
PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

BURHAM BRICK, LIME, and CEMENT

COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GARLIC BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that any description of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS,

combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern book, designed by M. Digby Wyatt, esq. together with a special design, and estimate of cost adapted to any given locality in one of hall, passage, corridor, story, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agents—W. B. SIMPSON & SONS, 458, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES,

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City road Basin, N. 2ndly, that the trade terms, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," Class 33l, of the Great Exhibition, note the grant of a First class Medal and rank the Manufactories known so long as "The Peakries," Tunstall, Staffordshire, as the first of the kind in the world.

MINTON & CO.

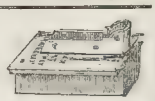
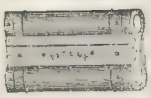
HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS,
TO 50, CONDUIT-STREET, REGENT-STREET.
ENCAUSTIC AND OTHER PAVEMENTS,
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

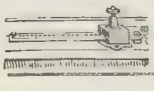
IMPROVED WARM-AIR STOVES, FURNACES, & HOT-WATER APPARATUS
FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS.
KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION.
Manufactured and erected by J. KIRK & CO., Successors to
CUTLER & SONS,
CLARENCE IRON WORKS,
16, GREAT QUEEN-STREET, LINCOLN'S-INN-FIELDS, LONDON.
IRON-FOUNDERS, FURNISHING IRONMONGERS, GAS ENGINEERS, AND BELL-HANGERS.
Orders for EVERY DESCRIPTION of CASTINGS for ENGINEERS and BUILDERS promptly executed.
SPRING ROLLER BLIND MAKERS.
WILLIAM ASHDOWN, Manager.

MANTEL PIECES, ENGLISH AND FOREIGN,
IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.
By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.


BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.
DESCRIPTION AND PRICES ON APPLICATION.
ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

CASTINGS AND WROUGHT IRONWORK
OF EVERY DESCRIPTION.
GLOVER, BROTHERS,
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.
Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.


PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE-ACTION DOORS.


PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.


PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.

Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.
PRIZE MEDAL.—INTERNATIONAL EXHIBITION, STAND 6159

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing numerous advantages, not to be found in anything hitherto made.

At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended," being the only prizes conferred on any competitor in this class.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent Aid in Ventilation.

It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls and kitchens day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours at a cost of Threepence; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.
Full particulars will be sent on application to the Inventors and Makers.

MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

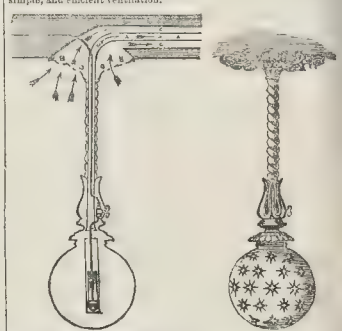

DRAUGHTS & DUST ROUND DOORS & WINDOWS
EFFECTUALLY PREVENTED BY
GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS
(Can be had any Length or Pattern).
The neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work, OLD or NEW.
Self-acting Spring Beads for the bottom of doors.
The most imperfect doors can be made air-tight without re-hanging.
The Trade supplied on liberal terms
JOHN GREENWOOD, PATENTEE,
19, Arthur-street West, London Bridge.


CAUTION to ARCHITECTS and BUILDERS—In consequence of numerous frauds arising from the substitution of INFERIOR and SPURIOUS ARTICLES, in lieu of
SMITH'S PATENT DOUBLE-ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER-TIGHT WATER BAR; and
SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS
The above are again respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princess-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 58 and 60, High Holborn.


SMOKY CHIMNEYS.—The best Cure is the PATENT ALBERT CHIMNEY CAP, 260 on Buckingham Palace; in use also at St. James's Palace, Windsor Castle, Government buildings, mansions, halls, club-houses, and buildings in general. Prospectuses on receipt of two postage stamps.
JAMES BARTON,
Iron Works, 370, Oxford-street, W.
N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.
HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 100 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

RICKET'S & HAMMOND'S
VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.

The advantages obtained are these—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.


BURNEY & BELLAMY, Mill-wall, London.

THE MEDAL FOR 1862.
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.
TRADE MARK.
CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE
Warehouse—21, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought Iron Tubes

MOREWOOD & CO.
(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham. Bath, Birmingham.
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPES, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubes, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates given for Roofs, and every description of Galvanized Buildings, at the
OFFICES and WAREHOUSE DOWGATE DOCK, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246),

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, **WITHOUT EXTRAS.**

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents. Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

JOINERY OF EVERY DESCRIPTION.

STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,

110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET

(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing-Shutters, Doors, Staircases, Hand rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Arched Window Linings, Glass show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DESPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL ROAD, AND STAMFORD STREET, LAMBETH, S.

N.B. Price List on application.

CLERIHEW & LASCELLES

(LATE WATERLOO, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.



MOULDING WORKS.

SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square	5,000 Yellow Battens	from £11 10s. per 120
10,000 Pine Planks	from 3s 6d. each	50 0 0 Feet Spanish and Honduras Veneer	from 1d. per foot
8,000 Yellow Deals	from 6s. 3d. each	Maple ditto	from 1d. per foot.
14,000 Spruce ditto	from 2s. 9d. each		

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 6d.	13s. 0d. per square.
⅞-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼ inch ,,	0s. 0d.	18s. 0d.	19s. 0d. ,,
Yellow Deals, 3 by 9	£19 10 per 120.	Pine Planks (dry), 3 by 11	£24 0 per 120.
Yellow Battens	11 10 ,,	Pine Deals, ditto, 3 by 9	19 10 ,,
Spruce Deals	16 10 ,,	⅝-inch White Matched Lining	0 13 per square.

J. TERRY & SON, 109, Borough-road, S.E.

BUILDERS, AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.	Laths, 28s. per Load.	
Yellow Deals, sound and good	£19 10 0 per 120, or 6s. 3½d. per foot.	
Spruce Deals	16 10 0 ,,	0 2¾ ,,
Yellow Battens, excellent quality	11 10 0 ,,	0 2 ,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 ,,	3 6 each.

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

STEAM SAWING, PLANING, and MOULDING MILLS,

SAINT LEONARD'S ROAD, POPLAR, E.

WATTS, BROTHERS, PROPRIETORS,

Having added to their machinery a first-class Planing Machine, are now in a position to turn out Flooring, Matched Boards, &c. any width or thickness, in a very superior manner, and with despatch. Estimates given for all descriptions of work in quantities. A large stock of moulding always on hand, and any patterns wrought to order

JOINERY WORKS,

21, HARRINGTON STREET, HAMPSTEAD-ROAD, N.W.

NEVIL SIMMONDS,

SHOP FRONTS, SASHES, DOORS, &c.

Price Lists and Estimates on receipt of Stamp.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2¼ Yellow Battens, 11f. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; 1 White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.

Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED.

Recommended in "The Engineer." "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.

Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.

Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2s. 6d post free.

STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,

20, WESTMINSTER BRIDGE ROAD, LAMBETH,

Near Astley's Theatre.

Respectfully inform the public that their Illustrated Price list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. The Asphalte is now extensively used for paving Stables (as shown above), the absence of joints prevents the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TO PUBLIC COMPANIES, SURVEYORS, BUILDERS, CONTRACTORS, AND OTHERS.

C. PROCTOR, of 18, Jubilee-street, Mile-end, begs most respectfully to inform the above, in town or country, having any OLD MATERIALS to DISPOSE OF, that he is at all times prepared to offer the HIGHEST PRICE, and clear the ground in the shortest possible time, to the entire satisfaction of all parties concerned. All letters punctually attended to. Distance no object, and cash down

PARIAN CEMENT for INSIDE WORK.

With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

STRINGFIELD and BLYTH,

SOLE CONSIGNEES OF

NELSON'S BLUE LIAS LIME.

ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, AND BRICK MERCHANTS,

PLASTER OF PARIS MANUFACTURERS.

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally

Country orders forwarded with despatch.

GREY STONE LIME.

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS:

13, UPPER GROUND STREET, BLACKFRIARS, S.

7, NORTH WHARF ROAD, PADDINGTON, W.

CHARLES RICHARDSON,
BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,
BRUNSWICK WHARF, VAUXHALL, S.
AND
6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.
Goods sent per Rail with all Despatch.
Cheques crossed Bank of England, to order
Post-office Orders payable at Vauxhall or Edgeware-road.

HONDURAS WHARF AND FALCON WHARF,
74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.
JOHN NEWTON & CO.
STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

PART'S MARTIN'S CEMENT
Is the best internal Cement in use.
Manufactured ONLY by J. CUMBERLAND PART,
186, DRURY-LANE, LONDON, and at DERBY.
COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.
EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,
(ESTABLISHED 1820)
FIRE BRICK AND TILE MERCHANTS,
WHOLESALE AND FOR EXPORTATION.
FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.
DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND F. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS —
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Where can be obtained, of the best quality —
GREY STONE, CHALK, FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Do. and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS, BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLUE, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BUFF, and BLUE, also GARDEN EDGINGS
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS
Do. do. do. ORNAMENTAL RIDGE and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
BEST and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Bath, Lincrs, Dairies, Shops, Kitchens, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS &c
RED DRAIN PIPES, TILES, and CHIMNEY POTS.
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 3, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830), is ROBESON, Stuart Pleasant, Gray's Inn-road. The cheap country made article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster unadulterated.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS.
LIME BURNERS.
BRICK MAKERS.
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THOMAS HILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARVES,
FRINDSBURY, near ROCHESTER, KENT.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for structural, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY,

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge. } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non absorbent.
Shipments on the shortest notice.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland-yard, Whitehall, and at the Works.

PORTLAND CEMENT.
GREAVES & KIRSHAW.
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from Wharves in London.
N.B. Shipping Merchants' and Builders' Orders promptly executed.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



LONDON WHARF, 64, Bankside, Southwark.

LONDON OFFICES, 76, King William-st City.

MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues

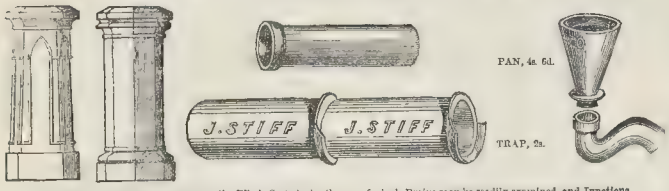
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further communication.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO STREET, LIVERPOOL,

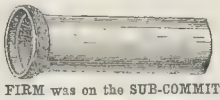
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

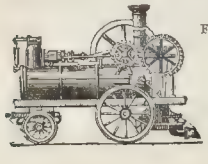
WELL-BORING TOOLS.

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



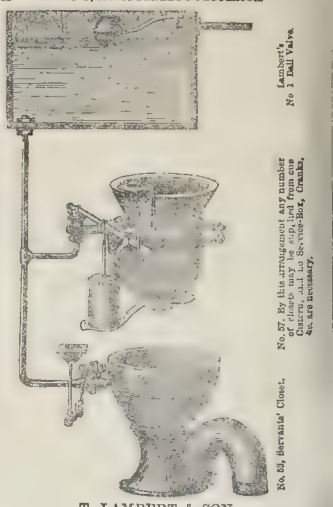
PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, **TO LET ON HIRE**, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,
FOUNDERS, HYDRAULIC AND GAS ENGINEERS,
SHORT STREET, LAMBETH.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6349.

3s. 9d.



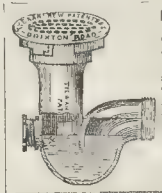
The ONLY MEDAL "for STONEWARE" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the admired pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action at it striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 17 No. 5,243.

JOSEPH FARMER,
Turret Clock Maker to Her Majesty's War Department,
188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches		8 Guineas
Gentlemen's	do. do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches		18 "
Strong Silver Lever Watches		9 "
Gentlemen's Gold Compensation Balance Watches		40 "
Do. Silver	do.	25 "
Marine Chronometers	do.	50 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London made Plate Glass Barometers, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.
MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet street, London.
These Pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood	F F for stout lines
H H H for architectural use	F for ordinary use
H H for engineering	B black for shading.
H for sketching	B B ditto ditto
H B hard and black for drawing.	B B B ditto ditto
	B B B B ditto ditto

M medium
Sold by all the principal Stationers in town or country.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty five feet in depth

Diameter of Barrel	Height	£ s. d.
2¼ in. short	1 ft. 7 in.	Fitted for lead, gutta percha, or cast iron	0 19 0
2¼ „ long	3 ft. 3 in.		1 4 0
3 „ long	3 ft. 6 in.		1 15 0
3½ „ long	5 ft. 6 in.	flanged pipe.	1 19 0
4 „ long	5 ft. 6 in.	as required.	2 6 0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			3 15 0
2½ in. long ditto, ditto			2 1 0

TWO PRIZE MEDALS FOR BELLS HAVE BEEN AWARDED TO JOHN WARNER and SONS,



AT THE GREAT EXHIBITIONS IN 1851 AND 1862.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in Peals.

TUNED BY MACHINERY.

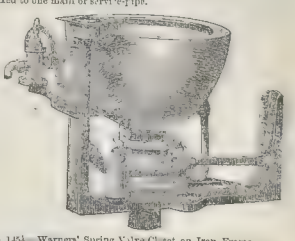
Old Bells recast or taken in Exchange.

An experienced Bell hanger sent to inspect, report, and advise on the state of Peals out of repair. Estimates furnished for New Oak Frames and Fittings, and for Repairing Old Ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service pipe.



No 145½.—Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin £3 15 0
Sunk Handle, extra 0 3 0
Blue Basin, extra 1 6



No. 69.

WARNERS' PATENT

BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 „	5 5 0	
3½ „	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch £3 10 0
3 „ 4 0 0

No. 36½.

WARNERS' IMPROVED CAST IRON

LIFT AND FORCE PUMP,

The Barrel lined with Brass

2½ inch	£2 10 0
3 „	2 15 0



No. 384. No. 383.

WARNERS' HIGH-PRESSURE COCKS

are made with Gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and refeathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.



No. 148½.—Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0
Sunk Handle, extra 0 2 0
Blue Basin, extra 1 0

The above prices are subject to a liberal discount.



WARNERS'

Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 30s. each. J. W. & SONS also supply all Fittings requisite for the same.

JOHN WARNER & SONS,

BELL and BRASS FOUNDERS to HER MAJESTY.

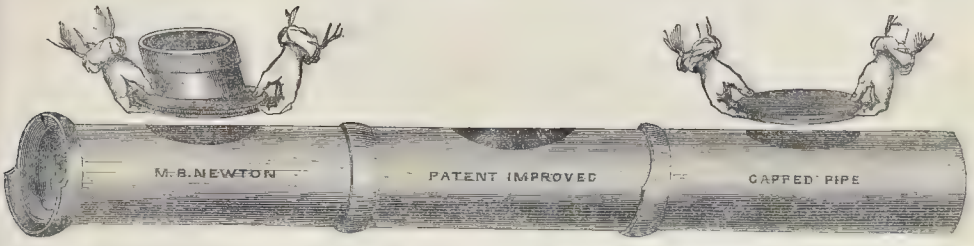
INTERNATIONAL EXHIBITION.

Class 8. WESTERN ANNEXE. Pumps, Beer Engines.
Class 9. EASTERN ANNEXE. Garden Engines, Syringes, &c.
Class 10. NEAR EASTERN DOME. Water-closets.
Class 31. SOUTH-EAST TRANSEPT. A Peal of Eight Bells and Clocking Apparatus.
Class 31. HARDWARE COURT. Bells, Urns, Lamps, Braziery Goods, Baths, Steam Fittings, Plumbers' Cocks.

Illustrated Catalogues forwarded on application at the Manufactory, 8, Crescent, Cripplegate, London.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.



The ABOVE INVENTION WILL RECOMMEND ITSELF to Architects, Engineers, and others interested in Drainage, for its SIMPLICITY of construction; there being NO COMPLICATION OF PARTS.

The "Manhole" is sufficiently large to admit of the DRAIN being THOROUGHLY CLEANSED WITHOUT A SINGLE PIPE BEING REMOVED.

It DOES NOT at all INTERFERE WITH THE FLOW OF WATER in the Drain.

It IN NOWISE WEAKENS THE PIPE; and

It ADMITS of the ready INSERTION OF A JUNCTION by removing the "Manhole" cover, and replacing it with a loose Junction Arm.

Manufactured solely by

JOSEPH CLIFF & SON, WORTLEY, near LEEDS;

For MARCUS BOURNE NEWTON,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON, N.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

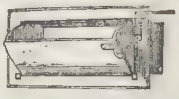
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

VENTILATION—PURE AIR.



Sheringham's Day and Night Ventilator for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

SALES BY AUCTION.

TO ENGINEERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the WAREHOUSE, adjoining the Wool carding Works, Belvedere road, Lambeth, on TUESDAY, NOVEMBER 25th, at ELEVEN o'clock, in lots, a COLLECTION of ENGINEERS' TOOLS, many of them quite new, including ten self-acting turning and screw-cutting lathes, from 6 to 12-inch centres, beds 7 feet to 25 feet long; two self-acting engine planing-machines, to take 2 feet in width, and 6 feet and 8 feet in length; self-acting drilling-machine, one bench and one wall drilling-machine, self-acting shaping machine, five eccentric punching-machines, one band sawing-machine, twelve sets of stocks, with taps and dies, thirty pairs dome blocks, a 6-horse power horizontal steam-engine, 150 feet of turned bright shafting, 250 feet of turned bright steel wire, 14 gauge, work-benches, fly press, grindstone, pair of large bellows, assorted tools, bar and rod iron, and numerous other effects.—To be viewed on Monday previous and morning of sale, when catalogues may be had, on the Premises; or previously, of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY, NOVEMBER 25th, as above, a powerful Self-acting TENONING MACHINE (quite new), by John McDowall & Sons, with cast-iron column and bed-plate, circular saws, planing gear, and counter shaft.—To be viewed with the other effects; and catalogues had at 13, Billiter-street, London, E.C.

TO MILITARY GUN MAKERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY, NOVEMBER 25th, as above, a costly RIFLE LOCK LETTING-IN MACHINE, by EVANS & SON; a Gun-barrel Stock-bedding Machine, and a Gun-stock Grooving Machine. To be viewed with the other effects; and catalogues had at No. 13, Billiter-street, London, E.C.

TO DRUG AND SPICE GRINDERS, MUSTARD MAKERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY, NOVEMBER 25, at the BELVEDERE ROAD, Lambeth, a PAIR of GRANITE-EDGE RUNNERS, 4 feet 8 inches diameter, 15-inch face, an 8 hole sifting-frame, 48 silk and wire sieves, 3 wrought iron oil-tanks, and a large mahogany table.—To be viewed with the other effects; and catalogues had at No. 13, Billiter-street, London, E.C.

ADDISCOMBE COLLEGE, CROYDON, Surrey.—Excellent Building Materials, Three Greenhouses, Box-Edging, Fruit-Trees, &c.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town of Croydon, on MONDAY, NOVEMBER 17th, 1862, at ELEVEN for TWELVE o'clock, the tenth Portion of the excellent BUILDING MATERIALS of the Addiscombe Military College; comprising 10,000 superior stock bricks, beams, joists, rafters, floor boards, doors, window, brickbats, paving stone, pale fencing, firewood, &c. Also three greenhouses, asparagus-beds, 300 yards of box-edging, fruit-trees, &c. May be viewed on the FRIDAY and SATURDAY before the Sale; and catalogues obtained of the Foreman, on the Estate; and of the Auctioneer, 14, Moorgate-street, London, E.C.

BOW ROAD—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on FRIDAY, NOVEMBER 28th, 1862, at TWELVE for ONE o'clock, in Seventy-four Lots, the first portion of the eligible FREEHOLD ESTATE, lately occupied by the Merchant Seamen's Orphan Asylum, about 10 minutes' walk from the Bank, on the high road from London to Stratford. The lots possess frontages to the Bow road, and to new roads leading thereto, to be called Mercantile and British Roads. Omnibuses pass the estate every two or three minutes, and the Bow Railway station is within five minutes' walk. Nine tenths of the purchase-money may remain on mortgage or contract, at 5 per cent, to be paid in two years, by half-yearly instalments; but the whole or any part of the balance may be paid off at any time, without notice. Particulars, plans, and conditions of Sale may be obtained about a fortnight before the Sale, of Messrs. RUSSELL & DAVIES, 50, Coleman-street, London, E.C.; of the Foreman, on the Estate; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

FOR BENEFIT OF CREDITORS.—BY ORDER OF ASSIGNEES.

MR. EDWIN WHITE will SELL, at 12, HOLBORN-BARS, on TUESDAY, NOVEMBER 18, at TWO precisely, by order, SPLENDID ORIENTAL CHINESE PIECES, wrought in the following costly marbles:—Pure statuary, fossil black, rouge-royal, Belgium grey, the new Garibaldi marble, Italian and Sicilian jasper, &c.; a number of hard stone chimney-pieces, 7,000 pieces of French and English paperhangings, in flocks, golds, satins, grounds, tints, marbles, decorations, &c.; two tons white lead and oil, superb assortment of gilt room moulding, and items.—View and catalogues, Monday, prior, and morning of sale

CHARING CROSS RAILWAY.—Twenty-fourth Clearances Sale.—Eighth Portion of the Hungerford Market.—To Builders, Contractors, and Others.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with Instructions from the Directors to SELL by AUCTION, on the PREMISES, on MONDAY, NOVEMBER 24th, 1862, at ONE o'clock punctually, in lots, the EIGHTH PORTION of the very valuable and useful MATERIALS of the Hungerford Market, consisting of a public-house, and six shops in Villiers-street, and four shops in the Hungerford Arcade: comprising capital stock brickwork, Bangor slating, plain and patent tiles, red rubber roofs and floors, good flooring boards, panelled and other doors, sashes and frames, plate glass and glazed shop-fronts, lead in pipes and gutters, quantity of York paving, and a variety of useful fixtures and fittings up.—May be viewed the Saturday before the sale, and catalogues had of Mr. MARSH, Charlotte-row, Mansion-house; of Messrs WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's-court Cornhill, E.C., and West Molesey, Kingston, Surrey; and of Mr. EDWARD HYDE, Surveyor to the Company, at the Offices, in the London Bridge Terminus.

Important Sale of Nine Acres of very valuable Freehold Building Land, in the midst of the rapidly increasing eastern suburbs of London, about three miles from the City, half-a-mile from the Bow and Bromley Stations, and a mile from those at Stepney and Limehouse

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, NOVEMBER 25, at TWELVE, in one lot, about nine acres of very valuable FREEHOLD BUILDING LAND, situate in Devon's-road, in the parish of Bromley St. Leonard, Middlesex, nearly opposite Messrs. Moses, Son, & Davis's india-rubber manufactory. The land possesses a frontage of about 660 feet to the Devon's-road, and affords an eligible site for the erection of small houses or manufacturing premises. A fine opportunity is here offered to assist in supplying the great demand for dwellings for the working classes caused by the destruction of such a vast number of habitations by the new railways in the metropolis.—Particulars, with plans (now ready), of CHARLES DYSON, Esq. Surveyor, Stratford; of Messrs HOBBS & COLLINS, Solicitors, Reading; and of the Auctioneers, 80 Cheapside.

HERTFORD.—About Twenty Acres of Land, adjoining the town, and affording the finest Sites in the Neighbourhood for Building; also several Cottages.

MESSRS. DEBENHAM & TEWSON will SELL, at the MART, on TUESDAY, DECEMBER 9, at TWELVE (in one or three lots, as may be determined on), about Twenty Acres of FREEHOLD LAND, land-tax redeemed, known as Wallfield, situate immediately adjoining the town and within the borough of Hertford, within ten minutes' walk from the termini of the Great Northern and Great Eastern Railways, both affording access to London in a little over the hour. The land is singularly eligible for building purposes, having four frontages, one of which is to the high road to Essendon and Hatfield. It lies elevated, commanding beautiful views; the subsoil is gravelly, and it yields fine spring water, no well having to be sunk for building purposes. Also, in one lot, Two Dwelling-houses and Eight Cottages, at Cowbridge, in the town of Hertford, nearly opposite the Great Northern Railway Station, producing a rental of 76l per annum.—Particulars of Messrs LOADMORE, SWORDER, & LONGMORE, Solicitors, Hertford; and of the Auctioneers, 80, Cheapside.

IMPORTANT CLAY WORKS, &c.

TO BE LET, on Lease, for 21 years, the LEE MOOR CLAY and BRICK WORKS, with Railway to Plymouth Harbour. The Directors of the Lee Moor Pan Clay Company are now prepared to TREAT for the LEASE of the above WORKS, which are near to Plymouth, and well suited for a large and important business. The bed of clay is considered inexhaustible, and particularly rich in china clay of a very superior quality. The fire-bricks made from the refuse of the china clay have never been surpassed in quality. Printed particulars of the terms on which the Directors are prepared to treat, may be obtained on application personally, or by post, as under. Proposals will be received by the Directors on or before the 27th of NOVEMBER next, at No. 1, Mount Pleasant-terrace, Plymouth.

W. HARRIS, Secretary and Manager.

Lee Moor Clay Works, Plympton, Devon, October 25th, 1862

SIX FREEHOLD HOUSES, well situated near the Junction-road, Holloway, TO BE SOLD for 390l. each. 250l. per house may remain on mortgage.—Apply by letter to L. B. Post office, 113, Edgware-road, W.

TO SMALL CAPITALISTS, FREEHOLD LAND or BUILDING SOCIETIES.—THIRTY ACRES of BUILDING LAND, admirably situate close to a station, half an hour from the City by rail, TO BE SOLD on advantageous terms. Apply by letter to E. Z. Post-office, 116, Edgware-road, W.

FARNBOROUGH and ALDERSHOTT FREEHOLD and GROUND RENT SOCIETY, LIMITED.—The Directors give notice that they are now prepared to receive APPLICATIONS for BUILDING SITES on the Society's Estate at Farnborough.—Applications for plans and other information to be made to the Society's Architect, Mr. HENRY CURRENT, 4, Lancaster-place, Strand, W.C. Advances to Builders, if required.—By order of the Board. EDWARD CHATFIELD, Managing Director.

18, New Bridge-street, 5th Nov. 1862.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Shar brook Station is 40 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Kingston; and some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

MANUFACTURING PREMISES WANTED, to RENT or PURCHASE; or Premises that could be converted into a Factory, within 50 or 60 miles of London, on a line of railway. A good dwelling-house, workmen's cottages, and a few acres of land desirable.—Apply by letter, stating full particulars, addressed, A. B. Post-office, Seaside-street, Lincoln's-inn, London, W.C.

TO CAPITALISTS, BUILDERS, SPECULATORS, and OTHERS.—Valuable LEASEHOLD PREMISES TO BE SOLD, under an assignment for the benefit of creditors, situate in Goodman's yard, Minories, London, surrounded on three sides by property belonging to the London and Blackwall Railway Company, certain to realise a very large profit to the purchaser. For further particulars apply to Mr. JOHN WATTS, 25, Sewardstone-road, Victoria Park.

TO BE LET on LEASE, for a long Term, in Tooley-street, close by the Railway Stations, extensive BUSINESS PREMISES, well adapted for a Builder or any business, comprising a large well-built house, offices, stables, and extensive ranges of buildings, in two floors, with yards, and back and front entrances.—For particulars apply to Mr. PEACOCK, 15, Bloomsbury-square

BUILDING LAND TO BE LET, within five minutes' walk of Shoreditch Church, in the midst of a rapidly improving and densely populated neighbourhood, where small property (six roomed houses) is eagerly sought for, both for investment and occupation.—Apply to Mr. CLARKSON, 9a, Great Saint Helen's, City.

TO CARPENTERS, BUILDERS, and OTHERS.—ONE or TWO SEVEN-ROOMED CARCASSES TO LET, in a most desirable situation for selling and letting, near the Richmond road, Islington. Term, 89 years. Ground rent low. Apply to Mr. CLARKSON, 9a, Great St. Helen's, City.

HORNSEY PARK ESTATE, near Hornsey Station.—FREEHOLD GROUND TO BE LET, on building leases of ninety-nine years. Permission to make bricks on the estate.—Apply to Mr. JAMES LOVEGROVE, Surveyor, Balston rise, Hackney, N.E.; or of RICHARD CHIDLEY, Esq. 9, Wellington-chambers, London Bridge, S.E.

TO BUILDERS, CABINET-MAKERS, MILLWRIGHTS, and OTHERS requiring space.—Capital PREMISES; consisting of comfortable residence, two-story workshops, large yard, pump, &c.; toll free to town, TO BE LET or SOLD. Apply to Mr MARSHALL, The Crescent Arms, adjoining the Property, Southampton-street, Camberwell.

TEDDINGTON.—TO BE SOLD, in this favourite locality, from ONE to TEN ACRES of FREEHOLD LAND (land tax redeemed and tithe free), for the Erection of Villa Residences, situate within three minutes' walk of the new station at Teddington, on the Chertsey Cross Railway, within thirty minutes of the metropolis; near Bushy Park, Richmond, Twickenham, and the Thames. This estate is beautifully timbered, and the soil gravel. For particulars apply to Messrs. LAWS & DENNISON, Architects, 12 Doughty-street, Mecklenburgh-square; or to Messrs. R. KENYON & CO. Auctioneers, 11, Abchurch-lane, City.

TO BUILDERS or CAPITALISTS. — To BE LET or SOLD, a valuable FREEHOLD BUILDING SITE, near London Bridge, having a frontage of about 70 feet to the river, and an area of 10,000 superficial feet. A lease will be granted for a long term at a low ground-rent, or if purchased, two-thirds of the purchase-money might remain on mortgage. Warehouse accommodation, with river frontage, is in great demand in the city, and very large rentals would be obtained, with a very small outlay.—For further particulars and cards to view, apply to Messrs. WILSON & SCOBLE, 114, Leadenhall-street, E.C.

TO ENGINEERS, CONTRACTORS, AND OTHERS.

A CAPITALIST WANTED, to CO-OPERATE in a most lucrative FOREST INVESTMENT. The property is of enormous extent, and the demand of great magnitude by first class consumers. Security will be given for first advances. None but principals need apply.—Address, by letter, FOREST, H. Laxton, esq. Surveyor, 34, Arundel-street, Strand, London.

MONEY, 275,000l.—A Profesional Gentleman is desired by a client to FIND SECURITIES for the above sum in sums of not less than 100l.—Apply, by letter only, with full written particulars, to JOSEPH WESTLAKE, Esq. 22, Lincoln's-inn-fields, London; but no personal application will be attended to. If the securities are approved of, an appointment will be made

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.

EDWARD HARPER, Secretary.

TO COUNTRY BUILDERS and OTHERS.

WANTED, in or near a market town of some importance, and within a few miles of a railway station, a First-class BUSINESS. The premises must be capacious, with good yard and comfortable dwelling-house. A brickfield adjoining would not be objected to. Must be in a place where a good trade may be expected with perseverance. References of the highest character will be required and exchanged.—Address, with full particulars, terms, &c W. WILSON & CO. care of Abbott, News-agent, 7, Little Tower-street, London, E.C

TO CARPENTERS and BUILDERS.—WANTED to PURCHASE, a good BUSINESS, in town or the suburbs. Send the lowest price, with full particulars.—Address, C. D. Office of "The Builder."

TO BUILDERS, HOUSE DECORATORS, &c.

TO BE DISPOSED OF, an old-established BUSINESS in the above line, situate in an improving district, close to a railway station, about five miles from the City.—For particulars apply to Mr. PEAKE, 44, Tooley-street, Southwark, S.E.

TO SURVEYORS, AND CONTRACTORS.

MAIN DRAINAGE.—A Gentleman of experience OFFERS his ASSISTANCE in the PREPARATION of QUANTITIES or ESTIMATES for the SOUTHERN LOW-LEVEL SEWER. Reference given. Address, G. M. care of Mr. Ward, 41, Blackman street, Borough, S.E

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10 There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford st. Russell-sq.

TO ARCHITECTS AND SURVEYORS.

GUYER & COMPANY, Lithographers and Printers, Grocers' Hall Court, Poultry, E.C. beg to invite attention to the resources of their Establishment as above, for LITHOGRAPHING and PRINTING BILLS of QUANTITIES, Specifications, Detail Drawings, &c. &c. Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly engaged on the premises, they are established to guarantee superiority of style, correctness, and expedition Specimens and Lists of Charges, post free.

N.B. Any number of copies of quantities or specifications lithographed in a few hours, and if the drafts from the country be received by the morning's post, the copies required can be returned the same evening

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 37s. 6d. per 1,000.
" Floor Bricks, 40s. per 1,000.
" Mingled Kiln Bricks, at 26s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire-street Station, at 24s. per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.

Red, White, and Black Cutters.
Fancy Moulded Bricks of many patterns.
Best hard Kiln-burnt Common Bricks, in large quantities.
Do 6 inches.
Do. Culvert Bricks.
Plain Tiles of kinds.
Plain and Fancy Ridge-tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two thirds of the working expenses of other machines.

Price, including royalty, 75l

Licences to Manufacture granted for certain districts

For particulars, apply to BUNNETT & CO. Engineers and Founders Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,810.

A NEW BRICK and LIME WHARF, and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

ARTISTS' IMPROVED STUDIO EASEL.

A Will take Canvases from 6 inches to upwards of 10 feet high. Extreme movement; ready fall-forward ditto. Very complete, simple, strong, and efficacious.—WINSOE & NEWTON, Manufacturers, 38, Rathbone place, London.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul Covent-garden, both in the County of Middlesex.—Saturday, November 15, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

Vol. XX.—No. 1033. NOVEMBER 22, 1862. PRICE FOURPENCE. By Post, 5d.

ILLUSTRATIONS.

Manchester Cellar Dwellings.—Entrance to an Underground Shop: Cellars for Buyers.—Entrance to Cellar Dwellings. No other Opening.—Interior of a Cellar Shop: Business and the Family.—Access to other Cellar Dwellings: Death in the Dirt 840
The Industrial Museum, Edinburgh.—Captain Fowke, R.E. Architect 841
A Life Belt 837

CONTENTS.

Social and Sanitary Jottings in Manchester: Cellar Dwellings .. 833
Architecture and Decoration in Florence 834
New Materials for the Life of Caius Gabriel Cibber 835
The Fall of the Viaduct on the City and Hammersmith Railway 836
The Marriage of the Prince of Wales 837
Projects affecting the Metropolis 837
Life Belts and Boats 837
Stained Glass Windows and Ventilation 837
Statistics of the International Exhibition: The Society of Arts . 838
The Architectural Association: Architectural Alliance 838
Institution of Civil Engineers 839
Competitions 839
Copyright and Patent Right 839
The Institute of Architects 840
The Industrial Museum, Edinburgh 840
Ventilation and Warmth.—Saving of Fuel 841
Provincial News 843
Church-building News 844
Stained Glass 845
The New Exchange Buildings, Liverpool: One Thousand Pounds for a Design 845
Grinling Gibbons 846
Tower Hill and Gray's Inn-lane 846
Chronological Cables 846
To render Glazed Roofs Water proof 846
Leca. Albert Memorials 846
Patents connected with Building 846
Books received: Beeton's Book of Garden Management; Adams on Birds of Prey (Eggs): Varforum 847
Miscellanea 847

SHEFFIELD SCHOOL of PRACTICAL SCIENCE and METALLURGY.

PRESIDENT.

His Grace the Duke of Devonshire, K.G. F.R.S. D.C.L. Chancellor of the University of Cambridge

VICE-PRESIDENTS.

The Mayor of Sheffield, John Brown, esq.
The Master Cutler.
The Right Hon. Lord Wharncliffe.
Sir David Brewster, K.H. D.C.L. F.R.S.L. & E. M.R.I.A,
Sir Roderic Murchison, F.R.S. Director of the Royal School of Mines.
John Percy, esq. M.D. F.R.S. Professor of Metallurgy in the Royal School of Mines.
William Fairbairn, esq. C.E. F.R.S.
Robert Hunt, esq. F.R.S. F.S.S. Keeper of Mining Records.
Warrington W. Smyth, esq. M.A. F.R.S. Professor of Mining and Mineralogy in the Royal School of Mines.

LECTURER.

The Rev. G. B. Atkinson, M.A. Principal of the Collegiate School; late Fellow and Assistant Tutor of Trinity Hall, Cambridge.

PROFESSORS.

Chemistry, Metallurgy, and Geology—James Allen, Ph.D. F.C.S. of the Universities of Giessen and Berlin.
Engineering and Mining—J. Thomson, C.E.
Mathematics, Natural Philosophy, and Applied Mechanics—Rev. G. B. Atkinson, M.A.

The Sheffield School of Practical Science and Metallurgy will afford a complete scientific and practical education to students who are destined to become civil, mechanical, or mining engineers, or manufacturers of any kind. Its object is thoroughly to discipline the students in the principles of those sciences upon which the operations of the engineer, metallurgist, or manufacturer depend.

The education will be given by means of systematic Courses of Lectures, by Catechetical Class Instruction, by Practical Teaching in the Laboratory and Drawing-room, and occasionally by Field Excursions.

The School of Practical Science and Metallurgy will be conducted in the Buildings of the Sheffield Collegiate School. The two Institutions, although both under the superintendence of the Rev. G. B. Atkinson, Principal of the Collegiate School, are, however, entirely distinct.

A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c. may be obtained by application to the Director.

THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

ARCHITECTURAL ASSOCIATION,

9, Conduit street, Regent street.

A Paper will be read on FRIDAY evening next, NOVEMBER 28, by ARTHUR ASHPITEL, Esq. F.S.A. Vice-President of the Royal Institute of British Architects, on "The Voluntary Architectural Examinations" to commence at EIGHT o'clock precisely.

Gentlemen interested in the subject, though not Members of the Association, will be admitted on application to the doorkeeper.

CHAS. L. ADAMS,
H. ATTWOOD REEVES, } Hon. Secs.

WATER-COLOUR PAINTERS' LANCASHIRE RELIEF FUND.—Artists who have received a circular inviting them to contribute towards this Fund, for the relief of the distressed operatives, are requested to send their answers to the Secretary, not later than the 26th inst. in order that a complete list of the names of the contributors may be published, and that notice of the place and time of receiving the Paintings may be forwarded them. JAMES FAHEY, Hon. Sec.

6, Waterloo-place, S.W.

BUILDERS' BENEVOLENT INSTITUTION.—WEDNESDAY NEXT.—An ELECTION of THREE PENSIONERS, TWO MALES and ONE FEMALE, will take place on WEDNESDAY, 26th inst. at the London Tavern,

HENRY LEE, Esq. President of the Institution, in the chair

Polling commences at TWELVE, and closes at THREE o'clock precisely. A. G. HARRIS, Sec.

November 21, 1862.

BUILDERS' BENEVOLENT INSTITUTION.—ELECTION, November 26th.—CHARLOTTE ANN DRACCON, widow, aged 66, formerly a subscriber to the above excellent charity, and now a candidate for its benefit, earnestly SOLICITS the VOTES and INTEREST of the kind friends who supported her at the last election, and vies any others whose votes are still unengaged. Proxies will be thankfully received by Mr. JOHN BIRD, Builder, 21, Seymour place, Bryanston square

AUTUMN EXHIBITION of BUILDING INVENTIONS at the GALLERIES of the ARCHITECTURAL SOCIETIES, 9, Conduit street.—Exhibitors at the International Exhibition and others are informed that SPACE may be taken at One Guinea per panel run.—Will be open from NOVEMBER to the end of JANUARY.—Apply to Mr MOODY, on the premises.

CONTRACTS.

METROPOLITAN BOARD of WORKS, MAIN DRAINAGE of METROPOLIS SOUTHERN LOW-LEVEL SEWER.—To BUILDERS, CONTRACTORS, and OTHERS. The Metropolitan Board of Works hereby give Notice, that they will meet at the Office of the Board, Spring-gardens, S.W. on FRIDAY, the 12th day of DECEMBER next, TWELVE o'clock at noon precisely, and will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of BRICK SEWERS, 9 miles 2,895 feet in length, or thereabouts, with engine sinks in connection therewith. The sewers will commence at High-street, Putney, and be continued along Wandsworth-lane, Love-lane, High street, Ram-lane, York-road, Battersea-road, Nine Elms, Wandsworth-road, New Bridge-street (Vauxhall), Harleyford-road, Kennington Oval, Harleyford street, Camberwell New-road, Grosvenor street, Grosvenor Park, Albany-road, St. George's-row, Brunswick road, Neate street, Old Kent road, all terminate at High-street, Deptford, in the parishes of Stepney and Deptford. Parties desiring to submit Tenders may, on and after WEDNESDAY, the 12th instant, upon payment of 5s. to obtain plans sections, specification, form of Tender, and other particulars, on application to Mr. J. W. BAZALGETTE, Engineer of the Board, at the Office, Spring-gardens, between the hours of NINE a.m. and FOUR p.m. or on SATURDAYS, between the hours of NINE a.m. and TWO p.m. until THURSDAY, the 11th day of DECEMBER next The Tenders are to be addressed to the Clerk of the Board, and must be delivered at the Office before FOUR o'clock on the last named day; and no Tender will be received after that hour. The parties tendering must be in attendance at the Board at TWELVE o'clock on the day appointed for opening Tenders. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due and satisfactory performance of the Work.

JOHN POLLARD, Clerk of the Board.

Spring-gardens, S.W. November 5, 1862.

LEEDS CORPORATION WATER-WORKS.—TENDERS WANTED for making, erecting, and setting to work, at Arthington, near Leeds, a CORNISH PUMPING-ENGINE, with lifters complete, capable of lifting 6 millions of gallons per twenty-four hours. The specification and plan may be obtained on and after MONDAY, the 17th instant, at the Office of Mr. EDWARD PILLITER, C.E. Borough Surveyor, and Engineer to the Waterworks, Town Hall, Leeds. Sealed Tenders, addressed to "The Waterworks Committee," Town Clerk's Office, Leeds, to be sent in not later than TEN o'clock in the forenoon of FRIDAY, the 19th DECEMBER.—By order, JOHN EDWD. SMITH, Town Clerk.

Leeds, 7th November, 1863.

TO RAILWAY CARRIAGE BUILDERS. The Directors of the Blackpool and Lytham Railway are prepared to receive DESIGNS and TENDERS for about six First and Twelve Third-class CARRIAGES, suitable for a sea-coast railway.—Tenders to be sent in to the secretary, Mr. T. FAIR, Wrinkley street, Preston, on or before the 29th instant.

FARRINGDON CORN EXCHANGE.—To BUILDERS, CONTRACTORS, and OTHERS.—The Directors will be prepared, at their adjourned meeting on SATURDAY, the 6th of DECEMBER next, to receive TENDERS from all persons willing to CONTRACT to BUILD the CORN EXCHANGE, and ROOMS adjoining, upon the site of the old Dragon Inn, according to the plans and specifications of Mr. John Linker, which will be open for inspection at the Office of Mr. CROWDY, in FARRINGDON, on and after WEDNESDAY, the 19th NOVEMBER instant. The Contractor will be required to enter into the usual Contract, and give security, to be approved by the Directors, for the due performance of the same, and for the completion of the works by a given time. Sealed Tenders, addressed to "The Secretaries of the Farringdon Corn Exchange Company (Limited), Farringdon," to be sent in by TEN o'clock in the morning of SATURDAY, the 6th of DECEMBER next The Directors do not pledge themselves to accept the lowest or any Tender. GEO F CROWDY,

GEORGE J. HAINES, } Secs.

Farringdon, 12th November, 1862.

TO GAS-FITTERS.—The Guardians of the Poor of the STEPNEY UNION will meet at the Ratcliff Workhouse, York-street West, Commercial road East, on THURSDAY, the 4th day of DECEMBER next, at FIVE o'clock in the afternoon, to receive and open TENDERS from persons willing to SUPPLY and FIX the GAS FITTINGS at the new Workhouse of the Union at Bromley, Middlesex. Copies of the Specification, together with forms of Tender and Particulars, may be obtained from the Architect, Mr. HENRY JARVIS, at his Office, No. 22, Trinity-square, Southwark. A deposit of 5l. must be left with the Architect by each party applying for a copy of the Specification, but will be returned after the Tenders have been opened as above.—By order of the Guardians, W. H. SWEPSTONE, Clerk.

London, 6th Nov. 1862.

CONTRACTS.

TO PERSONS DESIROUS of ERECTING MODEL COTTAGES.—The Council of The Central Cottage Improvement Society is desirous of receiving TENDERS for the PURCHASE and REMOVAL of the PAIR of MODEL EXHIBITION COTTAGES, which, by permission of Government, was erected during the International Exhibition, in the Exhibition road, nearly opposite the Eastern Dome, on the grounds of the South Kensington Museum.—They may be viewed by any of the Honorary Architects, Messrs. W. G. HABERSHON & PITE, 38, Bloomsbury-square, of whom further particulars may be obtained, and to whom sealed Tenders are to be delivered on SATURDAY, 29th inst. before ONE o'clock.

TO BUILDERS. — Builders willing to TENDER for RE BUILDING ST. ISSEL'S CHURCH, near Sandy, Bedfordshire, Double-decking may see the plans and specifications, on application to E. WILSON, Esq. Hean Castle, St. Issel's, between the hours of NINE and FOUR, from the 27th inst.—Tenders to be delivered sealed and endorsed, "Tender for re-building St. Issel's Church," to E. WILSON, Esq. on or before the 1st day of DECEMBER next. The lowest or any Tender will not necessarily be accepted. FREDERICK R. KEMPSON, Architect,

Hereford, October 1, 1862

ST. MARYLEBONE. — November 15th, 1862.—To BUILDERS, SEWER CONTRACTORS, &c.—Notice is hereby given, that the Vestry room of the Parish of St Marylebone, in the County of Middlesex, will be at the Board Room of the Court House of the said Parish, on THURSDAY, the 27th day of NOVEMBER, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for the BUILDING of NEW BRICK SEWERS, in the parish, viz.—A new SEWER in Allsop-road, and UNDERPINNING of old SEWERS in upper end of Bridport-street and Milton-street; and also for a New BRICK SEWER, 1 foot 9 inches by 1 foot 3 inches, in Allsop-road, all in the said parish of St Marylebone. Further particulars may be had on, and drawings and specification be seen, on application to the City surveyor, Mr. ROBERT NOBLE, at his office, No. 1, Cumberland-terrace, Outer House, from TWELVE till ONE o'clock. The Tenders to be delivered to the Vestry Clerk, at the Court House, at or before ELEVEN o'clock in the forenoon of THURSDAY, the said 27th day of NOVEMBER, sealed and endorsed "Tender for sewers," and to be accompanied by the names of two householders as their proposed sureties for the performance of the works, and to pay the expenses of the bond and contract. The Vestry do not bind themselves to accept the lowest or any of the Tenders. By order,

W. K. GREENWELL, Vestry Clerk.

TO BUILDERS.—TENDERS are invited for the PULLING DOWN and REBUILDING of HOUSE, No. 74, BUCKERIDGE ROAD, and ALTERATIONS to the TAVERN adjoining. The drawings and specifications may be seen, on application at the Bar of the Railway Tavern, corner of Charlotte-street.—Tenders to be delivered in the Premises on FRIDAY, the 28th instant, at FOUR o'clock precisely. The proprietor does not bind himself to accept any Tender.

WROUGHT-IRON ENTRANCE GATES, LIVERPOOL CEMETERY, Anfield Park, Walton. — The Burial Board for the parish of Liverpool are prepared to receive TENDERS for the above. The drawings and specification can be seen and other particulars had at the Cemetery, Anfield Park Lodge, Walton, on, and after the 9th instant. Sealed Tenders, endorsed "Tender for Gates," addressed to the Chairman of the Committee, to be sent in to me before Wednesday, the 3rd DECEMBER next. The Board do not bind themselves to accept the lowest or any of the Tenders. By order

LUCY & LITTLER, Architects } to the Board.
GEORGE TURVEY, Clerk

12, Clayton-square, Liverpool, Nov. 17, 1862.

LUNATIC ASYLUM for the COUNTIES of CARMARTHEN, CARDIGAN, and PEMBROKE, and the TOWN and COUNTY of HAVERFORDWEST. TO BUILDERS.—The Committee of Visitors appointed for Providing a PAUPER LUNATIC ASYLUM for the Counties of Carmarthen, Cardigan, and Pembroke, and the Town and County of Haverfordwest are desirous of receiving TENDERS from persons willing to undertake the Erection of the same, on a Site at a distance of one mile and a half from the Town of Carmarthen, according to plans and a specification, which may be seen at my Office, in Quay street, Carmarthen, on and after the 20th day of DECEMBER next. The party whose Tender for the work may be accepted will be required to enter into a written contract and bond, and to find competent security in 5,000l. for the due execution of the same works. The quantities will be taken out by two surveyors, one to be appointed by myself, and the charges of such surveyors are to be paid by the contractor whose Tender may be accepted. Persons intending to tender for the Contract for the Asylum are requested to send their names and addresses forthwith to D. BRANDON, Esq. the Architect, No. 24, Berkeley-square, London The Tenders must be delivered at my Office on or before TWELVE o'clock of the morning of the 3rd day of FEBRUARY, 1863, sealed and endorsed, "Tenders for the County Lunatic Asylum."

The Committee have pledged themselves to accept the lowest or any Tender, and each party must state in his tender the names of the sureties proposed by him. By order of the Committee

CHARLES HENRY HUGHES, Clerk.

Quay-street, Carmarthen, Nov. 6th, 1862

DISPENSARY.—BARNSLEY.—To BUILDERS, MASONS, CARPENTERS, PLUMBERS, and OTHERS.—Persons desirous of submitting TENDERS for the execution of the several WORKS required for the new Dispensary Building, viz.—1. Excavator's, Mason's, Bricklayer's, Slater's, Paviour's, & Smith's Work. 2. Carpenter's and Joiner's Work. 3. Plumber's, Glazier's, Painter's, and Bell-Hanger's Work, may inspect the Drawings and specifications at my Office, Toncaster; or at the House of Mr AMOS TAYLOR, Cockerham-road, Barnsley, on and after the 15th NOVEMBER instant, where also the Quantities can be furnished to all parties, after short notice. Tenders must be delivered at the Union Bank, in Barnsley, under seal, addressed to "J. S BECKETT, Esq." on or before the 1st DECEMBER next. The lowest or any Tender will not necessarily be accepted.

Nov. 1862. EDWARD APPLETON, F.I.B.A. Architect.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 143 and 144, Regent-street, and 29, 30, and 31, Warwick street, W.
EDWARDES, BURKE, & CO. PROPRIETORS
The largest and most superior Stock of Chimney-pieces in Europe on view at the above named Establishment.
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford street, London, W.
Estimates for every description of Marble Stone and Granite Work.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Cosin-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship and will be found supplying at moderate prices
N.B.—Estimates given. Country and Foreign orders executed with promptness and personal attention.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION
THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL
Offices—24, ST JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to call the attention of Architects, Builders, and the public generally, that having put the whole of the quarry and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work that may be entrusted to them.
Communications to be addressed to the Secretary, No. 24, St. James's-street; or to Mr THOMAS OAKDEN, 94, King-street, Manchester, who is sole agent for Liverpool and Manchester.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Hazebill, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Block Orders shipped direct from the Quarries. Prices and specimens forwarded on application.

BELLMAN & IVEY, GENERAL AND ORNAMENTAL PLASTERERS, Manufacturers of SCAGLIOLA MARBLE and SUPERIOR PLASTER OF PARIS.
This Plaster made expressly for internal purposes, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent in use, from its covering one-third more superficies than the general plaster.
PRIZE MEDALS
were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862
PLASTER WORKS, 3, BEDFORD-BUILDINGS, LIQUORPOND-STREET, LONDON, E.C
SHOW ROOMS AND OFFICE,
14, BUCKINGHAM-STREET, PORTLAND-ROAD, LONDON, W.

LITTLE CASTERTON FREESTONE, Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn street, W.
This stone (which is a perfect colite), is raised in blocks of any portable size, and in sheets of feet thickness and upwards. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to plane it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street London, S.W.

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wootton Wawen, near Henley-in-Arden, are working a Quarry of this very superior and durable Stone (belonging to Colin Raleigh, at Plasnewis, Nant, near Wrexham. It is used extensively in Liverpool, Manchester, &c. and can be supplied at reasonable rates at any railway station.

VALE of WARDOUR FREE STONE
TISBURY QUARRIES, WILTSHIRE.—Geologically this stone is identical with the Portland Oolites; the beds vary in texture, the upper being as tit rock, of which large blocks are readily obtained, and is suitable for heavy walls, such as bridges for engines, girders, machinery, &c. free warren rks. The under is known as stone of fine texture well adapted for carving, mouldings, tracery, balusters, plinths, cornices, copings, sills, ashlar, and for building purposes generally; also for tombs, gravestones, chimney-pieces, steps, paving, landings, troughs, &c. Numerous testimonials of its durability can be offered, and its texture (free of the oolitic bed). Amongst those may be cited Salisbury Cathedral, Tisbury Church, the Poultry Cross at Salisbury, Wilton Abbey, &c. erected in 1551 with the same stone, and which is equal to any of those under ground.—Specimens of the stone can be seen at Messrs POOLE & SON'S Marble and Stone Works, Great Smith street, Westminster, S.W. and in the Museum of Practical Geology, Jermyn-street Nos. 311 and 312, Case V. London; and any quantity may be obtained of Messrs. KNIGHT & SON, Devon Wharf, Mile-end, London, or direct from the Tisbury Quarries. Orders for worked stone carefully executed at the Quarries.—Samples forwarded, and any other information may be obtained of Mr. T. P. LILLY, Gillingham, Dorset

PORTLAND STONE, in Slabs and Scant Lings, of any thickness, from 1 inch and upwards, CUT by Steam Power, and Delivered into Railway Trucks at Weymouth List of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset

PORTLAND STONE and MARBLE MACHINE SAWING MILLS.
SAWS of the best temper of any length, width, or thickness, accurately
Manufactured by FELTHAM BROS. No. 8, New Park-street, Southwark
The great superiority of this system of sawing consists in the blades re-

RED MANSFIELD STONE
WHITE MANSFIELD STONE
YELLOW MAGNESIAN or MANSFIELD LIMESTONE
Crushed Limestone, Road Stone, Lime for Agricultural purposes, Lime for Gas and other purposes. Lime burnt in the Quarries and delivered free from ashes to any part of London.
Mr. ROBERT ANDREW, Mansfield Quarries, Notts, Proprietor.

ABERDEEN POLISHED GRANITE
WORKS, Aberdeen. Prize Medal in 1851, Silver Medal in 1855, and Prize Medal in 1862.
Polished Granite for Engineering purposes, and every description of architectural ornamenting, decoration, monuments, and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, Land Agent, 9, Cumberland-street, N.W.

IMPROVED WARM-AIR STOVES, FURNACES, & HOT-WATER APPARATUS FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS.
KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION.
Manufactured and erected by J. KIRK & CO., Successors to
CUTLER & SONS,
CLARENCE IRON WORKS,
16, GREAT QUEEN-STREET, LINCOLN'S-INN-FIELDS, LONDON.
IRON-FOUNDERS, FURNISHING IRONMONGERS, GAS ENGINEERS, AND BELL-HANGERS.
Orders for EVERY DESCRIPTION of CASTINGS for ENGINEERS and BUILDERS promptly executed.
SPRING ROLLER BLIND MAKERS.
WILLIAM ASHDOWN, Manager.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION
MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Truthy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application.—Address,
No. 1, BOLD-TERRACE, CHESTER.

RANSOME'S IMPERISHABLE SILICEOUS STONE
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster, or Patent Stone Works, Ipswich.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered per barge, in any quantity alongside the Thame

HART & SON
56, WYCH-ST., STRAND, W.C.
AND
20, COCKSPUR-ST. PALL-MALL, S.W.
METAL WORK OF A GOTHIC CHARACTER, FOR ECCLESIASTICAL AND DOMESTIC PURPOSES, CHALICES, PATENS, CRUETS, CANDLESTICKS, CORONÆ, STANDARDS, BRACKETS FOR GAS, OIL, AND CANDLES, MONUMENTAL BRASSES, &c. &c.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 264, Great Guildford-street, Borough, S.E. inventor of the Rotary Sheep Front, Patentee of the Tubular Railings, new Compensating Gutter Irons, &c. &c.
GENERAL IRON FOUNDERS.
MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS.
And every description of Ironwork, wrought or cast for Builders' or other purposes, estimated for and executed. Designs furnished.

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.
These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public
N.B.—The usual discount to builders and the trade.

LOSH, WILSON, & BELL, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, NEWCASTLE-ON-TYNE,
Cast Iron Goods, and
STEWART'S PATENT CAST IRON GAS and WATER PIPES.
Office, No 7, Bite-lane, London.



PATENT VALVE WORKS.
BECK'S
PATENT
PORTABLE STREET STANDPOST.
The attention of Engineers and Managers of Water Companies is respectfully directed to the advantages of the above Standposts over those hitherto used, in case of frost. They are lined with pipe, and fitted with BECK'S PATENT SELF-CLOSING VALVE (which is not liable to set fast if unused for any length of time).
The Price does not exceed that of the old-fashioned Standpost, viz. 10s. each.
JOHN BECK,
Patentee and Manufacturer of the Improved Hot Water, Gas, and Steam Valves, High-pressure Ball Cocks, Water-Closets, Pumps, Baths, Lavatories, Urinals, &c. &c.
133, GREAT SUFFOLK-STREET, SOUTHWARK, S.E.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres &c. &c.

MOORE'S PATENT VENTILATOR
NOTICE OF REMOVAL
In consequence of the expiration of the Lease at 61, Fleet-street, all Communications are respectfully requested to be made at the Works, JOSIAH MOORE, Patentee,
SEKFORDE WORKS, ST. JAMES'S WALK, CLERKENWELL, E.C

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY and ENGINEERING WORKS, DERBY.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street London, E.C.

SEVEN-HORSE PORTABLE ENGINE FOR SALE, nearly as good as new, price 165*l.*
TWO-TON IRON CRANE, with foundation stones, &c. complete, price 35*l.*
TWO NEW PILE ENGINES, price 54*l.* the two
Apply to ROGERS & BOOTH, Contractors, Gosport.

MOREWOOD & CO. (late Morewood & Rogers),
Dosgate Dock, Upper Ibbotson-street, London, and Lion Works, Birmingham,
Manufacture, for Home and Export, the
PATENT GALVANIZED IRON FASCIA and TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CUT to SIZES, for Covering Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPES & ARTICLES in IRON.
Also, Galvanized Wrought Iron Hurdles, Stanchions and Wrought Gutters, Wire, Wire Netting, Nails, Rivets, Pins, &c.
Estimates given for Roofs, and every description of Iron Buildings, at the
OFFICES and WAREHOUSE, DOWGATE DOCK, LONDON.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS
Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.

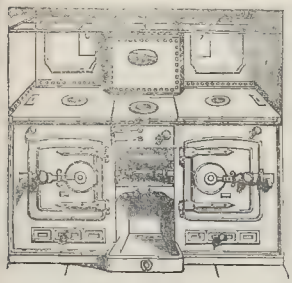


ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.
Orders requiring Despatch and Punctuality can be executed in a few days.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

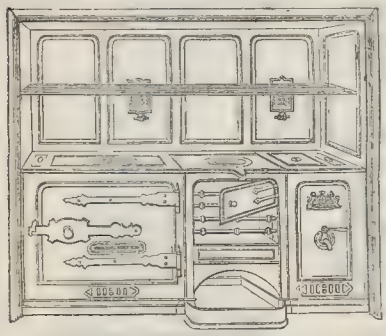
WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 33*l.* 10*s.*; Bronzed Fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.*, the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

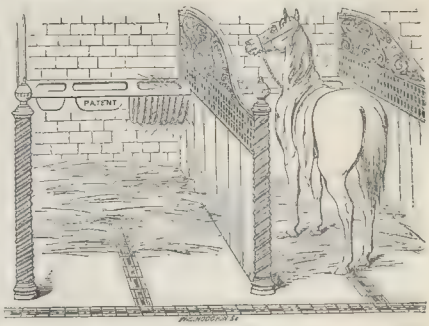
WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

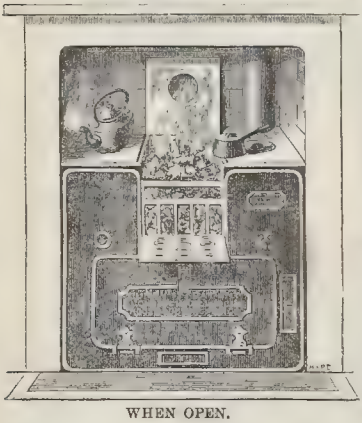
39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.



ANDREW McLAREN & Co.
IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT.

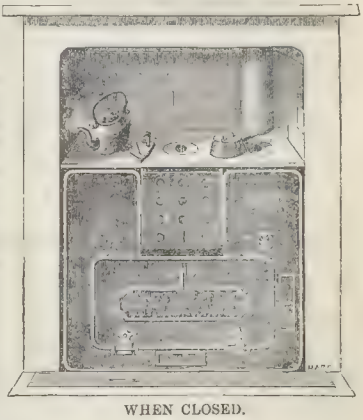


CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

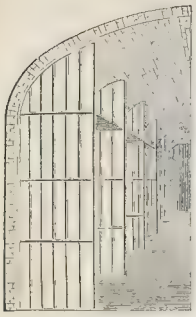
These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIRCASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of THE MANUFACTURER,

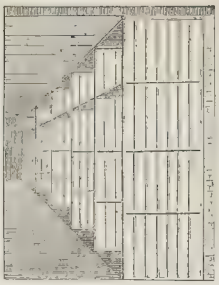


WHEN CLOSED.

WILLIAM ADDIS, Nos. 6, 7 & 15, LEICESTER-ST. LEICESTER-SQUARE,
WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,
Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.
A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.

WROUGHT IRON WINE BINS.





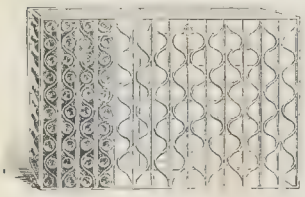
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

BATH APPARATUS,

represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

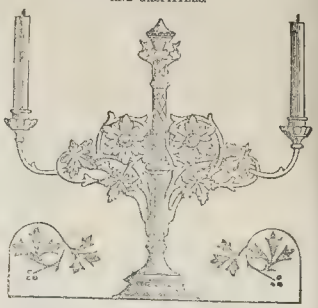
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W.
Drawings and Estimates furnished.

IRON RAILINGS, for enclosing

TOMBS AND GRAVES.

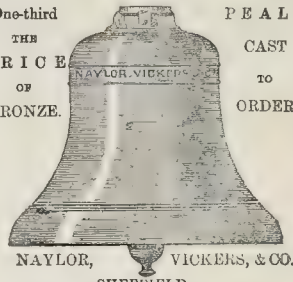


COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON

and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l*.

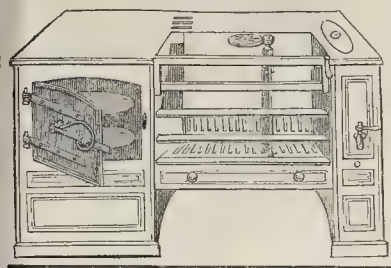


Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, CANNON STREET, E.C.

THE LONDON LOCK-MAKERS IN THE INTERNATIONAL EXHIBITION

MESSRS. HOBBS & CO. beg to inform Bankers and the Commercial World, that their PATENT LOCK in the Exhibition was on challenge from the 1st of MAY to the 1st of NOVEMBER, for 500 Guineas to any person who could pick it THIS WAS THE ONLY LOCK EXHIBITED that invited and dared the ingenuity of the mechanician to fraudulently open it. Seven days were allowed to examine the interior, and thirty days to operate on the security of the works; yet, during the 188 days the Exhibition was actually open, not one single application was made! In 1851 this Lock was tried for 123 days without the slightest approach towards success

MESSRS. HOBBS & CO. are Prize Medallists from the Exhibitions of America, Austria, and France; and London in 1851 and 1862.
79, CHEAPSIDE, LONDON.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.

24 inches	54s.
26 „	66s.
38 „	58s.
42 „	60s.

Self-acting Cottage, with Oven and Back Boiler

30 inches	22s.
32 „	24s.
34 „	26s.
36 „	28s.

Register Stoves, with Strong Bars, from per inch, 4d

Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from per inch, 5d.

Bright Stoves, with Two Fires, 40s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	1½-inch.	2 inch.	2½-inch.	3-inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.

Best Cut Lath Nails, 14s. per cwt.

	2 in.	2½ in	3-in.
Cast Rain-water Pipe....	8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on....	10d.	1s. per yard.

Patent Line.	2	3	4	5	6
	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spundles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock. Any size made to order.

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS
SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz. :—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,
The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.
These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS
Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.
ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.

INTERNATIONAL EXHIBITION, CLASS 31 AND 34.

THE NEW CRYSTAL STAR AND SUN LIGHT.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,
MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

NO CHIMNEY WANTED
FOR RICKETS & HAMMOND'S PATENT CALORIFERE GAS STOVES, in Churches, Halls, or Shops; and for Conservatories, or any close apartment, a Pipe can be attached to carry away the burnt air.

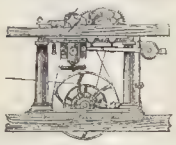


AGAR STREET, STRAND, LONDON.—DISCOUNT TO THE TRADE.

VENTILATING STOVES—Cheap, simple, efficient, and durable. Thousands have been sold, and universally approved. They are suitable for Halls, Warehouses, Conservatories, and every situation where a close stove is required. The largest sizes are extensively used in churches, chapels and public buildings, with great effect and economy. Prices, 50s. 60s. 70s. 90s. and 120s. Prospectus with engravings, gratis and post free. In operation daily. The trade supplied.

DEANE & CO.,
Opening to the Monument, London Bridge. Established A.D. 1700

S. WORSSAM & CO.'S PATENT
SMALL MOULDING MACHINE.



(¼ inch scale.)

Will stick single mouldings of any pattern and of any width not exceeding 6 inches, at rates varying from 12 to 28 feet a minute. It will also make sash bars, moulds, sticking, re-cut cut curve, trough-ing, &c.—For priced Illustrated Circulars, with full particulars, apply at the Works 304, King's-road, Chelsea, S.W.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862

AUSTIN'S IMPERIAL PATENT SASH
and BLIND LINES
TO BUILDERS, CARPENTERS and BLIND MAKERS.

J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his

IMPERIAL PATENT FLAX SASH-LINES

of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.

They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.

ESTABLISHED 1774.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, LONDON, E.C.



PATENTEES AND PROPRIETORS OF THE
PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.

A large Stock of Nails, Screws, Locks, Latches, Hinges, Pullies, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,
5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.

LAMBERT, BROTHERS,

THE ALPHA TUBE & FITTING WORKS,
WALSALL.
LONDON: THOMAS LAMBERT & SON, LAMBETH.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.
Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,
73, LIME STREET (late of Lawton Street), LIVERPOOL.
The Public are cautioned against purchasing or using any Machines with Infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61A, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,
MOREWOOD & CO.,
DOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

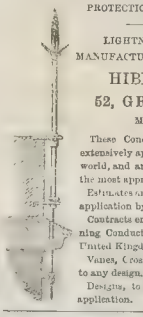
DEVAUX'S VIEILLE MONTAGNE
THICK ROOFING ZINC.

This invaluable metal, if laid by Mr. TYLER on the new principle introduced by J. EDMISTON, Esq. F.I.B.A. will last as long as lead, at one third the cost.
For Prospectuses, Samples, Models, and Estimates of Works to be done with the Roofing Zinc, in large or small quantities, in Town or Country, apply to
Mr. J. W. TYLER, 4, WOOD-STREET, WESTMINSTER, S.W.
If the Metal is laid by Mr. TYLER, who has become so well known among Architects and Builders, superior and careful workmanship may be depended upon, and a guarantee given for its durability, if the woodwork is prepared according to directions given.

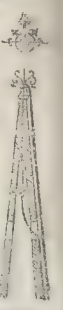
LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the joint and all stages complete for fixing at the following prices:
Three-eighths inch diameter..... 1s. 6d. per foot.
Half-inch diameter ..... 1s. 6d. „
Five eighths-inch diameter ..... 2s. 0d. „
R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is now applied by architects, engineers, and scientific men, in all parts of the world.
Offices—149, Strand, London.
„ Gateshead-on-Tyne
„ 27, Dale-street, Manchester.
„ 68, Aberdeen-quay, Glasgow.
„ 17, South Castle-street, Liverpool
„ Exchange-buildings, Dublin.
„ 7, Frederick-street, Aberdeen.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.



These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.
Estimates and References furnished on application by letter, or at the Works.
Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.
Vanes, Crosses, and Terminals made to any design.
Designs, to suit any style sent on application.



SPRATT'S PATENT BATTERY EXCITATION COPPER LIGHTNING CONDUCTORS, giving 3 inches of surface. Only 1s. per foot, complete, for fixing. Including beautiful "reproducing" Platinum Silver Alloy Point, Glass Isolators and attachments, forming a Lock, Steel Magnets for lateral discharge. Also SPRATT'S NEW ARRANGEMENT for SECURING POWDER MAGAZINES from the possibility of being injured by Lightning; Beer in Breweries from spoiling; Milk in Dairies Souring by electric causes.—Office, 18 and 21, Meadow-row, Holborn. Orders over 100 feet carriage free.—Send for circular.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fixed in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, about and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.
J. W. GRAY & SON, 114, Fenchurch-street, E.C.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.
Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.
Manufacturer of Guttering, Piping, Wire Netting Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.
EDWARD DAVIES,
SNOWHILL GALVANIZING IRONWORKS,
Wolverhampton, Staffordshire.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rea's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Dundas Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Pumps, Hot-air Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRIDGE-STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

HAWKINS'S REGISTERED CHAIN.—This newly invented Article, made in Iron, Brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window-sashes, hothouse and greenhouse shades, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for. Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, TUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

THE MEDAL FOR 1862.
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE  MARK.

CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE.
Warehouse: 81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought Iron Tubes.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR

BARTON'S PATENT STABLE FITTINGS

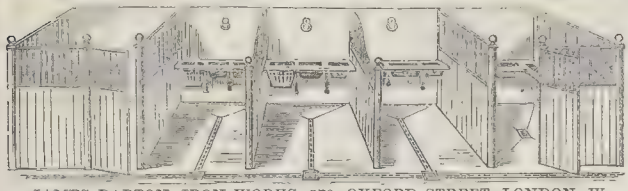
AND ENAMELLED MANGERS.



These SUPERIOR-CLASS STABLE-FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.

J. BARTON solicits attention to his newly erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

A new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps.



JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

THE PRIZE MEDALS,

(LONDON, 1851. PARIS, 1855. LONDON, 1862.)

Awarded to

COTTAM & COMPANY,

2, WINSLEY STREET, LONDON, W.

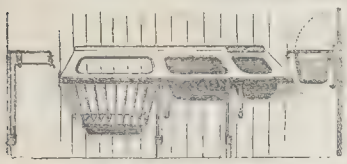
For progressive and general improvements in

STABLE FITTINGS AND HARNESS BRACKETS.

Awarded a prize at the Exhibition,

Patronized by the English and French Governments, as well as by the Royal Navy, Cavalry, and Hunting Establishments in the World.

In use at her Majesty's Stables, Aldershott and Balmoral.

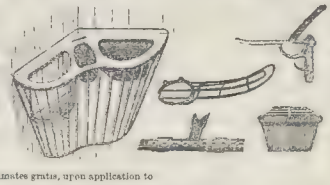


COTTAM & COMPANY, Winsley-street, W. are the original Inventors of the PATENT ENAMELLED MANGER, Water troughs, and Wrought-iron Rack, united to an iron top-plate, forming one complete and useful fixture, having COTTAM'S Patent Screw Bracket and Collar Rein attached, which is unscrewed from the Manger, and works with ease and freedom upon the gun-bar.

COTTAM'S NEW PATENT SEED BOX, an important addition to the above fittings, being simple in construction, light, and durable, portable, cool-fitting, and is economised in its results.

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER, for the above, is a most essential addition to their fittings, as it never rolls away, can be placed and replaced in an instant, while its cheapness, simplicity, and utility in keeping the contents of the troughs clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

COTTAM'S PATENT SADDLE AND HARNESS BRACKET COMBINED



can be used with great advantage where space is an object, as it can be turned up out of the way when not in use.

COTTAM'S IMPROVED WROUGHT-IRON VENTILATING REAR-KNT preserves the shape and allows a free admission of air to the under parts of the saddle.

COTTAM'S IMPROVED SURFACE GUTTER, with perforated moveable cover, the use of which prevents accidents, and can be easily cleaned out.

COTTAM'S CAST IRON SANITARY TRAP, from its improved construction, gives a full water passage, and does not allow any smell to ascend from the drain.

PATENT LOOSE BOX FITTINGS, and every article for the harness-room and stable, kept in stock, plain, galvanised, and enamelled. Iron gates, fencing, hurdles, &c.

Illustrated Catalogues and Estimates gratis, upon application to

COTTAM & CO. 2, WINSLEY STREET, Oxford Street, London, W.

WHERE FULL-SIZED STALLS, LOOSE BOXES, AND HARNESS ROOM, &c. ARE FITTED UP, SHOWING ALL COTTAM'S PATENT IMPROVEMENTS, &c.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

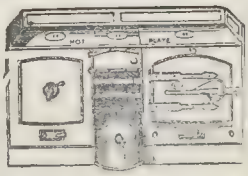
A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS.

38 and 65, York-street, Westminster.

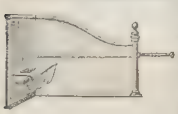


PRIZE MEDAL.—INTERNATIONAL EXHIBITION, STAND 6140.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.

MUSGRAVE'S PATENT IRON COW HOUSE FITTINGS and IRON PIG-STIES. These Inventions are confidently recommended as possessing unrivalled advantages to the Public and the Profession.

At the International Exhibition of 1862, Musgrave, Brothers received a SILVER MEDAL and two awards of "highly commended" being the only Iron manufacturers on any to publish in this class.



MUSGRAVES' PATENT SLOW COMBUSTION STOVE.



This Stove is the nearest approach to Warming by Hot Water, and an excellent and ch Ventilator.

It will burn in Churches from Saturday to Monday Evening, without attention, using the usual Quantity of Coals; in private Houses it will burn for weeks, without the Inconvenience of Warming a large apartment for twenty-four hours, at a cost [illegible] and consumption of smoke [illegible] Prices and particulars will be sent on application to the Ironmongers in Market [illegible]

MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

CAUTION to ARCHITECTS and BUILDERS.

—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS, SMITH'S PATENT WEATHERTIGHT WATER BAR; and SMITH'S PATENT WEATHERTIGHT CASEMENT FASTENING for FRENCH WINDOWS

The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princess-street, Leicester-square, London; and SUCH ONLY are WARRANTED

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers

of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 65 and 156, High Holborn.

HANDSOME BRASS and IRON BEDSTEADS.

—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

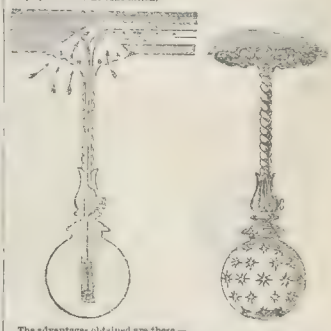
HEAL & SON'S ILLUSTRATED

CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

RICKET'S & HAMMOND'S

VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

TO BE SEEN in the HARDWARE

COURT, INTERNATIONAL EXHIBITION, Stand 6045, and HARDWARE COURT CRYSTAL PALACE, SYDENHAM, the only PATENT COOKING STOVE that has received THREE PRIZE MEDALS. England, 1851; France, 1855; International, 1862; for a new range of heating and purifying ovens. Good Working and ECONOMIZING FUEL, in Kitchen Ranges.—DULEY & SONS, Manufacturers, Northampton.

IRON ROOFING of CORRUGATED IRON,

Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings, also Portable buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dining Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation.

For Designs and Estimates apply to

RANDAL STAP, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

VICTORIA LEAD WORKS, ELIZABETH

STREET SOUTH, PIMLICO

JOHN GOODSON, Manufacturer of every description of Plumbers' Work for Builders, Cisterns, Pipes, Paper-trough Gutters, and Air-tight Ornamental Bath Water Pipes, Heads, Bends, &c. Water-closet S Traps, in 6lb lead, for 8s each. Cannot choke, and contain no foul air.

Five minutes' walk from the Grosvenor Hotel

PRIZE MEDAL AWARDED

PRACTICAL UTILITY, MODERATE COST.



HENDERSON'S PATENT DERRICK

CRANES, sizes from 10 cwt. upwards, to be seen working at Lee Hill Iron Works. Makers of Portable Cranes for Quarries, Setting Frames, Iron and Steel Foundry Cranes, &c. &c. For further particulars apply to LOWSLEY & CAMERON, Springfield Iron Works, Maryhill, Glasgow.

A PRIZE MEDAL for SUPERIOR LOCKS

was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, at 84, Brompton, No. 100 Bond-street, Chubb's Patent Locks of all descriptions, Cheap Japanned Wood Locks, of all kinds, with Patent Shifting Spindles, Dr. Arnott's Ventilators, &c.; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 20 years, for the supply of GOODS of the BEST QUALITY, at the LOWEST PRICE.

14, Star-street, Clare-market, London.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge. OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the SOUTH KENSINGTON MUSEUM, at the INTERNATIONAL EXHIBITION, 1862. Class 10 C; and at the ARCHITECTURAL EXHIBITION, Conduit-street, Regent-street. ESTIMATES WILL MEET WITH PROMPT ATTENTION.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY.
PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

STONE AND MARBLE CHIMNEY-PIECES FOR THE MILLION.
A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country

HUBBUCK'S PATENT WHITE ZINC PAINT.
BY their which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere
ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.
CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

SCIENTIFIC RECORD of the EXHIBITION ("Practical Mechanic's Journal"), Part 10, November 15, price 2s. contains:—Chromo-Lithography, by F. W. Rowney, esq. (Messrs. G. Rowney & Co.); Projectiles, by F. A. Abel, F.R.S.; Fortification, by Col Cunliffe Owen, R.E.C.B.; Fire-arms, by John Rigby, A.M (Messrs. W. & J. Rigby, Dublin); Artillery, by Robert Mallet, C.E. F.R.S.; Furniture, by Peter Graham, esq (Messrs. Jackson & Graham). Illustrated by plate engravings of Rifling Machine and Metal Work, and 69 woodcuts.
London: LONGMAN & CO. Ludgate hill.
Proprietor's Offices (Offices for Patents): 47, Lincoln's-inn-fields, W.C.

This day is published,
THE BRITISH ALMANAC for 1863.
Sewed in a Wrapper, price 1s.
THE COMPANION to the ALMANAC.
Sewed in a Wrapper, price 2s. 6d.
CONTENTS.
LONDON in 1862. By CHARLES KNIGHT
DISTRESS in LANCASHIRE: its Social, Moral, and Economic Effects. By JOHN PLUMMER.
PRODUCTS and INDUSTRY of the BRITISH COLONIES, with reference to the International Exhibition of 1862. By GEORGE DODD
BRITISH COLUMBIA: its Description and Present State
BRIEF LOGARITHMIC TABLE. By J. LE CAPPELAIN, Actuary of the late Albion Life Assurance Company.
FIRES and FIRE-BRIGADES at HOME and ABROAD
CHARACTERISTICS of the PRESENT STATE of the FINE ARTS in EUROPE, as shown in the International Exhibition of 1862. By JAMES THORNE
ARCHITECTURE and PUBLIC IMPROVEMENTS, 1862. With Woodcuts
With the other usual Articles on the Legislation, Statistics, &c. of 1862.
THE BRITISH ALMANAC and COMPANION.
Together in Cloth Boards, lettered, price 4s.
London: KNIGHT & CO Fleet-street; and sold by all Booksellers in the United Kingdom

Now ready, in 4to with Twelve Plates, price 12s cloth,
ON PHOTO-ZINCOGRAPHY and other PHOTOGRAPHIC PROCESSES employed at the Ordnance Survey Office, Southampton.
By Captain A. De C. SCOTT, R.E. under the direction of Colonel Sir HENRY JAMES, R.E. F.R.S. &c.
Published by permission of the Right Hon. the Secretary of State for War.
London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

Just published price 9*l.* 9s.
MANUAL of HYDROLOGY.
By NATHANIEL BEARDMORE, Civil Engineer.
CONTAINS—
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of upwards of 400 pages, and there are 20 large plates.
London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 to 68, London-wall. 1862.

COLMAN'S MAGAZINE.—Price One Penny, weekly; Monthly Parts, Sixpence, with Illustration
To appear DECEMBER 8th. Thirty-two pages, Demy 8vo.

In the Press, in two Volumes,
RAILWAYS in the EAST, and Generally in HIGH THERMOMETRIC REGIONS.
By W. DAVIS HASKOLL, Engineer.
Containing Eighty Folded Plates and Letterpress, Imperial 8vo. completing "RAILWAY CONSTRUCTION." In French, 65f. 75c.; in English, 2*l.* 12s. 6d. before January 1st, 1863; after, 73f. 85c. and 3*l.* 3s. in cloth, to match 1st and 2nd vols. Atc.,
A PRACTICAL TREATISE UPON MECHANICAL ENGINEERING Twenty-eight Plates and Ninety-one Woodcuts; with a CHEMICAL ANALYSIS of IRON and its ORES.
By FR. CAMPIN, Engineer.
Until January 1st, 1863, cloth, 31s.; after, raised to 35s. or 30s.
ATCHLEY & CO. Publishers, 106, Great Russell-street, London, W C

TO YOUNG ARCHITECTS.
EIGHT VOLUMES of GOTHIC ARCHITECTURAL WORKS, by Pugin, Le Keux, Mackenzies, and others, TO BE SOLD for 8*l.* 10s by a Gentleman in declining health, all in good condition and well bound. Cost more than double. Apply by letter, or personally from six to nine p.m. to H. PORTBURY, 18, Oxford-terrace, Clapham-road.

Just published, 8vo. cloth, 3s. 6d. limp, 2s. 6d.
HANDBOOK to the CRUMLIN VIADUCT, MONMOUTHSHIRE.
With Illustrations.
By HENRY N. MAYNARD.
VIRTUE, BROTHERS, & CO. 26, Ivy-lane.

Published at 4*l.* 4s. reduced to 2*l.* 2s. half-bound in morocco,
THE GOTHIC MODEL BOOK: a Collection of Gothic Types and Models, drawn from existing Monuments in Germany
By V. STATZ & G. UNGEWITTER.
216 Plates, illustrative of Canopies, Tracery, Capitals, Altars, Cathedral Stalls, Doors, Niche or Pyramid Plates, Carving in Wood and Stone, Stained Glass, Metal Work, &c. presenting a general Picture of the Gothic Art in all its ramifications.
A. EVANS, 403, Strand, London.

TO BRICKLAYERS, PLASTERERS, &c. TO BE DISPOSED OF, in consequence of the proprietor taking a larger business, a small little CONCERN in the above line, twenty-seven miles from London, and three from a railway station on the South-Western Railway. Every convenience for carrying on a large trade. The house and premises are in good repair, and rent very moderate.—For further particulars, apply to T. W. Printing-office Chobham, Surrey.

TO BUILDERS, &c.—TO BE DISPOSED OF, the valuable LEASE and GOODWILL (with or without the stock) of a well-established BUILDER'S GENERAL BUSINESS, in full work, with every convenience for carrying on the several branches, situate within two miles of the three bridges, in South London.—For particulars, apply (if by letter, prepaid) to Mr. PERKINS, Auctioneer and Estate Agent, 41, Tooley-street (corner of Hay's-lane), Southwark, S.E.

TO CARPENTERS, BOX-MAKERS, and BUILDERS.—TO BE DISPOSED OF, a BUSINESS in the above line, situate at the best part of the West-end. Established many years. Good house, held on lease, with large workshops adjoining. Part let off. About 350*l.* would be required for lease, goodwill, stock, and materials in trade.—For further particulars, address, A. B. 229, King's road, Chelsea.

TO CHURCHWARDENS, MILL PROPRIETORS, and OTHERS.—GEORGE FRITH, BUILDER, &c. Coventry, begs respectfully to call the attention of the above parties to his method of REPAIRING CHURCH SPIRES, CHIMNEY-SHAFTS, and other elevated structures, without the expense of ladders or scaffolding. Church spires taken down and rebuilt, pointed, repaired, &c. Chimney-shafts repaired, pointed, and new caps fixed. New vanes and all kinds of lightning conductors applied. Estimates given. References from architects, engineers, &c. Circulars illustrating the principle and containing testimonials sent free on application as above.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Sonatamore, and other Organs, usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

MESSRS. CUNDALL, DOWNES, & CO. undertake to COPY PICTURES and other WORKS of ART; Maps, Engineering Plans and Drawings; Daguerreotypes and other Photographs; and either to enlarge or to reduce them.
They are likewise prepared, at a day's notice, to photograph Country Houses, Interiors of Mansions, Churches, Engineering or Building Works in progress, in any part of the country.
Plans or Pictures can be copied to any size up to 26 inches by 21 inches.
Portraits are taken daily at 168, New Bond street, on the following terms:—

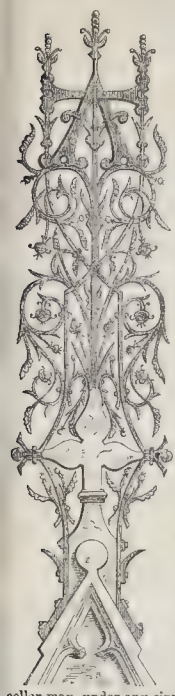
Miniature Portrait, ten copies	£0 5 0
Miniature Portrait, twenty copies	0 10 0
Carte de Visite, full length, ten copies	0 10 0
Carte de Visite, full length, twenty-four copies	1 0 0

Terms for attendance in the country, and for larger or Coloured Portraits, may be had on application.
Amateurs' negatives are carefully printed at moderate charges.
CUNDALL, DOWNES, & CO. Photographers to the Queen, 168, New Bond-street (next the Clarendon), and 10, Bedford-place, Bayswater, W.

The Builder.

VOL. XX.—No. 1033.

Social and Sanitary Jottings in Manchester.
*Cellar Dwellings.**



MORE extensive and careful examination of Manchester shows that the evil of cellar dwellings is even greater than we had at first anticipated. In a report made to the council of this city, in March, 1861, by the Building and Sanitary Committee, it was pointed out that the expediency of closing all cellar dwellings had long since been fully recognized by the Legislature, both in public and private Acts of Parliament. "The public Health Act, passed in 1849, expressly provides that, in any district in which such Act is in operation, it shall not be lawful to let or occupy as a separate dwelling, any cellar, built or rebuilt, after the passing of this Act, or which shall not previously have been so let or occupied; and stringent conditions are in and by the same Act imposed as the conditions upon which any cellar may, under any circumstances, continue to be thereafter occupied as a separate dwelling."

Provisions having the same object in view were introduced in the Manchester New Streets Act, 1853. No cellar made since the passing of that Act can, under any circumstances, be legally occupied as a separate dwelling; but, instead of specific conditions as relating to existing cellar dwellings being imposed, as in the Public Health Act, a discretion is invested in the Council, who are authorized to prohibit the use, as a separate dwelling, of any cellar which *shall in their opinion be unfit for human habitation.* Notwithstanding this, the Committee reported that the number of inhabited cellar dwellings in 1854 was 4,643; and the cellars then inhabited contained a population of 16,400; while the number on the 30th September, 1860, was 4,467, and contained a population at that time of no less than 17,478 persons. This shows that, in six years, the number of the cellars, notwithstanding their known unwholesomeness, had only decreased to the extent of 176; and that, although the number of cellars was less, the population in them had increased by upwards of 1,000 persons.

Such a report as this is very unsatisfactory; but it was found that, from November, 1854, to the end of January, 1860, 1,462 of these wretched dwellings had been inspected by sub-committees, of which number 341 were ordered to be closed, and 1,121 to be altered so as to make them comply with the regulations in force. 282 cellars were closed by order of the Committee, and 46 by owners in preference to making the alterations required in case of their continued occupation as dwellings being permitted.

* See p. 813, *ante.*

The Health of Towns Act specifies that no cellar, vault, or underground room whatsoever shall be lawfully let or occupied unless the same is at least 7 feet in height, measured from the floor to the ceiling, nor unless the same be 3 feet of its height above the surface of the street or ground adjoining; and makes various other requirements. Notwithstanding this, however, the Manchester Building and Sanitary Committee propose that the height of those places shall be limited to 6 feet 6 inches clear, and that the ceiling shall in no case be less than 12 inches above the level of the footpath or roadway adjoining. The Health of Towns Act says that the drain shall be 1 foot at least below the level of the floor of underground dwellings; the Manchester committee agree that the floors of all cellars shall consist of flags not less than 2 inches thick, laid on sand or cinders 6 inches in thickness; or be boarded on sleeper joists with boards at least 1 inch thick; and that there shall be at least 6 inches of soil and other approved matter between the tops or covers of the drains or sewers and the underside of the floors. Even these measures were not passed without an effort still further to lessen the restrictions; in fact, it was moved in the town-council that the report should be referred back to the Committee, and twenty-two members of the Council voted for and thirty-two against this amendment. There is a strong power always working against personal restrictions.

It would seem to many persons scarcely necessary in these days to repeat the assertion that cellar dwellings are most injurious to those who live in them, and that the continuance of their use is a cause of part of the excessive death-rate of Manchester. Thousands, however, still occupy them, and the statement must be made many times before it will be listened to.

Let us look at a few of those underground homes somewhat in detail. We will first take Hardman-street, a thoroughfare of tolerable width, which leads from Deansgate. At a corner of this street, below a chemist's shop, which shows a handsome front towards Deansgate, is a greengrocer's shop, the chief part of the business of which is managed in a subterraneous apartment; and here besides the arrangements for the sale of goods, provision has to be made for the necessities of a family. A little further on in this street some of the cellars are occupied by shoemakers or repairers, and others by persons of different occupations; and in these wretched places, far below the surface, both business and family matters are managed. We have made some sketches of Manchester cellars on the spot to assist the description.* In most instances there is only one opening, and this serves for the purpose of both door and window. Under the best circumstances, with every attention to drainage and ventilation, it is not wholesome to live and sleep below the surface of the ground; but in these places, except in some rare cases, there is no possibility of ventilating at the back, and the only chance of obtaining any current of air is by means of the fire-place when the door is open; while the fire-place in some of these interiors is situate as shown in the adjoining slight sketch. This drawing will show that even in the day time, when the door is open, the back part of the cellar must be left without any current of air; and at night, when the door is closed, these ill-planned homes must be little better, in a sanitary point of view, than burial vaults,—and yet in such situations it is permitted that children shall be born, and that, struggling for life, they, as well as persons of more mature years, shall be left to die before their time. Besides the usual bad atmosphere, an additional degree of impurity is caused, at times, by imperfect drains; and, to make matters worse, there is no closet accommodation except that which is common to a number of houses at a distance in the adjoining courts! In this street the tenants of the cellars seem to be in tolerable circumstances, and pay, we were told, 5s. a week for each of their caves, while, in more important thoroughfares, such places let for as much as 7s. a week. In other parts, in the cellars are lodged poverty and distress. There is, we believe, a powerful interest as regards this kind of property, which influences the Manchester corporation; in fact, we are *told* that the corporation itself has a right in some of these dwellings, which has partly been the cause of the continued existence of this dangerous blemish.



* See p. 841.

We have looked into the dwellings of the poorer classes not only in the centre of Manchester, but in the suburbs. We have seen Angel Meadow, off the Rochdale-road, Swan-street, Oldham-road, Ancoat's-lane, Canal-street, on the Ashton-road. These are some of the worst, and for the most part are occupied by a mixed population of Irish and others. Generally, however, there is not to be met with that terrible result of neglect and thorough recklessness which is to be found in certain districts of the metropolis. The houses are mostly small, and except as regards the narrow back alleys to which we may again refer, there is ample space, and attention seems to have been paid to lime-washing. Again, not only in the heart of Manchester, but also in the outskirts, the street sweeping is well attended to. But go where you may, in old houses and new, in nine cases out of ten, the objectionable plan is to be found in use of retaining for a varied space of time the closet soil in the midst of the living. It must, however, be stated in connexion with the scavengers, that they are not partly paid in small fees as the London dustmen are, nor are they connected with parishes, but perform their functions entirely under the power of the corporation. At this time, when fever and sickness are threatening the families of the ill-fed workmen, the greatest vigilance should be used in most effectually performing this duty; for it must be borne in mind that under the present unfortunate circumstances, men, women, and children, are more likely to be affected by sanitary derangement than they are when well fed and clad.

Besides the payment of the scavengers, the water-supply of Manchester is under arrangements worthy of imitation in the metropolis, in both the town and suburbs. Except in consequence of some accident, the water-supply is constant. In new houses, the water is laid on in each; and in the courts, &c., conveniently at hand there is a constant supply of this great necessary of life from the main. We heard of no complaints of the waste of water by this means, nor could we learn that it is customary to damage the pipes or to steal the taps. It will be a good day for London when this plan is thoroughly carried out there.

It is pleasant to get away from the seemingly interminable rows of houses, and travel the distance of about thirty miles along the Great Northern line of railway, to the spot from which the Manchester water is brought. A landscape-painter would be well pleased with this visit, for wild and most picturesque is the scenery. There the water trickles and gushes from the hills, and is guided to the reservoirs, and passed on for the daily use of the multitude in this vast manufacturing and commercial community. Great is the contrast between this solitude and the general bustle of the streets of Manchester.

To a stranger, the highways and byways of Manchester seem more intricate than those of London; and this may be accounted for by the circumstance that we have in the latter place several important lines which run for long distances in very nearly parallel directions. There

is, for instance, the Thames, the Strand, Fleet-street, &c., Holborn and Oxford-street, the Euston and City roads; but in Manchester the chief river, the Irwell, does not run parallel with any great thoroughfare; and, for the most part, the streets are at irregular and inconvenient angles. The names of many streets are familiar: for instance, there are in Manchester, Pall-mall, Piccadilly, Chancery-lane, Lad-lane, St. James's, Vauxhall, Bellevue-gardens, Portland-street, and many others which are well known to Londoners; but there is little resemblance, except in the name, between the metropolitan and the Manchester localities. It is more suggestive to see such names as John Dalton-street; and others, such as Deansgate, which are associated with the past. Deansgate is a long and important thoroughfare, which extends from near the Cathedral to the Chester-road. Many of the houses, although the exteriors have been modernized, are of considerable antiquity; and in some of the interiors will be found the heavy timber frame-work, as old as Queen Elizabeth's days at the least, leaded window-frames, and other indications of age. A large number of taverns and public houses are to be met with in Deansgate-street. Some of these are fitted up in the gaudy gin-shop style, with arrangements for dancing; and others seem only remarkable for the want of all ventilation and sanitary provision. Under guidance, we visited several of these places, and found, in certain streets leading hence, dens of depravity, which are not creditable to the authorities of the town.

There are noble buildings in Manchester, as we have often pointed out. The public street monuments are, for the most part, less satisfactory. Of the monument to the memory of the Duke of Wellington, the less said the better, except to note the interest which seems to be taken by most wayfarers in the rilievi illustrative of some important passages of the great Duke's life. The Peel Monument, by Calder Marshall, is better. The statue of the statesman is supported by two female figures; one representing Art and Science, and the other Industry: the former is surrounded by chemical and other implements, and holds in one hand a tablet, and in the other a wreath of honour. Industry is a finely designed figure; one hand is resting on a bale of cotton; in the other is a distaff; at her feet a sheaf of corn; and so on. There are here, also, the statues of Watt and Dalton, which looming through the fog and smoke, promise little, seen at a distance, and do not disappoint. At this season there is a peculiarity in the bronze of these statues which gives them a shining appearance, as if they had been polished with black-lead. There are fountains here which we did not see in action, but the water in the basins was thickly covered with soot, which fell about us in large flakes. This soot might be prevented to a great extent if the Smoke Act were properly enforced by the authorities; but chimneys may be seen pouring forth dense columns of smoke, in defiance of the law.

Most people know the difficulty which there is in large towns of keeping the foot-paths clean in dirty weather: in connexion with some of the Manchester shops there is a capital plan for remedying this complaint. Below the window of the shops there is a water tap, to which a gutta-percha hose with a short metal pipe can be fixed: by allowing the water to play, in a very short time it effectually cleanses the foot-path. Arrangements of this kind carried out from one end of a street to the other, and used with discretion at mornings and evenings, would render the thoroughfares much more comfortable to pedestrians than they are now. Throughout Manchester and parts of Salford the carriage pavement of the streets is kept in good order. In parts of Salford many streets have been paved, and it would be better for the health of all if the same attention were shown in the immediate vicinity of dwellings which are occupied by large numbers of the poorer classes.

And now a few words on remedial measures for present distress amongst the poor of Lancashire.

The daily waste of wholesome food in households throughout this country would feed all the starving cotton-spinners, although there are not far short of 100,000 young women alone now suffering from want of employment in the manufacturing districts. Could not a vigorous and successful effort be made to save a large proportion of this waste, and send it to these districts in aid of what is being otherwise done on behalf of the poor cotton-spinners? That this is quite possible there is no doubt, since it is already done to a certain extent in the vicinity of London by a corps of Roman Catholic Sisters of Mercy, who therewith feed upwards of 100 aged, sick, and infirm poor, besides children; and what is being done, though on a comparatively small scale, could probably be quite successfully accomplished on a far greater scale; and if so, every town in the kingdom might have its corps of food collectors, and assorters. The sisters referred to belong to "the House of the Ladies of Nazareth" at Hammersmith. According to the "Social Science Review," these ladies ride about by twos, in small carts, from house to house, for waste supplies of food, which others of them assort, desiccate, and otherwise prepare it, both for storing and for immediate consumption; and so efficient and successful is the process in practice, that all the collectors and assorters for behoof of the cotton-spinners would have to do would be to follow so excellent an example. Thus, too, some hundreds or thousands of the cotton-spinners themselves, of both sexes, might be provided with sufficient employment in the various towns; and, indeed, no one else, almost, ought to be so employed. Only let such a system be set agoing, and we have not the least doubt that the waste-basket would be better filled than it has ever been; and that it would often be heaped above measure with the fruits of many a voluntary *and a salutary* fast of whole families whose loaded tables would ever and anon be swept, wholesale, into the waste basket for the poor starving cotton-spinners.

"Is not this the fast that I have chosen? . . . . . Is it not to deal thy bread to the hungry; and that thou bring the poor that are cast out to thy house? When thou seest the naked that thou cover him; and that thou hide not thyself from thine own flesh? Then shall thy light break forth in the morning, and thine health shall spring forth speedily; and thy righteousness shall go before thee: the glory of the Lord shall be thy reward."—Isaiah, lviii. 6—8.

This would, indeed, be a true and a benificent fast,—a fast most salutary both to giver and to receiver. May there be many such fasts throughout all England during the terrible time that threatens, and indeed that already afflicts, our poor manufacturing brethren.

And should the suggestion of a general collection of the food-waste of our towns be acted upon, let us not overlook the convenient opportunities thus afforded for the covering of the naked, no less than the feeding of the hungry. An excellent precedent for such a process already exists in the London Rag Brigade; affording just another proof of the practicability of both suggestions. The food and clothing brigades in the various towns might be established by means of subscriptions such as are now flowing in to the more direct aid of the cotton spinners; and considering the probability that money distributed would be spent in heat-giving (and ere long in fever-giving) rather than in flesh-giving food and drink,—in tea and beer, and such like mere excitants, rather than in substantial animal and vegetable food; such subscriptions would be far more profitably employed in the reproductive establishment of food and clothing brigades.

Public cooking-places, too, should be fitted up. Thinking that it might be useful to some of those who are striving to procure food for the starving population of the manufacturing districts, we have again visited the useful institution at No. 295, Euston-road, for the purpose of getting a few figures which will show the expense of providing large numbers with a supply of nutritious food. We know few establishments in the metropolis and large towns which do more real good to the suffering poor. A certain quantity is distributed in charity, but a large proportion is sold at somewhat about its prime cost; and the advantage of this is well appreciated in the winter time by many industrious persons with large families of children. We commend this soup-kitchen to the notice of the charitable citizens of the metropolis during the fast-coming winter; but just now we wish more particularly to note the cost of production gleaned from its experience:—

Flour and peas	£162 15 6
Butcher.....	44 4 0
Bacon and pork	77 15 3
Vegetables, &c.	41 6 0
	£326 0 9

For this, 4,400 gallons of beef-soup, and 11,675 gallons of pea-soup,—in all 16,075 gallons of excellent soup,—were made: this is at the rate of about 4¾d. per gallon. For 1,090lb. of rice made into rice-milk, 30*l.* 5s. 4d. (for milk, 6*l.* 9s. 9d.; sugar and rice, 23*l.* 15s. 7d.) was the amount paid. This is a very wholesome preparation, which may, we fear, be much wanted for the use of children before the winter is past. Besides the cost of the materials, there is a charge of 20*l.* 17s. 6d. for cooking this quantity of food [it would be much less in Lancashire]. Wages in the Euston Soup-kitchen come to 76*l.* 17s. 10d.; rent, 70*l.*; gas, 5*l.* 13s. 9d.; commission, 49*l.* 17s.; printing and stationery, 11*l.* 16s.; advertising, 14*l.* 1s. These are large items, which, in connexion with the Euston-road establishment, cannot be greatly lessened; but in other instances, and under the circumstances to which we have referred, some of these items might be dispensed with altogether, and the others materially reduced.

Our own great point, however, is to prevent the advent of epidemic disease by sanitary precautions; and to this we shall return.

ARCHITECTURE AND DECORATION IN FLORENCE.

A Florentine law of the year 1378 imposed on every newly-made citizen the duty of building a house, at the cost of at least 60 florins (the florin then representing about a pound sterling), before he could enter on the exercise of civic rights. One might suppose the spirit fostered by such enactments was still awake when observing the continual increase of streets and suburbs, for the most part in lines of pretentious and showy houses, that attests the prosperity of Florence at the present day; not that there is much to commend in this domestic architecture, which conforms to no particular style, and has no analogies with the stately palatial structures prominent among the Mediæval splendours of this city. From of old the fault has been found with the Tuscan capital that she is ever projecting what means or energies are wanting to accomplish; and we may reluctantly indorse the accusation, seeing how magnificent designs have yet borne no fruit in performance promised for early periods: as the cathedral façade, the mausoleum of Dante, the completion of the Medicean chapel of S. Lorenzo, the restoration of Or' Sanmichele to its original character as an open loggia with arcades, the uniting of all the public libraries in one great collection, &c. Still, however, true to her high antecedents and traditions, mind is awake, and under free institutions the new developments of life and thought are manifested in Florence in a manner to excite deep interest in her present moral aspects. Religious dissents, one result of the emancipation of intellect, are now constantly expressing themselves in cheap literature, satire, caricature, not to mention the recently-completed erection of an "Italian Evangelical church," with some claims to architecture. The activity of Italy's literature is mainly centered here; but the state of the periodical press shows some cause for regret at the now absorbing nature of political interests to which more than 200 journals, maintained throughout this country since the year '60, are almost exclusively dedicated. About twenty appear in Florence; but only one, a rather flimsy magazine, of little influence, the *Italia Contemporanea* (weekly), is now the organ of *belles lettres*, or artistic interest; if we except, indeed, the valuable *Archivia Storico*, which, though a periodical, belongs to a much

higher class, and reflects the greatest credit on its editors; the *Revista di Firenza*, one of the best Italian periodicals appropriated to like objects, which was revived, after long suspense, by Vannucci, a distinguished writer, shortly after the departure of the Austrian invaders; the *Spettatore*, also literary, and the *Carlo Goldoni* (dedicated to dramatic subjects), founded about the same period, alike vanished within about three years; and we were very sorry to see, the other day, in the fortieth number of the *Esporizione Italiana del* 1861, an illustrated weekly, kept up with laudable spirit, the announcement of its own decease, put forth with mournful retrospect, by the editors, of their struggles and failure, the difficulty of obtaining contributions, or such woodcuts as deserved admission, and the paucity of subscribers, whose numbers never exceeded 1,400.

The completion of the façade of Santa Croce is expected, and promised by those at work, for next May. The principal sculptors engaged to decorate this elevation from the design of the Cavaliere Matas, directing architect,* are Dupré, Cambi, Pazzi, Zocchi, Salvini, and others, all Florentines, who have prepared the rich *ornato* in high relief round the three portals and their gable summits; within the marble framework of these ingresses being ranged, in quatrefoils, the heads (almost indeed half-figures) of the Apostles, with the Saviour, who is blessing in the midst, the twelve Prophets round Moses, and the twelve Patriarchs laterally placed around the head of Adam, who looks down from the highest point, the keystone. At the angles of the doorway-canopies are angels holding the instruments of the Passion; and, at the central one the *Madonna addolorata*, by Dupré; the Magdalene and St. John below; the Virgin's figure within a deep niche, under a pointed canopy, seen against a background of gold mosaic. Above the portals are to be the lunettes (not yet placed), with large reliefs of the "Apparition of the Cross to Constantine," "The Finding of the Cross by Helena," and "The Exaltation of the Cross;" and on the valves of the central bronze doors, the twelve stations of the *Via Crucis*. Four pinnacles, 12½ *braccia* high, are to rise at the bases of the three gables in which the whole terminates. Along a rich and elaborate cornice, below these, are represented in coloured marbles four of those civic armorial devices, so numerously adopted by Florence—the red lily or white, the red cross, the eagle on a wool-pack (that of the guild of merchants), and the red eagle preying on the green dragon—of the Guelfic party; above, on the triangular surface of the chief gable, the letters of the holy name, originally placed on the same spot by the hand of St. Bernardin of Siena, who first introduced into devout symbolism the familiar monogram I H S. The entire material of this façade is native marble, white and grey-veined, white from Carrara, dark green and dusky red from Prato or other places in Tuscany. The general impression is of a pleasing and harmonious richness, a graceful subordination of ornament to massive and leading features, an appropriate use of very redundant symbolism; such, at least, we may report after climbing to every height and following the level of every cornice within the screen of scaffolding that still completely hides from external view this structure, whose details are intelligently explained to visitors by the chief workman, or, still better (an advantage we were able to secure), by the architect himself. As to the sculptures, all are not equally satisfying.

It is a prevailing expectation that so soon as the S. Croce façade be finished, that of the cathedral will be begun in earnest; and in January is to commence the examination of designs, according to the method of the competition open to artists of all nations, as published in April, 1859, with the promise of prizes for three in each of two classes into which the aggregate will be divided,—from 10,080 to 1,680 francs. The subscription for this object has been slowly progressing, 100,000 ducats being the estimated cost of the architectonic part alone, not comprising the sculpture ornaments. Another subscription has been set on foot for erecting in some public place the much-admired group by Fedi, the Sacrifice of Polyxena by Pyrrhus, consisting of four figures, the mother kneeling, the warrior with his victim and her dead defender, the marble of which, considerably larger than the model, we have seen under the assistant artists' hands, in an advanced state: we could not but admire the grandly-poetic character of the whole composition, which, though displaying passion and violence, is elevated into an ideal sphere by truly classic beauty. Yet another subscription now claims public generosity here for a monument, by the same artist, at present only designed in the first sketch, to the dramatic poet Niccolini; and another, both alike for S. Croce, to the Triumvir of the Tuscan Republic in '48, Montanelli, also distinguished in letters.

The restoration of the basilica of S. Miniato is now complete in the interior, except as regards the ancient frescoes of Benedictine Saints, the Crucifixion, and other Scriptural subjects of the fifteenth century, to a great degree obliterated, along the walls of the nave; and the façades, worn but not more injured by time, will (we are assured), be renovated without prejudice to its actual style. In the apse of the tribune the large mosaic, bearing date, in a frieze, 1297 (but referred by some critics to the eleventh century), has been most carefully restored; the roof of open rafters, originally painted in 1322, is now ornamented in diaper on a dusky brown surface, not suitable or effective. Now appropriated as a public cemetery, this grand old church is usually silent and deserted, not even the mass or office awakening its echoes except on one day in the year, All Souls', when the graves are profusely decorated with flowers, and hundreds of tapers burn on the pavement of nave, aisles, and crypt. The castellated monastery, built in 1294, is only inhabited at three periods in the year for the devotional "retreats" of eight days, when about sixty persons may be well accommodated. The re-opening of Or' Sanmichele, to become an arcade instead of a church, being no longer in project, the routine of sacred rites has been resumed there; but a similar plan with regard to the "Bigallo," the antique oratory of the Misericordia Fraternity, is not, it seems, objected against. This interesting though much injured building, one of the earliest examples of what Italians call "Gotica moderna," was raised about 1248, from the design, as supposed, of Niccola Pisano, to whom, or to Andrea of the same family, are ascribed the statuettes on the front opposite the baptistery of the Virgin and Child, and two saints, each under a pointed canopy, though the round arch is the form prevailing on this exterior, and in the arcade carried round two sides, the edifice being at an angle formed by the street and piazza, whose archways were barbarously built up in 1697. On one side above this arcade, are two much-faded frescoes, by Taddeo Gaddi, representing the Dominican of Verona, revered as St. Peter Martyr, in act of consigning the banner of the Red Cross to the chief citizens of Florence, for the combat has urged them to, in 1243, against the Manichean heretics; also, the same Peter preaching to these citizens, and driving away the devil, who appears in form of a black horse! Several valuable works of early art are in the chapel (now used for the archives of a hospital) and the office-room of this Bigallo: as twelve small pictures on Scriptural subjects by Giottino, so blackened and faded as to be almost beyond appreciation; a quaint and heavily-designed but dignified statue of the Virgin and Child, by Arnoldi, date, 1358; three beautiful paintings, subjects from the New Testament, on a predella, by Ridolfo Ghirlandaio; and a fresco by Chellini of "Mercy," as a majestic female in long mantle, crowned with the Papal tiara, gathering under the folds of her ample robe the members of the Misericordia Fraternity. The re-opening of the arcades round this ancient building, which now serves for the offices of an Orphan Asylum, will restore it to its beauty and monumental importance. That gloomily-magnificent chapel of the Medici Tombs at S. Lorenzo, on which had been expended more than two millions and a half of ducats before the year 1722, and on which, we are told, the entire outlay hitherto (not including that for the frescoes by Benvenuti on the cupola) has been twenty-three million lire, is at last to be provided with its altar—a superb specimen of *pietra dura* work, prepared in the Government establishment, or *Officina*, founded by Cosmo I. This altar's pallium was sent to London for the Great Exhibition. Though there is no disposition to venerate the memory of the Medici in the Florence of the present, it is proposed to raise the only monument wanting to the series of reigning dukes, that to the last of his dynasty, in this celebrated chapel, and to supply with their colossal bronze statues the rest of these mausolea, only two of which are yet so adorned, by the sculptures, namely, of Tacca and Giovanni di Bologna. The columns and statuettes, entirely of *pietra dura*, or rock crystal, for the altar destined, under the Medicis, to have stood here, are now dispersed among the contents of the cabinet of gems at the Uffizi, in the centre of which now stands uncovered the table from the glazed cases on which were stolen the entire contents, 200 objects, mostly personal ornaments, not one since recovered, though a heap of shapeless gold fragments was found in possession of the robber, and three artizans of the lower class have been convicted for the crime. Since that spoliation only two works by Benvenuto Cellini have been preserved in this collection, small vases of jasper and crystal adorned with the coiling figures of fantastic serpents in enamelled gold. Much alarm was excited, on the night of the 26th, by a fire which broke out in the cellars under the Uffizi, imprudently appropriated for a deposit of hay, which ignited, it seems, spontaneously, and could not be quite extinguished for two days. As these cellars are ample vaults entirely of stone, the danger could not have been great; but much energy was exerted to put out a conflagration in alarming proximity to the greatest treasures of art.

For the honour of Florence we should add that a statue of Dante, by Pazzi, already exhibited and much admired, has been commissioned, and certainly will be erected, after a time, on the Piazza S. Maria Novella. It presents the poet in a severe and indignant mood, but with the character of power we look for in such a subject—perhaps the finest sculpture treatment of this subject yet produced.

* His design is, in fact, a variation upon the original by Cronaca.

NEW MATERIALS FOR THE LIFE OF CAIUS GABRIEL CIBBER.

THE case of Cibber & Son (shall I add the profligate grandson, "*The*"?*) is a characteristic exception to the general rule that a clever father has seldom a clever son. Colley has eclipsed his father's name. Caius, however, was no common man. The "poetic statues" of "Madness" and "Melancholy," at Bedlam, have more than a touch of Michelangelo in their conception and execution. It is a pity that they are not more known. What were familiar objects to our great grandfathers in London are now hidden and in London; the two savages over St. Dunstan's, in Fleet-street, still do daily and hourly duty, *unseen* but not unheard, in the Regent's Park; the "Brainless Brothers" of Cibber, made immortal by Pope, and known, "sixty years since," to every City apprentice and every lord mayor, are now only to be *seen* by favour, *within* the walls of Bedlam, and not without, wanting as they do the gate for which they were designed, and without which they are seen to great disadvantage, for Cibber had the taste of an architect as well as the skill of a sculptor.†

In the Works of Accounts of the Crown, when "the hero William," the "great Nassau," was king, I found the following entries touching Cibber, when at work at Hampton Court under the eye of Wren:—

"To Gabriel Cibber, statuary, for two Coats of Arms in Portland stone, several statues and figures in metal, and for carriage of the statues and other charges,—330*l*."

The payment was made between the years 1691 and 1694. Younger and more experienced eyes than mine may perhaps succeed in identifying the chisel of Cibber in the masonry of the William and Mary period still to be seen at Hampton Court.

A second payment to Cibber occurs in the Account of King William's favourite Bentinck, Earl of Portland, as "superintendent" of certain "work" done at Hampton Court in the way of garden decoration:—

	£	s.	d.
To Caius Gabriel Cibber, carver, for a great Vauze of white marble enricht with divers ornaments, with a Pedestal of Portland stone also enricht	234	0	0
More for a great marble Urne with divers base relieves and figures	521	12	0
In both	£755	12	0

The "vauze" and "urne" are now in her Majesty's flower-garden, at Windsor, in front of the private apartments. King George IV., with a bad taste not common to him, ordered their removal to Windsor, where they are somewhat out of place. They were designed for Hampton Court; when Wren was alive, were placed by Wren, and should be restored to their old situations, where, in Inigo language, they "conduce" to the whole design. Copies would suit Windsor as well,—Hampton should have its own.

A third payment to Cibber runs thus:—

"To Gabriel Cibber, statuary, for insculpting the Relieve

* Theophilus Cibber went by the name of *The* Cibber. Sir Joshua Reynolds's mother, Theophila Potter, was called *The* by her husband.

† If we mistake not, these are now at Kensington.—ED.

on the Timpan of the great Frontispiece with Iconological figures, and for several journies of himself and men to look after the performance.—400*l.*"

This I copy from the "Crown Works at Hampton Court," between the 1st of April, 1694, and the 31st of March, 1696, "when William was king."

The fourth, and unfortunately, the last payment to Cibber, by the Crown, is as follows:—

"To Gabriel Cibber, statuary, for *four* great Flower Pots of Portland stone, richly carved.—187*l.* 10*s.*"

That is, forty-six pounds, seventeen shillings, and sixpence a *flower-pot!* The Flower-Pot gate at Hampton Court is still standing, and deservedly admired. Where are the four flower-pots?

"I can only find," says Walpole, "that he [Cibber] was twice married, and that by his second wife, descended from the ancient family of Colley, in Rutlandshire, he had 6,000*l.* and several children, among whom was the well-known poet laureate, born in 1671, at his father's in Southampton-street, facing Southampton House." To this is added in a note, as I read in Dallaway's edition and Mr. Wornum's edition of "The Anecdotes," the only editions printed since Walpole's death:—

"By this alliance his children were kinsmen to William of Wykeham, and on that foundation one of them (afterwards a Fellow of New College, Oxford, and remarkable for his wit) was admitted of Winchester College; in consideration of which the father carved and gave to that society a statue of their founder."

So runs Dallaway's edition of 1827 (vol. iii. p. 153), and so runs Mr. Wornum's edition of 1849, p. 549. If, however, we look into Walpole's own text of his works (vol. iii. p. 339), we shall find an additional sentence:—

"He also executed some statues for the library of Trinity College, in Cambridge. *Vide* 'Life of Colley Cibber,' chap. iii."

What say you, Mr. Bohn, to this *second* omission in your "Standard Library Reprint of Walpole's Anecdotes"?

The date of Cibber's second marriage I discovered (when engaged on my "Handbook for Windsor") in the valuable registers of the parish of St. Giles-in-the-fields. Thus runs the entry:—

"L.L. 1670, Nov. 24. Caius Gabriel Cibber, widower, and Jane Colley, spinster."

What does Colley himself say? "I was born in London on the 6th of November, 1671, in Southampton-street, facing Southampton House." Southampton House (of which a Street Directory memory survives in Southampton-row) occupied the whole north side of the present Bloomsbury-square, and was within the parish of St. Giles-in-the-fields. The period between the birth and baptism of Cibber's son was then an *unusual* period.

We first hear of our sculptor in his thirty-ninth year. He was then poor and in trouble. Walpole did not know this, nor did my father. For some now unknown reason, Cibber sought and obtained the freedom of the city of London; and, for some equally unknown reason, chose the Leathersellers' Company. On the 3rd of April, 1668, he was made free of the company by redemption, and on the 14th of October, 1673, was called on its livery. His livery fine, however, of twenty-five pounds, was not forthcoming in cash. It came to the company in a different way. In the books of the company is this remarkable entry relating to Caius:—

"*6th May*, 1679.—*Caius Gabriel Cibber* being called upon the livery, became bound unto this society for payment of his fine; and afterwards made the *stone Mermayd* over the Pumpe in the Court Yard, and the arms of this society leading from out the street into *St. Hellen's*, both which he esteems to be equal in value or above the said fine; and this court being informed that the said *Cibber* is a very ingenious workman, but a *prisoner in the King's Bench*, or lately was a prisoner, in respect whereof itt is not fitt to presente him at lawe for his fine, this court therefore thought fitt that the matter in difference should be adjusted and fully understood; and the comon clarke of this Society informing this Court that *Mr. Ciber* was resolved to presente some pretty figure of his own invention that should be ornamentall to *the Hall*, this Court gave the assent thereto, and ordered that in case Mr. Ciber perform the same, and this Court be satisfied that itt's worth acceptance, then his bond shall be delivered up to be cancelled."

Of "The Stone Mermayd over the Pumpe" there is an engraving, made in 1791, by *Nollekens* Smith. Smith assigned it to the reign of Queen Elizabeth or that of James I. Our fabulous and amphibious female was made, on festive occasions, to discharge wine from her breasts, for apprentices and menials, not for milk punch or sea-water punishments.

The biographers of Cibber omit to mention a "Triton fountain" at Chatsworth assigned to Cibber by no less a judge than the late Duke of Devonshire. The readers of the *Builder* are possibly not aware that the Duke drew up privately, and printed in 4to., an excellent Handbook to his own house. Now that his Grace is no more, the publication of the work would be a graceful and acceptable tribute to the memory of a true cherisher of living art in England, Italy, and Denmark—the friend and patron of Chantrey, Canova, and Thorwaldsen. And here I may be pardoned for telling how much the Duke was pleased with an observation I made upon his book. I complained to a friend, of the Duke's trenching upon the province of a handbooker by profession, and, what is more, doing his work so well. A Cavendish and a duke and a Knight of the Garter, with a stately house in London (and in the best part of London), with a classic villa at Chiswick, a mansion (a palace, in truth) in Derbyshire, a second (Hardwicke, still better placed) in the same county, and a house in Ireland, should not, I jestingly complained, invade the province of an author by profession; "a rich ill poet," I added, from Lord Roscommon, "is without excuse," still more so a rich good author. The truth is, the Duke had both the ambition and skill to become one of Walpole's royal and noble authors, and was proud to foresee his name in some future edition of Lord Orford's work.

The grandson ("The") of our sculptor was born on the day of the memorable storm of the 26th of November, 1703, and his unruly life (not to call it a worse name) was owing, it was said, to this circumstance.

"And has not Colley, too, his lord and —— ?" cries, in wicked verse, the little wasp of Twickenham. Colley dearly loved a lord; his Will (I have seen it) is witnessed by two lords—Waldegrave and Duncannon. Did he carry his Will for witnesses to his favourite haunt—the gaming-table at White's, in St. James's-street?

One anecdote more, and I have done with our celebrated statuary, his famous son, and his infamous grandson. "Cibber is here," Ben Victor writes from Tunbridge to a friend. "He goes constantly to prayers; and the curate, to return the compliment, goes, when prayers are over, constantly to—the gaming-table."

PETER CUNNINGHAM.

THE FALL OF THE VIADUCT ON THE CITY AND HAMMERSMITH RAILWAY.

ON Friday, the 14th instant, the inquest was resumed on the bodies of the six men killed by this lamentable accident.

It appears that at daylight on the 6th instant, when the workmen of Mr. Rummens, the contractor, reached the work, they discovered by the parapet that one of the piers had settled during the night about 2 inches. The viaduct consisted of nearly twenty segmental arches, of about 20 feet span, on piers about 10 feet high above ground, all being built of brick. The centres had been strück four or five weeks before the time in question, and the roadway had been nearly completed.

Upon observing the failure of the pier, the contractor's men were at once set to work to shore up the arches, or rather the piers, successively on each side. During the whole day this operation was continued, and six piers had been so shored; the faulty pier continuing to sink; when at half-past eight in the evening, the men being still at work by firelight, the structure suddenly gave way. One arch fell after another, to the number of fourteen or more, and six of the labourers were buried under the ruins, and taken out dead.

Scientific evidence was taken on the 14th to account for the accident.

Mr. John Fowler, engineer-in-chief to the railway, stated that he had inspected the ruins, and had caused trenches to be cut to expose the nature of the foundation, which the jury had seen. He considered the falling of the viaduct to have occurred by the one pier which had first settled having been built on a bad foundation. He had found an old ditch to exist near it, passing transversely under the arch on one side of it; and he had no doubt this had so softened the clay, that the late wet weather had caused the foundation of the pier to slip. By measurement he found that the pier had sunk 10¼ inches, and slid forward towards the ditch 5 inches. There was no appearance on the surface of the ground by which any one could have been led to consider that the ditch had had such an effect upon the surrounding soil. The foundation was a good clay: he had seen the trenches of the first six piers, and had directed the others to be dug to such depth as would give an equal quality of bottom. Some of the jury having produced a portion of concrete taken from the foundation of the faulty pier, Mr. Fowler said the concrete was 18 inches thick, and of good material, and, although the sample was entirely disintegrated, he considered it had once been properly set, and afterwards destroyed by the pressure of the sinking pier. The materials used by the contractor were all good, and the workmanship also.

Mr. William Wilson, resident engineer of the railway, who had had the more immediate superintendence of the works, gave the same opinion as Mr. Fowler, and produced drawings whereby he showed that the foundation of the defective pier was 6 feet underground, and the ditch from 8 feet to 11 feet removed from it. He had been sent for upon the discovery of the settlement of the pier, but had not been able to reach the spot till late in the day, when he found the shoring well advanced, and so left the case in the hands of the contractor, who was alone responsible for the work. He did not interfere with the shoring, and he considered it was being properly done. The concrete he considered to have been set, and afterwards disintegrated.

Mr. Joseph Cubitt, C.E., confirmed the opinions of the previous witnesses as to the nature of the foundation and the cause of the accident. He found the materials and workmanship in every respect good; and the concrete he considered to have been set. He had had a similar failure to this in one of his own works some years after completion.

Mr. Holden, superintendent under the contractor, had seen to the digging of the foundations. He had been aware of the ditch referred to, but saw no difference in the clay near it. About three weeks before the accident water had accumulated in the ditch, and he had caused a drain to be put in to carry it under the viaduct.

Mr. Robert Kerr, architect, and Professor of Construction in King's College, stated that he had inspected the ruins by desire of the coroner. He agreed with the opinions expressed by the engineers. He found the ditch exhibited in cross section in the cuttings which had been made along each side of the viaduct. It showed about 4 feet in width and as much in depth of black deposit, which he considered to be the accumulation of a long period, reaching at last to the level of the surface. This soft earth would obviously allow water to settle through it, which in process of time must gradually cause the clay under it and on each side to become rotten, being penetrated by more or less minute channels, which would become charged with the soft soil from the ditch. He found that two of the piers of the viaduct had happened to stand at about an equal distance from the ditch, so that it passed nearly under the crown of the arch, and was thus about 10 feet from each pier. In dry weather, such as appeared to have prevailed when the foundations were dug, the ditch would probably not have attracted attention. He considered both the engineer and the contractor to be free from blame for not perceiving it. He saw nothing in the clay under the pier which could be expected to awaken suspicion of its stability. The access of water after the recent rains would supply to the clay all that was wanted to allow the pier in question to settle downwards and towards the ditch. He considered the brickwork good. The concrete, so far as the specimen upon the table went, he could not believe had ever been fully set; but he did not consider the concrete to have been the cause of the accident. He supposed that water had obtained access to this concrete, so as to protract its setting; but the instability of the clay was the cause of the failure of the foundation; and more could not be said on this point unless the pier were taken down and the foundations examined. Mr. Kerr stated further that the question to which he had more particularly turned his attention was the operation of shoring, which it seemed to him was the only cause of the death of the men, the failure of construction being an accomplished fact on the morning before the accident: the men had engaged in shoring it up with a knowledge of their peril, and it was in this process that they lost their lives in the evening.

The coroner, therefore, proposed to adduce special evidence regarding the shoring.

Mr. Kerr went on to say that the jury might possibly accept his own statement of what he had learnt by inquiry on the ground. He had learnt that the mode of shoring was the placing of raking supports against a string course at the top of the piers, the supports bearing on the ground midway between the piers. Although this was not, in his opinion, the best plan to be adopted; yet, as the workmen were taken by surprise, and with no

better appliances at hand, he thought they had done all that they could be expected to do; and that the cause of the death of the men was simply that, in spite of all their exertions, the failure of the structure had gained upon them. The suddenness of the final fall, and its direction, would depend upon any accidental peculiarity in the shoring.

The coroner, addressing the jury, suggested whether they had had sufficient scientific evidence to enable them to arrive at a verdict that the men had met their death in the operation of shoring, undertaken voluntarily, and with full knowledge of its danger.

The room was cleared, and the jury ultimately preferred an adjournment, that the pier (which was still standing) should be taken down, and the foundation under it examined.

The inquest was resumed on Wednesday last; but, as this requirement had not been attended to, it was again adjourned.

THE MARRIAGE OF THE PRINCE OF WALES.

As the marriage of his Royal Highness the Prince of Wales is expected to be celebrated early in the coming year; and as so much inconvenience was experienced by the very confined space which the Chapel Royal at St. James's afforded at former royal marriages, both to the royal family and the distinguished persons present on those occasions; would not her Majesty's Chapel Royal at Whitehall (the well-known building by Inigo Jones) be a much more convenient place for celebrating on a magnificent scale so important an event as the marriage of the heir to the throne of these realms? The Chapel Royal at Whitehall is 112 feet long, 56 feet wide, and nearly 60 feet in height. The ceiling is decorated with paintings by Sir Peter Paul Rubens, put up in the year 1629. Ample room would here be afforded for the persons present, and a spacious avenue down the middle aisle for the procession, &c. The galleries run round three sides of the chapel, and other galleries under might be erected for the occasion of the marriage ceremonies.

There is abundant room at the back of the chapel, in Whitehall-gardens, for erecting temporary reception and retiring rooms for the royal family and other noble personages; and a communication might be made from those rooms into the chapel at the northern end of the building, on a level with the floor of the chapel, which is about 12 feet above the level of the street. There is also a fine wide road for the carriages to pass to the court-yard at the back of the chapel, by the Duke of Buccleuch's and Sir Robert Peel's residences, to set the company down at the reception rooms.

It is to be hoped the day will be made a holiday in every sense of the word, and that some amusements will be provided for the multitude. Money occasionally so spent is well spent.

PROJECTS AFFECTING THE METROPOLIS.

Various projects are announced in the advertising columns of the metropolitan papers in the form of notices of application to Parliament for the incorporation of companies, with the powers requisite to carry out their respective projects. Thus there is a Royal Arcade Company, for the construction of an arcade between Regent-street and Bond-street; a Regent Market Company for the inclosure of the open space of Leicester-square into a general market (which we heartily hope will be "thrown out"); a Tower-bridge Company for making a bridge across the Thames, from Irongate-stairs, near the Tower, to Horselydown Old Stairs, "for horses, animals, trucks, and passengers" (how will this project affect the shipping and customs interests?); a Wandsworth Bridge Company for making another new bridge across the Thames, from York-road, Waudsworth, to King's-road, Fulham, "for carts, horses, and passengers;" a Metropolitan Bridges' Company "for making new bridges over the Thames, with approaches;—from St. Paul's Wharf to Bankside, near Love-lane, and to Bankside at Mason's Stairs, to be called the St. Paul's Bridge; from Irongate Stairs, near the Tower of London, to Horselydown Old Stairs, to be called the Tower Bridge; from the Temple Steamboat Pier to the Commercial-road, Lambeth, and to Old Barge House Stairs, to be called the Temple Bridge; from Cheney-walk, opposite Oakley-street, Chelsea, to the Albert-road, Battersea, to be called the New Chelsea and Battersea Bridge (some such bridge is much needed); and from the York-road, Wandsworth, to the King's-road, Fulham, to be called the Wandsworth Bridge."

Besides these rival and competing companies, there is (all advertised in the same paper) a new Chelsea and Battersea Bridge Company, "for making a new bridge from Cheyne-walk, opposite Oakley-street, Chelsea, to the Albert-road, Battersea Park; and (also, as we have often urged, much needed) a Fulham Bridge Company, for the purchase, removal, and re-erection of Fulham Bridge. There are also various railway projects; especially a Pimlico and Paddington railway, to be partly tunnelled, with two branches or connected lines; the chief object being to unite the underground railway at Paddington with the southern lines at Victoria Station, and with Chelsea near the Barracks: there is also a Northern and Southern City Junction Railway and Bridge, "to unite the Blackwall with the South-Eastern and Brighton Railways;" also a bridge across the Thames from Tower-hill to Bermondsey, with powers to London and Blackwall, South Eastern, Brighton, Great Eastern, Great Northern, and North London Railway Companies, to contribute towards the cost; and comprising an additional project for the construction "of a bridge for carriages, carts, horses, and passengers across the river Thames, with all necessary works and approaches; such bridge to occupy the same site as, but for the most part to be upon a different level from, the bridge for carrying the proposed railway over the said river; such bridge and its approaches to commence at Tower-hill, in the said liberty and precincts of the Tower, immediately to the north of Great Tower-street, to pass thence through or into the said liberty and precints, and the said parishes of St. Olave and St. John, Horselydown, and to terminate in the said last-mentioned parish, at or near the junction of Magdalen-street with Bermondsey-street." Another project is for a Brentford branch railway from the Great Western, in the parish of Isleworth, to Northumberland Wharf.

LIFE BELTS AND BOATS.



In the course of a valuable lecture on life-boats by Captain Ward, R.N., Inspector of Life-boats to that very active body the Royal National Life-boat Institution, the lecturer described a life-belt invented by himself, which appears to have advantage over others. It consists of narrow, uncovered ribs of cork attached to a string backing or broad belt, each piece being separately sewn on with strong twine, in such a manner that the breaking off of any one piece would not loosen that next to it; while one surface only of the corks being attached to the belt, it remains flexible. It will support, it is stated, an ordinary man with his clothes on, with his shoulders and chest above water.

The frightful loss of life that takes place every year on and around our own shores makes improvement in every means of increasing the chances of the shipwrecked of national importance.

Manchester Assize Courts.—In correction of a mis-statement which has been general, we are asked to say that the builder of the Assize Courts, Manchester, is Mr. Samuel Bramall.

STAINED GLASS WINDOWS AND VENTILATION.

The rapidly-increasing taste for stained glass window-work, which followed on the comparatively recent restoration of the art, is now become, in some neighbourhoods, almost a mania; and the number of presentation and memorial windows is being so multiplied in parish churches, that some kind of general regulating principle appears to be urgently required, in order to give a proper direction to the taste. In many instances window after window is crowded into a church without regard either to accordance of style or goodness of workmanship, or to the amount of ventilation that is stopped by the removal of windows which could be opened and shut, to make way for stained glass windows, which, on account of their value, are not made to open at all, as at each time of opening or shutting there might be some risk of destroying valuable artistic work. This system of introducing painted windows permanently fixed, and unprovided with any means for procuring ventilation, and protected externally with a closely-adjusted wire-work, in order to protect them from the carelessness of pew-openers or beadles within, and from accident or wilful injury on the outside, is a course of proceeding likely to become very injurious in a sanitary point of view. The objectionable system has been so completely carried out in all its rigours in a small church in Jersey, recently described to us in the letter of an artistic tourist, that all ventilation is permanently stopped; no means having been taken to provide the necessary supply of fresh air by some other means, after the windows provided with openings had all been successively replaced by others which were rigid fixtures. The consequence has been, that whenever the church is crowded and the weather warm, fainting-fits are continually occurring; and many have been seized with illness soon after going to church, which no one has attempted to account for in the most rational manner, as arising from causes precisely similar, though in a less aggravated form, to those which produced such fatal results in the historically celebrated "black hole" at Calcutta.

It is well known that the most virulent form of fever can be artificially produced, by means, of which the effectual sealing up of all the window spaces with painted glass, and the crowding of the arena so filled up with a number of persons condemned to remain there for a certain time, would form an excellent commencement,—as good a beginning, in fact, as could be desired by a wholesale and enthusiastic physiologist determined to try the experiment on an extensive scale. The persons so shut up might be all perfectly healthy; and yet, after a certain not very lengthened course of treatment,—a course measured by hours rather than days,—symptoms would begin to show themselves which would inevitably terminate in illness. Even in the two hours or so of the church service, premonitory symptoms often begin to show themselves in the shape of faintings and in slight sensations, thought nothing of at the time, which sometimes leave germs of disease in the system.

Before discussing the sanitary part of the question, however, and the remedies to be applied for the evils adverted to, it may be well to state that art as well as health suffers by the irregular manner in which painted windows, the gift of different persons, of perhaps opposite taste, are indiscriminately thrust into churches, without regard either to the general style of the building itself or to that of already existing windows, either old or new. The want of artistic propriety often produces the most abominably incongruous effect. Proper advice should always be obtained.

Such windows as a great eastern or western window might be made without moveable openings, as also those of the transepts, if of a costly character; but the others should always be so managed by the designer that certain portions might be composed of some kind of inexpensive grisaille work (or of some plain dark colour, if more desirable); which portions, being distinct from any part of the principal work, might be made to open and shut; and if broken would not interfere with the main design, even if filled up with glass of a different pattern from that which they originally contained.

The preparation of certain means of ventilation by stained-glass windows, if no other means exist, is highly necessary, whether accompanied by such artistic contrivance as that suggested or not. But it is plain that obtaining this, while at the same time keeping in view the proper protection of valuable artistic work from accidental injury, is the more advisable course to pursue. It, therefore, behoves manufacturers of stained-glass windows to

make such provisions for leaving certain portions of the window space available for ventilating as can be turned to account in this way without interfering with the essential part of the decoration; and with the exercise of a little ingenuity in composing the design, this may easily be effected.

If the principles which we have just attempted to describe could be fully carried into effect, we should not see the already insufficient ventilation of churches further abridged, or entirely destroyed, by the general introduction of painted windows; nor should we see picturesque old churches utterly disfigured by the introduction of painted windows of unsuitable character; one destroying the effect of the other, and all tending to disturb the unity of effect, and the solemn character of deep repose which is nearly always found in old Gothic churches that remain undisturbed by modern innovation. Nothing is so fatal to that effect as the glaring vulgarity of stained glass, when of an inferior character; especially when several discordant styles are all huddled together. At the same time, it is admitted on all sides that no resource of the architect is so capable of producing that peculiar combination of richness and solemnity which we find in many of our noble religious edifices of the Middle Ages, as painted glass. It is, therefore, all the more necessary that such a means of producing the most valuable and appropriate effect in our religious edifices should neither be rendered a noxious inconvenience, as obstructing healthy ventilation, nor a means of producing a vulgar and flashy glare, instead of its own legitimate and beautiful effects.

STATISTICS OF THE INTERNATIONAL EXHIBITION.

THE SOCIETY OF ARTS.

THE opening meeting was held on Wednesday, the 19th instant, when Sir Thomas Phillips, chairman, delivered the annual address. He said, with reference to the "Exhibition,"—

"I am not in possession of official returns of the number of exhibitors in the present year, nor am I acquainted with any trustworthy estimate of the value of the objects exhibited; but instead of 13,937 exhibitors, as in 1851, the number in the present year has, I believe exceeded 25,000, of which the foreign exhibitors, who, in 1851, numbered only 6,536, have amounted in the present year to 16,000. These numbers do not include the exhibitors of works of fine art, whether painting or sculpture, in which departments 6,000 objects were exhibited. Whilst the increase in the number of exhibitors has been so large, it will be conceded by all to whom both Exhibitions were familiar, not only that the recent Exhibition as a whole far exceeded in interest, beauty, and value that of 1851, but that in almost every department of industry the improvement in the present year's Exhibition was very remarkable. That improvement must be attributed, doubtless in a large measure, to the characteristics of our age, the competition engendered by active rivalry, national and individual, art culture, increased intelligence, and the improved education of the artisan. But a share, and I believe a large share, of that improvement may be claimed for the Exhibitions of 1851 and 1855, and we may confidently expect that the recent Exhibition will not be less fruitful than its predecessors in those lessons which contribute to beauty of design, to an appropriate selection of material, to excellence of workmanship, and to economy of labour; and which enlist the aid of science and art in the pursuits of industry.

The capitalist, by travel through various countries, and by intercourse with the scientific and industrious classes in many lands, may acquire the knowledge necessary for the profitable conduct of his own affairs. The working man has no such opportunities for the culture of his faculties, and to enable him to benefit by the labour and skill of others, their productions must be collected for his inspection; and it is scarcely possible to estimate too highly the importance to the industrial classes of such Exhibitions as that which hast just closed. Educated or trained for special labour, confined to a narrow circle of observation, habituated to a definite and unvarying handicraft, it is most important that we should enable our artisans to observe the works of other men and other countries than their own; and to discern the methods employed to accomplish results with which they are familiar, but which they have attained by different processes. The knowledge they thus acquire should advance their skill, improve their taste, and enlarge their faculties. By these influences their intellectual character is raised, they are removed from those sensual indulgencies by which they are often shipwrecked; their moral nature is purified, they are elevated in social position, and their self-respect is cultivated and strengthened. In this Society, founded for the encouragement of arts, manufactures, and commerce, it is fitting to indicate how exhibitions of industry and art are calculated, in an especial manner, to benefit those who are engaged in the pursuits of industry. Nevertheless we ought not to overlook the interest which the recent Exhibition excited in other classes, who visited it in great numbers, and to whom the works of fine art, no less than the produce of industry, afforded great gratification.

The number of visits made to the building between the 1st day of May and the 1st day of November, amounted to six millions two hundred thousand, which is only a slight increase on the number of visits made to the Exhibition of 1851, and is below the number anticipated in the present year. Several causes have contributed to this disappointment, and we may especially mention two great national calamities—the death of the Prince Consort, and the wide-spread distress in our cotton districts: a distress by which a large proportion of the population engaged in, or dependent on, that branch of industry, and who visited the metropolis in great numbers in 1851, was prevented by want of means from seeing the late Exhibition.

I cannot detail with any precision the financial results of the Exhibition; but I understand the money paid for admission on this occasion has amounted to 409,000*l.*; whilst the receipts for admission in 1851 were 423,792*l.*, including in each instance the payment for season tickets.

I have no official knowledge of the expenditure of the Commissioners; but I am informed that the claim on them for the services of the police force exceeds 19,000*l.*,—a subject to which the attention of the members of the Society, as well as the public, should be directed, in order that it may be brought under the consideration of the Home Secretary, by whom certain powers of control and superintendence are exercised in relation to the police force. In France and other European countries, industrial exhibitions have been undertaken at the risk of the Governments; and in Spain, as well as Turkey, where proposals have been made for holding Exhibitions next year, the Governments will, no doubt, assume the risk. In 1855, Parliament voted 50,000*l.*, of which 40,000*l.* only were expended, to assist English exhibitors in sending their goods to, and displaying them and providing for their safety in, Paris; and in 1851, a sum of 67,886*l.* was subscribed by the public towards the expenses of that Exhibition. No contributions from the Government, or subscriptions from the public, are now sought; but the preservation of public order, and the protection of property, at an exhibition promoted on public grounds, and calculated to insure important public benefits, ought assuredly to be undertaken by the police authorities, whose funds are in part raised by assessment on the metropolitan parishes, and in part contributed from the Consolidated Fund."

The appeal made by the Society in aid of the National Memorial of the Prince Consort has produced 10,000*l.*

The Society now numbers nearly 3,000 members.

THE ARCHITECTURAL ASSOCIATION.

ARCHITECTURAL ALLIANCE.

THE first meeting for the despatch of business of the Architectural Association, for the session 1862-3, was held on Friday evening, the 14th, at the House in Conduit-street. The chair was occupied by the president, Mr. Thos. Blashill.

Mr. H. Attwood Reeves handed in a copy of Professor Donaldson's work, "Architectura Numismatica," presented to the Association by the author, and for which a vote of thanks was accorded to Professor Donaldson.

The Chairman said that the question which they had to discuss that evening was one of unusual importance; and although difference of opinion naturally prevailed on the subject, he believed it would be approached with an earnest desire to arrive at a conclusion which would be conducive to the best interests of the Association: he alluded to the proposition that they should join and become one of the affiliated societies known as the Architectural Alliance. It would be in the recollection of the meeting that during the last session delegates—of whom he was one—had been appointed by this society to meet delegates from the Northern Architectural Association,—with whom the proposition originated,—and from the other societies, with a view to consider the matter in all its bearings, and to report to the general body. They had done so; and, before the discussion was entered on, it would be more convenient that the report of the delegates should be read.

Former minutes and the following report of the delegates were then read:—

"25th July, 1862.

Having been appointed to attend a meeting of delegates held at No. 9, Conduit-street, on the 2nd of July instant, for the purpose of forming an Architectural Alliance, we beg to report that, in conformity with our instructions, we met the delegates from the other societies whose names are given in the paper presented herewith [London Association, Institute of Scotland, Institute of Ireland, Birmingham Association, Bristol Association, Liverpool Association, Glasgow Association, Manchester Association, Northern Association], and having heard and considered the explanations given by the promoters of the scheme, we would advise that the Architectural Association do give in its adherence to the proposed Alliance. We beg to present a copy of the rules, as provisionally agreed upon at the meeting, and shall be ready to give such additional information as you may require.

(Signed) T. BLASHILL, President.
T. ROGER SMITH.
JAS. A. BUNKER.
A. W. BLOMFIELD."

Mr. Paraire said he fully agreed with the chairman as to the importance of the subject. At the last meeting, held nearly six months ago, the discussion had been at his instance postponed until this evening; and in the interim he had given the matter very careful consideration. No doubt all alliances which would have a tendency to promote friendship and good feeling were beneficial, and ought to be encouraged. Before arriving at a conclusion, however, they were bound to consider the position which they occupied amongst those who were to form the alliance. As individual members they had an undoubted right to join any alliance they thought proper; but in this instance the proposition was, and the effect of adopting the report just read would be, to bind the entire body of members. The question had been dragging along for nearly two years, and during that time a variety of negotiations had taken place; but the only object he could discover proposed by the promoters of the scheme was the promotion of good feeling amongst the members of the various societies. For his part, he did not see that such a measure was necessary to attain the end in view; and he believed that good and friendly feeling already existed. On the other hand, they should consider what the possible effect of the Alliance would be in another point of view. They were all aware that at the time the alliance was proposed there was a movement of much importance to them made by the Royal Institute of British Architects, as to whether it was not possible to bring the junior members of the Association, and the members of the profession generally, into a better position professionally, than they had theretofore held. A programme was drawn up and sent to this Association to be considered. It was considered, and in some respects amended, and returned to the Institute. The alterations were discussed with courtesy, and eventually they were incorporated and embodied in the programme for the examination of architects. He asked, was it likely, after the Institute had done that, that they would countenance the society's alliance with a body who believed it would be one day so strong that the Royal Institute would be very glad to join them? He for one thought it would be an unwise thing to adopt any course which could be considered antagonistic by the Institute. He would propose the following resolution for their consideration:—"That the steps taken by the Royal Institute of British Architects for the advancement of the Architectural profession being of a satisfactory character, we must decline joining at the present time the Architectural Alliance as proposed by the Northern Architectural Association."

Mr. Spiers seconded the resolution.

In reply to inquiry,

The Chairman said that with the exception of this society and one other, or two at most, all the societies represented had sent in their adherence to the alliance.

Mr. Bunker said that the antagonism to the Institute apprehended by Mr. Paraire existed only in imagination. There was no intention whatever of any hostility or opposition. Such was neither their interest nor their desire. Delegates from the Institute attended the meeting referred to; and the statement made by the promoters of the alliance explained away any objections that were made; and a feeling prevailed that there was not the slightest intention, implied or otherwise, of opposition to the Institute.

Mr. Spiers said he did not think the rules sufficiently explained the object. The third rule was,

"That the object of the alliance shall be to promote united action amongst the existing architectural societies, and to aid the establishment of new local societies." Fourth.—"That it shall take cognizance of all matters affecting the interests of the profession and the professional practice of architects." Fifth.—"That all architectural societies formed on a professional basis, giving in their adherence on or before the 15th day of August, shall constitute the nucleus of the alliance; and that, in future, all other societies shall be eligible for alliance in the mode hereinafter provided." He had this objection to the alliance, in addition to those already stated—that it would be attended with increased expense.

Mr. Adams moved an amendment to the effect that the hon. secretary should communicate with the promoters of the scheme, with a view to ascertain how many societies had joined the alliance; and that the entire matter should be referred to a special meeting of this Association.

Mr. J. W. Walter seconded the amendment.

The Chairman said that, as a matter of fact, the Institute could not join the alliance, as their charter would not allow them.

Mr. Mathew said it was very desirable that young architects should travel a good deal in Great Britain; and it would be an advantage to them to be members of an alliance such as that proposed. They would not then feel like strangers in a town in which an affiliated association existed.

Other gentlemen having expressed their opinion,

Mr. Bunker said that the meeting at which the delegates attended lasted eight hours, during which the subject had been fully sifted. He was sorry that the Institute had been dragged into the discussion, as nothing could be further from their intention than to do anything in any degree hostile to it.

Mr. North proposed the following amendment, which was seconded by Mr. Herring:—"That the Association having taken into consideration the proposal of the Northern Architectural Association, think that such alliance is desirable, and that they send in their adhesion to the same."

The Chairman, in putting the amendment, said he had given the subject anxious consideration, and cordially agreed in the report of the delegates. At their meeting he had received an assurance which he considered satisfactory, that it was not and had never been intended to oppose the Institute in any of its functions. The idea was to form a union of societies—not to usurp the functions of any one of them.

Mr. North's amendment was then put, and declared carried; the numbers being—for 13, against 12. The chairman did not vote.

Mr. Harris read a report from the Modelling class, giving a satisfactory account of its condition, and thanking Mr. Paul Ross for his uniform kindness and attention to the pupils.

The following new members were then admitted:—Messrs. G. Goodall Quarterman, A. Bailey Denton, Ditchbourne, D. Murray, Jas. H. Bartlett, Jas. B. Badock, J. T. Lee, Wm. Rivett, T. Hardey, Rowland Plumbe, E. Ferrey, W. William, W. Redner, E. C. Sayer, and Robt. C. James.*

INSTITUTION OF CIVIL ENGINEERS.

At the opening meeting on the 11th instant, Mr. John R. M'Clean, V.P., in the chair; before commencing the business of the evening, the chairman said it was his duty to notice the loss the Institution had sustained by the death, during the recess, of two of its most eminent members, Mr. John Edward Errington, Vice-President, and Mr. James Walker, Past President.

For upwards of thirty years, and indeed ever since the introduction of the railway system, Mr. Errington occupied a prominent position as an engineer; and, in conjunction with Mr. Locke, executed some of the principal railway works in Great Britain. He was, like his partner, Mr. Locke, a strong advocate for economy in the first cost of construction. By his death the profession had lost one of its most distinguished members; the Institution one of its warmest supporters; and many of us a sincere friend, and one ever ready to afford advice, especially to his numerous pupils and assistants, whose interests it was his constant endeavour to advance. As many of his pupils were actively engaged in the practice of the profession; and had, through his influence, been enabled already to take good positions; the chairman expressed the hope that they would feel it a duty, no less than a pleasure, incumbent upon them, to communicate plans and descriptions of the works of their eminent masters, and so keep alive the memory of "Locke and Errington" in the Institution of Civil Engineers. Mr. Errington had proved his attachment to the Institution, and his desire to see it prosper, by bequeathing to it the sum of One Thousand Pounds, free of legacy duty, and without attaching any condition whatever to the gift.

Mr. Walker was one of the oldest members of the profession; having been in active practice as an engineer for upwards of sixty years. He was also one of the earliest members of the Institution; having joined it in the year 1823; and, after the death of Mr. Telford, became its president. For a period of eleven years, during which he so ably conducted its proceedings in that capacity, he was most devoted to its interests; and to his zeal and energy must be greatly attributed the eminent position it held on his retiring from the chair in 1845. Mr. Walker's name was associated with many of the greatest hydraulic works in England and Scotland; including lighthouses, harbours, bridges, embankments, and drainage. His opinion was much valued by the Elder Brethren of the Trinity House, by the Lords of the Admiralty, and by the Corporation of the City of London; and it must not be forgotten, especially at the present moment, that twenty years ago he laid down lines for embanking each side of the River Thames, which have never been improved. As the chairman had had the privilege of being in Mr. Walker's employment for many years prior to 1844, he had an opportunity of knowing his worth, and must express his gratitude for many acts of kindness, and state that it was Mr. Walker's constant endeavour to promote the interests of himself and others. Many members of the profession had also been trained in the same school; including Burges, Bidder, Hawkshaw, Borthwick, and Hartley. During his long and useful career he had secured the admiration and respect of numerous influential friends, as well as the regard of his professional brethren.

The chairman had much gratification in announcing, that Mr. Walker having left at Mr. Burges's disposal the twenty-five remaining copies of Telford's "Life and Works," as well as the copyright and the copper-plates; Mr. Burges had, in the most handsome and liberal manner, presented them to the Institution.

The paper read was on "The Railway System of Germany," by Mr. Robert Crawford.

It was stated that in Germany, as in England, tramways had formed the germ from which subsequent enterprise developed the vast network of railways now extending throughout the length and breadth of the land. The oldest of these undertakings originated in a fifty years' "privilege," granted by the Austrian Government, upon the 7th September, 1824, for the construction of a line from Budweiss, in Bohemia, to opposite Linz, on the Danube,—a distance of upwards of 80 English miles. Subsequently, a concession was obtained for a line from Linz to Gmünden, 42½ miles. The cost of the Budweiss, Linz, and Gmünden line was about 4,877*l.* per mile. The gauge was 3 feet 7½ inches, and it was worked by horses until 1854, when small locomotive engines were employed, first upon a portion of the line, and in the following year upon the entire length.

A proposal to adopt steam as a motive power, instead of horse-labour, was carried into effect for the first time in Germany in the case of a railway, 4 miles in length, from Nüremberg to Fürth, which was opened for public traffic on the 7th December, 1835. Thus Germany, possessing at the close of the year 1835, upwards of 108 miles of tramways, had up to the same time only 4 miles of railway properly so called. In the five following years, railways were introduced into all parts of the country; so that at the close of 1840, there were twelve railways, either wholly or in part finished, with a total length opened of 377 miles. In the next ten years this had been increased to 4,487 miles; by the close of 1860 to 8,512 miles; and at the end of 1861, a total of 8,866 miles had been constructed, at an average cost of 16,400*l.* per mile. Nearly one-fourth of the entire length was provided with double lines of rails. About 38 per cent. of the existing lines was Government property; 10½ per cent. the property of companies, but worked by Governments; and 51½ per cent. the property of, and worked by, private or joint stock companies. Further, it appeared, that 39½ per cent. of the entire length was constructed by the different States; 24¾ by companies under a guarantee of interest, or a Government subvention; and 35¾ per cent. by companies at their own cost and risk; so that Government aid had been granted directly, or indirectly, to nearly two-thirds of the entire system. These 8,866 miles of railway comprised sixty-two different undertakings, as at present constituted, under as many different organizations, and were managed by nineteen Government departments, and forty-three Boards of Directors.

At the close of the year 1861, Germany had, in addition to the railways, about 143 miles of tramways, constructed at an average cost of 3,200*l.* per mile.

COMPETITIONS.

Sewerage of Kingston-on-Thames.—The plans were sent in six months ago! Competitors are naturally calling out for explanations.

Masonic Hall, Derby.—Concerning these designs, too, there is a great outcry. Decide, O Committee!

Albert School and College, Framlingham.—From the official report of a meeting of this committee, on the 11th, we learn that six designs were selected from those sent in, and will be referred to one or more London architects. The secretary was instructed to write to the authors of the six designs, and request each to forward an undertaking from a responsible builder, to carry out the design within the sum stipulated. Are the committee aware of the cost of such a proceeding? Mr. Garrett, the hon. sec., complains of the terms in which we refused to insert a letter from an architect, questioning some proceedings as to the designs, and denies that any one of the competing architects is related to him. We willingly insert his contradiction; it shows we were right in not printing the letter.

COPYRIGHT AND PATENT RIGHT.

Sir David Brewster, in his Introductory Address at the winter opening of the Edinburgh University, of which he is now the principal, made some remarks on copyright and patent law, which we shall condense.

A question has unexpectedly arisen respecting the amount of protection which inventors should receive from the Legislature. The author of any literary work, however small be its dimensions, and however frivolous its subject, enjoys, by the laws of England, the sole right of publishing it for twenty-eight years, and during the rest of his life. The only tax exacted by the law, and that only for the benefit of the public, is the presentation of five copies to the principal libraries in the kingdom. The artist, the engineer, the draughtsman, the geographer, the hydrographer, and the sculptor enjoy the same valuable right; and so complete is the protection afforded by the law that piracy is almost unknown;* and works thus secured constitute a property which can be as safely transferred as land or money in the Funds. It is otherwise, however, with the inventor of new machines, new instruments, and new processes in the fine and useful arts. While the author can instantly dispose of his work, or draw the profits which it may yield, the inventor must devote himself to the development and practical application of his invention. When his arrangements are complete, he applies for a patent, and he receives a right to use his invention for fourteen years by paying fees and expenses which, half a century ago, amounted in many cases to 400*l.* or 500*l.* The right thus obtained was entirely illusory. In this state of the patent law, injurious to the interests of the public, and ruinous to inventors, our distinguished chancellor, Lord Brougham, carried two bills through Parliament which reduced the price of patents, and removed many of the more obnoxious provisions of the former law. These improvements were generally acceptable; and though inventors were still dissatisfied with the large sum of about 150*l.* or 200*l.* which they had to pay, and with the imperfect protection which their patent secured, they nevertheless submitted to the operation of the law, in the hope that future legislation might improve it. Under these circumstances, men of science and inventors of all classes were startled with a proposal made by a distinguished engineer, that the patent law should be

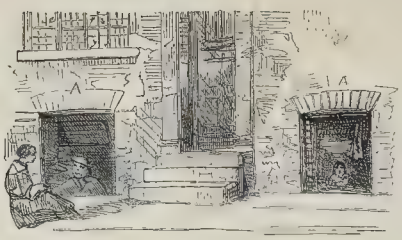
* We have been requested to draw attention to the notice contained in our advertising columns, that Mr. Ashpitel will read a paper "On the new Voluntary Architectural Examinations," on Friday evening, the 28th November, before the Architectural Association. Gentlemen interested in the subject, though not members of the Association, will be admitted. The Architectural Association has just re-opened its class for the study and practice of architectural modelling; and it is desired that as many as possible will avail themselves of the opportunity of acquiring this useful art.

* Sir David is wrong here.—Ed.

MANCHESTER CELLAR DWELLINGS.*



Entrance to an Underground Shop: Cellars for Buyers.



A A. Entrance to Cellar Dwellings. No other Opening.



Interior of a Cellar Shop: Business and the Family.



Access to other Cellar Dwellings: Death in the Dirt.

* See p. 843.

repealed, and that there should be something like free trade in inventions.

In addressing an assembly of civil engineers at Sheffield, Sir William Armstrong stated "that the dauntless spirit which, in matters of commerce, had led this country to cast off the trammels of protection, had resulted in augmented prosperity to the nation, showing the injurious tendencies of class legislation when opposed to general freedom of action;" and he expressed a hope "that the same bold and enlightened policy might be extended, in some degree at least, to matters of invention. For his own part he was inclined to think that the prestige of successful invention would, as a rule, bring with it sufficient reward, and that protection might be entirely dispensed with."

Under the free trade of the present day, thus highly and justly appreciated, we receive the corn and the wines of one country in return for the iron and the coal of another; but it exceeds our comprehension how there can be free trade between two parties, one of which is the small class of discoverers and inventors, and the other the whole mass of society, who are not inventors at all, and who, with all the influence of numbers, wealth, and position, would instantly appropriate and turn to profit every discovery in science that had a practical bearing, and every mechanical idea that could be embodied in an instrument or a machine. But there is already something approaching to freedom of trade. Every foreigner can obtain a patent in England on the same terms as an Englishman, and an Englishman enjoys a similar right in return. There is still, however, another variety of free trade in inventions which, we think, is the only one that deserves the name. Were a patent right granted at the cost merely of its registration to every applicant, and continued with equal security during the same period as copyright, every new idea, every scheme of ingenuity or adventure, would be brought before the public, and elaborated for the use of man. Such a scheme may be expected in some future age, when statesmen may have learned to face problems before which they now quail, and appreciate interests to which they are now insensible. If the rich or the barren soil which conquest has wrested from the savage, or industry won from nature, is protected with as much care as the life of its owner, why should we not equally protect the rights achieved by genius? I should hardly have been justified by the speech of Sir W. Armstrong in taking alarm at the revolutionary opinions which he has maintained; but it is well known that a Cabinet Minister of high influence has given utterance to the same views, and a Committee of Parliament has been appointed to report on the subject of patents in all their relations. The British Association was the first public body that took alarm at the new doctrines, and boldly denounced them; and an Inventors' Institute has been formed in the metropolis to resist, by every legal means, any measures of spoliation that the Government may be induced to support.

THE INSTITUTE OF ARCHITECTS.

At a meeting of the Institute held on Monday last Professor Donaldson, speaking with reference to some donations, took occasion to protest against the recent unwise regulation as to reports, and was cheered by several members of the council and others. There seems reason to believe the regulation has never been supported by any large proportion of the council itself, and that even its few advocates will be glad to get rid of it as a patent blunder. Desiring for the sake of the Institute that this may be done forthwith, we would avoid evoking any personal feeling to stand in the way of it; and, therefore, put aside some statements and communications on the subject that have reached us.

THE INDUSTRIAL MUSEUM, EDINBURGH.

The corner-stone of this building was laid by the lamented Prince Consort on the 23rd of October, 1861. We have engraved a view of the building as it will be when completed. It is intended to receive the collection of natural and manufactured objects forming the Industrial Museum of Scotland, now stored in some of the old houses adjoining. It will also accommodate the natural-history collection which has been presented by the University of Edinburgh, and is at present crowded into inconvenient rooms in the University building.

The site is immediately adjoining the University. At present, only one wing and a portion of the body of the building are being proceeded with: about half the height is now finished.

The completed structure will contain, in the western wing, offices and library, and in the eastern wing, a large lecture theatre; while the space between and in the rear of these projecting wings will be occupied by the Museum proper, which will consist of a series of glass-lighted courts, opening out upon a great central museum hall, 265 feet long by 70 feet wide, and 70 feet high, and roofed with the same description of semi-circular timber truss that has been employed by Captain Fowke in the "Exhibition" and in other buildings. One large room is 135 feet by 56 feet; and there are six smaller rooms, each 70 feet by 50 feet: the theatre is 60 feet by 45 feet.

The two-storied gallery which runs along the north side of the Museum and forms the low recessed portions of the north front, as seen in the engraving, is glazed with plate-glass along its front; and, opening into the glass-covered museum behind, has the effect of a pierced screen as seen from the street.

The style of architecture chosen by Captain Fowke is the Venetian Renaissance. The building will be erected throughout of the grey sandstone of the neighbourhood; and contrast of colour is obtained by the employment of red sandstone from Melrose in the shafts of the smaller columns of the front.

The capitals of both these and the larger pilasters are carved, from the designs of Mr. Sykes, with various objects illustrative of the natural history, industry, and geology of Scotland, after the manner employed at the new Oxford Museum. It is the practice in Scotland to carve all ornamental stonework before erection.

The building is from the designs of Captain Fowke, R.E., and is being executed under the superintendence of Mr. R. Matheson, surveyor to the Office of Works in Edinburgh.



THE INDUSTRIAL MUSEUM, EDINBURGH.—Captain Fowke, R.E., Architect.

VENTILATION AND WARMTH.—SAVING OF FUEL.

To produce a sufficient supply of vital air, and to carry off the effluvia arising from crowded apartments, has been long an object of research and competition amongst stove manufacturers; but if we accredit the report of the Jury at the National Exhibition, no model presented for their judgment possessed sufficient merit to obtain a prize. In fact, so far as this grand display of arts and manufactures was concerned, the desideratum of a continuous supply of atmospheric air, attempered to a genial degree, for domestic health and comfort, has been adjudicated as not yet discovered.

It has been clearly established that the dense volumes of smoke arising from the factory furnaces may be abated, and that a large saving of fuel is at the same time accomplished; and to this fact is owing the comparative immunity we now enjoy from the London particular November fog: despite all this, however, last Thursday gave forcible evidence to the eyes and lungs of the inhabitants that tons of coal in combustion at the same time, although in small quantities, dispersed in 300,000 fire-hearths, must preserve the density and deepen the shade of our ancient November civic mantle.

Allowing only one hearth in constant action for every five individuals (the population being three millions), and that each hearth consumes a sack of coals per week—a very moderate estimate,—this would give 70,000 tons per week, or about 10,000 tons as the *quantity in constant daily combustion*; which forms the dingy halo that perpetually shrouds London; making its position palpable from distant hills, although its temples and spires are lost to view.

This conjectural computation of the quantity consumed in domesticity proves to be an overrated estimate; for the establishments of the wealthy classes use up the mineral in much larger quantities, as proportioned to their number of inmates; while the numerous factories, furnaces, stoves, and engines of commerce must take one full third part in excess of their numerical proportion. Therefore, as the total amount of coals supplied to London from all sources, is, according to returns registered and proven, altogether only *three million tons*; then it follows that the bulk of the population must be stinted of at least one-third part of the one ton per head per annum, as herein at first set down to their account.

It is, however, clear that the supply of metropolitan coal is three million tons per annum; and that this enormous quantity is but a small item in the sum total of what is abstracted from our mines, to warm, enlighten, and employ the remaining complement of sixteen millions, in England and Wales only.

Were it possible by any mechanical or scientific contrivance to reduce the quantity of fuel used in every dwelling, if only by one-fourth part, how great would be the national gain! or as has already been effected in factories, if the smoke arising from the hearths of private dwellings could be reduced or abated; then what a gladsome city of refuge might London become!

That some economic system may be discovered for warming private abodes; for diffusing scientifically the heat generated by combustion in the ordinary hearth; and for arresting in its ascent and consuming the smoke, which most obnubilates when light is most required, is not a very unreasonable expectation. The progress already made in large furnaces may be extended to small ones; and if such a result can be attained, then he who makes the discovery will deserve a civic crown, and a national tribute. To save one-fourth only of the exhaustion of our coal-fields, now yearly increasing, would be a gain of many millions annually.

Since the opening of the Exhibition some advance seems to have been made in the improved structure of fire-stoves, and in the application of caloric heretofore lost, and allowed to escape by the chimney, to the warming of several chambers. Two models of stoves, now on view at the Architectural Museum in Conduit-street, would seem to fulfil some of the objects in view. The right system of warming and ventilating once established, legislative enactment could be as easily extended to domestic fire-hearths as to manufactories; but the economy and efficiency of a smoke-consuming and heat-diffusing stove would soon supersede the necessity for authoritative interference. At the present rate of working the coal-mines of this kingdom, apprehensions have arisen that posterity may in not many centuries inherit but a chill and scant supply; and should the element that moves the wheels of industry become extinct, then the motive power which enables us to acquire what is already deficient at home—food for the multitude—would be wholly cut off.

The coal districts of Great Britain, and the depths of the strata, are laid down and demarcated upon geological maps of the counties: some have been worked out; and by analogy with the present consumption, computation might be made, taking into account the increase of population, what might be the duration of the entire natural store. The consumption of our great cities and manufacturing towns might be averaged; and even the enormous amount used up by steam machinery, by the factories of Manchester, Birmingham, and the great hives of manufacture and mechanofacture; nor would it be impossible for a calculator to estimate the quantity supplied to the national and mercantile marine, as well as of exports in the commodity; but who can arrive at the amount of coal wasted, daily and recklessly?

As the population grows, so grows the consumption, whether it be in the furnace, the factory, or the domestic home; therefore any and every contrivance that may economize fuel, that may circulate a free supply of warm air from a reduced quantity, must be a national gain. The subject is well worthy the attention of scientific bodies; for apart from the question of profit, the imperfection of all the old systems of fire-hearths is manifested by the numerous progressive advances of improvement: waste was the evil, and so it continues to be; waste of a store, which when exhausted is never renewed.

In all old fireplaces, more than three-fourths of the heat generated by combustion escaped *with the smoke* up the chimney: to utilize such lost caloric would at once reduce the quantity requisite for the supply of coal; and to attain the best system or invention ought to be encouraged, as in other cases, by the offer of a reward, or prize, adequate to this paramount desideratum.

QUONDAM.

PROVINCIAL NEWS.

Chatham.—The extensive additions to the Royal Marine Barracks at this place are now being carried out by Messrs. Foord & Sons, of Rochester, the Government contractors. The Quarter-master's office and stores have been pulled down, and a portion of the Army and Navy Hotel—which is the only house left standing upon the ground purchased for the barrack extension—has been fitted up to serve in their stead until the new stores and offices are completed. When finished there will be ample accommodation in the barracks for the entire division, which now numbers about 1,600 men. For some time past 500 or 600 non-commissioned officers and men have been provided with sleeping accommodation in Chatham barracks, which are generally devoted to troops of the Line; and this arrangement has been found to work in a manner anything but satisfactory. The range of buildings which bound the south-western end of the parade ground, and which are devoted to the accommodation of the unmarried officers, will be demolished as soon as the new quarters are ready for their reception. By this means the parade ground will be considerably enlarged. This is an improvement, the want of which has long been severely felt; the present confined space being very inconvenient for drilling so large a body of men.

Warrington.—The public hall here has been opened. The large hall will seat 800, the gallery 400, and the platform or orchestra 150 more. The gallery is the same height as the Free-trade Hall, Manchester, the architect of which, Mr. Walters, was also the architect of the new hall. Daylight and ventilation are secured by lofty windows, opening at bottom and top; and the artificial light is amply secured by four sun-lights, reaching some 10 or 15 feet from the ceiling, over which are orifices to take off the heated air through the roof. The hall has been built by Messrs. Gibson, of this town; the gas-fittings supplied by Mr. Helsby, of Manchester; and the heating apparatus by a Salford firm. The cost of the hall is stated at 4,000*l*.

Manchester.—Preparations are being made for the erection of the new county gaol, for the Salford Hundred, near the Manchester Assize Courts. We understand from the local *Courier* that, after careful testing (by pressure and otherwise), the bricks made by the machines of the Lancashire Brick and Tile Company (Hadfield & Attkins's patent) were found superior to others; and that the company have received the contract (including many millions) for both the common and fine bricks. The site, adds our authority, abounds with clay; and one of those simple, powerful, and efficient machines is to be erected on the spot. The clay is passed through grinding rollers, and the manufacture can be continued through the winter season, which must give mechanical brick-making an important advantage over the old method. We think the county magistrates have exercised a sound discretion, adds the *Courier*, in giving fair scope to the manufacture of bricks by modern mechanical appliances.

Agecroft.—The key stone of the centre arch of the new stone bridge over the river Irwell, at Agecroft, has been inserted amidst rejoicing by Mr. R. N. Philips, of The Park, Prestwich. The old bridge was much too narrow for the requirements of an increasing traffic: it was also showing signs of decay. Its width was 12 feet only, whilst that of the new one will be 30 feet. The old bridge was removed prior to the new one being commenced; and a temporary one has been erected near the other for the accommodation of the traffic until the new one shall be completed. The first stone was laid in April, and it is expected that the bridge will be opened by the middle of January. It consists of three arches, the span of the middle one being 45 feet, and the outsides 38 feet each, which, with the approaches, will make the bridge 164 feet long. It is partly of Yorkshire stone, and partly of stone from the Horrocks Fold Quarry, near Bolton. Mr. A. Pilling, of Bolton, is the contractor. Mr. Tate is clerk of the works; and the undertaking is being conducted under the supervision of Mr. Radford, M. Inst. C.E., bridge-master to the county, superintended by a committee of justices.

Fleetwood.—In addition to the expensive building operations now proceeding at this port, which alone show the rapid progress it is making, more especially since the establishment of a school of musketry there; another and important alteration, says the *Manchester Courier*, is being made by the attempted reclaiming of some hundreds of acres of land from the sea. When the Preston and Wyre Railway was constructed, the line entered the town by a short cut across a marshy ground, which was partially covered by neap tides, and deeply submerged by spring tides. Piles have been driven and the embankments raised to allow the trains to cross this marsh at all states of the tide; but it was soon found that these would not long stand the force of the current; for several times the artificial road was submerged; and on some occasions the engine fires were put out by the rising tide. The railway company then changed their route, by carrying their line some distance round-about, so as to avoid any disaster from the encroachments of the sea; and Fleetwood is now approached by a circuitous route. It is proposed to alter this state of affairs; and Mr. Jamieson, agent of Sir P. H. Fleetwood, who owns the land hereabouts, has devised and is carrying out a plan to raise an embankment on the side of the old piles, so as to confine the sea within its limits, and thus reclaim 800 acres of land hitherto daily submerged. He proposes to build an embankment three quarters of a mile long, 3 feet higher than the original railway, with a width of 21 feet at the top; and, by means of a sluice, to draw the salvage off to the Wyre. Doubts were entertained by some whether the material used in the work would be capable of resisting a strong current; a "random" stone wall, backed up by shingle only, being employed in stopping out the sea; but the old embankment, which is built of like materials, has stood a twenty years' test well, and only failed because it was not high enough above the tidal level. So the engineer is sanguine of the success of his plan. Sixty men are at work on it, and the whole is expected to be soon completed. It is, moreover, believed that the Preston and Wyre Railway Company will take advantage of this improvement, and carry their line across it, at a great saving of expense. A dock is also to be built hard by the terminus, of sufficient capacity to accommodate the foreign trade of the port. Should neither of these views be acted on, then the new embankment will form a promenade, and suppress any malaria that may arise from the action of low tides on the extensive marshy ground reclaimed.

Rutherglen (near Glasgow).—The new Townhall, Rutherglen, has been opened. It is in the Scottish baronial style. The architect was Mr. Charles Wilson. It presents a frontage to Main-street; and rising above the building to a considerable height is a tower, which, from the position of the town, and also from the fact of none of the adjoining tenements being more than two stories, is seen rising up above the old burgh from a great distance. The lower flats are occupied by shops and offices, the upper flat being almost taken up by a large hall, and the building serving many uses—accommodation for magis-

trates and town-council meetings, police offices, and other civic offices, besides public meetings, and a part being let for shops. The cost of the erection was 5,000*l.*

Tobermory.—The new Court-house of Tobermory is making progress. The mason-work will soon be completed. There is a new low-water pier to be immediately commenced, which will be of benefit to the place. There is also a poorhouse proposed to be built. The site has been fixed upon, but the building has not yet been contracted for. It will be about half a mile from the town.

CHURCH-BUILDING NEWS.

Randby (*Horncastle*).—The little village church of Randby has been re-opened for divine service, after having undergone a restoration under the direction of Mr. James Fowler, of Louth. The edifice has been improved by the erection of a new chancel and vestry in the Early Decorated style, to which the last sloping little edifice of brick and stucco has given place. The roof of the nave has been renewed and carried to a gable-end, and the walls have been cased with Ancaster stone, dressed smooth and chiselled so as to correspond with the tower; which, being comparatively modern, is left *in statu quo*. A new chancel arch has been erected, allowing of an unobstructed view of the east window, which is filled with stained glass by Mr. Wailes, of Newcastle-on-Tyne; the subject represented being the Resurrection of our Lord. The tracery of this window contains, in the three principal triangular lights, three figures of angels bearing scrolls, on which are inscribed "Blessed are the dead which die in the Lord, for they rest from their labours." The entire cost of this restoration has been borne by Miss Alice Otter, to whom the property in the parish belongs. The contractor for the work was Mr. Wallis.

Cromer.—The church here is in a fair way of being restored; and, by general subscription, it will be entirely re-seated and improved. Mr. B. B. Cabbell, Sir Fowell Buxton, and Mr. Charles Buxton have jointly given a new hammer-beam roof to the nave: Mr. B. B. Cabbell also gives new roofs to the north and south aisles, in corresponding style; and, in addition, there are donations of windows in the original tracery of the fourteenth century, the total amounting to considerably more than 3,000*l.*; but still not sufficient to complete the work of restoration. The works are being carried out under the superintendence of Mr. John Brown, architect, Norwich.

Quadring (*Spalding*).—The old church of St. Margaret, at Quadring, has been re-opened. Its chancel had become dilapidated, its flooring decayed, and its arcades had been deadened with heavy wash; in addition to which, portions of the nave had become very damp. Under these circumstances the vicar determined to have the chancel at least made worthy of the fabric, and a new east window, by Lavers & Barraud, of London. This has led to its almost entire re-erection; and, eventually, the whole interior of the church has been put into order, the tower-arch opened, the porch rebuilt, and the paving renewed throughout with Minton's coloured tiles. The architect was Mr. Charles Kirk, of Sleaford; the contractor, Mr. Huddlestone, of Lincoln.

Ely.—The ceiling of Ely Cathedral was half finished at the time of the death of Mr. Le Strange, who had designed and was engaged in executing this work. At the request of the Dean and Chapter, Mr. T. G. Parry, of Gloucester, a friend of Mr. Le Strange, and known as an artist in mural decoration, has undertaken the remainder of the work.

Chelmsford.—Divine service has been partially suspended in St. Mary's Church, in consequence of the rebuilding of the wall of the south side of the chancel. The work is being carried on under the superintendence and from the design of Mr. F. Chancellor, architect, Mr. Hardy being the builder. The restoration will correspond with the architecture of the east end of the church, except that the new windows will be square headed instead of pointed. The chancel door will be placed centrally between the buttresses, and there will be only one window on each side. That at the eastern side of the entrance will be filled with stained glass. The rebuilding of the south wall will, according to the local *Chronicle*, be principally at the expense of a member of the congregation.

Romford.—St. Andrew's Church, Romford, has been consecrated. The edifice consists of a nave and south aisle, with an oak bell turret over the west gable, and an oak porch to the south aisle. The aisle is divided from the nave by an arcade of four bays, and the nave is terminated eastward by a chancel. The structure is built of Kentish rag and Bath stone, and the timber generally is Memel and the furniture of pitch pine; the whole simply varnished without staining. The roofs are covered with slates ornamentally in bands of different colours, and the windows are traceried. Over the sacrarium, in the chancel, the roof is panelled and coloured blue, powdered with gold stars, and appears supported on four dwarf columns with carved capitals, sustained by four angels playing musical instruments. The carving throughout is of varied types of natural foliage conventionally treated, and the floor is paved with Minton's tiles. The church is of the Pointed style, of the latter part of the fourteenth century, and contains accommodation for 550 persons: the cost has been about 4,500*l.*, including the purchase of the site. The whole is from the designs, and has been carried out under the superintendence, of Mr. John Johnson, of London, architect. The contractor was Mr. J. S. Hammond, of Romford; and the carving was executed by Mr. Farmer, of London.

Bedford.—Clapham Church, which for many months has been in course of restoration and enlargement, has now been re-opened for divine service, according to the local *Times*. All the new work, including a porch on the south side, has been carried out in the Early English style, the windows being single or double lancets, the latter in the chancel surmounted by quatrefoils. All are filled with tinted cathedral glass, except those in the south aisle, which contain memorials to several members of the Dawson family whose remains are interred within the nave. These consist of five designs in the medallion form (each set in tracery or surrounded by minor devices), representing a series of events in the life of our Lord: 1. The Angel announcing his Birth to the Shepherds, in a single light. 2 and 3. His Baptism and Transfiguration, in a double light. 4 and 5. The Women at the Sepulchre, and our Lord's Appearance to Mary Magdalene, in a double light at the east end. The first and last of these windows were executed by Messrs. Powell & Son, and the second by Messrs. Clayton & Bell. The material of the walls is native limestone, with Bath stone for the windows and dressings. The roofs of the nave and chancel are covered with old tiles, and those of the aisles with lead. The prayer-desk and lectern are of oak, and the benches of stained deal. A part of the latter are fixed, and follow the details of those in the former church, which were of the date of 1626; and a part moveable, made after Pugin's well-known pattern. The doors are of oak, with hinges of ornamental work. The floor of the chancel is laid with red and black tiles. The restoration has been effected under the superintendence of Mr. Scott, by Messrs. Miller & Bryant, the contractors. The cost of it has been defrayed by a loan of 500*l.* contracted by the parish, aided by subscriptions amounting to 1,070*l.*, with a grant of 140*l.* from the Church Building Society; the Rev. J. F. Dawson, of the Woodlands, with the late vicar, the Rev. J. Donne, having, in addition to liberal subscriptions, made themselves jointly responsible for the completion of the work.

Ufton (*Berks*).—The parish church here has been restored from the foundation, and enlarged, at the cost of Mr. Richard Benyon, M.P. In the spring of 1861 the old church was pulled down to the ground; and on the lines of the old foundation, with the addition of a new aisle on the north side of the nave, the present fabric was reared. It was roofed in by Christmas, and has been leisurely brought to its completion in the course of the present year. The church has been opened for Divine service. The edifice consists of a nave and chancel, each with a north aisle; and is constructed to accommodate about 150 adults and 50 children. It is built of Bristol blue stone, in random courses, with Bath stone dressings. At the west end is a tower, surmounted with a shingle spire, about 90 feet high. The designs were furnished by Mr. Armstrong, of London, architect; and all the stonework and masonry were executed by Messrs. Wheeler, of Reading. All the wood-work, with the exception of the pulpit and altar-rails, which were done in London, was prepared by Mr. Castle, the foreman in the timber-yard at Englefield. Every window in the church is filled with glass more or less deeply coloured: the new east windows are by Mr. Clutterbuck, of Stratford: the three chancel side-windows (two of which are in memory of the Rev. J. E. Curistie, the late rector of Ufton), are by Mr. Wailes, of Newcastle; and the remaining seven windows of the nave are filled with a less expensive kind of glass, by Messrs. Lavers & Barraud, of London. The remaining fittings of the church were furnished partly by Messrs. Harland & Fisher, of London, and partly by Messrs. Jones & Willis, of Birmingham.

Harpenden (*Herts.*).—The re-opening of the church of St. Nicolas, Harpenden, took place on the 7th inst. The plan of the church consists of a nave 22 feet wide, north and south aisles, north and south transepts, chancel with aisles, porch, and vestry, the old Third Pointed western tower being retained, while the whole of the other portions are new. The length from west to east, exclusive of the tower, is 100 feet. The material used for the walling is Tottenhoe stone, with red Mansfield introduced in bands, and in the arches over the windows: the arcades of the nave have five arches, and those of chancel two arches on either side: the shafts are of red Mansfield stone, and the caps are carved by Mr. Poole. The chancel arch has Ancaster and Tottenhoe stone alternately, in the outer order of mouldings. The nave is lighted by clerestory windows of two lights: the aisle windows are also of two lights, the transept windows of three, and the chancel of five lights, with geometrical tracery. The roof are of deal, and that of the nave is supported by curved traces, brought over between the windows. The chancel roof is boarded to a semicircle. The seats are open and of deal. The pulpit is composed of three varieties of woods, viz.—oak, mahogany, and sycamore, and the panels are richly carved. It was executed by Mr. Forsyth, who also did the oak lectern. The font, which is Norman, is restored, with new Purbeck marble shafts. The passages are laid with Maw's encaustic tiles. There are already two stained-glass windows; viz. in the transepts, by Messrs. Heaton, Butler, & Bayne, one of which was exhibited in the International Exhibition. The works have been carried out by Mr. Williams, of Luton, from the designs, and under the superintendence of Mr. W. Slater, London; Mr. W. Thompson being clerk of works.

Froxfield (*Hants.*)—The parish church of St. Peter, some time ago was found to be in such a dilapidated state as to require rebuilding; and at the same time it was deemed expedient, for the convenience of the parish generally, that a different site about a mile from the old one should be adopted for the new church to be erected in its stead. The latter has been lately completed, and was consecrated on the 11th inst. by the Bishop of Winchester. The new building is in the Early English style, and consists of a nave with a north aisle, and a chancel. There is a tower at the south-west angle of the nave, through the lower part of which the church is entered. The only remains of ancient masonry in the old church, not completely mutilated by time or alterations, were the works belonging to the arcade separating the nave from the aisle: the piers, caps, and arch stones of these arches, which are of the late Norman period, have been re-used, and embodied in the new building; all the stones, during the process of taking down, having been carefully marked, so that their precise relative position might be preserved; and as no scraping was allowed, the old masonry now presents its original tooled surface. The walls of the new building are constructed of flint, the external surface being pointed with grey mortar. Coombe Down stone is used externally for dressings of windows, doors, and for strings, quoins, &c., and Corsham for the interior masonry. The roof timbers inside are exposed and varnished: all the seats are of white Gottenburgh, with bench ends of pine, the whole slightly stained and varnished. The church is warmed by one of Porritt's underground stoves. Sittings are provided for 351 persons, which are all free. The cost of the building has been 2,300*l.* Mr. E. H. Martineau was the architect, from whose designs and under whose superintendence the whole of the works have been carried out. The builders were Messrs. G. W. & H. Lewis, of Westmeon. There is very little carving, but what there was, has been executed by Mr. Jaquet, of London.

Sherborne (*near Warwick*).—The foundation stone of a new church was laid here on the 1st inst. The cost of the edifice will be about 10,000*l.* It will be built at the sole expense of Miss Ryland, from the designs of Mr. Scott. The style is Decorated, and there will be accommodation for about 250 persons. The plan will consist of a chancel and nave, with north and south aisles, together with a vestry: there will be a tower and spire at the north-west angle of the nave, rising about 130 feet from the ground line. The dimensions of the nave will be 61 feet long by 18 feet 6 inches wide. The whole length of the church outside the walls is 98 feet; the width, 44 feet 6 inches; height

from ground line to ridge of nave roof, 42 feet. The materials to be used for the exterior will be Darley Dale wall stone, with Bath stone dressings. The walls inside will be rubbed Halington stone. The builder is Mr. W. Huddlestone, of Lincoln; and Mr. H. Roome is clerk of the works.

Sutton Mandeville (Wilts).—The church of this parish, which has been recently restored, mainly at the expense of the rector, the Rev. J. Wyndham, and his friends, has been re-opened for Divine service. The date of the old church is unknown; but it is supposed to have been erected early in the thirteenth century. It was dedicated to All Saints, and previous to the work of restoration was in a very dilapidated condition. The date, 1631, with the initials of the churchwardens, were found at the back of the old pulpit, from which it was inferred that some alteration or restoration of the edifice was made at that time. The style is Early English, and the restoration has been carried out according to a plan furnished by Mr. Wyatt, the diocesan architect. The work has been executed by Mr. Sturgess, of Cholderton, under the superintendence of Mr. Miles, of Shaftesbury, at a cost, we believe, of something like 600*l.*, one-fourth of which was raised by rates.

Tenbury.—Bockleton Church, which has lately been undergoing a restoration, has been re-opened for divine worship. The present incumbent, the Rev. J. J. Miller, supplied the requisite funds, amounting to nearly 1,000*l.*, with the exception of about 150*l.* to be raised by subscription among the parishioners and friends. Mr. Woodyear, of London, the architect of St. Michael's Church and College, was employed; and from his designs the renovations and improvements have been carried out by the contractors, Messrs. Smith, of Tenbury, builders. In the interior of the edifice two arches have been replaced by an arcade built of Bath stone. A new doorway has been made in the chantry, and two windows have been replaced by others appropriate to the character of the building. A five-light window has been put in at the east end: the mullions are chamfered, and the upper part worked in tracery: a border of tinted glass runs round the outline. The whole of the old pewing has been removed, and replaced by oak seating. An altar-screen of carved oak has been erected between chancel and nave. The roof of the entire edifice has either been restored or put on new: the nave roof is all new, and is of open timber work, the other portions all being in harmony with this. The floor has been entirely relaid with Minton's encaustic tiles of a plain character, and the whole of the woodwork is executed in English new oak.

Alvechurch.—A mission chapel has been opened at Rowney-green, according to the *Worcester Herald*. The little building is an oblong room, 46 feet by 20 feet, with sittings for 125 persons: it has a steep pointed roof and bell-cot. The foundation is of brick; and the walls, which are of wood, are double—that is, the wood framing is about 4 inches apart up to between 4 feet and 5 feet from the ground, and above that the inner wall is of canvas. Iron buttresses inserted in brick bases at regular intervals externally give strength to the building. The roof is canvassed and slated. The windows are triangular-headed, and filled with fluted glass. All the timbers are cut by machinery, to certain sizes, lengths, and forms. All the fixtures and furniture are included, together with the building, in a charge of 1*l.* per sitting. A little ornamentation has been introduced at the east end, but this is "an extra," and not necessarily a part of the plan, which is originally plainness and simplicity itself. The east end has been covered with paper in imitation of diaper and other work, and the roof with starred paper. On the north side of the chancel is a small vestry. The whole building is ecclesiastical in character, and is said to be substantially built, the timber used being red deal. Warmth is provided by double doors at the entrance, and by a brick stove, with descending flue, at the west end, on a plan prepared by Mr. Robinson, the architect. Ventilation is by dormer windows in the roof, and other windows in the building open with pulley and cord. Altogether, adds the *Herald*, the little structure took but four weeks in the erection, and cost but 125*l.*

Dewsbury.—The foundation stone of the new church of St. Mark, Malkroyd-lane, Dewsbury, has been laid by the Bishop of Ripon. The plan of the church comprises a nave, with north and south aisles under lean-to roofs; north and south transepts and chancel; with organ-chamber and vestry on the north side. There will be a tower, surmounted by a spire, at the extreme west end. The church will be entered by a porch at the west end of the nave, and by a smaller porch in the north transept, besides a door for the clergy in the vestry. The style is Geometrical Decorated Gothic. Messrs. Mallinson & Healey, architects, of Bradford, have designed the church and prepared the plans.

STAINED GLASS.

Ashen Church (Chelmsford). — A window has been lately placed in Ashen Church, to the memory of the Rev. Edmund Squire, formerly rector of this parish, and his two sisters. The window consists of three lights, the centre of which has a representation of the Crucifixion, and those on either side the figures of the Virgin Mary and St. John, with the legends, "Woman, behold thy Son," "Behold thy Mother." The window has been executed by Mr. Wailes, of Newcastle.

St. Mary's, Aylesbury.—The great west window of St. Mary's Church is now undergoing a restoration, previous to its being filled with the stained glass exhibited by Messrs. O'Connor in the International Exhibition, and which obtained a medal. It is in memory of the late Mr. Thos. Tindal and his two wives, and is erected at the cost of the Tindal family.

Aston Church.—Another window, in two compartments, has been placed in the south aisle of the parish church of Aston. One subject is "The lifting up the serpent in the wilderness," having reference to our Lord's words,—"And as Moses lifted up the serpent in the wilderness, even so shall the Son of Man be lifted up." The other compartment exemplifies our Lord's parable of the Good Samaritan. This window was executed by Messrs. Gibbs, of London.

New Church, Scarborough. — Some extensive works in stained glass are in hand for Mr. Bodley's new church on the South Cliff, Scarborough (the east window for which was in the International Exhibition). The west window, a combination of two lancets and a rose window, is to have, of life size, in the first, figures of Adam and Eve, seen as before the Fall, and in the Garden of Eden. Adam is amused by the antics of a bear. Eve teases an owl and fondles a partridge. The backgrounds are composed of many kinds of trees, flowers, and animals. The designers were Messrs. Morris, Marshall, & Co., of London. In the rose light of this window is represented the Last Judgment. The aisles of the church are to be glazed with eight figures of the Old Testament worthies on one side, and the same number from the New Testament on the other. The east window of the north chancel-aisle is to contain "The Preaching of John the Baptist." The east window of the church has for subject the Crucifixion, and seven panels that of the Parable of the Vineyard.

THE NEW EXCHANGE BUILDINGS, LIVERPOOL.

ONE THOUSAND POUNDS FOR A DESIGN.

A MEETING of considerable interest to the architects of this country was held on Tuesday last, in the Cotton Sales' Room of the Liverpool Exchange Buildings. It was a special general meeting of the shareholders of the New Exchange Company, called for the purpose of taking into consideration a report of the directors of the company as to the construction of new buildings, which it is understood are to be the most magnificent and complete of anything of the kind in the kingdom. Mr. C. S. Parker, the chairman of the company, presided; and there was an unusually large attendance. The new company, as probably many of our readers will be aware, have purchased the whole of the present Exchange Buildings and also the extensive block of buildings formerly known as the Sessions House, together with the connecting land called Exchange-street West, the most valuable property in the borough of Liverpool. On this land it is intended to erect a pile of buildings which, whilst affording a great deal more accommodation than the present buildings, shall be an ornament to the locality and a credit to the town, if not indeed to the country at large. In the report submitted by the directors, it appears that the price paid for the present buildings is 317,350*l.*, and they have agreed to pay the Liverpool corporation 60,000*l.* for the Sessions House, making a total of 377,350*l.* The total area acquired is 9,304 square yards, from which it is proposed to deduct an area of 3,084 square yards for what is known as "The Flags,"—

"Where merchants most do congregate,"—

leaving 6,220 square yards for building purposes. As to the company's available resources for carrying out their undertaking, it is at present not our province to treat.

By the act of incorporation, and by existing contracts, it appears that the following are amongst the conditions binding upon the company:—To provide a public news-room, with a superficial area of 1,350 square yards, and a cubical capacity of 20,000 yards; to accommodate at the south end of the east wing the Stock Exchange and the Magnetic Telegraph Company with a space equivalent to that occupied by them under their present lease; and to reform the lines of building fronting upon Exchange-street East, Tithebarn-street, Rumford-street, and Chapel-street South.

Mr. Joseph Boult, the resident architect of the company, has prepared estimates of the available space, the probable rental to be derived from it, and the cost of building upon three different plans. These plans are as follow:—First. Partial reconstruction of the buildings, preserving the present arcades, and, as far as possible, the façade to the "flags"; but entirely rebuilding the frontages to Exchange-street East, Tithebarn-street, Chapel-street, and Rumford-street. Second. More extensive reconstruction of the buildings, the arcades being done away with, and the space occupied by them being used as offices, &c.; and the present façade to the "flags" preserved as far as possible in other respects, though its architectural character would in this case be materially changed: the other frontages to be rebuilt, as in No. 1. Third. The entire reconstruction of the buildings, by which the general arrangement of the offices and lights would be much better than by any other plan.

The directors state that, after a careful consideration of the estimates for these plans, they have arrived at the conclusion that the only course by which the value of the property can be fully developed, will be to pull down and reconstruct the whole of the buildings, placing the enlarged news-room on the site at present occupied by the Sessions House, Exchange-street West, and the west wing of the present Exchange Buildings. Taking into consideration the importance of the projected undertaking, and the large amount of capital embarked in it, the directors are of opinion that no effort should be spared to insure the combination in the new buildings of three essential requisites—beauty and fitness of design, adaptation of the structure to all modern mercantile requirements, and a satisfactory return to the shareholders. They therefore recommended that there should be an open competition for designs for the "New Liverpool Exchange;" and, in order to induce the ablest architects of the day to send in plans, a premium of 1,000*l.* should be offered for the best design, and 250*l.* each for the two next best.

Mr. Lewis Cubitt, of London, who was appointed the architect of the company in July, 1858, has recently resigned his office; and the directors recommend that the vacancy should not be filled up till a design has been decided upon and estimates have been obtained for it; and, while they recognize generally the advantage of confiding the superintendence of the work to the gentleman who may design it, they considered it expedient that the company should be left at liberty to employ the architect (whether he may be a competitor or not) "whose professional ability and experience seem best to qualify him for a task so peculiar and important."

A letter was read from Mr. Wm. Brown, the founder of the Liverpool Free Public Library, objecting to the competition for the designs for the new buildings being thrown open to any but Liverpool architects. During an experience of thirty years, in which he had built very extensively, he said he had been fully satisfied with the local architects; and, as an illustration of his remarks, he directed attention to the extensive and very costly pile of new offices now in course of erection for him in Exchange-street West; in regard to which, as well as other similar buildings belonging to him, he paid a high compliment to the ability which had been displayed by his architect, Mr. J. A. Picton. He said it appeared to him that they were throwing Liverpool into the background, though they had probably as intelligent architects there as any in the world.

The Chairman moved the adoption of the directors' report; and Mr. John Pemberton Heywood, in seconding the motion, after making some practical remarks as to the best means of utilising the property as an investment, said he quite agreed with Mr. Brown, that the buildings erected for that gentleman by Mr. Picton were a credit to the town and to Mr. Picton; but, at the same time, he was not prepared all at once to go so far as to say, "Appoint Mr. Picton as your architect." He should be very glad to see a Liverpool architect

employed; but Mr. Brown's suggestion had come rather suddenly upon him.

Mr. Brown said there was surely sufficient other talent in the town; and local architects would know their wants better, and be much more able to carry out their wishes, than strangers. Other architects would no doubt send them very florid schemes, and probably very expensive ones too; but they wanted what would suit the mercantile interests,—a good, substantial, comfortable building, without any extraneous ornaments.

Mr. Bushell differed with Mr. Brown as to confining the designs to local talent. There was no doubt there was talent of every kind of the very highest order in Liverpool; but he thought they would be guilty of taking a very narrow view if they adopted the suggestion in a great matter of that kind. It was not a purely local building, or a small one for some private purpose that they were about to construct, but a great commercial exchange, to be criticised by the whole world. It would be said, in point of fact, that they were afraid that their local talent should compete with the talent of London and other parts of the world. It must be obvious that if the Liverpool architects produced a plan in every way suited, the prejudice, if any, would be rather in their favour than against them; but he trusted the remarks which had been made would not deter architects of the very highest eminence in London and elsewhere from competing. Nothing would be more disastrous than that an opinion should get abroad that they would take the brains and the talent of other gentlemen whilst quietly they intended to accept the design of a local architect. As a member of the committee he protested against such an opinion making the slightest way; though of course, all things being equal, he should be very glad to see a Liverpool architect get it.

After some further discussion, it was ultimately resolved to raze the present buildings entirely; to build new ones of a more suitable character; and to advertise for designs; the competition being thrown open to all, and the prizes being 1,000*l.* for the best design, and 250*l.* each for the second and third, as suggested by the directors.

GRINLING GIBBONS.

Whilst the subject of Gibbons is fresh in our minds, I beg to forward the following additional notes relating to him. They are taken from the interesting *Diary of R. Thoresby*, 2 vols. 8vo. London, 1830. They appear to disagree somewhat with the birth as given by Mr. Cunningham at p. 797, *ante*. Etty, the painter, mentioned herein, may probably be the father of the more celebrated artist of the same name and profession.

1695, at Windsor Castle.—"Admired—The very admirable woodwork carving of our countryman Mr. Grinlin Gibbons, the famous statuary, who made also that exquisite statue of King Charles II. in the Royal Exchange at London, which is of white marble." A note adds, "By 'our countryman' Thoresby, who never forgot to what county he belonged, means Yorkshire. In his *Review* he describes Gibbons as 'late of York.'" (i. 302.) And,

June 5, 1702.—"Evening—sat up too late with a parcel of artists I had got on my hands,—Mr. Gyles, the famousest painter of glass, perhaps, in the world; and his nephew, Mr. Smith, the bell-founder (from whom I received the ringing or gingling spur, and that most remarkable, with a neck six inches and a half long); Mr. Carpenter, the statuary, and Mr. Etty, the painter, with whose father, Mr. Etty, sen., the architect, the most celebrated Grinlin Gibbons wrought at York; but whether apprenticed with him, or not, I remember not well. Sat up full late with them." (i. 366.)

Wyatt Papworth.

I think the following note may answer an inquiry that I observe in your pages respecting the present whereabouts of a certain work of Grinling Gibbons. I extract it, just as I find it in my note-book, under the date Modena, September, 1860:—

"In a room at the Ducal Palace here, containing bronzes, small ornamental objects, curiosities, and so forth, I found, on a wall between the windows, and therefore in the dark, an elaborate work of Grinling Gibbons,—a large composition of various objects in carved wood, in his usual style of freedom and excellence,—fruit, corn, flowers, shells, in great variety, combined and festooned among mere ornamental foliation. The centre is formed by a skull executed with the greatest detail,—a music-book open, with music and words (which I vainly tried to read), and musical instruments, flageolet, &c., a pen and (I think) a dagger. From a round-linked chain which passed round the skull hangs a medallion with a three-quarter face of the artist, and inscribed—'Gibbons Inventor Sculpsit Londra.' The Italian form of the last word shows that he executed the work for Italians: was it a complimentary present from James of England to the relatives of his wife, Mary of Modena? James's own portrait, with coally complexion and much royal accoutrement of robe and cushion about him, is in the gallery.

Murray does not mention the work. Gibbons, at any rate, set his name upon it, that English visitors at Modena might recognize the artful hand of a countryman; and to-day we may count one fulfilment of a desire conceived some 200 years ago."

W. Watkiss Lloyd.

TOWER HILL AND GRAY'S INN LANE.

Permit me, as one very much interested in sanitary and general improvement, to point out two crying evils in this great city, of so gross a nature as would, if adequately described, be denied by a mere reader. Firstly, then, I would direct attention to the condition of Tower-hill, and defy any one to produce its equal for dirt, filth, and bad paving, anywhere out of Whitechapel. The pathway from Tower-street (itself, for the greater portion, a mere narrow messy lane) is so broken and uneven as to make walking absolutely dangerous; and the space in front of the Inland Revenue Office is paved with the shapeless stones popular a century ago, but now discarded even for the gutters of suburban poor streets. All the district is the same, even round Trinity-square; and yet no one moves. Its filth, its ugliness, its absolute danger, and evil odour, will apparently last for years unless you or some other zealous philanthropist make a stir. As a specimen of what may be expected, I would mention, that to widen the choked and often-locked Tower-street, a portion of the graveyard of Barking Church has for some months now been cut away, and a new retaining wall built; yet at the present moment the space made available is not paved nor open to the public: the improvers have fallen asleep, and the well-churned slough in the street is as vile as ever.

The second object of my letter is the glaring and disgraceful state of the great outlet of the New-road traffic, called Gray's Inn-lane. This worthy sister of Tower-street in its worst days is beyond report: it must be *seen* to be appreciated: it is a "marvel of art." The traffic is enormous; the lane as narrow as is well possible; the footway small; the houses are crowded and high; the whole filthy and pestiferous to a wonder: to improve on this state of affairs all the traffic is discharged into seething Holborn at *its narrowest part*, just where the block of houses forming Middle-row obstructs the comfortable width of the road.

Surely, sir, these stains on our metropolis should be removed. Danger to health, life, and limb, as well as commercial damage and delay, require it.

Jas. Collins.

CHAINS AND CHAIN CABLES.

Sir,—Few of your readers are unacquainted with the great loss both of life and property caused by the late gales. Around England's shores wrecks innumerable have taken place within the space of a few days; yet few, perhaps, have ever given it a thought that in many instances property to a great amount—nay, what is of still more value, lives—might and could have been saved had precautionary measures been taken. In a great many cases, and in such a tempest as we have just experienced, there is no doubt, no agency of man, no skill or science, would avail; but there are still many cases, where ships have been borne from their moorings to certain destruction; where, had they been supplied with efficient cables, they might, in every human probability, have ridden out the storm.

The International Exhibition, now closed, has not overlooked what has been for some time considered as a deficiency in naval architecture; and upon the subject of cables there was one exhibited that seems to me to deserve attention.

Each link of the chain is composed of two links, one placed within the other, with a space intervening about equal to the thickness of the links: these are braced together by cross bars of iron, one at each end, and one on each side. Any one possessed of a knowledge of the power called into action in a cable will at once see that there are two things necessary for perfection,—namely, iron sufficiently good to prevent fracture, and of sufficient strength to prevent collapse. Putting on one side the first, as a matter of consideration only so far as the quality of the metal is concerned, it is evident that when force is applied to a chain of links, if that force is beyond a certain amount, the links will collapse at their sides, and elongate in their long diameter. Now, to avoid this, the patentee, Mr. Longhurst, has placed, as it were, one link within another; and, by connecting them by cross bars, has not only obtained the power of resistance of two links; but, by the connecting bars, a power equal to a mass of iron equivalent to the two links and the intervening spaces, with also this no little advantage, lightness.

Such a chain cable or chain as the one above described, there can be no doubt, would resist an immense strain over the ordinary kind; and, as I have not seen it mentioned, perhaps your readers, like myself, would be pleased to hear of it.

Neptune.

TO RENDER GLAZED ROOFS WATER-PROOF.

Having seen it repeatedly stated that it was impossible to render a glazed roof waterproof when the ribs were of iron, in consequence of the expansion and contraction of that material, I beg to place on record in your columns the result of my experience to the contrary. Having long known the value of a compound of tallow and resin when laid on hot, with a lap of linen or calico, to fractures in waterpipes; it occurred to me to try it on the roof of my conservatory, which is of iron. It was laid on hot, over the sash-bars and putty; extending about half or quarter inch on the glass. I have found this to answer admirably; as the mixture expands and contracts without breaking its continuity. The proportions I have used are two of resin to one of tallow.

Horticulturist.

LOCAL ALBERT MEMORIALS.

Hastings.—The foundation-stone of the memorial clock-tower was laid by his worship the mayor on Monday, the 10th inst.: the Rev. Dr. Crosse also took part in the proceedings. The memorial tower will be 65 feet high, and 15 feet square at the base. The design is by Mr. E. A. Heffar, of Liverpool, architect. The style is Perpendicular Gothic. The site of the tower is at the lower end of Havelock-road, at the junction of the Eastern with the Western Streets of the borough; and for the purpose of a clock-tower, a more suitable spot could not have been chosen. The cost has been estimated at 550*l.*, and the contractor is Mr. Stirling, of Liverpool, with local tradesmen as sub-contractors.

Halifax.—Some time ago, it was decided at a meeting of the inhabitants of Halifax to erect a statue in memory of his Royal Highness Prince Albert; and it was further resolved that the memorial should take the form of an equestrian statue, to be made of bronze, and erected in some suitable part of the town. The committee of management named Mr. Thorneycroft as the artist, who has submitted a model for the statue.

Guernsey.—A committee has been formed to obtain funds for the erection of a duplicate of the statue of the Prince Consort executed by Mr. Joseph Durham, by order of the Prince of Wales, to surmount the "1851" memorial. The Queen has consented that the duplicate should be made.

PATENTS CONNECTED WITH BUILDING.*

Improvements in the Machinery and Apparatus employed in the Manufacture of Malleable Iron and Steel.—*H. Bessemer.* Dated Jan. 8, 1862. This consists in certain combined arrangements, whereby the steam employed for forcing air is generated by means of the heat escaping from the reverberating furnaces used in melting the iron to be converted. Also in the opening and closing of the passage conducting air into the connecting vessels, by means of the rotary action of such vessels acting on a suitable valve. Also in the employment of several separate tuyer boxes attached to the under side of converting vessels, in which the air is forced vertically upwards through the molten metal. Also in the use of tuyer boxes, with separate compartments for the several tuyers employed. Also in giving rotary or semi-rotary motion to converting vessels that are supported on fixed standards or foundations by means of hydrostatic force.

* Selected from the lists in the *Mechanics' Magazine.*

Also in employing a pair of converting vessels so placed in regard to each other that the flame and splashes emitted therefrom shall be projected in opposite directions, the said vessels being capable of discharging the converted metal into a ladle placed between them. Also in the use of chimneys, with an open space beneath them for giving access to converting vessels employed in the production of malleable iron or steel, by forcing air through the fluid metal. Also in the use of two converting vessels with separate chimneys, and one hydraulic casting crane, grouped together, as shown in the drawings. Also in the use of hydraulic cranes in casting malleable iron or steel, as described. There are various features included in the specification.

An Improved Knocker to be attached to Doors, Shutters, or other parts of Premises to which the same may be applicable, and applicable also for the Reception of Letters and other Documents.—*T. & M. Soar & J. Belshaw.* Dated Jan. 13, 1862. This consists of an arrangement and combination of apparatus in which is used a plain or ornamental plate of cast-iron or other metal or material, the upper end of which is made in the form of a label or scroll, upon which a name or number may be engraved, or otherwise delineated. Below the label or scroll is a stud or studs, which forms or form part of the hinge of the knocker, and which is secured to it by a pin or rivet. The back of the knocker forms a plug and rivet, which closes a slit in the plate lying below the stud. Below this slit is a projection near the bottom or lower end of the plate, upon which the knocker falls; and, where required, a hole may be drilled through the projection, and a wire passed through it, having one end tapped and screwed into the lower end of the knocker; in which case, when the knocker is raised for inserting a letter or other document, it will, besides knocking the door, also ring a bell, the other end of the wire being connected to another wire or lever for that purpose. A receptacle for the letters or other documents may be added, the same being composed of wood or suitable material.

Books Received.

The Book of Garden Management. Illustrated. Beeton, Strand, London.

Keeping the size of this volume (about 750 pages) in view, it contains an immense mass of useful matter of its kind; well compiled; with a good deal of writing which well merits a much higher title than mere compilation. The more practical information is introduced (after a modest preface) by an interesting historical sketch of gardening; and the whole work comprises innumerable details as to the laying out and planting of gardens; fruit, flower, and kitchen-garden management; building, arranging, and management of greenhouses and other garden structures; decorative gardens; spade husbandry and allotment cultivation; monthly operations in each department; orchard cultivation and management of orchard houses; and on the management of bees. The volume is also enlivened by many useful and ornamental engravings.

Our Feathered Families: the Birds of Prey. By H. G. Adams. Illustrated. London: Hogg & Sons.

We feel assured that the purchasers and readers of the first of Mr. Adams's entertaining volumes on British Birds will be glad to observe that a second has been issued, quite as full of pleasant gossip and poetical snatches as was the first. The interest attachable to books on British birds, now that the gun of the stolid boor and of his less stolid but in this case not less ignorant and mistaken superior, is fast exterminating them, is really an interest of a somewhat sad and regretful order. It will soon be only in such volumes as these that any one will be able to make himself acquainted with the habits and appearance of many birds of which a remnant still exists in our island; and indeed this very work contains accounts of not a few that are already extinct, and of others also all but exterminated. Even the most rapacious birds of prey have important uses; and it is now being found out, when too late in many instances, and almost so in others, that the raid against all sorts of wild birds is a stupid and grievous as well as very serious mistake.

Messrs. Hogg have much merit in the getting up of this handsome volume.

VARIORUM.

"The old, old Story, Love," by Berkeley Aikin (published by Saunders & Otley), is the tale of an artist artistically told. Berkeley Aikin, as the writer chooses to be called, is already well known as the author of "The Dean," and some other novels; but we are disposed to think the volume before us will obtain for her even a wider popularity. The story is exceedingly interesting and thoroughly agreeable: the characters are sharply and clearly presented; the tendency of the whole elevating and good. It is not all sunshine with any of the characters: the author seems to believe that—

> "Into each life some rain must fall,
> Some days must be dark and dreary."

But in the end all comes pleasantly right: the hero has settled down, and "ever and anon there comes forth from Kensington some wonderful picture, for which people give fabulous prices and praises too; albeit the painter has risen above life's bitter struggles and men's vain applause!" We can cordially recommend the book.

Miscellanea.

Architectural Union Company.—At the general meeting of shareholders which is fixed for December 3rd, a dividend of 8s. per share, free of income-tax, will be declared, leaving 102*l.* 17s. 9d. in hand. The eastern gallery, with committee-room, can be had for one night a week for 35*l. per annum.*

British Archæological Association.—The first meeting will be held on Wednesday, Nov. 26. The following papers will be read:—Mr. Pettigrew, "On the Tumulus of Maes-Howe, in the Orkneys;" the Rev. Principal Barclay's "Translation of the Runic Inscriptions discovered in the Great Chamber of the Tumulus of Maes-Howe;" Mr. J. Moore, "On Antiquities discovered in a Roman Villa in Somersetshire."

Site for St. Thomas's Hospital.—At a meeting of the governors, held on Tuesday last, a resolution passed October 28th, giving the grand committee power to purchase a site absolutely was rescinded, in order that the governors, as a body, may previously discuss the desirability of the site selected. It is to be hoped that the intelligent body who are anxious to show what a properly-planned and properly-placed hospital would accomplish curatively, will not allow themselves to be overcome by popular clamour. The arguments which have lately been used against the removal of the bulk of the patients to a short distance from the noise, bad air, and other evil influences of a crowded neighbourhood, have been answered again and again. A receiving-house for accidents and cases of immediate urgency, and the contiguity of a railway, get rid of the bulk of them. By the way, Dr. Bennett must be a bold man to deny the existence of hospital gangrene and pyæmia! Could not some of the St. George's people enlighten him a little on this point?

The Proposed Arch of Triumph, Paris.—The proposed *Arc de Napoleon III.* is to be erected near the "Barrière du Trone," and will be of enormous size and cost. According to descriptions which have appeared, it will be raised over a fountain of colossal proportions, and will be built in the Classic style. Over one side of the arch will be a figure of "War, triumphant and victorious;" and over the other its antitype, "Peace, grateful and laborious." The whole will be on a much larger scale than the triumphal arch at the end of the Champs Elysées. It will be flanked with twelve columns of the Composite order in coloured marble, and bearing twelve bronze warriors, each holding a shield. These warriors are intended to represent the twelve marshals of the empire, as well as the different *corps d'armée.* They are also to signify that the army eternally guard "France," who is seated on the summit of the building. She is attended by "Glory," and flanked by four "Fâmes." On the capital of each of the twelve pillars is the following inscription:—

> TO THE EMPEROR NAPOLEON III.
> TO THE ARMIES OF THE CRIMEA, OF ITALY, OF CHINA, COCHIN CHINA, AND ALGERIA,
> 1852—1862.

The central monument which is beneath the arch is raised above three great basins that surmount each other, and each of which is smaller than the one immediately beneath it. They have in the centre a group of sea-horses and lions' heads, from which issue *jets d'eau.* On the top is another "Glory" holding a crown for the "victorious French soldiers."

The Drainage of Portsea.—The commissioners for the parish of Portsea have resolved that a practical engineer be requested to furnish a report as to the practicability of effectively and properly draining Portsea.

Minster, Thanet.—It is much to be regretted, writes the *South-Eastern Gazette,* that square-headed windows are about being placed in the north aisles of our old church—a style without character, and considered by our best authorities, on its introduction, a heavy blunder. We are sorry to find a church so pure in its general architectural character so treated in its restoration. The fine old doorway of the Pointed Gothic style, now blocked up on the inside, will form a standing protest against the flat-headed windows: indeed, these will look like nothing else in the whole building. There is only one satisfaction remaining, this style of window never received the sanction of the parishioners.

Drinking-Fountains at Lampeter.—The ceremony of inaugurating the opening of the new drinking-fountains at Lampeter, near Merthyr, was recently performed by Mr. John Battersby Harford, of Falcondale, at the cost of whose uncle, Mr. John Scandret Harford, of Blaize Castle, and himself, the structure, which he said cost some hundreds of pounds, has been erected. The Rev. Mr. Griffis, of Neath, who was specially engaged by Mrs. Harford, of Falcondale, the patroness of the Lampeter Temperance Society, delivered on the occasion a very appropriate lecture upon total abstinence; but not in very appropriate language; inasmuch as it was in English, which the large assemblage of people present did not understand. The structure of the fountain, which measures about 25 feet in height, is built of Forest of Dean stone.

Industrial Painting.—A revolution in industrial painting is reported by Mr. Moigno in the *Cosmos.* On the 18th ult. he visited the electro-metallurgical workshops of Mr. Oudry, at Auteuil, who some time ago showed how galvanic copper can be reduced to an impalpable powder, so as to form the basis of a new paint. A later idea is that of laying on the copper-dust on the coating of benzole always put on the surface of casts before covering them with copper by the galvano-plastic process. He has eventually succeeded in obtaining a mode of painting by means of galvanic copper, applicable to wood, plaster, cement, steel, iron, the exterior of ships, &c.; giving them a covering perfectly dry and inodorous after twenty-four hours; taking a very agreeable lustre; and susceptible of receiving, by means of chemical re-agents, all the tones of bronze, &c., which may be given to pure copper. Mr. Oudry has also succeeded in combining with benzole, in addition to a very small quantity of copper, the colours which have lead, zinc, &c., as a base. As benzole, from its conversion into aniline for the manufacture of dyes, is becoming expensive, Mr. Oudry was led to try mineral oils, now so abundant; and found them quite as effectual as benzole. These hydro-carbons will thus replace the expensive drying vegetable oils, if Mr. Oudry's process be generally available. Mr. Moigno states that a very agreeable green has been given to the balconies of the New Théâtre Français by the new method.

Kromschroeder's Improvements in Gas-meters.—Some of our readers may recollect our describing, in 1858, a new gas-meter invented by the late Samuel Clegg, and which was expected to be of considerable service in registering correctly the amount of gas consumed. That invention has been subsequently still further improved by Messrs. Bischoff, Brown, & Co., of Langham Works, George-street, Great Portland-street, and a medal was awarded to them at the Exhibition for a wet meter which was "self-adjusting, with very little friction." We learn that what was anticipated of this meter has now actually been fulfilled, for under all circumstances it registers accurately the amount of gas consumed, and is well adapted for large buildings. At the Mansion House, where it was previously necessary on gala nights to have a pressure of 3 inches in the gas mains; on adopting Bischoff, Brown, and Co.'s meter, the pressure required is now, it is said, only 1 inch, whereby a pleasanter light is obtained at less expense to the consumer, and leakage in the pipes is avoided by the gas company. The specification of the improvements made by Mr. Kromschroeder, the foreman of Messrs. Bischoff, Brown, & Co., would not be readily understood without diagrams; but we may state that the invention is peculiarly applicable to that class of gas-meters in which the measuring drum consists of a series of eccentric measuring chambers, and in which a hollow floating cylinder is within the measuring drum.

RAGGED SCHOOLS, BAKER'S-ROW, WHITECHAPEL. The buildings recently opened consist of a boys' school and girls' and infants' school.

DUBLIN WATERWORKS.—The foundation-stone of a reservoir at Stillorgan, in connexion with the Dublin waterworks, has been laid by the Lord Lieutenant.

BELLS AT PISA.—A writer in *Notes and Queries* says,—On the top of the famous campanile at Pisa, better known by the name of "The Hanging Tower," are five bells: on one of these is the following inscription, in Lombardic capital letters, which has been forwarded by a friend:—"Lotteringus Pepisis me fecit Cõrad Hospitularius Solvit A.D. M.C.C.LX.II." There are some running ornaments, rosettes, &c., about the bell, and "Ave Maria, G. P.," between two angels—followed by some other inscription my friend could not make out. If this date 1262 be correct, this must be th oldest bell in the world, unless there are any Russian bells to contest the palm of antiquity.

SANITARY CONDITION OF ST. JAMES'S, WESTMINSTER.—The sixth annual report to the vestry of this parish for 1861, by Dr. Lankester, has been issued. From this report it appears that the mortality (758) has been forty-two below the average of the last ten years; but that zymotic diseases, and especially scarlet fever and hooping-cough, have been unusually fatal. The reporter urges the local authorities to carry out their powers for the prevention of small-pox contained in the public Vaccination Act. As a contrast to the large mortality in the thickly populated portions of the parish, he again points attention to the small mortality at the parish Industrial Schools on Wandsworth Common. The eye of the public, he observes, cannot be too forcibly directed to that Institution. Whilst every year he has to record that nearly 100 children have been carried off in the parish, here is an institution in which upwards of 150 children have been reared and educated for ten years without a single death from zymotic disease at all.

RE-OPENING OF LEICESTER INFIRMARY.—The new, or Apreece, wing of this building has been opened. The capacity of the infirmary, owing to the late Mrs. Freeman's gift, has been very considerably enlarged. Originally the building would hold but one hundred and sixty-five beds; now it will contain two hundred. The wards—those devoted to the use of convalescent patients especially—are described by the local *Advertiser* as being spacious, airy, and admirably ventilated. In preparing the fittings and planning internal arrangements, the original estimate of cost was much exceeded. The plan was prepared by Mr. Dain, the county architect and surveyor. The original tenders amounted to about 10,000*l*. The contractors were—Mr. Collins, brickwork, 4,595*l*.; Mr. Clifton, woodwork, 3,085*l*.; Mr. Firn, stonework, 855*l*. 16s. 8d.; Mr. Fozzard, plumbing and glazing, 753*l*.; Mr. Richards, ironwork, 540*l*.; Mr. Haynes, painting, 110*l*. Laying out the grounds, and furnishing the building, with the extras, have brought the amount up to nearly 30,000*l*.; but the result is almost an entirely new structure. Mr. R. Beaver was clerk of the works.

CONCRETE GARDEN WALKS.—The *Gardeners' Weekly Magazine* gives the following note as to path-making for gardens:—Procure a sufficient quantity of the best Portland cement; then, with the help of a labourer, turn up the path with a pick, and have all the old gravel screened, so as to separate the loam and surface weeds from it; and to every six parts of the gravel add three parts of gritty sand of any kind—but soft pit sand is unsuitable—and one part, by measure, of Portland cement. When these are well mixed together in a dry state, add sufficient water to make the whole into a moderately stiff workable consistence, and lay it down quickly two inches thick on a hard bottom. A common spade is the best tool with which to spread it: it must be at once spread, as it is to remain for ever, and a slight convexity given to the surface. In forty-eight hours it becomes as hard as a rock: not a drop of rain will go through it; and, if a drop lodge on it, blame yourself for not having made the surface even—but a very moderate fall is sufficient with such an impenetrable material. Not a weed will ever grow on a path so formed: not a worm will ever work through it: a birch broom will keep the surface clean and bright, and of course it never requires rolling. It is necessary to be very particular as to the quality of the cement, for a great deal of rubbish is sold under the name of real Portland. For the flooring of a green-house, fowl-house, potting-shed, or barn, this is the best and cheapest that can be had—always clean, hard, and dry, and never requiring repairs of any kind if carefully put down in the first instance.

ACCIDENT AT LENDAL BRIDGE WORKS.—One of the workmen had ascended to the tramway of the travelling crane, when his foot caught a wedge which had been put under and for the adjustment of the iron rail. The result was that he lost his balance, and fell upon one of the buttresses of the bridge, and thence to the ground below, which is upon a level with the street. The injuries thus received are of a frightful character.

GEORGE CRUIKSHANK'S GALLERY.—Mr. Cruikshank has removed his remarkable work, "The Worship of Bacchus," to a gallery in Exeter Hall, and has added some hundreds of the etchings, sketches, &c., made by him, between 1800 and 1862! and which have made his name known from one end of the kingdom to the other. It is a marvellous collection, and forms a striking picture of the changes that have taken place in society within that period. The best account of Mr. Cruikshank's works (illustrated), and essay on his genius, will be found in the *Westminster Review*, some dozen years back.

ALLEGED CLASSICAL DISCOVERY. — TURIN, NOV. 3.—Archæologists have been pleased by the discovery, somewhere near Capua, of one of the *milliaria*, or milestones, formerly standing on the famous Appian Way, which connected that city with Rome and Brundusium. The monument, which is in admirable preservation, is marked with the number CXXVII., gives the name of the constructor of the road, together with the other points of information usually presented by these relics of antiquity. It is rather a curious fact that, of the 130 stones erected between Rome and Capua, this is the only one that has ever been brought to light.

SANITARY CONDITION OF OXFORD WORKHOUSE SCHOOL.—The Cowley Industrial School Committee have reported to the local guardians that the medical officer had reported that the nurse and all the children in one ward of that school had been attacked with diarrhœa; that they had been removed to another ward, where they improved; and that they were now completely recovered. He attributed their illness to the defective drainage, and recommended the building of two shafts and charcoal purifiers, in order to allow of the escape of the noxious gases which accumulated. The clerk was requested to write to a sanitary engineer in London for an estimate of the cost of this work, which, it was stated, had never yet been done in Oxford.

A "SIGHT" OF WESTMINSTER ABBEY. — A correspondent, under the signature of "Lewis," renews old complaints of the absurd way in which visitors to Westminster Abbey are hurried through the Abbey by the vergers, by whom parties, like flocks of sheep, are driven through the hackneyed routine of sight-seeing and vulgar explanation, without being allowed a minute for examination of the chapels or anything else. Our correspondent does not think he had his sixpennyworth of sight-seeing in merely being "taken in" at one gate and driven out at another, after half an hour's walk and no pause, and with exclusion altogether from one of the chapels. This is now an old grievance which much needs amendment. Even first and second class, or shilling and sixpenny, admissions would be preferable to the present system; the shilling (or even half-crown) visitors being allowed sufficient time for close examination of the objects of interest within the Abbey, and above all being allowed to dispense with vergers' accompaniments.

MONUMENTAL.—Mr. Foley, R.A., has been commissioned to execute a statue of the late John Fielden, M.P., for erection at Todmorden. The artist has submitted a model for approval. The statue represents Mr. Fielden in a characteristic attitude. He stands with his left leg thrown slightly forward, his right hand in the armhole of his waistcoat, and his left on a copy of the Ten Hours' Bill, which lies on a pedestal at his side. Mr. Foley has made considerable progress with the full-sized figure, which will be about 7 feet 6 inches in height.——Touching the proposed statue to O'Connell in Dublin, Mr. W. J. Fitzpatrick suggests that "The base might be effectively formed of a large fragment from one of his native mountains. A rugged rock indented by the waters of the Atlantic, and surrounded by a figure of towering sublimity, would prove, within the ample area of Sackville-street, a novel and striking spectacle. A craig is shown in Derrynain on which he loved to stand, contemplating the waves as they rolled in unbroken from Labrador. Would it not be practicable to remove so much as would preserve the proportions duly, and carry out the idea?" Nearly 2,000*l*. have been already collected.

BRIDGE AT COBLENTZ.—The first stone of the fixed bridge over the Rhine, at Coblentz, was laid on the 11th inst, by Queen Augusta of Prussia, who is now residing in that city.

ARCHITECTS ABROAD.—The second series of guests invited to spend nine days at Compiegne, with the Emperor of the French, includes one architect, Mr. Viollet Le Duc, and several men of letters.

DISCOVERY OF METAL.—Professor Ansted reports the discovery, at St. Cuthbert's, in the Mendip Hills, about three miles from Wells, in Somersetshire, of a deposit of lead-producing *débris* of old mines and lead-washings of ancient miners, filling up the bed of a stream that flowed in former ages. This metallic slime, of exceeding richness, amounts, he says, to 600,000 tons, extends over 25 acres, to the depth of 30 feet, and is computed to be worth half a million of money for the lead which it contains.

HYDRAULIC FIRING. — The firemen of St. Amand, near Amiens, have established an exercise which they call the "*tir hydraulic*," in which the tube of a fire-engine replaces the rifle. An iron target is erected, in which a hole is pierced. The target is raised 15 feet from the ground by means of a pole. The water, driven by a fire-engine placed at a distance of 25 feet from the target, is received in the central opening, and falls by means of a funnel into a cask capable of holding twenty-five gallons. The prize is adjudged to the fireman who shall fill the vessel in the shortest time.

CANAL ACROSS THE ISTHMUS OF CORINTH.—A letter from Athens says:—A company has been formed in Greece for cutting through the Isthmus of Corinth, and thus avoiding the long and dangerous coasting of the shores of the Peloponnesus. The width of the canal would be 112 feet, and its depth about 20 feet. Its length would not exceed three miles and three quarters. For vessels on their way for Marseilles and the Mediterranean to the Piræus the distance would be shortened by ninety miles. The saving to vessels from the Adriatic would be still more considerable.

PYRAMIDS IN TAHITI.—Our repast over, the Tahitian beckoned me to follow him, and leading the way through an entangled glen, amidst rocks and waterfalls, he came upon an extensive pile of stonework in the form of a low pyramid, having a flight of steps on each side. My surprise was great at the sight of such a structure in an island where the best houses are built of bamboo. I found that on pacing the building it was about 260 feet long by about 90 feet broad, and from 40 feet to 50 feet high. The foundation of this remarkable structure consisted of rock stones, the steps being of coral, squared with considerable neatness, and laid with the utmost regularity; and the entire mass appeared as compact as if it had been erected by Europeans. The size of many of the blocks is remarkable, but they bear no marks of the chisel, nor is it easy to understand how they were transported by savages unacquainted with mechanical science from the sea-shore to their present position. Who could have raised this imposing mass? was a question that involuntarily arose in the mind. It is scarcely possible that the present race of islanders, or even their ancestors, could have performed such a task. They are unacquainted with mechanics, or the use of iron tools to shape their stones with. From all that could be gleaned from the guide, and from other natives afterwards, I felt convinced that they knew nothing of its history, for as it was beyond their comprehension, they naturally said it was built by the gods, and was as old as the world.—*Colburn's United Service Magazine.*

CONCRETE BRICKS.—Sir: In a letter signed J. W. Sumner, which appeared in your Journal of Saturday last, your correspondent refers to a report made by an authority at the South Kensington Museum, from which it appears that "the concrete brick is decidedly good, Bodmin's (should be Bodmer's) brick superior, *but they are double the price of the concrete brick.*" Allow us to explain that, as our bricks are manufactured at a place more than 158 miles distant from London, the difference in the price of the two kinds of bricks, so prominently mentioned in the report in question, is owing exclusively to the cost of conveyance by rail or water. Delivered in carts or trucks in our yard, the price of our bricks is 24s. per 1,000. At our works, the materials of which the bricks are composed, are prepared, measured, mixed, and conveyed by machinery, and the bricks formed into shape by a powerful press—four at a time. We readily admit the possibility of making concrete bricks by means of a mould and a trowel; but we do not quite understand how they can be economically produced in that way.

BODMER, BROTHERS.

TENDERS.

For building nine dwelling-houses, in Kentish Town, for Mr. J. T. Taylor. Mr. R. H. Moore, architect:—

Berg (accepted)	£3,744	0	0

For repairing and re-decorating No. 35, Wimpole-street, Cavendish-square, for Mr. Henry Hayward. Mr. Christopher Eales, architect.—

Clemence	£811	0	0
Scrivener & White	734	0	0
Smith & Brothers	723	0	0
Anez & Bellingham	668	0	0
Phillips	648	0	0
Roadkin	637	0	0
Sapwell	616	0	0
Clark & Mannock	592	0	0

For new shop front and repairs to a house at Walworth. Mr. Sextus Dyball, architect. Quantities not supplied:—

Gullienne	£645	0	0
Cook	641	0	0
Hemmings	640	0	0
Dearsley	639	5	9
Marsland	629	0	0
Thompson	615	0	0

For alterations and repairs, at the Red Lion Inn, Guildford, for Messrs. Crooker. Mr. H. Peak, architect:—

T. & J. Loe	£162	10	0
Mason & Son	145	10	0
Strudwick	143	10	0
Pollard	134	19	0
West	130	0	0
Smith	118	10	0
Garnett	112	0	0

For the erection of Boys' British School, Hastings. Mr. G. Beck, architect. Quantities not supplied:—

Broadbridge	£498	0	0
Batstone	493	15	0
Hoadley & Co	457	0	0
Vidler (accepted)	444	10	0

For drainage, &c., for Richmond parish:—

Gascoyne	£280	0	0
Towers	259	0	0
Barber	255	0	0
Sweet	189	10	0

TO CORRESPONDENTS.

N. L. & Co.—J. R.—E. H. M.—H. R. (signature illegible).—*Est modus in rebus.*—L. S. (statements as to the great vibration of Westminster Bridge have already appeared in our columns).—R. (so also as to the doubtful construction in Hungerford and other new bridges, where the safety of passengers is trusted to a few *r.s.e.t.*).—B. P. S.—G. J. C.—B. B. G.—Old Subscriber.—N. McH.—A. W. B.—R. G.—Cantab (next week).—J. R. (ditto).—M. E. H.—A. F.—C. R.—H. P.—T. M.—W. C.—C. L.—T. R. S.—O. & K.—J. P.—H. B.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE** *o'clock,* **p.m.,** *on Thursday.*

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No.* 1, *York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13 FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

Mr. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLOURIST, and LITHOGRAPHER,
No. 21, MONTAGUE-STREET, RUSSELL-SQUARE, W.C.

A LONDON ARCHITECT, with a large Practice, is desirous of engaging the services of a thoroughly efficient MANAGING CLERK, well versed in Italian Architecture, both as regards detail and construction.—Address, by letter, stating qualifications, age, terms, &c. to C. D. Mr. Kennedy's, News Agent, Upper Berkeley street, Portman-square, W.

BUILDER'S CLERK WANTED, fully capable of making out accounts. If accustomed to take out quantities, would be preferred. Address, stating full particulars and salary required, to W. H. Office of "The Builder."

TO BUILDERS, ARCHITECTS, AND SURVEYORS
FIRE and LIFE AGENTS WANTED for a wealthy Insurance Company of sixty years' standing. Commission liberal.—Application in the first instance to F. J. care of Mr VICKERS, 2, Cowper's-court, Cornhill, E.C.

PORT and HARBOUR of BELFAST.—The Harbour Commissioners of Belfast having resolved to appoint a RESIDENT ENGINEER, to assist in superintending the extensive works about being carried out for the Improvement of the Port and Harbour of Belfast, request that all persons who may be desirous of becoming candidates for the appointment will lodge their applications and testimonials with the Secretary to the Commissioners, on or before 15th DAY of DECEMBER next. In making the election, a decided preference will be given to such candidates as may have had experience in similar works to those which are now in contemplation. The salary to be 300l per annum.—Further particulars may be obtained on reference to the Secretary,
WILLIAM THOMPSON, Secretary.
Harbour Office, Belfast, 29th October, 1862.

STEAM SAW-MILLS.—WANTED, a FOREMAN, having a thorough knowledge of machinery, and of the conversion of timber. Liberal wages given, with the prospect of a permanent situation.—Applications, stating competency, wages expected, and testimonials, to be addressed, by letter only, to Messrs. BISCHOFF, COXE & BOMPAS, 19, Coleman-street, City, E.C.

THAMES NAVIGATION.—GENERAL SURVEYOR and COLLECTOR. I hereby give notice, that at the next General Meeting of the Commissioners, to be held at the Town-hall, in the city of Oxford, on SATURDAY, the 27th day of DECEMBER next, at ELEVEN o'clock in the Forenoon, the Commissioners then and there present will proceed to ELECT a GENERAL SURVEYOR and COLLECTOR, in the room of Mr. George Treacher, who has resigned on account of ill health. The salary will be 250l a year. The person elected will be required to enter into a bond, with two sufficient sureties, for the due performance of the duties of the office. Applications and testimonials must be sent to me on or before FRIDAY, the 12 h day of DECEMBER next; and in the mean time information as to the duties of the office may be obtained on application to me.
T. H. GRAHAM, General Clerk.
Abingdon, November 18th, 1862.

TO CARPENTERS AND JOINERS.

WANTED, a thorough, good CARPENTER and JOINER. Good wages and constant work, if suitable.—J. WITHERS, Builder, Ilford.

WANTED, immediately, Two or Three IMPROVERS in an ENGINEER'S and GENERAL CONTRACTOR'S Establishment, where important English and Foreign contracts are in hand, also advantages of a character seldom to be met with. Terms moderate. Apply by letter to MECHANICUS, care of Mr. Lovett, 189, Upper Thames-street, E.C.

TO MODELLERS

WANTED, by an Architect, a Good MODELLER in PLASTER, CARDBOARD, or CORK, for one eighth scale models.—Apply, by letter, stating references, to H. L. 10, Upper Park street, Greenwich.

TO WRITERS AND GRAINERS.

WANTED, by a Young Man, a SITUATION to IMPROVE himself in Writing and Graining. Has had some experience. No objection to article himself for twelve months.—Address, W. M. Clarence Cottage, High-street, Kensington.

WANTED, by a Person who has been in a large business as a Builder and Contractor for twenty years, a SITUATION as FOREMAN or MANAGER of a Business. Town preferred. Is thoroughly acquainted with the practical as well as theoretical part of the business. Testimonials as to capability can be forwarded by many gentlemen and architects.—Address, prepaid, W. J. 22, Providence-street, Ipswich, Suffolk.

TO BUILDERS AND SPECULATORS.

WANTED, by a Young Man, a SITUATION as SHOP FOREMAN, or to Take Charge of Works, either working or otherwise, or to Take Work by the Piece or Job.—Address, X. Y. 62, Castle-street, Holborn-hill, London.

WANTED, by a Young Man, aged 21, a SITUATION as IMPROVER in a Builder's shop in London. Low wages will be taken if required.—Address, D. T. care of Mrs. Tipps, No. 66, Observatory-street, Oxford.

WANTED, a SITUATION as HOUSE, ESTATE, or HOTEL CARPENTER, by one who has had good experience in the general building branches. Good reference can be given.—Address, T. W. Wheat Sheaf Hotel, Virginia Water, near Staines, Surrey.

WANTED, a RE-ENGAGEMENT, by a thoroughly practical CLERK of WORKS. Terms moderate. Address, CLERK of WORKS, 13, Adelaide-square, Windsor

WANTED, by the Advertiser, a SITUATION in an Architect or Surveyor's Office. Is a neat draughtsman, and thoroughly conversant with the routine of an office. Address, H. B. 101, Southwark Bridge road, S.E

TO BUILDERS AND CONTRACTORS.

WANTED, by a Youth, a SITUATION as IMPROVER. Is desirous of serving two years to the masonry. No objection to the country.—Address, X. M. D. 25, Market-street, London, S.W.

TO ARCHITECTS AND BUILDERS.

WANTED, a RE-ENGAGEMENT, by a thoroughly practical CLERK of WORKS, or Builder's Out-door Foreman. Is a good working and detail draughtsman, and has a perfect knowledge of the building trade.—Address, J. W. Barcroft-place, Old Market, Bristol.

TO ARCHITECTS

WANTED, a RE-ENGAGEMENT, in an Architect's Office, by a neat and expeditious Draughtsman. Can prepare fair working detail drawings, &c. Terms moderate.—Address, X. Y. Z. care of Housekeeper, 9, Mincing-lane, City, E.C.

TO CONTRACTORS, BUILDERS, &c.

WANTED, by a thoroughly efficient BUILDERS' CLERK, a SITUATION as Office Manager, Estimate, or Cost-price Clerk. Has a good general knowledge of the business in all its branches, a fair draughtsman, and an excellent quantity surveyor. The highest testimonials.—Address, F. A. Office of "The Builder."

TO ARCHITECTS.

WANTED, by an efficient ASSISTANT, a RE-ENGAGEMENT. Is accustomed to prepare working and detail drawings, &c. from rough sketches, and would undertake the management of an office. Has a thorough knowledge of Gothic architecture.—Address, A. L. T. Office of "The Builder."

TO BUILDERS, &c.

WANTED, a SITUATION, in a BUILDER'S OFFICE, by a Young Man (aged 23), a carpenter and joiner. Can trace or copy. Salary no object at first.—Address, J. R. No. 3, Ann's-terrace, Cobourg-road, Old Kent-road, S.

TO BUILDERS AND OTHERS.

WANTED, by a married Man, aged 32, a SITUATION as TIMEKEEPER, STOREKEEPER, or CLERK. Good references.—Direct, B. C. 81, Clarendon-square, St. Pancras, N.W.

WANTED, by a practical Man, a RE-ENGAGEMENT, to SUPERINTEND the ERECTION of a BUILDING. Carpenter by trade. First class reference. Town or country.—Address, A. W. 32, Park road, Kentish-town park.

TO BUILDERS, &c.—EVENING EMPLOYMENT.

WANTED, by a Young Man, well experienced in the building trade, EVENING EMPLOYMENT, in preparing drawings or details, quantity surveying, estimate making, or bookkeeping, by single or double entry.—Address, M. Office of "The Builder."

WANTED, by the Advertiser, an ENGAGEMENT as ARCHITECTURAL DRAUGHTSMAN.—Address, S. K. Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, a SITUATION, as General Foreman, Shop Foreman of Joiners, or to take charge of a Job, in town or country. Can prepare detail and working drawings, take out quantities, and measure up work in all branches of the building trade. Good references.—Address, S. J. V. Office of "The Builder."

WANTED, a RE-ENGAGEMENT, as General Assistant to an Architect or Builder, by the Advertiser, who possesses the experience of twelve years in similar situations, including the period of his articles, in a well-known London Office.—Address, A. Z. Post-office, 98, Jermyn street, S.W.

TO BUILDERS AND PLUMBERS

WANTED, EMPLOYMENT as Useful PLUMBER'S LABOURER, by an active Man, aged 30. Six years' good reference. Competent to fill up his time at glazing, painting, &c. Town or country.—Address, H. P. No 6, Pritchard's place, Broadway, Hackney, Middlesex.

TO BUILDERS, &c.

WANTED, by an Out-door FOREMAN, an ENGAGEMENT to TAKE CHARGE of a JOB, in town or country.—Address, S. P. S. Office of "The Builder."

TO TIMBER MERCHANTS AND SAW-MILL PROPRIETORS.

WANTED, by an active, respectable Young Man, of good character, with a thorough knowledge of the working routine of a Retail timber yard, an ENGAGEMENT as SALESMAN, TRAVELLER, or COLLECTOR. Has a connexion among builders, and willing to make himself generally useful. Address, A. Z. Mr. Walker's, Stationer, Paddington green, W.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by a Bricklayer, a RE-ENGAGEMENT as WORKING FOREMAN, or to take piece-work. Is well up in setting out work. Good references.—Address, S. L. 17, Upper Tachbrook-street, Pimlico.

TO ARCHITECTS.

WANTED, a RE-ENGAGEMENT in an Architect's Office, by a neat and expeditious DRAUGHTSMAN. Understands perspective drawing, and is a fair colourist. Terms moderate.—Address, S. N. 64, New Bond-street, W.

TO DECORATORS, BUILDERS, AND OTHERS.

WANTED, by contract or otherwise, PAPER HANGING, DISTEMPERING, &c. in any quantity, by a thoroughly experienced hand who has lately completed some large private and public jobs, and has by been several years engaged by foreign Houses, perfectly understands decorating from the drawing-room to the theatre, &c.—Address, F. T. Office of "The Builder."

TO COUNTRY BUILDERS.

WANTED, by a Young Man, a SITUATION, in a large Builder's Office. He is a good draughtsman, and understands the general duties of an Office. He has been for the last five years in a London Architect's Office, and can give excellent references. Being desirous of improvement, no salary required.—Address, E. M. 42, Tottenham court road, W.

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, a SITUATION as CLERK in a Builder and Contractor's Office. Writes a good hand, is a neat draughtsman, and has had some experience in taking out quantities.—Address, H. S. 5, Wellington-road, Camberwell, S.

TO ARCHITECTS, CIVIL ENGINEERS, &c.

THE Advertiser, who is well acquainted with plan drawing, practical land surveying, decorative design, ornamental writing, illumination, sketches from nature, pencil and water-colour drawing, with a knowledge of mercantile business, requires a SITUATION. Specimens forwarded if necessary. First-class testimonials.—Address, H. E. F. G. Shuthonger House, Tewkesbury.

TO HOUSE AND CHURCH DECORATORS, &c.

THE Advertiser desires a SITUATION as MANAGING FOREMAN. Has had a thorough practical experience for many years in the first firms of the trade, and is fully competent to carry out all or figured in the various branches, and is at once with the times.—Address, SOYEZ FERME, 17, Lisson-grove North, Marylebone.

TO BUILDERS, MERCHANTS, AND OTHERS.

THE Advertiser, well educated and respectable, aged 35, wishes for an ENGAGEMENT. Is a neat draughtsman, also a good accountant and bookkeeper, well up in estimating and superintending works generally, steady, and industrious. References first class.—Address, R. A. Office of "The Builder."

TO BUILDERS AND DECORATORS.

THE Advertiser, a good PAINTER and first-class PAPERHANGER, wishes for a PERMANENCY or a JOB. Good references.—Address, J. H. Golden Eagle, New street, Kennington road.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser is open to an ENGAGEMENT as an ASSISTANT. Is competent to prepare working and finished drawings, and understands the general routine of an office.—Address, F. S. 11, Ampthill place, Vassall-road, Brixton.

THE Advertiser is desirous of taking the SITUATION of ASSISTANT CLERK of WORKS upon a large building. A bonus will be paid. Any application to be in writing, and addressed to W. H. E. 30, Hart-street, Bloomsbury, W.C. accompanied by the name of the building to be employed upon.

TO BUILDERS, CONTRACTORS, AND OTHERS.

THE Advertiser, a thoroughly experienced Bricklayer, is open to TAKE any amount of BRICKWORK, as piece-work, in town or country. Good references.—Address, A. A. 7, Hasker-street, Chelsea.

TO PLUMBERS, DECORATORS, &c.

CLERK now disengaged, seeks a SITUATION as BOOKKEEPER and COLLECTOR (or otherwise). Is a good draughtsman and designer, of gentlemanly bearing at business hours, can have three years' undeniable reference from last, and seven years from a former employer.—Address, J. B. 48, Weston-street, Tooley-street, Borough, S.E.

TO ARCHITECTS.

CLERK of WORKS.—Thoroughly experienced in every description of artisans' work, and well versed in construction; a good draughtsman, measurer, correspondent, and accountant. Habits steady and business-like. Can be strongly recommended for integrity and ability. Salary moderate.—Address, J. S. WILSON, North Newbald, near Brough, East Yorkshire.

TO ARCHITECTS.

AN ASSISTANT, who is competent to make drawings from rough sketches, copy and trace, and colour perspectives, is open to a RE-ENGAGEMENT.—Address, A. Z. 19, East-street, Red Lion square, W.C.

TO LAND SURVEYORS.

AN Accurate SURVEYOR WANTED, to measure 200 acres of land near London during the first week in December.—Address, SURVEYOR, care of Mr. Hull, 78, Old Broad-street, E.C.

A STAIRCASE HAND, of large practice, requires an ENGAGEMENT, either by the day or piece work. No objection to the country.—Address, T. F. Office of "The Builder."

A YOUNG MAN wants a SITUATION as PLUMBER and GASFITTER. Accustomed to jobbing; can keep accounts, if required. Good references.—Address, N. N. Office of "The Builder."

TO ARCHITECTS, SURVEYORS, AND BUILDERS

A QUANTITY SURVEYOR, MEASURER, and ESTIMATOR, of twelve years' practical experience in the various branches of building, would be glad to treat with a Gentleman requiring such assistance. Terms moderate. Plans, Drawings, Specifications, and Quantities carefully and promptly executed. Highest references given.—Address, S. V. R. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

A THOROUGHLY competent ASSISTANT desires an ENGAGEMENT. Is a good draughtsman, detailer, and accurate, fully acquainted with the practice, in all its branches, quantities, and specifications, and is capable of taking the management of an office.—Address, F. C. F. 80, Rotherfield-street, Lower-road, Islington, N.

A GENT, TRAVELLER, &c.—The Advertiser wishes an APPOINTMENT (to proceed abroad preferred), as AGENT or TRAVELLER, in connection with anything tending to the Fine Arts. By profession an Architect, but from ill-health compelled to relinquish it entirely, the avocations of which he is now desirous of following exclusively the architectural profession. Highest reference concerning position, abilities, &c. — Address, L. K. Post-office, Bath

A GOOD DRAUGHTSMAN, who served his articles to one of the first architects in London, with good testimonials, is open to ENGAGEMENT. Terms moderate. If in London Thoroughly conversant in land surveying and levelling.—Address, D. OLDFIELD, 45, Finchley road, N.W.

A FOREMAN BRICKLAYER WANTS EMPLOYMENT at a JOB, or to take charge of a small business, or to look after materials. Is well acquainted with pointing, repairs, fire-work, &c. Understands drawing and mensuration; can use the trowel for sketching to the country. Would not object to the town.—Address, A. B. Mr. Mear's, Westham-lane, Stratford, Essex.

TO PLUMBERS AND BUILDERS.

A YOUNG MAN is in want of a SITUATION as PLUMBER. Has served his time in a first-class shop. Can also turn out painting, and glazing if required. Wages moderate. Good reference.—Address, E. C. 27, New street, Prince's-road, Lambeth.

AS SHOP FOREMAN of JOINERS.—WANTED, an ENGAGEMENT, by a person of considerable experience in the above capacity.—Address, F. E. 12, Gloucester-crescent, Islington-green, N.

TO ARCHITECTS AND SURVEYORS.

A THOROUGHLY COMPETENT ASSISTANT desires an ENGAGEMENT in an office. Is conversant with taking out quantities, estimating, pointing, perspective, and finished drawings. Speaks French fluently.—Address, X. X. X. 239, Maida Vale, Paddington, W.

A FULLY-COMPETENT PAINTER, Paperhanger, Distemperer, &c. requires EMPLOYMENT. Is capable of taking charge of work, or a business if necessary. Also an experienced man as FOREMAN, or to conduct a business. Twenty years reference. Town or country.—Address, AMIGO, Mr. Ager's, 86, Park-street, Regent's Park, London.

TO ARCHITECTS AND SURVEYORS

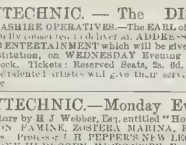
AN efficient ASSISTANT, thoroughly versed in construction, and generally qualified to prepare designs, details, specifications, &c. desires to ENGAGE himself, temporarily, or otherwise; or to render occasional aid on mutually advantageous terms.—Address, C. D. Burn's Library, Kennington-green, S.

A SUPERIOR DRAUGHTSMAN wishes an APPOINTMENT in an Architect's Office. First-class references.—Address, 49 Church End, Finchley, N.

POLYTECHNIC. — The DISTRESSED LANCASHIRE OPERATIVES.—The EARL of SHAFTESBURY, K.G. has kindly consented to deliver an ADDRESS on the occasion of the GRAND ENTERTAINMENT which will be given for their Benefit at this Institution, on WEDNESDAY Evening next, the 26th, at SEVEN o'clock. Tickets: Reserved Seats, 2s. 6d.; Gallery, 1s. The whole of the talented artistes will give their services gratuitously on the occasion.

POLYTECHNIC.—Monday Evening next, a Lecture by H. J. Webber, Esq. entitled "Home Life in Russia." The COTTON FAMINE, ZOSPERA MARINA, FLAX, JUTE, and other Fibres. Professor PEPPER'S NEW LECTURE, illustrated with the OXY-HYDROGEN MICROSCOPE, Experiments, and an entirely New Series of Dissolving Views, designed and painted by J. A. Bernard, Esq. New Musical and Humorous Entertainment, by G. A. Cooper, Esq. entitled "The Seven Ages of a Great City." Engagement of the London Vocal Quintett Union.—Artistes: Miss Leffler, Miss Rose Hersee, and Messrs. Carter and De Fontanier. Conductor: Mr. F. O Williams Herr Wickler, the Wonderful Calculator. Master Hamilton, the Juvenile Wilson of Scottish Song. Experiments by J. L. King, Esq., illustrating "Sub-marine Warfare, and the Means of Rendering Readers from Iron Ships." The Laboratory is always open for Experiments and Analyses.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH.
Near Astley's Theatre.

Respectfully inform the Public that their Illustrated Price List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments, Rail Rules, by the best makers, always in stock

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.
Only Medal awarded for "excellence of construction in Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED Registered as "The Engineer," "Railway," and "Practical Mechanic's Journal" 42-inch, 6s. 6d. and 7s. 6d.; 31-inch, 5s. 6d. and 6s. 6d.; 23-inch, 2s. 6d. and 3s.

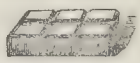
Mathematical Instruments of every description for the Drawing Table, and Highest finish, to order.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use. Lists of Prices on application

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d. post free,
STANLEY'S IMPROVED DRAWING PEN.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT, For Damp Walls, Arches, Tanks, Bridges, Floors, DOWGATE HILL, London; and 2, GOREE PIAZZA, Liverpool.

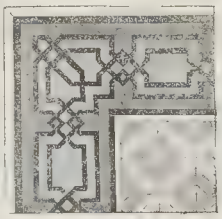
POLONCEAU and LIMMER ASPHALTE.



ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of pits preventing the accumulation of moisture. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.



SOLID PARQUET FLOORS, ARROWSMITH'S PATENTED, From 1s. per foot, in various woods, inch thick, grooved, ongued, and keyed together, not veneered

For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.

SHOW ROOMS, 80, New Bond-street, W.

TO PUBLIC COMPANIES, SURVEYORS, BUILDERS, CONTRACTORS, AND OTHERS.

C. PROCTOR, of 18, Jubilee-street, Mile-end, begs most respectfully to inform the above, in town or country, having any OLD MATERIALS to DISPOSE OF, that he is at all times prepared to offer the HIGHEST PRICE and bear the ground in the shortest possible time, to the entire satisfaction of all parties concerned. All letters punctually attended to. Distance no object, and cash down

TO PERSONS of NEGLECTED EDUCATION and OTHERS — LETTERS PUT TOGETHER and WRITTEN; also petitions, circulars, &c. Circular letters (short) written, 1s. 6d. per dozen. Works executed for authors, &c. at Museum; and manuscripts copied, wills searched and copied; envelopes addressed, 8s. per 1,000; debts collected, French translated, &c. Book-keeping by the week, day, or hour; terms moderate.—Apply to M. M. Mrs. Ireland's, 20a, London-street, Fitzroy-square, N.W.

ARTISTS' IMPROVED STUDIO EASEL. Will take Canvasses from 6 inches to upwards of 10 feet high. Powerful winding-up movement; steady fall-forward ditto. Very complete, simple, strong, and efficacious.—WINSOR & NEWTON, Manufacturers, 38, Rathbone-place, London.

TO ARCHITECTS and OTHERS. TO BE SOLD CHEAP.—ANCIENT STAINED GLASS WINDOW, 4 feet 10 inches by 3 feet 3 inches. Subject, "The Crucifixion," after Vandyk. —Apply to JOHN AGATE, London, Chatham, and Dover Railway Works, Penge, Surrey.

TO BUILDERS

E. SNOXELL (from W. Snoxell's, 90, Regent-street), 28, HALFMOON-CRESCENT, BARNSBURY-ROAD, ISLINGTON.

Every description of Blinds made.
Venetian, painted any colour, 6d. per square foot

BUILDERS' CHRISTMAS ACCOUNTS. A thoroughly practical BUILDERS' CLERK OFFERS his SERVICES for an evening, as above, or in making out bills, taking out quantities, or measuring up works. Terms moderate.—Address, JULIUS, 1, Eden-terrace, Bridge-road, Battersea Park, S.W.

MR. J. T. ROTHWELL, Auctioneer, Valuer, and Estate Agent, has REMOVED from No. 27, Lisson-street, Paddington, to No. 125, GREAT PORTLAND STREET, Portland place, W. Agent to the Imperial Fire and Life Office. Valuations for every purpose throughout the Kingdom

A QUANTITY of BURNT BALLAST for SALE, cheap.—Apply to the Foreman at St. Thomas's New Church, Agar-town, St. Pancras, N.W.

TO BUILDERS, CABINET-MAKERS, and TIMBER DEALERS.—TO BE SOLD, a quantity of well-seasoned MAHOGANY, OAK, and BIRCH. A good opportunity for those that want good dry stuff. Apply, 6, North-row, Park-lane.

TO BUILDERS, GAS-FITTERS, &c.

COCK & JOHNSON, GLASS BENDERS, and Manufacturers of PATENT SILVERED GLASS REFLECTORS (round, or four sided for Desks and Shop Windows) Silvered Glass Lamp Pillars, Globes, Half Globes, Tubing, Chandelier Centres, &c. may be had at the Manufactory, Lower Kennington-lane, S. The usual discount to the trade.

N.B. Hollow Glass articles of any description silvered.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices
MESSRS. HERBERT, MODELLERS, 242, EUSTON ROAD, ST. PANCRAS.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation, with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED in the above, at HALF THE COST OF THE USUAL IRON AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, No. 24, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanised ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

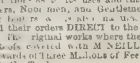
TO CONTRACTORS and OTHERS in want of a really good ENGINE—FOR SALE, price 125l. a capital ten-horse power PORTABLE ENGINE, in good working order, with return flue boiler, mounted on carriage and wheels. May be seen any time by appointment.—Address, Z. A. Office of "The Builder."

FOR SALE, cheap, TWO New Horizontal STEAM-ENGINES, by a first-class maker. Diameter of Cylinder, 7½ inches, length of stroke 15 inches.—Apply to GRIMWOOD, LAIRD, & CO. 15, Cannon-street West, E.C. Estimates for every description of machinery and castings given at the lowest possible rates.

INTERNATIONAL EXHIBITION, CLASS 32, No. 6,521.
ENGLISH AND FRENCH PATENT.
WESTON'S NEW PATENT TORSION SPRING,
For closing or keeping open doors, gates, &c. &c. at different strengths, specially suited for all climates, and adapted for general purposes.
To be had of the principal Merchants and Factors in Birmingham and Wolverhampton; also at No. 62, Coleman-street, City.

FOR SALE, an IRON CHURCH, with FITTINGS, at CAMBRIDGE HEATH, Hackney.—This first-class structure, capable of seating about 850 people, is now FOR SALE. The building is nearly new, having been erected only a little more than twelve months. Tenders will be received up to the 3rd of JANUARY, 1863. The Committee do not bind themselves to accept the highest or any Tender.—To view, and for conditions of sale, apply to Dr. LEONARD, 14, Critchill place, New North-road Hoxton, N.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's  Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON, Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been awarded, and OBTAINED THE PRIZE for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's Show at Battersea Park. Its advantages are health, warmth, durability, and economy. It is unaffected by sun and wet, and will not crack, blister, or peel. The Felt can be cut to any length, by 32 inches wide. The price is 2½d. PER SQUARE FOOT. Samples, with Pamphlet containing its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the country on receipt of Post Office Order for 2s. 6d. Each Sample can be obtained by which a saving of about 25 per cent. in the first cost will be effected. The TRADE are respectfully solicited to send their orders DIRECT to the FACTORY, as the surest means of being supplied with a genuine article at the lowest possible price. The original works where the above roofing is made are F. McNEILL & CO.'S Manufactory, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CRYSTAL PALACE, CURRAGH, SHORNCLIFFE, and COLCHESTER (upwards of Three Millions of Feet); also the GREAT EXHIBITION BUILDING of 1862, of near One Million Feet. A Liberal Discount allowed to the Trade.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246),

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, **WITHOUT EXTRAS.**

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. — 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1⅛	1⅜	2	2½
„ 2 ft. 6 in. sup.	1⅜	1⅝	2¼	3
4 ft. super...	1⅝	2	2½	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 } per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s. } per cwt.
Anti-corrosian Paint 28s. to 34s. } per cwt.
Linseed Oil Putty .....7s. 6d. } per cwt.
Patent Dryers .....28s. to 42s. } per cwt.

Fine Oak Varnish ... } per gallon.
„ Carriage ... } per gallon.
Linseed and Boiled Oil } per gallon.
Turpentine ..... } per gallon.

Milled Lead in Sheet and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,

GREAT SAFFRON-HILL, HOLBORN,

OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

BEST "PENRHYN" ROOFING SLATES,

SLATE RIDGING, GLAZED SOCKET-PIPES,
TILES, PAVINGS, &c.

Supplied direct from North Wales and Staffordshire, at a few days' notice, in Truck Loads, to any Railway Station.—Prices and particulars may be had by applying to

HENRY BROWN & SONS, MERCHANTS,

GENERAL WOOD-CUTTING MILLS, LUTON, BEDS.

A LARGE STOCK of MACHINE-CUT MOULDINGS and WELL-SEASONED PREPARED FLOORING ALWAYS ON HAND.

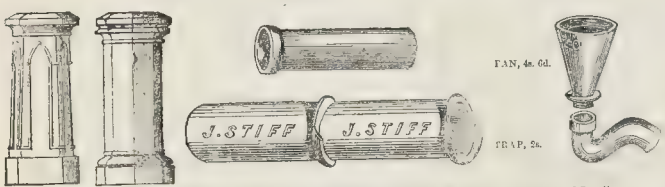
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF SOCKET PIPES same prices as the Whole Sockets, by the use of which, Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High street, Marylebone, London, W.

N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post Office order for 22s.

T. KENT'S PAINTING-BRUSH MANUFACTORY is continued by his Successors,

CROWDEN & GARROD,

Falcon-square, London, E.C.

Where the TRADE is supplied with the same superior quality that made the name celebrated.

N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.

Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO. And are manufactured solely by G. B. KENT & CO. at 11, Great Marlborough-street, London, W. Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.

HAMILTON & CO.

No 10, GREEK STREET, SOHO-SQUARE, LONDON, W.

Sole Manufacturers of C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.

Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Grainers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared ready for graining every description of wood in all their purity of tone and colour, the same as used by himself.

Full particulars forwarded on application to his sole Agents,

GIBBINS, BROTHERS,

VARNISH and FINE COLOUR MAKERS and IMPORTERS,
20, LONDON WALL, E.C.

Where also may be obtained their CELEBRATED STAINS for EVERY DESCRIPTION of WOOD, Together with all kinds of Colours and Varnishes, Warranted of the purest Quality and at the lowest Prices.

Agents for Kershaw's Graining Machines.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s per cwt.
Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s 10d. per gallon.
Turpentine, 10s per gallon
Fine Pale Oak Varnish, 9s. per gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest price.

COLOURS and VARNISHES at REDUCED PRICES,
Genuine White Lead, 28s. per cwt.; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10d.; Turpentine, 10s. per gallon; Fine Pale Oak Varnish, 8s. per gallon, for cash, at P. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH. The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of the Pre-historic coverings. MAW & CO'S Pattern book, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c. Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Thirties," Tunstall, Staffordshire, as the first of the kind in the world

MINTON & CO. HAVE REMOVED FROM ALBION-PLACE, BLACKFRIARS, TO 50, CONDUIT-STREET, REGENT-STREET.

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 9s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
⅝ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅝ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	15s.	15s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

MOULDING WORKS.

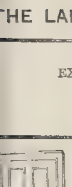
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

eg to inform their Friends and the Trade generally that, having extended their Premises and increased their fachinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from hose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S INN LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

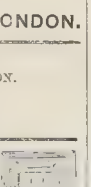
CLERIHEW & LASCELLES
(LATE WATERLOO, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DESPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.
JEFFS, BROTHERS,
CORNWALL ROAD, AND STAMFORD STREET, LAMBETH, S.
N.B. Price List on application.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Works as fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.
Sashes and Frames, Boxing shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.



JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by
J. MILLS,
10, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS, AND CARPENTERS, AND OTHERS,
Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.				Laths, 28s. per Load.	
Yellow Deals, sound and good	£19	10	0 per 120, or Os. 3½d. per foot.		
Spruce Deals	16	10	0 „	0 2½	„
Yellow Battens, excellent quality	11	10	0 „	0 2	„
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 „	3 6	each.

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.
CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅝-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1¼-inch „	0s. 0d.	18s. 0d.	19s. 0d. „

Yellow Deals, 3 by 9 ..... £19 10 per 120.
Yellow Battens ..... 11 10 „
Spruce Deals ..... 16 10 „
Pine Planks (dry), 3 by 11 ..... £24 0 per 120.
Pine Deals, ditto, 3 by 9 ..... 16 10 „
½-inch White Matched Lining ..... 0 13 per square.
J. TERRY & SON, 109, Borough-road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

,000 Dry Prepared Flooring Boards .. .. }	from 11s. 6d. per square
,000 Pine Planks	from 3s. 6d. each
,000 Yellow Deals	from 3s. 3d each
,000 Spruce ditto	from 2s. 9d. each
5,000 Yellow Battens	from £11 10s. per 120
50,000 Feet Spanish and Honduras Veneer ..... }	from 1d. per foot
Maple ditto	from 1d. per foot.

SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

JOINERY WORKS,
21, HARRINGTON-STREET, HAMPSTEAD-ROAD, N.W.
NEVIL SIMMONDS,
SHOP FRONTS, SASHES, DOORS, &c.
Price Lists and Estimates on receipt of Stamp

LATHWOOD.—Best and largest Stock of
PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to
inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,500 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—
Yellow Deals, from 3s. 3d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 3½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

THE VILLAGE CLOCK.—
A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete.
Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,248.
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and
CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 „
Ladies' or Gentlemen's Gold English Lever Watches	15 „
Strong Silver Lever Watches	5 „
Gentlemen's Gold Compensation Balance Watches	40 „
Do. Silver do.	25 „
Marine Chronometers	35 „

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

STRINGFIELD and BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & B. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD and BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
13, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

THE KEYNSHAM BLUE LIAS LIME and
CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

PORTLAND, ROMAN, and PLASTER
CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from their Lime Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TAYLHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT

GEORGE ALLEN (late W. & T. N.
GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVERS WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The untburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Carped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order

Post-office Orders payable at Vauxhall or Edgeware-road.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.
Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 46, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire
The Company guarantee the purity of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS.
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Where all the best qualities of the best quality
GREY STONE LIME, CHALK, FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED STOCK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Bath and other WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF, and GARDEN EDGINGS
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, &c. CLINKERS, also DUTCH CLINKERS
BLUE, BUFF, ORNAMENTAL RIDGING and RIDGE TILES, WITH CRESTS BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Lavatories, Dairies Shops, Hall Lea Fireplaces, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY-POTS
TERRA COTTA CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and RUSTICATING, Artificial stone
HAIR, PLASTER, LATHS, SLATES, WILLING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Rail or with despatch
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c
No. 1, SOUTH WHARF, PEARD-STREET, PADDINGTON.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830), is ROBESON, Mount Pleasant, Gray's-inn-road. The cheap country-made article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster unequalled.

PORTLAND CEMENT WORKS
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocking for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour
PAVING TILES in various colours and designs
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cradley, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS

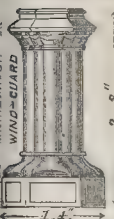
COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STOURBRIDGE FIRE-CLAY WORKS
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, not for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

PORTLAND CEMENT WORKS
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

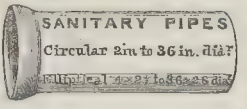
PORTLAND CEMENT
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.

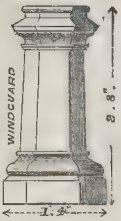


NGHAM & SONS

LONDON WHARF, 64, Bankside, Southwark.



LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CABB, Agent.
LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY,



Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF Nº 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c. Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

MORTAR-MILLS,

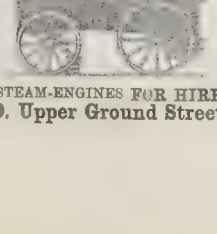
CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

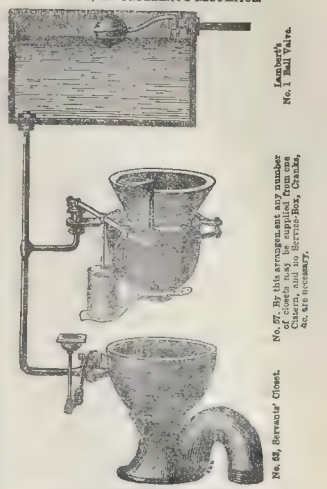
IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,

FOUNDERS, HYDRAULIC AND GAS ENGINEERS, SHORT STREET, LAMBETH.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to

R. MITTAM & CO.

80 and 81, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

GLASS, EMBOSSED, ENAMELLED, AND PAINTED,

To be had at

LONG'S ORNAMENTAL WINDOW-GLASS MANUFACTORY, No. 17, Queen's-road, Bayswater, W. at greatly reduced prices.

Memorial and other Windows designed and executed.

WINDOW GLASS! WINDOW GLASS!

Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate, Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at

GRIBTS CITY GLASS WAREHOUSE,

47, Chiswell-street, opposite Whitbread's Brewery, E.C.

THE PATENT CRYSTAL WINDOW

BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, farm cases, &c. &c, combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS.

JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford street, Manchester. Prize Medallists, Class 34 A, 1862.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

311, REGENT STREET, W.

Adjoining the Polytechnic Institution.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in stating that they have received the following letter FROM SIR RAYMOND JARVIS, Bart. VENICE, Italy, WORTH—Several Testimonials "March, 1861, Tubing [illegible] years after removal fully answering respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers [illegible] Many [illegible] other purposes where [illegible] I [illegible] the most approved [illegible] I am assured that it is [illegible] being [illegible]

N.B. From the testimonial it will be seen that the CORROSIVE WATER of the Island of WORTH has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

TO ENGINEERS AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to SELL by AUCTION, at the WAREHOUSE, adjoining the Wood carving Works, Belvidere-road, Lambeth, on TUESDAY, NOVEMBER 25th, at ELEVEN o'clock, in lots, a COLLECTION of ENGINEERS' TOOLS, many of them quite new, including ten self acting turning and screw-cutting lathes, from 6 to 12-inch centres, beds 7 feet to 25 feet long; two self-acting engine planing-machines, to take 2 feet in width, and 6 feet and 8 feet in length; self acting drilling-machine, two bench and one wall drilling-machines, self acting shaping-machine, five eccentric punching-machines, one hand screwing-machine, twelve sets of stocks, with taps and dies, fifty-six pairs double and treble-purchase iron sheave-blocks, "Gough's," parent portable steam engine and boiler, with 6-inch cylinder, 18 inches stroke; a 6-horse power horizontal steam-engine, 150 feet of turned bright shafting; mortar mill, 11 double and single purchase crabs, lift and force pumps, two jib cranes, pair 4-feet 6 inch mill stones, 250 foot bands, 30 cwt. bright steel wire, 14 gauge, work-benches, fly-press, five grindstones and troughs, pair of circular bellows, cast-steel tools, bar and rod iron, and numerous other effects.—To be viewed on Monday previous and morning of sale, when catalogues may be had, on the Premises; or previously, of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

TO BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY, NOVEMBER 25th, as above, a powerful Self-acting TENONING MACHINE (quite new), by John McDowall & Sons, with cast-iron column and bed-plate, circular saws, adjusting gear, and counter shaft.—To be viewed with the other effects; and catalogues had at 13, Billiter-street, London, E.C.

TO MILITARY GUN MAKERS AND OTHERS

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY, NOVEMBER 25th, as above, a costly RIFLE-LOCK LETTING-IN MACHINE, by EVANS & SON; a Gun-barrel Stock-bedding Machine, and a Gun-stock Grooving Machine.—To be viewed with the other effects; and catalogues had at No. 13, Billiter-street, London, E.C.

TO DRUG AND SPICE GRINDERS, MUSTARD MAKERS, AND OTHERS.

MESSRS. FULLER & HORSEY are instructed to include in the SALE on TUESDAY, NOVEMBER 25, at the BELVEDERE ROAD, Lambeth, a PAIR of GRANITE-EDGE RUNNERS, 4 feet 6 inches diameter, 15-inch face, an 8-hole sifting-frame, 48 silk wire sieves, 3 wrought-iron oil-tanks, and a large mahogany table.—To be viewed with the other effects; and catalogues had at No. 13, Billiter-street, London, E.C.

BOW ROAD Eligible Freehold Building Land

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on FRIDAY, NOVEMBER 28th, 1862, at TWELVE for ONE o'clock, in Seventy-four Lots, the first portion of the eligible FREEHOLD ESTATE, lately occupied by the Merchant Seamen's Orphan Asylum, about twenty minutes' ride from the Bank, on the high-road from London to Stratford. The lots possess frontages to the Row road, and the new roads leading therefrom, called Merchant and British Roads. Omnibuses pass the estate every twenty minutes, and the Bow Railway Station is within five minutes' walk. Nine-tenths of the purchase-money may remain on mortgage or contract, at 5 per cent, to be paid in nine or by half-yearly instalments; but the whole or any part of the balance may be paid off at any time, without notice.—Particulars, plans, and conditions of Sale may be obtained about a fortnight before the Sale, of Messrs. RUSSELL & DAVIES, 59, Coleman-street, London, E.C.; of the Foreman, on the Estate; of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale

CHARING CROSS RAILWAY.—Twenty-fourth Clearance Sale.—Eighth Portion of the Hungerford Market.—To Builders, Contractors, and others.

MR. MARSH, in conjunction with Messrs. WILLIS & HARROW, is favoured with instructions from the Directors to SELL by AUCTION, on the PREMISES, on MONDAY, NOVEMBER 24th, 1862, at ONE o'clock, punctually, in lots, the EIGHTH PORTION of the very valuable and useful MATERIALS of the Hungerford Market, consisting of a public-house, and numerous valuable shops, and lock-up shops in the Hungerford Arcade, comprising capital stock brickwork, Bangor slating, plain and pan tiles, sound timber in roofs and floors, good flooring-boards, panelled and other doors, sashes and frames, plate glass and glazed shop-fronts, lead in pipes and gutters, quantity of York paving, and a variety of useful fixtures and fittings up.—May be viewed the Saturday before the sale, and catalogues had of Mr. MARSH, Charlotte-row, Mansion-house; of Messrs. WILLIS & HARROW, Auctioneers and Surveyors, 3, Newman's court, Cornhill, E.C., and West Molesey, Kingston, Surrey; and of Mr. EDWARD RYDE, Surveyor to the Company, at his Offices, in the London Bridge Terminus.

TO COAL MERCHANTS, LIGHTERMEN, CONTRACTORS, AND OTHERS

PULLEN, HORNE, & EVERSFIELD are directed to SELL by AUCTION, on the PREMISES, Providence Wharf, Belvedere-road, Lambeth, on THURSDAY, NOVEMBER 25, at TWELVE for ONE, the TRADE EFFECTS, consisting of 9 powerful cart horses, 2 coal waggons, 2 4-ton and 2 2-ton vans on springs, 3 weighing machines and weights, chaff-cutting machine, planks, ladders, shovels, and the usual implements; also 12 open barges, varying from 35 to 65 tons, watermen's skiff, barge flags, oars, and coal bruiser, and other effects.—May be viewed the day previous, and Catalogues had at the place of sale; also at the Coal Exchange; and of PULLEN, HORNE & EVERSFIELD, 40, Parliament street, S.W., and 81, Fore-street, E.C.

LONDON, CHATHAM, and DOVER RAILWAY.—Metropolitan Extension.—Furniture, Trade Fixtures, and Effects of a large Dwelling Establishment, Newington-causeway.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors to SELL by AUCTION, on the PREMISES, on WEDNESDAY, NOVEMBER 26, and following day, at TWELVE, the whole of the TRADE FURNITURE, FITTINGS, and UTENSILS of a large DRAPERY ESTABLISHMENT, Nos. 46, 49, and 50, Newington-causeway, extending in the rear to Tiverton-street, comprising 3 iron bedsteads, with bedding, mattresses, and bedding, 3 blankets and coverlids, 100 sheets, washstands, dressing-tables, drawers, dining-tables, expensive tell-tale clock by Thwaites, bagatelle table, 1700 feet super. of flooring and other counters, ranges of mahogany-fronted shelves and drawers, panelled enclosures, glass cases, 2 safes and other chairs, capital Bramah safe by Marr, 6 feet by 3 feet; mahogany desks; gaseliers, outside reflecting lamps, and other gas-fittings; 1,000 feet of gas pipe, fittings of lavatories, large chimney and shop glasses, 600 covered drapery and lace boxes, leather fire buckets, kitchen utensils, crockery and glass, stoves, cisterns, and numerous effects.—May be viewed the day previous. Catalogues had at Mr. VIGERS's Offices, 5, Frederick-place, Old Jewry; and of PULLEN, HORNE, & EVERSFIELD, 40 Fore-street, E.C., and 40, Parliament-street, S.W.

STRAND HOTEL.—FIRST CLEARANCE SALE of BUILDING MATERIALS, &c. comprised in the premises known as the Lyons Inn, Strand, to clear the site for the Strand Hotel.

MR. JOHN ROBERT FOWLER will SELL by AUCTION, on the PREMISES, on WEDNESDAY, DECEMBER 3rd, and following day, at TWELVE for ONE each day, the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS, of the House and Hall, comprising good sound bricks, quantity plain tiles, prime timber in roofs and floors, partitioning, doors, wainscoting, floor boards, sashes and frames, cupboard fronts, chimney-pieces, stoves, lead gutters, pipes, and pumps, finished stone coping flags, and numerous effects.—May be viewed; and catalogues had on the Premises; of the Architect, 32, Fleet street, E.C.; and of the Auctioneer, 24, St. Swithin's-lane, E.C.

BERMONDSEY.—Important to Builders an l Others. 19,000 Pieces of Paperhangings and Effects

MR. KEMP has received instructions from the Sheriff to SELL by AUCTION, at the Factory, Starcorner, Bermondsey on WEDNESDAY and following day, at ONE without reserve, the above large stock of superior PAPERHANGINGS, suited to all classes of buildings.—On view the morning of sale; and catalogues had at the Auctioneer's Office, 27, Coleman-street, E.C.

TO BUILDERS, PLUMBERS, IRONMONGERS, AND OTHERS.

MR. W. HOLLINGSWORTH will SELL, on MONDAY next, NOVEMBER 24th, at TWELVE o'clock, at the Saleroom, 14, High Holborn, the STOCK-IN-TRADE of a BUILDERS' IRONMONGER; also a lot of superior Stable Fittings, in enamelled mangers, with water-troughs and hay-racks, harness-brackets, stable-barrows, corn-bins, 600 iron cattle-hurdles, 30 cwt. iron rivets, 4 tons white lead, 100 gallons turps and varnishes, 6 cwt. dry and ground colours, and other articles used in the building trade. View and catalogues on Saturday.

TO BUILDERS, CABINETMAKERS, CARPENTERS, AND OTHERS

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, Camden-terrace, Camden-town, on MONDAY, NOVEMBER 24th, at TWELVE for ONE, 2,500 Yellow and White PLANKS, DEALS, and BATTENS, 2,000 feet sale pine, 900 cut deals and battens, 170 squares of flooring, quartering, 1,000 feet the square 1-inch best mahogany, 1,800 feet of mahogany, alder, 200 square feather edge boards, 8 quarters of match boards; cart, harness, &c.—Auction Offices, 2, Cardington-street, Hampstead road, N.W.

TO CAPITALISTS, BUILDERS, SPECULATORS, AND OTHERS.—Valuable LEASEHOLD PREMISES TO BE SOLD, under an assignment for the benefit of creditors, situate in Goodman's-yard, Minories, London, surrounded on three sides by property belonging to the London and Blackwall Railway Company, certain to realize a very large profit to the purchaser. For further particulars apply to Mr. JOHN WATTS, 25, Sewardstone-road, Victoria Park.

HORNSEY PARK ESTATE, near Hornsey Station.—FREEHOLD GROUND TO BE LET, on building leases of ninety-nine years. Permission to make bricks on the estate.—Apply to Mr. JAMES LOVEGROVE, Surveyor, Dalston-rise, Hackney, N.E.; or of RICHARD CHIDLEY, Esq. 9, Wellington-chambers, London Bridge, S.E.

TO BUILDERS or CAPITALISTS.—To BE LET or SOLD, a valuable FREEHOLD BUILDING SITE, near London Bridge, having a frontage of about 70 feet to the river, and an area of 10,000 superficial feet. A lease will be granted for a long term at a low ground-rent, or if purchased, two-thirds of the purchase-money might remain on mortgage. Warehouse accommodation, with river frontage, is in great demand in the locality, and very large rentals would be obtained, with a very small outlay.—For further particulars and cards to view, apply to Messrs. WILSON & SCOBLE, 134, Leadenhall-street, E.C.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the healthy, gravelly position. Pretty, and water excellent. The Sacred rock Station is 4 minutes only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Kingston; and some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 2, Cannon-street.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

TO BUILDERS and OTHERS.—For immediate SALE, at less than cost price, ONE or a PAIR of VILLA CARCASES, in the rapidly improving neighbourhood of Kilburn, near the Railway Station.—Full particulars of Mr. C. H. KNAPP, 12, Taunton place, Park road, Regent's-park.

HYDRAULIC LIME and CEMENT WORKS for SALE, within ten miles of Birmingham, with canal branch; lease unexpired, eighteen years; minimum royalty, 100l per annum; yield good in quantity and quality; plant in good condition. For further particulars apply to Messrs. TYNDALL & JOHNSON, Solicitors, 34, Waterloo-street, Birmingham.

MANUFACTURING PREMISES TO BE DISPOSED OF, large, light, and commodious, with stable, yard, two large entrances, loft, office, water-closet, gas and water, well drained, &c.—Address, O. 18, Homer-street, Westminster-road.

TO LIMEBURNERS, CONTRACTORS, and GAS AGENTS.—TO BE LET, and will shortly be vacant, the BORDEAN LIME KILNS, situate 2½ miles from the Petersfield Station, on the Portsmouth Direct Railway. There are rails for two for flare-burnt and two for coal or culm burnt lime, each holding sixty quarters; an unlimited supply of grey, white, and marl chalk. The grey and white chalks are first rate and pure, and well known throughout Hants. An analysis of each will be sent to an applicant, with further particulars, if desired.—Apply to R. H. PAYNE, Esq. Bordean House, near Petersfield.

WEST MALVERN PARK.—This ESTATE is now laid out for the ERECTION of PRIVATE RESIDENCES, and lithographed plans and printed particulars may be obtained of Mr. HENRY WEBB, Surveyor, Worcester; or G. MANSFIELD, Esq. Solicitor, Ledbury.

ACCIDENTS ARE UNAVOIDABLE. Every one should therefore provide against them. THE RAILWAY PASSENGERS' ASSURANCE COMPANY Grant Policies for Sums from 100l. to 1,000l. assuring against ACCIDENTS OF ALL KINDS. An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6s. to the Assured while laid up by injury. Apply for Forms of Proposal, or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C. 102,817l. have been paid by this Company as COMPENSATION for 56,878 Fatal Cases, and 45,939 Cases of Personal Injury. The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS. Empowered by Special Act of Parliament, 1849. 64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

BRICKS.—New White, Red, and Black Facings, of superior quality. Red, White, and Black Cutters. Fancy Moulded Bricks of many patterns. Best hard kiln burnt Common Bricks, in large quantities. Do. 6 inches. Do. Culvert Bricks. Plain Tiles of kinds. Plain and Fancy Ridge-tiles, &c. Delivered on board craft in the Dock at the East Cowes Park Kilns Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING. BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines Price, including royalty, 75l. Licenses to Manufacture granted for certain districts. For particulars, apply to BUNNETT & CO. Engineers and Founders Deptford, Kent, S.E.; and 17, Queen-street, London, E.C. The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 5, No. 1,810.

BRICKS, PANTILES, AND PAVINGS. J. H. ANDREWS, Wisbech, Cambridgeshire, offers Red Pantiles, at 47s. 6d. per 1,000. " 8-inch Pavings, at 57s. 6d. per 1,000. " Tile Pavings, at 40s. per 1,000. Mingled Kiln Bricks, at 36s. per 1,000. Ridge Tiles, at 75s. per 1,000. Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 20,000 Bricks lying at Devonshire-street Station, at 24s. per 1,000.

A NEW BRICK and LIME WHARF, and DRAWDOCK. JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam-Wharf, Wapping, E. has opened the VICTORIA WHARF, NINE ELMS, S. For the Sale of Building Goods generally. BRICKS, TILES, SLATES, LIME, CEMENT, HAIR, LATHS, PLASTER, SAND, BALLAST, GLAZED DRAIN PIPES, AND RED GOODS; TERRA-COTTA; SPLAY, JAMB, AND COPING BRICKS; SUFFOLK AND OTHER PAVIORS; STAFFORDSHIRE AND FIRE GOODS; MALM CUTTERS, PICKINGS, &c. A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINE, and SPIRIT WARRANTS. BANKRUPTS' and INSOLVENTS' CASES CONDUCTED. Balance-sheets Prepared, and Meetings of Creditors Convened Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION (Incorporated by Act of Parliament, 1860), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advances can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or expenditure for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope. EDWARD HARPER, Secretary.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c. For prospectuses, apply at the Estab lishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10 There are no extras. The terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO ARCHITECTS AND SURVEYORS. GUYER & COMPANY, Lithographers and Printers, Grocers' Hall Court, Poultry, E.C. beg to invite attention to the resources of their Establishment as above, for LITHOGRAPHING and COPYING BILLS of QUANTITIES, Specifications, Detail Drawings, &c. &c. Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly engaged on the premises, they are enabled to guarantee superiority of style, correctness, and expedition. Specimens and Lists of Charges, post free. N B. Any number of copies of quantities or specifications lithographed in a few hours, and if the drafts from the country be received by the morning's post, the copies required can be returned the same evening.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, HOUSE PROPRIETORS, &c. &c.—The Waterproof Glue makes an admirable cement for wet foundations, to prevent water rising, and the Varnish will enable damp walls to be papered over directly. Copy of a letter from Mr. T. E. Owen, architect, Southsea:— "I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The varnish has succeeded better than any article I have known as an outside, the damp wall being coated with it before papering or painting. If the plastering be sodden and rotten, it should first be substituted with cement. I have used this material successfully for tank-work." To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos-street, Portsmouth. Mr. GEO. WEEKS, Manager. GEO. C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where applications for application can be seen.

GLUE.—PRIZE MEDAL, 1862 PROCKTER & BEVINGTON are compelled (in consequence of many imitations), to acquaint dealers and consumers, that they are the ORIGINAL and ONLY manufacturers of IMPERIAL GLUE who have obtained a Prize Medal.—Sold by all respectable ironmongers and oilmen Works: No. 124, Grange-road, Bermondsey, London, S.E.

GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Regilding in all its branches to the trade. 4-inch Gilt Bands, 7s. per dozen 6-feet lengths best ditto, 12s. G. REES, 57, DRURY LANE, Four doors from Drury-lane Theatre. Established in 1800.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul Covent-garden, both in the County of Middlesex.—Saturday, November 22, 1862.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1034. NOVEMBER 29, 1862. PRICE FOURPENCE. *By Post*, 5d.

ILLUSTRATIONS.

New Buildings, Christ Church, Oxford.—Mr. T. Newenham Deane, Architect 837
Sketches in Manchester: Back Slums in Salford, near Mr. Turner's Mill: Where the Looms were formerly 838
Sketches in Manchester: Back-to-back Houses behind Hardman-street, Manchester: How to keep out the Air 849

CONTENTS.

Sanitary State of the Cotton Districts 849
The Stephensons 851
Voluntary Architectural Examinations 852
The Society of Painters in Water Colours in Winter 853
Water-colour Painters' Lancashire Relief Fund 853
Damp in Catacombs and Churches 854
Gas and Gas Contractors in Dover 854
The First Volume of the Report of the Census, 1861: Extracts connected with the Metropolis 854
Sanitary Condition of Nottingham 855
St. Peter's New Schools, Preston 855
Albert Memorials 855
Infanticide by Accident 856
Liverpool Architectural Society 856
New Buildings, Christ Church, Oxford 856
Experiments on Concrete Beams 859
Glasgow Architectural Society 859
Proposed Infirmary for Leeds 859
Sanitary Progress —Wigan 859
Builders' Benevolent Institution 859
Metropolitan Board of Works 860
Hastings 860
Provincial News 860
Church building News 860
Stained Glass 861
School-building News 861
Competition 861
Grinling Gibbons's Early Work 861
Perambulators 861
Large New Trees in Kent 862
What do we know in Astronomy? 862
The Fall of the Viaduct on the City and Hammersmith Railway 862
The "Builder's" Fire 862
To Destroy Fleas in Floors. 862
Lambeth Bridge Wire Ropes 862
Ecclesiastical Crosses 863
Alleged Discovery of Lead 863
Books received: Maynard on Crumlin Viaduct (Weale); Parlour Gardener (Low); Diaries and Calendars 863
Miscellanea 864

BUILDERS' BENEVOLENT INSTITUTION.

—An ELECTION of THREE PENSIONERS (two males and one female) was held on the 19th instant at the London Tavern; HENRY LEE, Esq. President of the Institution, in the chair.

SUCCESSFUL CANDIDATES:—

JAMES NOBLE	3,014
GEORGE GRAYSON	2,630
CHARLOTTE SMITH	1,101

The others were

W. Taylor	2,068	R. Langstaff 130
T. Hammond	2,069	Mary A. Chirnside 1,083
W. Standfast	492	Charlotte A. Deacon 978
W. Goodwin	787	Eliz. Elford 209

28th November, 1862. A. G. HARRIS, Secretary.

SHEFFIELD SCHOOL of PRACTICAL SCIENCE and METALLURGY.

PRESIDENT.

His Grace the Duke of Devonshire, K.G. F.R.S. D.C.L. Chancellor of the University of Cambridge.

VICE-PRESIDENTS.

The Mayor of Sheffield, John Brown, esq.
The Master Cutler
The Right Hon. Lord Wharncliffe
Sir David Brewster, K.H. D.C.L. F.R.S.L. & E. M.R.I.A.
Sir Roderic Murchison, F.R.S. Director of the Royal School of Mines
John Percy, esq. M.D. F.R.S. Professor of Metallurgy in the Royal School of Mines.
William Fairbairn, esq. C.E. F.R.S.
Robert Hunt, esq. F.R.S. F.S.S. Keeper of Mining Records.
Warrington W. Smyth, esq. M.A. F.R.S. Professor of Mining and Mineralogy in the Royal School of Mines.

LITERATURE.

The Rev. G. B. Atkinson, M.A. Principal of the Collegiate School; late Fellow and Assistant Tutor of Trinity Hall, Cambridge.

PROFESSORS.

Chemistry, Metallurgy, and Geology—James Allen, Ph.D. F.C.S. of the Universities of Giessen and Berlin.
Engineering and Mining—J. Thompson, C.E.
Mathematics, Natural Philosophy, and Applied Mechanics—Rev. G. B. Atkinson, M.A.

The Sheffield School of Practical Science and Metallurgy will afford a complete scientific and practical education to students who are destined to become civil, mechanical, or mining engineers, or manufacturers of any kind. Its object is thoroughly to discipline the students in the principles of those sciences upon which the operations of the Engineer, the Chemist, or Metallurgist depend.

The education will be given by means of systematic Courses of Lectures, by Catechetical Class Instruction, by Practical Teaching in the Laboratory and Drawing-room, and occasionally by Field Excursions.

The School of Practical Science and Metallurgy will be conducted at the Buildings of the Sheffield Collegiate School. The two Institutions, although both under the superintendence of the Rev G. B. Atkinson, Principal of the Collegiate School, are, however, entirely distinct.

A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c., may be obtained by application to the Director.

THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

WATER-COLOUR PAINTERS' LANCASHIRE RELIEF FUND.—To the PUBLIC.—The Committee have much pleasure in calling attention to the LIST of ARTISTS who, up to the present time, have consented to give one or more Paintings to the Exhibition in aid of the Distressed Operatives. The collection will be exhibited in London, Manchester, and Liverpool, and will, at the close of the Exhibition, be allotted amongst subscribers of one guinea each. The whole amount of the collection, including the receipts for admission to the Exhibition, will, after deducting the working expenses alone, be given to the Relief Fund.

JAMES FAHEY, Hon Secretary.

WATER COLOUR ARTISTS' LANCASHIRE RELIEF FUND.—NOTICE to ARTISTS.—The Committee beg to inform Artists who intend to contribute to the forthcoming Exhibition, that the 9th and 10th of DECEMBER next are the days fixed for receiving Pictures; and they are requested to send them on one of those days to the Gallery, No 5, Waterloo place, Pall-mall.

The following Artists have already kindly promised to contribute, but the names of Gentlemen wishing to add to the Collection will be received up to the time of sending in the works.

JAMES FAHEY, Hon. Secretary.

F. Goodall, A.R.A.	Miss Bouvier
E. Redgrave, R.A.	Maddox Brown
George Lance	Miss M. E. Catlow
D. Cox	Astor E. Corbould
George Fripp	R. P. Cuff
G. F. Rosenberg	T. Dalziel
John Absolon	H. Dawson
J. W. Archer	F. R. Delamotte
W. Bennett	A. Desaix
A. Bouvier	Frank Dillon
T. S. Boys	J. Dobbin
G. Campion	R. Dolby
F. Corbaux	T. G. Dutton
L. Corbaux	Miss P. Fahey
T. H. Cromek	E. H. Fahey
J. H. D'Egville	Alex. Farmer
J. W. Dane	W. Gilbreith
Mrs. Duffield	E. Gill
Jas Fahey	Frank Dillon
Mrs. Farmer	N. E. Green
L. Haghe	G. L. Hall
Mrs. F. Harris	E. Hargitt
Mrs. Harrison	F. E. Harrison
E. Hayes, R.H.A.	J. Haylar
J. M. Jopling	T. Hulme
W. K. Keeling	Heawside
G. H. Laporte	G. Hyde
Wm Lee	G Hine
W. L. Leitch	Henry Jutsum
Mrs. Margetts	Miss Lloyd
D. H. McKewan	R. P. Leitch
J. H. Mole	J. H. Leonard
Mrs. Oliver	Sam. Lover
J. G. Philp	W. Lucas
H. C. Pidgeon	G. Mawley
Skinner Prout	Miss Marrone
E. Richardson	W. W. May
T. S. Robins	Henry Meadows
T. L. Rowbotham	W. Morgan
Miss Setchel.	T. Needham
Mr. Smith	J. W. Oakes
Miss Setchel.	Walter H. Paton
Mr. Smith	C. Pearson
H. Toley	J. Peel
C. Vacher	H. J. Pidding
H. Warren	Miss L. Rayner
E. G. Warren	R. Rayner
E. H. Wehnert	S. Rayner
C. H. Weigall	G. S. Shalders
Harrison Weir	W. Simpson
Carl Werner	P. Skelton
J. W. Whymper	B. Smith
W. Wyld	A. H. Taylor
J. M. Vaughan	W. C. Thomas
H. Baker	R. Tucker
B. Beavis	G. Wolfe
Cuthbert Bede	
J. Bouvier, sen.	

3, Waterloo-place, S.W. 27th November.

SOCIETY for the ENCOURAGEMENT of the FINE ARTS, 9, CONDUIT STREET, W. The FIFTH SESSION of this Society will be OPENED with a CONVERSAZIONE, on THURSDAY EVENING, JANUARY 8, 1863, at the Mutual Advantages Life Assurance Offices, 39, Moorgate-street, by the kind permission of the Directors.

The Council cannot undertake the conduct of Public Lectures for the Session, but a Programme of the Papers and Lectures for the Session will be issued in a few days.—By order

HENRY OTTLEY, Hon. Sec.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.—The PRIZE SPECIMENS of 1862 have been REMOVED from the Instrument Examination to the ARCHITECTURAL MUSEUM, and the respective owners are requested to apply for them at the OFFICE ENTRANCE of the South Kensington Museum, on or before SATURDAY, DECEMBER 6th, between the hours of TEN and FOUR. The Council cannot take charge of the specimens after the above date.

JOSEPH CLARKE Hon. Sec. 13, Stratford place, W

Nov. 25, 1862

AUTUMN EXHIBITION of BUILDING INVENTIONS at the GALLERIES of the ARCHITECTURAL SOCIETIES, 9, Conduit-street.—Exhibitors are informed that SPACE may be taken for One Guinea per yard run.—Will be open from NOVEMBER to the end of JANUARY.—Apply to Mr. MOODY, on the premises.

CONTRACTS.

TO RAILWAY CARRIAGE BUILDERS.

The Directors of the Blackburn and Lytham Railway are prepared to receive DESIGNS and TENDERS for about Six First and Twelve Third-class CARRIAGES, suitable for a sea coast railway.—Tenders to be sent in to the Secretary, Mr. T. FAIR, Winckley-street, Preston, on or before the 29th instant.

CONTRACTS.

FARRINGDON CORN EXCHANGE.—

To BUILDERS, CONTRACTORS, and OTHERS.—The Directors will be prepared, at their adjourned meeting on SATURDAY, the 6th of DECEMBER next, to receive TENDERS from all persons willing to CONTRACT to BUILD the CORN EXCHANGE, and ROOMS adjoining, upon the site of the old Dragon Inn, according to the plans and specifications of Mr. John Baker, which will be open for inspection at the Office of Mr. CROWDY, in FARRINGDON, on and after WEDNESDAY, the 19th NOVEMBER instant. The Contractor will be required to enter into the usual Contract, and give security, to be approved by the Directors, for the due performance of the same, and for the completion of the works by a given time. Sealed Tenders, addressed to "The Secretaries of the Farringdon Corn Exchange Company (Limited), Farringdon," to be sent in by TEN o'clock in the morning of SATURDAY, the 6th of DECEMBER next. The Directors do not pledge themselves to accept the lowest or any Tender. GEO F CROWDY, } Secs.
GEORGE J. HAINES, }

Farringdon, 19th November, 1862.

LUNATIC ASYLUM for the COUNTIES of CARMARTHEN, CARDIGAN, and PEMBROKE, and the TOWN and COUNTY of HAVERFORDWEST. To BUILDERS.—The Committee of Visitors appointed for Providing a PAUPER LUNATIC ASYLUM for the Counties of Carmarthen, Cardigan, and Pembroke, and the Town and County of Haverfordwest, are desirous of receiving TENDERS from persons willing to Contract for the Erection of the same, on a site at a distance of one mile and a half from the Town of Carmarthen, according to plans and a specification, which may be seen at my Office, in Quay-street, Carmarthen, on and after the 24th day of DECEMBER next. The party whose Tender for the work may be accepted will be required to enter into a written contract and bond, and to find competent security in a bond for the due execution of the same works. The quantities will be taken out by two surveyors, one of whom is appointed by the Architect, and the charges of such surveyors are to be paid by the Contractor whose Tender may be accepted. Persons desirous of submitting Tenders for erecting the Asylum are requested to send their names and addresses forthwith to D. BRANDON, Esq. the Architect, No. 24, Berkeley-square, London. The Tenders must be delivered at my Office on or before TWELVE o'clock of the morning of the 3rd day of FEBRUARY, 1863, sealed and endorsed, "Tenders for the County Lunatic Asylum."

The Committee do not pledge themselves to accept the lowest or any Tender, and each party must reside in London the names of the sureties proposed by him. By order of the Committee,

CHARLES HENRY HUGHES, Clerk.

Quay-street, Carmarthen, Nov. 8th, 1862

DISPENSARY.—BARNSLEY.—To BUILDERS, MASONS, CARPENTERS, PLUMBERS, and OTHERS.—Persons desirous of submitting TENDERS for the execution of the several WORKS required for the above Institution, viz.—1 Excavator's, Mason's, Bricklayer's, Slater's, Plasterer's, & Warmer's and Timber's Work. 2 Plumber's, Glazier's, Painter's, and Hot Water Work.—may inspect the Drawings and Specifications at my Office, Torquay; or at the House of Mr. MOSS TAYLOR, Cockerham road, Barnsley, on and after the 15th NOVEMBER instant, where also the Quantities can be furnished at 6d. la per Copy, after short notice. Tenders must be delivered at the Church Bank, in Barnsley, under seal, addressed to "J. S. BECKETT, Esq." on or before the 1st DECEMBER next. The lowest or any Tender will not necessarily be accepted.

Nov 1862 EDWARD APPLETON F.G.S.A Architect.

TO GAS ENGINEERS, METER MANUFACTURERS, and OTHERS.—Sewers Office, Guildhall, November 26th, 1862.—The Commissioners of Sewers of the City of London are desirous that the Contract for the Consumption of Coal for the Year ending Michaelmas, 1863, should be entered into by the Corporation, and they hereby give notice that they will meet at the Sewers Office, Guildhall, on TUESDAY, DECEMBER 9th, next, at TWELVE o'clock, to receive PROPOSALS for the SUPPLY and KEEPING in REPAIR of about 1,500 METERS, of different sizes, to test the number of the public gas lamps within the City before the 31st day of JANUARY next. A specification may be seen on application at the Office of the Engineer to the Commissioners, Mr. WILLIAM HAYWOOD, at the Office. No Tender received after TWELVE o'clock on the day of Treaty. Security will be required for the due performance of the Contract.

JOSEPH DAW.

RIVER LEE TRUST.—CONTRACT for DREDGING.—The Trustees of the River Lee are prepared to receive TENDERS for DREDGING OUT and REMOVING MUD, GRAVEL, and other Materials from the Channel of the said River, navigable near Ware and Hertford. Persons willing to Tender may have the specification and form of Tender on payment of 5s.; or can inspect the same by applying to Mr. BEARDMORE, Engineer to the Trustees, at 30, Great George-street, Westminster. Tenders to be sent in on or before the 15th DECEMBER next. The Trustees do not bind themselves to accept the lowest or any Tender. By order of the Trustees,

JOHN MARRIANE, Clerk.

Hertford, November 24th, 1862.

MIDLAND RAILWAY.—To CONTRACTORS and OTHERS.—The Directors are prepared to receive TENDERS for PURCHASE various OLD BUILDING MATERIALS now lying at the Derby Old Station, which may be viewed on application at the Engine-shed, Derby. Sealed Tenders to be delivered at the Secretary's Office, Derby, on or before the 29th DECEMBER next. The Tenders do not bind the Company to accept the highest or any Tender. By order,

Derby, November 20th, 1862. C. N. BROWNE, Secretary.

TO SURVEYORS, &c.—At a Vestry held for the Township of Bicester Market End, in the County of Oxford, it was resolved that gentlemen be invited to send in TENDERS for the VALUATION of BUILDINGS, &c. now belonging to the Inclosure Commissioners, in the said Township, with a view to their sale by auction. Such Tenders must be sent in on or before the 22nd day of DECEMBER next, addressed to me, on or before the 22nd day of DECEMBER next.

Bicester, November 25th, 1862 GEORGE AIREY, Vestry Clerk.

[For remainder of Contracts see next Page.

TO GASFITTERS.—The Guardians of the Poor of the Wandsworth and Clapham Union will meet at the UNION WORKHOUSE, East Hill, Wandsworth, Surrey, on THURSDAY, the 4th day of DECEMBER next, at TWO o'clock in the afternoon, to consider TENDERS for GAS FITTINGS required in the New Wings of the Union Workhouse. Tenders are to be endorsed "Tender for Gas Fittings," and delivered at the Union Workhouse before ONE o'clock. The specification may be seen at the Office of Mr. G. H. PAGE, Architect, Spencer-road, New Wandsworth, S.W. on and after the 27th instant, between the hours of NINE and SIX.

GEORGE FREDK. MERRIMAN, Clerk.

Clapham Common, Nov. 26th, 1862.

TO BUILDERS, IRONFOUNDERS, and CONTRACTORS.—SOUTHMOLTON NEW MARKET.—Parties desirous of TENDERING for the ERECTION of a Public MARKET, Fish-Room, &c., at Southmolton, North Devon, may see the plans and specifications at and after the 4th of DECEMBER next, at the Town Hall, Southmolton, on application to the Borough Surveyor, or any Member of the Committee at any time. Sealed and endorsed Tenders are to be delivered to the Town Clerk, RUSSELL M. RICCARD, Esq., Southmolton, on or before the 8th day of JANUARY, 1863. Two approved sureties will be required for the due and satisfactory performance of the Contract. The Town Council will not bind themselves to accept the lowest or any Tender; and no payment will be made for estimates.

W. F. CROSS, Architect, Queen-street, Exeter.

Dated 26th November, 1862.

TO BUILDERS.—The Guardians of Mile-End Old Town will, on THURSDAY, the 4th of DECEMBER next, receive TENDERS for the ERECTION of certain quiet and other ROOMS adjoining the imbecile wards at the Workhouse. The specifications may be inspected at the Office of Mr. WM. DOBSON, Architect, 5, Mile-End-road, E. Tenders, endorsed, "Quiet Rooms," must be delivered to me before TWO o'clock on the said 4th of DECEMBER. The Guardians do not bind themselves to accept the lowest or any Tender.—By order,

R. J. SOUTHWELL, Clerk.

Workhouse, Bancroft-road, N.E. November 21, 1862.

TO IRONFOUNDERS and OTHERS.—HASTINGS and ST. LEONARDS GAS-WORKS.—CONTRACT for CAST-IRON SOCKET MAIN, &c.—The Directors of the above Company invite TENDERS for about 2,000 yards of CAST IRON SOCKET MAIN, from 15 inches to 24 inches diameter; also for various cast iron connexions. Tenders must be delivered on or before the 19th day of DECEMBER next. The specification may be seen at the Office of the Company, No. 1, Cambridge Buildings, on and after the 3rd day of DECEMBER next, at

A. H. WOOD, General Manager.

Gas Company's Offices, Hastings, November 25, 1862.

TO IRON MANUFACTURERS, IRON-FOUNDERS, BOLT MAKERS, and TIMBER MERCHANTS, &c.—The Directors of the South Eastern Railway Company are prepared to receive TENDERS for the following permanent MATERIALS, viz.:—

10,400 Tons of Double headed Rails.
3,600 Tons of Chairs.
785 Tons of Fish-plates.
600 Tons of Bolts, Nuts, and Washers.
140 Tons of Spikes.
215,000 Sleepers.

Specifications, section of rail, and patterns may be seen at the Offices of the Company's Engineer, London Bridge Station; and Tenders to be addressed to the Secretary, endorsed "Tender for Permanent Materials," to be sent in on or before WEDNESDAY, the 17th of DECEMBER next.

S. SMILES, Secretary.

London Bridge Station, S.E. November 27th, 1862.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—SOUTH LONDON LINE.—CONTRACT 17 WORKS.—The Directors of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the CONSTRUCTION of the intended LINES of RAILWAY to connect the same with the Mid Kent Railway, the North Kent Railway, the Greenwich Railway, the Metropolitan Extension of the London, Chatham, and Dover Railway Company, at or near to the Brixton Station, the total length being 5¼ miles, or thereabouts. The contract will include the execution of all earthworks, viaducts, archways, bridges, streets, roads, and every other description of works necessary for the completion of the intended railway, with the exception of station buildings, and the provision of the permanent-way materials. On and after MONDAY, the 8th proximo, parties proposing to Tender may inspect the plan, section, drawings, and specification, at the Office of the Engineer, Mr. JACOB HOOD, No 7, Parliament-street, Westminster, S.W. where printed copies of the specification, quantities, and forms of Tender will be supplied on deposit of the sum of 2l. for each set. Tenders (upon the prescribed form only) must be delivered to the undersigned, at the London Bridge Terminus, not later than ELEVEN o'clock on the morning of THURSDAY, the 18th of DECEMBER next. The Directors will not be bound, unless they think fit, to accept the lowest or any Tender.—By order,

FREDERICK SLIGHT, Secretary.

Secretary's Office, London Bridge Terminus, 24th November, 1862.

SURBITON IMPROVEMENT ACT 1855. TENDERS are required for the FORMATION of 600 YARDS of 12-inch PIPE SEWER, to commence at a point marked X in a plan deposited at the Office of the Surbiton Improvement Commissioners, and to terminate at the Railway Steps on the south side of the Railway, at a point marked Z in the said plan, and there form a junction with the sewer recently constructed by the said Commissioners. A full specification and plan of the intended works may be seen at the Office of the said Commissioners, Victoria-road, Surbiton, any evening between the hours of FIVE and SEVEN. Tenders to be sent on or before SATURDAY, the 6th day of DECEMBER, 1862. The Commissioners do not bind themselves to accept the lowest or any Tender. Dated this 18th day of November 1862.

JAMES BELL, Clerk to the said Commissioners.

THE MEDAL FOR 1862.
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE MARK.

CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought Iron Tubes

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. The largest and most elegant Assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Packing-cases, Sheds, Theatres, Observatories, &c., suitable to all Climates, Hot or Cold, Iron in town or country), or packed for exportation.

For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leases or Property.

VICTORIA LEAD WORKS, ELIZABETH STREET SOUTH, PIMLICO.
JOHN GORDON, Manufacturer of every description of Plumbers' Work for Builders, Churches, Gas, Paper, Candle, and other Makers; Ornamental Rain Water Pipes, Heads, Hods, &c. Water-closet & Trap Pipes, Lead, &c., each fitted Locks, and cocked & Lead air.

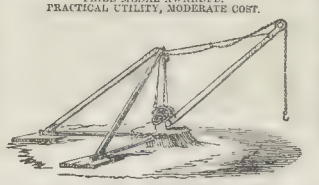
From 5 feet back from the Grosvenor Hotel

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, 4s.; and the New Registered Venetian Ventilator, so much admired, 6s. each.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.

1a, Stanhope-street, Clare-market, London.

PRIZE MEDAL AWARDED.
PRACTICAL UTILITY, MODERATE COST.



HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Crab Winches, all sizes.—For further particulars apply to BOWSER & CAMERON, Springfield Iron Works, McNeil-street, Glasgow.

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 63, Charles-street, City-road, E.C. near the Canal Bridge.
E. GOLLOP, SOLE PROPRIETOR.
A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate-hinges, Rising-hinges, Rising Spring-hinges, Non-rising Spring-hinges, Double-acting Spring hinges, Rising and Non rising Door Back-springs, &c.
Price List and Drawings on application as above

TO BUILDERS, CONTRACTORS, and OTHERS.—BLOCKS, CRAB & CRANES, JACKS of all kinds, and TRAVELLING JENNIES of all sizes, to lift any weight from one to fifty tons.
Manufactured by ELI RICHARDS, 93, New Park-street, Southwark
Foreign orders executed with despatch.
Chain for Slings, Cranes, and Blocks, in lieu of rope; equal to hoist any weight; warranted of the best iron and workmanship, and tested by patent machinery; on the lowest possible terms.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT & CO. 55, High Holborn.

SMALL SQUARING and PLANING MACHINE FOR SALE, adapted for hard and soft wood, 7 feet long by 15 inches square; well adapted for builders, planofortes, or carriage work.—THOMAS ROBINSON & SON, Saw-mill Engineers and Wood-cutting Machinists, 8, Cannon-street, London, E.C.

HART & SON
56, WYCH-ST., STRAND, W.C
AND
20, COCKSPUR-ST. PALL-MALL, S.W.
METAL WORK OF A GOTHIC CHARACTER, FOR ECCLESIASTICAL AND DOMESTIC PURPOSES, CHALICES, PATENS, CRUETS, CANDLESTICKS, CORONÆ, STANDARDS, BRACKETS FOR GAS, OIL, AND CANDLES, MONUMENTAL BRASSES, &c. &c.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 13, Blandford street, Manchester-square, running out of Baker-street, Portman-square, London, W.

COOMBS & McCALL, Dover Iron Works,
Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 104, Great Guildford street, Borough, S.E. inventor of the Rotary Sloop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c
GENERAL IRON FOUNDERS, MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street London, E.C.

COUNTRY ORDERS PROMPTLY EXECUTED.



All kinds of Smiths' Work.

J. MOORE,
WHOLESALE IRONMONGER,
122, EUSTON ROAD
(near St. Pancras Church),
Opposite J. W. Bird's Marble and Stone Works.
THE CHEAPEST AND BEST HOUSE IN LONDON FOR
KITCHEN RANGES, STOVES, NAILS, LOCKS, HINGES, BOLTS,
AND
EVERY ARTICLE OF BUILDERS' IRONMONGERY.
Priced Lists on application.

ESTABLISHED 1846.



Bell-Hanging, Railings, and Balconies.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.
POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,
Awarded a PRIZE MEDAL for Collection of
FIRST-CLASS WOOD-CUTTING MACHINERY,
being the highest commendation attached to any Medal in the same Class.
OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.

CLAYTON, SHUTTLEWORTH, & CO.
ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c,
STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.
Descriptive, Illustrated, and Priced Catalogues free per post.



DRAUGHTS & DUST ROUND DOORS & WINDOWS
EFFECTUALLY PREVENTED BY
GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS
(*Can be had any Length or Pattern*).
The neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work OLD or NEW.
Self-acting Spring Slides for the bottom of doors.
The most imperfect door can be made air tight without re-hanging.
The Trade supplied on liberal terms.
JOHN GREENWOOD, PATENTEE,
10, Arthur-street West, London Bridge.



PRIZE MEDAL—INTERNATIONAL EXHIBITION, STAND 6139.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PAVILIONS. These Inventions are confidently recommended as possessing numerous advantages not to be found in any kindred manufacture.
At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended," being the only prize awarded for any stable fittings in that class.



MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent Aid in Ventilation.
It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours at a cost of Threepence; and deserving of special attention, on account of its safety, healthfulness, durability, and extreme simplicity.

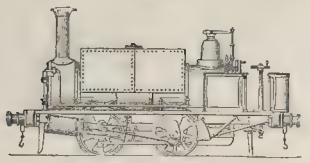


Full particulars will be sent on application to the Inventors and Makers.

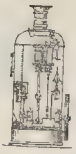
MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

NEW PATENT

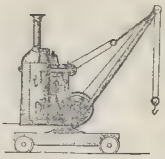
PORTABLE STEAM ENGINES & BOILERS.



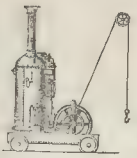
Contractors' Locomotive.



Stationary Engine.



Steam Crane.



Hoisting Engine.



Agricultural Engine.

STATIONARY ENGINES.

THESE Engines require no Chimney-Shaft, nor Building whatever, a Cast-Iron Ash-pit forming the SOLE-PLATE, and they may be set up anywhere and started at once. Being very carefully made of the best materials, they may be perfectly relied on to work satisfactorily and, from their self-completeness, they may be erected and set to work by any ordinary mechanic to instructions supplied. These improved Engines have the great advantage of being applicable to a variety of purposes, the small space they occupy rendering them available where ordinary Engines cannot be used.

PRICES OF ENGINES AND BOILERS COMPLETE.

Delivered Free in Glasgow, Hull, Liverpool, or London.

1	Horse Power,	Cylinder	3½in.	×	6½in.	Stroke	...	...	£45		
2	,,	,,	4½ ,,	×	9	,,	...	...	65		
3	,,	,,	5½ ,,	×	11	,,	...	...	85		
4	,,	,,	6½ ,,	×	13	,,	...	...	105		
5	,,	,,	7½ ,,	×	14	,,	...	...	125		
7	,,	,,	8½ ,,	×	14	,,	...	...	150		
9	Horse Power,	Cylinder	9½in.	×	16in.	Stroke	...	...	£180		
11	,,	,,	10½ ,,	×	18	,,	...	...	210		
13	,,	,,	11⅝ ,,	×	20	,,	...	...	240		
16	,,	,,	13 ,,	×	22	,,	...	...	275		
20	,,	,,	14½ ,,	×	24	,,	...	...	310		
25	,, pair Cyldrs.		11½ ,,	×	20	,,	...	...	370		

Boilers, either plain, dome-shaped, or tubular, with all mountings complete, at half the prices quoted above for Engine and Boiler.

HOISTING ENGINES.

PORTABLE STEAM CRANE for a Wharf or Railway, on Wrought-iron Carriage and Roadway or Railway Flanged Wheels, with Link Motion, Foot Brake, &c., all under the easy control of one man. The Engine and Boiler swing completely round on the central pillar, and counterbalance the load. The Jib is adjustable, and the two larger-sized Cranes are made to hoist, lower, and turn round in either direction by Steam—the two smaller sizes hoist and lower by steam, and twist by hand. These Cranes are made of the best material, finished in the best style, and are *guaranteed in every case to work satisfactorily.*

PRICES, Delivered Free in Glasgow, Hull, Liverpool, or London.

4-H.P., to hoist 35 cwt. pair of Cylinders,			4½in.	diam.	×	10in.	stroke	£190			
5	,,	50 cwt.	,,	5 in.	,,	×	10in.	,,	235		
7-H.P., to hoist 70 cwt. pair of Cylinders,				6in.	diam.	×	10in.	stroke	£285		
8	,,	,,	6 tons	,,		7in.	,,	×	10in.	,,	380

PORTABLE HOISTING ENGINE on Wood Carriage and Roadway or Flanged Wheels, with Crab Winch on front of Carriage. The Engine, Brake, and Disengaging Clutch are under the easy control of one man.

PRICES, Delivered Free in Glasgow, Hull, Liverpool, or London.

2-H.P., Cylinder		4½in.	diam.	×	9in.	stroke, to hoist about	12 cwt.	...	£95		
3	,,	,,	5½in.	,,	×	11in.	,,	,,	17 cwt.	...	120
4	,,	,,	6½in.	,,	×	13in.	,,	,,	23 cwt.	...	135
5-H.P., pair of Cyldrs.			5½in.	diam.	×	10in.	stroke, to hoist about	28 cwt.	£165		
7	,,	,,	,,	6½in.	,,	×	10in.	,,	,,	40 cwt.	195

By a simple modification of the Gearing, any of the above Engines may be made to hoist more or less weight, at a slower or faster rate, according to the requirements of the case.

Prices of Contractors' Locomotives, Agricultural, Pumping, and other Engines, on application.

*** These New Engines (which are in every respect superior to those J. B. B. & CO. formerly sold) are being everywhere very favourably received. They are already successfully working in various parts of England, and numbers have been sent abroad, particularly to the Continent and the West Indies. *They are warranted, in every case, to be satisfactory.*

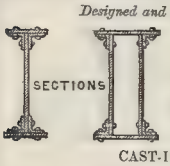
One of the small Stationary Engines will be Exhibited at the SMITHFIELD CLUB SHOW, ISLINGTON, DECEMBER 8TH, 9TH, 10TH, 11TH, AND 12TH, AT J. B. B. & CO.'S STAND, No. 12.

J. B. BROWN & CO. 18, CANNON STREET, CITY, LONDON, E.C.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Birmingham, and Limehouse.

Every description of Iron Work Galvanized.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

THE LONDON LOCK MAKERS IN THE INTERNATIONAL EXHIBITION.

MESSRS. HOBBS & CO. beg to inform Bankers and the Commercial World, that their PATENT LOCK, at the Exhibition was on view from the 1st of MAY to the 1st of NOVEMBER, for any person who could pick it. THIS WAS THE ONLY LOCK EXHIBITED that invited and dared the ingenuity of the mechanician to pronounce fully upon it. Seven days were allowed to examine the interior, and thirty days to operate on the security of the works; yet, during the 188 days the Exhibition was actually open, not one single application was made! In 1851 this Lock was tried for 123 days without the slightest approach towards success.

MESSRS. HOBBS & CO. are Prize Medallists from the Exhibition of America, Austria, and France; and London in 1851 and 1862.

76, CHEAPSIDE, LONDON.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



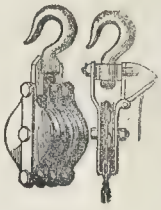
HENRY GOODWIN, JUN.

IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.



CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.

J. TYLOR & SONS' METHOD OF HEATING A BATH FROM THE OPEN FIRE IN THE SAME ROOM.



J. TYLOR & SONS beg to call the attention of Architects and Builders to their

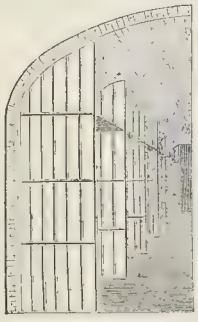
BATH APPARATUS,

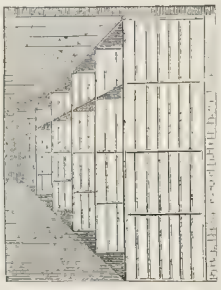
represented in Cut, especially for fixing in finished houses, the work being confined to one room. J. Tylor & Sons have fixed great numbers of this apparatus, which for simplicity of action and durability stands unrivalled. Estimates of every description of Bath or Hot-Water Work given either from drawings or by inspection of buildings.

Illustrated Catalogues to be had of the Manufacturers,

J. TYLOR & SONS, WARWICK-LANE, NEWGATE-STREET, LONDON.

WROUGHT IRON WINE BINS.





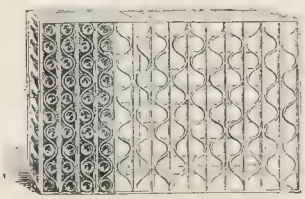
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,

18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

BUSINESS REMOVED TO THE DOVER IRON WORKS, STAPLE STREET, LONG LANE, BOROUGH, S.E.

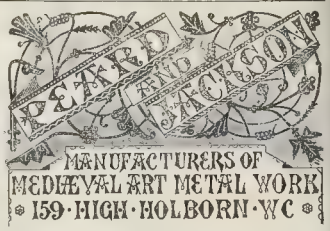
JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W Drawings and Estimates furnished.



Book of Examples now out of print,—revised & enlarged Edition shortly, meanwhile, SPECIAL DESIGNS & ESTIMATES for WROUGHT IRON & BRASS Gates, Screens, Grilles, Altar & Tomb Railings, Hinges, Vanes, Crosses, GAS-FITTINGS,—Brackets, Standards, Gasseliers, Coronæ, &c., and *EVERY* other *DESCRIPTION* of METAL WORK for Domestic & Ecclesiastical purposes: As also for COMPLETELY & EFFICIENTLY Lighting Churches, Chapels & Public Buildings,—including SERVICE PIPES, METERS, &c., will be submitted upon application.

IRON RAILINGS for ENCLOSING

TOMBS and GRAVES.

COMMUNION RAILINGS, SCREENS, GATES, &c.

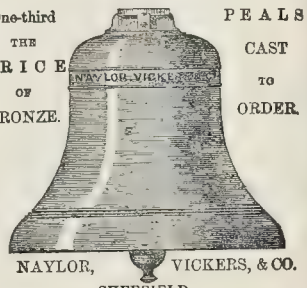
Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,
2, WINSLEY STREET,
OXFORD STREET, LONDON,
W.



CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

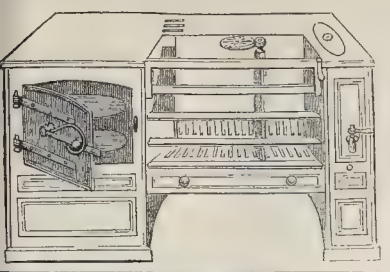
NAYLOR, VICKERS, & CO.

SHEFFIELD.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.

CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innoxious and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c. as well as by use in the bath for promoting and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 1s. 2s. or 4s. each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.

Wholesale of the Patentee, Battersea, Surrey, S.W.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler	
34 inches	54s.	30 inches	22s.
36 ,,	56s.	32 ,,	24s.
38 ,,	58s.	34 ,,	26s.
42 ,,	66s.	36 ,,	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 46s. to 105s. each.

Best Cut Clasp and Rose Nails.				
1-inch.	¾-inch.	2-inch.	2½ inch.	3 inch.
14s.	14s.	13s.	12s	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s per cwt.

	2-in.	2½ in.	3 in.
Cast Rain-water Pipe..	8d.	1s 1.	1s. per yard.

Cast Gutters, 4 in 7d per yard.

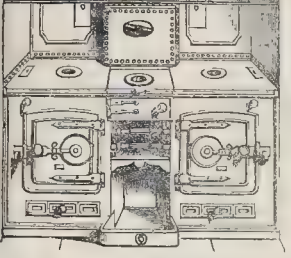
	4 in.	4½ in.
O G Gutters, with Chips on .	1od.	1s. per yard.

	2	3	4	5	6
Patent Line	3s. 6d.	4s	5s	7 .	9s per gross.

6 inch R I Ward Mortice, with best Furniture and Patent Spindles, 2s 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s each.

Brick Moulds kept in stock. Any size made to order.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

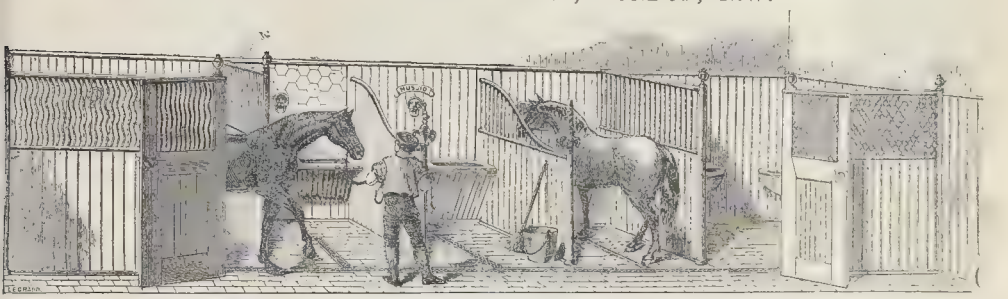
They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15s. to 33*l.* 10s.; Bronzed Fenders, with standards, 7s. to 5*l.* 12s.; steel Fenders, 3*l.* 3s. to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3s. to 18*l.*; Chimney-pieces from 1*l.* 8s. to 100*l.*; Fire-irons, from 2s. 3d. the set to 4*l.* 4s. The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

LAMBERT, BROTHERS,

THE ALPHA TUBE & FITTING WORKS,

WALSALL.
LONDON: THOMAS LAMBERT & SON, LAMBETH.

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

IMPROVED WARM-AIR STOVES, FURNACES, & HOT-WATER APPARATUS
FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS.
KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION.
Manufactured and erected by J. KIRK & CO., Successors to
CUTLER & SONS,
CLARENCE IRON WORKS,
16, GREAT QUEEN-STREET, LINCOLN'S-INN-FIELDS, LONDON.
IRON-FOUNDERS, FURNISHING IRONMONGERS, GAS ENGINEERS, AND BELL-HANGERS.
Orders for EVERY DESCRIPTION of CASTINGS for ENGINEERS and BUILDERS promptly executed.
SPRING ROLLER BLIND MAKERS.
WILLIAM ASHDOWN, Manager.

NO CHIMNEY WANTED
FOR RICKETS & HAMMOND'S PATENT CALORIFERE GAS STOVES,
in Churches, Halls, or Shops; and for Conservatories, or any close apartment,
a Pipe can be attached to carry away the burnt air.



AGAR STREET, STRAND, LONDON.—DISCOUNT TO THE TRADE.

THE PRIZE MEDALS,
(LONDON, 1851. PARIS, 1855. LONDON, 1862.)
Awarded to
COTTAM & COMPANY,
2, WINSLEY STREET, LONDON, W.
For progressive and general improvements in
STABLE FITTINGS AND HARNESS BRACKETS.
PATENTEES AND ORIGINAL INVENTORS OF
THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,
COMMENDED BY THE MOST COMPETENT JUDGES IN THE UNITED KINGDOM.

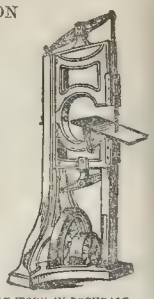


The advantages of these Fittings over others are,—Improvement in shape, increased capacity, no projections, free ventilation, preventing foulness in the rack, facility in fixing, safety from accident, durability in construction, and cleanliness in use.
STALL-FITTINGS TO ANY WIDTH OF IRON ENAMELLED, OR GALVANIZED IRON.
COTTAM & CO. exhibit for inspection at their Iron Works, 2, Winsley-street, W. an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.
ILLUSTRATED CATALOGUES FREE, on application to
COTTAM & CO., No. 2, WINSLEY-STREET, OXFORD-STREET, W.
COTTAM & CO.'s ONLY ADDRESS IN LONDON IS 2, WINSLEY-STREET, W.
N.B.—WINSLEY-STREET IS THE STREET OPPOSITE THE PANTHEON.

CASTINGS AND WROUGHT IRONWORK
OF EVERY DESCRIPTION.
GLOVER, BROTHERS,
FOUNDERS, ENGINEERS, AND SMITHS,
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.
Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.
A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.
Wheelwrights and Contractors—1, Dean-street, Oxford-street, and Parker's-row, Bermondsey.

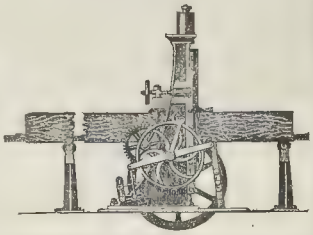
W. HARMER & SON,
BUILDERS, IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.
WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.
WROUGHT IRON TUBE and FITTINGS for GAS or WATER.
CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.
W. HARMER & SON,
3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.
THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE.
LONDON OFFICE, CANNON STREET, E.C.

S. WORSSAM & CO.'S PATENT
PORTABLE DEAL FRAME.



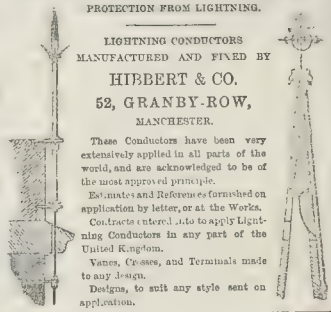
(¼ inch Scale.)
This machine is so constructed as to require no foundations for fixing; it can be driven either from an underground or overhead shaft, or from a portable engine, and is peculiarly useful for builders and contractors.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

LOSH, WILSON, & BELL,
NEWCASTLE ON TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.



SPRATT'S PATENT
BATTERY EXCITATION COPPER LIGHTNING-CONDUCTORS, giving 3 inches of surface. Only 1s. per foot, complete for fixing. Including Guarantee. "Reproducing" Platinum. Silver Alloy Point, Glass Isolators and attachments, forming a Lock, Steel Magnets for latent discharge. Also SPRATT'S NEW ARRANGEMENT for SECURING POWDER MAGAZINES from the possibility of being injured by Lightning; Beer in Breweries from spoiling; Milk in Dairies Souring by electric causes.—Office, 18 and 21, Moulle-row, Holborn. Orders over 100 feet carriage free.—Send for pamphlet.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.
These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.
Estimates and References furnished on application by letter, or at the Works.
Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.
Vanes, Crosses, and Terminals made to any design.
Designs, to suit any style sent on application.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:
Three eighths-inch diameter ..... 1s. 0d. per foot.
Half-inch diameter ..... 1s. 6d. ,,
Five-eighths-inch diameter ..... 2s. 0d. ,,
R. S. Newall & Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.
Offices—130, Strand, London.
,, Gateshead-on-Tyne
,, 27, Dale-street, Manchester
,, 68, Anderston-quay, Glasgow
,, 17, South Castle-street, Liverpool
,, Exchange buildings, Dublin
,, 7, Duke-street, Westminster.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

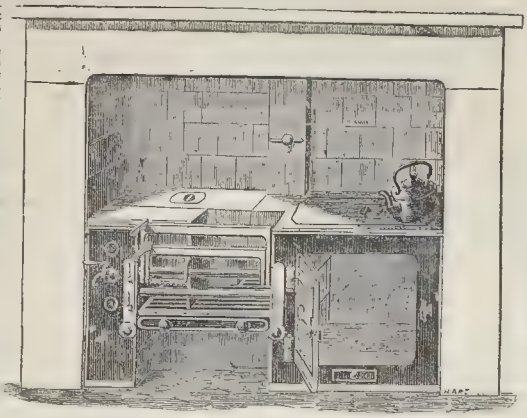
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Cheek, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.

38 & 65, YORK-STREET, WESTMINSTER.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.



NUT



PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershot—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid &c &c or to any design

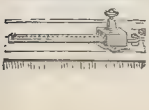
THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

, Illustrations and particulars sent upon application.

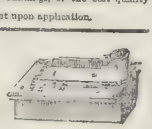






PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE-ACTION DOORS.



PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

GOTHIC, DROP, AND OTHER DOOR HANDLES.



PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



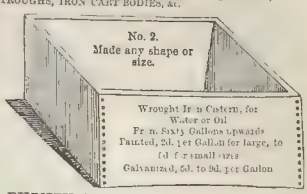
Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

MANUFACTURERS, BIRMINGHAM.

WROUGHT IRON TANKS, CISTERNS,

GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

The Steam-boats from London Bridge call near the Factory.

CANNON IRON FOUNDRY, 156, Goswell-street, St. Luke's.

JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Stable-door Panels, Iron Staircases, Tomb Enclosures, Trellis Paneling, Lamp and other Brackets, Cantilevers, Newel Bars, Water closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Sash-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

CHUBB'S LOCKS,

with all the recent Improvements,

STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.

Complete Lists of Sizes and Prices may be had on Application

CHUBB and SON,

57, ST. PAUL'S CHURCH YARD, LONDON,

28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

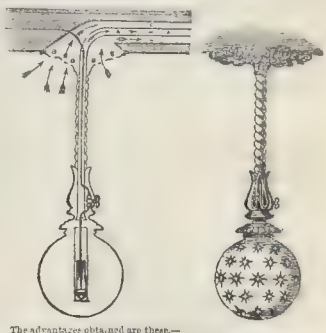
Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

EDWARD DAVIES,

SNOWHILL GALVANIZING IRONWORKS, Wolverhampton, Staffordshire.

RICKET'S & HAMMOND'S VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient simple, and efficient ventilation.



The advantages obtained are these:—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

TO BE SEEN in the HARDWARE COURT, INTERNATIONAL EXHIBITION, Stand 6042, and HARDWARE COURT CRYSTAL PALACE, SYDENHAM, the only PATENT COOKING STOVE that has received THREE PRIZE MEDALS. England, 1851; France, 1855; International, 1862; for a new mode of heating and purifying ovens. Good Workmanship and ECONOMIZING FUEL in Kitchen Ranges.—DULEY & SONS, Manufacturers, Northampton.

SEVEN-HORSE PORTABLE ENGINE

FOR SALE, nearly as good as new, price 105l.

TWO-TON IRON CRANE, with foundation screws, &c. complete, price 45l.

TWO NEW PILE ENGINES, price 14l. the two

Apply to ROGERS & BOOTH, Contractors, Gosport.

MOREWOOD & CO.

(late Morewood & Rogers),

Dowgate Dock, Upper Thames-street, London; and Lion Works, Birmingham Heath, Birmingham.

PATENT GALVANIZED TINNED IRON AND TILES, GALVANIZED IRON,

PLAIN or CORRUGATED, in all LENGTHS of all GAUGES. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST-IRON TILES, PIPE, &c. ALWAYS IN STOCK.

Also, Galvanized Wrought and Cast Iron Sheets, Slates and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.

Estimates for Roofs, Sheds, Stores, &c. of Galvanized Iron or Zinc.

OFFICES and WAREHOUSE, DOWGATE DOCK, LONDON.

CAUTION to ARCHITECTS and BUILDERS.

In consequence of complaints of infringements of the undermentioned INVENTIONS, SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS, SMITH'S PATENT WEATHER-TIGHT WATER BAR, and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING FRENCH WINDOWS,

they are hereby cautioned against infringing the same, as all ENGINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Derby-road, Pimlico, 3, Chester-street, Belgrave-square, London, and WARRANTED

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l*. per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to

THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144, REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES, BURKE, & CO. PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—CARRARA, BRUSSELS, PETERHEAD, and 17, NEWMAN-STREET, OXFORD-STREET, LONDON, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY.
PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS. Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

COLMAN'S MAGAZINE NEXT SATURDAY.

PRACTICAL HINTS on CHAPEL BUILDING.
By the COMMITTEE of the ENGLISH CONGREGATIONAL CHAPEL-BUILDING SOCIETY.
Second Edition. Price One Shilling.
JOHN SNOW, Paternoster-row.

Now ready, in 4to with Twelve Plates, price 12s. cloth,
ON PHOTO-ZINCOGRAPHY and other PHOTOGRAPHIC PROCESSES employed at the Ordnance Survey Office, Southampton.
By Captain A. De C. SCOTT, R.E. under the direction of Colonel Sir HENRY JAMES, R.E. F.R.S. &c.
Published by permission of the Right Hon. the Secretary of State for War
London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

Just published price 2*l.* 2s.
MANUAL of HYDROLOGY.
By NATHANIEL BEARDMORE, Civil Engineer.
CONTAINING—
DIVISION I.—HYDRAULIC AND OTHER TABLES.
DIVISION II.—ON RIVERS AND FLOW; PERCOLATION OF WATER, AND WELLS AND SPRINGS.
DIVISION III.—ON TIDES, TIDAL RIVERS, ESTUARIES.
DIVISION IV.—ON RAINFALL AND EVAPORATION.
The Work consists of upwards of 400 pages, and there are 20 large plates.
London: WATERLOW & SONS, 49, Parliament-street; 24, Birchin-lane; and 65 to 68, London-wall. 1862.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Assistance to Builders, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoked, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

TO CHURCHWARDENS, MILL PROPRIETORS, and OTHERS.—GEORGE FRITH, BUILDER, &c. Coventry, begs respectfully to call the attention of the above parties to his method of REPAIRING CHURCH SPIRES, CHIMNEY SHAFTS, and other elevated structures, without the expense of ladders or scaffolding. Church spires taken down and rebuilt, pointed, repaired, &c. Chimney-shafts repaired, pointed, and new caps fixed. New vanes and all kinds of lightning conductors applied. Estimates given. References from architects, engineers, &c. Circulars illustrating the principle and containing testimonials sent free on application as above.

TO BUILDERS, PUBLICANS, SHOPFITTERS, and OTHERS.—TO BE SOLD, the WHOLE or PART of the FOUR large nearly new modern PLATE GLASS in handsome mahogany sashes, and three pairs of doors, glazed with handsome enriched plate glass, in each sash and the whole of the interior fittings, consisting of the elaborate bar cabinet and counter fronts of partner, glazed with elaborate embossed plate glass, with clock and all complete, which cost over 100*l.*; the two bar partitions and the gas fittings, window boards, &c.; two handsome outside G G lamps, and three lamp brackets, and sundry other fittings. To be seen now, before taken out, at the John of Jerusalem, 1, Rosomau-street, Clerkenwell.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.

One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High street, Marylebone, London, W.

N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.

KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
*** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stippling Brushes, Gilders' and Grainers' Tools.

These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
Turpentine, 10s. per Gallon
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Colesbill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for grailing every description of wood in all their purity of tone and colour, the same as used by himself
Full particulars forwarded on application to his sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purist Quality and at the lowest Prices.
Agents for Kershaw's Graining Machines.

COLOURS and VARNISHES at REDUCED PRICES,
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10d.; Turpentine, 10s. per gallon; Fine Pale Oak Varnish, 8s. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 142 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

MINTON & CO.
HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 50, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE UPON-TRENT.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, CAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.
IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at the Exhibition of Building Inventions, &c now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sudly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tilleries," Tunstall, Staffordshire, as the first of the kind in the world.

SASH WEIGHTS, 5s. per cwt. at Ashton Wharf, Blackwall, and at Hope Wharf, near the Church, Rotherhithe.

The Builder.

VOL. XX.—No. 1034.

Sanitary State of the Cotton Districts.

WE have no hesitation in asserting our firm belief that, with proper drainage, the closing of the cellars as places of residence, the ventilation of certain mills and workshops, and better treatment of children, the death-rate of Manchester might be reduced to the extent of 7 or 8 in the 1,000. In other words, that 2,000 lives a year and more might be saved.

We have already noticed that the death rate of Manchester has declined; and inquiries show that this decrease seems to be in proportion to the extent of the application of sanitary improvements. But, before leaving this part of the subject, it should be mentioned that the death-rate of the Manchester township—the central part, containing the cellar-dwellings, the narrow alleys and courts, in which are houses crowded and ill-drained—is greater than in the Registration district. For instance, in the

	Yearly average of deaths per 1,000 during 1841 to 1851.	Average yearly deaths per 1,000 1851 to 1861.
Registration district of Manchester	33	31½
Township of Manchester	36	34

In Manchester there is much sickness caused by rheumatism and bronchitis. The latter has been partly attributed to the sulphurous fumes of the Lancashire coal. Consumption is also prevalent; and, as might be expected, fever plays an important part. An inquiry at the Infirmary shows that, out of 573 medical in-patients admitted into this institution in the year ending June, 1862, the cases of fever numbered as follows:—Common fever, 20; intermittent, 3; remittent, 1; typhus, 36; typhoid, 86: in all, 146. Scarlet fever, &c., made the number of patients in the fever ward during this year 182, nearly one-third of all the medical cases. Of these fever patients 38 died.

In the same year (1862) the number of surgical in-patients was 414; and of cases of accident received into the house there were 709: but the accidents attended to at home amounted to 4,470. In other ways the relief afforded to the poor of Manchester by this institution is great; for, besides the patients admitted into the house, 3,614 sick persons were visited at their homes; and there was the large number of 23,199 out-patients in the above year. The expenditure was 11,921*l.* 19s. 5d.

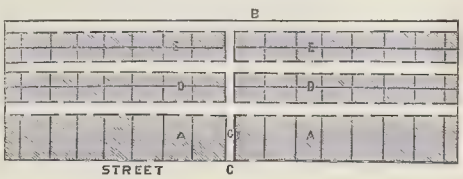
At the time we visited this hospital there were upwards of 1,000 patients within its confines. The walls throughout the interior have been recently scraped and painted, and increased ventilation has been afforded by making numerous openings. This has caused improvement; but it would be impossible to make this building into a healthy hospital. The construction and arrangement seem very bad. It is said that the cost of a new hospital would be about 50,000*l.*; that it would be difficult to obtain another site so convenient as this; and that, if this building were demolished, there would be no means of receiving the sick during the rebuilding. Just now, of course, is not the time for raising the money which would be required for a new structure. But sooner or later, as knowledge extends, the faults of this infirmary will be so evident, that a new one will be required, particularly on account of the large number of surgical and fever cases which are treated here. In the meanwhile, however, particularly at the present crisis, when want, distress, and difficulty are, as each week passes, increasing the number of the sick, it is necessary that the resources of this institution should be largely increased, and such improvements made in it as can be effected.

In a paper by Mr. John Roberton, read before the Manchester Statistical Society, at the end of 1860, the author showed the insalubrity of the Infirmary, as proved by the patients who die there and those who ought to recover and do not. He recommended the immediate erection of a new infirmary outside the city, in which we cordially agree, and the sale of the site of the present Infirmary, now of immense value.

Returning to the central part of Manchester, many persons may have passed up and down Hardman-street for a long time, and not have been aware of the neighbourhood which exists at the rear of the comparatively large houses which face the thoroughfare, and which are occupied, from the cellars to the roof, with numerous families.

The front row of houses is marked A in the adjoining slight plan, and each has a passage through, by which the tenants in the cellars and other parts can pass, and have access to the water-tap and the closets in the inner courts; but for the admission of those who live in the houses D and E, the way is through a narrow passage marked C; in this there is an ash-pit, G, which, at the time of our visit, was in a filthy and neglected condition. Having, with some difficulty and no small disgust, passed through this entrance, about which loitered several idle boys, we found long perspectives running to the right and to the left, of small, miserable-looking two-storied houses, built upon the ground; and what is perhaps even worse than this, erected back to back, so that one half of the block of buildings D D, like the front houses A A, had entrances to the narrow court; the other half had doors and windows towards another narrow court further on; and then the half of the block E E, looked into another alley darkened by larger buildings.

It is not easy to imagine anything much worse than the arrangement of these dwellings. Higher houses around prevent proper currents of air from reaching them. The narrow entrance, C, is choked with filth; and the small houses, D, which are evidently crowded with families of the very poor, are rendered still more unwholesome by the impossibility that exists of sufficient ventilation, in consequence of the dwellings being built back to back. The rooms are very small, and, as is usually the case, no one seems to have thought of ventilating the staircases towards the roofs. The houses E are in the same condition.



Back-to-back Houses behind Hardman Street. How to keep out the Air.

The closets which are provided for the large population which dwell in these premises are so placed that, besides being the cause of pollution, not only in the houses but throughout the neighbourhood, they set at defiance all the rules of decency, and are without doubt the cause of no small amount of moral degradation.

We have no means at hand of obtaining a correct estimate of the number of men, women, and children who struggle for life in this locality, but feel sure that the figures would create general surprise. The children, as might be expected, look sickly and neglected. On asking about their health, here, it is at first said, as is the case elsewhere, that all is well; but on further questioning you obtain a different account. One woman who had previously reported good health, afterwards said—"I have buried two within the year; one of fever like, and the other seemed to pine away;" and in like manner others reported losses.

In various parts of Manchester and Salford there are poisonous nooks, hidden from the observation of most wayfarers, but which should be carefully inspected and kept in order by the officers of health. We give a sketch* of a place near the large cotton-mill of Mr. Turner, one of the Parliamentary representatives of the city. From Chapel-street, Salford—leading towards the entrance of the mill—is a narrow roadway, not very well paved nor cleanly kept; and from this in one part leads a still more narrow passage, in which are some small houses, that are compassed in in a similar manner to those before referred to.

The dirty and neglected condition of this place is discreditable. Children were searching the dust-heap close to the nearly overflowing closet; and what surprised us much was to find a number of pigs lodged in the situation shown in the sketch. The pavement is chiefly formed of broken bricks, and the cement having decayed, it was in a very bad condition; while the smell of the pigs and other matters was so offensive, that we were glad, having finished an unpleasant duty, to beat a hasty retreat.

Besides being in the vicinity of dwellings, this unwholesome spot is close to a great manufactory, in which, when work is to be had, hundreds of persons are occupied, and to them it cannot be good for health to have such a nursery for pestilence close to the windows of a building in which they are engaged for many hours together. Besides attending to the proper ventilation of the interiors of those vast manufactories, it would often be an advantage if the managers were to make a survey of the surrounding neighbourhood, and endeavour to obtain the removal of all improper matters; for the results of ventilation are to a certain extent counteracted if the outer air be poisonous.

We might continue to a much further extent accounts of situations similar to this, which must be well known to the local authorities, and we again say that from those places all closet contents should be thoroughly drained away: the dust, until moved, should be kept in covered receptacles: means should be taken to ventilate the staircases, and if possible the rooms; and limewashing and water should not be spared.

In various parts of Manchester and in the suburbs, we have visited many small houses which are built in more open situations, and find that in addition to the ash-pit and closet system, which is so objectionable, there is a great want of provision of washhouses, and sufficient area for drying clothes. This on "washing days" leads to muddle, confusion, and discomfort, and, what is even worse, forces the women to dry

* See p. 856.

the wet linen in the rooms which are inhabited by families. The mortality, particularly of children, in some new streets, has attracted notice, and to this practice some of the deaths and sickness may be attributed, for the atmosphere of Lancashire is chilly and humid. In addition to this the formation of vapours in sleeping-rooms cannot be continued without injury, and it must not be forgotten that in some instances closets have been provided for the use of each house, and in other cases one for two, three, and four houses; and although this is in one sense an advantage, it also brings the cesspool evil more immediately to a greater number of doors.

In Manchester, in the districts occupied by the poorer classes, the rent of a single room is from 2s. to 2s. 3d. and 2s. 6d. a week; a high price for such small apartments and such inadequate accommodation as they afford. In parts of Salford and in parts of the suburbs, small houses which, but for the faults to which we have referred, would afford respectable and comfortable accommodation for a family, can be had at 4s. a week; and in several directions in the suburbs we met with numbers of small and neatly-finished houses, tastefully papered and decorated inside, and where in nearly all instances the passages and rooms were supplied with gas. These can be had at a very moderate rent. Here, too, along what have been the chief country roads, there have been already built, and many more are in progress, dwellings of a more imposing description, spacious and handsome-looking houses, provided with large ornamental gardens in front and around, and very wide carriage-ways and footpaths between them and their opposite neighbours. In Rusholm, especially, we noticed some tastefully designed and pleasantly situate residences.

In the old parts of this town and in Salford there is a peculiarity in some of the streets which is worthy of notice; these streets are formed of houses which are probably about 150 years old, which remind us of the dwellings occupied by the silk weavers of Spitalfields. The houses are, for the most part, three stories in height above the cellars. We give a sketch of one of them. In the upper stories are large long windows, some of them glazed in lead, in diamonds and small squares: these were evidently intended for the purpose of lighting work-rooms, which were used at a time when the hand-loom had not been superseded by steam machinery. There are other buildings in Manchester on a larger scale—in which are many of those long windows—that in bygone days, before the huge factories and great chimneys were reared, have been considered great manufacturing establishments. The contrast between the old and the new is striking.

When making inquiries in various parts of this town, it is not possible to overlook the great distress which has fallen on a large number of the industrious inhabitants; but, bad as matters are here, the distress is light in comparison with the condition of Ashton, Preston (where fever is increasing), and some places which entirely depend on the cotton manufacture for a livelihood; for in Manchester, besides the cotton, there are carried forward other and very important trades. There are sugar refineries, tool and machine manufactories, iron works, &c.; nevertheless, the distress is heavy, and more or less affects all. The poor-rates are rising, and each week a large part of the poorer shopkeepers are becoming more unable to meet them. We might fill pages with the sad tales we have heard. We met with sober and respectable men who had been for months out of work, and who had not a shirt upon their backs. One man, a machine-painter, had been twelve months out of employment. His condition was deplorable. Women—the mothers of families—and elderly men say for forty years they have never seen the like of it; and yet, although hundreds of homes are stripped of everything which would bring a little money, and the clothes which are worth anything have been parted with, and pinching hunger reigns in the house, we did not hear a word of blame used against any one. There were no complaints against masters, no grumbling against the Government; but, with a sort of patience which cannot be rightly understood unless it has been witnessed, they are thankful to those who are assisting them, waiting in hope that the cloud will pass away. Being reduced to seek parish relief is seemingly one of the parts of their position which is the hardest to bear; and certainly it is a duty of the union guardians to be as tender as possible of the feelings of those men and women; and, when the winter sets in, the already tried patience of the cotton-workers should not be too severely pressed by heavy labour tests. These men, having been accustomed to the atmosphere of heated factories, and to labour which requires but little physical exertion, are, in consequence, totally unfitted for exposure on bleak moors, or to be employed in breaking stones.

We met with several young men who had chiefly educated themselves in the evening schools. These were remarkable for general information and some skill in figures, and wrote a good hand: their character was good; one of them had been enabled by the help of a friend to come to an uncle in London who was foreman in a chemist's works, and who, mentioning the circumstance, found him employment in the same establishment at a salary of about 17s. 6d. a week to begin with. The clergymen, schoolmasters, and others in the manufacturing districts would be able to recommend many young men of this description who might be usefully employed in other ways than in cotton spinning.

Among the most useful institutions in the place is the Manchester and Salford Sanitary Association, which has already done and is still doing a great deal of good. For the purpose of studying the health of their town and neighbourhood, and with a view towards suggesting remedies for existing sanitary evils, a number of gentlemen, most of whom are eminent in science, are banded together. In connexion with this society there is a general committee, and there is also a sub-committee, which takes charge of sections; there is a sub-committee for finance, and others for lectures, the preparation and distribution of tracts, the registration of disease, the important question of infant mortality, the adulteration of food, and cottage dwellings. There is also in Manchester a Ladies' Sanitary Society, which co-operates with this one; and when we see the excellent working of those societies, it suggests the great necessity there is for the formation of others of a similar kind in the towns and populous districts throughout the kingdom.

In London there is a difficulty in a Sanitary Association effectively working, in consequence of the extent of the metropolis; but there might be good work done by formation of societies of this description in each of the London districts, such as St. Pancras, Islington, Marylebone, &c. By this means efforts might be concentrated and rendered valuable as in Manchester, where one of the duties of the association is to act as sanitary missioners amongst the poor and industrious classes. Lectures are delivered in schools, and sometimes in the open air, on such subjects as "How to live," "Home Duties," "The healthful and happy Tendency of Sanitary Laws," "Air," "Pestilence the Consequence of a Violation of the Laws of God and Man," "How to rear a Family," "Water as applied to Health," "Smells," &c. &c. Besides the lectures, several small tracts, earnestly and pointedly written, have been published by the society: these are sold at a small price, and many thousands of them have been already circulated. These will be useful in other places besides Manchester.* One of these tracts is headed, "Hints to Working People about the Houses they live in." This argues the great value of health to the working man, and suggests that, even in the worst conditions, a dwelling might be kept neat and clean; that cleanliness tends to prevent fever, cholera, &c.; and it advises the use of lime-washing. Instructions are given how to manage this, and it tells the small cost of the application. It is recommended that when necessary, wall papering should be entirely removed, and the walls washed. Then follow illustrations, which show the working of sink and other stench-traps, and the danger of neglect. Next, says the tract, "A family cannot be kept in health unless due regard be had to the size of the rooms in which they live or sleep;" and the following plain instructions are given to show the manner of taking the contents of a room in cubic feet:—"Let us suppose a room 10 feet long, 9 feet wide, and 7 feet high. To learn how many *cubic feet of space* it contains, first multiply the length and breadth together (that is, the 10 and 9), which gives 90; then multiply the 90 by the height (that is, multiply 90 by 7), which gives 630. The 630 thus obtained are the cubic feet of space which the room contains." When the size of a room is known, it is next to be considered how many persons should live or sleep in it, and then it is stated that in certain prisons 819 feet are allowed for each prisoner, &c., and points out that if a room only contain 630 cubic feet, and is slept in by a man, his wife, and child, there are only 210 cubic feet for each person. The remainder of the advice given in this tract, respecting ventilation, &c., is conveyed in the same plain manner, so that any one may understand.

One small tract is headed, "What is Man?" In this, the formation of the human body, the bones, muscles, stomach, are clearly explained; the description being aided by little engravings on wood of the human skeleton, &c. Another excellent tract contain hints to working people about preserving cleanliness, in which are magnified cuts of the pores of the skin; a simple contrivance for managing a bath in the homes of the poor, and so on. Another gives useful hints to working people about clothing, and shows the evils of wearing dirty garments for a long time without washing. These tracts, which find their way in thousands into the dwellings of the industrious classes, are sure to lead to improvement.

Painfully aware of the large infant mortality of Manchester, and believing that this is in part to be attributed to the ignorance of mothers in the management of their children, the society endeavoured to meet these evils by issuing cards, giving plain instructions to parents on the subject of "Food for Infants" and "Clothing for Infants," and on "Nursing Sick Children." After much pains and consultation, cards, with the above titles, were drawn up, which contained information on the subjects mentioned. These cards are made somewhat ornamental, and are prepared so that they can be hung up in cottages, and appealed to whenever their assistance is required. In order to make the card upon clothing more useful, the sub-committee communicated with the Ladies' Sanitary Association as to the best forms of dress for infants and older children, and the ladies of that committee kindly undertook to prepare twenty sets of approved patterns of clothing, to be placed in the various districts of Manchester, for the use of those poor mothers who might desire the advantage of them. Besides these operations, the papers read by members of the association have much value. Useful statistics are collected and arranged, and in every respect this society is a credit to Manchester.

In connexion with the drainage of Manchester, it is argued that at present a large part of the refuse of the town is carried away to convenient points, from which it can be conveyed and applied as valuable manure upon the land; and that although a large amount of main drainage has been completed, the expense of communicating with the closets of streets, alleys, &c., would be very great and inconvenient to the owners of the poorer descriptions of property; and that to drain the night-soil into the Irwell and other waters, would so poison the streams that they would in consequence prove pestilential. Moreover, there are some persons who have faith in the wholesomeness of the ash-pit and cess-pool system. Before the health of Manchester will be rightly established, all the above objections must be overruled; and the day must come when this large city will be thoroughly drained, and that in a manner which will not cause the sewage to be without utility. Plans for this purpose have been submitted that would not only drain the town, but also purify the Irwell, which is now blacker and more slimy than we remember to have seen the Fleet-ditch, or Father Thames in his worse state.

Having, since these notes were commenced, made more detailed examinations of many parts of Manchester, and looked with some care at portions of Ashton-under-Lyne, we do not find reason to change the opinions given, that there are in the sanitary conditions of these places sure means of destroying life even in ordinary times, but that, under existing circumstances, there is need for extraordinary precautions to be taken. The great poverty which has come upon a large portion of the working population is driving them into closer and more confined quarters: the short supply of food renders them more than usually susceptible to typhus and other fevers: and it will be found that, in those places where this pestilence breaks out, it will not just now attack those who have been accustomed to long and continued poverty; for the ranks of this class have been already thinned, and the others have to a certain extent become inured to their bad condition; but it will be in the families of the workpeople who were not long since in prosperous circumstances, who had comfortable homes, and who were able to provide a generous diet. The sudden change, the want of usual nourishment, and overcrowding and want of proper bed accommodation, will, by the time the spring comes, do fatal work, if the people are not better fed than they are at present; and it should be borne in mind that typhus strikes down

* They can be had at the offices of the association, 32, Pall-mall; King-street, Manchester; and at Knight & Co.'s, 90, Fleet-street, London, at from 1s. 3d. to 3s. a hundred.

many of the strongest men and women—those on whom the maintenance and care of a family depend; thus causing pauperism and large expense to parishes. It is well worthy the attention of the boards of guardians, if it would not only be wise and humane, and also, in the end, a saving, to increase the present amount of out-door relief. To families of only three or four, half of this income would go for rent, unless they could manage to get cheaper accommodation in the same room with another family. We believe that this arrangement is becoming more common, and is likely to be attended with bad results.

It should be considered that, if these work-people in this time of distress and destitution, were, with their families, to seek shelter at the unions, they would cost from 4s. to 5s. each, at the least, per week. There is, however, an honourable objection on the part of the Lancashire operatives to enter the workhouse.

In order to see how the pauper population of the large Manchester district of Chorlton was cared for, we proceeded to Chorlton Union, which is situate, in the open country, at a distance of about 5 miles from Manchester. Here, in the midst of good air, a large and handsome building has been erected, in which, at the time of our visit, there were upwards of 1,000 inmates. The neat porters' lodges, the trim railing, the nicely-arranged flower and grass plots, and the light and pleasing style of architecture, do not convey the prison-like ideas which are associated with some structures of this description. In the interior we pass through spacious and well-aired passages and staircases, through dormitories lined, but not overcrowded, with comfortable and clean beds; the infirmary, and places for the reception of the sick and imbecile. The wards for the reception of lunatic paupers, who are retained here for a time until they are removed to a central establishment for the treatment of those unfortunate cases, are excellently arranged; the bedsteads are so constructed that those who are violent cannot do themselves damage; and there is a padded room for extreme cases. The various day-rooms—the dining-halls, chapel, and other apartments—are large and well lighted, and very fairly ventilated and heated; while good management is shown in the kitchen, bakery, and other offices which are needed for the preparation of the food of so many persons. This place has been well drained, and it seems that endeavours are being made to fill in and do away with the cesspools which remain.

Notwithstanding all the care taken in this union, the schools, and so forth, we did not find the result, either here or at another union in this neighbourhood, was favourable as regards the children who are reared and turned out into the world. The female part seem to threaten especial trouble.

Turning to the present distress,—the unproductive expenditure of thousands of pounds to provide a bare existence, and scarcely that, for the hundreds of thousands out of employment is not satisfactory. How long the necessity may remain it is impossible to say. At any rate, sanitary works in connexion with their own districts might be executed by them under proper direction. A correspondent, Mr. C. Baylis, suggests that two main lines of underground railway are needed in the metropolis, and that in excavating them the male adult population of Lancashire might be employed. It is doubtful, however, if Lancashire weavers would be equal to such work, or be left by it in a fit condition to return to their own trade, when the cloud passes away. Would it not be better to get a certain number of mills at work, even at the loss that would ensue, and so provide clothing for others? The work-people would be more happy and more healthy. To waste the labour of 600,000 willing workers in such a community as ours cannot be the right course to pursue.

THE STEPHENSONS.

"THE maturer of the locomotive" has already had more than one article devoted to him in the *Builder;* and, in running over the pages of Mr. Smiles's new volume,* we shall more especially turn our attention to the biographical details as to the gifted son of so gifted a father, which are unavoidably and very properly interspersed with those of the father in one and the same volume. Before doing so, however, we may here quote the opinion of Robert Stephenson on the merits of his father as an inventor, and which opinion is in complete accordance with the idea that he was the maturer of the locomotive and not its inventor. Our quotation is taken from a narrative of George Stephenson's inventions by his son, which forms an appendix to Mr. Smiles's new volume; this volume, by the way, being an extension merely of a former one by Mr. Smiles on the life of George Stephenson, and now including a full biography of his son Robert as well.

The substance of George's inventions will be found in the following quotations:—

"When my father commenced his improvements upon the locomotive engine, two comparatively successful attempts had already been made,—one by Mr. Blenkinsop, of Leeds, and the other by Mr. Blackett, of Wylam. * * The other attempt by Mr. Blackett also consisted of two engines combined; but their action was communicated to the wheels by which the entire engine was supported, and *therefore depended entirely upon the adhesion between the wheels and the rails for making progress.* This experiment of Mr. Blackett's was made upon what is called a tramroad, the flange being upon the rail, instead of (as it is at present in the ordinary rails) upon the wheel. When my father began his first engine, he was convinced that the adhesion between a smooth wheel and an edge-rail would be as efficient as Mr. Blackett had found it to be between the wheel and the tramroad. Although every one at that time argued that the adhesion upon a tram-rail was by no means a criterion of what the adhesion would be on an edge-rail, my father felt sure that there was no essential difference between the one and the other."

After giving an account of his father's second and improved engine, Robert says:—

"Thus, in 1815, my father had succeeded in manufacturing an engine which included the following important improvements on all previous attempts in the same direction:—simple and direct communication between the cylinder and the wheels rolling upon the rails; joint adhesion of all the wheels, attained by the use of horizontal connecting-rods; and, finally, a beautiful method of exciting the combustion of fuel by employing the waste steam, which had formerly been allowed uselessly to escape. It is, perhaps, not too much to say that this engine, as a mechanical contrivance, contained the germ of all that has since been effected. It may be regarded, in fact, as a type of the locomotive engine."

Robert Stephenson, the only son of George, was born at Willington Quay, in the county of Durham, where his father dwelt, on the 16th of October, 1803; and George had henceforth something better than gin-horses, rabbits, dogs, and birds, on which to expend his strong affection. As Robert grew up, he was sent to school at Newcastle; and afterwards, his father being then a rising man, with already a pretty fair income, Robert was despatched to Edinburgh, where he attended the university, and acquired some knowledge in two sciences of great importance to his future career,—mathematics and geology,—and in another science, of which he made, as far as regards heirship, but a poor use in after years,—the science of love,—for though he had pleasant experience of married life, he died both wifeless and childless; and such being the case, this early scintillation of the crazy god's afflatus assumes a special interest in his history; more particularly since the soft reminiscence was communicated to Mr. Smiles by the quondam patient himself not many years before he died. Robert had been narrating other circumstances in his Edinburgh experience, and Mr. Smiles goes on to say:—

"Returning to the subject of his life in Edinburgh, Robert continued,—'Besides taking me with him to the meetings of the Royal and other Societies, Mr. Bald introduced me to a very agreeable family, relatives of his own, at whose house I spent many pleasant evenings. It was there I met Jeannie M——. She was a bonnie lass; and I, being young and susceptible, fairly fell in love with her. But, like most very early attachments, mine proved evanescent. Years passed, and I had all but forgotten Jeannie, when one day I received a letter from her, from which it appeared that she was in great distress through the ruin of her relatives. I sent her a sum of money, and continued to do so for several years; but the last remittance not being acknowledged, I directed Sanderson, my solicitor, to make inquiries. I afterwards found that the money had reached her at Portobello just as she was dying; and so, poor thing! she had been unable to acknowledge it.'"

The notes which Robert preserved of the lectures of Leslie and other of the Edinburgh professors long afforded subjects for instructive and interesting comment and discussion between him and his father, who may thus be said to have been, through the intermedium of his son, what George himself would have been somewhat astonished to be called—a university man as well as Robert. The insight, at all events, which Robert's university acquisitions in the mathematics and geology conferred both on father and son was of valuable use in their future joint avocations, and well repaid to both the cost of these acquirements.

The Darlington and Stockton Railway was the first achievement of the filial partnership, and this important initial and fledging railway work was facilitated by the establishment of the Newcastle foundry for the construction of locomotives. At this time George Stephenson had a patent for cast-iron rails; and the influence of Robert on his father, even at this time, seems to have been curiously displayed by the fact that while at Edinburgh, Robert, then only eighteen years old, had written a letter as to rails, in which he concluded:—

"First, that malleable iron is preferable to cast-iron in the construction of a railway; because it is much less liable to breakage, has fewer joints, and is more economical than cast iron. Secondly. That the maximum load of a waggon and its goods should not exceed two tons, unless under imperious circumstances connected with the local trade of the country. Thirdly. That unless the greatest care and attention be paid to laying the railway, making up the ground in using chairs or pedestals of a proper construction and of sufficient breadth, according to the nature of the ground, and in observing a correct arrangement for cross and lateral drains, the best line of draught, and all the maxims of the engineer, will be found to come far short of the proper effects."

The probable influence of this letter on George's mind, and on his immediate interests, was thus betrayed. Discussions with Mr. Pease, the promoter of the Stockton and Darlington Railway, and with the directors of that line, had arisen as to various points in its construction; and in reference to which there was, of course, a want of precedents and experience. Amongst the subjects of discussion was that of the rails; George Stephenson advising iron rails, for which, by this time, he had his patent; while the directors had at first contemplated having only wooden rails. At length, when George was called upon to give his definite and final professional opinion on the subject, he frankly said to the directors, "Well, gentlemen, to tell you the truth, although it would put 500*l.* in my pocket to specify my own patent rails, I cannot do so after the experience I have had. If you take my advice, you will not lay down a single cast-iron rail."—"Why?" asked the directors. "Because they will not stand the weight, and you will be at no end of expense for repairs and relays." "What kind of road, then," he was asked, "would you recommend?"—"Malleable rails, certainly," said he.

The success of their first undertaking led the Stephensons on to the still more important enterprise of the Liverpool and Manchester Railway, the story of which has been so often told. In the mean time, however, Robert Stephenson had been induced to go to Colombia as mining engineer; and Mr. Smiles gives an account of his mule journey to Bagota, his residence at Mariquita, and his cottage at Santa Anna. Robert was not long in resigning this employment, and returning home; having the very odd coincident of a rencontre with Trevithick, the locomotive inventor, at Cartagena; he was also shipwrecked. On his return to Newcastle he took charge of the Newcastle factory, where he built the celebrated "Rocket" engine, which won the prize at the Manchester and Liverpool competition of locomotives. The Stephensons were thenceforth consulted, and as far as human powers would allow, were employed, in all the gigantic works which followed on the great Manchester and Liverpool success. Robert, then twenty-seven years of age, was appointed engineer of the Leicester and Swannington Railway; George being "answerable for him." Here he constructed his first tunnel, and found coal at Snibston. Then he was appointed engineer of the London and Birmingham line, of which his father and he were the joint surveyors. Sir Astley Cooper was an inveterate and influential opponent of this project as one "preposterous in the extreme," extravagant, absurd, and reckless,—a scheme which, in a few years, would "destroy the noblesse." Robert's comment on Sir Astley after the interview was,—"Well, it really is provoking to find one who has been made a 'Sir' for cutting that wen out of George the Fourth's neck, charging us with contemplating the destruction of the noblesse because we propose to confer upon him the benefits of a railroad." The Kilsby tunnel was one of Robert's main difficulties on this line.

The author's comparison between the Midland line and the Great Simplon road over the Alps here merits notice, although George Stephenson was the engineer of this line:—

"The road of the Simplon," he says, "is 45 miles in length; the North Midland Railway 72¼ miles. The former has fifty bridges and five tunnels, measuring together 1,338 feet in length; the latter has 200 bridges and seven tunnels, measuring together 14,400 feet, or about 2¾ miles. The former cost about 72,000*l.*; the latter above 3,000,000*l.* Napoleon's grand military road was constructed in six years, at the public cost of the two Governments of France and Italy; while Stephenson's railway was formed in about three years by a company of private merchants and capitalists, out of their own funds, and under their own superintendence."

The skill and success with which Robert Stephenson constructed the London and Birmingham line established his reputation as an engineer;

* "Lives of the Engineers, with an Account of their Principal Works; comprising also a History of Inland Communication in Britain. By Samuel Smiles. With Portraits and numerous Illustrations. Vol. III. George and Robert Stephenson. London: John Murray."

and his father could now look with confidence and with pride upon his son's achievements. From that time forward, father and son worked together as one man, each jealous of the other's honour; and on the father's retirement, it was generally recognized that, in the sphere of railways, Robert Stephenson was the foremost man, the safest guide, and the most active worker.

Robert Stephenson was subsequently appointed engineer of the Eastern Counties, the Northern and Eastern, the Blackwall, and many other railways in the midland and southern districts. When the speculation mania of 1844 set in, his services were, of course, greatly in request. Thus, in one session we find him engaged as engineer for not fewer than thirty-three new schemes. Projectors thought themselves fortunate who could secure his name; and he had only to propose his terms to obtain them. The work which he performed at this period of his life was indeed enormous: and his income was large beyond any previous instance of engineering gain. But much of his labour was heavy hackwork, of a very uninteresting character. During the sittings of the committees of Parliament, almost every moment of his time was occupied in consultations, and in preparing evidence or in giving it. The crowded, low-roofed committee-rooms of the old Houses of Parliament were altogether inadequate to accommodate the rush of perspiring projectors for bills; and even the lobbies were sometimes choked with them. To have borne that noisome atmosphere and heat would have tested the constitutions of salamanders; and engineers were only human. The consequence was, that stomach, brain, and liver were alike irretrievably injured; and hence the men who bore the heat and brunt of those struggles—Stephenson, Brunel, Locke, and Errington—have already all died, comparatively young men.

We cannot conclude our hasty sketch of Robert Stephenson's career, however, without referring to others of his great railway achievements. He was the engineer of the High-Level Bridge at Newcastle, and also engineer of the Chester and Holyhead Railway: he constructed the Britannia and Conway tubular bridges, and designed the tubular bridges for Canada and Egypt. The assistance he gave Brunel in the launching of the immense *Great Eastern* was itself no small thing.

An over-active and anxious life was Robert Stephenson's; and no wonder that he died in the fifty-sixth year of his age. He was buried side by side with Telford, in Westminster Abbey.

The honours conferred on him, both abroad and at home, were numerous. He was a member of Parliament (for Whitby); declined a knighthship; was president of the Institution of Civil Engineers; a doctor of civil laws of the University of Oxford; was decorated with the Legion of Honour by the French emperor; with the Grand Cross of the order of St. Olaf by the King of Sweden; and made a knight of the order of Leopold by the King of Belgium.

Of his personal characteristics Mr. Smiles says:—

"Robert Stephenson inherited his father's kindly spirit and benevolent disposition. He almost worshipped his father's memory; and was ever ready to attribute to him the chief merit of his own achievements as an engineer. 'It was his thorough training,' we once heard him say, 'his example, and his character, which made me the man I am.' On a more public occasion he said, 'It is my great pride to remember, that whatever may have been done, and however extensive may have been my own connexion with railway development, all I know and all I have done is primarily due to the parent whose memory I cherish and revere.' To Mr. Lough, the sculptor, he said he had never had but two loves—one for his father, the other for his wife.

Like his father, he was eminently practical, and yet always open to the influence and guidance of correct theory.

In society Robert Stephenson was simple, unobtrusive, and modest; but charming and even fascinating in an eminent degree. Sir John Lawrence has said of him that he was, of all others, the man he most delighted to meet in England—he was so manly, yet gentle, and withal so great. While admired and beloved by men of such calibre, he was equally a favourite with women and children. He put himself upon the level of all and charmed them no less by his inexpressible kindliness of manner than by his simple yet impressive conversation.

His great wealth enabled him to perform many generous acts in a right noble and yet modest manner, not letting his right hand know what his left hand did."

An admirable portrait of Robert, as well as one of George, illustrates the present volume of Mr. Smiles's work, which also contains numerous other illustrations by Mr. Leitch and Mr. Percival Skelton.

By way of appendix to our present notice, we may quote a passage or two as to the Railway Mania of '45, and as to him whom we may very fittingly call the Mania King.

"Folly and knavery were, for a time, completely in the ascendant. The sharpers of society were let loose, and jobbers and schemers became more and more plentiful. They threw out railway schemes as lures to catch the unwary. They fed the mania with a constant succession of new projects. The railway papers became loaded with their advertisements. The post-office was scarcely able to distribute the multitude of prospectuses and circulars which they issued. For a time their popularity was immense. They rose like froth into the upper heights of society; and the flunkey Fitz Plushe, by virtue of his supposed wealth, sat amongst peers and was idolised. Then was the harvest-time of scheming lawyers, parliamentary agents, engineers, surveyors, and traffic-takers; who were alike ready to take up any railway scheme however desperate, and to prove any amount of traffic even where none existed. The traffic in the credulity of their dupes was, however, the great fact that mainly concerned them; and of the profitable character of which there could be no doubt.

Mr. Stephenson was anxiously entreated to lend his name to prospectuses during the railway mania; but he invariably refused. He held aloof from the headlong folly of the hour, and endeavoured to check it, but in vain.

During 1845, his son's offices in Great George-street, Westminster, were crowded with persons of various conditions seeking interviews; presenting very much the appearance of the levee of a Minister of State. The burly figure of Mr. Hudson, the 'Railway King,' surrounded by an admiring group of followers, was often to be seen there."

* * * * * *

"One of the most prominent celebrities of the mania was George Hudson, of York. He was a man of some local repute in that city when the line between Leeds and York was projected. His views as to railways were then extremely moderate, and his main object in joining the undertaking was to secure for York the advantages of the best railway communication. . . . . .

The grand test by which the shareholders judged him was the dividends that he paid; although subsequent events proved that these dividends were in many cases delusive; intended only 'to make things pleasant.' The policy, however, had its effect. The shares in all the lines of which he was chairman went to a premium; and then arose the temptation to create new shares in branch and extension lines, often worthless, which were issued at a premium also. Thus he shortly found himself chairman of nearly 600 miles of railways, extending from Rugby to Newcastle, and at the head of numerous new projects, by means of which paper wealth could be created, as it were, at pleasure. He held in his own hands almost the entire administrative power of the companies over which he presided: he was chairman, board, manager, and all. Mr. Hudson was voted praises, testimonials, and surplus shares, alike liberally; and scarcely a word against him could find a hearing. He was equally popular outside the circle of railway proprietors. His entertainments at Albert Gate were crowded by sycophants, many of them titled; and he went his round of visits among the peerage like a prince.

The Hudson testimonial was a taking thing; for Mr. Hudson had it in his power to allot shares (selling at a premium) to the subscribers to his testimonial.

Mr. Hudson's brief reign soon drew to a close. The speculation of 1845 was followed by a sudden reaction. Shares went down faster than they had gone up: the holders of them hastened to sell in order to avoid payment of the calls; and many found themselves ruined. Then came repentance, and a sudden return to virtue. The golden calf was found to be of brass, and hurled down. Hudson's own toadies and sycophants eagerly joining the chorus of popular indignation; and the bubbles having burst, the railway mania came to a sudden and ignominious end."

Doubtless, errors in Mr. Smiles's interesting and handsome volume might readily be picked out and made a formidable array of; but we have no desire to look too closely or unmercifully into the minutiæ of a volume which unquestionably contains a truthful account of all the main features of the lives of the two great engineers of whom it treats.

VOLUNTARY ARCHITECTURAL EXAMINATIONS.

The announcement which our advertising columns contained some short time since, that the first of the voluntary examinations in architecture is to take place in January next, will not have passed unnoticed by many readers. This scheme of examinations is an effort for the advancement of the profession, made in good faith, and at no small trouble, and possibly pregnant with results of the greatest value.

For many years past the desirability of establishing some test of attainments through which a professional man should pass, ere he enters upon the responsible exercise of his duty, has been appreciated more and more widely; and in those professions where a large proportion of the objects of preliminary study are entirely matters of fact, examinations have been readily established. A clergyman does not receive ordination until after examination by the bishop: the medical and legal professions are only entered after satisfactorily passing examinations of very considerable severity; and, more recently, the army, the navy, and the civil service, have been subjected to the same rule.

The object of these examinations has in each case been the same, and a very suitable one. It has been to elicit that the candidate possessed that amount of information, together with good general education, which is properly expected of a person holding the position to which he aspires. Thus it may be fairly expected of any man calling himself a surgeon, and allowed by authority to use that title, that he shall have a good acquaintance with all parts of the human frame, the diseases and injuries to which it is subject, and the proper remedies. Less knowledge than this no medical man ought to possess, because as much as this must be taken on trust by those employing him. His humanity, promptness, attentiveness, gentleness, and other personal qualifications, can be judged of by the world at large; and therefore the question of employing him or not may be fairly left to the public, so far as personal qualities go. His ignorance or learning cannot be tested by the public at large; and therefore it has long since been decided that a proper tribunal shall settle that matter in the first instance, so as to protect the public from the serious consequences which must ensue were persons unacquainted with the whole facts of the case to undertake cures.

The same is true of all the other professions. The business-like tact of your solicitor you can judge of; and you employ him or not, as you find it or miss it. His knowledge of law you cannot possibly judge of; and, therefore, you have that point settled for you.

Much the same object was formerly sought to be obtained by the process of apprenticeship. A youth under the old system was bound apprentice for so long a term of years, that he could hardly fail to have some good knowledge of the groundwork of his calling by the time his apprenticeship had expired. This plan still holds good in many handicrafts; but in nearly all the professions it has been felt that it was wiser to leave the time and mode of education less rigidly prescribed than formerly, and to insure that a good education had been secured by testing the results.

In cases where the public are fully able to judge of the merits and defects of those who come before them, where impartial judges cannot be found, or where a pretender can get no undue power over important interests by assuming a position to which he is not entitled, the judgment is most properly left with the public.

The idea of examination for a musician, a poet, an essayist, an historian, a dramatist, a painter, an engraver, or a sculptor, before he can make efforts on his own account in his profession, is unreasonable, and, of course, never entertained. The literary world, the musical world, and the artistic world, are in these walks the arbiters of success or failure, and to them alone the candidate for fame must apply.

Further, there are many cases where professional position gives a man a large control over property or personal welfare, and where that position implies a larger or less amount of technical knowledge, but for which no examination has been provided; in some cases because the introduction to such positions implies a personal knowledge of the candidate by some well able to judge; in other cases because election to them is by general acclamation; and in others again on account of the natural, and on the whole, wholesome, disinclination of the English mind to interfere with personal affairs more than is absolutely necessary. Civil engineers, who are usually introduced to practice by being appointed to hold the post of resident engineer under some experienced man who has had opportunities of knowing their skill and attainments may come under our first category; members of Parliament and municipal officers under the second; and a large and miscellaneous series of callings under the third.

The powerful and extensive body of architects have hitherto been entirely without any preliminary examination whatever, with the solitary exception of those desiring to hold the appointment of district surveyor in London; and now that the question of preliminary examinations for all professions has become one of general interest, very wide divergence of opinion has been found to exist as to the degree in which the method is applicable to architects. There are some who hold that the profession requires so much of technical knowledge that the general public ought to be protected from the ignorance of pretenders by a compulsory preliminary examination: others hold that it is so entirely a fine art, like painting or literature, as to be exempt from even the possibility of examination; and others, again, not quite admitting this view, hold that the ordinary modes of testing the capacity and power of an aspirant after architectural practice by inquiry into the education he has received, and the opportunity he has enjoyed of learning his profession, afford safeguard enough.

The truth probably lies among these various opinions; and as even the most uncompromising advocates of the diploma and a compulsory examination cannot but admit that there would be no possibility of carrying their point, the only practicable examination is one purely voluntary, and appealing solely to the desire for standing and

distinction which every educated young man cannot but feel. The position thus taken for the examination is actually a higher one than that of any compulsory enactment, were that possible; and the distinction obtained by those who pass it ought to be proportionately more esteemed.

It will always remain unjust, and therefore inexpedient, to attempt to judge of the artistic power or ability of men aspiring to be known as architects. This must be left, as in all the arts, entirely to the public verdict; but beyond artistic power there are many attainments required of an architect of which the public cannot judge, and the want of which will be detrimental to the interests committed to his charge. Technical knowledge, both of the nature of materials and the principles of construction, and of the details of architectural features, are matters of familiarity which, together with other things of a similar nature required of an architect in practice, are legitimate subjects for examination; and a young architect who has this knowledge will be glad of a means of having the fact certified by those who can judge for the benefit of those who cannot.

This, then, is the position now taken up. Without any limitation as to style, or any attempt to sit in judgment upon artistic skill, it is proposed to offer to students an opportunity of obtaining an acknowledgment of proficiency—that is to say, of sufficient manual skill as draughtsmen, professional and technical information, and general education, to warrant the belief that they have made a good use of fair, average opportunities as students. This is the object of the junior examination in the class of proficiency, as it is called.

Below such a standard as this no one ought to be satisfied to remain; but there are many competent to rise far above it; and in fact they who are to be the great men of the next generation must have already taken, or be taking, a higher rank than this. To meet the case of such, a class of distinction is established, where an examination of a precisely similar nature, but carried further in every department, is provided; and this will afford the means of displaying extensive attainments where they exist, and of bringing out abilities of a high order.

It has been repeatedly prophesied that these examinations will fail: this we are unwilling to believe possible; but it is for the best friends of the profession, and above all for students themselves, to take care that they shall not. It is quite possible that the number of candidates may not be very large at first; and it is certain that in some things the standard of their acquirements will not be so high as might be desired; but if, as time passes on, the importance of such a recognition of proficiency be generally admitted, the numbers can hardly fail to grow till they approach, if not equal, the number of pupils leaving the offices of architects of standing in town and country. The standard of acquirements, too, will keep pace with fair expectations. At present, since the students who are now at such a stage in their career as will make it proper for them to become candidates, have been educated without the slightest reference to such an examination, a standard will be adopted which all competent architectural students instructed under the existing no-system, ought to be able to come up to easily, without special preparation. In the succeeding years the standard will be raised; and in the third year the examination will be made of a severity equal to that of the published specimen examination papers, which, after all, are anything but unreasonable.

By those, therefore, who a year or two hence will have reached a time of life, or will probably be in circumstances, which may make an examination objectionable to them; or who may have the prospect of occupations which will interrupt their studies; in fact, by all those who must "come up" now, if at all, the forthcoming examination should be taken advantage of. Their special circumstances will be duly considered, but not unduly; that is to say, such modifications will be made as they may reasonably expect, but not such as they cannot honourably receive; while the distinction of being in the first or one of the first lists of passed candidates will probably be more advantageous to them in a worldly point of view than to pass at a subsequent period would be.

It remains to consider what are the chief benefits aimed at and expected by the promoters of this measure. The most immediate benefit will be felt by those who are examined. They will, in their preparation for the examinations, have their studies directed; and in the actual results, such ability as they may possess will be recognized, and demonstrated earlier than it could otherwise be. Beyond this, the publication of the curriculum, and especially of the list of books, will be of great general use; for we have good reason to believe, strange as it may seem, that even studious youths really anxious to make progress have failed to employ their leisure to profit, through want of a few indications as to the subjects which they ought to study, and the books where information on these subjects is to be found. A further advantage, however, will be felt, as time wears on, if the result of this step is to introduce into the profession a large body of well-informed, well-trained youths, of good previous education. The general standard of architectural pupils, and consequently of the future generation of architects throughout this country, would be soon raised; the entrance of unsuitable, incompetent, unschooled boys into an office would occur more rarely than before; and such complaints as are now being made in our columns, with only too much reason, of the low pay and poor position of architects' assistants, would, in part at least, lose their foundation.

It has been held that to accomplish all this fully, a systematic organization for instruction may be necessary. It may prove so, but it is difficult to understand why a youth, if properly grounded in general knowledge at school, and fairly proficient at drawing, should not be able to fit himself, by the experience and instructions of the office where he is brought up, coupled with a judicious use of his leisure, for any such examinations as those proposed. The establishment in various localities of evening classes, like those at University college, would no doubt prove a great assistance. So would the writing of a series of really good handbooks on many subjects not yet treated of in comprehensive manuals, at once compendious and accurate. And there will be found to be room for improvement in the method pursued by those who have pupils in their offices. The relation of principal and pupil involves grave responsibilities which are not always recollected, and real duties which we may fear go unperformed at times. Perhaps the new scheme may tend to promote a general recognition of these responsibilities, and a performance of these duties; and if it do, it will have accomplished no small good.

THE SOCIETY OF PAINTERS IN WATER-COLOURS IN WINTER.

Winter exhibitions of pictures, drawings, and sketches have become so much in vogue of late, that they may now be as confidently expected in their turn as their more important precursors of earlier date. Until very lately, the closing of the Royal Academy and its contemporaries was synonymous with the end of the London picture season; but now, thanks to these offshoots of after-growth, the distance between August and February is most pleasantly relieved and shortened. Cornhill and its neighbourhood have become the Pall-mall of the east; and, by means of artificial illumination, can offer a brilliant defiance to the darkest of dark days. The "sun-light" has partially corrected the difficulty that used to be occasioned by the uncertain behaviour of the great luminary himself, for he is seldom at home in the City during the dingy months. Had it not been for that elegant and satisfactory gas arrangement, Messrs. Frith, Leech, and others could never have cultivated such warm and admiring friends as they now possess within its precincts, any more than those who undertake to cater for this apparently epidemic taste for the fine arts would be justified in attempting it.

Last Saturday, however, was such a clear, bright exception to the general run of November days, that at the private view of sketches and studies by the members of the old Society of Painters in Water Colours in Pall-mall, it was difficult to identify the season; and no wonder, where there are so many perfect realizations of warm sunshine and summer sky, tender herbage and luxuriant trees to assist the delusion! for, as usual, the collection is richest in landscape. The gallery is a resort to be appreciated at a time when fogs and frost or the damp discomforts of wet weather oppress us outside. It will be delightful to be reminded oracularly that such ills are not interminable. Long before the cuckoo utters his first promissory note, or the first country bank has signified its dormant capital by the issue of so much as a single yellow boy in the shape of crocus, we have the whole wealth of summer offered for our acceptance as represented in the water-colour medium. "But it's paper," it may be objected, "only paper!" "Green backs!" For shame! Look at the names of the drawers: such draughts at sight would be current anywhere.

The present collection has much more of the character of the original Winter Exhibition, as instituted some ten or twelve years ago by Mr. Lewis Pocock, than many of those succeeding it; differing, however, in respect of its being composed solely of contributions from the members of one society of artists;—a difference, by the way, not altogether advantageous; as, in order to cover their very spacious walls, the levy has been excessive in many if not most cases, and the result is not more favourable to the artist than fatiguing to the spectator. But, like its prototype, it comprises genuine "excerpta" from the private portfolio,—materials and stock-in-trade of which it is no part of the exhibitor's intention to dispossess himself. This lends additional interest, as they afford some clue to the uninitiated to the means employed in the formation and production of a finished work—studies of heads, single figures, and arrangement of draperies, little bits of unsophisticated nature and first thoughts for compositions, of which latter there are many—perfect gems in their way—by Messrs. Frederick Tayler and John Gilbert. Indeed, the assistance of the latter is a remarkable feature throughout.

It has been said of Shakspeare that, having elaborated and perfected the character of Mercutio at too early a date in the play, he was obliged to kill him at the culmination to get rid of him, as it was impossible to carry the conception any further. Some similar difficulty, perhaps, has induced Mr. Hunt to leave his very astonishing (212) "Fly Fisher" unfinished, or rather finished too soon. In this, with an equally marvellous study of a boy yawning, (423) entitled "Bed-time," expression is intensified to the utmost limit of possibility.

Without attempting to notice in detail, when it would be unjust to miss many out of the 446 component items, we would simply mention a few names to authorise an assertion of the collection's general claims.

Amongst the most enthusiastic of Nature's worshippers—foremost of all is Mr. W. Hunt, already named, as the numerous little transcripts so faithfully and fondly manipulated bear evidence; and almost as rigidly honest are Messrs. Duncan, Dodson, G. Fripp, and Davidson, although they vary in their mode of expressing it. Messrs. J. D. Harding, J. Holland, W. Callow, W. Evans, Richardson, and Collingwood Smith, are all efficiently represented; and Mr. J. J. Jenkins proves himself to be so able in delineating Thames scenery, and so awake to the romantic charms of Haddon, that he might make a new reputation as a landscape painter. Nearly the same remarks apply to Mr. F. W. Topham. Mr. Carl Haag's two Eastern studies (202), "A Fellaheen Boy," and (220) "A Bedawee Boy," are the productions to be best remembered out of the many exhibited by him, all notable for rich colour and powerful execution; and Mr. Burton's numerous studies proclaim him the painstaking student that his exquisitely perfect pictures would necessitate one to suppose him to be. With a note of admiration for Mr. H. B. Willis's "Cattle," and an acknowledgment due to the memory of the late F. O. Finch, we conclude by advising all interested in this most charming branch of the arts, to combine encouragement, instruction, and amusement, by inspection.

WATER-COLOUR PAINTERS' LANCASHIRE RELIEF FUND.

The members of the New Society of Painters in Water-Colours have come to the following resolution:—"That each member contribute one (or more) painting or sketch in water-colours, in plain bead frame with mount, and that every member of the profession known to paint in water-colours be solicited to aid in carrying out the object;—that the whole collection be exhibited in London, Manchester, and Liverpool, and afterwards allotted to subscribers as prizes." Subscriptions of one guinea each to the full value of the works are then to be raised: each subscriber is to be entitled to one chance for each guinea subscribed, and the whole proceeds are to be paid over to the committee for the Lancashire Relief Fund.

Our advertising columns show that the response has been satisfactory: and there is yet time for others to join the praiseworthy band.

The credit of the movement is due, we understand, to Mr. Louis Haghe.

DAMP IN CATHEDRALS AND CHURCHES.

THE ill-effect of damp in all descriptions of buildings is well known, and damp is also injurious to the persons who occupy them. The extent of damp in many churches would surprise those who have not carefully observed it. In London and throughout the country there are several old churches round which the ground has risen to a considerable height above the pavement of the interiors. One of these—Old St. Pancras—was described in the *Builder* some time ago, when, soon after a restoration, the wood became rotten, and a sort of leprosy seemed to pervade the chief part of the structure. Then it was that, while the building had been adorned, the drainage had not been made sufficient. The ground was saturated with moisture, and, surrounding and inside the church, vaults were found completely filled with water. St. Bartholomew's the Great, Smithfield, is another London church which is awkwardly troubled by the growth of very unwholesome soil around it. In Westminster Abbey persons may have noted that, where they have stood for a few minutes on a part not covered with wood or matting, the impression of the feet is distinctly visible. The same appearance may be noted in cathedrals and churches, where persons have stood at funeral and other services; and many will remember the fatal illness which has been caught by attendance at funerals, or by visits to damp places of worship.

After the continuance of the hottest summers, many of these places are as dank and more unwholesome than many caves. The air is heavy, and loaded with an oppressive smell—"deathly," as people express it. In many cases this might be, to a considerable extent, avoided, by the opening of doors and windows for as many hours as possible during the dry weather. This is, however, a matter not generally attended to by the custodians of sacred buildings; and often the windows are so ill constructed that it is a matter of difficulty; but, even with this care, nothing will make a building healthy except effective drainage, which will completely carry away all the roof and other waters; and in nine cases out of ten this can be managed at comparatively a small cost. The late heavy rains will have severely tested many buildings, ecclesiastical as well as others. Weak points will have been shown, and it would be well to attend to these at once; the rising of damp marks on the walls should be strictly examined into, and the cause of this discovered. Frequently, a very little care in time will prevent a considerable amount of trouble afterwards.

Most persons admire the ornamental pavements of churches now common; but if these are not kept dry, it is doubtful if the beauty be sufficient to balance ill qualities; and we fear that if drainage be not attended to, the heating by stoves will not prove effectual. This subject is a very important one; for, besides the consideration of health, the preservation of many beautiful structures and interesting monuments of antiquity depends upon it.

It is very doubtful, even if care be taken to underlay with concrete, if porous stones are fit for the pavement of churches. It may be often noted, when dampness of the air succeeds dry weather, that certain stones give indications of moisture sooner than others. In some country churches, and in the cottages of Northumberland and Cumberland, which are often paved with "flags," particular stones, by showing dampness sooner than others, are found, in the absence of weather-glasses, to denote coming rain.

GAS AND GAS CONTRACTORS IN DOVER.

A SHORT time ago we mentioned that the contractors of the Dover Gas Works had the impudence to commence an action against a Dover gas consumer, one Mr. Bennett, for complaining in a local journal that the supply was very bad. The *Journal of Gas Lighting*, standing up for its Order, takes us to task for the observations; and points out that the writer of the letter has been obliged to apologise, and to pay 5*l.* as a donation to the Dover Hospital. If the "Gas Consumer" said what was untrue, the oftener he is forced to apologise the better; but if gas consumers may not complain through a newspaper when gas companies fail to do their duty, to talk of the freedom of the press is a farce. Judging from letters now before us, from some most respectable inhabitants of Dover, we are forced to believe that the supply of gas there is very unsatisfactory. Our contemporary tells that "The subject was introduced in a *jocular manner* at a meeting of the Local Board of Health on the 30th ult., on which occasion the mayor, who is the proprietor of the Lord Warden Hotel, observed that 'pretty nearly all the gas was rammed out of the pipes before it reached his neighbourhood,' and that he was obliged to light a candle to read a newspaper, though there were four gas-burners in the room. Other members of the board also spoke to the same effect, and reiterated Mr. Bennett's joke, that they were obliged to light candles to see if the gas was burning." The *Gas Journal* then goes on to say that the cause of the defective lighting was found to be within the control of the consumers. One of our correspondents, who is much amused at the notion of attributing jocularity to Mr. Birmingham or Mr. Wakeling, who were amongst the complainants, says,—"And what becomes of other complaints that have not yet been made public? Shall we appeal to the great family of commercial gentlemen who stay at the Royal Oak and Antwerp Hotels, as to the illumination by which they write their orders and business letters? There is no lack of evidence to prove an insufficiency of light in Dover. And then, since the little *jocularity* so lightly passed over, there is the verdict of a whole theatre full of people, at the Royal Clarence Saloon, in Snargate-street, on the 11th of November, when the proprietor (Mr. Browing), was indignantly requested to 'Turn on the gas!' but, alas! he could no more. Of course, sir, all these little things are a *joke* too. Now, as good sensible men, would it not be better for Messrs. Anderson & Jones to throw aside disguise, and say,—'As you know, gentlemen, our contract with the gas company shortly expires: we do not see our way to enter upon large expenses; and we therefore supply you to the very best of our means. Every additional lamp ordered by your lighting committee detracts from the lights already burning; and although it is to our benefit, it is to a certain extent contributed to by a corresponding diminution of consumption on your part.'"

We have a right to speak on these matters, and are not to be deterred by the information forwarded to us that the lawyer's bill for proceedings taken between Saturday and Thursday against the timid "Gas Consumer" amounted to 8*l.* Both gas companies and the public are indebted to the *Builder*, which, alone, for some years, pointed out the injustice and the impolicy of the preposterous charges then made for gas. Gas companies get better dividends while the consumers are more cheaply and, where they assert their rights, better served.

THE FIRST VOLUME OF THE REPORT OF THE CENSUS, 1861.

EXTRACTS CONNECTED WITH THE METROPOLIS.

THIS folio volume, which contains 750 pages filled with an array of figures most formidable to look at, comprises the first portion of the abstracts of the returns which have been made under the authority of the Act for taking the Seventh Census of England and Wales. This volume of the report is divided into three parts. Part I. gives the particulars of the number of the houses and the population in the several counties, which are alphabetically arranged. Under each county are returned the aggregate numbers for the hundreds and other similar divisions, and for the subdivisions of lieutenancy as constituted to the purpose of raising the militia quotas: details follow relating to parliamentary as well as municipal cities and boroughs, and to towns of more than 2,000 inhabitants. In Part II. the particulars are arranged according to the registration districts or Poor Law unions, under the groups of these districts, called registration counties or union counties. This arrangement, besides other advantages, will allow of the separate publication of divisional parts, which may be procured at small expense by persons desirous to obtain the details of their own and adjoining counties, without being compelled to purchase a bulky and costly volume.

In compliance with the Census Act, which required that an abstract of the returns should be laid before both Houses of Parliament within a year of 1st of June, 1861, a statement of the unrevised numbers of houses and of inhabited houses in England and Wales, and in each of the counties, districts, and principal towns, was presented on the 7th June, 1861; but, owing to the labour bestowed on the revision of the original returns, and the large amount of correspondence which has been found necessary in order to procure correct information as to the boundaries of the various and complex local sub-divisions of the country, the present volume was not completed until the 29th of September of the present year. This delay has caused some impatience and surprise; but with those who have had an opportunity of forming an idea of the Herculean task which is imposed upon the gentlemen to whom has been deputed the duty of preparing these returns, the clear and systematic arrangement, the care which has been taken by a variety of checks to ensure accuracy, and the patience which has been generally shown in various difficulties, particularly in obtaining the return of more than 1,800 ecclesiastical districts and new parishes, the exact limits of which were known to few persons except the incumbents, will cause admiration for the ability shown in the preparation of the volume before us.

There are abstracts of the Report now in preparation, which will be published collectively; but, as they involve the classification and tabulation of many millions of separate facts, several months must still elapse before their publication.

These statistics of the people are full of interest; and are, upon the whole, satisfactory; inasmuch as they show, notwithstanding that 2,287,205 persons have emigrated from the United Kingdom during the last ten years, a large increase in the strength of the nation. There are many departments of this work which are well worth notice; but for the present we will confine our remarks to the metropolis alone.

The area of London in statute acres is 77,997; and the number of houses is thus returned:—

	Inhabited.	Uninhabited.	Building.
1861....	359,421 ..	15,774 ..	4,027
1851....	305,933 ..	16,643 ..	4,815

These figures show that in ten years the increase of inhabited houses in the metropolitan districts has been 53,488; the decrease of uninhabited houses, 869; and the decrease of houses building, 788.

The population in the corrected return is given:—

	Persons.	Males.	Females.
1861.....	2,803,999 ..	1,397,781 ..	1,496,308
1851.....	2,362,236 ..	1,166,558 ..	1,255,678
Increase in 10 years..	441,753 ..	201,223 ..	220,630

In the West district there were, in 1861, 56,935 inhabited houses; 2,531 uninhabited; 982 building. This shows an increase, since 1851, of 1,053 inhabited houses; an increase of uninhabited, 42; and a decrease of houses building, 162.

In the North districts, in 1861, the number of inhabited houses was 74,958; uninhabited, 3,042; building, 1,271. Increase since 1851, 15,483 inhabited houses, 428 uninhabited, and 139 building.

In the Central districts, in 1861—Inhabited houses, 39,449; uninhabited, 3,027; building, 168. In this district, since 1851, there has been a decrease of the inhabited houses to the extent of 1,790; an increase in the uninhabited houses of 308; and an increase in the number building of 68.

In the East districts, in 1861—Inhabited houses, 75,958; uninhabited, 3,053; building, 453. This shows an increase, since 1851, of 9,275 inhabited houses, 261 uninhabited, and a decrease of houses building of 218.

In the South districts, in 1861—112,121 inhabited houses; uninhabited, 4,121; building, 1,154. In comparison with 1851, there has been an increase of only 467 inhabited houses; and the large increase of uninhabited houses, 1,909; and decrease in the houses building, 615.

Before giving more figures, we will glance at some of the notes by the Registrar-General, in connexion with the metropolis. Our space will not allow us to go into the detail of the boundaries of the various parishes, &c.; but we will mention that the Fulham Union contained 29,646 inhabitants in 1851, which number was increased to 40,058 in 1861. In each parish the number of persons absent from their homes on the night of the 7th April, 1862, visiting, or engaged in other business, is given in the reports collected by the enumerators; also the number of visitors is shown in the Register-General's report. We will, however, only give a few of these. In the sub-district of St. Mary's, Paddington, 269 persons were temporarily absent visiting, travelling, or out of town, 180 were temporarily in the sub-district as visitors, and 117 persons lodged in the boats or barges. In the sub-district of Kensington town, 560 persons were temporarily absent, and 200 temporarily visiting. In St. George's, Hanover-square, 214 persons were temporally present, and 905 absent at country houses, visiting, &c. In the May Fair sub-district, there were 1,006 persons who were usual residents, out of town, and only 78 persons who were temporary visitors. In Belgravia sub-district, 1,295 persons were absent.

St. Margaret's, Westminster, includes Privy Gardens and Whitehall; and a detached portion

of the parish comprises Knightsbridge, also Kensington Palace and Gardens. Another detached portion of the parish, situate at Wright's-lane, Kensington, forms the site of the workhouse for St. Margaret and St. John's, Westminster.

The decrease of population in St. Margaret's has been progressive for several years; owing, first, to private families having left for the advantage of letting their houses for solicitors, engineers, and railway contractors' offices; secondly, to the pulling down of houses for the thoroughfare to Pimlico (Victoria-street), and in contemplation of new public offices, much of the cleared ground still remaining vacant; and, thirdly, to the removal of shopkeepers, &c., in consequence of the disturbance of the neighbourhood and the loss of trade.

In the Long-acre sub-district, several houses have been removed for the site of the new street, from St. Martin's-lane to King-street (our readers know the condition of some of the houses which have been removed).

In St. James's, Westminster, the decrease of population since 1851 is attributed to two chief causes; first, the removal of shopkeepers with their families, to reside in the suburbs, away from their places of business; secondly, the conversion of private houses into warehouses or workshops. Several dilapidated houses in New-street and Hopkins-street have been removed, and two model lodging-houses have been erected on their sites.

In the parish of Hampstead a large increase of population has taken place in consequence of the erection of many villa residences and commodious houses on the Belsize Park and other estates. Kilburn is partly in Hampstead and partly in Willesden parish. The great increase of houses and population in Islington is attributed to the facility of communication afforded between this northern suburb and the City and west end of London. In the middle of the day it loses a large proportion of its inhabitants, who are engaged in the City and elsewhere as clerks, &c.

In the parish of St. Paul's, near Covent Garden, several houses have been removed since 1851, to form the new opening from the Market into Burleigh-street, and the site of the Piazza Hotel now covered by the Floral Hall. In the parish of St. Sepulchre Without, Newgate, several houses have been pulled down for improvements; and in Clerkenwell, many houses in the sub-district of St. James's have been removed since 1851, to make way for the new street and the railway station.

The population of London city has decreased in the aggregate to 10,377 persons, or 19 0 per cent. This, says the Registrar-General, is mainly attributable to the conversion of dwelling-houses into warehouses, counting-houses, and offices; the former residents having removed to the suburban districts. Many houses in the parishes of St. John the Baptist, St. Antholin, St. Thomas the Apostle, St. Augustin, St. Gregory, and Holy Trinity, have been demolished for the formation of New Cannon-street and New East-street. The number of inhabited houses—that is, of houses having persons sleeping in them—has decreased from 7,297 in 1851, to 6,362 in 1861; while the uninhabited houses have since 1851 increased from 1,059 to 1,576; yet of these 1,576 houses, at least 1,200 or 1,300 are occupied during the day, being left tenantless at night under the surveillance of the police. In Shoreditch, since 1851, a large portion of the remaining vacant ground has been built upon. Several houses in the parish of Holy Trinity, Minories, have been demolished, for the purpose of making warehouses; and in the Stepney district—in the parishes of Shadwell and Wapping—to make room for the newly-constructed docks belonging to the London Dock Company.

The removal of houses in St. Saviour's, Southwark, has tended to increase the population of Christchurch, while the number of houses has remained stationary [the increase of population is 1,047]. Since 1851, many houses in Southwark have been pulled down, and the ground cleared for the purpose of forming the proposed new street from High-street, Borough, to Stamford-street. There is a decrease in the population of Lower Tooting, caused by the discontinuance of the large establishment for pauper children. The houses in this neighbourhood have increased.

The following London parishes have declined in population;—St. Martin's-in-the-Fields, to the extent of 1,951; St. James's, Westminster, 1,080; St. Giles's, 138; Strand, 1,438; Holborn, 1,759; East London, 3,719; West London, 1,688; London City, 10,337; Whitechapel, 789; and St. Olave's, Southwark, 319.

Some of the most remarkable instances of increase of population, since 1851, are the following:—

Kensington	65,946	Stepney	2,399
Chelsea	6,901	Mile-end Old Town	16,462
St. George's, Hanover-square	14,541	Poplar	32,034
Westminster	2,604	St. Saviour's, Southwark	439
Marylebone	3,984	Bermondsey	10,227
Hampstead	7,129	St. George's, Southwark	3,686
St. Pancras	31,882	Newington	17,404
Islington	66,012	Lambeth	22,719
Hackney	24,566	Wandsworth	19,629
Clerkenwell	9·3	Camberwell	16,821
St. Luke's	3,618	Rotherhithe	6,697
Shoreditch	20,167	Greenwich	28,305
Bethnal-green	14,908	Lewisham	30,922
St. George's-in-the-East	515		

The public institutions of London, including workhouses, hospitals, lunatic asylums, prisons, barracks, orphan asylums, and other principal charitable institutions, on April 8th, 1861, were 243; in which there were 64,999 persons.* In the Millbank Prison there were 1,032 persons; in the House of Correction, Tothill-fields, 583; Pentonville or Model Prison, Caledonian-road, 584; in the debtors' prison, Whitecross-street, 235; Queen's Prison, 154; Middlesex House of Detention, 211; and in the House of Detention, Cold Bath Fields, 1,511.

The population in some of the metropolitan workhouses was large. In St. George's-in-the-East, there were 818 inmates; in the Poplar Union Workhouse, 488; Shoreditch Workhouse, 737; Bethnal-green Workhouse, 1,040; Marylebone, 1,600; and St. Pancras, 1,544.

The annual value in the district of the Metropolitan Board of Works, on the 1st of January, 1862, was 12,514,053*l.* In the City of London, the annual value was 1,300,156*l.*

SANITARY CONDITION OF NOTTINGHAM.

THE report for the year ending 30th September, 1862, of the active Sanitary Committee of the town of Nottingham, has been printed. The committee in the outset state that they—

"Have satisfaction in reporting a continued improvement in the health of the inhabitants of this town. During the past year the deaths have been 1698; being a diminution of 142 upon the preceding year, and of 256 upon the average of the three previous years: this may be accounted for by the low temperature of the past summer, and also, it is hoped, by sanitary improvements, and the dissemination of knowledge upon the laws of health. The committee regret that notwithstanding this general diminution in the deaths the high ratio of infant mortality continues in about the same proportion as last year."

The committee speak moderately as to the infant mortality, inasmuch as so recently as 1859 the mortality was still greater; for the report of the sanitary committee for the year ending September 30th, 1859, observes that "the total number of deaths of children under five years of age, from all causes, has been 1,264; being *more than one half the total number of deaths*; and that "the following diseases have caused the deaths of children under five years of age, viz.;—Measles, 171; diarrhœa, 119; marasmus, 52; convulsions, 155; scarlatina, 150; altogether, 647." On the other hand, the infant mortality of the past year is considerably less than this fearful proportion; being *only* 754 out of 1698, which latter number is itself, as we have seen, a diminution of 256 upon the average of the three preceding years.

The report goes on to state that,—

"During the past year many matters affecting the health and comfort of the inhabitants of this town have been brought before your committee. Amongst the most important has been the offensive state of the cesspools and drains for the numerous buildings in the Nottingham meadows. Some of the evils complained of have been remedied, by laying, at the joint expense of the owners, sewers in Cromford-street and Derwent-street; and by providing a better outfall for the Arkwright-street drain by cleansing the Tinkers'-leen. . . . . But the most serious evil, in a sanitary point of view, with respect to the meadows is, in the opinion of your committee, the low level at which many of the dwelling houses are built; rendering the lower rooms damp and unhealthy by their liability to being laid several feet deep in water by the ordinary floods of the River Trent. The practice of building dwelling-rooms at such low level is in the highest degree objectionable, and contrary to the provisions of the 128th section of the Nottingham Inclosure Act."

At the close of the report they say:—

"Your committee desire to acknowledge the moral aid afforded to sanitary progress amongst the humbler classes by the advice given to them by ministers of religion, medical gentlemen, and other persons who visit amongst them, and who consequently have better opportunities of observing sanitary defects in the *interior* of dwellings than the officers of your committee. It is confidently hoped that this co-operation in sanitary progress will not only be continued but increased, and that the results will be such as to promote the health, comfort, and well-being of the inhabitants of this town."

This is the right spirit in which to receive friendly advice.

* Educational institutions, such as colleges, training colleges, schools, both public and private, &c., almshouses, museums, and police-stations are omitted in the above list.

ST. PETER'S NEW SCHOOLS, PRESTON.

THESE schools, of Early Pointed design, opened a short time ago by the Guild Mayor, are now quite completed. The ground-plan consists of a school-room for infants, 77 feet long and 32 feet wide, extending east and west, with a class-room 32 feet long and 15 feet wide, at the western end of the south side.

At the interior angle formed by the school-room and class-room, and against the centre part of the south wall of the school-room, there is a tower with a pierced stone cornice, surmounted by a high-pitched roof, with a gilt vane. To the east of the tower there is a porch forming the entrance to the infant school.

The tower contains a ventilating-shaft for the whole building: round the shaft, entered from the south, there is a stone staircase leading to the girls' school-room, and class-room on the upper floor: these rooms are of similar dimensions to those below, and have a timber roof, underdrawn, about halfway up between the spring and the apex.

The height of the lower rooms is 14 feet, and the upper rooms about 13 feet at the sides, and about double that height in the centre.

A staircase descends from the tower to a basement story, 10 feet in height, extending under class-rooms and the western end of school-rooms, and forming a good washhouse and laundry: a heating apparatus, and a large boiler, are fixed up in the basement of the tower.

The schools are fitted up with desks and benches complete, and with gas pendants.

The windows in the three gables are large, the upper ones having simple pierced tracery: a large circular window faces the south: those at the sides consist of triplets with trefoiled heads.

The work has been executed in red stock brick, with dressings of Longridge stone, at a cost of about 2,500*l.*, by Mr. James Neill, contractor, Bradford. Mr. Joseph Fawcett, of Sheffield, is the architect.

ALBERT MEMORIALS.

The Wolverhampton Memorial.—At a meeting of the committee, several designs forwarded for examination were inspected, including a model of Mr. Thornycroft's equestrian statue intended to be erected in Liverpool; and it being understood from that gentleman that her Majesty would prefer an equestrian statue to any other means of perpetuating the memory of her husband; and that Mr. Thornycroft would undertake to erect such a statue in bronze for 1,200*l.*, including the necessary alterations in the pedestal in the High Green on which the Russian gun at present stands; it was resolved that the meeting be adjourned for two months, to secure that amount; 800*l.* only having at present been subscribed.

A Bradford Memorial.—In the *Bradford Observer* of 20th November there is a leading article on an Albert institution of the nature of an Association for the Education of Designers and Skilled Workmen, both in the staples and other trades of the town, which it is proposed to establish in connexion with the local School of Art, the friends of which have unanimously passed a resolution in favour of such an association.

The Halifax Memorial.—We understand that a meeting of the subscribers to the memorial fund is shortly to be held; when, among other things, the site for the statue will be decided upon. The memorial, which is to be a bronze equestrian statue, will in all probability be erected at Ward's End, in the open space at the junction of the several roads there. A model of the statue is on view in the Halifax Museum, having been submitted by Mr. Thornycroft, the artist intrusted with the carrying out of the idea. His figure of the horse is said to be from a favourite one in the royal stables.

The Glasgow Memorial.—At a meeting of the General Committee appointed to look after a site for the monument; the Lord Provost presiding; Mr. Lamond, secretary, read the minute of the last meeting in April, when a committee was appointed to see to the practicability of removing St. George's Church, in order that a proper site might be obtained for the memorial. The Lord Provost then stated that negociations for the removal of the church had been entered upon, but the surrounding proprietors

SKETCHES IN MANCHESTER.*



Where the Lions were formerly.



Back Slums in Salford, near Mr. Turner's Mill.—A A. Pigs. B. Closet.

* S. p. 819.

had not agreed to raise 5,000*l.*, which it was thought they should do, considering the benefits their properties would derive from the removal of the church; and, therefore, that scheme had fallen to the ground. He mentioned that the funds available for the memorial amounted to about 6,200*l.* On the suggestion of Mr. Alex. Hastie, another and larger influential committee was appointed to consider what had best be done in the matter as to a site, and the kind of memorial to be raised, and to report to another meeting.

INFANTICIDE BY "ACCIDENT."

The increase of infanticide by carelessness, ignorance, and often by something suspiciously like covert design under the guise of accident, is really alarming. So common is the occurrence of overlying and suffocating the little innocents, frequently while one or both of the parents are tipsy, and so little seems to be thought of such accidents, that an evil-disposed father or mother, who contemplates getting rid of a child or two quietly, has only to get "jolly drunk" and go to bed with the infant, probably laying it between father and mother; and in the morning it is "all right" with the little one, as the Cockney parent would say. Perhaps, in such cases, it is safest and best for the father alone to do the drunken dodge, and the mother the ignorant one of laying her infant for the hulk of sodden flesh to roll over: the public disgust is thus so far mollified and allayed, and the affair is more likely to pass with the coroner's jury. But is there no mean position between a murder and an accident? Are all parents to be secure against positive punishment who kill their infants by such "accidents"? It is to be hoped their increasing frequency will shortly arouse the public to the necessity of doing something to arrest so convenient an excuse for crime.

In a recent case where an intoxicated father killed his infant in bed, at Limehouse, the coroner said that it was high time the public attention should be directed to the great mortality amongst infants arising from suffocation. *He* had recently held *nine inquests in two days* upon children who had thus lost their lives!! The parents almost invariably attributed the death of their children under such circumstances to convulsions, lest a suspicion of infanticide should attach to them; but there was no doubt that the carelessness—or the over-fondness—of the parent was in fault. He did not agree [and neither do we] with those who ascribed the suffocation of children [in all cases] to design; for he observed that but comparatively few cases occurred during summer; but that the numbers invariably rose during the winter; and that the fatality occurred principally on Sunday and Monday mornings. The causes appeared to be these:—On the approach of cold weather, parents, anxious to keep their children warm, wrapped them up in heavy bedclothes, so as to deprive them of all access to pure air; and, with delicate infants, death as surely resulted as if they had been burked. Secondly, on Saturdays parents of the lower order spent their time between marketing and the public-houses; and, returning home late and tired [and *drunk*, he *might* have added], overlaid, and so killed, the children. Sundays, amongst the same class, were devoted to heavy eating and drinking, and even more than on Saturday nights children were crushed and asphyxiated. It was, therefore, a matter of some moment that at the present time parents should be put on their guard with respect not only to the danger of destroying the lives of their children, but involving themselves in the suspicion, however unfounded, of infanticide.

Yes, *suspicion of infanticide ought* to be a little stronger and more distinctly pronounced than it is: this of itself would very soon work the way to an arrestment of the increasing accumulation of such accidents; and, perhaps, also to a little less excess in the usual Saturday and Sunday drinking.

The doings of Herod were a little more glaring and bloody, and those of Moloch a little more devilish; but, in the modern Babylon, Herod is far out-Heroded, and Moloch out-Moloched, in the massacre of the innocents. The custom of overlying and suffocating infants may be a more civilized one than the "custom" of Dahomy, but it is a far more destructive one to human life.

LIVERPOOL ARCHITECTURAL SOCIETY.

The fortnightly meeting, on Wednesday, 19th inst. was presided over by Mr. G. Goodall. A letter having been read from Mr. Huggins, expressing his regret that illness prevented his attending to read the paper which he had promised, a general conversation on several subjects took place. The exhibition, by Mr. Heffer, of a sketch of a memorial to the late Prince Consort, about to be erected under his superintendence at Hastings, originated some discussion as to the most fitting kind of memorial to his late Royal Highness, in the course of which Mr. Picton stated that Mr. Thornycroft's model for the proposed statue in Liverpool had been submitted to the committee of the Town Council, and on the whole appeared to be a very creditable production. The memorial was an equestrian statue. The prince was not attired *en militaire*, but in his ordinary costume, and was riding in an easy attitude. There were various opinions as to the most suitable style of architecture for the new Exchange Buildings, but a general hope was expressed that the terms of competition would be carefully considered by the directors with a view to make them as satisfactory as possible to the profession.

NEW BUILDINGS, CHRIST CHURCH, OXFORD.

Our engraving represents one front of a large building which is in the course of construction in Oxford, for the Dean and Chapter of Christ Church. It was designed by Mr. Thomas Newenham Deane, son of Sir Thomas Deane, of Dublin.

The building consists of tutors', chaplain's, and students' rooms, entered from staircases, of which the external indications are obvious. The students' sets, of which there are forty-three, consist, as usual, of sitting-room, bed-room, and pantry; those for the chaplains and tutors—ten in number—of four or more rooms, with usual conveniences. Besides these, there are apartments for the head porter, and a porter's-room to each staircase.

The front shown is toward Christ Church Meadows, and has the Broad-walk and trees in front of it.

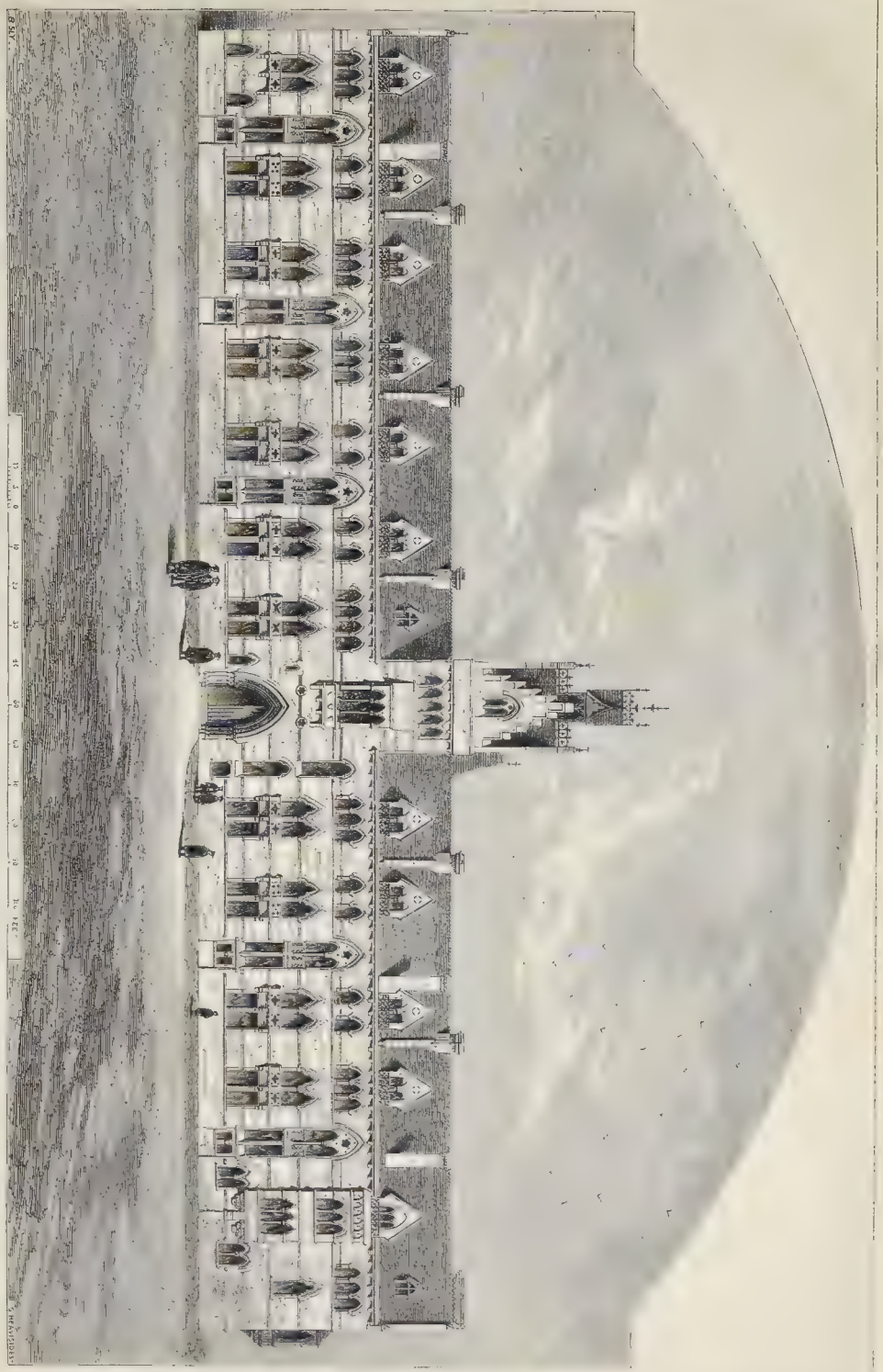
The length of the building is 331 feet; its depth, 37 feet. Each house, as it may be called, —that is, the sets of rooms, right and left of the staircase, on each floor,—is entirely cut off from its neighbours by stone walls, running over the roofs in the manner prescribed by the Building Act. This is, of course, for the purpose of checking the spread of fire, should such a calamity arise in any of the blocks.

The building will stand on a site a little in advance of the present block of rooms in what is called Chaplain's Quadrangle; and the character of the architecture on this side required almost as much consideration as that on the Meadow front, there being so many and various old buildings with which it will be required in some measure to harmonize. It has been designed in a somewhat more conventional style, presenting a succession of gables instead of the continuous roofing of the Meadow front.

The materials of which the walls are composed are Bath stone; the external walls being lined with brickwork, and having bands of three colours. The floors and roofs are of Memel timber, the supports of the former resting on corbels of stone, so as to free their ends. The staircases are also of timber, and are of somewhat novel construction and design; the steps, surrounding-posts or uprights, running the whole height of the building. All the timber is exposed. The stories average 12 feet in height.

The contractor is Mr. Symms, of Oxford, who has taken the contract for about 22,000*l.* There was a limited competition.

The style of the building, when the structure grows in form and feature, will doubtless produce conflicting criticisms.



NEW BUILDINGS, CHRIST CHURCH, OXFORD.—Mr. T. Newenham Deane, Architect.

EXPERIMENTS ON CONCRETE BRICKS.

We are requested to insert the following in reference to certain experiments made upon concrete and other bricks, reported in a letter in the *Builder* of the 15th instant, p. 826:—The Superintendent of the Construction Division of the South Kensington Museum begs leave to state that the experiments were made without his knowledge or authority; that they were altogether private, and the results unofficially stated; and that he has no reason to think that they were conducted with the necessary precision, so as to make the result of any practical value whatever.

We have also received a letter from the manufacturer of the Chilton Suffolk bricks, protesting against the accuracy of the experiments; but the above statement renders the insertion of it unnecessary. We expressed our disbelief as to the bricks in a foot-note at the time.

GLASGOW ARCHITECTURAL SOCIETY.

The annual conversazione and exhibition of the Glasgow Architectural Society was held in the Scottish Exhibition Rooms, Bath-street. There was a very large attendance. Music gave zest to the promenade. Mr. James Foucher, architect, vice-president, took the chair, in the absence of the president of the society; and on the platform were Councillor Salmon, Messrs. William M'Lean, Thomas Gildard, Walter M'Farlane, Campbell Douglas, Thos. M'Guffie, Angus Kennedy, and James Howatt. The chairman having made a few observations, in which he referred, amongst other things, to the harmony of the fine arts one with the other, and the prominent and conspicuous place in the noble group occupied by architecture, Mr. Wm. M'Lean read the annual report. It stated that 168 members had been enrolled since the formation of the society in 1858; that 22 new members had been added during the past year; and that the number at present on the roll was 129. The society had offered premiums to the assistant and apprentice architects of Glasgow for the best design of a monument and a villa with stable offices. These premiums had been awarded—for the monument, to Mr. William Wallace, in the office of Messrs. Campbell Douglas & John J. Stevenson, architects; and for the villa and stable offices to Mr. Stitt Crichton Hannah, in the office of Messrs. Boucher & Cousland, architects. It had also been resolved that an architectural library should be formed in connexion with the society, and a sum had been unanimously voted for that purpose. Mr. Howatt then read the treasurer's report, from which it appeared that financially the society was in a sound and healthy condition. Councillor Salmon moved the adoption of the reports, and in a few words urged that the society was entitled to the sympathy and support of the general public, as the education of efficient and accomplished architects was a matter in which the whole public, rich and poor, were interested. The reports were unanimously approved of. Mr. Gildard afterwards made a few remarks, and delivered the premiums to the successful competitors.

PROPOSED INFIRMARY FOR LEEDS.

Our readers are aware that an Infirmary of large size is to be erected in Leeds, and that the commission was entrusted to Mr. Scott. The designs are now in Leeds, and are about to be exhibited. According to the *Intelligencer*, the architectural character is Gothic, and the materials of the external work are to be brick and stone. The whole structure will cover a site of nearly two acres and a half, being about 400 feet in length and 260 feet in breadth. The principal members are three stories in height on the southern half of the plan, but the ground-floor is merged by the acclivity of the site northwards. The new infirmary will consist of several distinct members. The principal front, facing south, has a central block, connected on each side by a curtain or screen with wings which extend backwards in parallel ranges, and with the front and other buildings in the rear form a nearly equilateral parallelogram. From the north side of this again extend three parallel ranges of buildings. These last and the two wings above mentioned contain, on two floors, ten pavilion wards, each capable of holding twenty-eight or thirty beds; every ward being lighted with windows on both sides, and warmed by stoves in the centre. In the centre of the whole group of buildings is an open court, giving light and air to the corridors which run round it and give access to the several wards, and communicate with the other departments. The space between the central building in front and the wings is occupied only with a ground-floor story, lighted in part from a low roof hidden by the curtains which connect the centre with the wings. With respect to the wards for the patients, all their windows look out to east and west. "The architectural features will probably give the critics a little easy occupation, for styles of the thirteenth, the fourteenth, and the fifteenth century are introduced and mingled with a boldness which must astonish the scrupulous adherents of precedent."

SANITARY PROGRESS.—WIGAN.

Some ten years ago the then Town Council of Wigan, as the Local Board of Health, took up the question of sanitary improvement for the district. The sewers, where such existed, were filled with foul putrid refuse; and the water supply, in the hands of a private company, was bad in quality and very defective in volume. New sewers have been formed, and a new supply of water, of about 6° of hardness, given to the inhabitants. Mr. Robert Rawlinson has been engineer, and Mr. Hunter the borough surveyor resident engineer. Early in the work the contractors failed, and Mr. Hunter has conducted the works by subcontracts and by day wages to a successful close. In a report, dated the 8th instant, he gives the following particulars as to the works:—

"The total number of tenements drained is 4,516, and the cost 9,836*l.* 13*s.* 5½*d.* I am bound to believe that the drainage works have satisfactorily served the purpose for which they were designed, as it is a most unusual thing for a complaint to be lodged at the office against the working of the system, and this notwithstanding that upwards of thirty miles of drains are in operation within the borough. The amount expended on main sewerage works is 24,007*l.* 2*s.* 9½*d.*, the estimated cost being 28,997*l.*, and the amount borrowed on sewerage account is 30,000*l.*

With respect to the waterworks. The water supply in the town is both abundant in quantity and good in quality; no less than from 500,000 to 600,000 gallons being pumped daily into the town. The water is filtered through sand and charcoal, and is as free from organic impurities as any water supplied in the neighbouring towns; in fact, I cannot suggest any improvement in the present supply. The covering of the filtered water-tank answers admirably: the exclusion of light prevents the water from becoming foul: it also excludes smoke and other impurities floating in the atmosphere. The sum of 91,553*l.* 17*s.* 7*d.* has been expended on the new works, and the further sum of 24,369*l.* 8*s.* 4*d.* has been disbursed in the purchase of the old company's works and privileges. The year's water-rents amount to the sum of 2,876*l.* 7*s.* 3*d.* net. The amount borrowed for the construction of sewerage, of waterworks, and the purchase of the tolls has been 143,085*l.*, and the whole of this has been expended, as well as a balance overdrawn of 45*l.* The sewerage has taken 24,007*l.*, the old waterworks 24,369*l.*, the new works 91,953*l.*, and the tolls 2,806*l.*"

The water is drawn from a surface area of about 2,400 statute acres. The river Douglas has been diverted to form a site for the impounding reservoir, which contains about 135,000,000 gallons. The reservoir is formed over the Wigan coal-field; but is said to be perfectly water-tight.

The waterworks have not been developed to the fullest extent, as there has not been time to put on services. When the district is fully supplied for domestic uses and for trade purposes, and when times are better, the income, it is considered, will pay interest on money borrowed, if not more.

We sincerely hope the "black cloud" of poverty, through the cotton failure, may soon be removed from the district; that the inhabitants of Wigan may enjoy the full benefit of these sanitary works; and that the other towns in Lancashire will follow the good example thus set them.

BUILDERS' BENEVOLENT INSTITUTION.

A general meeting of the above charitable Institution was held on Wednesday, at the London Tavern, Bishopsgate-street, for the purpose of electing two males and one female as pensioners on the funds. Mr. Henry Lee, president, occupied the chair.

Among the gentlemen present were Mr. Thos. Cozens, Messrs. Joseph & J. Bird, Mr. Hall, Mr. S. Plucknett, Mr. G. Head, Mr. J. Thorn, Mr. T. Stirling, Mr. D. Nicholson, Mr. G. Outhwaite, Mr. S. Salmann, Mr. W. Hutcheons, Mr. G. Head, jun.; Mr. R. Head, Mr. S. L. Simpkin, Mr. J. Bulmer, Mr. J. Fitch, Mr. W. C. Anderson, &c. &c.

The Chairman, in opening the proceedings, said they had met together, according to usual custom, to elect pensioners on the funds of the institution, and expressed the gratification of the committee at the continuance of their old subscribers, who had contributed from year to year. It was highly desirable that there should be a future continuance of the elections, in order to meet the wants of their numerous applicants; and with that view he called upon the subscribers and friends generally for their future assistance; as, without their aid, the labours of a committee would be in vain. He then declared the poll open.

The candidates (of whom there were seven males and four females), pending the progress of the election, sat down to a substantial dinner provided from the funds of the institution.

At the close of the poll, on the return of the scrutineers, the following were announced as the successful candidates:—1. James Noble (fourth application), aged sixty-six, plumber, painter, &c., for forty-five years, and many years in business as a master-painter in Down-street, Piccadilly, and Pimlico, but latterly unable to work from the effects of a severe accident.

2. George Grayson (first application), aged sixty-eight, formerly in business for forty years as a bricklayer and plasterer, but through misfortunes and infirmities had been totally unable to procure a living. He himself and wife had been subscribers to the institution from the commencement: he had been a donor of fifteen guineas, and a director and vice-president.

3. Charlotte Smith (1st application), aged sixty-six, widow of a builder and contractor. She was solely dependent on the charity of relatives.

The Chairman said, with reference to Grayson, it was particularly gratifying that he who had been a subscriber for so many years, and from the foundation, had now realised the effect of the benefit which he wished to bestow upon others who were in need. For him and such as he had the institution been founded. It was also pleasing to find that the successful candidates on that day were all persons who had seen better days, although unfortunate that they had been so reduced. It was a source of pleasure to find that such an institution was in existence; but at first he (the Chairman) thought it grasped at too much, and that it never would be able to sustain the character upon which it set forth. For many years, although solicited, his conviction to that effect was strong—very strong; but he was, however, now pleased to acknowledge that he was in error. Alluding to Mrs. Smith, he kindly stated that he was happy she also had been elected on her first application, and sympathisingly urged the unsuccessful candidates to press their friends on their behalf for the next occasion, when they would not have such powerful opponents. He concluded by stating that in May next there would be another election, and that those who had been returned that day, by calling at the secretary's office on Monday next, could have the first quarter's money to enable them to proceed.

Mr. George Plucknett (treasurer), congratulated the chairman on his convalescence, referring to the extreme regret generally felt by his absence through illness from their annual dinner. He said this year's returns had far exceeded other years, and which, doubtless, under his (the chairman's) presidency, would so continue.

Votes of thanks were then passed to the scrutineers and various officers, Mr. Thorn replying on the part of the scrutineers.

Expressions of gratitude by the successful candidates followed, Mr. Joseph Bird, in the absence of Noble, of the Brighton branch, addressing the meeting in a suitable manner.

The proceedings then concluded with the usual compliment to the chairman.

METROPOLITAN BOARD OF WORKS.

At the usual meeting of the Board, held on the 21st instant, a report was received from the chief engineer and the superintending architect, on the line of the new street from Blackfriars Bridge to the Mansion House, as recommended in the Report of the Royal Commissioners of 1861; and the report was ordered to be printed. It stated that they had carefully considered the plan submitted to Parliament last year, and that they were prepared to submit important improvements that would not materially alter the deposited plans.

A report was also read by the chief engineer on the "Thames Embankment and Roadway between Westminster Bridge and Vauxhall Station," in which he said,—

"The estimated cost of the work is 250,000*l.*, and the First Commissioner of her Majesty's Works, &c., has favoured me with a copy of Mr. Pownal's estimate for the compensation for this improvement, which is 265,000*l.*, together requiring an outlay of 515,000*l.* The main features of the design have also received the approval of the First Commissioner. It will give a direct line of roadway near to the river, between London Bridge and Vauxhall; and it will increase the width of the Thames opposite Millbank Penitentiary from 590 feet to 720 feet, and will thereby allow the tidal waters more freely to pass up the

river instead of retarding the tidal flow by reducing the width of the river to 600 feet for a considerable length, as proposed by the plan of the Royal Commissioners. It will not necessitate the serious alteration or the reconstruction of the Lambeth Bridge, as the line recommended by the Royal Commissioners would necessarily do, in order to carry their roadway over it; and these advantages may be gained at less than half the expenditure proposed by them."

After some discussion the report and plans of the engineer were adopted with reference to the street and embankment, and the necessary steps were ordered to be taken to enable the Board to apply to Parliament during the next session.

HASTINGS.

London and County Branch Bank.—New branch offices are now in course of erection in Hastings for this bank. The building is situate opposite the new Albert Memorial Clock-tower, and in the very centre of the commercial part of the borough; and, being close to the railway station, will also be convenient for farmers and business-men from a distance. The façade has not much to recommend it as a work of architectural merit; yet the scarcity of substantial stone buildings in Hastings makes it a step in a permanent direction. Mr. J. Howell is the builder. The architect is Mr. C. O. Parnell.

Police Station, West Ward.—A substantial "Classic" building, designed to afford accommodation for police business in the West Ward, Hastings, has nearly reached completion. It has been erected on a corner plot of ground, the property of the corporation, and is situate close to Lavatoria-square, with the entrance from Mercatoria. The building contains, on the ground-plan, charge-room, committee-room, superintendent's office, search-room, police store, three cells for prisoners, airing ground, fire-engine house for the St. Leonard's district. The second-floor is divided into dwelling-houses for a married sergeant and two married constables. Mr. George Bridgland is the builder. The cells will be warmed by hot-water tubes, the heat being supplied from the stove-boiler in the charge-room. The building is being erected from designs by Mr. Ford Mackenzie, of Hastings, architect.

The Pier and Harbour Company: a Fresh Project.—The projectors of the proposed pier and harbour have given notice that they intend to make application to Parliament in the ensuing session for leave to bring in a Bill to authorize the company to make and maintain a railway from the proposed pier to a point on the South-Eastern Railway line near the present station, and to enable the company to purchase, by compulsion or otherwise, the lands necessary for the construction of such railway or tram road, and also to authorize them to levy tolls, rates, and duties in respect of same.

New Boys' British School.—A new British school-house for boys is about to be erected in Cobourg-place, on a plot of ground which we understand has been purchased for that purpose, and presented to the school by Mr. W. Jauson, St. Leonard's. Mr. Beck, Hastings, is the architect of the building, which is a plain Gothic structure.

PROVINCIAL NEWS.

Oldbury.—The county court here has been re-opened, after having for some months been closed for repairs, alterations, and enlargement. The architect for the new building was Mr. Reeves, of London; and the builder, Mr. E. Smith, of Oldswinford.

Derby.—In a report of a sub-committee of the market committee as to the plans of the new covered market, the sub-committee state that they have frequently met to examine the plans prepared by the borough surveyor for the new covered market, and have conferred with Mr. Thorburn as to the best mode of covering over the space in rear of the townhall, to be appropriated for market purposes, and he has prepared a new set of plans for this purpose. The arrangement of the ground plans for the general market is much the same as the previous plan, viz.,—a rectangular building, with the shops placed round the sides, with a double row of open stalls, and narrow tables down the centre; with the fish-market in the corner now occupied by the old lock-up. The length and width of the revised plan internally is 216 feet by 112 feet, inclusive of bay at N.N.W. end, to an area of 2,652 square yards. The fish-market is now arranged to be 61 feet in length and 38 feet in width internally, to an area of 258 square yards, or 1 foot longer and 2 feet wider than the original plan. The roof principals are also in the arched form similar to the revised plan for the general market. The estimated cost of the building, exclusive of fixtures, is 7,000*l.*

Sheffield.—A reformatory for Roman Catholic girls, for the north of England, was established about a year ago, at Sheffield, and is now about to be considerably enlarged from designs by Mr. M. E. Hadfield. The new wing will consist of work and school rooms, with refectories, &c., approached by a corridor; and there will be a dormitory for 100 children on the chamber story. Provision is to be made in the plan for further extension when needful. It is expected that the building will be commenced early in spring.

Scaleby.—A new rectory-house has lately been completed at Scaleby, near Carlisle, Cumberland, at a cost of about 1,000*l.*, from designs by Mr. Jos. Fawcett, of Sheffield, architect. It is a red-brick building, in the Early Pointed style, with dressings of the stone of the neighbourhood, and has two bay windows to the front, with mullions of stone, and trefoiled heads.

Banff.—The Convener of the Citizens' Committee in the matter of the new county buildings, which the Commissioners of Supply in Banffshire had resolved to erect on a site where they would not be well seen, has procured plans from Mr. Raeburn, of Edinburgh, architect, of the different schemes by which a frontage to the streets could be obtained; with estimates of their cost; and these have been offered for consideration to the commissioners. In the plans submitted, Mr. Raeburn said the best way to erect the new building, so as to show a frontage to the street and be in connexion with the present court-house, was to have a front erection to the north. Carrying out his plan for providing in this way the new accommodation which was necessary, and giving a front in the old Scottish style of architecture, with flank turrets, would involve a cost of 4,700*l.*, including expenses of site. This was some 750*l.* less than the cost of the estimate of the buildings sanctioned by the county. Mr. Raeburn, however, gave another plan of new buildings with a front elevation of three floors, in the simple Classic style of architecture, but in harmony with the present court-house. This plan, he stated, would cost about 150*l.* more than the other, but would still be 400*l.* to 500*l.* below the estimate for the original plans; and it would contain seven apartments more than were absolutely necessary, according to the Government Inspector's report. A plan by Mr. Raeburn, for an entirely new building on a site in Castle-street, was also submitted. Mr. R. approved highly of this site, and estimated the cost of carrying out his plans for a suitable building there, at 5,050*l.*, which was some 1,200*l.* less than the amount which it was formerly supposed would be necessary for a new court-house here.

CHURCH-BUILDING NEWS.

Walsoken (Norfolk)—The new chapel of ease has been opened. The architect of the building was Mr. W. Adams, of Wisbech; and Mr. J. H. Andrews was the builder. The style is Decorated Gothic. The length is 54 feet, and the breadth, 23 feet inside. At one end is a slightly raised platform for the choir; and, at the other end, in the centre, is placed the old pulpit from the newly-restored parish church. A passage down the centre is laid with red and black Staffordshire tiles, and a deal floor on each side for the benches, which will accommodate about 250 persons. The interior roof is an open one, stained, and plastered between the rafters; and the walls inside are of red bricks, pointed in black mortar, with white brick bands. The exterior is built of white bricks, with red brick bands. There are five windows on each side of the building, of the Early Decorated style, consisting of two lights, separated by a mullion and surmounted by a trefoil. The two windows at the south and north ends are of the same character, but larger in size, and surmounted by a quatrefoil in a circle. The mullions and tracery of the windows are of Ancaster stone, with red and white brick arches, and stone labels. The outer roof has a Decorated cross and finials, with an ornamental ridge roof.

Stapleford Tawney (Chelmsford)—The church of Stapleford Tawney has lately been restored, and was to be re-opened on the 25th inst. Several new stone windows have been supplied in place of the wooden frames and lights. The plaster ceiling, elliptic arch to chancel, moulded wall, wainscoting, and gallery, have been removed; and the chapel, used partly as a vestry and lumber place, has been thrown into the church as a south transept. A new vestry has been erected on the south side. The timbers of the roof are opened, and the church re-seated throughout. The works have been carried out by Mr. G. T. Carter, of London, under the superintendence of Mr. John Turner, architect.

Littlehampton (Sussex).—A Roman Catholic church and presbytery, to form part of a group to be hereafter built, and including church, schools, &c., for the use of the Roman Catholics of Littlehampton, is now progressing from the designs of Mr. Hadfield, of Sheffield. The style is Geometric Gothic, and the materials Kentish rag and Whitby stone. The characteristic features of the design are a porch at the west end, having a deeply-recessed doorway and a lean-to roof. The gable has a circular window, filled with geometric tracery within a richly-moulded pointed arch. The side windows are of two lights, with trefoil and quatrefoil panel heads; and there are buttresses projecting 3 feet. The roof is open; and the whole building has been designed (standing as it does near the beach) to resist the effects of the Channel gales. The house is attached to the east end of the church. The contractor is Mr. Bushby, of Littlehampton; and the building, which is erected, as we understand, at the sole cost of her Grace the Duchess of Norfolk, is nearly ready for the roof.

Tenbury.—An offer of 200*l.* having been made by the Rev. T. E. M. Holland, of Stoke Bliss, to be expended on some work of improvement, such as a new east window, in the parish church; a vestry meeting was held, and it was resolved that subscriptions in aid of the works be called for, in three instalments, viz., the first on the 1st of November, 1863; the second on June 1st, 1864; and the third on 1st of January, 1865. It was also arranged that Mr. H. Woodyer, architect, be consulted as to what is advisable to be done in the work of restoration, and that he be requested to prepare a separate estimate for the nave and chancel. It was also arranged, the subject having been named, that the cost should be first ascertained; that the walls and foundations should not be interfered with; and that a sum of 5*l.* be paid to the architect to point out the work necessary to be done, and its cost. Some mention was also made of removing the present pews, and making them free sittings.

Jackfield.—We made mention lately of a new church at Jackfield, in the memorial laid in the foundation-stone of which neither architect nor builder was named, although churchwardens and others were duly *lauded*. The architect, we can now inform our readers, is Mr. Arthur W. Blomfield; and the Messrs. Nevett, of Ironbridge, are the builders. Mr. H. Carter, of Hornsey-road, is clerk of the works. The church is being built of Broseley bricks and tiles, and Grinshill stone. The site is a very bad one; the walls of the church being within a few feet of the Severn Valley Railway on one side, and of the road on the other. It is said, however, to be the only vacant space in the neighbourhood which is not undermined and unsafe. The bed of concrete under the footings is in places more than 6 feet thick, and the whole of the footings are cramped together with long iron bars.

Bridgnorth.—St. Leonard's church, which was reopened on Friday, 14th instant, has been for the most part rebuilt. Of the old church few traces remained; it having been used as a powder magazine, and blown up when the Parliamentary troops held the town. It consists of a nave 38 feet in width and 75 feet long; north and south aisles, each 22 feet in width; chancel, 60 feet in length; and a south-western tower. The old roofs of the nave and south aisle, which were put up in the reign of Charles II., have been retained; and the roof of the new north aisle has been designed in keeping with them, with carved brackets under the tie-beams. The style of the architecture is Early Decorated. The nave and aisles are separated by an arcade on the north side of five arches, and on the south of four arches, this aisle being shorter than the north aisle. A transverse arch in the south aisle abuts against the centre of one of the arches, which is for this reason subdivided into two smaller arches with a circular roof. This circle, and the cap below, have been carved by Mr. Redfern; the former representing the "Annunciation to the Shepherds," and the latter the "Expulsion from Eden." All the other capitals have been carved by Mr. S. Poole, of London. The windows (with the exception of the east window of south aisle, and two west windows of the same aisle, which are of two lights) are of three lights, and are filled with varied geometrical tracery. The church is seated with open seats of deal, and the passages laid with Maw's tiles in patterns. The tower is separated from the south aisle by a screen of Honnington stone, divided into three

arches. The two side arches are filled with tracery, and the capitals of the columns carved, and the west door capitals also carved, by Mr. S. Poole. The material in the walling used is the local red sandstone, with an ashlar facing on the exterior. The pulpit, which is of oak, hexagonal in plan, with a centre subject, represents Christ's charge to the Apostles; and circular discs filled with carving on the other sides, executed by Mr. Forsyth: it stands on a base of Honnington stone, with a centre shaft of red Mansfield stone: the steps are supported on shafts of the same stone. Mr. Forsyth has also executed the lectern, which is of oak carved. The chancel, which was partially restored some years ago, has been filled with oak stalls, with a prayer-desk on either side, executed by Mr. Lovatt. The westernmost portion of the floor has been laid with Maw's tiles. The vestry, which is not yet built, will have an organ chamber over. The tower, which has not been restored, is of Third Pointed date, and 30 feet square, surmounted by battlements and pinnacles. The restorations have been carried out from the designs and under the superintendence of Mr. W. Slater, of London; the builders employed being Mr. Lovatt, of Wolverhampton, and Messrs. Brown & Owen, of Bridgnorth. Mr. Penzer was the clerk of works. Mr. Miller has filled the two western windows of the nave with grisaille glass. The gas-fittings were executed by Mr. Skidmore.

Chitterne.—Two small, incommodious, ill-ventilated churches here, both more or less in a dilapidated state, and one almost hidden from view by unsightly buildings, have given place to a large edifice, which has just been consecrated. Some months ago, a check to the work was experienced, in consequence of the bankruptcy of the builder, Mr. Gayton, of Salisbury. Mr. Gayton, it appears, took the contract for 1,600*l.*, which was much below the sum required. After his bankruptcy, the committee took the management of the matter into their own hands, and employed Mr. Sainsbury, of Lavington, for the carpenter's work; Mr. Oakley, of Lavington, for the mason's work; Mr. King, of Lavington, for the painting and glazing; and Mr. Haden, of Trowbridge, to supply the warming apparatus; Mr. Rowed being sent down from London, by Mr. Wyatt, the architect, as clerk of the works. The building, as it now stands, will cost about 2,000*l.* The new building is in the Early Perpendicular style, and consists of a chancel, nave, side aisles, vestry, and a square tower at the western entrance. The extreme length and breadth in the interior of the church are 103 feet by 52 feet. The chancel, which has an apsidal termination, is lighted by four plain small windows, of irregular design. The nave is lighted by four clerestory windows on each side, and the aisles by the same number of small irregular windows, chiefly taken from the old churches. The materials of the old churches have been worked up in the new one. The floor is paved with stone, Minton's encaustic tiles being used in the chancel. The roof of the chancel is of open wood-work, supported on plain stone corbels, the ceiling being coloured blue: that of the nave and aisles is of the same material; the ceiling, however, as well as the walls, being merely stuccoed. The building will seat 526 persons. Four pointed arches, supported on pillars, in Bath stone, open into the aisles on each side. The chancels of the old churches have been left standing, and will continue to be used as mortuary chapels.

Bloxwich.—The chief stone of a new Wesleyan school chapel has been laid at Leamore-lane, Bloxwich. The building, which is being erected by Mr. W. Wooton, of Bloxwich, from plans prepared by Mr. Loxton, of Wednesbury, architect, is designed to seat 200 persons, and will cost 350*l.*

Gateshead.—The church of St. Mary, Gateshead, is to be improved by some re-arrangement in the interior, and have its organ restored, at a cost of 145*l.*: the heating apparatus also will be enlarged by Messrs. Walker & Emley, at a cost of 140*l.*

STAINED GLASS.

St. Mary's, Whittlesea.—Two stained-glass windows have just been inserted in the chapel of St. Mary's Church, Whittlesea, to the memory of the late Sir Harry Smith, by Messrs. Heaton & Co., under the superintendence of Mr. Robert Speechly, architect, London. There are six lights, each of which has been filled with the figure of an apostle, about life size. It is contemplated to complete the figures of the twelve apostles by inserting the remaining six in the two windows in the opposite wall of the chapel.

Lightcliffe Church (Yorkshire).—Messrs. Ballantine & Son, of Edinburgh, have executed a large stained-glass window for Lightcliffe Church. The centre light contains a representation of the "Last Supper," and the side-lights corresponding designs of "The Good Samaritan," and "Christ blessing little Children." The whole is Italian in style, to suit the architecture of the church for which the window has been executed.

SCHOOL-BUILDING NEWS.

Lambeth.—It is proposed to erect a memorial to the late Archbishop of Canterbury, in the shape of a "'Sumner Memorial School," in Lambeth. Subscriptions to the amount of 400*l.* have already been promised.

Bedford.—The Rev. W. Alliott, having attained the thirtieth year of his ministry over the congregation assembled in the chapel built by John Howard, the philanthropist, the friends desirous of erecting some memorial have just completed a suite of new rooms for the Sunday school. The buildings, which are erected at the back of the chapel, consist of general school-room, three class-rooms, minister's vestry, water-closets, and lavatory. The large room is 40 feet by 25 feet, and 23 feet high to the ceiling line. The area contains 1,000 feet, and the cubical contents are 60,125 feet, accommodating 250 children. The walls are stuccoed, and drawn in imitation of stone. The roof, which is chiefly open, consists of tie-beams with suspension bars, and curved ribs as principals, with struts therefrom to support the purlins, dividing the roof into five bays or compartments: the centre one is ceiled with plaster, and is air-tight. The two extreme compartments are ceiled with pierced zinc; the one to allow ingress of fresh air by means of a louvre air-shaft, and the other egress of the vitiated air, which is accelerated by the use of Chadwick's Archimedian Ventilator. The stoves are similar to those used in the public schools of America, with air-chambers at the back, warming the adjoining class-rooms simultaneously. The windows are glazed with tinted opaque glass, prepared expressly for the purpose; and all the woodwork is stained and varnished. The works have been executed by Messrs. Francis, Joy, & Carling, from the designs and under the superintendence of Mr. Usher, of Bedford, architect.

Kingswinford.—The following tenders have been received for the erection of the Glynn schools, in this parish, for which Mr. F. Smallman Smith is the architect:—Thompson, 720*l.*, and materials from old schools; Bloomer, 715*l.*, ditto; Nelson, 680*l.*, ditto; Northwood, 600*l.*, ditto; Hartland, 595*l.*, ditto.

Hanley.—The new National School-room, erected for the accommodation of the children of the Wellington district, Hanley, has been opened. The school, which is situate close to the church, was built by Mr. Hammersley, of Hanley, from designs prepared by Messrs. W. & C. Palmer, of the same place, architects; at a cost, including the site, of 800*l.* It is a Gothic building, and will accommodate about 200 scholars.

COMPETITION.

Bristol.—The Royal Insurance Company have purchased some extensive premises in Corn-street, Bristol, for the erection of new offices. They invited Mr. Norton, Mr. C. Hansom, Mr. Gabriel, Messrs. Pope & Bindon, Mr. Hurst, and Mr. Gingel, to submit designs in competition. The joint boards of London, Liverpool, and Bristol, have chosen those prepared by Messrs. Pope & Bindon, and have ordered the building to be erected forthwith.

GRINLING GIBBONS'S EARLY WORK.

In the new materials for the life of Grinling Gibbons, which we recently gave,* mention was made of the work on which Gibbons was engaged when first found by Evelyn in Deptford; a carving in wood from Tintoretto's cartoon of the "Stoning of St. Stephen;" and inquiry was made as to its whereabouts.

An obliging correspondent† referred us to a work of the kind in Wyvenhoe House, Colchester, the seat of J. Gurdon Rebow, esq.; and an inquiry addressed to that gentleman brings us the following satisfactory statement:—

"It is quite true that the carving in wood of the 'Stoning of St. Stephen,' by Grinling Gibbons, is in my house at Wyvenhoe. It has long been possessed by my family (I believe about 150 years). You are probably aware of the early history of this great work. I will, therefore, content myself with stating that it was bought by Charles II. of the artist, and presented by him to the Duchess of Chandos, and removed to Cannons, in Hertfordshire. On the demolition of Cannons, or early in the last century, it was bought by my maternal great-grandfather, Mr. Gore, and removed by him to his residence at Bush-hill Park, near Enfield.

It remained in possession of successive branches of the family there till the death of his grandson, Mr. William Mellish, late M.P. for Middlesex (my maternal uncle), and from him descended to me; and I removed it in 1839 to my present residence at Wyvenhoe Park. I will add nothing on its great merits as a work of art: that would be superfluous. The public may at all times see it on visiting the house, and applying to the housekeeper to show it to them.

J. Gurdon Rebow."

I am obliged, in common with your readers, to Mr. Wyatt Papworth and Mr. Watkiss Lloyd, for their communications.

I was already aware of the references to Gibbons contained in Thoresby's Diary, and referred to by Mr. Papworth.

Mr. Lloyd has rendered a good service to the history of art in this country in pointing out the "whereabouts" of that "extraordinary fine piece of carved work made and carved for his Majesty, and sent by his Majesty to the Duke of Florence." "Was it, he asks, "a complimentary present from James of England to the relations of his wife, Mary of Modena?"

Let him study his dates. The dated entry I gave, 1680-2, expressly states that the present was "made by his Majesty." Now "James of England," until the 6th of February, 1684-5, the date of the death of Charles II., was only "His Royal Highness the Duke of York."

The donor of the Gibbons to the Duke of Florence was King Charles II. P. C.

PERAMBULATORS.

There is a nuisance in our streets—a libertinism of locomotion,—and yet a great obstruction to the free progress of peripatetics. It is a grievance of long standing, as old as the days of sedan and Bath chairs. These last have indeed been continued, and would appear to be indispensable, so long as valetudinarians continue to reside in the suburbs, and to consult the reputed, or learned in medicine; but the "*chaise à porteur*," disappeared from town upon the introduction of coaches, when the groves of Hackney as erst allured our wigged and powdered beaux to suburban enjoyments.

Since those days the population is increased tenfold, although the causeways, which have been increased proportionally in number, have not been enlarged or widened in a corresponding ratio.

Were it not for 10,000 omnibuses, and as many cabs, all free circulation must be at an end in a population of three millions, seeing that the public grounds for recreation, the parks and squares, are no larger than they were in ancient London. Thitherward it is that the tide sets in of those who seek for some vestige of rural scenery, if not for exercise or fresh air. The great majority of these are children, and their vehicles, called perambulators, are drawn, or more generally propelled, by maidservants or very young girls; invalids are invariably *drawn* by steady men.

Now, the evil complained of is the incessant roll of perambulators which is encountered on every (the narrowest) pavement; they are propelled from behind by young girls—seldom by a nursemaid out of her teens; they are shot forward, or zigzag, quick as the momentum of lightning, or the fancy of the wild conductress. On a broad pavement, as you approach, leave them a wide range, for the slightest nervous excitement in the guide gives the swift engine a fearful velocity with a direction wholly unexpected. Though bad enough in Westbourne-terrace, what is it in Oxford-street, thronged as it always is at the meridian hour?

It would be hard to enact an interdict which would in any degree restrict the air and exercise essential to the large proportion of the generation now in infancy. Still it might be required, without

* See p. 797.

† The same correspondent (Mr. G. Pratt), says,—"There are some very fine carvings of birds from the chisel of Gibbons, at the seat of Sir George Dashwood, bart., Kirtlington Park, Oxon."

much cruelty to them, that the conductors should be, as in the case of Bath chairs, of mature age, if not of stalwart growth.

A serious concussion and contusion, with fracture of the velocipede, which occurred in the Edgeware-road the other day, induces the writer to suggest for the consideration of the police authorities that some attention be given to this increasing nuisance; and that, as the conductors and drivers of cabs and omnibuses are obliged to wear badges, and be designated by a number, so the drivers of the perambulator should be subjected to official inspection and approval; and, if not numbered and labelled, at least certificated as proper persons to drive our infant progeny, and teach the young idea how to shoot ahead. "Ter. Camb."

LARGE YEW TREES IN KENT.

In your paper of November 1st you mention the size and estimated age of certain yew trees in churchyards at various places. I beg to inform you that in the graveyard at Loose (two miles from Maidstone) there is a noble tree of this kind, which by appearances is not unlikely to survive a thousand years yet; the top being large and as healthy as any specimen I know of; not a dead tip to be seen; and yet the trunk is a mere shell, hollow, and with several openings; none of these, however, exceeding 2 feet at the widest part. The thickness of the shell being from 8 inches to a foot or in places less, the outer bark is making its way through the openings, and in some places returning in the inside. Several of the largest limbs are also hollow, and the bark in like manner is endeavouring to surround the diseased part. The length of the trunk is about 10 or 11 feet, and the girth at the smallest part between the root claws and the breaking of the limbs was a few years ago, when I took it, 32 feet 10 inches. The tree is now fenced round to prevent intruders injuring it; but its dimensions may be clearly seen; and I question much if a tree of its size and vigorous health can be found anywhere in the kingdom. The situation is near the base of a hill of Kentish rag or limestone.

Some other large yew trees are to be found in the neighbourhood: one in Ulcomb churchyard measured upwards of 27 feet in circumference about 4 feet from the ground, and it seemed tolerably sound: certainly there were no apparent cavities. The formation of the tree was singular, for at the part measured there was a swelling or enlargement, so that the girth at the collar and above the height given was much less, perhaps 20 feet; and that is a good size. A similar tree to the last named is in Leeds churchyard, about six miles from Maidstone; the same barrel-shaped trunk giving a large girth at 5 feet up. Both trees, especially the one at Ulcomb, were in excellent health. The shell, or part shell, of a dead yew, is also in Boughton churchyard, which seems to have been as large as the one at Loose: it was said to have been injured and killed by fire some years ago; but the stump bears no trace of that: it, however, maintains its reputation as a durable timber; the many years it has been dead making little apparent difference in its soundness. Of the estimated ages of any of these trees I have no data whatever; but their size conjures up ideas of bygone times of which it would be difficult to form any opinion. I hope, however, some of your country readers will favour you with reports of other remarkable trees in their different localities, whether they be yew trees or of other kinds.

J. R.

WHAT DO WE KNOW IN ASTRONOMY?

The great progress which the arts and sciences generally have made within the last thirty years stands in wide contrast to the snail-pace of astronomical and, it may be added also, of meteorological science.

With regard to the laws of motion, we stand as we were in the days of Newton; and in the science of meteorology, despite the combined efforts of the civilized world, the wild and violent phenomena of nature are suddenly, *unexpectedly*, and destructively repeated. Seasons of famine and of pestilence come upon us unawares. There is no warning voice of science by which some degree of provision might be made against times of suffering.

If the laws or, rather, the occurrences of nature were of an arbitrary character, there would be a justifiable excuse for these omissions. But there is no single movement of matter, whether of the smallest atom or the greatest mass, that is not subject to the government of permanent, rational, and efficient law.

The defective state of cometary astronomy, as recently remarked by you, is only one proof among many of the great defects of astronomical science. A great comet was expected for ten or twelve years and much rampant pretence was made as to the cause of delay, &c.; but the non-appearance of that body, and the unexpected *intrusion* of three very remarkable strangers, have evidently closed the mouth of pretence; and we are now left with the not very consoling conclusion that very little indeed is known upon this interesting subject.

But, sir, defects in cometary knowledge are not the only defects in astronomical science. The causes of the phenomena of motion that are unknown are much more numerous, and some of them of much greater importance, than are those that are assumed to be known.

It is assumed that the causes of the orbital motions of the planets and satellites; of their perturbations; and of the elevation of tides, are known: but, if these phenomena were truly interpreted, all that are now unknown would have their interpretation also.

There were fewer defects and contradictions in the Ptolemaic theory of the *relative* motions of the heavens than are now opposed to the Newtonian doctrines of the *causes* of those motions, a few of which may be enumerated.

The diurnal motion of the planets is their only indispensable and their only perfect motion. The cause of that primary motion has no explanation—I was going to write by the Newtonian fallacies!

The cause of the uniform motions of the planets about the sun from west to east, and of the satellites about their primaries in the same corresponding direction, is not deducible from the Newtonian doctrines.

The causes of the motions of the solar bodies in elliptical orbits is not known, notwithstanding all that has been said to the contrary.

The variable rates of motion of the planets as they recede from the sun, and of the satellites as they are more or less remote from their primaries, appear to be so very far removed from any possible explanation by the views of schoolmen, that all are silent upon the subject; though all the phenomena now referred to are as evidently governed by efficient and permanent physical laws as any one the cause of which is unquestionably known.

The form of the earth is a subject that has been already debated. Some time since a letter appeared in the *Engineer and Architect's Journal*, in which the writer charged upon the parties who had been sent to measure some degrees of the earth for the purpose of testing its theoretical form, that, having found their measurements to disagree with the Newtonian views,—such is the overwhelming force of prejudice in the vulgar mind,—facts were falsified in deference to theory; or, more accurately, in deference to prejudice. Who that has prided himself as the possessor of knowledge above his fellows will readily acknowledge that the pride of his life, the boast of his greatest attainments, has been a delusion? There may be one in a million having the power to undeceive himself, and integrity to acknowledge correction!

My own views of the form of the earth are not settled. That it is generally globular is unquestionable. That it may be spheroidal is possible, seeing that other planets are so. But, for the reasons you state,—its comparatively slow motion, the opinions of Mr. Gumpach, and the above complaint, there is a probability of truth, and no inconsistency, in the supposition of its being elliptoidal.

A. Z.

COMPENSATION CASE.

Nichols and the North London Railway Company.—In reference to this case (of which we gave a report in a former number, p. 827), the arbitrator (Mr. Lockyer) has awarded 8,933*l.* as compensation.

THE FALL OF THE VIADUCT ON THE CITY AND HAMMERSMITH RAILWAY.

The inquiry into the cause of the falling of the arches of the viaduct on the Hammersmith Railway, by which six men were killed, was resumed on Saturday morning. The additional evidence related to the quality of the brickwork of the arches, which appeared to have been sufficiently good. After some remarks by the coroner, the jury returned the following verdict:—"That the deceased persons were suffocated and bruised to death by the falling of certain arches of the viaduct on the Hammersmith and City Railway; and the jury say that the said arches fell on account of the slipping of one of the piers of the said viaduct; and the jury further say that the said deaths arose from accidental causes. The jury wish to add that they believe that sufficient attention was not paid to the character of the soil on which the foundations of the piers were laid, and that the concrete at the base of the pier was not of a sound and proper kind."

At the inquest held on the 4th instant, on the bodies of the six men who were killed by the fall of this structure, Mr. Fowler, engineer-in-chief, stated that "he considered the falling of the viaduct to have occurred by the one pier which had first settled having been built on *a bad foundation*." This appears to be "the truth, the whole truth, and nothing but the truth;" but when he states that the concrete upon which the pier was based "was of good material, and had once been properly set, but had afterwards been disintegrated by pressure," the soundness of his evidence may be questioned.

There is not a man in the profession who has not known properly formed concrete subjected to a much greater pressure than that resulting from a pier 10 feet high, and an arch of 20 feet span, without suffering *disintegration*; and particularly so if it were based on clay, which would cushion it against destruction. It is, therefore, obvious that the theory of the disintegration of good concrete cannot be admitted; and we may infer that the "*bad foundation*" was not improved by bad concrete.

Humanity demands that an effect so serious should be traced to the cause that produced it; and, moreover, it is due to the public to determine, as far as possible, how much in this case is to be attributed to neglect, and how much to accident. To contribute to this end is the only wish of Hydraulic Lime.

THE "BUILDER'S" FIRE.

At this time of the year we wish again to draw attention to the method some time since described of laying the materials for a fire in the grate, and lighting the coals on the top. There is one part of the process which is applicable to the old form of lighting a fire; namely, *covering the bottom of any grate with a plate of sheet iron*. This alone will save more than one-fourth the coal, and preserve a *better fire*. At a cost not exceeding 1*s.* the experiment may be tried. The saving will be more than half this in each week.

The *Builder's* fire is made regularly by thousands in all parts of Great Britain: we again draw attention to it that both coal and smoke may be saved.

TO DESTROY FLEAS IN FLOORS.

In answer to your correspondent relative to "a means of destroying fleas in floors," I beg to say I have used the following most successfully. I made a strong decoction of laurel leaves by filling a large copper with the leaves, adding as much water as I could, and boiling them for four or five hours. I then took the leaves away, and deluged the floors with the boiling hot liquor.

There were thousands of fleas in the floors at the time; but I lived for several years in the house, and I do not recollect to have seen one afterwards.

The liquor will but very slightly discolour the ceilings, which of course can be whitened again. The quantity of liquor I used was as much as sixty or seventy gallons.

W. B. Baker, Architect.

LAMBETH BRIDGE WIRE ROPES.

Crossing over the new bridge at Lambeth a few days since, I was led to make a hurried examination of the wire rope by which it is suspended, and which, I think, ought to have some protection against the pernicious effects of the atmosphere. It may easily be done. I, of course, do not know if it be contemplated by the engineer, and therefore call your attention to it. The rope appears to have had one or two coats of paint, but in many places the paint has left the wire of which the rope is composed, and oxidation is plainly visible.

I need not tell you that the wire offers a very large surface exposed to the weather, and will be considerably more liable to destruction than a solid piece of iron of the same dimensions. And if such effects are visible now that the bridge has only been finished about three weeks, what may we expect a few years hence, except this, that some fine morning it may be found in the bed of the river.

The spaces between the outer wires forming the rope are filled up with putty, evidently to prevent a lodgment of water; but that is so imperfectly done that it is comparatively useless. Moreover, I question if it will not constantly drop out piece by piece as the vibrations take place.

"A stitch in time saves nine;" and "A little neglect breeds great mischief."

Observer.

ECCLESIASTICAL CROSSES.

Although the subject on which I am induced to address you does not directly refer to building; yet, I think, I shall be more likely to learn from some one of the architects and others who are in the habit of reading your truly interesting and useful paper, the number, names, shapes, and, when they are so distinguished, the colours of ecclesiastical crosses; or, in default of that, where I can find any thing on the subject. CANTAB.

ALLEGED DISCOVERY OF LEAD.

SIR,—On receiving the *Builder* last week I was amused on reading a notice that Professor Ansted had discovered something wonderful on Mendip. It is all nonsense. It was discovered twenty years ago, and worked by Dr. Summers.

I myself erected all the machinery and furnaces for a company twelve years ago, near the same spot, where they have been working and taking out upwards of forty tons per month ever since; and out of this kind of stuff, which is held up as a great discovery. I saw it long before the Professor did, and proved what it was worth. J. WALKER.

Books Received.

Handbook to the Crumlin Viaduct. With Details and Illustrations. By HENRY N. MAYNARD. Weale, High Holborn, London, 1862.

THE Crumlin viaduct, in Monmouthshire, ranks among the most notable of the railway works in this country, and has been often described, in our own pages as well as elsewhere. A handbook, such as this is, with details of the design, dimensions, and general proportions of the structure, deduced from the actual data used in designing and constructing the viaduct, will be useful. The book also contains a description of the locality.

It may refresh the memory of some of our readers if we just glean from it a few of the leading points of the Crumlin viaduct before we lay it aside. The structure is reared on open cross-braced iron pillars with wrought-iron girders, Kennard & Warren's patent. Mr. Thomas W. Kennard was the designer, and the structure was carried out under his direction. The length of ironwork is 1,500 feet; but including abutments of masonry the length is 1,658 feet. The height is 200 feet; or from top of handrail to underside of foundations, 208 feet. The total cost was 62,000*l.*

The Parlour Gardener. London: Sampson Low & Co. 1863.

THE preface to this handsome little volume announces that it has been published in consequence of considerable attention having of late been drawn to the cultivation of ornamental plants in dwelling-houses; and as this is a subject which we have ourselves often urged, we are glad to be able to bring to the notice of our readers a volume containing the requisite practical information for all who desire to enliven and adorn their windows and their parlours with ornamental plants and flowers.

Diaries and Calendars.

MESSRS. DE LA RUE have published a variety of Red Letter Calendars and Red Letter Diaries, ranging from the tiniest of waistcoat pocket companions to the more portly accompaniment of the library table. Some are in the shape of handsome pocket-books, and the whole are very well printed and edited with care.——"The Farmer's Almanac and Calendar for 1863" contains a great deal of information valuable to those to whom it is addressed. —— "Dietrichsen and Hannay's Royal Almanac" is as usual a remarkable sixpenny worth.

Miscellanea.

A LONG CASTING.—An extraordinary piece of casting has just been completed by Mr. Thomas Smith, of Cannon-street, Adelphi, Salford. It consists of a 4-inch iron tube, 50 feet in length and 1 ton in weight. Usually, tubings do not exceed 9 feet in length; but the number of joints it was thought would cause a great waste of steam.

THE ALBERT CLUB, BAYSWATER. — We learn that a club for gentlemen has been instituted at 47, Kensington Gardens-square. The committee of management includes Lord Robert Montagu, M.P., Lord Formoy, M.P., Colonel Creagh, Major Rudd, Major Kirby, Messrs. Corfield, Webb, Bowring, Sprange, Kiallmark, and others. Reading, dining, billiard, and smoking rooms are provided, together with a limited number of dormitories for resident and country members. This is the westernmost club ever established, and marks the advance of the suburb.

DESTRUCTION OF GRANTHAM EXCHANGE HALL. This Exchange has been destroyed by fire. As to the origin of the fire, it is supposed that it must be attributed in some way to a diorama of the Overland Route to India, which was being exhibited in the hall. The loss to the proprietors of the diorama, Messrs. C. & G. W. Poole, is estimated at 2,000*l.* The loss to the shareholders of the Exchange Hall Company is variously estimated at from 500*l.* to 1,000*l.*, and is partly covered by insurance.

MERTON COLLEGE, OXFORD.—Some extensive alterations have been commenced at this college. The ground which has hitherto in part been planted and in part been covered with modern out-buildings to the south-west of the library is being prepared to receive a building, with sets of rooms, facing Merton Fields, for sixteen undergraduates. The south side of the library, which has been hitherto very much shut off from sight, will form one side of a new quadrangle, the new rooms being at right angles with it in the Grove. The new buildings, about 60 feet long and 30 feet in depth, will be faced with Bath stone. There are several minor alterations in contemplation; and the works will be executed according to plans prepared by Mr. Butterfield, of London. The venerable elm trees, which have so long formed a rookery, have all been sold, and nearly all felled and removed.

TELESCOPE LADDER.—An invention, called the telescope ladder, has just been patented by the inventor, Mr. G. H. Morgan, surveyor and builder, New Market-street, Hereford. This ladder, which might be made to a great length, shuts up, says the *Hereford Times*, like a telescope; the uppermost *floor*, so to speak, shutting up in the next, and so on to the bottom: in like manner the first floor is easily projected, and may be turned against a wall at any angle: then follows the second, third, fourth, &c. The whole series shuts up into a small compass. The machine is very portable, for it may be carried by one person from place to place, through doors or passages, into courts, areas, halls, yards, or other confined space; from room to room, upstairs and downstairs, from floor to floor. A very long and powerful ladder may be constructed and fixed upon wheels, and be used most efficiently in cases of fire. The ladder might be used as a long or a short fire-escape, and could be readily conveyed into premises and to their backs, where no ordinary ladder of any length could be conveyed.

ARRANGEMENT OF CHURCH WINDOWS. — As bearing strongly on the observations on this subject in our last, we may mention that the committee of the Lincoln Diocesan Architectural Society, having lately been applied to respecting the choice of subjects in series for stained windows in churches, wish to express their opinion that, where it is possible, the subjects should be arranged in chronological order, illustrative of our Lord's life, or generally of the Gospel or church history; and, in some cases, the New Testament events represented might be accompanied with the corresponding types and prophecies from the Old Testament. In order to carry out this idea, the committee will be very glad to receive any information or suggestions on the subject, as they consider the present system of putting in such windows at haphazard deprives them of much general interest, and greatly impairs the value of their scriptural teaching. Communications may be addressed to the Rev. the Secretary (care of M. Drury, esq.), L.D.A.S. Rooms, Silver-street, Lincoln.

NEXT CONGRESS OF SOCIAL SCIENCE ASSOCIATION.—On the 20th inst., a meeting of the council of the Social Science Association was held in Waterloo-place, the principal business being to decide the place of the annual meeting of the Association in 1863. Lord Brougham, on taking the chair, moved a resolution expressing the deep sense of the council of the loss sustained by the Association in the death of Sir Benjamin Brodie, one of their earliest members. The Lord Mayor of York, Mr. Alderman Husband, and other gentlemen attended as a deputation to urge the claims of that city to a visit from the Association; and Edinburgh was represented by Mr. Charles Cowan, Mr. Bailie Mossman, and Mr. Robert Chambers. After a long discussion, in which Lord Stanley, Mr. Denman, M.P., Mr. Macqueen, Q.C., Dr. Farr, Mr. Newmarch, Mr. Hastings, Mr. Rawlinson, Mr. H. Roberts, and others took part, the question between Edinburgh (moved by Mr. A. Kinnaird, M.P.) and York (moved by Mr. Godwin) was put, and decided in favour of the former by 22 to 17. There are many strong reasons in favour of York for next year, but the weight of nearly 300 names attached to the memorial from Edinburgh carried the day.

POISONOUS PAPERHANGINGS.—The Registrar-General, in his metropolitan return for the week ending November 10, mentions the death of a child, eight months old, in Burr-street, Aldgate, Whitechapel. The cause of death is returned as follows:—"Diarrhœa (one month), accelerated by, if not entirely originating from, arsenical paperhanging."

SUBMARINE BLASTING.—At the new pier in progress of construction at Havre, engineers are now employed in removing the foundations of the tower of Francis I., and they take advantage of the high tides to spring the mine, then covered with water. The engineers no longer make cavities in the submarine rocks to contain the powder: they merely place a large glass bottle inclosed in a basket at the bottom of the sea where they mean to act, and this bottle is filled with gunpowder in proportion to the effect to be produced. The pressure of a column of water of some feet is sufficient to compress the gas so powerfully as to cause great ravages where the basket is placed, even were it the hardest granite. The gunpowder is ignited by electricity.

BRADFORD SCHOOL OF ART.—The annual meeting of the friends of this school has just been held, in the large room of the school in Victoria-buildings, Bradford. There was a large attendance of ladies and gentlemen. The drawings of the pupils were exhibited as usual, and there was an exhibition of works of art besides. Mr. A. Harris, junior, occupied the chair, and addressed the meeting introductory to a resolution to the effect, that the meeting recognised the necessity of the establishment of an Association for the Education of Designers and Skilled Workmen, both in the staple and other trades of the town, and would impress on the employers of designers and skilled artizans, and on these latter themselves, the necessity of aiding by every means in their power the efforts the School of Design is about to make for the establishment of such association. This resolution was unanimously passed, and the prizes were afterwards delivered by the president to the successful pupils.

CORROSION OF COPPER IN A WELL.—A correspondent, "G. B.," of Blackheath, says:—"I have a force-pump made of copper, and copper pump-rods, fixed in a well 30 feet deep. The copper corrodes to such an extent that it is necessary to take it out from time to time and cleanse the pump and rods, in order to prevent the water becoming impregnated with copper." He therefore asks if we know of any application that will prevent the corrosion of copper in wells. To this it is easy to reply that zinc will prevent the corrosion of the copper; but the still more important question here seems to us to be, how the water is to be kept pure from either zinc or copper; as the copper is only kept from corrosion by the corrosion of the zinc; which, though less poisonous than copper, is still by no means a desirable ingredient in the water. Means would, therefore, require to be taken to isolate the zinc solution, as well as that of the copper, from the water. Perhaps some other correspondent may be able, from practical experience, or from theory, to suggest an efficient mode of meeting "G. B.'s" wishes.

THE MADRAS IRRIGATION AND CANAL WORKS. The report of the directors of the Madras Irrigation and Canal Company has been printed. From the statement in the report it appears that the whole line of the main canal for irrigation and navigation, from Soonkasala to Kistnapatam on the eastern coast, a total length of about 310 miles, is now in the hands of the company; that the two most important works in the upper portion are progressing satisfactorily; that of the main canal, the first 17½ miles, with the necessary masonry culverts, sluices, and escapes, are very near completion; that a further distance of 26 miles, from the Anicut at Soonkasala, is progressing; that upon the succeeding portion construction has commenced; that plans and estimates of the minor irrigating channels and works, from the 1st to the 72nd mile have been approved; that of the section of the main channel, extending from the 91st to the 104th mile, plans and estimates were on the 1st of October last before the Government for approval; that the completion of the plans and estimates of the next section (between the 104th mile and Somaishwarum), were awaiting only the result of a further investigation desired by the chief engineer, with a view to economy in construction and greater efficiency; that the construction of the terminal portion from Somaishwarum to the coast is proceeding; and that the supply of labour has been fluctuating and somewhat depressed, but is now regaining its former abundance.

FIRE.—On Tuesday a fire occurred in the well-known and extensive premises belonging to Mr. C. J. Freake, situate in Onslow-square, Brompton. The flames commenced in a timber building 150 feet long. Information of the outbreak having been sent in all directions, in a very brief period the engines arrived. The building in which the disaster commenced was about one-third destroyed.

GAS-WORKS AND DANGEROUS STORES.—Whether such juxtaposition as gas-works, with gasometer containing thousands upon thousands of explosive gas, should be permitted alongside oil stores and refinery, is a query. Is the Metropolis Management or the Building Act *inoperative?* Had the recent fire at Price's oil stores, &c., Blackfriars, caught the adjoining City Gas-works, who can say what might not have been the extent of damage to life, limb, and building, had the gasometer exploded? Petroleum stores require special permission from the Metropolitan Board of Works. Storing gunpowder in town is a fineable offence.—N.

COUNTY COURT DECISION AS TO WAGES.—At the Liverpool County Court, E. Stephens sued Mr. Ray, a builder, for 4s. 4d., the amount of one day's wages. The question involved was whether a master had the power to discharge a man one day, and compel him to come next day to receive his wages. Several operative joiners were called to show that the rule of the trade was to pay a man his wages when he was discharged. For the defence, Mr. Jump and Mr. Jones, builders, and Mr. Jump's foreman, contended that the practice was to pay the men, not when discharged, but on the regular pay-day. They admitted, however, that there were exceptions to the rule, and that there was no prevailing custom throughout the trade. Mr. Jones also said the builders of Liverpool wished some rule to be adopted by which all parties should be bound. Judgment for the plaintiff, with costs.

MUSIC AND THE DRAMA.—Miss Sarah Dobson has strengthened her position greatly, both as singer and actress, by her performance of *Satanella*, in Balfe's opera of that name, and bids fair to take an excellent place in her profession. With study this may be almost assured. Mr. Harrison and Mr. Honey are greatly missed in the present cast. The result, indeed, on Wednesday, was an empty house. Throats, however, are not made of iron, and must have rest. The crowding takes place on the four nights of the week when "Love's Triumph" is on the bills. The success of this opera is unequivocal. Not less so with the music-sellers. Some of the songs were out of print, we are told, forty-eight hours after the first production of the work. *The Princess's Theatre.*—Mr. John Oxenford's version of *Le Verre d'Eau*, entitled "The Triple Alliance," is a very agreeable little drama, very well played by Mr. G. Vining, Mr. Shore, Miss Oliver, and Miss Constance Aylmer. The first scene in "One good turn deserves Another," the blacksmith's house and forge, with bridge and country in the distance, is a remarkably good "set."

LONDON TRAFFIC.—Notice of application to Parliament in the ensuing session has been given by the City authorities for power to regulate the several routes to be followed by the omnibuses, cabs, and other public carriages for the conveyance of passengers, or to ply for hire; and by all carts, waggons, and other vehicles adapted or used for the conveyance of goods, &c., passing into, through, or out of the city of London and the liberty thereof, and the speed at which they shall be driven; to regulate the periods between which carts, waggons, &c., may stop in any street, lane, &c., for the purpose of being laden or unladen, and the time which any such cart, waggon, &c., may so remain; to regulate the height to which carts, waggons, and other vehicles for the conveyance of goods, wares, and merchandise may be laden, and the breadths between the outsides of the wheels of any such vehicle and the maximum width of the load of any such vehicle, to determine the particular streets, lanes, roads, &c., and the period of the day through which carts, waggons, or other vehicles, wholly or partially laden with timber, scaffold and other articles, consisting of wood, metal, or other material exceeding 20 feet in length, be allowed to pass, or be prohibited from passing; to regulate the mode in which cabs or hackney carriages shall be distinguished when empty, and when actually plying for hire; to regulate the manner in which barrows, trucks, and hand carts, &c., may be driven, pushed, or wheeled, and the particular streets, &c., and the particular time of the day in which the same may be allowed to stand, or be prohibited from standing; and, lastly, to authorize the making of by-laws and regulations, and the imposing of penalties. Stiffish powers!

THE MONUMENTS OF SERBIA.—A finely-illustrated work on "The Byzantine Monuments of Serbia," by Kanitz, has been published in the Imperial Printing-office of Vienna.

VALUE OF STREET SEWAGE AND MANURE AT DUNBAR.—The town's manure was found to be well adapted for the production of root crops, says the *Scottish Farmer:* and, from a small sum, the amount obtained for it has been gradually rising year by year. Some six or seven years ago it was sold at 60*l.* The price, however, has trebled within the last half-a-dozen years, and those who know its value best still think it worth the money. It has been sold this season at 195*l.*, being a rise of 23*l.* on last year's price.

ST. JUDE'S, GRAY'S-INN-ROAD.—The foundation-stone of the new parish church of St. Jude, now in course of erection in Gray's-inn-road, a short distance from the King's-cross Station, has been laid by Lord Calthorpe. A large concourse of persons was present. Mr. J. Peacock is the architect of the church, the style of which is to be Decorated Gothic. The contractor is Mr. G. J. Carter. The church is to contain accommodation for 1,000 persons; and the cost is estimated at 6,000*l.*

AN ARTIST'S HUNDREDTH ANNIVERSARY.—The hundredth anniversary of the birthday of Mr. Foster, of Derby, was celebrated on the 8th inst., when his friends entertained him at dinner in the County Hotel. Mr. Foster served under Abercrombie in Egypt, and left the army on the day on which Nelson died. He afterwards became an artist, and then a publisher, dealing largely in charts. He has been five times married; and his youngest child, born sixty-eight years after his eldest, is now only ten years of age.

AN ECONOMICAL LIME LIGHT.—Dr. George H. Smith, of Rochester (U.S.), in place of hydrogen employs ordinary coal gas, and instead of oxygen atmospheric air, which he states decomposes at the moment of combustion by passing through a suitable burner. The cost of the light, which is described as equal to the oxy-hydrogen light, does not exceed ½d. per hour. Photographs have been taken with it, and the apparatus is said to be durable, and more easy of control, than an oil lamp. The new light is considered to be thoroughly applicable for locomotive and ships' lights, as well as for lighting streets, churches, halls, and private rooms.

WARRINGTON SCHOOL OF ART.—We are informed that, at a recent examination of the works of the students of this school, under the mastership of Mr. J. C. Thompson, twenty-nine medals have been awarded, and eight honourable mentions. It is understood that the full complement of medals might have been received, but the thirtieth was refused by the sculptor of a head in marble; as it would have rendered it liable to the risk of transition to London for national competition. It is gratifying to see the high position this school has attained amongst provincial art-institutions in by no means the most populous of our towns.

THE PROPOSED NEW SCHOOLS AND LECTURE-ROOMS, CAMBRIDGE.—The Cambridge Architectural Society, in its annual report, thus refers to the plans which obtained the approval of the University in the course of the past year:—"In consequence of miscalculation in the cost, the University has been spared the erection of buildings in conformity with the designs submitted for the New Schools and Lecture-room. It is to be hoped that this breathing-time will enable the University to get some design more artistic in its character, though not involving an increased expenditure."

THE PNEUMATIC DESPATCH.—The transmission of parcels and small goods from station to station through a confined iron tube by means of atmospheric exhaustion and pressure will soon be commenced. The London and North-Western Railway Company having granted a site for a station and receiving-house, rent-free, at Euston-square, a few yards from the Clearing-house, the directors of the Pneumatic Despatch Company at once commenced operations by laying down beneath the roadway of Upper Seymour-street a line of iron tubing about half a-mile in length, and extending from that terminus to the post-office in Eversholt-street, under the superintendence of their engineer, Mr. T. W. Rammell. Within the iron tube, which is about 2 feet 9 inches high and 2 feet 6 inches wide (its section being similar to that of a railway tunnel in miniature), are two small ledges, or rails, on which the wheels of the small cars bearing the parcels will run. These will be propelled backwards and forwards, on the signal being given by the exhaustion and pressure of the air in the tube.

BRISTOL ACADEMY OF THE FINE ARTS.—The eighteenth annual meeting of this society has been held at the Academy, Queen's-road, Bristol; Mr. P. W. S. Miles, the president, in the chair. The attendance was small. Mr. Haythorne read the report, which began with some feeling remarks on the loss of the patron of the academy, Prince Albert. Amongst other topics it was stated in the report that the building of the academy being now completed, the trustees have resolved upon closing the capital account by transferring the sum of 6,392*l.* 6s. 1d., consisting of Mrs. Sharples' legacy, and sundry donations, to the credit of the building account. This will leave a balance of 995*l.* 9s. 3d. to the debit of the building account. The committee have sold a portion of the stock to pay off the greater part of the debt to the bankers, and trust to the support of the public for the future means of carrying on the business of the academy. The report was adopted, and thanks accorded to those who had contributed pictures to the Graphic Soirée.

TENDERS.

For the erection of one pair of semi-detached residences, St. Helen's-road, Blacklands, Hastings, for Mr. Roes. Mr. H. Carpenter, architect. Quantities supplied:—

Kenwood	£1,540	0	0
Jones	1,449	0	0
Howell	1,410	0	0
Palmer	1,377	0	0
Parks	1,329	0	0
Harman	1,316	0	0
Longhurst	1,311	0	0
Vidler (accepted)	1,215	15	0

For the erection of a house for Mr. Colley, Gordon-road, Peckham. Mr. Henry Jarvis, architect. Quantities not supplied:—

Clark	£585	0	0
Scliic	570	0	0
Chamberlin	539	11	0
Crawley	522	0	0
Sweeting	500	0	0
Tarrant	500	0	0
Bond	489	0	0
Sawyer	487	0	0
James & Ashton	485	0	0
Newcombe	475	0	0
Kent	447	0	0
Thompson	444	0	0
George	430	0	0
Smith	428	10	0
Ward	379	0	0

For alteration to No. 1, Prior Cottage, for Mr. H. Prior, Hastings, exclusive of plumbing, glazing, painting, and stone masonry. Mr. Hopkinson, architect:—

Parks	£378	18	0
Hoadley & Rogers	350	0	0
Stubberfield	332	0	0
Pattenden	329	8	4
White	309	12	0
Broadbridge (accepted)	290	10	0

For a villa residence at Tunbridge Wells, for Mr. John Colbran. Mr. W. Bond, architect. Quantities by Mr. Charles Strange:—

Elliott	£1,398	0	0

For a pair of semi-detached residences, Tunbridge Wells, for Messrs. Goodrham. Mr. W. Bond, architect:—

Jeffery, carpenter	£230	11	0
Mercer & Camfield, bricklayers	312	9	0
Wenban, plasterer	141	0	0
Dickenson, plumber, &c.	82	9	0
W. Jeffery, mason	49	15	0
Homersham, smith, &c.	37	0	0
	£852	15	0

For a public-house, Tunbridge Wells, for Messrs. Kelsey. Mr. W. Bond, architect. Quantities supplied:—

Brigden, carpenter	£250	0	0
Walker, bricklayer	226	11	0
Mason, plasterer	99	15	0
Strange, plumber	71	15	7
Catt, Smith, &c.	34	9	0
Harlowe, mason	26	15	0
	£709	5	7

For additions to Earlswood Idiot Asylum, Redhill, Surrey. Messrs. Field & Hilton, architects. Quantities supplied:—

Shearburn	£4,537	0	0
Barnes	4,124	0	0
Gammon	3,667	0	0
Carruthers	3,526	0	0
Sharpington & Cole	3,514	0	0

TO CORRESPONDENTS.

S. G. S. (has misread the statement. The head of water is 25 feet above the mouth of pipe)—Dover B. N. (three stories)—W. H.—O. J. & J. S. (already mentioned).—Subscriber, Warwick (apply to the Soup Kitchen, Euston-road).—M. D. T.—Anti-Humbug—G. L.—W. H. (send us particulars of the cause).—J. B.—T. M.—P. F. F.—H. C.—E. S.—B. & B.—W. D.—S. & Sons (too late for consideration this week).—C. C. N.—O. J. S.—J. R. H. (we will inquire).

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:
13 FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

Mr. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLOURIST, and LITHOGRAPHER,
No 21, MONTAGUE-STREET, RUSSELL-SQUARE, W.C.

MR. SAMUEL PEYTON,
5, PRINCES STREET, BEDFORD ROW.
Terms for Competitions, 10l. per hour.
TO BE DOUBLED IF OBTAINING PREMIUM, AND TREBLED IF OBTAINING BUILDING.

TO BUILDERS, ARCHITECTS, AND SURVEYORS.
FIRE and LIFE AGENTS WANTED for a wealthy Insurance Company of sixty years' standing. Commission liberal.—Application in the first instance to F. J. care of Mr VICKERS, 2, Cowper's-court, Cornhill, E.C.

PORT and HARBOUR of BELFAST.—The Harbour Commissioners of Belfast having resolved to appoint a RESIDENT ENGINEER, to assist in superintending the extensive works about being carried out for the Improvement of the Port and Harbour of Belfast, request that all persons who may be desirous of becoming candidates for the appointment will lodge their applications and testimonials with the Secretary to the Commissioners, on or before 15th DECEMBER next. In making the election, a decided preference will be given to such candidates as may have had experience in similar works to those which are now in contemplation. The salary to be 300l. per annum.—Further particulars may be obtained on reference to the Secretary,
WILLIAM THOMPSON, Secretary.
Harbour Office, Belfast, 29th October, 1862.

THAMES NAVIGATION.—GENERAL SURVEYOR and COLLECTOR.—I hereby give notice, that at the next General Meeting of the Commissioners, to be held at the Town-hall, in the city of Oxford, on SATURDAY, the 27th day of DECEMBER next, at ELEVEN o'clock in the Forenoon, the Commissioners then and there present will proceed to ELECT a GENERAL SURVEYOR and COLLECTOR, in the room of Mr. George Treacher, who has resigned on account of ill health. The salary will be 250l. a year The person elected will be required to enter into a bond, with two sufficient sureties, for the due performance of the duties of the office. Applications and testimonials must be sent to me on or before FRIDAY, the 12th day of DECEMBER next; and in the mean time information as to the duties of the office may be obtained on application to me.
T. H. GRAHAM, General Clerk.
Abingdon, November 18th, 1862.

WANTED, by an extensive Building Firm in the City, a GENERAL WALKING FOREMAN. None but those of first-rate qualification need apply.—Address by letter only, to Messrs FIELD & CO. 136, Minories, stating references, &c. A liberal salary will be given.

TO TINMEN, &c.
WANTED, a Good GENERAL HAND in the TIN, ZINC, and PLUMBING line.—Apply to M. DUFFIELD, Slough.

WANTED, for a short time, a YOUNG MAN who thoroughly understands LAND SURVEYING and LEVELLING.—Address, stating terms and particulars, to X. Y. Z. Post-office, Liverpool.

TERRA COTTA WORKS
WANTED, a good FINISHER.—Apply by letter, stating terms, &c. to JAMES PULHAM, Broxbourne.

TO FOREMEN OF JOINERS.
WANTED, immediately, for a permanent situation, an active and thoroughly experienced SHOP FOREMAN of JOINERS.—Apply, stating wages required, names for reference, and other particulars, to Q E. Post-office, Darlington.

WANTED, a WORKING FOREMAN of MASONS, for a Monumental and Architectural Sculptor's yard.—Apply, by letter only, stating qualifications and what wages expected, to H 21, High street, Camden town, London, N.W.

WANTED, a first-class JOINER, for shop-fronts, stairs, &c.—Apply to J. M. at the Duke of Bedford, Crawley-street, Oakley-square, N.W. after seven p.m.

WANTED, by the Advertiser, a SITUATION in an Architect or Surveyor's Office. Is a neat draughtsman, and thoroughly conversant with the routine of an office. Address, H. B 191, Southwark Bridge road, S.E.

TO ARCHITECTS.
WANTED, a RE-ENGAGEMENT in an Architect's Office, by a neat and expeditious DRAUGHTSMAN. Understands perspective drawing, and is a fair colourist. Address, S. V 64a, New Bond-street, W.

WANTED, a RE-ENGAGEMENT, as General Assistant to an Architect or Builder, by the Advertiser, who possesses the experience of twelve years in similar situations, including the period of his articles, in a well known London Office.—Address, A. Z. Post-office, 98, Jermyn-street, S.W.

TO CIVIL ENGINEERS, CONTRACTORS, AND OTHERS.
WANTED, an ENGAGEMENT as INSPECTOR of PERMANENT WAY, or General Work through, by a practical Man. Testimonials of qualification can be given.—Address, W. F. 4, Dorset street, Pimlico.

TO BUILDERS.
WANTED, by a Young Man from the country, a RE-ENGAGEMENT as CLERK in a London Office of the above. Is accustomed to bookkeeping, and preparing detail and working drawings, &c. Salary no object at first.—Address, A. Y. Office of "The Builder."

WANTED, a SITUATION as CLERK, by a Young Man who has been four years in his last situation in a builder's office. Is quick at accounts and penmanship.—Address, A. O. Reading Rooms, 76, Strand, W.C.

TO BUILDERS.
WANTED, by a Practical Man, PLASTERER'S WORK, labour only. Town or country.—Address, A. B. 142, Lillington-street, Pimlico.

WANTED, by a first-class Man, a RE-ENGAGEMENT, to TAKE CHARGE of a BUILDING, in town or country. A carpenter by trade. First-class reference.—Address, Y. Z. 28, Royal-road, Kennington Park.

TO ARCHITECTS AND BUILDERS.
WANTED, by an experienced Person, having just completed extensive works in the West of England, a SITUATION as CLERK of WORKS, or as FOREMAN of WORKS, town or country. For references, apply to the Rev. R. SPEKE, of Wake-hill, near Ilminster, Somerset; and for applicant, H. W. Post office, Arcade, Newcastle-upon-Tyne.

TO CIVIL ENGINEERS AND CONTRACTORS.
WANTED, an APPOINTMENT as RESIDENT or CONTRACTOR'S ENGINEER, or the Superintendence of an Engineer's or Contractor's Office and Works. Has had considerable experience on railway, sewerage, and water works. Is a good draughtsman, leveller, and surveyor No objection to go abroad. Terms moderate.—Address, C. E. 20, Myrtle-street, Hoxton, N.

TO BUILDERS AND CONTRACTORS.
WANTED, by the Advertiser, aged 24, a SITUATION as CLERK. Writes a good hand, is a fair draughtsman, and accustomed to the routine of a builder's office.—Address, H. S. 8, Wellington-road, Camberwell, S.

TO BUILDERS, SMITHS, AND OTHERS.
WANTED, by a Young Man, aged 25, a SITUATION, where he could improve himself in SMITHING. Has a good knowledge of hot-water work, also gasfitting and plumbing. Wages not so much an object. Town or country not objected to. Address, B. C. 56, Gloucester-mews West, Montagu-square.

WANTED, a RE-ENGAGEMENT, as General Assistant to an Architect or Builder, by the Advertiser, who possesses the experience of twelve years in similar situations, including the period of his articles, in a well known London Office.—Address, A. Z. Post-office, 98, Jermyn street, S.W.

WANTED, a SITUATION as SHOP FOREMAN of JOINERS, or GENERAL FOREMAN, or to take charge of a job, by a thorough practical man. Good reference. No objection to the country.—Address, A. W. Office of "The Builder."

TO BUILDERS, CONTRACTORS, AND PLUMBERS
WANTED, by a Young Man, a JOB, as PLUMBER'S LABOURER. Can fill up his time at painting. Wages, 18s. per week.—Address, S. A. C. 6, Caroline-place, Fulham road, Hammersmith.

WANTED, by a Young Man, a SITUATION as PLUMBER and GASFITTER. Can keep accounts. Good references. Terms moderate.—Address, J. R. 17, Flemming-street, Kingsland-road.

WANTED, a RE-ENGAGEMENT, by a first-class Clerk of Works. Can prepare working drawings, take out quantities, measure work, write specifications, &c.—Address, S. 13, Adelaide-square, Windsor.

WANTED, by a Bricklayer, a SITUATION as FOREMAN or INSPECTOR. First-class references and testimonials as to character and ability. No objection to the country Address, M. T. 56, Kingsland-road, N.E.

TO BUILDERS AND CONTRACTORS.
WANTED, a RE-ENGAGEMENT as FOREMAN of CARPENTERS, or to take Charge of a Job. Good reference from last employer. Aged 30. Town or country.—Address, W. W. 2, College-street, Putney.

TO PLUMBERS AND BUILDERS.
WANTED, by a Steady Young Man, a SITUATION as PLUMBER or THREE-BRANCH HAND. Can do gasfitting and plain zinc-work. Thoroughly understands the plumbing business.—Address, J. O. 13, Windsor-terrace, City-road, N

TO BUILDERS, DECORATORS, &c.
WANTED, by the Advertiser, a SITUATION or EMPLOYMENT as GRAINER, &c. Is a good painter and paperhanger. Eighteen years' practical experience. Can measure and square up work. Reasonable terms. Town or country Address, A. C. 83, Harrow-road, Paddington, W.

TO BRICKMAKERS AND OTHERS.
WANTED, by the Advertiser, a SITUATION as BRICKFIELD FOREMAN of CLAMP and KILN WORK. Would rather take the work by contract. First-class references No objection to go abroad.—Address, THOS. W, Eaton Farm, Cobham, Surrey

TO BUILDERS AND CONTRACTORS.
WANTED, by a practical Carpenter and Joiner, an ENGAGEMENT to take the Charge of a Job, or as General FOREMAN —Address, H. W Alsbon Dining rooms, 24, Fish-street Hill, E.C.

TO ARCHITECTS
WANTED, by an ASSISTANT, who has a thorough knowledge of Gothic architecture, and has been engaged in first-class offices, a RE-ENGAGEMENT, or would prepare drawings at his own rooms.—Address, E. L. 40, Norfolk-street, Strand

TO ARCHITECTS, BUILDERS, AND OTHERS.
WANTED, by a married Man, aged 29, a RE-ENGAGEMENT as GENERAL ASSISTANT. Is a good draughtsman, accountant, understands measuring up work, superintending, &c. Salary moderate.—Address, F. W. 16, Moreton-place, Pimlico.

WANTED, by a steady Young Man, a SITUATION to WORK at CIRCULAR SAW BENCH, sharpen, &c. Has a knowledge of the planing, ploughing, moulding, and tenoning machines. A joiner by trade. No objection to town or country.—Address, D. S. F. General Post office, Bristol.

WANTED, by a handy Man, who is a good MASON and LETTER CUTTER, Constant EMPLOYMENT. Wages not so much an object as regular work.—Address, "CHIP," Post-office, Biggleswade, Bedfordshire.

SHOP FOREMAN OF JOINERS.
WANTED, an ENGAGEMENT, by a PERSON of considerable experience in the above capacity. Address, F. S 10, Gloucester-crescent, Islington-green, N.

WANTED, an ENGAGEMENT, as SHOP or OUT-DOOR FOREMAN, by a thoroughly practical Man well accustomed to the duties. Can measure up and estimate. References to leading Town contractors.—Address, A. B. 5, Crawley-street, Oakley-square, N.W.

WANTED, by the Advertiser, a RE-ENGAGEMENT as SHOP FOREMAN of JOINERS, or to TAKE CHARGE of a JOB. Understands the building trade in all its branches. Good references.—Address A. A. Post-office, Gray's-inn-road, W.C.

TO ARCHITECTS, BUILDERS, &c.
A GOOD DRAUGHTSMAN & COLOURIST wants EMPLOYMENT. Is well acquainted with domestic and farm architecture, can take out quantities, and measure up. Has a knowledge of land and timber measuring, and a thorough, practical knowledge of building. No objection to the country. Salary moderate.—Address, EASTAN, Office of "The Builder."

TO UPHOLSTERERS, &c.
A DRAUGHTSMAN of taste and ability desires a SITUATION as partial employment as above. Terms moderate.—Address, W. C. E. 59, St. George's-road, New Kent-road, S.E.

A JUNIOR ASSISTANT, well up in all kinds of office and out-door work, perspective, colour, &c. is open to an ENGAGEMENT.—Address, R. T. No. 8, Grellock-terrace, Vauxhall Bridge-road.

TO HOUSE AND CHURCH DECORATORS, &c.
THE Advertiser desires a SITUATION as MANAGING FOREMAN. Has had a thorough practical experience for many years in the first firms of the trade, and is fully competent to carry out all required in its various branches, and advance with the times.—Address, SOYEZ FERME, 67, Lisson-grove North, Marylebone.

THE Advertiser is desirous of taking the SITUATION of ASSISTANT CLERK or WORKS upon a large building. A bonus will be paid.—Any reply must be in writing, and addressed to W. H. E. 30, Hugh-street, Pimlico, S.W. accompanied by the name of the building to be employed upon.

TO BUILDERS, PAINTERS, AND DECORATORS
THE Advertiser seeks a RE-ENGAGEMENT as CLERK and ASSISTANT. Has had three years and a half experience in the office of a decorator, in addition to an apprenticeship. Can square, measure, abstract, keep books, &c. Most satisfactory references.—Address, W. O. H. Office of "The Builder."

TO BUILDERS AND DECORATORS.
THE Advertiser, a good PAINTER and GRAINER, wishes for a PERMANENCY or a JOB. Good references.—Address, J. W. S. Office of "The Builder."

TO PLUMBERS, BUILDERS, AND OTHERS.
THE Advertiser, who thoroughly understands plumbing, painting, and glazing, wishes for a PERMANENCY. — Address, E. P. 1, Whitehart court, Bishopsgate street Without, E.C.

TO ARCHITECTS AND SURVEYORS.
THE Advertiser, who has been in the profession about six years, wishes for an ENGAGEMENT. Thoroughly understands making detail, working, and perspective drawings, write specifications, &c. Terms moderate, if for a permanency. Unexceptionable references.—Address, A. A. 73, Colemant-street, City, E.C.

TO PLUMBERS AND BUILDERS.
THE Advertiser, a Young Man, aged 23, a PLUMBER, a good lead layer, wishes to IMPROVE himself with inside work, as he does not feel himself competent for a first-rate job. Wages moderate, and would not mind giving a small sum. Good references.—Address, S. B. Office of "The Builder."

TO BUILDERS, CONTRACTORS, AND OTHERS.
THE Advertiser, a thoroughly experienced BRICKLAYER, is open to TAKE any AMOUNT of BRICKWORK as PIECEWORK, either to find scaffolding or not. Good references.—Address, A. A. No. 14, Belvoir-terrace, Vauxhall-road, S.W.

TO ARCHITECTS.
CLERK of WORKS.—Thoroughly experienced in every description of artisans' work, and well versed in construction; a good draughtsman, measurer, correspondent, and accountant. Habits steady and businesslike. Can be strongly recommended for integrity and ability. Salary moderate.—Address, J. S. WILSON, North Newbald, near Brough, East Yorkshire.

TO ARCHITECTS AND SURVEYORS.
A THOROUGHLY COMPETENT ASSISTANT desires an ENGAGEMENT in an Office. Is conversant with taking out quantities, estimating, and making practical and finished drawings. Speaks the French fluently.—Address, X. X. X. 2, Maida Vale, Paddington, W.

A SUPERIOR DRAUGHTSMAN wishes an APPOINTMENT in an Architect's Office. First class references.—Address, Q. Church End, Finchley, N.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.
A QUANTITY SURVEYOR, MEASURER, and ESTIMATOR, of twenty years' practical experience in the various works connected with buildings, would be glad to treat with architects, surveyors, or builders, for taking off quantities, measuring, estimating, pricing bills, quantities, making drawings, writing specifications, making surveys of dilapidations, &c. upon reasonable terms. Satisfactory references given.—Address, S. Y. R. Office of "The Builder"

TO ARCHITECTS AND OTHERS.
A YOUNG ARCHITECT is desirous of employing his spare time by giving ASSISTANCE in making out working drawings (in any style), specifications, perspectives, &c. at a moderate charge.—Address, R. D. 65, King William-street, E.C.

TO ARCHITECTS.
A THOROUGHLY qualified ASSISTANT desires a RE-ENGAGEMENT. Is a first-rate draughtsman, designer, and colourist; thoroughly understands construction and materials, specifications, &c. Would undertake the management of an office. The highest testimonials.—Address, G. C. Y. 31, Langham-street, Great Portland-street, W.

TO SURVEYORS.
A CLERK, who is now bookkeeper and general clerk in a solicitor's office, but who leaves his situation shortly, wishes for EMPLOYMENT. Aged 23. Writes well; can take and draw plans, having been five years in an architect's office; and is willing to make himself generally useful. A good character from present employer. Salary, 100l. Country preferred.—Address, A. S. T. 24, New-street, Spring-gardens, S.W.

A COMPETENT and EXPERIENCED ASSISTANT desires a RE-ENGAGEMENT. He is skilful in design, detail, construction, perspective, and colouring. —Address, W. S. Office of "The Builder."

TO BUILDERS, PLUMBERS, AND OTHERS.
A FIRST-CLASS PLUMBER is in want of a Constant SITUATION. Willing to turn his hand to Gas-fitting, Glazing, and Painting.—Apply, by letter, R. M. No. 1, Tyssen-street, Hoxton Old Town.

TO ARCHITECTS AND BUILDERS.
A YOUNG ARCHITECT, or a Builder's SON, of good ability and conduct, wishing to IMPROVE, can be RECEIVED, without premium, into the London Office of Architects in large practice.—Address, J. A. H. Messrs. Newton & Co. No. 2, Warwick-square, London, E.C.

A YOUNG MARRIED MAN wishes to obtain a constant SITUATION, in town or country, as good JOBBING PLUMBER and GAS-FITTER. A good sheet-worker and jointer; can do plain graining. Has been used to all the branches of general repairs. Good references if required. Address, W. E. 1, Clifton place West, Brompton.

A HIGHLY-CONFIDENTIAL and Respectable Man, aged 30, of experience in machine-making, and some knowledge of business and accounts, WANTS a Confidential ENGAGEMENT as COLLECTOR or otherwise. Retrenchment no object to permanent engagement Satisfactory reference and security given.—Address, ENGINEER, Office of "The Builder."

TO MASTER HANDRAIL AND STAIRCASE BUILDERS.
A RESPECTABLE and steady Young Man, a good General Joiner, is desirous of acquiring a knowledge of the above branch and better class of joiners' work, and wishes to make arrangements with a respectable firm for about six months' practice.—Address, M. S. Post-office, Kingston-on-Thames, S.W.

JOSHUA WILSON, deceased.—In pursuance of the Act 22nd and 23rd Victoria, cap. 35, intituled "An Act to further amend the Law of Property, and to relieve Trustees," notice is hereby given, that all Creditors and other persons having any Claims and demands upon or against the Estate of JOSHUA WILSON late of No. 1, Cottage, Back road, St. George in the East, in the County of Middlesex, Builder, deceased, who died on the 11th day of November, 1861, and probate of whose will was granted on the 10th day of December, 1861, by her Majesty's Court of Probate Principal Registry, to Mr. ANDREW WILSON, of Harley cottage, Bow road, in the county of Middlesex, Architect, and Mr. JOHN ALEXANDER WILSON, of 33, Great Tower-street, in the city of London, Ship and Insurance Broker, the Executors of the said Joshua Wilson, are required to send in the particulars of their said debts, claims, demands, and accounts, and if any of them be secured upon or before the 8th day of JANUARY next, or that in default thereof the said Executors will, at the expiration of the above time, proceed to distribute the Assets of the Testator among the parties entitled thereto, having regard to the debts, claims, and demands only of which they shall then have had notice. And notice is hereby further given that the said Executors will not be liable for such assets, or any part thereof, so distributed, to any person of whose debt or claim they shall not then have had notice. And all persons owing any debt or money to the said Estate, are requested forthwith to pay the same to the said Executors, or to the undersigned on their behalf.—Dated this 25th day of November, 1862.

MORRIS, STONE, TOWNSON, & MORRIS,
Moorgate-street Chambers, Moorgate street, London,
Solicitors for the said Executors.

VENTILATING STOVES—Cheap, simple, efficient, and durable. Thousands have been sold, and universally approved. They are suitable for Halls, Warehouses, Conservatories, and every situation where a close stove is required. The largest sizes are extensively used in churches, chapels, and public buildings, with great effect and economy. Prices, £5, £10, £15, £20, and £30. Prospectus with engravings, gratis and post free. In operation daily. The trade supplied.

DEANE & CO.,
Opening to the Monument, London Bridge. Established A.D. 1700.

SLATION ROOFS and ROOFS of every kind GLAZED WITHOUT PUTTY, and warranted PERFECT EVERY DESCRIPTION OF BUILDINGS EFFECTUALLY WARMED with T. G. MESSENGER'S Triangular Tubular Heating Apparatus—Full particulars of the above, and references supplied, upon application to the Patentee.

T. G. MESSENGER, Engineer, &c Loughborough.

TO CONTRACTORS and OTHERS in want of a really good ENGINE—FOR SALE, price 125l., a capital ten-horse power PORTABLE ENGINE, in good working order, with return-flue boiler, mounted on carriage and wheels. May be seen any time by appointment.—Address, Z. A. Office of "The Builder."

ROYAL HARBOUR of RAMSGATE.—NOTICE.—To MILL-OWNERS, PROPRIETORS of WATER-SIDE PREMISES, and RAILWAY COMPANIES.—TO BE SOLD, a CAST-IRON SWING BRIDGE, in good condition, capable of spanning 40 feet 8 inches. The bridge can, if required, be fixed as a permanent bridge across a canal, mill-stream, or roadway. Also a Cast-iron Drain, 9 ft. by 6 ft., weighing about three tons.—For further particulars apply to the Harbour Master, or Resident Engineer on the Works.

FRANCIS SHAW, Harbour Master.
Royal Harbour Office, Ramsgate, November 19th, 1862.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the most efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.

D. HULETT & CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres &c. &c.

MOORE'S PATENT VENTILATOR
NOTICE OF REMOVAL
In consequence of the expiration of the Lease at 81, Fleet street, all Communications are respectfully requested to be made at the Works, JOSIAH MOORE, Patentee.
SEKFORDE WORKS, ST. JAMES'S WALK, CLERKENWELL, E.C.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER. THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.



SMOKY CHIMNEYS. — The best Cure is the PATENT ALBERT CHIMNEY CAP, 250 on Buckingham Palace; in use also at St. James's Palace, Windsor Castle, Government Building, Mansions, Halls, Club houses, and buildings in general. Prospectuses on receipt of two postage stamps

JAMES BARTON,
Iron Works, 370, Oxford-street, W.
N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
50, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.

CARY & PRIER,
DR BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These Pencils are prepared in various degrees of hardness and shade.

H H H H for drawing on wood		F F light and shading.	
H H H for architectural use.		F for general use.	
H H for engineering		B black for shading.	
H for sketching	B B	ditto	ditto
H B hard and black for drawing	B B B	ditto	ditto
	B B B B	ditto	ditto.
Medium			

Sold by all the principal Stationers in town or country

OATES'S PATENT SOLID BRICK MACHINE.—Persons who may be contemplating MAKING BRICKS by MACHINERY are requested to see the above Machines in operation before purchasing others. These Machines are warranted to make thirty perfect bricks per minute, stiff enough to be wheeled (as soon as made) to the kilns to be burnt; and from the time the clay is dug from the earth until the bricks are made and set in the kilns for burning, does not exceed five minutes.—Application to be made either to J. P. OATES, Edgbaston, near Birmingham; or to OATES & BAYLIE, Stourbridge, from whom drawings and every information may be had, with card to view.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Quoins
Fancy Moulded Bricks of many patterns.
Best hard kiln-burnt Common Bricks, in large quantities.
Do. 6 inches.
Do. Culvert Bricks.
Plain Tiles of kinds
Plain and Fancy Ridge tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.
BUNNETT'S CRITERION PATENT CONTINUOUS FEED
BRICK, TILE, and PIPE MACHINES
Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.
Price, including royalty, and three dies, 85l.
Licences to Manufacturers granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from the station), Kingston-on-Thames; and also in action, at the International Exhibition, Class 8, No. 1,810.

BRICKS, PANTILES, AND PAVINGS.
J. H. ANDREWS, Wisbech, Cambridge shire, offers
Red Pantiles, at 47s. 6d. per 1,000.
" 6-inch Pavings, at 57s. 6d. per 1,000.
" Floor Bricks, 40s. per 1,000.
Mingled Kiln Bricks, at 26s. per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line on the Eastern Counties Railway. About 2,000 Bricks lying at Devonshire-street Station, at 24s. per 1,000.

A NEW BRICK and LIME WHARF, and DRAWDOCK.
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam-Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA-COTTA:
SPLAY, JAMB, AND COPING BRICKS;
BUFFORDS AND OTHER FAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALMCUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

TO BUILDERS, JOINERS, SHOP FITTERS, and GLASS-CASE MANUFACTURERS.—FOR DISPOSAL, a lucrative and old-established BUSINESS, situate in one of the principal marts for shop-fittings of all descriptions. The premises comprise capital dwelling house, shop, offices, large warehouse, excellent yard, with cart entrance, and three tiers of spacious workshops, where an extensive manufacturing and sale trade is carried on. Long lease, moderate rent and terms.—Apply to Messrs. BROAD & PRITCHARD, 28, Poultry, E.C.

TO PAINTERS and DECORATORS.—A Good Opportunity presents itself of OBTAINING a BUSINESS in the Midland Counties, established upwards of 100 years, embracing the branches of Painting, Decorating, Paper hanging, Picture Frame Manufacture, &c.; at present in full work, the proprietor declining for most satisfactory reasons. A Photographic Gallery in part attached to the trade. The front show shop, workshops, warehouses, stables, &c. are all adjoining each other.—For further particulars apply to L. X. care of Mr. T. W. Clarke, Bookseller, Mansfield.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, HOUSE PROPRIETORS, &c. &c. The Waterproof Glue makes an admirable cement for wet foundations, to prevent water rising, and the Varnish will enable damp walls to be papered over directly.

Copy of a letter from Mr. T. E. Owen, architect, Southsea:—"I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The varnish has succeeded better than any article I have known as an anti-damp, the damp wall being coated with it before papering or painting. If the plastering be sodden and rotten, it should first be scratched with cement. I have used this material successfully for tank-work."

To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos-street, Portsmouth. Mr. GEO. WEEKS, Manager. GEO. C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

GLUE—PRIZE MEDAL, 1862.
PROCKTER & BEVINGTON are compelled (in consequence of many imitations), to acquaint dealers and consumers, that they are the ORIGINAL and ONLY manufacturers of
IMPERIAL GLUE
who have obtained a Prize Medal.—Sold by all respectable ironmongers and oilmen.
Works: No. 124, Grange-road, Bermondsey, London, S.E.

GILT BORDERING for ROOMS, from 1d. per foot. Best and cheapest House in London for every description of Room Bordering, Picture Frame Mouldings, and Picture Frames of every description, at the very lowest prices. Resigning in all its branches to the trade. 2-inch Gilt Beads, 7s. per dozen 6-foot lengths best ditto, 12s.
G. REES, 57, DRURY LANE,
Four doors from Drury-lane Theatre. Established in 1800.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND ARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1862.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

SHOWELL'S
PATENT WATERPROOF GLASS ROOFS,
Address—17, PRINCESS-STREET, MANCHESTER.

ARTISTS' IMPROVED STUDIO EASEL. Will take Canvasses from 6 inches to upwards of 10 feet high. Powerful winding-up movement; steady fall-forward ditto. Very complete, simple, strong, and efficacious.—WINSOR & NEWTON, Manufacturers, 38, Rathbone-place, London.

TO BUILDING SOCIETIES.—WANTED to BORROW about 3,500l. in one or several sums, on first-class FREEHOLD HOUSE PROPERTY in London.—Apply, by letter, to MORTGAGOR, care of C. Mitchell & Co. 12 and 13, Red Lion-court, Fleet-street, E.C.

TO PUBLIC COMPANIES, SURVEYORS, BUILDERS, CONTRACTORS, AND OTHERS.
C. PROCTOR, of 18, Jubilee-street, Mile-end, begs most respectfully to inform the above, in town or country, having any OLD MATERIALS to DISPOSE OF, that he is at all times prepared to offer the HIGHEST PRICE, and clear the ground in the shortest possible time, to the entire satisfaction of all parties concerned. All letters punctually attended to. Distance no object, and cash down

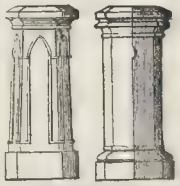
---

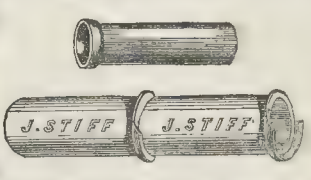
INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

INTERNATIONAL EXHIBITION. A REREDOS for SALE, 16 feet long, with five sculptured subjects in high relief, viz. Nativity, Triumphal Entrance, Last Supper, Betrayal, and Crucifixion. Can be seen in Class 10c, and price given on application to J. WILLIAMS, Sculptor, Ipswich; or G. MITCHELL, Marble Works, Brompton.

TO TIMBER MERCHANTS.—WANTED, about SIX LOGS of TIMBER, not less than 27 inches wide, and 14 feet long. Dantzic or pitch pine preferred. Must be thoroughly sound and good.—Address, stating price and where to be seen, to T. RUDKIN, Builder, 239, Fulham-road, S.W.

JAMES STIFF & SONS,
MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO
IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.





PAN, 4s. 6d.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of
LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.
THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.
Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.
BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.
15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

ORIGINAL PATENTEES.
SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,
AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.
SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents.
Blind Makers to her Majesty, by appointment.

No 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.
Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. BUNNETT & CO. ORIGINAL PATENTEES AND MANUFACTURERS.
Invite the attention of Architects, Builders, and the Public, to their recent Improvements in
REVOLVING IRON SHUTTERS,
Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT.
BUNNETT & CO.
Invite the attention of Architects to a completely new
Combination of the Revolving Iron Shutter and the Louvre Blind,
(See Model at International Exhibition, Class X. No. 2,246),
Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. BUNNETT & CO. ORIGINAL PATENTEES AND MANUFACTURERS.
Invite the attention of Architects, Builders, and the Public, to the last Improvements in
BRASS, COPPER, ZINC, AND IRON SASHES,
STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¼	1½	2	2½
„ 2ft. 6in. sup.	1½	1¾	2¼	3
4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s. } per cwt.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.

Fine Oak Varnish ...
„ Carriage ... } per gallon.
Linseed and Boiled Oil
Turpentine .....

Milled Lead in Sheet and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non conductor. 2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the Lumber usually required.—4th. It can be sent through the post by any number of persons. 5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for dampness under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED BREATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

STONE AND MARBLE CHIMNEY-PIECES FOR THE MILLION.

A STOCK OF 500 ALWAYS TO CHOOSE FROM AT
J. W. BIRD & CO.'S, THE EMPORIUM, 145, EUSTON ROAD.
A STONE BOX CHIMNEY-PIECE, WITH 8-INCH PIERS,
AND BEAUTIFULLY MOULDED CAPS, FITTED TO ANY OPENING,
COMPLETE FOR 7s.
N.B. Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.



PORTABLE STEAM PUMPING-ENGINES,
From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

GIACHOSA'S PATENT VENTILATOR and GAS EXPELLER, adapted to coal and other mines, and also to the ventilation of public and private buildings, ships of war, ship holds, &c. &c. This simple apparatus consists merely of a square concertina-shaped bellows, the size of which varies from 2 feet to 6 feet, according to the locality in which it is used. These machines contain valves, the number and size of which are determined by the size of the apparatus. A ventilator with a 2 feet square bellows would have four valves, each 3 inches in diameter, two inhaling and two extending ones; but for coal-mines, ships of war, ship-holds, hospitals, &c. &c. these valves are increased to seven inhaling and one to extrude, the diameter of which ranges from 4 inches to 6 inches; three of the inhaling valves collect the noxious gases and foul air in the upper region of the locality, and the other four, or lower valves, collect the heavy gas (carbonic acid, or "choke damp"), which, once in the receiver, can no more return to the locality from which they have been extracted, but must yield to be expelled by the extruding valves. In mines, through the shaft, or if in private or public buildings, the expelling tubes are carried into the chimney, and thus increasing the current of air prevent the chimney smoking. A ventilator with a 2-feet square bellows, and valves of 3 inches in diameter, is capable of fifty lever strokes per minute, and collects and extrudes 400 cubic feet of foul air, smoke, or gas per minute. A 6-feet square machine, a lapted for coal-mines, &c. with fifty lever strokes, collects and extrudes 10,800 cubic feet of noxious gases, foul air, or smoke, per minute, which is replaced with the same quantity of pure air, by fresh air-conveying tubes. In mines, the ventilator is either set in motion by a strap-wheel from their engines, or, if in the upper seams of the mines, it is worked with a lever by hand, as an apparatus of 4 feet square is there sufficiently powerful, and one man can work it with ease, as it needs only to be set in motion when required. A 4-feet sized machine is also powerful enough, for ships of war, casemates, Houses of Lords and Commons, &c.; but for private, town, and mine halls, breaks, hospitals, and theatres, a 3 feet sized machine is a most effective ventilator, as no doors or windows need be opened, and by this method of ventilating the inhumate atmosphere is gradually abstracted, and the remainder diluted by degrees with pure air, occasioning no draughts whatever, which is most important in ventilation.

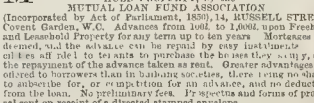
The last mentioned machine inhales and extrudes 675 cubic feet of impure air per minute, and by working it only half an hour, it clears the most extensive public buildings of 20,250 cubic feet of foul air. Nothing is seen of the Ventilator but the box containing it, which forms a useful ornament. The larger machines are put out of sight altogether. All the inhaling valves in mines, as well as in public and private buildings, for collecting the gas and noxious air in the upper regions of the locality, are connected with perforated tubes, which are carried along the upper part of the wall, in which half of the tube is let in, and so forms an ornamental part of the cornice. An apartment of the size of 30 feet by 30 feet, and 12 feet high, would contain 18,000 cubic feet of air, a 1-foot 6-inch ventilator, with valve 3 inches in diameter, would be sufficiently powerful of perfectly ventilating it; that if it was possible to make such an apartment air-tight, this little apparatus would pump out the 18,000 cubic feet of air in precisely two hours, with its minimum action—that is, twenty-five lever strokes per minute; and in each minute the 18,000 cubic feet of air would be diminished by 150 cubic feet. A Model Machine may be seen at the Inventor's residence, Guy's Cliff Villa, Warwick, where all inquiries may be addressed.

ANTIQUE CARVED OAK FURNITURE. TO BE SOLD by PRIVATE CONTRACT, a very rare and valuable collection of ANTIQUE CARVED OAK FURNITURE (having been the property of an antiquary), consisting of Bed, Chairs, Wardrobe from Queen Elizabeth's room at Kenilworth Castle; elaborately carved oak Cabinet, which formerly belonged to Thomas a'Becket; oak Cabinet, beautifully carved, from Fountains Abbey; Altar Table, extraordinarily carved by monks (very early date); Chairs which belonged to John Howard, Michael Angelo, Ben Jonson, Cardinal Pole, Locke, one on which Henry III. sat when he was at the Priory, Voltaire, La Fayette, &c. &c.—For further particulars with reference to the above apply to F. LETHBRIDGE, Esq. Maize-hill, Greenwich, Kent; or to C. C. TEMPLER, Esq. Court of Bankruptcy, Leeds.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.
Only Medal awarded for "excellence of construction of Mathematical Instruments."

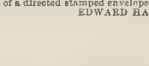
T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23 in. 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, taken on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use. Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d post free.
STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS.
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,
Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN FILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

TO BUILDERS, LANDOWNERS, and OTHERS.—Up to THREE THOUSAND POUNDS will be advanced towards the immediate BUILDING and ENDOWMENT of a CHURCH, in any of the new West End Districts of London, according to income.—Address, Messrs. NEWMAN & BILLING, Architects, 185, Tooley street, London, S.E.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the
MUTUAL LOAN FUND ASSOCIATION
(Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or exemption for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP



MOULDING WORKS.

SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),

BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

CLERIHEW & LASCELLES

(LATE WATERLOO, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DESPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL ROAD, AND STAMFORD STREET, LAMBETH, S.

N.B. Price List on application.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application

JOINERY OF EVERY DESCRIPTION.

STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,

110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET

(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

BUILDERS, AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square. Laths, 28s. per Load.
Yellow Deals, sound and good.....£19 10 0 per 120, or (3s. 3d. per foot.
Spruce Deals..... 16 10 0 „ 0 2½ „
Yellow Battens, excellent quality ..... 11 10 0 „ 0 2 „
Pine Planks, dry, 12 feet 8 inches by 11 feet ..... 21 0 0 „ 3 6 each.

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1¼-inch „	0s. 0d.	18s. 0d.	19s. 0d. „

Yellow Deals, 3 by 9..... £19 10 per 120.
Yellow Battens ..... 11 10 „
Spruce Deals ... . 16 10 „

Pine Planks (dry), 3 by 11 .....£24 0 per 120.
Pine Deals, ditto, 3 by 9 ..... 19 10 „
⅜-inch White Matched Lining..... 0 13 per square.

J. TERRY & SON, 109, Borough-road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards ... . } from 11s. 6d per square
10,000 Pine Planks .....from 3s. 6d. each
6,000 Yellow Deals .....from 3s. 3d. each
14,000 Spruce ditto .....from 2s. 9d. each

5,000 Yellow Battens..... from £11 10s. per 120
50,000 Feet Spanish and Honduras Veneer ..... } from 1d. per foot
Maple ditto ..... from 1d. per foot.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

JOINERY WORKS,

21, HARRINGTON-STREET, HAMPSTEAD-ROAD, N.W.

NEVIL SIMMONDS,

SHOP FRONTS, SASHES, DOORS, &c.

[Price Lists and Estimates on receipt of Stamp.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,

80,000 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 3d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; ¾ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.

A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, available for school or stable, in Class 15, No. 3,248.

JOSEPH FAIRER,

Turret Clockmaker to Her Majesty's War Department,

188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches		8 Guineas.
Gentlemen's	do. do.	10 „
Ladies' or Gentlemen's Gold English Lever Watches		18 „
Strong Silver Lever Watches		5 „
Gentlemen's Gold Compensation Balance Watches		40 „
Do.	Silver do. do.	25 „
Marine Chronometers.....		35 „

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railway, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation, with Wrought-iron Wheels.

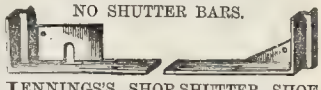
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL,

EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 3, Winchester-buildings, Great Winchester-street, E.C.

N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants' and Brokers' Orders promptly executed.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

ROBINS & CO.

To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which it is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

GEORGE ALLEN (late W. & T. N. GLADDISH),

LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.

DANVER'S WHARF,

FOOT OF BATTERSEA BRIDGE, CHELSEA.

HYDRAULIC LIME and CEMENT WORKS for SALE, within ten miles of Birmingham, with the branch, lease unexpired, eighteen years, minimum royalty, 1001 per annum; yield good in quantity and quality; plant in good condition.—For further particulars apply to Messrs. TYNDALL & JOHNSON, Solicitors, 34, Waterloo street, Birmingham.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs: Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Stilts, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order

Post-office Orders payable at Vauxhall or Edgeware-road.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.

" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1830)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.

IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;

YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c. RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks. The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into wagons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River

Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Pary's Mine Works, Holywell, Flintshire.

The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.

Agents wanted. No applications attended to without a banker's reference.

F. & G. ROSHER,

LIME, CEMENT, and BRICK MERCHANTS.

LONDON WHARFS:

WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.

MILLBANK STREET, WESTMINSTER, S.W.

KINGSLAND BASIN, KINGSLAND-ROAD, N.E.

OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.

LIMEKILN-HILL, LIMEHOUSE, E.

Wherever can be obtained, of the best quality:—

GREY STONE, CHALK, FLARE and BLUE LIAS LIME.

ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT,

COWLEY and KENT BRICKS.

WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.

Ditto and ditto WALL COPING BRICKS and TILES

YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.

WHITE, BLACK, and RED RUBBERS

STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS

TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.

Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN

DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, Bath, Larders, Dairies, Shops, Kitchen Ranges, &c.

WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size

GLAZED STONEWARE DRAIN PIPES, TRAPS &c

RED DRAIN-PIPES, TILES, and CHIMNEY-POTS.

TERRA COTTA and CREEN CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.

HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.

Goods forwarded by Railway with despatch.

LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

PARIAN CEMENT for INSIDE WORK. With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble — Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.

CLARK & BENGOUGH,

Manufacturers also of White Lead and Colours.

GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.

Office, 5, George-yard, Lombard street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

JAMES R. BLASHFIELD

(Late Wyatt, Parker, & Co.),

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.

No. 1, SOUTH WHARF, PEARD-STREET, PADDINGTON.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830), is ROBESON, Mount Pleasant, Gray's Inn-road. The cheap country-made article is bought and sold by nearly all the dealers, agents, and all pretending manufacturers, careless as to quality. Superfine and fine Plaster unequalled.

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,

LIME BURNERS,

BRICK MAKERS,

SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.

ST. JAMES'S and THORNHILL WHARFS,

CALEDONIAN ROAD, LONDON.

BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,

FRINDSBURY, near ROCHESTER, KENT.

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.

KNIGHT, BEVAN, & STURGE,

Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

LONDON WHARF, BELVIDERE ROAD, LAMBETH.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.

PAVING TILES in various colours and designs.

Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.

Dressed Blue Facing BUILDING and SEWER BRICKS.

Architects' designs carried out on the shortest notice.

Illustrated Catalogues on application.

JOHN & WILLIAM EASTWOOD,

Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,

By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALTON Dark and Bright RED RUBBERS

COWLEY, KENT, and ESSEX BRICKS,

IN ANY QUANTITIES, BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, SOLE CONSIGNEES.

WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge,

The usual commission allowed to merchants of the trade

N.B.—Every Description of the Building Goods of the Trade always in Stock.

STOURBRIDGE FIRE-CLAY WORKS,

E. BAKER & CO.

(Contractors to Government),

24 WHARF, HARROW ROAD, PADDINGTON, W.

Every Article manufactured at their own Works and Mines, Brierly Hill.

FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.

CRUCIBLE and CEMENT CLAYS.

GARDEN EDGINGS, of various Patterns.

BUFF and ORNAMENTAL TILES.

CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non absorbent.

Shipments on the shortest notice.

PORTLAND CEMENT.

GREAVES & KIRSHAW,

14, SOUTH WHARF, PADDINGTON, W.

L. M. TATHAM, Agent.

PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

STRINGFIELD & BLYTH,

SOLE CONSIGNEES OF

NELSON'S BLUE LIAS LIME.

ORDERS ADDRESSED TO MESSRS. S & R. BANGOR WHARF, CAMDEN TOWN, N.W. will receive prompt attention.

STRINGFIELD & BLYTH,

BANGOR WHARF, CAMDEN TOWN, N.W.

LIME, CEMENT, SLATE, AND BRICK MERCHANTS,

PLASTER OF PARIS MANUFACTURERS.

Thames Sand and Ballast by the Yard or Barge, and Building Materials generally

Country orders forwarded with despatch.

GREY STONE LIME.

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS:

12, UPPER GROUND STREET, BLACKFRIARS, S.

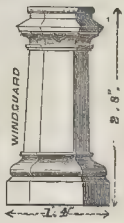
7, NORTH WHARF ROAD, PADDINGTON, W.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



INGHAM & SONS





LONDON WHARF, 64, Bankside, Southwark.

LONDON OFFICES, 76, King William-st. City.

MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARE, Agent.
LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY,



Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

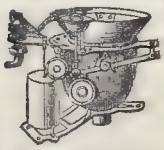
M. B. NEWTON, LONDON AGENT,

WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.

THOMAS LAMBERT & SON,

No. 37. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



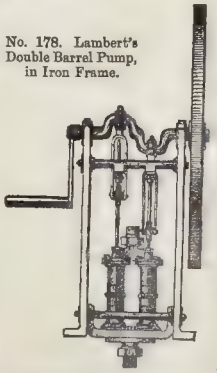
No. 36a. Bath Valves.



High Pressure Stop Valve.



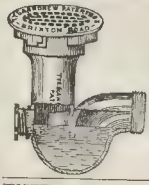
No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON find it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

WINDOW GLASS! WINDOW GLASS!

Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at CHRIST'S CITY GLASS WAREHOUSE, 47, Chiswell-street, opposite Whitbread's Brewery, E.C.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.

(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Post free, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:—
Cardington Street, Hampstead road, London.



GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 310, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price-lists forwarded free on receipt of business card addressed to R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHERS, sole Manufacturers, 187 and 188 (late 117 and 116), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

SALES BY AUCTION.

STEAMBOAT PIER, DUMMY, & Byers' hall-wharf.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, Upper Thames-street, on WEDNESDAY, DECEMBER 3 at TWO for Half-past, in lots, the DYERS'-HALL PIER, consisting of a dummy 50 feet in length, with bridge 70 feet long by 9 feet wide; five long moorings of oak and iron swivellers, piles, landing stages, &c.—May be viewed and catalogues had at the Pier; and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, S.W. and 80, Fore-street, City, E.C.

DEPTFORD.—To Contractors and Others.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, adjoining the Main Drainage pumping station, on TUESDAY, DECEMBER 16, at TWELVE for ONE, by order of Messrs. Aird and Son, in consequence of the completion of their contract, a quantity of valuable PLANT and MATERIALS; comprising a pair of 18 inch pumps and one 12-inch pump, with suction and crank valves, nearly new steam mortar mill, with 6 feet pan, 14 iron columns and bases, 90 wrought-iron principals, three 40-feet pile engines, with monkeys, crabs, and nippers, 300 sheeting pile shoes, 6 tons of T iron, 20 tons of steam piping, a large air vessel, wrought iron tank, 5 tons of 1½ inch tye rods, 50,000 Suffolk and blue Bedfordshire bricks, 18 inch earthen pipes, firewood, and other useful materials. May be viewed one day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

LANGHAM PLACE.—The valuable Materials of Langham House, to clear the site for the erection of the Langham Hotel

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Langham Hotel Company (Limited) to SELL by AUCTION, on the PREMISES, on WEDNESDAY, DECEMBER 17, and following day, at TWELVE, in lots, the whole of the excellent BUILDING MATERIALS, fixtures, and fittings-up of the spacious Mansion known as Langham House, Portland-place, to be taken down to clear the site for the erection of the Langham Hotel: comprising about 500,000 capital bricks, 25 squares of slates and slating boards; prime timber in rafters, joists, and girders; 100 squares of sound floor-boards, 50 squares of capital oak battening, 10 squares of red cedar sashes with plate bars and fittings, 70 four-panelled moulded and other doors, 10 handsome solid mahogany four-panelled doors and three pairs of folding doors to correspond, finely stained ash and other handsome chimney-pieces, stone staircases with ornamental wrought-iron railing, Ionic stone columns, cornice, and balustrading; the stone front of the building, 70 squares of York Portland, and other paving; 3½ tons of lead and large flats, gutters, and pipes; iron columns and girders, iron gratings, 380 feet run of ornamental iron railing with stone curb in front of the mansion, couch-house gates, iron racks and fittings of the coach-house and stables, handsome stoves, patta range with wrought and under hot-plates, and oven, coppers, cisterns, fittings of bath-room, four expensive mahogany bookcases, closets, presses, and numerous useful fixtures and fittings-up.—May be viewed two days prior on Catalogues on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City.

TO BUILDERS, MASONS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Mallcott, Brothers, & Co. in order to close the executorship accounts, to SELL by AUCTION, on the PREMISES, corner of West-street and Vere-street, snow-hill, on FRIDAY, DECEMBER 19, at TEN for ELEVEN, in consequence of the number of lots, the whole of the valuable STOCK of MARBLE and STONE; comprising Portland, Bath, and Craigleith stone in blocks, several hundred feet of sawn Hartshill and other slab, 5,000 feet of tooled, rubbed, and self-faced paving, York landings, steps, sinks, sills, and coping, Parian & colored statuary, curb and other pitchers, landings of Irish green, purple, and other colored marble, statuary and veined marble slab, 1 inch one statuary and other chimney pieces, jointed granite head-stones, &c.; also a quantity of scaffolding, consisting of poles, ends, putlogs, boards and planks, new 3 inch deals, drain pipes, and other effects.—May be viewed one day previous, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, S.W. and 80, Fore-street, City, E.C.

In Bankruptcy.—Re Blacke & Behr.—To Timber and Veneer Merchants, Cabinetmakers, Builders, and Others.

MR. FRANK LEWIS will SELL by AUCTION, on the PREMISES, No. 21, Wilson-street, Finsbury, on WEDNESDAY, DECEMBER 17, 1862, at TWELVE o'clock, the first portion of the extensive and valuable STOCK of VENEERS, comprising 20,000 Spanish, Turkish, and Italian walnut burr veneers, some very fine; 35,000 feet Spanish and Italian walnut plank veneers, 30,000 feet rosewood, 40,000 feet Spanish and fine Honduras mahogany, bird's eye maple, and 10,000 feet birch. May be viewed the day before and morning of sale, and catalogues had on the Premises; of Messrs. WOOD & FRANCE, Solicitors, 8, Falcon-street; of Messrs. HART, BROTHERS, & HAYLES, Accountants, 57, Moorgate street; and of the Auctioneer, 36, Coleman-street, London, E.C.

STRAND HOTEL.—FIRST CLEARANCE SALE of BUILDING MATERIALS, &c. comprised in the premises known as the Lyon Inn, Strand, to clear the site for the Strand Hotel.

MR. JOHN ROBERT FOWLER will SELL by AUCTION, on the PREMISES, on WEDNESDAY, DECEMBER 17, and following day, at TWELVE for ONE o'clock, the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS, of the House and Hall: comprising good sound bricks, quantity plain tiles, prime timber in roofs and floors, partitioning, doors, wainscoting, floor boards, sashes and frames, cupboard fronts, chimney-pieces, stoves, hot plates, cisterns and pipes, flats, &c. at one o'clock, glass, and lumber in chests. May be viewed; and catalogues had on the Premises, of the Architect, 29, Fleet-street, E.C.; and of the Auctioneer, 24, St. Swithin's-lane, E.C.

SPACIOUS AND COMMANDING PREMISES.—Nelson-street, Woolwich, immediately contiguous to a Wharf on the Thames and to Rail's Landing-pier

MESSRS. FULLER & HORSEY are instructed by the Directors to SELL by AUCTION, at the MART, London, on TUESDAY, DECEMBER 16, at TWELVE, the commanding PILE of BUILDINGS, erected about thirteen years since for the Crown & Anchor Tavern and Lecture hall, situate in Nelson-street, Woolwich. The premises, which are of a very substantial character, have a frontage of about 102 feet by an extreme depth of 77 feet, the ground-floor of which is lofty and well lighted, is arranged for first and second class swimming-baths and private bath-rooms and has two entrances; the first-class bath-room is about 70 feet long by 20 feet wide; the second-class room is about 60 feet by 24 feet; and the private bath-room about 36 feet by 25 feet. If not required for their present purpose they could readily be converted into shops or appropriated for manufacturing purposes. There are two lobby entrances and a boiler-room and pump-room. The first floor, which is approached by two staircases, is arranged as a handsome, light, and lofty lecture-hall, about 50 feet by 42 feet; a reading-room, a library, and two dressing-rooms; on the second floor is a large store room, a committee-room, and four dwelling-rooms, approached by a separate staircase. The premises are held on lease for an unexpired term of sixty-six years, at a ground rent of 40l. per annum. To be viewed till the sale.—Printed particulars will shortly be ready, and may be obtained on the Premises; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

AT GARRAWAY'S COFFEE-HOUSE, Cornhill, on FRIDAY, DECEMBER 5, 1862, at FOUR o'clock, For account of the underwriters and owners,

4,000 first quality YELLOW DEALS, Cargo per "Europa," Captain George, from Archangel.

Also TIMBER, 500 Loads, Foreign and Colonial.

DEALS and BATTENS, 50,000 pieces ditto, ditto; and other wood goods.

HY. FREEMAN & CO. Brokers, 3, Crooked-lane, Cannon-street, E.C.

CAMDEN TERRACE, CAMDEN TOWN.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, on MONDAY, 8th of DECEMBER, at TWELVE for ONE, 2,000 PLANKS, DEALS, and BATTENS, 760 sawn ditto, flooring in various thicknesses; wide pine board, quartering, mahogany, new doors, arris rail, slating, battens, capital spring cart and harness.—On view Saturday prior, and catalogues to be had.—Auction Offices, 2, Cardington-street, Hampstead-road.

TO CAPITALISTS, BUILDERS, SPECULATORS, and OTHERS.—Valuable LEASEHOLD PREMISES TO BE SOLD, under an advantageous lease for the benefit of creditors, situate in Goulston's yard, Mortimer, London, and numbered in three lots by property belonging to the London and Blackwall Railway Company, certain to realize a very large profit to the purchaser. For further particulars apply to Mr JOHN WATTS, 29, Seward's-square, Victoria Park

HORNSEY PARK ESTATE, near Hornsey Station.—FREEHOLD GROUND TO BE LET, on building leases of ninety-nine years. Permission to make bricks on the estate.—Apply to Mr. JAMES LOVEGROVE, Surveyor, Dalston-rise, Hackney, N.E.; or of RICHARD CHIDLEY, Esq. 9, Wellington-chambers, London Bridge, S.E.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Kingston; and some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

VAULTS and WORKSHOPS.—TO BE LET, Spacious VAULTS and WORKSHOPS, at Newport Market, Soho. The Vaults are well adapted for brewers and cellarmen, and the Workshops for carpenters, picture frame makers and others.—To view apply to JOHN BELLIS, at the Market; and for particulars and terms to Mr. W. G. GRAY, Land Agent, 325, Gresham House, Old Broad-street, E.C.

CHARING CROSS TERMINUS, Villiers-street.—To BUILDERS and OTHERS.—TO BE LET on Lease direct from the freeholder, a TWELVE-ROOMED HOUSE and PREMISES.—Apply to A SMITH, Esq. Architect and Surveyor, 11, Buckingham-street, Adelphi, W.C.

TO CARPENTERS, BUILDERS, and OTHERS FOR SALE, Four substantial and well built Seven-roomed CARCASES, well situate for selling and letting, when finished, in the Eleanor-road North, Richmond-road, Dalston Term. 99 years. Ground-rent, 5l. each. Price, 460l. Also some very eligible BUILDING SITES on the same Estate, with liberal advances, if required.—Apply to Mr. CLARKSON, Surveyor, 9a, Great St. Helen's, City.

TO BUILDERS or CAPITALISTS. — To BE LET or SOLD, a valuable FREEHOLD BUILDING SITE, near London Bridge, having a frontage of upwards of 60 feet to the river, and an area of 10,000 superficial feet. A lease will be granted for a long term at a low ground-rent, or if purchased, two-thirds of the purchase-money might remain on mortgage. Warehouse accommodation, with river frontage, is in great demand in the locality, and very large rentals would be obtained, with a comparatively small outlay.—For further particulars and cards to view, apply to Messrs. WILSON & SCOBLE, 114, Leadenhall-street, E.C.

TO BUILDERS and OTHERS.—Notice is hereby given that the Trustees of the Rev. Dr. Smirlow's Charity Estate at Hackney have several PLOTS of LAND TO LET to build on, eligible for villas and other respectable private dwellings. The land will be direct from the freeholder, and free of land tax and tithe commutation charges. The above estate offers an excellent opportunity to persons desirous of building houses to reside in themselves.—For further particulars inquire of Mr. GLIDLON, Surveyor, No. 2, Old Church-yard, Hackney; or of Mr. C. H. FULEY, of Upper Homerton, and 28, Great Winchester-street, City Road-street, City, Solicitor.

PURE STATUARY MARBLE, and in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS, 383, EUSTON-ROAD, London, N.W. Prices moderate

M. W. J. has also an extensive stock of beautiful British and Foreign MARBLE CHIMNEY PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London. JOHN WREN

Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive PREMISES, with Show-rooms, &c. well SHOWROOMS, and stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.

N.B.—Estimates given. Country and foreign orders executed with promptness and punctuality.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION

THE LIZARD SERPENTINE COMPANY, LIMITED

Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.

The works having been enlarged for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and to execute in the best manner any work entrusted to them.

Communications to be addressed to the Secretary, No. 24, St. James's-street; or to Mr. THOMAS OAKDEN, 94, King-street, Manchester, who is sole agent for Liverpool and Manchester.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mantels, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at

W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards, CUT by Steam Power, as Delivered into Railway Trucks at Weymouth. List of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank street, London, S.W.

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wootton Wawen, near Henley-in-Arden, are working a Quarry of the very superior and durable Stone (belonging to Colt Rashay, Esq. of Plowyer, Nant, near Wrexham. It is used extensively in Liverpool, Manchester, &c. and can be supplied at reasonable rates at any railway station.

RED MANSFIELD STONE, WHITE MANSFIELD STONE, YELLOW MAGNESIAN or BOLSOVER LIMESTONE. Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.

Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE supplied by

WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

LITTLE CASTERTON FREESTONE, Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of

Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.

This stone (which is a perfect colite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

ABERDEEN POLISHED GRANITE WORKS. Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.

London Agents—TREBELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.

This Granite is selected for the New Westminster Bridge.

DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.

EDGE RUNNERS OF SUPERIOR QUALITY.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons. Price forwarded and estimates given on application.—Address,

No. 1, BOLD-TERRACE, CHESTER.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested or prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c.

Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stock Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thame

DRAWING CLASSES at the LONDON MECHANICS' INSTITUTION, on MONDAY and FRIDAY EVENINGS, from EIGHT till TEN, conducted by Mr. W. DAVY, Practical Instruction in architectural, mechanical, perspective, and ornamental drawing, shading, and colouring. Members of the Institution, 7s. per quarter; the Public 10s. New quarter now commencing. 29, Southampton Buildings, Holborn.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents, their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.

For prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers Sons, Articled Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter. Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawing, Boards, Squares, &c. For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford st. Russell-sq.

TO ARCHITECTS AND SURVEYORS.

GUYER & COMPANY, Lithographers and Printers, Grocers' Hall Court, Poultry, E.C. beg to invite attention to the resources of their Establishment as above, for LITHOGRAPHING and COPYING BILLS of QUANTITIES, Specifications, Detail Drawings, &c. &c. Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly engaged on the premises, they are enabled to guarantee superiority of style, correctness, and expedition. Specimens and Lists of Charges, post free.

N.B. Any number of copies of quantities or specifications lithographed in a few hours, and if the drafts from the country be received by the morning's post, the copies required can be returned the same evening

POLYTECHNIC.—The COTTON FAMINE, ZOSTERA MARINA, FLAX, JUTE, and other FIBRES. Professor J. H. PEPPER'S NEW LECTURE, illustrated with the OXY-HYDROGEN MICROSCOPE, Experiments, and an entirely New Series of Dissolving Views, designed and painted by J. A. Bolwell, Esq. New Musical and Historical Entertainment, by G. A. Cooper, Esq. entitled "The Seven Ages of a Great City." Engagement of the London Vocal Quintet Union.—Articles: Miss Leffler, Miss Rose Hersee, and Messrs. Cooke and Lee Pinsuant Conductor: Mr. F. O. Williams. Herr Winkler, the Wonderful Calculator. Mons. Hamilton, the Juvenile Wizard of Scottish Song. Experiments by J. L. King, Esq.; illustrating "Submarine Warfare, and the Means of repelling Boarders from Iron Ships." The Laboratory is always open for Pupils and Analyses.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, November 29, 1862.

The Builder.

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1035. DECEMBER 6, 1862. PRICE FOURPENCE. *By Post, 5d.*

ILLUSTRATIONS.

History of Modern Architecture The New Russian Church, Paris—General Martin's Mansion, Lucknow Anglo Indian Translation of Palladian Art—Portion of the River Front of the New Museum, St. Petersburg—Part of the Chateau of Blois; showing the Building added under Louis XIV. to that in the Style of Francis I.—Radcliffe Library, Oxford: James Gibbs, Architect 875

Official Plans for Military Hospitals 874

CONTENTS.

History of the Modern Styles of Architecture 865

On the Voluntary Architectural Examinations 868

New Materials for the Use of L. F. Roubiliac 868

Gas in York 868

The Agricultural Hall, Islington; and Smithfield Cattle Show.. 868

Famine and Fever 869

Majolica Fountains: a Query 869

The Marriage of the Prince of Wales 869

Note on the Formation of a Popular Sanitary Society 869

Save Leicester square 870

Birkenhead Hospital 870

Value of Land in Southwark 870

Architectural Union Company 871

Monumental 870

The Dutch Church, Austin-friars 871

Albert Memorials 870

Cottage Construction and Architecture 871

Caution required with Steam in Farmsteads 872

The Works at Minster Church 872

Official Plans for Military Hospitals 872

The Architectural Association 872

British Archæological Association 872

Manchester Architectural Association 872

The Rownes Gill Viaduct: Institution of Civil Engineers 873

Charing-Cross Railway Bridge 873

Church building News 876

Stained Glass 880

School-building News 880

Provincial News 880

Scottish News 881

Brunel's Mishaps 881

The Mile stones of Rome 882

Ecclesiastical Crosses 883

The Payment of Architects and of their Assistants 881

Architects' Actions for Charges 881

Cautions for Architects 882

Cases under Metropolitan Building Act 882

Miscellanea 882

SHEFFIELD SCHOOL of PRACTICAL SCIENCE and METALLURGY.

PRESIDENT.

His Grace the Duke of Devonshire, K.G. F.R.S. D.C.L. Chancellor of the University of Cambridge

VICE PRESIDENTS.

The Mayor of Sheffield, John Brown, esq.
The Master Cutler
The Right Hon. Lord Wharncliffe
Sir David Brewster, K.H. D.C.L. F.R.S.L. & E. M.R.I.A.
Sir Roderic Murchison, F.R.S. Director of the Royal School of Mines.
John Percy, esq. M.D. F.R.S. Professor of Metallurgy in the Royal School of Mines.
William Fairbairn, esq. C.E. F.R.S.
Robert Hunt, esq. F.R.S. F.S.S. Keeper of Mining Records
Warrington W. Smyth, esq. M.A. F.R.S. Professor of Mining and Mineralogy in the Royal School of Mines.

LECTURER.

The Rev. G. B. Atkinson, M.A. Principal of the Collegiate School; late Fellow and Assistant Tutor of Trinity Hall, Cambridge.

PROFESSORS.

Chemistry, Metallurgy, and Geology—James Allen, Ph.D. F.C.S. of the Universities of Gœttingen and Berlin.
Engineering and Mining—J. Thompson, C.E.
Mathematics, Natural Philosophy, and Applied Mechanics—Rev. G. B. Atkinson, M.A.

The Sheffield School of Practical Science and Metallurgy will afford a complete scientific and practical education to students who are destined to become civil, mechanical, or mining engineers, or manufacturers of any kind. Its object is thoroughly to discipline the students in the principles of those sciences upon which the operations of the engineer, metallurgist, or manufacturer depend.

The education will be given by means of systematic Courses of Lecture, by Catechetical Class Instruction, by Practical Teaching in the Laboratory and Drawing-room, and occasionally by Field Excursions.

The School of Practical Science and Metallurgy will be conducted in the Buildings of the Sheffield Collegiate school. The two Institutions, although both under the supervision of the Rev. G. B. Atkinson, Principal of the Collegiate School, are, however, entirely distinct.

A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c. may be obtained by application to the Director.

THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONESS.

Her Majesty the QUEEN.

PRESIDENT.—Sydney Smirke, Esq. R.A.

TREASURERS.

Philip Hardwick, Esq. R.A. | Charles R. Cockerell, Esq. R.A.
Geo. Gilbert Scott, Esq. R.A.

TREASURERS.—William Tite, Esq. F.R.S. M.P.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary, to whom subscriptions will be received by WILLIAM TITE, Esq. St. Leonard's, the Treasurer; or by Mr. GOULD, the Collector, 62, Great Ormond-st. W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

ROYAL INSTITUTE of BRITISH ARCHITECTS, No. 9, Conduit-street, Hanover-square, W.

VOLUNTARY ARCHITECTURAL EXAMINATIONS.

The First Examinations will be held on MONDAY, the 26th JANUARY, 1863, and the following days of the week. Candidates are required to deliver their applications and recommendations on or before SATURDAY, the 27th of DECEMBER next, being "Four weeks before the first day of examination," according to the regulations.

These Examinations have been established by the Institute with a view of enabling students in architecture, who have acquired a good knowledge of the profession, to obtain an acknowledgment of proficiency, and more accomplished students an acknowledgment of distinction.

They are intended to be held annually at the end of the month of January, and are open to all British subjects, under certain regulations copies of which, together with forms of application, course of examination, and list of books recommended, may be obtained at the Institute, 9, Conduit-street, W.

JOHN P. SEDDON, } Hon.
CHAS. FORSTER HAYWARD, } Secretaries.

BY Order of the Secretary of State for India in Council.—Notice is hereby given, that TEN JUNIOR APPOINTMENTS in the Engineer Establishment of the Department of Public Works in India will, in the year 1863, be open to public competition.

A Competitive Examination will, accordingly, be held in this Office in the month of JUNE next. Full printed particulars of the conditions on which candidates will be admitted to the Examination, and also respecting the nature of the appointments to be competed for, may be obtained at this Office, on application, either personally or by letter. (Signed) T. G. BARING

India Office, 28th June, 1862.

N.B.—All communications to be addressed to the "Under Secretary of State for India."

COMPETITIONS.

TO ARCHITECTS.—The LIVERPOOL EXCHANGE.—The Liverpool Exchange Company, being about to rebuild or enlarge the Liverpool Exchange, have determined to OFFER PREMIUMS of £100 for the best Design, and £50 each for the two next best Designs. Copies of the instructions and conditions, with plans and sections of the site, and photographic views of the present Exchange and the adjacent buildings, for which a charge of One Guinea will be made, may be had on and after the 16th DECEMBER next, on application to the undersigned. All designs must be sent in on or before the 31st MARCH, 1863.—By order of the Board,

A. T. SQUAREY, Sec. of the Company.

10, Water-street, Liverpool, December 1, 1862.

CONTRACTS.

TO IRON MANUFACTURERS, IRON-FOUNDERS, BOLT-MAKERS, and TIMBER MERCHANTS, &c.—The Directors of the South Eastern Railway Company are prepared to receive TENDERS for the following permanent MATERIALS, viz.:—

16,400 Tons of Double-headed Rails.
3,600 Tons of Chairs.
750 Tons of Fish-plates
903 Tons of Bolts, Nuts, and Washers.
140 Tons of Spikes.
215,000 Sleepers.

Specifications, sections of rail, and patterns may be seen at the Offices of the Company's Engineer, London Bridge Station; and Tenders to be addressed to the Secretary, endorsed "Tender for Permanent Materials," to be sent in on or before WEDNESDAY, the 17th of DECEMBER next.

S. SMILES, Secretary.

London Bridge Station, S.E. November 27th, 1862.

CITY of LONDON, BARBERS' HALL.—Important SITE for WAREHOUSES, or MANUFACTURING PREMISES, in the immediate vicinity of Wood-street, Cheapside.—The Court of the Worshipful Company of Barbers will meet at their Hall, on THURSDAY, the 29th day of JANUARY, 1863, to receive TENDERS, for letting on a building lease, for ninety-nine years, the extensive PREMISES known as Barbers' Hall, situate at Monkwell-street, Wood-street: comprising three houses, fronting Monkwell-street, Nos. 9, 31, and 33, part of the courtyard in the rear thereof, the spacious leading Entrance, and the greater portion of the Company's Hall, together with the Kitchen, Scullery, and outbuildings, having a frontage towards Monkwell-street of about 83 feet by an average depth of about 118 feet, and an extreme depth of about 135 feet.—Full particulars, with a plan of the property, elevation, and section of street front, also conditions of letting may be obtained, on application to the Clerk of the Company, to Mr. CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 61, Doughty-street, W.C.; or to the Beadle at the Hall.—By order,

HENLEY HOSE SMITH, Clerk.

4, Warnford-court, Throgmorton street, E.C.

TO ENGINEERS.—ENLARGEMENT of the CITY of BRISTOL WORKHOUSE, at STAPLETON.—The Guardians of the Poor of the City of Bristol give notice that all persons who may wish to Contract for the ENGINEERS' WORK, to be done in enlarging the above Workhouse are required to send in their lowest prices, on or before WEDNESDAY the 17th DECEMBER 1862, sealed TENDERS, endorsed "Tender for Engineers' Work, Stapleton Workhouse," together with the names and usual places of residence of two responsible and sufficient sureties for the proper performance of the Contract, in a sum equal to one-fifth of the amount of such Tender. Tenders will be opened at the meeting of the Guardians, on the 25th December, 1862. The drawings and specifications for the said Enlargement Works, and the contract to be entered into, may be seen at Saint Peter's Hospital, Bristol. The Guardians do not pledge themselves to accept the lowest or any Tender.

*** Each Tender must be accompanied by a Schedule of the prices on which such Tender is based, and the Tender and the Schedule of prices must be in a form which can be had on application at the Clerk's Office, at St. Peter's Hospital.—By Order of the Board of Guardians

25th November, 1862. W. D. WILMOT, Clerk.

CONTRACTS.

TO GAS ENGINEERS, METER MANUFACTURERS, and OTHERS.—Sewers Office, Guildhall, November 25th, 1862.—The Commissioners of Sewers of the City of London give notice that they will meet in the Guildhall of the said City on TUESDAY, DECEMBER 9th, next, at TWELVE o'clock, to receive PROPOSALS for the SUPPLY and LAYING, in REPAIR of about 1,770 METERS, to be affixed to that number of the public gas-lamps within the City before the 31st day of JANUARY next. A specification may be seen on application at the Office of the Engineer to the Commissioners, Mr. WILLIAM HAYWOOD, at this Office. No Tender received after TWELVE o'clock on Tuesday. A treaty security will be required for the due performance of the Contract.

JOSEPH DAW.

N.B. The Commissioners do not hold themselves to accept the lowest Tender, nor any one unless deemed eligible

TO BUILDERS.—TENDERS are required for a PAIR of SEMI-DETACHED VILLAS at Surbiton. The plans and specification may be seen at the Office of the Architect, WILLIAM CREED, 64, Old Broad-street, E.C. on and after the 12th of DECEMBER next.

TO ROAD CONTRACTORS and OTHERS.—TENDERS are required for FENCING and FORMING ROADS on the Estate of the Farnborough and Aldershott Freehold Groundrent Society (Limited), at Farnborough. Copies of the plans and specification, with forms of Tender, may be obtained at the Architect's office, on and after MONDAY, the 8th inst. Tenders are to be delivered at the Office of the Architect, on WEDNESDAY, the 17th inst., at ELEVEN o'clock, sealed, and endorsed "Tender for Fencing and Forming Roads at Farnborough." References will be required, and the lowest or any Tender will not necessarily be accepted.

HENRY CURREY, Architect.

4, Lancaster-place, Strand, W.C. December 3, 1862.

TO GAS COMPANIES.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 16th day of DECEMBER, 1862, at TWELVE o'clock precisely, to receive TENDERS for LIGHTING the PUBLIC LAMPS within the northern district of the said City with GAS, and for the SUPPLY of GAS to the PUBLIC LAMPS, within the southern district of the said City, for a term of one year, from the 1st of FEBRUARY, 1863, agreeably to specifications to be seen at the Office of the Inspector, the Commission in the Guildhall. The Commissioners do not bind themselves to accept the lowest offer, and no Tender will be received after TWELVE o'clock on the day of treaty. Security will be required for the due execution of the contracts.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, December 2, 1862.

TO ENGINEERS and CONTRACTORS.—SHEERNESS WATER-WORKS.—The Local Board of Health for the District of Sheerness, in the County of Kent, hereby give notice that they are prepared to receive TENDERS from persons willing to CONTRACT with them for the following WORKS; viz.—To erect at the above works a pair of duplicate steam engines and boilers, already provided; also to provide and fix suitable pumps to be set with the said engines 40,000 gallons of water per hour, 350 feet; also to provide and fix any and all shafting, steam pipes, rain-pipes, stand-pipes, and every other matter and thing necessary for the completing, erecting, and fixing of the above-named engines, boilers, and pumps; and further, to constantly, properly, and efficiently work, and keep and maintain in good working order and condition, the said engines, boilers, pumps, and other machinery and things contracted for with, for twelve calendar months after the completion of the same. Plans relating to Tender may see the engines, &c. also. Tenders may requisite information, by applying to Mr. JAMES LUND, the Surveyor of the Board, at his Office, 10, Market-street, Sheerness. Sealed Tenders, endorsed "Tender for Pumps, &c." are to be delivered at the Office of the Clerk to the Board, on or before WEDNESDAY, the 17th day of DECEMBER, 1862, at SIX o'clock in the evening. By order of the Sheerness Local Board of Health,

EDWARD FELKIN, Clerk.

Office of the Local Board of Health, Sheerness,
27th November, 1862.

TO BUILDERS.—Parties desirous of TENDERING for the ELECTION of NEW SCHOOL-ROOM, MASTER'S HOUSE, &c. at Bottesford, Nottingham, may see the plans and obtain bills of quantities by applying at our Office, where Tenders are to be delivered on WEDNESDAY, the 17th day of DECEMBER next.

STEVENS & ROBINSON, Architects, 45, Friar Gate, Derby.

TO GAS FITTERS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the GUILDHALL of the said City, on TUESDAY, the 16th day of DECEMBER, 1862, at TWELVE o'clock precisely, to receive TENDERS for LIGHTING, PAINTING, CLEANING, REPAIRING, and MAINTAINING the LAMPS and GLASSES, and the GAS to the PUBLIC LAMPS within the Northern District of the City of London, for a term of ONE YEAR, from the 1st of FEBRUARY, 1863, agreeably to a Specification to be seen at the Office of the Engineer to the Commissioners, at the Guildhall. The Commissioners do not bind themselves to accept the lowest or any Tender, nor any one unless deemed eligible, and no Tender will be received after TWELVE o'clock on the day of treaty. Security will be required for the due execution of the contract.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, December 2, 1862

TO PIPE FOUNDERS.—The Bombay Gas Company, Limited, are desirous to receive TENDERS for the supply of CAST IRON GAS and WATER PIPES, and other castings, and under, together with other CASTINGS.—Specifications may be had on application at the Office of the Company, No. 3, Great George-street, Westminster, S.W. Tenders are to be delivered for payment of 10s. each; and Tenders (enclosed in a sealed envelope, and addressed to the Secretary) are to be delivered at the Office of the Company, No. 3, Great George-street, Westminster, S.W. on MONDAY, the 22nd day of DECEMBER inst.—By order of the Board,

WILLIAM MACHALE, Secretary.

For remainder of Contracts see next Page.

CONTRACTS.

PLUMBING WORK CONTRACTED FOR (labour only) by a Practical Man, on the most moderate terms. Address, L. McLEAN, 9, Wilmington-street, Cavendish-square.

TO ENGINE-BUILDERS and CONTRACTORS.—BILLINGHAY NORTH DISTRICT DRAINAGE.—TO BE LET, the FURNISHING, ERECTING, BUILDING, and COMPLETING in ENGINE HOUSE, BOILER HOUSE, WHEEL HOUSE, and WHEEL RACE, with a Steam Engine of 25 horse power, and a Water-Wheel, for draining the fens and dales comprised with the above District, containing upwards of 21,000 acres, situate in the county of Lincoln, 11 miles westward of Boston, and contiguous to the navigable river Witham. Plans and specifications may be seen, and further information may be obtained on application at the Office of Mr. J. W. LEATHER, Civil Engineer, Leeds, from and after WEDNESDAY, the 3rd, to SATURDAY, the 13th day of DECEMBER next, on which days plans and specifications will be produced at the Office of Messrs. W. & W. HOLDICH, Solicitors, in Sleaford, where they will be on deposit from and after MONDAY, the 15th, to MONDAY, the 22nd day of the same month; on or before which last-mentioned day all tenders are to be sent, must direct as their Tenders to the Office of Messrs. Holdich, aforesaid, and be addressed "To the Trustees for the Billinghay North District Drainage," or they cannot be received. The Trustees will meet for the purpose of opening and considering the said proposals, at the Corn Exchange Hall, in North Kyme, on TUESDAY, the 23rd day of DECEMBER.—By order,

W. H. HOLDICH, Clerk to the Trustees.

Sleaford, November 29th, 1862.

TO BUILDERS, IRONFOUNDERS, and CONTRACTORS.—SOUTHMOLTON NEW MARKET.—Parties desirous of TENDERING for the ERECTION of a Public MARKET, Public ROOM, &c., at Southmolton, North Devon, are requested to see plans and specifications and after the 3rd of DECEMBER next, at the Town Hall, Southmolton, on application to the Borough Surveyor, or duplicates of the same at my Office. Sealed lists of prices and tenders are to be delivered to the Town Clerk, RUSSELL M. RICCARD, Esq., Southmolton, on or before the 8th day of JANUARY, 1863. Two approved sureties will be required for the due and satisfactory performance of the Contract. The Town Council will not bind themselves to accept the lowest or any Tender; and no payment will be made for estimates.

W. F. CROSS, Architect, Queen-street, Exeter.

Dated 26th November, 1862.

TO IRONFOUNDERS and OTHERS.—HASTINGS and ST LEONARDS GAS-WORKS.—CONTRACT for CAST-IRON SOCKET MAIN, &c.—The Directors of the above Company invite TENDERS for about 2,450 yards of CAST IRON SOCKET MAIN, from 15 inches to 24 inches diameter; also for various cast-iron connexions. Tenders must be delivered on or before the 10th day of DECEMBER next. The specification may be seen at the Office of the above Company, Hastings, on and after the 3rd day of DECEMBER next. A. H. WOOD, General Manager.

Gas Company's Offices, Hastings, November 26, 1862.

CONSULATE-GENERAL of SPAIN in ENGLAND.—To BUILDERS, IRONFOUNDERS, and CONTRACTORS.—CONSTRUCTION of an IRON BRIDGE, on VIADUCT, to pass over SEGOVIA-STREET, MADRID.—TENDERS for the above will be received at the Consistorial Hall, Madrid, on the 30th of the present month of DECEMBER. The drawings, specifications, and conditions can be seen at the Consular Office, No. 1, Cushion-court, Old Broad-street. H.C.M.'s Consul General,

London, December 2nd, 1862. JUAN GAVARON.

THE MEDAL FOR 1862.
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE MARK.

CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE
Warehouse—31, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought Iron Tubes.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c. suitable to all Climates, fixed complete in town or country, or packed for exportation

For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

VICTORIA LEAD WORKS, ELIZABETH STREET SOUTH, PIMLICO.
JOHN GOODSON, Manufacturer of every description of Plumbers' Work for Builders, Chemists, Gas, Paper, Candle, and Alum Makers; Ornamental Rain Water Pipes, Heads, Bends, &c. Water-closet S Traps, in 6-in. lead, for 8s. each. Cannot choke, and contain no foul air.

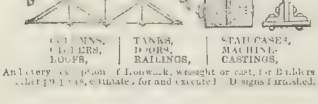
Five minutes' walk from the Grosvenor Hotel.

TO ENGINEERS and OTHERS.—An opportunity offers for the immediate TRANSFER of S. HAWKINS'S PATENT SCREW TABLE EXPANDER, carried on by him for some years, at his Manufactory, John-street, Kingsland-road. There is large well-gutted shopping, with steam power unemployed. For particulars, &c. inquire of Mr. S. HAWKINS, Dyke-road, Brighton.

WANTED, a STEAM ENGINE (Portable), from 6 to 10-horse power, in good working order; also, a SAW BENCH, and any other MACHINERY to. Bearing Purposes. A quantity of BUILDING MATERIALS would also be BOUGHT (if cheap). Terms cash.—Apply by letter, stating full particulars, E. CHATFIELD, esq. 17, Bridge street, Blackfriars.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE,
No. 24, Davies-street, three doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Ironmongery trade at wholesale prices. Inconnexion with his old Establishment, No. 18, Hertford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

COOMBS & McCALL, Dover Iron Works,
Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 30, Great Guildford-street, Borough, S.E. in consequence of the Railway Companies having taken the Premises with the Leases of the Dover Iron Works, Long-lane, Borough, S.E.)
GENERAL IRON FOUNDERS
MILLWRIGHTS, and PATTERN MAKERS.



GIRDERS, CHAIRS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,

Architects and Builders are invited to forward their Specifications for any Castings, estimable, for and executed. Designs furnished, or

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

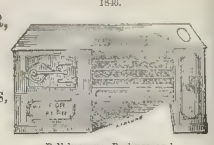
COUNTRY ORDERS PROMPTLY EXECUTED



J. MOORE,

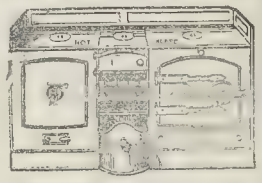
WHOLESALE IRONMONGER,
122, EUSTON ROAD
(near St. Pancras Church),
Opposite J. W. Bird's Marble and Stone Works.
THE CHEAPEST AND BEST HOUSE IN LONDON FOR
KITCHEN RANGES, STOVES, NAILS, LOCKS, HINGES, BOLTS,
AND
EVERY ARTICLE OF BUILDERS' IRONMONGERY
Priced Lists on application.

ESTABLISHED 1846.



All kinds of Smiths' Work. Bell-hanging, Railings, and Balconies

THE LEAMINGTON PRIZE KITCHENER.



These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS.

38 and 65, York-street, Westminster.

DEVAUX'S VIEILLE MONTAGNE THICK ROOFING ZINC.

This invaluable metal, if laid by Mr. TYLER on the new principle introduced by J. EDMISTON, Esq. F.I.B.A. will last as long as lead, at one-third the cost.

For Prospectuses, Samples, Models, and Estimates of Works to be done with the Roofing Zinc, in large or small quantities, in Town or Country, apply to

Mr. J. W. TYLER, 4, WOOD-STREET, WESTMINSTER, S.W.

If the Metal is laid by Mr TYLER, who has become so well known among Architects and Builders, superior and careful workmanship may be depended upon, and a guarantee given for its durability, if the woodwork is prepared according to directions given.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.—THOMAS WILLIAM COWAN begs to call their attention to Rae's Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr Letheby, Dr Daniels Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvements is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile-Driving Machines, Air Hammers, Hot-air Apparatus, Brewing Apparatus, &c. &c. KENT IRON WORKS, BRIDGE-STREET, GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 35 and 36, High Holborn.

LOSH, WILSON, & BELL NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM,
and 16, Gresham-street London, E.C.

TO BE SEEN in the HARDWARE COURT, INTERNATIONAL EXHIBITION, Stand 6042, and HARDWARE COURT, CRYSTAL PALACE, SYDENHAM, the only PATENT COOKING STOVE that has received THREE PRIZE MEDALS. England, 1851; France, 1855; International, 1862; for a new mode of heating and principle of oven. Good Workmanship and ECONOMIZING FUEL in Kitchen Ranges.—DULEY & SONS, Manufacturers, Northampton.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimate given.
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

MOREWOOD & CO. (late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London, and Lion Works, Birmingham Heath, Birmingham
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTER, PIPE, &c. All kept in Stock.
Also, Galvanized Water Cisterts, Tanks, Stamped and Moulded Gutters, Wire, Wire Netting, Nails, Rivets, Pails, &c.
Estimates and Prices for every description of Galvanized Building at the
OFFICES and WAREHOUSE, DOWGATE DOCK, LONDON.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR IMITATIONS of ARTICLES of
SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER TIGHT WATER BAR; and
SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING for FRENCH WINDOWS
The above are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and PURCHASERS ONLY are WARRANTED

VENTILATING STOVES—Cheap, simple, efficient, and durable. Thousands have been sold, and universally approved. They are suitable for Halls, Warehouses, Conservatories, and every situation where a close stove is required. The largest sizes are extensively used in churches, chapels, and public buildings, with great effect and economy. Prices, 50s. 60s. 70s. 90s. and 120s. Prospectus with engravings, gratis and post free. In operation daily. The trade supplied.
DEANE & CO.,
Opening to the Monument, London Bridge. Established A.D. 1700.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 53, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres &c. &c.

MOORE'S PATENT VENTILATOR
NOTICE OF REMOVAL.
In consequence of the expiration of the Lease at 81, Fleet-street, all Communications are respectfully requested to be made at the Works, JOSIAH MOORE, Patentee,
SEKFORDE WORKS, ST. JAMES'S WALK, CLERKENWELL, E.C.

SEVEN-HORSE PORTABLE ENGINE
FOR SALE, nearly as good as new, price 70l.
TWO-TON IRON CRANE, with foundation stones, &c. complete, price 36l.
TWO NEW PILE ENGINES, price 14l. the two.
Apply to ROGERS & BOOTH, Contractors, Gosport.

ROBERT MACLAREN & CO.
EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS

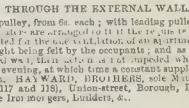
DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C. These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B.—The usual discount to builders and the trade.
INTERNATIONAL EXHIBITION, CLASS 32, No. 6,821.

ENGLISH and FRENCH PATENT
WESTON'S NEW PATENT TORSION SPRING,
For closing or keeping open doors gates, &c. &c. at different strengths, specially suited for all climates, and adapted for general purposes.
Price Two Shillings and Sixpence.
To be had of the principal Merchants and Factors in Birmingham and Wolverhampton; also at No. 63, Coleman-street, City.

SASH WEIGHTS, 5s. per cwt. at Ashton Wharf, Blackwall, and at Rope Wharf, near the Church, Rotherhithe.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL

With single pulley, from 6s. each; with leading pulley, from 6s. 6d. These Ventilators are arranged so that the impossibility of air being admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, they can never be suspended when the House is closed for the evening, at which time a constant supply of fresh air is in action. HAYWARD, BROTHERS, sole Manufacturers, 137 and 139 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

NEW PATENT PORTABLE STEAM ENGINES AND BOILERS.



Contractors' Locomotive. Stationary Engine. Steam Crane. Hoisting Engine. Agricultural Engine.

STATIONARY ENGINES.

THESE Engines require no Chimney-Shaft, nor Building whatever, a Cast-Iron Ash-pit forming the SOLE-PLATE, and they may be set up anywhere and started at once. Being very carefully made of the best materials, they may be perfectly relied on to work satisfactorily and, from their self-completeness, they may be erected and set to work by any ordinary mechanic to instructions supplied. These improved Engines have the great advantage of being applicable to a variety of purposes, the small space they occupy rendering them available where ordinary Engines cannot be used.

PRICES OF ENGINES AND BOILERS COMPLETE.

Delivered Free in Glasgow, Hull, Liverpool, or London.

1	Horse Power,	Cylinder	3½in.	×	6½in.	Stroke	...	...	£45	9	Horse Power, Cylinder	9½in. × 16in. Stroke	... ... £180
2	„	„	4½ „	×	9	„	...	...	65	11	„ „	10½ „ × 18 „	 210
3	„	„	5½ „	×	11	„	...	...	85	13	„ „	11½ „ × 20 „	 240
4	„	„	6½ „	×	13	„	...	...	105	16	„ „	13 „ × 22 „	 275
5	„	„	7½ „	×	14	„	...	...	125	20	„ „	14½ „ × 24 „	 310
7	„	„	8½ „	×	14	„	...	...	150	25	„ pair Cyldrs.	11½ „ × 20 „	 370

Boilers, either plain, dome-shaped, or tubular, with all mountings complete, at half the prices quoted above for Engine and Boiler.

Prices of Steam Cranes, Hoisting Engines, Contractors' Locomotives, Agricultural, Pumping, and other Engines, on application.

*** These New Engines (which are in every respect superior to those J. B. B. & CO. formerly sold) are being everywhere very favourably received. They are already successfully working in various parts of England, and numbers have been sent abroad, particularly to the Continent and the West Indies. *They are warranted, in every case, to be satisfactory.*

One of the small Stationary Engines will be Exhibited at the SMITHFIELD CLUB SHOW, ISLINGTON, DECEMBER 8TH, 9TH, 10TH, 11TH, AND 12TH, AT J. B. B. & CO.'S STAND, No. 12.

J. B. BROWN & CO. 18, CANNON STREET, CITY, LONDON, E.C.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



INTERNATIONAL EXHIBITION, Class 31 and 34.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

THE NEW CRYSTAL STAR AND SUN LIGHT.

J. DEFRIES & SONS,

ENGINEERS, GAS-FITTERS, AND MANUFACTURERS

OF MEDIÆVAL AND EVERY DESCRIPTION OF GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS, VESTIBULES, &c. &c.

Estimates and Designs for arranging for Lighting and Ventilating Theatres, Concert Halls, and other Public and Private Buildings.

HOT-WATER PIPES,

For Heating Conservatories, Warehouses, &c. supplied and fitted on the most improved and economical Principles.

PUBLIC AND PRIVATE GAS-WORKS ERECTED.

Works—London and Birmingham.

PRINCIPAL DEPOT AND SHOW-ROOMS,

147, *Houndsditch, City.*

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, STAND 6159

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.
MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.

At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended," being the only prizes conferred on any competitor in this class

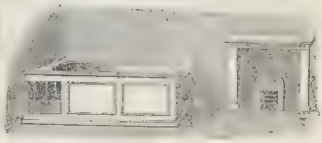
MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent Aid in Ventilation.

It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls it will burn day and night for weeks, with little care, capable of warming a large apartment for twenty-four hours at a cost of Threepence, and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

Full particulars will be sent on application to the Inventors and Makers

MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

J. TYLOR & SONS' PATENT BATH APPARATUS.



The bath and [illegible] apparatus [illegible] anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of buildings.

Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

THE LONDON LOCK MAKERS IN THE INTERNATIONAL EXHIBITION.

MESSRS. HOBBS & CO. beg to inform Bankers and the Commercial World, that their PATENT LOCK in the Exhibition was on challenge from the 1st of MAY to the 1st of NOVEMBER, for one sovereign to any person who could pick it. THIS WAS THE ONLY LOCK EXHIBITED that remained undressed the ingenuity of the mechanician to fraudulently open it. Seven days were added to the time originally stipulated, thirty days [illegible] on the security of the works; yet, during the 188 days the Exhibition was actually open, not one single application was made! In 1851 the Lock was tried for 183 days without the slightest approach towards success.

MESSRS. HOBBS & CO. are Prize Medallists from the Exhibition of America, Austria, and France; and London in 1851 and 1862.

76, CHEAPSIDE, LONDON.

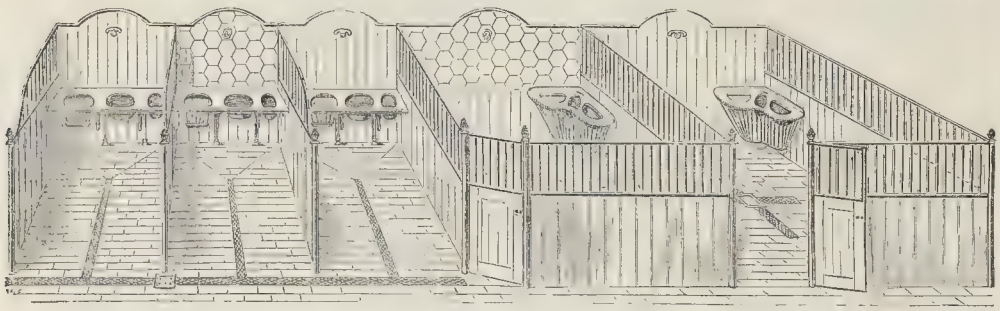
HAWKINS'S REGISTERED CHAIN.—This newly-invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging [illegible] Lobby-clocks, Bedroom Ash-pans, and heavy shutters; suspending lamps and chandeliers, either with or without balance-balls; fitting up scales, roast-jacks, &c.; manufacturing into halter-chains, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS P. HAWKINS, 97, Dale-end, Birmingham.

SMITHFIED CLUB SHOW—STAND 107.



THE PRIZE MEDALS,
LONDON, 1851. PARIS, 1855. LONDON, 1862.
AWARDED TO
COTTAM & COMPANY,
No. 2, WINSLEY-STREET, LONDON, W.
FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN
STABLE FITTINGS AND HARNESS BRACKETS.
PATENTEES AND ORIGINAL INVENTORS OF
THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,
PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.



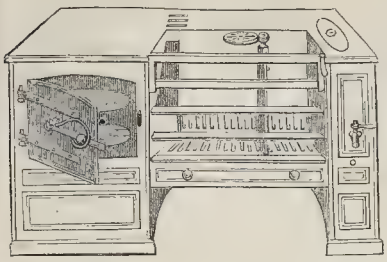


SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.
COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.
IRON GATES, FENCING, and HURDLES MADE by MACHINERY.
COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.
COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.
ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.
COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.
N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS
SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—
That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.
PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,
The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.
PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.
These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.
THE PATENT HARNESS FITTINGS
Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.
EVERY DESCRIPTION OF STABLE FURNITURE.
ILLUSTRATED LISTS ON APPLICATION TO
ST. PANCRAS IRON WORK COMPANY,
OLD SAINT PANCRAS ROAD, LONDON, N.W.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.

34 inches	54s.
36 "	56s.
38 "	58s.
42 "	60s.

Self acting Cottage, with Oven and Back Boiler

30 inches	22s.
32 "	24s.
34 "	26s.
36 "	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4½ per inch
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 40s to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	1½-inch.	2 inch.	2½-inch.	3-inch.
14s.	14s	14s.	12s.	11s 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2 in.	2½ in.	3 in.
Cast Rain-water Pipe..	8d.	1s	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on....	10d.	1s. per yard.

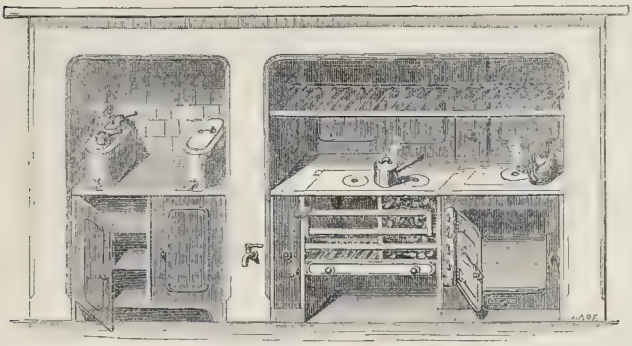
2	3	4	5	6
Patent Line..3s. 6d.	4s.	5s.	7s.	9s. per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s 9d. each Light Elliptic and Register Metal 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 1s each.

Brick Moulds kept in stock. Any size made to order.

CUNDY'S
PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

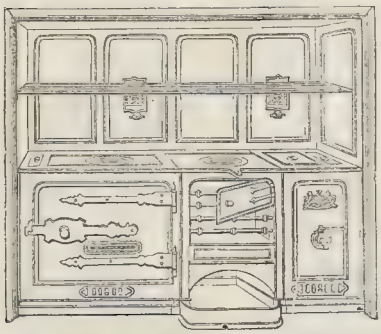
THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,

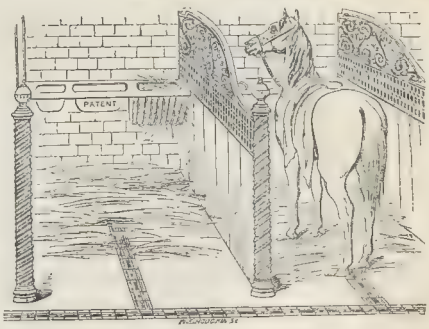
Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.

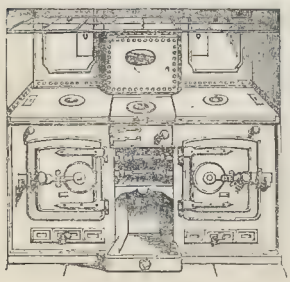


ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND
CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.

A LARGE STOCK
OF OTHER
CASTINGS KEPT.





FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15s. to 33*l.* 10s.; Bronzed Fenders, with standards, 7s. to 5*l.* 12s.; steel Fenders, 3*l.* 3s. to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3s. to 18*l.*; Chimney-pieces from 1*l.* 8s. to 100*l.*; Fire-irons, from 2s. 3d. the set to 4*l.* 4s. The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S PLACE, and 1, NEWMAN-MEWS, LONDON.

WROUGHT IRON WINE BINS.



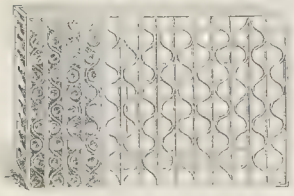
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,

18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



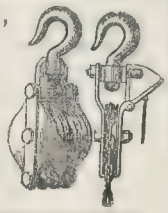
HENRY GOODWIN, Jun.

IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.



CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON

MANUFACTURED BY

TUPPER & COMPANY,

61a, MOORGATE STREET, LONDON, E.C.

GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.

Prices delivered in London.

N.B. A Discount to the Trade, Builders, &c.

HART & SON

56, WYCH-ST., STRAND, W.C.

AND

20, COCKSPUR-ST. PALL-MALL, S.W.

METAL WORK OF A GOTHIC CHARACTER, FOR ECCLESIASTICAL AND DOMESTIC PURPOSES, CHALICES, PATENS, CRUETS, CANDLESTICKS, CORONÆ, STANDARDS, BRACKETS FOR GAS, OIL, AND CANDLES, MONUMENTAL BRASSES, &c. &c.

J. HARDMAN & Co.

MEDIÆVAL METAL WORKERS

In Silver, Brass, and Wrought Iron;

ENGRAVERS OF

Memorial Brasses,

Artists in Stained Glass

ECCLESIASTICAL DECORATORS.

Chalices, Patens, and Flagons Altar Rails and Standards; Alms Basins and Boxes; Coronæ, Chandeliers, and Brackets; Gas Fittings of every Kind; Lecterns and Book Desks; Hinges, Handles, Locks, &c. Spare Crosses and Vases.

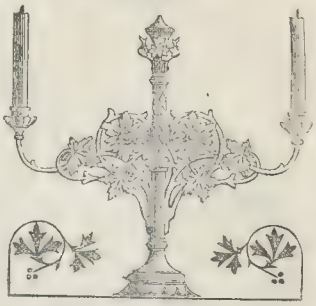
AN ILLUSTRATED PRICE LIST, AND ESTIMATES FOR SPECIAL DESIGNS, Furnished on application.

London Offices and Show Rooms,

13 KING WILLIAM ST STRAND LONDON WC

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit-street, W. Drawings and Estimates furnished.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.



COMMUNION RAILINGS, SCREENS, GATES, &c. Illustrated price Catalogues, of numerous designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators. HULETT & CO. 5*, High Holborn.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR

BARTON'S PATENT STABLE FITTINGS

AND ENAMELLED MANGERS.

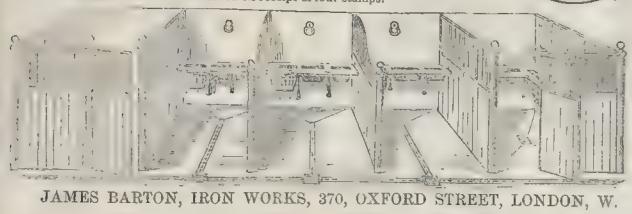


These SUPERIOR-CLASS STABLE-FITTINGS are PATRONISED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom.

J. BARTON solicits attention to his newly erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.

A new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps.





JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE BUILDERS' IRONMONGERS,

13, KING-STREET, SNOW-HILL, LONDON, E.C.

PATENTEES AND PROPRIETORS OF THE

PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.

SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.



A large Stock of Nails, Screws, Locks, Latches, Hinges, Pulleys, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.

All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.

INTERNATIONAL EXHIBITION, 1862. CLASS No. 7. STAND No. 1688.

POWIS, JAMES, & CO., BLACKFRIARS ROAD, LONDON,

Awarded a PRIZE MEDAL for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class.

OFFICE, 26, WATLING-STREET, CITY, E.C. where all Letters and Applications for Machinery are to be addressed.



THE LONDON

WARMING AND VENTILATING COMPANY,

LIMITED,

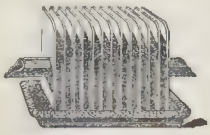
26, GREAT GEORGE-STREET, Westminster, S.W.

MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known Plans.



The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in operation in ST. PAUL'S CATHEDRAL, the various offices of the "Department of Science and Art," and at the Architectural Societies' House, 9, Conduit street, Regent-street

Particulars and testimonials forwarded on application.

CHUBB'S

WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

OF VARIOUS SIZES, FOR STRONG ROOMS,

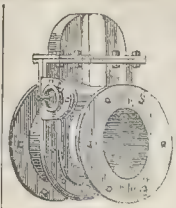
AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

LAMBERT, BROTHERS,

THE ALPHA TUBE & FITTING WORKS,

WALSALL

LONDON: THOMAS LAMBERT & SON, LAMBETH.



REDUCED PRICES OF

BRYAN DONKIN & CO.'S

IMPROVED GAS VALVES

Prices from 1s. 1d. per lb. to 2s. 6d. per lb. net cash for Lots of prices with full dimensions of the several sizes to which they are applied.

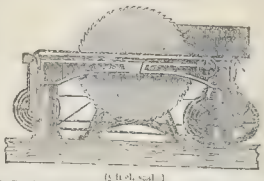
These Valves are well proved to be the cheapest ever before offered, the Work and Material being of the best description.

Also Screw Water Valves, with Spindles and Nuts complete.

BRYAN DONKIN & CO. ENGINEERS, Near Gateshead, Durham.

S. WORSSAM & CO.'S PATENT

SELF ACTING SAW BENCH.



[Half Scale.]

This Bench will take a Saw up to 6 feet 6 inches in diameter, and is adapted for splitting deals, boarding down small timber and all the purposes of an ordinary saw-bench. It is fitted with a rope-feed motion for bringing the stuff up to the saw, at rates varying from 30 to 60 feet a minute.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

PRIZE MEDAL.

INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*



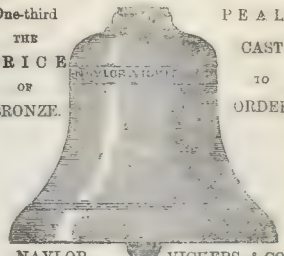
Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, CANNON STREET, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.

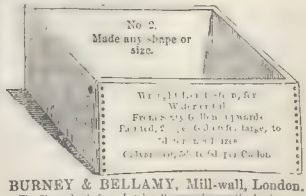


PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.

SHEFFIELD.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.

The Steamboat station from London Bridge wharf on the Lower

GALVANIZED IRON and ZINC WORKS.



Galvanized or black corrugated and plain, always in stock

Manufacturers of Hot-Rolled Zinc, Wire Netting, Galvanized Cisterns, Troughs, Hot-pressed Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

EDWARD DAVIES,

TRADE MARK. SNOWHILL GALVANIZING IRONWORKS, Wednesbury, Staffordshire.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

NO CHIMNEY WANTED

FOR RICKETS & HAMMOND'S PATENT CALORIFERE GAS STOVES, in Churches, Halls, or Shops; and for Conservatories, or any close apartment, a Pipe can be attached to carry away the burnt air.



AGAR STREET, STRAND, LONDON.—DISCOUNT TO THE TRADE.

IMPROVED WARM-AIR STOVES, FURNACES, & HOT-WATER APPARATUS

FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS.
KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION.
Manufactured and erected by J. KIRK & CO., Successors to

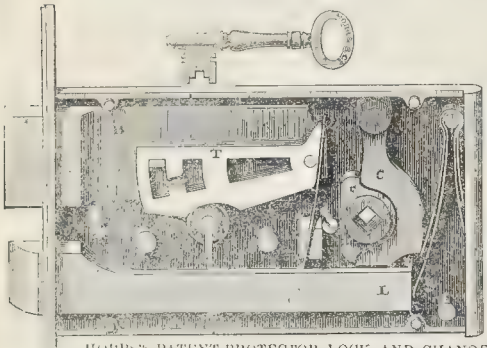
CUTLER & SONS,

CLARENCE IRON WORKS,
16, GREAT QUEEN-STREET, LINCOLN'S-INN-FIELDS, LONDON.
IRON-FOUNDERS, FURNISHING IRONMONGERS, GAS ENGINEERS, AND BELL-HANGERS.
Orders for EVERY DESCRIPTION of CASTINGS for ENGINEERS and BUILDERS promptly executed.
SPRING ROLLER BLIND MAKERS.
WILLIAM ASHDOWN, Manager.

INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.
SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.
PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.
ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.
For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.
HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.
Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.
For price, instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.
PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.
Best Stock of Builders' Ironmongery in London.
Price Lists on application.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,

according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.
J. W. GRAY & SON, 114, Fenchurch street, E.C.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d.	per foot.
Half-inch diameter	1s. 6d.	,,
Five eighths-inch diameter	2s. 0d.	,,

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.

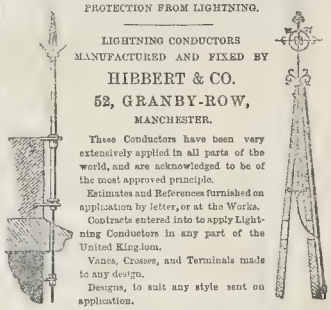
Offices—130, Strand, London.
,, Gateshead-on-Tyne.
,, 97, Dale-street, Manchester.
,, 68, Anderston-quay, Glasgow.
,, 17, South Castle-street, Liverpool
,, Exchange-buildings, Dundee.
,, 7, Frederick-street, Aberdeen.



SPRATT'S PATENT

BATTERY EXCITATION COPPER LIGHTNING CONDUCTORS, giving 3 inches of surface. Only 1s. per foot, complete, for fixing. Including beautiful "Reproducing" Platinum Silver Alloy Point, Glass Insulators and attachments, forming a Lock, Steel Magnets for lateral discharge. Also SPRATT'S NEW ARRANGEMENT for SECURING POWDER MAGAZINES from the possibility of being injured by Lightning; Beer in Breweries from spoiling; Milk in Dairies Souring by electric causes.—Office, 18 and 21, Middle-row, Holborn. Orders over 100 feet carriage free.—Send for circular.

PROTECTION FROM LIGHTNING.



LIGHTNING CONDUCTORS
MANUFACTURED AND FIXED BY
HIBBERT & CO.
52, GRANBY-ROW,
MANCHESTER.

These Conductors have been very extensively applied in all parts of the world, and are acknowledged to be of the most approved principle.

Estimates and References furnished on application by letter, or at the Works.

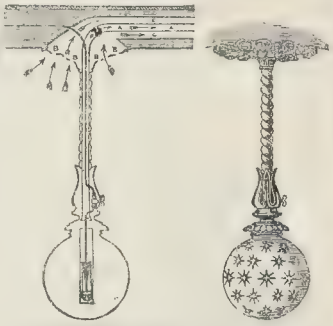
Contracts entered into to apply Lightning Conductors in any part of the United Kingdom.

Vanes, Crosses, and Terminals made to any design.

Designs, to suit any style sent on application.

RICKET'S & HAMMOND'S VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES

To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PAENT FLAX SASH-LINES
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilators, 4s.; and the New Registered Venetian Ventilator, so much admired, 5s. 6d. each.
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare market, London.

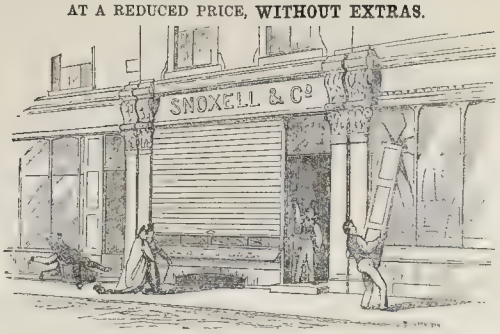
ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents. Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246).

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

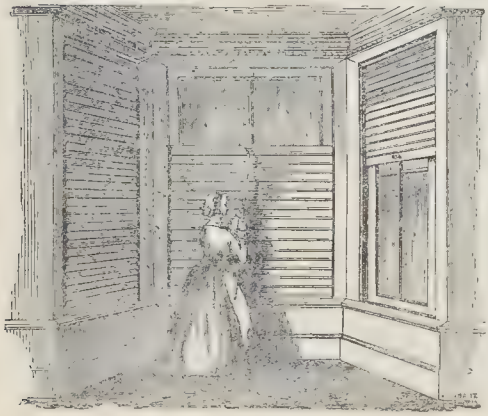
PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.



REDUCTION IN PRICE
OF

CLARK'S

NEW PATENT REVOLVING SHUTTERS,

FOR

SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Baryte from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,

WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

CHRISTMAS PRESENTS.

TWO EXHIBITION PRIZE MEDALS AND HONOURABLE MENTION AWARDED 1862 FOR

CHEAP ACHROMATIC MICROSCOPES,
SCIENCE AND ART PHOTOGRAPHS FOR THE MAGIC LANTERN,
AND
COLLECTIONS TO ILLUSTRATE NATURAL HISTORY.

A Descriptive Illustrated Catalogue by Post, Four Stamps.

SAMUEL HIGHLEY, 70, Dean-street, Soho-square, London, W.

CHEAP ARCHITECTURAL BOOKS for SALE at BRADLEY THOMAS BATFORD'S, 52, High Holborn, W.C. Amongst which will be found:—

NESFIELD'S (W. E.) Specimens of Mediæval Architecture, 120 plates, half-morocco, 17 14s. (published at 40 guineas).

NORMAN SHAW'S Architectural Sketches from the Continent, 100 plates, folio, half-morocco, 17 14s. (published at 30).

THE ART of ILLUMINATING. By W. R. Tymms and M. Digby Wyatt, 102 plates, fully illuminated, 4to. beautifully bound, new and ready, 1 12s. (published at 3 10s.)

BILLING'S (R. W.) Power of Form applied to Geometric Tracery, 100 designs, 8vo. cloth, 5s. 6d. (published at 10s. 6d.) post free.

BRANGWYN (W. C.) Gothic Memorials, being sundry Sketches for Mural Monuments, Headstones, Crosses, & 3 plates, imp. and 8vo. 5s. 6d. post free.

BRANDON'S Analysis of Gothic Architecture, illustrated by a series of upwards of 700 examples of Doorways, Windows, &c. 2 large vols. royal 4to. cloth, 2 2s. (published at 3 3s.)

—— Open Timber Roofs of the Middle Ages, with descriptive letterpress, royal 4to. cloth, 10s. 6d. (published at 1 1s.)

—— Parish Churches, being Perspective Views of Each Parish Church in England and Wales, drawn to a uniform scale, and letterpress descriptions, 2 vols. large 8vo. containing 1 plates, cloth, 2 2s. (published at 5 5s.)

BREES. A Glossary of Civil Engineering, by S. C. Brees, compiled for the Use and Study of Pupils, with the Subject. Full Technical Office Work, Mechanical Engineering, &c., numerous Illustrations, 8vo. cloth, 4s. 6d. (published at 12s.)

BUILDER (The). A complete Set from the commencement in 1843 to 1861 inclusive, illustrated with many hundred engravings of the most important buildings erected during these years, not to the Continent, as well as the United Kingdom, with the Plates, Index, Supplements to Extra Nos. &c., 19 vols. in 20, neatly and strongly half-bound in calf, 5 5s.

CLARKE (Joseph), Schools and School Houses; a Series of Views, Plans, and Details of Buildings positively erected in Rural Districts, 25 plates, royal 4to. 1 1s.

DRESSER'S (C.), The Art of Decorative Design. Second edition, with 32 beautiful lithographic plates, 8 5s. 8vo. cloth, 10s. 6d. (published at 21s.)

PUGIN'S Examples of Gothic Architecture. 225 engravings by Le Keux. 3 vols. 4to. cloth, 3 7s. 6d. (published at 12 12s.)

KING (T. H., of Bruges). Ornamental Metal Work. Original Designs on Metal in mediæval, representing en plans, élévations, coupes, et détails. 200 plates, consisting of Ancient Gold Work, Silver Plate, Enamels, Arms, Metal Vases, Bells, Keys, Locks, Hinges, Sconces, Candlesticks, Masters in Ancient Ecclesiastical Ornament. 2 vols. folio, 3 10s. (published at 10 10s.)

REID (J.). Young Surveyor's Preceptor: a clear and comprehensive Analysis of the Art of Architecture, Mensuration, Land Surveying, Practical Carpentry, &c., calculated to teach himself to ascertain correctly the Dimensions of Quantities and Value of every description of Building Work. 2nd edition 4to cloth, 12s.; post free, 14s.

ST. STEPHEN'S CHAPEL, Westminster.—The Architectural Antiquities, drawn from actual Survey and Admeasurements made by direction of the Commissioners of H.M. Woods and Works, &c.; accompanied by Observations on the Original and Perfect State of the Building, and a Description of the Plates by Frederick Mackenzie. Imperial folio, half russia, 2 2s. (published at 4 4s.)

TAYLOR & CRESY'S Architectural Antiquities of Rome. 120 Plates. 2 vols. imperial folio, half bound, 3 10s.

A Catalogue of Engineering and Architectural Books forwarded gratis, post free.

No. 59, High Holborn, London, W.C.

Just published, Part I. containing Five Plates, imp. 4to. price 5s.

MODERN ARCHITECTURE: ECCLESIASTICAL, CIVIL, and DOMESTIC. Illustrated by Views and Plans of Geometrical Elevations, &c. (Size 18½ by 12½.)

By JAMES MURRAY, F.R.I.B.A.

This work will consist of Lithographic Views and Plans of Churches, Town-halls, Exchanges, Warehouses, Schools, Villas, Street Houses, &c. &c. and will be completed in Twelve Parts. Published Monthly.

Subscribers' names to be sent to the Author, at 5, Warwick-green South, Coventry.

PRACTICAL MECHANICS' JOURNAL for DECEMBER, 1862. Part 177. Price 1s. With a large Engraving of Mr. A. Bailey's Steam-Crane, and Forty Woodcuts; also Original Articles on the Close of the Exhibition, Art. 8—Preservation of Timber; Sugar Machinery in the Exhibition; Whitworth's and Armstrong's Guns; Namyth's Link motion; Sanford's Fibre-dressing Machine; Recent Patents; Looms, Chalmers; Blinds, Scratton; Sewing Machines, McKenzie; Electro-Magnetic Engines, Gay; Magnetic Printing, Harrison; Law Reports, Young v. Ferns; Thrashing Machines, Gouchers; Prolongations; American Patent Law; Reviews; Correspondence; Scientific Societies; British Association; Monthly Notes; Marine Memoranda; Lists of Patents and Designs; Notices, &c.

London: LONGMAN & CO. Paternoster Row; Bradbury, Evans' Offices (Offices for Patentee, 47, Lincoln's-inn-fields, W.C.

Now ready, 1 vol. imperial 8vo. price 15s. cloth.

ISCA SILURUM; or, an Illustrated Catalogue of the Museum of Antiquities at Caerleon: containing the Geology of the Two Roman Legions, with many additions of remains, not fully described.

By J. E. LEE, F.S.A. F.G.S.

Hon. Sec. of the Monmouthshire and Caerleon Antiquarian Association.

"A handsome and well-illustrated volume."—*Athenæum*.

"We cordially commend it to the notice of antiquaries, archæologists, architects, and others."—*Building News*.

"One of the most perfect monographs of the sort of any modern of one peculiar locality which has ever been published..... A valuable contribution to archæological literature."—*Notes and Queries*.

London: LONGMAN, GREEN, & CO. 14, Ludgate-hill

On the 12th of December, both gilt, price 31s. 6d. will be published, the Volume of

THE ART-JOURNAL for 1862, in which is comprised upwards of ONE THOUSAND WOOD ENGRAVINGS selected from Works of Ancient and Modern Art exhibited at the INTERNATIONAL EXHIBITION. It is a volume well worthy to be placed on the drawing-room table, and is suitable for presents at this festive season. It also contains Twenty-four Line Engravings, each inclusive of J. M. W. Turner's principal works, &c.; Illustrated Articles on Rome and its Works of Art, Examples of the Works of British Artists, and on the International Exhibition; an Essay on the Products of Industrial Art, by John Stewart; the Mediæval Court, by Charles Boutell, M.A.; Notes on the Pictures and Sculpture, by J. Beavington Atkinson, Notabilia of the Exhibition; &c. &c.

Will be Part IV. JANUARY, 1863, which will be given THREE LINE ENGRAVINGS, the REMAINING SECTION of the ILLUSTRATED CATALOGUE of the INTERNATIONAL EXHIBITION, and Articles on Decorative Art, Public Monuments, &c.

*** THE DECEMBER NUMBER, price 2s. 6d. NOW READY.

London: JAMES S. VIRTUE, 26, City-road.

On 1st of December, price 1s. No. CLI.

THE ECCLESIOLOGIST.—Published under the superintendence of the Ecclesiological Society.

CONTENTS:—Hexham Abbey Church (with a plate)—Mr Scott on St. Michael's Church, Dublin—Notes of a Recent Visit to Shrewsbury and Chirbury Churches—Church Bells—II. Proper Rules Noted—St. Patrick's, Cork, and Belfast—Street Architecture Vandalism at Malvern—Other Churches—The late Exhibition—Sussex Inedita. No. XXIX.—Report of Northampton Architectural Society—New Churches, &c. Title and Index to Vol. XXIII.

London: J. MASTERS, Aldersgate-street, and New Bond-street.

THE SCULPTORS' JOURNAL and FINE ART MAGAZINE (a Monthly Periodical, price 6d.) on JANUARY 1st, will contain the most interesting information for the Artist, the Student, the Amateur, the Architect, the Sculptor, the Modeller, the Artist, the Architect, the Student, the Amateur, the Collector, &c.

S. H. LINDLEY, 19, Catherine street, Strand, W.C.

KELLY'S PRACTICAL BUILDERS' PRICE-BOOK; or, Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an Abstract of the New Building Act for regulating the Construction of Buildings. Revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by Steel Engravings and numerous Woodcuts. Royal 8vo. price 8s. neatly bound.

London: published by T. KELLY, Paternoster-row; SIMPKIN and MARSHALL; and may be had of all Booksellers.

Of whom may be had, New Editions in Quarto, of the following Practical Architectural Works:—

1. PETER NICHOLSON'S PRACTICAL CARPENTRY, JOINERY, and CABINET-MAKING, Revised by TREDGOLD: being a new and complete System of Lines, for the Use of Workmen; founded on Geometrical and Mechanical Principles. Ten parts at 3s. or in boards, 30s.; containing upwards of 120 Steel Plates, and numerous Woodcut Diagrams.

2. PETER NICHOLSON'S PRACTICAL MASONRY, BRICKLAYING, and PLASTERING (revised by TREDGOLD), both plain and ornamental; containing a new and complete System of Lines for Stone Cutting, for the Use of Workmen; the Formation of Mortars, Cements, Concrete, to which is added a variety of new designs for Mural Monuments, Tombs, Gravestones for Cemeteries, &c. &c.; and a description of the various materials employed. Ten Parts at 3s. or in boards, 30s.; containing upwards of Ninety Steel Plates and Numerous Woodcuts.

3. TREDGOLD and NICHOLSON'S Theoretical and Practical Treatise on the FIVE ORDERS of ARCHITECTURE: containing plain and simple Rules for Drawing and Executing them in the purest style; including an historical Description of Gothic Architecture. Illustrated by upwards of One Hundred Steel Engravings, executed by Artists of first-rate talent, including numerous Diagrams, &c. Twelve parts at 3s.; or in boards, 36s.

4. DESIGNS for COTTAGE and VILLA ARCHITECTURE: containing Plans, Elevations, Sections, Perspective Views, and Details, for the Erection of Cottages and Villas. By S. H. BROOKS, Author of "Modern Parish Churches," &c. Under the Direction for Building, and the estimated Cost of each Edifice. Twelve parts at 3s.; or in boards, 36s.

5. DESIGNS for PUBLIC BUILDINGS, consisting of Plans, Elevations, Sections, Perspective Views, and Details of Churches, Chapels, Schools, Almshouses, Gas Works, Markets, and other buildings for public purposes. By S. H. BROOKS, Architect. Beautifully engraved on Steel. Ten Parts, at 3s. or 32s. boards.

6. THE HOUSE DECORATOR and PAINTER'S GUIDE: containing a series of Designs for Decorating Apartments with taste and suited to the various styles of Architecture. By H. W. and A. ARLOSS-SMITH, House Decorators to her Majesty. Ten Parts, at 3s.; or in boards, 32s.

7. THE HOUSE PAINTER, or DECORATOR'S COMPANION: containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the Origin of Colour, the Laws of Harmonious Colouring, the Manufacture of Pigments, Oils, Varnishes, &c. By W. M. HIGGINS, Esq. Accompanied by actual Specimens of Hand Brush Graining and Marbling. Ten Parts, at 3s.; or in boards, 32s.

THE ENGINEERS' and MECHANICS' ENCYCLOPÆDIA, a new and enlarged edition, comprehending Practical Illustrations of the Machinery and Processes employed in every description of Manufacture of the British Empire. Illustrated by upwards of 2,000 Wood Engravings. By LUKE HERBERT, Civil Engineer, &c. The rapid progress of Mechanical Science has developed many of the important facts since the first publication, in 1836, of the Encyclopædia. The Inventions and Discoveries recently made have engaged the sedulous attention of the Editor; for, as the value of each was tested by experiment, a description was accordingly prepared. By the selection of new articles, and care in the revision of old ones, this edition has now become systematically enriched; so that it may be received as fully and faithfully expressing "the right estate of Engineering and Mechanism, adapted to the wants of Practical Men." In two large 8vo volumes, cloth lettered, price 30s.

In the Press, in two Volumes,

RAILWAYS in the EAST, and Generally in HIGH THERMOMETRIC REGIONS.

By W. DAVIS-HASKOLL, Esq., C.E.

Containing Eighty Pencil Sketches of Locomotives, Imperial 8vo. completing "RAILWAY CONSTRUCTION." In French, 63f. 75c.; in English 2l. 12s. 6d. before January 1st, 1863; after, 78f. 80c. and 3l. 3s. cloth, 5l. 5s. half-bound. Lloyd's Office, 11, Fenchurch-street.

A PRACTICAL TREATISE UPON MECHANICAL ENGINEERING. Illustrated by Plates and Ninety one Woodcuts; with a CHEMICAL ANALYSIS of IRON and its ORES

By FS. CAMPIN, Engineer.

Until January 1st, 1863, cloth, 21s; after, raised to 25s. or 30s.

ATCHLEY & CO. Publishers, 106, Great Russell-street, London, W.C.

SCIENTIFIC RECORD of the EXHIBITION (Practical Mechanics' Journal).—Part XI. December 1st, Price 2s. contains Astronomical Instruments, by T. R. Robinson, D.D. F.R.S. F.R.A.S. &c. &c.; Instruments connected with Light, by Professor J. Clerk Maxwell, F.R.S. L. and E.; Physical Apparatus, by the Reverend Professor Haughton, F.T.C.D. F.R.S.; Measurement of Time, Clockwork, Horology, by W. Islop, F.R.S.A.; Bells, by the Rev. Professor Haughton, F.R.S.; Musical Instruments, by Edward F. Rimbault, LL.D. F.S.A. &c.; Electrical Instruments and Telegraph Apparatus, by C. W. Siemens, F.R.S. M.I.C.E. Illustrated by fifty engravings, 400 pages, cloth lettered. Vols. I. to XI. with Index, 2l. 2s.

London: LONGMAN & CO. Ludgate-hill. Proprietors' Offices (Offices for Patents), 47, Lincoln's-inn fields, W.C.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs ready in Stock. Also for the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or removed, and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

The Builder.

VOL. XX.—No. 1035.

"*History of the Modern Styles of Architecture.*"



OSSESSORS of Mr. Fergusson's admirable "Handbook of Architecture" will only need to be told that he has completed what may be considered the third volume of that work, to induce them at once to obtain it.* He has made it, however, a work complete in itself, so that it will find buyers even beyond that range. It takes, indeed, a somewhat different shape from the Handbook. After the Mediæval period, with which the previous work closed, he finds it impossible to continue it as the consecutive history of an important art carried out on the same well-understood principles in different parts of the globe, and the volume in consequence becomes more a critical essay on the history of the aberrations of the art during the last four centuries, than a narrative of an inevitable sequence of events. It is divided into eleven books and an Introduction; with an Appendix, treating of Ethnology from an architectural point of view. The books concern—1. Italy; 2. Spain and Portugal; 3. France; 4. England; 5. Germany; 6. North-Western Europe (Belgium, Holland, &c.); 7. Russia; 8. India and Turkey; 9. America; 10. Theatres (a valuable dissertation); and 11. Civil and Military Engineering.

The volume contains 312 illustrations, exceedingly well engraved, by Mr. James Cooper. Some of these, as examples of the whole, we are enabled to give.†

The styles described in the first part of the work the author calls the True Styles; those examined in the present volume, Copying or Imitative Styles of Architectural Art, producing buildings concerning which the highest praise that can be given is, that their details are so correctly copied from some style as to produce a perfect counterfeit.

"From this it is evident," he goes on to say, "that, whatever the other merits of modern buildings may be, the element of truthfulness is altogether wanting. St. Peter's or St. Paul's are not Roman buildings, though affecting a Classical style of ornamentation: and even the Walhalla or the Madeleine are only more servile copies, without attaining the impossible merit of being Greek or Roman temples. So, too, with our Gothic fashions. Our Parliament Houses are not Mediæval, notwithstanding the beauty or correctness of their details; nor do any of our best modern churches attain to greater truthfulness or originality of design than exists in the Walhalla or buildings of that class. The consequence is, we never can look upon them with the same satisfaction as we do on those of the true styles, and we never dare to draw conclusions from either their style or their forms as to the age in which they were built, or the purposes to which they may have been dedicated, nor can we ever feel sure that the construction we see is a necessary part of the design, and not put there because something like it was placed in a similar situation for some other purpose in some other age.

All this not only destroys one half the pleasure we experience in contemplating the buildings of a more truthful style, but it degrades architecture from its high position of a quasi-natural production to that of a mere imitative art. In this form it may be quite competent to gratify our tastes and feelings, but can never appeal to our higher intellectual faculties; and what ought to be the noblest and the grandest of the fine arts, sinks below the level of painting and of sculpture; for, though these last are naturally inferior, they retain at the present day that truthfulness which the other has lost, and, though now generally ranked with them, in reality architecture excites less interest than they do."

The book, as a whole, may be taken as a manly protest against this system of copying, and a re-assertion of the fact that Archæology is not Architecture. Whether the repetition be from the Classical or the Gothic styles, the error is still the same:—

"For the philosophical student of art it is of the least possible consequence which may now be most successful in encroaching on the domains of its antagonist. He knows that both are wrong, and that neither can consequently advance the cause of true art. His one hope lies in the knowledge that there is a '*tertium quid*,' a style which, for want of a better name, is sometimes called the Italian, but should be called the common-sense style. This, never having attained the completeness which debars all further progress, as was the case in the purely Classical or in the perfected Gothic styles, not only admits of, but insists on, progress. It courts borrowing principles and forms from either. It can use either pillars or pinnacles as may be required. It admits of towers, and spires, or domes. It can either indulge in plain walls, or pierce them with innumerable windows. It knows no guide but common sense; it owns no master but true taste. It may hardly be possible, however, because it requires the exercise of these qualities; and more than this, it demands thought, where copying has hitherto sufficed; and it courts originality, which the present system repudiates. Its greatest merit is, that it admits of that progress by which alone man has hitherto accomplished anything great or good, either in literature, in science, or in art."

One of the buildings chosen by him to illustrate the downward progress of the art is the New Museum at Oxford.

"This was designed to be Gothic in conception, Gothic in detail, and Gothic in finish. Nothing was to betray the hated and hateful nineteenth century, to the cultivation of whose sciences it was to be dedicated. Unfortunately the style selected on this occasion was not English Gothic, for, the architects having exhausted all the specimens found in their books, and, according to the new canons of art, being obliged to be original without being allowed to invent, they have latterly in consequence been forced to borrow from Germany or Lombardy such features as are yet new to the English public. Generally speaking, these foreign forms and details are neither so beautiful nor so appropriate as our own; but if the architect can produce a certificate of origin, and prove that he has copied and not invented them, the public are satisfied that all the exigencies of true art have been complied with.

The roof of the great central hall of the Oxford Museum, and the ironwork that supports it, are made purposely clumsy and awkward. The lecture-rooms are cold, draughty, and difficult to speak in. The library is a long, ill-proportioned gallery, with a rudely-constructed roof, painted in the crudest and most inharmonious colours; the windows glazed in the least convenient manner with the worst possible glass; and the bookcases arranged, not to accommodate books, but to look monkish. You take a book from its press, and are astonished to find that men who could spend thousands on the sciences in this great bigger have not reprinted Lyell's 'Geology,' or Darwin's 'Origin of Species,' in black letter, and illuminated them, like the building, in the style of the thirteenth century. It is to be hoped that no stuffed specimens of the modern genus Felis will be introduced into the museum, or we may lose the illusion to be gained from contemplating the long-backed specimens of the Mediæval species which crawl round the windows of the library in such strangely pre-historic attitudes. The one really good point in the whole design is the range of pillars with their capitals which surround the inner court; but they are good precisely because they are not Gothic."

Exemplification is given of the growth of the same system in other countries. Thus in Russia, after attempting to introduce the Grecian style in the shape of the New Museum in St. Petersburg (of which we give an engraving), they are attempting to reproduce their Mediæval style for ecclesiastical purposes; not only at home, but where they settle abroad. The most recent edifice of the kind is that in Paris, of which, also, we annex an illustration:—

"When first a glimpse of this building is caught from near the Arc de l'Etoile, it looks like the extravagant decoration of some Parisian Vauxhall; but when examined close, we are not astonished to learn that it has really cost the 52,000*l.* which are said to have been lavished upon it, nor if told that it is, to the Russian mind, a true example of the perfection of Ecclesiastical architecture. This fine old type has not been the usual five-domed churches, but rather the exceptional Vasili Blaiskenoy at Moscow. As now seen in all the freshness of its staring colours and barbarous form, it looks more like the pagoda of some Indian or Mexican tribe than the place of worship of a civilized people; and if the Russians really wish to impress Western Europe with an idea that they too have progressed like other nations, they would do well to repress their Tartar feelings, and keep their Muscovite forms of art for the sympathies and admiration of their own people."

Our author is of course wrathful against the deceits now being piled up in our old buildings,—"You enter a cathedral and admire some ironwork so rude you are sure it must be old, but which your guide informs you has just been put up by Smith, of Coventry. You see some carved monsters so uncouth that no modern imagination could conceive them,—'Brown, of Cambridge, sir;' some painted glass so badly drawn and so crudely coloured, it must be old,—'Jones, of Newcastle.'" He thinks better of modern works of this kind than some deserve when he says that "the forgeries are perfect and absolutely undetectable;" it being so easy, he thinks, "for people who have attained a superior degree of proficiency to imitate the arts of those of a lower stage."

The causes which the author gives for the decay of architecture as a real art are various. Dividing the arts practised by man into two classes,—the Technic arts and the Phonetic arts,—and placing under the first heading generally all the useful arts, and under the second those which minister to the intellectual wants of mankind, he urges that while in the latter case the individual producer, the Phidias, the Raffaelle, the Shakespeare, must be everything; in respect of the former, the Technic arts, the individual is nothing, the age everything; in other words, that in these progress must be the work of many: that it is bit by bit and year by year that our agriculture has been improved; that the galley has been developed into the *Warrior*, and the narrow bridges of the Mediæval architects have been superseded by the spacious arches of London Bridge. Then, viewing architecture as nothing more than the æsthetic form of the purely technic art of building, and only to be elaborated successfully on the same principles which guide and govern all the purely technic arts, he finds a chief cause of its decay as a real art that it came to be cultivated at the Reformation on the principles which belong only to one of the Phonetic class; and each building became the expression of an individual mind,—wherein the one architect was everything. Without stopping now to question what seems to us unsound in this, beyond saying that we are not prepared to believe in the construction of any noble building of any age without its one presiding mind, the chief worker,—*architecton*,—we quote his exposition of one of the great inconveniences attributed by him to the domination of an individual intellect, but which is by no means inseparable from the system, and has another cause. This inconvenience, he says, is the small amount of thought of any kind that a modern building ever displays:—

"An architect in practice never can afford many hours to the artistic elaboration of his design. The plan, the details, the specifications may occupy weeks—in large buildings probably months—but once drawn, it is done with. In almost all cases the pillars, the cornices, the windows, the details are not only repeated over and over again in every part, but are probably all borrowed from some other building of some other age, and, to save trouble, the one half of the building is only a reversed tracing of the other. In one glance you see it all. With five minutes' study you have mastered the whole design, and penetrated into every principle that guided the architect in making it; and so difficult is it to express thought where utility must be consulted, and where design is controlled by construction, that the result is generally meagre and unsatisfactory in the extreme. In a work of true art, such as a Mediæval cathedral for instance, the case is different. Not only have you the accumulated thought of all the men who had occupied themselves with building during the preceding centuries, and each of whom had left his legacy of thought to be incorporated with the rest, but you have the dream and aspiration of the bishop, who designed it; of all his clergy, who took an interest in it; of the master mason who was skilled in construction; of the carver, the painter, the glazier, of the host of men who, each in his own craft, knew all that had been done before them, and had spent their lives in struggling to surpass the works of their forefathers. It is more than even this: there is not one shaft, one moulding, one carving, not one chisel-mark in such a building, that was not designed specially for the place where it is found, and which was not the best that the experience of the age could invent for the purposes to which it is applied; not a part was drawn, and nothing that was designed for one purpose was used for another. You may wander in such a building for weeks or for months together, and never know it all. A thought or a motive peeps out through every joint, and is manifest in every moulding, and the very stones speak to you with a voice as clear and as easily understood as the words of the poet or the teaching of the historian. Hence, in fact, the little interest we can ever feel in even the stateliest of modern buildings, and the undying, never-satisfied interest with which we study, over and over again, those which have been produced under a different and truer system of art."

The writer seems somewhat inconsistent soon after, when, first urging that the evils mentioned above have been aggravated by architecture being "handed over too exclusively to professional

* "History of the Modern Styles of Architecture, being a sequel to the 'Handbook of Architecture.'" By James Fergusson, Fellow of the Royal Institute of British Architects. London: John Murray, Albemarle-street. 1862.

† See p. 875.

men,—to men who live by it and make it their business," he then points out that "another and cognate circumstance which mainly influenced the fate of architecture at the period of the revolution was, that most of those who first practised it at the time were either amateurs, or sculptors and painters." If our author simply means by his first observation to complain that other than architects had ceased to take interest in architecture, we are with him; but it will be read differently by many.

Mr. Fergusson finds so few symptoms of correct ideas on the subject of architecture prevailing in the public mind, that he thinks it may be foolishly sanguine to hope that it can ever again be restored to the position of a truthful and real art; but admits it is childish to despair, and wicked not to do what can be done to bring about so desirable an object. We look at the matter much more hopefully, and see symptoms on every side of earnest thought on the part of its professors, growing skill in art-workmen, and increase of appreciative power on the part of the public, the exercise of all which can scarcely fail to result well.

In this notice we have mainly confined ourselves to conveying a clear idea of the contents of the book before us: on another occasion we may review more fully the opinions expressed in it. It cannot fail to induce thought, and have a beneficial influence on the art; and we earnestly commend the study of it to all readers.

ON THE VOLUNTARY ARCHITECTURAL EXAMINATIONS.*

Among those institutions which have gradually developed themselves during the few past years, and which seem likely to exercise a great and lasting effect on the future, the establishment of professional examinations is certainly not the least. In all countries the pursuit of the liberal arts and sciences has had the most beneficial influence on civilized life, and anything that may tend to elevate the character of professional men in the eyes of the world, and to give them a better status among their fellows, must conduce to promote a higher and more intellectual tone to society at large. Having taken a deep interest in the question, and having been one of those who were intrusted by the Institute to take preliminary steps to endeavour to ensure to our own, the benefits which we believe other professions have received, I venture to trouble you with a few remarks that have suggested themselves in the course of our inquiries, although to treat of so important a subject as this in the manner it would deserve would require a longer time and greater ability than I have to devote to it.

For many years, as you are all aware, an inquiry into the mental training and amount of information any one might possess was confined to those about to enter the church or the medical profession. The important functions of both seemed obviously to demand that there should be a searching examination as to the competency of any candidates before undertaking their responsibilities; but it was not so with other professions. The lawyers, however, were the first to establish a change. Formerly, they who had managed to get "articled," as it was called, and had 100*l.* to pay to the Stamp Office, were admitted to practise as attorneys or solicitors without inquiry. The consequence was, many men, endued with some cunning and very little legal knowledge, crept into the profession; and, what was worse, the pretended practice of the law was frequently a mere cloak for money lending and all sorts of disreputable employments. Feeling this very strongly, the chief respectable solicitors united together in forming an institution to inquire into the fitness, both in point of a liberal as well as of legal education, of the several candidates before they were permitted to enter on the practice of the law. It is scarce twenty years since this institution came into active use, and since that time I have been informed by old members of the profession, its character, as a body, has been raised to a degree beyond their most sanguine expectations. The cunning, vulgar, ignorant, pettifogging attorney, so frequent a character in the old novels and comedies, is almost extinct, and in their place we have, with very few exceptions, able and well-educated gentlemen,—men of whom society is proud, instead of ashamed.

The next movement to insure a proper education and competent ability among their members was made by the chemists. Here, as in our own body, any man might assume the title, and enter into practice at his mere will. The lawyers had always the semblance of an education, though it often consisted of the mere farce of "giving articles;" but any man might write up "chemist," and compound the most complex medicine, or sell the strongest poisons, without question or challenge. So many evils arose out of this system that the respectable chemists, in a body, applied to the Legislature for powers analogous to those already given to the lawyers. They, however, were met by a loud opposition, and it was asked what a chemist was, and where his functions began and those of the drug-dealer ended; and it was said it would be sadly interfering with the liberty of the subject if a man might not sell an ounce of salts, or a pennyworth of rhubarb, without an examination. It was also stated that, in country places in particular, the mere practice of scientific chemistry was but a very small part of a man's business; and just as many a little country builder calls himself "architect and surveyor," they demanded the right to assume at their own will the title of chemist. The respectable men replied this might be true; but others had no right, at any rate, to pass themselves off on the public as *scientific* chemists if they were not so; and, at last (we have not time for all the details), the Legislature gave powers of incorporation, and of examining candidates as to their competency, and the sole right to use the title of "pharmaceutical chemist," as a distinctive mark of a proper scientific education. Something of this kind has been proposed with regard to the architects, and, with certain modifications, might perhaps be made to work well; but, as the general wish seems at present to be to leave everything possible to voluntary action, and in no way to fetter the profession, I think it well to pass by all such questions for some future time. In fact, it seems to be wise to do nothing further till the results of our proposed experiments shall have full and fair opportunities to develop themselves.

The greatest step, however, to establish an enlarged system of examination took place in consequence of the Crimean war, and the hardships and sufferings arising from the blunders and incompetencies which were charged against the Government officials. Although these may have been exaggerated, and although too little allowance may have been made for the change from nearly forty years' peace to a sudden and tremendous war, still the attention of the public was forcibly called to the necessity of some change. Our public service was stigmatised as a circumlocution office; red tape became a popular by-word; and it was stated again and again that political influence, and that alone, was the qualification asked for in all our Government offices. It is beside our purpose to inquire as to the correctness of these charges; it is sufficient to say that the comprehensive scheme of an examination into the qualifications of every candidate for Government service, whether civil or otherwise, was immediately established. It has now existed seven years, and, I am informed on the authority of the most competent judges, that the improvements in every branch have been greater than was ever anticipated. Since this the system has been extended in every direction, and almost to every intellectual pursuit.

Of course, there has been a very great opposition to these changes, the chief of which have been summed up in the third report of the Commissioners of the Civil Service. One was the very old and hackneyed objection to all sorts of advancement, that the course intended to be pursued would "make men above their business." Now, this is certainly an argument of some force as to charitable education, where the ultimate business of those taught will be to dig or to plough, and no more; but in Government employ, and especially where the men were stated to be much below the level of their every-day business, it was surely a poor argument to say, "do not raise them at all." In our own case, however, this notion would plainly be worthless, most of our *best* architects having been the best educated men of their day, and our profession certainly inferior to no art, as it mingles at once the practical, the scientific, and the beautiful.

The arguments then took rather the form of opposition to examination as part of the system than to education in the abstract; and three principal objections were raised:—First, that examinations in general became too scholastic; that they involved, necessarily, a system of reading, a routine of class books, and, in common phrase, induced a system of "cramming." The second was, that the result of examination proved but little as to the real solid knowledge a candidate might possess, inasmuch as it might so happen the questions before him were such as he might chance to have picked up, while very ignorant of all the other branches of the subject. The third, and, as regarded the Civil Service, perhaps really the most valid, was that no examination would develope or prove that the candidate possessed the best and chiefest qualifications of all, namely,—integrity, industry, activity, foresight, presence of mind, and a number of other qualities of similar character, of the highest importance in confidential positions.

The first objection had much weight in the case of the civil service, but I should hope in ours it must fall to the ground. I would ask any one to look at the sketch form of voluntary examination just circulated, and say whether it is not of such wide and comprehensive character, and so thoroughly practical in its essential details, that no amount of mere book work, no amount of "cram," would satisfy the examiners that the candidate had a right to a place in the class of proficiency as an architect.

To the second objection I hope there is quite as good an answer. Let enough questions be given, more in number than you expect or require any candidate to have time to answer,—but, of course, let this be well understood, else he will feel deterred by the length and weight of the paper. Give opportunity for selection, and let it be known the examiners do not wish the greatest possible quantity of work to be hurried through; a few questions thoroughly well answered will weigh more with the judicious than five times as much of slovenly work. On this point I shall venture to enlarge, with your permission, a little further on.

The third point urged against the civil service, that examinations will prove nothing as to integrity or other moral qualities of candidates,—does not, of course, apply in our case; but it might very well be put in another form, and men might say no examination will give genius, fancy, invention, or artistic talent. This in the abstract is granted; the "*mens divinior*" is certainly a gift; but constituted as we propose our examination to be, if it does not give men elegant faculties, it most clearly will afford a means of developing them and exhibiting them to the world. We do not propose to teach you to draw, to carve, to design, to devise; but we do propose to give you an opportunity of showing what you have done, and can do, in all the more elegant branches of our art. It is hoped the various powers of all minds may be developed in all their gradations, whether purely artistic, whether strictly utilitarian, or whether of that happy mixture of both that is really the glory of our profession; and not only so, but that it will elicit the fruits of that wise watchfulness which you may have exercised during your novitiate; and, what is much the same, the care you have taken to store up in your minds all that may be valuable in your future career. We hope, whatever your speciality of talent may be, to offer you a wide, a fair field for its exertion and display.

And here it may be convenient to consider in what way our proposed examination may differ from others. In the first place, it is not like a collegiate examination—the great termination of a long series of studies, the harvest of seed sown some time back, and long and carefully cultivated. It is not an honoured end and rest from labours; neither is it the entrance into life, like that of the lawyer or medical man,—the opened gate through which he is to pass, and then to encounter his first struggles with the world. In the language of the schoolmen, it is neither a "terminus ad quem" nor a "terminus a quo." It is not an individual struggle for victory,—the battle for the olive crown; nor such a struggle as those are for scholarships or high appointments, where there can be but one, or very few victors, and where the unsuccessful feel in the position of the vanquished. It may rather be likened to those military displays, where, after long training and active practice, the younger members march out confidently, hoping to prove they are soldiers of such proficiency as to be fit to act with veterans in the field, and trusting in time of need to be equal to do their duty ably to their country.

A very able writer in one of our professional journals has likewise shown the difference between the system of rewards now generally offered to

* By Mr. Ashpitel, read at the Architectural Association, November 28th, as elsewhere mentioned.

students, such as the Soane medallion, or any other similar mark of distinction, and the present proposed system. These rewards have been of three sorts,—for the best essay, the best design, and the best measured drawing from an existing building. I will leave out of the question any chance of improper assistance when work is done at home, nor will I touch on help obtained from books, or hints from friends; but it must be obvious to all, as the writer says, that the best drawings may not be the production of the best draughtsman, but of him who has the most leisure to bestow on their production; and that the excellence of measured drawings depends also, not only on leisure, but in the money there may be to pay for assistance, scaffolding, travelling expenses, and a host of other things which attach themselves to such undertakings.

It has been said, the reason why the English make such excellent medical men is, they begin practically; they "walk the hospitals," as it is called, on their first entrance into the profession; they act as dressers, in subordinate practical capacities, and receive the instruction of the lower, before they attend the lectures of the higher professors. Abroad, the scholastic education comes first, and many a man who has considerable theoretical medical knowledge, would be quite at a loss by the bedside of the sick; while the man accustomed to practice from early life sees the state of things at a glance, and acts promptly and successfully. There is no doubt the active daily duties of the office are indispensable to the young architect, and it is in them, if he keeps his attention properly on his work, that he will find he has unconsciously gathered material to master the most important part of the examination we propose to offer. But it is equally true that these very circumstances operate against his chances of obtaining the distinction of medals, and other similar rewards, and it is very probable, as has been suggested by the writer above quoted, that this is the true reason why such rewards are so little sought, and of course often so little valued.

We all know how often it happens that rising men wish to enter office of their seniors, with the hope to work their way up to independent practice. Of how little use is the production of a medal, or a portfolio containing designs for some unlikely or perhaps impossible marine hotel, or gigantic cathedral! Of how little value in the eyes of the man of business is the medal for the essay, which in general is simply a well-expressed account of something other men have executed! It may be valuable in its way, as every literary *tentamen* is; but it may have taken months to write, and of what value is it in the active practice of the profession? Let us, however, ask, which would be the better testimonial, the exhibition of any such solitary mark of distinction, however respectable, or the production of a set of full, fair, and comprehensive papers on every branch of the art, such as it is hoped will be laid before you, and the simple assurance that you have been fairly tried and found to be proficient therein, and that wholly unassisted, and on the spur of the instant?

And now it may be asked, what should an examination be? It should be *full*, that is to say, such a one as should be amply sufficient to show the proper status of the candidate. Any examination which may be too easy degenerates into a grave farce. No one would care for such a distinction as any idle or weak-minded creature might attain. No. The examination should be such that in after life the successful candidate should be able to refer back to his paper of questions with pleasure, and exhibit them as such as in his days it was his pride to answer. But here comes the difficulty,—the questions must not only be *full*, but *fair*; they must be proper and pertinent. Nothing is easier than to set questions that scarce any one can answer. Nothing is easier, with a little perverted ingenuity, than to set questions, of no great difficulty perhaps in themselves, but worded so as to mislead or puzzle a candidate. In competitive examinations, or those wherein a certain prize is to be conferred on the best man, and on one alone, it is not unusual for examiners, by way of shortening their work, to set what are called "catch questions;" but nothing can be more unfair or improper in an examination like this which is proposed. It is a system of finding out the weak points, instead of developing the strong—of hunting out faults instead of exhibiting excellencies—and, as a matter of course, depressing the general body of the rising men, instead of encouraging it.

These considerations led us to another and very important point,—that no examinations should be *viva voce*, but every answer should be put on paper. They also led to the adoption of what to some may appear a complex system of numbers and changes by the moderators, which is by no means so difficult as at first sight appears, but which ensures the judgment of all answers by their merits alone, as the examiners have no chance of knowing in any way the name of the person on whose papers they are about to pronounce an opinion. It is the matter alone, and not the individual that is judged, and in this respect at least the utmost fairness is in all human probability ensured.

The system of *viva voce* examination is abandoned now by almost all learned bodies. Many examiners, however, cling to it, as it shortens their labours so much; they consider they see in so little a time who are the competent men and who are not; but they do not allow for that modest timidity men can never divest themselves of, and they often attribute hesitation not to diffidence, but to ignorance; while, on the other hand, men who possess but a smattering knowledge and have readiness and assurance will blunder through when far better men will fail. There is also this complaint on the part of those who are not able to satisfy the examiners, and that is always a charge of unfair questions, of bullying, of misleading, of browbeating, of wishing to reject a candidate to the advantage of some favourite; in short, it is impossible to find any one who has been rejected under a *viva voce* examination who does not attribute his being "plucked" to the bad feeling and unfair conduct of the examiners, rather than to his own deficiencies; and this not from a desire to pervert the truth, but simply from the pain and confusion which the candidate naturally gets into when on the point of what is called "breaking down." We hope we have reported such a course to the Institute that there can be no question that the proposed examinations shall be fair,—unquestionably fair in all respects.

I would now venture to call your attention to the form of examination itself. The first remark which we have heard is, that it is too difficult,—in university language, "too stiff a paper." This has been intentionally done, as the object is to show the standard we hope the rising men of the profession may come to in a few years' time, and not that at which we shall begin. And we think we have a good reason for this. Examinations are all contests for which the mind must be trained. It is much the same as with bodily contests. The fleetest foot that ever ran on the Olympic stadium, if out of practice, would be easily beaten by a slower runner; the strongest wrestler in the palæstra, if out of training, would easily be thrown by a weaker man in full practice. Knowledge, especially such as is of the most value to the architect, is of slow growth, and comes as much from observation as from reading. Now, it is clear the study and experience of three years must be infinitely greater than those of one year only. We thought it would be equal justice, therefore, to those who come up at even less than a year's notice, to set the standard lower than we think ought to be done three years hence; and we believe that those who pass now will in future be considered to be on an equality with those who have answered much more difficult questions at that period.

Another objection has been that the questions are too numerous to be answered in the time allotted. This has been purposely done for the reasons above stated, that the chance of falling on those points to which alone the candidate has not happened to have given his attention, is so lessened that it can hardly be taken into account. Of course, the examiners will carefully consider how many questions ought fairly to be answered, and if, say one-half is the number, the marks should be so allotted that one-half should enable the candidate to get his full complement of marks.

The truth is, there is every reason to hope there will be the most kindly feeling between the examiners and the candidates. It is not the intention, as is necessary in some examinations of those who seek to fill responsible posts, to search out what a man does *not* know, and so by implication rebuke his deficiencies. It is the reverse; the examiner should endeavour to develope what you *do* know, which in the industrious and observing is generally more than they themselves believe. It should be like the greeting of one kind friend to another, who has just returned from travelling, and which generally is, after a first welcome, "Now tell me where you have been, what you have seen, and what you have learned."

Questions have also been asked as to the class of reading to be recommended. This must be left very much to the tone of each candidate's own mind. It has been thought better, especially in so short a time, not to limit the range to certain books, a course which so often leads to a system of cramming. But there is one point I would venture to remark on: it is a common error for candidates when the examination draws near, to confine their attention to the more advanced branches of the various subjects, thereby probably leaving themselves deficient in the groundwork. Now, every examiner naturally looks to see whether a good foundation has been laid, and considers work based on sound elementary principles of much more value than more showy and attractive matter which may be got up by cramming, and is easily forgotten. I would therefore recommend that shortly before the examination every candidate should go carefully through the elements of any branch of science, and see that they are properly ranged in his mind. This course will afford a confidence and facility in examination no other method will give.

There is no disguising one fact. The general tone of society has been much raised within less than half a century, and has become more refined and more intellectual. That which is now considered on all hands to be so indispensable to every gentleman, and generally designated "the education of a gentleman," would have been called "pedantic stuff." It was gentlemanly then to drink three bottles of strong wine after dinner, or to call out your best friend for a hasty word and shoot him dead the next morning. In their softer moods, the gentlemen of George IV.'s day devised patterns for waistcoats, cut collars for coats, and invented marvellous curls for the hair and whiskers; while every leisure hour of both ladies and gentlemen was devoted to cards or worse forms of gambling. Things have changed very much since that time; and yet gentler manners, and more intellectual pursuits, have not brought with them luxury or effeminacy. Although far more temperate in living, and more simple and natural in dress, nothing of the true British spirit has decayed. They who rode at Balaclava, or who crushed out the horrible Indian mutiny, were as heroic men as any age could boast of; and under our own immediate notice is now as noble and patriotic a movement as ever was at Sparta or Athens. In a quiet and unostentatious way, men have joined together heart and hand for the defence of their own hearths and altars, and have spontaneously taken on themselves the fatigue and toils of military life in such a manner as to convince the world the spirit of the British nation is as great and as manly as ever.

But there is also no disguising the fact that, in spite of the exertions of the various architectural bodies, the professors of that science do not seem to be recognised in society as they ought to be. At any rate, the word architect is not the password here it is abroad. Why this may be we will not stop to inquire; nor will we repine if it be so. One thing we are quite sure of—if the whole body assume and deserve a higher status in society, they certainly will find themselves in an advanced position ere long.

This is one of the great advantages the system of examination offers. It not only must be valuable in a professional point of view, but it must be of the greatest use in showing to other professions, and to the world in general, that the architect has received the education of a gentleman. Let every rising man, then, who has the love for his art and respect for his profession, assist in our endeavours to elevate both in the eyes of the public. Let every one who has leisure become a candidate. It will be more honourable to come up and fail, than shrink from the trial. In fact, it can hardly be called a failure. A standard is offered by which you may judge your powers. Without some trial or some means of comparison, who is to judge their own stature? If at present you fall short of such height, it is no more blame to you than if you are but 5 feet 10 inches instead of 6 feet; but there is this difference,—although, after a certain time, the bodily stature will not increase, by proper cultivation that of the mind always will do so; and it must be very hard if he who falls short of the standard, after having had only a few months' notice, will not reach it after the experience of another full twelve months has been added to it. And you are more likely to attain to this standard on trying once and failing, than even by waiting a year and then going up, without experience of examinations and what they can show you of your own powers, and the deficiencies of your education.

And now we should be ungrateful to the mem-

bers of the Architectural Association if we did not acknowledge their support in this attempt. On them will fall a great share of the labour,—on them will devolve the task of showing, as a body, the rising architects are men who do not shrink from that mental toil, that intellectual training and tuition, that all other professions undergo. The experiment (perhaps as it ought to have been) a cautious support; but still it has been most genuine and unselfish. The fruit of all our labours, if fruit there be, must be expected to show itself slowly, but in my earnest expectation I may be spared to see it, and on some future occasions, within these walls, to talk over the old tales, to measure our former labours, and to congratulate the members on the success of the united efforts of the Institute and of the Architectural Association.

NEW MATERIALS FOR THE LIFE OF L. F. ROUBILIAC.

Francis Legat Chantrey looked upon Louis François Roubiliac as the greatest sculptor England had produced, or England had a right to claim by adoption as her own. He admired his exquisite modelling in clay,—the skill with which his figures were endowed with characteristics in plaster,—he looked upon the heads, the vivacity of look he never failed to impart to every face,—his skill with his chisel, and the general result, to one great whole, observable in all his works. Yet Chantrey had little in common with Roubiliac, save an excellence which he reached by means entirely different. If I am asked for my authority for Chantrey's admiration of Roubiliac, I must name my father. Could a better authority be named? Chantrey sought and attained to excellence in the same line of art as Roubiliac, by means wholly different from those used by the great sculptor of the Rococo. Roubiliac is all action; Chantrey is all repose. In one statue alone is Chantrey animated into action in his Grattan. When the Irish committee for the erection of the statue gave their commission to Chantrey, they asked for "a speaking statue," which Chantrey gave them in a way worthy of all admiration; but when they suggested to the sculptor that Grattan, in marble, should be made to stand on the "Rock of the Constitution," they made a request which no imagination could devise without recourse to the sign painter's refuge—"This is a dog," "This," the Rock of the Constitution.

Was Roubiliac a married man? His biographers are silent on the subject. In no work about sculptors or sculpture in England can I find that the illustrious Frenchman was married. That he was married *once*, if not *twice*, I can prove by undeniable evidence. Roubiliac lived for many years in St. Martin's-lane, in the parish of St. Martin's-in-the-Fields, in London; and in the registers of that parish I *found* (some fifteen years since) the following entry:—

"1748, April 12. Lewis Francis Roubiliac and Caroline Magdalene Helot, both of St. Martin Orgars, London, p. L. A.B."

That is, they were married by the license of the Archbishop of Canterbury. There cannot be a doubt that we have here the entry of the great sculptor's marriage. But why did the marriage take place out of the parish in which they both lived? I cannot answer the question. The license itself, if still in existence, would most likely determine this point.

This marriage of Miss Helot was, I take it, Roubiliac's first marriage. The entry of his second marriage (so I assume) to Miss Crosby, of Deptford, with *ten thousand pounds*, took place on the 6th of January, 1752; and my authority (almost always a safe one) is Mr. Sylvanus Urban, at p. 44 of his magazine for the year 1752.

It is much to be regretted that we have not anything like a satisfactory list of the works of Roubiliac. I had the *printed* sale catalogue of his effects, after his death, at his studio in St. Martin's-lane; and I had his agreement for a large monument, of which several preliminaries the money agreed upon; but I can find neither. Two removes, says the proverb, are as bad as a fire. The autograph of Roubiliac is excessively rare. The sale catalogue I have, or had (small octavo in sizie), I believe to be unique.

This mention of my Roubiliac loss reminds me of a greater. Roubiliac modelled and chiselled the bust of his friend and rival, Joseph Wilton, the sculptor. Wilton had a sculptor's hammer in his hand. The bust was executed for Wilton's lovely daughter (Lady Chambers) to the Royal Academy of Arts in London. All Cunningham, in 1820, I made application for permission to have an engraving made from it for his "Lives of British Sculptors," and was refused by the *forty* in full council. Why he was refused I have lately ascertained. "We have no bust of Wilton by Roubiliac," I am informed by the present excellent keeper,* "nor can we find it included in our List of Donations to the Academy." Wilton's bust of Roubiliac is No. 167 of the printed Catalogue of the Exhibition of 1761. It behoves the Academy to make inquiries about it.

It is necessary for Roubiliac that he may be seen and studied in some of his best works in London and its environs, Westminster Abbey containing *seven* of his finest. His *Vauxhall* Handel, that "fixed his fame," is, after many wanderings, safely located at Exeter Hall, in the Strand, in the rooms of the Sacred Harmonic Society. His *Garrick* Shakspeare is, by Garrick's bequest, in the British Museum. In the church of Walton-on-Thames is his very fine monument to Lord Shannon, sufficient to repay an express visit and a shilling to the sexton who shows it. At Battersea is his Bolingbroke, a medallion head, with the true St. John touch in it.

At the sister universities of Oxford and Cambridge he may be seen to advantage. Oxford has his bust of Sir Christopher Wren—a composition from Kneller; and Cambridge has his statue of Sir Isaac Newton, the finest portrait statue in England, Chantrey's far-famed one *in small* of James Watt not excepted. And here I may ask, did Handel sit to Roubiliac? I believe he did,—Lysons, who wrote late in the last century, recording in his "Environs" that the original cast of Roubiliac's bust of Handel was, in 1795, in the house of John Bacon, esq., of Friarn Barnet, in Middlesex, and that over it was hung the portrait of his friend, Charles Jennings. Where is the Handel bust? Lord Howe has the Jennings property, but I do not remember the bust of Handel among the rich Jennings treasures of art to be seen at Gopsal.

Did Pope sit to Roubiliac for his bust? There is no proof that he did beyond a life-like bust of the great poet bearing Roubiliac's name (with the date 1741—Pope then alive), and the unmistakable marks of his modelling tools and chisel. The minister Sir Robert Peel secured the marble Pope at Watson Taylor's sale; and Mr. Murray, of Albemarle-street, the original clay, at Rogers the poet's sale. That the sensitive head of the poet was done from life I have little doubt; but we have no written or oral proof that the poet sat to Roubiliac.

Hogarth sat to Roubiliac, and one of the best purchases made by Lord Stanhope's Portrait Committee is the terra-cotta bust by Roubiliac of the great painter. The busts of the two satirists, with pen and pencil, should be placed together. Thus placed they would afford a rich study for our sculptors, old and young.

Roubiliac, like Chantrey, painted in oil. In a London Exhibition of 1761, No. 94 was a "Portrait in oil" by Roubiliac, "his first attempt." The widow of Allan Cunningham has the portrait of Chantrey by himself, painted before he became famous, and when sitters were few in number. It is very masterly, and awakens a regret that ill as we could spare his busts, he did not continue "occasionally" to show his skill in the sister art. The Roubiliac "in oil" must have had many merits. Can it be traced?

And here I must ask, on what authority are the four busts bequeathed by Pope to Lord Lyttelton, attributed to Roubiliac? The present Lord Lyttelton, at my recommendation, lent them to the Manchester Art Treasures Exhibition. They were presented to Pope by Frederick Prince of Wales; but are weak and insipid—with no one touch of Roubiliac about them. They are more like Rysbrach.

Roubiliac had an apprentice, Nathaniel Read by name. His *Pascale* monument in Westminster Abbey to Admiral Tyrrell has his master's theatrical folly in marble carried to excess. There is some good carving about it. Read learned the use of the chisel, if he learned nothing else in the studio of Roubiliac.

Roubiliac was a competitor with his friend Wilton for the Westminster Abbey monument to General Wolfe. His design may be seen in the *Gentleman's Magazine* for January, 1789. It is poor.

I believe I have seen every well-known work by Roubiliac but *one*—a kind of Nightingale-monument at Wrexham, in North Wales, to one of the Middletons of Chirk Castle. Derrick, a contemporary of Roubiliac's, describes it as representing "The Last Day—a pillar broken and tumbling—an angel blowing a trumpet, from a confused sky, and a lady starting from a tomb which seems to have burst." Wrexham is a fine church. The Middleton monument—if we may test it unseen by the Nightingale monument—must be fine.

Roubiliac has been dead one hundred years—this very year. In the century that has gone he has not been surpassed as a sculptor. His Newton, his Argyll Eloquence, his Mrs. Nightingale's arm and hand, and his Trinity busts, are still the admiration and talk of all who know what sculpture ought to be, and was in his hands.

Peter Cunningham.

* Mr. Charles Landseer, R.A.

GAS IN YORK.

As our readers know, much dissatisfaction has existed for some time past in the city of York, on account of the high prices charged by the company for gas supplied to the public lamps and to general consumers. This dissatisfaction has been loudly and urgently expressed both by the corporation and the public; and, a few months ago, a committee of the former body was appointed to obtain information, and report to the council. The committee called to their aid Mr. Stevenson, of Halifax, who advised them upon the cost of erecting works for public lighting only; the cost of works for the supply of the general body of consumers; the cost of making gas in York; and the price at which it ought to be sold. The report of the committee was presented to the council on the 13th of October; and public opinion and feeling were so aroused by the facts it contained, that, at the municipal elections on the 1st of November, the burgesses declined to send any representative who would not promise to exert himself to obtain a proper and adequate reduction in the price of gas, not only for the public lights, but for the inhabitants at large. Some, in what they supposed the interest of gas companies, both in the press and elsewhere, attacked the corporation and Mr. Stevenson, disputing the accuracy of figures and imputing a bad *animus*. However, the York Company showed their belief in the truthfulness of the representations made by seeking another interview with the committee; and we now learn that the company have agreed to reduce their charge for public lamps from 4s. 9d. to 3s. 9d. per 1,000 feet; this charge to include lamps and posts, brackets, lighting, extinguishing, cleaning, repairs, and all expenses. To private consumers the charge is to be—from January to December, 1863, 3s. 9d.; and from and after the 1st of January, 1864, 3s. 6d. per 1,000 feet; instead of 4s. 6d. hitherto paid. By these alterations the corporation and general body of ratepayers will save 365*l.* per annum, and the consumers of gas about 3,000*l.* per annum. We doubt not that the company themselves will also be gainers ultimately by the reduction in charge. At any rate, if 3s. 6d. per 1,000 is a remunerating price at Beverley, it must be so in York, where coal is cheaper and where the population is four times greater. At present, besides paying 10 per cent. dividend upon an enormous and partly fictitious capital, the company have a very large reserve fund, which they know not what to do with.

THE AGRICULTURAL HALL, ISLINGTON: AND SMITHFIELD CLUB SHOW.

On this, Saturday, evening, the Agricultural Hall, occupied by the Smithfield Club Cattle and Implement Show, will be opened to the judges for the award of prizes; and nearly all next week *Iseldon*, where the Romans camped, where Henry VIII. hawked, and London citizens resorted to eat cheesecakes, will receive the thousands who erstwhile flocked to Baker-street. It may be worth while to make the fact clear that the Hall Company and the Smithfield Club are distinct bodies, the latter having nothing to do with the Hall beyond bringing to it their show for a fortnight in the year, for which the Agricultural Hall Company hand them 1,000*l. per annum*, and take in return the money paid by the public at the doors. The Club had outgrown the Baker-street Bazaar, where they received at the last 700*l. per annum*; and the Hall Company, started by Mr. Giblett, presided over by the late eminent agriculturist, Mr. Jonas Webb, recently deceased, and with Mr. Samuel Sidney as an efficient secretary, was established to provide a suitable building for the annual show, the Club agreeing for twenty-one years to hold there their show, and the company agreeing, as we have already said, to pay them 1,000*l.* a year for doing so. During the year the hall will of course be appropriated to various public purposes, perhaps

even to music. The shares were all taken up without any canvassing. The Club, in addition to the sum paid to them by the company, receive a considerable sum, say 1,000*l.* a year, from the implement makers and others who exhibit their wares. Of the club, as every one knows, Mr. Brandreth Gibbs is the honorary secretary.

The site of land on which the hall is erected immediately faces Islington-green, extends westward to the Liverpool-road, and is within a few hundred yards of the "Angel," at Islington. It has entrances from all sides. Its central position, as regards the various railway termini (with all of which it is in direct communication by means of the New-road) renders it well adapted for the purposes for which it is intended. The first stone was laid on the 5th of November, 1861. The western façade,—that in the Liverpool-road,—is the principal; and here there are two lofty towers and a bold carriage entrance. The construction is of yellow brick with bands and arches of red bricks. At the eastern end, facing Islington-green, there is an archway of brickwork similar in character, with a covered way leading from it to the hall. The main hall, with a vaulted roof of iron and glass, is 384 feet in length by 217 feet in breadth, in three spans: the span of the central portion of the glass roof, which is 76 feet in height, is about 125 feet. This hall is surrounded by galleries 36 feet in width, approached by five sets of double staircases, each 10 feet wide. There is also a minor hall 100 feet square. One thousand tons of iron are used in its construction, and the roofing contains nine miles of iron sash-bar, upwards of one acre of glass, and two acres of slating, whilst the space afforded by the galleries is considerably above an acre. The towers referred to are constructed with a view to assist ventilation. The iron pillars which support the central portions of the fabric form draining tubes from the roof to the basement and the draining appliances beneath. A reservoir, capable of containing 5,000 gallons of water, has been erected, with which hydrants are connected in various parts of the building, so that, in cases of fire or any other requirement, they can be immediately made available. Capacious refreshment-rooms are provided in various parts of the building, where refreshments are to be supplied at a fixed tariff; and, amongst other accommodations, there will be a letter-box, lavatories, &c., both for ladies and gentlemen, telegraph office, and a room for depositing parcels, coats, and other articles.

We did not observe any means of surface drainage, which would seem to be necessary. The whole area of the hall is floored with concrete. The hall is lighted with nearly 4,000 jets of gas. There are suspended from the roof on each side seven large star chandeliers, each with forty-eight burners. In the galleries there are twenty-two star chandeliers with twenty-four burners, and the same under the galleries. In addition to this, sixty small stars, with twenty-four burners, light the sheep-pens and assist in lighting the galleries. The bullock-rails have to each alternate standard a branch with six lights. In the minor hall there are ten star chandeliers, each with twenty-four burners.

The proportions are less satisfactory than might be desired, and a bad effect is produced in daylight by the want of congruity between the roof and the glazed inclosure of the east end. It looks as if there were so many hundred feet of hall cut off and inclosed temporarily at the end with an ordinary glazed partition. Nevertheless, it may not be denied that it is a fine apartment.

The building has been erected, from the design of Mr. Peck, by Messrs. Hill, Keddell, & Robinson, contractors; Mr. C. Bird being the clerk of the works. The ironwork, a very good specimen, was executed by Messrs. Handyside, of Derby; the lighting by Messrs. Abercrombie & Son, of John-street, Tottenham-court-road. The total cost of the structure will be about 32,000*l.* For the land, about 3 acres, a fine of 2,000*l.* was paid, with a ground rent of 600*l. per annum*.

FAMINE AND FEVER.

IN Preston typhus fever is spreading; and from other towns come accounts of an increased amount of sickness and fever of a low type; which, it is to be feared, will be followed by disorders of a more serious description. Prevention is far better than cure; and we trust that, while attention is shown in connexion with the sufficient and proper supply of food, the greatest efforts will at the same time be made to prevent overcrowding, and to afford the means of cleanliness, not only in the interior and exterior of houses, but also as regards bedding and clothing.

At Wigan, where, next to Preston, the greatest distress prevails, a most commendable movement has been made. Sickness has already appeared, but up to the present time no typhus: taking warning, however, from the state of Preston, the relief committee of Wigan, finding that, in consequence of the increased illness amongst the poor, the dispensary officials had much more work than they could conveniently manage, divided the town into five districts, over which they appointed five medical men, who were not only to supply physic, but also needful clothing and food; and we have no doubt that those gentlemen, in the course of their visitations, will be able to give many hints in connexion with overcrowding, ventilation, &c.

All accounts agree in stating that the sewing classes for girls are working admirably; and we are much mistaken if this temporary trouble will not be the means of greatly improving the rising generation of female cotton-workers. The boys and youths have also been gathered from the streets, and encouraged to attend the schools; and this will be the means of leading thousands of boys to the evening schools when better times come. Grand and ennobling exertions are being made by both rich and poor. Mill-owners, who have extensive cottage property, are receiving no rent,—some losing as much as 300*l.* a week. Others are paying wages to a large extent without having work; and in various ways munificent acts are being performed which are not heard of by the public. At a single meeting in Manchester 50,000*l.* were raised at once; and since then, at a meeting of the county, no less a sum than 130,000*l.* was subscribed.

Nor is it the rich alone who deserve praise; for as an instance of the help afforded by those of lower degree, Lord Derby mentioned that 1,200*l.* had been contributed by the readers of the *British Workman*. Clothing and bedding are being actively delivered; but notwithstanding all that has been done, we are still only at the commencement of a hard struggle, which must now last over the winter. The rates as at present levied must, to a considerable extent, fall shortly; and in the hard weather a more generous diet must be afforded.

In Wigan a large number of "clogs" (wooden-soled shoes) have been distributed. This is an arrangement worthy of imitation. To keep feet warm and dry is an important means of health.

We still say, — find remunerative work for applicants.

MAJOLICA FOUNTAINS: A QUERY.

MAJOLICA WARE would seem at first sight so charming a material for fountains and other artistic decoration of our gardens, offering to the architect means for the display of taste in colour as well as form, that we are anxious to have some explanation of the change which occurred in the appearance of the great fountain at the International Exhibition, designed by the late John Thomas, and executed by Messrs. Minton. It appeared to lose its colour in parts some time before the closing of the Exhibition, and became stained and disfigured to an extent that was very remarkable. We ask the question wholly in the interest of such manufactures, and Messrs. Minton may perhaps be able to afford some information on the subject.

THE MARRIAGE OF THE PRINCE OF WALES.

ACCORDING to the latest court news, it is at present intended that the marriage of the Prince of Wales is to be celebrated at Windsor; an arrangement which we feel sure will cause much disappointment to many dwellers in the metropolis.

The marriage of a Prince of Wales in this country is a rare event in our national history, and it is worth while to note these occasions. There have been, including the Black Prince and his present Royal Highness, fourteen princes of Wales; but of these only five married when they were in possession of this title: and one of this number was married abroad.

First, is Edward the Black Prince, who married with Joan of Kent.

Second. Edward, son of Henry VI., with the Lady Anne Neville, daughter of the Earl of Warwick. This wedding was celebrated at Amboise, in France.

Third. The next bridegroom is Prince Arthur, son of Henry VII., but fifteen years of age, when, in 1501, he married Catherine of Arragon (who was afterwards married to her brother-in-law, King Henry VIII.).

The son of George I., afterwards George II., married Caroline Wilhelmina, at the age of twenty-two; but he was not then created Prince of Wales.

Fourth. Frederick, eldest son of George II., married at the age of twenty-nine, to the Princess Augusta, of Saxe Gotha, in the Royal Chapel at St. James's.

And fifth. The Prince Regent, afterwards George IV.

More than were any of the above Royal marriages, if we may except that of the Black Prince, whose bride, Joan, divided general popularity with the bridegroom, is the approaching ceremonial likely to be looked forward to as a day of holiday and great rejoicing; but much of this joyful feeling will be damped if the marriage of the Prince of Wales with his fair Danish bride take place at a distance from the metropolis. It is true that the Chapel of St. James's is sorry, small, and unsightly in its proportions, and distasteful in its decorations; but there is, as we have suggested, the Chapel at Whitehall, which is a stately interior, and might be so managed as to disguise the blemish of the modern fittings, and so present a magnificent appearance.

At such a time as that which is approaching, the people are most anxious to give a strong expression of feeling, and would like to have an opportunity of forming part of the marriage pageantry; but this will be impossible if the celebration take place at Windsor. Opportunities for this would, however, be afforded if this Royal wedding were to take place either in the Royal Chapel, at Whitehall, or in the very heart of London,—in St. Paul's Cathedral or in Westminster Abbey, for example. We have had Royal marriages in the venerable Abbey, but have no precedent at St. Paul's.

For a long time a shadow has hung over the Court: trade in the metropolis is languishing; and there is, as the winter passes, a fear of still greater depression; and this means distress in thousands of the humble homes of those who are engaged in so many ways in providing articles of taste, particularly those appertaining to both male and female costume. Independently of other considerations, a holiday of this description would, in giving employment in various ways to a vast number of poor persons, also be of advantage to many tradespeople, and so do an amount of good which can only be appreciated by those who have an opportunity of knowing how a public holiday such as this would be adds to the prosperity of large classes of the dwellers, not only in the metropolis, but also elsewhere.

At Coventry, in Nottingham and the lace districts, in the fancy-cotton works of Lancashire, and even in the deeply-distressed region of Spitalfields, a holiday such as we have hinted at would form a fair beginning to the approaching spring.

NOTE ON THE FORMATION OF A POPULAR SANITARY SOCIETY.

AT the present day we have in this country a number of prosperous societies, founded by earnest men and now firmly established, for the promotion of the arts and sciences,—societies which have been the means of effecting an indescribable amount of good. There are, for instance, the Royal Society, of venerable date; the Royal Academy of Arts, and the Society of Arts in the Adelphi; the Royal Society of Antiquaries, and the Institute and Association connected with Archæology. Besides these are the Colleges of Physicians and Surgeons, with the Hall of the Apothecaries; the Zoological, the Geological, Geographical, Horticultural, and other societies, which have each a specific object. There are also the Institution of Civil Engineers, the Institute of Architects, and the Architectural Association; the Association for the Promotion of Social Science generally, and other useful bodies, to which, for our present purpose, we need not particularly refer.

It has been among the chief advantages of these associations that they have been the means, not only of gathering together, at periodical meetings for the discussion of particular subjects, persons of eminence; but of that friendly correspondence, &c, which has in so many ways led to the discovery of new facts, and to a considerable extent aided in the useful diffusion of varied knowledge.

The publication of transactions and papers, the collection of illustrative objects, and the formation of class libraries, are also matters to which we can refer with satisfaction. While remarking the increasing extent of these institutions, and

admitting their vast importance, it has often been with regret that we have reflected that sanitary science, on which the lives and health of millions throughout the whole world so eminently depend, has no established home in Great Britain,—has no rightly organized association for its own special study and advancement, although the Social Science Association must in the mean time be regarded as taking the sanitary branch of social science, along with many—perhaps too many,—others under its wing.

On two or three occasions which have come within our knowledge, small bodies of persons have endeavoured to promote the object in view, but with only very limited success; although, during the last twelve or fifteen years, sanitary science has improved its position, and has now not only the support of our leading physicians, surgeons, and chemists, but also of a large number of those eminent in other ways; and it has been shown that, in the camp and battle-field, the sanitary officer is of as much importance as the general. It would seem, therefore, that the time has now come for making an effort, on a scale corresponding with the importance of the subject, to form in the metropolis a society for the advancement of sanitary science.

In such an institution we should be likely to receive the best information connected with the subject, not only from all parts of this country, but from places abroad: and this is necessary; for, although much has been established, there still remains much for careful study. In such a society as we have hinted at, medical men, chemists, persons of constructive ability, those anxious to improve the homes of their less prosperous fellow-creatures, and others of practical experience and useful common sense, would frequently have opportunities of exchanging ideas; and, moreover, we sadly want a classed library of all kinds of sanitary books and reports.

SAVE LEICESTER SQUARE.

It is to be hoped that the inhabitants of the neighbourhood of Leicester-square and the friends of open spaces will organize a proper opposition to the company who threaten to fill the area with a general market. Now that the "globe" is removed, the largeness of the space, which had been forgotten, comes to light again. Thrown open, as we have said before, with trees bordering a few walks, it would be a boon and a blessing. Every inch of open space in the metropolis ought to be fought for,—given up only at the sword's point. Leicester-square, first Leicester-fields, has many stories. In the house of the Earl of Leicester, at one corner, died Elizabeth Queen of Bohemia. To this house retired two Princes of Wales in dudgeon. In Savile House, Peter the Great was entertained by the Marquis of Caermarthen. *Poses Plastiques* and a *Café Chantant* are the present entertainments there. Sir Joshua Reynolds lived, painted, and died at No. 47 in the square; Hogarth, whose house was on the opposite side, took his regular walk in the inclosure; and after him came the great John Hunter, who formed there that collection which has grown into the noble museum of the College of Surgeons in Lincoln's-inn-fields. However, it is not of the Leicester-square of past times that we would speak, but the Leicester-square of to-day, which we would see improved, beautified, and preserved for to-morrow. The Board of Works, if they have power, should give their aid to prevent the area from being again blocked up.

BIRKENHEAD HOSPITAL.

The chief stone of the new Birkenhead Borough Hospital, which is being erected at the sole expense of Mr. John Laird, M.P. for the borough, has been laid by the Marquis of Westminster, Lord-Lieutenant of the county of Chester. The new edifice will front Conway-street, with a southern aspect, overlooking the Birkenhead public park, which, 180 acres in extent, must always be kept open; and it is bounded on either side by wide streets, namely, by Prince Edwin-street on the east and by Livingston-street on the west. The architect is Mr. Walter Scott. The building is to be two stories high above the basement floor, and will be constructed of Stourton stone and brick. To Conway-street, from which it is separated by a garden for the use of the patients, it presents a villa front, in the Italian style of architecture; and to Livingston-street and Prince Edwin-street it exhibits wing elevations. In general plan the building is to consist of a centre and two wings, the latter of which are so arranged with respect to background that they can be at any time extended northwards sufficiently to more than double the ward accommodation contemplated at present. The wards, four in number, in the edifice now to be erected, will be furnished with forty-two beds, but will be sufficient to hold fifty if the latter number should be required. In addition to the wards, the hospital will contain an operating theatre, an accident-ward, a board-room, house-surgeon's parlour, &c. There will also be attached to the establishment a dispensary, having a separate entrance from the street. The wards will have windows on both sides, one window for every two beds; also a window at the end of each ward, which, if necessary, can be opened at night for ventilation, without, it is said, causing a draught upon the patients. The superficial area allowed for each bed is 110 feet, and the cubic space for each bed 1,430 feet. The subdivision of the sick into separate buildings is provided for, as the four wards will be in two wings of two stories each, exclusive of the basement. The nurses' rooms will be at the entrance-end of each ward. The walls and ceilings of the four large wards, and those of the accident-ward and operating-room, will be covered with Parian cement, forming a polished and non-absorbent surface; and the floors will be laid with polished oak. The stairs will be of stone. The whole cost, it is expected, will be about 5,000*l.* The land on which the hospital is being erected is 316 feet in depth, and has a frontage of probably 170 feet.

VALUE OF LAND IN SOUTHWARK.

The plots of disposable land about the new street, Southwark, left in the hands of the Metropolitan Board of Works, are being let at rentals which will enable the Board to get back part of the cost of the new line. For example, some plots adjoining the houses recently built by Mr. I'Anson, having an area in the whole of 3,795 square feet, have been let for a term of eighty years to Mr. Mark, the fruiterer, for 500*l.* per annum. This is equal to an annual rental of 5,739*l.* per acre; and taking it at twenty-eight years' purchase, at which it appears it can be sold, makes the value per acre, *exclusive of the reversion*, 160,692*l.*! A corner plot close by, with frontage in the two roads, has brought even a larger sum. This, having an area of 2,392 feet, has been let to the Alliance Bank proprietors for 500*l.* *per annum*, or at the rate of 9,105*l.* per acre *per annum*, giving a value, when treated as the last, of 254,900*l.* per acre!

ARCHITECTURAL UNION COMPANY.

The fifth annual meeting of the shareholders was held on Wednesday, the 3rd inst.; Mr. Charles Mayhew in the chair. The report, declaring a dividend of about four per cent., having been read by Mr. Moody, was unanimously adopted. Messrs. A. Ashpitel, James Wylson, J. T. Knowles, and Jas. Pennethorne, were re-elected directors; and Messrs. Jas. Lockyer and F. P. Cockerell auditors.

Thanks were voted to the directors, the auditors, and the hon. secretary, Mr. Edmeston; and afterwards to Mr. Mayhew for his assistance in the chair.

Mr. C. C. Nelson, Mr. W. Papworth, Mr. Williams, Mr. D. Brandon, Mr. Jas. Wylson, Mr. Godwin, Mr. G. Mair, Mr. Le Forest, Mr. Edmeston, Mr. J. Jennings, &c., took part in the proceedings.

MONUMENTAL.

The statue of Bishop Hooper, surmounted by a canopy, has lately been erected near the church of St. Mary-de-Lode, Gloucester. The Reformer is represented in the attitude of preaching. The figure is executed in Portland stone of fine quality by Mr. E. W. Thornhill, of Dublin, to whom it was given in a competition with English sculptors. Mr. Thornhill is now engaged in superintending the carving of the interior of the new church of SS. Peter and Paul, for Messrs. Hardman & Co., of Dublin, the contractors for that portion of the work.——The Mathew monument for Cork is in progress. Mr. Foley, to whom the statue is intrusted, and who is himself an Irishman, has forwarded two sketches to the committee, with a view to their making a selection. Father Mathew is represented in the act and attitude of blessing those who are supposed to kneel before him, and who have taken the pledge at his hands. The difference between the two consists almost entirely in the mode in which the drapery is managed. The figure is represented upon an appropriate pedestal.——A meeting has been held at Tavistock to decide upon the character of a memorial to the late Duke of Bedford. A statue was decided upon, and a committee appointed to arrange details.——A Roman correspondent of the *Courrier des Marches* states that the mausoleum which Pius IX. has ordered to be erected for himself in the church of Sta. Maria Majore at Rome has been commenced. It is to be in the same style as that of Pius VIII., in St. Peter's. Thirty thousand crowns have been assigned for its construction; but there is reason to believe it will cost much more.——The ceremony of the inauguration of the statue of Alfieri, at Asti, took place on the 16th inst. The statue is the work of the sculptor Dini. Professor Matteucci, Minister of Public Instruction, delivered a speech, after which his Excellency gave Mr. Dini the decoration of the order of SS. Maurice and Lazarus, conferred on him by the King.——The Arndt monument has at last been taken in hand. Afinger, of Berlin, has received the commission to set to work upon it forthwith.

THE DUTCH CHURCH, AUSTIN FRIARS.

The statement circulated, attributing to the plumbers the recent conflagration of this interesting old building, was incorrect, it seems. It would appear to be due rather to the smoke-pipe of one of four radiating stoves (that at the north-east angle of north aisle) passing out in too close proximity to bond timber. We are sorry to find that the damage done is very considerable. The nave roof is all burnt except the tie-beams and the boarding of a few bays: also the roof of the north aisle: the turret at west end is much burnt, and shored up: the pews are nearly all destroyed: the organ is entirely burnt; and the floor much injured. Repairs, by Messrs. Hill & Son, of Islington, had been going on, and were nearly finished. The columns dividing nave and aisle, by the way, are about 13 inches out of upright. The house of the Augustine Friars, of which this was the church, was founded by Humphrey Bohun, Earl of Hereford and Essex, in 1243. The church was granted "to the Dutch nation in London, to be their preaching place," in 1550, and has continued in that occupation ever since. The structure includes some handsome Decorated windows. Views of the Exterior and Interior will be found in our second volume (pp. 6 and 348).

ALBERT MEMORIALS.

The Devon Memorial.—The institution which it is proposed to establish at Exeter in memory of the late Prince Consort will comprise a museum for Devonshire and Exeter; accommodation for the School of Art, and, if possible, for a School of Science also; and a public reading-room and library. A site of the estimated value of from 1,500*l.* to 2,000*l.*, has been presented by Mr. Gard, M.P.; and subscriptions have been already raised to the amount of upwards of 7,000*l.*, of which 2,000*l.* have been spent in purchasing additional premises. Subscriptions are received at any of the Exeter banks.

The Glasgow Memorial.—At a meeting of the sub-committee appointed to procure plans and a site for the proposed memorial, among suggestions thrown out were the following:—By Sir James Anderson,—to erect an ornamental building in the centre of George-square, to be used as a public hall, and to be under the management of the corporation, who should double the sum already raised for the memorial, and refund themselves in the same by the revenue of the building; by Mr. Wm. Campbell,—that the memorial should be exclusively of the nature of a monument; by Mr. Dalglish, M.P.,—that the proposal to remove St. George's Church should be entertained, and a standing statue of the late Prince erected on the site; by another member,—that the memorial should take the shape of a school of Arts, as it was to do in London. It was ultimately agreed to advertise for designs, and to invite the public to offer suggestions as to a site

Artists and the Distress in Lancashire.—Mr. Lance is painting a picture for the purpose of contributing it to the fund for the relief of the distressed in Lancashire. Mr. Ansdell has already contributed his picture of the "Hunted Slave." He sent it to the central committee in Manchester, and the painting is now in Liverpool, at the rooms of Mr. Agnew.

COTTAGE CONSTRUCTION AND FARM ARCHITECTURE.*

IN the premiums offered by the Yorkshire Agricultural Society for the best plans of labourers' cottages and farm buildings, we recognize a proper spirit. Three hundred and seventy sets of plans were sent in response to the offer by the Society of 25*l.* for the best plan of a double cottage, containing not less than three bedrooms in each, the cost not to exceed 220*l.* the pair; 25*l.* for the best plan of a double cottage containing two or three bedrooms in each, the cost not to exceed 180*l.* the pair; 25*l.* for the best plan of a single cottage, the cost not to exceed 120*l.*; 10*l.* for the best, and 5*l.* for the second best plan, of a pair of cottages of irregular design, the cost not to exceed 210*l.* (given by Mr. C. W. Strickland and Mr. R. J. Bentley, jointly); 50*l.* for the best plan of farm buildings adapted for a farm of 500 acres, and providing for the use of steam-power; 25*l.* for the best plan of farm buildings adapted for a farm of 200 acres. Of these, 320 were plans for labourers' cottages. At the first glance it would appear probable that the subject would be exhausted in the varied treatment it would meet with at so many hands; but this is by no means the case. The secretary, Mr. Strickland, in his report to the Society, declares that he believes it possible to make better arrangements than those shown in most of the plans, and that he intends himself to publish a treatise on cottage construction which will embody the improvements he believes the subject to be capable of, as well as the information he has acquired by a study of the competing plans. Meanwhile, we will present our readers with an outline of the different groups of designs, as well as of the prize designs, premising that the conditions of competition pointed to cheapness of construction as a consideration to be aimed at, and laid down that the cottages were to be built of brick. The classes are not numerous. One group consisted of plans aiming at four walls only,—an arrangement capable of variation simply by the position of the entrance and staircase to the upper floor. In the best of these the entrance was placed at the side, by which the living-room was relieved from being a passage-way to the front door. A second main group consisted of cottages having the entrance in a recess, either in front or at the side. In these the staircase was sometimes placed in the recess, sometimes between the living-room and the scullery, and in others between the scullery and pantry. A third group furnished a parlour as well as a kitchen, scullery, and pantry, on the ground floor, and three bedrooms on the upper floor. There were, besides, plans for one-storied cottages, and several others, which could not be classed with either of these groups; but which were not sufficiently remarkable for individual notice; among which we might place the pairs of irregular cottages of irregular design, from which the fourth and fifth prizes were withheld on the ground of insufficient merit.

The 25*l.* prize for the best plan of a double cottage was awarded to Messrs. Richardson & Ross, Darlington. In this plan the entrances to both cottages are recessed, forming two receding wings on either side of the front. The arrangements in both cottages are identical, reversing the position only from the right hand to the left. From the recess access is had to the living-room, to the scullery, and to the pantry, which is in the back part of the recess, as well as to the staircase leading to the floor above. It will be seen there is not an inch of waste room in this arrangement: no space is lost in passages, neither is any room made a passage way. All the communication is compactly grouped in the recess mentioned. Above stairs, a large bed-room occupies the space over the living-room; and the space over the scullery and pantry is divided, as equally as the staircase and landing permit, into two smaller ones. The flues, and consequently the chimney-stack, are central. There is one objection which must often apply to double cottages of identical plan. If the side elevation of the one face the north, the corresponding side elevation of the other must face the south; and when the pantry light is placed to possess a northern aspect in the one, the other pantry must be provided with a highly objectionable southern aspect. The coal-place, ash-midden, and privy, are detached from the house, as they always should be: but it is questionable whether a covered pathway to them would not have been an improvement. The specification provides, for sanitary requirements, a metal ventilating grate in the outside wall connected with an inside grate close under the ceiling of each living-room; a perforated zinc ventilator in the ceiling of each bed-room; and an opening, 9 inches by 5 inches, in each gable end, to be filled with perforated zinc; also a metal ventilating grate to the privy and a bell trap to the scullery sink. The flooring of the ground floor (an important sanitary consideration) to consist of 1¼ inch flat Staffordshire bricks, laid on a bed of dry rubbish or concrete; the scullery to be laid with lime and gravel; the floors to privies, coal-houses, and ash-pit, to be paved with flat bricks laid in lime. We must take exception to the flooring of the scullery. The place where the most mess and slop is made should be especially paved with reference to its being the more easily kept dry and clean. The hob-nailed boots of labourers would soon wear lime and gravel into uneven surfaces, incapable of being either scoured or swept properly. The estimated cost for the two cottages is 210*l.* 14s. 1d.

The plan which gained the second 25*l.* prize, the production of J. B. Corby, of Stamford, would come within the compass of four walls, if it were not for a central projection at the back of the block plan, by which size and squareness are given to the sculleries in both houses. The entrance is at the side. On entering the door the staircase rises on one side, and the pantry door is in a partition on the other side and beyond these: immediately in front of the entrance is the door to the living room. There is not so much merit in this plan as in the former. The living-room has three doors in it, thereby rendering it draughty. One of these leads into the scullery, which cannot be entered from any other part of the house; the second to a light closet cut off one end of the pantry, which occupies a third of the frontage of the house; and the third into the entrance lobby. Above stairs this form yields two front bed-rooms, a dark closet, and a small back bed-room. The privy, ash and coal places, are isolated, like those of the first plan, but are not so well blocked, the entrance to the privy being through the coal-house: in the former plan each entrance was distinct. The front elevation of these cottages is a plain wall pierced with a three-light mullioned and transomed window, and a single light one on the ground floor, and a double and a single light above. The back elevation has more movement: it is broken up by the projection containing the back door and scullery light, with double light over; and the recess has a long narrow window in it which lights the stairs. The specification provides red and blue tiles for paving of the living-rooms and porches, and brick flat for the remainder of the ground floor. The only especial means taken to secure ventilation is the insertion of sheets of perforated zinc in the ceiling of each bedroom. The specified cost of these two cottages is 178*l.* 11s. 5d.

The third 25*l.* prize plan represents a single cottage, of ornamental design, containing porch, parlour, kitchen, scullery, pantry, an enclosed yard with coal-house, ash-midden, and w. c. on the ground-floor, with three good bed-rooms above stairs, which can be built according to the given quantities for 114*l.* 10s. In this plan the entrance to the house is at one end of the porch. The stairs to the upper floor rise out of the porch, and the parlour is also accessible from it; but the kitchen, which is on the other side of the porch, must either be approached from the back way, or the parlour be used as a passage to it. The scullery is remotely placed behind the parlour, on the opposite side of the house to the kitchen: the pantry, however, is more conveniently situate, being equally accessible from the kitchen, parlour, or scullery. The design of this cottage is pleasing. The gable of the front elevation is hipped: immediately under the hip is a double light, and below this a triple light: the porch, which presents its side to the front, has a central gablet to it: blue bricks are interspersed ornamentally, in bands, strings, lozenges, &c., and the bay window of the parlour breaks the outline of one of the sides. The authors of this design are W. M. Boden, and J. T. Lea.

Landowners about to build cottages will find, in a compendium of the specifications of these, as well as some of the fifteen commended plans, and some of the rejected plans, directions concerning modes of construction which may be suggestive. Hollow walls, formed by setting the bricks in the inside of the wall, or both inside and outside, on their edge, instead of flat, and tieing them here and there with heading courses, or tieing them with bent iron clamps 2 feet apart every sixth course (care must be taken, or the cramps lead water). Holes are directed, by Mr. Barnes, to be made at the bottom of such walls, sloping outwards, to allow any damp to escape that may get in. Messrs. Smith & Edwards admit air into their pantry from the cavity in the wall, by leaving four stretching bricks out of the inner wall. Various expedients are given to prevent damp from rising: a layer of gas-tar and sand at the ground level; a layer of slates in cement; a layer of boiling pitch; a course of calico immersed in tar and pitch; or the lower part of the walls to be laid in cement. Bricks:—Two courses of terro-metallic bricks, in cement, are recommended, in one case, for skirtings of ground-floor rooms; and several architects recommend splayed bricks for window cills. Mr. Douglas, Birmingham, recommends 9-inch by 4½-inch window cills, grooved and tongued to wood frames, with ½-inch by 3-16ths of an inch iron or zinc bars, jointed in white lead. Floor-joists are suggested to be laid in a 6-inch bed of concrete, and then covered with a layer of fine sand, to prevent the boards coming in contact with the concrete. The secretary says he has tried a layer of gas-tar below the joists, with concrete or gravel sand filled in to the level of the upper side of the joists, and found the plan to answer well. Mr. Fawcett makes a useful suggestion—a steam escape-pipe from the scullery copper into the flue. Altogether, the amount of thought displayed is very gratifying; because it proves that the subject has escaped from its old trammels of insignificance, and is beginning to be viewed by the bright light of social and sanitary science. But, as we have said, cottage construction is capable of still further improvement. Taking these plans, however, as they are, they are an immense advance upon those of the hovels occupied by all our agricultural labourers a quarter of a century ago, and by a great many of them still. Take a Northumbrian cottage, or take a thousand Northumbrian cottages. They consist but of one dilapidated room, with a door opening out of the road into it, and lit by a small square window. Some are ceiled, but more are not, the rafters being hidden by calico tacked across from wall to wall. The grate, the window-frame and glass, the box-beds, and the rest of the furniture are the property of the labourer, who moves them from hovel to hovel as he changes masters. Few of these rooms contain less than six, eight, ten, or twelve residents. Even when new cottages are built, and built, too, by philanthropists, they are arranged upon the supposition that if too convenient they will encourage habits of indolence in the occupants. Taking these plans, then, as guides for the present, there remains for this Society, and similar societies, to offer an inducement to landowners to convert their single-roomed cottages into habitations fit for Christian families. The Highland Society in Scotland for years has awarded distinctions to those gentlemen who have erected the best cottages. The council select two or three counties at a time, by which the attention of the agricultural world is concentrated on those shires, and very considerable emulation is excited. This movement fairly set on foot, a revolution of inestimable value and incalculable benefit would be effected. We must add an earnest reminder. There is more than neatness, comfort and propriety to be sought for in the building of a model cottage. These are the conditions that best ensure health. In nearly every new cottage yet built the privy and the ash-pit—the two fever-breeding offices—are placed behind it, regardless whether they are at a higher or at a lower elevation than the dwelling, so as they are out of sight. It should be constantly borne in mind that when these departments are placed in a back-yard or garden, above the ground level of the cottage, natural laws ensure the percolation of the watery particles of their contents into the soil below the house. The heat of the fire then draws the moisture up, and the house is filled with unaccountable and pestilential odours. When these offices are attached to the house, the disease-dealing process is accelerated. The choice of their site requires as much consideration as that of the dwelling.

The author of the first prize design for farm-buildings, Mr. Watson, Newcastle, has endeavoured to adapt his plan to the different systems of farming adopted by different people in different places. He is equally prepared for the practical agriculturists who prefer stall-feeding and those who are against it; those who are in favour of large fold-yards and those in favour of small folds to contain three or four beasts each; those who approve covered folds and those who object to them; those who regard liquid manure-tanks with favour and

✠

* Plans of Labourers' Cottages and Farm Buildings, with Specifications and Estimates; being the Prize Designs for Double and Single Cottages of various Cost. Also, Farm Buildings, adapted for Farms of 500 and 200 Acres respectively. Selected by the Yorkshire Agricultural Society from 370 competing Plans. With Reports on Cottage Architecture by Mr. C. W. Strickland; on Farm Buildings by Mr. H. S. Thompson, M.P. London: J. Ridgway, Piccadilly. York: J. Sampson. 1862.

those who abominate them. As in Sir Thomas Tancred's prize plan, approved by the Royal Agricultural Society, the barn and straw-house and turnip-house are taken as a centre: the details differ. Mr. Watson's range of buildings forms a parallelogram. Running parallel with the central straw-house, on both sides it, are rows of feeding-boxes. Next to these are two fold-yards; and next to these double rows of feeding cribs with passages between them: beyond these are narrower fold-yards. Surrounding these alternate rows of feeding-cribs and fold-yards parallelogramically are the stables, the hay-house, hovels, cutting and bruising-house, chaff-house, loose-boxes, bull-house, calf-house, store-house, boiling-house, smith's shop, joiner's shop, implement-house, gig-house, and superintendent's house. Close to the last-mentioned house is a gateway into the inclosure thus formed, and at the opposite side is another. When these gates are closed and locked, one key ensures the safety of the whole property, except from professional burglars.

The giant of these latter days, steam, has not wrought a greater development in farm architecture than has the conviction which is taking root of the immense importance of shelter both to stock and manure. Numerous as are the diversities of opinion in most matters relating to farming, it is allowed on all sides that manure which has not had all the strength washed out of it by exposure to months of rain is of much greater value than that which has. Covered farm-yards are therefore likely to become as general as covered markets or covered railway-stations. The objections urged by disciples of the old school against them is that the covering deprives every animal beneath it of the sunshine which it delights to bask in; but it is unlikely that even the holders of these views would build an entirely new steading without making provision for the covering of many parts of it which a few years ago would have been left uncovered. The experience of Mr. Thompson induces him to say, in his report, that there is only one case where a covered yard would not be advantageous, and that is on a large sheep-farm to which little grazing land is attached. In these farms there is more straw than could be trampled down without frequent drenchings. But it is questionable whether it would not be better policy to winter more cattle, and thus manufacture a better quality of manure, than to lay upon the land wetted straw with but slight nutritive properties in it. We have only to look backwards to be assured how progressive is our art of producing food; and only to look around to see how many things bear upon it. In Mediæval times, in France, only persons of a certain rank were permitted to breed pigeons; hence the abbeys and persons so privileged bred enormous quantities of them, and their farm-buildings were remarkable for tall, feudal-looking circular towers, built expressly for their accommodation. Nowadays every farm-yard has its pigeon-house. Again, our choice of food varies. Esculents that are esteemed in one century are not thought so much of in the next. Mangel-wurzel, for instance, was not known in Cobbett's early days. So that we can never hope to fix upon any form of building that will endure for a model for all time. What we have to seek, then, is the most economical means of producing our food with our present appliances; and common sense points first to the prevention of waste by weather. In these days of light iron and glass roofs, for our cattle to be exposed to ice and snow, winds and storms, unable to find the dens and caves they would fly to under similar conditions in a wild state; for our manure to have all the goodness alternately washed and scorched out of it; for the farm-labourers' time to be spent in traversing wasted space; and our stocks to be deteriorated in quality and lessened in bulk by wind and weather, is assuredly not a thrifty mode of going to work. The model farms here shown are laid out on much more frugal principles.

The merit of the 25*l.* prize plan, adapted for a farm of not less than 200 acres, by Mr. P. H. Tuckett, lies in its compactness. In a space roughly computed to be 36 yards long by 22 yards wide, everything belonging to the farm is housed, —cows, bullocks, sheep, pigs, horses, hogs, calves, fowls, carts, tools, implements, straw, grain, roots, and manure; and this so dexterously, withal, that there is ready access to every department. It is not, however, so complete as the plan for the larger farm. There is no provision for machinery, nor any superintendent's house; no joiner's and smith's shops, nor saw-frame. But as a set-off for these deficiencies there is a difference in the cost of 1,600*l.* Each yard, loose-box, stable, and piggery is drained into a manure-shed placed at an angle of the farmery, which, having a gate at each end is equally convenient for the dispersion of the manure over the farm as for its collection. The bottom of this shed is 3 feet below the paths around it. The rain-water is collected from the roofs of every house into a tank placed centrally for the purpose. The cart-shed faces the fields, so that the carts need not be brought among the stock. The field gates of the cow-yard and bullock-yard also open on to the fields, wherein consists a striking difference between this and the larger plan. In the former the buildings all faced a centre, thus forming an enclosure whence there were two gates into the outer world. In the second plan there is no attempt at enclosure, access to the farm having had the first consideration. In fine, these prize plans propose so much that is economical, desirable, and easily accomplished, that they in every way justify the expenditure of the Society; and, with the designs for cottages, lead to the conclusion that a great benefit is conferred on the agricultural world by offers that induce thinking men to turn their attention to the subjects. Moreover, as the designs necessarily fall short of what will gradually be required by the development of steam-power to agricultural purposes, they suggest the propriety of a periodical recurrence of similar competitions.

CAUTION REQUIRED WITH STEAM IN FARMSTEADS.

We are clearly getting too familiar with edged tools to take ordinary precautions that they should not wound us. Now that steam is becoming an agricultural assistant as well as a household power and manufacturing agent, we cease to regard it in its aspect of a pent-up giant, ever likely to burst its bonds, and deal destruction around. But we have had another reminder that watch and ward must be diligently kept over this mighty power, or we shall pay too dearly for its use. In manufactories men are charged with the care of the boilers that are conversant with their structure; but in the case of agricultural engines, it becomes the duty of farm labourers, totally unacquainted with the properties of steam, to work them, and we have for a result disasters that militate against the use of the new national servant. Farmers and country gentlemen visiting the agricultural shows in different parts of the country, and the annual cattle show in town, have become familiar with these machines. Not so the agricultural population amongst whom they are set in motion. The advent of a traction-engine in the midst of a rural population, causes a greater commotion than that of a comet. These monster machines rumbling through quiet country towns in the dead of the night, snorting out flames and smoke up to the second stories of the houses, awake every sleeper with consternation and affright. But arrived at their destination, they are set to work with a conviction that they are as docile as trained steeds; that frost or fire affects them not. This false estimate of the powers of steam must be eradicated. It is almost like locking the stable-door when the steed is stolen to say so, but we must urge that no engine be planted down on a farm, or taken round the country, without it is placed under the care of men who have been instructed in its management, nor used except under the superintendence of the persons so qualified to be responsible. Nor should any boiler be considered incapable of wear; on the contrary, frequent and strict examinations should be made of them. But more than all should the effects of frost be guarded against. The feed-pipes of any boiler once frozen, no fire should be lighted till the frost has departed, and the water is again free. These cautions are called forth by the occurrence of an appalling casualty on the 26th ult., at Rockmoor House Farm, near Alnwick, Northumberland, by which ten lives were lost, and more placed in jeopardy. At the dinner-hour, thirteen farm servants, most of whom were young women, gathered round the fire of the boiler of a condensing steam-engine, where some masons employed upon the farm had also congregated. The latter, fortunately for their safety, left the engine-house to resume their work; but they left the rest of the party still grouped around the fire. In the course of a few minutes the farm-steward called out that it was time to start to work again, upon which seven of the young people moved towards the door. Before they had passed out the boiler exploded, killing the six who had not answered so immediately to the call, and so severely injuring those that were leaving, that four of them have since died. The boiler was shot through the roof to a height of 40 feet, and fell, after crossing the straw-barn, on the opposite side of the yard, within a few feet of a girl who was spreading chaff there. The steward's son, at play near the boiler-house, was hurled against a haystack, 50 yards off, with a concussion that broke his leg. The boiler weighed three tons, and was 24 feet 10 inches in circumference. The inquest, which was held on the day after the explosion, was adjourned till the 8th inst., to obtain the evidence of practical engineers, and of those who had repaired the boiler within the past year.

THE WORKS AT MINSTER CHURCH.

Messrs. Smith & Son, of Ramsgate, write as follows:—

In your "Miscellanea," p. 847, *ante*, you quote an article from the *South-Eastern Gazette*, regretting that square-headed windows are being placed in the north aisle of St. Mary's Church, Minster (Thanet).

We are the architects of this work, are responsible for the adoption of these windows, and therefore beg to submit our defence.

It is admitted that the part of an architect in dealing with an old dilapidated church is to *restore*, to preserve, and perpetuate, an authentic specimen of the ancient arts of our country, and never to display his own particular inventive faculties in obliteration of ancient work. Our endeavour, throughout, has been to ascertain, by every available means, what was the form of each original feature of Minster Church, and to restore accordingly. We are glad to say that our researches have been eminently successful, and that but little has been left entirely to our design.

It is needless to go into every particular, and to state our authority for every detail of the restoration, but we will be content to confine ourselves to the single question of the north aisle windows.

In Lewis's "History of Thanet" (1724), we have a north view of the church—no fanciful sketch—one without the least pretension to artistic skill, but which, from its very simplicity, bears the impress of truth. This view shows the more eastern of the two north-aisle windows to have been level-headed, with the upper part filled with tracery of about the year 1350. The tracery, as therein shown, we have followed, and have been further guided by finding parts of the jambs and the cill with the mullion seats, *in situ*. The flatness of the internal arch, which is ancient, and remains intact, would also, without further proof, denote the existence of a level-headed window; and we have again, on the exterior, a rough discharging arch.

Perhaps our remarks in the former part of our letter respecting the theory of restoration may be used to condemn us for altering the west end of the north aisle; but we claim, even in this particular, to have carried out the theory. We found there a lean-to roof against the arcade of the nave, with a very low eave—a most unsightly object. That end of the aisle had probably fallen down through decay, and been rebuilt as we found it. The other portion of the aisle was covered by a lead flat, with an embattled parapet; and the space below the end of the lead flat, between that and the commencement of the lean-to, was quartered up, lathed, and plastered. We removed the lean-to roof, raised the walls upon their *old foundations*, continued the embattled parapet through, returning it at the west end against the tower, and continued also the lead flat to the west end. It is important to observe that the merlons and embrasures in the new part, divided out with just the same dimensions as those of the old part, exactly cover the length of the new wall; and again, the plate of the new lead flat rests upon *old corbels* which remained, at the required height, above the arcade of the nave.

No one can be more anxious for criticism than ourselves, because much good necessarily arises therefrom; and it is with perfect good will that we offer these explanations, which we feel confident must justify us in the eyes of the archæologist, the architect, and the public.

OFFICIAL PLANS FOR MILITARY HOSPITALS.

The greatest reward that can attend those who strive in good faith to bring about what they believe to be improvements affecting their fellow creatures, is to see the general adoption of their views. This reward we have certainly received: we speak it quite humbly, and only in common with other workers: in respect of the planning and

arrangement of hospitals. On every hand we find the correctness of those views admitted, and in the preparation of all designs for new hospitals evidence of their influence is visible. We look most hopefully for results in their effect on the occupants of such buildings.

The War Office, through the Inspector-General of Fortifications, has recently prepared and dispatched to Commanding Royal Engineers at home and foreign stations plans, sections, and detail drawings, for regimental hospitals, one for 60 patients, the other for 120, requesting that the principles of construction therein shown should be adopted in all future designs for military hospitals. Writing to the conductor of this journal, Captain Douglas Galton, late Assistant Inspector-General of Fortifications, says:—"You will see that in these plans I have embodied the principles Miss Nightingale and you contend for." Captain Galton has since given up charge of the barrack branch, and has undertaken the more general duties of Assistant Under Secretary of State for War, a change to be regretted by us, although, we hope, advantageous to himself.

We have engraved the plans for a hospital for 120 patients. One has been erected at Hounslow Barracks, and one at York Barracks; but as those were the first constructed they have some defects in details which have been lessened in the plans now issued.

We print the circular memorandum which has been forwarded with the plans for the guidance of Commanding Royal Engineers in the erection of regimental hospitals.

The accompanying plans show the arrangements which should be adopted in regimental hospitals containing any number of beds, from 28 up to 136, allowing 1,200 cubic feet per bed in temperate climates, and 1,500 cubic feet per bed in tropical climates, and from 85 to 100 square feet per bed.

The site selected should be airy and well drained, and the ground should, if possible, fall away from the site in every direction. If, however, it be necessary to place the building on a slope, a plateau should be levelled, and a deep drain cut along the side of the plateau near the upper part of the hill, so as to intercept and cut off the drainage of the higher ground from the plateau.

The inclosure should be drained, the drain-tiles being laid 4 feet under the surface, and the drains placed at such distances apart as will keep the surface dry. No drains of any sort should be passed under the buildings. For pavement in the inclosure, either square sets well laid to turn off the water, or flagging should be adopted. Surface water should be carried to the drains in smooth gutters, the gutters being carefully trapped.

The inclosure walls should be as open as possible; a dwarf wall with an iron coping surmounted by an iron railing, and entrance-gates of iron, to be employed wherever practicable.

The inclosure should be laid out neatly, and planted.

The building should, if possible, lie north and south, so as to secure the morning and evening sun upon the ward windows.

The portion of the building containing wards should never exceed two stories in height. The ground-floor should be raised at least 2 feet above the ground, and there should be a circulation of air under all wood floors.

No such basement should be placed under the wards, except to isolate them from the soil; and in that case the basement should be well ventilated and drained, and should not communicate with the wards.

The walls of the wards should be built hollow for warmth, and when constructed of brickwork, the vacuity should not be less than 9 inches from the external face, and need not exceed 2½ inches in width.

The ground round the foot of the walls should be flagged, the flags being sloped to throw the surface water every way from the walls. The window openings of all wards should have splayed jambs and soffits, and with a view to economize heat, the windows should be glazed with plate-glass, at least a ¼ inch thick. The walls should be rendered, floated, and set with fine stuff, and twice limewhited, and the arrisses run with Portland cement, neatly rounded. Walls of wards should be either limewhited or finished in distemper, a warm salmon colour. No staff or flush beading to be employed, as it may give occasion for the settlement of dust.

All wards should have ceilings so as to keep the temperature of the wards uniform.

The best floors are of hard durable non-absorbent wood. The doors of the large wards should have glazed panels, to allow of the wards being overlooked.

The large wards are to be warmed by open fireplaces, made of fire-tile, adapted for the admission of warmed air, similar to those manufactured by George Jennings, Holland-street, Blackfriars. All other rooms to have the ordinary pattern ventilating grates as supplied by Messrs. Kennard, 63, Upper Thames-street, the sizes to be proportionate to the cubic contents of the several rooms in accordance with the circular.

Provision must be made in all cases for the admission of fresh air to the backs of the stoves and grates; and this must be effected in internal walls by horizontal flues carried through the thickness of the walls.

A small circular stove, about 10 inches diameter, should be fitted in a recess in the internal wall of each of the lobbies adjoining the ward water-closets and lavatories, in order to warm them in winter: fresh air should be brought in under these stoves to be warmed and admitted into the lobbies.

Fresh air is to be admitted close to the ceiling and between every two windows of the main wards through louvred ventilators, which are made to close in damp or severe weather. The other rooms will be provided with one similar ventilator, removed as far as possible from the fire-places. The lobbies and ward lavatories and water-closets will also have similar inlets for fresh air.

Foul air will be carried away near the ceiling line either through flues within the thickness of the walls in case of two storied hospitals, or through trunks of wrought deal in buildings of one story only. These flues should be carried up above the roof and terminate in a louvred turret, to prevent rain beating down.

The aggregate area of the flues for each ward or room will be in proportion of 1 superficial inch to every 60 cubic feet.

In large wards of two stories, containing twenty or more beds, four flues, one in each corner, are advisable; but in buildings of one floor two flues or shafts carried up in the end walls and midway between the side walls, will give the necessary area. In those cases where two flues are carried up side by side above the roof line, terminating in the same louvred turret, it will be necessary to continue the division either in wood or brickwork up to the top of the turret, so as to make each ventilating shaft complete in itself. The lower end of the flue should be terminated with a louvred opening into the ward with the louvres so arranged as to cause any draught to be thrown up towards the ceiling of the ward.

The flue should also be capable of being easily swept. The lobbies attached to the wards and the water-closets and lavatories should have similar flues for the removal of foul air.

The lavatories are to be fitted up with white earthenware basins, not less than 12 inches diameter, let into a slate slab fitted with lever plugs similar to those used in Macfarlane's basins, and a urinal of white earthenware as made by Jennings.

The baths will be of fire-clay, as made by Messrs. Rufford, 5 feet 3 inches long at top, 2 feet 4 inches wide, and 1 foot 11 inches deep.

The water-closets are to be Jennings's double-seated valve closets of white earthenware glazed, the trap and basin being in one piece. The slop-sinks adjoining will be made circular, of white glazed earthenware, with a w. c. apparatus and trap, and raised 2 feet 6 inches above the floor.

Water should be laid on to a tap placed to facilitate the washing out of pans; and water should be also laid on to the basin for the purpose of flushing.

All soil-pipes and waste-pipes should be trapped at the entrance to the drains, as well as close to the water-closet, sink, urinal, or basin, and they should be carried up above the roof, where they should be terminated by a zinc cap placed so as to allow of an opening all round, for the escape of any foul air which might pass from the drain into the waste or soil pipes.

Each ward scullery will be provided with a small hot closet, heated from hot-water service, for airing the ward linen, and a small range fitted for a 3-feet opening. A white glazed earthenware sink, 3 feet by 2 feet, fitted with Tye & Andrews's patent galvanized sink-trap, with a screwed outlet for the purpose of cleaning out when necessary, should be placed in each scullery.

The sinks should be supported on iron brackets or bearers, and in no case bedded in brickwork, or built up solid underneath.

Shelves should be provided in the scullery for crockery, and racks for plates; also hooks for hanging up cups, &c., should be fixed.

The baths, lavatory basins, and sinks in surgery and ward sculleries, and the portable bath sink, are to be supplied with hot and cold water. The hot-water service will be provided from the kitchen, as described in the specification.

The water-tanks should be placed in situations to be easily cleaned out.

The kitchen should be supplied with a roasting range as recently adopted for officers' messes, with an opening of 2 feet to 2 feet 6 inches wide; also one of the new pattern steel boilers, and also an oven with hot-plate.

The buildings should be lighted by gas, where available, the fittings employed being of the simplest description.

The walls should be lighted by globular sunlight pendants, as manufactured by Stevens & Son, Southwark Bridge-road, London, the heated air being carried away from the lower wards by a zinc tube within the thickness of the floor and up a vertical shaft in the wall to above the roof, and from the upper wards vertically through the roof, the openings being covered with zinc terminals. Large wards, containing twenty to twenty-eight beds, will require three such burners; and small wards one only.

The following tabular statement shows the arrangement of wards for regimental hospitals:—

One Floor of Wards.

Number of large Wards.	Number of Beds.	Total in large Wards.	Number of small Wards.	Number of Beds.	Total in small Wards.	Total accommodation.
2	12	24	2	2	4	28
2	16	32	2	2	4	36
2	20	40	2	2	4	44
2	24	48	2	2	4	52
2	28	56	2	2	4	60

Two Floors of Wards.

4	16	64	4	2	8	72
4	20	80	4	2	8	88
4	24	96	4	2	8	104
4	28	112	4	2	8	120
4	32	128	4	2	8	136

The following detached buildings should be provided:—

An itch ward, only when required, to accommodate from four to ten patients.

A foul bedding store, to contain a minimum of 1,200 cubic feet of space for every 100 beds, a coal store, a wood store, and a store for unserviceable articles are also required.

The washhouse should have three or four fixed tubs; two coppers, from one of which water might be laid on; a drying closet, as made by Messrs. Jeakes; and a room for ironing or mangling.

The dead-house should be lighted from the roof, well ventilated, and provided with a slate table, water-tap, sink, and drainage.

Detached latrines and urinals for convalescents and orderlies should be provided.

It may further be observed, that in hot climates the greatest care should be exercised in selecting a site. If on high ground, the floor of the hospital should be carried at least 4 feet above the ground line, with a free circulation of air underneath.

If on low ground where malaria prevails, the sick should be placed on the upper floor only.

Verandahs should be carried round the building, Venetian blinds provided to the ward windows, and arrangements made for such additional ventilation as may be found necessary, by openings under the eaves, and by turrets in the ridge.

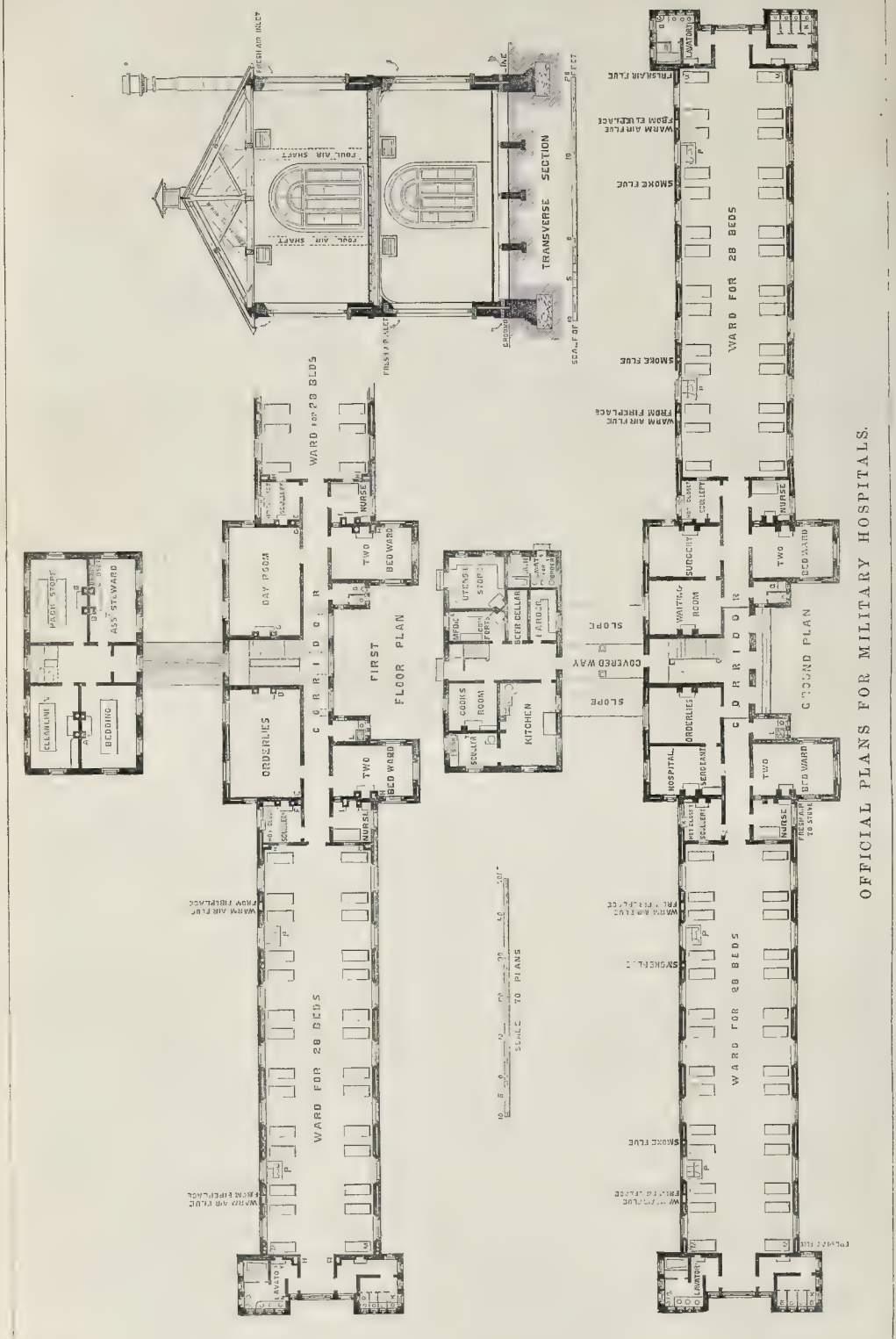
In cold climates, additional thickness of walls, double windows, or extra thickness of plate-glass, or external shutters, should be provided; complete control of the ventilation should be afforded, and arrangements made for the protection of water-pipes, drains, &c., from frost.

DOUGLAS GALTON,
Captain Royal Engineers, Assist. I. G. F.

In addition to the descriptive writing on the plans and section engraved, we give the following

References.

A. Foul-air flue from kitchen and cooks' room.
B B. Foul-air flues from rooms
C. Foul air flue from waiting-rooms.
D. Foul-air flue from orderlies.
E. Foul-air flue from hospital sergeants' room.
F. Foul-air flue from scullery.
G. Foul-air flue from surgery.
H. Foul-air flue from ward below.
I. Foul-air flue from nurses' room.
K. Sink.
L. Sink for portable baths.
M. Fresh-air flue.
N. Foul-air flue from lavatory.
O. Foul-air flue from w. c.
P. Fire-tile stove.
Q. Urinal.

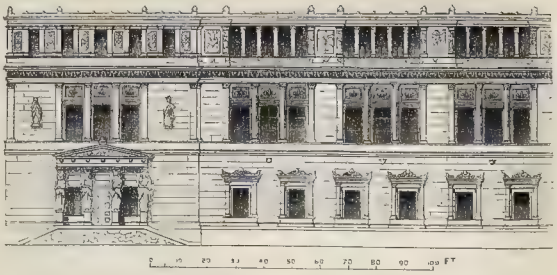


OFFICIAL PLANS FOR MILITARY HOSPITALS.

HISTORY OF MODERN ARCHITECTURE.*



The New Russian Church, Paris.



Portion of the River Front of the New Museum, St. Petersburg.



General Martin's Mansion, Lucknow. Anglo-Indian Translation of Palladian Art.



Part of the Château of Blois; showing the Building added under Louis XIV. to that in the Style of Francis I.



Radcliffe Library, Oxford.—James Gibbs, Architect.

[See p. 865, *ante*.

THE ARCHITECTURAL ASSOCIATION.

THE ordinary meeting of members was held on Friday evening, the 28th ultimo, at the house in Conduit-street. The chair was occupied by Mr. Thomas Blashill, president.

The following gentlemen were on ballot elected members of the Association:—Messrs. H. S. Wood, C. W. Smith, Charles Aldridge, Ingleton, and Jennings.

The Chairman, in calling upon Mr. Ashpitel to read the paper which he had promised to contribute on "Voluntary Architectural Examinations," observed that the subject was one which had been brought under the notice of the Association on various occasions and in various forms, and that they had much reason to be indebted to the Institute of British Architects for the kind feeling which that body had exhibited in reference to the matter.

Mr. Ashpitel having read his paper, which will be found in another place,

Mr. Roger Smith observed, that the Association ought to be very grateful to that gentleman, who, as a vice-president of the Institute, had come forward that evening in some sense as its representative. In his (Mr. Smith's) opinion the members of the Association had two duties to perform; one to approve of the scheme, and the other personally to support it, so that the whole weight of the Association, collectively and individually, should be given in furtherance of that which was intended for their benefit. Lastly, he was of opinion that they might extend their action with advantage so as to bring the influence of their example to bear upon a wider field. The Association was looked upon as the body of London students of architecture, and it would not be presumptuous in them to hope that the course which they were prepared to adopt would be followed by students in the country. If they were to give in their adhesion to the plan or scheme of the Institute, they ought, he thought, to agree to a resolution, which would not only commit them to it, but which would also recommend students in the provinces to follow their example. Holding these views he begged to move the following resolution:—

> "That the Association having for many years endeavoured to promote an architectural examination, and having carefully watched its progress in the hands of the Institute, feels justified in expressing its strong confidence in the general character of the scheme, and in the machinery by which it is proposed to be carried out, and desires to impress upon such of its members as come within the range of the contemplated examination the importance of their offering themselves as candidates. The Association would also urge an early consideration of the question by all professional societies; and if they think fit, would be glad to have their opinions communicated."

As this resolution, if agreed to, would commit the Association to the scheme of examination as prepared, he hoped that any members present who required further information on the subject would ask whatever questions might occur to them, as Mr. Ashpitel and Professor Kerr, who were present, would, he was sure, be happy to answer them.

Mr. E. L. Paraire, in seconding the resolution proposed by Mr. Smith, observed that the thanks of the Association were eminently due to Mr. Ashpitel, who in the paper just read had described the bearing of the scheme from every possible point of view. The proposed professional examination might at first sight frighten many persons. He himself had submitted to such an ordeal once or twice, and could speak feelingly on the subject; but the difficulties were more imaginary than real. He would venture to suggest that if, in preparing for examination, they would study in small groups of six or eight, and then unreservedly express their thoughts and interchange ideas, they would find a very great advantage. By this process they would acquire a power of reasoning and comparing, and elicit a degree of information which was not to be acquired by the mere study of books. *Viva voce* examination was not recommended as an eligible test, but if students would practise it among themselves, the result would be found to be extremely satisfactory. The object of the proposed examination was to raise the standard of the profession. To effect this the Institute met them in the most friendly manner by saying, "We will not ask you haphazard or difficult questions, framed rather to show, not what you do know, but what you do not know; but we will merely ask you those questions which every student of architecture ought to know." As nothing could be fairer than this, he recommended all members of the Association to go up and compete for the first degree. He agreed with Mr. Smith in thinking it very desirable that country members should give their adhesion to the scheme, and it was therefore with great pleasure he seconded the resolution, as calculated to create a bond of union among all the societies throughout the kingdom.

Mr. Arthur Allom thought the Architectural Association might congratulate itself that it had lived to see the day when the Institute, which at first had expressed itself inimical to voluntary examinations, had so far altered views as to depute one of its vice-presidents to recommend them. It was a good sign for the profession at large, and it showed that the younger members of the profession appreciated the necessity of showing to the world that they really possessed that knowledge which they professed themselves to have. Much to his surprise, he found that he had been nominated one of the committee of the Association to take the subject into consideration; and upon that occasion he had expressed an opinion that the examination should be compulsory; and not voluntary. To that opinion he adhered; and he believed Mr. Ashpitel would agree with him that they would have to come to compulsory examination at last. He feared that voluntary examinations would not prove as successful as was expected, and that the number of candidates who would present themselves would not be so large as was desirable.

Mr. R. P. Spiers having detailed the steps which had been taken in various Continental capitals to encourage schools of architecture and to establish examinations as a test of professional capacity, observed that he feared that the time allowed for preparing measured drawings of existing buildings or perspective sketches was too limited, owing to the shortness of the days and the nature of the weather, which, he said, was anything but favourable to out-of-door drawing. He begged, therefore, to ask whether the students would be allowed to substitute any drawings they might happen to have by them as evidence of what they were able to do.

Professor Kerr said that he was personally much gratified at hearing such a discussion in the rooms of the Architectural Association; and that as he had so often years ago raised his voice in favour of the abstract question, he was delighted to find the Institute taking the initiative, and receiving so much encouragement from the junior members of the profession. With regard to the question put by Mr. Spiers, as to the preparation of measured drawings, he thought the difficulty might be got over by submitting indoor drawing, or rather drawings of interiors. He was sure the examiners would not stand upon trifles, but would give a liberal construction to the programme, so as to give the utmost latitude consistent with the object in view. With regard to the question of compulsory examination, the only way to secure it would be for the profession to support it in such a manner that its adoption would become a necessity. All examples of Continental Governments were useless here. The English Government did not pick and choose who should serve it, but allowed the people to appoint who should serve them. The Government did not interfere except in cases where it was necessary to interfere either for the protection of life or property. With this view it prescribed certain regulations for the medical and legal professions. If, therefore, the architects wished to do anything in the way of compulsory examinations, they would have to do it themselves, and happy they ought to consider themselves to be allowed to do it. With regard to the value of elementary education, he might be allowed to state that he had heard Mr. Scott Russell give a practical illustration of it a few evenings since, at a meeting of the Institute of Civil Engineers. Referring to the effect of a knowledge of the abstract acquired in schools, he said that not many years ago the Germans sent students to England to learn mechanical engineering. With the practical knowledge so obtained, they soon began, not to improve upon English machinery (for that would be impossible), but to introduce improvements into models of their own. In the course of a few years more they began to do without sending to England for engineers. They subsequently began to compete with English makers on German ground, until at length they came over to England, and, as proved in the Exhibition, competed with Englishmen on English ground, and beat them. So much for elementary education.

In reply to a question from Mr. Spiers, Mr. Ashpitel said that the examination in Latin and Greek would be purely voluntary, and that the full number of marks would be given without those accomplishments; at the same time no degree of proficiency in Latin or Greek, or any other language, would be allowed to compensate for deficiency in professional knowledge.

The Chairman then put the resolution, which was carried *nem. con.*

On the motion of Mr. Spiers, seconded by Mr. C. J. Adams, a vote of thanks was accorded to Mr. Ashpitel for his paper.

Mr. Paraire handed in a requisition, signed by nineteen members, for a special meeting to re-open the question as to the expediency of joining the "Architectural Alliance." He observed that, on the last occasion when the matter was discussed, the vote in favour of joining the Alliance was carried by a majority of one only, which was scarcely large enough to be taken as representing the sentiments of an association consisting of 200 gentlemen.

The Chairman said the resolution in question had been recommended by the gentlemen representing the Association who had been deputed to attend the meeting of the Architectural Alliance, but that a special meeting to consider the expediency of rescinding the resolution would be fixed for the 19th of December.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

AT the meeting held November 26, Dr. James Copland, V.P., in the chair, sixteen new associates were announced. Mr. J. Moore exhibited a curious châtelain of seventy-nine links of brass wire, having a rosary, buckle, small key, hasp of a book-cover, and other trinkets, found in a sewer at Axminster, Devon. Mr. Kendrick communicated an account of the discovery of antiquities at Wilderspool, the presumed site of *Condate* of Antoninus, found in what are called "baking-holes,"—*i. e.*, pits in form of inverted cones. There was exhibited a portion of a large melting-pot, with fragment of glass, the paste of a pale buff colour, in which are mingled small angular pieces of silex. The smooth bottom showed evident effects of fire, and the upper surface was coated with vitreous matter, one part being coloured blue by oxide of cobalt. It is, perhaps, the earliest specimen of native glass manufacture yet pointed out. Dr. Kendrick also exhibited a portion of Samian ware, of the very rare embossed kind; a fragment of a bowl ornamented with graceful tendrils; and a bold wreath of foliage.

Mr. E. Roberts, F.S.A., exhibited, on the part of Mr. Wilson, of Alnwick, the painted tryptich found on the demolition of the altar-shrine of Robertus de Ogle, at Hexham Church, to which allusion has already been made. It presents figures of the Saviour rising from the Tomb, the Virgin and Child, and St. John, all highly coloured, with drapery and other accessories richly gilt.

Mr. J. Moore gave an account of discoveries made on the site of a Roman villa at West Coker, Somersetshire, and exhibited the various antiquities found therein.

Mr. Pettigrew sent a description of the large tumulus of Maes-Howe, in the Orkneys, in which Runic inscriptions had been found, accompanied by a comparative statement of the translation of the Runes by Professors Stephens, Munch, and Rafn, of Copenhagen; and those of the Rev. Dr. Barclay, principal of Glasgow University, who transmitted a highly ingenious paper, giving a particular translation of all the inscriptions, varying essentially from those of the Northern antiquaries, and affording great satisfaction to the meeting. This paper, which throws much light on the date of the erection of the tumulus, and the purpose for which it was formed, and by whom, is of great interest, and will be forthwith printed by the Association. A special vote of thanks was passed by acclamation to the author of the paper.

MANCHESTER ARCHITECTURAL ASSOCIATION.

AT the closing meeting of the last session, the following gentlemen were elected to act as officers for the session 1862-3:—President, Rev. R. N. Whittaker, M.A., Vicar of Whalley; vice-president, Mr. Lawrence Booth; treasurer, Mr. Joseph Shaw; secretary, Mr. Owen Johnson Showell; committee, Messrs. Isaac Blackwell, John Lowe, Alfred Darbyshire, and Richard Knill Freeman; auditors, Messrs. Thomas Oakden and Leonard Campbell.

The opening meeting of the new session was held at the rooms, 55, George-street, on the evening of Tuesday, the 18th ult., when the annual report was read by the late secretary, Mr. R. Knill Freeman, from which it appeared that there were fifty-one members in the association, and a balance of cash in hand. After the report had been read

and adopted, the vice-president delivered the inaugural address, in which he reviewed the progress and present prospects of architecture generally, and congratulated the members on the position of their association more particularly. The progress of architecture had never been so great as in this country within the last few years. Nor had the progress been confined to one style only. The advocates of what was known as the Classic style must have observed with pleasure its successful adaptation to the varied wants of the age; whilst, on the other hand, the Gothic style had been rescued from what must at one time have appeared very like extinction.

Several members addressed the meeting.

THE HOWNES GILL VIADUCT.

INSTITUTION OF CIVIL ENGINEERS.

At the meeting on November 25th, Mr. John R. M'Clean, Vice-President, in the chair, the first paper read was "On the Hownes Gill Viaduct, on the Stockton and Darlington Railway," by Mr. W. Cudworth.

The writer said this viaduct was situate near to the Consett Ironworks of the Derwent Iron Company, in the north-western part of the county of Durham, on what was formerly the Stanhope and Tyne Railway, an undertaking which came into the hands of the Stockton and Darlington Railway Company in the year 1844. Hownes Gill was a dry ravine 800 feet in width and 160 feet in depth; and originally the line was laid out with gradients corresponding with the natural contour of the ground; that on the west side being 1 in 2½, and that on the east side 1 in 3. The traffic was conveyed over these gradients for some years with little difficulty; but a large accession of trade, due mainly to the discovery of the Cleveland ironstone, rendered greater facilities of transit imperative. It then became apparent that the erection of a high-level viaduct was indispensable; and as early as the year 1844, the directors of the Stockton and Darlington Railway Company took steps with the view of ascertaining the probable cost of such a structure. It was not, however, until December, 1856, that a contract was entered into with Mr. John Anderson, to erect a viaduct of firebrick, set in hydraulic mortar, and the arches in cement, in eighteen months, and to uphold it for twelve months after completion, for the sum of 14,614*l*. The design was prepared by Mr. T. Bouch, and was subsequently approved, with some modifications, by the late Mr. R. Stephenson and Mr. G. P. Bidder.

The extreme length of the viaduct was 730 feet, and its greatest height from the bottom of the inverts to the level of the rails 162 feet. It had twelve semicircular brick arches, each 50 feet span, 14 feet in length, and 2 feet 6 inches in thickness. The inverted arches in the foundations, four in number, which were introduced at the suggestion of Mr. Stephenson, so as to extend the bases of the three central piers until the weight scarcely exceeded one ton per superficial foot, had a versed sine of 14 feet, were 38 feet in length, and 3 feet in thickness. The extreme height of the five loftiest piers, measured from the springing of the inverts to the springing of the arches, ranged from 114 to 110 feet: that of the six remaining piers diminished rapidly towards each end. Their length was 14 feet at the top, and 38 feet at the bottom, the latter dimension corresponding with that of the inverts. The piers, to within 15 feet of the inverts, were stayed by buttresses transversely to the line of the viaduct. At this point they were only 17 feet 6 inches in length; but below this level the buttresses merged into the piers, when they together had a rectangular section 38 feet in length. The buttresses were 3 feet thick at the top, and 5 feet thick at the bottom; their projection from the piers being increased by offsets at intervals of 35 feet. The piers, although light in their proportions, were reduced by recesses, 7 feet 3 inches wide, and averaging 3 feet 9 inches deep, sunk in each side, so that the horizontal section of each pier with the buttresses was in the form of a double cross, the brickwork in the middle being only 2 feet thick. These recesses were not continuous, but were divided into three compartments in height, and by their adoption the amount of brickwork in each pier was reduced about 14½ per cent. Between the spandril walls, two internal parallel walls of stone were introduced to sustain a platform of flagging, on which the waybeams and the ballast were carried. The waybeams, which were of Memel timber, were at first secured to the internal walls by bolts; but, as this plan was found to be objectionable, the nuts from the holding-down bolts were removed, and a thickness of 6 inches of coke ballast was interposed between the waybeams and the flagging. The parapet consisted of a substantial cast-iron railing. The fire-bricks, which were of excellent quality, weighed 9 lb. 11 oz. each, and cost the contractor at the viaduct 31s. 2d. per thousand. The number used was 2,655,000. It was a gratifying fact that the work was completed without accident, and that not a single crack was to be found in the whole of the structure. The erection of the scaffolding, which was of a very light character, was considerably facilitated by the hoisting tackle being made to traverse a stout wire rope stretched across the gill, and firmly fixed at each side. When the arches were about to be turned, the piers were stayed by two parallel wire ropes stretched from end to end of the viaduct. The first brick was laid in February, 1857, and the first train passed over the viaduct in July, 1858. The cost of the structure amounted to 15,756*l*., the contract sum having been increased by the additional depth of the foundations, by the adoption of a heavier parapet, and by other contingencies. Regarding the viaduct as an unpierced solid, its contents would amount to 61,910 cubic yards, and its cost would be 5s. 1d. per cubic yard.

The question of the relative cost of brick and iron viaducts was then alluded to, reference being made to two works of the latter description, erected by Mr. Bouch, on the South Durham and Lancashire Railway. These viaducts consisted of three lines of trellis girders resting upon skeleton piers, formed of six cast-iron columns, jointed at intervals of 15 feet, and braced together by horizontal cast-iron struts, and by vertical and horizontal tie-bars of wrought-iron. The clear spans between the piers were in all cases 48 feet. The Beelah viaduct was 1,000 feet in length, and 197 feet in extreme height. The Deepdale viaduct more nearly resembled the Hownes Gill in its proportions, being 740 feet in length and 160 feet in extreme height. A comparison was therefore instituted between the probable cost of such an iron viaduct erected across the Hownes Gill valley, and one of brickwork, supposing both to be built to carry a double line of railway, and that the spread of the foundations was in each case adjusted to sustain a weight of 2½ tons per superficial foot, including the greatest moving load. The prices of the brickwork and of the masonry were taken from Mr. Anderson's schedule; those of the timber and iron work were the prices actually paid to Messrs. Gilkes, Wilson, & Co., the contractors for the South Durham and Lancashire viaducts, minus a deduction of 10s. per ton for the cost of cartage over country roads. With this adjustment it was found that the cost of the viaducts, calculated in this way, would be 20,681*l*. for the brick structure, and 16,249*l*. for that of iron. It was thought probable that the interest on the difference between these two amounts, say 222*l*. per annum, would be absorbed in the periodical examination and painting of the iron, and the depreciation of the perishable timber platform; and that, at the place referred to, a brick viaduct would be, ultimately at least, as cheap as one of iron. If the viaducts were designed to carry a single line of railway, the comparison would, it was believed, be still more in favour of brick. Although the author preferred brick or stone, he by no means regarded iron as ineligible under all circumstances. In situations which did not yield suitable building materials, and where there were no cheap means of conveyance from a distance, the small relative mass of an iron viaduct would be a strong argument in its favour; for the whole weight of such a structure, including masonry foundations, would be less than one-fifth that of brick. This circumstance would also conduce to the selection of iron in cases of doubtful foundations.

CHARING-CROSS RAILWAY BRIDGE.

At the first meeting this session of the Institution of Engineers in Scotland, Mr. William Johnstone, the president, delivered an introductory address, in the course of which he gave some particulars of the Charing-Cross Bridge, now in course of construction, and intended to carry the South-Eastern railway across the Thames to its West End terminus at Hungerford Market. These we quote:—

The Thames at this particular place is about 1,340 feet wide, and was crossed by Mr. Brunel in three spans, the centre opening being 646 feet. This foot-bridge is now being removed, and a more substantial structure substituted, to meet the requirements of the railway.

Mr. Hawkshaw, the engineer of the new bridge, divides the openings (on the Surrey side) of Brunel's bridge into spans of 154 feet each, by means of cylinders placed in pairs at three intervals; the two masonry piers of the suspension-bridge, each 34 feet wide, being allowed to remain to form a portion of the new structure. Future generations may be somewhat perplexed to account for these "breaks," and naturally say, why were not cylinders used there also? This simple reflection, however, would not have justified the expense of their removal; and, at all events, knowing the circumstances, we may safely exonerate the engineer from what might otherwise have appeared to be a piece of engineering eccentricity.

The principle of construction of the main girders of this bridge, though not absolutely new, has never, that I am aware of, been applied on such a large scale. I believe the same engineer is constructing one very similar at Londonderry, combining a carriage-way on the top, which will shortly be opened for traffic.

The pair of cylinders forming the intermediate pier are distant from each other 49 feet, and are somewhat bottle-shaped in appearance. The portion of each sunk below the bed of the river is 14 feet in diameter, cast in seven segments in lengths of 9 feet, the flanges meeting and bolted together inside. The portion from the shoulder to the bottom of the main girder is 10 feet in diameter, cast in seven segments in 9 feet lengths, the flanges being also bolted inside; the thickness of the metal throughout being about 1⅛ inch. In most cases these cylinders have been sunk 40 feet into the bed of the river, to prevent the possibility of any lateral motion, or of their bottoms being disturbed by any subsequent deepening of the river.

When completed, the lower portion up to the shoulder is filled with concrete, made with cement. Brickwork, set in lias lime, is then used, the whole being surmounted by two semicircular blocks of granite 2 feet 6 inches thick, cut to fit the cylinders, and when bedded projecting an inch or two above it, so as to keep the bottom of the malleable iron girder from resting on the casting. Both cylinders are joined together at the top by a cross girder, so as to guard against the barest possibility of any swinging taking place. Each cylinder is tested to the extent of 450 tons.

As already stated, these cylinders are 49 feet apart; and as the main girders rest directly upon them, it follows that that width represents the distance from centre to centre of each girder, and affords space for four lines of way. These main girders each weigh 190 tons; and, when tested to 400 tons, showed a deflection of 1⅛ inch.

The ends of the girders resting on the cylinders are composed of plates formed into rigid rectangular columns the same height as the girder, viz., 14 feet, 5 feet on the face, and 3 feet broad. The boxes or troughs forming the top and bottom of the girder are of that breadth, and of course spring from those ends. The upper one being inverted, its bottom forms the top of the girder, and, unlike the bottom of the lower trough, projects beyond the sides some 6 inches; and being in compression requires more metal in it: in the middle it consists of six plates, five of them ⅜ inch thick, and one ⅛ inch thick, breaking joint and gradually diminishing towards the ends to two—one ⅛ inch, the other ⅜ inch thick. The bottom of the lower trough is flush with the sides, and has five ⅜ inch plates in the centre, and two ⅜ inch plates at the ends. The staging was made to admit of the simultaneous construction of these troughs: they are, with the above exception, precisely the same, each being 2 feet deep inside, and 3 feet broad: each side is composed of two plates ⅜ inch thick, with two covering plates at pin-holes, each 1 inch thick: these pin-holes occur at intervals of 11 feet, and number fifteen in each span: four of the diagonals meet inside the troughs at those places; and 2 webs of the same thickness as the sides fastened to the bottom by angle irons 6 × 6 × 1, give additional bearing to the pins, and prevent the diagonals from sliding on them. The diameters of the pins vary with the strain, from 9 inches at the ends to 5½ inches in the middle of the girder.

The diagonals at the ends are about 15 feet 6 inches by 12 inches, and 3 inches thick: in the middle the breadth and thickness are about 6 inches and 2 inches respectively. Those in compression are forged to the required thickness, and strongly stiffened; those in tension are made up of two or three pieces of 1 inch in thickness, according to strain, like the links of a suspension bridge. The cross lattice girders carrying the four lines of way, and projecting beyond the main girders, support a footway 7 feet wide on either side, and are sus-

pended to the main girders by four strong angle irons immediately under each pin, and consequently occurring at 11 feet intervals.* There is nothing very special in their construction to require further notice. The weight of each, I understand, is about 9 tons.

The bridge, when completed, will consist of six spans of 154 feet each, and three on the Middlesex side of 100 feet each; and the bridge is to be widened on that side to 171 feet, so as to admit of seven lines of rails and platforms into the station. The radiating outside girders over these three openings remain the same in appearance as those of the rest of the bridge, to afford a continuous sky line: they have, however, very little work to do, and are consequently much more slender in construction: they rest on cylinders 8 feet in diameter. The railway is no longer carried on cross girders; longitudinal ones placed on cylinders 6 feet diameter, sunk at short intervals between the 8 feet outside ones, being substituted. These girders are single-web, and strongly made; their depth being limited to 5 feet for 100 feet span, to afford 25 feet headway above Trinity high-water mark, and are all under the level of the planking, so as not to interfere with the points and crossings of the lines of way to the platforms. The depth of the Thames at the site of the bridge, at low water of spring-tide, is 11 feet.

Rise of tide	17 ft. 6 in.
Level of rails above Trinity high-water..	31 ft. 0 in.

It is difficult to ascertain the cost of such a work. I believe, however, that 26*l.* a ton for the wrought, and 16*l.* 10s. a ton for the cast iron, will not be far from the mark: 30s. a foot might also be taken as a pretty near approximation for sinking the cylinders.

CHURCH-BUILDING NEWS.

Dedham (*Essex*).—St. Mary's Church, which has been under restoration for the last six months, is now re-opened. Several relics of antiquity have been discovered in stripping the walls of the old plaster; and among them, within the communion-rails, an ancient piscina with two shelves, which had probably been blocked up for more than 300 years. An ancient tomb has also come to light of very large dimensions, which stood in the former church, and is probably of a date not much posterior to the Conquest. Besides a general renovation of the interior, the space within the communion-rails has been furnished by the exertions of the Restoration Committee. The architect was Mr. Roberts, of Dedham, and the work has been done by builders residing in the parish, with the exception of the stained-glass windows, which have been executed by Mr. J. King, of Ipswich. The exterior wants a similar restoration.

Stewkley (*Bucks*).—The parish church has been re-opened. The estimated cost of the restoration is 1,200*l.*, of which the parish gives 400*l.* It has been executed by the Messrs. Davies, of Banbury, under the superintendence of Mr. Street, the diocesan architect. A memorial east window, by Messrs. Clayton & Bell, has been presented by Mrs. Travers, sen. The painting of the chancel ceiling was the gift of the architect.

Shaftesbury.—The Wesleyan chapel here has been re-opened, having been restored from plans furnished by Mr. Stent, of Warminster.

Wolverhampton.—The new Wesleyan chapel, Whitmore Reans, has been opened for divine service. The memorial stone was laid in July last, and the chapel will accommodate about 260 persons. The cost, including vestry, school-room, outbuildings, boundary-walls, and palisading, will be about 400*l.* The front elevation is of Doric design, consisting of pilasters and entablature, entirely worked in bricks of different colours, the caps and bases only of the pilasters being of stone. The entrance is by means of a porch extending over almost two-thirds of the front. The pews and benches are terminated by scroll ends: the former have low doors, and the whole of the woodwork inside is stained and varnished. The design was furnished by Mr. C. Manton, architect, under whose direction the works were carried out by Mr. D. Evans, builder.

Worcester.—Messrs. Bennet & Son, of Birmingham, have entered into a fourth contract in the restoration of Worcester Cathedral. It will include the scraping of the choir ceiling and groins; adjusting the ribs, many of which are distorted; scraping the nave entire,—ceiling, piers, triforium, clerestory, and aisles; and putting the whole in substantial repair. The amount of the contract is 1,600*l.*, and the work is to be completed before the Musical Festival, next autumn. As soon as the choir ceiling is cleaned and repaired, probably about the end of January, divine service will again be held in the choir, while the works in the nave are gone on with. No decision has yet been come to with regard to the furniture and fitting up of the choir. The contract just entered into will be provided for from the "domus fund" of the dean and chapter, and not from the sums allowed by the Ecclesiastical Commissioners for restoration purposes. Owing to the frost of a past week, the masons came to a stand-still, or the great transept window would have been completed. It is of the Geometrical or very early Decorated style, and has four lights, with tracery of circles inclosing trefoils and cinquefoils. The chapter-house restoration has proved a heavy work, but is now approaching completion.

Coleford.—The town of Coleford, which claims for itself distinction as the "capital" of Dean Forest, has been keeping high holiday in celebration of the restoration and re-opening its parish church at Newland. The old high pews have been replaced by open seats. The chancel at one end and the tower at the other, are now undivided from the body of the edifice, which consists of a large nave, divided into three aisles by two lines of grey forest stone piers; a spacious chancel, and three chapels; but these, with the exception of the Probyn Chapel, form part of the north and south aisles. An open timber roof is lighted by large clerestory windows; and the floor is paved with encaustic tiles. The prevailing style of the building is Early English or Lancet; but there are several windows of the more florid styles, as the east window, which is Decorated, and the east window of the north aisle, Perpendicular. The latter is painted in memorial of the Ducarels: the subject is "The Raising of Lazarus;" and there is another memorial window in the north aisle illustrating incidents in the life of Christ. In the south aisle also there are two memorial windows, placed there by Mr. J. Fortescue Brickdale, one containing the Virgin Mary, the other in memory of Lieut. Brickdale, of H.M.S. *Comus*, killed in an action with the forts at Point Obligado, in the river Parana. There is a picture of the ship under fire: her name; the place of action; the union jack; the crown and anchor of the naval button; and the family arms and crest, form medallions on an arabesque pattern with which the vine entwines. Beyond these windows, and the tinting of the openings in the tracery of some of the rest, the interior has no ornament but its dimensions. Neither in plan nor in outline has the edifice been materially altered excepting in the removal of a modern excrescence in the vestry, and in slightly raising the roofs and clerestory. The work done has been extensive: the whole of the roof and many of the walls and arches have been rebuilt; and the timbers were so much decayed that several of the bearing rafters broke in two when removed, thereby endangering the safety of the workmen. The interior walls, where they would bear it, have been cleaned and pointed; and the old marble pavement has been relaid with the addition of red, black, and buff tiles. With the exception of the Gage and Dunraven aisles, in the latter of which the organ is placed, the floor is covered with open seats, of which those in the south aisle only are appropriated, whilst all the rest are free. Those in the centre being sufficient for the accommodation of the people of the village, those in the aisles are made so that they can be removed and stacked away. The chancel is lighted with a large window of six lights, having florid tracery; yet corresponding in character with the simpler four-light window of the tower and the chancel arch; and these, with the clerestory, are the only windows which have been changed in character by the restoration. During the progress of the works the ancient altar slab was found: it is 9 feet long, and has suggested the proportions of the new oak table which now stands upon it. The architect was Mr. White, of London.

Castle Caereinion.—At a vestry meeting held in this parish, it has been unanimously agreed that the parish church be rebuilt in the course of the ensuing year; and that the sum of 225*l.* (being the amount of a rate of one shilling in the pound), be borrowed from the Public Works Loan Office, in furtherance of that object. The architect is Mr. T. H. Wyatt, of London; and the contractors are Messrs. Chester & Son, of Liverpool. The estimated cost of the building, tower and spire included, is upwards of 1,680*l.*; but the subscription list does not, at present, reach the sum of 1,200*l.*

Tongwinlais.—The new English Baptist Chapel in this place is now completed. It was erected by Mr. T. Evans, builder, Cardiff, from plans prepared by Mr. J. Williams, Roath, surveyor to the estate of Mr. C. H. Williams, upon whose ground the chapel was built.

Snaith.—The new Wesleyan Chapel here has been opened. The new edifice is in the Italian style of architecture, and is built of red pressed brickwork, with Ashlar dressings. The principal front is decorated with coupled angle pilasters, having "three-quarter" columns between of the Ionic order, and surrounded by a pediment, the tympanum of which contains a carved inscription-stone, with honeysuckles at the angles and on the apex. The side elevations correspond in design. A flight of steps leads to the principal entrances, which consist of three arched doorways, giving access to an inner vestibule, from which the ground-floor aisles and the gallery stairs are reached. The internal dimensions of the chapel are—58 feet in length, by 45 feet in width; and in height, 35 feet to the centre of the ceiling. Galleries are fixed to two sides of the chapel and at one end, while an organ recess and accommodation for the choir is provided in a recess behind the pulpit. The seats on the ground-floor are curved, and here and in the galleries accommodation is provided, including free seats, for nearly 700 persons. The interior wood-work is stained and varnished. The cost of the building will be about 2,200*l.*, exclusive of the ground. The architects were Messrs. Lockwood & Mawson, of Leeds and Bradford. The works have been carried out by Mr. Widdop, of Snaith, as mason, bricklayer, and plasterer; Messrs. Gibson & Maude, of Keighley, as joiners; Mr. Schofield, of Bradford, as plumber; Mr. Baynes, of Ripon, as slater; Mr. Cooper, of Goole, as ironfounder; and Mr. Harland, of Bradford, as painter.

Wold Newton (*Yorkshire*).—The new church of All Saints, Wold Newton, designed by Mr. Fowler, architect, the opening of which we recently announced, is built upon the foundations of the old one. The chancel is semicircular. The external walls are of stone, and the roof covered with slates, of three colours, arranged in bands. There is a bell turret at the west end of the church. Bricks of different colours are used for facing the internal walls. The chancel arch, springing from two light columns, is composed of red, black, and white bricks interspersed. The roof is of interlaced rafters: in the chancel, in consequence of its circular character, the rafters of necessity cluster, and give to the roof a peculiar appearance. A stone pulpit is placed in the north-east corner of the nave, near which stands a prayer-desk and lectern of carved oak. The benches are of varnished pine. Stained glass has been placed in the west window, and an organ has been placed in the church.

Leeds.—St. Matthew's Church has been re-opened, after its enlargement. The plans were obtained from Mr. G. Corson, architect. The church, as originally built, consisted of nave, north and south aisles, chancel organ (organ chapel on the south and vestry on the north side), with tower and spire at the south-west corner. The new works comprise north and south transepts; chancel aisle on the north side; the vestry being taken down and re-erected on the south side of the chancel; and a carved porch to the principal entrance at the base of the tower. Between the chancel and its aisle two large pointed arches have been inserted; borne in the centre by four shafts of polished red granite, grouped around a stone pier; the caps of this pier, as well as those of the side piers, being carved with natural foliage. Another arch has also been inserted between the chancel aisle and transept. The north transept is lighted by a two-light window, between two single lights, in the north gable, and by a gablet window on each side. The south transept by a four-light traceried window, and gable and side windows, as in the other. The roof timbers are exposed to view throughout, and are stained and varnished. The contractors for the several portions of the work have been as follows:—Masons' work, Mr. E. Jackman; joiners' work, Messrs. Winn & Pawson; slater, Mr. Shevill; plasterer, Mr. Barker; plumber, Mr. Staudish; painter, Mr. Walsh. The specimens of carving, the pulpit and lectern, have been executed by Messrs. Mawer & Ingle; and the metal work, brass standards, &c., have been supplied by Mr. Brown, of Birmingham.——It has been determined to erect, at Far Headingley, Leeds, a new church, towards the endowment of which Mr. William Beckett has offered the sum of 5,000*l.*, besides giving the site for the edifice. Mr. F. W. Tetley is also a contributor of 1,000*l.* to the building-fund. The cost of the church, exclusive of the land and endow-

* The mode of construction pursued here has been already commented on in the *Builder*, and calls for further investigation.—ED.

ment, will, it is estimated, be from 3,500*l.* to 3,700*l.*, towards which 2,125*l.* have already been subscribed.

Pocklington.—A Roman Catholic Church has just been commenced here. The plan consists of apsidal chancel, 21 feet by 15 feet; nave, 60 feet by 26 feet; north porch, and belfry. The chancel and one bay only of the nave are included in the present contract. The architect is Mr. M. E. Hadfield, of Sheffield; and the builder Mr. Grant, of Pocklington.

Glasgow.—The foundation-stone of a new church on the Great Western-road, in connexion with the United Presbyterian body, has been laid. The edifice, which has been designed by Mr. Honeyman, and is being built under his superintendence, is situate at the corner of the Great Western-road and a new street which is to be formed on the east bank of the Kelvin, and will thus be a conspicuous object, especially from the west and from Park-road. The buildings comprise, besides the church, a large hall, sessions-house, waiting-rooms, vestry, and beadle's house, and have a frontage towards the Great Western-road of 156 feet. The spire is placed near the east end of the church, exactly opposite Park-road, and will rise to the height of 218 feet from the pavement. The principal entrance is in the west gable, by a porch, 15 feet wide and 30 feet high, having a groined vaulted roof, with ribs and sculptured bosses. The jambs and arches of the porch will be profusely enriched with sculpture; but here, as elsewhere in the building, the stone to be afterwards carved is at present left rough. The small shafts supporting the ribs of the porch, and those in the jambs of the entrance-door, will be of polished serpentine. The church will accommodate 1,060; the space between the pews being 33 inches, and the length of seatboard allowed for each person, 20 inches. It is estimated that the total cost of the structure will be nearly 9,000*l.* The contractors all belong to Glasgow; the mason being Mr. John Coghill, and the wright Mr. James Morgan. The clerk of works is Mr. James Kintrea.

Dublin.—The first stone of a new Presbyterian Church has been laid on a site in Rutland-square. The estimated expense of the church is 12,000*l.*, the entire of which Mr. Findlater, merchant, has undertaken to contribute, the congregation being relieved from all expense save the purchase of the site. It was the property of Dr. Cullen, who held it for the "Church;" but many Presbyterians vote for his candidate at the Dublin election.

STAINED GLASS.

Lavenham Church.—The great west window, the third of the new stained windows in this church, has been set in its place. The subject of the window, which consists of eight compartments, is an illustration of events in the life of St. Peter. The order of events reads from the lower compartment opposite the left hand; the first being "The Call of Peter" (Mark i. 16). 2nd, "Peter's Confession of Faith" (Matt. xvii. 16). 3rd, "Cutting off the Ear of Malchus" (Luke xxii. 50). 4th, "Peter's Denial of Christ" (Luke, xxii. 54). 5th, "Christ's Charge to Peter, Feed my Lambs" (John xxi. 15). 6th. "Healing the Lame Man at the Beautiful Gate of the Temple" (Acts iii.). 7th, "The Deliverance of Peter from Prison by the Angel" (Acts xii.). 8th, "The Martyrdom of St. Peter." This window is the gift of Mr. W. Thompson, Mrs. Croker's youngest brother, to commemorate his coming of age. The window is by Messrs. Lavers & Barraud.

SCHOOL-BUILDING NEWS.

Marylebone, London.—On the 1st instant, the foundation stone of a boys' school, for the parish of St. Marylebone, was laid by the rector, the Rev. C. T. Phipps Eyre, on ground adjoining the churchyard, presented to the parish by his Grace the Duke of Portland. The cost of the building will be defrayed by a lady, as a memorial of her father, who was once resident in the parish. The plan is to consist of an arched cloister or under-court, with an arcade open to the churchyard; the school-room, 103 feet long; with class-rooms; together with a master's residence. The architect is Mr. John Henry Hakewill, and the builders are Messrs. Keyes & Head.

Braintree (Essex).—A new school-room, in connexion with and adjoining the Baptist Chapel at Braintree, has been recently opened. The design was furnished by Mr. Cowell, of London, under whose superintendence the works were carried out by Mr. Laver, of Braintree.

Stansted Mountfitchet.—A newly-erected brick building, in plain Gothic style, intended for the use of the British schools at this place, was lately the scene of a very successful *soirée* and public opening. The outlay for building, &c., has been 560*l.* 5s. 6d. The site for the school was given by Mr. W. Fuller Maitland. The architect was Mr. J. Cowell, of London; the builder, Mr. C. Levy, of Stansted Mountfitchet.

PROVINCIAL NEWS.

Ryde.—Among the various projects which have been set on foot for the benefit of Ryde, is one for the purpose of erecting a first-class hotel on the Esplanade.

Dudley.—The foundation-stone of a mechanic's institute for Dudley has been laid by the Earl of Dudley. The building, from designs by Mr. Bourne, will be of Italian Palatial architecture, and will be fronted with stone. The street elevation will consist of two orders of attached Doric columns, with entablatures and antæ, &c.; the upper frieze being sculptured from a classic design. The principal entrance doors and windows on either side will be semi-circular, and the windows in the upper order will have cornices and architraves. The fence or screen next the footpath in front of the basement will consist of stone balustrade. At the rear, forming the librarian's private entrance, will be a tower, surmounted with a balustrade, with urns at the corners. The remainder of the building will be faced with yellow brick. The interior will consist of vestibule, hall, public hall, committee-room, minor lecture-room, or class-rooms, museum, second class room, reading-room, library, laboratory, and lecture-room. The public hall will be 41 feet by 74 feet 6 inches; the committee-room 25 feet 9 inches by 19 feet 6 inches; the reading-room 25 feet 9 inches by 27 feet; the library 23 feet by 29 feet; the laboratory 25 feet by 22 feet 6 inches; the minor lecture-room 41 feet by 19 feet 6 inches; the museum 23 feet by 56 feet 6 inches; the class-room 31 feet by 16 feet. The builder is Mr. Millward, and the cost is estimated at about 4,000*l.*

Liverpool.—Mr. Culshaw has been appointed architect of the new workhouse for the West Derby Union.

New Wortley.—The promoters of the local movement for providing the working classes with better dwellings than they have been accustomed to, have held a meeting, at which the Mayor of Leeds presided. It appears that they are about to erect in Langham-street, New Wortley, a block of houses similar to those at Beeston and Burley. It was shown at the meeting that more convenient and comfortable houses could be had for an outlay not exceeding the rental at present paid. In the block intended to be built at New Wortley, there are to be two sizes; the smallest costing 142*l.* and the larger 188*l.* each.

Skipton.—The town-hall here has been opened. The want of a public building had long been felt, and often complained of. This want has been met in the erection of a town-hall by the Skipton Public Buildings Company.

Wigan.—The borough surveyor has reported that the town-hall is most unsafe. Several members of the council have expressed their objection to meet there; and, on this account, a special meeting of council has been fixed to be held in the Moot Hall, and there is every probability that all future meetings of the town council will be held there. Public meetings, however, continue to be held in the town-hall, and large numbers of people weekly assemble there. The magistrates have expressed themselves strongly about their lives being endangered by their being compelled to sit in such an unsafe building while attending to the business of the town.

SCOTTISH NEWS.

Greenock.—The Free West New Church has been opened for divine service by the Rev. Dr. Guthrie, of Edinburgh. The buildings comprise, besides the church, a large hall, ladies' waiting-room, vestry, and retiring-rooms. The plan of the church is unusual. The most obvious peculiarity is the absence of the usual passages in the area; only one being visible, extending along the centre from end to end. There are facilities, however, for ingress and egress. Along both sides are corridors outside of the main side walls of the church, and having externally the appearance of side aisles, and from these half of the pews on each side have access. When the doors of these pews are shut, the side corridors are entirely disconnected from the church, and the doors are so arranged as to form a continuous panelling along both sides, extending from the floor to the cornice under the side galleries. The upper panels of these doors and of the bound lining corresponding with them, are enriched with cusped and carved fretwork. The side galleries, instead of, as usual, resting upon iron pillars, are supported from the walls by iron brackets, which are formed to the curve of the soffite and encased in woodwork, and spring from carved stone corbels having small shafts of polished serpentine. The side galleries are only about 7 feet wide, and contain only one front seat. The windows are placed above these galleries. The pulpit is placed at the south gable, in the centre of a semicircular recess or apse, which is enriched with stone arcading, in the centre of which is a door to the vestry. Besides this door, there are two doors for egress at the south end of the church. The extreme length of the interior, inclusive of the apse, is 84 feet; and the width, exclusive of the side corridors, is 42 feet. The height from the floor to the wall head is 40 feet, and to the ceiling 48 feet. It is intended hereafter, if funds are forthcoming, to complete the design by the erection of a lofty spire at the south-west corner of the building: the tower has therefore been carried up along with the church as high as the eaves, and then finished with a gable towards the west; giving it, in the meantime, the appearance of a small transept. The church will accommodate about 950; and the cost, including all expenses, will amount to about 6,000*l.* The mason work has been executed by Mr. T. Watson, af Glasgow; the carpenter work by Mr. D. Anderson, Greenock; the slater work by Mr. P. M'Kay; the plumber work by Messrs. M'Lean & Barclay; and the plaster work by Messrs. Quintin Tannock & Son. Mr. Shanks, of Glasgow, executed the stone carving; and Mr. J. Calderwood was inspector. The church is heated by Mr. Perkins's patent hot-water apparatus, fitted up by Mr. Ritchie, C.E., Edinburgh. The stained glass was executed from the design of the architect, by the late Mr. J. Cairney, of Glasgow; and the Mediæval glass brackets and pillars were supplied by Messrs. Finlay & Weir. The church is built from designs by Mr. Honeyman, jun., of Glasgow.

Pollokshaws.—The foundation stone of a new church for Eastwood parish (Pollokshaws) has been laid by Mr. Walter Crum, of Thornliebank. The building owes its origin to Sir John Maxwell, Bart., who offered, at his own expense, to substitute for the old parish church an edifice more commensurate with the growing wants of the district. The work was commenced in the beginning of September last, according to designs prepared by Mr. David Thomson and Mr. Charles Wilson, both of Glasgow; and the building has now been carried up to the level of the gallery floor. In style the edifice is Early English, its plan being that of a nave and two transepts. The principal entrance will be at the west end, through the base of a tower, which is intended to be surmounted by a spire rising to the height of 130 feet. The interior of the building will be fitted up with open timber roofs, and will contain three galleries—one in the nave, and one in each of the transepts. The sitting space will accommodate 1,050 persons. It is proposed that two or three of the windows, including that at the east end, immediately over the pulpit, shall be filled in with stained glass. The cost of the edifice is estimated at 3,500*l.* The principal contractors for the execution of the work are Mr. J. M'Intyre, Strathbungo, builder; Mr. J. Connel, Glasgow, joiner; Mr. D. Smith, Glasgow, plasterer; and Messrs. Stewart & Son, slaters.

Partick.—The foundation-stone of a new church, in connexion with the National Establishment, has been laid in Peel-street, Partick. The designs have been furnished by Mr. G. H. O'Donoghue, under whose superintendence the building operations are being carried out. The church will present a plain specimen of Gothic architecture. Its dimensions are 82 feet long by 55 feet in width, and the interior will be seated to accommodate about 930 persons. The entrance will be at the west end, facing Peel-street, and at the north-west corner will be erected a spire rising to the height of 130 feet. The estimated cost of the building is somewhere about 2,200*l.* The contractors are—For the mason work, Mr. J. Maxwell; and for the joiner work, Mr. D. Moore, both of Partick. The clerk of the works is Mr. P. Forsyth.

BRUNEL'S MISHAPS.

ALTHOUGH Brunel died at the comparatively early age of fifty-three, it is even matter of surprise that he lived so long. He had more perilous escapes from violent death than fall to the lot of most men. We have seen that at the outset of his career, when acting as assistant-engineer to his father in the Thames Tunnel, he had two narrow escapes from drowning by the river suddenly bursting in upon the works. Some time after, when inspecting the shafts of the railway tunnel under Box Hill, he was one day riding a shaggy pony at a rapid pace down the hill, when the animal stumbled and fell, pitching the engineer on his head with great violence: he was taken up for dead, but eventually recovered. When the Great Western line was finished and at work, he used frequently to ride upon the engine with the driver, and occasionally he drove it himself. One day, when passing through the Box Tunnel upon the engine at considerable speed, Brunel thought he discerned between him and the light some object standing on the same line of road along which his engine was travelling. He instantly turned on the full steam and dashed at the object, which was driven into a thousand pieces. It afterwards turned out to be a contractor's truck which had broken loose from a ballast-train on its way through the tunnel. Another narrow escape which he had was on board the *Great Western* steam-ship, where he fell down a hatchway into the hold, and was nearly killed. But the most extraordinary accident which befell him was that which occurred while one day playing with his children. Like his father, Sir Marc, he was fond of astonishing them with sleight-of-hand tricks, in which he displayed considerable dexterity; and the feat which he proposed to them on this occasion was the passing of a half-sovereign through his mouth out at his ear. Unfortunately, he swallowed the coin, which dropped into his windpipe. The accident occurred on the 3rd of April, 1843; and it was followed by frequent fits of coughing, and occasional uneasiness in the right side of the chest; but so slight was the disturbance of breathing that it was for some time doubted whether the coin had really fallen into the windpipe. After the lapse of fifteen days, Sir B. Brodie met Mr. Key in consultation; and they concurred in the opinion that most probably the half-sovereign was lodged at the bottom of the right bronchus. The day after, Mr. Brunel placed himself in a prone position on his face upon some chairs; and, bending his head and neck downwards, he distinctly felt the coin drop towards the glottis. A violent cough ensued; and, on resuming the erect posture, he felt as if the object again moved downwards into the chest.

Here was an engineering difficulty, the like of which Mr. Brunel had never before encountered. The mischief was purely mechanical: a foreign body had gone into his breathing apparatus, and must be removed, if at all, by some mechanical expedient. Mr. Brunel was, however, equal to the occasion. He had an apparatus constructed, consisting of a platform which moved upon a hinge in the centre. Upon this he had himself strapped; and his body was then inverted, in order that the coin might drop downward by its own weight, and so be expelled. At the first experiment the coin again slipped towards the glottis; but it caused such an alarming fit of convulsive coughing, and appearance of choking, that danger was apprehended, and the experiment was discontinued. Two days after, on the 25th, the operation of tracheotomy was performed by Sir Benjamin Brodie, assisted by Mr. Key, with the intention of extracting the coin by the forceps, if possible. Two attempts to do so were made without success. The introduction of the forceps into the windpipe on the second occasion was attended with so excessive a degree of irritation, that it was felt the experiment could not be continued without imminent danger to life. The incision in the windpipe was, however, kept open, by means of a quill or tube, until the 13th of May, by which time Mr. Brunel's strength had sufficiently recovered to enable the original experiment to be repeated. He was again strapped to his apparatus: his body was inverted: his back was struck gently; and he distinctly felt the coin quit its place on the right side of his chest. The opening in the windpipe allowed him to breathe while the throat was stopped by the coin, and it thus had the effect of preventing the spasmodic action of the glottis. After a few coughs the coin dropped into his mouth. Mr. Brunel used afterwards to say that the moment when he heard the gold piece strike against his upper front teeth was, perhaps, the most exquisite in his whole life. The half-sovereign had been in his windpipe for not less than six weeks.—"*The Brunels,*" *in the Quarterly Review.*

COMPETITIONS.

Stoke-upon-Trent Infirmary.—Designs for the proposed infirmary have been sent in to the committee.

Dublin Winter Garden.—We are informed that the committee have selected the design by Mr. Alfred G. Jones, of that city, and commissioned him to carry out the work.

THE MILE-STONES OF ROME.

IN a recent number of the *Builder* I read the following:—

"*Alleged Classical Discovery. Turin, Nov.* 3.—Archæologists have been pleased with the discovery, somewhere about Capua, of one of the milliaria or mile-stones formerly standing in the famous Appian Way . . . . It is rather a curious fact, that of the 130 stones erected between Rome and Capua this is the only one that has ever been brought to light."

The balustrade in front of the Capitol, or more properly the Piazza del Campidolio at Rome, is very rich with antique sculpture: the Egyptian lionesses from the Temple of Isis; the colossal statues in marble of Castor and Pollux, with their horses; the marble trophies of Marius; the statues of Constantine Cæsar and Constantine Augustus. In the same row is erected the first mile-stone of the Appian Way. The inscription is wonderfully perfect, its age being U.C. 441. It is on the right hand of the person ascending the steps; placed beneath it is this miserable distich:—

"Quæ peregrina diu steterani mensura viarum
Nunc Capitolini Culminis incula sum."

This mile-stone was found in the Vigna Naro, a little on the right out of the Porta S. Sebastiano, one Roman mile from the ancient Porta Capera. The stone is marked, "The first mile from Rome."

It may not be uninteresting to mention that at the other end of the balustrade, on the left of the stairs, is a stone similar to this, made in imitation of it. It has a bronze ball on the top which once contained the ashes of Trajan.

The Trajan column was surmounted with a bronze gilt statue of the emperor holding a golden ball containing his ashes, brought from Selencia; and this is the ball on the stone at the Capitol.

G. ALFRED JERMYN, C.E.

ECCLESIASTICAL CROSSES.

WILL you please inform your correspondent, "Cantab," that the shortest and best account of ecclesiastical crosses is to be found in the second volume of Britton's "Architectural Antiquities of Great Britain." About twenty are illustrated. Of the various monumental, church-yard, pulpit, and market crosses, I could show him prints and drawings of about a hundred, of the principal ones only. The list of these alone would fill two columns of your paper: to give all he requires would fill several pages. R.

THE PAYMENT OF ARCHITECTS AND OF THEIR ASSISTANTS.

IN the recent correspondence on this subject there is only one writer who suggests a reason why architects' assistants are underpaid,—alluding to the great number of young men who enter the profession annually. This, though doubtless one of the reasons, cannot be considered the primary cause.

If we examine the present condition of the profession, and compare the labour and profits with others, we feel at once that it is comparatively unlucrative, and that the members of the profession daily strive against each other in all matters relating to money.

One of the chief evils is our fixed commission of five per cent. No matter how eminent an architect may be, five per cent. is his recognized charge, and his talents and position realize for him no higher profit than that to be obtained by a less experienced man.* The direct result of this is that the elders of the profession accept without hesitation the most trifling commissions, to the exclusion of such of their younger brethren as decline to accept less than the proper professional fee.

This is not the case in other professions. A medical man or a lawyer arrived at a certain eminence in his profession doubles his fee without fear of the result, for he knows that he will increase his own income, and leave minor matters for his juniors to live on.

Look, for an instant, at the heavy losses annually sustained by the profession through the unlimited unpaid system of competition. Designs are advertised for, the commission on which is worth to one architect, say 200*l.* The profession responds with perhaps thirty elaborate designs, each costing its author at least 20*l.* on an average, creating, therefore, a loss to the profession of 400*l.* Competition we must, doubtless, maintain; but, on the present principle, many are found wise enough to decline to have anything to do with it. There has been of late years a definite improvement; small, yet perceptible: let us hope for more. Though there be many bright examples of men who have made themselves eminent through this system, we must not forget that, for every one who succeeds, twenty or thirty invest their capital and fail.

Touching remuneration. I find if I price out from my day-book work done for which I received (commission at five per cent.) 98*l.*, that, allowing *only* 2*l.* 2*s.* a day, of seven hours, for my own time, and 10*s.* for that of an assistant, my account ought to have been 127*l.*

If, therefore, the profession accepts such small fees, it is scarcely a matter of astonishment that the salaries of assistants are almost universally below those in other professions.

AUGUSTUS FREBE.

* This is not absolutely correct.—ED.

ARCHITECTS' ACTIONS FOR CHARGES.

Spratt v. *Durnford.*—This was an action (tried in the Court of Queen's Bench on the 29th ult., before Lord Chief Justice Cockburn), by an architect for his charges for preparing plans, taking out quantities, &c., for a house which the defendant had designed to build; but which had not, in fact, been built.

Mr. Edward James, Q.C., and Mr. Thrupp were for the plaintiff; Mr. Hannen and Mr. Martin were for the defendant.

The plaintiff stated that in 1855 the defendant had consulted him as to building a house at Blackheath on the Granville estate, and had pointed out a lot of land he should like for the purpose, but which it turned out was let to a builder. The defendant told him the class of house he desired to have built; but plaintiff was to see the defendant's wife about it, take her instructions, and prepare sketches. He prepared plans and sketches, and showed them to the defendant and his wife. The defendant said he desired not to spend more than 1,000*l.* or 1,100*l.* on the house, and the witness said it would then be necessary to reduce the size of the house, and with that view to alter the drawings and plans. The defendant then desired him to prepare plans, working drawings, and specifications, and he did so, and also at his desire got an estimate from the builder who had the land, and who had told the defendant he might have the land if he would let him build the house. The builder accordingly prepared the estimate, but before doing so required the "quantities," which, at the defendant's desire, the plaintiff said he accordingly prepared for the builder. The latter required a written agreement that he should build the house before he let the defendant have the land. The witness, however, prepared the quantities before the builder had this agreement; and in February, 1857, the estimate was given by the builder for 1,620*l.*; but it was not accepted, as the defendant thought it too high; and, indeed, as he said, preposterous. In April, 1857, the plaintiff proposed to the defendant another plot of land; and negotiations took place as to an advance of money from the trustees of the defendant's wife for the purpose of building. No such advance was made, however, as the trustees would only make it on freehold property. In 1859 the plaintiff offered some freehold land to the defendant, and suggested that the plans, &c., might be used which had so long lain dormant. Nothing came of this. In February, 1861, the plaintiff sent his bill, with a letter to the effect that he had waited a long time hoping he might have had to build the house, and that it was no fault of his that he had not, and that he had reduced his charges to the utmost. He charged 25*l.* In September, 1861, the defendant replied that he did not know he was indebted to him, and that the matter should be looked into. In November the plaintiff again applied for payment, and the defendant again replied that he had no idea he was indebted to the plaintiff. The latter applied again in January and in March, 1862, and again on the 1st of April, 1862. On the 7th of April the defendant replied that he had not been at Blackheath for months, nor got his letters regularly, and that, moreover, he saw no reason to alter his opinion that he was not indebted to the plaintiff. In July last there was a final letter from the plaintiff, in which he said his patience was exhausted, and that he now claimed the ordinary charges, which were at the rate of 2½ per cent. up to the time of going to work. This, the plaintiff said, was the ordinary rate, including plans, specifications, and contract, but not including taking out the quantities, for which the charge was 1½ per cent. These charges he calculated on the building estimate, and the total claim now came to 60*l.*

The Lord Chief Justice asked the witness how he came to charge his per-centage on an estimate which was not only not adopted, but was abandoned as enormously too high, and was so considered even by the architect, the witness himself.

The plaintiff said he had no alternative: he had nothing else to charge upon.

An architect was called to prove that 2½ per cent. was a fair charge for the plans, &c.; and that if the work were carried out it would be 5 per cent. Where the work was

not carried out it was usual to make the former charge on the estimated value.

Mr. Hannen, in addressing the jury, urged that the real arrangement was that no commission should be paid unless the matter was carried out; and he dwelt on the long time—nearly four years—which had elapsed before the claim was made.

The defendant was called to sustain this defence, and stated that he and his wife went, in the first instance, to see the builder upon the subject, as the lessee of the land; and it was the builder who referred him to the plaintiff. When he saw the plaintiff he told him in the presence of his (the defendant's) wife that the builder had sent him to see him about the house; and that he, the defendant, had told him that he objected to the expense of an architect, but that the builder said the plaintiff would make no charge if the plan was not carried out, or if "nothing came of it." He (the defendant) asked the plaintiff if he assented to that, and the plaintiff said he did so. He had distinctly declined to allow the plaintiff to negotiate for any advance of money; and yet one of the items of charge was for going to the trustees with that view.

The Lord Chief Justice.—That charge can hardly be sustained: it is scarcely within the scope of an architect's business.

Mr. Edward James said he did not insist upon it.

The Lord Chief Justice.—Did you authorize him to get some estimate from the builders?

Defendant.—No, I did not.

The Lord Chief Justice left it to the jury—first, whether the work was done on the retainer and employment of the defendant. The defence put forward to-day was easily disposed of. The evidence as to the plaintiff's promise that there should be "no charge," was capable of an obvious explanation. When the defendant first applied to the lessee of the building land, he was told that he must first have recourse to the surveyor of the estate, who was to regulate the style of building; and, being apprehensive that there would be a charge for this, was told that there would be none; that is, that there would be no charge as surveyor of the estate, for it was only in that character and capacity that the lessee of the estate would have any authority to make such a statement; not that there was to be no charge for whatever services the architect might render to the defendant. It would be unreasonable to put such a construction on it, for with such services the owner of the land could have no concern. This defence, therefore, might be discarded. The case for the plaintiff was in substance that he had been employed to do this work, and that it was through no fault of his that it had proved abortive. The real question was whether the plaintiff was employed as architect, or whether the defendant had understood that he was to be builder. If he was employed as architect to prepare the plans, &c., it would be no answer that the defendant could not get the land. But if he was himself to be builder, and chose to prepare the estimates, &c., before the land was obtained, he was premature, and could not recover. It was observable that the defendant had certainly, at the outset, objected to employ an architect; and, doubtless, having only a limited sum to lay out, would naturally desire to avoid any expense which might be spared. And this view was confirmed by the endeavours the plaintiff had afterwards made to obtain land. This, on the view suggested, was quite natural; and certainly charges made for applications of this kind could not be sustained. An architect could not properly recover for the services of a solicitor; and the bill was drawn up in a very lawyer-like manner. Supposing the jury thought there had been an employment of the plaintiff, they would have to consider what he was entitled to. There was a charge in the most approved form of an attorney's bill, — 'Seeing Mr. Glendon (the builder) on your account, applying for an agreement," &c. If the jury had ever had the misfortune to receive an attorney's bill they would recognize the style. Such was the character of several of the charges, and for such charges the jury would, no doubt, think the plaintiff not entitled to recover. If the employment was as an architect he could only recover in that character. It was for the jury to consider whether the plaintiff was entitled to recover for the "quantities."

The jury consulted together for some time, and then retired to consider their verdict, and for a long time were unable to agree. Ultimately they returned into court with a verdict for the plaintiff for 15*l*.

The Lord Chief Justice refused to certify for costs.

CAUTIONS FOR ARBITRATORS.

In Re Welsh.—In this case there had been an arbitration as between landlord, incoming tenant, and outgoing tenant; and the arbitrators having chosen an umpire, he had made two awards on separate sheets of paper, but on the same date (October 14), as to different parts of the subject-matter.

Mr. Quain moved for a rule to set the award aside on that ground; but

The Court said the two awards only made up one award in effect, and they refused a rule on that ground alone.

Mr. Quain moved, also, on the ground that the award was not final, as it awarded as to "the crop," whereas there were crops of wheat, barley, &c., and also rateage, &c.; but

The Court thought there was nothing in that, as the award was on the whole agreement and all the matters therein; and

Mr. Justice Wightman asked,—Why did you not come before?

Mr. Quain acknowledged that he could not answer that question. The learned counsel admitted, moreover, that the real objection to the award was that it gave too much, the umpire awarding 40*l*. for the crop, whereas the applicant's arbitrator swore that he had valued it at 27*l*.

Mr. Justice Blackburn.—For which reason you move to set it aside on the ground that it was on two pieces of paper, and did not include all the crops, &c.

Mr. Quain urged that the award included permanent improvements, on which the party applying had not been heard; but, as his arbitrator did not swear that he did not know it was to be decided upon,

The Court refused a rule, unless on the condition that applicant brought into court the amount his arbitrator had admitted to be the value—viz., 27*l*.

In the Matter of an Arbitration between Larchin and Ellis.—In this case, where the award was on the 1st November,

Mr. Herschell now moved for a similar rule to set it aside, on the ground that the arbitrators had refused to consider certain matters brought before them.

Mr. Justice Wightman.—They were lay arbitrators, I presume?

Mr. Herschell.—They were.

Mr. Justice Wightman.—So I supposed.

The Court granted a rule *nisi*.

CASES UNDER METROPOLITAN BUILDING ACT.

Insufficient Walls.—A case was heard before Mr. Elliott, at the Lambeth police-court, on Wednesday, in which Mr. Jarvis, district surveyor, St. Giles's, Camberwell, summoned Mr. Aldred, a builder, before the magistrate, for not complying with a notice served upon him, "to pull down and rebuild certain walls of two houses now being erected by Mr. Aldred, at Peckham, which walls were not conformable to the rules of the Building Act, Part I. clause 2, first schedule preliminary," the said walls being out of an upright.

The builder offered to build buttresses against and thicken out the said wall, but the surveyor objected to it, as he was of opinion that the works proposed would increase the evil, and the requirement of the Act would not be complied with by such additional thickness.

The magistrate ordered the walls to be pulled down and rebuilt forthwith, as was required by the district surveyor.

PATENTS CONNECTED WITH BUILDING.

Construction of Houses, Palisades, &c.—*A. P. Tronchon.* Dated 21st April, 1862.—This invention consists in forming the pieces of the framework of houses of wood, cast or forged iron, and the parts which are to be full with an iron wire lattice or trellis, and also of wood in certain cases, covered with plaster or other suitable material: the parts representing the walls are double, with a space between them to form the thickness of the walls. These spaces may be filled with sand or other materials, or with the earth dug up for forming the foundation or cellars. The partitions may be made of single trellis, without forming two thicknesses. The uprights composing the framework support the parts forming the floors composed of iron lattice; which, being coated with plaster, forms the ceilings.

Drain and other Pipes.—*C. C. Creeke.* Dated 21st April, 1862.—In carrying out this invention the patentee moulds the pipes so that their ends shall lock the one into the other and draw tightly together. The sockets and flanges which he employs may vary in form, so as to present either one or two abutting surfaces; but in all cases he moulds these ends of the pipes with wedge-shaped projections and recesses, which, by an axial motion being given to one of the pipes, shall serve to draw the ends of the pipes together, and make a secure joint; preserving, however, until the joint has hardened, the elasticity referred to. Before thus securing the pipes he inserts a suitable packing or cement between the abutting surfaces; and he also lubricates the entire surface of the socket and its counterpart; by which means, when the pipes are laid in place and screwed up, water- or gas-tight joints will be secured.

Stoves.—*R. Zimard.* Dated 24th April, 1862. One of the principal objects of these improvements in stoves is so to construct and arrange the flues and air passages thereof that the air in its passage to the interior of the building may be heated by passing through a series of pipes or passage composed entirely of earthenware.

Miscellanea.

The Graphic Society.—The first meeting will be held on the 10th, in the Flaxman Hall, University College, as usual.

The Late Mr. J. J. Laing.—We hear with regret of the untimely death of this gentleman, whose pencil has been often used in the service of the *Builder*. Some of our readers know of a work on Illuminating with which his name was connected.

Architectural Institute of Scotland.—The annual general meeting of the Architectural Institute of Scotland was to be held in the hall of the Royal Scottish Society of Arts, Edinburgh, on the evening of Friday, the 5th, when Lord Jerviswoode was to open the present session by an introductory address; and Dr. David M'Gibbon, architect, read a paper, entitled "A few Remarks on Gothic Architecture in Scotland." Of the illustrations of Scottish buildings recently issued by the Institute of Scotland, we must speak another time.

Taking out Quantities.—Complaints have reached us from several quarters as to the terms in which a firm of surveyors wrote to a number of builders asking them to state their intention of tendering for the proposed lunatic asylum, and to nominate the firm in question to take out the quantities. The letter had certainly a deceptive effect, which should be avoided on another occasion.

Ornamental Tiles for Friezes.—We have examined with much pleasure some ornamental tiles exhibited by Messrs. James & John Hill, of the Hill Pottery, Burslem, in the Conduit-street Gallery, where the Autumn collection of building inventions and materials is now being gathered together. These tiles have on them subjects from the ancient vases and other similar sources, in varied colours, and are of very excellent character, well deserving the attention of architects as affording the means for lasting and effective decoration.

McHaffie's Patent Ventilating Valve.—This valve is constructed for the purpose of admitting, to any hall, chamber, or other apartment, a regulated quantity of external air. It is self-acting, and presents an opening for the passage of a moderate current of air; but immediately a greater pressure presents itself, the fan-valve closes in proportion to the increase of pressure, and it resumes its normal position when the pressure is removed. The valve is simple in construction, and does not seem to be liable to get out of repair. It may be fixed in any opening communicating with the external air; but, where convenient, an opening near the ceiling is preferred.

Evening Classes in Houses of Business.—Sir: In "Home and Foreign Travel" (page 807) is recorded the fact of young people (members of institutes, &c.) forming "French classes." Conducting myself such in one of the suburbs, I can testify to the progress made by "mechanics" which "young gentlemen" would do well to rival. May I suggest that such classes (not simply "French" ones) might do a great deal of good if heads of houses could be prevailed upon to form them at their own establishments. A room set apart for the purpose; fuel, light, and appliances provided by the house; each party contributing a certain sum (say 5*s.* a quarter, payable in advance), would be, I dare say, a great inducement for steady young people of both sexes to utilize the evening leisure hours; and the small expense to the firm would be vastly compensated by the moral improvement of their *employés*. Should this "*idée*" seem practicable, I am prepared to make the experiment, were it but to lead the way.—H. Bouillon.

The Sanitary Condition of Cockermouth. Since our former notice of the bad sanitary state of Cockermouth, a report has been made by Drs. Bell and Dodgson to the Sanitary Committee of the Local Guardians, which fully confirms all that was anticipated as to the causes of such a state of matters. We would quote a portion of the report, but the narrative so closely resembles all other disclosures of a like order as to filthy "middens," or dust-heaps, privies, and pigsties, want of drainage, foul water, and such like, that the actual terms of the report may be readily conceived without much detail. The report states also that, although two rivers flow past and partly through the town, many parts of it are very indifferently supplied with water, even as to quantity. Saturated privies and middens percolate into pump wells through the gravelly soil, and both water and air are contaminated, so that the sanitary consequence is the prevalence of diarrhœa, which especially cuts off many children, and breeds typhoid fever, which is continually smouldering, like a fire ready to break out amongst heaps of combustibles; and even as it is, Cockermouth, and no wonder, is the most unhealthy place in the district. The report thus concludes:—"We believe that much may be done towards remedying this state of matters, and thereby diminishing the rate of sickness and mortality, by a thorough removal of all middens, cesspools, offensive pigsties, and other nuisances; by enforcing a proper cleansing of dirty lanes and yards; by the construction or repair of water channels and private sewers and drains, and by causing the latter to be properly trapped. It is also very desirable that there should be a more abundant supply of pure water within the reach of the poorer inhabitants. Although this may not be within the province of the Sanitary Committee, yet the existing source of the water supply may be rendered purer and more wholesome by the removal from their vicinity of all accumulations of decaying organic matter, which there is reason to fear at present taint some at least of the wells."

The Greyfriars' Church, Reading. — This structure is now being developed into its primitive proportions. A second appeal is made to the inhabitants to come forward more liberally and more generally in this matter, as a large sum is yet wanted. The response made to the first appeal is represented by 6,061*l.* The sum which will be required altogether is upwards of 10,000*l.*

Yew Trees, Plumstead Marshes.—In conjunction with the remarks of your correspondent, J. R., in last week's *Builder*, it may be noticed that in the construction of the Southern Outfall Sewer of the main drainage of London across the Plumstead Marshes, thousands of yew trees have been exhumed, from 8 feet to 15 feet below the present level of the marsh. The wood is perfectly sound, and bears any labour or polish that can be put on it. Some of the stems are several feet in diameter, but the majority are small. They are invariably found on the peat, and no doubt have been lying there some thousands of years, as distinctive layers of leaves, wood, nuts, &c., compose the peat; a dozen of such layers being compressed into a space of an inch.—F. E. H.

Projected New Dock Works at Liverpool.—The Mersey Docks and Harbour Board have resolved to apply to Parliament during the ensuing session for borrowing powers to enable them to prosecute extensive new works contemplated on the Liverpool side of the Mersey. The expenses of the new works and improvements on existing works are estimated at 468,686*l.*;—namely, new works on the Herculaneum estate, at the south end of the town, 176,986*l.*; warehouses at Waterloo Dock, 131,000*l.*; and alterations in the Prince's Basin, 160,700*l.* Beyond these items it is also proposed to expend 96,000*l.* in the purchase of the foreshore at the north end, from the Earl of Derby, and in the erection of a sea wall, &c. It has also been arranged that the questions of improved approaches to the river side, and of additional accommodation for the steam trade, shall form subjects of separate and subsequent applications.

Report on Gas-lamps in the City.—Mr. Haywood, the engineer, and Dr. Letheby, the officer of health, to the City Sewers Commission, have reported to the commissioners on the subject of gas consumption in the street lamps; including the question of meters and that of carburation. The result is that both light and economy would be promoted by the use of a meter to every street lamp, notwithstanding the probable expense of renting meters; and that carburation is also an improvement where naphtha of good quality and in sufficient quantity is used. The reporters state, however, that in some of the carburators in use at Moorgate-street there was nothing but water smelling of naphtha. "The United Kingdom Carburating Gas Company," whose patent process has been used, state that it produces equal light with half the ordinary consumption of gas. The reporters, however, found this to be far above the actual average; but they speak of a saving of 25 to 75 per cent., and of 1*l.* per lamp per annum, or 2,825*l.* on the 2,825 lamps within the City.

Proposed Substitute for Coal Gas. — An invention of a Mr. Mongruel, of Paris, somewhat obscurely and erroneously called a process of making gas from air, has been exhibited of late at Messrs. Le Franc & Co.'s premises, in Aldersgate-street, City. In this process, common atmospheric air is sent by pressure through a pipe, and through a vessel containing a liquid hydro-carbon, such as paraffine or naphtha, evidently, but as to which some little mystery seems to be maintained. The air thus charged under pressure with hydro-carbonaceous vapour then passes to the burner, and gives a light which is said to be cheaper by 25 per cent. than ordinary gas, though more vivid. Strictly speaking, this light is not a gas-light at all, but a very ingenious and elegant way of burning paraffine, or camphine, or some such hydro-carbonaceous liquid in the state of vapour. The air is mainly as it were the wick of the lamp or burner, charged with the hydro-carbon; and on a small scale, or where the carburator is placed near the burner, as in the exhibited instance, such a light may work well in practice; but were the air charged with the vapour at any distance from the burner, we should fear that the pipes would soon get filled with reliquified vapour, while the carburated air was materially deteriorated. We do not see, however, why "air works" might not be erected on a large scale, with mains and service pipes; while the carburator, like the meter, might be kept on the premises supplied. A compressed air company might make this a profitable branch of their business.

The Southern Main Drainage Works.—On the 28th ult. the ceremony of laying the first brick of the outfall works for the southern main drainage of the metropolis, in Erith marshes, under the contract of Mr. W. Webster, took place, in presence of a large number of persons. Mr. Moriarty, a member of the Greenwich District Board of Works, in performing the ceremony, alluded to the satisfactory manner in which the tunnel sewer had been constructed between Plumstead and Greenwich by Mr. Webster. A large number of men were immediately set to work after the laying of the first brick was completed.

Robb's Ventilating Patent.—Certain "improvements in ventilation" have been patented by Mr. John Robb, of Aberdeen. We have examined the specification in vain, however, for anything new or patentable in his apparatus or appliances, which comprise stripes of perforated material to be placed at the top and bottom of a window, which latter is to be drawn down and up a little, so as to afford the requisite openings for ventilation, while the middle space is to be closed up. The use of tubes for conducting fresh air to a fire-place or furnace, whence the warmed fresh air can be distributed, is likewise patented. Mr. Robb appears to have another patent for a gas stove, which is also used in promoting ventilation.

Lightning Conductors. — Each of the two columns of Antonine and Trajan at Rome, remarks a correspondent of "Cosmos," quoted by the *Mechanic's Magazine*, sustains a colossal bronze statue; and the columns, not being in a state of conduction with the earth, are in danger of being injured by lightning. In fact, accidents have already happened; but as yet without causing any great damage. The preservation of these monuments is a matter of interest to the whole civilized world, on account of their historical value. Professor Volpicelli, in 1848, proposed to protect these structures by means of a conductor, arranged like the one on the Duke of York's Column. From various reasons, political and otherwise, this has not yet been done.

Proposed Mode of lessening Accidents on Railways.—The many accidents which take place on railways lead to the consideration of what would be the best plan for their prevention. It will be observed, on considering the nature of that particular form of accident in which one train runs into another, that after a considerable breakage has taken place at the end at which the two trains meet, a number of passenger carriages at a given distance from the shock escape; therefore, if before the trains on each side of the passenger trains goods trains were placed they would receive the shock, and breaking the force of the blow the passenger train of carriages would escape: placing them at each end is to meet whatever end the concussion should happen to come. Old railway travellers prefer the middle carriage of a train as safest.—A. B.

Sales of House Property.—At the Mart, by Messrs. Norton, Hoggart, & Trist, freehold property, 42, Ludgate-hill, let at 225*l.* per annum—sold for 5,350*l.* By Mr. H. Snowdon: leasehold residence and plot of building ground, situate in Vaughan-road, Coldharbour-lane, Camberwell, term eighty years from 1858, ground-rent 10*l.* 15s.—530*l.* By Mr. Frank Lewis: leasehold three houses, No. 116, Wood-street, and Nos. 6 and 7, Paul's-court, Huggin-lane, Cheapside; term, Wood-street, forty-five years from 1847, at a ground-rent of 170*l.* per annum; Paul's-court, sixty-one years from 1847, at a ground-rent of 55*l.* per annum, let at 650*l.* per annum—3,630*l.* Absolute reversion, on the death of a lady aged fifty years, to four freehold houses, Nos. 1 to 4, Chapman-place, Crisp-street, Bromley, let at 78*l.* 4s. per annum—185*l.* By Messrs. Brown & Roberts: Leasehold wharf and granaries, situate in Bermondsey-wall, Bermondsey, term, sixty-one years from 1820, let at 550*l.*—1,900*l.* By Mr. Newbon: leasehold house, No. 62, Rotherfield-street, Islington, term, ninety-nine years from 1842, let at 35*l.* per annum, ground-rent, 7*l.* per annum—345*l.* Leasehold similar house, No. 64, Rotherfield street—365*l.* Leasehold residence, known as "Eaton Villa," Canonbury, term 86¾ years from 1859, let at 56*l.* 10s. per annum, ground-rent 9*l.* per annum—545*l.* At Garraway's, by Mr. G. A. Brown: leasehold residence, No. 9, Hereford-cottages, Brownlow-road, Dalston, term eighty-two years from 1862, let at 24*l.* per annum, ground-rent 5*l.* per annum—190*l.* Leasehold five dwelling-houses, Nos. 43 to 47, Orange-street, Bethnal-green-road, term 37¾ years from 1830, let at 98*l.* per annum, ground-rent 37*l.* per annum—110*l.* Improved rental of 45*l.*, secured upon the King's Arms public-house, St. George's-road, Westminster-road—730*l.*

Destruction of a Bridge by Explosive Concussion.—The *Courrier de Sainte-Etienne* mentions that on the Bourbonnais Railway, near Moulins, a goods train was on the point of passing under a stone bridge, when the boiler suddenly exploded, and the violent concussion of the air brought the bridge down on to the train. One man was killed, and other two were severely injured.

Improvements in the Neighbourhood of York Minster.—The new bridge at Lendal is progressing very well. The shields of arms are being placed in the parapet of the bridge, the Cross Keys of the See of York alternating with the White Rose of York. The Catholic chapel in Little Blake-street is going on well. Red granite will be freely used in the decoration of the interior. The masonic hall is fast approaching its outward completion; and it is said the directors of the railway company have asked Mr. Page if the new bridge at Lendal will carry a railway engine, and that he says it will; also that the block of houses in front of the masonic hall near Little Blake-street are likely to be pulled down, and a landing station formed for the railway.

Great Discovery of Roman Gold Coins.—An interesting paper was read before the Royal Asiatic Society, November 17, 1862, by Mr. C. B. Priaulx, on "The relations of Rome with India after the fall of Palmyra." In the course of the discussion, Colonel Sykes observed, "There were many proofs that in the early period of the Roman empire there was great commercial intercourse between Rome and India, one of which was the recent accidental discovery on the banks of a river in Malabar, of large quantities of gold Roman coins of the early empire. These coins were found not in hundreds merely, but in bushels full." Now I wish to put a query,—What is the river in Malabar, on the banks of which these Roman coins were found, and are we likely to have any of them to refresh the cabinets of the numismatic antiquaries of England and the Continent? I call attention to this matter, hoping it may be so, as probably there are several types new to us among them.—A. B.

Irish Marbles.—The marbles of Ireland are a valuable and unworked treasure. For all kinds of marble, except pure white, Ireland cannot be surpassed. A correspondent of the *Dublin Evening Mail* says:—"There is a marble at Dunlewey, in Donegal, which, except for its approaching a dove colour, might compare with the marbles of Carrara. It is a mere question of taste, however, and one on which there ought to be room for difference of opinion, as to whether the colour of the Irish was not more chaste and elegant than that of the Italian marble. But, leaving this point, to which I only desire to glance, there can be no controversy about the black marbles of Kilkenny, Cork, Galway, &c., the green and variegated of Connemara, and the several kinds of so many shades to be found in Armagh and other parts of the country. Neither England nor Scotland can compete with Ireland for marbles. It is probably one of the most cheering signs of the day for Ireland that notice is being taken of her marbles, and it augurs well for the future that a trade is springing up between several parts of Great Britain and this country for these valuable resources of industry."

Nineteenth Century Enlightenment.—It is scarcely credible that a vagabond finds it worth while to circulate such a handbill as this, but so it is:—"Your Destiny. Matrimony Made Easy; or How to Win a Lover.—W. E., a qualified Professor of Astrology, of many years standing in England and Abroad, one that has never failed to give satisfaction to all parties, continues to Calculated (*sic*) Nativities, for the small sum of 20 penny stamps, or Eight Questions answered for 15 penny stamps. Anything relating to the Past, Present, or Future; Love, Marriage, or any other Important affairs of life; such as when to be Married, the Name and Circumstances of the future husband, when you may see him, how you may know him, his age, and whether dark or fair. And how to win the Affections of as many as you lease (*sic*)—few can resist the charm. State age and sex, and where born. No letters will be received unless post-paid, and No Person personally consulted under any circumstances. A Stamped and Directed Envelope for the reply enclose stamps as above." The extent of the ignorance and imbecility which he looks for on the part of his public is shown by the fact that he asks to be told nothing, even as a blind, but age, sex, and place of birth, which of course would apply equally to hundreds. It really induces melancholy reflections. We will give the Oracle's address to any gentleman dressed in blue with a heavy hat who may desire to ask a few questions about W. E.'s present with a view to W. E.'s future.

St. Gregory's, Sudbury.—Great complaints are made to us, by two or three local correspondents, as to the works in the old church of St. Gregory: ancient slabs have been interfered with, they say: alterations in the stonework are threatened; and windows remain blocked up. Strong "feeling," however, evidently tinges the communications. Mr. Butterfield is the architect.

Model Dwellings in Paris. — The French Government has determined to construct a *cité modèle* on the Boulevard Mazas for unmarried workmen. The situation is in the centre of the manufacturing quarter of Paris. The proposed building is to be five stories high, and each floor is to be divided into small rooms completely separated, and to be approached by a spacious staircase. The ground-floor is to be appropriated to a reception-room or common hall, open to all the lodgers; to a restaurant or dining-room; an office for the director; and an apartment for the house-porter.

The New Bath Theatre.—We are informed by the architect of the new theatre, Mr. C. J. Phipps, says the local *Chronicle*, that the contractors have satisfactorily completed the first portion of the contract; viz., the erection of the main walls and covering, and finishing the roof. Nearly 120 men are now working at the building, independent of those in the contractors' shops at Bristol, and engaged in several sub-contracts which are being executed in London. The laying down of the stage has been commenced, having been intrusted by Mr. Phipps to Mr. Sloman, the machinist of Her Majesty's Theatre. The paintings for the ceiling and the box-fronts are in a forward state: the latter comprise subjects from twenty-four of the principal plays of Shakspeare. The incidents to be portrayed have been suggested by Mr. Charles Kean and Mr. Phelps, both of whom have expressed their entire approval of the various arrangements.

Electro Vegetation.—Every one, we dare say, has heard it said that some gardeners can produce a salad in a single night; but a paragraph is going the rounds to the effect that one can now be "produced in a few minutes," which we very much doubt. A salad, consisting of mustard and cress, says this paragraph, may be produced by means of the following process:—"Immerse the seed for two or three days in diluted oxymuriatic acid, after which sow it in a very light soil, and place over it a metallic cover; then bring it in contact with an electric machine, and the plants will be produced in a few minutes." "Oxymuriatic acid" is an old and erroneous name for chlorine; so that the paragraph may be an old one after all; but it is a curious circumstance that a French chemist exhibited in England, some years since, a mode of causing flowers to blow in presence of those whom he assembled; and this he did with a reddish water, which we have always thought was an aqueous solution of bromine, which is very analogous to chlorine. The flower-buds, of course, were not thus produced; and so must it be with the salad,—the leaf buds must be there before the electric machine is brought into play; but even thus, a few days are said to suffice in producing a salad from the seed.

New Defences at Portsmouth.—Some hundreds of men are employed at Portsdown-hill in the construction of an important line of forts, extending from Bedhampton to Fareham, by Farlington, Purbrook, and Crookhorn, three forts forming a triangle, and connected together by galleries, parapets, and ditches, excavations only being as yet made under the first contract; and by Windmill or Widley fort, where brickwork as well as excavations are in progress; by Southwick fort, the most elevated of the whole series, and the one most immediately opposite the dockyard, and which, as well as the next at Widley, is fast developing its extent and form; by Nelson Fort, which is being erected at the Obelisk; and next by Fort Wallington, which crosses fire with Fort Fareham on the opposite side of the creek. Fort Wallington is a work of great strength and extent. Fort Fareham is included in this line of forts as a defence to Portsdown on the west. Widley, Southwick, and Nelson forts, which are contracted for by Messrs. Treadwell, will be supplied with water from one reservoir formed at Southwick. The six first-mentioned contracts do not include barracks and other works, but the plans are all complete. The revetments of all the ditches will be of chalk masonry and flint. The *Times*, to which we are indebted for these particulars, says that "Portsdown bids fair, when completed, to challenge comparison as the base of a pentangular defensive plan, with the best military defensive positions in Europe."

The Value of Steam-Engines Exported.—It seems that there is a great increase in the exportation of steam-engines. In the ten months ended the 10th October, the value was 1,288,054*l.*, whilst last year it was 1,042,898*l.*

Iron Railway Carriages.—The Pennsylvania Railway Company are having iron cars constructed for use on their road. It is supposed that they will be much lighter and stronger than wooden cars, last much longer, and be much more secure from accident.

Park Church, Highbury.—On Friday evening, the 29th ult., about fifty of the workmen employed by Mr. J. W. Sawyer, contractor, accompanied by their foremen, sat down to a dinner provided for them at the White Swan Tavern, Highbury. It is gratifying to be able to state that this church, with its lofty steeple, has been completed without an accident of any kind. It was duly opened for public worship on Thursday, December 4th. Messrs. Habershon & Co. were the architects.

The "Builder's" Fire.—Sir: The "*Builder's*" fire is a very sensible addition to the comforts of winter: the only alteration I would suggest is, that the bottom of grate should be covered with fire-clay instead of iron; or the clay which is obtained from tobacco-pipe makers, called pot stuff, and sold in lumps, about 7½ inches × 4½ × 4½, for 4d., is very useful for this purpose, and for lining the backs and sides of fire-grates, when they are too large: the clay in use becomes red hot, and throws out great heat.—A. J. Baker.

New Railway Projects.—The number of plans and sections for new railways deposited at the railway department of the Board of Tarde up to eight o'clock on Saturday night before last was 206; the number being rather in excess of those deposited for the same purpose last session. The list relates exclusively to new schemes for railways; but there are, in addition, a variety of fresh projects for new bridges, harbours, ferries, and other works of improvement not included in it, and which tend to illustrate the expansiveness of joint-stock enterprise, and the unabated flow of capital throughout the country in that direction, as well as the continued public confidence that prevails in all undertakings of that description.

The City of London Pauper Lunatic Asylum, Dartford.—The works are now progressing rapidly, there being over 300 workmen employed. The first-floor joists of the east and west wings and the north part of the main building are laid, and the brickwork of first-floor carried up to the roof, which will be covered with black and red tiles. The large tower, which will be a prominent feature in the building, is 18 feet square at the base, and upwards of 60 feet in height. The two beds of stone at the summit weigh altogether about 200 tons, some of the blocks weighing seven tons each. Above this the tower will rise about 70 feet in the form of an octagon, finishing with a cornice, supported by ornamental brackets. The liquid manure and rain-water tanks are completed, the brickwork of which is all laid in cement. The well to supply the establishment is 110 feet deep and 9 feet in diameter, having eleven stages, with three huge pumps, fitted up by Messrs. Pontifex, engineers. The committee representing the corporation, accompanied by their architect, Mr. Bunning, have recently inspected the works.

The Bath School of Art.—The annual meeting of the members and friends of this School has been held in the Council-chamber of the Guildhall. There was a fair attendance. The Rev. Prebendary Rhodes, Vicar of Bathampton, in the absence of the Mayor, presided. The Chairman said that at the last annual meeting the only subject, he believed, of a painful nature which was introduced was, that there was a debt on the Society,—a debt for which, indeed, they could hardly be said to be worthy of blame; because, from almost the beginning of the Society, it had been self-supporting; and, necessarily, the maintenance of such a work must incur some heavy expenses; and they had not met with that liberality from the public of Bath which they had a right to expect. He was thankful to say that, although the debt was not entirely cleared off, it had largely diminished; and they had the best hope that, within a very short time, they would be entirely free from it. In 1861 there were in the central school 88 scholars, and in public and private schools 543, making a total of 631. In 1862 the number in the central school was 91, in public schools 580, in private schools 110, making a total of 781, being 150 in excess of the number in the previous year. They might, therefore, confidently trust that the institution would soon be self-supporting.

Society of Aqua-fortists.—Under this title, a society has been established in Paris to promote the interpretation of the artist by means of an artist as against the interpretation mechanically, as by the photographer. The society publish five plates by five different etchers. It may be something like our own etching club.

Re-Assessment of Bicester. — At a vestry meeting held to consider the propriety of nominating valuers to re-assess the parish of Bicester Market End, it was decided to advertise in the *Builder* and *Oxford Journal* for tenders from gentlemen competent to undertake the mapping and valuation of the township.

The Carlisle School of Art.—The annual meeting of the subscribers to this school has just been held in the town-hall, Mr. Bendle in the chair. The report stated that at the annual inspection, held in June, at the School of Art, eighteen medals were awarded; that two national medallions were also awarded; and that one free studentship was awarded, in addition to which fifty-two prizes of various descriptions were obtained by the students in connexion with the school. The debt materially impedes the progress of the school; but the inhabitants of Carlisle, adds the report, seem fully alive to the value of this institution, by the handsome manner in which, so far as the canvas has been made, they have responded to the call.

London Society of Wood Carvers. — This society, established in 1833, for the purpose of promoting the advancement of their art by the formation of a collection of books, prints, drawings, and casts, and to afford facilities for self-improvement and the diffusion of such information as may assist them in the practice of their art, anxious to add works of value to the library, are making an earnest appeal to all exhibitors of decorative works in the International Exhibition to aid them in forming a permanent record of it, by contributing photographs or drawings of the works they have exhibited. The society urge on the consideration of exhibitors the great benefits they would derive from such a contribution towards promoting a thorough knowledge of art decoration, as the studies such a collection would afford must exercise a beneficial influence. Communications should be made to Mr. Lock, at the society's rooms, 36, Howland-street. We shall be glad if this mention assist the society in their object.

Liability for Damage done by Contractors: Clark *v.* Metropolitan Railway Company.—This action was brought in the Court of Exchequer to recover damages for injury done to two houses at Cow-cross, by the works of the Underground Railway, a new sewer having been brought too near the houses. The expense of rebuilding the houses was estimated at 1,200*l.*, and the complainant claimed 700*l.* as compensation from the company, the difference being the increased value of the property after the rebuilding. On the part of the defendants it was submitted that the contractor who did the work was liable for any injury done to the property, and not the company. Mr. Baron Martin held that if the company employed a contractor to do certain works, that did not relieve them from responsibility for the general mode in which they had been carried on. It might relieve them from liability as to a particular piece of negligence such as that of a workman of the contractor, whereby damage was caused; because in a case of that kind the relation of master and servant would apply. In the present instance, however, he thought the company were liable. A verdict was ultimately returned for the plaintiff—damages, 700*l.*

TENDERS

For the erection of two shops, Albert-road, Woolwich. Mr. Henry J. Lanchester, architect. Quantities not supplied —

Searle	£700	0	0
Sonnex	695	0	0
Hammer	599	0	0
Coombs	498	0	0

For rebuilding shop and dwelling-house, High-street, Deptford. Mr. Thomas Fillary, architect: —

Conder	£1,300	0	0
Lungmead	1,280	0	0
Pearson	1,055	0	0
Searle	1,037	0	0
Hearle	887	0	0
Bamford (accepted)	870	0	0

For two houses for Mr. White, Gloucester-place, Walworth-road:—

Woodward	£1,160	0	0
Thomp on	1,078	0	0
Tarrant	943	0	0
Bottom	893	0	0
Perry	887	0	0
Sawyer	883	0	0

For works to be done for Mr. Hart, of 1, Great Charlotte-street, Blackfriars-road :—

Linnion	£725	0	0
Simms	670	0	0
George	651	0	0
Soker	628	0	0
Lainthtree	612	0	0
Bond	562	0	0
Dover	501	0	0
Groom	485	0	0
Cubitt	480	0	0
Marshall	447	0	0

For alterations and additions to the Berks Military Depôt, at Reading. Mr. Joseph Morris, architect. Quantities not supplied :—

Nadir & Watson	£1,170	0	0
Sharpington & Cole	1,167	0	0
Sheppard	1,159	0	0
Wheeler & Sons	1,120	0	0
Simmonds	1,075	12	0
Strong	1,049	0	0
Matthews	1,043	0	0
Biggs	969	0	0

For building three houses, Bonner's-road, Victoria Park, for Mr. R. Entwistle. Mr. Duvall, architect. Quantities not supplied :—

Forrest	£1,187	8	0
Case	1,170	0	0
Simmons	1,145	0	0
Holgate	1,131	0	0
Rabey	1,129	0	0

TO CORRESPONDENTS.

J. C.—J. R. H. (Mr. Black's paper on Holbein's death has not yet been published by the Society of Antiquaries. We should not be surprised to learn that the will found was that of another Holbein; and yet Mr. Black is a man of great precision).—S. N.—T. A. S.—Pupil (must look to be booked).—Temperance Blinds (R. S. asks for more information as to the best materials for painting a transparent blind to show at night).—Inquirer (Arnott's).—J. H. H.—J. M. G. (we cannot reply without seeing view).—J. W. S.—J. T.—H. S. R.—Mr. W.—G. A. J (letters sent on Thursday can scarce'y receive attention).—C. L.—Mr. E.—T. H.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue later than **FIVE o'clock, p.m.,** *on Thursday.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

TO SUBSCRIBERS.

CLOTH CASES for binding the Volume of the present year are NOW READY, and may be had at the Office.

Price Two Shillings and Ninepence.

ADVERTISEMENTS.

MY HUSBAND, JOSEPH HEATH, Carver in Wood and Stone, has left me and two children quite destitute. He is a man of middle stature, dark complexion, very prominent eyes, wears moustache and neglected beard; is forty years old, a native of Birmingham, and was assuming a different name when last I heard anything of him. His employers, or any one who knows of his whereabouts, are earnestly requested to communicate with his unhappy wife. SARAH HEATH.

JOSHUA WILSON, deceased.—In pursuance of the Act 22nd and 23rd Victoria, cap. 35, intituled "An Act to further amend the Law of Property, and to relieve Trustees," notice is hereby given, that all Creditors and other persons having any claims and demands upon or against the Estate of JOSHUA WILSON, late of Allington-place, Back-road, St. George-in-the-East, in the county of Middlesex, Builder, deceased, who died on the 10th day of November, 1861, by her Majesty's Court of Probate Principal Registry, to Mr. ANDREW WILSON, of Surrey cottage, Bow-road in the county of Middlesex, Architect, and Mr. JOHN ALEXANDER WILSON, of 33, Great Tower-street, in the city of London, Ship and Insurance Broker, the Executors of the said Joshua Wilson, are required to send in the particulars of their said debts, claims, or demands, to the said Executors, or to us their Solicitors, on or before the 31st day of JANUARY next, or that immediately thereafter the said Executors will, at the expiration of the last-mentioned time, proceed to distribute the Assets of the Testator among the parties entitled thereto, having regard to the debts, claims, and demands only of which they shall then have had notice. And all persons owing any debt or not to the said Testator are requested forthwith to pay the same to the said Executors, or to us the undersigned on their behalf.—Dated this 29th day of November, 1862.

MORRIS, STONE, TOWNSON, & MORRIS,
Moorgate-street Chambers, Moorgate street, London,
Solicitors for the said Executors.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES :—
13 FENCHURCH BUILDINGS, FENCHURCH-STREET, E.C.

Mr. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN, ARTISTIC COLOURIST, and LITHOGRAPHER,
No. 21, MONTAGUE-STREET, RUSSELL-SQUARE, W.C.

BUILDERS.—PARTNER.—WANTED, in an old established Building Business, a PARTNER, who has a thorough knowledge of the business, and can command capital, say from 800*l.* to 1,000*l.*, to fill a vacancy caused by death.—Address, J. P. 12, Montpelier terrace, Wellington road, Stoke Newington.

PARTNERSHIP.—£1,000.—WANTED, an intelligent and experienced Person to join the Advertiser in the BUSINESS of a BUILDER, situate in the centre of Belgravia, London, and established above twenty-five years. The above presents an eligible opportunity for any one to establish himself in a good business, as the Advertiser is perfectly competent to manage all the practical portion of the concern.—Address, "BUILDER," Mr Godwin's Offices, No. 3, Halkin-terrace, Belgrave-square.

THE Advertiser, with a small capital, wishes to become a WORKING PARTNER in an established JOBBING BUILDER'S BUSINESS.—Address, S. S. King's-road, Orchard-street, Westminster, S.W.

WANTED, a practical YOUNG MAN, a Carpenter or Bricklayer by trade, who can command 40*l.* to 500*l.* his own, to JOIN the Advertiser in carrying out a very profitable undertaking, with mutual interest in the matter. Address, W. B. Post-office, Bridge-road, Westminster.

TO BUILDERS, ARCHITECTS, AND SURVEYORS.
FIRE and LIFE AGENTS WANTED for a wealthy Insurance Company of sixty years' standing. Commission liberal.—Application in the first instance to F. J. care of Mr. VICKERS, 2, Cowper's-court, Cornhill, E.C.

PORT and HARBOUR of BELFAST.—The Harbour Commissioners of Belfast having resolved to appoint a RESIDENT ENGINEER, to assist in superintending the extensive works, about to be carried out for the Improvement of the Port and Harbour of Belfast, request that all persons who may be desirous of becoming candidates for the appointment will lodge their applications and testimonials with the Secretary to the Commissioners, on or before 10th DECEMBER next. In making their selection, a decided preference will be given to such candidates as may have had experience in similar works to those which are now in contemplation. The salary to be 300*l.* per annum.—Further particulars may be obtained on reference to the Secretary.

WILLIAM THOMPSON, Secretary.
Harbour Office, Belfast, 29th October, 1862.

TO BELLHANGERS
WANTED, a good WORKMAN in the BELLHANGING line.—Apply to Mr. WEEKS, 126, King's-road, Chelsea.

WANTED, a Young Gentleman as IMPROVER in the DRAWING Department, for two or three years. No premium required.—Apply to SEARLE, SON, & YELF, Architects, 4, Bloomsbury-place, W.C.

TO PARENTS AND GUARDIANS
WANTED, in an Architect's Office in town, a PUPIL, who has some knowledge of drawing. Premium moderate.—Address, ARCHITECT, care of Mr. Patching, Newsvendor, Putney, S.W.

WANTED, by an extensive Building Firm in the City, a GENERAL WALKING FOREMAN. None but three of first-rate qualification need apply.—Address by letter only to Messrs. FIELD & CO. 136, Minories, stating references, &c. A liberal salary will be given.

WANTED, in a Glass-cutter's Shop, a strong, active, respectable youth: a slight knowledge of brass-work required. Character must bear the strictest investigation. Apply, after Monday, to Messrs. WATKINS, 8, New-cut.

TO BUILDERS AND CONTRACTORS.
WANTED, by a practical Carpenter and Joiner, an ENGAGEMENT to take the Charge of a Job, or as General FOREMAN.—Address, H. W. Albion Dining-rooms, 24 Fish-street Hill, E.C.

TO CIVIL ENGINEERS, SURVEYORS, &c.
WANTED, by a Young Man, an ENGAGEMENT in an Engineer and Surveyor's Office. He can survey, level, draw plans, &c. Salary no object.—Apply to J. S. Post-office, Culworth, near Banbury, Oxon.

TO PLUMBERS AND BUILDERS.
WANTED, by a steady Young Man, a SITUATION as PLUMBER. Can do plain sine work.—Address, P. S. 48, Drury-lane, London.

WANTED, a SITUATION, by a first-class Foreman of Bricklayers. Can take the entire charge of any Job. Age 42. Active and steady. First-class references and testimonials.—Address, A. B. 18, Fox-place, Sandy-hill, Plumstead, Kent.

TO OWNERS OF HOUSES, &c.
WANTED, by a respectable, good, practical hand, of twenty years' experience at the GENERAL REPAIRS of HOUSES, Employment to collect Rents, and Execute the Repairs of Houses or Factories, at moderate wages. Good reference given. Town or country.—Address, A. B. care of Mr Smith, News Agent, 5, Surrey place, Elephant and Castle, Newington.

WANTED, by the Advertiser, a practical Plumber, constant EMPLOYMENT, or a Job.—Address, W. L. 25, Stanhope-street, Caledonian-road.

WANTED, by a Young Man, a SITUATION in a Builder's Office. Five years' reference from the firm he is about leaving.—Address, W. Z. S. 16, Albert-terrace, Bath's pond, Islington, N.

TO DECORATORS, GRAINERS, &c.
WANTED, by a Young Man, aged 21, an ENGAGEMENT, for one or two years, as IMPROVER to the GRAINING and DECORATING BUSINESS. Has been thoroughly taught practically, and wishes for experience more than premium. Address, Builder, Wimbledon.

TO BUILDERS AND CONTRACTORS.
WANTED, by a thoroughly practical Man, a SITUATION as SHOP or GENERAL FOREMAN. Can take out quantities, measure up work, and is a thorough hand at getting out joinery. Highly recommended by late employers.—Address, W. N. M. Office of "The Builder."

TO BRICKMAKERS AND BUILDERS.
WANTED, by the Advertiser, a RE-ENGAGEMENT, as BRICKFIELD FOREMAN. Practical in clamp and kiln work. Good reference.—Address, J. H. Oak Shade, near Leatherhead, Surrey.

TO BUILDERS, PLUMBERS, AND OTHERS.
WANTED, by a respectable Young Man, a SITUATION as PLUMBER, and would fill up his time with painting and glazing, if required. Good reference given.—Address, C. H. Office of "The Builder."

WANTED, a RE-ENGAGEMENT, by a first class Clerk of Works. Can prepare working drawings, measure work, write specifications, &c.—Address, CLERK of WORKS, 19, Northchurch-place, Windsor.

TO ARCHITECTS.
WANTED, by a Young Gentleman, aged 25, a permanent SITUATION, in a first class Architect's Office. Has had considerable experience with the usual routine of business, and can assist in taking out quantities, measuring up works, is a good draughtsman, and has a good reference. Salary moderate.—Address, A. B. Carlton, near Newmarket, Cambridgeshire.

TO PLUMBERS AND OTHERS.
WANTED, a SITUATION as PLUMBER or THREE-BRANCH HAND. A reference can be given if required.—Address, A. Y. 4, Park terrace, Cornwall-road, Brixton-hill.

WANTED, by a good PLUMBER, EMPLOYMENT. Will fill up his time in painting and glazing. Address, W. W. 8, Park-crescent Mews West, Marylebone-road.

TO BUILDERS AND STAIRCASE HANDS.
WANTED, EMPLOYMENT, by a Young Man. A first-class joiner and good staircase hand. Reference from present employer. Town preferred.—Address, J. N. Mr Kiellor, Fox lane, Kingsland-road.

WANTED, a RE-ENGAGEMENT in an ARCHITECT'S and SURVEYOR'S OFFICE by a Young Man who, for the last three years and a half, has had the management of an office. Can prepare drawings from sketches, assist in taking out quantities, &c. Nineteen years of age. Character for industry, ability, and good conduct unimpeachable.—Apply to A. L. Westerton's Library, Knightsbridge, S.W.

WANTED, a SITUATION as SHOP FOREMAN of JOINERS in a large firm, as the Advertiser has been accustomed to superintend a first-rate business. References good.—Address, X. Y. Z. at Mr. H. Brown's, Surveyor, 14, Bishop's-gate-street Within, E.C.

TO BUILDERS AND CONTRACTORS
WANTED, by a thoroughly practical Young Man, a SITUATION, in a Builder's or Contractor's Office. Can prepare estimates, working and finished drawings, take out quantities, and perform all office duties, &c. For particulars, apply C. G. P. 14, Garnault place, Clerkenwell, E.C.

WANTED, by the Advertiser, aged 24, an ENGAGEMENT as BUILDER'S CLERK. Writes a good hand, is a fair draughtsman, and accustomed to office duties.—Address, H. S. 5, Wellington terrace, Cold Harbour-lane, Camberwell.

TO ARCHITECTS OR BUILDERS
WANTED, a RE-ENGAGEMENT as DRAUGHTSMAN and GENERAL ASSISTANT, by a Young Man of considerable experience.—Address, A. Z. Post-office, 98, Jermyn-street, S.W.

AS PLUMBER AND GASFITTER
WANTED, a SITUATION. Can do painting and glazing. Good reference if required.—Address, S. WOOD, 4, Bridge-crescent, Kilburn-gate, N.W.

TO CONTRACTORS, CARMEN, AND OTHERS.
WANTED, by an experienced middle-aged MAN, a SITUATION as MANAGING FOREMAN, or to Take the Entire Charge of Horses, at home or abroad. Nine years' character from last employer.—Address, FOREMAN, No. 14, Forest-row, Dalston.

TO CIVIL ENGINEERS, CONTRACTORS, AND BUILDERS.
WANTED, by the Advertiser, who has had much experience in the construction of docks, railway and Government works, EMPLOYMENT. Is at present engaged, but also well acquainted with estimating; labour and materials; measuring up, setting out, level ing, surveying, drawing, &c.; has no objection to employment in an office.—Address, F. B. Office of "The Builder."

THE Advertiser (not in the trade), having been taken for a bad debt 1,180 pieces of PAPER HANGINGS, of excellent quality, is willing to SELL the WHOLE, or a LARGE PORTION, at an exceedingly low price.—Apply to Mr. H. G. HAYWOOD, 10, Old Jewry-chambers, E.C.

TO BUILDERS, &c.
THE Advertiser, a respectable middle-aged Man, is open to an ENGAGEMENT as WORKING FOREMAN of PLASTERERS. Can give unexceptionable references, if required, to both London and country architects.—Address, W. H. B. Post-office, Towcester, Northamptonshire.

TO ARCHITECTS, SURVEYORS, &c.
THE Advertiser, who is a fair Draughtsman, quick at figures, abstracting, and billing, &c. is desirous of an ENGAGEMENT. A Quantity Surveyor's Office preferred.—Address, J. E. S. 33, Edward-street, Portman-square, W.

TO ARCHITECTS AND BUILDERS
THE Advertiser, a CARPENTER and JOINER by trade, aged 40 years, wishes for a RE-ENGAGEMENT as CLERK of the WORKS, or General Foreman in a Builder's Firm, to take the full Management of Out-door Jobs on a large scale, having had great experience in the above capacities, and can have first class reference from present employer as clerk of works, the last seven years character and return of one of the largest building firms in London. Well understands drawings and specifications, and can take out working and detail drawings if required. No objection to the country.—Address, M. D. B. 45, Augustus-street, Cumberland Market.

TO ARCHITECTS, BUILDERS, AND OTHERS.
THE Advertiser OFFERS his SERVICES in PREPARING all kinds of PLANS, SPECIFICATIONS, PERSPECTIVES, Lithographing, Letter Drawing, making Surveys of Property, Taking out Quantities, Valuing, &c. High references given. Terms moderate.—Address, E. S. 83, Parkstreet, Camberwell.

TO LAND SURVEYORS.—The Advertiser, who has served his articles with a land agent and surveyor, is willing to assist in surveying, or would be glad of a few months' engagement in office where there is opportunity to be useful and improving; and to attain this object, offers his services gratuitously for a term, to be agreed upon.—Address X. Y. Mrs Hinds's, Northgate, Newark, Notts.

TO ARCHITECTS, &c.
CLERK of WORKS, or MANAGER, on a Gentleman's Estate, by a thoroughly Practical Man, 36 years of age. Has superintended some of the best Gothic Jobs in London. Salary moderate.—Address, J. W. Office of "The Builder."

TO ARCHITECTS, BUILDERS, &c.
A QUANTITY SURVEYOR, Measurer, and Estimator, who is a good draughtsman, and has had sixteen years' experience in the building trade, desires EMPLOYMENT, either temporarily, partial, or as Clerk of Works on a large Job.—Address, E. J. F. Office of "The Builder."

TO ARCHITECTS, SURVEYORS, AND BUILDERS
A QUANTITY SURVEYOR, MEASURER, and ESTIMATOR, of twelve years' experience in the various works connected with house and general building, is desirous of meeting with an engagement. Would undertake the measuring, estimating, pricing bills, quantities, making drawings, writing specifications, superintending, &c. Satisfactory references given.—Address, S. V. R. Office of "The Builder."

TO ARCHITECTS, BUILDERS, &c.
A GOOD DRAUGHTSMAN & COLOURIST wants EMPLOYMENT. Is well acquainted with domestic [illegible]. Has a knowledge of land and timber measuring, and a thorough, practical knowledge of [illegible]. No objection to the country. Salary moderate.—Address, LANTAN, Office of "The Builder."

TO BUILDERS AND IRONMONGERS.

A FIRST-RATE BELL-HANGER is open to an ENGAGEMENT, or as Foreman of Smiths. Has a thorough knowledge of all the branch es of the house line, and can estimate and take out working drawings.—Address, M. R. B. Office of "The Builder."

A CLERK of WORKS.—A thoroughly competent CLERK of WORKS wants a RE ENGAGEMENT after Christmas.—For preference and terms apply to X. Y. Post office, Stockton-on-Tees.

A GOOD BRICKLAYER is open to an ENGAGEMENT as FOREMAN or otherwise. Is well acquainted with plans and setting out; also jobbing and repairs. Could look after the repairs of an estate. Town or country. Wages moderate.—Address, A. D. Office of "The Builder."

TO ARCHITECTS.

A N Englishman, having just completed an engagement with a gentleman under Government in Ireland, desires a RE-ENGAGEMENT in England. Is good and quick draughtsman, and can make all necessary detail and working drawings, perspectives, &c with a knowledge of surveying and taking out quantities; and can photograph the works in execution or drawings. Good testimonials, &c.—Address, ARCHITECT, General Post-office, Dublin.

TO ARCHITECTS.

A COMPETENT ASSISTANT having spare time each day, would be glad to MAKE FINISHED or DETAILED DRAWINGS. Address, E. C. G. 2, Crowndale-place, Oakley-square, N.W.

TO CIVIL ENGINEERS, SURVEYORS, CONTRACTORS, &c.

AN ASSISTANT, acquainted with levelling and surveying, and good practice in general, and detail drawings and plans (including Parliamentary), specifications, estimates, quantities, and superintending works, desires an ENGAGEMENT. Opportunities of improvement in the two first items, and a permanency, more than salary, his principal objection to offer. Excellent testimonials.—Address J. A. F. Office of "The Builder."

TO ARCHITECTS OR BUILDERS.

A YOUNG GENTLEMAN who has been in an Architect's Office three years wishes an ENGAGEMENT in a London Architect or Builder's Office as an IMPROVER. A small salary only required.—Address, W. F. 79, St. Thomas-street, Portsmouth.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is conducted by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the handles.
Also Manufacturers of the Patent India rubber Knife-boards, Cocoa Nut Matting, Mats, &c. &c.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
Turpentine, 10 per Gallon.
Fine Pale Oak Varnish, 8s. per Gallon.
For cash, at EDWARD PRICE'S Oil and Colour Warehouses, 40, Upper Ely-street, and 145, Chichester-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood, in all the variety of tone and colour, the same as used by himself.
Full particulars forwarded on application to his sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Who respectfully invite attention to their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest Quality and at the Lowest Prices.
Agents for Kershaw's Graining Machines.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, as will frequently cost of grain in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufactory, 40, Beak-street, Marylebone, London, W.
N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post office or order for 2s.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1760.
KENT'S BRUSHES have been celebrated for the superior quality for the last eighty four years, and may always be depended upon as the best that can be made.

PRIZE MEDAL 1862.

HAMILTON & CO.
No 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Graiuers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 6d. per gallon; Boiled Oil, 3s. 10d.; Turpentine, 10s. per gallon; Fine Pale Oak Varnish, 8s. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

MINTON & CO.
Have REMOVED from ALBION PLACE, BLACKFRIARS, TO 89, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH. The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

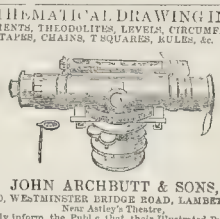
IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO'S Pattern Book, designed for M. Digby Wyatt, esq., together with a special design and estimate adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.
May be seen at 62, Broad-street Buildings, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.
London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for the WARE is REMOVED to No 21 Wharf, Macclesfield-street North, City road Basin, N. Finally, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and finally, that the "Reports of the Juries," page 681, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known as Long as "The Talories," Tunstall, Staffordshire, as the first of the kind in the world.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.
Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s and 7s 6d.; 45-inch, 8s 6d and 10s 6d; 22-inch, 2s. 8d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN,
LONDON, W.C.
Price 2s. 6d. post free.
STANLEY'S IMPROVED DRAWING PEN.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

CROGGON and COMPANY,
Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT,
For Damp Walls, and Lining Iron Houses.
DOWGATE HILL, London; and 2, GOREE PIAZZA, Liverpool.

TARPAULINS, MARQUEES, &c.
for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS
TARPAULINS for COVERING WORKS.
SCAFFOLD and HEMP ROPE FALLS.
AWNINGS for FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.



SOLID PARQUET FLOORS.
ARROWSMITH'S PATENTED,
From 1s. per foot, in various woods, inch thick, grooved, engued, and keyed together, not screwed.
For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.
SHOW ROOMS,
89, New Bond street, W.

SHOWELL'S
PATENT WATERPROOF GLASS ROOFS,
Address—17, PRINCESS-STREET, MANCHESTER.

ARTISTS' IMPROVED STUDIO EASEL. Will take Canvasses from 6 inches to upwards of 10 feet high. Powerful winding up movement; steady full forward ditto. Very complete, simple, strong, and efficacious.—WINSOR & NEWTON, Manufacturers, 38, Rathbone-place, London.

TO CHURCHWARDENS, MILL PROPRIETORS, and OTHERS.—GEORGE FRITH, BUILDER, &c. Coventry, begs respectfully to call the attention of the above parties to his method of REPAIRING CHURCH SPIRES, CHIMNEY-SHAFTS, and other elevated structures, without the expense of ladders or scaffolding. Church spires taken down and rebuilt, pointed, repaired, &c. Chimney-shafts repaired, pointed, and new caps fixed. Fly vanes and all kinds of lightning conductors applied. Estimates given. References from architects, engineers, &c. Circulars illustrating the principle and containing testimonials sent free on application as above.

HAY'S PATENT WATERPROOF GLUE and INDIA-RUBBER VARNISH.—TO ARCHITECTS, BUILDERS, HOUSE PROPRIETORS, &c. &c. The Waterproof Glue makes an admirable cement for wet foundations, to prevent water rising, and the Varnish will enable damp walls to be papered over directly.
Copy of a letter from Mr. T. E. Owen, architect, Southsea:—
"I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The varnish has succeeded better than any article I have known as an anti-damp, the damp wall being covered with it before papering or painting. If the plastering be sodden and rotten, it should first be cemented with cement. I have used this material successfully for tank-work."
To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos-street, Portsmouth. Mr. GEO. WEEKS, Manager. GEO. C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

GLUE.—PRIZE MEDAL, 1862

PROCKTER & BEVINGTON are compelled (in consequence of many imitations), to acquaint dealers and consumers, that they are the ORIGINAL and ONLY manufacturers of
IMPERIAL GLUE
who have obtained a Prize Medal.—Sold by all respectable Ironmongers and Oilmen.
Works: No. 124, Grange road, Bermondsey, London, S.E.

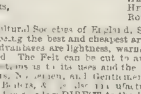
SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
Pupils Received at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms: The Course of Three Months, Two Guineas. No Extra Charges. 24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. &c. Established by Messrs. HYDE, SMITH, & LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing, Perspective, Isometrical, Oblique, and Model Drawing; Making Finished and Working Drawings; Preparing Specifications, Bills of Quantities, Estimating, Book-keeping, &c. &c. Terms:—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Parallel Rules, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Agency, limited), 71, Fleet street, London. ROBERT M. LATHAM, Secretary.

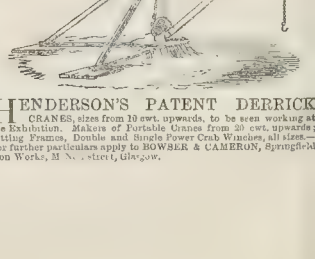
TO ARCHITECTS AND SURVEYORS
GUYER & COMPANY, Lithographers and Printers, Grocers' Hall Court, Poultry, E.C. beg to invite attention to the resources of their Establishment above, for LITHOGRAPHING and COPYING BILLS of QUANTITIES, Specifications, Detail Drawings, &c. &c. Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly engaged on the premises, they are enabled to guarantee superiority of style, correctness, and expedition. Specimens and Lists of Charges, post free.
N.B. Any number of copies of quantities or specifications lithographed in a few hours, and if the drafts from the country be received by the morning's post, the copies required can be returned the same evening.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1852

By Her Majesty's  Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,
Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF WORKS,
HONOURABLE EAST INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S BOARD OF WORKS,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing: also used for real slate at the Royal Agricultural Society's House, in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. In packages of ONE PENNY PER SQUARE FOOT. Supplied with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of the most eminent in the kingdom, from many Peers, Bishops, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the country. DRY HAIR FELT, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. is the effect. The TRADE are requested to send their Orders DIRECT to the FACTORY, as the safest means of being supplied with the Genuine article. Sold in Rolls of 32 Yards by all Oilmen and Builders' Merchants throughout the Kingdom.
Foreign and Colonial Orders to be addressed to McNEILL & CO'S Manufactory, LAMB'S BUILDINGS, BUNHILL ROW. Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOT, CHOBHAM, and CURRAGH. About Eight Millions of Feet; also the GREAT EXHIBITION BUILDING of 1851. A liberal Discount allowed to the Trade.

PRIZE MEDAL AWARDED
PRACTICAL UTILITY, MODERATE COST.



HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards, Setting Frames, Double and Single Power Crab Winches, all sizes.—For further particulars apply to ROWSER & CAMERON, Springfield Iron Works, Morrison-street, Glasgow.

WESTMINSTER MARBLE WORKS.—T. H. HANKEY & COMPY., Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries—Earl-street, Horseferry-road, Westminster.—The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney-piece in the world.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent-street; and 29, 30, and 31, Warwick-street, W.
EDWARDES, BURKE, & CO. PROPRIETORS.
The largest and most superior Stock of Chimney Pieces in Europe on view at the above-named Establishment.
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

WILLIAM S. HINE'S DEVON MARBLE WORKS, TEIGNMOUTH.
Estimates furnished for all descriptions of Marble Work to which the Devon Marbles are applicable.
Specimens at the South Kensington Museum.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WYBEN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION
THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them
Communications to be addressed to the Secretary, No. 24, St. James's-street; or to Mr. THOMAS CARKEEK, 84, King-street, Manchester, who is sole agent for Liverpool and Manchester.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 37, Millbank-street, London, S.W.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slab in Parkspring, Harehill, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Stock. Carves as specified direct from the Quarries. Prices and specimens forwarded on application.

BELLMAN & IVEY, GENERAL and ORNAMENTAL PLASTERERS, Manufacturers of SCAGLIOLA MARBLE
SUPERIOR PLASTER OF PARIS.
This Plaster, made expressly for their own business, is of excellent quality, and its extreme lightness in weight ensures a saving of 30 per cent. in use, from its covering one-third more superficies than the general plaster.
PRIZE MEDALS
were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862.
PLASTER WORKS, 3, BEDFORD-STREET, LIQUORPOND-STREET, LONDON, E.C.
SHOW ROOMS AND OFFICE,
14, BUCKINGHAM STREET, PORTLAND-ROAD, LONDON, W.

PORTLAND STONE and MARBLE MACHINE SAWING MILLS.
SAWS of the best quality, of any length, width, or thickness.
Manufactured by ELI RICHARDS, 95, New Park-street, Southwark.
The Trade supplied on terms as low as any house in the kingdom.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards, CUT by Steam Power, and Delivered into Railway Trucks at Weymouth Last of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset.

TO BUILDERS, STONE-MASONS, and OTHERS.—FOR SALE, a Modern and nearly New PORTLAND STONE STAIRCASE, containing 19 steps, 4 feet wide, with massive handrail and iron balusters complete, and Portland landings. TO BE SOLD, a bargain.—Can be seen at the Hungerford Market House, now being pulled down, in Villiers-street, Strand.—Inquire of the FOREMAN working the bricks; or of W. CROAKER & SON, Building Material Dealers, Great Dover-street, Borough. Also 200,000 nearly-new STOCK BRICKS FOR SALE

RANSOME'S IMPERISHABLE SILICEOUS STONE.
ARCHITECTURAL DETAILS, BALUSTRADES, CHIMNEY-PIECES, FOUNTAINS, VASES, and every description of Garden Decorations executed to order; and an extensive stock on hand at reduced prices.
Filters and Filtering Slabs for Domestic or Manufacturing purposes
For estimates and priced illustrations and inspection of stock, apply to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster, or Patent Stone Works, Ipswich.

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wrexton Wrawen, near Henley-in-Arden, are working a Quarry of this very superior and durable Stone (belonging to Cefn Range), at Phapower, Nant, near Wrexham. It is used extensively in Liverpool, Manchester, &c. and can be supplied at reasonable rates at any railway station.

LITTLE CASTERTON FREESTONE, Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER SIMPSON & SONS, 29, Saville-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.
SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.
KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

ARMANI AND CO.
IMPORTERS DIRECT FROM THE MINES OF
PRIZE MEDAL, Seyssel-Frangy (Savoy), Seyssel-Volant-Perrette (Savoy), Maestu and Montoria (Spain), Bastennes (Landes), &c. GOLD MEDAL,
LONDON, SEYSSEL ASPHALTE, PARIS,
AND BY H.M.'S ROYAL LETTERS PATENT,
MANUFACTURERS OF
1851. METALLIC LAVA. 1844.
FOR PRICE AND PARTICULARS APPLY AT THE OFFICE, 6, GUILDHALL-CHAMBERS, BASINGHALL-STREET.
MATERIALS READY PREPARED FOR WORKS SOLD FOR ENGLAND & EXPORTATION.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
Apply to Mr. MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION
MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application.—Address,
No. 1, BOLD-TERRACE, CHESTER.

ROBERT WHITE, SLATE MERCHANT, SHEFFIELD.
ROOFING SLATES, CISTERNS, and SLABS supplied in quantities of not less than five tons, from the Depôts, Bangor Mold Junction and Garston.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thame

ACCIDENTS ARE UNAVOIDABLE. Every one should therefore provide against them.
THE RAILWAY PASSENGERS' ASSURANCE COMPANY
Grant Policies for Sums from 100l to 1,000l assuring against ACCIDENTS OF ALL KINDS.
An Annual Payment of 3l. secures 1,000l. in case of DEATH by ACCIDENT, or a Weekly Allowance of 6l. to the Assured while laid up by injury.
Apply for Forms of Proposal or any information to the PROVINCIAL AGENTS, the BOOKING CLERKS at the RAILWAY STATIONS, Or to the HEAD OFFICE, 64, CORNHILL, LONDON, E.C.
102,317l. have been paid by this Company as COMPENSATION for 26 Fatal Cases, and 5 Cases of Permanent Injury.
The SOLE COMPANY privileged to issue RAILWAY JOURNEY INSURANCE TICKETS, costing 1d. 2d. or 3d. at all the PRINCIPAL STATIONS
Empowered by Special Act of Parliament, 1849.
64, Cornhill, E.C. WILLIAM J. VIAN, Secretary.

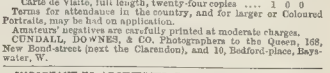
MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION
(Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l to 1,000l upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY TIMBER, WINE, and SPIRIT WARRANTS.
BANKRUPTS' and INSOLVENTS' CASES CONDUCTED.
Balance-sheets Prepared, and Meetings of Creditors Convened
Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT, 17, Moorgate-street, Bank, London.

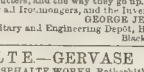
THE WINDSOR SCHOOL DESK (Patented).
Class XXIX. International Exhibition.
WORTH ATTENTION. Each Group seating Twenty-four, transforms into
6 Backed Seats } for { Meetings, Services.
3 Level Tables and Seats } 24 { Treats, School Reading-rooms.
2 Square Classes } for { Sunday Schools.
Sanctioned by Government. In use at Royal Free Schools, Windsor, and fifty others. Specimens at Kensington Museum. Illustrated Circular and Testimonials from ALFRED WILLIAMS, Windsor.

MESSRS. CUNDALL, DOWNES, & CO. undertake to COPY PICTURES and other WORKS of ART; Maps, Engineering Plans and Drawings; Daguerreotypes and other Photographs; and either to enlarge or to reduce them.
They are likewise prepared, at a day's notice, to photograph Country Houses, Interiors of Mansions, Churches, Engineering or Building Works in progress, in any part of the country.
Plans or Pictures can be copied to any size up to 24 inches by 24 inches.
Portraits are taken daily at 168, New Bond street, on the following terms:—
Miniature Portrait, ten copies £0 5 0
Miniature Portrait, twenty copies 0 10 0
Carte de Visite, full length, ten copies 0 10 0
Carte de Visite, full length, twenty-four copies 1 0 0
Terms for attendance in the country, and for larger or Coloured Portraits, may be had on application.
Amateurs' negatives are carefully printed at moderate charges.
CUNDALL, DOWNES, & CO. Photographers to the Queen, 168, New Bond-street (next the Clarendon), and 10, Bedford-place, Bayswater, W.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices
MESSRS. HERBERT, MODELLERS, 242, EUSTON ROAD, ST. PANCRAS.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, and Blackfriars-road

ASPHALTE.—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1834.—TRINIDAD, SEYSSELL, and BRITISH ASPHALTES, manufactured by steam power, laid down in the best manner, or supplied in any quantity. Information for using forwarded with material. Parties ordering, referring to this paper promptly attended to. Estimates given for every kind of the above work.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED 1838
For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp or vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fenchurch-buildings, London, E.C.
Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

DURABILITY of GUTTA PERCHA TUBING. Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter from SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"Ventnor, May 16, 1862.—I have before received this satisfactory report respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers exceedingly. Many workers and other persons have since examined it, and there is not the least appearance of its perishing in the way, for several years, and I am informed it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF ROAD, CITY-ROAD, LONDON.

A TRIANGLE WANTED, with windlass, iron blocks, and chain complete, equal to five tons.—Full particulars and lowest price, address A. A. Pawsey's Newspaper Office, Exeter-street, Sloane-street, S.W.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation. CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.
G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation, with Wrought-iron Wheels.
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

BATH STONE OF THE BEST QUALITY.

PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

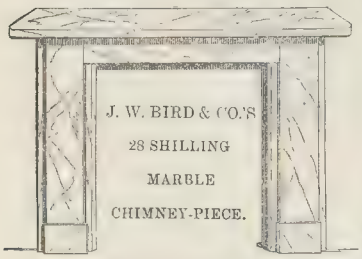
Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

MARBLE AND STONE WORKS,

WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the South Kensington Museum, at the International Exhibition, 1862. Class 10 C; and at the Architectural Exhibition, Conduit-street, Regent-street. ESTIMATES WILL MEET WITH PROMPT ATTENTION.

PRICE LIST ON APPLICATION.



MARBLE AND STONE

CHIMNEY PIECES

FOR THE MILLION.

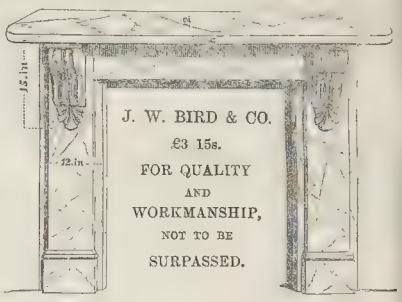
A Stock of 500 always to choose from at

J. W. BIRD & CO.'S,

THE EMPORIUM,

145 & 143½, EUSTON ROAD, N.W.

A Marble Box Chimney, with 8 inch piers, as Illustrated, for 28s. and fitted to any opening up to 3 feet square.
Stone ditto, with beautiful Moulded Caps, for 7s
Monuments and Tablets in great variety, cheap below all others.
Masons Work of all kinds contracted for and executed with despatch, in Town or Country.
A Vacancy for an Out-door Apprentice.



BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

PAPIER MACHE AND CARTON PIERRE WORKS,

49, RATHBONE PLACE, W.

GEORGE JACKSON AND SONS

(Established in 1750)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV, XV, XVI, and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Cups, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining Rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE PLACE, LONDON, W.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.

AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.



The ABOVE INVENTION WILL RECOMMEND ITSELF to Architects, Engineers, and others interested in Drainage, for its SIMPLICITY of construction; there being NO COMPLICATION OF PARTS.

The "Manhole" is sufficiently large to admit of the DRAIN being THOROUGHLY CLEANSED WITHOUT A SINGLE PIPE BEING REMOVED.

It DOES NOT at all INTERFERE WITH THE FLOW OF WATER in the Drain.

It IN NOWISE WEAKENS THE PIPE; and

It ADMITS of the ready INSERTION OF A JUNCTION by removing the "Manhole" cover, and replacing it with a loose Junction Arm.

Manufactured solely by

JOSEPH CLIFF & SON, WORTLEY, near LEEDS;

For MARCUS BOURNE NEWTON,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON, N.

BUILDERS, AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.	Laths, 28s. per Load.	
Yellow Deals, sound and good	£19 10 0 per 120, or 6s. 3½d. per foot.	
Spruce Deals	16 10 0 „ 0 2¾ „	
Yellow Battens, excellent quality	11 10 0 „ 0 2 „	
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 „ 3 6 each.	

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch „	12s. 6d.	13s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	15s. 6d. „
1¼-inch „	0s. 0d.	18s. 0d.	18s. 0d. „

Yellow Deals, 3 by 9 ..... £19 10 per 120.
Yellow Battens ..... 11 10 „
Spruce Deals ..... 16 10 „
Pine Planks (dry), 3 by 11 ..... £24 0 per 120.
Pine Deals, ditto, 3 by 9 ..... 19 10 „
¾-inch White Matched Lining ..... 0 13 per square.

J. TERRY & SON, 109, Borough-road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards } from 11s. 6d. per square
10,000 Pine Planks ..... from 3s. 6d. each
5,000 Yellow Deals ..... from 3s. 3d. each
14,000 Spruce ditto ..... from 2s. 9d. each
5,000 Yellow Battens ..... from £11 10s. per 120
50,000 Feet Spanish and Honduras Veneer ..... } from 1d. per foot
Maple ditto ..... from 1d. per foot.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

MOULDING WORKS.
SMITH & McGAW

(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S INN LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

CLERIHEW & LASCELLES
(LATE WATERLOO, DRAPER, & WEBB),
MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DESPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL ROAD, AND STAMFORD STREET, LAMBETH, S.
N.B. Price List on application.



TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.



JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,

110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
¾ by 7 „	13s.	13s. 6d.	14s. 6d. „
1 by 7 „	16s.	16s. 6d.	16s. 6d. „
1¼ by 7 „	17s.	18s. 0d.	19s. 6d. „

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,

STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

JOINERY WORKS,

21, HARRINGTON STREET, HAMPSTEAD ROAD, N.W.
NEVIL SIMMONDS,
SHOP FRONTS, SASHES, DOORS, &c.
Price Lists and Estimates on receipt of Stamp.

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c Baltic wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,300 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 2s. 3d.; Spruce, from 2s. 6d.; Pine Plank, from 2s. 3d.; Mahogany, 6d.; 3d Yellow Battens, 11f. 10s.; 1-inch White Flooring, from 14s 9d.; 1-inch Yellow, from 15s. 3d.; ¾ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, form cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS.
JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

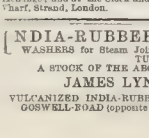
SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

PAINTED and STAINED GLASS
WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 4, Oxford street, Manchester. Prize Medallists, Class 31 A, 1862.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W
Adjoining the Polytechnic Institution.

WINDOW GLASS! WINDOW GLASS!
Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large quantities. Plate Glass Warehouse, at
GRIST'S CITY GLASS WAREHOUSE,
47, Chiswell-street, opposite Whitbread's Brewery, E.C.

THE VILLAGE CLOCK.—A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,248.
JOSEPH FAIRER,
Turret Clock-maker to Her Majesty's War Department,
188, St. George street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 „
Ladies' or Gentlemen's Gold Detached Lever Watches	18 „
Strong Silver Lever Watches	5 „
Gentlemen's Gold Compensation Balance Watches	40 „
Do. Silver do. do.	26 „
Marine Chronometers	35 „

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 33, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1¾	1⅞	2	2¼
„ 2 ft. 6 in. sup.	1¾	1⅞	2¼	3
4 ft. super...	1⅞	2	2½	3¼

Orchard House Sizes.

		15 oz.	21 oz.
20 by 12	per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13		3rds 15s. 0d.	3rds 21s. 6d.
20 by 14		2nds 18s. 0d.	2nds 28s. 0d.
20 by 15		1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

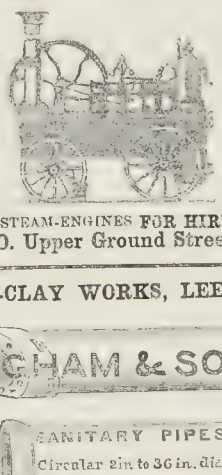
PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.
} per cwt.

Fine Oak Varnish ...
„ Carriage ...
Linseed and Boiled Oil
Turpentine .....
} per gallon.

Milled Lead in Sheet and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

MORTAR-MILLS,
CRABS,
CRANES,
BLOCKS,
JACKS,
&c. &c.



PUMPS
OF ALL
DESCRIPTIONS.

WELL-BORING TOOLS,
IRON PAILS, &c.
OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.
R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.



NGHAM & SONS

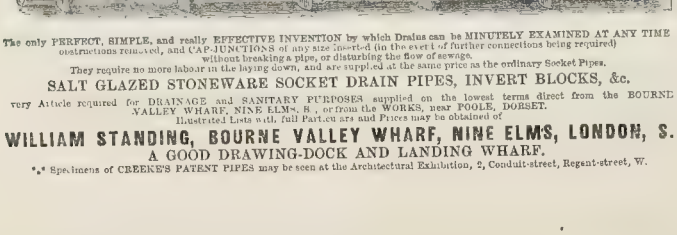
LONDON WHARF, 64, Bankside, Southwark.

SANITARY PIPES
Circular 2in to 36 in. diam
Elliptical 4×3, 6×4, 8×6

LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. Todd Carr, Agent.
LEEDS OFFICES,—Infirmary-street.
Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.



The only PERFECT, SIMPLE, and really EFFECTIVE INVENTION by which Drains can be MINUTELY EXAMINED AT ANY TIME obstructions removed, and CAP-JUNCTIONS of any size inserted (in the event of further connections being required) without breaking a pipe, or disturbing the flow of sewage.
They require no more labour in the laying down, and are supplied at the same price as the ordinary Socket Pipes.

SALT GLAZED STONEWARE SOCKET DRAIN PIPES, INVERT BLOCKS, &c.

Every Article required for DRAINAGE and SANITARY PURPOSES supplied on the lowest terms direct from the BOURNE VALLEY WHARF, NINE ELMS, S., or from the WORKS, near POOLE, DORSET.
Illustrated Lists with full Particulars and Prices may be obtained of

WILLIAM STANDING, BOURNE VALLEY WHARF, NINE ELMS, LONDON, S.
A GOOD DRAWING-DOCK AND LANDING WHARF.

*** Specimens of CREEKE'S PATENT PIPES may be seen at the Architectural Exhibition, 2, Conduit-street, Regent-street, W.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridge-shire, offers
Red Pantiles, at 47s 6d per 1,000
„ 8 inch Pavings, at 57s. 6d. per 1,000.
„ Floor Bricks, 40s. per 1,000.
Mingled Kiln Bricks, at 38s. per 1,000.
Ridge Tiles, at 75s. per 1,000.
Cash Prices. Delivered in Trucks in London, or along the Line of the Great Eastern Railway. About 20,000 Bricks lying at Devonshire-street Station, at 24s. per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many Patterns
Best Hard Kiln-burnt Common Bricks, in large Quantities.
Ditto, 6 inches.
Ditto. Culvert Bricks.
Plain Tiles of all kinds.
Plain and Fancy Ridge Tiles, &c.
Delivered on board craft in the Dock at the East Cowes Part Kiln, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two thirds of the working expenses of other machines
Price, including royalty and three dies, £37.
Licences to Manufacture granted for certain districts.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.
The Machines may be seen at work at South Brough (about one mile from the Station), Kingston on Thames.

A NEW BRICK and LIME WHARF and DRAWDOCK
JOHN DOWNEY, Licensed Lighterman, of 11, Millbank row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Street Wharf, Wapping, E. has opened the
VICTORIA WHARF, NINE ELMS, S.
For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM CUTTERS, PICKINGS, &c.
A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
ROMAN CEMENT made at the above works may be had fresh from the kilns daily,—a great advantage to dealers and sewer contractors especially in winter time.
PORTLAND CEMENT, of the best quality, strength, and colour, manufactured on the Kent. This cement will carry more sand than any of the Thames cements, with which is now brought into the market and sold as Portland
PLASTER OF PARIS, both coarse and fine, of very superior quality, ground by steam power.
LIME. Grey Stone, Chalk, and Blue Lias Lime well burnt, by the barge of river, and may be had fresh ground daily, by steam power.
BRICKS from our fields in Kent, by the large stones dale, in the river or canals, or by cart from the above wharfs, of good quality and best prices.
A large Assortment of Glazed Stoneware Drain pipes, Yorkshire Fire, Paving Tiles, Bricks, Laths, Chimney Pots, &c. always kept in stock.
BRICK FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Bricklayers' Orders promptly executed.

GEORGE ALLEN (late W. & T. I.
GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK
With this Material Houses may be finished and occupied one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful hard enamel imitation of marble — Manufacturers, FRANCIS BROTHERS, & POTT, Nine Elms, London.

GREAVES'S BLUE LIAS LIME
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

STRINGFIELD & BLYTH
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S & R. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD & BLYTH
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS
Thames Sand and Ballast by the Yard or Barge, and Building Materials retail.
Country orders forwarded with despatch

GREY STONE LIME
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terre-metallic Paving Tiles, of various designs. Base and Ridge and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Patch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Paving, Grooved, of various sizes. Blue Paving Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONEPAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order

Post-office Orders payable at Vauxhall or Edgeware-road.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS.

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 42, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade

Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour. PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Paving BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Pannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, ROMAN, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:—
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Whereof can be obtained, of the best quality:—
GREYSTONE CHALK FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLAND KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto and ditto WALL COPING BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF, also GARDEN EDGINGS
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS and TILES, of every description and size.
GLAZED STONEWARE DRAIN PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY-POTS.
TERRA-COTTA PAVEMENT, CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works. All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PEARD STREET, PADDINGTON

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830), is ROBESON, Mount Pleasant, Gray's Inn Road. The cheap, coarse trade article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster unequalled.

JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be perfectly examined, and Junctions Reversed, to the entire changing of direction.

Manufacture of the

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTION SHAFTS for small Sewer and Drains, by the use of which, large Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilating Sewers and Drains.

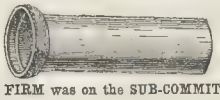
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

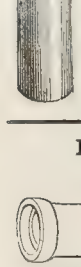
DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

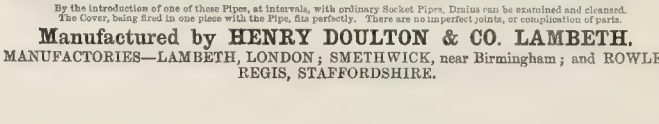
"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

DOULTON'S PATENT OPERCULAR PIPES.



By the introduction of one of these Pipes, at intervals, with ordinary Socket Pipes, Drains can be examined and cleansed. The Cover, being fired in one piece with the Pipe, fits perfectly. There are no imperfect joints, or complication of parts.

Manufactured by HENRY DOULTON & CO. LAMBETH.

MANUFACTORIES—LAMBETH, LONDON; SMETHWICK, near Birmingham; and ROWLEY REGIS, STAFFORDSHIRE.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,

FOUNDERS, HYDRAULIC AND GAS ENGINEERS, SHOOT STREET, LAMBETH.





UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispensing with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c. Much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, 50,000 of them have been sold, and no instance of failure has occurred.

TO ARCHITECTS, BUILDERS, PLUMBERS, &c.

In consequence of the BANKRUPTCY of the late firm of C. BOTTEN & SON,

F. G. UNDERHAY

BEGS LEAVE TO INFORM HIS OWN ACCOUNT that he Patent Regulator Water Closets, Valves, Gas Meters, &c. on the same premises,

CRAWFORD PASSAGE, CLERKENWELL, LONDON, E.C.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the Ball of water, perfect flushing is secured. Any number can be served by one supply pipe. No cistern valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick lane, Newgate street, London.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862, FOR EXCELLENCE OF MANUFACTURE AND BEAUTY OF DESIGN.

THE ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAND MOSAIC TILES, also supply of TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue, grey, &c. for churches, encaustic halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as panels, flower stands, cashets, baskets, &c. and white glazed tiles for baths, dairies, &c.; also, the Architectural Pottery Company's patent impressed Bricks. Various specimens of the above may be seen, and every information obtained at the Office of the Company, No. 26, Parliament-street, S.W. Specimens also on view at the Galleries of the Architectural Exhibition, 9, Conduit-street, Regent-street; Kensington Museum, the Fine Arts' Academy, and the Crystal Palace, Sydenham.—Address, The Architectural Pottery Company, 26, Parliament-street, S.W.; or Poole, Dorset.

POLYTECHNIC.—The COTTON FAMINE, ZOSTERA MARINA, FLAX, JUTE, and other FIBRES. Professor J. H. PEPPER'S NEW LECTURE, illustrated with the OXY-HYDROGEN MICROSCOPE, Experiments, and the entirely New Series of Dissolving Views, designed and painted by J. A. Benwell, Esq. New Musical and Historical Entertainment, by G. A. Cooper, Esq. entitled "The Seven Ages of a Great City." Engagement of the London Vocal Quintet Union.—Artistes: Miss Leffler, Miss Rose Hersee, and Messrs. Carter and De Fontaine. Conductor: Mr. F. O. Williams. Herr Wickler, the Wonderful Calculator. Master Hamilton, the Juvenile Wilson of Scottish Song. Experiments by J. L. King, Esq., illustrating "Submarine Warfare, and the Means of repelling Boarders from Iron Ships." The Laboratory always open for Purposes and Analyses.

TO PUBLIC COMPANIES, SURVEYORS, BUILDERS, CONTRACTORS, AND OTHERS.

C. PROCTOR, of 18, Jubilee-street, Mile-end, begs most respectfully to inform the above, in town and country, having any OLD MATERIALS to DISPOSE OF, that he is at all times prepared to offer the HIGHEST PRICE, and clear the ground in the shortest possible time, to the entire satisfaction of all parties concerned. All letters punctually attended to. Distance no object, and cash down.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel	Height.	£ s. d.
2½ in.	short 1 ft. 7 in.	Fitted for lead, gutta percha, or cast iron flanged pipe, as required. 0 19 0
2½ „	long 3 ft. 3 in.	1 4 0
3 „	long 3 ft. 6 in.	1 17 0
3½ „	long 3 ft. 6 in.	1 19 0
4 „	long 3 ft. 6 in.	2 6 0
2½ „	short, with 15 feet of lead pipe attached, ready for fixing	1 15 0
2½ in.	long ditto, ditto	2 0 0

No. 36½.

WARNERS' IMPROVED CAST IRON

LIFT AND FORCE PUMP,

The Barrel lined with Brass.

2½ inch	£2 10 0
3 „	2 15 0



No. 69.

WARNERS' PATENT

BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

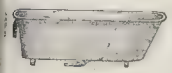
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£1 4 0	Larger sizes when required.
3 „	2 6 0	
3½ „	3 0 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3 10 0
3 „	4 0 0



WARNERS'

Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings required for the same

TWO PRIZE MEDALS FOR BELLS HAVE BEEN AWARDED TO JOHN WARNER and SONS, AT THE GREAT EXHIBITIONS IN 1851 AND 1862.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in Peals.

TUNED BY MACHINERY.

Old Bells recast or taken in Exchange.

An experienced Bell hanger sent to inspect, report, and advise on the state of Peals out of repair. Estimates furnished for New Oak Frames and Fittings, and for Repairing Old Ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384. No. 383.

WARNERS' HIGH-PRESSURE COCKS

are made with Gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and refeathered with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

JOHN WARNER & SONS,

HAVE BEEN AWARDED A PRIZE MEDAL FOR THEIR NEW

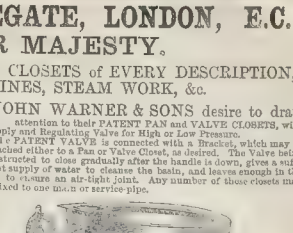
CHIMING APPARATUS,

by means of which a lad may correctly play a great variety of chimes upon peals of six, eight, or more bells. Several have since been fixed, and give great satisfaction.

Prices and further particulars furnished on application at the Manufactory, 8, Crescent, Cripplegate, London.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

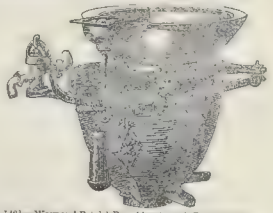
The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to cleanse the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service-pipe.



No 145½ Warners' Spring Valve Closet on Iron Frame, with Vulcanized India Rubber Valve, and Patent Supply Valve attached Plain Handle, and White Basin £3 15 0

Sunk Handle, extra 0 3 0

Blue Basin, extra 0 1 6



No 148½ Warners' Bright Pan Closet with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin £2 0 0

Sunk Handle, extra 0 2 0

Blue Basin, extra 0 1 0

The above prices are subject to a liberal discount.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

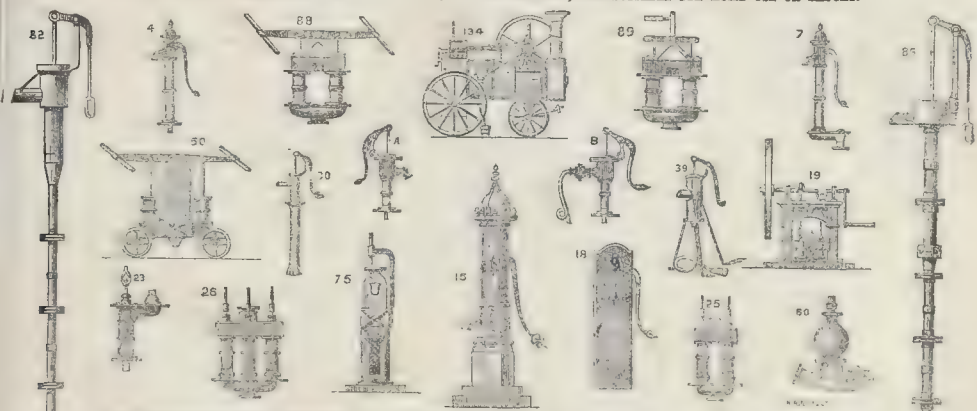
JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.

BENJAMIN FOWLER & CO., WHITEFRIARS-ST., FLEET-ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

PORTABLE OR FOR FIXTURE, FOR DEEP OR SHALLOW WELLS, CUTTINGS, TANKS, &c., FOR MANUFACTURING, DOMESTIC, AGRICULTURAL, CONTRACTING, AND ALL OTHER PURPOSES;

TO BE DRIVEN BY HAND, HORSE, WATER, WIND, OR STEAM POWER, AND SUITABLE FOR HOME USE OR EXPORT.



No. 82.—Fowler's Portable wrought-iron Contractors' and Excavators' Pumps, plain or galvanized, in any lengths, 4-inch to 9-inch barrels.

No. 4.—Fowler's Improved cast Bored Pumps, for general purposes, with brass valves, tail pieces tinned, screwed or flanged. 3-inch to 5-inch barrels.

Nos. 88 & 89.—Fowler's Double Barrel wrought-iron Portable Contractors' Pumps, for hand or steam power, in any lengths, to any depth. 6-inch to 30 inch barrels.

No. 134.—Portable Steam Engines, of best modern construction, for Pumping, Sawing, Winding, &c. for Hire or to Order.

No. 7.—Fowler's Patent Side Valve Pumps, with ready means of access to valves, and improved brass buckets. Sizes 2½ inches to 6 inches.

No. 30.—Holman's Patent Portable Double-barrel force Pumps, for supplying cesspools, pumping water from ponds or shallow wells, for mortar mixing, wetting clay, &c. 4 inch to 7-inch barrels.

No. 85.—Fowler's Wrought Portable Contractors' Pumps, plain or galvanized, with sliding suctions. 4-inch to 9 inch barrels.

Fig. A. Fowler's Improved short Cottage or Conservatory Pumps, with guided metal cross and depressed brass valves. Tail-pieces for lead, screwed, or flanged pipes.

Fig. B.—Fowler's ditto Force Pumps, in sizes with unions tinned, screwed, or ready for hose-pipes; and tail pieces the same

No. 39.—Fowler's Portable wrought-iron or copper Pumps on tripod legs, with improved valves and unions for hose

No. 19.—Holman's Patent Double-barrel Force Pumps, brass barrels, doors to valves, fly wheel, and winch handles, for supplying cisterns in mansions, &c.

No. 23.—Fowler's brass or iron Deep-well Pumps, on square tails, with various gears for working same

No. 26.—Fowler's Treble barrel brass or iron Deep-well Pumps, with or without steam or horse gear for working same. 2½ inch to 12-inch barrels.

No. 75.—Holman's Patent Double-action Pumps, ready to connect to steam or horse power. 9-inch to 15-inch barrels. These will be found excellent and simple pumps for brickmakers and manufacturers' purposes.

No. 15.—Fowler's Ornamental Public Pumps of various patterns. Drawings and estimates can be had to suit any position.

No. 18.—Fowler's Improved brass or iron Lift and Force Pumps on planks, with tinned screwed, or flanged outlets and tails. 2 inch to 5-inch barrels

No. 25.—Fowler's Double Brass Barrel Deep Well Pumps, 2½ inch to 6 inch Barrels. Frames and Gear for working same by hand or steam power.

No. 50.—Fowler's Improved Hydraulic Rams, for raising water to considerable elevations, where a fall can be obtained, from a stream, pond, or spring.

No. 86.—Fowler's Portable Contractors' Pumps, with cisterns less extra strong, and suited for depths from 20 to 25 feet, 3 inch to 9-inch barrels, to be worked by hand or steam power.

Nearly the whole of the above are kept in Stock, either complete or in a forward state, for SALE or on HIRE.

ILLUSTRATED CATALOGUES MAY BE HAD ON APPLICATION, OR FREE BY POST.

SALES BY AUCTION.

TO ENGINEERS AND OTHERS. — Steam-Engine and Boiler, and Plant of an Engineer

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, Twyer ton street, Newington Causeway, on MONDAY, DECEMBER 8, at TWELVE (unless previously disposed of), the Premises being required for the London, Chatham, and Dover Railway, a 5-horse power high pressure STEAM ENGINE, STEAM-BOILER, 10 feet long, Iron Shafting, Rigger and other Wheels, Work-Benches, and other PLANT and FIXTURES—May be viewed and particulars had of PULLEN, HORNE, & EVERSFIELD, 80, Fore street, City, E.C. and 40, Parliament street S.W.

METROPOLITAN IMPROVEMENTS — Pentonville and Westminster Communication.—Twenty-second Sale — Building Materials, Brickfriars-road and Southwark Bridge-road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on MONDAY, DECEMBER 15, at TWELVE, all the excellent BUILDING MATERIALS, FIXTURES, and FITTINGS-UP of Twelve Houses, large Factories, and Ware houses, situate in Price's-street, Broad-lane, and Green-walk, Blackfriars-road; and Great Guildford-street and the Grove, Southwark Bridge-road; comprising capital sound bricks, a large quantity of tin-coated plates, pine timber in roofs and floors, excellent Paddling and Excavating, all the Floorboards, glazed sashes, stall-board fronts, chimneypieces, doors, folding gates, York paving, lead gutters and pipes, stoves, ranges, copper, and other useful materials and fittings up.—May be viewed on SATURDAY previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

DEPTFORD.—To CONTRACTORS, ENGINEERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, adjoining the main Brighton line, opposite Deptford Station, on TUESDAY, DECEMBER 16, at TWELVE for ONE, by order of Messrs. Aird & Son, in consequence of the completion of their contract, a quantity of valuable PLANT and MATERIALS: comprising two centrifugal pumps by Gwynne & Co., a pair of 18-inch pumps, and one 13-inch pump, with suction and clack valves, nearly new steam mortar-mill, with 6-feet pan, 14 iron columns and bases, 20 wrought-iron principals, a steam pile engine with boiler and apparatus complete, 30 new all-feet pile engines (with monkeys, crabs, and nippers), 300 sheeting pile shoes, 6 tons of Tiron, 20 tons of steam piping, a large air vessel, wrought-iron tank, 5 tons of 1½-inch tie-rods, a 25-horse steam boiler, two close-bodied carts, 50,000 Suffolk and blue Staffordshire bricks, 18-inch earthen pipes, firewood, and other useful materials.—May be viewed one day previous; and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, E.C.

LANGHAM PLACE.—The valuable Materials of Langham House, to clear the site for the erection of the Langham Hotel

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Langham Hotel Company (Limited) to SELL by AUCTION, on the PREMISES, on WEDNESDAY, DECEMBER 17, and following day, at TWELVE o'clock, the whole of the excellent BUILDING MATERIALS, fixtures, and fittings-up of the spacious Mansion known as Langham House, Portland-place, to be taken down to clear the site for the erection of the Langham Hotel: comprising about 500,000 capital bricks, 26 squares of slates and slating boards; prime timber in rafters, joists, and girders; 100 squares of sound floor-boards, 50 squares of capital oak battens, 60 pairs of mahogany sashes with brass bars and folding shutters, 70 four-panelled moulded and other doors, finely-carved stationary and other marble chimney-pieces, stone staircases with ornamental wrought-iron railing, Ionic stone columns, cornice, and balustrading; and the stone front of the building, 70 squares of York, Portland, and other paving, 20 tons of lead in large flats, gutters, and pipes; iron columns and girders, iron railings, coach-house gates, iron sash and fittings of the coach-house and stables, handsome stoves, capital range with wrought-iron boiler, hot-plates, and oven, coppers, cisterns, fittings of bath-room, four expensive mahogany bookcases, closets, presses, and numerous useful fixtures and fittings-up.—May be viewed two days previous. Catalogues on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City.

TO BUILDERS, MASONS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Malin, Brothers, & Co., in order to close the extensive premises lately SOLD by AUCTION, at the PREMISES, corner of West-street and Victoria-street, Snow-hill, on FRIDAY, DECEMBER 19, at TEN for ELEVEN in consequence of the number of lots, the whole of the valuable STOCK of MARBLE and STONE: comprising Portland, Bath, and Croglesh stone in blocks, several hundred feet of sawn Hopehill and other slabs, 50 feet of bolt, rubbing, and self-faced paving, kerb landings, steps, sinks, sills, and coping, Purbeck and other granite curb and paviers, scantlings of Irish green, jasper, and other coloured marble, statuary and veined marble chimney-pieces, Derbyshire and other chimney-pieces, polished granite head-stones, &c.; also a quantity of scaffolding, consisting of poles, cords, putlogs, boards, and planks; two carts, stone truck, crabs, crane, new iron railing, lead pipe, and other effects. May be viewed two days prior, and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, S.W. and 80, Fore-street, City, E.C.

BOW ROAD.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION on the PREMISES, about 5 minutes' walk from the Bank, on MONDAY, DECEMBER 15th, at ELEVEN for TWELVE o'clock, the remaining portion of the BUILDING MATERIALS of the late SEAMEN'S ORPHAN ASYLUM: comprising about 60,000 good stocks bricks, 3,000 slates, floor boards, rafters, joists, iron gutters and piping, sashes, frames, &c., stone paving and step and landing, 100 pounds of new lead, two pairs of strong gates, bells, brass taps, mahogany closet seats, brick wall, iron palisade fence, and elm, lime, and chestnut trees.—May be viewed on the Premises and sale before the sale. Catalogues may be obtained about two days before the sale of the Auctioneer, No 14, Mogate-street, London, E.C.; and of the Foreman on the Estate.

BOW ROAD.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on FRIDAY, DECEMBER 19, at TWELVE for ONE o'clock, the REMAINING PORTION of the ESTATE recently occupied by the Seamen's Orphan Asylum: comprising eighty-four lots of eligible freehold building land, with frontages to the Bow-road and the new gas-built British and Mogul streets. The estate is within twenty minutes' walk of the Bank, on the high road to Stratford. Nine-tenths of the purchase money may remain on mortgage at 5 per cent. to be paid in nine years by half-yearly instalments; but the whole or any part of the balance may be paid off at any time without notice. Particulars, plans, and maps of the sale may be obtained [illegible] before the sale, of Messrs RUSSELL & DAVIES, 69, Coleman street, E.C.; the Auctioneer, 14, Moorgate-street, E.C.; and at the Place of Sale.

BUILDING MATERIALS, EXETER CHANGE ARCADE, to clear the ground for the Strand Music Hall.

MESSRS. GLASIER & SON will SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, DECEMBER 10th, at TWELVE for ONE, all lots, the BUILDING MATERIALS and FITTINGS of the ARCADE: comprising the lead on roofs, pipes, cisterns, &c. water-closet apparatus, stained and painted sashes, moderate sized shop fronts, glazed with plate glass, fittings, counters, &c., wainscot doors, 4 panel doors, wrought-iron folding entrance-gates and railings, chimney pieces, stoves, cocks and piping, and other fixtures and fittings.—May be viewed the day prior and morning of sale, and catalogues had on the Premises; and of the Auctioneers, 41, Charing-cross, S.W.

TO BUILDERS.—Surplus Stocks of the present year

MR. EDWIN WHITE will SELL, at 12, HOLBORN-BARS, and 1, CASTLE STREET, HOLBORN-HILL, on TUESDAY next, at ONE, nearly 10,000 pieces of fashionable PAPERHANGINGS; upwards of 100 marble, slate, and stone Chimney-pieces, about 3 tons White Lead and Colours, 20 gallons of new Turps and 200 feet of Gilt Room Moulding. View and catalogue MONDAY and Morning of Sale.

SPACIOUS AND COMMANDING PREMISES. -Nelson-street, Woolwich, immediately contiguous to a Wharf on the Thames and to Rofe's Landing-pier.

MESSRS. FULLER & HORSEY are instructed by the Directors to SELL by AUCTION, at the MART, London, on TUESDAY, DECEMBER 16, at TWELVE, the commanding PILE of BUILDINGS, erected about thirteen years since for the Woolwich Banks and Loan Society, situate in Nelson-street, Woolwich. The premises, which are of a very substantial character, have a frontage of about 102 feet by an extreme depth of 76 feet, the ground floor of which is lofty and well lighted, arranged for first as second class swimming baths and private bath room, and has two entrances; the first-class bath room is about 70 feet long by 20 feet wide; the second-class room is about 60 feet by 24 feet; and the private bath-room about 36 feet by 25 feet. If not required for their present purpose they could easily be converted into shops or appropriated for manufacturing purposes. There are two lobby entrances and a boiler-room and pump-room. The first floor, which is approached by two flights of stone steps, is arranged as a handsome light, and lofty lecture-hall, about 50 feet by 42 feet; a reading room, a library, and two dressing-rooms; on the second floor is a large store room, a committee-room, and four dwelling-rooms, approached by a separate staircase. The premises are held on lease for an unexpired term of sixty-six years, at a ground rent of 46l. per annum. One half of the purchase money may remain on mortgage—The sale will take place positively on WEDNESDAY next, the 10th instant, until the sale. -Printed particulars will shortly be ready, and may be obtained of RICHARD PIDDOCK, Esq. and EDWIN HUGHES Esq. Solicitors, Woolwich; at the Kentish Independent Office, Woolwich; at the Offices on the Premises; at the Auction Mart; and of Messrs FULLER & HORSEY, Billiter-street, London, E.C.

14, Billiter street, December 4, 1862.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES & SONS' TIMBER-YARD, Canon's Marsh, Bristol, on WEDNESDAY, the 17th day of DECEMBER, 1862, at ONE o'clock precisely. (Luncheon at Half-past Twelve o'clock.) For account of Importers

- 350 Spruce Deals, Battens, Scantling, and Ends
- 6,000 Quebec Pine and Spruce Deals
- 6,000 St. Petersburg Red and White Wood Deals
- 600 Onega Red Deals, Battens, and Boards
- 3,000 Prime Gothenburg Battens
- 3,000 Fresh Lysne Deals and Battens
- 700 Loads Quebec Yellow Pine (New Timber)
- 250 Loads Quebec Red Pine
- 200 Loads Quebec Board Pine
- 40 Loads Quebec Oak
- 60 Loads Quebec Elm
- 70 Loads Quebec Birch
- 50 Loads Miramichi Board Pine
- 100 Loads Miramichi and Prince Edward Island Fresh Bark
- 200 Loads Fresh Memel Timber
- 200 Loads New Brunswick Timber
- 1,000 18 to 6 inch } Fresh Norway Spars
- 200 Oak Knees
- 200 Ricks
- 20 Fathoms Hemlock, Dantzic, and St. Petersburg Lathwood
- 5,000 Square Palings
- Flooring

With other Goods.

Catalogues will be issued in the Week of Sale.

F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, December 3rd, 1862.

To Timber Merchants, Ship, Boat, and Barge Builders, Wheelwrights, &c.

MR. TINDALE will SELL by AUCTION, at the VICTORIA (London) DOCKS, near the Timber Office, on the south side, on WEDNESDAY, DECEMBER, 10, 1862, at ELEVEN o'clock, about SIXTY LOADS prime ENGLISH OAK, Ash, Elm, Birch, and Cherry TIMBER, and about 300 dry inch Pine Boards, ex *Amelia* and *Ann*. Afterwards, at the WEST INDIA SOUTH LOCK (City Canal), about ONE o'clock, TWENTY THREE LOADS of Ash, Elm, and Beech TIMBER, ex *Thor*.—Catalogues may be had at the Tidal Basin Tavern, North Woolwich; at the City Arms, Millwall; at Garraway's, Cornhill; and of the Auctioneer, 1, Portland-place, Commercial-road, E.

In Bankruptcy.—Re Blache & Behr.—To Timber and Veneer Merchants, Cabinet and Pianoforte Makers, Builders, and Others.

MR. FRANK LEWIS will SELL by AUCTION, on WEDNESDAY, the 10th day of DECEMBER next, at ELEVEN for TWELVE o'clock, on the PREMISES, No. 21, Wilson street, Finsbury, the first portion of the extensive and valuable STOCK of VENEERS, consisting of 20,000 Spanish, Turkish, and Italian walnut burr veneers, some very fine; 30,000 feet Spanish and Italian walnut plank veneers, 35,000 feet rosewood, logwood Spanish, and fine Honduras mahogany, 38,000 feet birds'-eye maple, and 10,000 feet birch.—May be viewed the day before and morning of sale, and catalogues had on the Premises; of Messrs. WOOD & FRANCE, Solicitors, 8, Bedford-row; of Messrs. HART, BRIDGMAN, & HAYLES, Accountants, 57, Moorgate-street; and of the Auctioneer, 36, Coleman-street, London, E.C.

CAMDEN TERRACE, CAMDEN TOWN.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, on MONDAY, 8th of DECEMBER, at TWELVE for ONE, 2,000 PLANKS, DEALS, and BATTENS, 780 sawn ditto, flooring in various thicknesses; wide pine boards, quartering, mahogany, new doors, arris rail, slating battens Capital spring cart and harness.—On view Saturday prior, and catalogues to be had.—Auction Offices, 2, Cardington-street, Hampstead-road.

TO NOBLEMEN, GENTLEMEN, BUILDERS, and OTHERS.—At the CLIFTONVILLE MARBLE WORKS, Hove, Brighton,

MR. DELL will SELL by AUCTION, on MONDAY, DECEMBER 8th, 1862, at TWO for Half-past Two o'clock, SIXTY BEAUTIFUL CHIMNEY-PIECES in statuary veined, black, Sienna, and St. Anne's marble, of elegant designs and of various sizes. Catalogues may be had of Mr. DELL, Auctioneer, 45, Middle-street, King's-road, Brighton. N.B. Valuations made for all purposes, in town or country.

TO BUILDERS AND OTHERS.

MESSRS. BETTS & MORRIS will SELL by AUCTION, on THURSDAY, DECEMBER 11th, 1862, at ELEVEN for TWELVE o'clock, at their ROOMS, 68, Leadenhall-street (by order of the Executors of the late Mr. Thomas Morris), a extensive assortment of BUILDERS' IRONMONGERY, Brass Foundry Articles, Cast-iron Goods, &c.: comprising locks, bolts hinges, 50 cwt. of nails, &c., fire irons, fire locks, several hundred gross of screws, fourteen gross of bells, 4 dz of files, 3 doz brushes, and a large quantity of useful sundries, suitable for builders and others.—On view morning of sale. Catalogues obtained at the Auctioneers' Rooms and Offices, 68, Leadenhall-street.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Part one of this beautiful Estate are now TO BE LET for Building Purposes, arranged as a handsome, required in the locality. Soil gravel, situation healthy, and water excellent. The Station from Stratford is 8 years only in the Estate, and the City is only 15 minutes' drive by the Railway. The will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Kingston, and some very eligible SITES in the Grove road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

TO CARPENTERS, BUILDERS, and OTHERS—FOR SALE, Four substantial and well-built Seven-roomed CARCASES, well situate for selling and letting, when finished, in the Eleanor road North, Richmond-road, Dalston Terra. 99 years Ground rent, 5l. each. Price, 40l. Also some very eligible BUILDING SITES on the same Estate, with [illegible] advances, if required.—Apply to Mr. CLARKSON, Surveyor, 154, Great St. Helen's, City.

VAULTS and WORKSHOPS.—TO BE LET, spacious VAULTS and WORKSHOPS, at Newport Market, Soho. The vaults are well adapted for brewers and cellarmen, and the workshops for carpenters, joiners, plumbers, and others. To view, apply to JOHN BEDDLE, at the Market, and for particulars and terms to Mr. W. G. GRAY, Land Agent, 235, Gresham House, Old Broad-street, E.C.

CAPITAL BUILDER'S PREMISES TO LET, with large yard, good workshops small dwelling-house, and stables, situate at 4, All Saints'-place, Caledonian-road.—Apply to E. SAMSON, 13, Copenhagen street West, Islington

TO BUILDERS and SPECULATORS.—TO BE SOLD, or LET on BUILDING LEASE, nearly FIVE ACRES of FREEHOLD LAND, at the foot of Stamford-hill, Tottenham, close to the omnibus route, and a few minutes' walk from the railway-station, possessing a very extensive frontage, and offering an eligible site for villa or cottage residences, or manufacturing premises, or for a brewery or distillery, for which three wells of fine water on the property render it especially suitable. There is an excellent residence on the estate, in first-rate repair, with three-at 11 stabling, two coach-houses, &c. estimated to produce a rental of from 150l. to 180l. per annum, with a large [illegible] and [illegible] yard, leaving the remainder of the land to be let to building purposes.—Apply to Messrs. DEBENHAM & TEWSON, 80, Cheapside where a plan can be seen

TO BUILDERS or CAPITALISTS. — To BE LET or SOLD, a valuable FREEHOLD BUILDING SITE, near London Bridge, having a frontage of upwards of 60 feet to the river, and an area of 10,000 superficial feet. A lease will be granted for a long term at a low ground-rent, or if purchased, two-thirds of the purchase-money will remain on mortgage if required. Worth the accommodation, with river frontage, is in great demand in the locality, and very large rentals would be obtained, with a comparatively small outlay.—For further particulars, and cards to view, apply to Messrs. WILSON & SCOBLE, 114, Leadenhall-street, E.C.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to G. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

WEST MALVERN PARK.—This Estate is now laid out for the ERECTION of PRIVATE RESIDENCES, and villa sites [illegible] and printed particulars may be obtained of Mr. HENRY WEBB, Surveyor, Worcester; or G. MASEFIELD, Esq. Solicitor, Ledbury.

TO CARPENTERS and BUILDERS.—TO BE LET, with possession at Christmas next, an old established BUSINESS, the shop being within eight miles from London, and has been successfully carried on by the present proprietor for upwards of thirty years.—Address, E. GODSON, Esq. 72, Aldersgate-street, City.

BUILDING LAND TO BE LET.—NORWOOD.—On Westow-hill, for shops and private residences. HANWELL.—Five Acres, with frontage, for semi-detached first-class dwelling-houses. FELTHAM.—For detached villas PERRY HILL, Sydenham.—For shops. Brick-earth and advances, if required, in each case.—Apply to Mr. T. K. GREEN, Architect, 25, College-hill, E.C.

LAND TO BE LET, on Building Leases, near the Camden Railway station. Roads and sewers made. Money advanced if required. — Particulars and plans at J. K. WRIGHT'S, 32, Bedford row

GUILDHALL, 1st December, 1862.—The Committee for Letting the City's Lands will meet at Guildhall, on WEDNESDAY, the 10th of DECEMBER instant, at ONE o'clock precisely, to receive PROPOSALS for LEASES of TWO HOUSES, No. 8, Wood-st. 21, Holborn-hill, in the City of London.—Plans of the property may be seen, and forms of Tender obtained, upon application at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

WAPPING.—TO BE LET, on a Building Lease, for 60 years, a PLOT of FREEHOLD GROUND (on which Nos. 7 and 8, Princes-street, Great Hermitage-street, Globe-street, Wapping, now stand) having a frontage of 18 feet 3 inches by a depth of 24 feet, and suitable for the erection of a good sized house or warehouse.—May be viewed on application to the tenants. Tenders, describing the proposed terms and stating the ground rent, with references, may be sent to Messrs. RICHARDSON, DAVIS, & ABBOTT, Salters'-hall, Fore-street, Ward No. 9, Change Alley, Cornhill, E.C.; or to Messrs. STEPHENSON & SON, 36, Bedford-row, Holborn, W.C.

SUITE of noble ROOMS TO BE LET as OFFICES, centrally situate at the West End. Gas and water laid on.—Apply to Messrs. PUTTICK & SIMPSON, 47, Leicester-square, W.C.

MANUFACTURING PREMISES, with Steam Power, if required — TO BE LET on LEASE, compact MANUFACTURING PREMISES with Steam Power, situate at Kennington-cross.—Apply to Messrs. FULLER & HORSEY, Billiter street, E.C.

GUILDHALL, London, 4th of December, 1862. The Committee for Letting the Bridge House Estates will meet at GUILDHALL on FRIDAY, the 12th DECEMBER instant, at ONE o'clock precisely, to receive PROPOSALS for LETTING a Piece of LAND, containing about [illegible] square yards, or thereabouts, [illegible] as garden ground, [illegible] the rear of Mile-end place, Old Kent road, in the county of Surrey. A plan of the land and conditions for letting may be seen at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

TO BUILDERS AND OTHERS.

CARCASES, in an improving locality, for SALE, being Nos. 7 to 12, St John's Villas, Springfield-road, Edgbaston, near to the Midland Railway Station of the [illegible] Northern Railway, and in direct communication with the City by the Metropolitan line.—Plans can be seen at the Office of Mr MOFFATT C. W. BORNE, Architect and Surveyor, 13, Guildford-street, Russell-square, W.C.

EXETER. — First-class IRONMONGERY and IRONFOUNDRY BUSINESS FOR SALE.—The well-known extensive and important Business, which for upwards of seventy years has been carried on in the above lines, in the firm of Gordon & Jarvis, and by their predecessors, Messrs. J. & W. Kingdon, together with the STOCK IN-TRADE and PLANT, are now offered for immediate SALE in consequence of the recent death of Mr. Jarvis, and Mr. Gordon intending to retire. Proposals to be established, either for the purchase of the entire concern, or of the foundry and ironmongery branches separately. The above offers a rare and excellent opportunity for the employment of private capital, or for the formation of a Limited Liability Company.—Apply to Messrs. CARTON, High-street, Exeter; or to Messrs. CLEAVE & SPARKES, Solicitors, Crediton, Devon.

Dated December 1st, 1862.

SAWING, TURNING, and ENGLISH TIMBER BUSINESS FOR SALE, in the West of England.—The goodwill, plant, and machinery, with the lease (of which ten years are unexpired), of that BUSINESS PREMISES, situating Upon a tidal river in a prosperous town, with railway accommodation, and where a lucrative business is now conducted, may be had, with immediate possession. A 40-horse power engine now in full work. Stock can be taken at a valuation.—For particulars and satisfactory references, address, B. & N. Bagdon's Newspaper Office, Marylebone-lane, London, W.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the parish of St. Giles-in-the-fields; and published by the said Charles Wyman, at the office of the Builder, No. 2, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 6, 1862.

The Builder,

A Journal for the Architect, Engineer, Operatives & Artist.

Vol. XX.—No. 1036. DECEMBER 13, 1862. Price Fourpence. By Post, 5d.

ILLUSTRATIONS.

Unity Church, Upper street, Islington.—Mr. Thomas Chatfield Clarke, Architect 893
Pulpit of Unity Church, Islington 892
Middle Row, Holborn 889

CONTENTS.

What we may get from Foreign Countries 885
Our Public Statues and Memorials 886
Mismanagement of Public Works in India 888
The Lighting of Theatres 888
Church of All Saints, Kingstanley, Stroud 889
Middle Row Stops the Way 889
The Flaxman Drawings 889
Christmas Time in 1862 889
Greenery and Flowers in the London Shadows 890
The recent Fire near Gray's Inn-lane 890
Tyndal's-buildings, Gray's Inn-lane 890
The Late Ramsay Richard Reinagle 890
Quantity Surveyors and Contractors 890
Sculptors and the Art-Union of London 891
Competitions 891
Street Nomenclature 891
Unity Church, Upper-street, Islington 891
Metropolitan Tolls 892
Vermin Superior 892
Gothic Works of the Nineteenth Century 895
Value of Technical Education: Institution of Civil Engineers .. 895
Changes in Iron 895
Architecture of Edinburgh 895
Chiming Church Bells 896
The Voluntary Examination for Architects 896
Liverpool Architectural Society 896
Dale Church, near Derby 896
Church-building News 896
Stained Glass 896
School-building News 896
Provincial News 896
Metropolitan Board of Works 897
"Severing" Paving 897
The "Usual" Payment of Architects 897
Mr. Reid's Fountains 897
Concrete Bricks 897
Law of Landlord and Tenant 897
Compensation for Damage by Obstruction 897
Books received: Transactions of Architectural Institute of Scotland; Gray's Hand Catalogue of Postage Stamps (Hardwicke); Various 898
Miscellanea 898

SHEFFIELD SCHOOL of PRACTICAL SCIENCE and METALLURGY.

PRESIDENT.

His Grace the Duke of Devonshire, K.G. F.R.S. D.C.L. Chancellor of the University of Cambridge.

VICE-PRESIDENTS.

The Mayor of Sheffield, John Brown, esq.
The Master Cutler
The Right Hon. Lord Wharncliffe.
Sir David Brewster, K.H. D.C.L. F.R.S.L. & E. M.R.I.A.
Sir Roderic Murchison, F.R.S. Director of the Royal School of Mines.
John Percy, esq. M.D. F.R.S. Professor of Metallurgy in the Royal School of Mines
William Fairbairn, esq. C.E. F.R.S.
Robert Hunt, esq. F.R.S. F.S.S. Keeper of Mining Records.
Warrington W. Smyth, esq. M.A. F.R.S. Professor of Mining and Mineralogy in the Royal School of Mines

DIRECTOR.

The Rev. G. B. Atkinson, M.A. Principal of the Collegiate School; late Fellow and Assistant Tutor of Trinity Hall, Cambridge.

PROFESSORS.

Chemistry, Metallurgy, and Geology—James Allen, Ph.D. F.C.S. of the Universities of Giessen and Berlin.
Engineering and Mining—J. Thomyson, C.E.
Mathematics, Natural Philosophy, and Applied Mechanics—Rev. G. B. Atkinson, M.A.

The Sheffield School of Practical Science and Metallurgy will afford a complete scientific and practical education to students who are destined to become civil, mechanical, or mining engineers, or manufacturers of any kind. Its object is thoroughly to discipline the students in the principles of those sciences upon which the operations of the engineer, metallurgist, or manufacturer depend.

The education will be given by means of systematic Courses of Lectures, by Catechetical Class Instruction, by Practical Teaching in the Laboratory and Drawing Room, and occasionally by Field Excursions.

The School of Practical Science and Metallurgy will be conducted in the Buildings of the Sheffield Collegiate School. The two Institutions, although both under the superintendence of the Rev. G. B. Atkinson, Principal of the Collegiate School, are, however, entirely distinct.

A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c. may be obtained by application to the Director.

THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863

ARCHITECTURAL ASSOCIATION.—A SPECIAL BUSINESS MEETING will be held on FRIDAY, DECEMBER the 19th, at EIGHT p.m. to Discuss the Resolution of the Architectural Association to join the Architectural Alliance

C. J. ADAMS,
H. ATTWOOD REEVES, } Hon. Secs.

WATER-COLOUR PAINTERS' LANCASHIRE RELIEF FUND.—The Committee have much pleasure in acknowledging the liberal response made by the Water-colour Painters to this appeal. Two hundred and thirty Artists have promised or sent in works, and the arrangement for Exhibition will immediately be commenced. A complete List of Contributors will be published, and the time and place of exhibition will be advertised in the daily papers.

JAMES FAHEY, Honorary Secretary.
Committee Room, 5, Waterloo-place, S.W.

COMPETITIONS.

TO ARCHITECTS.—The LIVERPOOL EXCHANGE.—The Liverpool Exchange Company, being about to rebuild and enlarge the Liverpool Exchange, have determined to OFFER PREMIUMS of 1,000*l.* for the best Design, and of 250*l.* each for the two next best Designs. Copies of the instructions and conditions, with plans and sections of the site, and photographic views of the present Exchange and the adjacent buildings, for which a charge of One Guinea will be made, may be had on and after the 16th DECEMBER next, on application to the undersigned. All designs must be sent in on or before the 1st MAY, 1863.—By order of the Board,

A. T. SQUAREY, Sec. of the Company.

10, Water-street, Liverpool, December 1, 1862.

THE General Committee of the proposed SURREY COUNTY HOSPITAL beg to inform the architects who have sent in plans for it, they have selected that sent in by Mr. LOWER, of GUILDFORD, under the motto "Hoc Age," and have awarded for the plans, "Spes," the prize of ten guineas; and for the plans, "Utility," the prize of five guineas. The author of the plans under the motto "Integrita," is requested to communicate his name and address to the Rev. C. R. DALLAS, Hon. Sec. Guildford, these not having been received.

CONTRACTS.

NOTICE to BUILDERS. — TENDERS are required for the following SERVICE at Chatham, viz.:—

ERECTING a GYMNASIUM for the TROOPS.

Parties desiring to Tender for the Execution of these Works must leave their names at this Office on or before SATURDAY, the 20th DECEMBER, 1862, and pay the sum of 2*s.* 6*d.* in stamps and a space for the bills of quantities, which will be forwarded to each party as soon as prepared by the Superintending Surveyor.

The secretary of State does not bind himself to accept the Lowest or any Tender

Royal Engineer Office, Chatham, 8th December, 1862.

CITY of LONDON, BARBERS' HALL. Important SITE for WAREHOUSES, or MANUFACTURING PREMISES, in the immediate vicinity of Wood-street, Cheapside.—The Committee of the Worshipful Company of Barbers, will meet at their Hall, on THURSDAY, the 29th day of JANUARY, 1863, to receive TENDERS, for letting on a building lease, for ninety-nine years, the extensive PREMISES, known as Barber-Hall, situate on Monkwell-street, Wood-street: comprising three houses, fronting Monkwell-street, Nos. 33, 34, and 35, part of the courtyard in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell-street of about 83 feet by an average depth of about 116 feet, and an extreme depth of about 135 feet.—Full particulars, with a plan of the property, elevation, and section of street front, also conditions of letting may be obtained, on application to the Clerk of the Company; to Mr. CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 61, Doughty-street, W.C.; or to the Beadle at the Hall.—By order,

HENLEY GROSE SMITH, Clerk.

4, Warnford court, Throgmorton street, E.C.

TO ENGINEERS.—ENLARGEMENT of the CITY of BRISTOL WORKHOUSE, at STAPLETON.—The Guardians of the Poor of the City of Bristol give notice that all persons who may wish to Contract for the ENGINEERS' WORK, to be done in enlarging the above Workhouse, are required to send by post to the said guardians, on or before WEDNESDAY, the 24th DECEMBER, 1862, sealed TENDERS, endorsed "Tender for Engineers' Work; Stapleton Workhouse," together with the names and descriptions of two responsible persons who will become sureties for the proper performance of the Contract, in a sum equal to one-fifth of the amount of such Tender. Tenders will be opened at the meeting of the Guardians, on the 26th December, 1862. The drawings and specifications for the said Engineers' Work, and the conditions of the Contract, may be seen at Saint Peter's Hospital, Bristol. The Guardians do not pledge themselves to accept the lowest or any Tender.

*** Each Tender must be accompanied by a Schedule of the prices on which such Tender is based; and the Tender and the Schedule of prices must be in a form which can be had on application to the undersigned, at St. Peter's Hospital.—By order of the Board of Guardians 28th November, 1862. W. B. WILMOT, Clerk.

TO ROAD CONTRACTORS and OTHERS. TENDERS are required for FENCING and FORMING ROADS on the Estate of the Farnborough and Aldershott Freehold Ground Rent Society (Limited), at Farnborough. Copies of the plans and specification, with forms of Tender, may be obtained at the Architect's Office, on and after MONDAY, the 8th inst. Tenders are to be delivered at the office of the Architect, on WEDNESDAY, the 17th inst., at ELEVEN o'clock, sealed, and endorsed "Tender for Fencing and Forming Roads at Farnborough." References will be required, and the lowest or any Tender will not necessarily be accepted.

HENRY CURREY, Architect.

4, Lancaster-place, Strand, W.C. December 3, 1862.

BUILDERS willing to TENDER for FURNISHING the CARCASE of a DETACHED VILLA, within a quarter of a mile of the Crystal Palace Railway Station, can inspect the drawings and specification at the Office of the Architect, who reserves the right, on behalf of the Lessee, of rejecting the lowest or any Tenders. Tenders are to be delivered on TUESDAY, DECEMBER 23rd, at FOUR o'clock, punctual.

HENRY M'CALLA, C.E. Architect.

Office, 25, Westbourne-place, Eaton-square, S.W.

CONSULATE-GENERAL of SPAIN in ENGLAND.—To BUILDERS, IRONFOUNDERS, and CONTRACTORS.—CONSTRUCTION of an IRON BRIDGE or VIADUCT across Seymour-street, Euston-square, N.W.—TENDERS for the same will be received at the Town Hall of Madrid, addressed to His Excellency the Mayor, up to the 26th of the present month of DECEMBER, and they will be opened on the following day (26th). The drawings, specifications and conditions can be seen at the Consular Office, No. 1, Cadogan-court, Old Broad street.

H. C. Majesty's Consul-General, JUAN GAVARON.

London, 10th December, 1862

CONTRACTS.

TO GAS COMPANIES. — The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 16th day of DECEMBER, 1862, at TWELVE o'clock precisely, to receive TENDERS for LIGHTING the PUBLIC LAMPS within the northern district of the said City with GAS, and for the SUPPLY of GAS to the PUBLIC LAMPS, within the southern district of the said City, for a term of one year, from the 1st of FEBRUARY, 1863, agreeably to specifications to be seen at the Office of the Engineer to the Commission in the Guildhall. The Commissioners have not bind themselves to accept the lowest offer, and no Tender will be received after TWELVE o'clock on the day of treaty. Security will be required for the due execution of the contracts.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, December 2, 1862

TO ENGINEERS and CONTRACTORS.—SHEERNESS WATER-WORKS.—The Local Board of Health for the District of Sheerness, in the county of Kent, hereby give notice that they are prepared to receive TENDERS from persons willing to CONTRACT with them for the following WORKS; viz.—To erect at the above works a pair of duplicate steam-engines and boilers, already provided; also to provide and fix suitable pumps to raise with the said engines 40,000 gallons of water per hour, 350 feet; also to provide and fix any and all shafting, steam pipes, rising mains, stand pipes, and every other matter and thing necessary for the completing, erecting, and fixing of the above-named engines, boilers, and pumps; and further, to constantly, properly, and efficiently work, and keep and maintain in good working order and condition, the said engines, boilers, pumps, and other machinery and things connected therewith, for twelve calendar months after the completion of the same. Persons desiring to Tender may see the engines, &c. and obtain every requisite information, by applying to Mr. JAMES LUND, the Surveyor of the Board, at his Office, 10, Montagu-terrace, Sheerness. Sealed Tenders, endorsed "Tender for Pumps, &c." are to be delivered at the Office not later than TUESDAY, the 23rd day of DECEMBER, 1862, at SIX o'clock in the evening.—By order of the Sheerness Local Board of Health,

EDWARD FELKIN, Clerk.

Office of the Local Board of Health, Sheerness, 27th November, 1862.

TO GAS FITTERS and OTHERS.—The Commissioners of Sewers of the City of London will meet in the GUILDHALL of the said City, on TUESDAY, the 16th day of DECEMBER, 1862, at TWELVE o'clock precisely, to receive TENDERS for LIGHTING, EXTINGUISHING, CLEANING, and REPAIRING, and MAINTAINING the LAMPS, and CARBURATING the GAS to the PUBLIC LAMPS within the Southern District of the City of London, for a term of one year, from the 1st of FEBRUARY, 1863, agreeably to a Specification to be seen at the Office of the Engineer to the Commissioners in the Guildhall. The Commissioners do not bind themselves to accept the lowest offer, and no Tender will be received after TWELVE o'clock on the day of treaty. Security will be required for the due execution of the contract.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, December 2, 1862

TO BUILDERS, IRONFOUNDERS, and CONTRACTORS.—SOUTHMOLTON NEW MARKET.—Parties desirous of TENDERING for the ERECTION of a Public MARKET, Public ROOM, &c. at Southmolton, North Devon, may see the plans and specifications on and after the 3rd of DECEMBER next, at the Town Hall, Southmolton, on application to the Borough Surveyor, or duplicates of the same at my Office. Sealed and endorsed Tenders are to be delivered to the Town Clerk, RUSSELL M. RICCARD, Esq. Southmolton, on or before the 8th day of JANUARY, 1863. Two approved sureties will be required for the due and satisfactory performance of the Contract. The Town Council will not bind themselves to accept the lowest or any Tender, and no payment will be made for estimates.

W. F. CROSS, Architect, Queen-street, Exeter.

Dated 26th November, 1862.

NEW CONGREGATIONAL CHAPEL, GUILDFORD.—To BUILDERS.—Persons desirous of submitting TENDERS for the EXECUTION of the several WORKS in the Erection of the above Building, may inspect the drawings and specification at my Office on and after MONDAY, the 15th inst. Tenders, addressed to JOSEPH FERNANDEZ, Esq. are endorsed "Tender for New Chapel" to be delivered at the Vestry of the present Congregational Chapel, Guildford, at SEVEN o'clock in the evening of MONDAY, the 29th instant, after which no Tender will be received delivered and endorsed as above. The Committee do not pledge themselves to accept the lowest or any Tender

HENRY PEAK, Architect.

4, Commercial-road, Guildford, December 6, 1862.

TO GAS ENGINEERS and OTHERS.—The Visiting Justices of the Middlesex Industrial School at Feltham having decided upon LIGHTING that INSTITUTION with GAS, notice is hereby given, that any engineer or individual desirous of undertaking the WORK, is invited to communicate with Capt. BROOKS, the Superintendent, from whom they will receive every information they may require, and to submit detailed specifications and plans, to be sent to the Clerk of the Committee at Brentford, on or before the 5th day of JANUARY next. The estimate is also required, which is to include all buildings and machinery, mains, pipings, and fittings required, whether for the manufacture of the Gas, or for its distribution to every part of the building where it is required to be consumed, distinguishing in each case for the three heads of

1. Buildings and Machinery
2. Mains
3. Supply Pipes and Fittings.

The Committee do not pledge themselves to accept the lowest or any Tender.—By order,

WM. RUSTON, Clerk to the Committee.

Brentford, M. 9th December, 1862.

TO BUILDERS.—TENDERS are required for sundry WORKS to be done to SIX CARCASES in Spring field road, Oakley Hall. The drawings and specification may be seen at the Office of the Architect, Mr. F. G. WILDOSE, jun. 8, Nile-terrace, Barkersbury

[*For remainder of Contracts see next Page.*

CONTRACTS.

TO BUILDERS. — Persons desirous of TENDERING, separately or together, for the several WORKS required to be done by the EXCAVATOR, BRICKLAYER, MASON, PLASTERER, CARPENTER and JOINER, SLATER, SMITH, PLUMBER and GLAZIER, and PAINTER, in ERECTING new SCHOOL-BUILDINGS for the Auckland Society, Scarborough, can see the specification, detail drawings, and obtain bill of quantities, at the Office of the Society's Architect, Mr. Samuel Tod, Prospect Place. Tenders to be sent in on or before MONDAY, the 22nd inst. by SIX o'clock p.m. endorsed "Tender for Auckland Society's Schools." The lowest or any Tender not necessarily accepted.

W. B. STEWART, Architect.
4th December, 1862. 92, Charlotte-street, Scarborough

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of a PUBLIC-HOUSE in Camberwell, now lying at the plans and specifications at No. 14, Grove-villas, Loughborough-road, Brixton, after the 16th inst.

SANDGATE LOCAL BOARD of HEALTH
WATER WORKS.

The SANDGATE LOCAL BOARD of HEALTH are prepared to receive TENDERS for the execution of the following Works:—

CONTRACT No. 1.—For constructing a tank and other works in a field adjoining the Church at Sandgate, for a reservoir, near Sandgate, in the parish of Newington, near certain springs there, called the Upper Hythe and Spring.

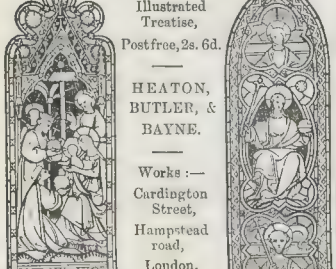
CONTRACT No 2.—For making, supplying, and delivering at Sandgate 1000 cast-iron pipes, 6 inches internal diameter, and other castings

CONTRACT No 3.—For laying about 3,000 yards of 6 inch cast-iron socket pipes, valves, hydrants, and other apparatus connected therewith from the before-mentioned tank along the said field and the high road leading from the spring to and through the greater part of Sandgate aforesaid.

Specifications and a form of Tender can be seen on application at my Office, Bank street, Hythe, or at the Office of S. C. HOMERSHAM, Esq., Civil Engineer, 19, Buckingham-street, Adelphi, London, between the hours of Ten a.m. and Four p.m.; and sealed Tenders, marked "Sandgate Water Works," Contract No. 1," or 2, as the case may be must be forwarded to me on or before the 7th day of JANUARY, 1863. The Board do not bind themselves to accept the lowest or any Tender. E. NEWMAN KNOCKER, Clerk to the Board.

Hythe, December 11th, 1862.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.
(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Postfree, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:—
Cardington Street, Hampstead road, London.

SHOWELL'S
PATENT WATERPROOF GLASS ROOFS,
Address—17, PRINCESS-STREET, MANCHESTER.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—
WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price-lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 26, Soho-square, W. and George-yard, Crown-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that deserving of their patronage for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

WINDOW GLASS! WINDOW GLASS!
Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Colours and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large orders. List forwarded on application at
GRIST'S CITY GLASS WAREHOUSE,
47, Chiswell-street, opposite Whitbread's Brewery, E.C.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE
SHOP SHUTTERS are SHOD and SECURED by the above, a HALF THE COST OF THE USUALLY USED AND DESTRUCTIVE SHUTTER BAR. Samples received to convince the Trade in London
When ordering the above, say "JENNINGS'S SHUTTER SHOE," and the way they are to go.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depot, 11, Dorset-street, Baker-street-road.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS

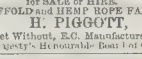
CAST WORK CENTRE FLOWERS,
SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decoration executed in ringer, Cotton Pierre, Composition, and every kind of Cement, at reduced prices
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

ARTISTS' IMPROVED STUDIO EASEL.
Will take Canvasses from 6 inches to upwards of 10 feet high. Powerful winding-in movement; steady fall forward ditto. Very complete, simple, strong, and effectious.—WINSOR & NEWTON, Manufacturers, 38, Rathbone-place, London

TARPAULINS, MARQUEES, &c.
for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointments to Her Majesty's Honourable Board of Ordnance

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED  1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.
County Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c with instructions to lay it down.

PENCILS, BLACK LEAD, and COLOURED CHALKS.—A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Colourmen. Sole Agents, HEINTZMANN & ROCKHUSEN, 8, Friday street, London, E.C.

TO DRAUGHTSMEN AND CIVIL ENGINEERS
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No 149, Fleet-street, London.
These Pencils are prepared in various degrees of hardness and shade.

H H H B for drawing on wood	F F light and shading.
H H H for architectural use.	F for general use
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for draw-ing.	B B B ditto ditto.
	B B B B ditto ditto.

Museum
Sold by all the principal Stationers in town or country.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.
CONDY'S PATENT FLUID is adopted by the Leading Hospitals and Government Departments throughout Nature's Disinfectant (OZONE), possesses the exact properties, and acts precisely in the same manner, as the great disinfectant provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without odour of its own, it forms the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorizing agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying impure water, sweetening musty casks, removing and preventing taint in meat, game, fish, &c as well as for use in the bath for promoting and maintaining personal purity.—Obtainable of all first-class Chemists, in Bottles at 1s. 2s. or 4s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.
Wholesale of the Patentee, Battersea, Surrey, S.W.

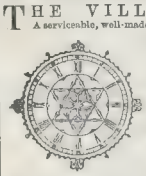
VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator  for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s 6d.
These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

THE VILLAGE CLOCK.—
A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the Hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action, and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No 3,248.
JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 ,,
Ladies' or Gentlemen's Gold English Lever Watches	18 ,,
Strong Silver Lever Watches	6 ,,
Gentlemen's Gold Compensation Balance Watches	40 ,,
Do. Silver do. do.	25 ,,
Marine Chronometers	25 ,,

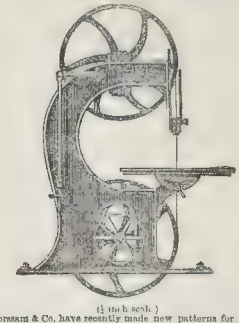
Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

POLYTECHNIC.—The COTTON FAMINE, ZOSTERA MARINA, FLAX, JUTE, and other FIBRES Professor J. H. PEPPER'S NEW LECTURE, illustrated with the OXY-HYDROGEN MICROSCOPE, Experiments, and an entirely New Series of Dissolving Views, designed and painted by J. A. Bennett, Esq. New Musical and Historical Entertainment, by G. A. Cooper, Esq. entitled "The Seven Ages of a Great City." Engagement of the London Vocal Quintet Union,—Artistes: Miss Leffler, Miss Rose Hersee, and Messrs. Carter and De Fontenier. Conductor: Mr. F. O. Williams. Herr Wikkler, the Wonderful Calculator. Master Hamilton, the Juvenile Wizard. Scottish Song. Experiments by J. L. King, Esq., illustrating "Submarine Warfare, and the Means of repelling Boarders from Ironclad Ships" The Laboratory is always open for Pupils and Analyses.

TO BUILDERS.—A LONDON FIRM is anxious to INVEST for CLIENTS a large Sum of Money on Mortgage of Freehold and Leasehold Houses. Must be finished and let—Apply, by letter only, to S. R. care of Messrs. WATERLOW & SONS, 49, Parliament-street, Westminster, S.W.

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the MUTUAL LOAN FUND ASSOCIATION
(Incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in ordinary societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.

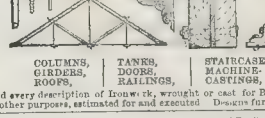
S. WORSSAM & CO.'S PATENT IMPROVED BAND SAW MACHINE.



(¾ inch scale.)

S. Worssam & Co. have recently made new patterns for band saw-machines of two sizes, and introduced all the latest improvements to obviate the breakage of saws, and can with the greatest confidence recommend their new machines as the best out.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

COOMBS & McCALL, Dover Iron Works,
Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS), 17, Union-street, and 95½, Great Guildford street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Irons &c &c
GENERAL IRON FOUNDERS,
MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast for Builders other purposes, estimated for and executed. Designs furnished. or

NAILS and IRONMONGERY, from BIRMINGHAM direct
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street London, E.C.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer
They can be obtained of all Rope-makers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774.

LOSH, WILSON, & BELL
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, and
STEWART'S PATENT CAST-IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE.
No. 24, Davies-street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and Trade Purchasers at wholesale prices. In connection with his Old Establishment, No 18, Blandford-street, Manchester-square, rolling out of Baker-street, Portman-square, London, W.

FOR SALE, a Self-acting CIRCULAR SAW-BENCH, to carry a 48-inch saw, by Powis, James, & Co. It is quite new, and will be disposed of at a low price, if applied for immediately. Can be seen at work at 2, ARCH HOUSE RAILS, HIGHGATE-ROAD, with other Tools and Stock, and fixed, if required. For price, &c. Apply to W. PROCTOR, 4, Arcadian-cottages, Victoria-road, Kentish-town, London, N.W.

CHAPLIN'S PATENT PORTABLE STEAM-ENGINES AND BOILERS.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.



Stationary Engine. From 1 to 30 horse power. | Portable Hoist. 1 to 30 horse power. | Steam Crane.* 30 cwt. to 10 tons. | Engine & Crane. 2 to 25 horse power. | Contractor's Locomo. 6 to 27 horse power. | Traction Engine. 6 to 27 horse power. | Ships' Engine. Winding and Cooking.

* These Cranes were selected by Her Majesty's Commissioners to receive and deposit the heavy machinery in the International Exhibition.

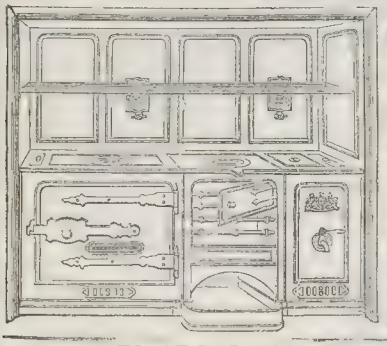
Full particulars and Prices for Delivery in Glasgow or London, on application to

ALEXANDER CHAPLIN & CO. PATENTEES & SOLE MANUFACTURERS,

CRANSTON-HILL ENGINE WORKS, GLASGOW;

Or LONDON DEPOT AND WHARF, LOWER FORE STREET, NEAR STEAM-BOAT PIER, LAMBETH.

Parties are cautioned against using or purchasing imitations or infringements of these Patent Manufactures.



ANDREW McLAREN & Co.

IRONFOUNDERS,

174,

UPPER THAMES-ST

LONDON,

MAKE THE BEST AND CHEAPEST

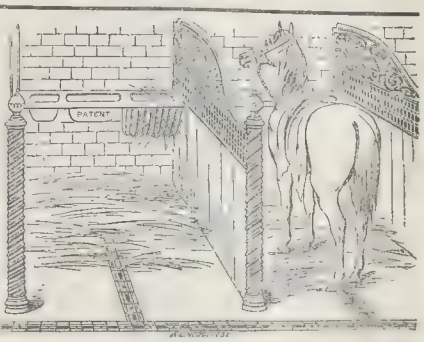
CLOSE

FIRE-RANGES,

AND

STABLE FITTINGS.

A LARGE STOCK OF OTHER CASTINGS KEPT.



TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF **WROUGHT-IRON GIRDERS**

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON

RAILWAY BRIDGE BUILDER.

RAILWAY STATION ROOFING

Manufactured in WROUGHT and CAST IRON, and ERECTED.

TANKS IN WROUGHT AND CAST IRON.

Wrought Iron Doors, Boiler and General Smith's Work.

EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

ROLLED GIRDERS AND JOISTS,

SHEETS, BARS, L and T IRON.

Bond Hoop Iron from Stock.

CRANE CHAIN AND CABLE MAKER.

CONTRACTORS' PLANT, RAILS,

WROUGHT AND CAST WHEELS AND AXLES.

WAGGON IRON-WORK, PEDESTALS, &c. AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.

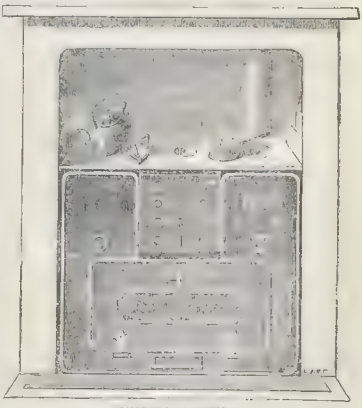
CUNDY'S MULTUM IN PARVO ECONOMIC POOR MAN'S KITCHENER.



WHEN OPEN.

These drawings represent a Stove of the following dimensions:—24 inches long, 24 inches high, and 15 inches deep, when used as an open fire-stove, and also when closed, for BAKING, BOILING, and IRONING. The oven, which is placed underneath the fire, is 18 inches long, 14 inches deep, and 11 inches high. The flue passes all round the Oven, and the Boiler will contain six gallons of water. This Stove, which is also made 30 inches long, 26 inches high, and 15 inches deep, is admirably adapted for BACK KITCHENS, as an auxiliary Cooking Stove, and for STILL-ROOMS, NURSERIES, and SMALL HOUSES, the consumption of coal being only 112 lbs. per week. This Stove, also Cundy's Patent BRICK OVEN Double Fall-down Bar KITCHEN RANGE; also Cundy's Warm-Air Ventilating Stove, suitable for CHURCHES, HALLS, STAIR-CASES, and SCHOOLS, for which invention Mr. Cundy received the SOCIETY OF ARTS MEDAL, also a Medal from the Royal Commissioners of the GREAT EXHIBITION of 1851, can be seen in operation daily, at the Show-rooms of

THE MANUFACTURER,



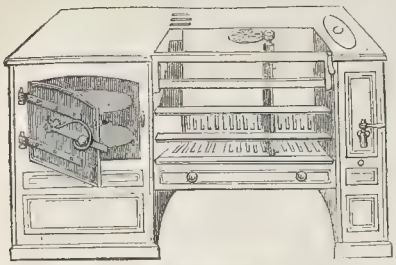
WHEN CLOSED.

WILLIAM ADDIS, Nos. 6, 7 & 15, LEICESTER-ST. LEICESTER-SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCE WILL BE FORWARDED ON APPLICATION BY LETTER.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self-acting Cottage, with Oven and Back Boiler	
24 inches	54s.	30 inches	22s.
36 „	56s.	32 „	24s.
38 „	58s	34 „	26s.
42 „	60s.	36 „	28s.

Register Stoves, with Strong Bars, from per inch, 4d.
Improved New Pattern Circular Cheek Register, with strong Bars and Travets, 6d. per inch.
Best ditto, with Fire-brick Back, from per inch, 5d.
Bright Stoves, with Two Fires, 45s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	¾-inch.	2 inch.	2½-inch.	3-inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.
Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½ in.	3 in.
Cast Rain-water Pipe	8d.	10d.	1s. per yard.

Cast Gutters, 4-in. 7d. per yard.

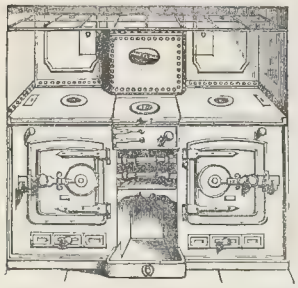
	4-in.	4½-in.
O G Gutters, with Clips on	10d.	1s. per yard.

	2	3	4	5	6
Patent Line	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s each.

Brick Moulds kept in stock. Any size made to order.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15s. to 33*l.* 10s.; Bronzed Fenders, with standards, 7s. to 5*l.* 12s.; steel Fenders, 3*l.* 3s. to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3s. to 18*l.*; Chimney-pieces from 1*l.* 8s. to 100*l.*; Fire-irons, from 2s. 3d. the set to 4*l.* 4s. The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gaseliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.

COUNTRY ORDERS PROMPTLY EXECUTED.



All kinds of Smiths' Work

J. MOORE,
WHOLESALE IRONMONGER,
122, EUSTON ROAD
(near St. Pancras Church),
Opposite J. W. Bird's Marble and Stone Works.
THE CHEAPEST AND BEST HOUSE IN LONDON FOR
KITCHEN RANGES, STOVES, NAILS, LOCKS, HINGES, BOLTS,
AND
EVERY ARTICLE OF BUILDERS' IRONMONGERY.
Priced Lists on application.

ESTABLISHED 1846.



Bell-hanging, Railings, and Balconies.



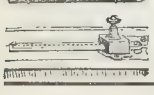


PATENT CLIMAX DOOR SPRINGS,
FOR SINGLE AND DOUBLE ACTION DOORS.



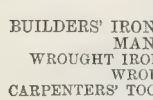


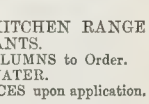
PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,
GOTHIC, DROP, AND OTHER DOOR HANDLES.





PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,
BRASS AND IRON LOCKS OF EVERY DESCRIPTION.





Builders', Cabinet, and Ship Brass Founders.
WILLIAM GREENWAY & CO.
MANUFACTURERS, BIRMINGHAM.

W. HARMER & SON,
BUILDERS' IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.
WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.
WROUGHT IRON TUBE and FITTINGS for GAS or WATER.
CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.
W. HARMER & SON,
3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.



BURT & POTTS'
PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.
38 & 65, YORK-STREET, WESTMINSTER.

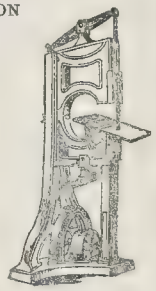


DRAUGHTS & DUST ROUND DOORS & WINDOWS
EFFECTUALLY PREVENTED BY
GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS
(*Can be had any Length or Pattern*).
The neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work OLD or NEW.
Self-acting Spring Slides for the bottom of doors.
The most imperfect fit can be made air-tight without re-hanging.
The Trade supplied on liberal terms.
JOHN GREENWOOD, PATENTEE,
10, Arthur street West, London Bridge.

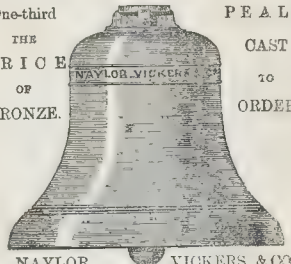


PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON
and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*
Drawings sent on application.
MACHINERY TO BE SEEN AT WORK IN ROCHDALE
LONDON OFFICE, CANNON STREET, E.C.



CAST STEEL BELLS,
One-third THE PRICE OF BRONZE.
PEALS CAST TO ORDER.



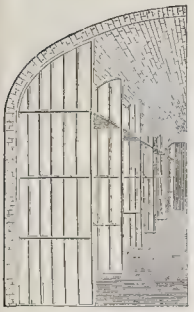
NAYLOR, VICKERS, & CO.
SHEFFIELD

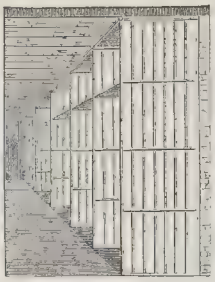
VENTILATING STOVES—Cheap, simple,
efficient, and durable. Thousands have been sold, and universally approved. They are suitable for Halls, Warehouses, Conservatories, and every situation where a close stove is required. The larger sizes are extensively used in churches, chapels, and public buildings, with great effect and economy. Prices, 50s. 60s. 70s. 90s. and 120s. Prospectus with engravings, gratis and post free. In operation daily The trade supplied.
DEANE & CO.,
Opening to the Monument, London Bridge. Established A.D. 1700.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only self-act instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame
D. HULETT & CO. 25, High Holborn, London,
Manufacturers of Gas Chandeliers. Glass Lustres &c. &c.

TO BE SEEN in the HARDWARE
COURT, INTERNATIONAL EXHIBITION, Stand 6042, and HARDWARE COURT CRYSTAL PALACE, SYDENHAM, the only PATENT COOKING STOVE that has received THREE PRIZE MEDALS. England, 1851; France, 1855; International, 1862; for a new mode of heating and purifying ovens. Good Workmanship and ECONOMIZING FUEL in Kitchen Ranges.—DULEY & SONS, Manufacturers, Northampton

WROUGHT IRON WINE BINS.





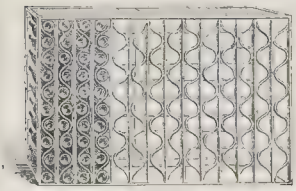
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



With SEPARATE REST for EACH BOTTLE, peculiarly adapted for Private Cellars. No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

*** The Iron Bins fitted up by them in the Cellars of the Refreshment Department of the International Exhibition may be seen on application to the Attendant at their Stall, Eastern Annex, Class VIII. No. 1849.

MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

CASTINGS, ANY WEIGHT AND QUANTITY,



With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.



NO CHIMNEY WANTED

FOR RICKETS & HAMMOND'S PATENT CALORIFERE GAS STOVES, in Churches, Halls, or Shops; and for Conservatories, or any close apartment, a Pipe can be attached to carry away the burnt air.



AGAR STREET, STRAND, LONDON.—DISCOUNT TO THE TRADE.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.

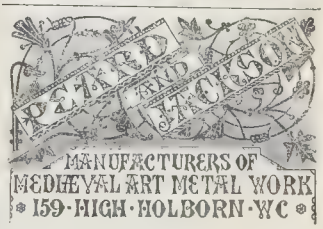


Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Conduit-street, W
Drawings and Estimates furnished

HART & SON

56, WYCH-ST., STRAND, W.C
AND
20, COCKSPUR-ST. PALL-MALL, S.W.

METAL WORK OF A GOTHIC CHARACTER, FOR ECCLESIASTICAL AND DOMESTIC PURPOSES, CHALICES, PATENS, CRUETS, CANDLESTICKS, CORONÆ, STANDARDS, BRACKETS FOR GAS, OIL, AND CANDLES, MONUMENTAL BRASSES, &c. &c.



Book of Examples now out of print,—revised & enlarged Edition shortly, meanwhile, SPECIAL DESIGNS & ESTIMATES for WROUGHT IRON & BRASS Gates, Screens, Grilles, Altar & Tomb Railings, Hinges, Vanes, Crosses, GAS-FITTINGS,—Brackets, Standards, Gasteliers, Coronæ, &c., and *EVERY* other *DESCRIPTION* of METAL WORK for Domestic & Ecclesiastical purposes: As also for COMPLETELY & EFFICIENTLY Lighting Churches, Chapels & Public Buildings,—including SERVICE PIPES, METERS, &c., will be submitted upon application.

IRON RAILINGS for ENCLOSING

TOMBS and GRAVES.
COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COITAM & CO. IRON WORKS,
2, WINSLEY STREET,
OXFORD STREET, LONDON, W.



MOREWOOD & CO.

(late Morewood & Rogers),
Dowgate Dock, Upper Thames-street, London; and Lion Works, Britannia Row, Islington.

PATENT GALVANIZED CANADIAN IRON AND TILES.
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPES, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Sheet and Moulded Gutters, Wire Netting, Nails, Bolts, &c.
Estimates given for Roofs, or every description of Galvanized Iron Work.
OFFICES and WAREHOUSE, DOWGATE DOCK, LONDON.

CAUTION to ARCHITECTS and BUILDERS.

In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES, Proof of SMITH'S PATENT DOUBLE WROUGHT SPRINGS; SMITH'S PATENT WEATHER-TIGHT WATER BAR, and SMITH'S PATENT WEATHER-TIGHT CASEMENT FASTENING for FRENCH WINDOWS

The Public are most respectfully requested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princes-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

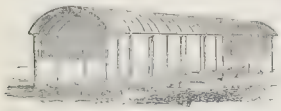
168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

Wrought Iron Girders, Flitches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



IRON BUILDINGS, IRON ROOFS, & IRON CHURCHES erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Birmingham, and Limehouse.

Every description of Iron Work Galvanized.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

IMPROVED WARM-AIR STOVES, FURNACES, & HOT-WATER APPARATUS

FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS.

KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION.

Manufactured and erected by J. KIRK & CO., Successors to

CUTLER & SONS,

CLARENCE IRON WORKS,

16, GREAT QUEEN-STREET, LINCOLN'S-INN-FIELDS, LONDON.

IRON-FOUNDERS, FURNISHING IRONMONGERS, GAS ENGINEERS, AND BELL-HANGERS.

Orders for EVERY DESCRIPTION of CASTINGS for ENGINEERS and BUILDERS promptly executed.

SPRING ROLLER BLIND MAKERS.

WILLIAM ASHDOWN, Manager.

LAMBERT, BROTHERS,

THE ALPHA [illegible]

WALSALL

LONDON: THOMAS LAMBERT & SON, LAMBETH.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

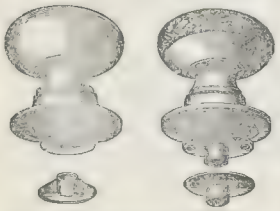
SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.



NUP PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

New and Designs in [illegible] Brass, Iron, Bronze, Porcelain, Crystal, Ivory, Horn, Leather, Papier Maché, carved woods, Parian, &c. &c. to any pattern.

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A large Counter and Warehouse Stock of every description of Locks, Latches, Brass Founders', and Ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

*** Illustrations and particulars sent upon application.

CLAYTON, SHUTTLEWORTH, & CO.

ENGINEERS, MANUFACTURERS OF PORTABLE AND FIXED STEAM-ENGINES, MORTAR MILLS, WINDING GEAR, PUMPING, SAWING, AND AGRICULTURAL MACHINERY, &c. &c.

STAMP END WORKS, LINCOLN; and 78, LOMBARD STREET, LONDON, E.C.

Descriptive, Illustrated, and Priced Catalogue free per post.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

TO BUILDERS, CONTRACTORS, and OTHERS—BLOCKS, CRABS, CRANES, JACKS of all kinds, and TRAVELLING JENNIES, adapted to lift any weight from one to fifty tons.

Manufactured by ELI RICHARDS, 95, New Park-street, Southwark.

Foreign orders executed with despatch.

Chain for Slings, Cranes, and Blocks, in lieu of rope; equal to hoist any weight; warranted of the best iron and workmanship, and tested by patent machinery; on the lowest possible terms.

FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and is now in course of erection in London and the suburbs, for nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon the principle which is recommended to the notice of all who are interested in building, both as effecting the necessary foundation for stone, brick, or iron, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,

12, YORK-BUILDINGS, ADELPHI.

CANNON IRON FOUNDRY, 156, Goswell-street, St. Luke's.—JONES & BLAXTON, having made great additions to their STOCK of PATTERNS, are in addition to the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Pediment Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water-closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain-water Pipes and Gutters, Back-Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST IRON PIPES, IRON WORK FOR OVENS, &c.

CHUBB'S LOCKS,

with all the recent improvements,

STRONG FIRE-PROOF SAFES, CASH AND DEED BOXES.

Complete Lists of Sizes and Prices may be had on Application

CHUBB and SON,

57, ST. PAUL'S CHURCH YARD, LONDON,

28, Lord street, Liverpool; 16, Market-street, Manchester; and Wolverhampton.

THE LONDON LOCK-MAKERS IN THE INTERNATIONAL EXHIBITION

MESSRS. HOBBS & CO. beg to inform Bankers and the Commercial World, that their PATENT LOCK in the Exhibition was on the Register from the 1st of MAY to the 1st of NOVEMBER, for 300 Guineas to any person who could pick it. THIS WAS THE ONLY LOCK EXHIBITED that had not defied the ingenuity of the Practised to Pick in Sixty days. Seven cases removed to Obtain their first, and thirty days to operate on the security of the works; yet, during the 128 days the Exhibition was actually open, not one single application was made! In 1851 this Lock was left for 16 days without one effort approximating towards success.

MESSRS. HOBBS & CO. are Prize Medallists from the Exhibition of America, Austria, and France; and London in 1851 and 1862.

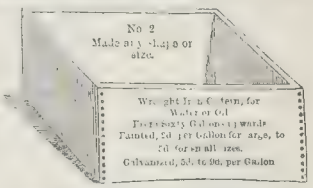
7, CHEAPSIDE, LONDON.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr Arnott's Improved Ventilators.

HULETT & CO. 55, High Holborn.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, TUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CAST DOORS, &c.



BURNEY & BELLAMY, Mill-wall, London.

The Steam boats from London Bridge call near the Factory.

LIGHTNING CONDUCTORS.

R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples complete for fixing, at the following prices:—

Three-eighths inch diameter	1s. 0d. per foot.
Half inch ditto	1s. 6d. "
Five-eighths inch ditto	2s. 0d. "

R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is recommended by eminent architects, engineers, and scientific men, in all parts of the world.

Offices—110 Strand, London.

" [illegible]

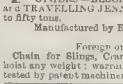
" 27, Dale-street, Manchester.

" 26, Ann-street, Birmingham.

" 17, South Castle-street, Liverpool.

" Exchange-buildings, Dundee.

" 7, Frederick-street, Aberdeen.



SPRATT'S PATENT BATTERY EXCITATION COPPER LIGHTNING CONDUCTOR, giving 3 inches of surface. Only 1s per foot, complete for fixing, including Insulated Fastening, Patent Silver Alloy Point, Glass Isolators and Attachments, forming a Link Steel Magnets for lateral discharge. Also SPRATT'S NEW ARRANGEMENT for DRIVING PARTS OF MACHINERY, from the Motive Power. Cheapest, Simplest, and most Durable Fencing. Injured by Lightning; Best in Breweries from spoiling; Milk in Dairies Souring by electric causes. Office, 18 and 21, Middle-row, Holborn. Orders over 100 feet carriage free.—Send for circular.

IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm purposes, Churches, Chapels, Schools, Libraries, Counting-houses, Sale Rooms, &c. suitable to all Climates. Executed complete in town or country, or packed for exportation.

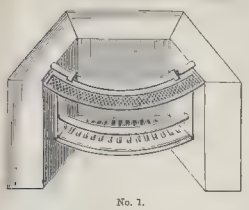
For Designs and Estimates apply to

RANDAL SLAP, Contractor,

No. 32, KING WILLIAM STREET, E.C.

Where numerous Drawings and Photographs may be seen.

N.B. The Iron Buildings manufactured by R. SLAP are not fixtures on Leasehold Property.



No. 1.

A PRIZE MEDAL AWARDED AT THE INTERNATIONAL EXHIBITION, AND A HIGHER COMMENDATION THAN TO ANY OTHER MANUFACTURER OF STOVE-GRATE.

FIRE-LUMP STOVES.

These Stoves are of a most useful description. They are formed of Fire Lumps, with only the fire-bars and grating of iron. They give a good heat with a small consumption of coal.

PRICES OF NOS. 1 AND 3.

	£ s. d.
21 inches wide, 12 inch bars	0 12 6
24 inches wide, 15 inch bars	0 16 0
27 inches wide, 18 inch bars	1 0 0

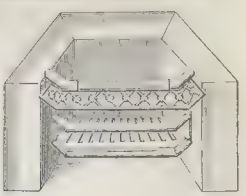
Without the swinging trivet, 2s. less. Larger sizes in preparation.

EDWARDS & SON,

STOVE GRATE & KITCHEN RANGE MANUFACTURERS,

No. 49, GREAT MARLBOROUGH STREET, REGENT STREET, LONDON.

MARBLE OR STONE FENDERS, WITH TILE HEARTHS COMPLETE, SUPPLIED AND FIXED.



No. 3.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, STAND 6139.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES.

MUSGRAVE'S PATENT IRON COW HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.

At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended," being the only prizes conferred on any competitor in this class.



MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.



This Stove is the nearest approach to Warming by Hot Water, and an excellent Aid in Ventilation.

It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours at a cost of Threepence; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

Full particulars will be sent on application to the Inventors and Makers

MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

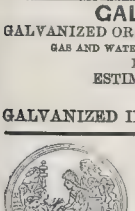
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.



POWIS, JAMES, & CO. BLACKFRIARS ROAD, LONDON,

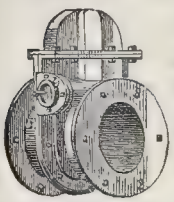
Awarded a Prize Medal at the International Exhibition, 1862, for Collection of

FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class,

OFFICE, 26, WATLING STREET, CITY, E.C.

Where all Letters and Applications for Machinery are to be addressed.



REDUCED PRICES OF

BRYAN DONKIN & CO.'S

IMPROVED GAS VALVES

From 1 to 18 in price 9d. to 6l. per pair diameter.

Lists of prices with full dimensions of all sizes up to 30 in. to be had on application.

These Valves are all proved to 30lb. on the square inch before leaving the works, and are always kept in stock.

Valves made with outside racks to order.

Also Screw Water Valves, with gun-metal faces.

BRYAN DONKIN & CO. ENGINEERS, Near Grange-road, Bermondsey.



SMOKY CHIMNEYS. — The best Cure is the PATENT ALBERT CHIMNEY CAP, 280 on Buckingham Palace; in use also at St. James's Palace, Windsor Castle, Government buildings, museums, halls, club houses, and public buildings in general. Prospectuses on receipt of two postage stamps.

JAMES BARTON, Iron Works, 370, Oxford-street, W.

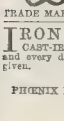
N.B. Manufactory for the Patent Stable Fittings and Enamelled Mangers.

PRIZE MEDAL AWARDED

PRACTICAL UTILITY, MODERATE COST.



HENDERSON'S PATENT DERRICK CRANES, sizes from 10 cwt. upwards, to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Dock and Single Power Cranes, Winches, &c. &c. For further particulars apply to BOWSER & CAMERON, Springfield Iron Works, McNeil-street, Glasgow.



TRADE MARK.

GALVANIZED IRON and ZINC WORKS.

Galvanized or Black Sheet Iron, corrugated and plain, always in Stock.

Manufacturer of Guttering, Piping, Wire Netting, Galvanized Cisterns, and every description of Hollow Ware. All kinds of Ironwork Galvanized. Estimates given for Iron Roofs, Sheds, Stores, &c.

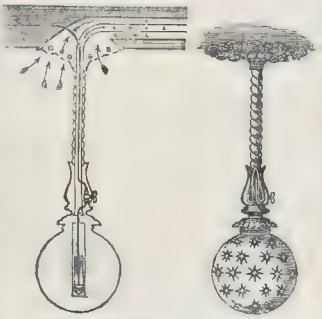
EDWARD DAVIES, SNOWHILL GALVANIZING IRONWORKS, Wolverhampton Staffordshire.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimate given.

JAMES HAYWOOD, JUN. PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

RICKET'S & HAMMOND'S VENTILATING GLOBE LIGHT,

combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these.—

A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION

A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.

AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.

A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.

5, AGAR STREET, STRAND, LONDON, W.C.

J. TYLOR & SONS' PATENT BATH APPARATUS



The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.

Estimates given from architects' drawings, or by inspection of building.

Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Alexandra Regulator. Complete Pattern book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

OLD RAILS, GIRDER and BEAM IRON, FOR SALE.

Apply to

WILLIAM BIRD & CO.

2, LAURENCE POUNTNEY HILL, E.C.

TO IRONMONGERS, IRONFOUNDERS, ENGINEERS, MERCHANTS, AND SHIPPERS.

STOVE and RANGE METAL; Fitted Stoves and Ranges; Black, Bright, and Ornamental Stove Rail-ing Bars, Balusters, Balcony Panels, Palisade Pales, Rain-water Goods, and every description of Builders' Castings.

CASTINGS OF ALL KINDS, AND TO ANY PATTERN.

GAS AND WATER PIPES.

PIG, BAR, SHEET, AND PLATE IRON.

Steam engines, Boilers and all kinds of Engineering and Millwright Work Estimates furnished.

DAVID M. BURR,

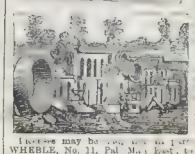
Metal Broker and Commission Agent, 2, Martin's-lane, Cannon-street, London, E.C.

LARGE IRON PIPES FOR SALE.—

About 180 feet of strong IRON WATER MAIN, 9 inches clear diameter, in 9 feet lengths, weighing about 3 cwt. each length, may be had at a cheap rate.—Apply (if by letter, post paid) to Mr THOS LAINSON, 6, Palmeira-square, Brighton

READING ABBEY CONCRETE, or RUBBLE STONE, exhibited at the ROYAL AGRICULTURAL SOCIETY, Battersea Park, and INTERNATIONAL EXHIBITION.





The Earth is moulded into any figure, hard, cold, and precise, presenting a clean and smooth surface, capable of receiving all the ornamentations, shown in the Illustrations, bricks, tiles, drain-pipes (of small or large diameters), and all other kinds of articles suitable for architectural and agricultural purposes, forming an extraordinary degree of Lateral and may be used in a short space of time, when [illegible] material is at hand, and is superior to anything [illegible] for the purpose of forming all the part of a house [illegible], stairs, areas, and floors, slate, and roofing as a basis for the walls, &c. and at a cost not exceeding [illegible] and is superior to anything [illegible] for large [illegible] works, such as Bank-, Sea-walls, Docks, Harbours, Breakwaters, &c.

Terms may be had on particulars, by applying to Mr WHEBLE, No. 11, Pall Mall East, to Mr THOMAS LAWRANCE, No. 65, Sinclair's-road, Maryland's crescent, London; or Mr. LOVEJOY, London street, Reading.

MOORE'S PATENT VENTILATOR

NOTICE OF REMOVAL.

In consequence of the expiration of the Lease at 81, Fleet street, all Communications are respectfully requested to be made at the Works, JOSIAH MOORE, Patentee, BEKFORDE WORKS, ST. JAMES'S WALK, CLERKENWELL, E.C.

SEVEN-HORSE PORTABLE ENGINE

FOR SALE, nearly as good as new, practical TWO-TON IRON CRANE, with Foundation Screws, &c. complete, [illegible]

TWO NEW PILE ENGINES, price 14l. the two

Apply to ROGERS & BOOTH, Contractors, Gosport.

ROBERT MACLAREN & CO.

EGLINTON FOUNDRY, GLASGOW

Manufacturers of Lengths of CAST IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.

GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 99, Hatton Garden, E.C.

These Reflectors never tarnish, ensure non-smoking, and the most effective and durable yet presented to the public.

N.B. The usual discount to Builders and the trade.

STATION ROOFS and ROOFS of every kind GLAZED WITHOUT PUTTY, and warranted PERFECT. EVERY DESCRIPTION OF BUILDINGS EFFECUALLY WARMED with G. M'SESNEY'S Tricipital Tubular Heating Apparatus.—Full particulars of the above, and references, free by application to the Patentee,

T. G. MESSENGER, Engineer, &c. Loughborough.

SASH WEIGHTS, 5s. per cwt. at Ashton Wharf, Blackwall, and at Hope Wharf, near the Church, Rotherhithe

THE MEDAL FOR 1862.

THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.

TRADE MARK.

CROWN TUBE WORKS, WEDNESBURY, STAFFORDSHIRE

Warehouses—81, Upper Thames-street, London, E.C.

JAMES RUSSELL & SONS, The Patentees and first Makers of Wrought Iron Tubes.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, which [illegible] Improved Iron Doors, Safes, Iron Shutters, Iron Locks, Bronze Patent Locks of [illegible] Cranes, Iron Wheels, Axles, Metal Work, Wrought Iron Roofing, Joists, Girders, Gas Fittings, Gas Stoves, &c.; and the New Registered Venetian Ventilator, so much admired, &c. &c. &c.

J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 20 years, for the supply of GOODS of the best MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare market, London.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects.

JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

CHRISTMAS PRESENTS.

TWO EXHIBITION PRIZE MEDALS AND HONOURABLE MENTION

AWARDED 1862 FOR

CHEAP ACHROMATIC MICROSCOPES, SCIENCE AND ART PHOTOGRAPHS FOR THE MAGIC LANTERN, AND COLLECTIONS TO ILLUSTRATE NATURAL HISTORY.

A Descriptive Illustrated Catalogue by Post, Four Stamps.

SAMUEL HIGHLEY, 70, Dean-street, Soho-square, London, W.

GEORGE AND ROBERT STEPHENSON.

THE 4TH THOUSAND OF

MR. SMILES'S NEW VOLUME OF LIVES OF BRITISH ENGINEERS,

Will be ready NEXT WEEK.

II.

NOW READY, 6TH THOUSAND,

LIVES OF BRITISH ENGINEERS;

FIRST SERIES. FROM THE EARLIEST PERIOD TO THE DEATH OF TELFORD.

By SAMUEL SMILES.

With 5 Portraits and 200 Illustrations. 2 vols. 8vo. 42s.

JOHN MURRAY, Albemarle-street.

Now ready, price 3s. 6d

GUTCH'S SCIENTIFIC REGISTER and ALMANACK for 1863.

B. BLAKE, 421, Strand; and all Booksellers.

"A more portable compendium can scarcely be imagined."—*The Times.* "'Gutch's Literary and Scientific Register,' we may inform those who know it not, is a mine of information on subjects within its scope."—*Athenæum.* "There is in this volume an amount of information upon a variety of subjects."—*London Review.*

TO ENGINEERS, MILLWRIGHTS, &c.

Lately published, with new Illustrations, 14th Edition, corrected and improved, to which is added a new Table of Fractional Numbers, 12mo. 3s. cloth,

THE MILLWRIGHT and ENGINEER'S POCKET COMPANION: containing Decimal Arithmetic, Tables of Square and Cube Roots, Practical Geometry and Mensuration, Pumps, Pumping, and Steam-Engines; with Tables of Circumferences, Squares, Cubes, &c.

By WILLIAM TEMPLETON. Revised by S. MAYNARD.

"A more useful addition to the engineer's library cannot well be conceived."—*Mechanic's Magazine.*

"The present edition having undergone the careful revision of so competent an editor as Mr. Maynard, is worthy of special recommendation."—*Athenæum.*

"Will be found of great use to those for whom it is designed."—*Builder.*

Also, by the same Author,

TEMPLETON'S ENGINEER'S COMMONPLACE BOOK: consisting of Practical Rules and Tables adapted to Factory and Steam Engines, &c. Fifth Edition, with several new Illustrations. 12mo. 5s. cloth.

TEMPLETON'S LOCOMOTIVE ENGINE POPULARLY EXPLAINED. Illustrated by new Designs. Second Edition. 12mo. 4s. cloth

London: SIMPKIN, MARSHALL, & CO. Stationers'-hall-court.

THE LIFE OF THE ELDER BRUNEL, THE ENGINEER.

New Edition, now ready, in 8vo. with a Portrait on Steel, and Sixteen Illustrations on Wood, price 14s.

LIFE of SIR MARC ISAMBARD BRUNEL, Civil Engineer, V.P. F.R.S. Corresponding Member of the Institute of France, &c

By RICHARD BEAMISH, F.R.S.

Second Edition, revised and corrected.

"Mr. Beamish was one of Mr. Brunel's most active and valuable engineers in making the construction of the Thames Tunnel, and the details account which he here gives must great work constitute an admirable contribution to engineering literature.....This Life will be received with great profit and interest by our readers, and will worthily take a permanent place in every professional man's library."—*Engineer.*

London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

Now ready, in 8vo. with Eight Plates of Figures, price 8s.

ELEMENTS of PRACTICAL HYDRAULICS, for the Use of Students in Engineering.

By SAMUEL DOWNING, LL.D Professor of Civil Engineering in the University of Dublin.

Second Edition, revised and enlarged.

London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

SECOND SERIES OF "WICKES'S VILLA ARCHITECTURE."

Now ready, with 31 Plates, 4to. price 27s. half morocco,

A HANDY-BOOK of VILLA ARCHITECTURE: being a Series of Designs for Villa Residences in Various Styles. With Detailed Specifications and Estimates.

By C. WICKES, Architect, Author of "The Spires and Towers of the Mediæval Churches of England," &c.

Second Series.

N.B. The complete Work, First and Second Series, in One Volume, with 61 Plates, 4to. price 50s. half morocco.

London: LOCKWOOD & CO. 7, Stationers' Hall court, E.C.

NEW EDITION OF "CHAMBERS'S CIVIL ARCHITECTURE," BY GWILT

Now ready, with 63 Plates and Portrait of the Author, royal 4to. price 21s. cl cl.

A TREATISE on the DECORATIVE PART of CIVIL ARCHITECTURE.

By Sir WILLIAM CHAMBERS, K.P.S. F.R.S. F.S.A. F.R.S.S.

With Illustrations, Notes, and an Examination of Grecian Architecture. By JOSEPH GWILT, F.S.A. New Edition, revised and edited by W. H. LEEDS.

*** A new edition of this standard architectural work (which has already passed through several high-priced issues), so cheap as to place it within the reach of the builder, has students and practical men, and at the same time so carefully edited and well executed as to make it worthy of a place on the shelves of the more opulent, cannot fail to be received as a boon by the professional public.

London: LOCKWOOD & CO. 7, Stationers'-hall-court, E.C.

THE SCULPTORS' JOURNAL and FINE ART MAGAZINE (a Monthly Periodical, price 6d.) on JANUARY 1st, will contain the most interesting information for the Architect, the Sculptor, the Antiquarian, the Student, the Artist, the Amateur, and the Public

S. H. LINDLEY, 19, Catherine-street, Strand, W.C.

Order of any Bookseller.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoiced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

OATES'S PATENT SOLID BRICK MACHINE.—Persons who may be contemplating MAKING BRICKS by MACHINERY are requested to see the above Machines in operation before purchasing others. These Machines are warranted to make thirty perfect bricks per minute, stiff enough to be wheeled (as soon as made) to the kilns to be burnt; and from the time the clay is dug from the mine until the bricks are made and set in the kilns for burning, does not exceed five minutes.—Application to be made either to J. P. OATES, Edmonton, near Birmingham; or to OATES & BAYLIE, Stourbridge, from whom drawings and every information may be had, with card to view.

WANTED, 40,000 or 50,000 good OLD BRICKS, delivered at Nine Elms, Vauxhall.—Address, stating lowest cash price, to Mr. WATERS, Steam Packet Tavern, Nine Elms, S.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
" 8-inch Pavings, at 57s. 6d. per 1,000.
Floor Bricks, 40s. per 1,000.
Mingled Kiln Bricks, at 38s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. About 20,000 Bricks lying at Devonshire-street Station, at 24s. per 1,000

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Blue Queens.
Fancy Moulded Bricks of many Patterns.
Best Hard Kiln-burnt Common Bricks, in large Quantities.
Ditto, 6 inches.
Ditto, Culvert Bricks.
Plain Tiles of all kinds.
Plain and Fancy Ridge Tiles, &c.
Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty and three dies, 85*l.*

Licences to Manufacture granted for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southborough (about one mile from the Station), Kingston-on-Thames.

A NEW BRICK and LIME WHARF and DRAWDOCK

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS,
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM CUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

TO SHIPBUILDERS, CONTRACTORS, and OTHERS.—TO BE SOLD by Private Contract, about 140 BALKS of very prime STETTIN OAK, just imported ex "Marie Charlotte," from Stettin.—Apply to CHARLES A. LEWIN, Timber Merchant, Poole, Dorset.

TO BUILDERS and OTHERS.—FOR SALE, a few useful SCAFFOLD-POLES, BOARDS, PUTLOGS, and a 32-round LADDER.—Apply to Messrs. J. J. CLEMMANS & SON, Auctioneers, &c. 21, Holywell-row, Finsbury-square, E.C.

WAINSCOT!

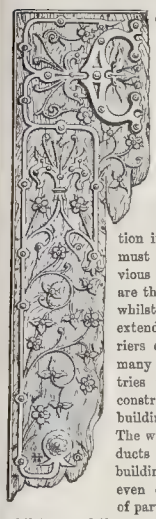
A fine parcel of Wainscot
TO BE SOLD CHEAP.
Apply at 21, High-street, Camden-town, N.W.

SECOND-HAND MATHEMATICAL INSTRUMENTS, by Elliott, Troughton & Simms, Dolland, and others. The Cheapest House in London is WM. LAWLEY'S, 79, Farringdon-street, City. Bow Pens, by Troughton & Simms, from 1s. 3d. each. Second-hand Lenses, for Opera, Race, and Theatre Glasses, by Voigtlander, Dolland, and others. Instruments, Telescopes, &c. bought or exchanged

The Builder.

VOL. XX.—No. 1036.

What we may get from Foreign Countries.



OULD we have extended our notice of the mineral products, and other materials to be used in building, we should have found in several of the foreign divisions of the late Exhibition, much that the interests of architects and builders would have been, and are, concerned with. British engineering finds occupation in every country; hence it must know, or be able from previous insight to ascertain, what are the resources of each locality; whilst, as means of transport are extended and improved, and barriers of commerce swept away, many products of foreign countries will be available in the construction and architecture of buildings in the United Kingdom. The wealth of our country in products of the earth applicable in building, is mineral wealth: but even of iron we import some of particular make from Sweden; whilst one of the remarkable collections of specimens of iron or steel in the Exhibition was that in the Zollverein Division, of Krupp & Co., which included, besides enormous masses of cast steel, tires and axles such as are supplied to some of the English railway companies. In marbles, as we have had occasion to observe, we are richer than was made apparent by the collection in the Eastern Annex; but, whether considering the small scantling of some that we have, or the variety and beauty of those of other countries, we cannot be considered at all independent of foreign supplies. In cementitious materials, the French Division, small as was its collection of building materials in general, showed that we might derive both the materials, and hints as to use, from France. We have already mentioned the collections of minerals in several of the foreign divisions; but we can scarcely have drawn attention to the importance of some of those from certain countries which appear to be advantageously placed for exportation of their products to England. Amongst such countries is Portugal.

Portugal is rich in metallic ores and building materials of many kinds. The collection in the Exhibition, besides anthracite and lignite, comprised upwards of 350 specimens, including minerals of copper, tin, argentiferous lead, antimony, zinc, and manganese; marble, as white, yellow, red, green, violet, grey, black and many other varieties; limestones, granites, slate, and some other materials. A special catalogue, compiled (in French) by Senor J. A. C. Das Neves Cabral, Inspector of Mines, Member of the Commission, was printed; but was not, we believe, on sale. Probably a copy could be procured here through the Portuguese Ministry or Consulate. This catalogue is excellent in arrangement and information; but to allow the proper value of it to be derived, the specimens themselves ought to be preserved in London. The prices are given in English money. The Cintra marbles, rose, blue-gray, and black, now cost, with the carriage to the place of embarkation at Lisbon, 6*l.* 5*s.* 4*d.* per cubic mètre; and this may be taken as an average; though white marbles of Portugal may reach three times such price. Great portion of the sum is probably the cost of carriage; but this latter item, in several cases, is likely to undergo reduction, through improvement of the roads, which is in progress. A table in the Portuguese Court, containing 96 specimens of marbles, was priced 44*l.* 9*s.* The cost of bringing the marble, or other material, from Lisbon to London, would, we learn, be 16*s.* a ton, for any small quantity. In the same collection were samples of the Massapez *pouzzolana* of the Azores, which has been favourably reported on at the Ecole de Ponts et Chaussées in Paris, and has been highly esteemed by English engineers in Portugal. Our particular attention has been called to it. One material (we believe it was this, and not hydraulic lime) was some short time ago sent from Portugal, by an engineer, a competent judge, with a view to its use in the works of Westminster Bridge. On arrival, however, it was found to have no longer the original properties; and we are told that the reason of the failure in the application of that material here, has not been ascertained. It were much to be desired that the question should be cleared up. All that we now know is that the engineer who had proved the value of the material in Portugal, was compelled to admit the failure, and had to bear loss. The proportions used in Portugal, are three of the *pouzzolana* to one of Lisbon lime.

The Spanish collection of "Mining, Quarrying, Metallurgy, and Mineral Products," forming Class 1, comprised under that head, 200 specimens, which included a great variety of ores, cast and malleable iron, and other metals, marbles, serpentine and jasper, cements, bitumenous substances, and other materials. No information is attached to the titles in the corresponding part of the Spanish Catalogue. At the end of the volume, however, is a special catalogue of a collection of minerals and metallurgical products of the Huelva mining district, and an addition to it, which appear to refer to about 280 specimens; and there is also a list of "Metallurgical Products from the National Establishment of Rio Tinto," 98 in number. These latter, special, catalogues supply some useful information. But, though it is understood the several collections had been made with much judgment, and at great cost, to represent the resources of a country which we have every authority for saying is one of the richest in Europe in minerals, the specimens remained, the major part of them, to the close of the Exhibition, unpacked; and those which were visible had to be looked for in the gallery. In Class 31, "unoxidizable nails" were exhibited, besides, according to the English Catalogue, and to Mr. Hunt in his Handbook, "Iron decomposed without losing its elasticity," and "Casting in unoxidizable iron," both of which the competent authority named confesses to "a very imperfect understanding of." We do not find these titles in the Spanish Catalogue. Spain is likely to become an important coal-mining country.

Class 1 in the Belgian Division, was rich in specimens from the productive country it represented. The first number of the thirty-one in the class, was attached to what may be considered the most important feature of the whole division, namely a collection of specimens, about 1,200 in number, of the constituent rocks and mineral products of Belgium, exhibited by the Ministry of Public Works. The specimens were collected, and classed according to the system of strata-division of the late Professor Dumont, by Mr. Jules Van Scherpenzeel Thim, engineer of mines, of Liége. Dumont's classification and nomenclature do not receive the approval of all English geologists. The special catalogue however, which there is in the Belgian volume, of this collection, should be studied by every one desirous to be informed of the nature of the products of Belgium, or who would visit the country after having preparation made. It was, we think, Dr. Johnson, who said that a man who would bring back much knowledge from foreign countries, must take much with him; and if we assume that some acquaintance with the geology of a country should be an aim in the preparation,—and if the intending traveller have followed up the appreciation of the dictum of Johnson with the reading of the "How to Observe" of the late Sir Henry de la Beche,—he could hardly do better, if Belgium be his field, than take this catalogue as a text-book and guide. It has the titles of the specimens each inserted in its proper place under the head of the geological formation; whilst, opposite the title, is the designation of the *commune* from the soil of which the specimen was taken. Interspersed with the titles, are notes supplying information and statistics,—as concerning the yield of the mine or locality, the period of *exploitation*, the price of the material, and much besides. A collection of the hydrated oxides of iron, and specimens of the charcoal iron made from them, exhibited by Mr. E. Amand, of Mettet (Namur); rolled sheet iron of various manufacturers; minerals of iron, zinc, lead, cadmium, antimony, silver, and others; black and red marble, and slates, were amongst the objects exhibited in this class. Much of the sulphuric acid made in Newcastle is manufactured from ores obtained from Belgium, which contain sulphurets. Bricks, tiles, and cements were exhibited in Class 10. The hydraulic cement of Messrs. Josson & Delangle of Antwerp, costs on the quay at Niel 40 to 50 francs the cubic mètre, according to quality, exclusive of packing in sacks or barrels. Portland cement weighs somewhat less than one third more than this Belgian cement. The same parties supply bricks, red and blue, which cost in ordinary years 5 to 7 francs the thousand, placed on board the vessel at the quay of the manufactory; but the bricks are now selling for 8 to 11 francs. In this class, were several marble chimney-pieces for English fire-places.

We must refer our readers to the Special Catalogue of the Mining and Metallurgical Products, Class 1, of the Zollverein Division, compiled by Dr. Herman Wedding, for information respecting the wealth of Northern Germany in combustibles and ores, and respecting the rocks and earths used for building purposes, hoping that this valuable body of printed matter may be somewhere obtainable. We believe the fact is not generally known,—for, the Commissioners, too little regardful of the most important objects of the Exhibition, have omitted properly to announce it,—that the Official Illustrated Catalogue, which was at first limited, as announced, to the British Division of the building, now includes (as bound) several of the foreign catalogues. Whether it includes all, we should not say, recollecting that many of them which are of small size, would have required to be reprinted; and we do not know where the volumes which appeared for some days before the closing of the Exhibition, on the stalls, are now to be bought or referred to. If our readers, however, can now get at the Special Catalogue of Class 1 of the Zollverein Division, — a large-paper pamphlet, of 106 pages, which was to be had gratis; not the Zollverein General Catalogue that was sold for a shilling,—they will see that it comprises a body of statistics and information compiled with industry and care not to be surpassed. Unfortunately, again, the information now given by such a catalogue is incomplete, wanting the collection of specimens, to which in this case we must add the equally important maps. The quantity of the iron ores is immense in the Zollverein, says the authority; but Nature has separated these ores from the fossil combustible; which we judge must be also in large quantities. But great exertions are being made to improve the communications by railroads and canals: thus the people of Northern Germany hope to regain what they call their ancient pre-eminence. The metallic ores include those of iron, argentiferous and auriferous lead, zinc with cadmium, copper, tin, nickel, bismuth, quicksilver, antimony, arsenic, manganese, and other metals. The works for the production of the metals from the ores are variously located, some of them being in the neighbourhood of the coal, others that of

the ores, and others that of the lines of railways, or the courses of rivers or canals; whilst the older works in particular are placed conveniently for use of water-power. The contributors of the Zollverein were divided into four principal groups, viz., Rhenish Prussia and Westphalia, Prussian Saxony, Prussian Silesia, and the other countries of the Zollverein. The iron-works of the Zollverein may be divided into four classes,—as pig-iron works, or blast-furnaces; founders' works, or those for the production of castings in iron; smiths', or wrought-iron works; and works for the production of steel and steel-manufactures: though, some of the establishments carry on more than one of those branches. The pig-iron works are in Rhenish Prussia and Westphalia, and Silesia; and are to be divided into blast furnaces which use charcoal, exclusively or with other fuel, and those which use coke. The Rhenish Prussian and Westphalian works which sent specimens to the Exhibition, produce chiefly the lamellar pig-iron for steel-making, called *spiegeleisen*, the material worked by Krupp and others. These works, originally, used charcoal; but since the opening of railway communication with other parts of the country, coke also has been used by many of them; and the pig-iron so produced is considered not in any degree inferior to the pure charcoal-iron. Castings in iron that may be classed as works of art, were sent to the Exhibition from the Grand Duchy of Hesse, from the Iron Foundry in Berlin, and from works in other parts of Prussia. The wrought iron, at least in Silesia, is some of it made with charcoal, and some with coal. Contributions from wrought-iron works in Nassau and Hesse, were amongst the specimens in the collection. The lead, silver, and gold works, and the zinc works which contributed, are in Rhenish Prussia and Westphalia; and the copper works are in the same localities, in Prussian Saxony, and Silesia, and in Nassau, Hesse, and Luxembourg. The specimens of rocks and earths, were classified into those used for building purposes, as walling; for roofing, for works of art, for cement, and for millstones, and into clay and sand; fluor spar, and heavy spar and minerals used for different purposes; rocks used as fertilizers of the soil; and rocks and earths used as colours. Bavaria, the Kingdom of Saxony, Baden, and Oldenburg, besides the other provinces and countries named, were contributors. The building stone sent from Rhenish Prussia and Westphalia was sandstone, basaltic lava and basalt, limestone and granite. Only some specimens of granite, we believe, came from Bavaria. The roofing materials were slates from Rhenish Prussia and Westphalia, from Nassau and Hesse. Some of the roofing-slates are described as of English square shape, and others of German rounded shape. The Belgian slates, from Luxembourg, we may observe, have some of the names of sizes corresponding with those of our own slates, as "Marquise," "Duchesse," "Comtesse." The German slate, like that of Wales, is used in the form of slabs for other purposes than roofing. The Rhenish, Prussian, and Westphalian marbles, in the form of slabs of $\frac{3}{4}$ inch to 1 inch thick, for tables, are quoted at 2s. to 3s. per square foot. Asphalted pasteboard as a roofing material, was sent from Mecklenburg-Schwerin. The Solenhofen Company, of the place of that name in Franconia, Bavaria, contributed specimens of the limestone which is most in repute for lithographic purposes. The Society of Arts used to offer annually a premium for the discovery or *exploitation* of stone equal to this Bavarian. We know not what attention has been given by lithographers to the specimens of materials; but the Exhibition contained in more than one of its divisions, specimens said to be equal to the German stone. The best we saw were those from Canada. The German contributions also included many specimens of Portland and Roman cements, so called.

The merits of the Austrian Division of the Exhibition are now generally admitted; and we have once or twice spoken of the catalogue. It was really the pattern-work of the kind; and it was obtainable at a sufficiently early date. It reached that which should have been universally sought for,—the supplying general information respecting the country, and each class of articles, and the filling up the omissions alike of those who were and those who were not exhibitors. The statistics of the empire were clearly and succinctly given. We might see that Austria has almost every kind of mineral wealth. One fifth of the general maritime trade with foreign countries lately, has been with Great Britain. Notwithstanding that rapid progress, especially since 1852, in the scale of production, is attributed to prohibitory and protective tariff systems, we may calculate upon improvement in the relations between this country and Austria, as one of the most valuable results from the Exhibition of 1862. Probably, works of art, rather than raw materials, will be what our country will chiefly receive. Amongst the principal exports to all countries, in 1861, from the empire, were glass and metal ware of fine quality: indeed, these largely exceeded in value most of the other articles; and it is also worthy of remark that by far the largest of the imports were cotton-yarns. Graphite is the mineral which is exported in the largest quantity; and the production of it has enormously increased since 1851. Large quantities of whetstones are sent from Galicia into Russia.

The building-trades in Austria we find, are amongst the few for which a license is required; but even foreigners, it appears, may obtain that, or the liberty of the natives as regards ordinary pursuits. The next Industrial Exhibition in Austria should take place in 1865. Great attention is paid to intellectual culture.

Information is given respecting the produce of metals in Austria during the year 1860; whereby it appears that the smelting furnaces, 279 in number, which are chiefly fed with charcoal, used up 20,000,000 cwts. of different iron ores, and gave 6,200,000 cwts. of iron; but that this production being insufficient to provide the refining establishments with their materials, there were imported in the same year, 182,300 cwts. of smelted iron, and 21,800 cwts. of raw castings. Of the refined iron and steel produced, much is exported. The Imperial and Royal Geological Institute contributed to the Exhibition, some valuable maps, and a large collection of specimens of fuel, and printed a separate catalogue of these contributions. Amongst the Austrian marbles exhibited were specimens of those from the recently opened quarries at Adneth, near Salzburg (two and three coloured, or white, red, and blue) which have been used for a fountain, and balusters of a staircase in the New Exchange, Vienna; and for an altar in St. Sepulchre's Church, Jerusalem. The roughly-hewn blocks, up to 150 cubic feet, cost at Salzburg 4 to 7 Austrian *florins* per foot, that is 8s. to 14s. English. The practice of building in Austria varies considerably with the localities, and ranges from the *pisé* work of huts in the eastern parts of the empire, and the woodwork *chdlets* of the Alpine regions, to the masonry of the public buildings in Vienna, and brickwork of many of the houses. Hollow bricks, and pipes for drainage, are manufactured in large quantities near Vienna; as are also, ornaments and figures in terra-cotta. Stoves of pottery-ware, one of which in the Exhibition has been noticed by us, also form an important item of manufacture. The roofs in the country are covered with straw, or rushes; in small towns, boards or shingles may be used; whilst in the principal cities, tiles, slate, sheet-iron, or copper are general. In the western provinces, building regulations promote that sort of construction which involves the least danger of fire. A description of roof-covering, described as pasteboard or incombustible felt, has been introduced; but it has not gained much ground. About 500,000 cwts. of hydraulic lime are produced every year in Lower Austria and the Tyrol; but 100,000 cwts. of Portland cement are imported. The carpentry of Vienna has claimed for it, high rank; and, we read, that workmen resort to the Austrian capital from all parts of Germany, with the object of improvement from it.

We shall notice products of some other foreign countries in another article.

OUR PUBLIC STATUES AND MEMORIALS.

The great decennial Exhibition which we have just closed, comprised, notwithstanding all its mismanagement and shortcomings, such an aggregation of the arts and industries of the whole civilized world, as they existed in the year 1862, as did not fail to attract vast numbers of foreign visitors of all countries to our metropolis. Men of science, literature, and art naturally formed an unusually large proportion of the vast multitude of strangers drawn together on such an exceptional occasion; and we have consequently had to undergo a course of criticisms which, though occasionally severe and often unjust, was yet, in the main, truthful; often exposing shortcomings of various kinds to which our national self-sufficiency induced us to close our eyes. It is well to be occasionally reminded of our national defects, especially through the medium of foreign visitors; who, viewing us from their own stand, which is very different from ours, naturally perceive blemishes (occasionally rather remarkable ones) which we had never looked for, and of which, in our insular self-sufficiency, we had not indeed believed the existence possible.

Nothing so much struck the artistic section of our crowds of foreign visitors during the present season as the extreme poverty of our public memorials and honorary statues. They appeared to our continental critics utterly unworthy of the intellectual and artistic eminence of our nation; and so, in fact, they are; and the foreign critics, however sarcastically unpleasant they may have been in their mode of stating it, were perfectly correct in their general verdict.

Let us ourselves examine a few of our public statues and memorials, from the dingy kings in the dingy out-of-the-way squares, to the caricature of the Great Duke at Hyde-park-corner, the monstrosities of Trafalgar-square, and the clumsy masonry of the monument of Waterloo-place.

We have, as a rule, adopted bronze statuary instead of marble, on account of our variable climate, which proves speedily fatal to the beauty of the fair Carrara product. This necessity ought to have led to a more careful study of statuesque outline; for it is the character and general perfection of the main external lines of a group or figure that can alone impart attractive effect to bronze statuary, which soon changes its naturally deep hue to one of positive black. Characteristic outline is as necessary to a bronze statue, unless gilt, as to a shadow on the wall, as no details within the external line can be made expressively visible, when blackened by a London atmosphere, except in a very favourable light. Yet this necessary feature in bronze statuary has not been successfully studied in any of our principal public statues. Take, for instance, that of Pitt, in Hanover-square. Like many others, its general outline is entirely without meaning; the figure being, after a kind of artistic superstition which prevails amongst us, muffled up in a kind of cloak or toga. It is true that this statue of Pitt, by Sir Francis Chantrey, one of the artist's best works, has a dash of characteristic life about it, in the outstretched arm, and in the fine head, which is thrown back with that defiant air which the orator often assumed in rebutting the attacks of a talented and powerful opposition. But here all effective outline ceases; the rest of the figure being bundled up in a mass of unmeaning cloak, such as assuredly Pitt never wore while addressing the House, nor we should think under any other circumstances. There is, moreover, a little lump of this wrappering gathered together just above the left arm which, at a little distance, is altogether unintelligible. Only the other morning, while taking a round among our public monuments, guided by the official list recently called for in Parliament, we stood before this work, at about the proper focal distance, pondering upon what could be the meaning of the lump of something over the left arm; and it was not till after a much closer and very careful examination of the nature of the excrescence, that its true character as a little bundle of drapery was discoverable. Of the baldness of the pedestal of this production, and of those of many other similar works, we shall have something to say farther on.

The statue of the Duke of Kent, at the upper end of Portland-place, is still more defective than that of Pitt as regards the general treatment of the outline. In the first place the nearly black statue is placed immediately in front of a mass of equally black London shrubbery, against which it is impossible that its outlines, such as they are, should define themselves with clearness of effect. In the second place, the forms of the figure itself are so intermuddled with the inevitable cloaky drapery, and further complicated by a square mass of semi-architectural accessories, that at a short distance the whole becomes an unmeaning and apparently shapeless lump of darkness. The pedestal of this characterless mass of bronze presents no decorative feature to relieve or support it; indeed, it possesses no feature intended to do so, being merely a cubic mass of granite put together by means of very careless masonry, as though its only object was that of serving as a rough sort of tablet for the inscription.

Chantrey's equestrian statue of George IV., in Trafalgar-square, is somewhat better, in point of distinctness of outline, than either of the works just described, inasmuch as the artist has found it impossible to put any sort of cloak or toga upon the horse, the outline of which tells out, in consequence, with proper distinctness. The figure of the king is, however, betoga'd in what was the usual fashion, the whole work being, in fact, a weak imitation of the well-known statue of Marcus Aurelius, which all Italian tourists have seen on the Campidoglio at Rome. The other statues of

this arena are still less satisfactory. Trafalgar-square seems, in short, destined to become, as was lately observed by a contemporary, a sort of out-door "Chamber of Horrors." The statue of Napier vulgarizes, in a very painful manner, the well-remembered aspect of one of the greatest of our modern heroes; and that of Havelock, with its large heavy head, is scarcely less objectionable; while the statue of Nelson, placed almost out of sight on the top of a column (disfigured by a very ugly lightning conductor), justifies the simple remark of the old Chelsea pensioner, who exclaimed, when first taken to see it, "Why, they've mast-headed the admiral."

The masonry of the uglier column, on the top of which stands the statue of the Duke of York, is still more coarse and unsightly than that of the Nelson column. In short, we do not seem to be aware of the kind of thing that a public iconic memorial ought to be. Opposite to this is the memorial to the Guards who fell in the Crimea, in which, though the figures of the Guards, below, are in many respects very excellent, yet the whole fails as a public metropolitan monument, in consequence of the general poverty of the accessories. It has been improved lately, and doubtless the sculptor would willingly have done more. The pedestal is, on two sides, ornamented with bronze shields, bearing the names of Alma, Inkerman, and Sebastopol. These shields are enriched with exceedingly well-designed branches of oak; but they are both precisely alike — both cast in the same mould. It is in this way that we have invariably failed in all our recent monuments of this class. Our artists or our committees do not appear to possess that feeling for rich monumental compositions which so remarkably distinguishes their brother sculptors and architects of the Continent. In this monument one might imagine that the bronze figure on the top, and the finely modelled group of Guardsmen, had been placed where they are in a temporary manner, on a few rude blocks of granite, just roughly prepared, in order to raise them to a proper height for exhibition, while a fitting architectural framework and supports, highly enriched with decorative sculptures of a suitable character, were being prepared for their more permanent location.

In a public memorial of the statue form it is not merely necessary to obtain the statue and place it on a lump of stone of sufficient height: it is, above all things, important that the statue should be presented to the public in a dignified manner, with such appropriate surroundings and enrichments as are calculated to add sufficient richness and artistic importance to the work as a whole. Costly and varied materials, abundance of appropriate ornament, and elaborate minuteness of detail, combined with an imposing grandeur of general outline and character, should accompany a statue or general monument intended to perpetuate the memory of those who have deserved well of their country. These should be well-conceived and artistically-wrought emblems within delicately-covered borderings and mouldings; and in important monuments there should also be additional figures secondary to the principal ones, but wrought with equal care and beauty. Such are the legitimate resources of the designer of a grand public memorial.

The simple figure of the prince, or hero, or civic worthy, is not capable of much artistic decoration; and indeed, in such subjects, simplicity of treatment is generally the most successful, in so far as the figure by itself is concerned. But then it is not a single figure, not a mere family portrait, that we are speaking of: it is a public memorial—a monument which is intended to be an ornament to the metropolis as well as a honour to departed worth; and, therefore, the simple portrait figure is not enough. The simply utilitarian view is not applicable to public monuments. The artistic Greeks, who well understood the theory of decorative and monumental art, did not allow a purely iconic statue to be set up, except in very rare cases, that of Miltiades being one of the very few exceptions. They considered that the positive features of any individual man could not possess that general ideal beauty which public monuments should possess, and which they sought, not only in the elegance of accessories, but in the idealization of the chief figure itself. The portrait of Alexander the Great, for instance, appears on his coins idealized as Hercules, his head picturesquely hooded with the skin of the Nemean lion. In the magnificent modern monument, St. Peter's, at Rome, the sepulchral images of the popes of the fifteenth, sixteenth, and seventeenth centuries are but comparatively small features in the gorgeous compositions of which they form the nucleus; and in most of the exquisite sepulchral monuments of the sixteenth century, especially those which enrich the churches of Italy, France, and Spain, the iconic statue of the deceased, though the central object of the composition, is yet but a very small portion of its varied adjuncts and details, or of its general magnificence.

In our own days monuments have arisen in Paris and other continental cities which vie with those of the fifteenth and sixteenth centuries in their display of that true understanding of decorative monumental art without which neither grandeur nor beauty can be made to adorn public works of that class. One might cite the Berlin monument to Frederick the Great, of which a charming model was lately to be seen in the International Exhibition; or the magnificent millenic memorial just erected in Russia, composed of a whole crowd of statuary and countless details of extraordinary richness; but modern Parisian monuments may serve our purpose better as an example of what such works ought to be.

It is now several years since the monument to Molière was erected in Paris, on the site of the house in which he was born, in the Rue de Richelieu. The figure of the great dramatic poet forms, of course, the central object of the composition; but scarcely less important features are the "Tragedy" and "Comedy," by Pradier; and these again, are framed, as it were, in rich surroundings of differently-tinted marbles, heightened in their effect by decorative sculpture and carved borderings, introduced with the most lavish profusion. The whole composition, including delicately-sculptured emblems and other ornamental features, is of large and imposing character, forming, as a whole, an artistic object which at once arrests the attention of the spectator, and seems a worthy tribute of the art and genius of the present to the art and genius of the past,—a worthy monument to the author of "Le Misanthrope," "Le Tartuffe," and "Le Bourgeois Gentilhomme." Why have we not such a monument to Shakspeare? It is not that we cannot afford it, or that we have no artists to execute such a work. It is that in matters of art in a public form there is a niggard feeling among us that affords our artists few opportunities of practising monumental decoration on so brilliant a scale as on the Continent. Our House of Commons is more narrowly parsimonious in voting money for the protection of the fine arts than for any other item in the whole length of the annual budget. It was not always so. In times not very far distant, and in which we have been taught to believe the arts languished for want of protection, much more liberal patronage seems to have been extended to artists in general, and more especially do the fitting enrichments of public monuments seem to have been far better understood and far more willingly paid for. In some very interesting archæological gossip recently published in the *Builder*, we find no less a personage than Grinling Gibbons himself employed to decorate the pedestal of the statue of Charles II. at Windsor. The importance and beauty of the ornaments may be judged of from the charge, which, considering the general value of artistic work at that period, appears enormous. The memorandum in the royal account, dated from October, 1678, to September, 1680, contains, among other charges by Gibbons, the following: — "Carving and cutting the 4 white marble panels of ye pedestal of his Maj^s^ statue on horse-back, £400." If such artists in decorative sculpture were now employed on our public monuments, and paid after this fashion, we should soon see them more fitly enriched with the right sort of work. Purely ornamental sculpture was equally cared for in the reign of William III. We find from the researches of the same zealous antiquary that Caius Gabriel Cibber, the well-known decorative sculptor, was constantly employed on carvings of a purely ornamental character at Hampton Court, for which he was most liberally paid. Here is one of his bills: — "To Caius Gabriel Cibber, carver, for a great *vauze* of white marble enricht with divers ornaments, with a pedestal of stone, also *enricht*, £234. More for a great marble urne, with divers base-relieves and figures, £521. 12s.—in both, £755. 12s." If we now appreciated ornamental sculpture in this spirit, and if the decorative surroundings of our public statues were paid for at the present day after this fashion, we should soon, as we have said, have national memorials springing up in various parts of our metropolis which would not fear comparison with the most celebrated foreign works of this class. But there has been an artistic misconception concerning the true character of public memorials in this country. The statue itself, even if of inferior character, has been deemed the one thing necessary, whilst, on the contrary, it is in the manner of presenting that statue to the public eye that the true character of a public monument should consist, and this has often been said before in the *Builder*. When an eminent living person is about to be received on some marked occasion by the authorities, and the general public of a great city, he is not requested to walk in, on foot, unattended, and with nothing to distinguish his entry on that occasion from the entrance of an ordinary man in the routine of daily business: the very reverse is practised. Arches of greenery, enriched scrolls, emblems, and other decorations meeting him at every step, the houses are festooned with flowers, and groups of lovely children, as symbols of purity and joy, arrayed in festal dress, greet him with the joyous cheers of their young voices. It is so that our living worthies are presented to the public, and it is so that their marble representatives, after death, should be presented, in the more permanent forms of bronze or marble. The statue is there, not to be put upon a blank and solitary pedestal, but to be surrounded with signs of respect and gratitude, in that permanent form which art, when properly directed, can so fittingly bestow. The pleasant arches of living greenery that welcomed the living should be transformed to marble wreaths to honour the dead. The festoons of flowers should also be there, not in their perishable form, but in some long-enduring material; and the smiling children, too, in gilded bronze, in rare stone, in perennial granite, or in the purity of whitest marble, may be there too. It is the manner in which the statue is honoured, not the mere presence of the statue itself that gives grace, value, and beauty to the memorial. Instead of this, the appendages of our public statues are always niggardly, and often confined to a mere inscription, which is not unfrequently very carelessly executed. The plain granite stage-work of the Guards' Memorial in Waterloo-place is clumsily built up of separate blocks, put together in a way that shows every staring joint, with its wretched mortar, in a very offensive manner; while in a work of such importance the common processes of construction ought, above all things, to be entirely concealed. All should seem the work of the artist: not a single trace of the mechanical labour should appear: not a joint but should have sought refuge under some ornamental moulding, or against some inlaid slab of rare material, or beneath some highly-wrought symbol or trophy. A Grinling Gibbons—and we have plenty of them—should have furnished his "4 white marble panels for ye pedestal," and have further enriched it, as he did the twenty-eight seats and stalls at Windsor, which, according to his bill, he "carved with fruit, flowers, palms, laurels, and pelicans;" and there should have been a Caius Gabriel Cibber to embellish the angles, at different elevations, with "great *vauzes* of white marble enricht with divers ornaments," and with "great marble urnes with divers bas-reliefs and figures." We have plenty of Caius Gabriel Cibbers ready for the work; but we live in an age when sculptors are found who are fully convinced that they do not require the assistance of the decorative carver, and architects who care nothing for the aid of the sculptor and painter. We have abundance of artistic genius in every class, but the team does not run well together. The different branches of art require combination. The sculptor, the decorative carver, the architect, the painter, do not yet fully appreciate how entirely a monument of the highest class depends upon the well-balanced and harmonious union of all their various arts, blended by a common feeling into one harmonious whole.

We have been induced to make these remarks in the hope of convincing our designers of public monuments that the placing of a memorial statue on a badly-built heap of gray granite is not the proper way of presenting the statue of a departed Worthy to the eyes of posterity. We may be told in reply, of recent statues placed in fine Gothic niches, but a mere framing of conventional Gothic can seldom form a very appropriate kind of decoration to a memorial statue erected in the present day; and on a future occasion we may have something more to say on the subject of Mediæval monuments to modern heroes.

H. N. H.

"The Means of Flying."—Mons. De Groof, of Bruges, asserts that after eleven years' study he has invented the means of flying in the air in any direction, and only needs money to demonstrate it beyond question. The machine is small, he says, and will enable man to move in the air "with the swiftness of the swallow and the vigour of the eagle." He asks for aid from England.

MISMANAGEMENT OF PUBLIC WORKS IN INDIA.

In my former letters I endeavoured to point out to your readers the present state of the Public Works Department of the Madras Presidency, and I believe I somewhere stated that many of the military officers admitted that their works were defective; but alleged in excuse that "they were unable to do better." I once spoke to a subordinate officer of the Public Works Department (a sergeant in the sappers); and, while admitting the justice of the very severe censure he was casting upon some of his superior officers for their ignorance, I repeated the well-known excuse. "But, sir," rejoined my indignant respondent, "we *can* do better, if they would but allow us." A more striking proof of the truth of this assertion cannot possibly be furnished than is afforded by a comparison between the Railways and the Public Works Department. It is admitted upon all hands that the Indian Railway Companies were not always happy in the selection of their engineering assistants: instead of appointing tried and experienced men, well-known assistants of Stephenson, Macneill, Brunel, Rennie, or other eminent engineers, and of which class many could, doubtless, be found in England, the railway engineers were, for the most part, young men of but very limited experience, and of no local knowledge: most of them were entirely ignorant of the language and habits of the people, quite new to the climate and the productions of the country. Still, let any unprejudiced observer, with the slightest amount of practical knowledge, compare the works of the Madras Railway—more than 400 miles long—with the wretched jobs of the Public Works officers; and yet these men had to depend upon the same native workmen, to use the very same kind of materials, to contend against the same climatic influences; and their bridges, their stations, their bungalows, and their workshops, are as much superior to those of the military officers as a palace is superior to a hovel. Near Madras, where the work was commenced first, the difference is not so perceptible, as there you will see the best specimens of the public works, and the worst of the railway; but the terminus of the railway is a magnificent building, well designed, and well executed; but only go along the entire line to Beypoor, and examine the bridges, the viaducts, and the other works, and you will soon see numerous specimens of good masonry, good brickwork, and good carpentry. I have noticed on the line cut granite and cut laterite work quite equal to English; well-built houses; roofs that defy any monsoon, and bridges that refuse to be swept away by the high fresh, which is always a ready excuse for bad foundations. Why, if our English builders could see the foundations of many of our road bridges, they would wonder that they stood any fresh at all. Often, when travelling on the railway, have I been gratified by witnessing at the various road stations the ready adaptation of native materials to the requirements of modern life: but no such adaptation is to be met with in the public works. All is done after the native fashion, as all the officers work under the direction of native foremen; and though they are nominally masters, yet they are really servants of the native maistrys, who, on their part, are quite content to appear in the humble position of assistants, when in reality they do as they like.*

In thus instituting a comparison between the railways and the public works, I am influenced by no interested motive. I do not know one single railway engineer in all India, and I have not one share in any railway company. I believe they are susceptible of considerable improvement in many ways, one of which I consider would be the more general employment of experienced English engineers, as it is well known that many of the railway engineers have not given satisfaction to their employers: but, with all their defects, their works completely put to shame the military engineers of the Madras Presidency; and several of their viaducts, stations, and other large works, are highly creditable.

In one of my former letters I mentioned the fact of the Home Government having sent out from England a small body of civil engineers to infuse new life into the department. What has become of those gentlemen who went to Bombay or Bengal? I have not been able to learn; but in Madras, up to the present time—now nearly eight years,—not one large public work has ever been intrusted to their care. They have all been compelled to serve under the military authorities, and those only who have most readily abandoned their European habits and adopted Indian ideas have been deemed worthy of promotion;* while the older and more experienced, who have laboured hard to introduce any kind of improvement, have been systematically kept down, and every exertion has been used to render the good intentions of the Home Government nugatory; and after this, they have been taunted in the public journals in the interest of the military with having been "weighed in the balance and found wanting." I should like to know in what professional pursuit, save the practice of arms, the military engineers have not been found wanting;—certainly not in civil engineering, architecture, or practical building, as in all these they are more and more wanting every year. Almost all they can do is to jabber a few native sentences and fill up official forms, and even these very imperfectly; but this is looked upon by Government as quite sufficient to qualify them for any appointment in the Public Works Department.

About three or four years ago the Home Government sent out to Madras a very large stock of European tools and machinery of all descriptions, comprising steam-engines, fixed and portable steam dredges and pumps, lathes, drilling, planeing, and boring machines; cranes, crabs, brick and tile-making machines, &c.: all these were from the very best English makers, such as Whitworth, Nasmyth, Muir, Clayton, Collyer, &c. The number of these articles must have amounted to some hundreds, and their cost must have been thousands, if not millions of pounds. They likewise engaged, upon very liberal terms, a number of mechanical engineers, to erect and work the machinery, and teach the natives, &c., their proper use; but I believe up to the present time there does not exist in the whole Madras presidency one permanent and suitable Government workshop except the gun-carriage manufactory and the Madras Mint. Nearly the whole of the valuable machinery is lying scattered about over different parts of the country, broken, damaged, rusty, and useless; most of the mechanical engineers either kept in idleness or employed as foremen of native carpenters, in making furniture, office fittings, &c. Some of these men, but just arrived from England, were compelled to work in the open air at midday with the thermometer at 140 degrees, and the consequence, as might be expected, was, that three or four of them died of heat and exposure, and the others were disgusted with the treatment they met with, and left or got discharged. I believe there are very few of them in the service now, and not one has yet been allowed the proper means of instructing the native youths; and then the military officers reported that these men were a failure, and accused them of intemperance or insubordination as an excuse for their dismissal; and thus the good intentions of the Home Government were entirely defeated, and things allowed to go on in their old way.

The workshop at Dowlaiswarum, on the Godavery, about which so much has been said and written, has been established upwards of fifteen years, and it is merely a large field on the river bank, with a rude lot of wooden sheds, roofed with thatch or Palmyra leaves, beneath which a large collection of the valuable machinery sent out from England is rotting and useless; while the native carpenters, smiths, &c., are doing their work much after the same fashion as they used to do before the commencement of the Godavery Anicut; indeed, in my experience of India, I have seldom met with a place where the inhabitants appeared more rude, barbarous, and ignorant, than at Dowlaiswarum, and yet this place is the head quarters of the Madras sappers and miners, and the centre of the operations of the great Godavery Anicut.

It is a singular fact, and one which certainly requires explanation, that wherever you meet with the head quarters of an engineering staff, the roads, buildings, &c, are in a far worse state than elsewhere; and if you ever meet with a clever native mechanic, he has always been educated by some doctor or some collector or civil judge, but hardly ever by an engineer officer. Why this class of gentlemen should be more opposed to improvement than others I leave my readers to guess: the fact itself is undeniable. Perhaps it arises from early education, and the general conservative character of all military bodies.

It is certainly much to be regretted that the Home Government has not thought proper to institute strict inquiry into the success or failure of their praiseworthy efforts to enlighten the natives of their Indian territories. I believe an examination of the way in which their civil and mechanical engineers, their machinery, steam-engines, &c., have been treated out in India would elicit some valuable and instructive lessons for future improvement.

I have now completed my task of calling public attention to the state of our works in the Madras Presidency; and I can only regret that it has not fallen to the lot of an abler pen than mine. The subject is full of interest, and deeply concerns the people of England as well as the millions of India; and it is with no captious or prejudiced spirit that I have thus endeavoured to expose the failings and defects of the military engineers; many of whom, I believe, as I have before stated, would gladly avail themselves of superior knowledge, if the etiquette of military rule did not teach them to consider it highly derogatory to learn from those who, unlike themselves, are not entitled to wear a red coat and a sword. As, however, India is now becoming better known to the people of England, let us hope that the time is not far distant when even the Indian Government will find it to their interest to pay the highest salaries to the most efficient and experienced men;* and above all, to pay their public servants for the proper use of their brains, and not to reduce them to mere machines, as they do now.

Indian.

* It has been asserted by many well-informed persons that the entire Central Office of Public Works is in the hands of a few Brahmins and East Indians; and certainly some curious disclosures, about two years ago, seemed very much to favour the opinion.

* One gentleman was put into an independent position by Sir C. Trevelyan; but, after his recall, the engineer was speedily returned to his former subordinate post.

* A young lieutenant, as superintendent of police, gets Rs.700 per month, with extra allowances. An experienced European engineer, Rs.500 per month, with a deduction of Rs.20 per month for income-tax.

THE LIGHTING OF THEATRES.

Readers of the newspapers have probably seen, that recently on the occasion of a rehearsal of "La Muette de Portici," at the Paris Opera-house, an accident befel Mdlle. Emma Livry, the dancer. Her dress caught fire, and she was seriously injured. The *Athenæum*, whose "Musical and Dramatic Gossip" is generally interesting, stated, in noticing the occurrence, that Mdlle. Livry's "dress took fire at the footlights," (her part being that of *Fenella*), and observed that "there should be surely something devised to avert this peril." As, in one of our numbers of last year, we had described, from careful inspection at the Opera-house in Paris, an arrangement of the *rampe* or "float," which, realizing other objects of importance, was intended to prevent possibility of such disasters as our contemporary refers to, we were anxious to ascertain whether the arrangement had been abandoned; and if so, what could be the reasons for disuse of the contrivance which had appeared to us deserving to be introduced in the London theatres. We had also, just previously to the date of the accident, in the first of two articles descriptive of recently built theatres in Paris, referred a second time to the arrangement, whilst hesitating to say that it had been adopted in these latter cases. Indeed, as to these theatres, assertions have reached us that there is an appearance of smoke and flame from the foot-lights. We are now, through the courtesy of Mr. Martin, a member of our profession, and secretary to the administration of the opera, in possession of full particulars of the occurrence, and of the existing arrangements; which particulars will be found to attest a position of the question of stage-lighting, as satisfactory as we originally looked forward to. Mr. Martin, in answer to inquiries, writes:—"Our new float [*rampe d'avant scène*] has worked admirably since the month of June, 1861; and every day its advantages are better comprehended and more appreciated. It realizes perfectly all the ameliorations that we had in view, and of which the principal one is that of rendering impossible the catching fire of the dresses of the dancers." He says that it was not by the lights of the *rampe* that the accident happened. The facts were these:—Mario was rehearsing the part of *Masaniello*; the second act of the opera had just commenced; and Mdlle. Livry, who had not to appear before the end of the act, was at the side of the stage. Anxious to hear Mario, who was about to make a *début* in a part which he had not previously filled in Paris, she climbed some portion of the stage-machinery close to where the lights of the wing are placed. Her dress, which was unusually full, and very inflammable, touched one of the jets of gas; she was enveloped with flame in an instant; and notwithstanding prompt help, was much burned. She has only within the last few days, been reported

out of danger. "All that," continues Mr. Martin, "as you observe, is foreign to the *rampe*; and if the system of that contrivance could be applied to the lighting of the wings, which it probably will be in the new building, it would afford perfect security." Messrs. Melon & Lecoq, who manage the lighting, have, Mr. Martin intimates, so perfected all details that we may look for a performance, shortly, of a promise which they made the writer, to send drawings; and if they are desirous of advantage from publicity in this country, we would urge them to let us have such materials for the publication, and so prevent the introduction into the London theatres, of less satisfactory contrivances, in place of those which we should be glad to see them engaged in introducing.

The features of the arrangement in the Paris Opera-house, it may be well to repeat, are, the complete encasement of the row of flames of gas in a long tube or chamber, which towards the stage, or *scène*, is formed of ground glass for transmission of the light, and on the other side has some contrivance for reflection;—secondly, the ventilation of the chamber by pipes carried from its ends, up the sides of the proscenium; and, thirdly, a possibly less obstruction to the view,—the height, at least, of the whole contrivance above the floor of the stage, being less than that of the old-fashioned "float"-lights and reflectors, and smoke not being seen by the spectators in the pit, rising between them and the actors.

We may add to our recently published information concerning the new theatres of Paris, that one of those of the Place du Châtelet, which had been called Théâtre Historique, has finally acquired the name "Théâtre Impérial du Châtelet, (Ancien Cirque)"; also that there is now a "Théâtre du Boulevard du Temple," being we believe the old "Théâtre Historique," or "Lyrique"; and that two, if not three, entirely new homes for dramatic companies, are to be erected near the hither end of the Boulevard du Prince Eugène, in compensation to the inhabitants of the quarter, for the six theatres destroyed, and rebuilt on distant sites.

CHURCH OF ALL SAINTS, KINGSTANLEY, STROUD.

THE new church of All Saints, Kingstanley, was consecrated on the 30th of November. The building consists of a nave with a north aisle of two bays; a tower at the north-west, forming the principal entrance and serving as a porch; a chancel ending in a five-sided apse, with vestry and organ-chamber on the north. The local stone is used with Bisley Common weather stone for the parts most exposed. The general style adopted is Early Decorated. The tower is finished with a lofty gable covered with lead. A massive buttress, placed to take the thrust of the chancel arch, marks the division of the church into nave and chancel, which otherwise is not very conspicuous externally, the chancel being of the same width as the nave, and the walls of the same height. The principal features of the interior of the building are the two arches between the nave and the aisle, supported on a low red granite column, and the sharply pointed chancel arch, also supported by granite columns of higher proportions.

The effect of the interior is much enhanced by the fact of all the windows being glazed with painted glass. It was the wish of the architect that the glazing should be of a really consistent design throughout; and that it should not, as is too often the case, be left to chance whether there should be any arrangement at all. The glazing consists of panels of picture glass, with figures on a ground of ornamental quarries so disposed as to form a band of colour all round the church; a method much used in the early part of the fourteenth century; at which period stained glass, with so many of the decorative arts, reached its highest and purest development. An illustration of this method is seen in the valuable glass still remaining in Merton College Chapel. The glass, which is the work of Messrs. Morris, Marshall, & Co., is noticeable for the interest given to the subject by the designers, and is well spoken of with reference to the arrangement of the colouring.

The fittings of the interior comprise open benches in the nave and aisles, and stall-wise seats in the chancel. These, with the communion-table, lectern, organ case, and doors, are all of oak. The font is of Grey Forest stone. The capitals of the chancel arch and of that in the nave are carved. There is a sculptured cornice round the five sides of the apse. The contract was for about 1,900*l.*, exclusive of the painted glass, organ, font, carving, hangings, &c. The architect was Mr. G. F. Bodley, of London.

MIDDLE ROW STOPS THE WAY.



WE regret greatly to learn that the Committee of the Metropolitan Board of Works, to whom the memorial, praying for the removal of the north side of Middle-row, Holborn, was referred, decline to recommend the Board to undertake the execution of the improvement at present. It is extraordinary for what a length of time we put up with what are acknowledged inconveniences, and in some instances may be styled public nuisances.

It is with difficulty, notwithstanding the throng of traffic which often blocks the chief thoroughfares, that we can get old streets widened, or fresh roadways, which are absolutely necessary, made. It is often the labour of years to induce the authorities to see rightly; and then there frequently occur Parliamentary and other stoppages, which cause still longer delay before a single workman begins to execute matters which ninety-nine persons out of each hundred have long felt to be necessary. We might refer to many instances, such as the slow process of widening Cheapside, Fetter-lane, Chancery-lane (the last-named place, according to the present rate of progress may probably be completed in about a couple of centuries); but we would just now speak more particularly of such blocks of buildings as that already referred to, which materially interfere with the traffic of our chief roadways. There is one in the Strand, which forms the south side of Holywell-street. A glance at the position of this property, and the throng of vehicles in that part of the Strand, will show how great an improvement would be caused by the removal of these somewhat picturesque but dilapidated houses.

It may be that the houses here will be wanted for the proposed new Courts of Justice; but when the matters in connection with that business will be settled no one at the present time can say. Meanwhile the throng of carriages and foot-passengers continues to increase, and the evils of this obstruction and of Temple-bar become greater.

As regards Temple-bar, the last except some fragments of the gates of London city, it is impossible, although influenced by a strong antiquarian predilection, to witness the scenes of confusion which are here daily presented without feeling the necessity for its immediate removal: we say this remembering that it is in its way a representative relic of past times, and is also the design, though a bad one, of a famous architect. It is not necessary to destroy the gate; but the same changes, the same necessities which have led to the demolition of the other gates and towers, render the shifting of Temple-bar to some entrance to our parks or other quiet spot, where it might be made for centuries to come an object of both interest and utility, a "consummation devoutly to be wished."

The block of houses shown in the engraving, which forms Middle-row, and stretches from the bottom of Gray's-inn-lane to near Southampton-buildings westward, impedes the traffic of one of our most important thoroughfares, rendering the width of the road adjoining useless. From the bottom of Gray's-inn-lane eastward, if we except the somewhat steep descent, Holborn-hill is a wide, convenient, and spacious street; but just at a point where the regular traffic of Holborn is largely added to by that which flows by Gray's-inn-lane from a considerable part of the northern district of the metropolis, these antiquated and not very sightly houses stand in the roadway, leaving on one side a narrow foot-path only, and on the other an insufficient space of foot-path and a roadway which is totally unfitted for the large number of carriages which pass that way.

It is evident that the removal of this block would prevent much trouble and confusion, and materially improve the means of traffic between east and west. Attention has been often directed to this point; but, as has been the case in other instances, nothing is to be done "at present." The cost of this removal would be considerable, of course; but, when we take into consideration the importance of our great central thoroughfares to the whole of the metropolis, this should not stand in the way. The sum, amongst such a large population, would not be materially felt.

THE FLAXMAN DRAWINGS.

AT the Graphic Society, on Wednesday evening, there was an admirable display of paintings and drawings, including a clever picture by Israels, and a set of very curious and in some respects remarkable drawings by Japanese artists. The chief attractions of the evening, however, were the drawings by Flaxman, which have been purchased for the Flaxman room, and have been arranged by Mr. Atkinson, with the assistance of Mr. Foley, R.A. A very clever polygonal stand has been contrived for them by the former gentleman. Walking round it, each side presents a certain number of drawings framed, and these frames revolve, and show other drawings at the back. Beyond this, however, every other side is found to be part of a triangular framework; the other two sides of which have also frames of drawings; and this triangle, revolving, brings, of course, six frames of drawings in rotation to the front. Moreover, as the light is on one side of the room only, the whole stand revolves on a circular pillar; and thus 381 drawings are admirably exhibited, and may be each examined under the most favourable circumstances. Every lover of art should visit the London University, which has become the shrine of the works of one of the greatest artists that England has yet produced.

CHRISTMAS TIME IN 1862.

CHRISTMAS, with all its pleasant and mirthful associations, its friendly relations and general charity, is close at hand, and multitudes of English people are anxious that the poor throughout the land should have the means of celebrating this important festival. We have no doubt that especial care will be taken respecting this throughout Lancashire, by the large number of persons of various classes who are in their several localities working earnestly, and using their best endeavours to relieve the distress in that district.

We have, however, a fear that the very proper and intense interest which is at present centred in the North may cause a want of the usual attention which is so necessary, particularly if the winter is severe, for the relief of a vast multitude in this metropolis. In the midst of the nearly three millions of this population there are to be found an extent and intensity of poverty which can only be understood by those who have carefully investigated the various conditions of this enormous city.

In many of the church districts of London there are very excellent preparations made to supply comforts to the poor at Christmas. In the All Saints' district, Islington, and in many others, there are coal clubs, established under the superintendence of the clergymen, to which persons may pay 4d. a month (1d. a week); and for this, a few days before Christmas, three sacks, containing six cwts. of good coals, are delivered. There are also clothing and bedding clubs, from which, in proportion to any weekly payment, persons may obtain, at a very small cost, flannel petticoats and other useful articles of dress, blankets, quilts, &c. In connexion with these clubs, there is a necessity,

in order to encourage provident habits amongst the poor, to assist the sums deposited by voluntary subscriptions. In Clerkenwell, there is a society of inhabitants, who meet at stated intervals, and make a subscription. This, when the hard winter weather sets in, is expended in the purchase of coals, &c., which are distributed amongst the deserving poor of the neighbourhood. This good example might be followed elsewhere.

The soup-kitchens, too, particularly in some of the poorest parts, such as Bethnal-green, Spitalfields, St. Luke's, &c, depend, to a considerable extent, on the aid of the benevolent. Nor should it be forgotten that the very existence of several of the London hospitals, ragged schools, and many other valuable institutions, depends upon the usual amount of public support. Attention should also be given to the poor-boxes of the metropolitan police-courts; for few except those who are actually concerned know the large amount of real distress which is relieved by means of this fund.

It has been suggested that the London charities might be made usefully to co-operate with those of Lancashire, and that the girls in the sewing schools might be kept at work with some profit if persons in London who require clothing, and for charitable distribution, were to send the materials to Lancashire to be made up. No doubt this arrangement would do good; and in other ways the Lancashire schools might be supplied with work, without materially interfering with that of the regular London needlewomen. In the sewing schools of the north it will be some time before the girls will be generally able to execute the finer descriptions of needlework. Large numbers are employed in knitting worsted and lambs'-wool stockings. These hand-wrought stockings are very warm for winter wear, and are more durable than those woven by machine. We do not know what is the difference in the price: we doubt not if these goods were sent to the London and other markets, and marked as being hand-made in Lancashire, they would meet with a large and ready sale.

We have been urged to make these brief remarks in the hope that, while every care is taken to lessen the distress in the manufacturing districts, the distressed poor in the metropolis may not be overlooked.

GREENERY AND FLOWERS IN THE LONDON SHADOWS.

An exhibition, of much interest, has been held in the "Lamb and Flag Ragged School;" an institution which is doing a large amount of good in Lamb-court, Clerkenwell, and surrounding neighbourhood. This consisted chiefly of autumn flowers, which had been reared by the boy and girl scholars, in their homes in the dingy courts and alleys; and so satisfactory, on the whole, has been this experiment, that it is worth while to mention the manner in which it was managed.

At the proper season, 142 roots which had been sent by friends of the school, were planted in flower-pots, boxes, baskets, &c., and given to the same number of children and poor people of the neighbourhood. All these were named and numbered; and at the time appointed for the show as many as 100 were brought to the school for exhibition: the remainder had probably died for want of proper management. It must be confessed that the plants were not, upon the whole, favourable specimens of vegetation: the leaves were bleached and few, and the stalks long and straggling: the flowers were also small, and not very blooming; but, notwithstanding, no one could look upon these plants, reared under such circumstances, and with such difficulties to contend with, and not feel pleasure at the belief that the attempt in this instance made has had a humanizing effect on both children and parents.

The prizes were divided amongst five classes of competitors; the first class comprising the children of the school only, for chrysanthemums, pompones, and ferns, or other plants grown under glass. The prizes were small, but it is hoped that next year means will be forthcoming to increase them. In this class the prizes ranged from 1s. to 3s. In the second class, the poor of the district, the prizes ranged from to 2s. to 5s. The third was to either of the two previous classes, or competitors, living out of the district, for a collection of three best plants of chrysanthemums, pompones, and plants grown in baskets, the prizes ranging from 2s. to 6s. The fourth was to the same parties, for collections of cut flowers, showing the greatest variety and best arrangement; and the fifth, for girls of the school only, for a bouquet, vase, or basket of flowers, showing the greatest taste in arrangement, the prizes being 2s. 6d., 1s. 6d., and 1s. There were also three extra prizes, open to all, for plants of any description, of 5s., 3s., and 2s. The prizes were awarded by Mr. Broome, of the Temple Gardens, and Mr. Gordon.

The interest of the exhibition was much aided by plants and flowers, both growing and cut, which were sent by gentlemen from Islington and other districts. Amongst the most curious objects were six bunches of large black grapes, grown without heat in Clerkenwell, by Mr. Joseph Brooks. The heaviest and finest bunch was taken from a vine a century old, formerly growing in a garden in Rosoman-street; which, says the *Clerkenwell News*, was probably a cutting from one of the old vineyards which formerly abounded in this neighbourhood. The flower-show was visited by large numbers.

THE RECENT FIRE NEAR GRAY'S INN LANE.

Few of the large fires which have lately happened in the metropolis have been so extensively and rapidly destructive as that which has occurred in Portpool-lane; and an examination of the ruins shows the great danger which there is in keeping such immense stores of combustible materials in the centre of a dense population as are often found.

Nothing could be more complete than the destruction which in a very short time took place over a large area. On the west side of the area of the fire are the "Thanksgiving" Model Lodging Houses; on the north, Reid & Co.'s immense brewery: on the south are closely-packed ranges of poor dwellings, every room of which is thickly inhabited: on the east there are houses of a similar class. Fortunately, on all sides except that on which the model houses stand, there was a considerable extent of walls without openings exposed to the raging of the fire.

The Portpool-lane model buildings are fireproof. The rooms are arched with brickwork; the stairs and railings of slate, stone, and iron: the window-frames were of wood, but these the firemen cut away with their axes. The roof has been partly burnt; and if this building had been constructed on the usual plan, there is little doubt but that it would have been destroyed, for the flames rushed in at the windows and swept along the ceilings of the rooms. The inmates have been put to inconvenience, but their furniture has not been injured by the fire. In other directions the poor people have suffered; and what is much to be lamented, thirty-six joiners have lost their tools, which, we are told, on the average, were worth about 30*l.* to each man. In this way, 1,080*l.* have been lost; and the calamity will deprive most of these men of the means of providing for their families; for we hear that few had thought of insuring the property on which themselves, wives, and children so materially depended.

Let us take advantage of this accident to show the great importance of insurance to men who require the use of valuable tools, and remind them that the price of four or five pots of ale would be sufficient to insure them, during a year, from loss by fire. There are many thousands of workmen of this class in the metropolis alone; and it would be worth the while of some insurance offices to advertise their willingness to undertake business of this description.

TYNDAL'S BUILDINGS, GRAY'S INN LANE.

We are glad to hear more favourable accounts of this place. Our readers have from time to time been informed of the large cost of the conversion of the houses in this court from poisonous dens to wholesome tenements. After this was done a difficulty arose in getting the place occupied by a proper description of tenants,—persons who should be somewhat orderly in their habits, and could also be depended upon for the payment of their rent. This, we fear, will continue to be an obstacle in connexion with dwellings of this kind. Nothing could be worse than the population of this place before the alterations.

Those who were able to appreciate the advantages of good ventilation, a sufficient water supply, &c., were afraid to come here to live. Hence many of the apartments have remained unlet; and from time to time it was found necessary to get rid of persons who would neither be quiet themselves nor allow other persons to remain at peace.

Not long ago as many as twenty-five of the apartments were empty. Now, however, the number unlet has been reduced to fifteen; and we have no doubt that, if the advantages of this place were better known among working men, the vacancies would be soon filled. We are told that a passage will be opened under the arch, both to the school and to the new church; the tower of which latter rises over the houses at the bottom of the court. This opening will be an advantage; and ought to make the court more desirable to persons who, having young children, require as healthy a home as can be found in the pent-up town at a cheap rate.

A room has been set apart for the use of one of the City missionaries, who here holds evening meetings. There is also a small library, with opportunities for little savings; and here the general health is excellent, although many of the people are poor.

As regards the success of such establishments, much depends on the person who is appointed to the management.

THE LATE RAMSAY RICHARD REINAGLE.

The daily papers announce the death, on the 17th ult., at Chelsea, of Ramsay Richard Reinagle, painter, once R.A. (and esquire). Mr. Reinagle was in his eighty-seventh year. His death awakens many associations. His father was Philip Reinagle, a painter, and Royal Academician. Philip was assistant to Allan Ramsay the painter, and as useful in his way to Allan as Northcote was in many ways to Sir Joshua Reynolds. The father (forgotten as a painter at the Manchester Art-Treasures Exhibition, and at the recent Exhibition at Kensington), painted greyhounds, pointers, and waterspaniels, dead birds, humming-birds, parrots, and macaws, and was, with Stubbs and others, the forerunner in art of Sir Edwin Landseer.

Mr. Reinagle got his Christian name of Ramsay from his father's master and friend, Allan Ramsay, the painter. Allan was the son of the author of "The Gentle Shepherd." The name awakens many associations. "Godfather" Ramsay, called by Reynolds "the most sensible among all the painters of his time," died in 1784,—Allan's father, "whose verses," says Campbell, "have passed into proverbs,"—in 1757. Ramsay Reinagle (so recently taken from among us) could talk, when he pleased, well and interestingly about Ramsay the painter, and Ramsay the poet,—carrying us back not "sixty years' since" only, but to a century and a half, when Anne was queen, and the House of Hanover were entertaining very slender hopes of acceding to the thrones of those kingdoms "t'other side" the German Ocean.

Mr. Reinagle's expulsion from the ranks of the Royal Academy of Arts in London, and his title to append the letters "R.A." to his name (those much-coveted letters of many a clever young man never destined to obtain them), will be in the remembrance of many. He exhibited at the Academy a work with his own name to it that was not by his own hand. His rank entitled him to be hung well, and well he was hung. The real painter made good his claim to its composition: the thirty-nine, in full conclave, found him guilty of fathering a work not his own, and expelled him their body. The world of art and law and right confirmed the sentence.

The Royal Academy is very near its first centenary; and in that long period, with many difficult natures to contend with, it has only had recourse to two expulsions;—Barry, in the last century, when Sir Joshua Reynolds was president; Reinagle in this, when Sir Martin Archer Shee was president; and in the same period (nearly a ninety-nine years of tenure) it has had one resignation, and that a real loss to the body. The late George Clint (our second Zoffany), wearied with hope long deferred, threw up his title of A.R.A.; no longer deigning to allow his thirty-nine supposed superiors to degrade him,—not in his own eyes, but in the eyes of the public,—by the continued slight they had thrown upon talents of rare and undoubted excellence.

QUANTITY SURVEYORS AND CONTRACTORS.

With reference to an observation under the head "Taking out Quantities," in our last,* referring to the terms in which a firm of surveyors wrote to a number of builders, asking them to state their intention of tendering for the proposed Lunatic Asylum, and to nominate the firm in question to take out the quantities, a London firm

* P. 832.

request us to inform them if they were the parties in question; by whom the complaint was made; and so on; and they forward a copy of a letter sent by them to certain contractors, asking them, if they proposed giving a tender for a certain lunatic asylum, to signify their intention to the architect, Mr. So-and-so, at No. So-and-so, and to nominate the writers as surveyors to prepare the quantities.

Our observation gave no clue whatever to individuals, and we have no intention of making it a personal matter now. Suffice it that the copy of letter sent to contractors by our present correspondents has just the misleading tendency to which the complainants pointed;—leading them, in fact, to suppose it was written in conjunction with the architect, which was not the case. We are quite willing to suppose it was unintentional.

The inquirers say, in conclusion, "We take the liberty of putting you on your guard against being made the medium of a vindictive personal attack on any member or members of the profession." We advise them to reserve their *caution*, and to use it in their own future proceedings with contractors. If we were in the habit of allowing ourselves to be made the "medium of vindictive personal attacks," some members of the profession would have a less easy time of it than they now have, and would probably feel more grateful to a journal conducted in that respect as the *Builder* has been than they now sometimes show themselves to be.*

SCULPTORS AND THE ART-UNION OF LONDON.

AT a special meeting of the council of the Art-Union of London, held on Tuesday last; Professor Westmacott, R.A., in the chair; it was resolved, on the motion of Mr. Godwin, to offer a premium of 600*l.* for the best statue or group in marble, under conditions to be advertised. The competition, in plaster models, will be open to artists of all countries. A year will be given for the preparation of the models, and a year afterwards for the completion in marble of the selected work. Mr. Hayward, Mr. Lewis Pocock, Mr. Antrobus, Mr. H. Baker, Dr. Dickson, Mr. Butterworth, Mr. W. Herbert, Mr. Soden, and others took part in the proceedings.

COMPETITIONS.

Leicester.—Messrs. Hodges & Sons, of Leicester, have recently had a limited competition among the Leicester architects for a new warehouse. The design of Mr. Shenton, the architect for their previous works, was selected. Designs were likewise sent by Messrs. Smith, Jackson, Mellican, Ordish, Drake, and Worthington. The selected design is a composition of brick and stone, and surmounted with a stone cornice and balustrade. The circular corner, in which is the entrance, forms the principal feature in the design, and is surmounted with a block balustrade, forming a plinth for two reclining figures. The cost will be probably about 5,000*l.* Architects who compete for private matters of this sort, unless every competitor be paid, are aiding to damage their profession.

Surrey County Hospital.—The committee of the proposed Surrey County Hospital have selected the design with the motto "Hoc Age: B," by Mr. Lower, as the best. The premium of ten guineas has been awarded to Mr. Colson, of Winchester, for his design, "Spes;" and the premium of five guineas to Mr. J. Douglas Mathews, of London, for his plan, "Utility." The author of the design "Integrita" is being asked for. We have received several letters objecting. One writer signing himself "Victim," says,—"Of course a Guildford architect has been chosen;—one who it seems sent in three sets of drawings; the 'set' selected consists of one sheet only; and has neither elevations nor sections. It is, moreover, drawn to a $\frac{1}{16}$th scale; the 'instructions' requiring an $\frac{1}{8}$th scale, and specially mentioning elevations, sections, specification, and methods of warming and ventilating, all of which are here left to the imagination. As most of the designs sent in have been prepared with great care, and are fully illustrated with proper drawings and details, the departure from the instructions is the more observable. It seems a pity to give so many architects such an amount of unnecessary trouble and expense when rules are thus to be broken: much better to have asked for sketches only, or have given it in the first instance to the chosen one. Again, professional assistance was to have been obtained; but I cannot learn that such has been the case, the matter being virtually decided by two or three local doctors." We may have something to say next week.

Masonic Hall, Derby.—We understand that Messrs. Wilson and Dutton Walker are the successful competitors, and that the style of the selected design is Moresque.

* We are asked to mention, and do so willingly, that our previous remark does not apply to the surveyors who have been appointed by the contractors to take out the quantities for the Carmarthen Lunatic Asylum.

GAS.

THE apparatus by which the "atmospheric gas," as it has been called, is produced, is said to be very simple. A carburator saturates atmospheric air (which may be forced through it by any means, provided a regular supply be kept up) with an inflammable vapour, and the same result probably would ensue whether benzine, naphtha, or any similar liquid were used. The apparatus consists of two chambers, the upper containing the principal body of liquid, and the lower a small quantity to saturate the air with. The liquid in the lower chamber is kept at a uniform height by a tube and valve, or other means. The lower chamber is completely filled with wicks, which are kept saturated by capillary attraction. The air passes through these wicks, and not through the liquid, and licks up so much of the inflammable vapour as to become capable of ignition.——Mr. S. E. Turner, of Birkenhead, has provisionally specified an invention which relates to an apparatus for burning a mixture of inflammable gas and air, in present use, wherein the inflammable gas escapes from a jet placed inside a cylinder open at the bottom, and covered at the top with a diaphragm of wire gauze, or finely-perforated plate, so that atmospheric air enters the bottom of the cylinder, and, mixing with the inflammable gas issuing from the jet, assists the combustion of the same, which takes place on the top of the perforated diaphragm. To render the combustion in such an apparatus more perfect, Mr. Turner introduces one or more metal tubes into the bottom cylinder wherein the mixture of the gas and air takes place: such tubes are open at the bottom, and pass up through the gauze into the combustion chamber. By this means the atmospheric air is used in a highly-heated state, and the combustion, adds the specification, is much more nearly perfect.——Several landlords in Paris have recently assumed a right to prohibit their tenants from using gas, not only in the upstairs rooms, but even in the shops on the ground-floor. The Court of Cassation has just decided that the custom of lighting by gas having become almost universal, every landlord must be taken to have consented to its use in the absence of any express stipulation to the contrary.

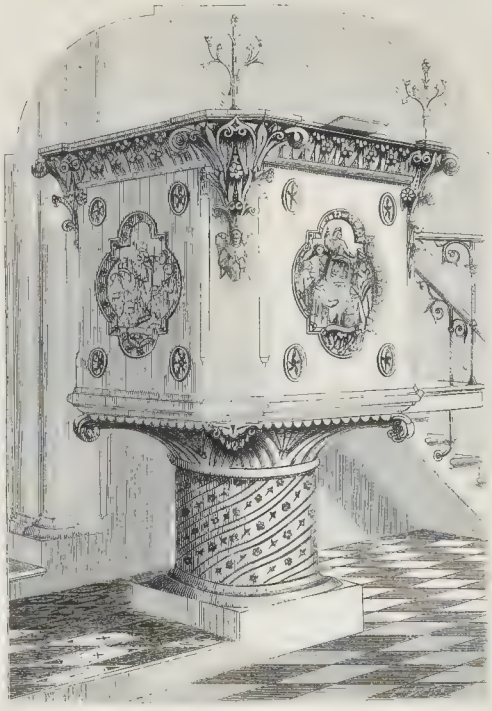
STREET NOMENCLATURE.

THE names of localities present many interesting features for the consideration of the antiquary, the historian, and the philologist; and even the most careless passer cannot fail to be frequently struck (according to his temperament) by the grotesqueness, the inaptitude, the antiquity, the improvement, or fallen fortune of the various streets of London, through which he makes his way. But to a thoughtful mind how suggestive are the names he sees around him, and how many memories are associated with places and designations which appear of the most trivial or common-place description, or only excite remark from their singularity, or the apparent perversity of taste that dictated them. The subject is an extremely attractive one, but I wish at present to confine my remarks to a single portion of it only; which, although not so interesting in a general sense, is yet of considerable importance, and is well worthy of attention. I allude to the names given to new streets, and alterations in the names of existing streets.

Until the passing of the Metropolis Local Management Act, owners of property were allowed to give what names they pleased to streets, or portions of streets, erected by them; and the result has been the confusion and bad taste so painfully evident in London, but more particularly in the suburbs. A man built three houses in a thoroughfare, which he named after himself, or his wife or daughter, and numbered them separately: somebody else built three or four more houses, and did the same thing; and so on, until in a long street there were, perhaps, some twenty separate titles as Maria-terraces, Paradise-rows, Putlogo places, &c., rendered still more perplexing by being subdivided into divisions styled upper, lower, middle, north, south, east, and west. Under the Act which I have mentioned the inconvenience caused by this system, or rather want of system, is being remodied by the names of subsidiary places being abolished, and the road renumbered throughout, the odd numbers being on one side of the road and the even numbers on the other. This very sensible reform is carried out by the Metropolitan Board of Works on requisition from the vestry in which the road is situate, and has been effected with a very proper regard for the convenience of the majority; and the Board has only exercised its powers when a good cause has been shown for its interference. No fixed plan, however, appears to be pursued with regard to the selection of the names of the roads that have been thus operated upon; the name being generally chosen by the vestry; and, in the event of there being no other street of the same name in the postal district, it has been approved by the Board. This seems hardly as it should be. Vestries are certainly not the best judges in these matters, and seem much more interested in studying the euphony of the appellations they choose than their propriety or distinctiveness, or the evident advantage of preserving as much as possible the old names of places; not to speak of the desirability of doing so from an antiquarian point of view. As an instance, the Clerkenwell vestry propose to re-name Bagnigge Wells-road and Coppice-row, and call the whole of the road from King's-cross to Victoria-street Farringdon-road; alleging, as a reason for discarding the old name; the numerous mistakes that are made in writing it, as well as its length. Bagnigge Wells-road is not of very great antiquity, not dating back much more than a hundred years; nor is there any historical interest attaching to it, although it is asserted, on very doubtful authority, that Nell Gwynne lived in a house adjoining the Bagnigge Wells Tavern; but there is a smack of antiquity about the name, and it serves to recal the time when spas and "wells" were favourite fashionable resorts, and even Royalty and Beau Nash honoured the now unfashionable northern suburb with their illustrious presence. There is really no reason for the change of name, nor any connexion between Nicolas de Farndone, who gave his name to the Ward of Farringdon, of which he was the first alderman, and Bagnigge Wells-road; and the only argument is, that one sounds better than the other. This is a most objectionable course; and if pursued would lead to very mischievous results, as any one may see by noticing the unmeaning long-winded names that have been substituted by builders in the suburbs in place of the homely, pleasantly-associated designations of our youth. What an agreeable souvenir of Puritan times remained in Gospel Oak Fields; and how easily the memory might have been preserved, even when built upon; but, instead, the usual hackneyed titles are employed, and the Gospel Oak will be soon forgotten, except by the very few.

Another example of the want of some regular plan with regard to the names of streets occurs in the parish of Islington, where the Metropolitan Board, at the request of the freeholder, approved of Berner's-road as the name of a thoroughfare that had been enlarged adjoining the new Agricultural Hall. There was no reason for renaming the road; it being merely a short prolongation of a street that had been built some time; and no propriety in the name selected, the manor of Berners, or, as it is now called, Barnsbury, being at a considerable distance. The vestry took offence at the name having been changed without consulting them, and applied to the Metropolitan Board, through their representative, to rescind the resolution authorising the alteration: this, however, the Board refused to do, and so the matter remains as it is; and while one end of the roadway is called Parkfield-street, the other end, which is considerably narrower, is called Berner's-road.

I would suggest that in naming streets some system should be adopted analogous to that pursued in Paris; that city perhaps coming nearer to our requirements in matters postal and municipal than any other. There an attempt is made to make the names of streets indicative of their position. Thus, we find the Rue Cuvier and Rue Buffon on each side of the Jardin des Plantes: near the Orleans Railway are the Rue Watt, Rue Jouffroy, Rue Papin, Rue Fulton; and radiating from the Place de l'Odeon, and near the theatre, are the Rue Crebillon, Rue Voltaire, Rue Racine, Rue Molière, Rue Corneille: thus the position of these streets is readily borne in mind, and the names of illustrious men are perpetuated in the most fitting manner on the very scene of their



UNITY CHURCH, ISLINGTON: PULPIT.

triumphs. Then the street where any celebrated persons, and more particularly men of letters, have lived is frequently, after their death, called after their name. This practice is open to some objection, and I am not sure I would advocate its adoption with us; but it shows a sense of fitness and delicacy of feeling to which we seem strangers. I do not see why the names of eminent people should not be applied to our streets more frequently, instead of the unmeaning abstractions in which we indulge; and feel sure that use would soon reconcile us to the innovation. The Rue Jean Jacques Rousseau is not, perhaps, a very poetical appellation; and yet it never strikes a Frenchman as incongruous or ugly.

With regard to numbering, the practice of putting the odd numbers on one side and the even on the other must cause considerable inconvenience, particularly to letter-carriers, who must either re-sort their letters or else cross the road continually; and in a long road you have just the same chance as formerly of having to traverse the whole of it in search of some particular number unless you know at which end the numbers commence; and there does not appear to be any rule for this. In most continental towns the numbers all run in the same direction; in Paris, if I remember, from north to south in those streets at right angles to the river, and from east to west in those which are parallel to it. In many cities the course of the river is indicated in reference to the streets, which is a great assistance to a stranger. The plan of having a communal number to every house, as well as the number in the street, would, I fear, be impracticable in London; and it has, I believe, in Berlin become necessary to require the number of the house and street to be specified in addressing letters to go by the post. In some cities, as at Venice, the employment of differently coloured numbers is of great service. JOHN HEBB.

WATER-COLOUR PAINTERS' LANCASHIRE RELIEF FUND.—Two hundred and thirty artists have now signified their intention of contributing pictures. Sir Charles Eastlake, P.R.A., and some other gentlemen out of the Society, have consented to act on the committee. The difficulty at present seems to be to find a room to exhibit the works. Letters may be addressed to Mr. Fahey, at 5, Waterloo-place.

UNITY CHURCH, UPPER STREET, ISLINGTON.

THIS new building, erected for worship by Unitarians, stands on the east side of Upper-street, in a line with the Police-office and Vestry Hall, both recently erected. The plan comprises nave and side aisles, with transepts, communion, and organ recesses, with porch and tower entrances, and staircase formed in a turret, leading to a gallery intended for school children at the western end. The total length is 81 feet from east to west; width across nave and aisles, 47 feet; and in transepts, 61 feet. The height from floor to ridge of roof is 44 feet; and to the top of finial on spire, 120 feet.

The nave is divided into four bays, and is separated from the aisles by cast-iron columns with ornamental leaf caps. Springing from the caps of these columns transversely are the curved and pierced brackets under the hammer-beams of the roof; and in the length of the church the curved brackets as before support the longitudinal girders taking the roof timbers. The roof timbers are stained slightly, and varnished.

The communion recess is divided from the nave by a deeply-moulded arch, carried by coupled columns, carved; the recess being paved with Maw's encaustic tiles, and the walls being lined with the same to a height of about 9 feet, formed into panels with slabs of Bath stone, surmounted by a capping of the same material. All the panels are illuminated with a selection of texts. The communion recess is parted from the body of the church by ornamental iron standards, painted and gilt, supporting an oak moulded rail.

The pulpit, of which we give a sketch, is of Bath stone, inlaid with coloured marbles and cements, and was carved by Mr. William Pearce; who also executed the carving to the exterior and interior of the building throughout.

The passages are laid in black and red tiling diagonally, with slate bordering; and a raised platform formed on the line of pulpit is laid with Maw's encaustic tiling.

The exterior, shown by the accompanying engraving, is executed in Kentish rag with Bath stone dressings throughout, the doorways being enriched with polished Aberdeen granite shafts. The roof is banded with grey and purple slating, being felted beneath; and the exterior is broken by dormers for ventilation.

The seats and divisions are of slightly-stained deal, varnished, with cut ornamental heads to the bench ends. Hot-water apparatus is used for heating, executed by Messrs. D. & E. Bailey, the pipes being laid in channels through the passages, covered by perforated gratings. The lighting by gas has been the work of Messrs. Peard & Jackson, and consists of coronals of lights suspended from the hammer-beams of the roof, with chandeliers in the transepts.

The church contains five large and three small stained-glass windows, the work of Messrs. Heaton, Butler, & Bayne, and subscribed for by several of the congregation. The general contractors for the work were Messrs. Axford & Co., of Coleman-street; the decorations being executed by Messrs. Simpson & Co., under the direction of Mr. Thomas Chatfield Clarke, of Leadenhall-street, architect; and the cost of the church, exclusive of the ground, schools at back, stained glass, organ, &c., approximates to 5,500*l*.

METROPOLITAN TOLLS.

AMONG the notices of private Bills to be introduced in the ensuing session is one by the Metropolitan Roads Commissioners north of the Thames, in which they propose to remove various gates in Middlesex; including, we believe, the City-road gate, and those bars which now exist at Islington, Hackney, Camden-town, Kilburn, Haverstock-hill, Harrow-road, Notting-hill, Kensington, and Walham-green. For some years the commissioners have been putting back the metropolitan gates into the country, until this course is no longer possible without calling on the parishes to assume their proper liability and repair the roads.

VERBUM SAPIENTIÆ.

WHILE here in Lancashire abides the stress
Of wintry season and of sharp distress,
A story I would tell—an ancient fable—
With such unvarnish'd skill as I am able.

A dervise came to Bagdad when the crown
Sat on the mighty forehead of Haroun,—
A prince whose sway was feared by every khan,
From ancient Nile to distant Khorassan;
In whom the people own'd so firm a trust
That he was named Al Raschid, or The Just;
And who so held his court that, in a word,
None came or went but might be daily heard.

The dervise prostrate bow'd, then raised his head,
And to the monarch spake, and thus he said:—
"O Caliph, in the Prophet's name, to whom,
Across the Syrian desert, have I come,
From mournful groves of palm, where Tadmor lies,
Distraught by women's wail and children's cries;
They and the chiefs who once were first in war,
Struck down by famine and an hunger'd are;
Their stores consumed of corn, and wine, and oil,
Their flocks a prey to murrain, and a spoil.
Whence shall this people in their need be fed,
If not by thee, O king?" The dervise said,—
"To thee they cry, ere yet their strength be spent,
In this great vengeance which the Lord hath sent.
Allah's decree is just, though it be sore;
We crave thine aid till Allah's wrath be o'er."

The caliph mused. "How say'st thou, then," he said:
"Does Allah justly pour on Tadmor's head
His heavenly wrath?" "Yea, so," was the reply.
"Then," quoth the caliph, "to what end should I
Transgress the fiat of the Will Most High?
Whatever ill befall, it is most fit
To reach some good transcendant: so 'tis writ."

The dervise answer'd,—"Far as thy renown
Hath stretch'd o'er land and sea, most sage Haroun,
For learning taught in schools of Magian lore,
But little hast thou conned the sacred store:
Know, then, it consorts with divine decree
That men should learn divinest charity!
Should feel that holier life is understood
Alone in deeds of gracious brotherhood.
Feed, then, the hungry, that thou may'st perceive
How nobler far to give than to receive;
And so thy mind shall rend the veil, and see
The secret purpose of hard Fate's decree."

Then, turning to Giafar, his good vizier,
Than whom ne'er Eastern king possess'd the peer,—
"Go," said the caliph, "send the hungry food;
'Tis Allah's will that we should all do good."

Moral: If any doubt how good should come from bad,
Forget you not the Caliph of Bagdad.

JAMES HIBBERT.



UNITY CHURCH, UPPER STREET, ISLINGTON.—Mr. Thomas Chatfield Clarke, Architect.

GOTHIC WORKS IN THE NINETEENTH CENTURY.

IT seems every architect carries his point in this age of styles and pointed periods. Every church has its spire. Spire and tower, tower and spire, competition or private,—every man aims at the point, and on some occasions forgets the principal points which are included in the lines below :—

"It were a pious work, I hear you say,
To prop the fallen ruin and to stay
The work of desolation. It may be
That ye say right; but oh! work tenderly:
Beware lest one worn feature ye efface—
Seek not to add one touch of modern grace:
Handle with reverence each crumbling stone:
Respect the very lichens o'er it grown;
And bid each monument to stand,
Supported e'en as with a filial hand.
'Mid all the light a happier day has brought,
We work not yet as our forefathers wrought!"

STEEPLE BOB.

VALUE OF TECHNICAL EDUCATION.

INSTITUTION OF CIVIL ENGINEERS.

IN the course of a recent discussion upon Mr. Crawford's paper on "The Railway System of Germany," it was observed that, so far back as the year 1848, the German governments had taken to the belief that a special education for engineers of all classes—mechanical and civil—was one of the first duties of a government. At that time there were regular colleges for the training of skilled workmen and for the education of civil engineers in most of the great cities of Germany. By these means a set of thoroughly-educated young men was prepared, ready to acquire practical knowledge, and to turn it to account, in a very short period of time. One result of this system had been that, whereas English locomotive engines were at first copied implicitly, the German engineers gradually took to making the designs for themselves, and to depart more and more from the established patterns, so that now, on most of the principal lines, the engines were made exclusively in Germany, in some cases at a less cost than in this country; and it was said that a Berlin firm had recently tendered successfully for locomotive engines required in England.

In regard to management and economy of working, it was maintained that the public convenience was less consulted on German railways than on English lines: there were fewer trains: the speed was very much slower; and the stations were further apart. The rate of fares in Germany had not been stated; but it was believed that, for the transport of goods and minerals, the charges were higher. These were elements why larger dividends were realized on comparatively smaller capitals.

To this it was replied that, in Westphalia, the centre of German industry, as many trains ran as on some English lines, and the speed of the express trains was 40 miles an hour.

With respect to the construction of German railways, it was believed that the earliest lines in Germany were offshoots from the Schools of Mines in that country; and though they had no doubt taken the first ideas of railways from their great projector, George Stephenson, yet they had been carried out by themselves; and that the earliest example of an iron lattice bridge was that across the Elbe, at Magdeburg, the wooden lattice having been previously adopted in America.

The growing prominence of Germany in the industrial arts was attributed mainly to the system of technical education, particularly of engineers, which prevailed there; and it was argued that the distance between the English and German engineers was an increasing one in favour of the latter, as was deemed to be evidenced by the superior character of the continental machinery in the Industrial Exhibition.

One of the reasons why German railways had been executed so cheaply was attributed to the population supplying an excellent industrious class, and to the works not being pushed forward so hurriedly, by which the price of labour was artificially raised. Throughout Prussia the cost of the earthworks did not exceed from 8d. to 9d. per cubic yard; the German navvy only receiving 1s. 6d. per day. Very little plant was employed: the barrow-runs were longer; and the embankments were chiefly executed in that way, instead of by tipping from waggons from a great height, which might account for their assumed superiority.

In conclusion it was assumed that, without venturing to depreciate that which was a valuable adjunct to practical men of all classes, yet undue importance must not be attached to mere technical education, in contradistinction to that practical knowledge which it was essential the engineer should bring to bear in the exercise of his profession. The history of engineering showed that the works which reflected the highest honour on this country had been carried out by men who had not received a special education, but who, being possessed of great natural genius, were enabled to take advantage of the national resources and peculiarities in such a way as to bring the profession to the high pitch it had already attained, and to command for English engineers universal respect.

CHANGES IN IRON.

AT a recent meeting of the Manchester Literary and Philosophical Society, Mr. Dyer, vice-president, exhibited a broken screw bolt, $1\frac{1}{2}$ inch square (used to fasten a cart-body to the axle). The fracture, near the head end, appeared very much like one of cast iron: imbedded in the centre of the bar was a smooth egg-shaped mass about $\frac{3}{4}$ inch diameter, crossing the fracture, and leaving a cavity as its mould in the metal on one side. He assumed that faults like this were probably owing to the rapid processes in use for reducing masses from the puddle into bars of wrought iron, whilst the metal was only partially converted to the malleable state, as appeared in this sample of bad iron. The iron, in a semi-fluid state, is passed from the furnace through a succession of rollers, without re-heating or faggoting, as was formerly practised, and at once reduced to the sizes required. The improved rolling-mills could not, it seemed, insure improved qualities of wrought iron, whilst they afforded temptations to make it far inferior to any that could have been made fifty years ago. Considering the many hazards to which life and property are exposed in travelling by railway and otherwise, from the iron "shuffled off in haste," and found in use in engineering constructions; it becomes important that previous tests should be employed to ascertain the real nature of the iron, so as to leave no question of its being in a safe condition for the purpose intended, and not like this specimen, and like much now-a-days made by pressing the half-converted puddle into marketable shapes.

In connexion with the subject of the slow changes which iron undergoes, M. Breguet, of Paris, stated that in their furnace for preparing soft iron, he had observed a remarkable case of crystallisation of wrought iron. One of the furnace bars became brittle: and, on breaking a portion of it, he found it to contain a large cubical crystal of iron, each of whose sides measured five millimètres in length.

ARCHITECTURE OF EDINBURGH.

ON the 28th ult. Professor Blackie delivered a lecture on the subject of "Architecture" (in the school-room below St. John's Free Church), under the auspices of the Young Men's Association in connection with that congregation. We learn from the *Edinburgh News* that the concluding part consisted of a description of the architecture of Edinburgh, in the course of which Professor Blackie said that although St. John's Episcopal Chapel (at the west end of Princes-street) was perfection in the inside, it had externally one grievous defect. The body was either too large or too small—he could not distinctly recollect which—for its wings; but so far as his memory served him, he thought the wings too small, and seemed afraid to show forth their own existence. With regard to St. Andrew's Church in George-street, the lower part of it was like a large round tub, and the upper part like a little man perched on the top. The steeple was, in fact, like a fairy riding on the back of a hippopotamus. The steeple, no doubt, was excellent in itself, although they could not compare it with that of the Assembly Hall, the finest piece of architecture of its kind in Edinburgh or anywhere else, but was out of all proportion to the rest of the building. People seemed to have got tired of the Greek style of architecture; and they endeavoured to improve it by placing small belfries or turrets on the large solid mass below, giving them the appearance of a schoolboy's bonnet on the back of an elephant. It was a most miserable attempt to keep to the Classical style when they had recourse to such jim-crack ornaments, resembling bride-cakes, and rather disfiguring than otherwise the general appearance of the building. The new Club in Princes-street, the front of the Commercial Bank, and the Clydesdale Bank, were specimens of architecture both chaste and elegant. Professor Blackie concluded by expressing his desire to see more attention paid to the internal decoration of our Presbyterian places of worship. He ridiculed the idea that our churches could be injured by such decoration. He did not hesitate to say that many of those who had gone over to Episcopacy—who had, in fact, apostatized from the good old faith, perhaps, from the want of finely-painted windows and pictures—would have remained if they had been gratified in this extremely fine age with a little æsthetical delectation during the service, or even before or after the minister came in. It was great nonsense to say that such decorations were associated with Popery. For his own part he held that by having recourse to a little decoration we could lose none of our religion. He would not be afraid to follow the Episcopalians so long as they followed nature, for the laws of nature are the will of God, and the will of God is the duty of man.

CHIMING CHURCH BELLS.

WITH reference to his former communications (see pp. 609 and 683), Mr. Walesby says that, in order to show in a tabular form how his method of chiming bells for church service on Sundays "*indicates certain intervals of time, and agreeably relieves the ear*," the morning performance commencing at half-past ten, may be thus stated :—

10·30 to 10·35, first, second, and third bells.
10·35 to 10·40, third, fourth, and fifth bells.
10·40 to 10·45, pause.
10·45 to 10·55, full peal of bells.
10·55 to 11, treble bell, or the tenor if preferred.

In his former arrangement (p. 609) he suggested that the first three bells should be chimed for ten minutes. Some, however, may prefer the above method.

The peal of bells belonging to the parish of Clyst St. George has been inaugurated by the ringers from St. Mary Redcliff, and St. Stephen's, Bristol. The bells at St. George's have been put into capital order by the rector (the Rev. H. T. Ellacombe), who spares no pains in beautifying and improving the sacred edifice, and everything connected with it; and the peal is rendered perfect by the new treble (F). This handsome bell has been subscribed for by the parishioners and fixed in the belfry as a memorial to the late Prince Consort. This "Albert Bell" is said to be remarkable for clearness and brilliancy of tone. It is from the foundry of Messrs. Warner, of London. One of the peals given on the occasion of the inauguration was the two six-score, composed by Steadman in 1650, and named after him. The following is the order :—1 2 3 4 5 6—2 1 3 5 4—2 3 1 4 5. Slow six.—3 2 4 1 5—2 3 4 5 1—2 4 3 1 5—4 2 3 5 1—4 3 2 1 5—3 4 2 5 1. Quick time.—4 3 5 2 1—4 5 3 1 2—5 4 3 2 1—5 3 4 1 2—3 5 4 2 1—3 4 5 1 2. Continue the slow and quick six, as opposite, until the 58th change, when a single will be made thus—1 3 2 4 5—1 2 3 5 4. Then start from 1 2 3 5 4, as from rounds, and the course end, or 120 changes, will be 1 2 3 4 5 6, with a single—1 3 2 4 5—1 2 3 4 5. There is no scientific change-ringing in Devon. The art is not known.

THE VOLUNTARY EXAMINATION FOR ARCHITECTS.

PREPARATIONS are still in progress for holding the first examination in the last week of January next. As part of the arrangements for securing impartial results, the candidates deliver their applications by December 27th inst., four weeks before the first day of examination; and the examiners and moderators are to be appointed by the Institute in general meeting at the first such meeting in January, namely, on the 12th of that month. By these means the candidates, in delivering their applications, are placing themselves in the hands of judges not then appointed. On the first occasion, however, we understand the friends of the scheme have taken into consideration the important question, who should be proposed to the Institute for examiners and moderators?—in other words, what names ought to be offered as a guarantee of the often-expressed desire to start in such a manner as to afford every encouragement to the young men who are to take the somewhat delicate position of first in the field. The examiners, it need scarcely be explained, have to set the questions and appreciate the value in marks of the answers. The moderators, on the other hand, are two gentlemen who have to take charge of the candidates during their hours of trial. In one sense the examiners are in the interest of

judgment, the moderators in that of mercy. The various subjects which these gentlemen have to deal with are, of course, numerous,—drawing and design, mathematics and physics, construction and materials, professional practice, the history and literature of architecture, and (in an architectural sense) languages. The "Regulations" provide for three or more examiners; and the names of certain gentlemen have reached us as likely to be proposed as possessing by the union of their respective acquirements all that is required. The matter must take its own course. The present council has done its best to destroy confidence.

LIVERPOOL ARCHITECTURAL SOCIETY.

Mr. Weightman presided at the meeting of this society, held on Wednesday evening, the 3rd.

Mr. Boult called attention to the use of kamptulicon on wooden floors, and said he found it prevented the escape of moisture, and thus caused rot.

Mr. J. A. Picton corroborated this statement.

Mr. David Walker, architect, produced a design for improving the approaches to the landing-stages. In explanation of the design, he said that Water-street was made the principal approach,—a high-level bridge, 80 feet wide, spanning the present road,—and with an easy gradient fall to the level of the dock quay. The stage bridge was also 80 feet wide, and was carried landward, so as to obtain an easy inclination, in order that carriages could at all times drive on the stage in safety. It was arranged that an evening should be set apart for the discussion of the plan; and Mr. Lyster, the dock engineer, be invited to attend and bring his own plan.

Mr. T. Kilpin then read a paper entitled, "Changes in the Style of Ecclesiastical Architecture."

DALE CHURCH, NEAR DERBY.

We are glad to find that our observations on the discreditable condition of Dale Church, and the want of proper ministration, have created considerable excitement in the neighbourhood; and it may be hoped that, those concerned having been made to think on the subject, some good will result. One well-meaning correspondent writes to say the churchwarden is furious, and threatens proceedings, but begs we will "not be at all alarmed, as the facts are understated." He may rest quite satisfied: we are not in the least "alarmed," and are not likely to be so. An official man in Nottingham writes, "The description in the *Builder* is correct. I frequently visit Dale church: the condition of it deserves the censure contained in your article." A leading man in Derby expresses himself to the same effect more strongly still.

CHURCH-BUILDING NEWS.

Bedford.—The "Catholic Apostolic" portion of the inhabitants of Bedford have lately been building a new church of brick, with open timber roof rough from the saw. The whole is simple and inexpensive, but still picturesque. The architect is Mr. George Truefitt, of London; the builder, Mr. Maxey, of Bedford. It will be opened in a week or two.

Blunham (*Beds*).—The church of Blunham has been reopened, the restoration of the interior having been completed. There has been a reparation of such portions as were decayed, and a removal of the pews which disfigured the interior; and for which uniform sittings have been substituted throughout the nave and aisles. The seats are of oak. The plastered ceiling has been removed, and roof exposed. The chancel now has its proportions displayed, and it has been supplied with some oak stalls. The floor is laid with encaustic tiles. The works were carried out according to the designs of Messrs. Rattee & Kett, of Cambridge.

Whitmore Reans (*Wolverhampton*).—A new Wesleyan chapel has been opened here. The memorial stone was laid in July last, and the chapel will accommodate about 260 persons. The cost, including vestry, school-rooms, outbuildings, boundary-walls, and palisading, will be about 400*l*. The front elevation is of Doric design, with pilasters and entablature worked in bricks of various colours, the caps and bases only of the pilasters being of stone. The entrance is by means of a porch extending over almost two-thirds of the front. The pews and benches are terminated with scroll ends: the former have low doors, and the whole of the woodwork inside is stained and varnished. The design was furnished by Mr. C. Manton, of Wolverhampton, architect, under whose direction the works were carried out by Mr. D. Evans, builder.

Clifton (*Bristol*).—The Hensman Memorial Church at Clifton is about to be consecrated. The cost of the edifice will be about 3,000*l*. or 4,000*l*. A balance of about 400*l*. will have to be provided or guaranteed before the church can be consecrated. The church has been erected as a memorial of the completion of the fiftieth year of ministration of the Rev. John Hensman, incumbent of Clifton.

Munslow Aston (*Ludlow*).—A new Wesleyan Chapel has been opened here. Messrs. Price, of Ironbridge, completed the work. The style of architecture is Gothic, from plans prepared by Mr. Pugh, of Hungerford. It is built of native stone, with Grinshill facings; and the interior is fitted with seats of stained wood, varnished, and has two glass candelabra in the centre. The windows are of stained glass, and the chapel is heated by hot-air pipes.

Egremont (*Cheshire*).—The foundation-stone of a new United Presbyterian Church has been laid at the corner of King-street and Trafalgar-road, Egremont. The plans were prepared by Messrs. J. & W. Hay, of Liverpool, architects. Mr. Nelson is the builder. The edifice is designed to accommodate, in the meantime, 700 persons; but there is space allowed in the plans for side-galleries, capable of accommodating 200 more. The structure is Grecian in style. The estimated cost is 2,997*l*. 15s.

Manchester.—A new Wesleyan chapel has been opened in Dickenson-road, Rusholme. The style of the building is Gothic, and it has been erected to replace a smaller structure which was built many years ago. The chapel was erected by Mr. Joseph Robinson, jun., Hyde, from plans of Messrs. Hayley & Son. The cost, including the land, which is free from chief rent, is over 4,000*l*. In the body of the building there are sittings for 526 persons: there are 100 sittings in the gallery at the western end; and another 100 can be accommodated in the transept.

Edinburgh.—A free church, according to plans prepared by Messrs. Peddie & Kinnear, architects, Edinburgh, is nearly completed for the Pilrig Free Church congregation. The site is at the junction of the west side of Leith-walk, and north side of Pilrig-street; and, from the ground available being extremely limited, the church, says the *Scotsman*, is unfortunately protruded too far both into Leith-walk and Pilrig-street. It is of French Gothic style, built with clean-cut, square-dressed and snecked rubble-stone, and polished dressings. On the side of the church fronting Leith-walk is an entrance, over which are hawthorn leaves and flowers, and above a gablet and finial. On each side of the entrance is a window for lighting the corridor, over each of which is also a gablet and finial. At the east corner there is a stair with a window leading to the gallery, and over the stair is a sharp-pointed roof, with an ornamental vane terminating about 50 feet from the ground. Above the entrance is a wheel window for lighting the east gallery, with columns and pierced tracery. At the south corner rises a square tower and spire, together 135 feet high in mason-work. The spire is octagonal, and has four windows filled in with pierced tracery, and surmounted by stone pinnacles with scale ornaments and gilt finials. A buttress at the corners of the tower terminates with stone pinnacles and gilt crosses. Through the tower is the entrance from Pilrig-street to the corridor and west half of the gallery. In the side of the church fronting Pilrig-street, which is the principal side, there are six windows beneath the gallery divided into two compartments by a small column in the centre, and having pierced tracery above; and the windows here, like the entrances, are surmounted by gablets and finials. The skews of these gablets terminate on carved corbels. Two gables are shown at this side of the church; and in each of these is a large window to light the west gallery, arcaded in the under part, and filled with pierced tracery in the upper. Between the gables is an open belfry, terminating in a similar manner to the pinnacles above the buttresses of the tower. In the north-west end of the church is also a gable, and in it there is a rose window similar to the one fronting Leith-walk. The windows on the north-east side of the church are not seen from the street, but as viewed from the inside they are similar to those fronting Pilrig-street. The church, though nearly square outside, from having staircases or rather enclosures at each of the corners, presents the appearance of a cross inside. There is a gallery at the south-east end and on each of the sides. The church will be seated for between 800 and 900 persons. The roof is supported by main couples, with laminated ribs springing from carved corbels, which also support the centre of the side galleries. All the windows are to be filled with stained glass, and already the principal windows have been finished. The wheel or rose window at the north-west end of the church has been filled in by Messrs. James Ballantine & Son, of Edinburgh. The wheel window at the other end of the church, and the side-windows of the gallery, have been filled in by Messrs. Field & Allan, Leith, with glass not much obscured. The other windows are also to be finished with stained glass, but without any pretension to a high order. The church will be heated by a hot-water apparatus and pipes fitted up by the Shotts Iron Company. At the north-west end of the building are a large meeting-house and waiting-rooms, in keeping with the church, and which will have windows of cathedral glass. The whole structure, including site and erection, it is calculated, will cost about 6,000*l*. The builder is Mr. G. Lorimer, Edinburgh; wright, Mr. J. Cowie, Edinburgh; plasterers, Messrs. Marshall & Sutherland, Leith; slater, Mr. W. Anderson, Edinburgh; plumbers, Messrs. Thomson & Co., Edinburgh; and clerk of works, Mr. Munro.

STAINED GLASS.

Ripley Church (*Yorkshire*).—Two memorial twin-light windows have been erected in this church; the one by Mrs. Lloyd, of Hazelcroft, in memory of the late Prince Consort; the other in memory of Mr. Richard Rawson, and daughters. The windows range with each other, are the same shape, and have been treated similarly. They are chiefly filled with deep coloured geometric combinations and foliated borderings; and in the central spaces of the four upright lights the figures of the four Evangelists are introduced. Messrs. Ballantine & Son, Edinburgh, were the artists.

Prestolee Church (*Lancashire*).—The glass for the large east window of this church, which was in the International Exhibition, but was marred by the imperfect light there, has now been fixed in its place. The subject, viz.—the Crucifixion, is carried across the entire breadth of the window, each compartment having its separate canopy, base, and mosaic groundwork. The top tracery is filled with angels bearing inscriptions, with rich borderings. In the base are sacred emblems and appropriate texts. This window, erected in memory of the late Mr. Thomas B. Crompton, of Farnworth, is also the production of Messrs. Ballantine & Son, Edinburgh.

SCHOOL-BUILDING NEWS.

Croydon.—The formal opening of St. Andrew's New Schools, Croydon, has taken place. The building, which is now complete, is situate at the junction of the Southbridge-road, within a score steps of the south side of St. Andrew's Church. The industrial department, says the *Surrey Standard*, will be devoted to teaching girls those domestic accomplishments which the females of the present day are so glaringly deficient in; for they will be taught to make and bake bread, to wash, to sew, make a shirt, put buttoms on, darn, iron linen, and many other little arts which too many girls and their mammas of the present day denounce as vulgar.

Diss.—The new national school just erected for the parish has been opened. The building stands on a piece of glebe given for the purpose, and is the design of Mr. Atkins, jun., of Diss; Messrs. Bishop & Ward, of the same place, being the contractors, at a cost of 730*l*. The school is 65 feet long and 18 feet wide, exclusive of a class-room, 20 feet by 12 feet; and the roofs are open. The materials are red brick, with black and white dressings. The north side, with its bell-gable, is the most ornamental. Room is left on the south side for a separate girls' school to be erected hereafter.

PROVINCIAL NEWS.

Oxford.—At a recent meeting of the local Board of Guardians the chairman said that the building committee had recently resolved that the making of the road in the front of the new workhouse should be contracted for, according to Mr. Fisher's specifications. It was also ordered that the fencing should be contracted for at the same time. They had received four tenders, viz., 230*l*., 227*l*., 165*l*. 10s., 164*l*. After some discussion, it was proposed that the lowest tender, being that of Mr. J. Cripps, be accepted, and this was carried unanimously.

Brighton.—The directors and guardians have instructed their surveyor to prepare plans and specifications for a new workhouse, under the direction of a committee, the same to be complete and ready for public competition, and for which he is to be allowed the sum of 120*l.* The opinion of the committee is, that the new workhouse should accommodate 800 persons.

Worcester.—The City and County Bank business has been transferred from its old premises, opposite the Star and Garter Hotel, to the new building just erected for the purpose at the Cross. The building is in the Italian style, three stories high, constructed of a light-coloured free-stone from the Blockley quarries, and which our authority (the local *Herald*) states is equal in appearance and durability to the Box-tunnel stone at Bath. There are south and west frontages and side entrances, but the principal doorway is under an arch in the west front, having duplicated columns of polished rose-granite on each side, with panelled pedestals. The windows in both fronts have columns, with carved capitals, balusters, and pediments; and the stories are divided by cornices. The top of the building terminates in a cornice, with carved trusses and soffit, surmounted by a balustered parapet. The banking or principal apartment is a square of 32 feet, 17 feet high to the cornice, with a domed roof rising some 20 feet higher. There is an arcading all round the room, the pillars and capital of stone, and the other parts of Parian cement. The base of the dome light is encircled by cable beading with soffit, modelled in birds and flowers. The frame of the dome light is of pierced iron work with diamond openings for lights. The fittings of the banking-room are of solid mahogany, the counter-front having carved cornices and moulded trusses, and the desks are furnished with open screen-work of bronze at top. The doors are also of mahogany. Closets and other convenient apartments are situate on the east side of the banking-room. On the south side of the building a stone staircase with light bronze balustrade leads to the upper floors. The ground floor is inlaid with Maw's encaustic tiles. Mr. Elmsley, of Malvern, was the architect; and Messrs. Wood & Son were the contractors: the clerk of the works was Mr. Sutton. The carving was done by Mr. Forsyth. The cost of the building will be about 14,000*l.*

Bradford.—The prospectus of a new project for the erection of a theatre for Bradford has been issued. The site is in Manningham-lane, which has been objected to by a correspondent of the local *Observer* as NOT being central enough.

METROPOLITAN BOARD OF WORKS.

AT the weekly meeting of the Board on the 7th, Mr. Thwaites presided.

PUBLIC IMPROVEMENTS.

It was proposed by Mr. Carpmael, and seconded by Mr. Deputy Harrison, that instead of 10,000*l.*, the sum named in the estimate for contributions by the Board to public improvements, a rate of one penny in the pound be levied for the purpose, which it was calculated would produce 50,000*l.*

A long discussion took place, the result being that the proposition was lost, and the original estimate of 10,000*l.* was adopted.

MAIN DRAINAGE WORKS.

The following report from the engineer was read:—

"The unfavourable state of the weather during the past month has, to a certain extent, retarded the progress of the Main Drainage works. In connexion with the Middle Level Sewer, Messrs. Brassey & Co. have completed about 7 miles 2,480 feet of sewers, of sizes varying from 4 feet 6 inches by 3 feet to 12 feet by 9 feet 6 inches, at a probable cost of about 199,000*l.*, of which the sum of 16,000*l.* is due to the past month. The total value of the works executed under Mr. Furness's contract for the Northern Outfall Sewer is about 480,000*l.*, making 25,000*l.* for work done in the last month.

At the Southern Outfall Works, Crassness, Mr. Webster is progressing with the excavations for the engine and boiler houses, and for the reservoir. The concrete foundations for the former are being put in to a depth of 19 feet, and the brickwork for the latter is being commenced. The total cost of the works executed is about 30,000*l.*, being 7,000*l.* in excess of my last report. Messrs. Aird & Son's works at the Deptford pumping station are approaching completion. The total cost up to the present time is 94,000*l.* Messrs. Slaughter & Co. are getting in the pumps, boilers, and engines. In my next monthly report I hope to be enabled to state that Messrs. Lees & Bowles have completed their contract for the Southern High Level Sewer, and up to the present time they have executed works to the value of about 191,000*l.*, 3,000*l.* of which were expended in the last month. Rather more than two miles of the Southern High Level Extension Sewer have been completed by Mr. Pearson, at a cost of 11,370*l.*, of which about 1,400*l.* are due to the past month. Messrs. Aird & Son have made their arrangements with nearly all the parties through whose lands and properties the Bermondsey branch sewer is intended to pass, and they have sunk the three deep wells required for draining their works at different points, and have erected the necessary pumping-machine. A commencement of the works has been made at Jamaica-level, to the value of about 1,500*l.*, which, added to the preliminary expenditure, makes a total outlay of nearly 5,000*l.* upon this contract. Mr. Webster has completed about 4,500 feet of the Effra Sewer Diversion at Brixton, at a cost of about 8,000*l.*, and he has commenced the extension of the work in Water-lane."

"SEVERING" PIPING.

AT the Manchester City Sessions, before the Deputy Recorder, Mr. Higgin James Lawler was tried on an indictment, containing two counts, the first of which alleged that the prisoner had stolen several yards of lead piping affixed to a building; and the second, that he had ripped, cut, broken, and severed, with intent to steal the same property. The evidence of the principal witness (a police officer) who, in consequence of information received, had concealed himself in the building, was to the effect, that on Sunday, in the afternoon, the prisoner and his wife entered the building, the door of which was open; and, after lighting a candle in the lobby, they both went into the cellar. The prisoner then pulled down from the ceiling several yards of water-piping, and in doing so undid the staples by which it was fastened. A remark was then made that it was unsafe to remove the property at that time. The prisoner and his wife then left the building, but returned between six and seven; but while there two persons came to the door, and the prisoner and his wife, being disturbed, again left the building without, apparently, on this visit having touched the lead piping. The officer, who, after the first visit of the prisoner, had concealed himself in another part of the building, then rushed into the street, and the prisoner was subsequently taken into custody. His wife, who had been also taken into custody, was discharged. At the conclusion of the case for the prosecution, the Deputy Recorder called the attention of the counsel for the prosecution, Mr. Spence, to the indictment. The counsel contended that, under the second count, the prisoner was liable to be convicted, should the jury be satisfied with regard to the intent with which he separated the lead pipe from the ceiling. The learned Deputy Recorder, on consultation with the learned Recorder, Mr. R. B. Armstrong, Q.C., decided that, although the piping had been neither ripped, cut, nor broken, still it had been *severed*; and the only question for the jury was the intent with which the prisoner had severed the lead. The jury found the prisoner guilty, and he was sentenced to eight months' imprisonment and hard labour. The word "sever" was introduced into the Amended and Consolidated Larceny Act of last year, to obviate difficulties such as occurred in this case.

THE "USUAL" PAYMENT OF ARCHITECTS.

SIR CHARLES BARRY, in a letter to the *Times* of the 15th of February, 1856 (printed in that paper of the 18th), speaks of "the *usual* commission for the architect of 5 per cent.;" and we often hear the same expression now. When, I will ask, was that *usual* first in use?

I will refer to custom among architects, and to an earlier date than the birth of Barry.

Of the Rolls House, in Chancery-lane, Colin Campbell was the architect. The cost of the house—I quote the manuscript papers of the auditors of the Imprests from the Crown—was fixed at a certain sum; and on this sum Campbell claimed and received, as architect, *six*, not five, per cent. P. C.

MAJOLICA FOUNTAINS.

SIR,—We have the pleasure to afford you a most satisfactory reply to your query as to the change in the appearance of our fountain at the Exhibition. In common with a portion of the public, you suppose that parts of the fountain lost their colour.* Nothing of the kind could occur. Majolica colours are fired to such a high degree of heat that they are unchangeable. We have some pieces at our works that have been exposed in the open air for a period of twelve years, and the colours are now as bright and firm as they were the first day they were put up. The appearance of a change of colour was solely caused by the water—not very clean and good—forming a vegetable deposit on the stonework, and washing the deposit upon the majolica. The majolica colours, as we have said, are indestructible and unchangeable; and we can safely promise that, by the simple application of soap and water, the fountain can be restored to its pristine beauty in a few hours. MINTON & CO.

* At any rate, its aspect was abominable.—ED.

CONCRETE BRICKS.

WITH reference to the statement from the South Kensington Museum, Mr. Sumner, the maker of the concrete brick, suggests to the maker of Chilton's Suffolk brick that it is easy to institute some experiments that *can* be quoted as correct; and says he will produce a brick "made of lime and sand that will bear a pressure of twenty-five tons; the prime cost of which will not exceed 15s. per thousand." He adds:—"The question of concrete bricks is certainly one of great importance, and will shortly be brought very prominently before the public. At Reigate, for example, arrangements are on the *tapis* to work the enormous beds of sand here, and push it into the London market. The Government has recently bought twenty-two acres of land here for a military hospital, the whole of which is a hill composed of sand 100 feet thick. The proposal submitted is that the boys from the Philanthropic Reformatory at Redhill (within half a mile of the spot) should make bricks out of the material on the spot, and which does not require skilled labour. Even with hand labour the prime cost would not reach 22s. per 1,000, and with machinery much less."

LAW OF LANDLORD AND TENANT.

The Mayor and Corporation of Hythe v. *East.*—In this case (at the Vice-Chancellors' Courts), about ten years since, the plaintiffs sold to the defendant a piece of land abutting upon the sea and forming part of a site upon which a terrace has been built, and in the conveyance of that land there was a covenant on the purchaser's part that he would build a house of the value, at least, of 1,200*l.* Subsequently it was found necessary to file a bill against him for specific performance, and an order was made to complete, followed by a petition for directions to give the plaintiffs the benefit of the decree. Upon that petition, which was presented in 1861, the Court directed a completion within six months, but, that not having been complied with, a motion was now made to commit for non-obedience to that order. The motion was accompanied by several well-executed photographs of the *locus in quo*.

Mr. Baily and Mr. Dauney appeared in support of the motion.

Mr. Eddis, for the defendant, said that great difficulties had occurred in the progress of the work, both as to materials and other necessary matters.

The Vice-Chancellor said that the covenant referred to a complete edifice, and therefore it had not been complied with. If there was any obstacle on the part of the corporation, of course he would not visit it on the defendant; but, to render it unnecessary to come back to the Court, he should direct that unless the defendant proceeded to obey the order before next seal, the order for committal must be made.

MINSTER CHURCH.

SIR,—I am sure the architectural profession must feel greatly obliged to Messrs. Smith & Son, of Ramsgate, for their candid observations to you, printed in your last number, respecting the reinstatement and alterations now in progress at Minster Church, Thanet, Kent. But I think many of them will consider, with me, that more should be told. It is this. Messrs. Smith & Son are not only the *architects* of the above works, but the *builders* also. If, therefore, they manage to complete the job without considerable dissatisfaction, both in the character and cost of work done, they may consider themselves very fortunate, more especially as I believe the cost, when all is done, will far exceed what was in the first place anticipated. A RATEPAYER.

COMPENSATION FOR DAMAGE BY OBSTRUCTION.

Senior v. *Metropolitan Railway Company.*—On the 8th, at the Sheriffs' Court, Red Lion-square, a question of considerable importance was raised before Mr. Serjeant Hayes, assessor, and a special jury, in this case, which was a claim made by a tailor, carrying on business at 7, Ray-street, Clerkenwell, for a loss sustained in his trade by the obstruction of the thoroughfare caused by the works of the railway.

Mr. Keane, for the claimant, waived any claim for structural damage to his house, and claimed about 100*l.* for the loss of trade caused by the stoppage of the thoroughfare.

After several witnesses were examined,

Mr. Lloyd submitted that, under the Lands Clauses Act, compensation could only be given for land taken or injuriously affected. To admit such a claim would be to open a door to some hundreds of actions.

Mr. Keane referred to a case called "The Pickled Egg," which was now pending in the Court of Queen's Bench, and suggested that the present proceeding should be turned into a special case for the Court above.

Mr. Lloyd declared that if the principle contended for on the other side prevailed, there would be an end to all public improvements.

Mr. Serjeant Hayes thought the best course would be for the jury to assume a claim for compensation, and the matter would go before the superior court. He could not stop the case whilst the law remained in its present state.

The jury assessed the compensation at 60*l.* for the loss of trade by the obstruction, and asked whether the present would stop all other cases until the question was settled.

Mr. Serjeant Hayes was afraid not, though it would be desirable.

PATENTS CONNECTED WITH BUILDING.

Improvements in the Means and Apparatus employed for Insulating and Protecting Telegraph-conducting Wire, and in Apparatus for working the same.—*C. W. Siemens.* (Partly communicated.) Dated Jan. 9, 1862. Here, according to one part of the invention, the patentee forms the conductor either of a solid metal wire, or of a strand of two or more wires; or he sometimes first forms a strand of seven equal-sized wires, and then winds into the said helical recesses formed between these wires six other conducting wires of a smaller diameter, so as to cause the form of the complete conductor to approximate to that of a cylinder, which form would present the least surface for induction for a given sectional area. He causes the conductor to pass through a vessel containing a compound of gutta-percha, resin, and Stockholm tar, in a heated or semi-fluid state. The wire or strand of wires passes into and out of the vessel through holes or dies formed in the sides of the same. The conducting wire is next passed through a bath of cold or iced water, then passed round a series of rollers or reels so as to harden the coating: it is then coated with india-rubber, and finally with gutta-percha. In making joints in the india-rubber covering of the conductor, he overlaps the uncovered part with india-rubber strips, and completes the formation of the joint in a specially-constructed apparatus.

Improvements in Preserving Timber, which are particulary applicable to Timbers of Ships or other Maritime Structures.—*W. Clark.* (A communication.) Dated Feb. 7, 1862. This consists: 1, in depriving the wood of its sap, and, consequently, of its fermenting properties; 2, in submitting the wood to an artificial desiccation; 3, in singeing the face of the wood, when the work is finished, by a slight carbonization. To deprive the wood of its sap, it is plunged in soft water, which, being less dense than the sap juices, forces out the latter, and fills all the fibres of the wood in its turn. The wood is dried by means of an apparatus of Messrs. Légé & Henry Piromet, for injecting poplar and beech woods with sulphate of copper. The wood is now ready to receive a current of heated air, with which a certain quantity of sulphuric acid is mixed, which prevents the formation of fungi on ships' bottoms. A paint composed of sulphur, linseed oil, and boiled oil, is applied to the bottoms of ships. The surface of the wood is charred by a jet of gas.

Ornamenting Wood in Imitation of Inlaid Work.—*T. Bray.* Dated February 27, 1862.—The patentee coats the surface to be ornamented, which should be of white or light-coloured wood, with glutinous matter. That which he finds most suitable is prepared by boiling spatches (or cuttings of the skin of calves' faces, and which are to be obtained from the makers of weavers' pickers) in water. He simmers one pound of spatches in four quarts of water for about four or five hours, and then strains the liquid: on cooling it sets into a jelly; which, however, is so thin as to flow freely when beaten up with a brush: if the jelly is found to be too thick it should be reduced with water. This preparation he applies to the surface with a soft brush, in a thin, even coat, which is allowed to dry. After the glutinous coat is dry he applies to the parts of the surface, which are to appear as white or light-coloured, a spirituous preparation of gums and other materials. This he does with a painter's pencil, either with or without the aid of stencil plates. The spirituous preparation he prefers is composed as follows:—One pound of gum merthe and half a pound of gum turpentine, dissolved in two gallons of spirit of turpentine; and to the solution is added half a pound of spermaceti and half a pound of yellow soap: these two materials being melted together are added to the spirit solution, and well mixed therewith when in a melted state. The desired pattern or design having been traced on the surface in this preparation as above described, and the preparation so applied being dry, he stains the whole surface with a water stain.

Chimneys or Flues.—*J. G. Jennings.* Dated March 1, 1862.—The invention is applicable more especially to chimneys or flues used in connexion with open fire-places. In order to prevent the smoke being forced out into the room in which the fire-place is situate, by a sudden puff of wind descending the chimney, the patentee enlarges the chimney at a short distance over the fireplace, by building into the brickwork a chamber made either of earthenware or cast-iron, and having both an inlet and outlet passage corresponding in size with that of the flue. He prefers to make this chamber hexagonal, as it appears when in position in front and back view, and with flat ends. The inlet and outlet passages also, which are generally opposite the one to the other, he prefers to form as sockets to receive the ends of earthenware pipes, of which he usually forms the chimneys or flues. The chamber may be made in one piece, and it is preferred so to make it; but it may be formed in two or more pieces if desired. The employment of chambers in this manner admits of the use of much smaller chimneys or flues than those usually employed in combination with open fireplaces.

Horticultural Buildings.—*G. H. & H. R. Cottam.* Dated 4th March, 1862.—For the purposes of this invention the metal rafters, or the sashes or parts to be glazed, are formed with a succession of steps, according to the number of sheets of glass to be used from the top to the bottom. When walls are used in constructing a building, the rafters are connected therewith by metal plates in the form of inverted troughs; either extending the whole length of the building, or else at such intervals apart as will suit the distance apart at which the rafters are desired to be attached to the wall. Where required, tie or gauge rods or bars are applied to retain the rafters in position. The rafters may, in some cases, in place of being straight, be made with two or more slopes. When using wrought-iron sash bars, in order to connect them to the structure or to each other, cast-iron sockets are used, which are fixed to the ends or other parts of the sash bars by pins or rivets, or otherwise; and, when required, such cast sockets are made with branch sockets at a right angle, or such other angle as may suit the angular direction in which it is desired to fix the ends of other sash bars to the primary one to which the socket is fixed. At the surface of the ground, where necessary, a sill or bar is fixed or applied in any convenient manner, but it is preferred to employ a row of wood posts or stakes driven into the ground, the parts so driven being well charred.

Improvements in Machinery for Mortising Wood.—*J. L. Perin.* Dated April 17, 1862.—This consists in the use of a rose drill or fraise, to which the patentee imparts three self-acting motions;—the first, a rapid rotary motion, for cutting away the wood; the second, a to and fro movement, which is determined by the length of the mortise to be cut; and the third, a penetrating motion, according to the depth of the mortise to be cut. The two latter motions, if necessary, can, however, be imparted by hand. The timber operated on remains stationary during the triple action of the drill. In order to square out a mortise hole thus obtained, he makes use of a right-angled tool, which is impelled by hand. He also attaches to the machine embodying the improvements in drilling machinery to pierce round holes preparatory to mortising, or for other purposes, if necessary.

Books Received.

Transactions of Architectural Institute of Scotland. 1861-2. *Illustrations of Scottish Buildings.*

In accordance with a resolution passed in 1857 that there should be annually published for distribution amongst the members a series in folio size of at least five drawings of ancient, Mediæval, or modern buildings at home or abroad, the council have issued the first part. It includes two long drawings by the late Mr. Hamilton, of the old West Bow of Edinburgh, and four pages of interesting details, two from Inchmachome Priory, by Mr. E. F. C. Clarke; and two from Holyrood, by Mr. A. C. Beattie; from measured drawings for which the prizes of the Scottish Institute were awarded

The council congratulate themselves on having obtained the drawings of the old West Bow. We must, for our own part, express an opinion that they seem wholly devoid of architectural interest, and more suited to the publications of the Glasgow Archæological Society than of the Architectural Institute. We say this with a view to the future.

Hand Catalogue of Postage Stamps for the Use of Collectors. By John Edward Gray, Ph. D, of British Museum. London: Hardwicke. 1862.

Although we cannot go exactly so far as Dr. Gray, who maintains that postage stamps, if properly arranged and studied, may be quite as instructive and entertaining as the collection of birds, shells, engravings, books, or coins, we are quite satisfied that the collecting and arranging of postage stamps has a very good effect, especially with the young, and should be encouraged. It educates the mind to observation and comparison; excites curiosity as to the various countries from which they come; and in some cases leads to a consideration of the art, or want of art, shown in the production of them. More than twenty little books, English, French, and German, as guides to collectors, have been already published; but Dr. Gray has, nevertheless, made a desirable addition to postage-stamp literature. Moreover, he has a special right to the subject, inasmuch as he was the first who proposed the system of a small uniform rate of postage prepaid by stamps; afterwards carried to a successful issue by Mr. now Sir Rowland Hill, with the assistance of Mr. G. Moffat, Mr. Henry Cole, and others.

The list is arranged geographically, commencing with the stamps of Great Britain and her colonies.

VARIORUM.

The *Publishers' Circular* for December gives a large number of wood-cut illustrations from the illustrated books of the season, and serves to show what is now being done in this way. We are not amongst those who think our illustrators are doing exactly what might be expected of them. ——The *British Workman* and the *Band of Hope Review* still maintain an excellence in their cuts which, at the small price of these journals, nothing but a very large circulation could pay for.——The Christmas number of *London Society* is a gay one and a good one. It is illustrated by Alfred Crowquill, G. du Maurier, McConnell, F. R. Pickersgill, Poynter, Morten, J. E. Millais, J. D. Watson, Florence Claxton, Adelaide Claxton, G. H. Thomas, and C. Green. Endeavours will be needed to prevent the engravings having a sameness.—— The current number of the *Gentleman's Magazine* contains an illustrated article on "The Ironwork of [in ?] Westminster Abbey."——"A Treatise on Logarithms," by the Rev. John Hunter, M.A., has been added to "Gleig's School Series," published by Messrs. Longman & Co. A knowledge of logarithmical arithmetic being now frequently required in candidates for public examination, the publication of this cheap and excellent little volume is well timed.—The Calcutta *Engineers' Journal* contains a notice of Col. Kennedy's Iron Bridge system, on the Bombay and Baroda and Central Indian Railway.

Miscellanea.

The Church of St. Ethelburga, Bishopsgate.—This church has for some time been undergoing extensive alterations and repairs, whilst the interior has been entirely refitted. The *City Press* says:—"The whole of the pews and galleries have been removed, and the floor has been laid with Minton's tiles; whilst the organ has been enlarged, and placed upon the floor, to the south of the altar. The nave and aisle have been fitted with open seats, and the church has been lighted. The chancel is now separated from the nave by a dwarf screen of Caen stone. A new stone pulpit has been fitted. There remains much to be done."

Railway Returns.—The traffic receipts of the principal railways of the United Kingdom continue to contrast favourably with the earnings at the corresponding period of last year, as will be seen by the subjoined particulars as to a few of the more important lines for the week before last:—

	1862.		1861.
South-Eastern	£18,181	....	£16,779
Great Eastern	26,179	....	26,076
Great Western	52,483	....	50,490
Great Northern	28,187	....	27,914
London and North-Western	84,705	....	81,432
London and South-Western	18,877	....	16,152
Midland	38,716	....	38,810
North-Eastern	41,156	....	40,150
London and Brighton	16,057	....	14,821
North British	10,701	....	10,296

CONSOLIDATING CAST-STEEL.—Mr. J. M. Rowan, of Glasgow, proposes to consolidate cast-steel, or metal produced by the pneumatic process, by compressing it whilst still liquid or nearly so, whereby it is rendered much better adapted for subsequent processes.

THE LEICESTERSHIRE ARCHITECTURAL SOCIETY. The November meeting of this Society was held in the Town Library, Guildhall, Leicester, on the 24th ult., and was numerously attended. The Rev. Robert Burnaby, M.A., occupied the chair. Some general and financial business was transacted, and honorary members were elected. There was the usual exhibition of antiquities, &c. At the close of the exhibition, Mr. James Thompson called the attention of the Society to the state of the excavations at Wroxeter; and it was resolved that a memorial to the Government upon the subject of a grant in aid of the operations now being carried on should be prepared, and, if thought desirable, adopted at he next meeting of the Society.

METROPOLITAN BENEFIT SOCIETIES' ASYLUM.—This is the only institution in the kingdom for the special benefit of members of friendly societies. To the credit of the metropolis be it said, that a few working men in it founded this institution in 1829. The building in Ball's-pond-road, Islington, was not commenced till 1836, but was at once filled; and in 1853 a wing was added; the total cost being nearly 6,500*l.*, collected in small sums, aided by gifts from Lord Ebury, Alderman Copeland, and other friends of the cause. The first important bequest to the asylum fell in this year, under the will of Mrs. Mackenzie. The amount was 8,500*l.* The income is to be paid to the inmates. A considerable outlay has just been made in the repair and ornamentation of the building. The works were executed under the direction of Mr. H. S. Ridley, architect, by Mr. Grover, of Islington.

GERMAN ANTIQUITIES.—In the *Revue Contemporaine* we find an interesting archæological article by Dr. Frœhner, from which we glean the following items:—In Styria, a great number of tumuli have been opened, called by the people "Pagan cones." They are chiefly met with in groups of from twenty to thirty, in the midst of clumps of trees and on the banks of rivers. They all contain long coffins made of wicker-work; but those tumuli that contain skeletons are considered to have been graves for the poor, on account of the few objects of value which are found in them: those, on the contrary, in which the ashes of dead bodies are found, also contain bronze arms and ornaments, evidently the work of native artists, but bearing a strong affinity to Etruscan art. Thus, for instance, two votive hands, skilfully made of bronze plates, have been brought to light, as also three small shields, adorned with designs of animals and men executed in relief. All these objects are chiselled after the Etruscan fashion. At Sigmaringen, on the Upper Danube, a Roman camp surrounded with ramparts has been found, with the house of the general, that of the treasurer, and other buildings still discernible.

THE INVENTOR OF THE FIRE-ESCAPE, ABRAHAM WIVELL.—Wivell now took to scheming,—dreaming, some of his friends said. He proposed a plan for draining London independently of the Thames—for, said he, if all the sewers drain into the Thames, the Thames itself must become one great sewer. But this scheme fell to the ground—it was too far in advance of the times. His fire-escape was more successful; but, poor fellow, how sedulously he worked at his idea, and what time and money he spent before the design of his brain was embodied in tangible wood and iron. His first escape consisted of a rope, fastened in the inside wall of the upper story of the house, and a belt which was to be girded around the body of the person escaping, and was also to be attached to the rope. With such an apparatus, Wivell frequently descended from the topmost room of his house, to the wonder of the surrounding neighbourhood. Although he had demonstrated the practicability of this plan of escape, people were slow to adopt it, and further thought led to the production of the well-known fire-escape, now happily found at the convergence of most of our principal London thoroughfares. Even after he had completed his escape, he could not for a long time get any help in bringing it out. But he was enthusiastic and persevering; and he at length succeeded in calling a public meeting, when he explained his plan in detail. The formation of a committee was the result of this meeting, and Wivell was awarded with the expenses of his escape, and—a gratuity of 10*l.*! Ultimately, the Royal Society for the Protection of Life from Fire was formed, and Wivell's invention was adopted.—*Social Science Review.*

OPENING OF THE BOULEVARD PRINCE EUGENE, PARIS.—The inauguration of the Boulevard Prince Eugène was celebrated with great magnificence on the 7th inst. Immense crowds were present, and all passed off pleasantly. The boulevard is a continuation of the grand plan of new Paris decided on long since by the Emperor. Like the Boulevard Sebastopol, it will present a straight line of white stone houses, a wide road, and spacious pathways planted with trees, and provided with seats for the public. Here and there open spaces occur in this long cut, beginning where stood that nest of small theatres of the Boulevard du Temple, and ending at the Place du Trône, a distance little short of a mile.

DAMAGE TO WALLS: HART *v.* THE METROPOLITAN RAILWAY COMPANY.—This was an action brought in the Court of Common Pleas by a publican carrying on business in the Edgeware-road, against the contractors for the Metropolitan Railway, for compensation in damages for injuries occasioned to his house in the Edgware-road through the alleged negligence of the defendants' servants. The defendants pleaded that the damage was occasioned by the leave and license of the plaintiff. It appeared that the excavations had been carried some few inches beyond the plaintiff's wall underneath his house. The consequence was that the wall was so shaken and had sunk to such an extent that it was unsafe to live in the house. A surveyor was called in, and he at once ordered the walls to be shored up, strengthened, and repaired, for which the plaintiff paid 37*l.* There was a claim for loss of business, &c. The defendants consented to a verdict being entered for the plaintiff—damages, 120*l.*

MR. BELLEW'S NEW CHAPEL.—Sir: Looking into Bedford Chapel, Bloomsbury, a few days since, I was astonished and pleased to find the dirty, dingy, and hopeless-looking interior renovated with various colours and tints. The effect is quite refreshing when contrasted with the heavy appearance and want of colour so overpowering in most classic neighbouring churches. On inquiry I find that Mr. Lewis Stride was the architect. The credit for new desk, pulpit, gasfittings, &c., is due to Messrs. Cox & Sons; but Gothic work appears to be out of place in such a building. The organ has been erected by Messrs. Davidson & Son. My excuse for taking up space in your Journal is the rareness of examples of coloured interiors free from what is considered by the public "gaudiness of effect," and the hope that various colours may be more commonly used in churches until we can afford the High Art paintings so much to be desired.—F. R. I. B. A.

BAD DRAINAGE AND BAD WATER.—It is a very common error to suppose that, because we see so many robust men and women in a neighbourhood, that neighbourhood must be healthy. We can only judge of the health-producing properties of a locality by reference to the registrar's report of the births and deaths. The weakly and unhealthy come within the poet's category of the good—they die young. We often see in the crowded courts of London a group of robust children playing about, and in a hasty manner conclude that there is nothing in that court which deteriorates from health and longevity. But we turn to the Registrar-General's report, and we find that fever has carried off within the last few months a tenth of the inhabitants, which gives the value of each life, under such conditions, at ten years. When the cholera was raging in London, in the year 1849, the south, although the most open, suffered in a ratio of three to one to the north. Why? Because the south was badly drained, and its inhabitants drank impure water; while the north, although far more densely populated, in some places to the extent of 200,000 people to the square mile, was better drained, and its denizens drank water drawn from a purer source. In many agricultural districts the drainage is totally neglected; and the water, if cared for at all, which is sometimes not the case, contains far too large a quantity of vegetable and animal matter to render it fit for human consumption. Many animals, better judges by instinct than man with his reasoning faculties, will not touch water in an impure state. What, then, is the effect of bad drainage and impure water upon the human being? Why, a relaxed nervous system, which permeates every action of the individual. Hence we find the sluggish gait and drawling voice of the agricultural labourer. He is content to "live and move and have his being" in a state of mental and moral torpor little removed from the quadruped whom he tends. Give him a well-drained cottage and pure water, and his condition is instantly changed.—*Social Science Review.*

ADDITION TO THE NATIONAL GALLERY.—It has been stated that the Marquis of Hertford has intimated his intention of leaving his splendid collection of pictures to the nation.

NORTHAMPTON ARCHITECTURAL SOCIETY.—At a meeting of the committee; Mr. De Wilde in the chair; Mr. Irvine, at some length, examined the entries in the Expense Rolls relating to Queen's Cross, with special reference to those obviously technical terms—"pro flecchiis; pro carisgio capitis et lanceæ; pro factura virgæ et anuli" "et pro agnis de marmore," this last the most perplexing of all. Professor Willis interpreted it as implying that there was an Agnus Dei on the cross. Mr. Irvine believes that it refers to certain squares of marble, the original steps which surround the cross having been of marble, and the nominative of agnis being not agnus, but agna. There is, it seems, in Dorset, a large block of stone popularly known as the agglestone. Mr. Irvine thinks John de Bello was a mere walling mason and setter, not an architect.

ABATTOIRS FOR CROYDON.—At a recent meeting of the local Board of Health, the surveyor laid before the Board a plan for the erection of abattoirs, and estimated the cost of construction at 950*l.*, to include every outlay. This would provide one public and one private slaughter-house. Additional slaughter-houses could be added if they should be required. Dr. Carpenter said he had no doubt but that these slaughter-houses would pay for their erection. The Board was bound to provide this accommodation as in the special district it had refused to grant any more slaughter-houses licenses, by which a monopoly was given to those butchers who had license to slaughter. He moved that the surveyor get out estimates that tenders for erecting the buildings be obtained. The consideration of the question of providing the necessary funds was adjourned, but the motion of Dr. Carpenter was put and carried.

THE DRINKING-FOUNTAIN MOVEMENT.—A drinking fountain has been placed in the public gardens of the Lichfield museum and free library by Mr. T. Rowley, M.D., a magistrate of this city. It is a Byzantine structure of considerable size, formed of Bath stone and white bricks. The principal feature of the design is the centre group of stone carving, which represents in high relief the Scriptural story of our Lord's interview with the woman of Samaria. At the foot of this group the water flows into a basin of hard stone, through some scroll work of zinc. Lower down and near the ground is a drinking trough for dogs. The centre group is flanked by double sets of ornamental pillars, with foliated capitals, from which springs an arch, bearing in gold letters the sentence, "Whosoever drinketh of this water shall thirst again, but whosoever drinketh of the water that I shall give him shall never thirst." The whole is mounted by a pediment crowned by some carved water-lilies. The work has been executed by Mr. S. P. Wood, sculptor, Lichfield.

A TWO-MILE BRIDGE.—A prospectus of, or rather proposal for, a railway bridge, to be called the Royal Victoria Bridge, and which is intended to cross the Severn at the New Passage, has been published. The projector is Mr. S. B. Rogers, of Newport, who tells us his bridge would be built on a rock foundation for nearly its entire length (two miles), and the bases of the piers would be dry for nearly three hours every tide; so that, in fact, this bridge would be built upon dry ground. The structure its author intends shall "consist of twenty-five grand arches, with spans varying from 150 to 300 feet (exclusive of seventy-two smaller water-way arches, varying from 30 to 60 feet spans), with an elevation of 210 feet from low-water mark; so that ships of the largest dimensions may safely pass through these grand arches." On the piers and platforms there are to be "several hundred houses, shops, exhibition-rooms, sites for statues and monuments, in commemoration of the patrons of the undertaking and others who may distinguish themselves by 'merit or talent' in this affair; together with refreshment-rooms, and suitable conveniences for a sort of permanent 'International Exhibition.'" The reader who remembers an old plan for stone-bridging over the Avon at Vincent's Rocks, and making a miniature town of bazaars, &c., in the arcaded piers, will discover some resemblance between the two proposals. The prospectus states that the bridge "will bring all the towns, works, mines, and manufactures of Monmouthshire, and many of those of Glamorganshire, within an hour's ride by rail of Bristol Exchange." Mr. Rogers is the same gentleman who some years ago started a project for supplying London with gas "by railway" through iron pipes from the Welsh furnaces.

Laying on Music.—Some of our readers will recollect of an endeavour, a good many years since, to lay on music like gas or water. The idea seems to have been revived. The Paris correspondent of the *Journal du Havre* says:—"An experiment of an electric piano has been tried at the palace of Compiègne. The inventor, who is a native of Trèves, gives to the instrument great power, and the air played was repeated on another piano placed at the other extremity of the palace. He asserts that while playing a tune in Paris, he can have it repeated instantaneously at St. Petersburg, provided the electric wires are intact."

The Tallow Tree in Algeria.—This remarkable tree, a native of China, and called by botanists *Croton sebiferum* or *Stillingia sebifera*, has now been successfully acclimatized in Algeria, through the exertions of the French Government. Its cultivation would diminish the cost of candles. A tree ten years old, according to *Galignani*, yields from one to two kilogrammes of tallow: fifteen years later it will yield from three to four. It requires no care or watering; and may be planted on the roadside. In the island of Chusan large quantities of oil and tallow are extracted from its fruit. In hot weather the candles made with the tallow are apt to become soft, and even liquid; but to guard against this inconvenience they are dipped into wax.

Electro-telegraphic Progress.—Another attempt is about to be made to raise the necessary capital for testing the great experiment of uniting this country with America by means of submarine telegraphy. It appears, also, that the directors have received a tender from Messrs. Glass, Elliott, & Co., who agree to make and lay a cable from Ireland to Newfoundland, on conditions peculiarly favourable to the company. The Gutta Percha Company have recently published a list, which shows that fifty-one submarine cables have been undertaken between 1851 and 1862, and that the entire number, with the exception of seven, are at this moment in good working order. Since the failure of the old Atlantic cable, however, important discoveries have been made by Professor Wheatstone, Professor Thomson, Mr. Fleming Jenkin, and other electricians.——A New York paper states that on the 13th ult. a telegraphic despatch was sent from New York to San Francisco between four and five in the afternoon, and the answer was received between six and seven,—long before the hour had arrived at San Francisco at which the original message was sent from New York. The distance is about 3,500 miles; considerably exceeding the distance from Newfoundland to Valencia; and, says the New York paper, greater than any circuit ever yet worked in the history of telegraphy.

Doings at St. Patrick's Cathedral, Dublin.—The *Oxford Herald* says,—"It is a somewhat strange fact that the most costly work of cathedral restoration in the empire which this restoring age has witnessed should be in progress in Dublin, and at the cost of a private person. Mr. Guinness, it is said, is expending 80,000*l.* upon the renovation of St. Patrick's Cathedral. All praise to him for such magnificent generosity. It is, however, to be regretted that he relies upon himself as his own architect in this important undertaking, in place of giving the opportunity to some leader of the ecclesiological school of producing a work in which archæological accuracy in the treatment of the structure might be combined with invention in the fittings. The octagonal pillars of the nave are certainly plain, but we should imagine that there can be little question that they are original. They are now being transformed into clustered columns. This proceeding may add to the richness of the general effect, and bring St. Patrick's more into comparison with the cathedrals of England; but it alters the historical appearance, and detracts from the archæological identity of the old pile. We should accordingly have recommended a strict restoration of the ancient features, followed by as much decoration as the building would stand. Occasionally, too, the workmen seem to have been allowed to follow their own fancies in the foliaged capitals. The canopies of the tabernacle-work in the choir are to be reinstated. The cursory examination which we had of the building does not allow us to enter more into details. The external pinnacles, which are being reinstated as octagonal broach spirelets, are far from ornamental; but in this case we believe that Mr. Guinness is making good what he found there. We noticed a Crimean window in the nave, which struck us as one of the most inappropriate for a cathedral we had ever come across. The most conspicuous feature in it is a panel with a landscape of Sebastopol, enamelled in colours on a single piece of glass."

Effects of Iron Plating.—A communication from Toulon, in the *Messager du Midi*, says:—"The laying up of the frigate *La Gloire* in the Castigneau dock has disclosed three unexpected phenomena: first, that the contact of the copper lining and the submerged iron plates had established a galvanic current, which produced the effect of a voltaic pile, and was completely deteriorating the iron armour of the frigate in the parts below the water line; secondly, that a species of shell-fish, hitherto unknown, was afterwards discovered among the millions of molluscæ by which the hull was covered, apparently produced under the influence of the same galvanic current; and, lastly, in the hold of the vessel 22,000 litres of wine were found to be transformed into vinegar, it is not known by what influence."

Waterloo Bridge.—The half-yearly meeting of the proprietors in the Waterloo Bridge Company has been held. The report stated that the amount of tolls for the half-year ending August 23, had been 11,985*l.* 9s. 4d. For the corresponding period of the preceding year they were 11,100*l.* 19s. 3d., thus showing an increase of 884*l.* 10s. 1d. Of this increase, 530*l.* 1s. 1d. had arisen from the horse and carriage toll, and 354*l.* 9s. from the foot toll. Since August there had been a further increase, amounting in horse and carriage toll, to 397*l.* 2s. 11d., and in foot toll to 508*l.* The report concluded by congratulating the proprietors on the position of the company. The report was adopted.

The Waterloo Road Accident: Damages for Death.—In the Court of Common Pleas, an action, Robbins *v.* Jones, has been decided in reference to the fatal fall of pavement in the Waterloo Bridge-road. Mr. Robbins, the husband of plaintiff, was one of those who were killed, and his widow sued Captain Jones, of Norwood, defendant, for damages. It was at the instance of Captain Jones that the brokers, when the crowded pavement fell, were forcing their way into the premises of which he was the lessee, and of which Messrs. Jeffs, builders, were the sub-lessees, but the actual tenants of which had paid their rents to Jeffs. Captain Jones had also previously got notice to make the pavement sufficient. The jury gave a verdict for the plaintiff—damages, 280*l.*, apportioning 200*l.* to the widow and 80*l.* to the child.

State of the Sewage Works at Northampton.—The local improvement commissioners have resolved to request Dr. Letheby to report to them upon the state of their sewage works, and also as to certain ill-health in the Billing-road. The sewage works have been complained of as a nuisance, but some of the commissioners insist that they are no more a nuisance than if they were a chemist's shop. The commissioners also have had a discussion on a motion for inquiry as to the reason why the surveyor had sold some of the sewage at the works for a lower price than usual. It was explained, however, that the surveyor was obliged to do so, in order to get rid of it and make room for more; and the commissioners, by an amendment to the motion, declared themselves satisfied.

Eider Down.—This down the eider-duck plucks from its breast to line its nest: it and the eggs are taken away. Again the nest is lined, and again robbed. The third time, the drake repairs it, supplying the down; and if this be also taken away, the nest is altogether deserted by the ill-used pair. One nest yields about two and a half ounces of the finest clean down, or about half a pound in all if removed three times. What is plucked from the dead bird, it is said, possesses none of that wonderful elasticity which constitutes the value of the other. We should think, however, that this would depend on the state of the plumage at the time. Many thousand pounds weight of it are annually exported for quilts, pillows, cushions, &c. It sells in Iceland at from 10s. 6d. to 17s. 6d. per lb. From three to four pounds are sufficient for a coverlet, which, to be enjoyed in perfection, ought to be used unquilted and loose like a feather-bed. Quilting is only useful where a small quantity of down is required to go a long way; but, with three or four pounds at command, there is no comparison in point of comfort between loose and quilted—we have tried both. The eider coverlet combines lightness and warmth in a degree which cannot be otherwise obtained. With a single sheet and blanket, it is sufficient for the coldest wintry night. Its elasticity is proverbial; hence the Icelandic conundrum we had propounded to us by our good friend Mr. Jacobson, "What is it that is higher when the head is taken off it?" *Answer*—"An eider-down pillow!"—"Pen and Pencil Sketches of Faroe and Iceland." By A. J. Symington. (Longmans, 1862).

Monumental.—The monument in the Melcombe Regis Cemetery to the memory of the late Colonel Sir William Lockyer Freestun, K.C.T., has just been completed. It is about 21 feet high, and consists of an obelisk in polished dark grey granite, surmounted by an urn, and resting upon a Portland stone base, splayed with rockwork on the vertical faces. Near the bottom of the needle are the deceased's armorial bearings, in cast bronze, chased and emblazoned. The border round the base is paved with mosaic and tesselated tiles laid in a pattern. The inscription, which is short, is cut out in gilt block letters. The monument was furnished by Messrs. J. Wright & Son, of St. John's Works, Aberdeen, from one of their own designs. The fixing was done by Mr. Joseph Weakley, of Weymouth. The entire expense of the monument, including the purchase of the site, was 180*l.*

TENDERS.

For building two residences, at Hammersmith, for Mr. R. Weston. Mr. Wm. Paice, architect. Quantities supplied:—

George	£802 0 0
Henshaw	797 0 0
Bottom & Co.	789 0 0
Styles	778 0 0

For rebuilding 214, Piccadilly:—

Nicholson	£2,595 0 0
Macey	2,589 0 0
Carter	2,537 0 0

For the erection of St. Peter's Church, Vauxhall. Mr. J. L. Pearson, architect. Quantities supplied by Mr. H. F. Gritten:—

Carter (Holloway)	£7,943 0 0
Dove, Brothers	7,775 0 0
Carter (Eastcheap)	7,719 0 0
Trollope	7,694 0 0
Myers	7,320 0 0
Colls & Co.	6,978 0 0
Wardle & Baker	6,730 0 0
Longmire & Burge	6,387 0 0

For the completion of Christ's Church, Paddington. Messrs. F. & H. Frances, architects. Quantities supplied:—

	Tower.	Spire.	Total.
Hill, Keddall, & Co.	£2,490 ..	£1,800 ..	£4 290
Axford & Co.	2,150 ..	1,390 ..	3,540
Patman, Fotheringham, & Co.	2,087 ..	1,385 ..	3,472
Colls & Co.	1,750 ..	1,040 ..	2,790
Keyes & Heard	1,590 ..	1,139 ..	2,729
Dove, Brothers	1,595 ..	1,045 ..	2 640
Fish	1,645 ..	990 ..	2,635

For the erection of a free Methodist chapel, Peel-grove, Globe Town, E. Mr. F. Boreham, architect:—

Hearle	£547 0 0
Ennor	435 0 0
Jay	399 10 0
Warner (accepted)	352 10 0

For gasfittings at the Stepney Union Workhouse, Bromley, Middlesex, under the direction of Mr. Henry Jarvis, architect:—

Stead & Son	£1,575 0 0
Clutterbuck	1,327 12 0
Parry & Son	1,080 0 0
Kilby	909 0 0
Carver	850 0 0
Humphery	720 0 0
Bacon	680 0 0
Hulkett & Co.	640 0 0
Ismay	620 0 0
Basingham & Son	588 15 0
Berry	583 0 0
Comyn, Ching, & Co.	580 0 0
Seldon	560 0 0
Collinson (accepted)	550 0 0
Pitt	500 0 0

For a memorial to the memory of the late Prince Consort, at Walham Green, for the Butchers' Charitable Institution. Mr. Henry M'Calla, architect:—

	Portland Stone.	Coombe Down Stone.
Cairns	£3,099 0 0	—
Richards	2,556 0 0	£2,030 0 0
Dawson	2,489 0 0	2,000 0 0
Bond	2,328 0 0	2,278 0 0
Smith	1,673 0 0	1,548 0 0
Amy	1,643 0 0	1,520 0 0
Bingham	1,610 0 0	1,550 0 0
Henderson	1,485 10 0	—
Venton	1,230 0 0	—

For public house and three shop houses, for Mr. Woodin, Hoxton. Mr. Horace Field, architect:—

Piper & Wheeler	£3,400 0 0
Ashby & Son	3,333 0 0
Bishop	3,330 0 0
Turner & Sons	3,221 0 0
Mecars	3,133 0 0
Pritchard	3,130 0 0
Scott	3,119 0 0
Manly & Rogers	3,100 0 0
Scrivener & White	2,865 0 0

For building a public house and house adjoining at Harrow-road, Paddington. Mr. J. Bird, architect:—

Clark	£2,271 0 0
Williams	2,122 0 0

For building two houses at Wood Green. Mr. Bartleet, architect:—

Braggar	£1,048 0 0
Williams	954 0 0
Harradine	900 0 0
Wood	790 0 0
Patman	786 0 0
Clarke	769 0 0

TO CORRESPONDENTS.

J. H. D.—J. B & Son.—An Architect's Pupil (will find advertisement as to "Examinations" in our last).—J. B.—J. F. S.—J. S.—H. de M. (already mentioned).—R. S. (ventilation is needed).—T. G.—R. B. (No. 9, Conduit-street).—O. J. H. (we shall be glad to receive another paper).—T. & Sons.—W. & W.—J. H.—T. R. S.—G. B.—C. C. W. M.—J. G.—J. C. & G. L.—J. F. (Dr. Arnott's grate is so arranged).

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

TO SUBSCRIBERS.

CHRISTMAS WEEK. "The Builder" for the week ending DECEMBER 27th will be published on Wednesday 24th inst., at the usual hour.

ADVERTISEMENTS for insertion in that issue must therefore reach the Office before FIVE O'CLOCK, p.m. on Tuesday, 23rd inst.

CLOTH CASES for binding the Volume of the present year are NOW READY, and may be had at the Office.

Price Two Shillings and Ninepence.

ADVERTISEMENTS.

MR. WILLIAM ELLISON,
ARCHITECT and CONSULTING SURVEYOR,
OFFICES:—
13 FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

PARTNERSHIP.—To BUILDERS.—An energetic Man, of thorough business habits, aged 31, possessing a thorough knowledge of the business, both practically and theoretically, wishes to join an established firm as PARTNER, and to take an active part in the business. First-class references given and required. Address, R. B. D. Office of "The Builder."

AN ARCHITECT wishes to DISPOSE of his PRACTICE in a town near Manchester. Premium, £80.—Apply, by letter, addressed A. care of Mr. Holme, Pawnbroker, No 349, Deansgate, Manchester.

Mr. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN,
ARTISTIC COLOURIST, and LITHOGRAPHER,
No. 21, MONTAGUE STREET, RUSSELL-SQUARE, W.C.

AN ARCHITECT has a VACANCY for a PUPIL. A small premium will be required. Address, X. X. Office of "The Builder."

AGENTS in LONDON and the PROVINCES, possessing influence and activity, are required by a LIFE and FIRE ASSURANCE COMPANY of old standing and high position.—Application (by letter only) may be addressed to "A. B. Insurance," care of Messrs. Barnett, Hoare, Barnett, & Co. Bankers, Lombard street, E.C.

TO BUILDERS, ARCHITECTS, AND SURVEYORS.
FIRE and LIFE AGENTS WANTED for a wealthy Insurance Company of sixty years' standing. Commission liberal.—Application in the first instance to F. J. care of Mr VICKERS, 2, Cowper's-court, Cornhill, E.C.

MIDDLESEX COUNTY LUNATIC ASYLUM, Colney Hatch, N.—WANTED, as CLERK of the Works at this Asylum, a PERSON who is thoroughly acquainted with the management and fitting of steam-engines and engine work, the manufacture of gas and gas-lighting, and the working of machinery. He will be required to superintend repairs of the buildings and works, and the workmen and labourers employed at the Asylum. He will also be required to superintend works for warming, ventilation, gas-cooking, laundry steam apparatus, water supply, and sewage deodorization and distribution, and he must be able to prepare specifications for small works in machinery, carpentry, brickwork, plumbing, and painting, and drawings and estimates of the cost thereof. The salary will be 160l. a year, with an unfurnished house on the premises, and a fixed allowance of coals, gas, milk, vegetables, and butter. Further particulars may be obtained on application to me. Each person intending to apply for the situation must send to me, at the Asylum, a letter in his own handwriting, stating his present or last occupation, residence, and age, and whether single or married, and if married the number of family, on or before SATURDAY, the 27th of DECEMBER, inst.; and such letter must be accompanied by testimonials, or copies of testimonials. A selection will be made, and the selected candidates will have notice to attend the election, which will take place on the 6th of JANUARY next. The testimonials of those not selected will be returned post free. J. S. SKAIFE, Clerk.
December 1st, 1862.

TRAVELLER. — WANTED, by a large MANUFACTURING COMPANY, a GENTLEMAN of experience, unmarried preferred, having a connexion among engineers, millowners, and others. Applicants to give references, and state salary expected.—Address, by letter only, to Z. Z. Mr. William Lewis, Hosier, &c. 13, Cheapside, E.C.

WANTED, a good FIXER of JOINERS' WORK. Apply to Mr. REDNALL, Builder, Stowmarket.

WANTED, by an extensive Building Firm in the City, a GENERAL WALKING FOREMAN. None but those of first-rate qualification need apply.—Address by letter only to Messrs. FIELD & CO. 136, Minories, stating references, &c. A liberal salary will be given

WANTED, a WORKING FOREMAN of JOINERS, to take charge of the Shop. Must be a good joiner, understand drawings, and set out correctly. It is not necessary that he has filled a similar situation. State salary, reference, and age.—Address to E. W. O. Office of "The Builder"

WANTED, a TOWN TRAVELLER, to call on architects, builders, and ironmongers.—Apply, between 3 and 5 p.m. to BUNNETT & CO. Engineers and Patentees of Revolving Iron and Copper Shutters, 17, Queen street, City.

WANTED, a thoroughly-experienced GLAZIER, PAINTER, and GRAINER.—Apply to W. MANSFIELD, Builder and Contractor, Kingtou, Herefordshire. State terms and give reference.

TO JOINERS AND CABINETMAKERS.
WANTED, a steady Man, who is accustomed to good work in oak, to MANUFACTURE FURNITURE. Constant if suitable.—Address, stating wages required, F. R. 8, Chancery lane.

WANTED, in an Architect's Office at the West-end, a highly-respectable, well-educated LAD, of good address, and capable of copying or tracing drawings. He must write a good hand, and make himself generally useful. Small salary at first. Letters, specimens, and references to be left with Mr. HELME, 11, Buckingham-street, Adelphi.

TO LONDON SMITHS' FOREMEN.
WANTED, in a small General Factory, a FOREMAN. He must thoroughly understand every description of kitchen work, hot water, steam, and the general routine of a smith's shop.—Apply, by letter only, to B. A. care of Messrs. Kennards, 67, Upper Thames-street.

WANTED, a steady, respectable MAN, as a good PLUMBER, GAS FITTER, and BELL-HANGER, one who is willing to fill up his time in painting. Will find constant employ and good wages.—Apply at the Fortland Printing-office, 42, Henry-street East, St. John's-wood.

TO FOREMEN OF JOINERS.
WANTED, immediately, for a permanent situation, an active and thoroughly experienced SHOP FOREMAN of JOINERS.—Apply, stating wages required, names for reference, and other particulars, to Q. R. Post-office, Darlington.

TO ARCHITECTS.
WANTED, by a Young Gentleman, aged 25, a permanent SITUATION, in a first-class Architect's Office, in London. Has been five and a-half years with an architect, surveyor, and builder, in the country, and twenty months in the office of an architect and surveyor in London. Can make fair drawings, assist in making out quantities, measuring up works, is a good copyist, penman, &c. Good references. Salary moderate.—Address, A. B. Carlton, near Newmarket, Cambridgeshire.

TO ARCHITECTS OR CONTRACTORS.
WANTED, by the Advertiser, aged 25, an ENGAGEMENT, either in the office or on works. He is a good draughtsman, designer, &c. Has had experience in both the above offices, as well as large works under his charge. Moderate salary.—Address, A. Z. Post office, Bayswater.

WANTED, a SITUATION in a Builder's or Surveyor's Office, by a Young Man of good practical experience. Good reference given.—Address, Z. Z. 8, Vincent-terrace, Islington, N.

TO BUILDERS
WANTED, a SITUATION, by a thoroughly practical working foreman of bricklayers. Has great experience in Government and other works, ornamental brickwork, moulded chimneys, &c.; well up in drawings. First-rate reference, and testimonials.—Address, A. B. 18, Fox-place, Sandy-hill, Woolwich, Kent

WANTED, by a Young Man, a SITUATION, in a Builder's Office. Five years' reference from the firm he is about leaving.—Address, W. E. S. 16, Albert-terrace, Ball's Pond-road, Islington, N.

TO BRICKMAKERS AND BUILDERS.
WANTED, a SITUATION as BRICKFIELD FOREMAN or TIMEKEEPER. Can have eight and a half years' good character from last situation.—Address, H. DEAN, No. 8, Mildmay street, Ball's-pond, Islington, N.

TO BRICKMAKERS AND BUILDERS.
WANTED, an ENGAGEMENT to SUPERINTEND a BRICKFIELD. Has had many years' experience in clamp and kiln work, and is thoroughly conversant with all its branches. Address, A. B. Post office, Romsey, Hants

WANTED, by the Advertiser, a Young Man, aged 25, a SITUATION as CLERK or TIMEKEEPER, in a Builder's Office. Has been connected with the building trade for upwards of ten years. First-rate references from last employers.—Address, W. W. 12, Warner-street, Dover-road, S.E.

TO BRICKMAKERS AND OTHERS.
WANTED, by the Advertiser, a SITUATION as BRICKFIELD FOREMAN of CLAMP and KILN WORK. Would rather take the work by contract. First-rate references. None need apply under a million.—Address, THOS. W. Eaton Farm, Cobham, Surrey.

WANTED, EMPLOYMENT, by a CARPENTER and JOINER, a Young Man, and good workman. Day work or piece. Good references if required.—Address, W. G. 2, Raglan street, Forest-hill, S.E.

WANTED, by the Advertiser, a SITUATION as SALESMAN in the TIMBER TRADE, or in a similar capacity in a builder's establishment. Security, if required.—Address, A. Y. Post-office, Norwich.

TO BUILDERS, CONTRACTORS, AND OTHERS.
WANTED, a RE-ENGAGEMENT as WORKING FOREMAN of BRICKLAYERS, or to take Piece work. Good references.—Address, S. L. No. 17, Tachbrook-street, Pimlico, S.W.

TO CIVIL ENGINEERS, CONTRACTORS, AND BUILDERS.
WANTED, by the Advertiser, who has had much experience in the construction of docks, railway and Government works, EMPLOYMENT, to take charge of work. Is also well acquainted with estimating labour and materials, measuring up, setting out, levelling, surveying, drawing, &c.; has no objection to employment in an office.—Address, F. B. 2, Grosvenor Villas, Grosvenor-road, Stockwell-green, London.

THE Advertiser, with a small capital, wishes to become a WORKING PARTNER in an established JOBBING BUILDER'S BUSINESS.—Address, S. S. King's Head, Orchard street, Westminster, S.W.

TO LAND SURVEYORS. The Advertiser, who has served his articles with a land agent and surveyor, by whom he can be recommended, is desirous of EMPLOYMENT in an office where there is ample opportunity for field-work and mapping; and to obtain this object, offers his services gratuitously for a term, to be agreed upon.—Address X. Y. Mrs. Rhind, Northgate, Newark, Notts.

TO ARCHITECTS.
THE Advertiser, who has been four years with a gentleman of eminence in the profession, desires a permanent ENGAGEMENT as GENERAL ASSISTANT to an Architect in good practice.—Address, H. H. Office of "The Builder."

THE Advertiser is desirous of an ENGAGEMENT as ARCHITECTURAL ASSISTANT. Can prepare working and detail drawings, and design. Knows perspective.—Address, J. R. 53, High Holborn, W.C.

TO ARCHITECTS.
THE Advertiser wishes to enter a good office as JUNIOR or IMPROVER. Can prepare working, detail, and perspective drawings. A low salary expected.—Address, R. C. J. 73, Coleman-street, E.C.

TO SLATE MERCHANTS AND SLATERS, IN LONDON OR THE COUNTRY.
THE Advertiser, who is well up in the general routine of a Slate Merchant and Slater's Business, wishes for a RE-ENGAGEMENT as FOREMAN. Unexceptionable reference as to character and ability given.—Address, T. S. R. No. 4, Denbigh-terrace, Fairfield-road, Bow.

TO ARCHITECTS, &c.
THE Advertiser is open to an ENGAGEMENT, temporarily or otherwise. Designs, working drawings, details, &c. prepared by contract. Prospectus outlined and coloured. Address, A. R. 121, Albany-street, Regent's Park

TO ARCHITECTS, ENGINEERS, AND BUILDERS
THE Advertiser wishes an ENGAGEMENT with the above, where he may be employed a portion of the day out of doors. Is a good Gothic draughtsman, designer, and colourist. Would be glad to hear from builders requiring a gentleman who would prove himself useful.—Address, L. R. 11, Shaftesbury-crescent, S.W.

TO BUILDERS, PAINTERS, AND DECORATORS.
THE Advertiser seeks a RE-ENGAGEMENT as CLERK and ASSISTANT. Has had three years and a half experience in Decorator's Office duties, in addition to an apprenticeship. Can square, measure, abstract, keep time, &c. Most satisfactory references.—Address, W. O. H. Office of "The Builder."

TO BUILDERS.
PLASTERER'S WORK WANTED by a Practical Man, in town or country. Address, C. H. 5, Edenplace, Old Kent road.

TO BUILDERS.
CHRISTMAS ACCOUNTS.—A thorough BUILDERS' ACCOUNTANT, of great practical experience would be glad to ASSIST any Builder (temporarily) in getting forward his Books and Accounts. Also is a good measurer and estimator. References given to builders.—Address, B. O. Office of "The Builder."

TO CIVIL ENGINEERS, SURVEYORS, CONTRACTORS, &c.
AN ASSISTANT, acquainted with levelling and surveying, and good practice in general, and detail drawings and plans (including Parliamentary), specifications, estimates, quantities, and superintending works, desires an ENGAGEMENT. Opportunities of improvement in the two first items, and a permanency, required more than salary. No objection to abroad. Excellent testimonials.—Address J. A. F. Office of "The Builder."

TO ARCHITECTS OR BUILDERS.
A YOUNG GENTLEMAN who has been in an Architect's Office five years wishes an ENGAGEMENT in a London Architect or Builder's Office as an IMPROVER. A small salary only required.—Address, W. F. 79, St. Thomas-street, Portsmouth

TO ARCHITECTS
A QUANTITY SURVEYOR would be happy to treat with Architects for TAKING OUT QUANTITIES, either at his office or their own, on very reasonable terms.—Address, E. A. U. Office of "The Builder."

A SITUATION as GENERAL FOREMAN, SHOP FOREMAN of JOINERS, or to take charge of a job, WANTED, by a thoroughly practical man. Can measure up, &c. Good references. Town or country.—Address, A. E. J. Office of "The Builder."

TO ARCHITECTS.
AN ASSISTANT wishes for a RE-ENGAGEMENT. Is a ready designer and draughtsman.—Address, G. E. M. Post-office, 255, Upper-street, Islington, N.

TO CARPENTERS AND BUILDERS.
A YOUNG MAN, aged 18, wishes for a SITUATION in the above trade. Has been at it two years. Low wages will be taken.—Address, W. C. No. 31, South-street, Manchester square

A YOUNG MAN is open to an ENGAGEMENT as DRAUGHTSMAN, in an Architect or Engineer's Office. Can give excellent references.—Address, R. G. 283, Oxford-street.

TO ARCHITECTS AND CIVIL ENGINEERS.
AN experienced ASSISTANT requires an ENGAGEMENT. Is well acquainted with the various styles, constructional detail, and general routine of office. First-class draughtsman, colourist, and designer; thoroughly understands land surveying and levelling, and fully qualified to act as a good general assistant.—For terms and references, address, T. G. F. Chevalier Bowness & Son's, 12, Bell-yard, Temple-bar, W.C.

TO BUILDERS.
AN experienced STAIRCASE HAND is open to an ENGAGEMENT. In town or country.—Address, W. DOWNE, 34, Globe terrace, Globe road, Mile end.

TO ARCHITECTS, ENGINEERS, &c.
A GREATLY-EXPERIENCED and fully-qualified CLERK of WORKS, a thoroughly steady active man of business habits, requires EMPLOY. Age, 45.—Address, EDWARD DEACON, 2, Weymouth-place, New Kent-road, S.E.
N.B. No objection to a short engagement.

TO ARCHITECTS.
A THOROUGHLY COMPETENT ASSISTANT, with good practical knowledge, requires an ENGAGEMENT.—Address, X. X. X. 14, Anderson-street, King's-road, Chelsea.

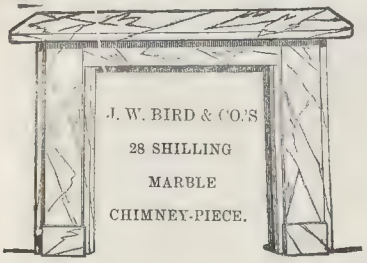
TO BUILDERS, CONTRACTORS, AND OTHERS.
AS WALKING, GENERAL, or JOB FOREMAN, or to manage a jobbing business, or repairs, &c. a respectable, sober, persevering Man, thoroughly experienced in all branches of the trade, book-keeping, measuring, drawing, &c. Age, 44. References as to ability and undeniable sobriety may be had.—Address, W. NELSON, 85, Waterloo-road, S.

A CLERK of WORKS requires an ENGAGEMENT. Qualified and competent to execute works of magnitude, either engineering or architectural. Understands all branches. Satisfactory testimonials from architects and contractors. Last engagement over four years. Age, 40. Twenty years of London experience. City or river work. Would not object to engage as Principal Foreman.—Address, M. M. P. 31, Lower George-street, Chelsea.

AS CARPENTER on a GENTLEMAN'S ESTATE. A Good Workman desires a SITUATION as above Can be well recommended.—Address, R. B. 10, Gregory-street, Pimlico, S.W.

GLASGOW CORPORATION WATER-WORKS PUMPING ENGINES FOR SALE.—The Glasgow Corporation Water Commissioners are prepared to SELL Two Powerful PUMPING ENGINES, erected in March, 1859, in supplying the city with water, and still in good working order. One of these Engines when at work raised 220,000 gallons per hour, to a height of 90 feet; and the other 130,000 gallons per hour, to a height of 190 feet.—For further particulars apply to Mr. GALE, Engineer, Water-works Offices, 22, Miller street, Glasgow; or to
4th November, 1862. JOHN BURNET, Secretary.

MARBLE & STONE CHIMNEY-PIECES FOR THE MILLION.



PRICE LIST ON APPLICATION.

A Stock of 500 always to choose from at

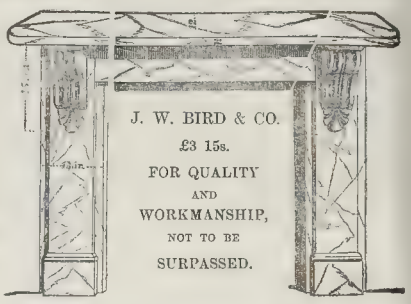
J. W. BIRD & CO.'S,
THE EMPORIUM,
145 & 143½, EUSTON ROAD,
N.W.

A Marble Box Chimney, with 8 inch piers, as Illustrated, for 28s. and fitted to any opening up to 3 feet square.

STONE DITTO, WITH BEAUTIFUL MOULDED CAPS, FOR SEVEN SHILLINGS.

Monuments and Tablets in great variety, equally low in price.

Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.



A VACANCY FOR AN OUT-DOOR APPRENTICE.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144 REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES, BURKE, & CO. PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

BATH STONE OF THE BEST QUALITY.

PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent Whether sold under the name of "Improved Zinc Paint," or as Zinc Number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON.

PURE STATUARY MARBLE, and in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS, 393, EUSTON-ROAD, London, N.W.
Prices moderate.
M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1821.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Galleries Earl-street, Horseferry road, Westminster.—The largest stock of Marble Chimney pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney-piece in the world.

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the most modern designs and superior workmanship, and at the Lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

TWO MEDALS IN CLASSES 3 AND 10, INTERNATIONAL EXHIBITION.
THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company do respectfully call on Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to forward estimates, and execute in the best manner any works intrusted to them.
Communications to be addressed to the Secretary, No. 24, St. James's-street, or to Mr. THOMAS OAKDEN, 94, King-street, Manchester, who is sole agent for Liverpool and Manchester.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Public, Ecclesiastical, and Private purposes. Supplied direct from the Quarries, to any part of the Kingdom. Direct Importers of Arabescato and other Marbles from the Quarries in Italy. Working Drawings and Estimates for Sawing, Turning, and Masons' Work or Carriage forwarded on application.—Office, 27, Millbank-street, London, S.W.

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wootton Wawen, near Henley-in-Arden, are working a Quarry of this very superior and durable Stone (belonging to Cefn Range), at Plaspower, Nant, near Wrexham. It is used extensively in Liverpool, Manchester, &c. and can be supplied at reasonable rates at any railway station.

LITTLE CASTERTON FREESTONE, Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER SIMPSON & SONS, 29 Savile-row, London, and at the Museum of Practical Geology, Jermyn street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth saw, and is wrought at a cheaper rate than any stone in the kingdom.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards, CUT by Steam Power, and Delivered into Railway Trucks at Weymouth List of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851, Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, decoration, memorials, and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 6, CANNON-STREET, E.C.
London Agents—FREGELIUS & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION
MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two Prize Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney pieces, Billiard tables, Table-tops, Baths, Wall-linings, &c. A New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 30 and 40, Upper Belgrave-place, Pimlico, S.W.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from dust at any railway station
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application,—Address,
No. 1, BOLD-TERRACE, CHESTER.

RANSOME'S PATENTED SOLUTIONS for PRESERVING STONE, BRICKS, STUCCO, CEMENT, &c. by means of which decay is at once arrested; prevented, absorbency stopped, and all liability to dampness removed without injuring the colour of the stone, &c
Application for further information, solutions, or agencies, to be made to Mr. FREDERICK RANSOME, 7, Cannon-row, Westminster; or Patent Stone Works, Ipswich; and at the Architectural Exhibition, 9, Conduit-street, London.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thame

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For Prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c &c. Established by Messrs. HYDE, SMITH, & LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c Terms—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c.—For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford st Russell sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company (limited), 71, Fleet-street, London.
ROBERT M. LATHAM, Secretary.

TO ARCHITECTS AND SURVEYORS.
GUYER & COMPANY, Lithographers and Printers, Grocers' Hall Court, Poultry, E.C. beg to invite attention to the resources of their Establishment as above, for LITHOGRAPHING and COPYING BILLS of QUANTITIES, Specifications, Detail Drawings, &c. &c. Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly employed on the premises, they are enabled to guarantee superiority of style, correctness, and expedition. Specimens and Lists of Charges, post free.
N.B. Any number of copies of quantities or specifications lithographed in a few hours, and if the drafts from the country be received by the morning's post, the copies required can be returned the same evening

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses. BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246).

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

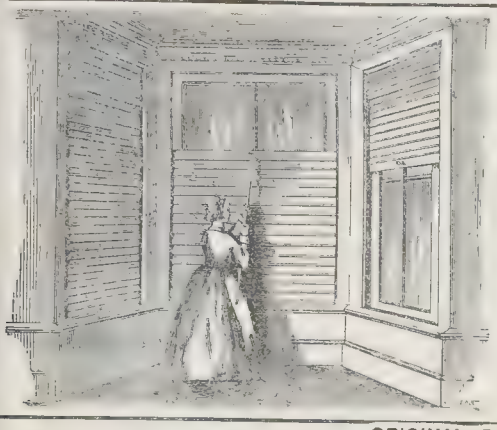
PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.



REDUCTION IN PRICE
OF

CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

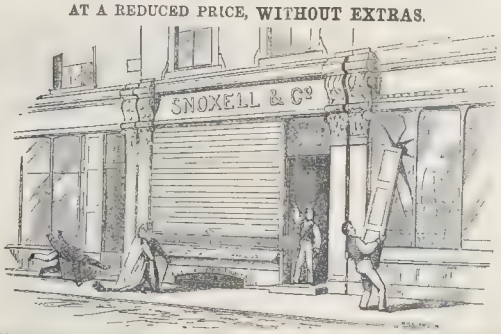
ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents.
Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,

87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz.			
	4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1⅝	2	2½
„ 2ft. 6in. sup.	1½	1⅝	2¼	3
4 ft. super...	1⅝	2	2½	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 per 100ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.

Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.

Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s. } per cwt.

Fine Oak Varnish ...
„ Carriage ...
Linseed and Boiled Oil
Turpentine ..... } per gallon.

Milled Lead in Sheet and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES **FOR HIRE** OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small. 6th Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

THOMAS LAMBERT & SON,

No. VI. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



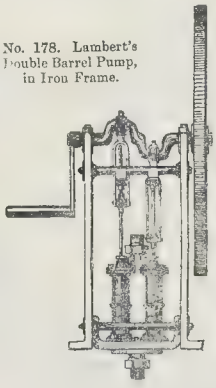
No. 36a. Bath Valves.



High Pressure Stop Valve.



No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON And it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly worked thereon.*

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Ditchhampton, near South Molton :—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,

FALCON-SQUARE, LONDON, E.C.

**** Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.

T. KENT, and CROWDEN & GARROD, are stamped on the Brushes.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
Turpentine, 10s. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Coleshill-street, Pimlico, S.W.
Every article for the Trade at the lowest prices

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s. 8d.; Turpentine, 8s. per gallon; Fine Pale Oak Varnish, 9s. per gallon, for cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest Quality and at the lowest Prices.
Agents for Kershaw's Graining Machines.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High street, Marylebone, London, W.
N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Grainers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.
Respectfully inform the public that their Illustrated Price List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.
Only Medal awarded for "excellence of construction of Mathematical Instruments."
T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED.
Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal" 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23 inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises
Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use. Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN,
LONDON, W.C.
Price 2s. 6d. post free.
STANLEY'S IMPROVED DRAWING PEN.

SOFT CHALK, of very Superior Quality well ground and wash with less than half the labour than any other known; free from grit or rubbish, at EPSOM LIME-KILN.—Forwarded from Epsom Stations to all parts on the South-Western or the Brighton lines within the circuit from 60 to 70 miles of London, carriage free. References to persons using it. One trial will prove.—W. HOBMAN, Ewell, Surrey.

BUILDERS, AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.				Laths, 28s. per Load.	
Yellow Deals, sound and good	£19	10	0 per 120, or 0s. 3½d. per foot.		
Spruce Deals	16	10	0 ,,	0	2½ ,,
Yellow Battens, excellent quality	11	10	0 ,,	0	2 ,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 ,,	3	6 each.

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
⅝-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	12s. 6d.	13s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 0d.	15s. 6d. ,,
1¼-inch ,,	0s. 0d.	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9 ..... £19 10 per 120.
Yellow Battens ..... 11 10 ,,
Spruce Deals ..... 16 10 ,,

Pine Planks (dry), 3 by 11 ..... £24 0 per 120.
Pine Deals, ditto, 3 by 9 ..... 19 10 ,,
⅝-inch White Matched Lining ..... 0 13 per square.

J. TERRY & SON, 109, Borough-road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards ... ... } from 11s 6d. per square
10,000 Pine Planks ..... from 3s 6d. each
8,000 Yellow Deals ..... from 3s. 3d. each
14,000 Spruce ditto ..... from 2s. 9d. each

5,000 Yellow Battens ..... from £11 10s. per 120
50,000 Feet Spanish and Honduras Veneer ..... } from 1d. per foot.
Maple ditto ..... from 1d. per foot.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.



MOULDING WORKS.

SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

JOHN EMERY,

SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

CLERIHEW & LASCELLES

(LATE WATERLOO, DRAPER, & WEBB),

MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DESPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL ROAD, AND STAMFORD STREET, LAMBETH, S.
N.B. Price List on application.

JOINERY OF EVERY DESCRIPTION.

STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,

110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

MOULDING WORKS.

WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

Begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.

TEMPLE JOINERY WORKS,

CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first class goods at the lowest possible net cash prices—for cash.
Sashes and Frames, Boxing Shutters, Doors Staircases, Hand-rails, and Water closet Fittings, well-seasoned Flooring, Matched Lining, Skirtings, and Mouldings of any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.
Green-houses, Hot houses, and Conservatories, on the most improved principles.
An Illustrated List of Prices forwarded on the receipt of stamp.
Estimates furnished on application.

JOINERY WORKS,

21, HARRINGTON-STREET, HAMPSTEAD-ROAD, N.W.

NEVIL SIMMONDS,

SHOP FRONTS, SASHES, DOORS, &c.
Price Lists and Estimates on receipt of Stamp.

LATHWOOD.—Best and largest Stock of

PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W. Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to

inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—

Yellow Deals, from 2s. 2d.; Spruce, from 2s. 8d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 12s. 3d.; ⅞ White, from 11s. 6d. Cartage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

HAY'S PATENT WATERPROOF GLUE

and INDIA-RUBBER VARNISH.—To ARCHITECTS, BUILDERS, HOUSE-PROPRIETORS, &c. &c.—The Waterproof Glue makes an admirable cement for wet foundations, to prevent water rising, and the Varnish will enable damp walls to be papered over directly.

Copy of a letter from Mr. T. E. Owen, architect, Southsea:—
"I have found the Waterproof Glue most useful for uniting wood, iron, and stone or stucco, so as to make a watertight joint. The varnish has succeeded better than any article I have known as an anti-damp, the damp wall being coated with it before papering or painting. If the plastering be sodden and rotten, it should first be substituted with cement. I have used this material successfully for tank-work."

To be had from all Wholesale Ironmongers, Oil and Colour Men, &c. Manufactory, Chandos-street, Portsmouth. Mr. GEO. WEEKS, Manager. GEO. C. WARDEN & CO. General Agents, 12, London-street, London, E.C. where specimens of its application can be seen.

GLUE.—PRIZE MEDAL, 1862.

PROCKTER & BEVINGTON are com-

pelled (in consequence of many imitations), to acquaint dealers and consumers, that they are the ORIGINAL and ONLY manufacturers of

IMPERIAL GLUE

who have obtained a Prize Medal.—Sold by all respectable Ironmongers and oilmen
Works: No. 134, Grange-road, Bermondsey, London, S.E.

INDIA-RUBBER MILL BANDS,

WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.

JAMES LYNE HANCOCK,

VULCANIZED INDIA RUBBER WORKS, GOSWELL MEWS, GOSWELL-ROAD (opposite Spencer street), LONDON, E.C

PLASTER OF PARIS.—The only London

maker, the best and the oldest established (1830), is ROBESON, Mount Pleasant, Gray's Inn-road. The cheap country-made article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster unequalled

GEORGE ALLEN (late W. & T. N.

GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

PARIAN CEMENT for INSIDE WORK.

With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

COLES, SHADBOLT, & CO.

CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS.
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

FREEN AND COMPANY

MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS;
CHALK LIME BURNERS, AND GREYSTONE LIME MERCHANTS.
MANUFACTORIES AND WHARFS
3, CANAL ROAD, KINGSLAND ROAD, and FRINDSBURY, on the MEDWAY, KENT.

F. & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality, Strength, and Colour, supplied to Shippers and the Trade, Wholesale and Retail.

F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER of PARIS (coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by Shippers and the Trade, Wholesale.

F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily.

GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.

GREYSTONE LIME.

PLASTERERS' HAIR. LATHS.

PLAIN PAN RIDGE and FOOT TILES.

CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.

KEENE'S and MARTIN'S CEMENTS.

SAND, POTTERY WARE, &c. &c.

Orders and Letters addressed to 3, Canal-road, Kingsland; or to City Offices, 79, King William street, City, will receive immediate attention.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The unburnt Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality
RIDGES, Plain, Roll-topped, and Ornamental
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING Blue, Red, and Buff Terra metallic Paving Tiles, of various designs Blue and Red Plain and Ornamental Roofing Tiles in great variety Plain Rolled, Capped, and Pinnacled Ridges Tiles of different Patch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods Vitrified Paving Pavings, Grooved, of various sizes Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Matting Tiles.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order

Post-office Orders payable at Vauxhall or Edgeware-road.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and least Reasonable Terms. Shipping Orders executed with Dispatch.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS.
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.

Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour
PAVING TILES in various coloured designs
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere road, Lambeth, and Kent-road Bridge

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DUPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at south Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, as Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cradley, near Walsall, South Staffordshire.

The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS

COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade

N.B.—Every Description of the Building Goods of the Trade always in Stock.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines,
Brierly Hill.

FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, is prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured [illegible] purposes to which cement is applied. Orders received at Gold Scott's Yard, Whitehall, and at the Works.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from their Lias Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the Construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground (packed in bags), into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr EVAN EVANS, Manager, Pary's mine Works, Holywell, Flintshire.
The Company's good character for quality of Lime may be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS,
LONDON WHARFS
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLDS'S WHARF, QUEEN'S ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Where [illegible]
GREYSTONE LIME, BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY STOCK BRICKS
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Dressed WALL COPING BRICKS and TILES
TILE OVEN and PAVING MALM CUTTERS and FACINGS, PAVIORS, SECONDS, BLACK HEADERS and BLUE GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF, also GOTHA EDGINGS
[illegible] METALLIC GROOVED PAVING TILES, CHANNEL BRICKS, and CHARLES'S PATENT CHANNEL TILES
[illegible] RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, Halls, Larders, Dairies, Shops, Kitchens, &c.
WEST LAWRENCE, and STOURBRIDGE FIRE-BRICKS.
LUMPS and TILES, of every description and size.
GLAZED STONEWARE PIPES, TRAPS, &c.
RED DRAIN PIPES, BENDS, and JUNCTIONS
TERRA COTTA VASES, CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING complete.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Orders forwarded by Railway with despatch.
LIME WORKS, CHALK PLOTS, and BALLAST WHARFS, NORTHFLEET, KENT.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (for the manufacture of which Captain Scott's patent process is in use) at any railway station in or near to the large works—Adequate arrangements for loading will be made by the Company, at their Offices, 9, Winchester Chambers, Broad Street, Worcester Street, E.C.
N.B. A Prize Medal was awarded to this Company for their Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers of the Whole Materials for the Above
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 6, George's-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PEARD STREET, PADDINGTON

STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S & R. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally
Country orders forwarded with despatch

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER,
WOULDHAM HALL GREY STONE LIME WORKS,
ON THE MEDWAY NEAR ROCHESTER.
LONDON WHARFS:
19, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, 

Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE,
BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.
Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON;
ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

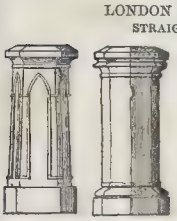
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.







HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.
Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

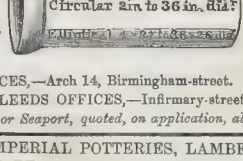
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WORTLEY FIRE-CLAY WORKS, LEEDS, YORKSHIRE.





LONDON WHARF, 64, Bankside, Southwark.



LONDON OFFICES, 76, King William-st. City.



MANCHESTER OFFICES,—Arch 14, Birmingham-street. Mr. TODD CARR, Agent.
LEEDS OFFICES,—Infirmary-street.

Prices at any Railway Station or Seaport, quoted, on application, along with Illustrated Catalogues.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.



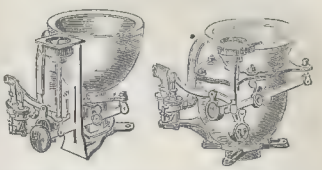
PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.
N.B. Steam Power, with Workshops, to Let

J. TYLOR & SONS' PATENT
REGULATOR WATER-CLOSETS.



Valve. Pan.

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is insured. Any number can be worked by one supply-pipe. No cistern-valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

INTERNATIONAL EXHIBITION, 1862.
CLASS 35, NO. 6849.

3s. 9d.



The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

MINTON & CO.
Have REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 60, CONDUIT STREET, REGENT STREET.
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE-UPON-TRENT.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE-ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW & CO.'S Pattern Book, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, free.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements

---

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Study, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and Study, that the "Reports of the Juries," page 381, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial:—"March 10th, 1858.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation, with Wrought-iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c LENT ON HIRE.

Price Lists on application.

GEORGE ELL,
EUSTON WORKS, 305 and 306, EUSTON-ROAD, N.W.

SALES BY AUCTION.

METROPOLITAN IMPROVEMENTS.—Millbank and Westminster Contract [illegible] Tenders [illegible] Building Materials, Blacksmith's [illegible] Southwark Bridge-road.

PULLEN, HORNE, & EVERSFIELD are instructed by the Metropolitan Board of Works to SELL by AUCTION, on the PREMISES, on MONDAY, DECEMBER 15th, at TWELVE, all the excellent BUILDING MATERIALS, FIXTURES, and FITTINGS of Twelve Houses, large Factories, and Warehouses, situate in Price's street, Gravel lane, and Green-walk, Black Friars-road; and Great Guildford-street and the Grove, Southwark Bridge-road; comprising capital sound bricks, a large quantity of pan and plain tiles, prime timber in roofs and floors, weather boarding and [illegible], and flooring boards, glazed sashes, cupboard fronts, chimneypieces, doors, folding gates, York paving, lead gutters and [illegible] rain-water pipes, and other useful materials and fittings up.—May be viewed on SATURDAY previous. Catalogues had of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, E.C. and 40, Parliament-street, S.W.

DEPTFORD.—To CONTRACTORS, ENGINEERS, and OTHERS.

PULLEN, HORNE, & EVERSFIELD will SELL by AUCTION, on the PREMISES, adjoining the main Deptford Railway station, on TUESDAY, DECEMBER 16th, at TWELVE for ONE, by order of Messrs. Aird & Son, in consequence of the completion of their contract, a quantity of valuable PLANT and MATERIALS: comprising two centrifugal pumps by Gwynne & Co., a pair of 18-inch pumps, and one 13-inch pump, nearly new steam lime and [illegible] boilers, 14-inch [illegible], 6-wright-iron principals, a steam pile engine with boiler and apparatus complete, three 40-feet pile engines (with monkeys, crabs, and nippers), 300 sheeting pile shoes, 20 tons of steam piping, a large air vessel, wrought-iron tank, 5 tons of 14-inch lie-rods, a 12-horse horizontal engine and boiler [illegible], 2,000 sheeting and [illegible] Staffordshire bricks, 250 scaffold poles 18-inch earthen pipes, firewood, and other useful materials.—May be viewed one day previous; and catalogues had of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore street, E.C.

LANGHAM PLACE.—The valuable Materials of Langham House, to clear the site for the erection of the Langham Hotel.

PULLEN, HORNE, & EVERSFIELD are instructed by the Directors of the Langham Hotel Company (Limited) to SELL by AUCTION, on the PREMISES, on WEDNESDAY, DECEMBER 17, and following day, at TWELVE, in lots, the whole of the excellent BUILDING MATERIALS, fixtures, and fittings-up of the spacious Mansion known as Langham House, Portland-place, to be taken down to clear the site for the erection of the Langham Hotel: comprising about 500,000 capital bricks, 25 squares of slates and slating boards; prime timber in rafters, joists, and girders; 100 squares of sound floor-boards, 50 squares of capital oak battens, 12 pairs of rosewood sashes with brass bars and sliding shutters, 70 four-panelled moulded and other doors, finely-carved statuary and other marble chimney-pieces, stone staircases with ornamental wrought-iron railing, bronze columns, cornice, and balustrading; and the stone front of the building, 70 squares of York, Portland, and other paving; 20 tons of lead in large flats, gutters, and pipes; iron columns and girders, iron gratings, coachhouse gates, iron railings and fittings of the coach-house and stables, handsome stoves, capital range with wrought-iron boiler, hot-plates, and oven, coppers, cisterns, fittings of bath-room, four expensive mahogany bookcases, presses, and numerous other useful fixtures and fittings.—May be viewed two days previous. Catalogues on the Premises, and of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, S.W. and 80, Fore-street, City.

TO BUILDERS, MASONS, AND OTHERS.

PULLEN, HORNE, & EVERSFIELD are instructed by Messrs. Mallcott, Brothers, & Co. in order to close the executorship accounts, to SELL by AUCTION, on the PREMISES, corner of Westminster and Vauxhall-street, Stockwell, on FRIDAY, DECEMBER 19, at TWELVE, in convenient lots, the whole of the Stock of lots, the whole of the valuable STOCK of MARBLE and STONE, comprising Portland, Bath, and Craigleith stone in blocks, several hundred feet of sawn Hartley and other stone, 500 feet of bolted, rubbed, and self-faced paving, York landings, steps, sinks, sills, and coping, Portsoken [illegible] granite and [illegible] risers, scantlings of Irish green, jasper, and other coloured marble, statuary and vein marble slab, handsome statuary and other chimney-pieces, polished granite head-stones, &c.; also a quantity of scaffolding, consisting of poles, cords, pulleys, ladders, and planks; two carts, capital truck, cross-cutting saw, two [illegible], iron pipes, and other effects. May be viewed on [illegible] and [illegible] of PULLEN, HORNE, & EVERSFIELD, 40, Parliament-street, Westminster, S.W. and 80, Fore-street, City, E.C.

Freehold Public House and Shop Property in the Strand, for SALE by AUCTION, by Messrs. COBB, at the MART, on FRIDAY, the 19th day of DECEMBER, at TWELVE o'clock, in Two Lots,

THE Baker's Shop and Premises, 241, Strand, near Temple Bar, within the limits of the contemplated Law Courts Improvement, let on lease to Mr. Read, for 21 years from Christmas last, at the yearly rent of 105l. besides paying land-tax and insuring; and the RED LION PUBLIC-HOUSE, No. 339, Strand, occupied by Mr. Powell, nearly opposite Somerset House, let on lease till Midsummer 1883, at the yearly rent of 85l.; then for a further term of 20 years, at the yearly rent of 105l. lessor paying land-tax and insuring.—Particulars and conditions of sale may be had at the Mart; of Messrs. RASHLEIGH & SMART, Solicitors, No. 56, Lincoln's-inn-fields; and of Messrs. COBB, Surveyors and Land Agents, No. 26, Lincoln's-inn-fields.

Old Grosvenor-street, and King-street, Westminster, with early possession, for SALE by AUCTION, by Messrs. COBB, at the MART, on FRIDAY, 19th DECEMBER, at TWELVE o'clock, in One Lot,

THE valuable Freehold Estate, Land-tax redeemed, comprising the corner house, No. 19, Great George-street, and No. 36, King-street, adjoining, possessing a most commanding frontage to Great George-street, and side frontage to King-street, in the line of the contemplated improvements, and directly opposite Westminster Abbey and the Houses of Parliament,—one of the best situations in London. The house in Great George-street is let on lease for four years only unexpired; the house in King street for an unexpired term of nine years, at the yearly rent of 220l. per annum.—Particulars and conditions of sale may be had at the Mart; of Messrs. RASHLEIGH & SMART, Solicitors, 56, Lincoln's-inn-fields: and of Messrs. COBB, Surveyors and Land Agents, 26, Lincoln's-inn-fields, London.

BUILDING MATERIALS, near Rye lane, Peckham, opposite Police Station.

MR. C. F. SMYRK is instructed to SELL by AUCTION, on the above PREMISES, on MONDAY, DECEMBER 15th, at TWELVE, a large assortment of sound useful MATERIALS and FITTINGS, suitable for building or repairs, including [illegible] doors, sashes, frames, and fittings; [illegible] scantlings, flooring, lining, and skirting boards, partitioning, closet-fronts, capital folding and other internal and external doors, mahogany and other sashes and shop fronts, [illegible] York paving stacks, firewood, and other materials, in all about 180 lots.—On view Saturday prior and morning of sale. Catalogues on the Premises; or at the Auctioneer's Offices, 108, Fleet-street, City; or per post.

RAILWAY CONTRACTORS' PLANT AND TOOLS. WATFORD, HERTS.

MR. HUMBERT is instructed by Messrs. Newell & Newell, who have completed their contract on the Watford and Rickmansworth Railway) to SELL by AUCTION, on the PREMISES, Watford, Herts, on WEDNESDAY, DECEMBER 17, 1862, at TEN o'clock, their PLANT: comprising sixty earth-waggons, nine dobbin carts, five horse-carts, twenty-five barrows, temporary metals, shovels, picks, thirty-one sets of cart chain and tip harness, two moveable blacksmiths' forges, and all the usual materiel of railway contractors.—May be viewed the day preceding the Sale. Catalogues may be had of Mr. MAY, 61, Park-street, Grosvenor-square, London; and (free by post) of Mr. HUMBERT, Land and Timber Surveyor, Drainage Engineer, Land Agent and Auctioneer, Little Mascote, Watford, Herts

NEAR NORRINGTON CRESCENT, CAMDEN TOWN.

MESSRS. LEREW & LEREW will SELL by AUCTION, on the PREMISES, in Arlington-street, on MONDAY, DECEMBER 15th, at TWELVE, a quantity of MAHOGANY; yellow, white, and pine planks, deals and battens, fry cut stuff, flooring, quartering, slating battens, pantile laths, thirty doors, useful stuff, and a few old materials. On view Saturday prior.—Auction Offices, Cardington-street, Hampstead-road.

SPACIOUS AND COMMANDING PREMISES.—Nelson-street, Woolwich, immediately contiguous to a Wharf on the Thames and to Rolf's Landing pier

MESSRS. FULLER & HORSEY are instructed by the Directors to SELL by AUCTION, at the MART, London, on TUESDAY, DECEMBER 16, at TWELVE, the commanding PILE of BUILDINGS, erected about thirteen years since for the Woolwich Baths and Lecture-hall, situate in Nelson-street, Woolwich. The premises, which are of a very substantial character, have a frontage of about 102 feet by an extreme depth of 77 feet, the ground floor of which is lofty and well lighted, is arranged for a first and second class swimming bath, and private bath-room, and has two entrances; the first-class bath-room is about 70 feet long by 20 feet wide; the second-class room is about 60 feet by 24 feet; and the private baths number 36 feet by 25 feet. If not required for their present purpose they could readily be converted into shops or appropriated for manufacturing purposes. There are two lobby entrances and a boiler-room and pump-room. The first-floor, which is approached by two staircases, is arranged as a handsome, light, and lofty lecture-hall, about 50 feet by 42 feet; a reading-room, a library, and two dressing-rooms; on the second floor is a large store room, a committee-room, and four dwelling-rooms, approached by a separate staircase. The premises are held on lease for an unexpired term of sixty-six years, at a ground rent of 40l. per annum. One half of the purchase-money may remain on mortgage.—To be viewed till the sale. —Printed particulars will shortly be ready, and may be obtained of RICHARD PIDCOCK, Esq., and EDWIN HUGHES, Esq. Solicitors, Woolwich; at the Kentish Independent Office, Woolwich; at the Office on the Premises; at the Auction Mart; and of Messrs. FULLER & HORSEY, Billiter-street, London, E.C.

13, Billiter street, December 3, 1862.

BOW-ROAD.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, about 20 minutes' walk from the Bank, on MONDAY, DECEMBER 15th, at ELEVEN for TWELVE o'clock, the remaining portion of the BUILDING MATERIALS of the late SEAMEN'S ORPHAN ASYLUM: comprising about 60,000 good stock bricks, 3,000 slates, floor boards, rafters, joists, iron guttering and piping, windows, frames, doors, stone coping and steps, yard paving, iron pillars, staircase, two pairs of strong gates, bells, brass taps, mahogany closet-seats, brick wall, iron palisade fence, and elm, lime, and chestnut trees.—May be viewed on the Friday and Saturday before the sale. Catalogues may be obtained about ten days before the sale, of the Auctioneer, No. 14, Moorgate-street, London, E.C.; and of the Foreman on the Estate.

BOW-ROAD.—Eligible Freehold Building Land.

MR. WHITTINGHAM is instructed to SELL by AUCTION, at the AUCTION MART, opposite the Bank of England, on FRIDAY, DECEMBER 19, at TWELVE for ONE o'clock, the RIBBON PORTION of the ESTATE recently occupied by the Seamen's Orphan Asylum: comprising eighty-four lots of eligible freehold building land, with frontages to the Bow-road and the new roads called British and Merchant-street. The estate is within twenty minutes' ride of the Bank, on the high road to Stratford. Nine-tenths of the purchase-money may remain on mortgage or contract at 5 per cent. to be paid in nine years by half yearly instalments; but the whole or any part of the balance may be paid off at any time, without notice.—Particulars, plans, and conditions of sale may be obtained ten days before the sale, of Messrs. RUSSELL & DAVIES, 69, Coleman street, E.C.; the Auctioneer, 14, Moorgate-street, E.C.; and at the Place of Sale.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Sound gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause limiting the purposes for which the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Cheriton, Kingston, and some very eligible SITES in the Grove-road, Millend, a few of which are adapted for shops.—Apply to MR. KNIGHTLEY, Architect, 25, Cannon-street.

VAULTS and WORKSHOPS.—TO BE LET, spacious VAULTS and WORKSHOPS, at Newport Market, Soho. The vaults are well adapted for brewers and wine merchants, and the workshops for carpenters, picture-frame makers, and others. To view, apply to JOHN BELLIS, at the Market; and for particulars and terms to Mr. W. G. GRAY, Land Agent, 235, Gresham House, Old Broad-street, E.C.

BUILDING LAND TO BE LET.—NORWOOD. On Westow-hill, for shops and private residences. HACKNEY, close to Railway Station, for shops and fourth class dwelling-houses. FELTHAM, for detached villas. PERRY HILL, Sydenham,—for shops. Brick-earth and gravel, if required, in each case.—Apply to Mr. T. K. GREEN, Architect, 25, College-hill, E.C.

A BUILDER'S YARD and WORKSHOPS, in Douglas-street, Vincent-square, Westminster, TO BE LET, with immediate possession.—Apply to Mr. RICHARDS, 34, Vauxhall Bridge-road, Westminster.

HASTINGS.—BLACKLANDS ESTATE. LAND TO BE LET on Building Leases for Ninety-nine Years; good sites on macadamized roads for Villas, &c. within five minutes' walk of the railway station, and close to the town, in the healthiest and most sheltered situation, commanding extensive views. A purchaser's name is not required at a specified time.—Apply to MR. CARPENTER, Architect, 36, Robertson-street, Hastings.

BETHNAL GREEN, within five minutes' walk of Shoreditch Church.—Some very eligible BUILDING LAND TO BE LET, with cash advances (if required), for the erection of six rooted [illegible], which will let and sell at [illegible]. Apply to Mr. CLARKSON, Surveyor, 9a, Great St. Helen's, City.

TO CARPENTERS, BUILDERS, and OTHERS.—For SALE, FOUR well-built SEVEN ROOMED CARCASES, situate in the Eleanor-road North, Richmond-road, Dalston. Lease, nineteen years unexpired, 35 each; price 360l. Advances made, if required, to assist in finishing. Also, some very eligible BUILDING SITES, on the same estate, TO BE LET, for similar houses. Cash advances made, and bricks supplied at a very low price to respectable parties.—Apply to Mr. CLARKSON, Surveyor, 9A, Great St Helen's, City.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate Stations.—This valuable FREEHOLD ESTATE (land-tax redeemed), surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads [illegible], and being on the estate, is [illegible] TO LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for houses in this neighbourhood. For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

DYEING TRADE and TRADE PREMISES TO BE SOLD.—TO BE SOLD, by PRIVATE CONTRACT, the extensive DYE WORKS now and for many years past occupied by Messrs. John Self & Co., situate in Walnut-tree-walk, in the town of Nottingham. And also TWO excellently built DWELLING HOUSES adjoining to the said works, and fronting Castle-terrace. And also the very complete and extensive PLANT on the said premises, which is all now in perfect working order, and includes two boilers of 36 and 40 horse power each respectively, six circular steam dollies, three steam engines, one large dash wheel, three dash pans, one hydraulic press, three pecans and five fire stoves, two cast-iron cisterns, each holding 3,000 gallons, two small wrought-iron cisterns, one hydraulic press 12-inch ram, and one 7-inch ram, large wrought-iron logwood and fustic boilers, and two logwood cisterns, pans, tubs, brushing machine, making-up press, log boards, and all other implements essential to a dyeing and finishing business. Also the GOODWILL of the said business which has been established for about 35 years; has one of the best connexions in the trade; has proved itself very profitable, and is now in full operation. Immediate possession may be had.—To view, apply to Mr. BULLIMORE or Mr. TAYLOR on the premises, and for further particulars apply to Messrs. W. & R. ENFIELD & DOWSON, Solicitors, Nottingham.

Nottingham, Dec. 1862.

NORTH BRITISH RUBBER COMPANY, LIMITED

CASTLE MILLS, EDINBURGH.

WAREHOUSE, 56, CANNON STREET WEST, LONDON, E.C.

Manufacturers of VULCANIZED INDIA-RUBBER for Mechanical, Engineering, Railway, and Agricultural Purposes.

PARMELLE'S PATENT INDIA-RUBBER MACHINE BELTING, now in use in most of the principal factories in Great Britain, and which was employed by H.M.'s Commissioners of the Exhibition of 1862 upon all their engines in the Western Annexe, besides driving over fifty other machines belonging to exhibitors.

The superiority over all other Belting consists in its perfectly even surface, combined with sufficient elasticity to enable it to HUG the pulley,—preventing slipping, and thus effecting a great saving of power. It will not stretch in damp or wet places, and, unlike leather, is not affected by exposure to the weather, thus rendering it invaluable for Paper-works, Saw mills, Thrashing-machines, &c. It can be made of any size or strength for Main Driving-bands, and at one-third the cost of leather. All Belts are stamped with the Company's name, and are warranted

INDIA-RUBBER DELIVERY AND SUCTION HOSE.

Does not require drying after use—never rots—always flexible—no loss of power by leakage, and can be made of any size, and to stand any pressure. The only Hose which is strong enough to be used with Steam Fire-engines.

VALVES for Marine and Land Engines up to 6 feet in diameter.

WASHERS and SHEET-RUBBER for Steam, Water, Gas, and Air Joints.

BUFFERS, BEARING SPRINGS, and DRAW-SPRINGS for Railways; BUCKLE-STRAPS for Paper-makers, ensuring a perfect edge, and wasting no paper.—PRESS for Paper machines.

TUBING for conveying Acids and other liquids, Gas, &c.; CORD, PISTON-PACKING, INSERTION-RUBBER, GAS-BAGS for repairing Mains.

BILLIARD and BAGATELLE STRIPS, RINGS, &c. &c. VULCANIZED INDIA-RUBBER moulded to any form.

All the above are manufactured without the use of solvents, whereby the strength of the Rubber is permanently retained.

THE CRAYS' GAS-LIGHT and COKE COMPANY (LIMITED).—Capital, 5,000l. in 1,000 Shares.—GAS ENGINEER.—The Directors will, on the 19th DECEMBER, 1862, proceed to the Appointment of a CONSULTING ENGINEER who would be willing to prepare plans and specifications and manage the construction of works. Gentlemen applying for this appointment are requested to make written application to the undersigned, on or before TWELVE o'clock on FRIDAY, the said 19th day of DECEMBER, 1862, such applications to be accompanied with Testimonials and a Scale of the Fees the applicant would require if appointed.

By order, W. MAY, Solicitor,

11th December, 1862 2 Adelaide-place, London-bridge, E.C.

NORWICH UNION FIRE INSURANCE SOCIETY

Notice.—CHRISTMAS RENEWALS.

Mercantile and Dock Insurances at the Rates Established

The business of the Company exceeds 70,000,000l.

The duty paid to Government for the year 1861 was 83,076l. and the amount insured on farming stock 10,536,762l.

A bonus of three-fifths of the profits periodically made to parties insuring, who have thus from time to time received sums amounting in the aggregate to 1,142,93l.

The rates of premium are in no case higher than those charged by all other principal offices under the Act for Mutual Insurers.

For prospectuses, apply at the Society's Offices, Surrey-street, Norwich, and 6, Crescent, New Bridge-street, Blackfriars, E.C.

THE MUTUAL TONTINE ASSOCIATION, WESTMINSTER CHAMBERS CLASSES.—It is requested that Applications for Subscriptions may be sent in prior to MONDAY, the 22nd day of DECEMBER instant. Prospectuses may be obtained at 85, Gresham House, Old Broad-street, E.C.—By order of the Board, G. S. SIDNEY, Sec. pro tem.

Temporary Offices of the Association, 85, Gresham House, Old Broad-street, E.C. December 4th, 1862.

TO BRICKLAYERS, PLASTERERS, &c. TO BE DISPOSED OF, in consequence of the proprietor taking a larger business, a snug little CONCERN in the above line, twenty-seven miles from London, and three from a railway station on the South-Western Railway, suitable for carrying on a large trade. The house and premises are in good repair, and rent very moderate.—For further particulars, apply to T. W. Printing-office, Chobham, Surrey.

SMELTING WORKS for LEAD and ZINC ORES, now in full operation in Wales.—TO BE DISPOSED OF, an OLD ESTABLISHED BUSINESS, with Premises and Plant, adapted for Smelting Lead and Zinc Ores, and for the Manufacture of Sheet Lead and Lead Pipe, to the extent of about 85 tons per week. Also for desilvering lead ores. The works are most desirably placed on a line of railway, and with water communication. About 15,000l. to 20,000l. will be required.—For further particulars apply to Messrs. FULLER & HORSEY, 13, Billiter-street, London, E.C

TO PLUMBERS, PAINTERS, &c.—For DISPOSAL, a BUSINESS, in the above line, in a leading thoroughfare, near the City road. Price, 30l. A good opportunity for a young beginner. The cause of leaving the present proprietor having other engagements in the country.—For further particulars, apply, Mr. HOGG'S Lead Warehouse, 3, Brunswick place, City-road.

TO JOINERS, BUILDERS, and OTHERS. VALUABLE TIMBER, TOOLS, and WORKING PLANT FOR SALE.—TO BE SOLD by PRIVATE TREATY, at a fair valuation (by order of the Trustees under the Deed of Assignment executed by Mr Henry Mills of Wakefield, Builder), the valuable STOCK of TIMBER, DEALS, FLOOR BOARDS, IRONMONERY, WORKING TOOLS, PLANT, and all other necessary articles for carrying on a large building trade, and now lying upon the premises occupied by the said Henry Mills, situate in Quebec-street and in Wood-street, Wakefield. The trade being carried on at two distinct places in Wakefield, the Stock and Plant are now to be taken either together or separately. The names of the respective premises are willing to treat with a respectable tenant for the same, and if required by a purchaser, the Stock can remain for a few years.—For further particulars apply to Mr. THOMAS HUDSON, Ironmonger; or Mr. JOSEPH BROOKE, Timber Merchant, both of Wakefield; or at the Office of HARRISON & SMITH, Solicitors, Wakefield.

TO PLUMBERS, DECORATORS, and GENERAL CONTRACTORS.—A very old-established BUSINESS, a few miles from London.—A very excellent offer presents itself for Purchasing a Business now having 3000.—Apply to Mr. HISCOCK, at Messrs. Frank's, Lead Merchants, London-bridge, Borough.

TO BUILDERS, &c.—TO BE DISPOSED OF, the valuable LEASE and GOODWILL (with or without the stock) of a well-established BUILDER'S GENERAL BUSINESS, in full work, with every convenience for carrying on the several branches, situate within two miles of three bridges, in South London.—For particulars, apply (if by letter, prepaid, to Mr. PERKINS, Auctioneer and Estate Agent, 41, Tooley-street (corner of Hay's-lane), Southwark, S.E.

TO CHURCHWARDENS, MILL PROPRIETORS, and OTHERS.—GEORGE FRITH, BUILDER, &c. Coventry, begs respectfully to call the attention of the above parties to his method of REPAIRING CHURCH SPIRES, CHIMNEY-SHAFTS, and other elevated structures, without the expense of ladd-rs or scaffolding. Church spires taken down and rebuilt, pointed, repaired, &c. Chimney shafts repaired, pointed, and new caps fixed. New vanes and all kinds of lightning conductors applied. Estimates given. References from architects, engineers, &c. Circulars illustrating the principle and containing testimonials sent free on application as above.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing-office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 13, 1862.

The Builder,

Architect, Engineer, Operative & Artist.

VOL. XX.—No. 1037. **DECEMBER 20, 1862.** PRICE FOURPENCE. By Post, 5d.

ILLUSTRATIONS.

Lincoln Cathedral: the West Front 918
Lincoln Cathedral: the South-east Porch 911
Oxford Cathedral: the Choir 911
New Pulpit in Doncaster Church 910
Plan of one of the Arcade Piers of Pulpit in Doncaster Church .. 910
Taylor's Damp-proof Course; Ventilating Floor Tile; and Faced Concrete Walls 904, 905
Smoke-consuming and Ventilating Grate 905

CONTENTS.

Joseph Locke, the Engineer; and Thomas Brassey, the Contractor 901
Training Grounds in Manchester 902
"Materials for the Life of I. F. Roubiliac" 903
On the Construction of Labourers' Cottages, and certain Sanitary Building Appliances 904
Civil Engineering, Architectural, and Building Contrivances in the "Exhibition" 905
The original Discoverers of the Lion of Cheronea 906
The Strength of Chelsea Bridge 909
Surrey County Hospital Competition: Guildford 909
Court of Common Council: St. Thomas's Hospital—Central Station—Working Class Dwellings 909
New Pulpit, Doncaster Church 910
Handbook to the Cathedrals of England 913
The Architectural Association 914
British Archæological Association 914
Portland Breakwater 914
The False Step at the Institute of Architects 914
A New Hotel for Brighton 914
Insurance of Workmen's Tools 915
Church-building News 915
Great Yarmouth 916
Albert Memorials 916
The British Wreck Register 916
Doings in Burnham Church, Bucks: Hedsor Church 916
The Royal Academy and Architects 917
Mr. Fergusson's proposed Form of Theatre 917
The Metropolitan Board of Works: Sewerage and Thames Embankment 917
Cases under the Building Act 917
Masters and Men: Length of a Day 917
Books received: Transactions of Glasgow Archæological Society 917
Miscellanea 918

BUILDERS' BALL will take place at WILLIS'S ROOMS, St. James's, FEBRUARY 19th, 1863.
JOSEPH BIRD, Hon. Sec

10, Hanover Cottages, Regent's Park.

ROYAL INSTITUTE of BRITISH ARCHITECTS, No. 9, Conduit-street, Hanover-square, W.
VOLUNTARY ARCHITECTURAL EXAMINATIONS.
The First Examinations will be held on MONDAY, the 26th JANUARY, 1863, and the following days of the week. Candidates are required to deliver their Applications and recommendations on or before SATURDAY, the 27th of DECEMBER next, being "Four weeks before the first day of examination," according to the regulations
They are intended to be held annually at the end of the month of January, and are open to all British subjects, under certain regulations, copies of which, together with forms of application, course of examination, and list of books recommended, may be obtained at the Institute, 9, Conduit-street, W.
JOHN P. SEDDON, } Hon.
CHAS FORSTER HAYWARD, } Secretaries.

SHEFFIELD SCHOOL of PRACTICAL SCIENCE and METALLURGY.
PRESIDENT.
His Grace the Duke of Devonshire, K.G. F.R.S. D.C.L.
Chancellor of the University of Cambridge.
VICE-PRESIDENTS.
The Mayor of Sheffield, John Brown, esq.
The Master Cutler
The Right Hon. Lord Wharncliffe.
Sir David Brewster, K.H. D.C.L. F.R.S.L. & E. M.R.I.A.
Sir Roderic Murchison, F.R.S. Director of the Royal School of Mines
John Percy, esq., M.D. F.R.S. Professor of Metallurgy in the Royal School of Mines
William Fairbairn, esq. C.E. F.R.S.
Robert Hunt, esq. F.R.S. F.S.S. Keeper of Mining Records.
Warrington W. Smyth, esq. M.A. F.R.S. Professor of Mining and Mineralogy in the Royal School of Mines
DIRECTOR.
The Rev G. B. Atkinson, M.A. Principal of the Collegiate School, late Fellow and Assistant Tutor of Trinity Hall, Cambridge.
PROFESSORS.
Chemistry, Metallurgy, and Geology—James Allen, Ph.D. F.C.S. of the Universities of Giessen and Berlin.
Engineering and Mining—J. Thompson, C.E.
Mathematics, Natural Philosophy, and Applied Mechanics—Rev. G. B. Atkinson, M.A.
The Sheffield School of Practical Science and Metallurgy will afford a complete scientific and practical education to students who are destined to become civil, mechanical, or mining engineers, or to manufacturers of any kind. Its object is thoroughly to discipline the students in the principles of those sciences upon which the operations of the engineer, metallurgist, or manufacturer depend
The education will be given by means of systematic Courses of Lectures, by Catechetical Class Instruction, by Practical Teaching in the Laboratory and Drawing-room, and occasionally by Field Excursions.
The School of Practical Science and Metallurgy will be conducted in the Buildings of the Sheffield Collegiate School. The two Institutions, although both under the superintendence of the Rev. G. B. Atkinson, Principal of the Collegiate School, are, however, entirely distinct
A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c. may be obtained by application to the Director.
THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

WATER-COLOUR PAINTERS' LANCASHIRE RELIEF FUND.—The Committee, in offering their thanks to those Artists who have responded to their appeal on behalf of this Fund, beg to inform them that the EXHIBITION will open at the GERMAN GALLERY, 168, New Bond-street, THIS DAY, DECEMBER 20th. Gentlemen who do not previously receive a Card headed "Contributor's Ticket" are requested to inform the Secretary. Works will continue to be received
JAMES FAHEY, Hon Sec.
Committee Room, 5, Waterloo-place, S.W

WATER-COLOUR PAINTERS' LANCASHIRE RELIEF FUND.—The EXHIBITION of these WORKS, the contributions of upwards of 320 artists, for the benefit of the distressed operatives, WILL OPEN THIS DAY, December 20th, at the German Gallery, No. 168, New Bond-street, Messrs. Day & Son having liberally closed their own Exhibition of Bedford's Photographs of the East, to give the Committee the gratuitous use of the Gallery
Open daily from NINE till — Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Hon. Sec.

GALLERIES of the ARCHITECTURAL UNION COMPANY (Limited), 9, Conduit-street, Regent-street, NOW OPEN, FREE, from ELEVEN till FOUR, daily. The Autumn Exhibition of Building Materials, Patents, and Inventions, will CLOSE, FEBRUARY 28, and must then be cleared for the Architectural Exhibition
JAMES EDMESTON, Hon. Sec.

COMPETITIONS.

TO ARCHITECTS.—The LIVERPOOL EXCHANGE.—The Liverpool Exchange Company, being about to rebuild and enlarge the Liverpool Exchange, have determined to OFFER PREMIUMS of £100, for the best Design, and of £50, each for the two next best Designs. Copies of the Instructions and conditions, with plans and sections of the site, and photographic views of the present Exchange, and the adjoining buildings, for which a charge of One Guinea will be made, may be had on and after the 20th DECEMBER next, on application to the undersigned. All designs must be sent in on or before the 1st MAY, 1863.—By order of the Board,
A. T. SQUAREY, Sec of the Company
10, Water-street, Liverpool, December 1, 1862

CONTRACTS.

CITY of LONDON, BARBERS' HALL.—Important SITE for WAREHOUSES, or MANUFACTURING PREMISES, in the immediate vicinity of Wood-street, Cheapside.—The Committee of the Worshipful Company of Barbers will meet at their Hall, on THURSDAY, the 25th day of JANUARY, 1863, to receive TENDERS, for letting on a building lease, for ninety nine years, the extensive PREMISES, known as Barbers' Hall, situate in Monkwell-street, Wood street, comprising three houses, fronting Monkwell-street, Nos. 33, 34, and 35 part of the carriage-way in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell-street of about 81 feet by an average depth of about 126 feet, and an extreme depth of about 155 feet.—Full particulars, with a plan of the property, elevation, and section of Street front, also conditions of letting, may be had on application to the Clerk of the Company, to Mr CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 61, Doughty-street, W.C.; or to Mr Beadle at the Hall.—By order,
HENLEY GROSE SMITH, Clerk.
4, Warnford-court, Throgmorton street, E.C.

TO GAS ENGINEERS and OTHERS.—The Visiting Justices of the Middlesex Lunatic Asylum and Feltham having decided upon LIGHTING that INSTITUTION by GAS, notice is hereby given, that any company or individual desirous of undertaking the WORK, is invited to communicate with Capt. BROOKS, the Superintendent, from whom they will receive every information they may require, and to submit detailed specifications and Tenders, to be sent to the Clerk of the Committee at Brentford, on or before the 10th day of JANUARY next. The specifications and Tenders to include all buildings and machinery, mains, pipings, and fittings throughout, whether for the immediate use of the Gas, or for its distribution to every part of the building where it is required to be consumed, distinguishing the cost under the three heads of
1. Buildings and Machinery.
2. Mains
3. Supply Pipes and Fittings.
The Committee do not pledge themselves to accept the lowest or any Tender.—By order,
WM. RUSTON, Clerk to the Committee.
Brentford, 9th December, 1862.

SANDGATE LOCAL BOARD of HEALTH WATER WORKS.
The SANDGATE LOCAL BOARD of HEALTH are prepared to receive TENDERS for the execution of the following Works:—
CONTRACT No. 1.—For constructing a tank and other works in a field adjoining the high road, situated to the west of Seabrook, near Sandgate, in the county of Kent, at or near a certain spring there, called the Upper Hollywood Spring.
CONTRACT No. 2.—For making, supplying, and delivering at Sandgate 1000 cast iron pipes, 6 inches internal diameter, and other castings.
CONTRACT No. 3.—For laying about 4000 yards of 6 inch cast iron socket pipes, cocks, by-basts, and other appendages connected therewith from the before mentioned tank along the said field and the high road as far as the spring to and through the greater part of Sandgate aforesaid.
Specifications and a form of Tender can be seen on application at my Office, Bank-street, Hythe, or at the Office of S. C. HOMERSHAM, Esq. Civil Engineer, 19, Buckingham-street, Adelphi, London, between the hours of Ten and Four, and sealed Tenders, headed "Sandgate Water Works," addressed to me, at Hythe aforesaid, must be forwarded to me on or before the 7th day of JANUARY, 1863. The Board do not bind themselves to accept the lowest or any Tender
E. NEWMAN KNOCKER, Clerk to the Board
Hythe, December 11th, 1862.

CONTRACTS.

TO PIPE FOUNDERS.—The Northampton Waterworks Company are desirous to receive TENDERS for about 1000 yards of CAST IRON SOCKET PIPES, of 18 inches diameter, and 500 yards of 9 inch diameter; together with other CASTINGS.—Specifications can be seen, or had, by application, at the Office of the Company. Tenders enclosed in a sealed envelope, and indorsed "Tender for Pipes" are to be delivered at the Offices of the Company, No. 5, New-road, Northampton, on or before the 5th day of JANUARY next. By order of the Board,
December 17, 1862
HENRY ARNITT, Secretary

SAINT MARY, ISLINGTON, COUNTY of MIDDLESEX.—METROPOLIS LOCAL MANAGEMENT ACT.
TO IRONFOUNDERS and OTHERS.—Notice is hereby given, that a Committee will meet at the Vestry Offices, Upper-street, Islington, on WEDNESDAY, the 7th day of JANUARY next, at SEVEN o'clock in the evening, to receive TENDERS and to CONTRACT for a supply of the LAMP POSTS and COLUMNS according to pattern. The pattern may be seen on application at the Beadle's, at the Chapel-of-Ease, Holloway-road. The average weight of each post and column to be about 2 cwt. The whole to be delivered, welded, and stowed away at the Store House Chapel-of-Ease, or the Contractor, within a month, and the contract price to be paid within the same period after the contract shall be completed. Sealed Tenders, stating the price per ton, to be delivered at the Vestry Office, previously to the above meeting. Persons Tendering should attend the Committee.—The Vestry do not bind themselves to accept the lowest or any Tender.
JOHN LAYTON, Vestry Clerk.
Vestry Offices, Upper-street, December 15, 1862

ST. MARYLEBONE, December 11th, 1862.
TO BUILDERS SEWER CONTRACTORS, &c.—Notice is hereby given that the Vestry of the Parish of St. Marylebone will meet the BOARD ROOM of the Court-House of the said Parish, on THURSDAY, the 25th day of JANUARY, 1863, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for the BUILDING of NEW BRICK SEWERS, in three lengths, in the South side of ALBERT ROAD, and UNDERPINNING of OLD SEWERS in upper ends of BRIDPORT STREET and MILTON STREET, also for a NEW BRICK SEWER, 1 foot 9 inches by 1 foot 3 inches, in ALBSOP'S PLACE, all in the said parish of St. Marylebone.—Further particulars may be known, and drawings and specifications, and form of tender, seen on application to the Vestry Surveyor, Mr ROBERT SCOTT, at the usual attendance at the Court-house, from TWELVE till ONE o'clock. The Tenders to be delivered to the Vestry Clerk, at the Court-house, at or before ELEVEN o'clock in the forenoon of THURSDAY, the said 1st day of JANUARY, sealed and endorsed "Tender for Sewers;" and no Tender will be received after that hour. The Contractor to find satisfactory security for the performance of the works, and to pay the expenses of the Bond and Contract. The Vestry will expect the parties Tendering, or some person on their behalf, to be in attendance at the time of opening the Tenders. The Vestry do not pledge themselves to accept the lowest or any of the Tenders.—By order,
W. R. GREENWELL, Vestry Clerk.

NEW CONGREGATIONAL CHAPEL, LEICESTER.—TO BUILDERS.—Persons desirous of submitting TENDERS for the EXECUTION of the several Works in the ERECTION of the above Building, may inspect the drawings, and obtain copies of the quantities, at my Office, on and after SATURDAY, the 27th instant. Tenders, sealed and endorsed "Tender for New Chapel," to be delivered at my Office, on MONDAY, the 12th of JANUARY, 1863, by TWO o'clock p.m. The Committee do not pledge themselves to accept the lowest or any Tender
HENRY SHENTON, Architect.
Friar-lane, Leicester, December 17th, 1862.

BUILDERS willing to TENDER for FINISHING a DETACHED VILLA, Hamlet-road, Penge, near the Crystal Palace Railway Station, can inspect the drawings and specification at the Office of the Architect, who reserves the right, if he think fit, of the Lowest, or rejecting the Highest or any Tender. Tenders are to be delivered on WEDNESDAY, DECEMBER 31st, at FOUR o'clock.
HENRY M'CALLA, Civil Engineer, Architect.
Office, 25, Westbourne place, Eaton-square, S.W.

CROYDON LOCAL BOARD of HEALTH.
TO CONTRACTORS and OTHERS.—Any Persons willing to CONTRACT for the CONSTRUCTION of a BRICK SEWER, about 3,440 feet long, from the Selhurst road to the land near Colliers Water lane, may see the plan and specification at the Engineer's Office, Townhall, Croydon, on and after MONDAY, the 29th of DECEMBER, 1862, between the hours of TEN and FOUR o'clock. The Tenders are to be delivered at the Office of H. RICHARDS, Esq. 99, High-street, on or before MONDAY, the 5th JANUARY, 1863. The Board will not necessarily accept the lowest or any Tender.
Croydon, December 17, 1862

CROYDON LOCAL BOARD of HEALTH.
TO CONTRACTORS and OTHERS.—Any Persons willing to CONTRACT for the CONSTRUCTION of TANKS at South Norwood, may see the plan and specification at the Engineer's Office, Townhall, Croydon, on and after MONDAY, the 29th of DECEMBER, 1862, between the hours of TEN and FOUR o'clock. The Tenders are to be delivered at the Office of H. RICHARDS, Esq. 99, High-street, on or before MONDAY, the 5th of JANUARY, 1863. The Board will not necessarily accept the lowest or any Tender.
Croydon, December 17, 1862

TO CONTRACTORS and OTHERS.—CONTRACT for LAYING CAST-IRON SOCKET PIPES, &c.—The Directors of the Heath-grand-st. Waterworks Company are desirous of receiving TENDERS for laying about 2,450 yards of SOCKET PIPES, of from 12 to 24 inches diameter. The specification may be seen at the Offices of the Company, and forms of Tender obtained. Tenders must be delivered on or before the 31st inst.
A. H. WOOD, General Manager.
Company's Offices, Heath-grand-st. Waterworks, 1862.

[For remainder of Contracts see next Page.

CONTRACTS.

TO ENGINEERS and SURVEYORS. – The West Derby Local Board are prepared to receive TENDERS for the SURVEY of their DISTRICT. A specification containing conditions of Contract can be seen, and further particulars obtained, on application at the Office of MR. A. F. ORRIDGE, Surveyor to the Board, West Derby, Liverpool. The Board do not bind themselves to accept the lowest or any Tender. Sealed Tenders, addressed "Tender for Survey," must be sent in, addressed to the Chairman of the Survey Committee, Public Offices, West Derby, near Liverpool, on or before FOUR o'clock on FRIDAY, the 2nd of JANUARY next.

ISAAC ATHERTON, Solicitor to the said Local Board.

Liverpool, 17th December, 1862.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at £4 5s. per 1,000
" Paving, at £3 5s. per 1,000
" Floor Bricks, 40s. per 1,000
Mingled Kiln Bricks, at 30s. per 1,000.
Ridge Tiles, at £2 per 1,000

Cash Prices. Delivered on Trucks in London or along the Line on the Great Eastern Railway. At 20,000 Bricks under at Wisbech street Station, at 24s. per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.
Red, White, and Black Cutters.
Fancy Moulded Bricks of many Patterns.
Best Hard Kiln burnt Common Bricks, in large Quantities
Ditto, 6 inches.
Ditto, Culvert Bricks.
Plain Tiles of all kinds.
Plain and Fancy Ridge Tiles, &c.
Delivered on board craft in the Dock at the East Cowes Fark Kilns, Isle of Wight.

R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty and three dies, £87.
Licenses to Manufacture granted for a Stated Time.
For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen street, London, E.C.
The Machines may be seen at work at Southborough (about one mile from Bickley Station on the Chatham).

A NEW BRICK and LIME WHARF and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.
BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS,
SUFFOLK AND OTHER PAVIORS,
STAFFORDSHIRE AND FIRE GOODS;
MALM OR LIMEKILN BRICKS.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

THE VILLAGE CLOCK. – A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a simple Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 10, No. 3,248.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT, Invites attention to the unique workmanship and elegance of design of its extensive stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do.	10 "
Ladies' or Gentlemen's Gold English Lever Watches	18 "
Strong Silver Lever Watches	6 "
Gentlemen's Gold Compensation Balance Watches	40 "
Do. Silver do. do.	25 "
Marine Chronometers	26 "

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.

DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

ROYAL ARMS in TERRA-COTTA FOR SALE, on large scale, beautiful in execution, and at the condition.—Address, 75, Addington-street, York-road, Lambeth

---

ANTIQUE CARVED OAK FURNITURE. TO BE SOLD by PRIVATE CONTRACT, a very rare and valuable collection of ANTIQUE CARVED OAK FURNITURE (having been the property of an ancient family residing at Hall Garth, Wardrobe from Queen Elizabeth's room at Knaresborough Castle; elaborately carved oak Cabinet, which formerly belonged to Thomas a' Beckett; oak Cabinet, brought from Fountains Abbey; Altar Table, extraordinarily carved by monks (very early date); Chairs which belonged to John Howard, Michael Angelo, Ben Jonson, Cardinal Wolsey, Lafayette, and other celebrated characters of the Past, Voltaire, La Fayette, &c. &c.—For further particulars, with reference to the above apply to P. L. HERBERT, Esq., Maze Hill, Greenwich, Kent; or to C. C. TEMPLER, Esq. Court of Bankruptcy, Leeds.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only instrument that will supply wholesome and uniform lighting equally at all times, and preventing any irregularity in the lights in the house.

D. HULETT & CO., 94, High Holborn, London,
Manufacturers of Gasholder Governors, Glass Lustres &c. &c.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, Ironfounders, supplied with Nails, Iron, and Ironmongery Goods, at 10 per cent. below the LOWEST BIRMINGHAM PRICES.

A complete List of which will be forwarded upon application to

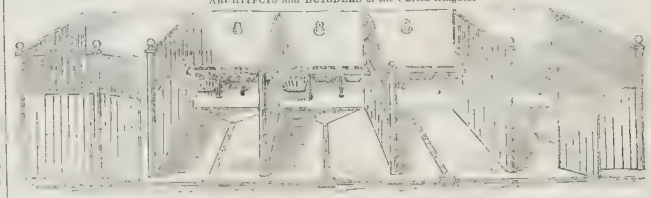
FRANCIS BIANCHI (late Blyth & Bianchi),
Nail Manufacturer and General Dealer, BIRMINGHAM,
and 14, Great Tower-street, London, E.C.



INTERNATIONAL EXHIBITION,
Classes 31 and 34.
NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.
THE NEW CRYSTAL STAR AND SUN LIGHT.
J. DEFRIES & SONS,
ENGINEERS, GAS-FITTERS, AND MANUFACTURERS,
OF MEDIÆVAL AND EVERY DESCRIPTION OF GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS, VESTIBULES, &c. &c.
Estimates and Designs forwarded for Lighting and Ventilating Theatres, Concert Halls, and other Public and Private Buildings.
HOT-WATER PIPES,
For Heating Conservatories, Warehouses, &c. supplied and fitted on the most improved and economical Principles.
PUBLIC AND PRIVATE GAS-WORKS ERECTED.
Works—London and Birmingham.
PRINCIPAL DEPOT AND SHOW-ROOMS,
147, *Houndsditch, City.*

INTERNATIONAL EXHIBITION, 1862.—CLASS 31.—PRIZE MEDAL AWARDED FOR
BARTON'S PATENT STABLE FITTINGS
AND ENAMELLED MANGERS.

The SUPERIOR CLASS STABLE FITTINGS are PATRONIZED by the PRINCIPAL NOBILITY, and ADOPTED by many of the FIRST ARCHITECTS and BUILDERS of the United Kingdom

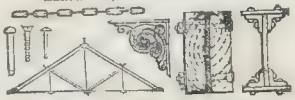


J. BARTON solicits attention to his newly-erected PRACTICAL STABLE, now on view at the Manufactory, 370, Oxford-street, where an extensive Assortment of all kinds of Stable Furniture, upon the most modern and improved principles, is to be seen.
A new Illustrated Catalogue, with numerous engravings of the improved method of fitting up Stables, forwarded on receipt of four stamps.

JAMES BARTON, IRON WORKS, 370, OXFORD STREET, LONDON, W.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 17, Union-street, and 95A, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c.

GENERAL IRON FOUNDERS.
MERCHANTS, and PATTERN MAKERS.



COLUMNS, GIRDERS, ROOFS,
TANKS, DOORS, RAILINGS,
STAIRCASES, MACHINE-CASTINGS,

And every description of Ironwork, wrought or cast, for Builders or other purposes, estimated for and executed. Designs furnished.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE.
No. 29, Davies street, Three Doors from Oxford-street.
For the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general, at wholesale prices. In connection with his Old Establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

MOREWOOD & CO. (late Morewood & Rogers),
Dowgate Dock, Upper Thames street, London; and Lion Works, Birmingham Heath, Birmingham
PATENT GALVANIZED TINNED IRON AND TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.
Also, Galvanized Water and Gas Tubing, Stamped and Solded Gutters, Wire, Wire Netting, Nails, Rivets, Bolts, &c.
Estimates given for Roofs, and every description of Galvanized Building, at the
OFFICES and WAREHOUSE, DOWGATE DOCK, LONDON.

CAUTION to ARCHITECTS and BUILDERS.—In consequence of complaints arising from the substitution of INFERIOR and SPURIOUS ARTICLES instead of SMITH'S PATENT DOUBLE ACTION DOOR SPRINGS;
SMITH'S PATENT WEATHER-TIGHT WATER BAR; and SMITH'S PATENT WEATHER TIGHT CASEMENT FASTENING for FRENCH WINDOWS

The above are most respectfully interested to observe that all GENUINE ARTICLES are stamped with the NAME and ADDRESS, SMITH, Patentee, 69, Princess-street, Leicester-square, London; and SUCH ONLY are WARRANTED.

IRON CASTINGS, WROUGHT and CAST-IRON GIRDERS FLITCHES, and TANKS. Iron Roofing, and every description of Smith and Founders' work. Estimates given.

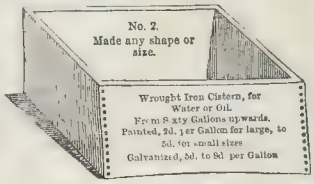
JAMES HAYWOOD, JUN.
PHŒNIX FOUNDRY AND ENGINEERING WORKS, DERBY.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants, every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Wood, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham court-road, W.

TO BE SEEN in the HARDWARE COURT, CRYSTAL PALACE, SYDENHAM.
The only PATENT COOKING STOVE that has received THREE PRIZE MEDALS. England, 1851; France, 1855; International, 1862; for a new method of drying and purifying coke. Good Workmanship and ECONOMIZING FUEL in Kitchen Ranges.—DULEY & SONS, Manufacturers, Northampton.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c. plain or galvanized; CATTLE TROUGHS, IRON CART-BODIES, &c.



BURNEY & BELLAMY, Mill-wall, London.
The Steam-boats from London Bridge call near the Factory.

MOORE'S PATENT VENTILATOR
NOTICE OF REMOVAL.
In consequence of the expiration of the Lease at 81, Fleet-street, all Communications are respectfully requested to be made at the Works, JOSIAH MOORE, Patentee.
SEKFORDE WORKS, ST. JAMES'S WALK, CLERKENWELL, E.C.

ROBERT MACLAREN & CO. EGLINTON FOUNDRY, GLASGOW.
Manufacturers of all sizes of CAST-IRON MAIN PIPES, for Gas or Water, by an IMPROVED PATENT.
GENERAL IRON FOUNDERS, GAS ENGINEERS, and WROUGHT IRON TUBE MAKERS.

THE MEDAL FOR 1862.
THE ONLY PRIZE MEDAL AWARDED FOR TUBES AND FITTINGS.
TRADE MARK.

CROWN TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE
Warehouse—81, Upper Ground-street, London, S.
JAMES RUSSELL & SONS,
The Patentees and first Makers of Wrought Iron Tubes.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, in 2 to 7 oz.; Patent Locks of all descriptions, China, Glass, and Wood Furniture, of all kinds, with Patent shutting Stanchions. Dr Arnott's Ventilators, 4s; and the New Registered Venetian Ventilator, so much admired, 6s. 6d. each
J. H. BOOBBYER (late STURCH & BOOBBYER), established nearly 200 years, for the supply of GOODS of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope-street, Clare market, London.

THE SCULPTORS' JOURNAL and FINE ART MAGAZINE (a Monthly Periodical, price 6d.) on JANUARY 1st, will contain the most interesting information for the Architect, the Sculptor, the Antiquarian, the Student, the Artist, the Amateur, and the Public
S. H. LINDLEY, 19, Catherine street, Strand, W.C.
Order of any Bookseller

SAW-BENCH for SALE, cheap, all Iron, planed top, adjusting fence, on four fluted columns. Also, a HAND MORTISING MACHINE. Apply to C. WORSSAM, Ringland-road Bank, London.

TO BE SOLD, a well-made 5-feet back-geared AMATEUR'S LATHE, with cast-iron beds, wood standards of strong ornamental pattern, firmly bolted on a very substantial teak frame, fitted with front teak rollers on turned spindles with brass bushes.—Apply to Mr THOMAS BULL, Architect, &c., Clapton, N.E.

WANTED, a second-hand MORTISE MACHINE, in good condition and by a good maker.—State maker and lowest price.—Address, W. No. 10, Office of "The Builder."

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



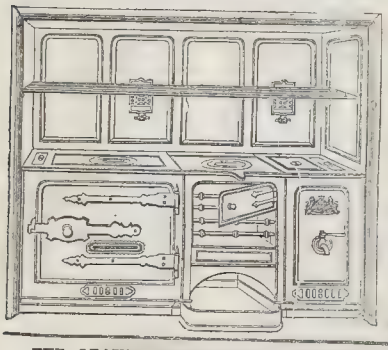
ROLLED WROUGHT-IRON FLITCH PLATES
And various Sections of
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

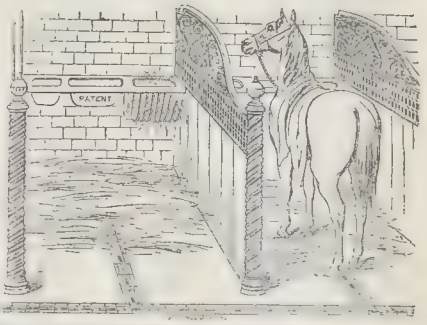
MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
[illegible]
AND
STABLE FITTINGS.
A LARGE STOCK
OF OTHER
CASTINGS KEPT.



THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Bilcky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

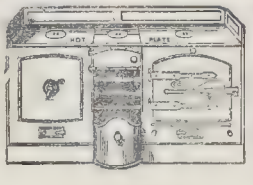
A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS,

33 and 65, York-street, Westminster.



LOSH, WILSON, & BELL
NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-Iron Goods, and
STEWART'S PATENT CAST IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

VENTILATING STOVES—Cheap, simple, efficient, and durable. Thousands have been sold, and universally approved. They are suitable for Halls, Warehouses, Conservatories, and every situation where a close stove is required. The largest size is extensively used in churches, chapels, and public buildings, with great effect and economy. Prices, 6s. 6d. to £5 5s. Prospectus with engravings, gratis, and post free. In operation daily. The trade supplied.
DEANE & CO.,
Opening to the Monument, London Bridge. Established A.D. 1700.

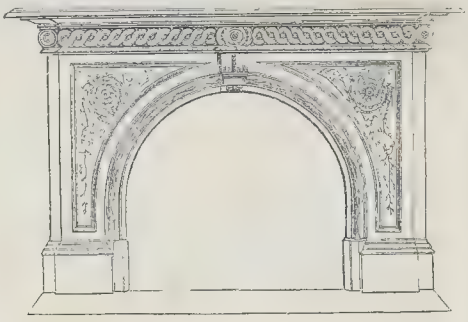
THE RICHEST ASSORTMENT OF CHIMNEY-PIECES

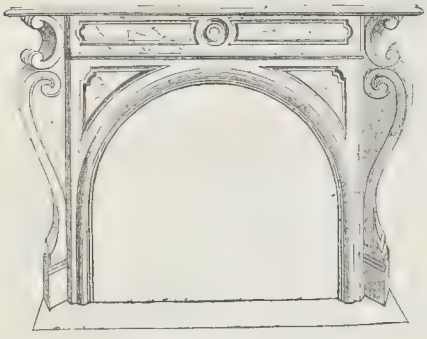
IS AT

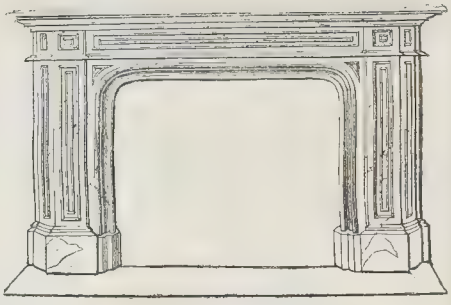
WILLIAM S. BURTON'S.

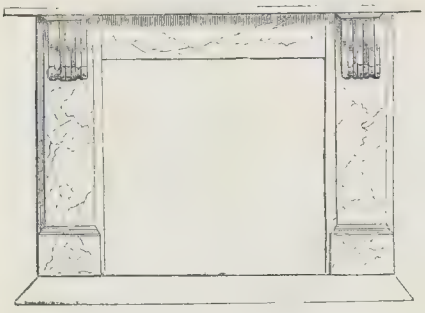
It embraces the following Foreign and English Marbles:—Italian Statuary, Brocatelle d'Italie, Brocatelle d'Espagne, Brocatelle Brune, Griotte d'Italie, Jaune Fleuri, Vert Antique, St. Remis, Black and Gold, Black, Rouge Royale, Vein, &c. &c.; and it includes the undermentioned styles: Renaissance, Louis XIV., Louis XV., Pompadour, Louis XVI., Moderne, à Balustres, &c. &c. Most of the designs are new; while several, from their rich and exquisite sculpture, are veritable works of art. A complete assortment of Enamelled Slate Chimney-pieces is also on show, including many elegant designs. The Prices range from 1*l.* 8*s.* to 100*l.*

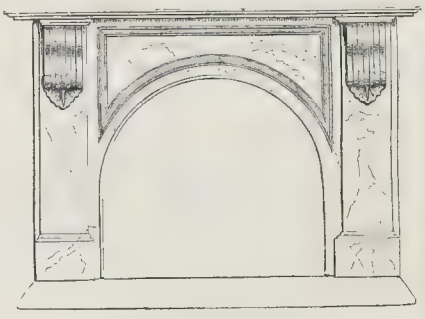












WILLIAM S. BURTON'S

GENERAL FURNISHING IRONMONGERY CATALOGUE

MAY BE HAD GRATIS, AND FREE BY POST.

It contains upwards of 500 Illustrations of his illimited Stock of Sterling Silver and Electro Plate, N'ckel Silver and Britannia Metal Goods, Dish Covers, Hot-Water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays, Urns, and Kettles, Clocks, Table Cutlery, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed-room Cabinet Furniture, &c. with Lists of Prices and Plans of the TWENTY LARGE SHOW-ROOMS at

39, OXFORD-STREET, W; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE; and 1, NEWMAN-MEWS, LONDON.

ESTABLISHED 1820.

NO CHIMNEY WANTED

FOR RICKETS & HAMMOND'S PATENT CALORIFERE GAS STOVES, in Churches, Halls, or Shops; and for Conservatories, or any close apartment, a Pipe can be attached to carry away the burnt air.



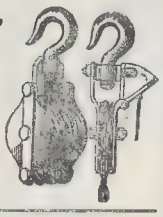
AGAR STREET, STRAND, LONDON.—DISCOUNT TO THE TRADE.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.



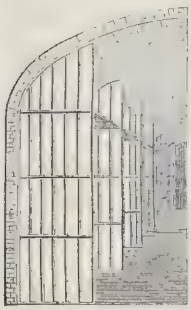
HENRY GOODWIN, JUN.
IRONFOUNDER, &c.
67, GREAT GUILDFORD ST., BOROUGH.
BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.
RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.
CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.

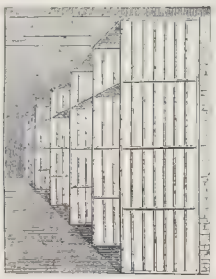


MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,
Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the
GENERAL IRON FOUNDRY COMPANY (LIMITED),
At No. 43, UPPER THAMES STREET, LONDON.
By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.
PATENT WROUGHT IRON WINDOWS,
Strong, light, durable, easily fixed, cheap, and free from risk of breakage.
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,
Most effective for the Cure of Smoky Chimneys.
FIRST-CLASS COOKING APPARATUS,
For Club Houses, Hotels, Restaurants, &c.

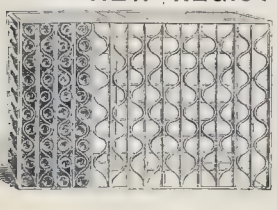
WROUGHT IRON WINE BINS.





FARROW & JACKSON
Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.
The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.
Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

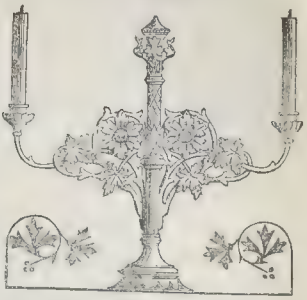
NEW REGISTERED IRON BINS,



WITH
SEPARATE REST FOR EACH BOTTLE,
Peculiarly adapted for Private Cellars.
No laths are required, and all trouble of Binning is avoided.
FARROW & JACKSON,
18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.
FACTORY, 57 and 58, MANSELL STREET.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.
Specimens at the Architectural Exhibition, Co. dant-street, W.
Drawings at 7 Fothergate Birmingham.

IRON RAILINGS, for enclosing TOMBS AND GRAVES.

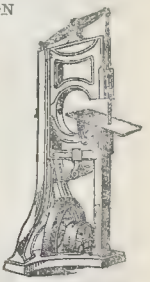


COMMUNION RAILINGS, SCREENS, GATES, &c.
Illustrated price catalogue, of numerous designs, in various styles (free), on application to
COTTAM & CO. IRON WORKS,
2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

PRIZE MEDAL.
INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l*.
Drawings sent on application.



MACHINERY TO BE SEEN AT WORK IN ROCHDALE
LONDON OFFICE, CANNON STREET, E.C.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER.

NAYLOR, VICKERS, & CO.
SHEFFIELD.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.

To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to direct the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774



THE PRIZE MEDALS,

LONDON, 1851. PARIS 1855. LONDON, 1862.

AWARDED TO

COTTAM & COMPANY,

No. 2, WINSLEY-STREET, LONDON, W.

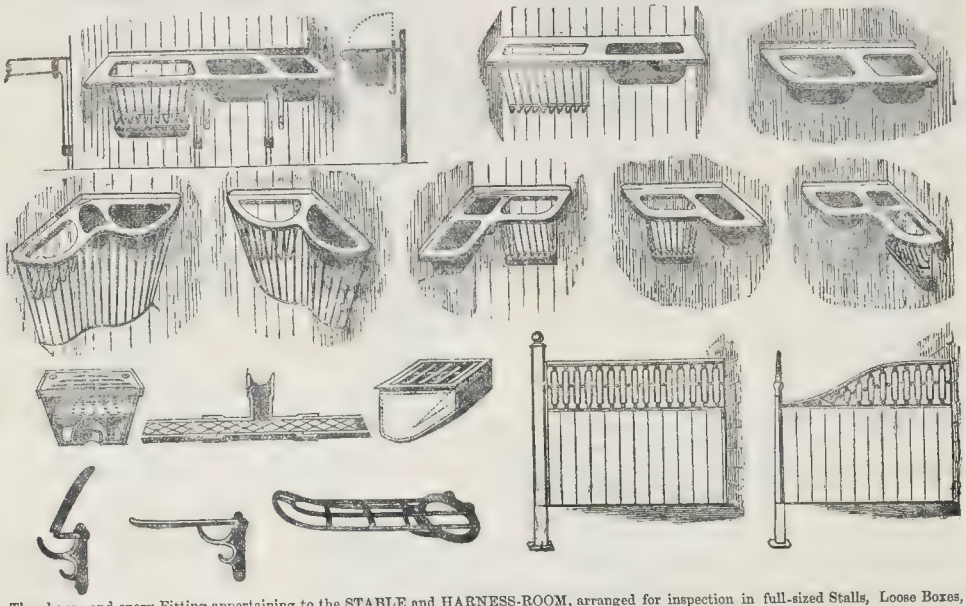
FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN

STABLE FITTINGS AND HARNESS BRACKETS.

ORIGINAL INVENTORS OF THE PATENT ENAMELLED MANGER, WATER TROUGH, AND RACK, FITTED TOGETHER AS ONE FIXTURE.



PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM. IN USE AT HER MAJESTY'S STABLES, ALDERSHOTT.



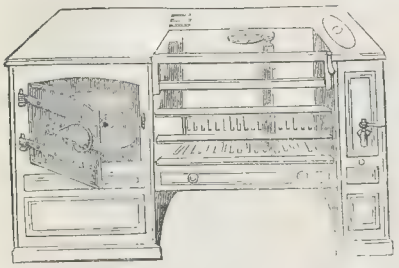
The above, and every Fitting appertaining to the STABLE and HARNESS-ROOM, arranged for inspection in full-sized Stalls, Loose Boxes, &c. (a portion of COTTAM and CO.'s extensive Warerooms being devoted entirely to that purpose).

ILLUSTRATED DESCRIPTIVE PRICE CATALOGUES free, on application to

COTTAM and COMPY. ENGINEERS and IRONFOUNDERS, 2, WINSLEY STREET, OXFORD STREET, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B.—Winsley Street is the Street opposite the Pantheon.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.

159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self acting Cottage, with Oven and Back Boiler.	
34 inches	54s.	30 inches . . .	22s.
36 „	56s.	32 „ . . .	24s.
38 „	58s	34 „	26s.
42 „	66s	39 „	28s.

Register Stoves, with Strong Bars, from per inch, 4d.

Improved New Pattern Circular Check Register, with strong Bars and Rivets, 4d per inch.

Best ditto, with Fire-brick Back, from per inch, 5d.

Bright Stoves, with Two Fires, 45s. to 100s. each.

Best Cut Clasp and Rose Nails

1-inch.	1½-inch.	2 inch.	2½-inch.	3-inch.
1½d.	1s.	13s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.

Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½ in.	3-in.
Cast Rain-water Pipe . .	8d.	10d.	1s. per yard.

Cast Gutters, 4 in. 7d. per yard.

	4-in.	4½ in.
O G Gutters, with Clips on . . .	10d.	1s. per yard.

	2	3	4	5	6
Patent Line . .	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt

For Arnott's Ventilators, 1s. each.

Brick Moulds kept in stock. Any size made to order.

MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.

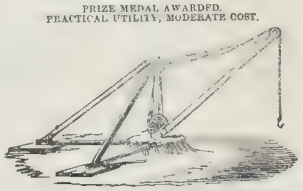
CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, Instructions as to fixing, &c. apply to the Patentees,

MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

PRIZE MEDAL AWARDED.
PRACTICAL UTILITY, MODERATE COST.



PRIZE MEDAL.—INTERNATIONAL EXHIBITION, STAND 6159.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES. MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES. These Inventions are confidently recommended as possessing numerous advantages not to be found in anything hitherto made.



At the late meeting of the Royal Agricultural Society at Leeds, MUSGRAVE, BROS. received a SILVER MEDAL and two awards of "highly commended;" being the only prizes conferred on any competition in this class.

MUSGRAVE'S PATENT SLOW COMBUSTION STOVE. This Stove is the nearest approach to Warming by Hot Water, and an excellent Aid in Ventilation.



It will burn in Churches from Saturday till Sunday Evening, without attention during the hours of worship. In halls will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours at a cost of Threepence; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

Full particulars will be sent on application to the Inventors and Makers.

MUSGRAVE, BROTHERS, Ann-street Ironworks, Belfast.

HENDERSON'S PATENT DERRICK

CRANES, sizes from 15 cwt upwards to be seen working at the Exhibition. Makers of Portable Cranes from 20 cwt. upwards; Setting Frames, Double and Single Power Crab Winches, all sizes.—For further particulars apply to BUTWELL & CAMERON, Springfield Iron Works, McNeil-street, Glasgow.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators. HULETT & CO. 55, High Holborn.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
OF VARIOUS SIZES, FOR STRONG ROOMS,

AND ALL SECURED BY CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

CISTERNS AND TANKS.



GALVANIZED WROUGHT IRON
MANUFACTURED BY
TUPPER & COMPANY,
61A, MOORGATE STREET, LONDON, E.C.
GALVANIZED OR LEAD SERVICE PIPE, BRASS BALL VALVES, BIB COCKS, &c.
Prices delivered in London.
N.B. A Discount to the Trade, Builders, &c.

DEVAUX'S VIEILLE MONTAGNE
THICK ROOFING ZINC.
This invaluable metal, if laid by Mr. TYLER on the new principle introduced by J. EDMISTON, Esq. F.I.B.A will last as long as lead, at one-third the cost.
For Prospectuses, Samples, Models, and Estimates of Works to be done with the Roofing Zinc, in large or small quantities, in Town or Country, apply to
Mr. J. W. TYLER, 4, WOOD-STREET, WESTMINSTER, S.W.
If the Metal is laid by Mr. TYLER, who has become so well known among Architects and Builders, superior and careful workmanship may be depended upon, and a guarantee given for its durability, if the woodwork is prepared according to directions given

IMPROVED WARM-AIR STOVES, FURNACES, & HOT-WATER APPARATUS
FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS.
KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION.
Manufactured and erected by J. KIRK & CO., Successors to
CUTLER & SONS,
CLARENCE IRON WORKS,
16, GREAT QUEEN-STREET, LINCOLN'S INN-FIELDS, LONDON.
IRON-FOUNDERS, FURNISHING IRONMONGERS, GAS ENGINEERS, AND BELL-HANGERS.
Orders for EVERY DESCRIPTION of CASTINGS for ENGINEERS and BUILDERS promptly executed.
SPRING ROLLER BLIND MAKERS.
WILLIAM ASHDOWN, Manager.

LAMBERT, BROTHERS,
ALPHA TUBE & FITTING WORKS,
WALSALL.
LONDON: THOMAS LAMBERT & SON, LAMBETH.

GALVANIZED IRON AND ZINC WORKS.
GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK
GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.
EVERY DESCRIPTION OF IRON WORK GALVANIZED.
ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.
VAVASSEUR AND CO.
GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.

BOND & SCAMMELL (late Thomas Pugh & Co.)
WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, LONDON, E.C.

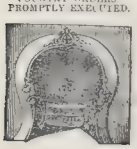


PATENTEES AND PROPRIETORS OF THE
PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
which does not require any screws in the necks of the knobs. Perfect action guaranteed in both Locks and Furniture if the Locks are of our own manufacture.
SOLE AGENTS FOR KIMBERLEY'S FLOOR CRAMPS, AND GREEN & JACKSON'S NEW PATENT MORTISING AND TENONING MACHINES.
A large Stock of Nails, Screws, Locks, Latches, Hinges, Pulleys, Brass Goods Coffin Furniture, Glue, Bond Hoop, Stoves, Ranges, Rainwater Pipes, Gutters, and Connections. Castings of all kinds, Scaffold-rope, Crab Winches, Screw-jacks, Patent Wrought and Cast Iron Windows, Patent Iron Stable Fittings, either plain, galvanized, or enamelled.
All Goods at the lowest Wholesale Prices. Illustrations and particulars sent upon application.



POWIS, JAMES, & CO. BLACKFRIARS ROAD, LONDON,
Awarded a Prize Medal at the International Exhibition, 1862, for Collection of
FIRST-CLASS WOOD-CUTTING MACHINERY,
being the highest commendation attached to any Medal in the same Class,
OFFICE, 26, WATLING STREET, CITY, E.C.
Where all Letters and Applications for Machinery are to be addressed.

COUNTRY ORDERS PROMPTLY EXECUTED.



All kinds of Smiths' Work

J. MOORE,
WHOLESALE IRONMONGER,
122, EUSTON ROAD
(near St. Pancras Church),
Opposite J. W. Bird's Marble and Stone Works.
THE CHEAPEST AND BEST HOUSE IN LONDON FOR
KITCHEN RANGES, STOVES, NAILS, LOCKS, HINGES, BOLTS,
AND
EVERY ARTICLE OF BUILDERS' IRONMONGERY.
Priced Lists on application.

ESTABLISHED 1826.



Bell-hanging, Railings and Balconies.

BUILDINGS AND SHIPS EFFECTUALLY SECURED AGAINST LIGHTNING.

PATENT LIGHTNING CONDUCTORS,
according to the system of Sir Snow Harris, F.R.S. as now universally adopted in every department of the Public Service, supplied and carefully fitted in every detail, under the immediate instructions of Sir Snow Harris, by G. W. GRAY, who has effectually secured a large number of ships, public buildings, and magazines against the destructive agency of lightning, including the Houses of Parliament, magazines, afloat and on shore, of the War Department, and many churches and other important structures. Buildings surveyed, and plans and estimates submitted, if called for.
J. W. GRAY & SON, 114, Fenchurch-street, E.C.

LIGHTNING CONDUCTORS.
R. S. NEWALL & CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples, complete for fixing, at the following prices:
Three-eighths-inch diameter ..... 1s. 0d. per foot.
Half-inch diameter ..... 1s. 6d. "
Five-eighths-inch diameter ..... 2s. 0d. "
R. S. Newall & Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men, in all parts of the world.
Offices—130, Strand, London.
" Gateshead-on-Tyne
" 27, Dale-street, Manchester.
" 68, Anderston-quay, Glasgow.
" 17, South Castle-street, Liverpool.
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.



SPRATT'S PATENT
BATTERY EXCITATION COPPER LIGHTNING CONDUCTORS, giving 3 inches of surface. Only 1s. per foot, complete for fixing. Including beautiful "reproducing" Platinum Silver Magnets for latera. discharge. Also SPRATT'S NEW ARRANGEMENT for SECURING POWDER MAGAZINES from the possibility of being injured by Lightning; Beer in Breweries from spoiling; Milk in Dairies Souring by electric causes. Office, 16 and 21, Middle-row, Holborn. Orders over 100 feet carriage free.—Send for circular.

IRON ROOFING of CORRUGATED IRON,
Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAF, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAF are not fixtures on Leasehold Property

REDMUND'S PATENT HINGE MANUFACTORY and WAREHOUSE, Wellington Foundry, No. 68, Charles-street, City-road, E.C. near the Canal Bridge.
E. GOLLOP, SOLE PROPRIETOR.
A LARGE STOCK of the PATENT HINGES kept ready for delivery, consisting of Floor-springs, Gate hinges, Rising hinges, Rising Spring-hinges, Not-rising Spring-hinges, Double-acting Spring-hinges, Rising and Not-rising Door Back-springs, &c.
Price List and Drawings on application as above.

TO ARCHITECTS, BUILDERS, and the PUBLIC Generally.
THOMAS WILLIAM COWAN begs to call their attention to Mr.'s Patent Self-cleansing DOMESTIC CISTERN and FILTER, which Dr. Letheby, Dr. Daniels Thompson, and most of the medical authorities, declare to be the only perfect water cistern at present in use. The improvement is applicable to old as well as new cisterns, which are made to any size and form, and of any material. T. W. Cowan keeps a large stock in hand, which may be seen at the Works. T. W. Cowan manufactures all kinds of Steam Engines, Boilers, Tanks, Girders, Iron Roofs, Patent Pile Driving Machines, Air Hammers, Hot air Apparatus, Brewing Apparatus, &c. &c.—KENT IRON WORKS, BRIDGE-STREET GREENWICH, S.E.—Illustrated Priced Catalogues, post free, on application.

HAWKINS'S REGISTERED CHAIN.—
This newly invented Article, made in iron, brass, and copper wire, from its peculiar construction, is more applicable to the following uses than any other article yet introduced, viz. for hanging window sashes, hothouse and greenhouse sashes, and heavy shutters; suspending lamps and chandeliers, either with or without balance-weights, fitting up scales, &c., manufacturing into baize lining, dog and pillar chains, &c.; and nearly every other purpose that wire chain is now used for.—Particulars sent free upon application to THOMAS P. HAWKINS, 27, Dale-end, Birmingham.

DAY and GAS-LIGHT REFLECTOR
MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.
These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B. The regular Trade supplied.

SASH WEIGHTS, 5s. per cwt. at Ashton Wharf, Blackwall, and at Hope Wharf, near the Church, Rotherhithe.

RICKETT'S & HAMMOND'S VENTILATING GLOBE LIGHT,
combining an agreeable method of lighting, with convenient, simple, and efficient ventilation.



The advantages obtained are these—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
5, AGAR STREET, STRAND, LONDON, W.C.

BIELEFELD & THOMAS,
PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

JUROR—Class XXVI.
GREAT EXHIBITION,
1851.

JUROR—Class XXX.
INTERNATIONAL EXHIBITION
1862.

PAPIER MACHE AND CARTON PIERRE WORKS,
49, RATHBONE PLACE, W.
GEORGE JACKSON AND SONS
(Established in 1730)

Beg the attention of Architects, Builders, Decorators, and the trade in general, to their large assortment of Enrichments for Ceilings and Cornices, in the Gothic, Elizabethan, Italian, Renaissance, Louis XIV. XV. XVI. and many other styles; also rich or simple Panel Decorations, Elizabethan and Gothic Dados, Door Caps, Mouldings of all sizes, and to their varied selection of Centre Flowers for Ceilings, Gothic Bosses, Trusses, Column and Pilaster Caps, all executed in the highest style of art.

The large and lengthened experience of GEORGE JACKSON and SONS in decorations of Drawing and Dining Rooms, Libraries, &c. for private houses, or public buildings, many of which they have had the honour of executing under Architects of the highest eminence, enables them with confidence to direct notice to that branch of their business.

Upholsterers are invited to inspect the large variety of Glass Frames, Tables, Cornices, Screens, Candelabra, &c. The large extent of their works, and the recent adoption of steam-power and machinery, enable them to offer very superior advantages in materials and speed; while for design, quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS.
PAPIER MACHE AND CARTON PIERRE WORKS, 49, RATHBONE PLACE, LONDON, W.

FIRST-CLASS MEDAL,
EXPOSITION UNIVERSELLE,
1855.

PRIZE MEDAL—Class X. (c)
INTERNATIONAL EXHIBITION
1862.

LITHOGRAPHED DESIGNS OF CEILING FLOWERS, &c. SENT FREE ON APPLICATION.
AGENT IN IRELAND—MR. CHARLES LAURANCE, 21, SOUTH MALL, CORK.

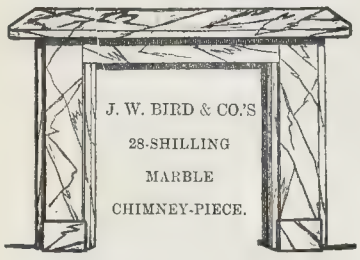
BATH STONE OF THE BEST QUALITY.
PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

BATH STONE OF BEST QUALITY.
RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

MARBLE & STONE CHIMNEY-PIECES FOR THE MILLION.



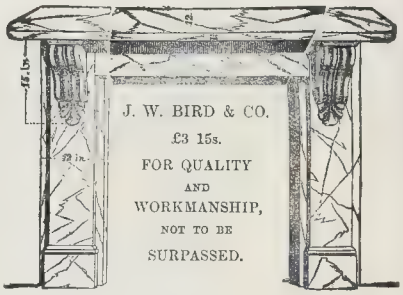
PRICE LIST ON APPLICATION.

A Stock of 500 *always to choose from at*
J. W. BIRD & CO.'S,
THE EMPORIUM,
145 & 143½, EUSTON ROAD,
N.W.

A Marble Box Chimney, with 8 inch piers, as Illustrated, for 28s. and fitted to any opening up to 3 feet square.

STONE DITTO, WITH BEAUTIFUL MOULDED CAPS, FOR SEVEN SHILLINGS.

Monuments and Tablets in great variety, equally low in price.
Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.



MARBLE AND STONE WORKS,
WALTON STREET, BROMPTON, S.W.

G. MITCHELL begs to inform ARCHITECTS, BUILDERS, &c. that he has the LARGEST and BEST-SELECTED STOCK of MARBLE CHIMNEYPIECES in LONDON, of which Books of Drawings and Catalogues can be had on application, post free. Specimens to be seen at the South Kensington Museum, at the International Exhibition, 1862. Class 10 C; and at the Architectural Exhibition, Conduit-street, Regent-street.

ESTIMATES WILL MEET WITH PROMPT ATTENTION.

VIEILLE MONTAGNE ZINC.

THE ITALIAN-FORMED ZINC is much approved of by Architects and Engineers on account of its strength, durability, and appearance. On account of the light framing required, roofs, including framework and fixing, can be covered with it FOR £3 PER SQUARE up to 25 feet span. Sheds of larger span, including posts, 4*l.* per square. Architects are cautioned against allowing anything thinner than No. 13 gauge (20 oz.) to be used. ALL PLATES SHOULD BE REJECTED NOT BEARING, in addition to the Company's name, the words "ROOFING ZINC," and the gauge.

OLD ZINC RETAKEN AT HALF THE MARKET PRICE OF NEW.

For Designs and Estimates for Roofs, with Timber or Iron Framework, IRON CHURCHES COVERED WITH ZINC, and Buildings for the Colonies, apply to
THE COMPANY'S SURVEYOR,
12, MANCHESTER BUILDINGS, WESTMINSTER, S.W.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

ADULTERATIONS.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. Whether sold under the name of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS, 24, LIME-STREET, LONDON

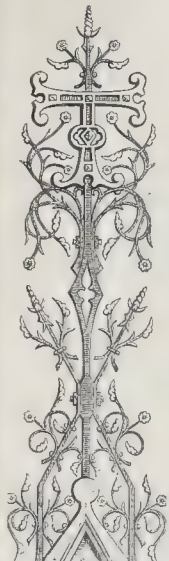
TO SHIPBUILDERS, CONTRACTORS, and OTHERS.—TO BE SOLD by Private Contract, about 140 BALKS of very prime STETTIN OAK, just imported ex "Marie Charlotte," from Stettin.—Apply to CHARLES A. LEWIN, Timber Merchant, Poole, Dorset.

ARTISTS' IMPROVED STUDIO EASEL. Will take Canvasses from 6 inches to upwards of 10 feet high. Powerful winding up movement; steady fall-forward ditto. Very complete, simple, strong, and efficacious.—WINSOR & NEWTON, Manufacturers, 38, Rathbone-place, London.

The Builder.

VOL. XX.—No. 1037.

*Joseph Locke, the Engineer; and Thomas Brassey, the Contractor.**



HERE is little of personal or peculiar interest in the life of Joseph Locke; and it is on this account, we presume, that his biographer has been obliged to fall back upon a little fine writing here and there, pitched in rather too high a tone for the occasion, in order to fill up his volume, and swell it out to something like the goodly dimensions of the popular biographies of the Stephensons, with whom Locke was so much associated, especially in the outset of his career. George Stephenson, his quondam master, with all his faults and shortcomings as an engineer, was a hero of romance as compared with the steady, safe, and cool-headed Locke. Yet Locke was an able engineer; indeed an abler, or at least a better educated, and hence more generally competent, engineer, than his more celebrated master; but he was no original and no great inventor; and hence his biography would not stand a comparison with that of George Stephenson in interest, even were it written by Mr. Smiles himself. Let us see, however, what can be made of it in the way of a readable article.

Joseph Locke was the son of an old "cronie" of George Stephenson himself; a circumstance which eventually led him steadily on to fortune almost from his youth. He was born in Yorkshire in 1805, and was only fifty-five at the time of his death. After a little schooling Joseph, at thirteen, was apprenticed to a coalviewer of the name of Stobart,—a godly man in his way, who never went down into the depths of the pit with Joe without ejaculating "Now God be wi' us, Joe." But Stobart unpardonably offended little Joe's self-importance and dignity by sending him to the post for his business letters. Joe, therefore, ran away home to his mother, which not a little vexed his worthy father, Bill. The pride of Joe, which had thus got so early but so very small a fall, was shortly afterwards highly gratified by his being made a land surveyor; or sent, at least, to a land-surveyor's office, as the raw material (a sterling raw material too), to be licked into that particular shape. To his inconceivable horror, however, he had scarcely settled himself well on his official stool when the land-surveyor's wife sent him into the penetralia of the domicile to "survey" her baby, and to rock its cradle, which would have been a very fitting apprenticeship for Joe had he been destined to earn his abundant gold in California or Australia, but which it would certainly be somewhat difficult to justify as one of the fitting duties of a land-surveyor's office. Joe made short work at the land-surveyor's, and doubtless did not even wait to bid the baby good-bye, for he forthwith ran away home again; and his father, who must have had some grim humour as well as shrewd good sense, sent him off in the next place to cart coals,—Joe's severest of all trials; and he was actually in the habit of falling flat into the bottom of his cart to conceal himself from any one who knew him; and occasionally he paid another boy 3d. to act as his substitute, while he himself played the young gentleman at large.

It was under these painful circumstances that George Stephenson, on calling one day to see his old friend Locke, found Joseph, now nineteen years of age; and after listening, doubtless, in a fatherly way, to Bill's sorrowful tale about his "ne'er-do-weel" son, Geordie simply said, "Send him to me," and he thereupon "made him" both an engineer and a millionaire. It was at Newcastle where Joseph entered on his engineering duties. Here, though Stephenson would allow him no pay at all for three years, and was even afterwards rather niggardly with him, Locke very soon became of great use to Stephenson, and at length an indispensable "assistant." He took charge of the survey of railway lines, in his master's absence; was exceedingly sharp in detecting the errors and shortcomings of all under him, and no less careful in steering clear of any on his own account; and when Stephenson wished to remove him partially from the Liverpool and Manchester line in order to prepare the way of the Manchester and Stockport, the Liverpool and Manchester directors so determinedly objected, that George is actually said to have prompted Locke to resign his position on the Liverpool and Manchester in order that he might carry the point he had in view. Locke did resign, and another of George's "assistants" was appointed in his place, of course under George's engineership-in-chief; and George and his new assistant, it appears, were in consequence nearly making a mess of the Edgehill tunnel; the two ends of which, as it turned out, would have been destined, like two parallel lines, to have never had the pleasure of meeting one another, neither before nor after they had given each other the go by. The directors insisted on calling in Locke to report on the state of affairs; and Locke did so report, and altered the plans; the result of which alteration was that the tunnel was struck through as straight as an arrow. This was indeed a triumph of sterling merit; and it doubtless assisted materially in bringing about the resignation of George Stephenson and the appointment of Joseph Locke as engineer-in-chief, with a rise in salary, almost at one fine leap, from George's paltry "hundred a year" to a cool thousand!

Of George Stephenson's peculiar notions of mastership and merit, Mr. Devey tells rather a racy anecdote. Robert, his son, in companionship with Locke, had carefully and laboriously prepared a pamphlet on the locomotive; and the budding authors were just passing it through the press with all their blushing honours emblazoned on the title-page; when George, to their no little astonishment and discomfiture, struck suddenly in with an imperious demand that both their names should be erased from the title-page, and his alone supplant them. Here was a toucher to poor Joe's pride again: of course he objected, even though it was his master's order. Ultimately, however, he relentingly waived his objection so far as to allow the rather disparaging tail-piece to be appended to their names of,—"Compiled from the Reports of George Stephenson." Now the experiments on which this pamphlet was based were made, it seems, personally by Robert and Joseph, and not by glorious old George at all; although they were carried on at the "terrible Turk's" Newcastle establishment, and doubtless out of the old boy's pocket,—a circumstance which probably afforded him all the self-justification of which he must have felt that he stood in need.

The quarrel between George Stephenson and Locke, though it was not ostensibly or specially based on either the pamphlet affair, the Edgehill tunnel affair, or the engineer-in-chief affair, separately, had doubtless something to do with all together; but the last matter brought it to a crisis. Locke had first of all been re-appointed by the Liverpool directors as joint resident engineer, in discordance with George's despotic arrangements; and Locke had ferreted out certain contract abuses under George's head management, though he was not implicated otherwise than by errors and discrepancies in calculation. The Penkridge viaduct on the Grand Junction line, for example, as tendered for under the original specification, was, no doubt fairly, estimated by the contractor at 26,000*l.*; but when Locke had revised the specification, the very same contractor, Mr. Brassey, tendered for it at 6,000*l.*; at least, so says Mr. Devey; and after all made a considerable profit by the contract.

"The Board," remarks Mr. Devey, "now clearly perceived, what they had long suspected, that Mr. Stephenson's powers, splendid as they were when exercised within their special compass, were unequal to the new part which he was called upon to perform. The systematic organization of a public work, where every part has to be foreseen and described, was alien to the mind which regarded discipline and method as trammels to fetter its free action; and could not be brought home to it late in a life whose early experience had not been tempered by rigorous education. Striking success in one direction makes men even of discreet cultivation impatient of tuition in another. Where this wise cultivation is altogether wanting, contradiction is generally regarded as an injury. The directors.....at the close of the year, appointed George Stephenson and Joseph Locke joint engineers. But they must surely have had misgivings as to the likelihood of the success of their arrangement. It did not succeed at all. In August, 1835, Joseph Locke was appointed engineer-in-chief, and George Stephenson withdrew from the Grand Junction Railway."

It was just such loose specifications and estimates, and the commercial success which flowed in notwithstanding, as Mr Devey suggests, which really ushered in the railway mania.

"Had not men of the highest reputation committed tremendous errors, and were not their lines paying? Had not their expenditure doubled their estimate, and yet, was there not a dividend? Had no railways succeeded but after correct estimates, no railways would have been made but on correct estimates. But when one or two railways had succeeded after most erroneously small estimates, the conclusion came to be formed that no estimates could be too large, or that no estimates were required at all. Hence arose that railway mania, followed by a railway crash, which has been more than once most faithfully described; but which, we venture to think, has never been attributed to its right cause. Had the engineers referred to committed no blunders, or had their blunders been followed by proportionate failure, all would have been right."

Mr. Locke had too sagacious and steady a head to be carried away by the excitement of this mania, and held aloof from its hazardous enterprises; and when the railway interest returned to its senses he reaped his well-earned reward. Other skilled engineers, too, sprang up; and those who, though most gifted and honourable men, had neither the bent nor the supplementary education to enable them to systematize the whole of the railway operations by reducing to a minimum the incidental contingencies, equally with those who were neither honourable nor gifted in anything but assurance, were forced to quit the stage in favour of a class who had fitted themselves for the new order of things. It was then, too, but with something like dignity, that George Stephenson himself quitted it, amid the sympathizing and the loudly expressed approbation of everybody; and

"Who shall be so ungenerous as to blame, if a very pardonable self-love prevented him quite from seeing, or his biographer, if an equally pardonable tenderness prevented him from pointing out, that this retirement was necessary? There can be no question that it was."

The field of honour being thus left clear to Locke, and such as Locke, his celebrity and good fortune made rapid advancement. The "canny" Scot invited to his aid the engineer who kept within his estimates. Then France implored his aid; and forthwith Locke and Mr. Brassey invaded Normandy with a navy of strong and peaceful armies, or an army of strong and turbulent navvies,—which you like; and the wonder of the modern Normans at the sinewy frames and giant energies of the new invaders fully repaid us for the astonishment with which doubtless some of our forefathers witnessed the doings of William the Norman and *his* "invading" (?) army of old.

* The Life of Joseph Locke, C.E., M.P., F.R.S., &c. By Joseph Devey. London. Bentley.

"Only look how these English work!" was the never-ceasing exclamation of the Norman natives who witnessed the exertions of the stalwart sons of Britain. But when they saw what the British giants fed upon, and tested its virtue on themselves, they no longer wondered, but "fell to" themselves, both at beef and beer, and at spade and mattock, while cabbage-soup went forthwith to the pigs.

And here a few words on the great railway contractor will not be out of place; especially as they will involve a portion of the history of Locke himself as well.

Thomas Brassey is the eldest of a large family reared by an extensive Cheshire farmer. He was born at Holford, in that county, and went to school at Chester, where he continued up to the age of fifteen, when he became a pupil of a land-surveyor, Mr. William Lawton, with whom he remained for six years, during which time he was employed chiefly in Wales and at Birkenhead. The improvement of the great coach roads was at that period the chief object of engineering efforts. Mr. Brassey assisted in making the survey for the construction of a considerable extent of turnpike-road, abutting on Telford's great road through North Wales to Bangor and Holyhead. One of the earliest works on which he was engaged as a surveyor is the one which passes along the left bank of the Dovey from Machynlleth to Aberdovy.

"It is difficult," remarks Mr. Devey, "ever to entrap Thomas Brassey into any allusion to his own performances; but he has been heard to say that he attributes his later success in the construction of railways to the pains taken and experience acquired in these first lessons in his art. Nor would he probably have said even this little, had he not been anxious at the time to impress the truth, of which he is so striking a witness, that unless a man will patiently and earnestly toil in early days, when there is no inducement to toil beyond the consciousness of doing what is right, he will not later have the opportunity presented to him of toiling for more substantial recompense."

At the completion of his pupilage, at the age of twenty-one, he entered into partnership with Mr. Lawton, and went to reside at Birkenhead. He at once engaged in road-making; the first work of the kind in which he employed labour to any great extent being a high road from Brownborough to Tranmere, in his native county of Cheshire. In its execution he discovered his own powers and the bent of his genius. These were soon to find a fitting field for their display. The Grand Junction was just being commenced. Mr. Locke was residing at Liverpool; Mr. Brassey at Birkenhead, about a mile from the river. Their first meeting was on the occasion of Mr. Locke invading his house at the unceremonious hour of eight in the morning. It was on the subject of contracts that Mr. Locke had called. Thomas Brassey had sent in his very first tender: it was for the Penkridge contract. Mr. Locke had revised the estimates of the Birmingham engineers, and Mr. Brassey accordingly revised his tender. The result we have already indicated. From the Grand Junction he followed Mr. Locke to the South-Western. Of the main line of this railway, including the whole of the Gosport branch, Mr. Brassey constructed 118 miles. The average number of men he employed upon it was 1,500, and the money he received from the company was 4,300,000*l*. But other works, quite as large as these were, did not exhaust his attention. Whilst the line was in progress he accompanied Mr. Locke to Scotland, and contracted for the works of the Glasgow and Greenock line. He also undertook, at the same period, a portion of the Sheffield and Manchester, and Chester and Crewe railways.

In the spring of 1842, Mr. Brassey took up his residence in Normandy, to superintend the construction of the Paris and Rouen line, which he had surveyed under Mr Locke in 1840, and for which he had contracted. On this occasion, as we have already remarked, he brought over troops of English labourers, on whose arm alone he relied for the fulfilment of his engagements. They dispersed themselves over Normandy; and formed, by their brawling ways, a singular contrast to the primitive manners of the native population. To the Paris and Rouen succeeded the Rouen and Havre, the Rouen and Dieppe, the Tours and Orleans, and the Orleans and Bordeaux, with a portion of the Boulogne and Amiens. Whilst the works connected with these lines were in progress, his works upon the English railroads were likewise carried forward with unabated vigour: his time and attention had, therefore, to be simultaneously given to colossal undertakings upon both sides of the Channel. On these occasions it has been computed that Mr. Brassey could not have had less than 45,000 workmen under his direction at one and the same time! The organization of supervisors, inspectors, and sub-inspectors, by which this industrial kingdom was regulated, made the labour of the vast community proceed as methodically as the machinery of a clock. "Thomas Brassey became, in fact, a European power. He ruled over a little kingdom; but, unlike other subjects, his were kept by him, not taxed." They attended him to France, to Belgium, to Italy, to Spain, and more money passed through his hands in a twelvemonth than through the united treasuries of half a dozen German principalities.

"The liberality and profuse urbanity of the man," says Mr. Devey, "have bound indissolubly to him all with whom he has ever been brought into contact. ..... There is not a leading hotel in any leading town in continental Europe where letters are not lying for him. To-day he is in Genoa: before the week is out he will be at Madrid. Seek him there, he has gone off to Russia. He knows no rest. The two Stephensons, Mr. Brunel, Mr. Locke, Mr. Errington—all have departed; and these gave themselves something like repose towards the close of their career. They were, all but one, Mr. Brassey's contemporaries. He alone remains, and is in harness still. Parliament has never tempted him—though a dozen constituencies have sought to do so—to desist from his marvellous labours."

One of Locke's greatest undertakings in this country was the South Western Railway. The original engineer was Mr. Giles. Various difficulties having led to his resignation, Locke was appointed engineer-in-chief; and, immediately after his appointment, the shares rose greatly in value. It was in the construction of this line that Locke's particular views in opposition to Stephenson with respect to railway engineering were disclosed. Locke greatly disliked tunnels, although he had helped his old master to "make things straight" at Edgehill; and he removed 16,000,000 cubic yards of earth on the South-Western line, in order to avoid making them. Stephenson, on the contrary, was rather in favour of tunnels, spite of his Edgehill experience; and avowed, in an examination before Parliament, that he saw no objection to a tunnel twenty miles in length. In truth, Locke's talent was apparent rather in his avoidance of a difficult country than in running a line boldly through it; but the works on the Manchester and Sheffield Railway, which intersect a very hilly country, testify that he had the ability to surmount difficulties of a high order when escape from them was impossible.

Locke was made a Fellow of the Royal Society and a President of the Institution of Civil Engineers by his compeers in this country, a Chevalier by Louis Philippe, and an officer of the Legion of Honour by Louis Napoleon. He enjoyed the *otium cum dignitate* to which his long labours and his well-earned fortune fully entitled him, at Honiton, the manor of which he purchased; and eventually he represented the town itself in Parliament for thirteen years, and till his death on 17th September, 1860, at Moffat, in Scotland.

In summing up his personal character, his biographer says:—

"In private life, and in the management of his own personal affairs, he acted in precisely the same manner as in public and in the control of national undertakings. He gave away hundreds yearly in charity. He never gave away a shilling without inquiry. If appealed to by a benevolent institution, he inquired if it published every year a properly audited account. If it did, there was a cheque: if it did not, there was an end of the matter. He would give three, five, even ten thousand pounds, with good reason shown, and then sit down to write and inquire who it was that forwarded him his letters in a fresh envelope, and so, by increasing their weight, made necessary the use of another postage-stamp. He would examine every single item of his hotel bill to the last centime; and having, perhaps, knocked off a couple of francs, would give a couple of Napoleons to the domestics. Once, when he was coming over from France, the custom-house officers on this side wanted to make him pay on a pair of boots which he maintained ought to pass unchallenged. They were obstinate: so was he. He would not pay the money: they retained the boots. On arriving in London, he wrote to the local chief. The chief answered that he, too, considered the boots chargeable. Mr. Locke memorialized the Board of Customs. The Board decided in his favour, and he got his boots. He had given himself an infinity of trouble; but he had gained a point which he thought it his duty not to concede. It is well for hundreds of thousands of railway shareholders that he ever acted on their behalf, when millions were at stake, on precisely the same principle which governed his behaviour in this trifling dispute."

Mr. Locke left a widow, but no heir of his own body, although he enjoyed for many years a serene and happy married life; having entered on the matrimonial state in 1835, when he was appointed engineer-in-chief at Liverpool, with a salary of a thousand a-year.

There are some errors in this as in other biographies of our eminent engineers; but on the whole Mr. Devey's volume is an impartial and well-written one. He is unduly severe, however, on the Government, we think, for refusing leave to erect in the gardens of St. Margaret's, Westminster, a statue of Locke by Marochetti, which will more fittingly adorn the Locke Park at Barnsley. A window will shortly be erected to his memory in Westminster Abbey.

TRAINING GROUNDS IN MANCHESTER.

The great general market, called Smithfield, is one of the curiosities of Manchester. It is an area of immense extent, covered with a roof of iron and glass, and is divided by metal columns into four wide avenues. The space is allotted into parcels of about four yards square, with narrow passages round each. There are, however, wider roadways where necessary. On some of the divisions, shops and stalls are placed; and here every article which can be thought of seems to be offered for sale. There are eggs, large quantities of which are brought here from Ireland; there are many kinds of herrings and other descriptions of salt-fish, which seem to come from the same part; hats, caps, laces, ribbons, shawls, linen and woollen drapery; new and second-hand clothes for both sexes and to suit all ages, tin-plate work, hardware, crockery, glass, baskets, fruit, vegetables, dried herbs, confectionary, and a hundred other matters which we forbear to mention. The shops of some of the clothes-dealers are peculiar in their construction, and consist of a strong wooden partition which runs nearly round the square: this, although inconvenient in some respects, affords a quantity of wall space for the display of goods.

In part of each square is a sign, showing the dealer's name and business; and although it might not, after taking a brief glance, be thought so, wholesale trades, which extend over a wide district, are carried on here. There is nothing in the architectural features of this place of business to recommend it; but the vast space, the multitude of dealers, and the bustle, make a curious and impressive picture.

Close at hand are well-arranged "closets," some especially for men and others for women, to which admission is to be had on payment of 1d. and ½d. A similar plan might be usefully followed in connexion with other public markets.

Near the general market there is a covered market for the sale of butcher's meat, which is well lighted and well ventilated. This place contrasts favourably with the London dead-meat markets of Newgate and Leadenhall. The fish-market in Victoria-street is neatly kept; but, with some exceptions, the fish seemed dear, and not of the best quality. Near this is the market for fruit, &c.

It is a pleasing phase of Manchester life that numbers of men in good positions,—men of intelligence, who are busily engaged in various and important business,—consider it a duty to devote a large part of their time to the management of public affairs,—the active superintendence of schools and other educational establishments, and of the charitable and other institutions which abound in this town; and it is in a chief measure owing to this that most of these places are managed upon broad and liberal principles, and advance the intelligence of a large number of the youths of Manchester. Amongst these may be singled out the Mechanics' Institute, which was founded, about thirty-eight years ago, on a much smaller scale than at present. The scheme has, however, prospered, and the new building is of

great extent, and contains a large library, reading-rooms, lecture-rooms, school and class rooms.

Founded as this institute was for the purpose of instructing the working classes in the principles of the arts they practise, and in other branches of useful knowledge, to promote social and friendly intercourse, to give impulse and direction to popular education, and generally to afford facilities for moral and intellectual self-improvement,—it is satisfactory to note its success, and to find that, notwithstanding the opening of the free library, the prosperity of the Mechanics' Institute has not been materially affected.

The amount of subscription is—to males, 1*l.* per annum; and to females, 12*s.* This may be paid quarterly; and members paying annually 21*s.* in one sum, may nominate a youth under eighteen years of age to the privileges of the institute, at the rate of 10*s.* per annum. These payments admit not only to the library, but also to the classes and lectures. Associated with the library there is an excellent commercial and scientific day-school for boys, which is most ably managed by Mr. John Angell, who is assisted by three masters and several professors. In attendance in the boys' class in 1861 there were 217 scholars for general English education. There are, besides, classes for music; landscape, figure, mechanical, and architectural drawing; dancing; the Latin, French, and German languages; and drilling. There are also in the institute, classes for chemistry and physiology; and, as an instance of the effective working of this school, it is worthy of mention that, in May last, Mr. Angell, under somewhat unfavourable circumstances, expressed himself willing to submit the school to the Government examination; and the following was the satisfactory result:—In animal physiology, 50 pupils presented themselves as candidates for examination, of whom no less than 36 passed, 25 of them gaining Queen's prizes. Several of the successful pupils were youths under twelve years of age. In chemistry 30 candidates were examined, of whom 19 passed, and three Queen's prizes were gained. A short time ago, Mr. J. A. Turner, one of the members for Manchester, obtained a nomination to a clerkship in her Majesty's Customs, intended to be presented to some deserving youth connected with the institute. The choice of the directors fell on Henry Ratcliff, aged 17, who had been a pupil in the boys' day classes. He passed, with great credit and success, a competitive examination; and is now in the enjoyment of the situation. Such encouragement as this is valuable. Some of the scholars have also passed with credit the Society of Arts examination.

The day classes for ladies, under the care of Miss Passman, are well attended. In the classes for general instruction there were 242 pupils. The class for the French language had 28 pupils; the pianoforte, 52; singing, 12; dancing, 112; drawing, 24; wax modelling, 4; millinery and dress-making, 15; drilling, 69.

There are also here free evening classes; and we have met with few more pleasant scenes than are presented in those class-rooms, of numbers of young men assembled together after the hours of labour for the purpose of acquiring that knowledge which will be useful to them in the future of their lives. In the classes for writing there were 308 scholars; elementary arithmetic, 283; advanced arithmetic, 76; elementary grammar, 151; advanced grammar, 24; book-keeping, 70; geography, 106; composition, 252; reading, 166. These classes are under the care of Mr. W. Linnell.

In connexion with the extra evening classes which are held here, it is satisfactory to notice that 137 pupils have attended the class for mechanical and architectural drawing, and thirty the class for general drawing. From the library, during the year, 35,645 books have been distributed. For the purpose of slight recreation there is a chess-room and a coffee-room, which are comfortably and neatly fitted up; and the necessity for the formation of a gymnasium having been strongly urged upon the directors, it was discovered, by the removal of the wooden floor of one of the class-rooms in the basement story, that the necessary height might be obtained, and that the hard clay, lying at about 2 feet below the floor, would, when beaten down and covered with bark, form the best possible arena for gymnastic operations. The room was properly fitted up, and soon eighty members subscribed a fee of 5*s.* per annum, for the purpose of defraying the expenses. At the time of an evening visit, we found the young men practising different gymnastic exercises, and others were busy with the boxing-gloves, small swords, dumb-bells, and so forth.

We have gone more than usual into detail respecting the arrangements of this institute (and more might be usefully said), for we have not met in the metropolis with any educational establishment which is so comprehensive in its arrangements, and which, for a small amount of payment, convenient to the working classes, is effecting such a large amount of good. As regards the ventilation of this building we cannot speak in such favourable terms; there are, no doubt, great difficulties in the sanitary arrangement of a structure like this. In the first instance, the site may be inconvenient in extent and proportion; and there is also the cost of fuel for heating, during the cold months, to be taken into consideration. Besides, for the purposes of the classes, schools, lectures, &c., many apartments are needed under the same roof; and, from the basement to the great height of the upper chambers, there is the necessity of procuring warmth, and also the amount of atmospheric air which is so necessary for the preservation of human life and health.

The ventilation of the Manchester Mechanics' Institute is artificial: down below, in passages, which are inconvenient for the progress of men of the ordinary size, and which are loaded with soot, the atmospheric air is admitted in the usual way; and, by means of furnace and hot-water apparatus, it is intended that sufficient heat should be sent to all parts of the building, and that into a huge shaft which passes from the top to the bottom of the structure, by openings in the several rooms, the whole of the poisonous gases which are emitted by the inmates should be carried away. In theory this plan may appear good, but in practice, so far as our experience shows, it has never been attended with healthy results.

A visitor to Manchester, when the air is clear, should ascend to the top of the Cathedral, the Theatre, or some other lofty building, and look around at the vast extent of this centre of British industry. The numerous rows of streets; the multitude of tall chimneys, many of them, unfortunately, now out of use; the enormous blocks of mills, manufactories, and warehouses; the lines of railway converging to different directions; have an impressive appearance; and, far beyond the suburbs of Manchester, are more chimneys and neighbourhoods which, when trade revives, will grow in extent of population and importance. Besides its interest in a picturesque point, this view also enables us to judge better than it can be done below of the close packing of the houses, in the central part of the town. When looking at this scene, noticing the few open spaces which are to be seen, and considering the certainty of Manchester increasing rapidly and largely in size and population, the value of those breathing-places is evident, and suggests that every care should be taken to preserve the open parts which remain; for, besides the sanitary value of such spots, they might with advantage be used as places of recreation by the dwellers in the pent-up situations to which we have already directed attention.

In Manchester, notwithstanding the suburban extensions, the population is far too dense in proportion to the space. This has effect upon the death-rate; and it shows the great necessity for the use of stringent sanitary measures.

In 1851 (we have not the figures of the last census at hand), in London, over 78,099 acres, there was a population of 2,362,236. This allows 30·28 persons per acre. In Liverpool, over 2,220 acres, there were 258,236 persons, or 116·21 per acre; but in Manchester township, which consists of 1,480 acres, there was a population of 186,986, which gives 126·35 persons to each acre.

The sudden and vast growth of several of our large towns creates feelings of astonishment. When Pepys visited Bristol in the year 1668, and described the extent of the town as such that he could actually look round and see nothing but houses, this description no doubt caused wonder and admiration. In size and importance, Bristol then stood second to London alone. Its population appeared enormous. It contained 29,000 inhabitants. At the same time the population of Leeds was about 7,000; and Sheffield, Birmingham, and Liverpool, about 6,000. Now three of these towns have outstripped Bristol in the extent of their population; yet Bristol, so far from having decreased, has more than quadrupled the number of its inhabitants

If we take the figures above given, connected with the density of the population of London, Liverpool, and Manchester, and compare the deaths with the crowding, a connexion will be found; but it is certain that even in the midst of the most dense population, the introduction of proper drainage, the right construction and proper ventilation of houses, a good water supply and habits of order and cleanliness amongst the people, are means of saving life; and none who think carefully on this subject, and who have had an opportunity of seeing the nature of the closet and dust arrangements in the crowded parts of Manchester, can fail to wish for an alteration in this most unwholesome plan.

"MATERIALS FOR THE LIFE OF L. F. ROUBILIAC."

Mr. Cunningham's memoranda under this head have no doubt interested your many readers: they have a peculiar value for the few lineal descendants of the great sculptor, among whom I have the honour to be one.

I have to trouble you with one or two observations relative to the marriage of Roubiliac. He was twice married; and by the first marriage, to Miss Héliot, he had a son, of whose subsequent history none of us now know anything. Notwithstanding the excellent authority quoted for the marriage with Miss Crosby, I have every reason to believe that this must be a mistake, as Roubiliac is not known or believed to have been three times married; and the maiden name of the lady who was Madame Roubiliac at the time of his death had been Nicole Céleste Reignier (the modernised from the ancient Réné), who belonged to an old French family of Protestant refugees. She was left with one only daughter (my grandmother), a little girl of three or four, in not very easy circumstances (a good reason for disbelieving in the "ten thousand pounds"), and supported herself and educated her child by teaching drawing and dealing in foreign engravings; and my grandmother used often to say that Madame Roubiliac had given to Josiah Wedgwood the first book of engravings of classical vases which he ever employed to furnish suggestions for his designs. This would be an interesting memorial if it could be found.

It may be worth while to add, that Roubiliac's death was occasioned by no illness,—he had never known a day's illness in his life,—but by being unskilfully bled, as was at that time customary for persons in perfect health.

Various members of our not very large family possess a few relics of the sculptor, such as a very good portrait of himself and one of Madame Roubiliac, and a portrait-bust by his own hand. The original design for the Argyll monument is at present in my own custody, and is accompanied by a memorandum, in a beautiful handwriting, which is interesting as authenticating the way in which Roubiliac spelled his name, a point on which a question has been raised elsewhere. It runs thus:—

"25th May, 1755.

This case contains the Drawing design'd for the late Duke of Argyll & Greenwich's monument, & is referr'd to in the articles signed by her Grace the Dutchess of Argyll & me this day.

Louis Francois Roubiliac.

Witness,
William Smith,
William Bates."

A few anecdotes and traditions have also come down to us, among which one corroborates the statement of Mr. Cunningham, that Roubiliac painted in oil. He and Hogarth once, for a wager, executed two works, each taking up the other's specialty; Hogarth producing a model, and Roubiliac a picture. The upshot I do not know.

His desire for his works to be as perfect as he could make them was very great; and to such an extent did he carry it, that if an unfortunate vein or flaw was discovered in a block of marble at any part where it would be of importance, he always abandoned the block, however costly and however far advanced; preferring a heavy pecuniary loss and the sacrifice of valuable time, to a blemish in his finished work.

Some search is being now made to find the entry of Roubiliac's second marriage in the registers likely to contain it. Should anything be discovered, a memorandum of it shall be forwarded to you.

T. Roger Smith.

Opening of a new Dock at Liverpool.—The new dock constructed near the North End timber-yards by the Mersey Dock Board has been opened with some degree of ceremony. The dock will be under the management of the Bridgewater Trust. It is 800 feet long by 100 feet broad, and opens from the new half-tide Canada Dock Basin. It has quays of 90 feet in width. At the east end there are in course of erection shed warehouses, for the reception of general goods; and round the dock there are fifteen cranes for the loading of timber.

ON THE CONSTRUCTION OF LABOURERS' COTTAGES, AND CERTAIN SANITARY BUILDING APPLIANCES.*

The subject to which I wish to direct your attention this evening is, in an architectural and artistic view, a very humble one; but, in a philanthropic sense, one of unsurpassed importance.

During my practice, whenever my attention has been called to any defects in our existing mode of building, I have sought and often found remedies: these have become the subject of some ten patents. My object has certainly not been to become an inventor; but they have, as it were, fallen to my lot; and, besides inventing them, I have been enabled practically to carry them out and introduce them into numerous buildings of every description; and I may safely say that they have all been recognised as improvements, and paid for by my clients as such, though of course up to this time they have not been applicable to the labourer's cottage.

We are all, no doubt, well aware of the efforts that have been made to improve the condition of the labourer by improving his dwelling; and great has been the benefit obtained; but I think our over anxiety to provide him with a habitation that should come up to our own views and acquirements, rather than to what his wishes, habits, and inclination aspire to, have retarded much of that wide-spread benefit which might otherwise have been expected. For my own part, I would rather give the labouring multitude something better than they now have, than endeavour to make a few model labourers and labourers' homes.

Our experience, I think, has already taught us that, to build proper abodes for the working classes, will not return a remunerative per-centage; but we may, I think, with a reasonable prospect of success, endeavour to give the labourer something better than he has; and so gradually prepare him for the more perfect abode which we all hope in future time he may obtain.

I think a very grave error is made when a single penny is expended in architectural effect. Finishings and decorations, whereby the dwelling is reduced in size and the proper accommodation decreased, so that turn-up bedsteads are found in sitting-rooms, and other such like expedients resorted to, even when such embellishments are carried out with every regard to economy, tend to increase the difficulty of producing a plain, humble, healthy cottage at a reasonable expense; and hence the inducement to resort to many of the cheap shams and building contrivances of the present day. We are so apt for ourselves to require architectural effect, genteel appearance, and decorations, within a limited rental, that it is becoming apparent that no honest builder can get a sufficiently remunerative rent. It is only the so-called "duffing builder" that knows how to set about this. It cannot be wondered at that, in the endeavour to build the labourer's cottage, resort is so often had to what is understood by "cheap building," although the after experience in repairs discourages those who have been misled, so that injury results where benefit was expected.

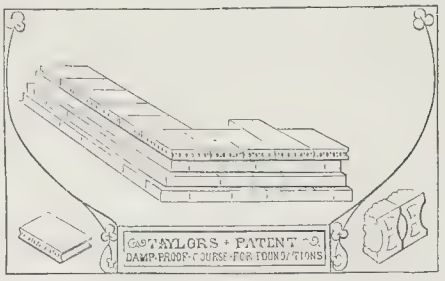
I will now explain the manner of constructing damp-resisting foundations, ventilated floors or paving, dry walls, and a tight, warm roof.

The question that must arise in your mind is, that, granted all these are improvements, how are they applicable to a labourer's cottage? My answer is, that a mode of effecting this has recently occurred to me; and, although it has become a subject of recent patents, I now declare that any one who wishes to be supplied by me with such materials for the purpose only of constructing dwellings for the labouring poor, shall have them free from all royalties or patent charges whatever; so that a larger, healthier, and cheaper cottage may be built at a less cost than has before been done.

I will, however, first direct your attention to the plan of a double cottage, which contains on the ground-floor a living-room or kitchen, 12 feet by 12 feet; a washhouse or scullery, 11 feet 6 inches by 9 feet; a larder, 5 feet by 3 feet 6 inches; a store, 3 feet 6 inches by 3 feet 7 inches; and a large closet to the living-room. In the washhouse are a good oven, grate, copper, sink, and dresser; and in the living-room a range with oven and boiler. There is a back-door out of the scullery, and a door of communication between scullery and kitchen. The entrance-door is in front, where there is a small lobby to the living-room and staircase. This lobby has also a pent externally for shelter. Upon the floor above is a bedroom for the parents, one for girls, another for boys: out of the parents' room is a linen-closet and cupboard. The whole is comprised within four walls, without breaks, presenting the least surface to the external atmosphere, a great object in this climate. All the flues are collected into one central shaft: the roof is a simple lean-to, from party wall to side wall. There are, therefore, no gutters, valleys, or other intricacies of roof, and all the water falls into one length or eaves-guttering, down one down-pipe, into a rain-water butt. No doubt, some portions of this plan have often been seen, but its simplification and adaptation to my peculiar mode of construction are what I claim your attention to. It would have been easy, and certainly very tempting, to have added breaks and gables, &c.; and so to have produced a more picturesque effect. The difficulty has been to avoid this, and to economize cost in every way.

I will now proceed to explain the several peculiarities of construction; and, firstly, as to the foundations.

No doubt you have often observed and felt the ill effects of damp rising up the walls by capillary attraction, the most fruitful source of an unhealthy dwelling. Stagnant and impure matters in the soil are sucked many feet up the walls, and become evaporated into the rooms; the higher the temperature the quicker the evaporation, and the renewal of the noxious supply. I recollect that when the Victoria Church, in the Isle of Dogs (the church so celebrated as connected with "Londoners over the Border"), was about to be built, I was asked to visit the spot. I found the soil a deep bog: the cottages of the poor in the neighbourhood showed fearfully the effects of damp, rising up the walls some 6 or 7 feet in height. The wretched inhabitants, as is too frequently the case, excluded as much air as possible, and so kept up the temperature that the evaporation filled the rooms with foul vapour, and the result was ague and fever; and I think you would discredit me if I stated the quantity of "pitch pills" consumed as a cheap, and, therefore the only available, specific. The frost, acting upon the damp walls, destroyed the mortar and injured the bricks, and the ruin of the building was evident. In the church alluded to, my patent damp proof course (fig. 1) was introduced, and the damp so effectually cut off, that an observer, looking through any part of the walls at a height of a foot above the ground, could see the traffic on the other side. The usual means employed hitherto to prevent this were either a layer of asphalte, sheet lead, or slates in cement; and recently, in attempts at *cheap* cottage building, we hear of a layer of "gas-tar and sand," a layer of "gas-tar and powdered slate," a layer of "boiling pitch," a course of "calico immersed in tar and pitch." I think we may next expect to hear of a "Holloway's Damp-Resisting Ointment."



In the construction of foundations, three essentials have been hitherto partially effected by as many separate means:—

1st. Damp prevented rising up the walls by the means before named.

2nd. The introduction of air by air-bricks at intervals.

3rd. Strengthening and bonding by the use of rough York stone, &c.

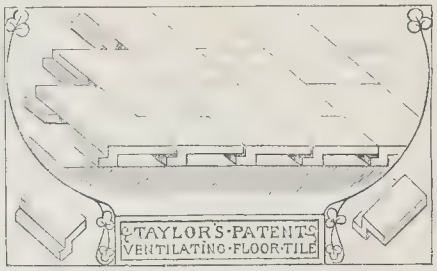
In my damp-proof course these effects are combined:—

Damp rising is completely prevented by a highly vitrified and non-absorbent material, having an air space through the joints.

Air is supplied through the perforations, securing a circulation beneath the surface of the walls.

Strengthening and bonding are effected by the use of an imperishable material, capable of sustaining 600 feet of vertical brickwork upon each superficial foot. These three requirements are economically combined in one article, with a saving of one course of brickwork in the height of the building.

The advantages to health and comfort that a properly-constructed wooden floor possesses over stone, brick, tile, or other paving, are well known: the latter, we find, laid upon the hearth, or some other medium in connexion with it; and damp rising is again the cause of cold and discomfort; and if the surface of the ground beneath any single tile becomes soft or defective, that tile sinks, the surface becomes uneven, and the paving is quickly dilapidated. My patent ventilating



paving tile (fig. 2) for floors or pavement is made with an under projecting rib or flange, which, when laid, forms the bearer of the tile, and extends beyond the edge, receiving upon it the other edge of a similar tile, so that the rib not only acts as the bearer of the tile of which it forms a part, but it also forms the bearer of one edge of the next tile, leaving a space under the tile for the free circulation of air, which is there introduced through the damp proof course before described; and, that the air may circulate transversely, as well as longitudinally, in the spaces under the tiles, openings are left in the ribs for the air to pass laterally through from the space under one row of tiles into the space under the next row. In beginning to lay down a pavement, a row of tiles is used, having an additional under rib: the air thus circulates freely under every part of the pavement, insuring its perfect dryness; and it becomes, in all respects, a suitable floor for a cottage, at a far less expense than any description of wooden floor; and, when we consider that there is no necessity for floor-joists and sleeper-walls, the saving is very considerable.

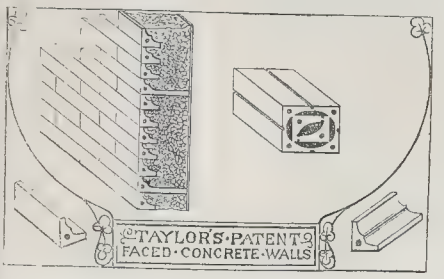
We now come to the bulk of the building, viz. the walls. Ordinary brickwork, one brick thick, I consider totally unfitted for the abode of any human being. The single brick readily absorbs rain and moisture, and the through mortar joint quickly conveys it from the exterior to the interior. Horizontal bond is studied and insisted upon by all careful builders; but, strange to say, vertical bond is never thought of; hence we see the one-brick wall, perhaps strong enough to bear the intended weight, but not stiff enough to stand even during its erection. Thicker walls are too expensive for a labourer's cottage. In seeking for a substitute, where economy is to be considered, the bulk of the material must be found upon the spot or in the locality; and nothing is more generally to be found than the necessary materials for concrete.

We all know that concrete is ordinarily composed of gravel and lime, and is in its proper place when in a trench of a foundation. Being retained therein, and prevented spreading, it will sustain any weight we like to place upon it; but when used in building walls, it is not so retained, and is incapable of enduring cross strains, when the boards, which are, in fact, the moulds in which the cast has been made, are removed. The construc-

* Read at the Society of Arts, on the 10th inst., by Mr. John Taylor, jun.; Mr. Thomas Winkworth in the chair.

tion mainly depends upon the adhesive quality of the lime or cement; and when it is no longer retained, cross strain and other causes produce cracks and settlement, and the action of the weather upon the surface soon produces premature decay.

To understand how my patent cottage walls are constructed, observe the diagram on the right



hand in fig. 3, representing a hollow block which certainly at first appears what no one can understand. It is made by pressing clay through a die. The dark portions represent hollow spaces through which the heat readily acts throughout the block where desired, during the process of burning in the kiln; and, when standing on end it occupies the least possible kiln room. It has been partially separated by knives in the die, but holds together firmly enough during burning in the kiln and carriage to the intended building. Just before use, the bricklayer or labourer readily separates it into six bricks specially adapted for the reception of concrete.

It will be readily seen that, in all the several processes of manufacture, six bricks have been produced instead of one. These blocks, or bricks, when used, are laid by the bricklayer on each side of the intended wall, distant from each other the thickness of it, as shown at the left hand of fig. 3. The labourer then lays concrete in the trench thus formed: the vertical pressure upon the flanges counteracts the outward thrust; and thus the concrete is retained as in a trench, the mould wherein the cast was made remaining to protect the wall from damp, and to prevent the decay of the external surfaces of the concrete by the weather.

Thus each course is thoroughly constructive, and even first-class houses may be thus built to any reasonable height. In a cottage wall, 9 inches of thickness is sufficient, requiring only one course of blocks externally, with the bonding blocks at intervals, and the use of a moveable board on the inner face during its construction. After this a little rendering inside with lime, or Scott's cement, which is better, finishes the inner face.

It is calculated that a rod of ordinary brickwork requires 4,352 bricks, which (at, say 32s. per 1,000), costs 7*l*. One rod of the patent walling requires 1,450 of my bricks, which (at 25s. per 1,000), for labourers' cottages, only costs 1*l*. 16s. 3d.: add to this the cubical contents of the concrete, 9¾ yards, at 16s. 8d. (calculating gravel at 2s. per yard, and lime at 10s.), 1*l*. 12s. 8d. together; 3*l*. 8s. 11d. the rod of 14-inch work, as against 7*l*. the rod of brickwork.

Now, as to the weight; the 4,352 bricks weigh 9 tons 14 cwt.; the 1,450 of my bricks weigh 1 ton 9 cwt. We thus see that these blocks can be sent in a railway truck or otherwise long distances, where we could never hope to send bricks. When my blocks for facing ordinary brickwork are used, they cause continuous hollow air spaces to be left within the wall, and a great saving in bricks results. Vertical bond is obtained, and the yielding mortar joints are strengthened; and I have found that the walls of a house thus constructed become so quickly dry, that they may be papered almost immediately.

We now come to the crowning matter of my subject, viz. the roof.

Slate is generally applicable for roofing, as it admits of being laid to a flat pitch, and is light, but is so absorbent of heat that rooms in the roof become unbearable.

Plain tiling has not this objection, but must be laid to a steeper pitch, is much heavier, being nearly of double the thickness, and requiring greater strength of timber.

Pantiling is lighter, but so pervious to weather, as to be only suitable for sheds and similar buildings.

My patent tiles may be laid to as flat a pitch as slates: their weight is 656 lb. per square. Plain tiling is 1,624 lb. per square. Thus it appears that it is less than half the weight of ordinary tiling, pleasing in appearance, and combines all the advantages of slates and tiling without the drawbacks attending them. The price is 4*l*. 10s. per thousand, being enough to cover a square for sixteen shillings.

I make a tile wider at one end than at the other, and having flanges raised at two sides, the narrow end becomes the lower end of the lower or trough tile fitting into the wider end. The same tile reversed becomes the upper or capping tile. The two notches in the flanges enable each tile to take an even bearing upon the tile beneath, and allow all the ends of the tiles to range horizontally. The nib upon the upper part of the tile gives the necessary gauge, and firmly secures the tiles the one to the other.

The ridges are formed of a ∧ shape, having all their joints lidded or capped. These ridges are applicable for any ordinary slated roof, and all screw-holes and their defects are avoided.

Having now set before you such particulars as time will permit, I will only just briefly conclude by stating that all the patent materials necessary for the erection of the pair of cottages will be as follows:—

The damp-roof course....	
The ventilating paving	£40 0 0
The wall blocks.....	
The roofing tiles	

I think we may now, therefore, reasonably expect that the remaining works may be done for such a cost as that a larger, healthier, and cheaper cottage may be available for the labourer than hitherto.

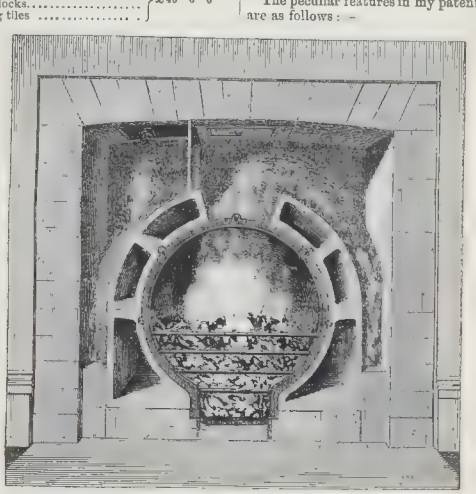
Having directed our time and attention thus far to the labourer's interest, let us look a little to our own, and at this season what is more constantly forced upon our attention than the discomforts that appear to be almost inseparable from our own firesides? We all know what is considered the next evil to a scolding wife.

Smoke, undeprived of its carbon or soot (which is fuel), contaminates the atmosphere, disfigures and decays our buildings, and an incalculable amount of annoyance arises from smoke and smoky chimneys. Mechanical contrivances to effect the combustion of smoke are ineffective when left, as they must often be, to the care of our ordinary domestic servants. There is an annual loss in London alone of seventy-five per cent. of heat (an acknowledged fact), which escapes up the chimney without adding to the warmth of the apartment. The calculation of this does not afford us any consolation in our discomfort.

The air necessary to support combustion makes its way to the fire from door or window, chink, or crevice, and visits our backs with hurtful draughts in proportion to the warmth we are receiving in front.

A frequent cause of the chimney smoking is that it becomes filled with the air from the apartment, which, rushing in above the fire, lowers the temperature, and renders the flue incapable of acting as a sufficiently rarefied ventilating shaft, and often incapable of even conveying away the smoke at all.

The peculiar features in my patent grates (fig. 4) are as follows:—



Smoke-consuming and Ventilating Grate, with Front removed, showing the Action.

When the register is closed, the smoke, having ascended from the fuel, and become mixed with atmospheric air, descends, and passes through the hottest part of the fire, where the carbon or soot in the smoke is consumed as fuel.

The heat, which would have rushed up the chimney, calculated at 75 per cent., passes down and around the hollow fire lumps of which the grate is formed; and the external air, with which these communicate, enters the apartment in a large body, moderately warmed, not heated.

The apartment is supplied with moderately warmed instead of cold air, from door or window; and thus thorough ventilation is effected.

The cold air cannot rush up the chimney: the flue is, therefore, rendered a powerful extracting shaft for ventilation, and a highly rarefied, and, consequently, effectual passage for the products of combustion, thus obviating another fruitful source of smoky chimneys.

Should the warmth be too great, the register can be opened, and the action of an ordinary grate will take place.

In addition to these advantages, the fire is under perfect control, and may at all times be brought to any degree of brightness.

Its combustion of fuel is so perfect, that what remains in the ash-drawer, after the day's consumption, if proper attention has been paid, might be taken away in the palm of the hand. The occupation of the sweep will be nearly dispensed with.

A discussion ensued, of which we will give a report in our next.

CIVIL ENGINEERING, ARCHITECTURAL AND BUILDING CONTRIVANCES IN THE "EXHIBITION."

THE different objects connected with civil engineering and architecture which have been submitted to the examination of the Jury, and for many of which prizes have been awarded, may be classed under the following heads:—

I. Bridges on the tubular, plain and lattice girder, suspension, turning, or balanced principles, and others of stone, brick, and timber, and of cast and wrought iron.

II. Harbours and Docks.

III. Moveable barriers, or weirs for retaining water in the reaches of river during droughts, or summer seasons.

IV. Compensating reservoirs for preserving water during floods, so that it way be employed during summer and in dry seasons, for the pur-

pose of supplying the deficiency of waters in rivers and canals at those periods for water-wheels, for navigation, for irrigation, and for numerous other purposes—the system of water-supply and of the sewerage of towns.

V. Lighthouses.

VI. Railways.

VII. Diving apparatus of various kinds.

VIII. Building materials as obtained in their natural state, such as stone, and limes and cements.

IX. Artificial building materials, such as bricks and tiles, earthen pipes, and artificial stones and cements, both for useful and ornamental purposes.

X. Contrivances and machinery for facilitating engineering and architectural works, including maps and models, as well as machines for quarrying and shaping stones, warming and ventilating apparatus, hoisting apparatus, &c.

The Report of the Jury follows this arrangement: we give some extracts from it:—

I. *Bridges.*

There are few more important and difficult operations in civil engineering than the construction of bridges across great rivers, estuaries, and valleys, and none which require greater skill and judgment in design and construction, in order that the works may be properly adapted to fulfil the object in view in the best manner and at the least possible cost; and it is but justice to say, that amongst the numerous objects of this class submitted to our examination, there are works of the highest merit, and which have been most successfully carried into effect. * * *

With reference to the bridges, models of which are exhibited by the Minister of Agriculture, Commerce, and Public Works of France:—

First amongst these may be mentioned the great turning balanced bridge across the Penfeld, a creek connected with the naval arsenal of Brest: this structure is by far the largest of the kind that has ever been attempted, and as such requires particular notice. It is composed wholly of wrought iron, with the exception of the counter-balance weights, which are of cast iron. The total width of the opening, or clear space between the two circular piers, or abutments on the opposite shores, is 106 mètres. The bridge itself consists of two equal portions, which meet in the centre, at an elevation of 19½ mètres above the level of high tide, each being supported on either side by a massive circular tower of granite masonry, upon which they revolve on a series of cast-iron rollers, in a massive iron frame, which is made to rotate by means of a system of wheelwork, worked from the top by two men for each half, by whom, in calm weather, the operation of opening and shutting the bridge is performed in about fifteen minutes.

When the bridge is closed it is fixed in its place by means of self-acting keys, which are easily detached when it is required to open it for the passage of full-sized vessels.

The total width of the roadway, including that for the carriages as well as for the foot-passengers, is 7½ mètres.

The ends between the piers and the abutments, at the adjoining streets, are filled with the counter-balance weights, which are so regulated as to balance the other two and longer portions, between the piers and the centre of the opening, so perfectly as to enable the rotation to be effected with the least possible friction; and in order to afford ready access for repairs to the rollers, arrangements are made for lifting the entire ring, by hydraulic pressure, within a few minutes.

This bridge may be said to fulfil its purpose admirably, and whilst it forms a convenient and much-required communication between the towns of Brest and Récouvrance, which are situated on either side, it affords free passage for vessels of war under and through it, in consequence of its great height from the surface of high-water to the under-side of the arch.

The original project for this great work is due to Messrs. Cadiat and Oudry, to whom a Collective Medal has been awarded as the authors of the original project, and for its boldness and unique character; but the actual structure was designed and constructed by M. Mathieu, the able engineer of the Creusot Iron Works, and by Messrs. Schneider & Co., who were the contractors for the work. The erection of the structure was superintended by Messrs. Maitrot de Varennes and Aumaitre, engineers-in-chief of bridges and roads, and M. Rousseau, engineer.

The next bridge most worthy of remark is that erected over the valley of the Sarine, on the line of the Fribourg and Lausanne Railway. It was designed and constructed by M. Mathieu, the engineer for the Creusot Company, who were the contractors for the work, and at whose establishment it was all manufactured.

The total length of this bridge is nearly 329 mètres, and it consists of seven openings, of nearly 49 mètres each, supported upon six cast-iron piers, composed of diagonal framed panels, firmly braced together by wrought-iron rods placed diagonally. The openings are spanned by wrought-iron girders, upon the trellis principle: the highest pier in the deepest part of the valley being 80 mètres in height, of which the upper length of 44 mètres is in metal; so that in point of economy it became an object of the greatest importance to avoid the construction of scaffolding, which would have been attended with considerable expense: this was happily effected by a very ingenious and novel system. The lattice girders, with the platform forming the whole width of the bridge, were in the first instance constructed, or put together on one of the adjoining abutments, and placed upon rollers, over which they were drawn forward until the end overhung the position of the first pier, having sufficient counterbalancing weights at the ends to prevent them from falling as they were moved onward. As a further precaution against this danger, the ends were stayed by chains and rods of wrought-iron, attached to strong derricks, or cranes fixed upon the piers, provided with proper machinery for hauling them along, so that in proportion as they advanced the chains were shortened, until the ends of the girders reached the point over each pier. The panels for forming the pier were then brought forward upon the girders and platform, and were lowered to their position; so that the structure, in fact, grew up beneath the girders, which were then again drawn forward over the piers, and the same process was repeated until the whole bridge had been drawn across, when the platform was securely fixed in its position. By means of this novel, simple, and ingenious contrivance, this bold and economical railway bridge, or viaduct, was most successfully constructed, to the great credit of the Creusot Iron Company and their able engineer-in-chief, M. Mathieu, inventor of the method of construction and builder of the bridge, to whom the jury have awarded a medal, with the expression of their highest satisfaction for the invention and successful application of the method employed in the construction; and they thought it right to give an honourable mention to M. Clerc, for the excellence of the model of the bridge, exhibiting the mode of construction.

A road bridge, called the Pont de St. Just, across the mountain torrent, the Ardèche, upon the same principle, with stone piers, was designed originally by M. Oudry, and constructed by the Creusot Iron Company, under the immediate direction of M. Mathieu, with equal success. This bridge, which consists of six spans of 46·26 mètres each, was also remarkable for the obstacles encountered, not only in constructing the piers, in consequence of the extreme violence of the torrent during floods, but because it was absolutely necessary to provide a means of placing the wrought-iron arched girders, without having recourse to the ordinary mode of fixing scaffolding beneath. This was accomplished by having a counterbalanced scaffolding, which was propelled forward from the abutment over the piers consecutively, having on it the means of raising the arched iron girders to their places on the piers. This was very successfully accomplished, without accident; and the award of a medal would be justly due to M. Mathieu, the engineer-in-chief of the Creusot works, to whom were intrusted all the details of the construction of this work, if he had not gained one for the bridge of Fribourg.

The next viaduct bridge worthy of remark is that over the Rhine, at Kehl, for connecting the Eastern Railway of France with the German system of railways at Strasbourg.*

The execution of this great work was, by mutual consent, apportioned between the engineers of the Eastern Railway, who undertook the construction of the foundations and the piers, and the engineers of the Grand Duchy of Baden, who were charged with the execution and the fixing of the superstructure. The foundations and the mode of executing them were designed and executed by M. Vuigner, engineer-in-chief; and M. Fleur-Saint-Denis, resident engineer, with M. de Sappel, acting engineer; and their designs were carried into effect with great intelligence by the enterprising contractors, Messrs. Castor.

The general features of this viaduct are masonry piers, supporting a superstructure of wrought-iron girders, on the trellis principle, with a lifting, opening at each extremity, to permit the passage of the masted vessels which navigate the Rhine.

The principal difficulties in the construction of this bridge arose from the depth of the river, the rapidity of the current, and the shifting nature of the bed, which, being composed of loose gravel, was at times scoured away to the depth of many feet; so that no bridge could be rendered permanent unless the foundations of the piers were carried down to a depth below the action of the current. In order to effect this, it was necessary to resort to extraordinary measures. This was effected by the employment of large wrought-iron caissons, placed side by side, so as to cover the entire space of the piers. These contained air-cylinders, with valves in them rising from the top of the caissons to above the level of the water, and a larger cylinder, open at both ends, having its lower extremity descending below the edges of the caisson. Within this latter cylinder was fixed a dredging frame and buckets.

In the space beneath the caisson compressed air was used to expel the water and to allow the men to work; and it was also employed to force down the cylinders to the requisite depth, the air-pumps being worked by a steam-engine from above. Within the caissons workmen were employed to remove the gravel, &c., from under the exterior edges as they descended, whilst the great mass of the material which was cast by hand to the centre was removed by means of the dredging apparatus worked by a steam-engine upon the platform above. The novelty and the chief cause of the efficiency of this apparatus consisted in the centre cylinder being open to the atmosphere at the upper extremities, and plunged in the water at its lower end, by which means the great mass of the material could be removed by the dredging apparatus much more rapidly and economically than if all the material had been hoisted in buckets through the air-locks in the usual closed cylinders. The caissons were thus carried down to the requisite depth below the ordinary level of the Rhine most successfully, in a much shorter time, and at infinitely less cost, than by the usual method; and the piers were founded at such a depth below the scour of the current as to give every reasonable guarantee of their stability. The superstructure, which was executed under the supervision of M. Keller, the engineer-in-chief, and the Baron Kagenech, engineer of the Grand Duchy of Baden, does not offer any remarkable features, although it has been well executed, and perfectly answers the purpose for which it was intended. To M. Vuigner, chief engineer of the Eastern Railway Company of France; and M. Fleur-Saint-Denis, engineer of bridges and roads, and author of the project, have been awarded a Collective Medal for the ingenuity of their design for these piers and foundations; and to Messrs. Castor, the contractors, also a medal, for the intelligence of their arrangements and the successful execution of this work, and also for a similar application at the Bridge of Argenteuil.

II. *Harbours and Docks.*

With regard to this department there are several works particularly worthy of notice; and amongst the most important must be mentioned the great "digue," or breakwater of Cherbourg. The history of this great work is very remarkable, and the structure itself presents a great variety of operations, equally instructive from their failure and their success. There have been tried here consecutively the ingenious, yet abortive idea of the wooden cones filled with small rubble stone—the small rubble, upon the *pierre perdu* system, which was equally unsuccessful—then the larger rubble system—and finally the béton and masonry systems, by means of which this great work has been eventually completed. All these plans exhibit considerable ingenuity and skill; nevertheless it must be admitted, that the construction of this great work at the outset, evinced great deficiency in the knowledge of those first principles which should guide the engineer in the construction of works of this nature and magnitude.

The breakwaters of the Carthaginians at Tyre and Sidon, of the Greeks at Athens, Halicarnassus, Ægina, and in numerous other places, as well as those of the Romans at Ostia, Civita Vecchia, Ancona, Naples, and other ports in the same vicinity, show that the simplest and most economical mode of constructing barriers, or breakwaters, to resist the violence of ocean storms, was by throwing down, or depositing rough undressed blocks of stone, as raised from the quarries, and allowing them to form their own slope, or inclination, by the action of the waves, until finally the masses, thus thrown down, became settled, when

* Illustrations of this have been given in the *Builder*. Ed.

their permanence was further augmented by the growth of seaweed and the drift of sand into the crevices; so that these works have remained unaltered until the present day. The experience, however, derived from these works does not appear to have been taken advantage of until within a comparatively recent period, and hence the variety of systems introduced in the construction of the breakwater at Cherbourg. In fact, instead of starting from the point of demonstrated success, a comparatively tentative process would appear to have been pursued; whereas, if the knowledge of the past had been taken advantage of much trouble and cost would have been avoided.

It is to be regretted, in an engineering point of view, that the position of the breakwater should have been determined by purely military considerations, which demanded a direct line between the forts Pelée and Querqueville, thus materially reducing the extent of the roadstead.

The history of this great work, as given in the works of M. de Cessart, and of MM. Alexis de Tocqueville, Cachin, and Bonnin, &c., as well as in the "Annales des Ponts at Chaussées," conveys much information. Due honour should be given to the several able engineers-in-chief and to their subordinates, who have brought the work up to its present satisfactory state. The names of the chief engineers are:—

Captain La Bretonnière, Royal Navy, 1777 to 1782.

M. De Cessart, Inspector of Brieges and Roads, 1782 to 1792.

M. Lamblardie, Inspector-General of Bridges and Roads, 1792 to 1793.

When an interval occurred until 1802, when the works were resumed.

Le Baron Cachin, Inspector-General of Bridges and Roads, 1802 to 1823.

M. Fauques Duparc, Divisional Inspector of Bridges and Roads, 1823 to 1838.

M. Reibell, Inspector-General of Bridges and Roads 1838 to 1853, when the work may be said to have been completed, and to the latter eminent engineer and his able coadjutors, MM. Virla, Mahyer, and Bonnin, Engineers of Bridges and Roads, and to their predecessors and assistants, a collective medal has been awarded, on the completion of this important work, after so many years of persevering efforts, due to the judicious use of all the resources induced by the progress of marine construction.

It is not any detraction from the merit of the many able engineers who have been employed upon this great work to say that every allowance must be made for the want of knowledge and experience which existed at the time when it was commenced; and, as a matter of scientific inquiry, it is most interesting to place on record all the facts of the progress, and to compare the modes employed with those of the present day.

The new port of Marseilles is a great work, which has been planned and executed upon an extensive scale by M. Pascal, Engineer-in-chief of Bridges and Roads. It is situate to the eastward of the old natural harbour, formed by a creek, which was taken advantage of, and around which the town sprang up. The new artificial harbour consists of a series of wet docks, or basins, formed by moles, or breakwaters constructed in the open sea. They run parallel to the shore, and communicate with each other by openings and locks through the cross walls which separate them from each other. The outer, or boundary sea wall, connecting the whole system, answers the double purpose of a breakwater on the outside, and a quay wall on the inside; and at each end of these docks is an outer, or entrance harbour, so that vessels can use either, according to circumstances, and can pass from one to the other, as convenience may require. There is also a connexion with the old harbours. The general design of this harbour is good, but the sea entrances are scarcely sufficiently protected against the swell of the sea during storms. The details of the construction are entitled to considerable credit, for every class of materials has been utilized to the greatest extent, the smallest stones being used in the interior, and the largest in the exterior, where the face is exposed to the greatest action of the sea. The outer face, or sea slope of the great exterior breakwater is protected by large masses of béton, formed into artificial blocks, each weighing from 25 to 30 tons, which are said to be immoveable by the most violent action of the waves; and so far they have resisted the disintegrating effects of the sea and the atmosphere with success, although further experience is necessary before the béton masses can be pronounced to be indestructible. Great credit is due to the French engineers, amongst the earliest of whom may be mentioned M. Poirel, for reviving this ancient system of building; and to M. Pascal, Engineer-in-chief, the award of a medal is made for the methodical and scientific direction of these important and extensive works, inducing the utmost economy without sacrificing the excellence of construction; and to Messieurs Dussaud, Brothers, of Marseilles, the contractors, honourable mention for their intelligent assistance in the execution of important parts of the works.

The application of the hydraulic press for the purpose of raising great weights has long been known and adopted in numerous instances, and latterly very extensively by the late Mr. Robert Stephenson, for raising the large tubular girders composing the Britannia and Conway bridges; a similar idea has been conceived by Mr. Edwin Clark, C.E., and applied in a very ingenious manner for raising floating pontoons, which are made to answer the purposes of dry docks for constructing, examining, or repairing vessels. The operation is very simple. A space of water is inclosed, sufficient for the required pontoon, or floating dock, around which are firmly fixed a sufficient number of hollow iron columns, in each of which is an hydraulic press and piston, having chains attached to them: these chains are attached at the other end to transverse wrought-iron girders at the bottom of the inclosed water space: the wrought-iron pontoon, which is to carry the vessel, is then floated between the columns, and sunk on to the girders by admitting water into its compartments until it rests upon the bottom of the inclosed water-space: the vessel intended to be repaired is then floated over the pontoon and is placed accurately above it by means of guides: the girders and pontoon, with the vessel upon it, are then raised by the hydraulic presses, worked by a steam-engine and pumps, which act upon the pistons and the chains attaching them to the cross girders, and, as the pontoon rises with the vessel upon it, the water runs freely out of the compartments of the pontoon; and when the whole is clear, the valves are screwed down from the inside and the pontoon and vessel are floated away into a basin, and another pontoon is placed in readiness for another similar operation, which generally occupies, for a very large ship, about forty-five minutes. Thus one hydraulic apparatus, with its necessary upright columns, cradle and basin, or dock space, will answer the purpose of as many dry docks as there are pontoons; and when a vessel has been repaired, the supporting pontoon is again floated over the transverse girders, the valves are opened, and the pontoon sinks gradually, thus leaving the vessel afloat and ready to be taken away. This ingenious adaptation of the hydraulic press is calculated to be very extensively useful in many localities; and to Mr. Edwin Clark, C.E., a medal has been awarded for the novelty and general utility of the application.

A large wrought-iron floating dock has been designed and is being constructed for the Spanish Government, by Messrs. G. Rennie & Sons. It is 350 feet long, 105 feet wide, and 37½ feet high and it will draw, when a vessel of the largest class is in it, about 10 feet. This dock is constructed nearly upon the same principle as the old Dutch Caramel Floating Docks, but is much more complete. It is hollow, is divided into compartments, and is emptied by pumps worked by a steam-engine placed on the floating dock, so that either by admitting or by pumping out the water it can be lowered or raised as may be required, and it can thus be rendered available for any class of vessel. To Messrs. G. Rennie & Sons has been awarded a medal by the jury of Class XII. for the completeness of the arrangements and the good workmanship of this important construction.

Floating docks upon this as well as upon Clark's system are, no doubt, very valuable; but it may be a question whether they are likely to supersede the slip system, or that of drawing the vessels out of the water, which can be made equally valuable in certain localities. It is true that the latter system requires that the lower end of the slip should be carried down to the greatest depth, at which a light ship of the largest class can be brought to the lower end of the slip. This cannot be taken at less than 16 feet to 20 feet; and to effect this in seas where there is no tide must be attended with considerable expense; and laden vessels cannot, as in Rennie's and Clark's systems, be drawn up, examined, and lowered again within a few hours. Anything by which the old system of heaving down vessels of the ordinary class can be avoided merits attention, as that process is always attended with expense, inconvenience, risk, cost, and delay. The re-introduction of floating docks on improved principles has also induced attention to Morton's patent slip, which is now again being brought forward with considerable improvements. All these systems are valuable and useful, and can be brought into the public service where the fixed dock system is considered too expensive, or where the localitits are not calculated for such extensive and weighty structures.

IV. *Compensating Reservoirs, &c.*

With regard to the fourth division—the Compensating Reservoirs for supplying rivers and streams during summer and dry seasons. This is a most important and valuable system, and it has now become an absolute necessity, as, in consequence of the present superior system of land drainage, a greater proportion of the rain-water which falls upon the land is discharged into the rivers, and is carried off almost immediately after it falls, so that, in summer and in dry seasons, the lands frequently suffer for want of moisture: the navigation is impeded; and the supply of water for irrigation and for domestic purposes is diminished. Moreover, as sewage matter is now generally discharged direct into the nearest watercourses, the small quantity of water in them in times of drought becomes polluted to such an extent that it is unfit for use; whilst the malaria arising from it is liable to produce disease. The great object, therefore, is to obtain a thorough command of water, so that the land may be properly drained, the sewage be carried off effectually, and that there may be at all times an ample supply of good fresh water for irrigation and domestic purposes. A system of compensating reservoirs, established in the most convenient places along the line of, or adjoining the valleys through which rivers pass, so that the desired quantity of water may be stored in them during the periods of rainfall, and be discharged again by means of proper sluices into the rivers and other channels, where required during the summer and dry seasons, is evidently the only proper plan to obviate the serious evils above mentioned, and to combine all the desiderata of complete drainage, sewage, navigation, irrigation, and domestic water supply. This system was largely adopted by the ancients in the valley of the Euphrates, India, and elsewhere; and it contributed largely to the wealth and prosperity of those countries wherein it was practised. It redounds greatly to the credit of the French Government and their engineers that this system has been introduced into France with such complete success in many places. It is excellently exemplified by models of the compensating reservoirs of Les Settons, for the service of the river Yonne, for which useful and well-executed work Collective Honourable Mention has been awarded to M. Rozat de Mandres, engineer-in-chief of bridges and roads, who designed; and to MM. Olry de Labry and Marini, resident engineers, who executed the works. Also Honourable Mention to M. Véron Duverger, engineer-in-chief of bridges and roads; and to M. Scisma, resident engineer of the reservoir of Montaubry, for the service of the Canal du Centre, in Burgundy, for the excellence of the design and the satisfactory execution of the works.

The introduction of this system into Great Britain has long been advocated by English engineers who have devoted their attention to the subject; and it cannot be much longer delayed, as works of this kind are now imperatively demanded, both in a sanitary and an economical point of view.

Sewerage.

In connexion with this subject must be mentioned the improved systems of sewerage now being introduced in London and in Paris. They are entitled to much consideration, and demand a more lengthened notice than is consistent with the limits of this report.

The system of sewerage of Paris has hitherto differed essentially from that of London, in still retaining for the most part cesspools beneath the court-yards of the houses: the more copious use of water has, however, necessitated a change; and the municipality is proceeding to provide for the new order of things, by the construction of sewers beneath the streets, and combining with them collecting reservoirs and a general distribution of water, comprising an ingenious self-acting method of cleansing the sewers, whilst introducing a more comprehensive and general system of carrying off the water. This combination is well exhibited by a plan of the sewers of Paris, and a model in section of the sewer of the Boulevard Sebastopol, with a plan of the water service of Paris, and a model in section of the reservoir of Passy. This latter work merits careful study, as does also the collection of apparatus used in the distribution of water throughout the city. The map of this distribution conveys very interesting information;

and the model of the great artesian well of Passy, executed by MM. Kind, under the direction of MM. Alphand, engineer-in-chief, and Darcel, engineer of bridges and roads, merits every eulogium.

These exhibited great knowledge of the subjects; careful study of the means of meeting the wants, and of carrying out the works gradually, without undue interference with the working of the present system; and for this and the general intelligence exhibited in the design a collective medal has been awarded to M. Belgrand, engineer-in-chief of bridges and roads, and to his assistants in the execution of these important works.

There were also exhibited, in the French department, several other collections of maps, plans, and models of the system of sewerage adopted in Paris, many of them possessing great interest. The map and atlas of the Catchwater sewers, or "Egouts Collecteurs," are full of interest, as showing how early that system was recognized and adopted, and the carefully designed progressive steps taken toward establishing one uniform system.

IX. *Artificial Building Materials.*

The ninth division, including cements and artificial building materials, béton, or concrete blocks, bricks, tiles, earthen pipes, &c., would demand a very lengthened notice if the very various qualities and applications of the several kinds were to be separately treated of. The limits of this report will only permit the several varieties being mentioned, as in other divisions, almost entirely restricting notice to those to whom medals, or honourable mention, have been awarded.

The engineer, or architect can generally, from practice, judge with tolerable accuracy of the applicability and durability of building stone; because having seen it in the quarry and in buildings where it has borne the test of ages, it may be inferred that if applied under similar circumstances it will be equally durable; but this is not the case with artificial materials, of which the experience must of necessity be limited: therefore all that can be done is to judge of them from their constituent particles, compare them with the natural materials of which they profess to be the prototype, carefully investigate the modes of preparation, and form an opinion from the results actually obtained. Still with even this information successful results are not certain, because so many elements enter into the composition of artificial stones, and so much must depend on the process of manufacture, and on the subsequent manipulation, that nothing but actual experience of any artificial substance, after a number of years' exposure, under every variety of circumstances, can justify a decided opinion being pronounced.

Many artificial stones, which at first sight appear admirably adapted for the purpose, are found, when exposed to this unerring test, to be utterly wanting in durability. No artificial stone can therefore be considered durable, as compared with natural stone, until it has undergone the test of long experience, although in many cases béton, or concrete blocks, have been and are now employed with advantage, where natural stone cannot be obtained at a reasonable cost.

The jury have seen with great pleasure, and have carefully examined the numerous artificial stones which have been exhibited; and amongst those which they have thought worthy of particular remark may be mentioned the silicious stone produced by the process of Mr. F. Ransome: this is so well known both for the ordinary productions and the application to hardening natural building stones, that it is not necessary to do more than to direct attention to the fine specimen of a concrete block so produced, and serving as the pedestal for Ransome and Sims' engine in the Western Annex (United Kingdom, 1961), for which and for the general value of the process a medal has been awarded to Mr. Frederick Ransome.

To Messrs. Coignet, Brothers, & Co., Paris (France, 1,258), a medal has been awarded for the excellence of the system introduced by them in the working of concrete into blocks, and for its application to almost every purpose for which stone is used. The process is extremely simple, depending chiefly on the perfect mixture of the materials, the use of hot-water, and the application of considerable pressure to produce cohesion of the particles. The system appears to be obtaining extensive use on the Continent, under the name of "*Béton Aggloméré.*"

With regard to artificial cements there have been exhibited an endless variety from every country. These like the artificial stones still require the test of experience before they can be pronounced as fit to take the place of natural cements, although they may be applied with considerable advantage, where natural cements cannot be obtained at a reasonable cost. One of the most remarkable of these artificial cements is what is termed the "Portland cement," which has been proved to possess excellent hydraulic qualities, and it is now so much used that the name has been generally applied throughout the Continent to cements possessing similar qualities.

In the United Kingdom department a medal has been awarded to Captain H. Y. D. Scott, R.E., for discovering a good and cheap cement, which is remarkably well manufactured by Messrs. Lee, Son, & Smith, to whom honourable mention is awarded for the process of manufacture of this article, the excellence of which the jury were enabled to judge of in the construction of the buildings at the South Kensington Museum, where some instances of great strength were shown. Also to Messrs. White, Brothers, a medal for the general excellence and extensive production of their Portland cement, which, as in the previous case, the jury were enabled to examine in the general construction of the building of the Exhibition, and more especially in the bases of the columns supporting the domes, and in the basin of the great Majolica Fountain, where its powers of hardening and of impermeability were satisfactorily tested by watching the progress of the construction, and the subsequent introduction of the water.

In the same department, honourable mention has been awarded to the Keynsham Blue Lias Lime and Cement Company (2,388), for the good quality of their lime and cement, which is very extensively used in that district, and is now sought for in the surrounding counties; and to Mr. J. C. Part (2,326), for the good quality of the Martin's cement and the plaster of Paris manufactured by him.

France has long been attempting to emancipate herself from dependence on this country for the supply of cement for her hydraulic works, and to this has been directed the attention of the chemists and the practical manufacturers, in which they have been guided by the valuable researches and experiments of the elder Vicat. The result has been a great extension of the existing works at Boulogne and other places, and the creation of numerous new establishments, where considerable success has been attained. Mr. Brivet has distinguished himself by his laboratory researches in this branch, and they have led to the introduction of an excellent Portland cement, manufactured from the marls of the Paris basin: for these successful experiments a medal has been awarded to him. A medal has also been awarded to Messrs. Lingée & Co. (1,265), for their method of manufacture, and for the extent of the establishments created by them for producing this Parisian marl cement. Messrs. Michel & Co. have well earned a medal for the bold and striking works they have executed in their *Ciment de la Valentine*, an excellent material introduced by them, and by which they have emancipated Marseilles and its neighbourhood from dependence on foreign supply.

IX. *General Building Materials.*

With regard to the ninth division—General Building Materials, such as bricks, tiles, &c.—there is scarcely any department in the art of construction which has made greater progress during the last few years than the manufacture of bricks, tiles, earthenware pipes, &c., both with respect to the perfection of the article and the lowness of price, as also in the adaptation for ornament and for substantial construction. These articles are now made in every possible variety of shape, texture, and colour, in order to their fit adaptation to the particular purposes to which they are to be applied: amongst these, hollow bricks must be prominently mentioned; as, by their strength and lightness, their uniform hardness, and their affording means for ventilation, they are valuable adjuncts in places where solid bricks cannot be made to answer the object. The large and small drainage-pipes of glazed earthenware are also remarkable for the perfection of their manufacture and for the powerful aid they have contributed towards the improvement of all sanitary works. The excellent and ingenious machines worked by steam, which have been invented for the production of these articles, have powerfully contributed to the perfection and economy with which they are produced; whilst by judicious chemical investigations and a more perfect knowledge of the properties of the raw materials, and of the best proportions for mixing them together, a success has been generally attained which a few years since could scarcely have been anticipated.

The use of bags of sand in lowering and striking the centres of arches was originally introduced by Mr. Beaudemoulin, engineer-in-chief of roads and bridges, to whom a medal has been awarded; and in 1854 a manifest improvement, originally proposed by M. Sazilly, substituting cases of wrought iron for the bags of sand, was introduced and was first used by Mr. Bouziat, in striking the centres of the bridge of Austerlitz. For this evident amelioration of the system, honourable mention has been awarded to Mr. Bouziat, to whom is due the credit of first practically testing this evident improvement in the method of using sand for avoiding the risk to the masonry incurred by the use of wedges.

The present Exhibition of 1862, when compared with that of 1851, demonstrates material progress in every department connected with, or belonging to, the art of construction; and as such it is calculated in no small degree to advance the civilization of mankind; so also do the inducements of the best kind of publicity and investigation held out to inventors and improvers of inventions in every department, furnish excellent arguments in favour of these occasional International Exhibitions, at such intervals as to enable producers to furnish an exhibit from their regular productions, and not to drive them to manufacture special objects for exhibition, which have no other effect than to mislead the juries and to deceive the public.

The report is signed by Sir John Rennie, as Reporter.

NOTTINGHAM ARCHITECTURAL ASSOCIATION.

The second meeting of this society was held, through the kind permission of the mayor, in the committee-room of the public offices, on Wednesday, the 10th inst.; Mr. Hine in the chair; when twenty-two architects enrolled themselves as members of the association. A body of rules was finally discussed, settled, and ordered to be printed; and the following office-bearers were elected:—Mr. H. M. Wood, president; Mr. T. C. Hine, vice-president; Mr. Robert Jalland, treasurer; and Mr. Fred. Jackson, honorary secretary; committee—Mr. Evans, Mr. Gilbert, Mr. John Jackson, Mr. Norris, and Mr. Williamson.

THE ORIGINAL DISCOVERERS OF THE LION OF CHÆRONEA.

The following communication from Mr. Geo. L. Taylor speaks for itself, and will be read with interest. Some of the newspapers have given Gropius the merit of the discovery: we are glad to be able to restore it to our countrymen.—

"The widow of my old friend and *compagnon de voyage*, Edward Cresy, draws my attention to a notice in the newspapers regarding the *Theban Lion*, casts of which are being set up by Mr. Newton at the British Museum; and urges me, as the only surviving member of the party of four who roamed together through Greece in 1818, to make public the fact that the said lion was first (in this century) discovered by *us*. Our party were,—the late Mr. John Sanders, the then retired architect, and one of, if not *the* first pupil of Mr. Soane; Mr. Purser, his artist; Mr. Cresy; and myself. I well remember the circumstance, and find, on referring to my notes, that, on June 3, 1818, we made an excursion on horseback from the hospitable mansion of Signor Logotheti (who had kindly received us into his family at Livadea, where he was archon, and, at the request of the surrounding archons, we had meetings every evening, and explained our glorious constitution as their exemplars in the struggle they were then meditating for independence) to Chærones, two hours distant, to the north-west. We had been reading Pausanias, whose excellent history was our Handbook during our journey. When approaching the place, my horse stumbled seriously, and on looking back, I was struck with the faint appearance of sculpture on the stone which had caused the stumble. It at once occurred to my mind what it *might* be. Calling a halt, we all returned, and having satisfied ourselves, by removing the earth with our riding-whips, that it *was* sculpture, we engaged labourers we saw in the fields, and did not leave the spot until we had dug up the colossal head of the lion, and also some of the limbs separated. On returning to Athens, we put in our claim by every means in our power, and among others informed Signors Gropius, Salt, Lusieri, &c.

Subsequently, when civil architect to the navy, I endeavoured to persuade the Admiralty Board, but ineffectually, to permit it to be brought home in one of their vessels. Afterwards I heard it had found its way into France; but how, when, and where, I do not remember, but should like to know."

THE STRENGTH OF CHELSEA BRIDGE.

PREVIOUS to acceptance of the bridge, Mr. Edwin Clark was deputed by Mr. Cowper, First Commissioner of Works, to report on its strength and proper completion. He considered that the strain on the main chains was unusual. The strain on the chains, from the weight of the structure alone, amounts to nearly 5 tons per square inch; and with a load of 80 lb. per foot superficial this strain is increased to 8·8 tons per square inch. The probability of a uniform load of 80 lb. per superficial foot over the whole span actually occurring is very remote; but he thought that, in a metropolitan thoroughfare, the unequal loading of the bridge to an equal extent of strain is a probable contingency. The rule with the Board of Trade, and that generally adopted for railway structures, is, that the tensile strain on wrought iron shall not exceed 5 tons per square inch of section. Mr. Page being referred to, maintained that the possible load should not be called more than 46lb. per square foot,—the weight on the bridge if the available area were covered with soldiers on march. Further, that the chains had been tested to 13¾ tons per square inch. He sent a confirmatory opinion from Mr. Lewis Gordon. Mr. Cowper afterwards referred to Mr. Hawkshaw, who came to the conclusion that the bridge must either be strengthened or the strictest precautions used to prevent any overcrowding upon it. The result is that Mr. Clark has been instructed to undertake the operations necessary to strengthen the bridge; Mr. Page protesting against waste of public money.

If Mr. Page do not himself take some steps with reference to the vibration felt on Westminster Bridge, we are inclined to prognosticate that some one else will be called in there also, to do so.

SURREY COUNTY HOSPITAL COMPETITION.

GUILDFORD.

WE were officially informed that the designs submitted in competition for the proposed Surrey County Hospital would be on view, publicly, during the whole of last week. On applying however, at Abbot's Hospital, the place of exhibition, on Friday morning, after a journey from London, we found to our astonishment the whole of the drawings, with the exception of three or four sets, carefully packed up for return to their authors. Such a proceeding as this greatly strengthens the complaints of those who assert that the committee have not acted fairly towards the competitors. As we have again and again pointed out, the advantage which may be gained from competitions, to counterpoise the evils of the system, is the opportunity for instruction by means of comparison, afforded by the exhibition for a sufficient time of the whole of the designs submitted; while competitors, when their names are known, may be benefited, although unsuccessful, by a recognition of such ability and knowledge of the subject as they may have made evident in their designs. We found several other visitors besides ourselves complaining bitterly of the committee's breach of faith in respect of the exhibition. The competitors, we understand, were about twenty-seven in number, and submitted thirty designs; many of them set forth by a considerable number of elaborate drawings. In the majority of cases the arrangements which have been advocated in this journal were adopted. In a very short time, even if it be not so already, hospital building will be reduced almost to a formula.

There were, nevertheless, a few designs wherein the old bad corridor system was retained (one still remained visible, marked "Economy"), and others wherein the arrangement was wasteful of space and walls, as in "*Integrita*." The committee, it appears, gave no hint as to cost; so that while a few competitors on the spot knew that the funds at command did not exceed six or seven thousand pounds, some architects submitted designs which could not be carried out for four times that sum; and so, of course, might have been told they were wasting their time and study the moment they had drawn the outline of their design.

The plan "*Hoc age*," B, by Mr. Lower, selected by the committee as the best, is a considerable improvement on that illustrated by the actual set of drawings submitted under the motto *Hoc age*, especially defective in respect of light and other points, but it still seems, so far as we could judge, to need careful revision. Following the pavilion type, it presents on each side of centre building a ward for twenty-two patients, with five windows on each side of it. The "closets" are well placed. Externally the building is of white brick, with red brick dressings, without any distinguishing characteristics.

The sub-committee appointed to consider and report on the designs, selected eleven as most deserving of attention, bearing the following mottoes. These are placed without reference to any order of merit:—

"Trefoil" (the architect's estimate of the cost of which is)	£6,500
"In Memoriam"	6,000
"Utility"	6,200
"Spes"	8,000
"Hoc Age"	7,500
"In Memoriam," B	6,800
"Fidelitas," 2 plans (the 2nd)	5,500
"Cui Bono"	8,000
"Forward"	11,800
"Light and Air," B	6,250
"Quod potui feci"	8,730

From these they selected for the decision of the general committee,—

"Hoc Age," B, *small plan* (the estimated cost being)	£7,500
"Utility"	6,200
"Spes"	8,000
"Forward"	11,800
"In Memoriam"	6,000

The medical sub-committee, in pointing out "Hoc Age," B, as best adapted for the case, said:—*

"The staircase is large and central. The sick wards are all on one floor, which is given up exclusively to them,—an arrangement that will save time and labour. There are only two main wards, of twenty-two beds each, the advantages of which we have already pointed out. The bath-rooms and water-closets are well placed and thoroughly ventilated, being on the model of those in the Hospital of St. John, at Brussels. They would be improved, however, by being more thrown out from the building, so as to admit of being cut off by a lobby. The small wards for special cases are sufficient in number, and are well situate so as to be under the nurse's eye. The operating-room is conveniently placed, and has two small wards with a nurse's room attached. The offices of administration are all on the ground floor: the officers' residences are central, and conveniently arranged. The board-room is of ample size, has a separate entrance, and every convenience. The kitchen-offices are well placed. The out-patients' department is well removed from the other offices, has all the usual conveniences of bath, latrines, &c., and has a separate entrance. We would suggest a somewhat different arrangement of the rooms in this department, which could be effected without altering the structure. The laundry offices are borrowed from those in the plan A (same motto), and are properly arranged and detached. We should prefer, however, all the rooms being on the ground floor.

After a careful review of this plan, we are of opinion that no essentials have been omitted, and nothing has been introduced which could be deemed unnecessary."

"Thor" was the signature of an elaborate and careful set of drawings still partly visible. A large number of drawings marked "*Fidelitas*" illustrated a seemingly costly arrangement.

At the site determined on for the new hospital the question of *water supply* will call for the most serious consideration.

The hospital, or asylum, in which the drawings were exhibited (erected in 1619, by George Abbot, Archbishop of Canterbury) is a red brick and stone edifice of the Hampton Court style, and has some good chimney-stacks of moulded brickwork.

The Town Hall, recently completed under the direction of Mr. Goodchild, has a good apartment, 80 feet by 37 feet, and 40 feet high. A great deal has been done here for very little money. The same architect is restoring St. Mary's Church, a building with many points of great interest,—notably the semicircular apses terminating the north and south aisle at the east end; the paintings on the vaulting of the north apse; the rise of the ground which necessitates steps from the nave to the tower, and other steps from the tower to the chancel; and the range of styles from Norman to very late Perpendicular. The end of the chancel is now square, and very little beyond the apsidal termination of aisles. Originally there was doubtless an apse here also. The chancel has been shortened more than once,—the last time as recently as 1825, to widen the roadway beyond.

The exterior, of flint, is being refaced: buttresses have been erected, on old foundations, to strengthen the south wall of nave, which was out of upright.

A correspondent expressed his regret in our pages recently that the south door, in course of this process, had been blocked up and externally eradicated. It is not a sufficient answer, in the case of an ancient and curious structure like St. Mary's, that the draught from south to north door was inconvenient. The doorway might have been retained, and yet kept closed. Internally, its position will be marked. The west doorway is to be opened. The windows, with one or two exceptions, where they are sound, are being replaced with new. A difficult question arises in the restoration of an old building like this (admitting that the actual necessity for renovation has arisen), exhibiting the work of successive periods. When Early English, Decorated, and Perpendicular works are all seen interpolated and added on to a Norman structure, in materials of varying age and character, they tell their own story, speak of different times, and produce an agreeable impression rather than otherwise on the mind. But when these features of different age and style are all reproduced, in the same new stone, the effect is very different, and may be very disagreeable. To avoid this result, it would be necessary (still supposing new work absolutely required) to give up some of the old forms and design fresh, to harmonise with the bulk of the old retained as the key note;—against which another body of critics would cry out. The architect in such a position is therefore on the horns of a dilemma: lucky for him if he choose the blunter. The west end of St. Mary's offers a case in point, although not one of the most glaring. In the centre is an ill-proportioned Perpendicular window, partly of wood; on the south side of it an elegant Decorated window; and on the north a window of churchwardens' art. Below the latter is a small square opening, understood to be a "lepers' window." Copying all these in new stone, with newly-faced walls around, will produce, it is to be feared, an absurd effect.

The window dressings in the tower and some other parts are of chalk, and have stood well. These have been scraped slightly and repaired. Mr. W. Swayne is the builder employed, and the sum to be expended is about 1,700*l*.

The Castle at Guildford deserves a visit; but we may not now stop to describe it.

COURT OF COMMON COUNCIL.

ST. THOMAS'S HOSPITAL: CENTRAL STATION: WORKING CLASS DWELLINGS.

SOME interesting proceedings took place last week in the Court of Common Council.

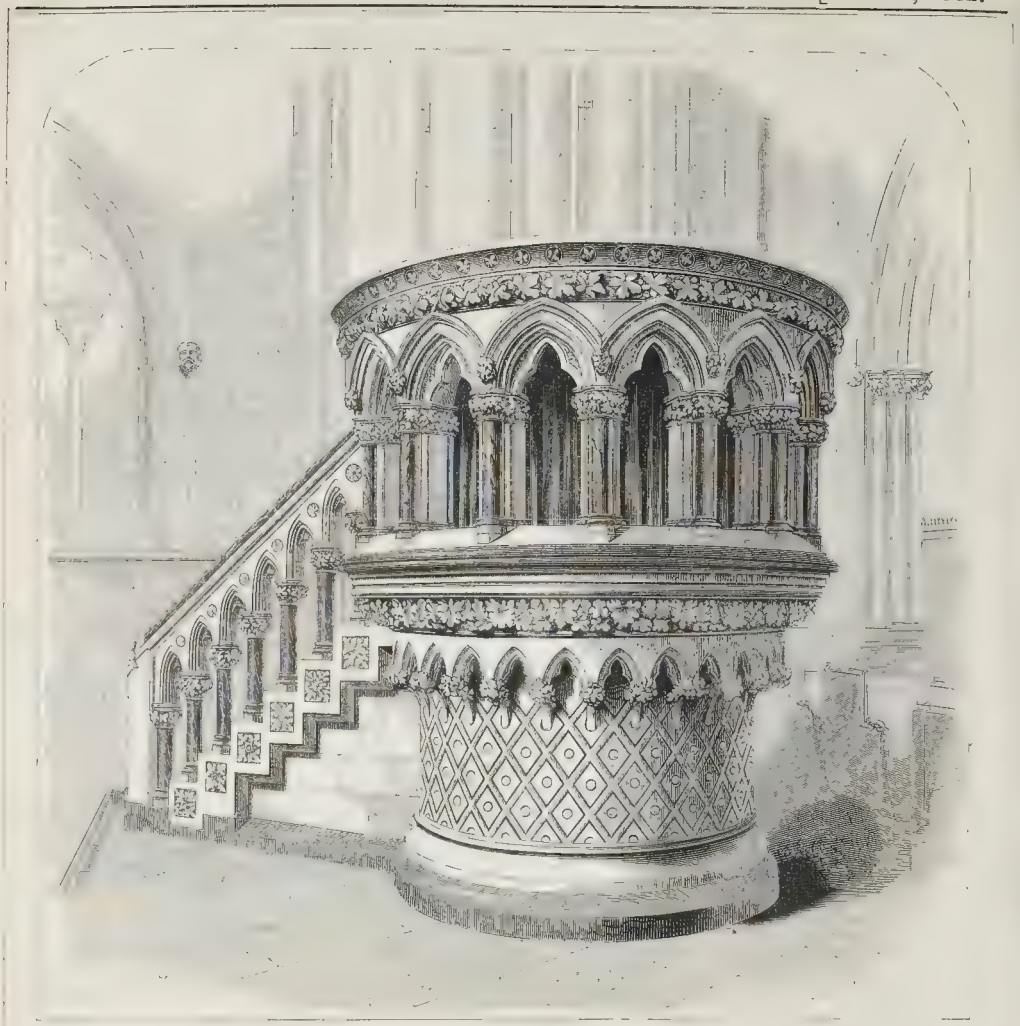
A memorial, urging the council's co-operation in the re-erection of St. Thomas's Hospital on a site as near the old one as possible, was presented from a committee of vestries and guardians south of the Thames; and the council, after some discussion, unanimously agreed to the following resolution:—

"Whereas St. Thomas's Hospital was originally founded at the cost of the mayor, commonalty, and citizens of the city of London, in whose management it was vested by royal charter, and did so continue for two centuries; and whereas, by a subsequent Act of Parliament, the corporation is still required to take part in the government of the hospital, by appointing thirty-eight members of its own body to act as governors on its behalf; this Court deems it needful at the present time to declare its opinion that, having regard to the local duties for which the great charity of St. Thomas's Hospital was originally founded, chartered, and endowed, and which have been fulfilled for three centuries, the new hospital ought, as far as circumstances permit, to be built in a situation no less central than that which the former hospital occupied."

It does not seem to have occurred to any one connected with this memorial and resolution that the hospital authorities have abundant resources to enable them to erect a hospital in the open suburbs as well as one for more pressing cases in town,—if, indeed, Guy's be not sufficient for the latter, when in turn aided by a more healthily situate St. Thomas's for the restoration of health in cases connected with both hospitals.

On the subject of a central railway station in the City, a report was laid before the council by Mr. Deputy Fry, the chairman of the improvement Committee, to which body the subject had been referred, and who had consulted with Mr. Cowper on the subject. Mr. Fry, after some explanations, moved the adoption of the report, and that the Improvement Committee be authorized to continue their negotiations, and to prosecute the contemplated improvements at Holborn-valley; and that it be referred to the Coal, Corn, and Finance Committee to take such step as might be necessary in reference to the continuation of the coal duties for accomplishing the objects in

* Since this was in type we have received a letter from Mr. G. S. Taylor, a member of the medical sub-committee who reported on the plans, stating, as the reason for shortening the time of exhibition, that the hon. secretary "had received notices from several of the competing architects that he would be held answerable for any damage done to their plans, and requesting to have them returned forthwith." Mr. Taylor adds, as to the selected plan B, "that it was the only plan out of more than thirty that at all approached the form of structure now and others have so long advocated, the ward arrangements being almost identical with those figured in your journal of the 6th instant. As to my share in the selection, as one of the 'three local doctors,' I may say that we endeavoured to make our choice in strict accordance with the principles enunciated in your pages."



NEW PULPIT IN DONCASTER CHURCH.

question. The motion, after some discussion, was agreed to.

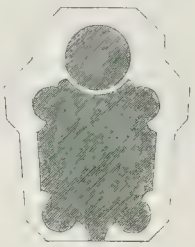
A motion on the subject of houses for the labouring classes in the City to the following effect was moved by Mr. S. Waterlow :—

"That it be referred to the Improvement Committee to report the present state of the Finsbury Estate Surplus Fund (42,469*l.* Reduced Three per Cents.), which, by a resolution of the Court of the 23rd of October, 1851, was directed to be applied to the purpose of providing improved lodging-houses for the labouring poor; and whether the same is still available for that purpose. Also to inquire and report the extent to which the homes of the industrial poor in the city of London and its immediate vicinity have been and may be destroyed by the various schemes for metropolitan improvements already sanctioned; and whether, in their opinion, it would be proper to appropriate any and what portion of the aforesaid sum to assist the labouring classes engaged in the City to obtain healthy separate homes without overtaxing their means, and without compromising their independent position as working men."

This motion was also carried.

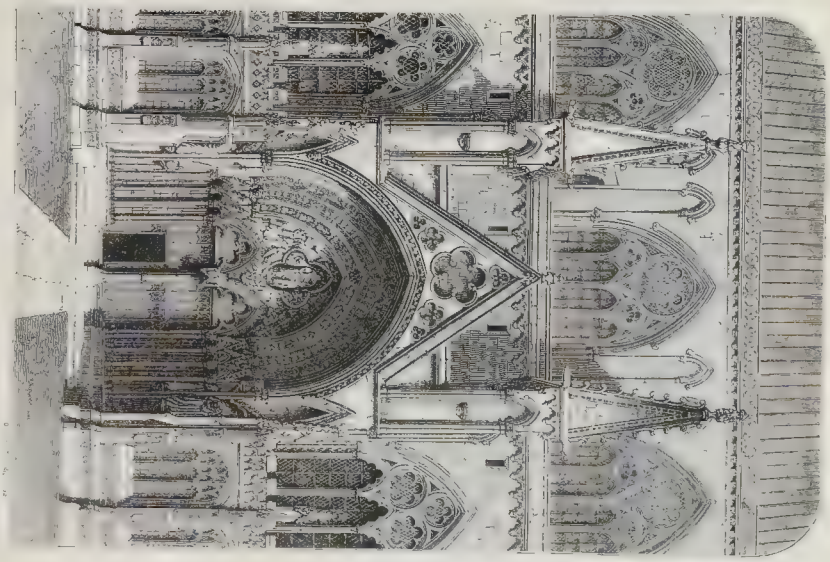
NEW PULPIT, DONCASTER CHURCH.

The accompanying view of the new pulpit of Doncaster Church sufficiently indicates its general construction and position with reference to the north-west pillar of the tower. The outer edge of the pulpit forms about three-quarters of a circle, of which the complete circumference, including the part cut off by the pillar, would be 24 feet; and the internal diameter 5 feet 4 inches. We give a plan of one of the piers of the arcade. The marble shaft is 2¾ inches in diameter and 14 inches high.

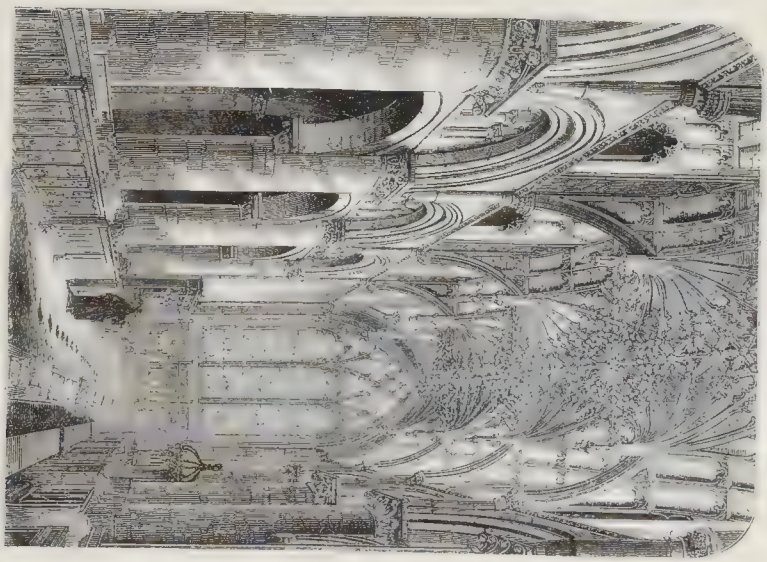


The whole of the pulpit top is formed into a slightly-sloping desk, 14¼ in. wide, of which the inside edge is 3 ft. 6 in. from the floor—the proper height for a moderately tall preacher; and stools are provided for those who require to be elevated. This top is covered with a thickly-lined cloth, buttoned on all round to brass-headed nails, let into the stone; and the cloth hangs down as a curtain within the arcade. The bishops who preached in it at the opening of Herr Schultze's great organ expressed their decided preference for this kind of pulpit over the common box, with a small book desk and cushion stuck up in front.

The floor, 5 feet above the ground, is a single flagstone of darker colour, showing as an abacus on the top of a boldly corbelled capital of a short pillar, 5 feet thick, with diaper bands cut upon it, after the fashion of a Norman pillar. The eleven front shafts of the arcade, and the seven rather thicker columns of the staircase balustrade, and the handrail, are of Languedoc red and white marble. The ends of the steps project a little, with a broad chamfer, and are carved in square diaper patterns, all different. All the carving is of natural foliage, and worked with claw tools, to leave the surface slightly rough. The stone is a soft white limestone, from Cadely, near Doncaster, a little warmer in colour than Caen stone; and the work has been done by Mr. Athron, a local builder, in a style equal to the best in the church, though it involved considerable difficulty from all the arch mouldings being curves of double curvature, which cannot be accurately drawn on paper. The pulpit, and its general design and size, were given by Mr. E. B. Denison, Q.C.; and the architectural design is by Mr. Scott, who, we need hardly say, was the architect of the church. The church will speedily be completed by the insertion of the painted glass in the great east window, lately exhibited in the International Exhibition by Messrs. Hardman. This window is 22 feet 6 inches wide, and 48 feet high, in the glazing.



Lincoln Cathedral: the South-east Porch.



Oxford Cathedral: the Choir.

HANDBOOK TO THE CATHEDRALS OF ENGLAND.

THE new volume of the "Handbook to English Cathedrals," which is now published,* includes those of Oxford, Peterborough, Ely, Norwich, and Lincoln; classed as the "Eastern Division," on the ground that Oxford and Peterborough were originally included within the great diocese of Lincoln. Parts I. and II., it may be remembered, dealt with the southern division; and the other divisions—the western, the northern, and the Welsh cathedrals—are to follow speedily. The initials to the preface of the first part, R. J. K. are expanded, we may note, in the present volume, to Richard John King. The engraved illustrations, thanks to the great resources of the eminent publishers whose names are on the title-page, are very numerous (there are as many as ninety-three in the present volume), and for the most part are excellent, though there are some few,—the west front of Peterborough, for example, and the Chapter-house at Lincoln,—that are not up to the mark. We are enabled to give three to show their character,—the grand west front of LINCOLN, the south-east porch of the same cathedral, and the interior of the choir at OXFORD. The account of the latter cathedral is full and satisfactory. We quote Mr. King's description of the *choir*, eastward of the tower; the Norman portion of which is of the same general character as the nave [assigned to the time when Canutus was prior of St. Frideswide, 1150—1180]:—

"Ugly woodwork and heavy monuments are still too intrusive, and catch the eye in spite of the beauty of the roof, and the singular view northward through the chapels. The choir consists of five bays. All the pillars are circular: the capitals are less elaborate, and the abaci heavier than elsewhere in the church: the mouldings of the upper arches are rounded throughout. These features apparently indicate that the choir, although of the same late character as the rest of the Norman work, was the first part of the church completed. The arrangement of the triforium and side aisles is the same as in the nave.

The groined roof of the choir, a magnificent example, was the work of Wolsey; and, although not without indications of declining art, adds greatly to the effect of this part of the cathedral. The lantern-like pendants may be compared with those in the choir of Christ Church, Hants, of rather earlier date; and especially with those in the timber roof of the college hall, which are nearly fac-similes. The grotesque heads terminating these pendants immediately within the choir arch, should be noticed. The roof itself terminates against this arch with a series of figures under rich canopies. The vaulting-shafts next to the tower, the corbels of which represent the head of a king and of a monk, are entirely Perpendicular. In the others the Norman corbels remain, and Perpendicular capitals have been fitted to the original shafts. Wolsey's alteration includes the whole of the choir above the triforium arches, and its commencement is marked by the flowered cornice at the base of the clerestory. The Norman walls above this cornice, however, were not removed; and the wall-passage of the clerestory is the same as that in the nave, although its original masonry is hidden beneath the rich panelling of the window-jambs. Similar panelling appears on each side of the windows, and on the roof as far as the pendants. Its flatness, as well as the ungraceful form of the cusps in the window-arches, which might have been turned in wood, are indications of debased character, which may also be traced in some of the details of the roof itself, especially in the foliation of the straight ribs."

During the repairs of 1856, a small crypt or subterranean chamber, 7 feet long, 7 feet high, and 5½ feet wide, was discovered in the centre of the church, immediately under the eastern tower-arch.

"It was constructed of rude stonework, coated with plaster, and had two small recesses or 'ambries,' north and south. Its date and original purpose are by no means certain. It has been conjectured that it may have been a portion of an original crypt, as at Ripon and Hexham;—that it may have been the first resting-place of St. Frideswide, carefully preserved when the Norman church was commenced on the site of the Saxon;—that it may have been the secret place with which every monastery was provided, and in which the treasures of the house were hidden in times of danger;—that it may have been constructed for the keeping of the University chest, which for some time during the thirteenth century was deposited in a 'secret place' within the church of St. Frideswide;—or that it may have been used for the production of certain miraculous appearances, many of them attended with curious effects of light, which, throughout the twelfth century, are recorded to have taken place at the shrine of the saint. It has not been proved, however, that the shrine at any time occupied this position in the church, although it is not impossible that it may have done so; and the use of the subterranean chamber still remains uncertain."

The monuments in the Lady-chapel here are particularly interesting. The Chapter-house is an excellent example of the Early English period.

ELY Cathedral, the longest Gothic church in England (565 feet), is thoroughly described and capitally illustrated. The painted roofs here, partly the work of Mr. Le Strange, have acquired fresh interest from the death of that gentleman, and are now being completed by Mr. Gambier Parry.

* John Murray, London; J. H. & James Parker, Oxford. 1862. Part III.

CATHEDRALS OF ENGLAND.



Lincoln Cathedral: the West Front.

Mr. Le Strange had spent much time in the collection of examples of Norman ornamentation.

"The subjects of these paintings are the principal incidents of reference to our Lord, from the creation of man by 'the word of God' to His final coming in glory.

The six subjects completed by Mr. Le Strange, beginning at the west end of the nave, are in the

1st bay. Creation of Adam.
2nd. The Fall of Man.
3rd. The Sacrifice of Noah.
4th. Abraham and Isaac:—'God will provide Himself a Lamb.'
5th. The Vision of Jacob's Ladder.
6th. The Marriage of Boaz and Ruth, from whom springs Obed, the father of Jesse.

Twenty-four prophets and worthies, supporting as it were this central line, are arranged along the entire length of the roof, two in each bay, holding scrolls inscribed with their respective prophecies of the coming of our Lord. They are as follows:—

1st bay. Abraham and Jacob.
2nd. Job and Balaam.
3rd. Moses and Nathan.
4th. Jonah and Joel.
5th. Amos and Hosea.
6th. Isaiah and Micah.

In the remaining six bays the series of sacred subjects, and large figures supporting them, are proposed to be—

7th bay. Jessie; represented in the ancient manner, as lying asleep:—'There shall come forth a Rod out of the stem of Jesse, and a Branch shall grow out of his roots.'
8th. David.
9th. The Annunciation.
10th. The Triumphal Entry into Jerusalem:—'Hosanna to the Son of David.'
11th, The Tomb, with the angel clothed in white sitting at the foot of it.
12th. The Majesty:—'The Son of Man shall come in His glory, and all the holy angels with Him.'—Matthew, xxv. 31."

LINCOLN, the grandest of all our cathedrals, full of beauty and admirably placed, ranges in date from say 1080 to 1450. The *west front*, shown by the engraving, includes some of the earliest work:—

"The Norman portion of the front consists of three lofty recesses, of which that in the centre is the highest and widest. At the foot of each of these recesses is a round-headed doorway; and beyond the side recesses are two lower arches, which never contained doorways. The masonry and capitals of these recesses deserve especial notice. The capitals are thoroughly characteristic of early Norman work; and the masonry is one of the best examples of 'wide-jointed.' The three principal recesses were originally terminated by gables; so that the whole arrangement resembled, on a smaller scale and in a different style, that of the west front of Peterborough. On the incorporation of this Norman front with the Early English work of Bishop Hugh, the gables were removed, and the circular arch of the central recess was changed to Pointed. The spring of the Norman arch is evident, immediately below the 'trellis' work, which lines the wall. Its original height was 75 feet. The present Early English arch rises to more than 80 feet.

The three doorways, within the recesses, were probably inserted by Bishop Alexander (1123—1148). They are late Norman in character, and a careful examination of the masonry will show that the walls in which they are set are of earlier date. The central doorway is by far the richest, and all its ornaments and mouldings deserve notice. On the shafts are armed figures entangled in rings of leafage, between which are birds and grotesque animals placed back to back. On the shafts of the north doorway are some singular figures arranged in pairs; one of which is attacked by serpents: another figure bites his thumb. The three entrances may be compared with the very curious Norman doorways at Kilpeck Church, Herefordshire, of which coloured casts may be seen at Sydenham. These are much ruder, and probably earlier than the Lincoln doorways, but the general character of ornament is the same.

Above the two exterior recesses, and stretching at intervals across the Norman portion of the front, is a band of remarkable sculpture, which, in the opinion of Gough the antiquary, was removed from some earlier building, and applied to the decoration of his new front by Remigius. There is no reason, however, judging from the character of the sculptures, for believing them to be of earlier date than the Norman cathedral itself."

Few soon forget their first view of this remarkable façade. The greater part of the cathedral is of Early English work, and includes most exquisite examples of the style.

The position of the *south-east porch*, of which we give an engraving, is peculiar. We remember no other example in England of a porch in this position:—

"It is formed by a deeply-recessed arch, lined with canopied niches. The doorway is divided by a central shaft, and in the tympanum is a figure of the Saviour in an elongated quatrefoil, with kneeling angels on either side.

On one side the good are breaking from their tombs, and are carried upward by angels: on the other, goat like demons are dragging the wicked downward to the mouth of hell, which is seen below the principal figure. The inner and outer door-mouldings have been filled with small figures of saints, many of which remain. They are set in a hollow fretwork of leafage, very gracefully arranged, which may be compared with that surrounding the rose-window of the south transept, within the cathedral. The central shaft has a bracket and a canopy for a figure. Within the arch, and under canopies, are the remains of four figures, which are too completely shattered to be identified. The two outer are barefooted, and probably represented women: the two inner have their feet covered by long robes."

Of these statues, and of the composition representing the Last Judgment, Flaxman thought very highly, and has referred to them in one of his lectures. Mr. Cockerell, on the other hand, thinks that, "though of the prosperous period of art, the merit of the 'Judgment' as compared with the angels of the choir, may well be questioned: at all events, it is clearly (as are also the four statues in the porch) by another hand."

The world has a rich heritage of artistic wealth and historic illustration in the Cathedrals of England; and these "Handbooks" give the facts connected with them, and necessary for a right understanding of their history, succinctly and well.

THE ARCHITECTURAL ASSOCIATION.

The usual meeting of members was held on Friday evening (the 12th inst.), at the House, in Conduit-street. The chair was occupied by Mr. T. Roger Smith; and Mr. Bailey was, on ballot, elected a member of the Association.

The report of the curators and librarians for the session 1861-62 was brought up. It congratulated the members upon the success that had attended the adoption of a step which it was considered would materially add to the usefulness of the Association; viz, the establishment of the lending library. In June last a sub-committee was appointed to consider and report upon the best means of making the property of the Association available for the use of its members. This committee subsequently recommended that a lending architectural library should be established, and suggested means of defraying the preliminary expenses thereof. A voluntary subscription-list was opened, and the response was so encouraging that the library was opened on the 4th of April last. The rules sanctioned by the general committee had been found to work very satisfactorily, with the exception of that which limited the period during which a book might be retained by a member to one week only. This rule had been much objected to, and the framers of the report thought it would be desirable to extend the time to a fortnight. It had been suggested that it would be advantageous to those members who proposed to submit themselves as candidates at the voluntary architectural examinations of the Royal Institute of British Architects if the library of the Association contained the books referred to in the list published by the Institute; as, although the library of the latter had been made available for intending candidates, still it was considered that it would be a greater convenience if the candidate could study the books at his own residence, which he would be enabled to do if the lending library contained the volumes. The report concluded by acknowledging the receipt of a number of donations, for which thanks were voted.

Mr. Ridge, in referring to some observations made on the last evening of meeting by Professor Kerr, in reply to Mr. Spiers, in which he stated that students intending to compete for the voluntary examinations could have facilities for evening drawing at the South Kensington Museum, said he had attended the Museum with that view, but was unable to gain admission to the room which he wanted. On applying, however, by letter, to the secretary, he received a reply to the effect that subscribers to the Architectural Museum of 10s. per annum and upwards might sketch from the casts on students' days, viz., Wednesdays, Thursdays, and Fridays; but that there were no student evenings now, and that sketching was not allowed on the public evenings. He (Mr. Ridge) thought it desirable that this should be known, as it might save other persons from the inconvenience and disappointment which he had suffered.

The Chairman said that students desirous of reading in the library of the British Museum would be admitted upon the recommendation of the President of the Association. It was also perhaps not generally known that those who could attend in the daytime would be at liberty to consult without any recommendation or hindrance an excellent library of between 30,000 and 40,000 volumes at the Commissioners of Patents' in Southampton-buildings, Chancery-lane.

Mr. E. L. Paraire then read a paper on "Perspective," which he illustrated with models and diagrams. He explained with these aids the theory and the practical result of perspective, observing that the difficulties connected with drawing would be greatly simplified by carefully studying and analyzing the form of the object about to be drawn, or reducing each part to the most simple forms. Having described curved surfaces, points of sight, vanishing and accidental points, &c., Mr. Paraire referred to the advantage which the student of architecture would derive from out-door sketching, which imparted a freedom of treatment and breadth of touch which were not to be acquired by the most careful process of copying. In sketching from nature in order to obtain the point of sight, and approximate vanishing points, all that was requisite was the adoption of certain simple mechanical operations. Where complicated objects were under consideration, their delineation in perspective was not so much a work of difficulty as a work of time. Several instruments had been invented (such as the camera obscura, the camera lucida, the perspectograph, &c.), by which saving of time might be effected; but in ordinary subjects it was doubtful whether those instruments which, when employed, require great stability and care, were preferable to simple rules. Having explained these rules with the help of the drawing-board, Mr. Paraire concluded by observing that, whereas the geometrician would declare that perspective was to find the point of intersection of a given line with a given plane, the artist would say that it was the art of drawing certain objects on a picture. Both, however, were correct in their definition, because after the geometrician had performed his part, and obtained certain points, the artist united these different points by a series of lines and produced a picture. The science of perspective, therefore, resolved itself into the repetition of one simple problem, viz.—to find the intersection of a given line with a given plane.

Some brief discussion ensued, in which the chairman, Mr. Spiers, Mr. Ridge, Mr. C. H. F. Lewes, and other gentlemen, took part; after which a vote of thanks was unanimously accorded to Mr. Paraire for his instructive paper.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

At a meeting on the 10th, John Lee, LL.D., F.R.S., in the chair, Mr. Cecil Brent exhibited various antiquities lately found in Kent. They included a nearly perfect Samian ware patera, with maker's name, three Upchurch vessels, an *Agnus Dei* pectoral reliquary in silver, &c. Mr. C. H. Luxmore exhibited a beautiful oval scent-box of *cloisonée* enamel work. Mr. Baskcomb produced several antiquities found in the Old Manor House, at Chiselhurst, bricked up within a wall. Amongst them was a German key of iron, with spring plug; a silver watch, 1½ inch in diameter, with dial of brilliant emerald green translucid enamel, and case of black leather, studded with rosettes of silver piqué. The maker was *Romieu à Rouen*. Mr. J. Moore exhibited some fine specimens of horse furniture, found at Hamden-hill. Mr. Roberts exhibited a copy of "Il Decamerona," of Boccacio, printed at Venice, 1594, remarkable for its binding in vellum, stamped with various subjects, mottoes, &c., which were described by Mr. Walter Roberts. The Rev. Mr. Hartshorne read the concluding part of his Illustrations of Domestic Manners in the reign of Edward I., as shown in the Expense Roll of the Princess Elizabeth, Countess of Holland and Hereford. The remainder of the evening was occupied by the report of Mr. Thomas Wright, on the recent discoveries at the cemetery of Uriconium.

PORTLAND BREAKWATER.

A very interesting account of this enormous work is given in the *Times* of the 13th inst. The writer says,—Viewed from the shore beneath the steep bold headlands of Portland Bill, the long thin stony reef which stretches out in a tapering line into the sea till it would be almost lost to view but for the mass of black scaffolding which surmounts it, has nothing just now very imposing in its appearance. It does not appeal to the senses, and has little to point out to the superficial eye where thousands and thousands have laboured daily for the last fourteen years. The fruits of all these years of toil lie deep beneath the sea, never to be seen again. If the waves were away what a monument of persevering ingenuity and labour would they not lay bare! The divers employed see it all, and know that the thin reef above the water represents a wall of stone beneath, to which that of China is mere plasterers' work; a wall of stone nearly a mile and a-half long, nearly 100 feet high, and 300 feet thick at the base, and all raised beneath the sea. To make this wall nearly six million tons of stone have been consumed, and nearly a million cubic feet of timber required for scaffolding. The mass of stone alone, if built in a solid column 100 feet in diameter, would reach to the summit of Mont Blanc! One, in fact, is almost at a loss for standards of comparison before the immensity of this work, the materials for which were heaped in at the rate of 2,500 tons a day, and sometimes at 3,000. It is only by looking at the results it has achieved that we begin to understand the greatness and importance of what is effected by this submarine mountain. Portland Harbour was always a safe shelter against south-west, north-west, or northerly winds. It was exposed on the east and south, and a mere open roadstead to the strong gales which blew from the south-east. The Breakwater was designed by sheltering it here to shelter it from all points, and this it has most effectually done. The harbour, now almost inclosed by this stupendous sea-wall, has at low water an extent of no less than 2,100 acres. Taking three fathoms' depth as the standard at low water the acreage of our made harbours is as follows:—

Kingston	140
Holyhead	267
Dover (when made)	374
Portland	1,590
Plymouth	1,741

The average of deep shallow water is, however, greater at Portland than at Plymouth, there being 1,290 acres varying in depth from 5 to 11 fathoms. The breakwater itself is built in two distinct parts, in the shape of an obtuse angle. It stretches from what we may call the island of Portland for a length of about 3,500 feet towards the north-east, and then for a length of nearly 5,000 feet more turns due north into deep water across the bay. The break of the two parts occurs at the east end, and just before the angle of turning north. This opening is made in order that ships going out in a northerly wind may not have to beat up the whole length of the breakwater, but pass at once through the opening into smooth water, and take a fair wind down Channel.

THE FALSE STEP AT THE INSTITUTE OF ARCHITECTS.

The following requisition has been presented to the Council,—dated Dec. 11th:—

"We, the undersigned Fellows of the Institute, believing that some misunderstanding or dissatisfaction exists as to the orders recently issued in respect of *the admission of reporters of the press to the meetings of the Institute*, beg leave to request that a meeting of the Institute be called to consider the case, in pursuance of the Bylaws, and set the difficulty at rest.

(Signed) Robert Kerr,
William White,
Talbot Bury,
E. B. Lamb,
Jas. Fergusson,
G. W. Mayhew,
Benj. Ferrey,
Frederick Wm. Porter."

A meeting will accordingly be held soon after Christmas.

THE NEW HOTEL FOR BRIGHTON.

The foundation-stone of a large hotel was laid on Saturday last by the daughter of the chairman of the Board of Directors of the Hotel Company, Mr. Alfred Smee, F.R.S. After the ceremonial at the site, the directors and their guests adjourned to the Town Hall, where a *déjeûner* was partaken of. The hotel will be one of those immense establishments which are rapidly springing up in the metropolis and our larger provincial towns, and which seem to be now thoroughly accepted as a public necessity.

Endeavours will be made to ensure perfect ventilation to the several rooms, as well as the best system of warming and cooking apparatus. Hydraulic machinery is to be made available to raise coals, luggage, and even passengers, to the different floors of the lofty building, at an insignificant annual cost; and the electric telegraph is to do duty in many places, in lieu of bells or speaking-tubes.

The hotel will have a fine coffee-room for gentlemen, and also a very large one for ladies; and a reading-saloon will occupy the ground-floor level of the front facing the sea. In the rear of this block the architect has contrived a range of conservatories, to which the principal rooms will open. The conservatories will be of an ornamental character, paved with marble, and can at pleasure be added to the rooms, so as to give additional area.

The upper part of the first block is allotted to suites of rooms, so arranged that a large suite may at any time be detached from the rest, and serve either for the purpose of a private party or entertainment, or for the receipt of a family of distinction requiring large and separate accommodation; these suites of rooms being complete as regards their baths, W.C.s., and separate communication with the kitchens and offices of the hotel.

The topmost story of the building is devoted to the use of the domestic and other servants, and the towers at the ends contain the great water-cisterns. Two blocks of building in the rear contain, on the ground-floor level, secondary dining-rooms, to accommodate some of the superior officers of the establishment, and spacious billiard and smoking rooms, which latter are so placed that no smell can find its way into the main building. The upper floors of these blocks are bed and dressing rooms, of which the hotel will contain about 170 altogether.

The site which has been purchased for the Brighton Hotel is in the centre of the best part of the King's-road, facing the sea, on the spot which was formerly occupied by the Battery.

The architectural character of the new hotel is Italian, overloaded with enrichment, but the only external carved decorations are about the entrance doorway, the cornices, and under the balconies. The principal rooms are to be finished internally in an artistic manner, and the main staircase and conservatories are to be highly decorated, so as to make the hotel as attractive as is consistent with reasonable economy. The architect is Mr. J. Whichcord, F.S.A., of Walbrook; and the contractor, Mr. Glenton, has undertaken to complete the building by the early part of 1864.

INSURANCE OF WORKMEN'S TOOLS.

SEVERAL correspondents complain that it is not easy for workmen to insure their tools. One says: "50*l.* will not cover my loss in Mr. Pritchard's shop, but I am not one of the thirty-six that made an appeal to the public to replace them. But now to the point. I had these tools insured for twelve years in the late Monarch Life and Fire Office. The last two years that they were insured in that office they charged 8s. 6d. per year for insuring the 50*l.*: they then refused to insure them any longer. I then offered them to five different offices, four of which refused to insure them: the fifth offered to insure them for 22s. per year, which I declined, and for the last six years they have not been insured."

We have on many occasions received intimation from fire-offices that they insure workmen's tools on reasonable terms. If there be any difficulty in it, we would re-urge a suggestion made in our pages long ago, that the masters should add to their own insurance a certain sum *per head*, and be repaid by a small weekly allowance by their men.

CHURCH-BUILDING NEWS.

Oxford.—A chapel, just completed for the inmates of the Female Penitentiary here, has been opened for divine service. The building has been constructed out of the old Holywell Bath House, which was originally erected over the wall from which the parish in which it is situate derives its name. The water which had been stagnant in the bed of the bath for some years has been carried off by means of a drain cut to the river at a great depth. By this means all trace of the Holy Well will be for ever obliterated. The works have been carried out, from the designs of Mr. James Castle, architect, by Messrs. Joseph Castle & Co., of this city, builders.

Bristol.—Emmanuel Church, St. Philip's district, has been consecrated. The site of the church is known as the Dings, near the goods station of the Great Western and Midland railways, and was formerly used as the place for holding Bristol fair. The ground, according to the local *Mirror*, is extremely marshy; and it has been necessary to carry the foundations to a depth of nearly 30 feet, in order to insure stability. The building is comparatively plain and unpretending. The edifice is in the Early Decorated style, and is built of Hanham stone, with freestone dressings, Bridgwater tiles being used for the roofing. The building consists of a nave, two aisles, apsidal chancel, and south porch. The nave is 87 feet long by 28 feet wide; the aisle, 87 feet by 12 feet; the octagonal chancel, 18 feet by 23 feet; the height of the nave, 51 feet to the ridge; the chancel, 42 feet to the ridge; the aisles 14 feet to the wall-plate. The principals of the roof are supported on carved corbels, representing natural foliage. The pulpit is octagonal, carved with diaper panels, and has shafts of Devonshire marble. The font is in the same style, being supported by five shafts of Devonshire marble. The vestry is on the north side of the church, and the bell-turret on the east end, over the chancel arch. The architects were Messrs. Pope & Bindon. The total cost of the erection was 3,000*l.* The windows are nearly all of plain glass. There are 700 sittings, two-thirds free. The work in the different departments was executed by Messrs. Palmer & Green, Mr. E. Lewis, Mr. J. Bussell, Mr. Williams, Mr. Gay, Mr. Tuckey, and Mr. White. Mr. Melsom executed the Creed and the Decalogue over the chancel.

Barrow Gurney (Somerset).—The church of Barrow Mynchin, dedicated to the Holy Trinity, and so called from the nunnery which once was connected with it, has recently had some alterations and improvements made at the expense of the incumbent. Though originally erected in the twelfth century, it was almost rebuilt about forty years ago, and the interior filled with high pews. About half of these have been remodelled, so as to present an ecclesiastical appearance, and no longer to conceal the occupants. They have, together with the pulpit, &c., been stained and varnished to resemble dark oak. The reading-desk has been improved, and a Gothic lectern added. A carved wood cover for the font, of Gothic design, from the hands of Mr. Crewe, of Clifton, was presented by Mrs. Hardman. On the exterior, the rough-cast has been stripped off the north side, and the base of the ancient stone cross replaced in the picturesque churchyard, where there has been found a monumental slab coffin, shaped, and with a floriated cross incised on it, probably of an ecclesiastic of the thirteenth century; whilst under the modern lath and plaster there has been brought to light the original Early English tower arch. This has been exposed to view by taking down a modern ceiling; and on the inner wall of the tower there has been re-erected, to contain the carved alms-chest, a fragment of a piscina, which once belonged to a demolished church or chapel in Temple-street, Bristol, and which still retains remains of colour on the fan-tracery.

Astbury (Cheshire).—Astbury Church has been re-opened, though much of the decoration is left incomplete. The stonework has been cleaned from wash and plaster, the floors repaired, as well as the carved oak pews of the date of Charles and James II., and the building warmed with hot water. A western gallery, no longer needed, has been removed, and that part of the church restored to its original proportions. The font has now been re-carved and re-set upon a raised basement. The carved work of the north aisle is in great part restored. An oak screen at the east end of the same aisle forms a new vestry in place of the ugly enclosure used as such; while four windows of stained glass, by Warrington, in memory of the late Mr. Randle Wilbraham, have enriched the north-east end of it. The roof of the south aisle has been re-decorated, at the expense of Mrs. Ackers, of Moreton Hall. During the progress of the work some fresco painting was uncovered in the panels below the clerestory windows, one being the Royal Arms of Henry VII., another a rude scene of (apparently) the Virgin knighting St. George; and on one of the pillars a diaper of the monogram, crown, and stars. Much yet remains to be done before the fabric and the churchyard can be said to be thoroughly in order.

Romiley.—The village of Romiley, which has lately been brought near to Manchester by the new Marple Railway, has long wanted suitable church accommodation. The existing church of St. Chad, now out of repair, is far too small for the population of the township. Originally built for the Church of England, it at length passed into the hands of the Dissenters. After being for some time occupied by them as a meeting-house, it became desecrated by being used as a cow-house. Again restored to its rightful uses, it now represents the Church of England in the township of Romiley. As the church is dilapidated, the churchyard overcrowded, and the situation in many respects unsuitable for the altered neighbourhood, a new church was projected to be built on another site. Land, to the extent of an acre and a half, has been given by Mr. L. Heyworth; and arrangements have been made for commencing the new church in the early part of next year. Accommodation will be provided for about 600 persons, in a church to consist of chancel, with apsidal sanctuary; a nave, with north and south aisles and transepts; and a north-west tower, which will be capped by a well-proportioned broach spire: underneath the tower is the baptistery. On the north of the chancel is the organ-chamber, and on the south the vestry. The architect whose designs have been selected, and to whose superintendence the erection of the building is intrusted, is Mr. J. M. Taylor, of Manchester.

Liverpool.—The ratepayers of Toxteth-park have agreed to borrow 15,000*l.* for the purpose of purchasing fifteen acres of land, at a cost of 12,000*l.*, from the Earl of Sefton, to enlarge the Smithdown-lane Cemetery, to erect a Roman Catholic chapel in the grounds, and to inclose and lay out the new ground.

Pocklington (Yorkshire).—A Roman Catholic Church has just been commenced at Pocklington. The plan consists of apsidal chancel, 21 feet by 15 feet; nave, 60 feet by 26 feet; north porch and belfry. The chancel and one bay only of the nave are included in the present contract. The architect is Mr. M. E. Hadfield, of Sheffield; and the builder, Mr. Grant, of Pocklington.

Ripley (Yorkshire).—The ancient church of All Saints, at Ripley, having been restored at an expense of 1,000*l.*, exclusive of the cost of several stained-glass memorial and historical windows, it has been re-opened. The church has been entirely re-roofed, and the nave and aisles fitted with open seats, the whole of the woodwork being stained and varnished. The north chancel aisle or chapel, the property of the Ingilby family, has been restored at their expense. The very ancient rood screen, which is supposed to have belonged to a church at Ripley prior to the erection of the present old structure, has been fixed at one side of the south chapel.

Chester-le-Street.—The parish church has been re-opened for divine service, after having undergone a restoration. The high-backed pews have given place to open seats. The low-pitched one-spanned roof, with its plaster ceiling, has been removed, the walls raised to their original height, and a three-spanned, open-timbered roof substituted for the old one. The plaster has been stripped off the walls, and the stonework pointed. The columns and arches, which had had unlimited coatings of whitewash, have been cleaned, and the natural face of the stone exposed. Three of the arches have been entirely rebuilt. A portion of blank wall has been removed in the chancel, and an arch erected, the space opened to be used as an organ chamber. The various columns, which were much mutilated, have been cemented and chiselled. The west arch, dividing the tower from the nave, which was built up, has been re-opened. The old oak pewing has been re-wrought into open seats, the carvings of which have been executed by Signor Bulletti, now resident in Newcastle. The reading-desk and pulpit are new, and of oak, the latter a design in open tracery. The church is heated with hot-water, and lighted by gas; the brass standards for which are the workmanship of Mr. G. Bailey, of Newcastle, plumber. The earth surrounding the church and against the walls, to a height of about 3 feet above the flooring (the cause of continued damp permeating the stonework), has been excavated, and drains put in. The floor of the church has also been raised, so that it is entered from the level instead of as formerly by a descent of three steps. The whole of the work has been executed under the superintendence of Mr. M. Thompson, architect, Newcastle. The contractors for the whole works were Messrs. Waite & Howard. The contractors employed the following tradesmen for distinct branches:—Mr. G. Cooper, for staining and decorating; Mr. E. Beck, for slating; Mr. G. Bailey, for plumbing; and Messrs. Scott & Reed, the masons' work, all of Newcastle. A stained-glass window, by Mr. Wailes, of Newcastle, is fixed at the eastern end of the church, immediately over the altar table. Other windows are in course of preparation.

Elgin.—The style of the proposed new church about to be built for the Rev. Mr. Pringle, at Elgin, says the *Forres Gazette*, is Early English. The length is 80 feet, and the breadth 40 feet; height to apex of gables, 50 feet, with spirelets of 12 feet over. The entrance is by a double valve door, facing South-street. There is a triptych window over, and a circular ditto above these. There are in the side five bays of double lancet window, with buttresses. The session-house is on the south-east corner, with heating-room adjoin-

ing. The church will seat in the area 400, and in an end gallery 100. The plan was furnished by Mr. Bisset, architect. The site is in the newly opened thoroughfare of North Guildry-street.

STAINED GLASS.

All Saints' Church, Kensington.—A memorial twin-light window has been placed in this church by the late Chevalier Burnes, K.G., to his first wife, Sophia, daughter of Major-General Sir George Holmes, K.C.B. In the two upright lights figures of St. John and the Poor Widow are introduced, being illustrations of the love and charity forming two of the chief pillars of free-masonry, of which craft the late chevalier was a distingnished brother. The figures are surmounted by Early Decorated canopies, and the Burnes arms are emblazoned at the base. In the top trefoil a crown of glory and two inverted torches are introduced. The window has been executed by Messrs. Ballantine & Son, of Edinburgh.

Corstorphine Church (near Edinburgh).—This edifice was one of the few monastic buildings in Scotland which escaped destruction at the Reformation. The large south transept window has lately received an embellishment in the form of a memorial to the late Mr. John Girdwood, of Scredington Manor, Lincoln. The centre light contains a representation of the "Faithful Steward:" the dexter and sinister lights illustrate two memorable events in the history of our Saviour; viz.,—"Jesus wept," and the "Raising of Lazarus." The window was furnished by Messrs. Ballantine & Son, of Edinburgh.

PROVINCIAL NEWS.

Wigtown.—The foundation-stone of the new County Buildings has been laid. The new edifice, according to the *Dumfries Courier*, is built on the site on and near to which the old Court-house (now partly demolished to make room for it) stood, and is surrounded on three sides by wide streets, having its principal frontage towards the square. The general design of the building is after the French or Hôtel de Ville style of architecture, though the principal pointed windows partake of the Flemish. The stone principally employed in the building is the red sandstone of Whitehaven, the dressings of the doors, windows, &c., being of a white freestone from Longridge, near Penrith, apparently rather dull in tone. The main entrance on the west front is built entirely of this white stone. It consists of a portico surmounted with an open rail or balcony. On the west side—the principal frontage—there will be fourteen windows,—six in the lower and eight in the upper story, all filled in with centre mullions, and those in the second story arched, filled in with tracery at the top, and finished with a label moulding. The breadth of the frontage on this side, exclusive of the tower on the north side, is 96 feet, and the breadth of the tower is 15 feet. The most remarkable feature of the old Court-house is the tower, which is to be renovated and brought into harmony with the new buildings at its side. For a distance of 40 feet from the ground its sides will be refaced: above that height the tower will be entirely rebuilt in the style of the Hôtel de Ville (now introduced for the first time into this district); the turret to be four-sided, with a platform on the top 8 feet square, and with a balcony running round. A staircase of 115 feet will communicate from the basement to this platform on the tower. The rebuilding of the upper part of the tower will involve the removal of the present balcony and clock faces on the north and west. A small spire, covering a ventilator, will surmount the roof of the main building, in a line with the principal entrance. Passing into the entrance hall, which is 22 feet by 11 feet in size—the main staircase—leading to the court-hall, assembly rooms, &c. above, is in front, its dimensions being 24 feet by 18½ feet. On the ground floor off the entrance hall to the right are two rooms for the Sheriff Clerk measuring respectively 20¼ feet by 17¾ feet, and 25 feet by 17½ feet. On the same side are three fire-proof safes or apartments for the preservation of the county records; and a library for the use of the procurators, measuring 21 feet by 18 feet. On the left side of the entrance hall are chambers of the procurator fiscal, viz., two rooms,—one measuring 25 feet by 17 feet, and the other 19 feet by 17 feet: there are also a waiting-room and three record-rooms. The safe for the burgh records will be in the tower. The keeper's rooms are situate at the back. The heating apparatus will be placed immediately beneath the main staircase. Ascending the staircase the court-hall is situate on the side next the tower. The dimensions of the hall are 44½ feet by 27½ feet. The retiring room for the jurors is 19½ feet by 18½ feet. On the right hand is the Sheriff's room, which measures 21 feet by 19 feet. At the back are three witness-rooms. On the other side of the building from the court-hall there will be an assembly-room, 45 feet by 25 feet. The architects are Messrs. Brown & Wardrop, of Edinburgh; the contractor, Mr. Archibald Murray, Wigtown; and Mr. James Dryden is inspector of the works. Building operations were begun about the end of August last, and have made great progress since that time. Nearly sixty workmen have been engaged upon the works, and the first story is already completed.

GREAT YARMOUTH.

Church of St. Nicholas.—It has been determined to proceed with a further and complete restoration of the fine old parish church of St. Nicholas. The Dean and Chapter of Norwich, who are patrons, and on whom consequently the reparation of the chancel properly devolves, have given 1,000*l.*, and the Rev. H. R. Nevill, the incumbent, has privately obtained the promise of another 1,000*l.*; a general appeal to the parishioners and the public will soon be made. Mr. Scott has lately inspected the church on behalf of the committee; but the works will be carried out according to the designs and under the direction of Messrs. Pritchard & Co., whose estimate is 22,000*l.* The Rev. H. R. Nevill is chairman of the committee, and Mr. C. J. Palmer is honorary secretary.

The New Assembly and Reading Rooms, on the Victoria Esplanade, immediately opposite the Wellington Pier, have been completed, and are now open to the public. The architect was Mr. H. H. Collins. The Mayor, Mr. R. Steward, was chairman of the committee, and Mr. C. J. Palmer, secretary. The cost was 3,800*l.*

Proposed New Baptist Chapel.—A new chapel, which has been long wanted for the Baptist community in the town and neighbourhood, is at length about to be erected, on a larger scale than the present small and unsightly old edifice, which stands back in a long alley, in one of the most obscure parts of the town. A site has been selected on an elevation in close proximity to the High-street. The chapel will be in the Gothic style, and large enough to accommodate 500 people, at a cost of something like 500*l.*

Destruction of Brooke Church by Fire.—The old church in the village of Brooke has been totally destroyed by fire, the commencement of which was occasioned by the falling of a hot cinder from a small portable charcoal fire stove, which was placed in the gallery in order to keep the organ from the effects of the damp. There was no fire-engine in the parish at the time. The whole of the roof of the church, the pews, sittings, and pulpit, and all the books, together with the organ, were destroyed, and the damage is estimated at from 500*l.* to 600*l.* The edifice was not insured.

ALBERT MEMORIALS.

The Bristol Memorial.—This proposed memorial, not having met with adequate support, has been with reluctance abandoned. In compliance, however, with the expressed wish of the donors, certain sums first given to the local memorial, and amounting to between eighty and ninety pounds, have been transferred to London. The committee express their regret, that while Edinburgh, Dublin, Liverpool, Manchester, Birmingham, Leeds, and other cities are about to erect each its Albert memorial, Bristol will be wanting in the monument which should have adorned her streets and testified to the worth of an illustrious prince.

The Fettercairn Memorial.—The question here as to whether an arch, an obelisk, or a fountain be erected, has been finally decided in favour of an arch, to cost 170*l.*

The Saxe-Cobourg Memorial.—The sum necessary for the erection of a statue of the Prince having been collected in Saxe-Cobourg, the Grand Duke has approved of the spot chosen by Her Majesty for its erection, namely, in the market-place at Cobourg.

Albert Oaks.—An Englishman writes (but now too late for this year),—"Pray use your influence with your readers throughout the region in which your paper circulates, and induce them to follow the example set by our beloved Queen in planting an oak on the anniversary of the death of the late lamented Prince Consort. This permanent and inexpensive memorial would survive when those of stone will have perished. Every parish or estate of a private gentleman might have one of these trees, to be called Prince Albert's Oak."

THE NEW MARKET FOR DERBY.

The plans for a new covered market have been unanimously adopted by the town council, and the work will forthwith be commenced. The plans were prepared by Mr. Thorburn, the borough surveyor. While the plans were under consideration, one of the council, Mr. Madeley, alluded to the fact that "their surveyor had just erected one of the best cattle-markets in England, and which it was said would cost 15,000*l.*, but which did not exceed his estimate by one farthing, and was bringing in an income far exceeding their expectations; paying the interest of the money expended, and leaving a balance in hand." Mr. Stevens stated that "as he did not himself feel satisfied, he had employed his own surveyor to go through the plans, and he found that Mr. Thorburn's estimate of the cost was correct."

The road through the cattle-market is to be declared a public highway.

THE BRITISH WRECK REGISTER.

This record is a necessary though sad duty; for by the list of deaths we are enabled to form an estimate of the large loss of valuable human life which occurs through wreck; and by this means the Government and the public have their attention directed to the erection of lighthouses, the supply of lifeboats, the careful inspection of vessels, the improved education of the ships' officers and crew, the observance of storm signals, and other matters which to a certain extent will prevent the large annual loss of seamen.

In twelve years, ending in 1861, the number of seamen who have perished on the British coasts alone amounts to 7,645 (rather more than an average of 637 in each year). In the twelve years, from the Farn Islands to Flamborough Head, 670 lives have been lost; from Flamborough Head to the North Foreland, 1,068; North Foreland to St. Catherine's Point, 514; St. Catherine's Point to Start Point, 82; Start Point to the Land's End, 460; Land's End to Hartland Point, including Scilly, 353; Hartland Point to St. David's Head, 473; St. David's Head and Carnsore Point to Lambay Island, and Skerries, Anglesey, 969; Skerries and Lambay to Fair Head and Mull of Cantire, 1,597; Cape Wrath to Buchan Ness, 257; Buchan Ness to Farn Islands, 280; all other parts of the coast, 922.

In considering this far too great loss, we must not omit to note the large number of vessels and seamen which form our mercantile marine. In 1861, there arrived and departed from British ports 267,770 vessels, and more than 1,500,000 sailors. Of the vessels, 1,494 were lost; and of the men, 884 were drowned; and the estimated total loss of property during the year is more than 1,000,000*l.* sterling. Large as this destruction is, it is satisfactory to find that 4,624 persons were saved by means of life-boats, &c.,—most of which are under the care of the National Lifeboat Institution. We need many more life-boats than those already in use; and, besides the harbour in progress at Tynemouth, other places of refuge along the east coast are much wanted.

DOINGS IN BURNHAM CHURCH, BUCKS.

HEDSOR CHURCH.

This fine church is in the hands of masons and plasterers, who are working their will on it without the supervision of an architect. Visiting the church a few days ago, I saw that the walls, of flint and clunch, which were beautifully built, nearly flush with the window-dressings, were being cut back an inch or so to receive a new coat of plaster, utterly obliterating the distemper decorations on the old plaster, which were in places visible. The walls were in excellent repair, so that this piece of spoliation is inexcusable. The whole of the north side has undergone this process; and I observed the masons, while applying it to the west wall, by one stroke of the chisel disclosing portions of large black-letter writing, and by the next stroke demolishing them. Some of the walls were built with a curious entasis, which has been quite destroyed, it being intended to make the plastering *flush*. The mason inno-

cently remarked what a deal of trouble they had had to make it so. The fourteenth century oak roofs are to be *restored*, and then stained and varnished. The voice of the *Builder* might possibly induce the authorities, before proceeding to restore the rood-screen, chantry, piscina, and altar-window, with its encaustic cill, and the exquisite masonry of the windows, which are of the purest periods, to consult some one who knows their value better than the present operators appear to do.

Hedsor Church, four miles distant, is in course of restoration at the hands of a village carpenter, who is building new pier arches, and restoring the doors and windows according to his own taste. Examining the curious round-arched semi-Norman piscina, I observed on the back a small *cinquefoiled* outline in pencil, and was informed that it was intended to *restore* it in that form. As this was some weeks ago, this has doubtless been done. How many months' purchase is the exquisite thirteenth century wooden roof, with its circular columnar king-posts with moulded caps, worth?

Wycombe. E. J. P.

THE ROYAL ACADEMY AND ARCHITECTS.

With reference to your remark in notice of R. R. Reinagle, as to "*one* resignation" (Geo. Clint), since foundation, let me say that Sir Robert Smirke, still living, resigned a few years ago, when his brother, Mr. Sydney Smirke, was elected in his place as one of the four architect R.A.s (*four* only among the *forty!*), and also succeeded to the office of treasurer, which Sir R. Smirke had filled previously to its being held by Mr. Philip Hardwick, R.A., architect. (Another resignation was withdrawn by special request.) We have now only *one* architect among the A.R.A.s. Is there any Professor of Perspective? No name appears in this year's catalogue of the Academy. N.

MR. FERGUSSON'S PROPOSED FORM OF THEATRE.

With reference to the above, the following questions have to be asked:—How many private boxes do you want at the side? The people who take private boxes intend to be *private*, therefore it would not do to have one tier projecting beyond the other. Wherever these boxes were, if you made roofs over them, they would catch the dust and look dirty. Could you get a gallery large enough to hold the pantomime audiences according to Mr. F.'s system? What is the average Victoria gallery at Christmas? You must remember some people *will* have boxes near the stage. With reference to the stage, it is most necessary to keep the Munich arrangement, as repeated at Victoria, Berlin; viz.,—the passage parallel with whole depth of stage, with doors on to stage, and dressing-rooms out of it: this avoids loitering behind wings, and singers standing in draughts of air, liable to cold.

As to the architecture of a theatre, why not Pointed? A. W.

THE METROPOLITAN BOARD OF WORKS.

SEWERAGE AND THAMES EMBANKMENT.

At the usual meeting of the Metropolitan Board of Works last week, the tenders for the execution of the Southern Low-level main sewer, 9½ miles in length, commencing at Putney and terminating at Deptford, were received. There were twelve competitors, and their tenders were as follow:—Turners, 350,000*l.*; Brassey & Co., 325,000*l.*; Waring, Brothers, 283,518*l.*; Moxon & Co., 282,000*l.*; J. Aird & Son, 279,393*l.*; W. Dethick, 270,000*l.*; Harding, 263,400*l.*; J. Diggle, 261,000*l.*; Hill, Keddall, & Robinson, 240,000*l.*; W. Webster, 234,000*l.*; Samuel C. Ridley, 215,000*l.* The whole of the tenders were referred to the Main Drainage committee for consideration and report. The chief engineer's estimate was 230,000*l.*

A report was presented from the Thames Embankment committee, in which they say:—

"Your committee have to state that they have received a report from your engineer requesting instructions as to the promotion of a subway along the embankment. Your engineer has also laid before the committee sections showing the mode of carrying out such a work, which your committee beg to submit for the information of your honourable Board. Your committee find that the cost of constructing a subway would be about 20,000*l.*; and, looking to the great public advantage that would accrue from its construction, they have unanimously arrived at the conclusion that a subway should be formed along the proposed embankment between Westminster and Blackfriars Bridges; and they recommend that the necessary instructions be given to the engineer of the Board."

The committee also alluded to a proposal to plant trees and shrubs along the embankment, which we regret to observe they treat as a suggestion "of no practical value."

Mr. Tite, M.P., moved the adoption of the report, remarking that the construction of a subway in the proposed embankment would be a work of the greatest importance, as in it could be placed gas and water pipes, thus preventing the breaking up of the roadway, which was now the source of such constant complaints.

The motion was agreed to unanimously.

CASES UNDER THE BUILDING ACT.

A Dangerous Building.

At Greenwich Police Court, Mr. Joseph Williams appeared to a summons, at the instance of the Police Commissioners, calling upon him to show cause why an order should not be made upon him to render safe a certain building of which it was alleged he was in the occupation.

The building in question was used as a coach factory, and was, it will be remembered, destroyed by fire in the month of August last. The premises, occupying a large space of ground at Newcross, belonged to the London and Brighton Railway Company; and, as the owners, the company, in its corporate capacity, had been proceeded against in this court, and the usual order was made. The order not having been obeyed, it became necessary, before the Commissioners of Police could act upon the power given by the Metropolitan Buildings Act of pulling the building down and charging the expense upon the owner, to summon the occupier.

For the defendant it was now contended that, the building having been destroyed by fire, he could no longer be considered the occupier—a point of law which, it was intimated, was disputed on the part of the railway company.

Mr. Maude made the order asked for.

Additions and Works.

At the Wandsworth Court, Messrs. Temple & Reynolds, ironmongers, of Motcombe-street, Belgrave-square, were summoned before Mr. Ingham, under the Building Act, for neglecting to give Mr. Hiscocks, the district surveyor of Wandsworth and Tooting, two days' notice of certain works at Melrose Hall, the late residence of the Pasha of Egypt.

The complainant described the works as consisting of a chimney-breast and fire-place, connected with another large grate. It was built expressly for the purpose of giving facilities in cooking.

The defendant, Mr. Richard Temple, admitted that no notice had been given, and said he was not aware that one was necessary. When the Pasha of Egypt went to reside at Melrose Hall he (the defendant) was sent for, as there was not sufficient accommodation for cooking. He accordingly put up a few bricks and some bars at the sides of the fire-place in the kitchen, in a temporary manner, for the short time the Pasha remained at the hall.

Mr. Ingham referred to the Act of Parliament, and found that notice was required in case of any alteration, &c., and that exemption applied only to necessary repairs. His worship said that these works were not necessary repairs, and therefore the defendant was bound to have given notice to the district surveyor. The Act was very large, and applied to every alteration, except for necessary repairs.

The defendant said that Mr. Hiscocks had made a claim upon him for 5*l.*, as his fee for surveying the works.

Mr. Ingham expressed some surprise at the amount of the fee, and said it surely could not be 5*l.*

The complainant said he was entitled to charge the half of a fee in the case of a new building. A full fee was 10*l.*

The magistrate fined the builder 1s., with costs 5s., and said they must settle the fee question afterwards.

MASTERS AND MEN: LENGTH OF A DAY.

At Wandsworth Police-court, *Mr. George Bean*, of South-villa, Wandsworth-road, was summoned before Mr. Ingham for refusing to pay Richard Rowls certain wages as a journeyman painter.

An important point arose in the case. The question in dispute was whether the complainant was hired at 4s. 6d. per day of ten hours, or at short days. The complainant swore that it was usual in his trade to work short days for three months in the year, and his engagement with the defendant was for 4s. 6d. per short day. He also said that the question of ten hours per day was never mentioned. The defendant on his part declared that the engagement was at the rate of 4s. 6d. per day of ten hours, and he had offered the complainant his wages, computed upon that scale. The defendant called a witness, a master carpenter, to prove that the custom of the building trade was to calculate a day at ten hours, and that he had never heard of short days.

Mr. Ingham wished to know how the complainant defined a short day.

The complainant said,—half-past seven to eight o'clock in the morning, with half an hour at dinner, and to work until dusk. He called a decorator, who stated that it was customary in their trade to work short days; but he admitted that there was no fixed time. He mentioned the shops of Mr. Freake and Mr. Kelk, where the men worked short days, but their times were different.

Mr. Ingham said, with a day of ten hours there was something definite; and all his experience went to prove that a day of ten hours was the acknowledged custom of the building trade. There were some days at this time of the year when a workman could not see outside a building more than two or three hours in a day; and again, there was the wet weather, when the work would be valueless to the master. He asked, in those cases, whether the master was bound to pay his men wages for short days.

The complainant and his witness stated that on the days they were unable to work they went home, and charged the masters so much an hour for the time they had worked. The witness stated, however, that there was some kind of work they could do in bad weather.

Mr. Ingham said it was preposterous to suppose that a master would allow his men to fiddle their time away in bad weather, and to pay them at the rate of short days. He again asked the complainant for his definition of a short day.

The complainant said eight hours and a half, and when they did not work to be paid at the rate of 6d. an hour.

Mr. Ingham said there did not appear to be any definite time with respect to short days, for the complainant had first stated that it consisted of nine hours the day, and afterwards eight and a half hours. They then came round to 6d. an hour for the time they worked, and that was calculated upon a scale of 5s. for ten hours, which was proof to his mind that a day meant ten hours. He would, however, give the complainant an opportunity of having the case decided by a jury in the County Court.

The complainant preferred having the magistrate's decision.

Mr. Ingham then said he decided that a day consisted of ten hours; and he made an order accordingly.

Books Received.

Transactions of the Glasgow Archæological Society. Part II. Glasgow: printed by J. Macnab. 1862.

These Transactions contain several interesting papers; especially the first, by Mr. A. Galloway, being an "Inquiry into the Origin and Meaning of some Names of Places in Scotland, and particularly in Clydesdale." Perhaps the word Scotland itself is as interesting as that of any name referred to in the title of the paper.

"*Scotland* has been barbarously treated by philologists. The old Norse and other Scandinavians used the word Skot as their common term for a tax or contribution. The Saxons, substituting *sh* for *sk*, according to their constant practice, said *shot*. The one still call us *Skottiske*, while the other call us *Schottische* or *Schotten*. In English and Scotch both forms are preserved in such a phrase as 'one pays his shot, and another goes scot free.' But as, in old times, the tribute was payable in beasts, skot came in that way to have a relative meaning. Probably in practice the worst of the flock were handed over to the tax-gatherers, for *we still* call these the *shots*. We have in this word a natural solution of a long vexed question as to a migration of Scotch from Ireland into Scotland having given the name to the latter country. The simple case appears to be that a large portion of Ireland was tributory to the Danes and Norwegians; and in like manner a large portion of Scotland was tributary; so that both the two countries were Scotlands."

Mr. Galloway supplements his paper by another on "Scotland in the Middle Ages." There is also an interesting paper "On the Early Population of Scotland," by Mr. J. Scouler, M.D.; and "A Visit to the Wall of Hadrian," by Mr. J. Buchanan, forms the subject of another of the papers contained in this volume, which is also illustrated by a fac-simile of an ancient charter to St. Nicholas's Hospital at Glasgow, on which hospital there is also a paper.

Miscellanea.

Statue of Sir William Napier.—A marble statue of the late General Sir William Napier, K.C.B., by Mr. George G. Adams, sculptor, has been placed in St. Paul's Cathedral, near the north entrance.

The Oil-wells of Canada.—The direction of the Oil-wells Company of Canada is about to be reinforced, we are told, by the adhesion of Mr. George Braginton, of Torrington, Devon, the banker, and director of the North Devon Railway. The shares, it seems, have been largely dealt in at ⅛, ¼, and ⅜ premium; and it is understood that the requests for allotments already equal the number of shares to be comprised in the first issue.

Imitation of Inlaid Work.—Sir: I notice in your paper, that a patent has been taken by P. Bray, for ornamenting wood in imitation of inlaid work, dated February 27th, 1862. I beg to inform Mr. Bray, it is nothing new. In 1851, I brought out a system of ornamental staiuing on wood, with Mr. H. Stephens's stains, and it was exhibited in his case at the International Exhibition of 1851. The device was part of a frieze, copied from the Vatican, at Rome.—W. Jennings, Netley.

Manchester Architectural Association.—At an ordinary meeting held on the 3rd inst., the vice-president in the chair, it was resolved that a *conversazione* be held early in the new year, and that each member will strive to send some work of interest and art for the evening's entertainment. Mr. Oakden promised to read a paper at the following ordinary meeting on "The History of Pottery, Terra-cotta, Tiles, and other Articles made from Clay, and their Suitability for Constructive Architectural Decoration." Mr. G. S. Aitken then read an elaborate description and notice of Furness Abbey.

Stow.—The largest mirror in the International Exhibition, from the Belgian Court, has been taken to Stow, in Bucks, and fixed in one of the state rooms, which had been richly decorated. The mirror occupies the whole of a recess, and is nearly two tons in weight, including case and frame; the case being 19 feet 10 inches by 11 feet 8 inches; net size of glass, 16 feet 10 inches by 10 feet 8 inches. The work was done without the slightest damage to either frame or glass. The cutting-away to enable the glass to be got into the room, was, the sashes to be taken out, and window-back cut down. Mr. W. Hemsley, clerk of works, superintended the removal and placing of the mirror.

New Court-House at Wick.—The *Northern Ensign* understands that all preliminary arrangements for the erection of the new court-house at Wick are now completed. The building, says the *Ensign*, will be one of the finest architectural structures in the north, and will contain ample accommodation for all public purposes, though the court-room will be considerably smaller than the present. There will be provided rooms for the sheriffs, sheriff-clerk, procurator-fiscal, and other officials, and a portion of the ground behind on the floor will be converted into a lock-up. The entire cost, as estimated by Mr. Rhind, will not be less than 5,000*l.*, one-half of which will be borne by the Government, and the other will be levied by assessment on property throughout the county, including the burgh. After the completion of the work, the premises will be kept up at the public expense, out of which source also the feu-rent of 10*l.* 10s. per annum, hitherto paid by the county, will be paid.

Improved Street Communication between Bedford-row and the Foundling.—The ancient chapel at the corner of Chapel-street and Millman-street, Bedford-row, having been pulled down, the trustees of the Rugby Charity, to whom the site reverted, are about to erect private houses on the ground, which houses, and others to be built on the west side of Millman-street, are to have a new line of frontage, in order to widen the thoroughfare to the extent of 50 feet. Several of the houses at the west end of New Ormond-street, and many of the buildings in Feather's-mews, Lamb's Conduit-mews, and Long-yard, are to be removed, for the purpose of extending Millman-street across the site into new Millman-street, the high brick wall at the south side of this street, which has hitherto obstructed egress, being removed. By this improvement a new and direct communication will be opened out between Holborn, Bedford-row, and Guildford-street, the Foundling Hospital, Mecklenburg-square, &c. This public improvement will be effected at the sole cost of the Rugby Charity. Mr. H. B. Garling, architect, will have the superintendence of the improvements.

The Wolverhampton Sewerage further postponed.—A motion by a Mr. Sidney has been discussed in the Town Council of Wolverhampton to the effect "that the resolution of the Council passed at their meeting on the 13th day of January, 1862, authorising the expenditure of 35,000*l.* by yearly instalments for sewerage purposes be rescinded." To this motion an amendment was made by a Mr. Fellows, to the effect that before the money appropriated for the sewerage were spent the whole question should be reconsidered. The motion for rescinding was lost by 25 to 18, and the motion for "reconsidering" the question was carried by a majority of 23 to 20.

The Projected East London and Rotherhithe Railway.—Yesterday afternoon, at the fortnightly meeting of the Limehouse board of works, at Ratcliff Workhouse, York-street, Commercial-road East, a memorial was read by Mr. Ratcliff, the clerk, for the construction of a new railway from the district of the Shadwell station of the Blackwall line, which is to pass through the Thames Tunnel to Rotherhithe. The projected scheme was to be called the East London and Rotherhithe Railway. This new undertaking will extend on the Middlesex shore to the North London Railway, and on the south side of the river to the South-Eastern and other railways. The board, after a brief discussion, referred the subject to the Wapping committee for their authority to the company to carry out the intended line.

The Royal Scottish Academy.—The thirty-fifth annual report of the council of the Royal Scottish Academy of Painting, Sculpture, and Architecture has just been published. The report states that the exhibition of 1862 (at Edinburgh) was opened on the 12th of February, and closed on the 10th of May. The works exhibited were more numerous than those in the preceding exhibition, and comprised 824 paintings in oil and water colours, and thirty-three works in sculpture. These were chiefly the productions of resident Scottish artists, though several brilliant contributions from London and elsewhere much enhanced the interest and value of the collection. Both by day and in the evening the attendance was numerous, and sales of works in the rooms were effected to the amount of 5,000*l.*—nearly three-fifths of which were to private purchasers.

Improvement in the Manufacture of Steel. Lately an important discovery has been made by Mr. Anderson, the assistant-superintendent of Woolwich Arsenal, of a simple process by which steel is rendered as tough as wrought-iron without losing its hardness. According to the *Army and Navy Gazette*, "this change is effected in a few minutes, by heating the metal and plunging it in oil, after which the steel can be bent, but scarcely broken. The value of this discovery will be at once appreciated by those who are aware of the difficulties hitherto experienced in obtaining a suitable material for the interior tubes of built-up guns. The steel vent-pieces, which cost several thousands of pounds, and were virtually condemned, can now be brought into use; and while congratulating Mr. Anderson on his valuable discovery, which is in fact merely the result of careful experiment, we may express a hope that the services of this very eminent mechanic will receive an appropriate reward." We have doubts of the newness of the discovery, however.

The Will of Mr. James Walker, C.E., President of the Institution of Civil Engineers, who died at his residence, Great George-street, Westminster, on the 8th of last October, aged eighty-one, was proved in the London court on the 15th ult., the executors nominated being his sons-in-law, Messrs. Alexander Boyle and William Smythe, together with the Rev. J. Hoole, M.A., and Mr. G. K. Rickards, counsel to the Speaker of the House of Commons. The personalty was sworn under 300,000*l.* The will was executed in March, 1860, and there are appended six codicils, which, by revocations, involve much complexity. These instruments are of very ample dimensions, extending over upwards of 300 folios. The bequests are also exceedingly numerous. There is a singular item in the will with reference to wine, in which the testator mentions one stock alone as consisting of 5,500 dozen and upwards, a number almost unprecedented in the cellars of a private gentleman. A large portion of these wines is bequeathed, conditionally, amongst his sons-in-law and some personal friends. His estates, subject to the payment of annuities and legacies, he directs to be divided into ten parts, and shared in certain specified proportions, chiefly amongst his daughters and their husbands and children. Legacies are left to servants, and to the London and Westminster Hospitals 500*l.* each, and 50*l.* to the Westminster Dispensary.—*The Illustrated London News.*

Lighting Streets by Phosphorus.—I have alluded to the fact, that houses freshly painted with lime-wash are frequently luminous at night, though slightly, after exposure to the sun's rays during the day. If, by chemical and physical research, a means were discovered capable of rendering this phosphoric light more powerful, by employing sulphides of calcium, or barium, &c., and superadding, if necessary, the action of an electric current when the sun is hidden by clouds, a street might be effectively illuminated by phosphorescent light alone.—*Phipson on Phosphorescence.*

Alarming Fire near the Adelphi Theatre. A fire on Monday night broke out in premises almost adjoining the Adelphi Theatre, while the theatre was filled with people; and so much alarm was excited that Mr. Webster and Mr. Smith instructed the stage-manager, Mr. Phillips, to request the audience to withdraw quietly, as the fire might ultimately affect the theatre, though there was no immediate danger. The house was accordingly cleared; but the fire was happily got under without reaching the Adelphi, although the premises (a shell-fish shop, at 413, Strand), in which it broke out, were entirely destroyed.

Sewerage and Paving of Streets in Newcastle-upon-Tyne.—A report has been presented to the Town Council by Mr. Alderman Dodds, from the committee of which he is chairman, on the best means of sewering, paving, and flagging all the 219 new streets in the town. The total cost of the new streets completed up to this time has been 24,093*l.*; of which 18,504*l.* have been received; and the loss to the corporation on this large expenditure is only 60*l.* Eighteen new streets are in course of paving and sewering, and 201 are still untouched. The committee urge the council, for sanitary reasons, to complete the streets within five years, and not leave them, as heretofore, for twenty or thirty years unsewered and unpaved. 5,000*l.*, in addition to a floating capital of 10,000*l.* already in hand, will enable them to do the work; and they recommend additional rating for the purpose of raising the money.

Sanitary Condition of Long Sutton (Lincolnshire).—Whilst the general health of the neighbourhood of Long Sutton is exceedingly good, typhoid fever has again made its appearance in Little Dereham, a cluster of about 30 small houses, chiefly inhabited by labouring people. Fourteen cases have occurred in seven houses already. For many years past fever has been prevalent in this locality; and the causes, remarks the *Lincolnshire Chronicle*, are obvious,—overcrowding in badly ventilated and confined sleeping apartments; the presence of filthy cesspools in close proximity to the houses of the poor; the total absence of any proper system of drainage; and the inadequate supply of water. The Local Board seem to consider that the chief object they should have in view is how to keep down the rates, instead of directing their attention to the removal of these local nuisances and preventable causes of disease.

The Atlantic Telegraph Company.—At an extraordinary general meeting of the shareholders, held in the London Tavern, it has been unanimously resolved "that it is highly desirable to take a sufficient amount of new capital, by subscription, in shares of 5*l.*—1*l.* payable on allotment—for the purpose of laying a new cable from Ireland to Newfoundland." The chairman, in his address, said they were told by Mr. Varley that recent experiments made by him on submarine cables had led to improvements. The insulating power had been increased in the ratio of from one to eleven, and the conducting power of the copper had been greatly improved. There were means for testing the cable during its manufacture, and blemishes that in 1858 would have escaped notice could now be easily detected. The chairman spoke of the probability of a lighter cable than the last being now adopted,—a suggestion which we have strongly urged on more than one occasion; but the special construction of the next line is still a question of very serious consideration; and no tempting offers of any manufacturers ought to prevent a full and public discussion and a thorough investigation of this special point. The chairman, in allusion to the former cable and the laying of it, said the only wonder was that it ever sent any message at all; and hinted that it was ill constructed, laid in haste, abused and injured, and unfit to go to the bottom of the sea; and that the directors were ill served, and would never have permitted that cable to be laid had they known all that they know now. It is to be hoped they will take every care to know better next time.

HULL.—It is proposed to build a new exchange in Hull, by means of a company.

RESTORATION OF THE ALHAMBRA, IN SPAIN. The Alhambra, in Granada, is to be immediately restored, regardless of expense, by order of Queen Isabella of Spain.

THE ROYAL MAUSOLEUM. —The new Royal mausoleum at Frogmore was consecrated on Wednesday last by the Bishop of Oxford. The Queen, with her family, was present. The mausoleum is not yet completed.

FARNCOMBE.—A new infant school and teachers' residence have been built on a piece of ground adjoining the site of the National Schools. The buildings are of Bargate stone, with brick quoins. Mr. C. H. Howell, of Lancaster-place, is the architect; and Messrs. Loe, of Guildford, the builders.

A BROWNING MEMORIAL AT FLORENCE.—"Grateful Florence" has placed a marble slab in the wall of the house in which Mrs. Barrett Browning lived for so many years. The slab bears an inscription in Italian, of which the following is a translation: —"Here wrote and died Elizabeth Barrett Browning, who, in her woman's heart, united the wisdom of a sage, and the spirit of a poet, and who made of her verse a golden link between Italy and England."

ANOTHER SHOCKING COLLIERY ACCIDENT.—At the Edmunds Main Colliery, near Barnsley, fifty-three miners have been killed by explosions in the mine. The pit had two downcast shafts but only one upcast; and one of the downcast shafts was not available as an avenue of escape, while as a means of ventilation, it is said the amount of air supplied by both downcast shafts did not exceed that usually furnished by one in consequence of the want of an upcast shaft.

THE DISTRIBUTION OF INTERNATIONAL EXHIBITION PRIZES.—In a letter sent by the Royal Commissioners to Lieut.-Gen. Knollys for the Prince of Wales, the commissioners state their regret that they may not invite his Royal Highness to preside; as the prizes must be distributed in January, and it would be impossible to warm and light the building for this one occasion; besides the risk of unfavourable weather in mid-winter inconveniencing many, and rendering the ceremonial unsuccessful.

THE BOILER EXPLOSION AT ROCK-MOOR, NORTHUMBERLAND.—The inquest on the bodies of the ten persons who lost their lives by the explosion of the boiler of a thrashing-machine round which they had been crowding to warm themselves in the dinner-hour, was resumed on the 8th inst. Another of the sufferers, who had lingered since the accident, has expired. After an examination of several witnesses, among whom were the engineers who repaired the boiler a few months ago, and left it perfect, the jury brought in a verdict of accidental death. Her Majesty's inspector of mines for the district was present.

"A MORNING AT THE PIANOFORTE."—This, if you know "none of the stops," may be a very dull affair; but assisted by such an accomplished illustrator as Mrs. John Macfarren, the result is very different. You may hear all about the bygone composers and their works, with anecdotes gay and sad; and then you have the best bits of their works performed for you, while Miss Eliza Hughes, who has a voice full of music so far as it goes, assists with vocal expositions. The lecture part is very well written (by Mr. G. A. Macfarren), and Mrs. Macfarren has a clear and pleasant delivery, erring only, now and then, in a little excess of emphasis. The lower room at St. James's Hall was, we were glad to see, well filled with well-pleased people.

TENDERS.

For Kensington Wesleyan Chapel:—
Simmonds (accepted) £3,659 0 0

For the erection of a Gothic villa, at Ivybridge, Devon. Mr. W. H. Reid, architect. Quantities supplied by Mr. A. Cates:—

Roberts & Co.	£7,275 0 0
Matcham	6,875 0 0
Elliott	6,430 0 0
Clarke	6,390 0 0
Marshall	5,893 15 0
Lethbridge	5,795 0 0
Call & Pethick (accepted)	5,744 0 0

For a new wing to the South Devon and East Cornwall Hospital, Plymouth. Mr. W. H. Reid, architect. Quantities supplied by Mr. A. Cates:—

		Reduced quantities.
Roberts & Co.	£3,598 0 0	—
Clarke	3,559 0 0	—
Finch	3,177 0 0	—
Marshall	3,157 0 0	—
Call & Pethick	3,154 0 0	£2,200 0 0*
Elliott	3,147 6 2	—
Matcham	3,099 0 0	2,223 0 0
Lethbridge	2,951 0 0	2,257 0 0

* Accepted.

For the erection of a Gothic villa, at Tamerton Foliot, South Devon. Mr. W. H. Reid, architect. Quantities supplied by Mr. A. Cates:—

Roberts & Co.	£6,500 0 0
Clarke	6,503 12 11
Lethbridge	6,494 0 0
Marshall	6,375 0 0
Matcham	5,500 0 0
Call & Pethick (accepted)	5,444 0 0

For show-rooms and workshops, to premises in Bedford and East Streets, Plymouth, for Mr. J. Plimsaul. Mr W. H. Reid, architect. Quantities not supplied:—

Lethbridge	£3,987 0 0
Finch	2,813 0 0
Matcham (accepted)	2,764 0 0

For small arms factory, for the Birmingham Small Arms Company, Limited. Messrs. Goodman & Edis, architects. Quantities supplied by Mr. T. W. Goodman and Mr. J. A. Bunker:—

Cresswell	£21,990 0 0
Holland & Hannen	21,430 0 0
Myers & Sons	20,334 0 0
Briggs	19,936 0 0
Webb	19,192 0 0
Hardwick & Son	18,926 0 0
Barnsley & Sons	17,880 0 0
Branson & Murray	17,600 0 0
Jones (accepted)	17,050 0 0

For new premises, Derby-street, Parliament-street, Westminster. Mr. H. R. Abrahams, architect:—

Messrs. Cubitt	£18,990 0 0
Messrs. Lucas	18,850 0 0
Messrs. Piper	18,400 0 0
Messrs. Trollope	18,389 0 0
Messrs. Flint	18,173 0 0
Ashby & Sons	17,400 0 0
Holland	16,840 0 0
Myers & Sons	16,751 0 0

For a galvanized iron roof, girders, and columns, for Messrs. Woodhams & Levy. Mr. J. H. Andrews, architect:—

Stace & Co.	£245 0 0
Russell	217 0 0
Aveling & Porter	195 0 0
Messrs. Spencelayh (accepted)	189 0 0
Tupper & Co.	170 0 0

TO CORRESPONDENTS.

Proposed Popular Sanitary Association. Several letters on this subject shall have attention.

An Old Fellow (complains of great want of order in the proceedings at the Institute last Monday).—J. H. D.—E. T. (not our custom).—A Victim.—W. Y.—O. S. S.—M. H.—B. J.—H. R.—F. W.—R. D. (Let us know the intended application of the opinion).—E. J. P.—W. D.—H. S. T.—G. S. A.—Beswetherick.—R. G. C.—M. P. (sanitary Surgeon—D B—Nemo (see report of Committee on Decay of the Stone of Houses of Parliament: Blue-book).—R. S.—H & W—D R.—F. J. (shall be glad to receive notices of meeting).—Correspondent of *S. E. Gazette.*—T. A. C.—T. H.

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

TO SUBSCRIBERS.

CHRISTMAS WEEK. "The Builder" for the week ending DECEMBER 27th will be published on Wednesday 24th inst., at the usual hour.

ADVERTISEMENTS for insertion in that issue must therefore reach the Office before FIVE O'CLOCK, p.m. on Tuesday, 23rd inst.

CLOTH CASES for binding the Volume of the present year are NOW READY, and may be had at the Office,
Price Two Shillings and Ninepence.

ADVERTISEMENTS.

THE LIFE OF THE ELDER BRUNEL, THE ENGINEER.
New Edition, now ready, in 8vo. with a Portrait on Steel, and Sixteen Illustrations on Wood, price 14s.

LIFE of SIR MARC ISAMBARD BRUNEL, Civil Engineer, V.P. F.R.S. Corresponding Member of the Institute of France, &c.
By RICHARD BEAMISH, F.R.S.
Second Edition, revised and corrected.

"Mr Beamish has made one of the most active and valuable engineering contributors during the construction of the Thames Tunnel, and the detailed account which he here gives of that great work constitutes an admirable contribution to engineering literature.....This Life will be received with great profit and interest by our readers, and will worthily take a permanent place in every professional man's library."—*Engineer.*

London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

In 8vo. with Six Charts of Storms, &c. price 10s. 6d. cloth,

THE LAW of STORMS, considered in connexion with the Ordinary Movements of the Atmosphere.
By H. W. DOVE, F.R.S. Member of the Academies of Berlin, Moscow, &c.
Second Edition, revised and enlarged. Translated, with the Author's sanction and assistance, by ROBERT H. SCOTT, M.A. Trin Coll. Dublin.

"The book is a treasury of scientific knowledge on the whole subject of atmospheric changes, the translation of which has been both carefully performed."—*Athenæum.*

"and the work is in all respects one which must take a high place in every scientific repertory."—*Daily News.*

London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

THE LATEST EDITIONS OF MRS. JAMESON'S WORKS ON SACRED AND LEGENDARY CHRISTIAN ART.
The Second Edition, corrected and enlarged, in 1 vol. square crown 8vo. with 27 Etchings and 165 Woodcuts, price 28s.

LEGENDS of the MADONNA as represented in Christian Art. Forming the Third Series of Sacred and Legendary Art.
By MRS. JAMESON.
Second Edition, corrected and enlarged.
Also by MRS. JAMESON, in the same Series,
LEGENDS of the SAINTS and MARTYRS.
Third Edition, greatly improved, with 17 Etchings and 180 Woodcuts. 2 vols 31s. 6d.
LEGENDS of the MONASTIC ORDERS.
Third Edition, greatly improved, with 11 Etchings and 88 Woodcuts. (Just ready.
London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

NEW EDITION OF SIR HENRY HOLLAND'S ESSAYS.
Second Edition, revised, in 8vo. price 14s. cloth.

ESSAYS on SCIENTIFIC and other Subjects, contributed to the "Edinburgh" and "Quarterly Reviews.
By Sir HENRY HOLLAND, Bart. M.D. F.R.S. D.C.L. Oxon, &c.; Fellow of the Royal College of Physicians; Physician in Ordinary to the Queen 2nd Edition, revised
London: LONGMAN, GREEN, & CO. 14, Ludgate-hill.

In the Press, in two Volumes,

RAILWAYS in the EAST, and Generally in HIGH THERMOMETRIC REGIONS.
By W. DAVIS HASKOLL, Engineer.
Containing Eighty Folded Plates and Letterpress, Imperial 8vo. completing "RAILWAY CONSTRUCTION." In French, 65f. 75c.; in English, 2l. 12s. 6d. before January 1st, 1863; after, 78f. 85c. and 3l. 3s. in cloth, to match 1st and 2nd vols. Also,

A PRACTICAL TREATISE UPON MECHANICAL ENGINEERING. Twenty-eight Plates and Ninety-one Woodcuts; with a CHEMICAL ANALYSIS of IRON and its ORES.
By FS. CAMPIN, Engineer.
Until January 1st, 1863, cloth, 21s.; after, raised to 26s. or 30s.
ATCHLEY & CO. Publishers, 106, Great Russell-street, London, W.C

In the press (Forty-third Edition), price 4s. bound in cloth,

LAXTON'S PRICE BOOK for 1863, for ARCHITECTS, ENGINEERS, BUILDERS, CONTRACTORS, SURVEYORS, &c. (established 1818), containing with a variety of new and useful matter, more than 30,000 Prices, embracing all the various trades connected with the operations of the Architect, Engineer, Builder, Contractor, and Surveyor; together with 5,000 useful and important Memoranda relating to the same. Also, full Descriptions of various Stones for Building from the Quarries of England, Scotland, and Wales. Instructions for Estimating and Contracting. Calculations and Sketches of Cast and Wrought Iron Girders, Columns, &c. &c. The whole carefully revised and corrected to date of publication.
OFFICE,—13, WARWICK COURT, GRAY'S INN, HOLBORN, LONDON, W.C.
Supplied by all Booksellers in Town and Country.

Just published,

THE BRITISH ALMANAC for 1863.
Sewed in a Wrapper, price 1s.

THE COMPANION to the ALMANAC.
Sewed in a Wrapper, price 2s. 6d.
CONTENTS:
LONDON in 1862. By CHARLES KNIGHT.
DISTRESS in LANCASHIRE: its Social, Moral, and Economic Effects. By JOHN ARTHUR ROEBUCK, M.P.
PRODUCTS and INDUSTRY of the BRITISH COLONIES, with reference to the International Exhibition of 1862. By GEORGE DODD.
BRITISH COLUMBIA: its Description and Present State.
BRIEF LOGARITHMIC TABLE. By J. LE CAPPELAIN, Actuary of the Life Association of London.
FIRES and FIRE-BRIGADES at HOME and ABROAD.
CHARACTERISTICS of the PRESENT STATE of the FINE ARTS in EUROPE, as shown in the International Exhibition of 1862. By JAMES THORNE.
ARCHITECTURE and PUBLIC IMPROVEMENTS, 1862. With Woodcuts.
With the other usual Articles on the Legislature, Statistics, &c. of 1862.

THE BRITISH ALMANAC and COMPANION.
Together in Cloth Boards, lettered, price 4s.
London: KNIGHT & CO. Fleet-street; and sold by all Booksellers in the United Kingdom.

"THE BUILDER."—FOR SALE, a COMPLETE SET, from the commencement to the end of last year (1861), nineteen volumes, handsomely bound in half-calf. Price 10l. 10s.—Address, Y. S. Lindley's Advertising Office, 19, Catherine-street, W.C.

INVENTOR'S ALMANAC for 1863.—Coloured Sheet. Copyright. Fifth Annual Issue. Contains Analysis of British Patent—applications for 1861, according to locality and subject, prepared expressly for this Almanac; Chronological Table, Patent Officials, and Statistics, &c. Compiled by Mr. HENRY, Memb. Soc. Arts. Patent Registration and Copyright Agent, Patent Office, 84, Fleet-street, London.—Sold by WATSON & SON, 3, St. Ann's-lane, London, E.C. Price 6d. mounted.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

Mr. J. H. LEONARD,
ARCHITECTURAL DRAUGHTSMAN, ARTISTIC COLOURIST, and LITHOGRAPHER,
No. 21, MONTAGUE-STREET, RUSSELL-SQUARE, W.C.

JUNIOR PARTNERSHIP WANTED with an Architect and Surveyor, in London or its Suburbs.—Apply, giving general particulars of practice, &c. to Y. Y. Office of "The Builder."

MIDDLESEX COUNTY LUNATIC ASYLUM, Colney Hatch, N.—WANTED, as CLERK of the Works at this Asylum, a PERSON who is thoroughly acquainted with the management and fitting of steam-engines and engine work, the measurement of gas and gas-lighting, all the working of mason's and joinery work. He will be required to superintend repairs of the buildings and works, and the workmen and labourers employed at the Asylum. He will also be required to superintend works for warming, ventilation, gas-cooking, sanitary steam apparatus, water supply, and sewage deodorization and distribution, and he must be able to prepare specifications for such works in machinery carpentry, brickwork, plumbing, and painting, and drawings and estimates of the cost thereof. The salary will be 180l. a year, with an unfurnished house on the premises, and a fixed allowance of coals, gas, milk, vegetables, and butter. Further particulars may be obtained on application to me. Each person intending to apply for the situation must send to me, at the Asylum, a letter in his own handwriting, stating his present or last occupation, residence, and age, and whether single or married, and if married the number of family, on or before SATURDAY, the 27th of DECEMBER, inst.; and such letter must be accompanied by testimonials, or copies of testimonials. A selection will be made, and the selected candidates will have notice to attend the election, which will take place on the 6th of JANUARY next. The testimonials of those not selected will be returned post free. J. S. SKAIFE, Clerk.
December 10th, 1862.

CHRISTMAS PRESENTS.

TWO EXHIBITION PRIZE MEDALS AND HONOURABLE MENTION
AWARDED 1862 FOR

CHEAP ACHROMATIC MICROSCOPES,
SCIENCE AND ART PHOTOGRAPHS FOR THE MAGIC LANTERN,
AND
COLLECTIONS TO ILLUSTRATE NATURAL HISTORY.

A Descriptive Illustrated Catalogue by Post, Four Stamps.

SAMUEL HIGHLEY, 70, Dean-street, Soho-square, London, W.

PARTNERSHIP.—WANTED, a PARTNER in an Established BUILDING BUSINESS, in a large provincial military town. He must be a man of thorough business habits, and must understand the business both practically and theoretically as he would be expected to take an active part in it. Age, from 30 to 35 years. First-class reference given and required.—Address, R. B. Office of "The Builder."

AN ARCHITECT will have a VACANCY in his Office at Christmas, and is willing to receive a PUPIL of good education, and with a taste for drawing, without a premium. No others need apply.—Address, X. care of Mr. Steel, Stationer, Spring gardens, Charing-cross, S.W.

TO PLUMBERS, PAINTERS, AND GLAZIERS.
A GOOD, steady, THREE-BRANCH HAND can have a CONSTANT SITUATION by applying to W. NORMAN, Builder, Burgess Hill, Sussex. State terms and give reference.

TO PARENTS AND GUARDIANS.
APPRENTICE WANTED, by a Medal and General Die Engraver.—Address, G Booth's United Libraries, 307, Regent-street, W.

TO BUILDERS, ARCHITECTS, AND SURVEYORS.
FIRE and LIFE AGENTS WANTED for a wealthy Insurance Company of sixty years' standing. Commission liberal.—Application in the first instance to F. J. care of Mr. VICKERS, 2, Cowper's-court, Cornhill, E.C.

REQUIRED, a SENIOR ASSISTANT in an Architect's Office.—Address, stating full particulars of competency, age, and salary, to M. D. Post-office, Wolverhampton.

WANTED, a steady, competent MAN, as FOREMAN of BRICKLAYERS; also a good JOURNEYMAN, for a Country Job. None need apply unless good tradesmen.—Address, or apply, to the FOREMAN of WORKS, Saffron Alha-house, Watford

WANTED, a first-class general FOREMAN, competent to superintend carpenters' and joiners' work.—Apply by letter, giving references, to BRANSON & MURRAY, Birmingham.

WANTED, in a House Decorator and Gasfitter's Establishment, a respectable YOUNG MAN, about 18 years of age as SHOPMAN. Must be of good address, able to keep accounts, and write a good hand. Reference required. Apply by letter, stating terms, to COX & CUTLER, 4, Lorraine-terrace, Holloway, N

WANTED, a MANAGER for a BRICK and TILE WORKS in the North of England. He must be thoroughly experienced in the manufacture on a large scale, and well acquainted with the best and most working of the most approved descriptions of kilns. It is desirable that he should have had experience of several kinds of clay. He must have been accustomed to the making of bricks by machinery; one used to Clayton's machines preferred. First rate references as to character and abilities required. Salary, 150*l.* to 200*l.* per annum. Apply to JOHN HUTCHINSON, Esq. Widnes Docks, near Warrington.

WANTED, a PERSON as TRAVELLER to a TIMBER-YARD and SAW-MILLS, either partially or otherwise, who thoroughly understands the business, and can give satisfactory reference.—Apply by letter, stating terms, to A. B. care of Messrs. Stevens, Son, & Co. 33, Mark-lane, E.C.

WANTED, for a Retail Timber-yard, one to act as SALESMAN and TOWN-TRAVELLER, who is accustomed to trade of a correct kind in the building trade. He must bear undeniable testimonials. Reply, stating qualifications, salary required, &c. to K. J. Mr. Margetts, Post office, Goswell street, E.C.

WANTED, by a Young Man, the Son of a Builder, a Carpenter by trade, a SITUATION as WALKING FOREMAN in Builder's Office, or in any capacity where he can make himself generally useful. Can measure, make and copy fair and working drawings. Good references.—Address W. M. No. 90, Carlton-road, Kentish-town, N.W.

TO GAS FITTERS, IRONMONGERS, AND BUILDERS.
WANTED, a SITUATION as GASFITTER (good), LOCK-SMITH, and BELL-HANGER.—Address, Z. 26, Park-street, Southwark.

WANTED, after Christmas, by an experienced Man, a SITUATION as SHOP or GENERAL FOREMAN. First class reference.—Address X. P. Office of "The Builder."

TO BUILDERS.
WANTED, by an experienced Staircase Hand and General Joiner, a JOB of WORK, by the day or piece, or as Working Foreman. Good reference.—Address, A. B. N. 4, James street, Old Kent-road, S.E.

TO BUILDERS, CONTRACTORS, AND OTHERS.
WANTED, by a BRICKLAYER, a RE-ENGAGEMENT as WORKING FOREMAN, or would prefer Piece Work. Is thoroughly experienced in plans and setting out work. Good reference.—Address, S. L. No. 17, Upper Tachbrook-street, Pimlico, S.W.

TO BUILDERS AND CONTRACTORS.
WANTED, a RE-ENGAGEMENT as FOREMAN. Is a joiner by trade, has a good knowledge of the business, can make and work out detail drawings, measure up work, and could render assistance at the counter when required. Good references. Country preferred.—Address, W. E. W. 5, Armada place, Stokes Croft, Bristol.

TO SLATE MERCHANTS AND SLATERS, IN LONDON OR THE COUNTRY.
THE Advertiser, who is well up in the general routine of a Slate Merchant and Slater's Business, wishes for a RE-ENGAGEMENT as FOREMAN. Unexceptionable reference as to character and ability given.—Address, T. S. R. No. 4, Denbigh-terrace, Fairfield Road, Bow.

TO ARCHITECTS AND SURVEYORS.
THE Advertiser having served five years' Apprenticeship (three years in the provincial office of an eminent London Architect), wishes for a SITUATION as JUNIOR ASSISTANT, at a small but progressive salary.—Address, ASSISTANT, care of W. G. Habershon, Esq. Architect, Newport, Monmouthshire.

TO ARCHITECTS, &c.
THE Advertiser is open to an ENGAGEMENT, temporarily or otherwise. Designs, working drawings, details, &c. prepared by contract. Perspectives outlined and coloured. Address, A. R. 121, Albany-street, Regent's Park.

A FIRST-RATE PAINTER, PAPERHANGER, GLAZIER, DISTEMPERER, &c. requires EMPLOYMENT; quite capable of conducting work or business; town or country Address, H. GRAY, Mrs. Rayner, 30, James-street, Covent Garden.

TO PUBLIC COMPANIES, &c.
A GENTLEMAN wishes an ENGAGEMENT in some active, intellectual occupation; would not object to act as Clerk and Collector to a Company, or otherwise or any similar situation of trust and confidence. Unexceptionable references as regards position, &c and security, if required.—Address, L. K. 11, Shaftesbury-terrace, Pimlico, S.W.

ARCHITECTS, BUILDERS, and OTHERS, in want of reliable and efficient temporary ASSISTANCE, are invited to communicate with L. L. (Office of "The Builder"), who prepares at his own office tinted perspective views and architectural drawings generally.

A GENTLEMAN who has four days in the week to spare, is willing to ASSIST in an Architect's Office.—Address, P. S. Office of "The Builder."

A SURVEYOR and ACCOUNTANT, of quick business habits, desirous of an ENGAGEMENT. Has a knowledge of the timber trade. Age 32.—Address B. B. care of Mr. Barrot, High street, Spalding

TO RAILWAY ENGINEERS.
ARTICLED PUPIL.—A Young Gentleman, anxious to qualify himself as a RAILWAY ENGINEER, will be glad to treat with the principal of a leading firm to that profession.—Address, PURMORE, care of Mr. Uttley, 2, Palsgrave-place, Strand, W.C.

TO MASTER TILE AND BRICK MAKERS.
A PERSON is in want of a SITUATION as BURNER, or Working Foreman. Is capable of burning any sort of kilns, and competent of taking the entire management of all the work. Good character. Address, A. W. 3, Clarence terrace, Bilhester-road, Notting-hill, London.

TO ARCHITECTS, &c.
A GOOD ARCHITECTURAL DRAUGHTSMAN desires an ENGAGEMENT in a London or suburban office.—Address, E. S. L. Post-office, Lamb's Conduit-street, W.C.

TO ARCHITECTS.
AN ASSISTANT, of much practical experience and a neat and expeditious draughtsman, requires an ENGAGEMENT.—Address, S. B. 14, Anderson-street, King's-road, Chelsea.

TO BRICKLAYERS, PLASTERERS, &c.
TO BE DISPOSED OF, in consequence of the proprietor taking a larger business, a snug little CONCERN in the above line, twenty-seven miles from London, and three from a railway station on the South-Western Railway. Every convenience for carrying on a large trade. The house and premises are in good repair, and rent very moderate. For further particulars, apply to T. W. Printing office, Chobham, Surrey.

TO PLUMBERS, DECORATORS, and GENERAL CONTRACTORS.—A very old established BUSINESS, a few miles from London.—A very excellent offer presents itself at Christmas next to a steady person having 300*l.*—Apply to Mr. HISCOCK, at Messrs. Frank's, Lead Merchants, London-bridge, Borough.

TO BUILDERS.—TO BE DISPOSED OF, the BUSINESS of a CARPENTER, BRICKLAYER, and BUILDER, now and for many years past extensively carried on in one of the best market towns in Hertfordshire, situate about twenty-four miles from London, and within a mile and a half of a railway station. The buildings, workshops, and sheds are compact and well arranged, and a comfortable residence with garden and meadow are attached to the premises. The stock, tools, &c. to be taken at a valuation, the amount of which (the stock being low) would, probably, not be more than 200*l.* or 300*l.*—For further particulars apply to C. J. ELDRED, No. 8, Great James-street, Bedford row, London, W.C.

TO CARPENTERS and OTHERS.—TO BE SOLD, a small JOBBING CARPENTER and BUILDER'S BUSINESS, with small STOCK, &c. West End. Any party with from 30*l.* to 40*l.* can have possession.—Address, K. A. Z. Office of "The Builder."

TO JOINERS, BUILDERS, and OTHERS.
VALUABLE TIMBER, TOOLS, and WORKING PLANT FOR SALE.—TO BE SOLD by PRIVATE TREATY, at a fair valuation, the BUSINESS, valuable STOCK of TIMBER, DEALS, FLOORBOARDS, IRONMONGERY, WORKING TOOLS, PLANT, and all other necessary articles for carrying on a large building trade, and now lying upon the premises occupied by the late Mr. Henry Mills Joiner and Builder, situate in Quebec-street and in Wood-street, Wakefield. The trade being carried on at two distinct places in Wakefield, the Stock and Plant at each place may be taken either together or separately. The owners of the respective premises are willing to treat with a respectable tenant for the same, and if required by a purchaser, the Stock can be materially reduced.—For further particulars apply to Mr. THOMAS HUDSON, Ironmonger; or Mr. JOSEPH BROOKE, Timber Merchant, both of Wakefield; or at the Offices of HARRISON & SMITH, Solicitors, Wakefield.

POLYTECHNIC CHRISTMAS HOLIDAYS.—The Second season of the Polytechnic Optical Pantomimes will commence with "Harlequin and Cinderella; or, The Little Glass Slipper." The story will be orally and musically told by George Buckland, Esq. and the optical resources of the Institution will be used to give effect to the Fairy transformations. New Philosophical Entertainment, by Professor J. H. Pepper, entitled "A Strange Lecture," in which the "Photodrome," by Mr. Rose, of Glasgow, and an illustration of Mr. Charles Dickens's "Haunted Man" (being an optical illusion devised by Mr. Dirkel), will be introduced. Ventriloquism by Mr. Devon. Mr. Matthews's new repertory of conjuring curiosities. Mr. King's Lectures. The Giant 'Xmas Tree. First Juvenile day, and gratuitous distribution of Ornaments, Toys, &c. on Thursday morning and evening, the 1st January.



NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street Blackfriars-road.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.
CAST WORK CENTRE FLOWERS, SHOP FRONT TRUSSES, VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS, 249, EUSTON ROAD, ST. PANCRAS.

TARPAULINS, MARQUEES, &c. for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.
TARPAULINS for COVERING WORKS.
SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

PENCILS, BLACK LEAD, and COLOURED CHALKS.
A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Colourmen
Sole Agents, HEINTZMANN & ROCHUSSEN, 9, Friday street, E.C.

WANTED TO PURCHASE, OAK PANELLING for one or two rooms. It should be about the age of Elizabeth, or earlier, and must be sound and good. Address, A. A. care of Mr Weston, Bookseller, Corn-street Bristol.

TO CHURCHWARDENS, MILL PROPRIETORS, and OTHERS.—GEORGE FRITH, BUILDER, &c. Coventry, begs respectfully to call the attention of the above parties to his method of REPAIRING CHURCH SPIRES, CHIMNEY-SHAFTS, and other elevated structures, without the expense of ladders or scaffolding. Church spires taken down and rebuilt, pointed, repaired, &c. Chimney-shafts repaired, pointed, and Lightning conductors fixed. New vanes and all kinds of Lightning conductors applied. Estimates given. References from architects, engineers, &c. Circulars illustrating the principle and containing testimonials sent free on application as above.

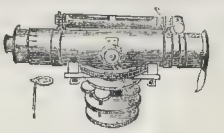
GLUE.—PRIZE MEDAL, 1862.
PROCKTER & BEVINGTON are compelled (in consequence of daily imitations), to acquaint dealers and consumers, that they are the ORIGINAL and ONLY manufacturers of
IMPERIAL GLUE
who have obtained a Prize Medal.—Sold by all respectable Ironmongers and others.
Works: No. 124, Grange-road, Bermondsey, London, S.E.

FORTY-FIVE BROAD-GAUGE PERMANENT-WAY BALLAST-WAGGONS, with spring buffers, nearly new, FOR SALE or HIRE.—Apply to SMITH & KNIGHT, 1, Great George-street, Westminster.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs, always in stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revoled, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

SECOND-HAND MATHEMATICAL INSTRUMENTS, by Elliott, Troughton & Simms, Dolland, and others. The Cheapest House in London is WM. LAWLEY'S, 78, Farringdon-street, City. Bow Pens, by Troughton & Simms, from 1s. 6d each. Second-hand Telescopes, Opera, Race, and Tourists' Glasses, by Vogtlander, Dolland, and others. Instruments, Telescopes, &c. bought or exchanged.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTORS SCALES, TAPES, CHAINS, EQUALES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre.
Respectfully inform the Public that their Illustrated Price-List will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13.
Only Medal awarded for "excellence of construction of Mathematical Instruments."
T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED. Recommended in "Practical Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 4s.
Mathematical Instruments of every description, of the best possible make, and highest finish, made on the Premises.
Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsman's Use.
Lists of Prices on application.
3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.
Price 2s. 6d post free,
STANLEY'S IMPROVED DRAWING PEN.

CUNDY'S PATENT ECONOMIC, BRICK-OVEN, DOUBLE FALL, DOWN-BAR KITCHEN RANGE.

This drawing represents a Range 4 feet long, 2 feet 4 inches high, and 17 in. deep.

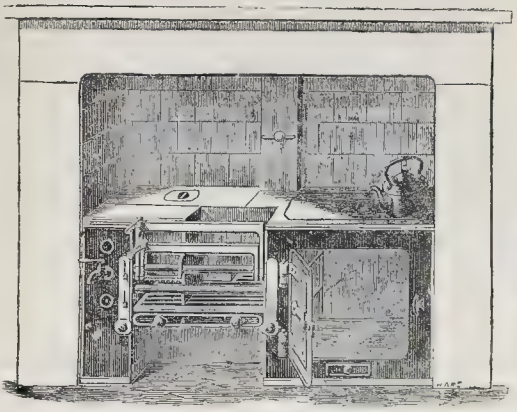
The Hob over the top of the Oven forms a HOT PLATE; the fire passes under it and all round the oven, thereby heating it thoroughly and equally all over.

The sliding Hob, which is fastened to the Winding Check, also forms a Hot Plate.

The Oven and Hob can be kept sufficiently hot for the purpose of baking and boiling, with the fire only six inches long.

This Range can be fitted up as a close Kitchener, with Two Ovens, Hot Closets, &c. if required.

This Range, also Cundy's Multum in Parvo Poor Man's Kitchener, also Cundy's Patent ORIGINAL FIRE-BRICK Warm Air Ventilating Stove, suitable for CHURCHES, HALLS, SCHOOLS, and STAIRCASES,



Can be seen in action every day from Nine till Seven, at the Show Rooms of the MANUFACTURER,

WILLIAM ADDIS,

6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE GRATE MANUFACTURER,

Where Mr. CUNDY can be gratuitously consulted relative to the Cure of Smoky Chimneys.

A PROSPECTUS AND REFERENCES WILL BE FORWARDED ON APPLICATION BY LETTER.

PFEIL AND STEDALL,

IRON MERCHANTS AND WHOLESALE IRONMONGERS,

5 and 6, BROAD STREET, BLOOMSBURY.

PATENT LOCK FURNITURE, PATENT STABLE FITTINGS, FLITCHES, GIRDERS, COLUMNS.

Best Stock of Builders' Ironmongery in London.

Price Lists on application.

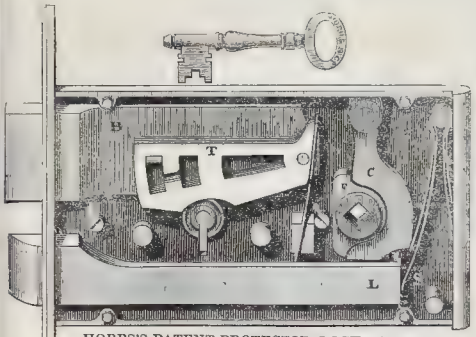
INTERNATIONAL EXHIBITION, 1862.—CLASS 31, LOCKS, &c. No. 6105.

HOBBS'S CELEBRATED MACHINE-MADE LEVER LOCKS,

Suited for all purposes, at Prices that silence competition.

SUITES OF LOCKS FOR MANSIONS, WAREHOUSES, AND OTHER LARGE STRUCTURES, WITH OR WITHOUT MASTER KEYS.

PUBLIC BUILDINGS OF EVERY KIND FITTED.



The parts in the Plate marked F and C show the form of Hobbs's Patent Frictionless Follower and Crank, by which a rolling instead of a rubbing motion is produced, thereby preventing friction.

S, s, shows the double spring, by which means the Latch is allowed to work independent of the Crank in shutting the door, thereby avoiding the necessity of slamming; at the same time sufficient strength is given by the Follower Spring to throw the heaviest knobs or handles.

HOBBS' PATENT FRICTIONLESS FOLLOWER, & DOUBLE SPRING FOUR-LEVER MORTISE LOCK, Price 8s.

FIREPROOF SAFES, IRON DOORS, CASH BOXES, &c.

HOBBS'S PATENT PROTECTOR LOCK, AND CHANGEABLE KEY BANK LOCK FOR SPECIAL SECURITY.

ESTIMATES AND ILLUSTRATED PRICE LISTS FURNISHED ON APPLICATION.

For specimens of all the varieties of these LOCKS, and the different stages of manufacture by machinery, from the first to the last process, see HOBBS'S STAND in the EXHIBITION, CLASS 31, No. 6105, ON THE SOUTH-WEST SIDE OF THE EASTERN DOME.

HOBBS, ASHLEY, & CO. 76, CHEAPSIDE, E.C.

Manufactory—BRITANNIA FIELDS, WHARF ROAD, CITY ROAD.

FURNESS'

PATENT WOOD-WORKING MACHINES,

FOR PLANING, MOULDING, MORTISING, SAWING, SQUARING, TENONING, BORING, REBATING, AND GROOVING.

Prices and every information respecting these celebrated and well-known machines can be had on application to

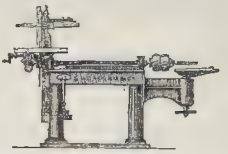
WILLIAM FURNESS,

73, LIME STREET (late of Lawton Street), LIVERPOOL.

The Public are cautioned against purchasing or using any Machines with infringements of Furness' Patents, the rights of which will be strictly maintained against all parties who may invade them.

S. WORSSAM & CO.'S PATENT

THE GENERAL JOINER.



(¼-inch scale.)

This exceedingly useful and novel machine is adapted for sawing, cross-cutting, grooving, tongueing, rabbeting, tenoning, moulding, and boring; and will be found invaluable in any joiner's or builder's establishment. It is also specially useful for box-making, and is fitted with a slide-plate for squaring the edges of drawers, &c.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's-road, Chelsea, S.W.

HART & SON

56, WYCH-ST., STRAND, W.C

AND

20, COCKSPUR-ST. PALL-MALL, S.W.

METAL WORK OF A GOTHIC CHARACTER, FOR ECCLESIASTICAL AND DOMESTIC PURPOSES, CHALICES, PATENS, CRUETS, CANDLESTICKS, CORONÆ, STANDARDS, BRACKETS FOR GAS, OIL, AND CANDLES, MONUMENTAL BRASSES, &c. &c.

INTERNATIONAL EXHIBITION, CLASS 32, No 6,921.

ENGLISH AND FRENCH PATENT

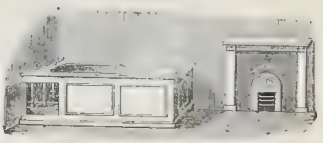
WESTON'S NEW PATENT TORSION SPRING,

For closing or keeping open doors, gates, &c. &c. at different strengths, specially suited for all climates, and adapted for general purposes.

Price Two Shillings and sixpence.

To be had of the principal Merchants and Factors in Birmingham and Wolverhampton; also at No. 62, Coleman-street, City.

J. TYLOR & SONS' PATENT BATH APPARATUS



The bath and boiler may be fixed in the same or separate rooms anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required

Estimates given from architects' drawings, or by inspection of buildings.

Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate street, London.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT & CO. Manufacturers

of GAS CHANDELIERS, HALL LANTERNS, GLASS LIBTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s.—Nos. 55 and 56, High Holborn.

TO IRONMONGERS, IRONFOUNDERS, ENGINEERS, MERCHANTS, AND SHIPPERS.

STOVE and RANGE METAL; Fitted

Stoves and Ranges; Black, Bright, and Ormolu Stoves; Railing Bars, Balusters, Balcony Panels, Furnace Pans, Rain-water Goods, and every description of Builders' Castings.

CASTINGS OF ALL KINDS, AND TO ANY PATTERN.

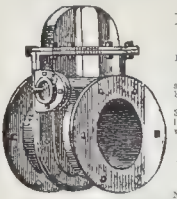
GAS AND WATER PIPES.

PIG, BAR, SHEET, AND PLATE IRON.

Steam engines, Boilers and all kinds of Engineering and Millwright Work. Estimates furnished.

DAVID M. BURR,

Metal Broker and Commission Agent, 24, Martin's-lane, Cannon-street, London, E.C.



REDUCED PRICES OF

BRYAN DONKIN & CO.'S

IMPROVED GAS VALVES.

From 2 in. to 18 in. price 9s. 6d. to 12s. per in. diameter.

List of prices, with full dimensions of all sizes up to 30 in. to be had on application.

These Valves are all proved to 30lb. on the square inch before leaving the works, and are always kept in stock.

Valves made with outside racks to order

Also Screw Water Valves, with gun metal faces.

BRYAN DONKIN & CO. ENGINEERS,

Near Grange road, Bermondsey

THE LONDON LOCK MAKERS IN THE INTERNATIONAL EXHIBITION.

MESSRS. HOBBS & CO. beg to inform Bankers and the Commercial World, that their PATENT LOCK in the Exhibition was on challenge from the 1st of MAY to the 1st of NOVEMBER, for 200 Guineas to any person who could pick it. THIS WAS THE ONLY LOCK EXHIBITED that invited and dared the ingenuity of the mechanician to fraudulently open it. Seven days were allowed to examine the mechanism, and thirty days to operate on the security of the works; yet, during the 138 days the Exhibition was actually open, not one single application was made. In 1851 this Lock was [illegible] days without the slightest approach towards success.

MESSRS HOBBS & CO. are Prize Medallists from the Exhibition of America, Australia, France and London in 1851 and 1862.

76, CHEAPSIDE, LONDON.

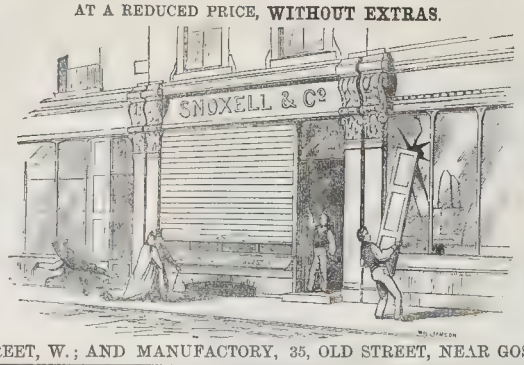
ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents. Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—
WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT. **BUNNETT & CO.**

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246).
Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851. **BUNNETT & CO.** ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.
WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.
Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by
J. MILLS,
110, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).
A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.

WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors, Staircases, Hand rails, and Water-closet Fittings, well-seasoned Flooring, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green houses, Hot houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application.



BUILDERS, AND CARPENTERS, AND OTHERS,
Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.
ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square.		Laths, 28s. per Load.
Yellow Deals, sound and good	£19 10 0 per 120, or 0s. 3½d. per foot.	
Spruce Deals	16 10 0 ,,	0 2½ ,,
Yellow Battens, excellent quality	11 10 0 ,,	0 2 ,,
Pine Planks, dry, 12 feet 3 inches by 11 feet	21 0 0 ,,	3 6 each.

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,
OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce.	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
¾-inch ,,	12s. 6d.	13s. 6d.	14s. 6d. ,,
1-inch ,,	14s. 6d.	15s. 6d.	16s. 6d. ,,
1¼-inch ,,	0s. 0d.	18s. 0d.	19s. 0d. ,,

Yellow Deals, 3 by 9	£19 10 per 120.
Yellow Battens	11 10 ,,
Spruce Deals	16 10 ,,
Pine Planks (dry), 3 by 11	£24 0 per 120.
Pine Deals, ditto, 3 by 9	19 10 ,,
¾-inch White Matched Lining	0 13 per square.

J. TERRY & SON, 109, Borough-road, S.E.

FLOORING! DEALS! MAHOGANY!
FOR IMMEDIATE SALE.

20,000 Dry Prepared Flooring Boards	from 11s. 6d. per square
10,000 Pine Planks	from 3s. 6d. each
8,000 Yellow Deals	from 3s. 3d. each
14,000 Spruce ditto	from 2s. 9d. each
5,000 Yellow Battens	from £11 10s. per 120
50,000 Feet Spanish and Honduras Veneer	from 1d. per foot
Maple ditto	from 1d. per foot.

SAMUEL PUTNEY,
ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

FLOORING, MOULDINGS, DEALS, MAHOGANY, &c.

	Spruce.	White.	Yellow.
¾ by 7 Flooring, from	12s.	12s. 9d.	13s. 6d. per square.
⅞ by 7 ,,	13s.	13s. 6d.	14s. 6d. ,,
1 by 7 ,,	16s.	15s. 6d.	16s. 6d. ,,
1¼ by 7 ,,	17s.	18s. 0d.	19s. 6d. ,,

180 Feet run, 7 inches to the square. 140 Feet run, 9 inches to the square.
MOULDINGS worked on the Premises by MODERN MACHINERY. MATCHED BOARDING, DEALS, and MAHOGANY, as low as advertised.

WILLIAM GEORGE WARDLE,
STANGATE SAWING and MOULDING MILLS, PALACE ROAD, LAMBETH, S.

MOULDING WORKS.
SMITH & McGAW
(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

Beg to inform their Friends and the Trade generally that, having extended their Premises and increased their Machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,
14, GRAY'S INN LANE, W.C.
PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

CLERIHEW & LASCELLES
(LATE WATERLOO, DRAPER, & WEBB),
MANUFACTURING JOINERS,
121, BUNHILL ROW, FINSBURY, E.C.
THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.
ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP

JOINERS' WORK IN ALL ITS BRANCHES,
EXECUTED WITH DESPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.
JEFFS, BROTHERS,
CORNWALL ROAD, AND STAMFORD STREET, LAMBETH, S.
N.B. Price List on application.

B. J. HUDSON
Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and
RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,
At Prices as Low as any House in the Trade.
N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

JOINERY WORKS,
21, HARRINGTON STREET, HAMPSTEAD-ROAD, N.W.
NEVIL SIMMONDS,
SHOP FRONTS, SASHES, DOORS, &c.
Price Lists and Estimates on receipt of Stamp

LATHWOOD.—Best and largest Stock of PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Hatfield-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

SEASONED WAINSCOT OAK,
30,000 feet in Plank and Board, sawn three years.
E. BUTTERWORTH,
ALUM STREET TIMBER-YARD, MANCHESTER.

GREATER REDUCTIONS.—Yellow Deals, from 3s. 9d.; Spruce, from 2s. 6d.; Pine Plank, from 3s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 1-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 16s. 3d.; ¼ White, from 11s. 6d. Cartage free to any part of town.
T. FORMAN,
1, Walnut-tree-walk, and Walcot-place, Lambeth.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
Turpentine, 10½ per Gallon
Fine Pale Oak Varnish, 5s. per Gallon
For cash, at EDWARD PRICE'S Colour and Varnish Warehouses, 30, Upper Ebury-street, and 45, Cobham-street, Pimlico, S.W.
Every article for the Trade at the lowest prices.

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 30s per cwt.; Linseed Oil, 3s 4d. per gallon; Boiled Oil, 3s. 8d.; Turpentine, 8s. per gallon; Fine Pale Oak Varnish, 9s. per gallon, for cash, at P. LANGTON'S Colour Warehouse, 143 and 144, Whitecross-street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c. at the lowest prices.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself
Full particulars forwarded on application to his sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purist Quality and at the lowest Prices.
Agents for Kershaw's Graining Machines.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, and any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N.B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post-office order for 22s.

T. KENT'S PAINTING-BRUSH MANUFACTORY
Is continued by his Successors,
CROWDEN & GARROD,
Falcon-square, London, E.C.
Where the TRADE is supplied with the same superior quality that made the name celebrated.
N.B. The names of T. KENT and CROWDEN & GARROD, are stamped on the brushes.
Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa Nut Matting, Mats, &c. See Catalogue.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO at 11, Great Marlborough street, London, W.
Established 1777
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty-four years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Silk Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stripping Brushes, Gilders' and Graiers' Tools
The goods are made of the best materials and workmanship, and have obtained a high reputation among the chief merchants in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS
G. E. has constantly on hand a stock of CARTS, BARROWS, LADDERS, TRESTLES, STEPS, &c.
DOBBIN and other CARTS, specially adapted for exportation, with Wrought Iron Wheels
SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS &c. LENT ON HIRE.
Price Lists on application.
GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

THE PATENT CRYSTAL WINDOW BARS, adapted for domestic windows, shop fronts, conservatories, skylights, verandahs, exhibition and counter cases, aquariums, fern cases, &c. &c. combining perfect transmission of light, durability, against rust or decay, and economy in the facility with which they are kept clean. Aquariums with slate or marble bottoms of various sizes, with or without fountains, also of glass. Manufactured by LLOYD & SUMMERFIELD, Park Glass-Works, Birmingham. All kinds of flint glass, cut and plain, coloured window sheet, optical sheet, coloured lenses, &c. &c.

PATENT and BRITISH PLATE GLASS. JAMES HETLEY & CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price Lists forwarded free on receipt of business card addressed to
R. METTAM & CO.
30 and 31, PRINCES STREET, SOHO, LONDON, W.

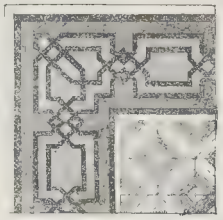
SOHO PLATE and GENERAL GLASS WARPHOUSE, 26, Soho-square, W. and George-yard, Cornhill-street, Soho, W.C.
ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.
SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

WINDOW GLASS! WINDOW GLASS! Builders, Plumbers, Painters, and the Trade supplied with every description of WINDOW GLASS at wholesale prices. Crown and Sheet Glass, Coloured and Ornamental, Rough, Rolled, and Patent Plate. Sashes Glazed for the Trade. Special Prices given for Contracts and large parcels. Plate Glass War house, at
GRISTS' CITY GLASS WAREHOUSE,
47, Chiswell-street, opposite Whitbread's Brewery, E.C.

SHOWELL'S
PATENT WATERPROOF GLASS ROOFS,
Address—17, PRINCESS-STREET, MANCHESTER.

STAINED GLASS and WALL PAINTING.
MESSRS. CLAYTON & BELL,
311, REGENT STREET, W.
Adjoining the Polytechnic Institution.

PAINTED and STAINED GLASS WINDOWS.—LAVERS & BARRAUD, Endell-street, Bloomsbury, London; and No. 3, Oxford street, Manchester. Prize Medallists, Class 34 A, 1862.



SOLID PARQUET FLOORS.
ARROWSMITH'S PATENTED,
From 1s. per foot, in various woods, inch thick, grooved, ogged, and keyed together, not veneered
For Halls, Staircases, Corridors, Reception-rooms, Libraries, Billiard and Ball Rooms, Picture Galleries, Panelling, Dados, Ceilings, Borders to Carpets, Bay Windows, Chancels of Churches, &c.
SHOW ROOMS,
95, New Bond-street, W.

CROGGON and COMPANY, Manufacturers of
PATENT ASPHALTE ROOFING,
BOILER, RAILWAY, SHEATHING, and INODOROUS FELT.
For Damp Walls, and Lining Iron Houses
DOWGATE HILL, London; and 2, GOREE PIAZZA, Liverpool.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING.
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA-RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C

MONEY on FREEHOLD and LEASEHOLD PROPERTY, by the
MUTUAL LOAN FUND ASSOCIATION
(Incorporated by Act of Parliament, 1859), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property for any term up to ten years. Mortgages redeemed, and the advance can be repaid by easy instalments. Facilities afforded to tenants to purchase the houses they occupy, and the repayment of the advance taken as rent. Greater advantages are offered to borrowers than in building societies, there being no shares to subscribe for, or competition for an advance, and no deduction from the loan. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed stamped envelope.
EDWARD HARPER, Secretary.

MONEY.—IMMEDIATE CASH ADVANCES MADE ON
FREEHOLD, LEASEHOLD, and COPYHOLD PROPERTY
TIMBER, WINE, and SPIRIT WARRANTS.
BANKRUPTS' and INSOLVENTS' CASES CONDUCTED.
Balance-sheets Prepared, and Meetings of Creditors Convened
Mr. RICHARD CROSSLEY, ACCOUNTANT and BUSINESS AGENT,
17, Moorgate-street, Bank, London.

SOFT CHALK, of very Superior Quality will grind and wash well, lie thin, half the labour than any other known; free from grit or rubbish, at EPSOM LIME-KILN.—Forwarded from Epsom Stations to all parts on the South-Western or the Brighton lines (within 15 miles) at from 6s. 6d. to 7s 6d. per ton, carriage free. References to persons using it. One trial will prove.—W. HOBMAN, Ewell, Surrey.

PLASTER OF PARIS.—The only London maker, the best and the oldest established (1830), is ROBESON, Mount Pleasant, Clerkenwell. The cheap country-made article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster unequalled.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
FOOT OF BATTERSEA BRIDGE, CHELSEA.

COLES, SHADBOLT, & CO. CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

FREEN AND COMPANY, MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS;
CHALK LIME BURNERS, AND GREYSTONE LIME MERCHANTS
MANUFACTORIES AND WHARFS:—
3, CANAL ROAD, KINGSLAND ROAD, and FRINDSBURY, on the MEDWAY, KENT.

F. & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality, Strength, and Colour, supplied to Shippers and the Trade, Wholesale and Retail.

F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER of PARIS (coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half century, may be had (fresh ground daily) by Shippers and the Trade, Wholesale.

F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily.

GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.

GREYSTONE LIME.

PLASTERERS' HAIR. LATHS.

PLAIN PAN RIDGE and FOOT TILES.

CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.

KEENE'S and MARTIN'S CEMENTS.

SAND, POTTERY WARE, &c. &c.
Orders and Letters addressed to 3, Canal road, Kingsland; or to City Offices, 79, King William street, City, will receive immediate attention.

STRINGFIELD & BLYTH, SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & R. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD & BLYTH, BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

GREY STONE LIME.
WILLIAM PETERS,
GREY STONE LIME BURNER.
WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.
LONDON WHARFS:
12, UPPER GROUND STREET, BLACKFRIARS, S.
7, NORTH WHARF ROAD, PADDINGTON, W.

PORTLAND, ROMAN, and PLASTER CEMENT MANUFACTORY, on the River Medway, Strood, Kent,
Messrs. LARK, FLETCHER, & CO.
are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.
N.B. Shipping Merchants' and Brokers' Orders promptly executed.

GREAVES'S BLUE LIAS LIME.
GREAVES & KIRSHAW, WARWICK, and
14, SOUTH WHARF, PADDINGTON, W.
L. M. TA'HAM, Agent.
THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.
Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.

	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. — 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	15 oz. 4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1⅝	2	2⅓
„ 2ft. 6in. sup.	1½	1⅝	2¼	3
4 ft. super...	1¾	2	2⅓	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.		
Green	do.	10d. do.
Blue	do.	6d. do.
Orange	do.	6d. do.
Purple	do.	6d. do.
Yellow	do.	6d. do.

Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead	.....30s.	Fine Oak Varnish	...
Anti-corrosian Paint	28s. to 34s.	„ Carriage	...
Linseed Oil Putty	.....7s. 6d.	Linseed and Boiled Oil	per gallon.
Patent Dryers	.....28s. to 42s.	Turpentine	.....
	per cwt.		

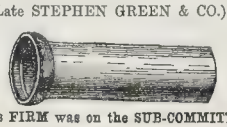
Milled Lead in Sheet and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The nearest Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Pennant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Chéques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVEN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR: GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

J. B. WHITE & BROTHERS,

CEMENT MANUFACTURERS,

BRICKMAKERS, AND MARBLE IMPORTERS.

For Account of Experiments on the Strength of their

PORTLAND CEMENT,

Read at the Institute of Civil Engineers, apply to the Makers.

KEENE'S IMPROVED CEMENT,

Manufactured only by J. B. WHITE and BROTHERS, specially adapted for SKIRTINGS, FLOORING, and INTERNAL STUCCO, on account of its superior hardness.

N.B. Can be Painted in Twenty-four Hours.

MILLBANK STREET, WESTMINSTER.

LIVERPOOL,—JOHN MACKENZIE, 42, SEEL STREET. MANCHESTER,—THOMAS OAKDEN.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Tipton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS
COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS:
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
We [illegible] the best quality—
GREYSTONE, CHALK, FLARE, & BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S PATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS.
Ditto and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS. BLACK BRICKS and BLACK GLAZED HEADERS.
WHITE, BLACK, and RED RUBBERS
STAFFORDSHIRE ORNAMENTAL PAVING TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CRESTS, BLUE, RED, and GREEN
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size.
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN PIPES, TILES, and CHIMNEY POTS
TERRA COTTA and CEMENT CHIMNEY POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c., Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola imitation of marble.—Manufacturers, FRANCIS, BROTHERS, & POTT, Nine Elms, London.

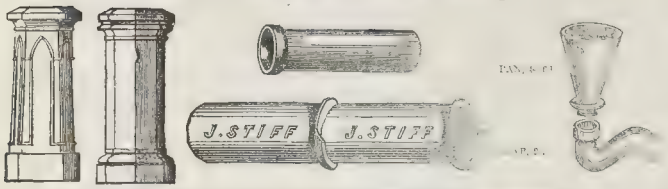
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be [illegible] established, and Junctions inserted, in the event of requiring further connections.

Manufacturers also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleansed without disturbing the surface of the ground, adapted also for ventilation of Sewers and Drains.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

3s. 9d.



INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

The only Medal "for Stone Ware" has been awarded to

DOULTON & WATTS, LAMBETH POTTERY,

LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the annexed pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness it cannot be surpassed by the most expensive closets.

FIGURE D STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

JOHN DOULTON, BROTHERS, & CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO STREET, LIVERPOOL,

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING TILES, &c.

CONTRACTORS FOR ROOFING THE GREAT EXHIBITION BUILDING OF 1862

By Her Majesty's  Royal Letters Patent.

F. McNEILL & CO. of LAMB'S BUILDINGS, BUNHILL ROW, LONDON,

Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronised by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HER MAJESTY'S WAR DEPARTMENT,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK,

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full particulars as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. ARMY HAIR FELT, for covering boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully cautioned to send their ORDERS DIRECT to the FACTORY, as the surest means of being supplied with Felt only. LAMB'S BUILDINGS, BUNHILL ROW, Roofs covered with McNEILL'S FELT, to be seen at the CAMPS of ALDERSHOT, CURRAGH, SHORNCLIFFE, and COLCHESTER; upwards of Three Millions of Feet; also the GREAT EXHIBITION BUILDING of 1862, of Four Million Feet. A Liberal Discount allowed to the Trade.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.

MORTAR-MILLS,

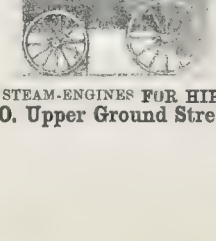
CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

PAN CLOSET fitted with LAMBERT'S VALVE, and UNDERHAY'S REGULATOR.



T. LAMBERT & SON,

FOUNDERS, HYDRAULIC AND GAS ENGINEERS,

SHORT STREET, LAMBETH.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is secured. Any number can be worked by one supply pipe. No cisterns, valves, cranks, or wires required. The Closets can be seen in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

MINTON & CO

Have REMOVED FROM ALBION PLACE, BLACKFRIARS TO 50, CONDUIT STREET, REGENT STREET

ENCAUSTIC AND OTHER PAVEMENTS.

EARTHENWARE AND PLAIN TILES

DESIGNS AND ESTIMATES PREPARED.

MANUFACTORY, STOKE UPON-TRENT.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, GAULT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that any kind of any pattern or design can be manufactured at the Company's Works, or sold on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION 1862

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for old-fashioned floors of their perishable coverings. MAW & CO.'S Patent brick designed by M. Digby Wyatt, Esq., together with a special design, and set of tints of real slate, to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, W.

London Agents—W. B. SIMPSON & SONS, 450, West Strand, who have on view a great variety of Specimens of the Pavements

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sadly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and Lastly, that the "Reports of the Jurors," page 781, of the Great Exhibition, note the grant of a First-class Medal and rank the Manufactories known so long as "The Thrums," Tunstall, Staffordshire, as the first of the kind in the world.

POLONCEAU and LIMMER ASPHALTE.

ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description especially in places subject to damp and vermin. This Asphalte is now exclusively used for paving Stables (as shown above) the absence of joints preventing the general ill effects arising. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish-street-hill, London, E.C.

Country Builders supplied with Asphalte in Bulk for covering Footings, Barn Floors, &c. with instructions to lay it down.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.
BELL AND BRASS FOUNDERS TO HER MAJESTY.

HYDRAULIC ENGINEERS, BRAZIERS, MANUFACTURERS of PUMPS, COCKS, and CLOSETS of EVERY DESCRIPTION, for EITHER HIGH or LOW PRESSURE. BATHS, GARDEN and FIRE-ENGINES, STEAM WORK, &c.



No. 35.

WARNERS' PATENT CAST IRON PUMP,

FOR RAISING WATER FROM WELLS not exceeding Twenty-five feet in depth.

Diameter of Barrel	Height.	£	s.	d.
2½ in. short	1 ft. 7 in. / Fitted for lead,	0	19	0
2½ „ long	3 ft. 3 in. \ gutta percha,	1	4	0
3 „ long	3 ft. 6 in. / or cast iron	1	15	0
3½ „ long	3 ft. 6 in. \ flanged pipe,	1	19	0
4 „ long	3 ft. 6 in. / as required.	2	6	0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing		1	15	0
2½ in. long ditto, ditto		2	0	0

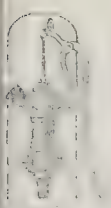
No. 36½.

WARNERS' IMPROVED CAST IRON

LIFT AND FORCE PUMP,

The Barrel lined with Brass.

2½ inch	£2	10	0
3 „	2	15	0



No. 69.

WARNERS' PATENT BRASS VIBRATING STANDARD LIFT and FORCE PUMP, for the supply of Cisterns, &c. is recommended for the simplicity of its construction, and the ease with which it works.

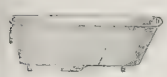
By the introduction of the Vibrating Standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

2½ inch	£4 4 0	Larger sizes when required.
3 „	5 5 0	
4 „	6 6 0	

Fitted to the best plank, 5 ft. 9 in. high.

Where strength is not an object, a lighter Pump can be supplied.

2½ inch	£3	10	0
3 „	4	0	0



WARNERS' Baths can be had of either Copper, Zinc, or Galvanized Iron. Price, from 3l. 10s. each. J. W. & SONS also supply all Fittings requisite for the same.

TWO PRIZE MEDALS FOR BELLS HAVE BEEN AWARDED TO JOHN WARNER and SONS, AT THE GREAT EXHIBITIONS IN 1851 AND 1862.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast of any size, note, or weight, singly or in Peals.

TUNED BY MACHINERY.

Old Bells recast or taken in Exchange.

An experienced Bell-hanger sent to inspect, report, and advise on the state of Peals out of repair. Estimates furnished for New Oak Frames and Fittings, and for Repairing Old Ones.

House Bells, Hand Bells, Alarm Bells, Ships' Bells, Horse, Cattle, and Sheep Bells.



No. 384. No. 383.

WARNERS' HIGH-PRESSURE COCKS are made with Gland Stuffing-boxes and Loose Valves. They can always be made sound after wear, and repaired with facility.

All Warners' Cocks are tested with Hydraulic Pressure.

Improved large Screw-down Cocks, suitable for either Steam or Water, are recommended to the notice of Water Companies as an efficient substitute for the ordinary Sluice Cock.

JOHN WARNER & SONS

HAVE BEEN AWARDED A PRIZE MEDAL FOR THEIR NEW

CHIMING APPARATUS,

by means of which a lad may correctly play a great variety of chimes upon peals of six, eight, or more bells. Several have since been fixed, and give great satisfaction.

Prices and further particulars furnished on application at the Manufactory, 8, Crescent, Cripplegate, London.

JOHN WARNER & SONS desire to draw attention to their PATENT PAN and VALVE CLOSETS, with Supply and Regulating Valve for High or Low Pressure.

The PATENT VALVE is connected with a Bracket, which may be attached either to a Pan or Valve Closet, as desired. The Valve being constructed to close gradually after the handle is down, gives a sufficient supply of water to clean e the basin, and leaves enough in the pan to ensure an air-tight joint. Any number of these closets may be fixed to one main or service-pipe.



No. 1454. Warners' Spring Valve Closet on Iron Frame, with Vulcanized India-Rubber Valve, and Patent Supply Valve attached, Plain Handle, and White Basin ... £3 15 0

Sunk Handle, extra ... 0 3 0

Blue Basin, extra ... 0 1 6



No. 1484. Warners' Bright Pan Closet, with Patent Supply and Regulating Valve attached, Plain Handle, and White Basin ... £2 0 0

Sunk Handle, extra ... 0 2 0

Blue Basin, extra ... 0 1 0

The above prices are subject to a liberal discount.

THE ABOVE ARE WHOLESALE PRICES, SUBJECT TO DISCOUNT.

JOHN WARNER & SONS, 8, CRESCENT, CRIPPLEGATE, LONDON, E.C.



The ABOVE INVENTION WILL RECOMMEND ITSELF to Architects, Engineers, and others interested in Drainage, for its SIMPLICITY of construction; there being NO COMPLICATION OF PARTS.

The "Manhole" is sufficiently large to admit of the DRAIN being THOROUGHLY CLEANSED WITHOUT A SINGLE PIPE BEING REMOVED.

It DOES NOT at all INTERFERE WITH THE FLOW OF WATER in the Drain.

It IN NOWISE WEAKENS THE PIPE; and

It ADMITS of the ready INSERTION OF A JUNCTION by removing the "Manhole" cover, and replacing it with a loose Junction Arm.

Manufactured solely by

JOSEPH CLIFF & SON, WORTLEY, near LEEDS;

For MARCUS BOURNE NEWTON,

WHARF, No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, LONDON, N.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each, with leading pulley, from 6s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

SALES BY AUCTION.

NEW AND OLD BUILDING MATERIALS, SOUTHWARK BRIDGE ROAD

MESSRS. GLASIER & SON are instructed to SELL by AUCTION, on the PREMISES, Bevilders Buildings, Southwark Bridge road, on TUESDAY, DECEMBER 30, at TWELVE for ONE o'clock, the whole of the STOCK IN TRADE of Mr Wm Watkins, in consequence of his premises being required by the London, Chatham, and Dover Railway Company; comprising two capital wrought-iron girders, 33 feet long; wrought-iron boiler, tubes and piping; cast-iron plates, chains, wheel-tires, and sundry iron; useful crab, large cast-iron pan, oak and fir girders and dressmmers, quartering, mahogany sash and other doors, shop-fronts, sashes and frames, panelling, yellow and white deals, pine planks in various thicknesses yellow battens, match and weather boarding, plain tiles, marble and other chimney-jambs and mantels, useful stone, a quantity of zinc, copper, hook-and-eye hinges, sash-weights, rope-falls, and other effects.—May be viewed the day prior and morning of sale, and catalogues had on the Premises, at Garraway's, Change Alley Cornhill; and of the Auctioneer, 191, Charing-cross, S.W.

BEDFORD LUNATIC ASYLUM.—Excellent Building Materials.

MR. WHITTINGHAM is instructed to SELL by AUCTION, on the PREMISES, close to the town on the Ampthill-road, on MONDAY, DECEMBER 22nd, at TWELVE for ONE o'clock in the afternoon, the second portion of the BUILDING MATERIALS of the late County Lunatic Asylum; comprising about 80 tons of Kyanized timber, 17 lots of long and short brass tiles, slates, deal timber, consisting of beams, posts, rafters, floor-boards, doors, and frames, window, bracklats, paving of tiles, iron gratings, and spouting; firewood, boarded partitions, pumps, pipes, lamps, &c. &c. May be viewed on FRIDAY and SATURDAY preceding the Sale. Catalogues may be obtained of the Foreman, on the Estate, and of the Auctioneer, 14, Moorgate-street, London, E.C.

KILBURN.—By order of the Sheriff.—1,000 PIECES of PAPER-HANGINGS, LEAD, &c.

MR. KEMP will remove from the Edgeware-road, to SELL by AUCTION, at the QUEEN'S ARMS TAVERN, Kilburn, near the Gate, on TUESDAY next, at ONE, without reserve, the above large STOCK of PAPERHANGINGS, WHITELEAD, 180 lots BUILDERS' IRONMONGERY, and Effects. View morning of sale, and catalogues had.—Office, 27, Coleman-street, City.

THE BRITISH and FOREIGN MARBLE GALLERIES, Warwick House, 142 and 144, Regent street; and 29 30, and 31, Warwick-street, W.
EDWARDES, BURKE, & CO. PROPRIETORS.
The largest and most superior Stock of Chimney-pieces in Europe on view at the above-named Establishment.
Manufactories: Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
Estimates for every description of Marble Stone and Granite Work.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufacturers by Patent Machinery. Museum and Galleries Earl street, Horseferry road, Westminster.—The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price. Internal and External, Class XC. The largest Marble Chimney-piece in the world

VICTORIA MARBLE WORKS, 36, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN WREN
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY PIECES of the first modern design and superior workmanship, at the lowest possible prices.
N.B. Estimates given. Country stonework orders executed with punctuality and special attention.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. Tee Trafs, supported with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone at
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.
THE LIZARD SERPENTINE COMPANY, LIMITED.
Works—CARLEON COVE, LIZARD, CORNWALL.
Offices—24, ST. JAMES'S-STREET, LONDON, S.W.
The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company desire to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute on the best manner any work intrusted to them.
Communications to be addressed to the Secretary, No 24, St. James's-street; or to Mr. THOMAS OAKDEN, 94, King-street, Manchester, who is sole agent for Liverpool and Manchester.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplies direct from the quarries, by vessels and railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special sections, including quarry work or other labour, forwarded on application.—Office, 27, Millbank street, London, S.W.

WELSH SANDSTONE. GEORGE CLARK & SON, of Wootton Wawen, near Henley-in-Arden, are working a Quarry of this very superior and durable Stone (before fixing to Cefn Hengoed, in Flintshire), and can supply it to Liverpool, Manchester, &c. and can be supplied at rees. Table rates at any railway station.

LITTLE CASTERTON FREESTONE, Apply for prices, &c. to
OCTAVIUS N. SIMPSON, STAMFORD;
and see Specimens at the Office of
Messrs PINDER SIMPSON & SONS, 39, Castle-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is unrivalled for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards, CUT by Steam Power, and Delivered into Railway Trucks at Weymouth List of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset.

PORTLAND STONE and MARBLE MACHINE SAWING MILLS.
SAWS of the best quality, of any length, width, or thickness, to order.
Manufactured by ELI RICHARDS, 66, New Park-street, Southwark
The Trade supplied on terms as low as can be found in the kingdom.

ABERDEEN POLISHED GRANITE WORKS. Awarded Prize Medal in 1851, Select Medal in 1857, and Two Prize Medals in 1862.
Real Aberdeen Granite for Public and Private Buildings, Monuments, Tombs, Sarcophagi, Crosses, Obelisks, Vases, Fountains, &c. &c. in the Rough or Polished.
Apply to Mr MACDONALD, Aberdeen; or Mr. DAVID WILLET, London Agent, 448, Strand, W.C.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall.
SHOW ROOMS, 8, CANNON-STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TRATHAN, Liskeard.
This Granite is selected for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION
MAGNUS'S ENAMELLED SLATE
obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two Prize Medals at the Paris Exhibition.
Trade mottoes of this beautiful material are being painted upon the roof. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, Table-tops, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

RED MANSFIELD STONE.
WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

F. RANSOME'S NEW PATENT CONCRETE STONE, made without burning.
For which the Committee of the Exhibition of 1862 have awarded the Prize Medal, and which for the purposes of ordinary beauty of appearance, durability, and cheapness, stands unrivalled. Manufactured and used at the Patent Works, adjacent to the Pimlico Railway Station, for the construction of sea walls, docks, &c., as well as buildings generally. It surpasses every other material in its imperishability to every description of Architectural Embellishments, Capitals for Columns and Pilasters, Chimneypieces, Trusses, Balustrades for Terraces, Gate Piers, Cups, and Terminals.
Monuments, Tombs, and all kinds of Sanitary Requirements.
Ransome's Patented Process for Preserving Stone, Bricks, Cement, Stucco, &c. by which the softest and most friable Stone, &c. can be rendered impervious and imperishable; decay at once arrested and prevented.
For prices, specimens, illustrations, and licenses, apply to Mr. FREDK RANSOME, 36, Parliament-street, Westminster, or Patent Stone Works, Ipswich.

HY. GEORGE & COMPANY, CAEN and AUBIGNY QUARRYMEN and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE, S.E.
Seasoned Caen Stone always in Stock, and a large assortment of Sawn Slabs in Parks, Hardhill, &c. &c.
Grindstones, Steps, Sills, Coping, Landings, Paving, and all descriptions of Yorkshire Stock. Cargoes shipped direct from the Quarries.
Prices and specimens forwarded on application.

BELLMAN & IVEY, GENERAL AND ORNAMENTAL PLASTERERS, Manufacturers of SCAGLIOLA MARBLE and SUPERIOR PLASTER OF PARIS.
This Plaster, made expressly for their own business, is of excellent quality, and its extreme whiteness ensures a saving of 30 per cent in use, from its covering no third more superficies than the general plaster.
PRIZE MEDALS
were awarded Messrs. Bellman & Ivey for their Works at the Exhibition of 1851, and again in 1862.
PLASTER WORKS, 3, SEDDON'S BUILDINGS, LEIGHT, LIQUORPOND-STREET, LONDON, E.C.
SHOW ROOMS AND OFFICE,
14, BUCKINGHAM-STREET, PORTLAND-ROAD, LONDON, W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application.—Address,
No. 1, BOLD-TERRACE, CHESTER.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stock Bricks, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thame

WOODFORD RAILWAY.—The GROVE, WANSTEAD. Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Station is within a few yards only from the Estate, and the City is reached in twenty-five minutes. The leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Kingston; and some very eligible SITES in the Grove-road, Mile end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 25, Clapton-street

A BUILDER'S YARD and WORKSHOPS, in Douglas-street, Vincent-square, Westminster, TO BE LET, with immediate possession.—Apply to Mr. RICHARDS, 61, Vauxhall Bridge-road, Westminster.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate stations.—This valuable FREEHOLD ESTATE (land tax redeemed), including the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads made, and can be dug on the estate, it is proposed TO LET in Plots suitable for building detached and semi-detached villas. Repeated applications have been made for houses in this neighbourhood. For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

WANTED, BUSINESS PREMISES, with House attached, suitable for a Builder.—Address, stating particulars, to F. H. care of Mr. G. Woodalls, No 65, Poland-street, Oxf ord-street.

CRYSTAL PALACE (close to).—Valuable BUILDING SITES TO BE LET or SOLD, within a few minutes' walk of Sydenham Station, fronting a handsome roadway of considerable width. The supply of houses in the neighbourhood is quite inadequate to the demand, the position being undoubtedly one of the most favourite and convenient in the vicinity of town Its healthy salubrity, picturesque scenery, proximity to the Crystal Palace and Park, facility of access to the City and West end, will always insure to the locality a high rank in popular estimation, and remunerative rentals may consequently be relied on for any houses erected on the property. If not disposed of, the entire has been paid for some residences lately built on this land. Sewers made; gas laid on.—For plans and terms, apply to Messrs. FOX & BOUSFIELD, Agents for the Estate, 41, Coleman-street, City

OFFICES TO LET.—A SUITE of noble ROOMS TO BE LET, centrally situate at the West End Gas and water laid on.—Apply to Messrs. PUTTICK & SIMPSON, 47, Leicester-square, W.C.

FREEHOLD SITES for BUILDING, and FREEHOLD HOUSES, can be obtained in the best part of Prince Albert's-road, near Kensington Gore, in front of the Royal Horticultural Gardens.—Apply to C. J. RICHARDSON, Architect, 47, Prince Albert's-road, W.

BUILDING LAND, well Timbered, with House, Stabling, &c. TO BE SOLD, at Acton, Middlesex. Upwards of Seven Acres, freehold, gravel soil, extensive lawns sloping to south, double frontage; less than a quarter of a mile from a first-class railway station giving access to all parts of London. Gas and water company's supply available.—May be viewed, and the owner's address obtained on the property, Grove House, Acton, Middlesex.

BUILDING GROUND TO BE LET, on Lease, ninety years, situate in the improving neighbourhood of Pancras-road (close to the Great Northern Hotel), where there is a great demand for shops and private dwellings. A most eligible frontage for eight or ten shops, and a journal land for thirty or forty fourth class houses. Sewers and roads nearly complete on the whole estate.—Apply to JOHN POOLE, Wheel Works, Pancras road, King's Cross

TO BUILDERS and SPECULATORS.—TO BE SOLD or LET, on Building Lease, nearly Five Acres of FREEHOLD LAND, at the East of Stamford-hill, Tottenham, close to the old Ship route, and a few minutes' walk from the railway station, possessing every extensive frontage, and offering an eligible site for villa or cottage residences, or manufacturing premises, or for a brewery or distillery, for which three wells of fine water on the property render it especially suitable. There is an excellent residence of seven rooms, and requires repair, with 61 rods of stabling, two coach houses, &c.; estimated to produce, with a large lawn, garden, and shrubbery, a rental of from 150l. to 180l. leaving the remainder of the land to be devoted to building purposes.—Apply to Messrs. DEBENHAM & TEWSON, 80, Cheapside, where a plan can be seen.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Road Engineering, &c.
For Prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c. &c. Established by Messrs. HYDE, SMITH, & LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Furnished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter, Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawings, Boards, Squares, &c. For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents their cost, and the mode of procedure to be adopted, issued gratis by the General Patent Company (limited), 71, Fleet-street, London. ROBERT M. LATHAM, Secretary.

TO ARCHITECTS AND SURVEYORS.
GUYER & COMPANY, Lithographers and Printers, Grocers' Hall-court, Poultry, E.C. beg to invite attention to the resources of their Establishment as above, for LITHOGRAPHING and COPYING BILLS of QUANTITIES, Specifications, Detail Drawings, &c. &c. Having, for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly engaged on the premises, they are enabled to guarantee superior style, correctness, and expedition. Samples and Lists of Charges, post free.
N.B. Any number of copies of quantities or specifications lithographed in a few hours, and if the drafts from the country be received by the morning's post, the copies executed can be returned the same evening.

FRED. HARDING, DESIGNER and LITHOGRAPHIC DRAUGHTSMAN.
All kinds of Architectural Drawings, Sketches of Furniture made or copied, 15, Coleman-street, E.C. Illustrated Catalogues, Sheets of Drawings, Show Cards, Name Boards, &c. of every description. Pupils wanted. Terms moderate.

MESSRS. CUNDALL, DOWNES, & CO undertake to COPY PICTURES and other WORKS of ART Maps, Engineering Plans and Drawings; Daguerreotypes and other Photographs, and either to enlarge or to reduce them.
They are likewise prepared, at a day's notice, to photograph Country Houses, Interiors of Mansions, Churches, Engineering or Building Works in progress, or any part of the country.
Plans or Pictures can be copied to any size up to 36 inches by 24 inches.
Portraits are taken daily at 168, New Bond street, on the following terms:—

Miniature Portrait, ten copies	£0 5 0
Miniature Portrait, twenty copies	0 10 0
Carte de Visite, full length, ten copies	0 10 0
Carte de Visite, full length, twenty-four copies	1 0 0

Terms for attendance in the country, and for larger or Coloured Portraits, may be had on application.
Amateurs' negatives are carefully printed at moderate charges.
CUNDALL, DOWNES, & CO. Photographers to the Queen, 168, New Bond street (next the Clarendon), and 10, Bedford-place, Bayswater, W

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

Decimus Burton, esq.	Kirkman D. Hodgson, esq. M.P.
Travers Buxton, esq.	William James Lancaster, esq.
Octavius Edward Coope, esq.	John Dorrien Magens, esq.
William Cotton, esq.	John Timothy Oxley, esq.
John Dixon, esq.	Benjamin Shaw, esq.
George Arthur Hoare, esq.	William Tite, M.P.
Charles Edward Lacy, esq.	Hy. Hucks Tomlin, esq.
James Alexander Gordon, esq.	Matthew Whiting, esq.
Edward Hawkins, junr. esq.	

AUDITORS.
John Hodgson, esq. | Peter Martineau, esq.
Joseph Samuel Lescher, esq.
SECRETARIES—George William Lovell.
ASSISTANT SECRETARY—John J. Broomfield.

Insurances against Loss by Fire are effected by the PHŒNIX Company upon every description of Property, in every part of the world, on the most favourable terms.
The promptitude and liberality with which its engagements are always met by this Company are well known; and the magnitude of its relations with the public may be estimated from the fact that since its establishment it has paid more than Eight Millions sterling in discharge of Claims for Losses by Fire.
Insurances with this Company expiring at Christmas must be renewed within fifteen days thereafter, or they will become void.
Receipts are now ready at the Chief Offices, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

THE MUTUAL TONTINE ASSOCIATION, WESTMINSTER CHAMBERS CLASSES.—It is requested that Applications for subscriptions may be sent in prior to MONDAY, the 22nd day of DECEMBER next. Prospectuses may be obtained at 85, Gracechurch-street, E.C. By order of the Board,
G. S. SIDNEY, Sec. pro tem.
Temporary Offices of the Association, 85, Gracechurch-street, Old Broad-street, E.C. December 4th, 1862.

LONDON: Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 20, 1862.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XX.—No. 1038. DECEMBER 27, 1862. PRICE FOURPENCE. By Post, 5d.

ILLUSTRATIONS.

West Shandon; on the Gareloch, Scotland; the Seat of Mr. Robert Napier, the Engineer 929
Plan of Ground Floor of West Shandon 928

CONTENTS.

A Walk and Talk in the Baths of Rome 921
Foreign Materials in "The Exhibition:" Italian Marbles 923
On Cottage Building, and Sanitary Appliances 925
The Deep Sea Bed of the Irish Atlantic Ocean 927
Theatre Royal, Westminster 927
Stained Glass 927
Water-colour Painters' Lancashire Relief Fund 927
The Late Mr. John Weale, Architectural Publisher 927
West Shandon, on the Gareloch, Scotland 928
The Mines and Miners of the United Kingdom 931
A Hint for the Alteration and Use of Large Buildings in the New Metropolitan Cattle-market 932
The Department of Public Works in India 932
The Architectural Association: Proposed Architectural Alliance 933
On Architectural Competitions: Glasgow Architectural Society 933
Workmen's Club-Union 934
Death from Foul Air 934
Albert Memorials 934
Competitions 934
Re-opening of Leeds Philosophical Hall 934
Transmutation of "Species" in the Vegetable World: Oats into Rye, Barley, and Wheat 935
Metropolitan Board of Works 935
Insurance of Workmen's Tools 935
Amendment of Building Act 935
Books received: March on Flowers and Fruit Decoration (Harrison); Variorum 935
Miscellanea 935

ROYAL INSTITUTE of BRITISH ARCHITECTS, No. 9, Conduit-street, Hanover-square, W.
VOLUNTARY ARCHITECTURAL EXAMINATIONS.

The First Examinations will be held on MONDAY, the 26th JANUARY, 1863, and the following days of the week. Candidates are required to deliver their applications and recommendations on or before SATURDAY, the 27th of DECEMBER next, being "Four weeks before the first day of examination," according to the regulations.

They are intended to be held annually at the end of the month of January, and are open to British subjects, under certain regulations, copies of which, together with forms of application, course of examination, and list of books recommended, may be obtained at the Institute, 9, Conduit-street, W.

JOHN P. SEDDON, CHAS. FORSTER HAYWARD, } Hon. Secretaries.

SHEFFIELD SCHOOL of PRACTICAL SCIENCE and METALLURGY.
PRESIDENT.
His Grace the Duke of Devonshire, K.G. F.R.S. D.C.L. Chancellor of the University of Cambridge.
VICE-PRESIDENTS.
The Mayor of Sheffield, John Brown, esq.
The Master Cutler.
The Right Hon. Lord Wharncliffe.
Sir David Brewster, K.H. D.C.L. F.R.S.L. & E. M.R.I.A.
Sir Roderic Murchison, F.R.S. Director of the Royal School of Mines.
John Percy, esq. M.D. F.R.S. Professor of Metallurgy in the Royal School of Mines.
William Fairbairn, esq. C.E. F.R.S.
Robert Hunt, esq. F.R.S. F.S.S. Keeper of Mining Records.
Warrington W. Smyth, esq. M.A. F.R.S. Professor of Mining and Mineralogy in the Royal School of Mines.
DIRECTOR.
The Rev. G. B. Atkinson, M.A. Principal of the Collegiate School; late Fellow and Assistant Tutor of Trinity Hall, Cambridge
PROFESSORS.
Chemistry, Metallurgy, and Geology—James Allen, Ph.D. F.C.S. of the Universities of Giessen and Berlin.
Engineering and Mining—J. Thompson, C.E.
Mathematics, Natural Philosophy, and Applied Mechanics—Rev. G. B. Atkinson, M.A.

The Sheffield School of Practical Science and Metallurgy will afford a complete scientific and practical education to students who are destined to become civil, mechanical, or mining engineers, or manufacturers of any kind. Its object is thoroughly to discipline the students in the principles of those sciences upon which the operations of the engineer, metallurgist, or manufacturer depend.

The course will be generally by means of systematic Courses of Lectures, by Catechetical Class Instruction, by Practical Teaching in the Laboratory and Drawing room, and occasionally by Field Excursions.

The School of Practical Science and Metallurgy will be conducted in the Buildings of the Sheffield Collegiate School. The two Institutions, although both under the superintendence of the Rev. G. B. Atkinson, Principal of the Collegiate School, are, however, entirely distinct.

A detailed Prospectus, containing Syllabuses of all the Courses of Lectures, and all other information, arrangements for boarding, &c. may be obtained on application to the Director.

THE SCHOOL WILL OPEN IN THE FIRST WEEK IN FEBRUARY, 1863.

GALLERIES of the ARCHITECTURAL UNION COMPANY (Limited), 9, Conduit-street, Regent-street, NOW OPEN, FREE, from ELEVEN till FOUR, daily. The Autumn Exhibition of Building Materials, Patents, and Inventions, will CLOSE, FEBRUARY 28, and must then be cleared for the Architectural Exhibition.
JAMES EDMESTON, Hon. Sec.

BUILDERS' BALL will take place at WILLIS'S ROOMS, St. James's, FEBRUARY 12th, 1863.
JOSEPH BIRD, Hon. Sec.
10, Hanover Cottages, Regent's Park.

LECTURES to WORKING MEN, ROYAL SCHOOL of MINES, JERMYN-STREET.—The SECOND COURSE of SIX LECTURES on GEOLOGY, by Professor RAMSAY, F.R.S. will be commenced on MONDAY, the 5th of JANUARY, 1863, at EIGHT p.m.; and the THIRD COURSE of SIX LECTURES, on APPLIED MECHANICS, by Professor WILLIS, F.R.S. on THURSDAY, the 8th JANUARY, at EIGHT p.m.—Tickets may be obtained, by working men only, for the Second Course, on MONDAY, the 29th inst.; and for the Third Course, on THURSDAY, 1st JANUARY, from TEN to FOUR o'clock, upon payment of a fee of 6d. for each course. Each applicant is requested to bring his name, address, and occupation, written upon a piece of paper, for which the ticket will be exchanged.
TRENHAM REEKS, Registrar.

COMPETITIONS.

PUBLIC HALL.—To ARCHITECTS.—The Provisional Committee of the Tunbridge Wells Public Hall Company (Limited), not having succeeded in obtaining plans strictly in accordance with their requirements, are desirous of again receiving PLANS, Elevations, Sections, Specifications and Estimates, for the ERECTION of a PUBLIC HALL to seat 800 persons, on land with 150 feet frontage to a public road, and 300 feet in depth; the cost not to exceed 6,000*l.* including heating, lighting, ventilating, internal fittings, and decorations. Further particulars may be obtained of the Hon. Secretary, Mr. JOHN COLBRAN, Tunbridge Wells.
December 23rd, 1862.

CONTRACTS.

CITY of LONDON, BARBERS' HALL.—Important SITE for WAREHOUSES, or MANUFACTURING PREMISES, in the immediate vicinity of Wood-street, Cheapside.—The Committee of the Worshipful Company of Barbers, will meet at their Hall, on THURSDAY, the 29th day of JANUARY, 1863, to receive TENDERS, for letting on a building lease, for ninety-nine years, the extensive PREMISES, known as BARBERS' HALL, situate in Monkwell-street, Wood-street, comprising three houses, fronting Monkwell-street, Nos. 33, 34, and 35, part of the courtyard in the rear thereof, the passage leading thereto, and the greater portion of the Company's Hall, together with the kitchen, scullery, and outbuildings, having a frontage towards Monkwell-street of about 83 feet by an average depth of about 116 feet, and an extreme depth of about 135 feet.—Full particulars, with a plan of the property, elevation, and section at right front, also conditions of letting may be obtained, on application to the Clerk of the Company; to Mr. CHARLES JOHN SHOPPEE, the Company's Surveyor, No. 61, Doughty-street, W.C.; or to the Beadle at the Hall, by order,
HENRY GROSE SMITH, Clerk.
4, Warnford-court, Throgmorton-street, E.C.

TO PIPE FOUNDERS.—The Northampton Waterworks Company are desirous to receive TENDERS for about 4,000 yards of CAST-IRON SOCKET PIPES, of 15 inches diameter, and 500 yards 6 inch, and 500 yards of 2 inches diameter; together with other CASTINGS. Specifications may be seen, or had, by application at the Office of the Company. Tenders inclosed in a sealed envelope, and indorsed "Tender for Pipes") are to be delivered at the Offices of the Company, 37, Newland-street, Northampton, on or before the 5th day of JANUARY next.—By order of the Board,
December 17, 1862. HENRY ARMITT, Secretary.

CROYDON LOCAL BOARD of HEALTH.—To CONTRACTORS and OTHERS.—Any Persons willing to CONTRACT for the CONSTRUCTION of a BRICK SEWER, about 5,400 feet long, from the Selhurst-road to the land near Colliers Water lane, may see the plan and specification at the Engineer's Office, Townhall, Croydon, on and after MONDAY, the 29th of DECEMBER, 1862, between the hours of TEN and FOUR o'clock. The Tenders are to be delivered at the Office of H. RICHARDS, Esq. 99, High-street, on or before MONDAY, the 5th JANUARY, 1863. The Board will not necessarily accept the lowest or any Tender.
Croydon, December 17, 1862.

CROYDON LOCAL BOARD of HEALTH.—To CONTRACTORS and OTHERS.—Any Persons willing to CONTRACT for the CONSTRUCTION of TANKS at South Norwood, may see the plan and specification at the Engineer's Office, Townhall, Croydon, on and after MONDAY, the 29th of DECEMBER, between the hours of TEN and FOUR o'clock. The Tenders are to be delivered at the Office of H. RICHARDS, Esq. 99, High-street, on or before MONDAY, the 5th of JANUARY, 1863. The Board will not necessarily accept the lowest or any Tender.
Croydon, December 17, 1862.

TO CONTRACTORS and OTHERS.—CONTRACT for LAYING CAST-IRON SOCKET PIPES, &c.—The Directors of the Hastings and St. Leonards Gas Company are desirous of receiving TENDERS for laying about 2,400 yards of SOCKET PIPES, of from 15 to 24 inches diameter. The specification may be seen at the Offices of the above Company, on and after 19th inst., and Tenders must be delivered on or before the 31st inst.
A. H. WOOD, General Manager.
Gas Company's Offices, Hastings, 15th December, 1862.

TO DUSTMEN, SCAVENGERS, and OTHERS.—Notice is hereby given, that the Overseers of the Parish of Paddington will be prepared to receive TENDERS from persons willing to CONTRACT for the REMOVAL of DUST, DIRT, ASHES, and CINDERS from the several houses and premises within the district under their jurisdiction, and in respect of the years 1863 and 1864. Forms of Tender can be obtained, upon application to me here, where Tenders sealed, and addressed to "The Paddington Parish Commissioners," and endorsed "Tender for Dust," are to be delivered at or before THREE o'clock, on WEDNESDAY, the 7th day of JANUARY, 1863.
FRANCIS ADAMS, Clerk to the Commissioners.
No. 1, Whitehall-place, December 20, 1862.

CONTRACTS.

TO ENGINEERS and SURVEYORS.—The West Derby Local Board are prepared to receive TENDERS for the SURVEY of their DISTRICT. A specification containing conditions of Contract can be seen, and further particulars obtained, on application at the Office of Mr. A. F. ORRIDGE, Surveyor to the Board, West Derby, Liverpool. The Board do not bind themselves to accept the lowest or any Tender. Sealed Tenders, addressed "Tender for Survey," must be sent in, addressed to the Chairman of the Survey Committee, Public Offices, West Derby, near Liverpool, on or before FOUR o'clock on FRIDAY, the 2nd of JANUARY next.
ISAAC ATHERTON, Solicitor to the said Local Board.
Liverpool, 17th December, 1862.

TODMORDEN TOWN-HALL COMPANY, LIMITED.—To MASONS, BUILDERS, and OTHERS. Persons desirous of TENDERING for the EXECUTION of the various WORKS required in the ERECTION of the proposed new TOWN-HALL at TODMORDEN, are requested to forward their names to the Architect, J. GREEN, Portsmouth, Todmorden, on or before the 31st inst. Drawings and specifications may be seen previously to the delivery of Tenders, of which due notice will be given.—Quantities will be supplied.
December 13, 1862.

ALTERATIONS at the COUNTY PRISONS, MAIDSTONE.—Persons willing to CONTRACT with the Justices of the county for certain works to be done in making ALTERATIONS to the COUNTY PRISONS at Maidstone, may see the plans and specification at the Office of the County Surveyor, Maidstone, any day except SUNDAY between the hours of TEN and FIVE. The work is to be tendered for in the three following Contracts:—
CONTRACT No. 1.—All pulling down, and all Bricklayers', Masons', Carpenters', Joiners', and Ironmongers' work, including a quantity of Teak Slab Slate for divisions.
CONTRACT No. 2.—All Smith and Founder's Work.
CONTRACT No. 3.—All Plumber, Glazier, and Painter's Work.
Forms of Tender are to be obtained at the County Surveyor's Office, where sealed Tenders, endorsed, "Tender for Work at the County Prisons, Maidstone," are to be delivered by FOUR o'clock p.m. on MONDAY, the 12th of JANUARY, 1863, and persons Tendering are to be in attendance at the Courts of Justice, Maidstone, at HALF-PAST TWELVE o'clock on TUESDAY, the 13th JANUARY, 1863. Neither the lowest nor any other Tender will be accepted unless approved of in all particulars. Security will be required for the performance of the several contracts.
H. A. WILDES, Clerk of the Peace.
Maidstone, December 17, 1862.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION given in Surveying, Levelling, Civil Engineering, &c.
For Prospectuses, apply at the Establishment of Messrs. HYDE, SMITH, & LEWIS, Civil Engineers, Surveyors, &c. for giving Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No Extras.—24, Guilford-st. Russell-square.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Students, Pupils, Clerks of Works, &c. &c. Established by Messrs. HYDE, SMITH, & LEWIS, Architects, Civil Engineers, &c. &c. DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating, Builders' Work, &c. Terms—Day Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter. Five Evenings per Week, from 7 to 10. There are no extras. The Terms include the whole of the above, with the use of Drawing Boards, Squares, &c. For Prospectuses of the Drawing Classes, apply at the Establishment, 24, Guilford-st. Russell-sq.

TO INVENTORS.—All intending Patentees should procure the PRINTED INFORMATION regarding Patents—their cost, and the mode of procedure to be adopted—issued gratis by the General Patent Company, 166, Fleet-street, 71, Fleet-street, London.
ROBERT M. LATHAM, Secretary.

TO ARCHITECTS AND SURVEYORS.
GUYER & COMPANY, Lithographers and Printers, Grocers' Hall Court, Poultry, E.C. beg to invite attention to their resources, for their Establishment as above, for LITHOGRAPHING and COPYING BILLS of QUANTITIES, Specifications, Detail Drawings, &c. &c. Having for the last ten years given their almost exclusive attention to this description of work, and having a numerous staff of first-class hands constantly engaged on the premises, they are enabled to guarantee superiority of style, correctness, and expedition. Specimens and Lists of Charges, post free.
N.B. Any number of copies of quantities or specifications lithographed in a few hours, and the drafts from the country received by the morning's post, the copies required can be returned the same evening.

TO BRASS and METAL FOUNDERS, ENGINEERS, PLUMBERS, GAS FITTERS, BUILDERS, IRONMONGERS, &c.—TO BE DISPOSED OF, a well-established CONCERN and BUSINESS, with Stock, Machinery, Tools, Patterns, &c. The best situation in the City of London. The present Proprietor is retiring from business. Apply to R. F. MULVANY, Esq. 4, Queen's-square, Westminster, London, S.W.

TO PLUMBERS, DECORATORS, and GENERAL CONTRACTORS.—An excellent and unusual OFFER presents itself to any Person who can command cash, in a most genuine and old-established BUSINESS, a few miles from London. For particulars, apply to Mr. BISCOCK, Messrs. Peake, Lead Merchants, Borough, London Bridge.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand exposure to the weather. Light Oak, 4s. per gallon; Middle Oak, 5s. per gallon; Dark and all other woods, 6s. per gallon. Varnishes for the above. W. NAYLOR'S Stains may be had at the Factory, 4a, James-street, Oxford-street; Also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT, and at HALF the COST.—STEPHENS'S DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

H. STEPHENS, Chemist, 18, St. Martin's-le-Grand, E.C. late of 54, Stamford-street, S.

CROWDEN and GARROD (successors to THOS. KENT & CO.), the celebrated PAINTING and GENERAL BRUSH MANUFACTURERS,
FALCON-SQUARE, LONDON, E.C.
Also Manufacturers of the Patent India-rubber Knife-boards, Cocoa-nut Fibre Door Mats, Matting, &c.
T. KENT and CROWDEN & GARROD, are stamped on the Brushes.

IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 30s. per cwt.
Linseed Oil, 3s. 6d. per Gallon; Boiled Oil, 3s. 10d. per Gallon.
Turpentine, 10s. per Gallon.
Fine Pale Oak Varnish, 9s. per Gallon.
For cash, at EDWARD PRICE'S Colour and Varnish Warehouse, 36, Upper Ebury-street, and 45, Caledonia-street Pimlico, S.W.
Every article for the Trade at the lowest prices.

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 30s. per cwt.; Linseed Oil, 3s. 4d. per gallon; Boiled Oil, 3s. 8d.; Turpentine, 8s. per gallon; Fine Pale Oak Varnish, 9s. per gallon.—For cash, at F. LANGTON'S Colour Warehouse, 143 and 144, Whitecross street, St. Luke's, E.C. Dry and Ground Colours, Brushes, &c at the lowest prices.

GRAINERS and the TRADE SUPPLIED with THOMAS KERSHAW'S COLOURS, prepared thick for graining every description of wood in all their purity of tone and colour, the same as used by himself.
Full particulars forwarded on application to his sole Agents,
GIBBINS, BROTHERS,
VARNISH and FINE COLOUR MAKERS and IMPORTERS,
30, LONDON WALL, E.C.
Where also may be obtained their
CELEBRATED STAINS for EVERY DESCRIPTION of WOOD,
Together with all kinds of Colours and Varnishes,
Warranted of the purest Quality and at the lowest Prices.
Agents for Kershaw's Graining Machines.

PATENT GRAINING APPARATUS.—TO HOUSE PAINTERS, GRAINERS, BUILDERS, RAILWAY COMPANIES, SHIP BUILDERS, &c.
One of the greatest improvements of the age is KERSHAW'S PATENT GRAINING APPARATUS, for producing an imitation of the various woods. They are very extensively used, and with great success. They are very cheap, and will repay the cost of them in two days' working. They only require a trial, any person studying his interest would not be without them. A prospectus will be sent upon the receipt of a stamped directed envelope addressed to T. KERSHAW, Patent Graining Tool Manufacturer, 33, High-street, Marylebone, London, W.
N B. One of the Patent Graining Tools will be forwarded upon the receipt of a Post office order for 22s.

KENT'S PAINTING BRUSHES are all stamped G. B. KENT & CO.
And are manufactured solely by G. B. KENT & CO.
at 11, Great Marlborough-street, London, W.
Established 1777.
KENT'S BRUSHES have been celebrated for their superior quality for the last eighty four years, and may always be depended upon as the best that can be made.

PRIZE MEDAL, 1862.
HAMILTON & CO.
No. 10, GREEK-STREET, SOHO-SQUARE, LONDON, W.
Sole Manufacturers of
C. A. WATKINS'S PATENT WIRE-BOUND ROUND and OVAL PAINTING BRUSHES.
Distemper Brushes, Sash Tools, Stopping Brushes, Gilders' and Grainers' Tools.
These goods are made of the best materials and workmanship, and have obtained a high reputation among the chief decorators in the kingdom. Varnish and Colour Manufacturers, Oilmen, Merchants, &c. are supplied on the lowest terms. Price Lists forwarded on application.

PRIZE MEDAL.—INTERNATIONAL EXHIBITION, 1862.
CONDY'S PATENT FLUID is adopted by the Leading Hospitals and by most Government Departments. It contains Nature's Disinfectant (OXYGEN), possesses the exact properties, and acts precisely in the same manner, as the great purifying agent provided by Nature for purifying the air we breathe, and called by chemists OZONE; combining, therefore, the most powerful purifying properties with a perfectly innocuous and wholesome nature, and being without doubt, if not the, the safest and most efficient disinfectant and deodorizer for sick rooms, slaughter-houses, sinks, house-drains, sewers, cesspools, graveyards, &c., and is permanently useful for numerous domestic purposes, for which all other deodorising agents, on account of their poisonous character, or disagreeable smell, are wholly improper and inapplicable,—such as purifying impure water, sweetening foul linen, tainted meat, fish, &c., and preventing taint in meat, game, fish, &c., also in keeping down the bad smells in Cesspools, and maintaining personal purity—either of all these as Chemicals, in Bottles at 1s. 2d. or 4s each; or per Gallon, 10s. ONE GALLON MAKES THREE HUNDRED GALLONS ADAPTED FOR USE.
Wholesale of the Patentee, Battersea, Surrey, S.W.

MONEY advanced on MORTGAGE, on equitable terms, to any amount, on good eligible FREEHOLD or LEASEHOLD HOUSES, ESTATES, FARMS, or LAND. Apply to Mr. C. F. SMYRK, Auctioneer, Surveyor, and Valuer, 103, Fleet-street, London.

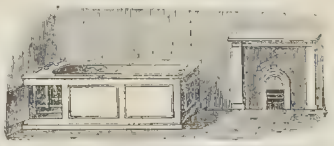
MONEY on FREEHOLD and LEASEHOLD PROPERTY by the MUTUAL LOAN FUND ASSOCIATION (incorporated by Act of Parliament, 1850), 14, RUSSELL STREET, Covent Garden, W.C. Advances from 100l. to 1,000l. upon Freehold and Leasehold Property, repayable by easy instalments. Facilities allowed to Borrowers to pay off the Loan by one, or more payments. The Directors will be happy to receive applications from Solicitors, Surveyors, and others who are desirous of negotiating Loans on Mortgage of Property, and to afford every information on the subject. No preliminary fees. Prospectus and forms of proposal sent on receipt of a directed envelope.
EDWARD HARPER, Secretary.

OSLEY POTTERY WORKS, GLASGOW.
[illegible] Staffordshire, Manufacturers of [illegible]
Wholesale [illegible]

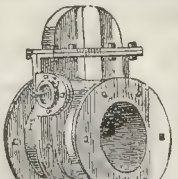
POLONCEAU and LIMMER ASPHALTE.
ESTABLISHED 1838

For covering Flat Roofs, Paving and Flooring of every description, especially in places subject to damp and vermin. This Asphalte is now extensively used for paving Stables (as shown above), the absence of joints preventing the generation of ammonia. For Estimates and Prices, &c. &c. apply to JOHN PILKINGTON, 15, Fish street-hill, London, E.C.
Country Builders supplied with Asphalte in Blocks for covering Footings, Barn Floors, &c with instructions to lay it down.

PATENT ASPHALTIC ROOFING FELT.
D. ANDERSON & SON,
BELFAST,
And 23 and 23½, BILLITER STREET, LONDON,
Patentees and Manufacturers of Asphalte Roofing, Ship Sheathing, Boiler and Inodorous Felts. Contractors, Builders, Ironmongers, and others, supplied on lowest terms.

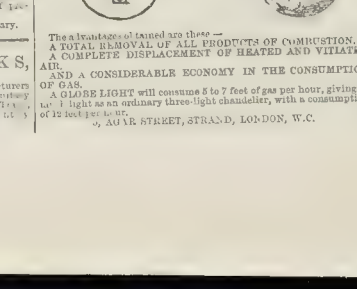
J. TYLOR & SONS' PATENT BATH APPARATUS.

The bath and boiler may be fixed in the same or separate rooms, anywhere below the level of cold-water cistern. Open or close fire at pleasure. No brickwork setting for boiler required.
Estimates given from architects' drawings, or by inspection of buildings.
Catalogues, containing Nine Illustrations of different methods of heating baths, sent on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT & CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees, and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and Price-lists, 12s—Nos. 55 and 56, High Holborn.


REDUCED PRICES OF
BRYAN DONKIN & CO.'S
IMPROVED GAS VALVES.
From 2 in. to 18 in. price 9s. 6d. to 12s. per in. diameter.
List of prices, with full dimensions of all sizes up to 30 in. to be had on application.
These Valves are all proved to 30lb. on the square inch before leaving the works, and are always kept in stock.
Valves made with outside racks to order.
Also Screw Water Valves, with gun metal faces.
BRYAN DONKIN & CO. ENGINEERS,
Near Grange road, Bermondsey

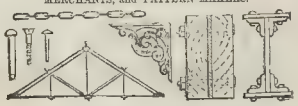
IRON ROOFING of CORRUGATED IRON, Wrought Iron, principal Roofs covered with Slates, Iron Bridges, Girders, and Railings; also Portable Buildings for Dwellings, Farm Purposes, Churches, Chapels, Schools, Theatres, Concert or Dancing Rooms, &c suitable to all Climates, fixed complete in town or country, or packed for exportation.
For Designs and Estimates apply to
RANDAL STAP, Contractor,
No. 32, KING WILLIAM STREET, E.C.
Where numerous Drawings and Photographs may be seen.
N.B. The Iron Buildings manufactured by R. STAP are not fixtures on Leasehold Property.

DAY and GAS-LIGHT REFLECTOR MANUFACTURER.—THOMAS FOX, 90, Hatton Garden, E.C.
These Reflectors never tarnish, require no cleaning, and are the most effective and durable yet presented to the public.
N.B The usual discount to builders and the trade.

RICKETT'S & HAMMOND'S VENTILATING GLOBE LIGHT, combining an agreeable method of lighting, with convenient, simple, and effectual ventilation.

The advantages claimed are these—
A TOTAL REMOVAL OF ALL PRODUCTS OF COMBUSTION.
A COMPLETE DISPLACEMENT OF HEATED AND VITIATED AIR.
AND A CONSIDERABLE ECONOMY IN THE CONSUMPTION OF GAS.
A GLOBE LIGHT will consume 5 to 7 feet of gas per hour, giving as much light as an ordinary three-light chandelier, with a consumption of 12 feet per hour.
9, ADAM STREET, STRAND, LONDON, W.C.

SAVING IN GAS.
D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT & CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres &c. &c.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and Others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES,
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth & Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM, and 16, Gresham-street London, E.C.

COOMBS & McCALL, Dover Iron Works, Staple-street, Long-lane, Borough, S.E. (late H. G. COOMBS, 27, Union-street, and 18a, Great Guildford-street, Borough, S.E. inventor of the Rotary Shop Front, Patentee of the Tubular Railings, new Compensating Girder Truss, &c. &c
GENERAL IRON FOUNDERS,
MERCHANTS, and PATTERN MAKERS.

COLUMNS, GIRDERS, ROOFS, | TANKS, DOORS, RAILINGS, | STAIRCASES, MACHINE-CASTINGS,
And every description of Ironwork, wrought or cast, for Builders' or other purposes, estimated for and executed. Designs furnished.

STATION ROOFS and ROOFS of every kind GLAZED WITHOUT PUTTY, and warranted PERFECT. EVERY DESCRIPTION OF BUILDINGS EFFECTUALLY WARMED with T. G. MESSENGER'S Triangular Tubular Heating Apparatus.—Full particulars of the above, and references supplied, upon application to the Patentee.
T. G. MESSENGER, Engineer, &c. Loughborough.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL & SON'S Show Rooms contain a large assortment of Brass Bedsteads, suitable both for Home use and for Tropical Climates; handsome Iron Bedsteads with Brass Mountings, and elegantly Japanned; Plain Iron Bedsteads for Servants; every description of Wood Bedstead that is manufactured, in Mahogany, Birch, Walnut Tree Woods, Polished Deal and Japanned, all fitted with Bedding and Furnitures complete, as well as every description of Bedroom Furniture.

HEAL & SON'S ILLUSTRATED CATALOGUE, containing Designs and Prices of 100 Bedsteads, as well as of 150 different articles of Bedroom Furniture, sent free by post.—HEAL & SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

WROUGHT-IRON TANKS, CISTERNS, GIRDERS, FUNNELS, &c., plain or galvanized; CATTLE TROUGHS, IRON CART BODIES, &c.


BURNEY & BELLAMY, Mill-wall, London.
The Steam-boats from London Bridge call near the Factory.

MOORE'S PATENT VENTILATOR
NOTICE OF REMOVAL.
In consequence of the expiration of the Lease at 81, Fleet-street, all Communications are respectfully requested to be made at the Works, JOSIAH MOORE, Patentee.
SEKFORDE WORKS, ST JAMES'S WALK, CLERKENWELL, E.C.

The PRIZE MEDAL for SUPERIOR PATENT SASH and BLIND LINES, was awarded to JAMES AUSTIN, at the INTERNATIONAL EXHIBITION, 1862.
AUSTIN'S IMPERIAL PATENT SASH and BLIND LINES.
To BUILDERS, CARPENTERS, and BLIND MAKERS.
J. AUSTIN, Manufacturer of the above articles, particularly wishes to draw the attention of the Trade to his
IMPERIAL PATENT FLAX SASH-LINES
of which he is now making four qualities, and he strongly recommends that in all cases they should be purchased in preference to the PATENT LINES made from Jute, which article has neither the STRENGTH nor DURABILITY of Flax, consequently cannot give so much satisfaction to the consumer.
They can be obtained of all Ropemakers, Ironmongers, Merchants, Factors, and Wholesale Houses, in Town and Country.
ESTABLISHED 1774.

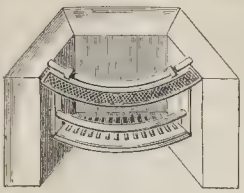
SASH WEIGHTS, 5s. per cwt. at Ashton Wharf, Blackwall, and at Mope Wharf, near he Church, Rotherhithe.

LOSH, WILSON, & BELL, NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CORRUGATED IRON GAS and WATER PIPES.
Office, No. 7, Size-lane, London.

VENTILATING STOVES—Cheap, simple, efficient, and durable Thousands have been sold, and universally approved They are suitable for all Halls, Warehouses, Conservatories, and every situation where a clear stove is required. The largest sizes are extensively used in churches, chapels, and public buildings, with great effect and economy. Prices, 7s. 6d., 10s., 20s. 30s. and 120s. Prospectus with engravings, gratis and post free. In operation daily. The trade supplied.
DEANE & CO.,
Opening to the Monument, London Bridge. Established A.D. 17 9.

TO BE SOLD, very cheap, a CYLINDRICAL BOILER, with Centre Tube 12 feet long by 4 feet in diameter—On view at JEFFREY & CO'S. Kent and Essex-yard, Wapping.

DULEY & SON'S CHAMPION KITCHENER, the only Patent Close Range with Three Prize Medals—Hyde Park, 1851; Paris, 1855; [illegible] Prize Medal, London International, 1862: SPECIAL—For a [illegible] Patent Economic Hot [illegible] Prize Medal—Manufactory, Pimlico Pottery, Nottingham. Furnishing Ironmongers in the Kingdom are supplied by the Proprietors, Messrs. Duley & Son, Nottingham, Hackney Road, Middlesex, and Bakewell, Derbyshire.



No. 1.

A PRIZE MEDAL AWARDED AT THE INTERNATIONAL EXHIBITION, AND A HIGHER COMMENDATION THAN TO ANY OTHER MANUFACTURER OF STOVE-GRATES.

FIRE-LUMP STOVES.

These Stoves are of a most useful description. They are formed of Fire-Lump, with only the fire-bars and grating of iron. They give a good heat with a small consumption of coal.

PRICES OF NOS. 1 AND 3.

	£	s.	d.
21 inches wide, 12-inch bars	0	12	6
24 inches wide, 15-inch bars	0	16	0
27 inches wide, 18 inch bars	1	0	0

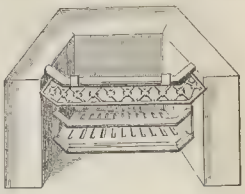
Without the hanging-trivet, 2s. less. Larger sizes in preparation.

EDWARDS & SON,

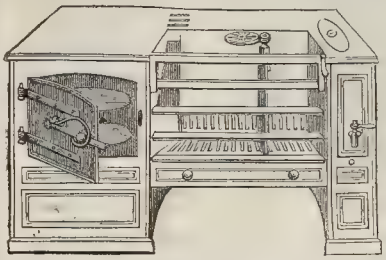
STOVE GRATE & KITCHEN RANGE MANUFACTURERS,

No. 49, GREAT MARLBOROUGH STREET, REGENT STREET, LONDON.

MARBLE OR STONE FENDERS, WITH TILE HEARTHS COMPLETE, SUPPLIED AND FIXED.



No. 3.



CLARK & HUNT, IRONMONGERS, MERCHANTS, &c.

159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL.

Self-acting, with Bright Wrought Bars.		Self acting Cottage, with Oven and Back Boiler	
34 inches	54s.	30 inches	22s.
36 "	56s.	32 "	24s.
38 "	58s.	34 "	26s.
42 "	60s.	36 "	28s.

Register Stoves, with Strong Bars, from per inch, 4d.

Improved New Pattern Circular Check Register, with strong Bars and Trivets, 4d. per inch.

Best ditto, with Fire-brick Back, from per inch, 5d.

Bright Stoves, with Two Fires, 45s. to 100s. each.

Best Cut Clasp and Rose Nails.

1-inch.	¾-inch.	⅝-inch.	½-inch.	⅜-inch.
14s.	14s.	13s.	12s.	11s. 6d. per cwt.

Best Sheet Cut Floor Brads, 11s. per cwt.

Best Cut Lath Nails, 14s. per cwt.

	2-in.	2½ in.	3 in.
Cast Rain-water Pipe ..	8d.	10d.	1s per yard.

Cast Gutters, 4 in 7d. per yard.

	4-in.	4½-in.
O G Gutters, with Clips on	10d.	1s. per yard.

	2	3	4	5	6	
Patent Line.	3s. 6d.	4s.	5s.	7s.	9s.	per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal 12s. 6d. per cwt.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock. Any size made to order.

TO ARCHITECTS AND BUILDERS, RAILWAY CONTRACTORS, &c.

MANUFACTURER OF WROUGHT-IRON GIRDERS

Designed and Guaranteed as to Strength.



WROUGHT AND CAST IRON
RAILWAY BRIDGE BUILDER.
RAILWAY STATION ROOFING
Manufactured in WROUGHT and CAST IRON, and ERECTED.
TANKS IN WROUGHT AND CAST IRON.
Wrought Iron Doors, Boiler and General Smith's Work.
EVERY DESCRIPTION OF BUILDERS' CASTINGS.



ROLLED WROUGHT-IRON FLITCH PLATES

And various Sections of

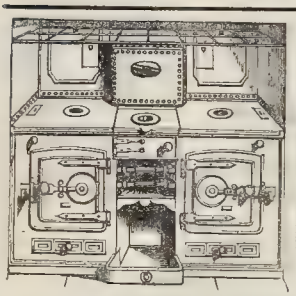
ROLLED GIRDERS AND JOISTS,
SHEETS, BARS, L and T IRON.
Bond Hoop Iron from Stock.
CRANE CHAIN AND CABLE MAKER.
CONTRACTORS' PLANT, RAILS,
WROUGHT AND CAST WHEELS AND AXLES.
WAGGON IRON-WORK, PEDESTALS, &c.
AND EARTH WAGGONS COMPLETE.



CAST-IRON RAILWAY CHAIRS, WROUGHT CHAIR-SPIKES, FISH-BOLTS, AND RAILWAY STORES.

MATTHEW T. SHAW, 64, CANNON STREET, LONDON BRIDGE, E.C.

Orders requiring Despatch and Punctuality can be executed in a few days.



FENDERS, STOVES, FIRE-IRONS, AND CHIMNEY-PIECES.

Buyers of the above are requested, before finally deciding, to visit

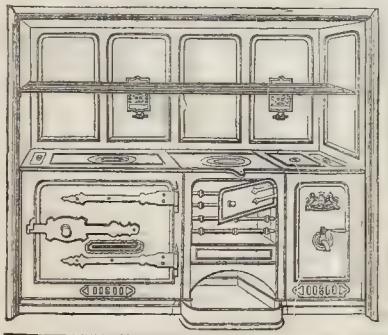
WILLIAM S. BURTON'S SHOW-ROOMS.

They contain such an assortment of FENDERS, STOVES, RANGES, CHIMNEY-PIECES, FIRE-IRONS, and General IRONMONGERY, as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright Stoves, with ormolu ornaments, 3*l.* 15*s.* to 32*l.* 10*s.*, Bronzed Fenders, with standards, 7*s* to 5*l.* 12*s.*; steel Fenders, 3*l.* 3*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 3*l.* 3*s.* to 18*l.*; Chimney-pieces from 1*l.* 8*s.* to 100*l.*; Fire-irons, from 2*s.* 3*d.* the set to 4*l.* 4*s.* The Burton and all other Patent Stoves, with radiating hearth-plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE

May be had gratis, and free by post. It contains upwards of 500 illustrations of his illimitable stock of sterling Silver and Electro-Plate, Nickel Silver, and Britannia Metal Goods, dish-covers, hot-water dishes, stoves, fenders, marble chimney-pieces, kitchen ranges, lamps, gasoliers, tea trays, urns, and kettles, clocks, table cutlery, baths, toilet ware, turnery, iron and brass bedsteads, bedding, bedroom cabinet furniture, &c. with Lists of Prices and Plans of the Twenty large Show-rooms, at

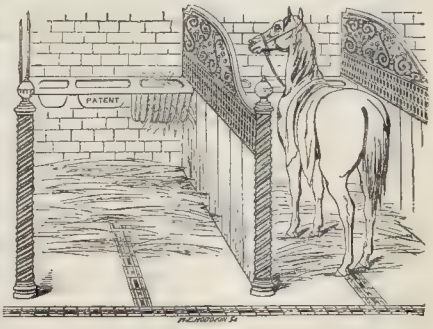
39, OXFORD-STREET, W.; 1, 1A, 2, 3, and 4, NEWMAN-STREET; 4, 5, and 6, PERRY'S-PLACE, and 1, NEWMAN-MEWS, LONDON.



ANDREW McLAREN & Co.

IRONFOUNDERS,
174,
UPPER THAMES-ST.
LONDON,
MAKE THE BEST AND CHEAPEST
CLOSE
FIRE-RANGES,
AND
STABLE FITTINGS.

A LARGE STOCK OF OTHER CASTINGS KEPT.



MOREWOOD'S PATENT CONTINUOUS ROOFING SHEETS,

OF GALVANIZED IRON, IN LENGTHS OF 50 TO 500 FEET AND UPWARDS, BY 2 FEET WIDE.
CHEAPER THAN FELT WHEN FIXED COMPLETE.

For price, instructions as to fixing, &c. apply to the Patentees,

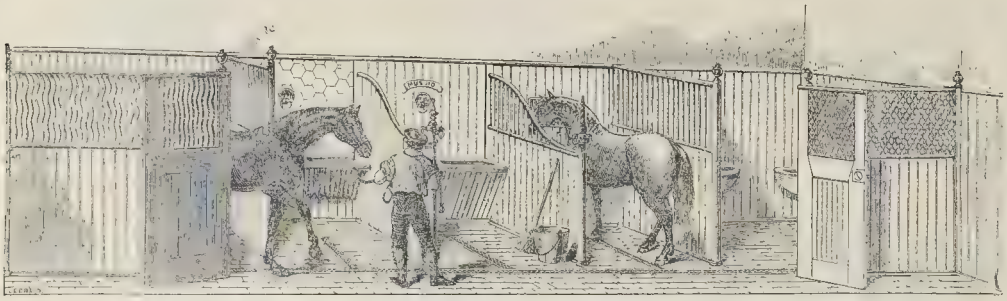
MOREWOOD & CO.,

BOWGATE DOCK, UPPER THAMES STREET, LONDON E.C. AND LION WORKS, BIRMINGHAM HEATH, BIRMINGHAM.

TO BUILDERS, CONTRACTORS, and OTHERS.—BLOCKS, CRAB & CRANES, JACKS of all kinds, and TRAVELLING JENNIES of all sizes, to lift any weight from one to fifty tons.
Manufactured by ELI RICHARDS, 93, New Park street, Southwark.
Foreign orders executed with despatch.
Chain for Slings, Cranes, and Blocks, in lieu of rope; equal to hold any weight; warranted of the best iron and workmanship, and tested by patent machinery; on the lowest possible terms.

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



PATENT WROUGHT-IRON STABLE FITTINGS

SHOULD BE ADOPTED FOR THE FOLLOWING REASONS, viz.:—

That the BREAKAGES in Cast-Iron Fittings are numerous, and that one fracture from a kick, or other cause, may occasion an injury to a Horse, and involve a loss equal to the entire expense of fitting up the Stable. The fear of this has led to the use of wood, and, in the case of Cast-Iron GUTTERS, to the adoption of another and less effective mode of draining.

PATENT ENAMELLED TOP PLATE MANGER, WITH RACK AND WATER-TROUGH,

The whole of which, except the Rack, being enamelled, can be kept as clean as a DINNER PLATE.

PATENT FASTENINGS FOR THE DOORS OF LOOSE BOXES.

These Catches and Hangings work easily, are self-acting, and cannot be put out of order: by their use all projections by which horses are often blemished are rendered impossible; advantages peculiarly their own.

THE PATENT HARNESS FITTINGS

Keep the Harness and Saddles in shape, and are constructed so as to admit the air getting to the underside of them when hung up, thereby insuring a quick and perfect airing from any wet or moisture.

EVERY DESCRIPTION OF STABLE FURNITURE.

ILLUSTRATED LISTS ON APPLICATION TO

ST. PANCRAS IRON WORK COMPANY,

OLD SAINT PANCRAS ROAD, LONDON, N.W.



THE PRIZE MEDALS,

LONDON, 1851. PARIS, 1855. LONDON, 1862.

AWARDED TO

COTTAM & COMPANY,

No. 2, WINSLEY-STREET, LONDON, W.

FOR PROGRESSIVE AND GENERAL IMPROVEMENTS IN

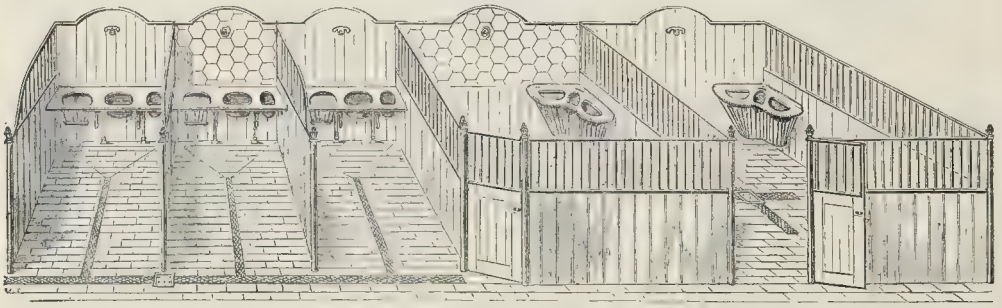
STABLE FITTINGS AND HARNESS BRACKETS.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF STABLE AND HARNESS FITTINGS,

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.





SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-bins, and every Article requisite for the Stable and Harness-room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

COTTAM'S newly-invented REGISTERED NOISELESS MANGER SHACKLE and GUIDE FOR HALTER-STRAP, and IMPROVED VENTILATING HARNESS BRACKETS, are only to be obtained from the Inventors, and can be seen in use at their Manufactory.

COTTAM & CO. exhibit for inspection, at their Iron Works, 2, Winsley-street, W., an extensive range of full-sized Stalls, Loose Boxes, and Harness Rooms, the most complete that can be imagined.

ILLUSTRATED CATALOGUES and LITHOGRAPHS free, on application to COTTAM and CO. 2, WINSLEY STREET, Oxford-street, London, W.

COTTAM & CO.'S only address in London, is 2, WINSLEY STREET, W.

N.B. WINSLEY STREET IS THE STREET OPPOSITE THE PANTHEON.

NO CHIMNEY WANTED

FOR RICKETS & HAMMOND'S PATENT CALORIFERE GAS STOVES, in Churches, Halls, or Shops; and for Conservatories, or any close apartment, a Pipe can be attached to carry away the burnt air.



AGAR STREET, STRAND, LONDON.—DISCOUNT TO THE TRADE.

CASTINGS, ANY WEIGHT AND QUANTITY,

With the utmost despatch, at Country Prices.

HENRY GOODWIN, JUN.

IRONFOUNDER, &c.

67, GREAT GUILDFORD ST., BOROUGH.

BUILDERS' AND ENGINEERS' PATTERNS OF EVERY DESCRIPTION.

RIGGERS, FLY-WHEELS, COLUMNS, GIRDERS, &c.

CRABS, BLOCKS, JACKS, MORTAR MILLS, &c.





MANTEL PIECES, ENGLISH AND FOREIGN,

IN EVERY VARIETY OF DESIGN AND COST,

Have been added to their LARGE and EXCELLENT ASSORTMENT of FINE FINISHED STOVES FENDERS, &c. in the NEW SHOW ROOMS of the

GENERAL IRON FOUNDRY COMPANY (LIMITED),

At No. 43, UPPER THAMES STREET, LONDON.

By an arrangement with Mr. WILLIAM POTTS, of Birmingham, the Company have the exclusive Right of Sale of his ART MANTELS in the London District. These Works are of the HIGHEST EXCELLENCE in DESIGN and FINISH, very beautiful, and durable. They also beg to call special attention to the beautiful and varied productions in ART BRONZES and METAL WORK, adapted for ARCHITECTURAL and CABINET DECORATION, MURAL MONUMENTS, &c. now on view in their Rooms. Also to the following Articles of their Manufacture, viz.

PATENT WROUGHT IRON WINDOWS,

Strong, light, durable, easily fixed, cheap, and free from risk of breakage.

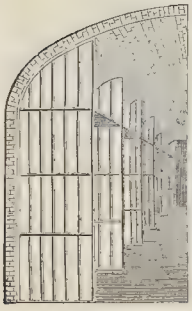
BILLING'S PATENT CHIMNEY THROATS AND AIR APPARATUS,

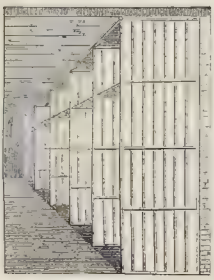
Most effective for the Cure of Smoky Chimneys.

FIRST-CLASS COOKING APPARATUS,

For Club Houses, Hotels, Restaurants, &c.

WROUGHT IRON WINE BINS.





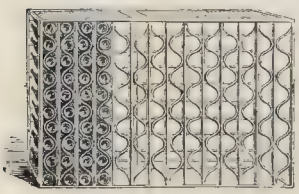
FARROW & JACKSON

Beg to call the attention of Architects and Builders to their Wrought Iron Wine Bins, which are ADAPTED (as shown) either for BRICK ARCHED VAULTS or CELLARS with FLAT CEILINGS, the mode of fixing in either case being so simple, that they may be put up by any ordinary workman. They combine great strength with lightness and economy of space, and their DURABILITY has been satisfactorily PROVED DURING THIRTY YEARS.

The Shelves are formed of Plates of Iron laid on Bars, which rest on the Cross-bars of the Lattice Uprights, and are removable at pleasure.

Plans and Estimates furnished, and Cellars fitted complete in any part of the Kingdom. Also their

NEW REGISTERED IRON BINS,



WITH

SEPARATE REST FOR EACH BOTTLE,

Peculiarly adapted for Private Cellars.

No laths are required, and all trouble of Binning is avoided.

FARROW & JACKSON,

18, 17, and 16, GREAT TOWER STREET; and 1, HARP LANE.

FACTORY, 57 and 58, MANSELL STREET.

HART & SON

56, WYCH-ST., STRAND, W.C

AND

20, COCKSPUR-ST. PALL-MALL, S.W.

METAL WORK OF A GOTHIC CHARACTER, FOR ECCLESIASTICAL AND DOMESTIC PURPOSES, CHALICES, PATENS, CRUETS, CANDLESTICKS, CORONÆ, STANDARDS, BRACKETS FOR GAS, OIL, AND CANDLES, MONUMENTAL BRASSES, &c. &c.

JOHNSTON, BROTHERS,

MEDIÆVAL METAL WORKERS AND GASFITTERS.



Manufactory, 190, High Holborn, London.

Specimens at the Architectural Exhibition, Conduit street, W

Drawings and Estimates furnished.

HEARD AND JACKSON

MANUFACTURERS OF

MEDIÆVAL ART METAL WORK

159 · HIGH · HOLBORN · W.C

Book of Examples now out of print,—revised & enlarged Edition shortly, meanwhile, SPECIAL DESIGNS & ESTIMATES for WROUGHT IRON & BRASS Gates, Screens, Grilles, Altar & Tomb Railings, Hinges, Vanes, Crosses, GAS-FITTINGS,—Brackets, Standards, Gaseliers, Coronæ, &c., and *EVERY* other *DESCRIPTION* of METAL WORK for Domestic & Ecclesiastical purposes: As also for COMPLETELY & EFFICIENTLY Lighting Churches, Chapels & Public Buildings,—including SERVICE PIPES, METERS, &c., will be submitted upon application.

IRON RAILINGS for ENCLOSING

TOMBS and GRAVES.

COMMUNION RAILINGS, SCREENS, GATES, &c.

Illustrated Price Catalogue of numerous Designs, in various styles (free), on application to

COTTAM & CO. IRON WORKS,

2, WINSLEY STREET,

OXFORD STREET, LONDON, W.



FIRE-PROOF CONSTRUCTION.—

FOX & BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, as thus bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

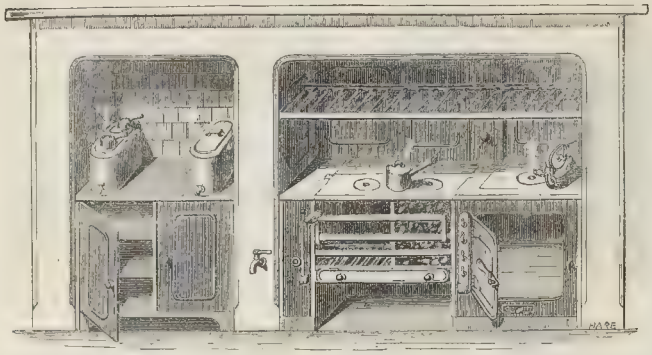
Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,

12, YORK-BUILDINGS, ADELPHI.

CUNDY'S

PATENT BRICK OVEN WINDING CHECK SEMI-CLOSE KITCHEN RANGE.



This Range will be found very superior to the close Range now in use, inasmuch as it combines the cleanliness of a close kitchener with the perfect ventilation of an open range.

The fall-down bar will be found useful for broiling purposes when the fire is low.

The Ventilator in the Oven Chimney, and also the Register, can be kept open without diminishing the efficiency of the range, thereby entirely removing the great objection and discomfort of all other close ranges, namely, the sulphurous and excessive heat in the kitchen, and the smell of cooking all over the house.

The great advantage of a brick oven is, that it absorbs the steam given out by bread or meat in the process of baking; consequently the latter is totally free from the disagreeable flavour too evident in meat baked in an iron oven.

As the fire of this range can be diminished or enlarged at pleasure, it can (when not in use for roasting) be wound up within 6 inches of the oven, and still be used for baking, also for boiling upon the hob over the oven, thereby effecting a considerable saving of coals.

THIS RANGE,—ALSO CUNDY'S PATENT BRICK OVEN DOUBLE FALL-DOWN BAR KITCHEN RANGE, and CUNDY'S PATENT COTTAGER'S KITCHENER,—can be seen in operation at the Show Rooms of THE MANUFACTURER,

WILLIAM ADDIS,

WHOLESALE AND RETAIL IRONMONGER, AND STOVE, GRATE, AND RANGE MANUFACTURER,

6, 7, and 15, LEICESTER STREET, LEICESTER SQUARE,

Where Mr. CUNDY can be gratuitously consulted, personally, or by letter, relative to the cure of Smoky Chimneys.



PATENT CLIMAX DOOR SPRINGS,

FOR SINGLE AND DOUBLE-ACTION DOORS.

PATENT CASEMENT STAYS, FASTENINGS, AND CUPBOARD TURNS,

GOTHIC, DROP, AND OTHER DOOR HANDLES.

PATENT BARREL BOLTS, NORFOLK, SUFFOLK, AND GOTHIC LATCHES,

BRASS AND IRON LOCKS OF EVERY DESCRIPTION.



Builders', Cabinet, and Ship Brass Founders.

WILLIAM GREENWAY & CO.

MANUFACTURERS, BIRMINGHAM.

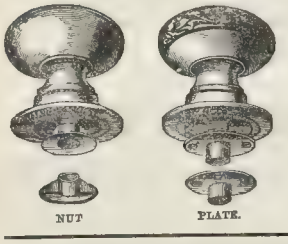
SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH & CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE.

BOND & SCAMMELL (late Thomas Pugh & Co.)

WHOLESALE IRONMONGERS,

13, KING STREET, SNOW HILL, LONDON.



NUT PLATE.

We invite particular attention to the PATENT LOCK FURNITURE, which we do not hesitate to say is the most perfect article now manufactured, great improvements having been recently made in it. It has been extensively used in public and private buildings, in Her Majesty's Pavilion and Camp at Aldershott—alone, many hundred sets without one single failure. It is applicable to all Locks and Latches, both rim and mortise, and effects a most secure fastening, without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture.

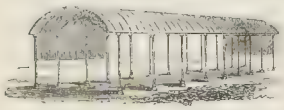
New rich designs in glass, china, brass, bronzed, gilt, carved woods, inlaid &c. &c. or to any design

THIS FURNITURE MAY BE HAD WITH PLATES OR NUTS.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices

*** Illustrations and particulars sent upon application.

TUPPER & CO.'S GALVANIZED CORRUGATED IRON.



IRON BUILDINGS, IRON ROOFS, & IRON HU RCHES erected in any part of the Kingdom.

ILLUSTRATED CATALOGUES POST FREE.

WORKS.—Birmingham, and Limehouse.

Every description of Iron Work Galvanized.

LONDON OFFICE—61A, MOORGATE STREET, E.C.

CASTINGS AND WROUGHT IRONWORK

OF EVERY DESCRIPTION.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, AND SMITHS,

168, DRURY LANE, AND WORKS ALSO AT SPA ROAD, BERMONDSEY.

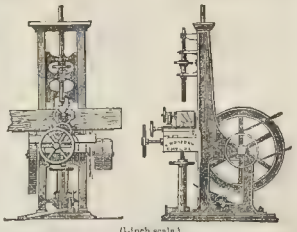
Wrought Iron Girders, Fittches and Joists, Conservatories, Verandahs, Circular Staircases, Wrought-Iron Doors, Strong Rooms and Iron Houses, Iron Roofing, &c. &c.

A large Stock of Patterns for Building and other Purposes, for the use of which no extra charge is made. Estimates on application.

Wheelwrights and Contractors—1 Dean-street, Oxford-street, and Parker's-row, Bermondsey.

S. WORSSAM & CO.'S PATENT

IMPROVED POWER MORTISING MACHINE.

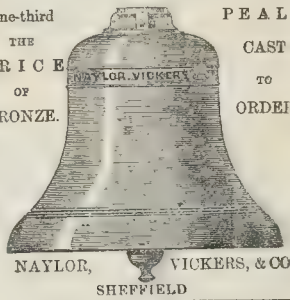


(1-inch scale)

Combines many improvements not to be found in any other mortising machine. A single machine worked by a man, with a boy to assist in removing the stuff, will do as much work as ten joiners, or as four hand-machines.—For priced Illustrated Circulars, with full particulars, apply at the Works, 304, King's road, Chelsea, S.W.

CAST STEEL BELLS,

One-third THE PRICE OF BRONZE.



PEALS CAST TO ORDER

NAYLOR, VICKERS, & CO.

SHEFFIELD

PRIZE MEDAL.

INTERNATIONAL EXHIBITION, 1862.

THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,

PATENTEES,

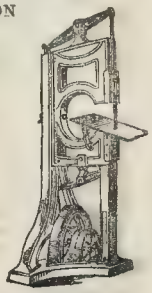
AND

Makers of Sawing Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l.*



Drawings sent on application.

MACHINERY TO BE SEEN AT WORK IN ROCHDALE.

LONDON OFFICE, CANNON STREET, E.C.

THE NEW CRYSTAL STAR AND SUN LIGHT.

NOTICE TO ARCHITECTS, BUILDERS, AND THE TRADE.

J. DEFRIES & SONS,

MANUFACTURERS OF MEDIÆVAL AND OTHER GAS-FITTINGS, CRYSTAL, BRASS, AND ORMOLU CHANDELIERS.

SHOW-ROOMS—147, HOUNDSDITCH, CITY. WORKS—LONDON AND BIRMINGHAM.

Estimates and Designs for Lighting Theatres, Concert Rooms, and Public Buildings, forwarded free.



BURT & POTTS'

PATENT WATER-TIGHT WROUGHT-IRON WINDOW AND FRAME,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

ALSO MANUFACTURERS OF CONSERVATORIES, SKYLIGHTS, &c.

38 & 65, YORK-STREET, WESTMINSTER.

IMPROVED WARM-AIR STOVES, FURNACES, & HOT-WATER APPARATUS

FOR CHURCHES, HALLS, CONSERVATORIES, AND PUBLIC BUILDINGS.

KITCHEN APPARATUS, HOT-PLATES, AND RANGES, UPON THE MOST APPROVED CONSTRUCTION.

Manufactured and erected by J. KIRK & CO., Successors to

CUTLER & SONS,

CLARENCE IRON WORKS,

16, GREAT QUEEN-STREET, LINCOLN'S-INN-FIELDS, LONDON.

IRON-FOUNDERS, FURNISHING IRONMONGERS, GAS ENGINEERS, AND BELL-HANGERS.

Orders for EVERY DESCRIPTION of CASTINGS for ENGINEERS and BUILDERS promptly executed.

SPRING ROLLER BLIND MAKERS.

WILLIAM ASHDOWN, Manager.

LAMBERT, BROTHERS,

THE ALPHA TUBE & FITTING WORKS

WALSALL.

LONDON: THOMAS LAMBERT & SON, LAMBETH.

GALVANIZED IRON AND ZINC WORKS.

GALVANIZED OR BLACK SHEET-IRON, CORRUGATED AND PLAIN ALWAYS ON STOCK

GAS AND WATER TUBING, GUTTERING AND PIPING, WIRE NETTING, TELEGRAPH AND FENCING WIRE.

EVERY DESCRIPTION OF IRON WORK GALVANIZED.

ESTIMATES GIVEN FOR IRON ROOFS, SHEDS, STORES, &c.

VAVASSEUR AND CO.

GALVANIZED IRON AND ZINC WORKS, SUMNER STREET, SOUTHWARK, S.E.



POWIS, JAMES, & CO. BLACKFRIARS ROAD, LONDON,

Awarded a Prize Medal at the International Exhibition, 1862, for Collection of

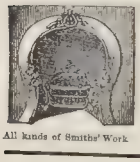
FIRST-CLASS WOOD-CUTTING MACHINERY,

being the highest commendation attached to any Medal in the same Class,

OFFICE, 26, WATLING STREET, CITY, E.C.

Where all Letters and Applications for Machinery are to be addressed.

COUNTRY ORDERS PROMPTLY EXECUTED.



All kinds of Smiths' Work

J. MOORE,

WHOLESALE IRONMONGER,

122, EUSTON ROAD

(near St. Pancras Church),

Opposite J. W. Bird's Marble and Stone Works.

THE CHEAPEST AND BEST HOUSE IN LONDON FOR

KITCHEN RANGES, STOVES, NAILS, LOCKS, HINGES, BOLTS,

AND

EVERY ARTICLE OF BUILDERS' IRONMONGERY.

Priced Lists on application.

ESTABLISHED 1806.



Bronze for Railings and Entrances



DRAUGHTS & DUST ROUND DOORS & WINDOWS

EFFECTUALLY PREVENTED BY

GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS

(Can be had any Length or Pattern).

The neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work OLD or NEW

Self-acting Spring Slides for the bottom of doors.

The most imperfect door can be made air-tight without re-hanging.

The Trade supplied on liberal terms.

JOHN GREENWOOD, PATENTEE,

10, Arthur-street West, London Bridge.



PRIZE MEDAL, INTERNATIONAL EXHIBITION, STAND 670.

MUSGRAVE'S PATENT STABLE FITTINGS and HARMLESS LOOSE BOXES

MUSGRAVE'S PATENT IRON COW-HOUSE FITTINGS and IRON PIGGERIES. These have been in constant use for many years, and have given the greatest satisfaction. They combine all the most valuable properties of timber, without its defects, and are at the same time cheaper.

At the late meeting of the Royal Agricultural Society, at Leeds, MUSGRAVE, Belfast, received a SILVER MEDAL and also awards of prizes for the best stalls and fittings exhibited, which can be seen fixed in the Belfast Yard.



MUSGRAVE'S PATENT SLOW COMBUSTION STOVE.

This Stove is the nearest approach to Nature's Mode of Warming and Ventilating.

It will be found in Churches from Saturday to Monday evening, without attention [illegible] warming a large apartment [illegible] hours, with after [illegible] warming a large apartment [illegible] hours, with after [illegible] warming a large apartment [illegible] hours, with after

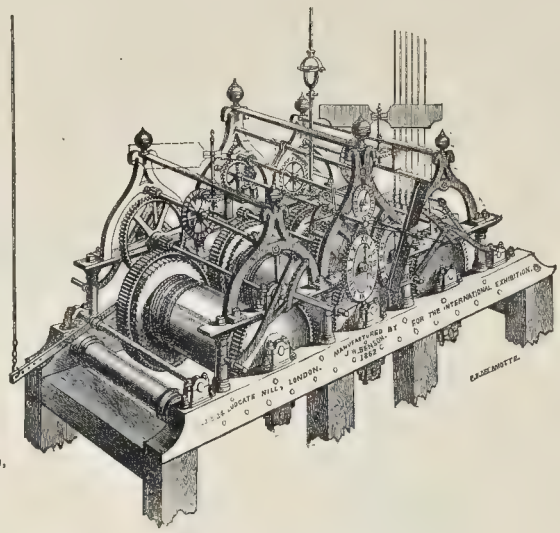
BENSON'S WATCHES AND CLOCKS.

"PERFECTION OF MECHANISM."—*Morning Post.*

BENSON'S
ILLUSTRATED
PRICE-LIST OF CLOCKS

contains much interesting information regarding the rise and progress of the Art of Clock-making, and of the various descriptions of Time-keepers now made. Also a full List of Prices of Clocks suitable for Drawing and Dining Rooms, the Library, the Hall, Staircase, Office, or Counting-house, with the more elaborate and expensive Musical and Chime Clocks, and the highly-finished Time-pieces for Railways, Post-offices, &c., &c. It can be had gratis on application, or it will be sent post-free by inclosing Two Stamps.

WATCHES OF ALL KINDS,
COMPRISING
Vertical Watches,
Horizontal Watches,
Lever Watches,
Duplex Watches,
Marine & Pocket Chronometers,
Centre Seconds Watches,
Chronographs,
Enamelled Watches,
Repeaters,
Reversible Watches,
Astronomical Watches,
Blind Men's Watches,
Presentation Watches,
Keyless Watches.



BENSON'S GREAT CLOCK AT THE INTERNATIONAL EXHIBITION.

Length, 10 feet; Breadth, 10 feet; Diameter of Main Wheel, 2 feet.

BENSON'S
ILLUSTRATED
PRICE-LIST OF WATCHES

contains a short History of the Art of Watchmaking, with a description of the various kinds of Watches in use at the present time; also Engravings of Backs and Dials of Watches, with a very full List of Prices; and it acts as a guide in the purchase of a Watch to those at a distance who cannot make a personal selection. Post-free for Two Stamps.

CLOCKS OF ALL KINDS,
COMPRISING
Church or Turret Clocks,
Drawing-room Clocks,
Dining-room Clocks,
Library Clocks,
Hall and Staircase Clocks,
Carriage Clocks,
Bracket Clocks,
Chime Clocks,
Regulators,
Musical Clocks,
Astronomical Clocks,
Clocks for Railway Stations,
Post-offices, &c.
Dials for the Hall, Shop, Warehouse,
Office, or Counting-house.

ESTIMATES GIVEN FOR TURRET AND CHURCH CLOCKS.

33 & 34, LUDGATE HILL, LONDON.

IMPORTANT TO ARCHITECTS, ENGINEERS, BUILDERS, RAILWAY, AND OTHER COMPANIES.

VIEILLE MONTAGNE ROOFING ZINC.

Company's General Agency, 12, Manchester Buildings, Westminster.

Zinc properly laid has been proved by most extensive and long experience in France, Belgium, and Germany to be a most secure, durable, and economical covering, and is now preferred to all other materials for roofs. Its extreme lightness makes it most valuable for covering buildings requiring large spans with comparatively light framing. On a rough calculation it may be estimated that not less than 41,000,000 square feet is the average quantity of Roofing surface now annually covered in the above countries alone. Within the last few years persevering efforts have been made to introduce into England proper workmanship, in accordance with the principles which are observed on the Continent, and which alone can secure the sound and perfect construction of a Zinc roof. To aid in extending as much as possible the knowledge of these simple rules, models showing all the details are to be seen in the Architectural Exhibition in Conduit-street, and the following, selected out of a very great number of recently constructed roofs, are referred to as examples:—The Patent Granary, West-India Docks; Copenhagen Works, Limehouse; a private house in Holland Park; Homes for Poor Merchants' Clerks, Muswell-hill; a large Warehouse, 77, Thames-street; Ship roof, Sheerness Dockyard; the Victoria Station, Pimlico; the Stations in the Metropolitan Railway; the Stations of the Madras Railway Company (400,000 feet); the Warehouse of Messrs. Oakes, Brothers, & Co. Madras (20,000 feet); the Refreshment Rooms at the Exhibition; the Verandah of the Horticultural Society's Conservatory; Gloucester Railway Station; Messrs. Horniman & Co.'s Tea Warehouse, Wormwood-street; Messrs. Hoare & Co.'s Brewery, Smithfield; Cape Town and Wellington Railway (60,000 feet); Fifty new Dwelling Houses at Palace Gardens-terrace, Kensington; Twenty ditto, Inverness-terrace, Bayswater.

Plans, Estimates, and all useful information will be furnished, without charge, by applying to either of the Directing Architects,
JAMES EDMESTON, 5, Crown-court, Old Broad-street.
R. G. FISHER, 12, Manchester-buildings, Westminster.

N.B. No covering can be more economical, durable, and secure than Zinc when well laid, but good Zinc badly laid will spoil the roof, and, with a view still further to encourage good work, a special Discount will be allowed to all persons upon the Zinc used in roofs, when certified by either of the above Architects to be properly laid.

BIELEFELD & THOMAS,

PAPIER MACHE WORKS, 21, WELLINGTON-STREET, STRAND, LONDON,

ESTABLISHED 1826,

Request the attention of Architects, Builders, Decorators, &c. to their VARIED and EXTENSIVE STOCK of ENRICHMENTS, CENTRE FLOWERS, VENTILATORS, MOULDINGS, CORNICES, PILASTERS AND PANEL DECORATIONS, &c. &c.

DESIGNS AND ESTIMATES GIVEN FOR THE ENRICHMENTS IN PUBLIC OR PRIVATE BUILDINGS. ENGRAVED DESIGNS FOR VENTILATORS, CEILING, FLOWERS, &c. SENT FREE ON APPLICATION. PRINTED PATTERN BOOKS, WITH PRICES, CAN BE OBTAINED AT THE WORKS.

BATH STONE OF BEST QUALITY.

RANDELL & SAUNDERS, Quarrymen and Stone Merchants, Bath.

List of Prices at the Quarries and Depôts, also Cost for Transit to any part of the United Kingdom, furnished on application to BATH STONE OFFICE, CORSHAM, WILTS.

HUBBUCK'S PATENT WHITE ZINC PAINT.

BY their process, which is patented, pure Zinc Paint is Cheaper than White Lead. It does not change colour with the London atmosphere.

CAUTION.—LITERATURE.—Some Paint Grinders have been selling Zinc Paint adulterated with Sulphate of Barytes from ten to thirty per cent. We, therefore, caution the public against the use of "Improved Zinc Paint," or as the number Two or Three qualities, no workman can produce good work with such material. Workmen who have once used the Patent Zinc Paint will never willingly use any other Paint for their best work.

CHEAPNESS.—Not only is it cheaper per hundred weight, but two hundred weight of this Paint, with six gallons of oil covers as much surface as three hundred weight of white lead and twelve gallons of oil.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK & SON,
WHITE LEAD, OIL, PAINT, and VARNISH WORKS 24, LIME-STREET, LONDON.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London

These Pencils are prepared in various degrees of hardness and shade

H H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

The Builder.

VOL. XX.—No. 1038.

A Walk and Talk in the Baths of Rome.

NO monuments of Imperial Rome have been, till modern times, more maltreated, and, throughout the Mediæval period, none, it seems, were more absolutely forgotten, than the Thermæ, which neither popes nor baronial families cared for in any way. Yet their original uses and splendours were long maintained after the prevalence of Christianity, and the strange superstition which makes a virtue of uncleanliness did not withhold the followers of the true religion from frequenting them, like their pagan forefathers. Ammianus Marcellinus, in the fifth century, rhetorically compared their vast structures to *provinces*, rather resembling such, he affects to consider, than any single edifice raised for particular purpose. In the year 466, when Sidonius Apollinaris wrote of them in indifferent verse, it is certain those of Diocletian, and of Nero and Alexander, were still serviceable, nor touched by decay.

The sack of the city by Alaric probably inflicted injuries on these Thermæ; but it is supposed that their maintenance for public use did not cease till after the siege by Vitiges, A.D. 537, during which the aqueducts were so far destroyed as to cut off entirely the supply of water from them; and from this date we find no farther mention of the Thermæ for a long period, unless we might understand as such an allusion to the practice of bathing among the Romans by St. Gregory. Of the nine Roman baths here whose ruins exist in more or less fragmentary state, only three still present vast and imposing masses that enable us to form any idea of scale or plan. Those of Agrippa are reduced to a single hemicycle with a few adjoining brickwork walls, half concealed by the houses of an obscure street behind the Pantheon; though, indeed, that celebrated temple may itself be considered a transformed and consecrated member of the same body. Those of Commodus, Septimius Severus, Decius, and Philip, may be referred to their sites, but not recognized in any visible remains: those of Alexander (the amplification or renovation of Nero's) existed till towards the middle of the last century in considerable remains within the courts of the Palazzo Madama (now post-office), but were swept away to give place to the public offices raised under Benedict XIV.; and the sole remnants of that splendid edifice now extant are some granite columns in the cellars of the Giustiniani palace, and a brick hemicycle, till recently visible (as described in Murray's "Handbook" and Platner's *Beschreibung*) behind a house on the Piazza Rondanini; but now completely shut from view by recent buildings! The latest erected Thermæ, those of Constantine, on the Quirinal (326), were preserved—still conspicuous in the seventeenth century—till the Rospigliosi Palace, founded by Cardinal Borghese (nephew of Paul V.), rose above and crushed them, so to say, out of sight, the remnant being now buried in the cellars of that princely mansion.

Till the ninth century the ruins on the Esquiline, immediately overlooking the Colosseum, were called *Thermæ Traianæ*, as Nibby argues they should be, instead of "Baths of Titus," their now common designation; and as Titus, Domitian, Trajan, all, built or enlarged such establishments on this Hill, it is possible that the line of observation between their several works may be confused,—to us moderns, perhaps, undefinable. Not till near the end of the fifteenth century were these ruins partially re-opened and cleared, after being long almost buried under soil; and the antiquarian writer, Albertini, first referred them to Titus, instead of the later emperor. Vasari, in his Life of Giovanni da Udine, tells us that artist, in company with Raffaelle, explored their subterranean chambers and copied the arabesques on their walls, in order to avail himself of what suggestions might prove suitable for his decorative stuccoes in the loggie of the Vatican. What Raffaelle and his pupil then saw was soon again consigned to oblivion by the sinking of the soil from the garden above; and the same interiors were not penetrated again till 1774, after which one Mirri published coloured engravings of all their fresco-paintings. The now accessible chambers are but a portion of the extent then a second time laid open; and the stucco reliefs, as well as those frescoes, are supposed to have much suffered since Mirri and Giovanni da Udine saw them.

Flaminius Vacca mentions excavations effected, and valuable artistic relics discovered here in his time; and in 1594 a fine marble cornice was moved from these ruins to adorn the new church of the Jesuits. At last, in 1811, orders were given by French authority to disencumber them to the utmost extent, and render the whole series of chambers accessible. After three years' labour was opened a suite of parallel halls, with front extending 300 feet; but of eleven parallel chambers belonging to Titus's Baths, nine only are now accessible, communicating with an inner suite, more spacious, towards which they (the outer) run obliquely; this non-correspondence of plan between these two ranges showing clearly the difference of origin, the outer being the addition of Titus, the inner and larger halls those of the Neronian Palace, that "Golden House" whose gardens and pleasure-buildings covered the entire surface of the Esquiline Hill. In two halls, more spacious than the others, are rectangular alcoves for couches, enabling us here to recognize the *triclinium* for the banquet; and in the centre of one is a deep cavity for a fountain, enclosed by a parapet, along which runs a species of grove for flowers or shrubs, that may have been planted in soil here embedded. The hall containing this fountain had evidently been an open court in the Neronian Palace, and unroofed till the earlier edifice was sacrificed to the later. In 1813 was first re-opened by the French a lofty narrow gallery (*crypto porticus*) that passes along the inner extremity of the chambers, at a right angle with their partition-walls, lighted originally by fifteen skylights in the vaulted roof, and supposed to have flanked one side of an inner hypethral court, in the midst of the Neronian buildings. It seems never to have been finished, no traces of incrustation being found on its walls, nor pavement on its floor; but its vault is decorated with paintings of exquisite beauty, now seen by the glare of the *custode's* torch fixed to the end of a long wand; for this corridor is in total darkness, its windows all closed since the time the palace was converted into Thermæ. By the torchlight, however, we can well distinguish the gracefully fantastic figures of Bacchante, citharisti, fauns, bright-plumaged birds, and griffins, divided by Arabesque borders of beautiful design and still vivid colouring. Similar frescoes are seen on walls and vaults elsewhere, though in no such perfect series. Within an arched niche, in one of the larger halls, there is a tiny group, called "Venus with her Doves," representing a female reclining, draped from the waist, otherwise nude; another entering towards her by a lateral door, and two birds hovering above,—graceful, and still distinctly seen when the *custode* lifts his torch in the darkness prevailing throughout these inner chambers, as in the corridor beyond. Another fresco in the same chamber is said to represent the celebrated meeting between Coriolanus and his mother. Here, within the niche of the Venus, we are erroneously told was found the Laocoon, on a pedestal the nucleus of which still stands—a manifest error, for the story of that discovery indicates *another* site on the Esquiline, near the ruins called *Sette Sale*; and the fragment of the pedestal here does not correspond with the dimensions requisite for supporting such a group. The style of the paintings in these halls reminds us of Pompeii, especially in the fantastic unsubstantial architecture amid which some of the figures are standing or floating; and till the discovery of those other vault-paintings in the tombs on the Latin Way (opened a few years ago), the decorations of the Golden House, thus buried and built up in Titus's Baths, had been considered the finest specimens of fresco art preserved from Roman antiquity. Before quitting these ruins we may observe the marks of more modern division-walls and staircases, showing the use to which they were applied for family residence, first, it is supposed, in the interval between the death of Nero and the innovations of Titus; afterwards in the twelfth century; between which periods—it is supposed in the sixth century—was formed here a chapel dedicated to St. Felicitas and her seven sons, all martyrs, which, when re-opened by the French explorers, contained early Christian paintings—"The Good Shepherd," "Daniel and the Lions," &c., now totally vanished, excepting, indeed, a faint trace of that in a niche, representing the sainted mother with her children. These Thermæ being in an inclosed demesne, were happily saved from the profanations to which other Roman monuments were exposed; and the *custode*, resident in a cottage on the spot, is competent, nay, ingenious, as attested by sundry ornamental objects wrought by him in the coloured marbles and alabasters here found in profuse fragments, which the good man exhibits and offers for sale.

At a level much higher on the same hill, in the extensive and pleasant gardens of the monastery of S. Pietro in Vincoli, rise picturesquely amidst trees and luxuriant wild growth that veils or crowns the ruin-walls, those so-called *Sette Sale*, supposed to be the reservoirs for the Thermæ of Trajan, consisting of nine parallel vaulted chambers, of which two being inaccessible the popular parlance ignores their existence, indicating as the "Seven Halls" what should be reckoned "nine." They communicate with each other by, in each partition-wall, four arched apertures, placed to alternate in such a manner, for resisting the action of the water, that no two are opposite; and we look through the whole series of doorways obliquely, obtaining a view of the entire suite, striking and singular in effect. Their vaulting is scarcely injured, their inner walls for the most part perfect; and when, some two years ago, the roof of one chamber fell in, repair was effected by order of the authorities. At intervals among the vines and forest-trees of these gardens rise three great circular ruins, one partly built into the Polveriera (powder magazine) that stands at the lower limit of the inclosed grounds; the other two rising, in their isolation, with a picturesque grandeur enhanced by the quiet beauty of that garden scene around; and on their inner walls we see two files of niches for statues. Outside one of these rotundas is a lofty concentric corridor, much ruined, the whole resembling a structure in which rotunda and corridor are united on this plan, among the Palatine buildings. Writers of the sixteenth century used to call this entire group of scattered ruins, "Baths of Titus;" and point out one portion as the palace of either that emperor or Vespasian: they have been since recognised as the Thermæ of Trajan, to which also belonged the more subterranean hall supported by massive piers, connected with a place of worship by Pope Sylvester, in Constantine's

time, and still used as a crypt chapel under the church of S. Martino ai Monti. In a garden-house near these remains lie some immense granite columns, dug up among the ruin heaps, and now exposed for sale: one, a shaft of fine red granite, 6½ palms in diameter, was purchased to be laid down, cut into ample disks, on the pavement of the new St. Paul's. Near this spot we may ascend a mound of fallen brickwork, whose platform-summit is paved with mosaic in black and white cubes; whence (as indeed from other parts of this garden) we enjoy a view of Rome's ruins and environs, comprising Mediæval towers and churches on the Cœlian and Esquiline, a distance of the Campagna and the Alban Hills, among the most grandly beautiful of the many unforgetable scenes that invite contemplation within this city's walls.

But ruin and nature are nowhere more picturesquely combined than in the most vast and magnificent remains left by any imperial Thermæ, the baths of Caracalla, where the arbutus and lofty forest-trees grow along the summits, or under the shadow of stupendous walls, as well as the monthly rose and ivy,—in some instances the enormous masses of fallen masonry being converted into beds of verdure; and the portions of roofing still preserved, all covered with shrubs and wild flowers. That these buildings were restored by Theodoric, A.D. 500, is inferred from the *sigla* on tiles, with that date and name, found in excavations. The Anonymous of Einsiedlin (*v.* Mabillon), and the *Mirabilia*, report as to their conditions in the Middle Ages, during which, however otherwise injured, they did not share the fate of other monuments in being fortified to become the stronghold of any baronial family: more were crushed or hidden to support towers and bastions, but left open to the public, apparently disregarded by all those powerful to appropriate or destroy. As described by Poggio, in 1450 they had still much of their antique magnificence: marble incrustations still shone on their walls: columns and architraves stood erect in their places. All this was swept away to gratify the family pride of a pope, when about 1534, Paul III. ordered a systematic spoliation of these ruins to procure adornment for the Farnese Palace; and not only marble, sculptures, architectural fragments, but even the coatings of lateritial brickwork were torn from these walls to supply the new residence for that unscrupulous family. This proceeding, however disgraceful, led to discoveries most valuable for the study and appreciation of antique art—the Hercules and Flora, both known as "Farnese," and the Dirce tied to the horns of the bull (the so-called *Toro Farnese*), also the Venus Callipyge, all now in the museum at Naples. In 1564 the last erect column in these ruins was transferred to Florence, a present to Cosmo I., who raised it, with the bronze statue of Justice on its summit, as a monument of his victories in civil war. Thus despoiled, the whole edifice was at last cleared, and rendered accessible on every side, by order of Paul V.; not, indeed, for *public* benefit, but for the students of the Roman seminary, on which institution the ground was bestowed, that those *alumni* might convert the area into a ball-court, and otherwise amuse themselves here undisturbed. About the middle of the last century, two chambers (or tribunes), terminating in apses, were wantonly destroyed in a vineyard belonging to the Jesuits' College, within which one part of the site had been enclosed. For many years no excavations have been carried on; and the last of important result in these ruins were those undertaken by Count de Velo, 1824, that brought to light the largest and most complete mosaic yet found among the relics of ancient Roman art; the set of life-size figures and busts, supposed portraits of favourite athletes, with their implements and trophies, discovered in a nearly perfect state, within a great hemicycle of the Thermæ, and now laid in the pavement of a hall at the Lateran Palace, where, being most skilfully restored, it may be best observed from a balcony carried along one end of the spacious room. Invaluable as illustrative of the gymnastic and pugilistic spectacles of imperial Rome, this group, in its specimens of *humanity*, is simply revolting; and those giants of flesh and muscle, with their apish faces, intensely animal character, heads tapering into nullity, seem the connecting link between the man and the brute. The spirited design may be admired, and from a distance the execution, coarse as it appears when examined closer, has good effect. The Caracalla Thermæ have been well cared for in the arrangements of Rome's modern government, and are under the protection of a *custode*, entered only by one wicket-door at the northern end, where we have to ring for admission; but the *mal' aria*, here fatally dominant, prevents their guardian from remaining at night, so that we cannot enjoy the pleasures of a moonlight stroll (save by special appointment) to admire the mysterious solemnity of the same at such hours, as we may in the Colosseum; nor has the favourite spectacle of Bengal illumination been introduced amid these ruins. A modern staircase descends to the platforms of the roof, at two levels, still preserved, allowing us to contemplate the whole, and appreciate the plans of the majestic edifice more satisfactorily; and here too was beheld one of the noblest views across the most monumental region of Rome, and over the Aurelian fortifications to the Campagna and southern mountains. Within one angle of the ancient walls, divided off by a partition, has been formed a magazine of the sculptured and architectonic fragments dug up during the last researches made here; and among those objects are some busts, especially a Bacchante (or Ariadne), of high ideal character, but so mutilated that it has not been proposed to transfer them to any museum. Much of the ancient pavements in mosaic of porphyry, serpentine and giallo antico, in a simple design like scales, is now visible, at a level below the grassy soil on which we tread till reaching those portions opened by the excavations of 1824, and in one hall this broken-up surface of long-buried pavement displays figures of marine monsters in black and white marbles. The ruins left by the great quadrangular inclosure, with porticos and chambers (supposed to have served for lodging soldiers and slaves attached to the baths), added by Heliogabalus and Alexander to that central structure of Caracalla's building, are now in great part concealed by trees and brambles, so little conspicuous that, perhaps, many tourists have failed to discover them, but still most picturesque under their leafy mantle of Nature's weaving. Their principal extent corresponds to the Appian Way, skirting one side of the vineyards that occupy the levels between that road and the inclosure containing the great body of ruins. Many of their low vaults are entire, others completely fallen in and now reduced to heaps of brickwork overgrown by plants and weeds, luxuriant ivy spreading itself over both erect and prostrate masses. The best preserved chambers are in the vineyard of Signor Guidi (a gentleman well known for his activity in antiquarian researches), who has formed in these dark recesses and on their esplanades in front a museum of miscellaneous antiques, epigraphs, vases, sculptured details, &c., not without value; and a few of these less ruined interiors serve for wine-vaults, outside of which may be seen on fine evenings some jovial party drinking at a table, whilst a good woman sits at her knitting ready to serve them. This aspect of the great ruin, the least known or visited by strangers, and beyond the domains of the custode, is indeed the most affecting in the beauty of decay, as well as picturesque in its wildness.

These Thermæ of Diocletian, the vastest in extent,—having accommodation for 32,000,—exactly double the number who could be received in Caracalla's edifice,—have been merged into churches and monasteries to such a degree that the Christian almost obliterates the Pagan character of the whole; and the occupation by French soldiers now contributes to bewilder our studies on the site. Beronius states that the labour of 40,000 Christians, condemned to work as slaves, raised these enormous buildings, which probably received the first shock to their ancient integrity at the Gothic siege and sack in 410; but certainly were again restored to use before the close of that century. Fulvio (writing in 1527) describes the lofty, spacious halls and rotundas, immense columns, and cisterns still left here, unconcealed by modern buildings. Palladio designed a plan and elevation from what he beheld of ruin extant in his time; and Albertine describes what he witnessed—the disinterment of several busts of emperors, transferred hence to the Capitoline Museum, but some sent to Florence. The first inclosure of the entire Thermæ within private property was in the sixteenth century, when the ground was purchased, and a sumptuous villa erected by Cardinal Bellay, ambassador of Francis I. at Rome; and after his death, 1560, the Horti Bellaiani, as the estate was called, passed into the hands of a more illustrious cardinal, St. Carlo Borromeo. From the latter it was bought by his uncle, the reigning Pope, Pius IV., who desired to settle the Carthusian monks on this spot, bestowed the ground with its ruins upon them, and engaged Michelangelo to build that noble church, which, injured as it is, by the graceless alterations of Vanvitelli, is still one of the finest in Rome, and chief attraction of this remote spot; the Tepidarium, Calidarium, and part of the Frigidarium being preserved in Buonarotti's work, and eight granite columns still erect in their places in the vast nave (406 by 124 palms), which also preserve the Pinacotheca of the Thermæ.

In 1593 the Carthusians sold the ground beyond their cloisters, with several groups of ruins, and large stores of sculptured fragments, columns, &c., to the Countess de' Nobile Sforza, who bestowed her entire purchase on the Reformed Cistercians, and through whose bounty were soon raised another church and monastery for the latter order, a great circular hall, with cupola and coffered vaulting, still entire, answering the purpose, and now forming the parish church, S. Bernardo, which, though modernized, retains the majestic simplicity of its original design. From its cloisters extends, through the monastic demesne beyond, an immense curvilinear exedra, pierced by twenty-seven niches, no doubt once adorned by statuary; and this had communicated with another rotunda, corresponding to the present S. Bernardo, now built up into one end of a felons' prison. Urban VIII. reduced one great wing of the ruins to a public granary: another, stretching laterally to the Carthusian church, has been absorbed into the unsightly buildings of a house of industry. The piscina, measuring 300 feet by 100 feet, and divided by pilasters, is removed from view within the beautiful gardens of the Villa Negroni (once Peretti) where Alfieri resided, a stately mansion overlooking the quiet planted esplanade that extends between the two monasteries and their several piles of scattered ruins. The eastern side to the principal body of Thermæ has been degraded into a row of paltry houses and stables; the western has almost disappeared, one great circular hall serves for hay-lofts: a spacious quadrangle, entered by lofty archways at each side (but the apertures filled by modern walls), is the lounge of the French troops. We enter the region of ruins which has become a barrack since those troops have garrisoned Rome, by a separate gateway, and find ourselves in a strange scene, confounding farm and barrack, kitchen-garden and stables, mouldering antiquities with vulgar domestic appliances, in indescribable disorder: stupendous vaults and high-hung archways, in the fine brickwork of ancient Rome, here contrast with the paltriest modern masonry; and faded remains of sacred pictures on walls with the obviously profane purposes now in mastery. But in the solemn cloister, surrounded by its arcade of a hundred columns, one of Michelangelo's noblest buildings, simple, grand, and religious, our impressions are indeed different; and from a smaller cloister, planted with fruitful orange-trees, are seen three isolated piles of ruin, that look down on the secluded spot in stern desolation, like phantoms of the past.

Christina of Sweden ordered excavations in these Thermæ (1687), but with no very interesting results; and the last work of Classic art noticeable for high merit that this treasury has yielded, was a head of Venus, in Parian marble, found in the present century, now at the Vatican.

In the deformation of Michelangelo's church by Vanvitelli (1749), the chief entrance was blocked up, and the lateral one, through a rotunda of the ancient building, became the only ingress; the pavement was raised 6 feet, and to the eight columns of red Oriental granite with white marble capitals, Corinthian and Roman in order, were added eight others of brick, with stucco capitals, these latter being covered with a reddish brown varnish. The barbarism was committed of actually disguising in like manner those ancient shafts, and whitewashing *their* capitals! The fine antique vaulting (still entire) was also covered with glaring whitewash; the original architecture, of rich but overcharged style, still remains; and from the nave we may (with permission) enter two great vans, or tribunes, left unaltered by both architects, being reached through invisible doors, two other similar recesses remaining inaccessible.

One should not forget an evidence that oversets the theory accepted in Rome as to the *Sette Sale* and Baths of Trajan. Under these seven chambers is *another* series of reservoirs, of similar construction, now completely filled with earth, but in the last century permeable, and explored by the antiquary Ficoroni, who found in a conduit for conveying water thence, as assumed, not only to the baths, but to the Colosseum and the "Meta Sudans" fountain, the sigla of the builders with an allegoric figure of the subjected Judea, and the legend *Judæa capta*,—a well-known device on the coins of Titus, to which emperor, therefore, must be referred this portion of the Esquiline ruins. As to the Caracalla Thermæ, the excavations begun in 1824 by Count Velo, and continued by the

French Academy, proved the most important for throwing light on the character and arrangements of the whole edifice; and upon their results was founded the first plan drawn up with care of this vast structure by Blouet, the French architect. Soon was published, also, by a Roman *savant*, the outline engraving of that great mosaic called the "School of Athletes," with a critical description.

FOREIGN MATERIALS IN "THE EXHIBITION."*

ITALIAN MARBLES.

THE mineral products of Italy used in architecture and building, are better known to English architects than are the materials of other countries. We have lately quoted from the information supplied in the Catalogue for the Italian division of the Exhibition (published by order of the Royal Italian Commission) much of what relates to marble and burnt clays, and to some of the processes of art-manufacture, as inlaid stonework, wood-carving, casting in bronze, and work in coral.† Of the Italian marbles, the Exhibition contained specimens in great number and variety.

In that section of the Catalogue which relates to stone and marble, in the introductory matter, (principally furnished by the Professor of Mineralogy and Geology in the Museum of Natural History at Florence), the designation *marble* is "restricted to certain limestones of a crystalline or granular structure, which are sufficiently compact to be susceptible of taking a high polish." The *crystalline*, or *saccharoidal* structure, exemplified in the marbles of the Apuan Alps (Lunigiana, Carrara, Massa, Seravezza, &c.), the "Bardigli" of the same place, the marbles of Valdieri in Piedmont, and certain marbles of Venetia, Trentino, and Brescia, is distinguished from the *granular*, which is seen in the white marbles of Monte Pisano, the yellow marble of Sienna, and the majority of those which were exhibited by the Neapolitan and the northern provinces. If the crystallization be of very decided character, "the structure becomes lamellar, as in the white marble of Pallanza, the Bardigli, and statuary marbles of Monte Rombolo, Monte Calvi (Campiglia), and the Island of Elba, which are in every respect equal to the famous marble of Paros." So far as the best marble for sculpture is concerned, such equality of the Italian marbles with the Greek, we may say, has been questioned. Mr. Burnell, in *The Practical Mechanics' Journal Record of the Exhibition*, observes, "The dead soapy white of the Carrara marble renders it inferior for art-purposes to the richer-toned Parian marbles; but alas! Greece, being 'living Greece no more,' cannot find the energy or the skill requisite to bring its wealth to the market." Since this was written, however, Greece has entered on a fresh existence, and one which seems to be favourable for the investment of English capital in *exploitation* of her products. Mr. About, in his work, "La Grèce Contemporaine," having mentioned the mines and quarries, which, with the exception of the emery mines of Nazos, produced no revenue,—observed:—"If Greece had a government, the mines alone would almost suffice to enrich her." A road from Pentelicus to the Piræus, exists. The Greek Court in the Exhibition afforded little opportunity for judging of the Parian marble in statuary: there were some statuettes and busts, we believe, in Pentelic marble. The actual appearance of the antique sculpture is of course affected by age, and in many cases by its having been buried in earth. The objection to whiteness of the Carrara marble however is entertained by some of the best sculptors. To get rid of this whiteness was, as we understand, Mr. Gibson's object in colouring his Venus: the intention was not to approach fac-simile of the living form.

Marbles fall into the two principal divisions of white and coloured. The white marbles of Italy are divided commercially, into three kinds. The first kind comprises the marbles distinguished as "statuary" (*marmi statuari*); the second, also used for sculpture and for the higher class of architectural ornament, includes a clear white, *marmo bianco chiaro*, and a commoner quality; and the third class comprises the remaining varieties, which are generally inferior to the others in tint or structure, or are veined or spotted, and may be called furniture marbles. The three classes, however, are susceptible of subdivision according to well-known types. The lamellar structure may be a cause of friability under the chisel; though of this structure, is the marble of Paros, and are, as already stated, some of the best of the Italian marbles. These last have a slight blueish tinge and some transparency; whilst, the structure is so homogeneous, that the unequal reflection from different-sized *lamellæ* will not produce disagreeable effect. The quarries of Monte Altissimo were opened by Michelangelo, and afforded the material for several of his works; and they have supplied the marbles for the church of St. Isaac, St. Petersburgh, and the materials for the façade of Santa Croce, Florence. The Falcovaja "statuary" costs on the spot 37*s.* per cubic foot, to 55*s.* for large blocks. The marble of Betogli, in the Carrara district, which has a fine appearance, and being easily worked, finds ready sale, has nevertheless slight durability. It belongs to the class known as *saloni*, which should be avoided as much as possible by sculptors. We may here say that those who read Italian, may refer to two separate catalogues of the mineral products, which were published by the Italian Commission, one of them relating to stone and marble, and the other to metallic minerals. The arrangement of the English translation is in some respects defective.* We have no knowledge, however, where even the publications of the British Commission, are now to be procured. The second class of white marbles (*marmi bianchi-chiari e bianchi ordinari*) includes according to the Italian authority, besides varieties which are not suited for monuments in the open air, many others which are admirably adapted; and we believe that the condition of much of the sculpture in the gardens of the Tuileries, and Versailles, has been attributed to bad selection. We fear however that no description of white marble is fitted for out-of-door use in London. Of the third class, veined white (*marmi bianchi-venati*), the best marbles are the *figrato* of Altagna (Massa) and Monte Corchia, the veined "statuary" (*statuario venato*) of the latter locality, the splashed or spotted (*statuario macchiato*) of Massa, and many of the Carrara marbles.

The white granular marbles (*marmi bianchi ceroidi*) have not nearly the commercial importance of the crystalline. Geologically speaking, "the metamorphic action has not been sufficiently energetic to destroy the last traces of organic matter, and the original stratification of the rock; and the crystallizing force has not been sufficiently exercised to allow of the entire re-arrangement of the whole of the molecules so as to expel the included impurities."

The "coloured marbles" (*marmi colorati*) include black, and all which are of a more or less uniform colour, or are veined, splashed, or spotted, equally, upon a uniformly coloured base. The most important are:—1, black marbles with a uniform or clouded base, or veined with white or yellow; 2, *bardigli*; 3, red marbles of uniform or clouded tint; 4, yellow and violet marbles (*broccatelli*); 5, reddish marbles (*cecciato unito*) or variously veined, from the Albarese; 6, certain varieties of a greenish colour (*verdognolo*); and 7, certain *breccias*, marbles which are formed of fragments of limestones united by a more or less calcareous cement, or fragments of different rocks in a calcareous cement.

The mixed marbles and breccias are very abundant; and it is said, "with an increased demand, they might be supplied in England and France at a lower price than the marbles of the country." It should be observed, however, that some of these marbles are dearer than Italian "statuary." The *Breccia Affricana* of Seravezza is one of them; and the Broccatello of the same locality, costs, for the so-called *mètre*, cubic (of about 28 cubic feet English), 88*l.*, to which item that of conveyance to England would have to be added.

The finest black marbles (*marmi neri*) at present known in Italy, are those of Caserta Vecchia (Terra di Lavoro), the Pisan Mountains, Carrara, and Spezia, and the province of Brescia. In some of these, the black is traversed by white or yellow veins.

The class of the *bardigli* comprises many beautiful varieties. The rarest of these is the turquoise blue (*bardiglio turchino unito*); the finest of them coming from Monte della Capella, near Seravezza. There is a veined bardiglio (*bardiglio venato*) as well as a flowered bardiglio (*bardiglio fiorito*). In the former "an incipient discolouration of the black marble," "changes the primitive colour into a vague tint;" in the latter, "the discolouration is only partially extended through the mass;" and when this is carried to the extreme limit, the result is white marble; and selected specimens show the transition from the original condition. The finest specimens come from the quarries eastward of Seravezza. Other varieties are the veined bardigli of Valdieri, Piedmont; of the Venetian country; of Campiglia, and Monte Rombolo, and of the island of Elba.

The red marbles (*marmi rossi*) come from one or other of the liassic formations. With few exceptions the ammonite, red, limestone is scaly and vitreous, and only found in thin beds. The ordinary specimens are of a light red colour, with ocellated marking (*occhiato*), and of a brecciated structure.

The red ammonite marble is changed into a yellow granular form in the next class, that of the brocatellos and yellow breccias (*marmi gialli*). The mountains of Pisa and Carrara produce marbles of this kind. The Sienna marble is the finest: but it seems that some of the best, and largest in scantling, has yet to be quarried for sale.

The marbles of the three last categories of *marmi colorati* are spoken of, in one part of the Italian catalogue, as of inferior importance; though, immediately afterwards, numerous kinds of *marmi variegati*, or breccias, are mentioned for their beauty and high price. The breccias include the brilliantly-coloured material of Terra di Lavoro, not quarried for sale, the fine *Affricano* of Seravezza; the *Mischi*, or mixed marbles, of Seravezza and Massa, and many other varieties. They are all very durable, and homogeneous. Some of the most beautiful are so hard that their use is much interfered with. Amongst the breccias formed of fragments of highly crystalline limestone united by a siliceo-calcareous cement which has been acted on by adjacent veins of iron ore, or manganese, are some having a variegated appearance resembling the colours of the peacock's tail. They are called *paonazzi*. Some of the principal monuments of Florence afford evidence of the durability of the *Mischi* and *Affricano* of Seravezza. Many of the varieties are very retentive of polish.

To be associated with marble proper, for decorative purposes, is alabaster. The most celebrated varieties are the alabaster of Volterra in Tuscany, and that of the valley of the Marmolaio, near La Castellina. These are finely crystalline, of a pure white or delicately tinted colour, and beautifully translucent. This quality appears to be dearer at Florence than statuary veined marble,—costing 28*l.* per cubic "mètre" (of about 28 cubic feet English); but pieces so large as a mètre can seldom be procured. The agatised alabaster is remarkable for fine colour, usually reddish, and extraordinary translucency. It cannot be artificially coloured; whilst, in the clear varieties of the material, effects of colour, more particularly in yellow and dark tints, can be obtained by action of heat. The operation however requires considerable experience. The dark tints are obtained at a low temperature; while the yellow colour requires long-continued heat. In the alabaster districts, the manufacture of reduced copies of celebrated statues and buildings, for exportation, is largely carried on. Alabaster is easily carved; but practice is required "to give the proper polish and transparent effect to the finished work, by removing the *morto* or dead powdery mark left by the tool. This is effected by heating it with boiling water in a peculiar manner."

Several kinds of hard stones being found in Italy, and used in furniture, Florentine mosaic, and jewelry, and occasionally in the decoration of buildings, the jewelled decoration characteristic of styles of furniture, and even of architecture, in many parts of Europe, our own country included, was doubtless in its production and prevalence influenced thereby. Several kinds of quartz, the glassy, amorphous, translucent, opaque, and coloured varieties; jaspers of Giarreto, Barga, and Sicily; the calcedony of Monte Rufoli, and other materials, are used in Italy, both in the larger articles of jewelry, and for intaglios and cameos, as well as for the mosaics. The jaspers may be seen in several of the buildings of Florence. The light blue arragonite of Gerfalco is much used in marqueterie. One variety of ornamental hard stone is the Pietra Pacsina, or Rimaggio stone, called also *ruin marble*, of Florence, from the markings having a fancied resemblance to ruined buildings. The *ciottolo*, of which the Rimaggio is a variety, is much used in the manufacture of cheap mosaic work at Florence.

The Serpentines and *Ophiolitic* rocks of Liguria and Tuscany are interesting both economically,

* See page 885, *ante*. † See p. 744, *ante*.

* "Esposizione Internazionale del 1862: Regno d' Italia. Catalogo Descrittivo pubblicato per cura del R. Comitato Italiano. 1. Mineralogia e Metallurgia (Miniere e Saline). Torino. Tipografia Dalmazzo. 1862." 12mo. pp. xxiii. & 116.

"Catalogo Descrittivo pubblicato per cura del R. Comitato Italiano. 1. Mineralogia e Geologia (Prodotti Litcidei). Firenze; Tipografia Barbèra. 1862." 12mo. pp. 86.

and in the geological question of their origin. They are even preferred in Italy, to marbles, for small articles of furniture; but, for external architectural decoration, the commonly-supposed objections to the material have foundation in fact; and the best dark-green variety, or Prato black, "when kept for some years in imperfectly-ventilated lower rooms, undergoes considerable alteration," whilst, at Pisa, where the black marble of the Bagno alla Duchessa is used it is found quite equal to the white marble in durability.

Granitic rocks are largely quarried in Italy. Of the syenite of Baveno, a quantity amounting annually to the value of 16,000*l.* is produced. The material has been much used in Turin, as well as in other parts of northern Italy in public buildings. The eighty-two columns and eight pilasters in the church of St. Paul at Rome, and the large column of the monument of the Vergine della Pace in Naples, were obtained from the quarries at Monte Orfano. Basalt, lavas, tufa, peperinos, and igneous and metamorphic rocks generally, are used in many parts of Italy for common building purposes. In certain districts in the north, a kind of *phonolite* which splits into thin *laminæ* is used in preference to slate for roofing; as besides being cheaper, it is thought to resist wet and frost better.

Of the Schistose rocks of Italy, the most important materials are the slates, which are known as Lavagna stones, or *Lavagne*. The chief quarries are in the *eocene* rocks at St. Giacomo, near Lavagna, in the Genoese country; where they are about 150 in number, employing 1500 workmen, and representing a capital of about 16,000*l.* These quarries are considered to be a greater source of riches to the surrounding country than gold or silver mines. The slate is employed not only for roof-covering, but in slabs for apparently as great a variety of purposes as the slate of North Wales. From being employed polished, it has received the name "Poor Man's Marble." A table-top measuring 70 inches by 27 inches is sold for about 5s.,—the material being calculated at 2s. 8d, and the labour at 2s. 4d.; and there was a chimney-piece in the Exhibition, similar to what are sold at 4s. each. Slates are obtained also from the oolitic beds, at places near Seravezza. Besides roofing, they are used in ceilings; for which, slabs of about a yard square are laid on beams or joists, and afterwards plastered.

Of limestones, the principal kinds are the travertines, the compact limestone, or *alberese*, the saccharoidal or crystalline, the shelly varieties, and others. The rock called *Pietraforte*, an arenaceous limestone, was used in the older palaces of Florence, and is still employed extensively. One variety of oolitic limestone is used, principally near Trento, for making pipes for conveyance of water. The boring is effected by water-power. During the Italian Exhibition of 1861, the jury reported favourably of these tubes, as to their impenetrability to water under a pressure of 135 lb. to the inch, the highest that the testing apparatus allowed. Such pipes were once, say forty years ago, in use for the water-supply of Manchester, and perhaps some other towns: but they were considered very inefficient; and we have no doubt, have long ceased to exist.

The principal sandstone represented in the Exhibition was the siliceo-calcareous material (*arenaria macigno*) of the Apennines. The fine variety Pietra Serena is adapted only for internal ornament. It is exported to the East, to the extent of 800*l.* worth per month. The oldest and most famous of the quarries, those of Monte Ceceri, east of Fiesole, have been used since the Cyclopean walls of Fiesole were built; and the workings have now penetrated deep into the mountain, "forming a picturesque series of large chambers, with massive pillars supporting the roof."

Clays suitable for the manufacture of ordinary earthenware are abundant in Italy; but china-clay and other refracting substances are less common. The coloured earths, as the earth of Sienna, and umber, are of much value; and the permanence of the colours in pictures by the old masters, is considered to be one result of the local produce and industry. The improvement of the agricultural value of land by means of marl and other mineral manures appears to be receiving some attention. It may be worthy of note, for whatever opinion may be deduced, that several exhibitors of mineral fertilizers contributed soil from graveyards, "rich in nitrogen and phosphates." Boracic acid, used in pottery, glassware, dyeing, metallurgy, and in the manufacture of stearine candles, is largely extracted from the *lagoni* formed around the jets of vapour (*fumaroli* or *soffioni*) in the Tuscan Maremma, and by boring; and other chemical products are peculiar to the Italian soil. The manufacture of sulphuric acid from the sulphur of Sicily, is likely to be extensively carried on. But there is no coal, unless in Sardinia; and wood is scarce; though there are numerous deposits of peat and lignite, besides some of anthracite.

Italy is also rich in metallic minerals. They include those of iron, copper, zinc, argentiferous lead, gold, nickel, cobalt, antimony, mercury, and manganese; whilst iron pyrites, applied in the production of sulphuric acid from it, and graphite, are amongst the number. Sardinia and Elba are rich in metallic minerals; the latter island was anciently called *insula inexhausta metallis*. An important item in the products of Sardinia consists in slags, the remains of smelting operations carried on both in the middle ages and by the Romans. Similar refuse is turned to account in Elba. Though the iron ores of Italy are abundant, the want of fuel seriously interferes with production of the metal. The hæmatite (specular iron) of Elba is exported; and it is supposed that this exportation could be largely increased. In smelting, for the production of pig-iron, charcoal is used: the bar iron is some of it, produced in puddling furnaces heated by gas which is obtained from peat or lignite. Steel from Italy was formerly exported to England. It has been remarked that the production of steel in Lombardy could be largely increased were the gas puddling-furnace more generally employed. The importance to such a country as Italy, of recent discoveries of rock-oil which might afford the gas that would remedy the want of other fuel, is obvious. We shall not attach too much importance to the collections of products in the late Exhibition, if we say that proper study of them would veritably have diminished chances of future wars, like as the Exhibition of 1851 was intended to operate. This present summary of the Italian products, and our preceding notices of some of those of other countries, may have shown that many countries possess in their *strata* and soil, mineral wealth similar in kind to that which is popularly regarded as peculiar to Great Britain; but the economy which there is in supplementing the wealth through the avenues of commerce, is equally made apparent. Some description of fuel will probably be found or produced in the Italian peninsula, not as yet supplied; but meanwhile, the gain possible from the importation of fuel, or of exportation of ores, does not require pointing out: yet in going through the collections of products, the facts seem to be presented with a new light.

It would absorb too much space to specify the localities of the Italian mines, or to give any account of the foundries and manufactories which there are. They are numerous in the north of Italy, as at Genoa and Milan; but important industries exist at Turin and Venice, and even in Rome. Many of these establishments have been largely concerned in the construction of the rails and rolling stock of the railways.

The progress made by Italy in railways has been, under the Piedmontese rule, very remarkable. In April 1859,—when the first step to unite the country, then under seven governments, was taken,—a total of 2,592 kilomètres of railways throughout the peninsula, had been sanctioned; of which 1,472 kilomètres had been opened. At the period of the first meeting of the Italian Parliament in February 1861, or after the war, there had been sanctioned 3,494 kilomètres, of which 1,718 had been opened. Subsequently, up to the middle of this year, these figures have been again raised; so that, including all lines which may be regarded as authorised (some of which may be in Sardinia and Sicily,) but excluding lines in the Venetian and Roman provinces conceded to the Lombardo-Roman Company, they would amount to 6,637 kilomètres for the concessions, 2,252 for the total of lengths opened, and 1,828 for lengths in course of construction.

So that, it is not only for the works of her architects, sculptors, and painters, or for those of her workmen in decorative and ornamental art, that Italy has claims upon our attention.

In proportion to population, the combined industries of Sweden are very remarkable. The population in 1859 was but 3,787,735. That of Norway is not stated; neither have we any information from the commission for that kingdom. The most important of the minerals of Sweden are the iron ores. These are remarkable for their purity, especially from phosphorus. Their superiority has been attributed, besides to the circumstance just mentioned, to their being smelted exclusively with charcoal: though, if the facts noted in our former article, as to the Zollverein irons, for which coke has been used along with charcoal, be correctly stated, there would appear to be in this idea something more than has foundation. The greater part of the pig-iron is made into bar-iron in refineries with charcoal. Peat is used in some of the processes. It is dried, and otherwise fashioned like bricks, to be used as fuel. The other metals produced from Swedish ores are copper, which is highly valued for its purity from arsenic and antimony, silver with lead, nickel, and zinc. The Swedish Catalogue* has appended to nearly every title of an exhibited specimen of iron, the trade-mark. Such information will be of service to many purchasers and manufacturers in this country. The Bessemer method of making cast-steel from pig-iron, has been lately introduced into Sweden. The best English steel is made from the Dannemora ores. One of the Swedish contributors, V. Eggerty, of Fahlun, exhibited an apparatus for quickly ascertaining per-centage of phosphorus or sulphur in iron. The value of the Swedish iron was exemplified in the Exhibition by a portion of the bow of an iron steamer, which had been doubled by the steamer striking on a rock, without the accident being any hindrance to the safe completion of the voyage. A similar power in the Swedish iron of bending double without a crack, has been observed this year at Stockholm on the occasion of a comparison between two railway axles, whereof one was made in Manchester. The latter broke early in the experiment. The Swedish building stones include numerous kinds of granite, syenite, and porphyry, marble and limestone, and sandstone. Roofing slate is procured at some places in Dalsland. Beautiful porphyry is quarried at Elfdalen in Dalecarlia. In 1851, the quarries at this place belonged to the late King Oscar; and a vase exhibited in that year, was presented by the king to Prince Albert. The pedestal of the statue of Gustavus III. in Stockholm, is of this material; as also is the sarcophagus of Charles John in the Riddarholm Church. There is some useful information in the Swedish Catalogue, given by one exhibitor, as to the weight per cubic foot, and the absorption of water, of forty-six specimens of Swedish rocks. The commoner buildings in Sweden are covered with shingles. Bundles of these were exhibited, along with the model of a roof. The wood now generally used is that of the *Pinus sylvestris*. The wood is split not thinner than nine pieces to an inch; and the pieces are steeped in sulphate of iron or copper to preserve them, and render them fireproof. The description of the method of laying, speaks of "beginning from the right and continuing towards the left," so that "the thinner part of a following shingle always covers the thicker edge of a foregoing;" which does not seem at all to resemble the method of laying plain tiles or slates. They are said to be perfectly waterproof, and to last at least fifty years. The total cost of shingles, laths, "rafts," nails, copperas, and labour, will be about 1½*d.* per English square foot.

The catalogue of the Russian Division of the Exhibition,—which appeared, like so many of the catalogues, too late,—shows that the division included specimens of most kinds of metallic and other minerals. The prices of many of these are given in English money. Some of the articles in porphyry and jasper, contributed by the Government, have enormous prices appended to them. The column in grey violet-coloured Korgonsk porphyry with bronze base and capital was priced 631*l.*; and the candelabrum in Kalkansk jasper had the trifling figure 2,285*l.*, having we hear, taken ten years to work. A vase in the Korgonsk porphyry was priced 1,015*l.* The graphite exhibited in this division, has been likened to that of the Borrowdale (Cumberland) mine for purity. May the calculation of its value prove correct!

There are many products of other foreign countries, besides those of the British colonies and India, which doubtless would claim notice; but we must content ourselves with repeating that all the products should be represented in permanent museums in each country, with information attached. Might we not reasonably expect to find at every foreign embassy or consulate in London, such a museum, and to have access to the information as to properties of the materials, and cost, including conveyance to this country; and might not this country well afford the cost of like museums of its products, abroad? Surely, through extension of the knowledge of resources of each country, there are the means of gaining objects equal to any that are sought for by diplomacy; but, for such information as we have alluded to, periodic international exhibitions, howsoever managed they may be, cannot suffice.

* London: Printed by Wm. Clowes & Sons.

ON COTTAGE BUILDING, AND SANITARY APPLIANCES.

AT the close of Mr. Taylor's paper, read at the Society of Arts, and printed in our last :—

The Chairman said that Major-General Tremenheere, who was to have presided that evening, was unable to leave his home, owing to the illness of his son; which they regretted, as well on his own account as on that of the meeting; the subject of the paper being one in which that gentleman took great interest. It was difficult, indeed, to exaggerate its importance; and it was fortunately one that just now engaged the attention of the promoters of social economy. It was one to which their late lamented Royal President addressed his active and practical mind; and it would be remembered that he erected a pair of model cottages near the Exhibition of 1851, which had been rebuilt, and were now to be seen on what was Kennington-common. The distinguished friend, also, of the labouring classes of this great metropolis, Mr. Peabody, was so impressed, during his long residence in England, with the growing and urgent necessity for better and healthier habitations for them that, with a munificence beyond all precedent, he placed in the hands of trustees the sum of 150,000*l.* to be devoted, if so determined, to this benevolent object. He (the chairman) having, within a few days, had occasion to see that gentleman, informed him of the subject of this evening's discussion, when he expressed his regret that in consequence of the painful illness under which he was then suffering, it would be quite out of his power to be present, but he should be glad to receive particulars through the press.

Mr. J. Bailey Denton said he should be sorry in any way to depreciate the paper just read by Mr. Taylor on this very important subject; but as he represented not the architectural interest, but that of agriculture, they must allow him to make a few remarks—not so much upon Mr. Taylor's paper as upon the subject generally. The paper was a very ingenious one; and he must admit that the drawings by which it was illustrated were most explicit; but there was to his mind one very manifest omission, and that was the consideration of the cost of the structure. Very much had been said and written on this subject by a great many people for many years past; and yet at the present moment we were really as much at sea, as to what description of cottages we should build, as we were fifteen or twenty years ago; and he could not but feel that the paper had not dealt with the question which he thought most of those present had come to hear. The cost of cottages resolved itself practically into the rent to be paid for them, and it was no matter of congratulation to be able to build cottages that labourers could not pay rent for. Much had been endeavoured to be done by prizes and the efforts of various societies; but it was a fact that not one of those prize designs had provided for buildings that could be erected for the money which was stated as a necessary condition to the premium offered. Representing, as he did, a company which was employed very largely in the building of agricultural property, and in ascertaining the lowest prices at which, with due consideration to the sanitary requirements of the day, labourers' cottages could be built; and having himself inspected a great number of drawings, plans, and specifications for them; he was there to confess that they had not been able to build cottages for which the farm labourers of the country could pay a rent which, in itself, would give an adequate interest on the capital expended. The average cost, at the present moment, of cottages with three rooms, with water supply and the necessary fencing, was 260*l.* a pair. He was speaking, not merely of his own experience, but advisedly, from the experience of those who were largely engaged in building; and as it was necessary, in order to encourage the building of cottages, that they should give a return of 6 per cent. upon the outlay, the rent would amount to 15*l.* 12s. per annum, or 7*l.* 16s. per cottage. Now, the utmost that a farm labourer could afford to pay was limited to one-seventh of his earnings; and, therefore, taking the average agricultural wages at 10s. or 11s. per week, the rent which could really be afforded was not more then 1s. 7d. or 2s. per week, which was equal to about 5*l.* per year. Now, inasmuch as 6 per cent. upon an outlay of 130*l.* per cottage represented 7*l.* 16s. a year, it was clear that there remained 2*l.* 16s. yet to be made up from some source in order to encourage builders to erect these cottages. That 2*l.* 16s. might fairly be paid, partly by the farmer who employed the labourer, and partly by the owner on whose estate the cottages were built, the farmer employing the labourer having the advantage of the man living on his farm, could, it was admitted, pay something towards the rent; and if they assumed that he could afford to pay 1s. per week, or 2*l.* 12s. a year, there would yet remain something for the owner to pay to make up the deficiency. 260*l.* a pair for cottages was too large a cost, and it was an object worthy of this Society, and of the country at large, to endeavour to reduce the expense from 260*l.* to about 200*l.* a pair. If they could succeed in doing that, there was very little doubt they would be able to build cottages for the poor which were suitable in all particulars. As an illustration of the difference that existed in the various designs that had been placed before the world as being worthy of adoption, he might mention the fact that the cubical contents of these cottages varied as much as from 7,000 to 12,000 cubic feet. At some future time, he proposed laying before the agricultural community a tabulated statement of all the cottage designs that had received prizes of various kinds, and the extraordinary difference between them would strike any one who had paid any attention to the subject; but no point would strike them more forcibly than the fact that none of those designs could be built for anything like the price estimated. He thought the essential object to be kept in view was a reduction of the cost of building cottages to a sum upon which the labouring population of this country could afford to pay a fair rate of interest in the shape of rent. Unless they did that, they practically did nothing; and he hoped the Society would accept what he had, with some diffidence, proposed; viz.,—the offering of two prizes for cottages that should be *built*—not merely designed, for there was a great difference between designing and building—a pair of cottages which should be built for 200*l.* It might be asked why he had put them at that sum? The reason was this. In all the designs that had received commendation or prizes, there were none the estimates for which exceeded that sum; but he challenged Mr. Taylor, whose drawings were so explicit, and whose statement was so interesting, to produce a pair of his cottages built for 200*l.*,—subject, of course, to one condition, that they should be built substantially, and in accordance with the rules of the Enclosure Commissioners, who had certain regulations as to substantiality. He would ask Mr. Taylor what his estimate was for a pair of cottages built upon his plan?

Mr. Ebenezer Clarke had listened with much pleasure to the remarks of Mr. Taylor in reference to the cottages he proposed to build; and practical men interested in this subject must feel indebted to that gentleman for many of the suggestions he had made. He (Mr. Clarke) was happy to state, as bearing upon the remarks just made, that he held a contract, which was now in course of execution, for building cottages as low as 225*l.* per pair, which were of larger cubical contents than those described by Mr. Taylor. The front room was 12 feet by 10 feet, the back room being about the same size, with a wash-house at the back, and containing a capital oven, copper, sink, and dresser, and a good water-closet. There were two good rooms upstairs, and there was a porch in front. A pair of cottages upon this design had been placed opposite the eastern dome of the International Exhibition during the present year; and at Walthamstow there were sixteen pairs of cottages now being erected at the contract price he had stated. The cost of those cottages, including the freehold of the ground, would not exceed 130*l.*; and a rental of 2s. 6d. per week would give 6*l.* 10s. a year as the interest upon that amount. But it was said the landlord would expect more than that. Even if 3s. 6d. per week, or 2*l.* 12s. additional for rates and repairs, were required, for that rental they might have cottages within five miles of London which could be let to pay a fair remuneration upon the outlay. By this means a great difficulty would be overcome. Mr. Scratchley had laid down a good principle for the purchase of cottages by labourers. He had proposed that some of the money subscribed to the savings banks should be appropriated, at four per cent., to the purchase of labourers' cottages. If a cottage could be bought for 100*l.*, the tenant would only have to pay four per cent. interest as rent, and to insure his life for 100*l.*; so that, by the payment of 6*l.* a year, the cottage would be his in fourteen years, with the advantage that, if he died in the first year, he would be able to hand over the cottage to his widow as an annuity of 10*l.* for life. With regard to cottages in the country for agricultural labourers, there might be some difficulty; and he thought a lower price than he had mentioned would be a necessary condition. With reference to Mr. Taylor's system, it was a question with him whether country bricklayers would be able, generally, to carry out the designs, and to use the materials recommended by that gentleman, so readily as to build with them substantially as they were accustomed to do under the old brick-and-mortar system.

Mr. Charles Bagnall could confirm the remarks of the last speaker, inasmuch as he had almost completed twenty cottages in Yorkshire upon the plan referred to, at a cost for the smaller ones of 160*l.* the pair, and for the larger ones of 200*l.* per pair. Those cottages originally contained only two bedrooms, which did not admit of a proper division of sleeping apartments for a family; but at a cost of only 10*l.* he had added another bedroom, and then the cottages had been rendered really suitable habitations for a family.

Mr. Robert Rawlinson had listened to the paper with great interest; but, looking to the diagrams before them, it occurred to him that there would be some difficulty in getting country bricklayers to put these materials together. He differed from Mr. Bailey Denton as to the question of labourers' cottages paying or not paying. He had studied this subject for the last twelve or fourteen years, and he held that it was not a question of mere pounds, shillings, and pence, as regarded the payment of rent. It was a question of moral and sanitary importance to the whole nation, and the time must come when they would have to look upon it in a national spirit; for they were now beginning to understand upon what principles society was based, and how they could best be enabled to insure its permanence and its safety. The late Royal President of this Society, with that far-seeing intellect for which he was so distinguished, regarded this question as one of national importance, when he placed before the public those model cottages at the Exhibition of 1851; and that great man who now sat upon the throne of France had also seen and appreciated it. He appreciated the fact that the poor were in this respect powerless to help themselves; therefore, the movement must be made by those above them; and he (Mr. Rawlinson) said advisedly that, let them work the problem as they might, they must not split straws about plans and cost: but the time was come when they must understand that a community of people must not be allowed to grovel in the mire like the lower animals, or to exist as they did in many parts of Ireland at the present time, where human beings herded together with the brutes; and being born as brutes, and living as brutes, how could we expect them to feel otherwise than as brutes? In this wealthy country he could take them to towns of large populations, where the artisans were earning from 35s. to 40s. per week, and yet could get nothing more than room tenements to put their families into; not that they were unable or unwilling to pay for better accommodation, but simply because nothing better could be obtained. How, then, could the working man raise himself in the social scale? The poor could not build for themselves, and it must be a national concern. It was argued that the question resolved itself into one of rent. He said no; and even if it did, if they worked out the problem in all its elements, it would be seen that the cost came upon the public at large, who had to pay for the neglect and misery, directly and indirectly, by pauperism, by vice and crime, and by a depreciated human race. They paid it directly in the shape of provisions to be dispensed by the relieving officer. Medical men could point to rows of cottages from which came all the fever that infested a neighbourhood, and into those cottages the mass of the money went, which was expended from the poor-rates every week; and in some cases the owner of the houses, living at one end of the row, would watch for the visits of the relieving officer, and pounce upon the money for rent. Such an evil as this could only be met as a national question at least; and, if they took a Christian view of it, as a Christian question. There stood rows of habitations in which it was impossible to live without the occupants sinking in the social scale. An artisan coming from the country into a large town was obliged to take his wife and young family into room tenements, where it was impossible they could live healthily, and they were stricken down by typhoid fever: it ended in either the widow following her husband to the grave, or with her children becoming permanent inmates of the union workhouse. The hollow bricks which Mr. Taylor had recommended were no doubt valuable, but he regretted that that gentlemen had taken out patents for inventions of this character: he thought it doubtful whether they would be valid, for he himself had used hollow bricks years ago. He (Mr. Rawlinson) took credit for some ingenuity, but he could con-

scientiously say he had carefully eschewed patents; for he knew, by experience, that it was very seldom indeed that patents paid; and, looking at the question, he could see no elements of remuneration arising from the patenting of articles of the description brought before them this evening; but if Mr. Taylor found it otherwise in his practice, that was an answer to him. The advantage of concrete walls, as regarded economy, would no doubt be felt in many parts of the country, and the merits of the damp-proof course could not be denied. He had made perforated bricks as early as 1845, but without a patent; and, as regarded the tile floor, it was very ingenious, but was not a plan he should be inclined to adopt. There was an old proverb that they should "never make holes for rats, except they left holes for cats." Now, there was plenty of room for rats and mice in these holes, but not sufficient for cats. Some remarks had been made as to the roof being perfectly tight upon Mr. Taylor's plan: he hoped that referred only to its being water-tight, because of all curses in a house an air-tight roof was perhaps the greatest. The same might be said of air-tight walls and fittings, which might be made so perfect as to become the perfection of bad construction. He had been in houses where the carpentering work was so perfect as to amount to a positive evil from the entire prevention of anything like healthful ventilation; and, on the other hand, if mechanical means of ventilation were provided, they were apt to be closed by the occupants of the house through some fancied discomfort in the way of draughts; and, therefore, they were often obliged to disguise the means of giving proper ventilation to dwellings. He hoped this Society would give all the aid in its power—not that cottages should be built which the poor man was able to pay for, but such as would enable him to live as became a Christian, and properly to perform his duty to society.

Mr. Geo. Godwin, being called upon by the chairman, observed that he had nothing particularly new to add to what had been said, but would express the very strong conviction he felt, no doubt in common with many others present, of the immense importance of this subject; and supposing it turned out that dry, warm, well-drained, and properly-ventilated cottages could not be built for the labouring classes at such a sum as they could pay a proper rent for, he said boldly they were not sufficiently paid for their labour. They were not getting out of the land that amount of sustenance, and that provision of protection from the weather, which, as human beings, they were entitled to receive. His own notion was, that residences for the poor could be built to pay; and he thought they owed a debt to Mr. Taylor for the amount of ingenuity and intelligence which he had brought to bear upon this subject; and though they might not see at first sight that the means suggested would materially cheapen the cost of cottages, it was obvious that the damp-proof course here introduced was a most important building material; and he was quite sure, as it became known, it would be extensively used. He thought the difficulty with regard to the other materials was that they could not get workmen without education to use them properly. Many years ago he had assisted the late Mr. Hitch, of Ware, in making known concrete and hollow brick walls for cottages; the hollow in the wall being filled with concrete. It was a very ingenious plan; stronger, but probably not so cheap as that of Mr. Taylor. He (Mr. Godwin) had, however, found it quite impossible to get builders to take up the plan; and it gradually died out, although walls of even 6 and 9 inches thick, built in that way, had stood in a perfect state for twenty years; effectually resisting the damp, and forming altogether most efficient work.* That was the difficulty which all inventors had to strive against. He had no doubt where materials for concrete were plentiful in many parts of the country, and where these bricks of Mr. Taylor's could be put into the hands of intelligent master-builders or foremen, very good and cheap houses could be constructed with them. It had occurred to him to witness, both in town and country, the frightful condition in which the great bulk of the labouring population lived, agricultural as well as manufacturing. Many individual landlords were doing much to remedy that state of things. The Yorkshire Agricultural Society and many others had given prizes, and were doing all they could to advance this object; but the field was so enormous that the efforts of a few individuals were almost useless. They scarcely touched the evil; and, at the present moment, the great bulk of the labouring population were living in such a way that a high state of health was impossible,—in such a way that evil courses might be viewed as the results of the condition in which they lived, the effects of which no amount of after education could counteract. All moral perceptions were blunted in the minds of the children (the crease was made in the damp paper), and, do what they would, with the present system of national education, they could not remedy the damage which was brought about in infancy. What was the result of all this? The habitations were tenanted by a population sunk in ignorance and moral degradation. In the courts of Drury-lane and Gray's Inn-lane, as elsewhere, there were thousands of human beings but little better than Pagan savages: they knew nothing that was right; and those were the class—the dangerous class—who were at the present time making themselves known and felt in our public streets. He had said thus much to show that the subject before them was one of the greatest importance: he felt that they were indebted to every gentleman who brought his intellect and practical experience to bear upon it; and he moved a vote of thanks to Mr. Taylor for his paper.

Mr. Edwin Nash remarked that no material had been shown by Mr. Taylor as that which he intended for the quoins of his building; but he presumed he had some arrangement for that purpose which would match with other portions. In some of Mr. Taylor's cottages he had seen that ordinary bricks were employed at the quoins. He thought that was an imperfection, because the quoins of a building were the parts which generally held the greatest quantity of moisture; and in plastering a new structure internally, the difficulty was to get the angles of the walls dry at the same time as the other portions. With regard to the damp-proof course, he thought that, to be effectual for the purpose for which it was designed, it ought to be placed at a not less distance from the ground than 18 inches. The place where the splash of the rain went against the external wall was generally the dampest place; and if this damp-proof course were placed within a short distance of the ground, and the rain-splash went above it, the end it was intended to answer would not be gained. There was a tendency in the surface of the ground round a building to become relatively higher by the lapse of time, and that which had been 18 inches from the ground originally would, in forty or fifty years, be below the level.

Mr. Liddle remarked that he was disappointed at the course which the discussion had taken. He felt, as all of his profession must feel, a deep interest in the well-housing of the poor. He resided in a district of the metropolis where a large number of the houses had been taken down for street improvements and railways, which had had the effect of dislodging a large amount of the poorer population, and thrusting them closer and closer together into places inaccessible to any persons but the relieving officer and the police, which caused their health and morals to be so fearfully deteriorated. He was in hopes that some practical suggestions would have been thrown out as to how these great evils were to be met; but the discussion had, for the most part, turned upon the cheapness with which cottages could be built for farm labourers in the country, leaving untouched the great question of providing for the moral and physical condition of the crowded masses of the working population in the metropolis. It was a remarkable fact that whilst the population was largely increased, house accommodation had decreased: the consequence was that more persons were crowded into the houses which remained accessible to the poorer classes; and where there were formerly eight, there were now, on an average, at least ten persons in a dwelling. He sincerely hoped that at some future time this question would be taken up with the seriousness which its importance demanded.

Dr. Greenhow expressed a similar disappointment to that of the preceding speaker, at the course which the discussion had taken. He viewed the question in a different light to most of those who had spoken upon it. He felt that the great point was to build cottages especially with reference to the health of the inmates; and he hoped to have heard this evening of some fresh building appliances which would conduce to render the cottage in town more healthy than they had been hitherto. With regard to the size of which cottages should be built, Mr. Taylor had given the dimensions of 12 feet square for the rooms, but he had omitted to state the height, whether 8 feet or less. Even that would afford small cubical space for a room which was occupied by a family during the daytime. The rooms above being covered by a partially slanting roof would have a still less cubical content. He did not care about the cost of the cottages; but he would say emphatically, having had long experience in those diseases which emanated from living in confined breathing spaces, that cottages of the dimensions stated, supposing the rooms to be 8 feet in height, would be unwholesome, and would tend to those diseases of the lungs which arose from living in an impure atmosphere. With regard to ventilation, the only provision that he had heard mentioned in the paper was the beautiful stove of which they had had a description, and he inferred that such stoves were intended to be placed in the cottages spoken of, though they appeared to be too expensive for such a purpose. With that exception, he had heard of no means for providing ventilation. He did not offer these remarks in disparagement of the paper, but only as bearing upon the important subject which they were met to discuss.

Mr. C. Asprey expressed the interest he felt in this subject, and his surprise that the influential classes of the metropolis had not taken it up more warmly; if they had done so, he thought they would have met with great support, particularly if they had only laid the matter before men engaged in business. He believed the labouring populations of large towns suffered in respect of house accommodation tenfold more than those in the country; and he only hoped this paper and discussion might be the forerunner of some movement which would be beneficial to the London poor. He was an employer of labour in various forms, and he had long felt that the working-classes, with means of paying for better dwellings, were unable to obtain healthy and comfortable habitations in London. Looking to the miserable courts and alleys of Drury-lane, for example, the space now occupied by those wretched tenements might be made available for the healthy dwelling of many more families than were now located there in filth and squalor, if the houses were built upon a proper principle. He hoped there were liberality and riches enough in this great city to afford the means for furnishing the poor man with a comfortable home, so that he might bring up his family in a proper way, with greater attention to their morals than was at present the case. There were many who, like himself, would be willing to aid in forwarding this great object; and in order to make a start, he would lay down 100*l.*, either as a gift or at a low rate of interest; and if a thousand others did the same, they would at once have a fund which would be the means of doing a vast amount of good in this important matter.

Mr. Seddon said, having seen Mr. Taylor's inventions in action, he was happy to bear his testimony to their efficiency as far as he could judge. These were materials with which cottages and larger dwellings could be built at a much cheaper rate than before; and, as regarded sanitary appliances, the plan introduced by Mr. Taylor must be admitted to be a great improvement upon the old system. With respect to the getting these new materials properly put together by country bricklayers, he would state that he found no difficulty in getting the work done. He had used a great many stoves of the description brought forward this evening; and although the one exhibited was ornamental and expensive, the principle had been extensively adopted in barracks and Government offices, in a cheaper form. The great difficulty with regard to ventilation was, where to let the air in; and it was of no use to let fresh air in without providing a means for the egress of the impure air. That was fully provided for by Mr. Taylor's stove; and where the air could not be brought in heated, it must be admitted above the level of the head, which could be done in any volume required. If there was sufficient egress for the vitiated air, the apartment would be thoroughly ventilated.

Other gentlemen having spoken, the chairman put the vote of thanks, which was passed.

Mr. Taylor, in reply upon the discussion, said Mr. Denton had expressed his disappointment at no plan having been brought forward for building cottages for a less sum than 260*l.* a pair; but he was answered in that respect by the gentleman who followed him, who declared that he was now engaged in erecting cottages at 225*l.* the pair. If he (Mr. Taylor) had brought forward any specific price at which the cottages he described could be built, he should probably have been met with Mr. Denton's very proper remark, that it was only an estimate, which was not always to be relied upon. He had not come before them to advocate any particular plan of labourers' cottages, but merely to show them how the walls, roofs, paving, and

* See first additional supplement to Loudon's "Encyclopædia of Cottage Architecture," p. 1257.

other things, might be built better and cheaper than they had been hitherto. He had shown that the materials for these portions of the building could be furnished at half the cost of brickwork. With respect to the dimensions of the room, a dozen medical gentlemen would probably hold as many different opinions as to what was absolutely a necessary size for a healthy apartment. With regard to the damp-proof course, one gentleman had objected that it afforded facilities for the encroachments of vermin; but in his practice he had never found this inconvenience occur. Another gentleman had spoken of the necessity of having the damp-proof course a sufficient distance from the ground to be out of the reach of the rain-splash. In the plan he had placed before them, he had shown the course in the position for its most economical adaptation, and it was at the option of the builder how high up the wall he chose to put it. He might mention, with regard to the alleged difficulty of getting ordinary workmen to use these materials, that his plan had been experimentally adopted for military huts at Chatham, and the materials were very readily made up by the sappers employed for the purpose. The walls for huts of 40 feet long were only 6 inches thick; and the reports as to the durability of that plan of construction were so satisfactory to the authorities that they gave orders for the erection of huts of 200 feet and 300 feet upon the same plan at Hounslow.

THE DEEP SEA-BED OF THE IRISH ATLANTIC OCEAN.

In the course of the recent survey of the sea-bottom between Ireland and Newfoundland, by her Majesty's ship *Porcupine*, under the command of Mr. R. Hoskyn, very interesting particulars respecting the inhabitants of the deep sea were ascertained. The primary object of the survey was to ascertain the most gradual slope of the bed of the ocean; or, in other words, the route most suitable for a line of telegraphic cable. But a secondary one arose out of this; namely, to ascertain the nature of the sea-bed. Two routes have been selected for examination. The first, or Galway route, presents the greater facilities. For the distance of 160 miles due west from Cashla Bay there was found to be a gently undulating sea-bottom or terrace, having the decline of an ordinary beach. From 100 to 185 fathoms of water rolled above it; the intermediate soundings being 20, 65, 68, 74, 76, 82, 105, 135, and 165. At the western extremity of this terrace rises a bank which is but little more than 80 feet below the surface of the ocean. Beyond this is a descent of 700 fathoms in ten miles, when the telegraphic plateau is gained—a vast submarine plain, stretching thence to the banks of Newfoundland with a tolerably even depth of two miles of water.

The second route starts from Valentia. A valley 525 fathoms deep is first met with. A ridge twenty-five miles in width rises from the opposite edge of this valley, which ridge is between 195 and 230 fathoms below the surface. At the western extremity of this the bed again declines till the bottom of a second and much deeper valley is found. In this sea-valley the waters are three miles in depth. Beyond this a gradual rise takes place till the telegraphic plateau is reached.

The various objects brought up from the ocean-bed by the sounding machine and dredge, have been placed in the hands of Professor King, of Queen's College, Galway, for examination by the Lords Commissioners of the Admiralty. It has been a common supposition that life could not exist at any very great depth in the ocean, on account of the immense weight and pressure that two or three miles' depth of water would present. But this theory has been gainsaid. Professor King states his belief that his report on the subject will be prepared in the course of this winter, and in the interval has issued a preliminary notice of the organic and inorganic objects obtained from the soundings. From this it appears that the surface of the deep sea-bed is one vast sheet of *foraminiferæ*, and other minute structures, whose functions are to clear the waters of the ocean from all mineral and organic impurities. There are perforating mollusks living at great depths; but Professor King does not entertain apprehension that they would bore into a telegraphic cable. He inclines to the belief that the organic accumulations to be expected on foraminiferous bottoms would, in the course of a very few years, completely encrust it. The wide bank discovered 160 miles off Galway, called Porcupine Bank, consists of siliceous sand and coarse gravel, with the addition of considerable quantities of the *débris* of Nullipores, shells, and other organisms. Pieces of rock, some 3 or 4 inches in diameter, are found with fresh specimens of *Truncatulina*, and various genera of Bryozoa adhering to the upper surfaces of them, showing that the water at the comparatively inconsiderable depth where they live is not much affected by storms. Several fishes were brought up by the dredge from the bank surface, two of which had not hitherto been recognized as British; and about fifty shells, besides sponges, star-fishes, sea urchins, and hermit crabs. The orbulo-globigerinous mud brought up by the sounding machine from a depth of 340 fathoms, contained specimens of a *Pecten*, an *Arca*, and a *Pectunculus*; also specimens of *Trochus millegranus*. The most unexpected fact, however, come upon up to the present date of examinations by the professor, is the finding *Discina* (*Orbicula*), in mud from the eastern side of the three miles deep submarine valley, 1,240 fathoms below the surface of the waters.

THEATRE ROYAL, WESTMINSTER.

Philip Astley's name in connexion with a circus has lasted exactly a hundred years to a week. The cavalry soldier began his venture in a Lambeth field in 1763, and set up his first wooden enclosure on the site of the present theatre in 1773, building it partly, according to Mr. Timbs, with 60*l.*, the produce of an unowned diamond ring found on Westminster Bridge. This energetic individual (who told his horn-blower, when he found him "counting the bars" till his turn came in the overture, that he paid him to play and not to "rest," and wouldn't have it) built nineteen theatres, including the original Olympic in Wych-street. Astley's has been burnt down three times, and rebuilt; the fire on the last occasion, in 1841, leading to the insanity and death of Ducrow, the manager, whose skill and grace as a circus-rider have not been equalled since. And now Mr. Boucicault has quietly wiped out the circus, and under the title of "Theatre Royal, Westminster" (a misnomer, by the way, let us say with all gentleness), has prepared for the public a very commodious interior for the enjoyment of stage plays.

It is difficult to recognize the old outlines. The floor of the pit has been lowered about two feet (so that the old foundations of the iron columns supporting the boxes are seen, cased, above ground): the front of the stage, with new proscenium of less width, is brought forward 9 feet, and a balcony is thrown out from the dress circle 16 feet, so that the actor and the spectator from this part of the house are brought 25 feet nearer than they were formerly. Above the dress circle is a large amphitheatre, and behind that the gallery. A shallow balcony, formed by an open balustrade, with lights in front of it, occurs at the bottom of the amphitheatre, and is filled with plants. This prevent the occupants of the latter from looking down on to the balcony below, and would hinder the descent of an orange peel, should mischief jerk it. The seats in the dress balcony give plenty of room (about 4 feet of depth, including the chair), and are very comfortable. The admission to these is the highest, and is yet but 3*s.*; the entrance-money to pit-stalls and amphitheatre, unless previously secured, being 1*s.* 6*d.* The pit, with wide seats, is admitted to for 1*s.* Care seems to have been taken to arrange all the lines of seats so that the floor of the stage may be everywhere commanded. A large sun-light burner, slightly below the line of ceiling, takes the place of a chandelier, and is screened to some extent by a fringe of glass drops. The only peculiarity about the float is, that extra light is obtained in the centre, to the extent of 7 feet or 8 feet, by having the burners there closer together.

Mr. Boucicault, writing of his views on the subject of the ventilation of theatres, says:—"The systems of ventilation in theatrical use are all defective, nor have we been able to introduce that which alone is perfect. Underneath the entire floor of the pit should be constructed a chamber, lined and floored with galvanized iron, to keep out the damp. This chamber is in connexion with the roof by means of four large air-shafts and four open fireplaces with their respective flues. The flooring of the pit forming the ceiling of this chamber is laid with open joints, thus admitting either cool or warm air, as the chamber below is heated by the fires or cooled through the air-shafts. The wide extent over which the cool or warm air is thus admitted precludes all possibility of draught, and the process in either case is insensible. The ceiling of the auditorium should be made of wire gauze, such as is used in window-blinds. It is stretched on a strong wire frame, which has been previously modelled into the proper form—that is, a very oblate dome, or an inverted saucer-shape. This ceiling will take decoration like canvas, and is opaque when lighted as usual from below, or may be rendered transparent by lighting it from above. It is suspended by strong rods from the roof timbers, and guyed steadily in its place, whence it can be let down to be redecorated or cleaned, or taken up without trouble. Over its centre surface above, and between it and the roof, is spread a light blue woollen cloth, which is perforated by the suspending rods, kept stretched by them, and works up and down upon them. This damper is raised by lines, or allowed to fall as the ventilation may be required more or less in degree. If allowed to lie on the wire gauze, it stops the airway altogether."

We need not now stop to discuss these views, as in the present theatre the manager was not able to carry them out. There are flaps above the ceiling which open to the external atmosphere when needed.

The decoration of the auditorium is confined to flat tints, chiefly white and sky-blue, panelled with gilt mouldings, and smartened by means of artificial flowers proceeding from cornucopiæ on the front of the balcony. The background of the boxes is pink. A space at each end of the orchestra is to be filled with flowers and shrubs around a small ornamental fountain.

Considerable improvements have been made upon the stage, and the ground below it has been removed so as to get a depth of 19 feet for machinery and scenery, the bottom being concreted to keep out the water. The old painting-room having been removed to make way for new green-room and dressing-rooms next New Palace-road, where a new stage entrance has been opened, a hanging floor or bridge has been erected at the back of the stage, balanced with weights, with two painting-frames, one on each side of it. Under special circumstances this floor can be brought down to the proper level to form part of the scene. The works have been chiefly executed by Messrs. Patrick & Son; Mr. R. W. Griffiths being the architect.

Of Mr. Boucicault's intentions for the future, such as improved entrances and extensive lounging and refreshment-rooms on the site of the houses nearest Westminster Bridge, we need not at present speak. He has a lease for forty-four years, and holds under the Archbishop of Canterbury.

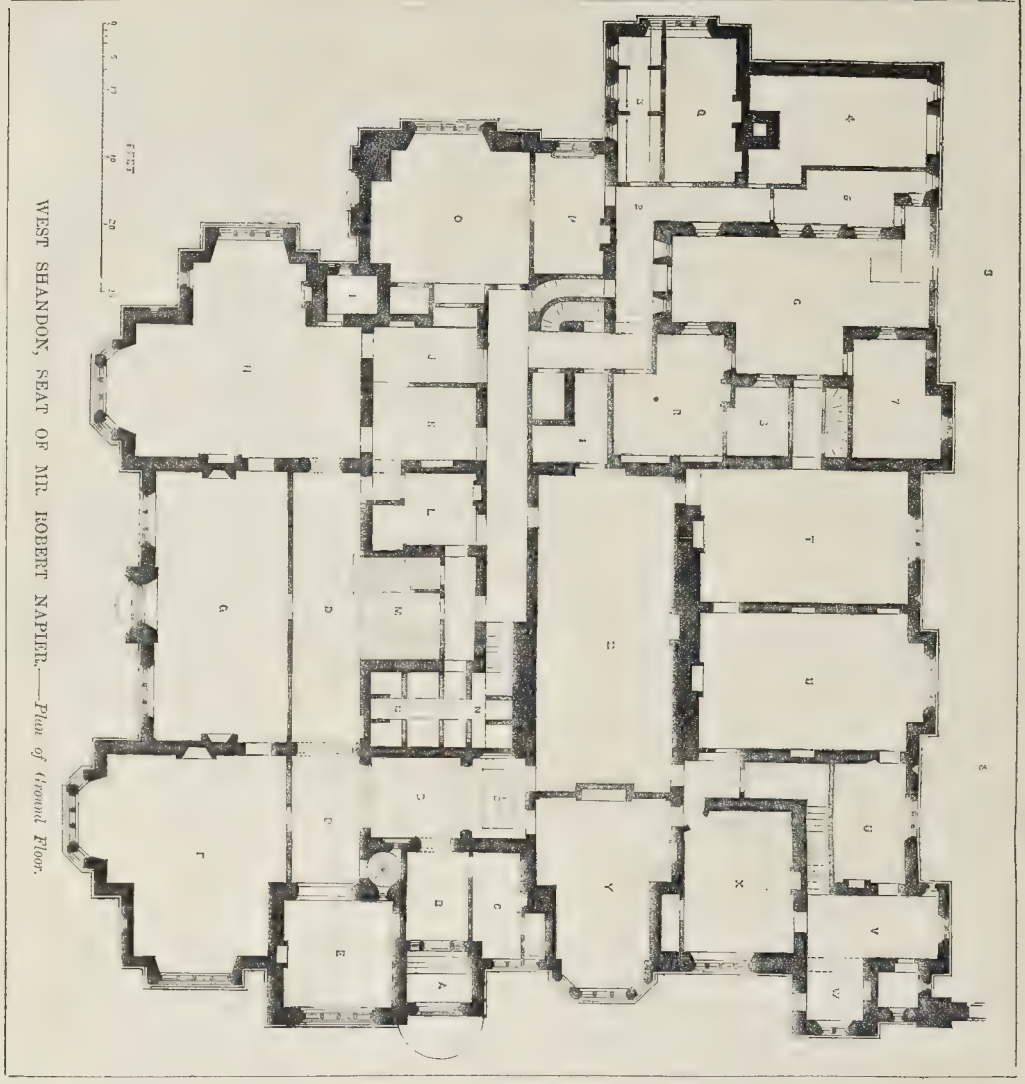
The house opened on Monday, the 22nd, with "Parents and Guardians," and "The Siege of Lucknow."

STAINED GLASS.

Glasgow Cathedral.—Another window has been fixed in its place in the choir, thus completing the decoration of that part of the structure. It represents "The Resurrection," and is from the designs of Schraudolph. In the centre of the window is seen the angel who has rolled back the stone from the door of the tomb. He is gazing upwards at the figure of the Saviour, who rises by effortless will, in robes of light, his face turned heavenwards; in his right hand the palm of victory—victory over sin and death. At the feet of the angel are two of the soldier guardians of the tomb—one insensible: the other, in terror, covers himself with his shield. Beneath is the simple text, "He is risen." On either side of the central picture, figures of angels bear the texts, "Glory to God in the highest," and "O Death, where is thy sting? O Grave, where is thy victory?" The tomb is of a circular form, allusive to the earth. By next week the lancets of the former Lady Chapel will be completed by the erection of two painted windows behind the tomb of Bishop Law. These windows represent St. Stephen and Timothy. They are by Henry Ainmiller. Another window has arrived, which will be erected in the nave shortly. The subject is "Noah," and the artist George Fortner.

WATER-COLOUR PAINTERS' LANCASHIRE RELIEF FUND.

The water-colour artists have responded handsomely to the appeal made to them; and it now rests with the public to turn this kindness to account. In the German Gallery, New Bond-street, will be found 300 water-colour paintings, including works by Messrs. Harrison Weir, Dillon, Leitch, Webnert, R. Redgrave, R.A.; Percival Skelton, R. Tucker, Louis Haghe, McKewan D. Cox, jun.; Vacher, W. Cave Thomas, J. H. Mole, Henry Warren, Mrs. Jones (of Pantglas); W. Bennett, Cuthbert Bede, H. K. Brown, James Fahey (who is acting as honorary secre-



WEST SHANDON, SEAT OF MR. ROBERT NAPIER.—*Plan of Ground Floor.*

tary); C. W. Cope, R.A.; F. Goodall, A.R.A.; L. W. Desanges, Edmund Warren, Alfred H. Taylor, Henry Tidey, W. Telbin, Edward Corbould, E. B. Jones, Absolon, H. O'Neill, A.R.A.; and many others.

As we have already mentioned, subscriptions of one guinea each to the full value of the works will be raised, and each subscriber will be entitled to one share in the allotment of the paintings for each guinea subscribed. The whole process, less working expenses only, will be paid over to the committee for the Lancashire Relief Fund. No time should be lost in carrying the scheme through.

THE LATE MR. JOHN WEALE, ARCHITECTURAL PUBLISHER.

Many of our readers will hear with regret of the death of Mr. Weale, of High Holborn, who has been for many years connected with architectural publications. Some remarkable "Statistical Notices of Works on the Fine and the Constructive Arts," circulated by Mr. Weale last year, and to which we drew attention at the time, showed that while his career had been a struggle, it was also a labour of love, and so had brought its delights. He had expended at his own risk in publications 209,502*l.*, and at the risk of authors, 29,695*l.* On his admirable "Rudimentary Series" alone he had risked about 50,000*l.* This, as we have heard from his lips more than once, has proved a very successful venture. His death took place on Thursday, the 18th instant, and resulted from congestion of the lungs.

WEST SHANDON, ON THE GARELOCH, SCOTLAND.

West Shandon, the residence of Mr. Robert Napier, the eminent engineer and ship-builder, is delightfully situate on the banks of the Gareloch, an arm of the river Clyde, about thirty miles west from Glasgow. The house contains a fine suite of rooms, embracing lofty dining and drawing rooms; the former being 34 feet by 29 feet; the latter, 30 feet by 26 feet, with library between, 40 feet by 20 feet; all communicating. Adjoining these are the large picture-gallery, 47 feet by 20 feet, and two other galleries, each 30 feet by 20 feet, all lighted from the roof. These galleries contain some rare and beautiful pictures by the ancient masters; also, an elaborate collection of old Raffaelle, majolica, and Wedgwood ware; old Venetian glass, fine Sèvres and Dresden China, Limoges enamels, and a great variety of articles of *vertu*, all carefully arranged and classified in cabinets. The style of the external architecture of the house is a modification of the Elizabethan; with large oriels and bold projecting masses, which produce an agreeable effect, in conjunction with the broken skyline given by the roof and turrets. The house, although begun in 1851, has been finished but recently.

REFERENCES TO PLAN.

A. Porch.
B. Entrance-hall, 16 feet by 14 feet.
C. Cloak-room, 15 feet 6 inches by 7 feet.
D D D D. Corridors.
E. Sculpture-gallery, 16 feet by 16 feet.
F. Drawing-room, 30 feet by 26 feet.
G. Library, 40 feet by 20 feet.
H. Dining-room, 34 feet by 29 feet.
I. Plate Safe.
J. Butler's Pantry, 14 feet 6 inches by 8 feet.
K. Butler's Room, 14 feet 6 inches by 11 feet.
L. Butler's Bedroom, 14 feet 6 inches by 10 feet 6 inches.
M. Principal Staircase.
N. Wine-cellars.
O. Kitchen, 20 feet by 19 feet 9 inches.
P. Scullery, 18 feet by 10 feet 6 inches.
Q. Servants' hall, 20 feet by 11 feet 6 inches.
R. Housekeeper's room, 18 feet by 16 feet.
S. Store-room, 10 feet 6 inches by 9 feet 6 inches.
T. Picture-gallery and billiard-room, 30 feet by 20 feet (lighted from the roof).
U U. Museums of majolica and Raffaelle ware, &c., 30 feet by 20 feet, and 18 feet 6 inches by 10 feet 6 inches (lighted from the roof).
V. Dressing-room, 19 feet 6 inches by 9 feet 6 inches.
W. Clock-tower.
X. Bed-chamber, 21 feet by 16 feet.
Y. Breakfast-parlour, 24 feet by 20 feet.
Z. Picture and organ gallery, 47 feet by 20 feet (lighted from the roof).
1. Engine for organ.
2. Kitchen passage.
3. Larders and pantries.
4. Coal-cellar, 27 feet 6 inches by 12 feet 6 inches
5. Larder, 18 feet by 8 feet.
6. Open yard.
7. Baking-house, 18 feet by 12 feet.
8 8. Carriage approach to stables, &c.



WEST SHANDON; ON THE GARELOCH, SCOTLAND.

THE MINES AND MINERS OF THE UNITED KINGDOM.*

BACK in those dark days, where the guiding light of history has not penetrated—where we are aided alone by the uncertain flickerings of wild traditions—British mining has its origin. The Tyrian navigator, in all probability, reached these shores, and traded with our forefathers for the tin which was employed in the manufacture of those bronzes which were so prized by the ancient monarchies of the East, and which now are prized as antiquities in our own museums. It is true this is doubted by one of our high authorities. But Sir George Cornewall Lewis, in his "Astronomy of the Ancients," has only opened a door which he has found himself unable to close; and he has left the subject of our commerce with the Phœnicians in a sadly disturbed and most unsatisfactory state. The evidences of mining, by that people whom we usually distinguish as the ancient Britons, it must be admitted, are obscure. I have, however, pursued the inquiry for more than twenty years, and have never lost an opportunity of examining any work, assigned by tradition to the pre-Roman period; and I feel assured of the existence of the rude works of a rude people, to which I can now point as satisfactorily indicating the labours of our British forefathers.

The Roman mines in Cardiganshire, in Shropshire, and some other counties, show us that the followers of Julius Cæsar sought with great industry to render the natural treasures of Britain available for useful ends. The inscribed pigs of lead, and ingots of copper, which have been discovered and preserved, acquaint us with this, and prove the Romans to have been not only successful miners, but skilful metallurgists. From the departure of the Romans, after their four hundred years of occupation, we have no reliable evidence of the progress of British mining for upwards of five centuries.

It is, however, certain that mining operations must have been prosecuted during this period, as we find the tinners of Cornwall and Devon of sufficient importance to obtain from King John, in the third year of his reign, a charter granting them especial, indeed tyrannical, privileges.

Presuming, it would appear, upon the patronage bestowed on them, they assumed to themselves extraordinary powers. We find a petition to Parliament, in the first year of the reign of Edward I., asking for protection from the incursions of the miner, stating, "The said tinners do daily dig and claim to dig in every species of land, as well in tilled as in other lands, and destroy houses, meadows, and woods, and divide and turn the course of water, running as well to mills as elsewhere, throughout the whole country, to the great destruction and dispersion of the said commonalty."

At a later period several of our monarchs gave every encouragement to mining operations, and Queen Elizabeth persuaded many German miners to come to this country, to whom she granted free right of search for minerals over the most important mining counties. The purpose of this Queen was to introduce a better system of exploration than that which then prevailed. From this period the progress of our mineral industries is tolerably well defined, and we may record a steady advance in the rate of production, until we find the value of our minerals, exclusive of building stones and clays, to have been, in 1861, 34,602,853*l.*

The thoughts of men, therefore, have been turned to the mineral conditions of these islands for more than 2,000 years. In that period the *art* of mining has improved; and the engineering appliances which have been brought to bear upon the ventilation and the draining of mines are fine examples of mechanical ingenuity. The *science* of mining, however, can scarcely be said to have, as yet, an existence. In 1856 Mr. John Taylor, who must be regarded as a good authority, stated, before a committee of the House of Commons, "that there were no greater facilities for ascertaining the productive character of a mine now than formerly. The difference was simply in improved machinery. Our knowledge was not greater than that of our forefathers." Whatever was said in 1856, is true in 1862, and it is a sad reflection that it is so.

When the powers of the mind have been directed to any peculiar set of natural phenomena for a prolonged period, we usually discover in hypotheses advanced, and in theories more or less supported by facts, attempts to explain the causes which have been active in producing the effects observed. There is a curious absence of this in relation to mining. Beyond some very undefined notions that fire played an important part in the formation of minerals, or that mineral veins have some analogy to the veins in the animal body, or the branches of a tree, no hypotheses have been hazarded by miners proper. A few men, educated in the schools of the Continent, and two or three professors of science in this country, have, it is true, promulgated their opinions; but, until Werner published his theory, they advanced but little beyond the creations of fancy.

The psychological influences of subterranean toil form a strange but interesting subject of study. These, and the effects of that continued uncertainty as to the reward which labours of the severest kind are to receive, are distinguishingly marked on every miner. In occult powers they are believers; and when, about a century since, the "Divining Rod" was introduced into Cornwall as a means for finding mineral lodes, it was eagerly seized upon; and, to the present day, several families are supposed to possess remarkable powers as diviners, or, as they are commonly called, "dowsers." The most elementary laws of science are still a book sealed to the large majority of miners; and while they are, of all men, themselves the most theoretical, they always meet any attempt to explain phenomena upon the evidences of inductive research, by pronouncing the explanation to be a "theory," which is of no value to a "practical."

We therefore find that the means adopted for determining the value of a mineral district, or of a metalliferous vein, are of the most uncertain character. The task is committed to men who have only their prejudices to guide them. By prejudices we must be understood to signify crude opinions, formed from mere experience—an empirical knowledge of the most imperfect kind. "Without principles, one mining agent recommends a trial to be made, which another rejects as unworthy; consequently, should there be funds at command, and a sufficient period of time allowed to elapse, no portions of the veins or lodes are left untried; and practically, the art of mining has degenerated into a mere try-all system."

The author whom we have quoted (Wallace), himself a miner, continues:—"The impossibility of arriving at any knowledge of practical value respecting ore deposits in veins is avowed by those who, with singular inconsistency, attach the greatest importance to individual experience. Even some occupying high distinction as directors or proprietors of mines affirm, without qualification, that it is impossible to see through solid rocks; or they summarily dismiss further considerations on the subject by remarking that the old adage current among miners expresses an important truth, namely,—

'It is only by cutting the ground
That the metal is found.'

The Cornish miners express their doubts by a similar phrase:—

'Where it is—there it is.'

If these are not the apologies of indolence and ignorance, they certainly are the utterances of despair."

It must be admitted that amongst the miners there is an entire absence of any method by which a knowledge may be obtained of the causes leading to the production of mineral deposits; while the speculations of those philosophers who will not endure the toil of subterranean investigations are wild, and consequently valueless.

The natural consequence of this imperfect knowledge is, that all mining operations are necessarily attended with much uncertainty. From time to time a most productive mine is discovered. The Devon Great Consols, first known as Huel Maria, has paid 826*l.* dividends upon every share; one pound only having been paid for shares now worth 490*l.* each. Upon the shares of South Caradon, near Liskeard, the trifling sum of 25s. only was ever paid: the last price of those shares was 390*l.*; and 391*l.* profit has been paid on every share. * * * * *

I have rapidly sketched the conditions which exist at the present time in relation to the mining operations in this country, in especial relation to the amount of knowledge which has been brought to bear on this important subject. I have endeavoured to direct attention to the fact that during a long period of time no advance has been made in our knowledge of the phenomena of mineral deposits; to show how purely speculative have been nearly all the explanations which have been published; in fact, to insist upon the position that empirical knowledge only has been brought to bear on a subject which materially connects itself with the prosperity of the land. I have approached the subject in the most entire independence: I am unbiassed by any interest: my desire is purely and simply to aid in the introduction of some system which shall remove mining from that realm of speculation in which it has been suffered to remain.

It is important, in the next place, ere proceeding to examine the question, Can anything be done?—to see if the value of the product is deserving that attention which is necessary to insure a more satisfactory result. By the continuous labour of some years I have succeeded in securing for this great mining country a statistical record of our mineral produce, which is not excelled by that of any country in the world. The results for the last three years are shown in the following tables:—

Quantities of Coal raised.

	1859. Tons.	1860. Tons.	1861. Tons.
England	53,897,115	61,017,460	63,870,123
Wales	7,662,350	8,005,313	8,561,021
Scotland	10,300,000	10,900,500	11,081,000
Ireland	120,300	119,425	123,070
Total for United Kingdom	71,979,765	80,042,698	83,635,214
Estimated value	£17,994,941	20,010,674	20,908,803

General Summary as to Minerals for 1861.

		Quantity.	Value.
			£.
Tin	Tons.	11,640	725,550
Copper	,,	231,487	1,427,215
Lead	,,	90,696	1,136,249
Silver Ore	,,	29	1,471
Zinc Ore	,,	15,779	31,113
Pyrites	,,	125,135	79,715
Arsenic	,,	1,450	10,875
Nickel	Cwt	16	24
Wolfram	Tons.	8	29
Antimony	,,	15	45
Manganese	,,	925	2,925
Sundries: Gossan, Ochre, &c.	,,	3,016	3,016
Iron Ore	,,	7,215,518	2,302,371
Coals (sold and used)	,,	83,635,214	20,908,803
Other Minerals	,,	2,222,602	880,114
Total Value of Minerals produced in 1861			£27,589,525

Metals produced from British Minerals.

		Quantity.	Value.
			£.
Gold	Oz.	2,784	10,616
Tin	Tons	7,450	910,762
Copper	,,	15,331	1,572,480
Lead	,,	65,643	1,445,255
Silver	Oz.	569,930	144,161
Zinc	Tons.	4,415	79,101
Iron, Pig	,,	3,712,390	9,280,975
Total Value of the above			£13,443,550
Estimated Value of other Metals			250,500

This enormous amount of wealth is annually produced from our rocks by the exercise of human industry.* The lamentable casualties, however, which are continually recurring, prove that there is yet much to do in the way of instruction; and let me ask is it not in evidence that the great loss of life which is shown by the colliery inspector's report, amounting to about 1,000 in each year, as the following summary for ten years will show, is chiefly due to the ignorance and consequent obstinacy and recklessness of the working men:—

Summary of Lives Lost in the Coal Mines of the United Kingdom for the Ten Years ending 1860.

Years.	Lives Lost
1851	1,062
1852	671
1853	755
1854	779
1855	728
1856	1,033
1857	1,119
1858	931
1859	904
1860	1,108
Total lives lost	9,090

Schools for miners were established at such a distance from the mines and the miners' homes, that it was impossible for the man who had laboured eight hours in the dark recesses of the earth, and toiled for an hour on perpendicular ladders in climbing to the surface, to attend the school. The effort, it appeared to me, should be made, seeing that the miner could not go to the school, to take the school to the miner. I have worked to this end, and organized the Miners' Association of Cornwall and Devonshire. With

* Condensed from a paper read by Mr. Robert Hunt, F.R.S., at the Society of Arts.

* The total quantity of minerals carried on railways in the United Kingdom last year amounted to 63,694,434 tons.—ED.

very limited subscriptions from the mineral proprietors and from others connected with the mines, ten classes have been established in as many mining centres. In these classes are taught, by qualified teachers, chemistry, mineralogy, mechanics, surveying, and mechanical drawing. Each of these classes is well attended by working miners; and the applications made to the council of the Miners' Association to establish yet other classes in other districts are urgent; and, unfortunately, at present beyond the means at their disposal.

That we have to contend with the prejudices of the older miners is certain. In Great Britain there are—

Coal mines.....	3,000	employing	250,000 persons.
Iron mines	uncertan	,,	27,000 ,,
Copper mines	167	,,	22,000 ,,
Tin mines	148	,,	14,500 ,,
Lead mines.....	390	,,	21,500 ,,
Zinc and others....	—	,,	1,000 ,,
Making a total of			336,000 persons

actually engaged in mining operations: this is exclusive of quarries of all kinds.

Out of these 300,000 there certainly are not more than 300 under any such course of instruction as is necessary to fit them properly for the labours to which they are destined. We boast of our educational progress. We teach reading and writing in every, the remotest, corner of the land, and there we stop. We instruct our children in a knowledge of the signs by which ideas are expressed, but we leave them to gather ideas by any accidental means which may present themselves. We put tools into the hands, but we trust to chance for a knowledge of the way to use them.

A HINT FOR THE ALTERATION AND USE OF LARGE BUILDINGS IN THE NEW METROPOLITAN CATTLE MARKET.

The question of appropriating a sum of money, amounting to between forty and fifty thousand pounds, which some years ago was voted by the corporation of London, for the erection of healthy dwellings for the industrious classes who are engaged in work in the City, and who require a home at no great distance, has been again brought under the notice of the common council; and, with considerable unanimity, that body has submitted the subject to the consideration of the proper committee.

In the old Smithfield Cattle-market, when it was in all its glory, there were several inns, some of them of considerable antiquity, which did a large amount of business, not only on market days, but at other times; for country people—farmers and others—who had business in town, were in the habit of staying there; and on all days there was much traffic through Smithfield.

On the removal of the market to Islington, the quaint old-fashioned inns of Smithfield lost a large amount of custom; but instead, huge structures, splendidly built, bearing the same signs as were so well known in the ancient market, were opened as hostelries and hotels in the new place. On market mornings some of these are busy scenes; but for the remainder of the week they are almost deserted; and other buildings, which have been reared at a large cost, have never been used as inns at all: nor is it likely that they will be; for constantly the quantity of dead meat brought from distant places by the railways is increasing, and is likely still further to increase; particularly when the Smithfield dead-meat market and the means of transit by rail from all parts to this central spot are completed.

There is also a change in the manner of transacting business between the breeders, salesmen, and buyers of cattle and sheep. There is now very little necessity for farmers and others to come constantly to town, often by slow journeys, to superintend the sale of their stock; for agencies are so well established that business can be just as well managed without their attendance. It is no longer necessary for farmers and others to ride along dangerous roads, with heavy money-bags and large rolls of bank-notes in their possession. But now the money is paid, mostly by cheques, into the banks which are in the market; and then advice of the receipt of money can be sent by post or telegraph, giving the right persons credit with the country branch and other banks for the value of their produce. Even most of those who do come to market make no long stay: they leave by an early train, or may be travel all night, and return directly after the business of the market is ended. In consequence, some of the large houses provided are totally without use: some of these are, in a manner, distinct from the market, and have even now very little communication with it. At very little trouble and cost, they might be safely enclosed, and entrances might be made from the grounds to the north. If this were done, and certain interior alterations made, it is suggested that many families might be well accommodated, and what is now a complete loss made a matter of profit.

There is perhaps no site in the whole metropolis so healthy as this. From every side gentle slopes lead away: the drainage is perfect: the washing or cleaning of the area of the market is so perfectly done that no tint or impurity is allowed to remain, either in winter or summer. The Caledonian-road Railway Station, from Blackwall, City, &c., is close at hand; and other lines will shortly converge to the neighbourhood.

With the buildings already in existence, and the erection of others, provided the demand for them should increase, we might here have healthy lodgings provided for a large number of industrious persons who are now living in unwholesome pent-up places.

It would be well for the City authorities to look at this matter in a practical way, and consider in what manner the buildings mentioned could be converted; the cost of doing this, and the probable rate of profitable return.

THE DEPARTMENT OF PUBLIC WORKS IN INDIA.

Sir, — The letters of your correspondent "Indian" have been read with much interest in India; and I can testify that his remarks upon the mismanagement of public works apply as well to Bengal as to Madras.

"Indian" does not allude to the fact that since 1859 about ten young civil engineers have been sent out yearly, mostly to the Bengal presidency. These young men are selected by competition; and as the class who furnish the candidates are mostly readers of the *Builder*, permit me to open their eyes a little as to the real value of those appointments.

The chief points of the agreement are, an obligation to serve for ten years; not to engage in any trade or business whatever; with the penalty of dismissal and forfeiture of one year's pay for breach of covenant, drunkenness, insubordination, or other misconduct. In return, Government promise a free passage, a year's pay, at 200*l.* a year, while studying at college, with free quarters, and then transfer to the effective establishment, with the rank to which, in the opinion of Government, his attainments may entitle the probationer; the lowest grade being 300*l.* a year. He is then to be entitled to all the rights and privileges of pay, pension, promotion, and leave, appertaining to his rank.

Now for a commentary on all this. The free passage, instead of being first-class, such as officers receive, costing about 90*l.*, is a contract affair, from 40*l.* to 50*l.* Generally the vessel is not a regular passenger ship, or she carries some cargo, such as creosoted sleepers, which makes the owners glad to take passengers at any price. Of course the provisions and arrangements are most inferior.

Next, the college plan has failed, and the probationer is transferred immediately on landing to the effective grade, invariably with the lowest rank, of 300*l.* a year, which, deducting houserent and keep of houses—not required at college—is little better than the 204*l.* After a year's service, one would suppose that the engineer was still entitled to be posted to the grade to which in the opinion of Government his attainments might entitle him; but it is not so. The Government have officially ackowledged these officers after their year's probation to be entitled to the second grade from the bottom, 420*l.* a year; but have refused to give them the step on the ground that they have no vacancies.

Well, what are the "rights and privileges" as to pay, promotion, &c.? None at all! The Government supply to candidates a table of the different grades with their salaries; but they reserve the power of diminishing these at pleasure, and have done so already. As to promotion, the regulations say that two officers of each grade are to be promoted, if deserving, in each province half-yearly. But, by recent orders, the establishment of each grade has been reduced, and no promotions can take place till the surplus number in each grade has been worked off. In some instances promotion is absolutely stopped for the next three or four years. Besides this, the numbers of the lower grade—300*l.* a year—are fixed at about three times that of the next higher—420*l.* As the number of vacancies in the 420*l.* grade, even when reduced, will never exceed about one-third of the whole, it follows that only one-ninth of the 300*l.* grade can be promoted yearly; in other words, that the *average* time passed in this grade will be nine years! Further, every Royal Engineer officer, and every military man, has to be provided for first. Imagine, then, what the chance of promotion is for a civilian without friends or interest.

Again, when by patience the grade of first-class assistant, 420*l.* a year, is reached, before the next step, special assistant or executive engineer, fourth class, with 600*l.* a year, can be obtained, the P. H. examination in Hindustani has to be passed. The candidate must read and translate books in true characters,—Persian and Devanagari, and manuscripts in Ta'lik, as well as write exercises in these characters, all in a high polite language, quite different from that spoken in every-day life. This examination requires six months' steady reading, devoting one's whole time to it; and it is reported that it will be shortly made much more severe. Considering that an assistant engineer is in the saddle, in office, or working in his own quarters from 4 a.m. to 6 or 8 p.m., how is he to find time to prepare for it? The fact is, it is an ingenious device for stopping the promotion of civilians. Military men must pass it before entering the department, so it does not hurt them.

After pay and promotion, comes leave. Theoretically, each officer has one month's leave each year on full-pay; but, as this is not granted if any detriment would be caused to the public service; and as assistant engineers would cause great inconvenience by leaving their work without a substitute, which Government refuse to provide; practically, an assistant engineer scarcely ever gets leave at all. And in six years, you may take six months' leave on private affairs, on one-third pay,—if you have saved enough out of your very small pay, first, to pay your whole expenses for six months, for you get no pay till your return; and, secondly, to give security for the whole of the accounts unadjusted with you, varying from 2,000*l.* to 10,000*l.* The last rule has only just come out; and, if interpreted in its literal meaning, will stop leave altogether.

Sick leave I need say little about, except that you get half-pay for six months; one-third for eighteen months; and, if you choose to go and get sick any more, from overwork and exposure, within three years of your last sick-leave, why you must quit the service, an invalid for life, without *a penny of pension*, or any compensation whatever.

Lastly, as to pension. No pension is a matter of right: you are entirely at the mercy of the head of the Department, who can recommend Government to give or withhold it at pleasure. No pension whatever is given before twenty-five years' service.

N.B. I believe not a single officer has served in the Department, as an officer, for twenty-five years. No one can stand the hard work and exposure for such a long period.

No pension is given, even after twenty-five years' service, unless the applicant is disqualified for further service by blindness (which is very common in the Department to a partial extent), or confirmed ill-health.

No pension is given unless the applicant is quite unfitted for further work, until *thirty-five* years' service, and then only as a favour.

No pension is to exceed one-third of the average pay for the last five years' service; and in no case to exceed 400*l.* a year.

Any one who takes the trouble to compare these rules with those of the Civil Service clerks at home, will find that the latter, with a good climate, no responsibility, purely mechanical work, and very little of that, are very much better provided for than we, who, in ten or fifteen years, wear out our lives with incessant and absorbing work, fatigue, and anxiety, under the terrible sun of India.

Young men are apt to be deceived by the apparently high pay: 300*l.* a year sounds a good deal; but it is absolutely impossible for a young man in a military station in India to save a farthing out of this, let him be as frugal as he may. 100*l.* a year in London is fully equal to 300*l.* a year in India. Any one who has tried both, as I have, would much prefer the former.

The Government out here entirely ignore the covenant, and are perfectly indifferent to the written promises of a Secretary of State. They say in effect, if not in words, "What do we care for what the India Office told you? You have come out here, and can't get back. You must take things as you find them." The only thing

for us is, no doubt, to grin and bear it; but, with the hope of saving others from the same cruel disappointment, I have written this true and faithful account of the Department which Sir Charles Wood, and the officials at the India Office, paint in such glowing colours.

I must add one thing, to give the devil his due. Whatever jealousy is felt against us in official quarters; in private life we have been received and treated as gentlemen both by the members of our own Department and general society. Indeed, the Department of Public Works is looked upon as rather aristocratic than otherwise; swarming as it does with the Bengal Engineers, who are the crack corps in the country.

But this is a very small piece of bread to that intolerable quantity of sack (cloth?).

A VICTIM.

THE ARCHITECTURAL ASSOCIATION.

PROPOSED ARCHITECTURAL ALLIANCE.

A SPECIAL meeting of the members of the Architectural Association was held on Friday evening (the 19th inst.), to reconsider the propriety of joining the "Architectural Alliance;" Mr. Blashill, president, in the chair.

The requisition calling the meeting having been read, and also the report of the delegates from the Association who had attended the meeting of the "Architectural Alliance."

The President explained the course which the delegates had taken at the meeting in question; observing that he had been asked, as the representative of the only metropolitan society present, to take the chair on that occasion, but that he had declined to do so, on the ground that in his opinion the responsibility of inaugurating the proceedings devolved upon those who had convened the meeting. The rules agreed upon by the delegates had subsequently been discussed *seriatim* in the committee of the Association: the general meeting of the 14th of November had approved of the proposal to join the "Alliance;" and the meeting had now to reconsider the propriety of the resolution already passed.

Mr. E. L. Paraire observed that as he had addressed a circular to the members on the inadvisability of joining the "Architectural Alliance," it might perhaps be desirable that he should state the objections which he entertained to the proposal for joining that Alliance at present. A meeting of delegates was held on the 6th of June last, and four gentlemen were appointed to represent the Association at the conference. Their instructions were that they were neither to grant nor to refuse the adherence of the Association to the Alliance, but that they were to listen, to hear any explanations, and to take any part in the discussion that might seem to them to be desirable. The four gentlemen attended accordingly, and they reported that they had listened, had heard explanations, had taken part in the discussion, and that they recommended the Association to give in its adherence to the Alliance. The fourth rule of the Alliance set out that it was to take cognizance of all matters affecting the interests of the profession; while the eighteenth rule declared that the Alliance could not rescind any of its rules, such power being reserved to a majority of two-thirds of the members of the Alliance at an annual meeting. Now, looking at the fact that the Architectural Association consisted of two hundred members, while all the other societies in alliance numbered together very few in excess of that figure, he had come to the conclusion that the Association would not be adequately represented by four delegates sent to the Alliance. Suppose, for instance, a proposal was made in the Alliance that the commission to be charged by architects should be 2½ per cent., how could it be said that the four members sent by the Architectural Association would be a fair quota when the other societies, the whole of whose members did not exceed 200, would have seventeen delegates present. The four societies which had already joined the Alliance were the Northern Architectural Association, the Bristol Association, the Manchester Association, and the Glasgow Association. They appeared to consist of ninety professional men connected with architecture, thirty-nine students, and eighty-four honorary members of various trades and professions; but should the Institute of Scotland and the Liverpool and Birmingham Associations join, the members in the several societies would be,—architects, 132; students, 79; and honorary members, 178; making a total of 389 only. He confessed that in his opinion it was difficult to ascertain the object or purpose of the Alliance. It appeared to take up the undefined position of adjudicating on all matters connected with the profession, but it seemed to be unable to define the character of its operations. When interrogated upon this point by some members of the council of the Institute, all it did was to hold up a sheet of printed paper, and say, "These are our rules." The Architectural Association was essentially a body of students and architects; and how, he asked, could they with any propriety join a body in which the honorary members out-numbered the professional, and who would have the privilege of discussing and deciding upon all matters affecting the interests of the profession. The Association had, however, decided, by a majority of *one*, that it would join the Alliance. It had also passed a unanimous resolution to assist the Royal Institute of Architects in ridding the profession of non-professional men. The ambiguous position in which the Association thus placed itself, had induced him to invite the members to reconsider their recent resolution. If the Association really desired to join the Alliance, let it be on a sufficient majority to warrant such a step; but, on the other hand, if the members really meant to support the Institute in raising the *status* of the profession, let them not join in a movement antagonistic to the vote of confidence in the Institute to which they had agreed on the 30th of last month. In conclusion, he moved, "That the resolution of the 14th of November, viz.—that the Architectural Association should join the Alliance—be rescinded."

Mr. Wimbridge seconded the motion.

Mr. Roger Smith (one of the delegates who had attended the conference of the Alliance) proposed as an amendment "that the resolution of the 14th of November, that the Association do join the Alliance, has the cordial approval of the meeting." He referred at some length to the various arguments brought forward by Mr. Paraire; and contended that the motion submitted by that gentleman was tantamount to a vote of want of confidence in the delegates. The gentlemen who had signed the requisition were, he thought, ungrateful. He held that it was a good thing to join the Alliance, because it would tend to promote harmony and good feeling among the various architectural associations throughout the kingdom; that it would lead to an interchange of ideas; to the circulation of such provincial papers as necessarily could not find their way into the professional journals; that it would enable architects and students to obtain local information with regard to the price of materials, labour, &c.; and that it would act as a common bond of brotherhood between metropolitan and country architects. He denied that non-professional persons would be able to sit in judgment upon purely professional matters, as they were excluded altogether from voting under such circumstances. As for the adjudicating power of the Alliance, it could, in fact, adjudicate upon nothing but its own rules. It was true that the Institute had not joined it; but he believed that if the Association were to take the initiative, the Institute would, in course of time, follow their example, as it had already done in the matter of architectural examinations.

Mr. Arthur Allom, in seconding the amendment, supported the view taken by Mr. Smith, and contended that the Alliance would be the means of assisting the architectural body in gaining the respect of the public. The contradiction which had been given to the assertion that non-professional members would be able to vote on professional matters had, in his opinion, removed the gist of the objections taken by Mr. Paraire to joining the Alliance.

Mr. G. B. New thought that Mr. Paraire was entitled to the thanks of the Association for ventilating the question; and added, that although he was favourable to re-opening the question, he could not, after the explanation given, vote for the motion.

Mr. Herring, Mr. Rickman, Mr. Capes, and Mr. Penfold supported the amendment, as did Mr. Mathews, who remarked that if the Alliance had not some metropolitan support, the probability was that it would "break up altogether."

After some further discussion,

Mr. Paraire replied, and handed in a number of proxies, which had been forwarded to him from persons desirous of rescinding the resolution to join the Alliance.

The President, however, decided that he could not receive them, as they had not been deposited with the honorary secretaries, in accordance with the rules of the Association.

The amendment of Mr. Roger Smith was then put; and, upon a show of hands, it was declared to be carried by thirty-one to seven.

A vote of thanks was subsequently passed to Mr. Smith, and the other delegates who had attended the conference of the Alliance.

The meeting of the Association announced in the programme for the 26th inst. will not be held.

ON ARCHITECTURAL COMPETITIONS.

GLASGOW ARCHITECTURAL SOCIETY.

AT a meeting of this society, held on the 15th inst.; Mr. Alexander Thomson in the chair; Mr. James Boucher read a paper on Architectural Competitions, in the course of which he gave an account of the course often taken by committees, and urged that they should at once appoint an architect, instead of inviting competition as a mere blind. In conclusion, he said,—I would submit a list of questions for the consideration of the members of a building committee:—Have I, in sanctioning this competition, been actuated solely by the desire of obtaining the best design? Do I consider the instructions given to competitors as binding on myself, and is it my intention to abide faithfully by them? Have I taken the advice of other committees who have passed through this ordeal, and do they recommend this as a right and proper step? Have I allowed myself to be influenced by any of the competitors? Will the congregation think it fair and honest to select the design which strikes my fancy, and not take steps to secure the best? Does my conscience tell me that it is right to accept of a design costing 4,000*l.*, when I have stipulated for one at 3,000*l.*? Have I ever thought that the ideas contained in unaccepted designs are no more my property than the goods in my neighbour's shop? Would my character for fair dealing be injured if I were to conduct my business as I conducted my competitions?—Should any of the architects now hearing me still resolve to abide by the present system, and run all risks rather than lose the opportunity of securing an occasional building, we have, for their special benefit, culled the following article from a very old work, now out of print, entitled, "Advice to ye students in ye profession o ye ancient craft o building an architecture, whereby ye may betimes become truthful in ye representation o ye great works o ye glorious ancient cities o Athens an o Rome, an may (wi ye guid hand o ye committee o taste) build up works o modern tymes which never was hereto seen before." "*Imprimis*—Mak ye elevation, an ye view in ye perspective well colored in ye most brilliant colors, ye sky wi ye flitting cluds, and ye fourground studdied wi ye regimentes o gay an valient soldiers; nor be unmindfu of ye guid kinges carrige, wi his prancin horses an runnin footmen, all o which do give life an great gaiety to ye scene, an cause great attraction to ye gentlemen o ye committee. *Secondo*—Ye elevation thus complete, trust to ye success wi ye committee, for though be it they advertize for ye plans, ye sections, ye estimates, they are of a verity more taken wi ye regimentes o gay and valient soldiers than ye plain lines, which do show ye great science and ye accommodation within ye building. *Terzzo*—Oblige ye committee wi ye estimate on ye lowest terms, an when ye walls rise, and ye genius is thereby made apparent, slight mention may be signified o hasty estimates, difficulties unforeseen, an exceeding great delays, which ye committee will duly consider, and maybe tack on two an a half per cent. extra, if not screw it fra ye builder."

After the reading of the paper, some general conversation ensued, in the course of which Mr. Campbell Douglas expressed his general concurrence with the views of the writer.

Mr. Gildard thought the architects ought to impose conditions when submitting plans, and say that they would compete only on those conditions. If these conditions were not approved of, then they should not compete.

Mr. Honeyman agreed with Mr. Boucher, except in one or two minor particulars. He thought some blame attached to the architects themselves; for in many cases, whether plans were asked or not, the committee were inundated with applications to compete, and solicitations to examine designs free of charge. Architects should not be astonished if the result of this undignified and degrading practice should be that committees valued the labours of competitors lightly when they themselves seemed to value them at nothing. Then, another thing for which committees had been blamed in unmeasured terms was, that as a rule they chose the most expensive plan submitted, however much it violated their conditions in regard to cost; but in this case also the certain remedy lay in the hands of the architects themselves, since nothing could be more unquestionable than that

if competitors did not submit designs which would cost more than the prescribed sum, committees would not have it in their power, however "unscrupulous," to act unfairly in this particular at least. He had not the slightest expectation that architects would ever agree to try this radical remedy, because they would—they could—never have sufficient confidence in each other. For the same reason he was now satisfied that the scheme he had on a former occasion proposed to them was quite impracticable. At that time he thought that the profession might agree to some rules which would in a manner compel its less conscientious members to respect the conditions of competitions. He now agreed with those whose opinions he valued, who pronounced that scheme Utopian. Indeed, they would believe in the completeness of his conversion when he said that he was now of opinion that architects had so little confidence in each other, and indeed such good cause for mutual distrust, that it was absurd to expect that they should ever carry out a combined effort to relieve themselves from the evils of which they so loudly complain.

Mr. Watt suggested that, if architects would agree to demand, as a necessary condition in all competitions, that the whole of the designs should be publicly exhibited after the selection had been made, they might be able to check a great number of the evils now existing. He deprecated the idea that architects deceived the public; and threw a great measure of the blame on committees.

Mr. Howatt thought that the course proposed by Mr. Watt might be of great practical benefit. He thought the essayist went too far when he asserted that competitions had hitherto failed to educe genuine merit or to advance architecture as an art; and mentioned the case of St. George's Hall and other instances to prove the contrary.

The chairman thought that competitions for churches and other works of that class were altogether inexpedient and ought to be discouraged, because the capabilities of the local architects were quite well known. He was of opinion that their only chance of reforming present abuses was to stand faithfully by each other, to unite on some broad principle, and to take up the position before the public of a consolidated body which must be dealt with, in its collective capacity, in all cases, as the second party to any arrangement regarding a competition.

WORKMEN'S CLUB-UNION.

Mechanics' Institutes failed to effect the objects in view; but the class above mechanics felt them so suitable to *their* wants that such institutes became successful in a sphere they were not at first intended for; and their general name of Mechanics' Institutes therefore was to a great extent a misnomer. Still, these institutes have done and are doing much good. It has become clearly advisable, however, to institute a new and special order of associations for behoof of *bonâ fide* working men, in which the experience acquired in the establishment of "Mechanics' Institutions" shall be made use of both negatively and positively, for the advantage of workmen. The "Working Men's Club and Institute Union, for promoting the social, mental, and moral improvement and recreation of the working classes," has been founded, under influential auspices, for the establishment and aid of such new institutions throughout the country. Lord Brougham, who was so mainly connected with the establishment of Mechanics' Institutions, is the president; and among the vice-presidents are many other influential names, beginning with Earls Spencer and Fortescue, and Lords Lyttleton and Calthorpe. The council, we are glad to observe, includes a sprinkling of intelligent ladies. The Rev. H. Solly is the secretary; and the offices are at 150, Strand.

The prospectus states that—

"This union is formed for the purpose of helping working men to establish clubs or institutes where they can meet for conversation, business, and mental improvement, with the means of recreation and refreshment, free from intoxicating drinks; these clubs, at the same time, constituting societies for mutual helpfulness in various ways.

It will be the aim of the council of the union to assist in extending or improving existing associations, which have in view objects of a kindred nature with the above, as well as to promote the establishment of clubs, or institutes, where no such associations may now be found. In order to consolidate and strengthen the action of these various associations, clubs, or institues, the council will invite them to become members of the union."

In their general remarks the promoters say:—

"The aim of the union in all cases would be to help working men to help themselves, rather than to establish and manage institutions for them.

The club-rooms in every locality will form the strongest counteraction to the allurements of the public-house. The desire for social enjoyment, and the love of excitement, are the impulses that habitually drive the working classes to visit the beer-shop. Music, also, which ought to purify and refine, is now extensively employed as a temptation to drinking and other vices. Until there shall be established in every locality an institution that shall meet these instincts, with superior attractions, but without temptations to evil, it is unreasonable to expect a great diminution in the drinking customs of the working population. This want the proposed clubs will supply.

Gradually the proposed clubs and institutes will become the houses of call for men in search of work, and will be the centres of various working men's societies, such as friendly societies, freehold and building associations, co-operative societies, circulating libraries for the district, temperance societies, and of any similar agencies calculated to improve the condition of the working classes.

These are no mere visionary ideas. They have been already reduced to practice, with most beneficial results, in Westminster, Notting Hill, Paddington, Norwood, East London, Shrewsbury, Leeds, Faversham, Lancaster, Carlisle, Southampton, and various other places. The Working Men's Club and Institute Union aims at multiplying such results by stimulating and assisting local effort."

A correspondent of the *Star*, speaking of the Southampton clubs (for there are now three of them there) says:—

"The first was opened in June last; and, in spite of long summer evenings and the distrust which at first existed, we had upwards of 700 men, engaged in sixty-eight different trades, join us before we had been established two months. To enable them to judge for themselves the first hall was opened free; but before a month had elapsed the working men themselves convened a meeting, at which upwards of 200 attended, and they decided by a unanimous vote to support it by a penny per week subscription. It is a very gratifying sight to see 100 to 150 labouring men (the great mass of whom are entirely beyond the reach of Mechanics' Institutes or Athenæums) assembled together in their working clothes, and with as much order and decorum as in a West-end club, engaged in reading, or in the various games provided for their pleasure.

Believing that labouring men and mechanics require relaxation as much, or more, than the classes above them, various games, such as bagatelle, dominoes, draughts, travelling maps, fox and geese, spillicans, puzzles, &c. (in fact, the games that we admit in our families), are freely encouraged. The by-laws against betting, gambling, and improper words are strictly adhered to; and the self-restraint and wholesome discipline exercised in this way alone is very important. They all seem contented, and learn to enjoy life without the stimulus of betting, drinking, or swearing.

The main secret of our success is that *we let them alone*."

The movement is an excellent one, and shall have our best wishes and efforts for its wide-spread and successful extension.

DEATH FROM FOUL AIR.

An inquest has been held at Easthampstead, touching the death of a labourer in the employ of the Marquis of Downshire. The deceased was a very healthy man, and went for the last time to bed in good health: three other men slept in the same room, which was only 10 feet 10 inches long, by 8 feet 10 inches wide, and 6 feet 7 inches in the highest part, without any fireplace, and only a little ventilation from a broken square of glass or two in the small casement window, and from the door, which was generally left open a little way. In the morning deceased was found lying on his stomach; his face directly downwards; his arms so folded as to encircle the face; the soft part of the nose bent or twisted sufficiently to close one nostril and to lessen the other; and the position was such as would allow a very limited supply of air. None of the other three men had heard the deceased make any noise or complaint during the night. Mr. Barford, of Wokingham, surgeon, deposed as to the position in which the deceased was lying, and that he believed death had arisen from suffocation, from the unwholesome air in the room, and the position in which deceased had slept. He was struck, when he went to see the body, with the very confined apartment, which was scarcely wholesome space for one person to sleep in. Verdict, "Accidentally Suffocated."

The *Reading Mercury*, in reporting this case, makes the following remarks:—

"Will such a case as the above not open the eyes of agriculturists and landlords to the great necessity of providing a better class of cottages for their labourers? Will not the details of this accident stir them up to a higher sense of their duty in this matter? Will they continue, after reading them, as Mr. Tucker has said, to house their pigs, and give better ventilation to their beasts than is afforded to their labourers, out of whose bone and sinew and mental capacities they so largely profit? We hope not. Some noble and philanthropic men have already commenced remedying this sad state of things; and we trust they will be followed by others until a full measure of improvement is effected. Such an occurrence as the above also suggests the desirability of a close inspection of those cottages where lodgers are kept, and better sanitary regulations should be enforced than are detailed in this case."

ALBERT MEMORIALS.

The Manchester Memorial.—The Manchester committee have decided upon the site at the corner of Piccadilly and Portland-street, as the most suitable for the erection of the memorial. This site was recommended by Dr. Fairbairn, and it is understood to have the approval of the donor of the statue.

The Knaresborough Memorial.—The memorial window in Trinity Church, Knaresborough, has been fixed. It is from the establishment of Messrs. Hardman & Co., of Birmingham; and the subjects are represented in the five principal lights; viz., —The Nativity, The Transfiguration, The Crucifixion, The Resurrection, and The Ascension. The bottom middle light has the shield and arms of his Royal Highness. In the tracery of the window are emblems and monograms of the Holy Trinity. The cost of this memorial is 270*l.* The tower, we may here note, of this church, which has remained unfinished for nearly six years, is ready for the spire.

A Prince Consort Oak.—The Rev. N. B. Yonge, the curate of Overthorpe and Warkworth, near Banbury, has caused an oak to be planted at Overthorpe, in memory of the Prince.

A Suggestion from Glasgow.—Messrs. A. & G. Thompson propose the erection of "a building on the model of the Temple of Theseus, Athens, which should contain a statue of the Prince." The proposal of a statue screened by a "temple," as it is called, as a memorial of the Prince, is not new, as our readers very well know.

COMPETITIONS.

Manchester.—The ecclesiastical district of St. Michael, Manchester, is about to be provided with a new church, at the sole cost of a gentleman whose manufactory is situate in the neighbourhood. He invited four architects resident in Manchester to submit designs, and furnished the competitors with full instructions of the requirements. The choice fell upon the design of Mr. J. Medland Taylor, and the church is to be built forthwith, under his superintendence.

Leicester.—With reference to the hope we expressed as to the competition for Messrs. Hodges & Sons, Mr. Drake writes,—"Every competitor (not successful) received 10*l.* when his drawings were sent back; an example worthy to be followed wherever limited competitions are desired."

RE-OPENING OF LEEDS PHILOSOPHICAL HALL.

After an enlargement and renovation, which have occupied several months, the Hall of the Leeds Philosophical and Literary Society has been re-opened with an inaugural address by Professor Owen in the new lecture theatre of the institution. The entrance to the hall is in Park-row, by a glazed porch of Ionic columns. The entrance saloon is 43 feet 6 inches by 31 feet 6 inches, and 18 feet high. This was the old lecture theatre. The principal staircase is 48 feet 6 inches by 19 feet 4 inches, with the steps and landings 6 feet 6 inches wide. The lecture theatre is 55 feet 8 inches by 44 feet 8 inches, and will accommodate upwards of 400. The seats are 14 inches wide, and 3 feet wide from back to back, with ornamental cast-iron standards at the ends, and oak elbows. The ceiling is panelled, and the cornice perforated for ventilation, communicating with ventilating flues built in the walls and continued into the roof. On the right of the lecture theatre, next Bond-street, is the library or council-room, 44 feet 8 inches by 21 feet, and 18 feet high. On the first floor access is obtained to the old museum, 43 feet 6 inches by 31 feet 6 inches, the old geological room 50 feet 6 inches by 15 feet 8 inches, and the new geological room 15 feet 6 inches by 15 feet 8 inches. These two last rooms lead into the new museum, 77 feet 6 inches by 44 feet 8 inches, and which extends over both the lecture theatre and library. Staircases communicate with the galleries in the museums, and also with the curator's work-room, 50 feet 6 inches by 15 feet. This is a mezzanine floor. The building is warmed throughout by hot water pipes, arranged by Messrs. Haden & Sons, of Trowbridge; the gas-fittings by Mr. Hall; and all the oak book-cases and oak museum fittings by Mr. J. Hall Thorp, of Leeds. The work has been executed by the following contractors:—Wm. Nicholson & Son, masonry and brickwork; John Hall Thorp, carpenters' and joiners' work; S. Powell, plumber and glazier's work; J. Wilson & Son, plasterers' work; Croft, slaters'

work; F. Jackson, painters' work; J. Nelson & Son, ironfounders' work; clerk of works, Mr. Dilworth. Messrs. Dobson & Chorley, of Leeds, were the architects who designed and superintended the alterations.

TRANSMUTATION OF "SPECIES" IN THE VEGETABLE WORLD.

OATS INTO RYE, BARLEY, AND WHEAT.

IT has been repeatedly asserted that oats have been converted into rye, barley, and even wheat; but the "fact" has been always scoffed out of countenance, because it was inconsistent with preconceived theories. Now, however, there would appear to be no doubt about it. The *Mark-lane Express* vouches for the respectability of a gentleman who states that he carefully planted some picked oat grains in his garden in June; and as the tillers sprang up to about a foot in height, he cut them down to within an inch of the root. This process was three times repeated that year, and some of the roots died; but others survived; and next year they yielded—not oats, but perfect barley, rather thin, but by no means of a bad type. This barley, in the following spring, yielded a good return of better barley, approved by the maltsters; and of the produce of subsequent years the editor says he has seen a sample. It is remarkable that the grower did not look for barley, but rye, which he had been told had thus been obtained. The editor of the *Mark-lane Express*, on further considering the subject, is of opinion that oats are a "spurt" or sport from other grain—not *vice versâ*; as wheat and barley have been known for 4,000 years, but not oats.

In 1632, as we learn from Old Gerard's "Herbal," a "very good friend, Master John Goodyer," obtained several perfect oat grains from an ear of wheat. It is said that the transmutation of oats into barley is by means infrequent in Norway and Sweden, which, by the way, geologists have found to be a notable centre of plant distribution.

A letter from Mr. William Cowper, of Wappenham, near Towcester, appears in the *Berkshire Chronicle*, stating that he has for ten years grown both wheat and barley from Dutch oats. Black oats, he adds, will produce rye in the same way.

If any one imagines, however, that when such facts can no longer be denied, we will be any nearer to an admission that one species of plant can be transmuted into another species, he will probably be mistaken; for, when the fact can be no longer resisted, it will only be seized hold of as proof positive that oats, rye, barley, and wheat, are *not* distinct species at all; so that the transmutation of species will be as far off as ever, and thus may well be deemed impossible. Such is the childish way in which what is called science "advances." The editor of the *Mark-lane Express* thinks naturalists ought to look into the matter; and adds that "it is quite possible other principles might be elicited on the subject of the relationship existing between plants of the same family that the learned, with all their philosophy, have never dreamt of."

METROPOLITAN BOARD OF WORKS.

AT the usual meeting of this Board on the 19th, a report was brought up from the Main Drainage Committee, recommending (among other things) that—

"The tender of Mr. Webster, for the execution of the works for the Southern Low-level Sewer, for the sum of 234,000*l.*, be accepted; and that in the event of any contractor tendering for a work, and subsequently withdrawing such tender, or not furnishing approved sureties for carrying out the work, no future tender from him be accepted by the Board."

The report was, after some discussion, referred back to the committee.

INSURANCE OF WORKMEN'S TOOLS.

THE great importance of the above induces me to explain how the matter is arranged by me. I pay the premium upon what I consider to be the full value of the tools, and look to the shop-foreman to repay me. As the workmen leave the pay-table, they each subscribe one penny to the fund (and most cheerfully it is done), and at the year's end they audit the accounts, and dispose of the balance in their own way. I hope this may induce others to do the same, as the sad events continually occurring (from want of so simple a remedy), ought to impress all with its necessity.

A CITY BUILDER.

AMENDMENT OF BUILDING ACT.

SIR,—An amendment is very much required whereby the responsibility of evasions of the Act and other irregularities should be affixed to the *real* culprits—the builders. The district surveyor can only exercise a *limited* supervision: he is not like the builder, or his foreman, constantly on the spot; nor is he Argus-eyed. Irregularities may be committed for which he cannot be responsible: work is covered up, or coloured over, and bond timber fixed perhaps too near flues.

The fact of the building being completed without these matters being seen should not relieve the builder of any part of his responsibility,—certainly not the fact of the surveyor not having detected what he could not see.

A SURVEYOR

Books Received.

Flowers and Fruit Decoration. By T. C. MARCH. London: Harrison, Pall-Mall.

MR. March, it will be remembered, received the prize offered by Sir C. W. Dilke for the best table decoration submitted to the Horticultural Society in 1861, and Messrs. Dobson & Pearce having prepared his epergne for commerce, an immense sale has been the result. Report says the money returns might be stated in thousands; but for this we cannot vouch. The principal subject of the tasty little volume now published is to teach those who have bought his epergne, as well as others, the arrangement of flowers and fruit in wide and shallow vessels, with the employment of moist clay and sand as a foundation. These latter materials considerably extend the field of table decoration, and he dwells long on their value. Diagrams are given to illustrate the contrast of colours (not all happy), and some remarks are added on *London* gardening.

VARIORUM.

THE set of stories constituting the Christmas number of *Saturday Night* (conducted by Mr. Thomas Hood) purport to be the adventures of a set of Umbrellas belonging to the guests at a country-house. The stories have the merit of being very amusing. The number came to us in an envelope, on which the sender had placed two penny stamps, and this not *quite* covering the weight we had to pay 4d. more. We mention the circumstance that we may protest against the present system at the Post-office whereby such a shameful penalty is extorted from the recipient for an accident on the part of the sender.——"Colman's Magazine" is a new penny weekly,—the price of the last named. The Christmas number (a double one) under the title "Who's coming on Christmas Day?" consists of the replies of some who were asked to spend Christmas with the Oksovers. It is a marvel of cheapness, estimated by quantity; but must be improved in other respects if it is to succeed.——Messrs. De la Rue have added to their issue of almanacs an elegant little calendar on a card, for the boudoir or drawing-room, with a border of flowers in colour and gold.——The Council of the *Art Union of London* are distributing their handy little waistcoat-pocket almanac. This, in addition to the usual matter, contains much useful information on subjects connected with the arts. Every subscriber is entitled to a copy.——"The Garden Oracle and Economic Year Book for 1863," edited by Mr. Shirley Hibberd, is published by Groombridge & Co. It is full of information concisely conveyed; not mere repetition of the old story, but fresh matter, bringing the reader abreast of the time.

Miscellanea.

ORGAN FOR MONTE VIDEO.—Messrs. Bryceson have built an organ for the English Church, Monte Video, South America. A satisfactory performance took place on it last Friday evening, at their factory, in Brook-street.

DRAINAGE AT BURY.—The Earl of Derby, through his agent, has offered to open up and sewer several new streets, in Bury, Lancashire, at his own cost, in order to find employment for the labourers out of work—the money to be repaid, without interest, when the streets are built upon.

IRON MASTS.—The following are the dimensions and weight of the masts sent to Pembroke from the Chepstow Ironworks, for the use of her Majesty's ship *Prince Consort*. The mainmast is 116 feet long by 37 inches in circumstance, and weighs 18 tons 14 cwt.: the foremast is 110 feet long by 36 inches in circumference, and weighs 17 tons 10 cwt.: the mizenmast is 83 feet long by 24 inches in circumference, and weighs 5 tons 14 cwt.: the bowsprit is 43 feet long by 36 inches in circumference, and weighs 4 tons 10 cwt.

TELEGRAPHIC.—It has been found impossible to lift the Algerian telegraph cable, which has been broken near the coast of France; and although an attempt will be made near the coast of Algeria, the great depth of the water there will, it is feared, cause that attempt also to fail, in which case the cable will be considered quite lost.

GAS.—The Bath Gas Company have determined upon making a reduction of 4d. per 1,000 cubic feet. The price will therefore be 4s. 2d.——The inhabitants of Burnham have for some time been considering the propriety of erecting gas works, and the result is that "The Burnham Gas Company, Limited," has just been established. The works are to be designed by, and carried out under the direction of, Mr. Jabez Church, civil engineer, Chelmsford, who is proceeding with the same.

IMPORTANT ENGINEERING WORK.—The Dutch Chambers have ratified the concession for cutting a ship canal through North Holland, by which a direct communication will be made between Amsterdam and the North Sea. This undertaking, when completed, will, according to the description given, be one of the most important engineering works ever executed in Europe. The canal will be 13 miles long, navigable by ships drawing 24 feet of water, and will shorten the distance from Amsterdam to London, and all ports south of the Texel, by about 80 miles, and enable vessels to get to sea within a few hours; whereas they now generally spend three days, and often a week, in that process. To form a safe entrance it will be necessary to construct enormous sluices and an artificial harbour upon the unprotected coast of Holland, the piers of which will have to extend more than a mile into the sea. This will be the most difficult engineering work to be overcome.

REVIVAL OF AN OLD INVENTION IN BALLOONING.—The new Montgolfier balloon, invented by Mr. Goddard, the æronaut, says *Galignani*, has a capacity of 4,200 mètres. The car is provided with an apparatus which enables the æronaut to ascend without either gas or ballast, and to descend or go up high at pleasure. This apparatus consists of a kind of stove formed by three cylinders, separated from each other by insulating substances, whereby all danger of fire is averted. The flame is completely under the control of the aërial traveller, and is prevented from rising too high by a cup of wire gauze. Mr. Goddard asserts that he can inflate his balloon in thirty-nine minutes, and load it with from 500 to 800 kilogrammes over and above the weight of his person and his accessories, and moreover, that his balloon may be pierced with a bombshell without endangering the aëronaut, who can himself cast projectiles of any kind with impunity.

THE "EXHIBITION" AND FRENCH MANUFACTURES.—The Paris correspondent of the *Times* says:—"The Pairs manufacturers of bronze ornaments have returned from the London Exhibition with orders so numerous that, after having engaged all the unemployed artists and mechanics, they have found it necessary to prolong the ordinary period of work by three hours a day. The increased demand for gold and silver gilt ornaments, fine porcelain, and printed stuffs for export to Belgium, Holland, Spain, Italy, Portugal, and South America has given much impulse to all these trades. The International Exhibition has conferred immense benefit not only on the manufacturers of bronze articles, but likewise on French gunmakers, who at present export arms to the amount of 10,000,000f. annually. The Parisian shoemakers say that the English beat them in the manufacture of men's boots and shoes. It would be vain for them to deny the fact; for there are several shops in Paris established for the sale of men's boots and shoes of English manufacture. The Parisians, on the other hand, boast that none can compete with them in the manufacture of ladies' boots and shoes. They add that they export an enormous quantity to England and her colonies, to Russia, and to the far East. They export a second quality to the French West Indies, Brazil, and Chili. The 25,000 cabinetmakers in the Faubourg St. Antoine pretend that no country can compete with them in the form and delicacy of the articles manufactured by them, the suitableness of each part for the purpose for which it is intended, the excellence of the sculpture, the care with which they avoid every useless ornament, of great expense but of doubtful taste, with which the produce of other countries is overloaded. They assert, moreover, that the English artists have for some time past engaged many of their best hands; and that at this moment such tools as are used in Paris are made here to be exported to London."

Hotel, Ryde.—A company is being formed to erect a large hotel in Ryde, to be called The Queen's. Mr. E. N. Clifton and Mr. Thos. Hellyer are the architect and surveyor.

The Brighton Hotel.—A printer's omission in our remark last week that "the architectural character of the new hotel is Italian, *not* overloaded with enrichment," gave the reverse effect. The shareholders may feel pretty sure that Mr. Whichcord will not lead them into any unwise expenditure.

The late Mr. Solomon.—We hear with extreme regret of the death of Mr. A. Solomon, the painter of "Waiting for the Verdict," "Lost and Found," and many other pictures of great excellence, at the early age of thirty-eight. This event, which many will deplore with us, took place on Saturday last, in the south of France, where Mr. Solomon was sojourning for his health. Fortunately Mrs. Solomon was with him.

New Protestant Church, Naples. — Last week, the first stone of the English Protestant Church was laid in Naples, on a plot of land presented by Garibaldi two or three years ago. The architect is Mr. Smith, under whose directions the Protestant Church at Nice was also built. From 4,000*l.* to 5,000*l.* are spoken of as the probable cost of the edifice at Naples.

Accidents.—A pile of building, adjoining the flour-mill at Sedgley, said to be the oldest in the district, suddenly fell on Wednesday in last week. The ruins extended across the High-street and Bilston-street, rendering the roads impassable. The building was filled with grain and other materials.——A young woman has been killed by the fall of a wall in a house in Porter-street, Butler-street, Oldham-road, Manchester; and as it appeared that the house-agent had been warned about the dangerous state of the wall, and had not done anything to remove the danger, a coroner's jury have returned a verdict of "manslaughter" against him, and he has been committed for trial.

Sales of House-Property.—At the Mart: By Messrs. Tebb, Brothers. — Leasehold three houses, Nos. 6 to 8, Red Lion-street, Kingsland-road, term 63 years from 1815, ground-rent 8*l.* 4s. per annum, let at 35*l.* 2s. per annum—sold for 100*l.* Leasehold house, No. 7, Kimpton-road, Camberwell-green, term 99 years from 1855, ground-rent 3*l.* 12s. per annum, let at 19*l.* 10s. per annum—125*l.* By Messrs. Toplis & Harding. —Freehold house, No. 1, Cook's-court, Carey-street, Lincoln's-inn-fields — 900*l.* By Messrs. Prickett & Son.—Leasehold house and shop, No. 20, Lisle-street, Leicester-square, term 98 years from 1792, ground-rent 20*l.* per annum, let at 66*l.* 10s. per annum—520*l.* Leasehold house, No. 26, Lisle-street, term 98 years from 1792, ground-rent 15*l.* per annum. let at 40*l.* per annum—350*l.* Leasehold house and shop, No. 88, East-street, Manchester-square, term 96 years from 1790, ground-rent 6*l.* 6s. per annum, let at 52*l.* 10s. per annum—395*l.* Leasehold house and shop, No. 90, East-street, held under lease for the same term and at the same ground-rent as last lot, let at 50*l.* per annum—400*l.*

Loughborough Dispensary.—This structure, the gift of Miss Herrick, is now completed. The front is of white brick, with Derbyshire stone dressings, and is surmounted with a massive cornice in stone. The most striking feature is a very large oriel window from the visiting-room on the chamber floor, looking out of the west front, executed also in stone. There are two entrances,—one on the west front for out-patients, and the principal entrance on the north front, facing the street: it is approached by a flight of steps, of large surface. The dressings to the doorway are in Derbyshire stone, with red Mansfield columns, contrasting in colour, on each side. The ground floor contains entrance-hall, running through the building from north to south fronts, and also from west to east, and crossing at right angles about midway. There are two large rooms, each about 30 feet by 14 feet, intended for men's sick wards. The ground floor also contains surgery, consulting-rooms, patients' waiting-room, matron's rooms, kitchen, scullery, and other necessary apartments. The chamber story is approached by a stone staircase leading from the entrance-hall, and has also two apartments, precisely the same, and situate over those on the ground floor, and set apart for women's sick wards. The remaining part of the chamber floor contains night-room, surgeon's, matron's, and servants' bed-rooms, also an operating-room, lighted from the roof, and fitted up with every necessary convenience. The works have been carried out by Messrs. Osborne, Brothers, of Leicester, under the direction of Mr. William Slater, of London.

Tulse Hill.—On the 16th instant, the new National and Infant Schools for the district parish of Holy Trinity, Tulse Hill, Surrey, were inaugurated. They are built of yellow and red brick, with Bath stone facings and traceried wood window frames, and have a tower with open-timbered bell-turret and spire. The three rooms are made to communicate by means of sliding partitions. They have been erected at the cost of about 2,000*l.*, including the site, by Mr. Pearce, of Brixton Hill. The architects are Messrs. Henry & J. Douglass Mathews, whose design, we understand, was selected in a limited competition.

A Winter Garden for Paris.—A company is now being formed in Paris, according to the *Journal du Havre*, for the purpose of transforming the garden of the Palais Royal into a winter garden, like the immense greenhouses annexed to the palaces of the wealthier Russian nobles. The company proposes to bear the whole expense of making the garden a place of recreation unequalled in the world. It would be devoted to concerts, games of all kinds, artistic exhibitions, &c. In May, every year, the glass roof would be removed, and the garden opened to the public as usual.

Statues.—Mr. Woolner is commissioned to execute the statues which are to decorate the new Manchester Assize Courts, now in course of erection from the designs of Mr. Waterhouse.——The marble statue of Eurydice, by Mr. Nanteuil, which, for the last twenty-five years has stood in the garden of the Palais Royal, Paris, has just been removed and replaced by a copy in bronze. The original has been placed in one of the museums, in order to protect it from the inclemency of the weather.——Workmen are now engaged in placing in the Gothic arcades of the grand front of Notre Dame the eight remaining statues to complete the twenty-eight which stood there previously to 1793, and which represent as many kings of France from Clovis up to Philip Augustus.

Wall Papers in Relief. — The relief wall-papers made by Messrs. Scott, Cuthbertson, & Co., of Chelsea, deserve the attention of those who are decorating. The mode in which relief is attained by this firm is by the repeated printing of flock upon flock either upon a gold or a plain ground: in the latter case the paper is hung with butt (not overlapping) edges; and, after being well sized, is reduced to one tint by an even coat of oil paint. In both cases the effect is very good. A simple lozenge pattern, about 3 inches in height, being in uncoloured flock on a gold ground, in relief, to the height of about a quarter of an inch, is exceedingly pleasing. They exhibited at South Kensington some panels which, while differently treated, were yet all raised: these are repeatedly printed in flock; then painted; and finally subjected to a second printing for the sake of adding gold and other colours.

Want of Work a Crime.—It appears that many of the Lancashire operatives out of work have gone on the tramp in search of employment, and that the Dewsbury guardians are put to unusual expense in consequence. An ingenious guardian of the poor, called Goldthorpe, has invented a delicate test whereby he hopes to detect impostors who pretend to be in want of food and lodging. Each person, man, woman, or child, who has the daring presumption to ask admittance to the Dewsbury workhouse, is passed through the hands of an underling, who is said to be almost an idiot, and who forces them over head and ears into a pool of cold water, clothes and all; and women and children as well as men; if they refuse to strip voluntarily and be doused: otherwise, with extreme and surprising propriety, the women are handed over to a female douser. Mr. Goldthorpe very ingenuously admits that such a mode of passing the water to the paradise of Dewsbury workhouse "is no use unless as a punishment" to the impostors! And that as for the cold of winter, he "would be for adding ice, and making it a little colder." One could almost wish that the Goldthorpe "punishment" would kill some poor starving wretch outright in order that the law might lay its claws on the revolting blockheads who practise so absurd a method of discrimination between impostors, who will stand the test, and innocent people, who must vicariously suffer the ridiculous "punishment" merely for being in a state of starvation, or for being liable to be mistaken for impostors. These idiotic guardians of the poor ought at least to pass under the hands of their own idiotic douser.

Tenders for British Iron for Government. The tenders for the supply of British iron to her Majesty's dock-yards were opened last week in the presence of the Lords of the Admiralty. There was considerable competition in the iron trade for this contract. The successful competitors were the firm of Moser & Sons, of Southwark and Upper Thames-street.

St. Thomas's Hospital.—The governors of this institution are now understood to be negotiating with the Fishmongers' Company for the purchase of a plot of ground in the Walworth-road, a little beyond the Elephant and Castle, as a site for the new hospital. The piece of ground is between seven and eight acres in extent. The Fishmongers' Company are understood to have offered the site to the hospital authorities for 40,000*l.*, *plus* certain expenses, which are not to exceed 5,000*l.* The negotiation cannot be concluded without the approval of the governors of the hospital.

Bigotry in Taste.—Art and science have also their intolerance. Hear the orthodox physician talk of his innovating brother. No coarser libels have been written than those in scientific journals against a professor of science. In art an artist forms his theories and his school, and has an enthusiastic faith in their indubitable superiority: the artist of a different school he regards as a Goth. One of the mildest poets I ever knew, who had nurtured his own harmless muse in the meek Helicon of Wordsworth, never could hear Lord Byron praised, nor even quoted, without transports of anger. I once nearly lost one of the dearest friends I possess, by indiscreetly observing that the delineation of passion was essential to the highest order of poets, simply because he had formed a notion, in the rectitude of which he had the strongest good faith, that perfect poetry should be perfectly passionless. I am not sure, indeed, whether there be not, nowadays, a more vehement bigotry in matters of taste than in those of opinion. For so much has been said and written about toleration as regards opinion, that in that respect the fear of not seeming enlightened preserves many from being uncharitable. But, on the contrary, so much is every day said and written which favours intolerance in matters of taste, that it seems enlightened to libel the whole mental and moral composition of the man whose taste is opposed to your own. I have known language applied to a difference of taste on the merits of a poet, a novelist, nay, even an actor, which the Bishop of Exeter would not venture to apply to Tom Paine.—*Sir E. B. Lytton, in Blackwood's Magazine.*

The Engine Driver to his Engine. — We find the following lines in *Blackwood* for the current month, under the signature of "W. J. M. R.:"

Put forth your force, my iron horse, with limbs that never tire!
The best of oil shall feed your joints, and the best of coal your fire:
So off we tear from Euston-square, to beat the swift south wind,
As we rattle along the North-West rail, with the special train behind:—

Dash along, crash along, sixty miles an hour!
Right through old England flee;
For I am bound to see my love,
Far away in the North Countrie.

Like a train of ghosts, the telegraph posts go wildly trooping by,
While one by one the milestones run, and off behind us fly:
Like foaming wine it fires my blood to see your lightning speed:
Arabia's race, ne'er matched your pace, my gallant steam-borne steed.

Wheel along, squeal along, sixty miles an hour!
Right through old England flee!
For I am bound to see my love,
Far away in the North Countrie.

My blessing on old George Stephenson! let his fame for ever last;
For he was the man that found the plan to make you run so fast.
His arm was strong, his head was long, he knew not guile nor fear:
When I think of him it makes me proud that I'm an engineer!

Tear along, flare along, sixty miles an hour!
Right through old England flee!
For I am bound to see my love,
Far away in the North Countrie.

Now Thames and Trent are far behind, and evening's shades are come:
Before my eyes the brown hills rise that guard my true love's home:
Even now she stands, my own dear lass! beside the cottage door,
And she listens for the whistle shrill, and the blast pipe's rattling roar:—

Roll along, bowl along, sixty miles an hour!
Right through old England flee!
For I am bound to see my love,
At home in the North Countrie.

SARDINIAN RAILWAYS. — The Senate have granted the concession of the Sardinian railways to the firm of Semenza & Co., in London, with a premium of 200,000 hectares of land, and a guarantee to shareholders from the Government of 6 per cent. upon the revenue.

TENDERS.

For a pair of small residences in Grove-place, Bedford.
Mr. Usher, architect:—

Cunvin	£575 0 0
Conquest	559 0 0
Joy	529 10 0
Houghton	519 0 0

For St. Issell's Church, Pembroke. Mr. Frederick R. Kempson, architect:—

Thomas	£2,098 0 0
Daily & Allen	1,950 0 0
Rees & Son	1,853 0 0
Davies & Sons	1,794 9 10
Niblett & King	1,780 0 0
Richards	1,679 0 0
Mathias & Gower	1,650 0 0
Williams	1,590 0 0
Davies	1,569 0 0
Rogers	1,543 0 0
Phillips	1,395 0 0
Richards	1,386 0 0
Davies	1,370 0 0
Thomas	1,333 0 0
David	1,320 0 0
Thomas	1,284 0 0

For alterations and additions to Homer Villa, Kensington, for Mr. R. H. Pearpoint. Mr. C. Freeman, surveyor. Quantities supplied:—

Bird	£682 17 0
Arber	614 0 0
Smith	599 0 0
Duncanson & Moultrie	592 0 0
Matthews	578 17 10

For finishing two houses, Lansdown-road, Nottinghill:—

Patman & Co.	£2,649 0 0
Rider	2,644 0 0
Wardle & Baker	2,540 0 0
Downs	2,530 0
Perry	2,575 0 0
Macey	2,523 0 0

We are asked to state that Messrs. Tupper & Co.'s tender for works at Messrs. Woodham & Levy's wharf was not accepted because they had not complied with all the terms of the specification, more particularly in regard to the concrete foundations.

TO CORRESPONDENTS.

A Subscriber (next week).—Justitia (put the claim into an architect's hands. If all the facts are stated it cannot be enforced). — W.— Quondam (next week). — E. T., Cirencester (we decline, uniformly). —B. C. & Co.—Rev. L. M. H. (next week).—H. H. (not received).—G. F. N.—C. P. T. (shall be made use of when opportunity occurs) —J. W.—A. J. H. (thanks). —C. J. H. (we shall be glad to hear again.) —D —A W. and D. W. (paragraph was in type, but having appeared elsewhere since, has been cancelled).— M. P.—J. M. T. (Rumsley already mentioned).

We are compelled to decline pointing out books, and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender; not necessarily for publication.

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

Advertisements cannot be received for the current week's issue not later than **FIVE o'clock, p.m.,** *on Thursday.*

☞ *NOTICE. — All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

TO SUBSCRIBERS.

CLOTH CASES for binding the Volume of the present year are NOW READY, and may be had at the Office,

Price Two Shillings and Ninepence.

ADVERTISEMENTS.

THE SCULPTORS' JOURNAL and FINE ART MAGAZINE (a Monthly Periodical, price 6d.) on JANUARY 1st, will contain the most interesting information for the Architect, the Sculptor, the Antiquarian, the Student, the Artist, the Amateur, and the Public

S. H. LINDLEY, 19, Catherine-street, Strand, W.C.
Order of any Bookseller.

"THE BUILDER."—FOR SALE, a COMPLETE SET, from the commencement to the end of last year (1861), nineteen volumes, handsomely bound in half-calf. Price 10*l.* 10*s.*—Address, Y. S. Lindley's Advertising Office, 19, Catherine-street, W.C.

In the Press, foolscap 8vo. cloth 5*s.* 6*d.*

THE ENGINEER'S POCKET REMEMBRANCER for 1863: an Epitome of Data, Rules and Formulæ, applicable to Civil, Mechanical, Marine, Hydraulic, Light house, Telegraphic, and Railway Engineering, Surveying, &c.

By FRANCIS CAMPIN, C.E.

[President of the Civil and Mechanical Engineers' Society], Author of "A Practical Treatise on Mechanical Engineering," &c. &c.

London: ATCHLEY & CO. Publishers of Engineering, Architectural, and Monumental Works, 106, Great Russell-street, Bedford-square, W.C.

Gilt edges, price 2*s.* 6*d.* by post 2*s.* 8*d.*

WHO'S WHO IN 1863.

The 14th Annual Edition. Peerage, Baronetage, Knightage, Parliamentary Guide, Dignitaries of the Church, Judges, &c.

The most useful and cheapest Book of Reference published.

London: BAILY & CO. Cornhill.

Forty third Edition, price 4*s.* bound in cloth,

LAXTON'S PRICE BOOK for 1863, for ARCHITECTS, ENGINEERS, BUILDERS, CONTRACTORS, SURVEYORS, &c (established 1816), containing with a variety of new and useful matter, more than 30,000 Prices, embracing all the various trades connected with the operations of the Architect, Engineer, Builder, Contractor, and Surveyor; together with 2,000 useful and important Memoranda relating to the same. Also, full Descriptions of various Stones for Building from the Quarries of England, Scotland, and Wales. Instructions for Estimating and Contracting. Calculations and Sketches of Cast and Wrought Iron Girders, Columns, &c. &c. The whole carefully revised and corrected to date of publication.

OFFICE,—12, WARWICK COURT, GRAY'S INN, HOLBORN, LONDON, W.C.

Supplied by all Booksellers in Town and Country.

SECOND SERIES OF "WICKES'S VILLA ARCHITECTURE."
Now ready, with 31 Plates, 4to. price 37*s.* half morocco,

A HANDY-BOOK of VILLA ARCHITECTURE: being a Series of Designs for Villa Residences in Various Styles. With Detailed Specifications and Estimates.

By C. WICKES, Architect, Author of "The Spires and Towers of the Mediæval Churches of England," &c.

Second Series

N.B. The complete Work, First and Second Series, in One Volume, with 61 Plates, 4to. price 63*s.* half morocco.

London: LOCKWOOD & CO. 7, Stationers' Hall-court, E.C.

NEW EDITION OF "CHAMBERS'S CIVIL ARCHITECTURE," BY GWILT.
Now ready, with 63 Plates and Portrait of the Author, royal 4to. price 21*s.* cloth,

A TREATISE on the DECORATIVE PART of CIVIL ARCHITECTURE.

By Sir WILLIAM CHAMBERS, K.P.S. F.R.S. F.S.A. F.R.S.S.

With Illustrations, Notes, and an Examination of Grecian Architecture, By JOSEPH GWILT, F.S.A. New Edition, revised and edited by W. H. LEEDS

*** A new edition of this standard architectural work (which has already passed through several high-priced issues), so cheap as to place it within the reach of the humbler class of students and practical men, and at the same time so carefully edited and well executed as to make it worthy of a place on the shelves of the more opulent, cannot fail to be received as a boon by the professional public.

London: LOCKWOOD & CO. 7, Stationers'-hall-court, E.C.

Now ready, roan tuck, gilt edges, price 6*s.* (postage 4*d.*),

THE ENGINEER'S, ARCHITECT'S, and CONTRACTOR'S POCKET-BOOK (Lockwood and Co.'s, formerly Weale's) for 1863; greatly improved, with many new Tables, and much valuable and useful matter.

London: LOCKWOOD & CO. 7, Stationers' Hall-court, E.C.

MR. WILLIAM ELLISON, ARCHITECT and CONSULTING SURVEYOR, OFFICES:—
13, FENCHURCH-BUILDINGS, FENCHURCH-STREET, E.C.

Mr. J. H. LEONARD,

ARCHITECTURAL DRAUGHTSMAN, ARTISTIC COLOURIST, and LITHOGRAPHER, No. 21, MONTAGUE-STREET, RUSSELL SQUARE, W.C.

TO PARENTS AND GUARDIANS.

APPRENTICE WANTED, by a Medal and General Die Engraver.—Address, G. Booth's United Libraries, 307, Regent-street, W.

TO BUILDERS, ARCHITECTS, AND SURVEYORS.

FIRE and LIFE AGENTS WANTED for a wealthy Insurance Company of sixty years' standing. Commission liberal.—Application in the first instance to F. J. care of Mr. VICKERS, 2, Cowper's-court, Cornhill, E.C.

THE Merthyr-Tydfil Local Board of Health are desirous of receiving APPLICATIONS for the APPOINTMENT of SURVEYOR to the said Board. He will be required to give the whole of his time to the duties, inspect all new buildings, inspect and measure all work done by the Board and their Contractors, make out accounts, and generally to perform such duties required by the Local Government Act. He will also be required to take charge and management of the Waterworks. Salary, 230*l.* Applications, with testimonials, to be addressed to Mr. J. W. RUSSELL, Clerk to the said Board, on or before the 13th JANUARY, 1863.—By order of the Board,

JOHN W. RUSSELL, Clerk.

Merthyr-Tydfil, 19th December, 1862

WANTED, a first-rate PLUMBER (must be used to iron pipes), to take piecework, labour only, to some new houses near London. First rate references are required.—Address, stating full particulars, where last worked, age, &c. to M. N. Office of "The Builder."

WANTED, a DRAWING CLERK, accustomed to the general business of an Architect's office. References will be required.—Apply by letter, stating amount of salary, to J. B. A. Office of "The Builder."

WANTED, a MANAGER for a BRICK and TILE WORKS in the North of England. He must be thoroughly experienced in the manufacture on a large scale, and well acquainted with the building and working of the most approved descriptions of kilns. It is desirable that he should have had experience in different kinds of clay. He must have been accustomed to the making of bricks by machinery; one used to Clayton's machines preferred. First rate references as to character and abilities required. Salary, 150*l.* to 200*l.* per annum.—Apply to JOHN HUTCHINSON, Esq. Widnes Docks, near Warrington.

WANTED, a respectable Young Man who has a knowledge of the building trades, or ironmongers', or both, as a BOOK-KEEPER and COLLECTOR. One who can make himself useful in a sale-shop will be preferred.—Apply by letter, stating terms and giving reference, to BENJAMIN WHEELER, Plumber and Gasfitter, French Shade Depôt, Alvaston-street, Nottingham.

WANTED, a WORKING SHOP FOREMAN of JOINERS, and a GENERAL FOREMAN. The Shop Foreman wanted for a small shop where work is done by piece. The General Foreman wanted to conduct the finishing of some first-rate carcases in the suburbs, where it is proposed to do most of the work piecework. No one need apply for either of these situations who has not served in a similar capacity, and who cannot produce most satisfactory references.—Apply by letter only, stating ages, where last employed and for how long, wages required, and all other full particulars, and name references, to W. Office of "The Builder."

TO BUILDERS' FOREMEN.

WANTED, a thoroughly efficient WORKING FOREMAN of CARPENTERS and JOINERS. He must fully understand setting out work and converting materials. Good references indispensable.—Address, stating age and salary required, to A. B. C. Post-office, Wolverhampton.

TO BUILDERS

WANTED, by the Advertiser, who is competent to measure up work, take off quantities, &c. a permanent SITUATION in a Builder's office. Town or country.—Address, R. H. D. Office of "The Builder."

TO CIVIL ENGINEERS AND SURVEYORS.

WANTED, an ENGAGEMENT as ASSISTANT, by a good surveyor, leveller, and draughtsman. The advertiser being anxious to improve himself in his profession, salary a secondary object.—Address, A. X. Z. "Guardian" Office, Nottingham.

TO PLUMBERS AND BUILDERS.

WANTED, a SITUATION, by a Practical PLUMBER, who understands his business in all its branches No objection to fill up time with glazing or painting. In or near London. References if required.—Address, B B No 11, Jerusalem-passage, London, E.C.

WANTED, by a thoroughly practical CARPENTER & JOINER, a SITUATION as WORKING FOREMAN. Jobbing shop preferred.—Address, J. W. 130, Packington-street, Lower-road, Islington.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser having served five years' Apprenticeship (three years in the provincial office of an eminent London architect), wishes for a SITUATION as JUNIOR ASSISTANT, at a small but progressive salary.—Address, ASSISTANT, care of W. G Habershon, Esq. Architect, Newport, Monmouthshire.

TO ARCHITECTS.

THE Advertiser, who has been six years and a half with an eminent architect, wishes for an ENGAGEMENT as JUNIOR CLERK.—Address, J. W. R. 32, Tonbridge-street, W.C.

TO ARCHITECTS.

THE Advertiser, a Builder's son, wishes for a SITUATION in an Office of the above. Is accustomed to prepare working drawings, &c. from rough sketches, and understands construction and materials. Salary no object.—Address, M. S. E. Office of "The Builder."

TO ARCHITECTS

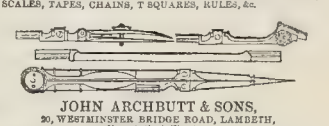
THE Advertiser, a competent Assistant wishes for a RE-ENGAGEMENT in an Architect's Office. He is accustomed to both Gothic and Classic work, and has had the advantage of some practical experience.—For terms, references, &c. apply to B. B. B Messrs. Hamilton, Adams, & Co.'s, 33, Paternoster-row, E.C.

TO BUILDERS, &c.

PLASTERING WANTED by a practical MAN. Either town or country.—Address, J. C. No. 5, Edenplace, Old Kent-road.

SECOND-HAND MATHEMATICAL INSTRUMENTS, by Elliott, Troughton & Simms, Dolland, and others. The Cheapest House in London is WM. LAWLEY'S, 78, Farringdon-street, City. Row Pens, by Troughton & Simms, from 1*s.* 6*d.* each Second hand Telescopes, Opera, Race, and Tourists' Glasses, by Voigtlander, Dolland, and others. Instruments, Telescopes, &c bought or exchanged.

MATHEMATICAL DRAWING INSTRUMENTS, THEODOLITES, LEVELS, CIRCUMFERENTERS, SCALES, TAPES, CHAINS, T SQUARES, RULES, &c.



JOHN ARCHBUTT & SONS,
20, WESTMINSTER BRIDGE ROAD, LAMBETH,
Near Astley's Theatre,

Respectfully inform the public that their Illustrated Price-list will be forwarded free on application. The prices will be found remarkably low. Every article warranted. Second-hand Instruments of all kinds, by the best makers, always in stock.

INTERNATIONAL EXHIBITION, 1862.—CLASS 13. Only Medal awarded for "excellence of construction of Mathematical Instruments."

T SQUARES.—W. F. STANLEY, late STANLEY & ROBINSON'S IMPROVED.

Recommended in "The Engineer," "Builder," and "Practical Mechanics' Journal" 42*s.* 36*s.* and 7*s.* 6*d.*; 31-inch, 3*s.* 6*d.* and 5*s.* 6*d.*; 23-inch, 2*s.* 6*d.* and 4*s.*

Mathematical Instruments of every description of the best possible make, and highest finish, made on the Premises.

Scales, Rules, Rods, Chains, Tapes, Drawing Boards &c. &c. Every Article for Draughtsmen's Use. Lists of Prices on application.

3, GREAT TURNSTILE, HOLBORN, LONDON, W.C.

Price 2*s.* 6*d.* post free.

STANLEY'S IMPROVED DRAWING PEN.

WANTED TO PURCHASE, OAK PANELLING for one or two rooms. It should be about the age of Elizabeth, or earlier, and must be sound and good.—Address, A. A. care of Mr. Weston, Bookseller, Corn-street, Bristol.

CARTS, LADDERS, BARROWS, &c.—GEORGE ELL, Manufacturer of Carts, Vans, Waggons, Trucks, and Implements for railways, town use, agriculture, and exportation, CONTRACTORS', BUILDERS', and DECORATORS' TRADE UTENSILS.

G. E. has constantly on hand a Stock of CARTS BARROWS, LADDERS, TRESTLES, STEPS, &c.

DOBBIN and other CARTS, specially adapted for exportation, with Wrought-iron Wheels.

SCAFFOLDING, LADDERS, BARROWS, TRESTLES, STEPS, &c. LENT ON HIRE.

Price Lists on application.

GEORGE ELL,
EUSTON WORKS, 366 and 368, EUSTON-ROAD, N.W.

TO CHURCHWARDENS, MILL PROPRIETORS, and OTHERS.—GEORGE PRITH, BUILDER, &c. Coventry, begs respectfully to call the attention of the above parties to his method of REPAIRING CHURCH SPIRES, CHIMNEY-SHAFTS, and other elevated structures, without the expense of ladders or scaffolding. Church spires taken down and rebuilt, pointed, repaired, &c. Chimney-shafts repaired, pointed, and new caps fixed. New vanes and all kinds of lightning conductors applied. Estimates given. References from architects, engineers, &c. Circulars illustrating the principle and containing testimonials sent free on application as above.

GLUE—PRIZE MEDAL, 1862.

PROCKTER & BEVINGTON are compelled (in consequence of many imitations), to acquaint dealers and consumers, that they are the ORIGINAL and ONLY manufacturers of

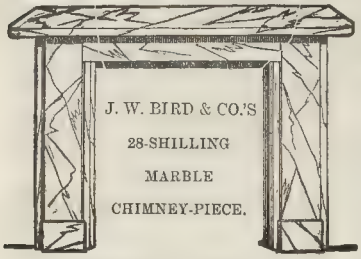
IMPERIAL GLUE

who have obtained a Prize Medal.—Sold by all respectable Ironmongers and oilmen.

Works: No. 124, Grange road, Bermondsey, London, S.E.

BRYCESON'S ORGAN FACTORY, BROOK STREET, EUSTON ROAD, LONDON, N.W. Established 1796.—Apply for PRICED CATALOGUE of St. Cecilia, Scudamore, and other Organs usually in Stock. Also as to the Tuning, &c. of Organs in all parts of the country. Church Organs of any size built, enlarged, or revolced, as well as removed and WAREHOUSED DURING RESTORATIONS. PRIZE MEDAL, 1851.

MARBLE & STONE CHIMNEY-PIECES FOR THE MILLION.



PRICE LIST ON APPLICATION.

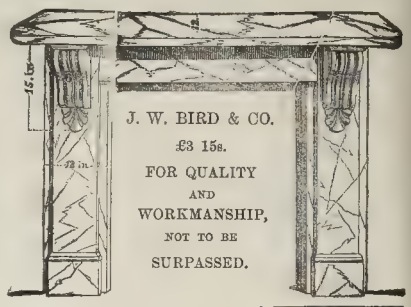
A Stock of 500 always to choose from at

J. W. BIRD & CO.'S,
THE EMPORIUM,
145 & 143½, EUSTON ROAD,
N.W.

A Marble Box Chimney, with 8 inch piers, as Illustrated, for 28s. and fitted to any opening up to 3 feet square.

STONE DITTO, WITH BEAUTIFUL MOULDED CAPS, FOR SEVEN SHILLINGS.

Monuments and Tablets in great variety, equally low in price.
Masons' Work of all kinds contracted for and executed with despatch, in Town or Country.
A VACANCY FOR AN OUT-DOOR APPRENTICE.



BATH STONE OF THE BEST QUALITY.

PICTOR & SON, Quarry Proprietors and Stone Merchants, Bath.

Lists of Prices at the Quarries and Depôts, also Cost of Transit to all parts of the Kingdom, forwarded on application to BATH FREESTONE WORKS, BOX, NEAR CHIPPENHAM, WILTS.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

WARWICK HOUSE, 142 and 144 REGENT STREET; 29, 30, and 31, WARWICK STREET, W.

EDWARDES, BURKE, & CO. PROPRIETORS.

The LARGEST and MOST SUPERIOR STOCK of CHIMNEY-PIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—Carrara, Brussels, Peterhead, and 17, Newman-street, Oxford-street, London, W.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE, STONE, AND GRANITE WORK.

WELL-SEASONED FLOORING DEALS, MAHOGANY, &c.

SPRUCE DEALS, 3 by 9, at per 12 feet, 2s. 6d. All other Goods in proportion.

KING & DUNGEY,
GREAT SAFFRON-HILL, HOLBORN,
OPPOSITE THE METROPOLITAN RAILWAY TERMINUS.

THOMAS MILLINGTON,

GLASS, LEAD, OIL, AND COLOUR MERCHANT,
87, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

REDUCED SHEET GLASS TARIFF.

In Cases for cutting up, in Sizes as Manufactured.

Per 200 Feet Case.

	15 oz.	21 oz.	26 oz.	32 oz.
Fourths quality	24s. 6d.	37s. 0d.	47s. 0d.	49s. 0d.
Thirds do.	30s. 6d.	45s. 6d.	55s. 6d.	61s. 0d.
Seconds do.	45s. 0d.	69s. 0d.	79s. 0d.	90s. 0d.
Best do.	62s. 0d.	108s. 0d.	118s. 0d.	124s. 0d.

300 Feet Cases, 4ths, 15 oz. 36s. — 300 Feet Cases, 3rds, 15 oz. 44s. 6d.

Cut Squares, in 100 and 200 Feet Boxes.

	4ths	3rds	2nds	1sts
Under 1 ft. super ...	1½	1¾	2	2½
„ 2ft. 6in. sup.	1½	1¾	2¼	3
4 ft. super...	1¾	2	2½	3¼

Orchard House Sizes.

	15 oz.	21 oz.
20 by 12 per 100 ft.	4ths 12s. 6d.	4ths 17s. 0d.
20 by 13	3rds 15s. 0d.	3rds 21s. 6d.
20 by 14	2nds 18s. 0d.	2nds 28s. 0d.
20 by 15	1sts 22s. 0d.	1sts 33s. 6d.

CRYSTAL SHEET GLASS.

Averaging 16 oz. to the foot.
Best quality, in cases of 200 feet..... 120s.
Seconds do. do. ..... 85s.

Averaging 30 oz. to the foot.
Best quality, in cases of 100 feet..... 108s.
Seconds do. do. ..... 92s.

Coloured Glass.

Ruby, in sheets, 10d. per foot.
Green do. 10d. do.
Blue do. 6d. do.
Orange do. 6d. do.
Purple do. 6d. do.
Yellow do. 6d. do.
Rosettes, various sizes and colours.

Ground or Obscured.

16 oz. in Sheets, 3d. per foot.
21 oz. do. 4d. do.
FLUTED.
16 oz. in Sheets, 3½d. per foot.
21 oz. do. 5½d. do.
MATTED OR ENAMELLED.
In Sheets, various patterns, 4½d. ft.

PAINTS, COLOURS, VARNISHES, &c.

Genuine White Lead .....30s.
Anti-corrosian Paint 28s. to 34s.
Linseed Oil Putty .....7s. 6d.
Patent Dryers .....28s. to 42s.
} per cwt.

Fine Oak Varnish ...
„ Carriage ...
Linseed and Boiled Oil
Turpentine .....
} per gallon.

Milled Lead in Sheet and Pipe, 21s. 6d. per cwt.
GLASS TILES, IN SHEET AND ROUGH PLATE.
Plate Glass, Patent Plate, and Hartley's Improved Rough Plate.

W. HARMER & SON,

BUILDERS' IRONMONGERS, AND SMITHS, STOVE AND KITCHEN RANGE MANUFACTURERS, IRON AND ZINC MERCHANTS.
WROUGHT IRON FLITCHES and CAST IRON GIRDERS and COLUMNS to Order.
WROUGHT IRON TUBE and FITTINGS for GAS or WATER.
CARPENTERS' TOOLS of the Best Quality. A Reduced LIST of PRICES upon application.

W. HARMER & SON,
3 and 19, HORSEFERRY ROAD, and 1, NEW PETER STREET, WESTMINSTER, S.W.
Established 1817.

THE VILLAGE CLOCK.—

A serviceable, well-made, and warranted TURRET CLOCK, to go eight days and strike the hours, for Forty Guineas; not to strike, from Fifteen to Twenty Guineas; adapted for the village church or school.



INTERNATIONAL EXHIBITION.
A sample of the Forty-Guinea Village Turret Clock may be seen in action and striking, with dial and bell complete. Also a sample Turret Clock, from Fifteen to Twenty Guineas, suitable for school or stable, in Class 15, No. 3,248.

JOSEPH FAIRER,
Turret Clockmaker to Her Majesty's War Department,
188, St. George-street East, London.

DENT, CHRONOMETER, WATCH, and

CLOCK MAKER to the Queen and the late Prince Consort, and MAKER OF THE GREAT CLOCK FOR THE HOUSES OF PARLIAMENT,
Invites attention to the superior workmanship and elegance of design of his extensive Stock of Watches and Drawing-room Clocks.

Ladies' Gold Foreign Watches	8 Guineas.
Gentlemen's do. do.	10 „
Ladies' or Gentlemen's Gold English Lever Watches	18 „
Strong Silver Lever Watches	8 „
Gentlemen's Gold Compensation Balance Watches	40 „
Do. Silver do.	25 „
Marine Chronometers	35 „

Gold and Silver Pocket Chronometers, Astronomical, Turret, and Bracket Clocks, of every description. An elegant assortment of London-made Fine Gold Albert and Guard Chains, &c.
DENT, 61, Strand (adjoining Coutts's Bank); 34 and 35, Royal Exchange; and at the Clock and Marine Compass Factory, Somerset Wharf, Strand, London.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST OF THE UNSIGHTLY AND DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

IMPORTANT TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

CAST WORK CENTRE FLOWERS,

SHOP FRONT TRUSSES,
VASES, ROYAL ARMS, CAPITALS,
And every description of ornament for internal and external decorations, executed in Plaster, Carton Pierre, Composition, and every kind of Cement, at reduced prices.
MESSRS. HERBERT, MODELLERS,
242, EUSTON ROAD, ST. PANCRAS.

TARPAULINS, MARQUEES, &c.

for SALE or HIRE.
SCAFFOLD and HEMP ROPE FALLS.
H. PIGGOTT,
59, Bishopsgate-street Without, E.C. Manufacturer, by appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

TARPAULINS for COVERING WORKS.

SCAFFOLD AND HEMP ROPE FALLS.
AWNINGS FOR FOUNDATION STONES.
CARY & PRIER,
DE BEAUVOIR FACTORY, SOUTHGATE ROAD, N.

PENCILS, BLACK LEAD, and

COLOURED CHALKS.
A. W. FABER'S POLYGRADE LEAD PENCILS, sold by all Stationers and Artists' Ironmongers.
Sole Agents, HEINTZMANN & ROCHUSSEN, 9, Friday street, E.C.



REDUCTION IN PRICE
OF
CLARK'S
NEW PATENT REVOLVING SHUTTERS,
FOR
SHOP FRONTS AND PRIVATE HOUSES.

THE MOST SIMPLE, LIGHT, SECURE, AND CHEAP SHUTTER EXTANT.

Wood Revolving Shutters...2s. per foot super.
Iron do do. 2s. 6d. do.

BRASS SASH-BARS, STALL-BOARD PLATES, &c. &c.

15, GATE STREET, LINCOLN'S INN FIELDS, LONDON.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851.

BUNNETT & CO.

ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to their recent Improvements in

REVOLVING IRON SHUTTERS,

Thief-proof and Fire-proof, varying in price from 3s. 6d. to 6s. 6d. per Foot super, according to description and quality, inclusive of the Gearing for raising and lowering them.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

BY ROYAL LETTERS PATENT.

BUNNETT & CO.

Invite the attention of Architects to a completely new

Combination of the Revolving Iron Shutter and the Louvre Blind,

(See Model at International Exhibition, Class X. No. 2,246),

Especially suitable for all Tropical or Semi-Tropical Climates, or for Private Mansions in England, where thorough Ventilation and Shade are required, together with perfect security.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

PRIZE MEDALLISTS OF THE GREAT EXHIBITION, 1851.

BUNNETT & CO.

ORIGINAL PATENTEES AND MANUFACTURERS.

Invite the attention of Architects, Builders, and the Public, to the last Improvements in

BRASS, COPPER, ZINC, AND IRON SASHES,

STALL PLATES FOR SHOP FRONTS, AND NAME TABLETS FOR OFFICES,
COPPER WINDOW-FRAMES FOR GOTHIC MANSIONS; LIFTS FOR BANKS, WAREHOUSES, &c.
STEAM ENGINES AND MACHINERY OF ALL KINDS.

WORKS, DEPTFORD, KENT; LONDON OFFICE, 17, QUEEN-STREET, CITY; GLASGOW OFFICE, 199, BUCHANAN-STREET.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, from 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, from 3s. per Foot. Suitable for Banking Houses, Public Buildings, Offices, Shop Fronts, and Private Houses.
BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a Great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN, LONDON.

ORIGINAL PATENTEES.

SNOXELL & CO.'S REVOLVING SAFETY SHUTTERS,

AT A REDUCED PRICE, WITHOUT EXTRAS.

IRON OR WOOD ONLY,
AND
IRON EDGED,
OFFERING
ALL THE SECURITY
OF
SOLID METAL.

SHOP FITTINGS, SASH BARS,
AND
STALL-BOARD PLATES,
OF
EVERY DESCRIPTION.



THIS PATENT
IS
WITHOUT MACHINERY,
BEING
MOST SIMPLE AND SECURE,
AND IS
WORKED FROM WITHIN
EASILY BY A BOY,
AS SHOWN.

Messrs. SNOXELL
Possess ample testimonials of its superiority over other Patents. Blind Makers to her Majesty, by appointment.

No. 96, REGENT STREET, W.; AND MANUFACTORY, 35, OLD STREET, NEAR GOSWELL STREET, E.C.

ENCOURAGE COUNTRY MANUFACTURE.

WORTLEY, JOSEPH CLIFF & SON Near LEEDS.

ARE AWARDED THE EXHIBITION MEDAL FOR EXCELLENCE OF MATERIAL IN FIRE-CLAY RETORTS, AND HONOURABLE MENTION FOR STONEWARE.

SOCKETED DRAIN-PIPES OF THE LARGEST SIZE, BOTH ROUND AND EGG-SHAPED.

M. B. NEWTON, LONDON AGENT,

WHARF No. 4, INSIDE GREAT NORTHERN GOODS STATION, KING'S CROSS, N.

From whom all Prices for J. CLIFF & SON'S GOODS can be obtained.



INTERNATIONAL EXHIBITION, 1862. CLASS 10, No. 2268.

The only MEDAL for "STONEWARE PIPES" has been awarded to

HENRY DOULTON & CO., LAMBETH.

Extract from Jurors' Report:—

"H. Doulton & Co.—Stoneware Pipes, &c. excellence of manufacture and lowness of price."

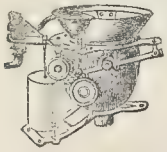
GLAZED STONEWARE DRAIN PIPES, TERRA-COTTA CHIMNEY TOPS, &c. &c.

Supplied on the lowest terms, direct from

H. D. & CO.'S MANUFACTORIES, HIGH-STREET, LAMBETH, LONDON; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

THOMAS LAMBERT & SON,

No. 57. Self-Regulating Pan Closet.



No. 1. Lambert's Ball Valve.



No. 6. High Pressure Bib Valve.



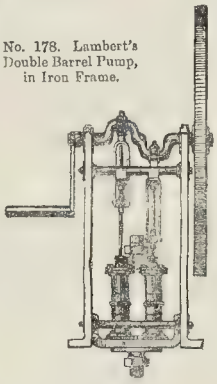
No. 36a. Bath Valves.



High Pressure Stop Valve.



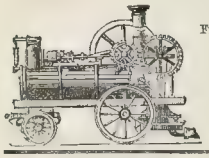
No. 178. Lambert's Double Barrel Pump, in Iron Frame.



FOUNDERS, MANUFACTURERS, AND PATENTEES OF THE HIGH PRESSURE VALVE COCKS,

SHORT STREET, NEW CUT, LAMBETH, S.

T. L. & SON And it necessary to state that all the Ball and other Valves Manufactured by them, have their NAME *legibly marked thereon.*



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, **TO LET ON HIRE**, by the Week or Month.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

JOHN'S PLACE, HOLLAND STREET, Southwark, London, S.E.

N.B. Steam Power, with Workshops, to Let

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

MORTAR-MILLS,

CRABS,

CRANES,

BLOCKS,

JACKS,

&c. &c.



PUMPS

OF ALL

DESCRIPTIONS.

WELL-BORING TOOLS,

IRON PAILS, &c.

OF ALL SIZES.

PORTABLE STEAM-ENGINES FOR HIRE OR SALE.

R. RICHARDS & CO. Upper Ground Street, Blackfriars Road.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of Glass, of the best manufacture, at the lowest terms.

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price lists forwarded free on receipt of business card addressed to

R. METTAM & CO.

20 and 21, PRINCES STREET, SOHO, LONDON, W.

SOHO PLATE and GENERAL GLASS WAREHOUSE, 28, Soho-square, W. and George-yard, Crown-street, Soho, W.C.

ALFRED GOSLETT begs to inform Architects, Builders, and the Trade generally, that every description of Glass required for building purposes can be procured WHOLESALE, either in STOCK SIZES or CUT TO ORDER, at his extensive warehouses as above.

SPECIAL ESTIMATES for the supply of LARGE QUANTITIES of Glass upon the receipt of particulars.

STAINED GLASS and WALL PAINTING.

MESSRS. CLAYTON & BELL,

311, REGENT STREET, W.

Adjoining the Polytechnic Institution.

STAINED-GLASS WINDOWS, FOR CHURCHES AND DWELLINGS.

(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.)



Illustrated Treatise, Post free, 2s. 6d.

HEATON, BUTLER, & BAYNE.

Works:—Cardington Street, Hampstead road, London.



SHOWELL'S

PATENT WATERPROOF GLASS ROOFS,

Address—17, PRINCESS-STREET, MANCHESTER

OATES'S PATENT SOLID BRICK MACHINE.—Persons who may be contemplating MAKING BRICKS by MACHINERY are requested to see the above Machines in operation before purchasing others. These Machines are warranted to make thirty perfect bricks per minute, stiff enough to be wheeled (as soon as made) to the kilns to be burnt; and from the time the clay is dug from the mine until the bricks are made and set in the kilns for burning, does not exceed five minutes.—Application to be made either to J. P. OATES, Erdington, near Birmingham; or to OATES & BAYLIE, Stourbridge, from whom drawings and every information may be had, with card to view.

BRICKS, PANTILES, AND PAVINGS.

J. H. ANDREWS, Wisbech, Cambridgeshire, offers

Red Pantiles, at 47s. 6d. per 1,000.
,, 8-inch Pavings, at 57s. 6d. per 1,000.
,, Floor Bricks, 40s. per 1,000.
Mingled Kiln Bricks, at 36s. per 1,000.
Ridge Tiles, at 75s. per 1,000.

Cash Prices. Delivered in Trucks in London, or along the Line on the Great Eastern Railway. About 20,000 Bricks lying at Devonshire-street Station, at 24s. per 1,000.

BRICKS.—New White, Red, and Black Facings, of superior quality.

Red, White, and Black Cutters
Fancy Moulded Bricks of many Patterns.
Best Hard Kiln-burnt Common Bricks, in large Quantities.
Ditto, 6 inches.
Ditto, Culvert Bricks.
Plain Tiles of all kinds.
Plain and Fancy Ridge Tiles, &c.

Delivered on board craft in the Dock at the East Cowes Park Kilns, Isle of Wight. R. LANGLEY, Agent.

BRICKMAKING.

BUNNETT'S CRITERION PATENT CONTINUOUS FEED BRICK, TILE, and PIPE MACHINES

Will make, of superior quality, 20,000 or upwards of solid or hollow Bricks per day, at two-thirds of the working expenses of other machines.

Price, including royalty and three dies, 55*l*.

Licences to Manufacture granted for certain districts.

For particulars, apply to BUNNETT & CO. Engineers and Founders, Deptford, Kent, S.E.; and 17, Queen-street, London, E.C.

The Machines may be seen at work at Southborough, about one mile from the Station, Kingston-on Thames.

A NEW BRICK and LIME WHARF and DRAWDOCK.

JOHN DOWNEY, Licensed Lighterman, of 11, Millbank-row, S.W. and Licensed Lighterman and Wharfinger, of Hermitage Steam Wharf, Wapping, E. has opened the

VICTORIA WHARF, NINE ELMS, S.

For the Sale of Building Goods generally.

BRICKS, TILES, SLATES,
LIME, CEMENT,
HAIR, LATHS, PLASTER,
SAND, BALLAST,
GLAZED DRAIN-PIPES, AND RED GOODS;
TERRA COTTA;
SPLAY, JAMB, AND COPING BRICKS;
SUFFOLK AND OTHER PAVIORS;
STAFFORDSHIRE AND FIRE GOODS;
MALM CUTTERS, PICKINGS, &c.

A good Stock on the Wharf. Bricks, Sand, Ballast, &c. by barge alongside, where required.

JOINERY OF EVERY DESCRIPTION.
STAIRCASES, SHOP FRONTS, SASHES, FRAMES, DOORS, &c.

Of well-seasoned Material and superior Workmanship, supplied to the Trade on the lowest possible Terms, by

J. MILLS,

10, BROADWALL, AND 7, PRINCES STREET, STAMFORD STREET
(Late Shop Foreman to Messrs. Lawrence & Son, Lambeth).

A FULL LIST OF PRICES SENT ON THE RECEIPT OF A POSTAGE STAMP.



TEMPLE JOINERY WORKS,
CURSITOR-STREET, CHANCERY-LANE, E.C.



WILLIAM SANDS begs to inform his friends and the trade generally that he has now completed the rebuilding of new and extensive Workshops, fitted up with Improved Steam Machinery especially adapted for the manufacture of JOINERS' WORK of every description, and that he is now prepared to supply the Trade with first-class goods at the lowest possible scale of prices—for cash.

Sashes and Frames, Boxing Shutters, Doors Staircases, Hand rails, and Water-closet Fittings, well-seasoned Floor ng, Matched Linings, Skirtings, and Mouldings to any pattern, Shop Fronts, Shop and Office Fittings, Air-tight Window Fittings, Glass Show Cases, &c.

Green-houses, Hot-houses, and Conservatories, on the most improved principles.

An Illustrated List of Prices forwarded on the receipt of stamp.

Estimates furnished on application to

BUILDERS, AND CARPENTERS, AND OTHERS,

Have submitted to their notice these very REDUCED PRICES, the lowest consistent with really useful qualities.

ALL SAWN GOODS CARRIAGE-FREE.

Three-quarter inch Flooring (well prepared), 11s. 6d. per square. Laths, 28s. per Load.

Yellow Deals, sound and good	£19	10	0 per 120, or 0s. 3½d. per foot.		
Spruce Deals	16	10	0 „	0	2¼ „
Yellow Battens, excellent quality	11	10	0 „	0	2 „
Pine Planks, dry, 12 feet 3 inches by 11 feet	21	0	0 „	3	6 each.

Seasoned Mahogany, Plank and Board, 6d. per foot. A very large Stock, ready sawn and seasoned.

CARTER & WEBB,

OLD BETHNAL GREEN ROAD, N.E. opposite Elizabeth-street, Hackney-road.

FLOORING, DEALS, MOULDINGS, &c.

	Spruce	White.	Yellow.
¾-inch Flooring	11s. 6d.	12s. 0d.	13s. 0d. per square.
⅞-inch „	12s. 6d.	12s. 6d.	13s. 6d. „
1-inch „	14s. 6d.	15s. 0d.	16s. 6d. „
1¼-inch „	0s. 0d.	18s. 0d.	19s. 0d. „

Yellow Deals, 3 by 9 ..... £19 10 per 120.
Yellow Battens ..... 11 10 „
Spruce Deals ..... 16 10 „

Pine Planks (dry), 3 by 11 ..... £24 0 per 120.
Pine Deals, ditto, 3 by 9 ..... 19 10 „
⅝-inch White Matched Lining ..... 0 13 per square.

J. TERRY & SON, 109, Borough-road, S.E.

FLOORING! DEALS! MAHOGANY!

FOR IMMEDIATE SALE.

10,000 Dry Prepared Flooring Boards ..... } from 11s. 6d. per square
20,000 Pine Planks ..... from 3s. 6d. each
8,000 Yellow Deals ..... from 3s. 3d. each
5,000 Spruce ditto ..... from 2s. 9d. each

5,000 Yellow Battens ..... from £11 10s. per 120
50,000 Feet Spanish and Honduras Veneer ..... } from 1d. per foot
Maple ditto ..... from 1d. per foot.

SAMUEL PUTNEY,

ELM STREET, GRAY'S INN LANE, and BOROUGH ROAD, SOUTHWARK.

MOULDING WORKS.
WM. GEO. WARDLE,

STANGATE FLOORING MILLS, PALACE ROAD, LAMBETH, S.

begs to inform his friends and the Trade that, having erected efficient Machinery for the preparation of WOOD MOULDINGS in every variety of pattern, from seasoned first quality materials ONLY, is enabled, on the shortest possible notice, to supply any quantity they may require.

SEASONED FLOORING AND MATCH BOARDING OF EVERY DESCRIPTION, IN LARGE OR SMALL QUANTITIES, AS USUAL.

PRICE LISTS FORWARDED UP ON RECEIPT OF ONE POSTAGE STAMP.



MOULDING WORKS.
SMITH & McGAW



(FROM THE GENERAL WOOD-CUTTING COMPANY),
BELVEDERE ROAD (near the Suspension Bridge), Lambeth, S.

beg to inform their Friends and the Trade generally that, having extended their Premises and increased their machinery, they are now enabled to keep a very large, superior, and thoroughly seasoned STOCK of every description of WOOD MOULDINGS. They continue to make the same Patterns as the General Wood-cutting Company, from whose books orders can be given.—Price Lists forwarded on receipt of One Stamp.

JOHN EMERY,
SASH, SHOP-FRONT, AND DOOR MANUFACTURER,

14, GRAY'S INN LANE, W.C.

PRICE LISTS AND ESTIMATES FORWARDED ON RECEIPT OF STAMP.

CLERIHEW & LASCELLES
(LATE WATERLOO, DRAPER, & WEBB),
MANUFACTURING JOINERS,

121, BUNHILL ROW, FINSBURY, E.C.

THE LARGEST STOCK OF DOORS AND WINDOWS IN LONDON.

ILLUSTRATED LISTS OF JOINERY AND MOULDINGS ON RECEIPT OF STAMP.

JOINERS' WORK IN ALL ITS BRANCHES,

EXECUTED WITH DESPATCH, AND CHEAPER THAN ANY HOUSE IN LONDON.

JEFFS, BROTHERS,

CORNWALL ROAD, AND STAMFORD STREET, LAMBETH, S.

N.B. Price List on application.

B. J. HUDSON

Begs to give Notice that his WHOLESALE MAHOGANY, WAINSCOT, and TIMBER BUSINESS is now CARRIED ON at the DOCKS; and

RETAIL DEPARTMENT, 40, GREAT PETER STREET, WESTMINSTER,

At Prices as Low as any House in the Trade.

N.B. Seasoned Wainscot in Stock, in any quantity or thickness.

JOINERY WORKS.

21, HARRINGTON-STREET, HAMPSTEAD-ROAD, N.W.

NEVIL SIMMONDS,

SHOP FRONTS, SASHES, DOORS, &c.

Price Lists and Estimates on receipt of Stamp.

GREATER REDUCTIONS.—

Yellow Deals, from 3s. 9d.; Spruce, from 2s. 8d.; Pine Plank, from 8s. 3d.; Mahogany, 6d.; 2½ Yellow Battens, 11l. 10s.; 3-inch White Flooring, from 14s. 9d.; 1-inch Yellow, from 16s. 3d.; ¾ White, from 11s. 6d. Carriage free to any part of town.

T. FORMAN,

1, Walnut-tree-walk, and Walcot-place, Lambeth.

SEASONED WAINSCOT OAK,

30,500 feet in Plank and Board, sawn three years.

E. BUTTERWORTH,

ALUM STREET TIMBER-YARD, MANCHESTER.

LATHWOOD.—Best and largest Stock of

PETERSBURG WOOD in London FOR SALE. Delivered to all railways in London, and alongside of any craft on the river Thames.—For further particulars, apply to Messrs. J. & E. KNIGHTS, Lathwood Merchants, Importers, &c. Baltic-wharf, Pimlico, London, S.W.—Five minutes' walk from the Victoria Station.

ALFRED ROSLING & SONS

beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their List Prices for Mouldings. A large Stock of Dry Flooring at low prices.

Southwark bridge Wharf, Bankside, S.E.

VENTILATION—PURE AIR.

Sheringham's Day and Night Ventilator



for the admission of Pure Air

THROUGH THE EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d.

These Ventilators are arranged so that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fre h air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 187 and 189 (late 117 and 118), Union-street, Borough, London; and of all respectable Ironmongers, Builders, &c.

GREEN AND COMPANY,

MANUFACTURERS OF PATENT PORTLAND CEMENT, ROMAN CEMENT, AND PLASTER OF PARIS; CHALK LIME BURNERS, AND GREYSTONE LIME MERCHANTS

MANUFACTORIES AND WHARFS:—

3, CANAL ROAD, KINGSLAND ROAD, and FRINDSBURY, on the MEDWAY, KENT.

F. & CO.'S PATENT PORTLAND CEMENT, made at their Frindsbury Works, of unequalled Quality, Strength, and Colour, supplied to Shippers and the Trade, Wholesale and Retail.

F. & CO.'S IMPROVED ROMAN CEMENT and PLASTER of PARIS (coarse and fine), made at their Kingsland Works, and so universally known and approved of during the last half-century, may be had (fresh ground daily) by Shippers and the Trade, Wholesale.

F. & CO.'S CHALK LIME, made at their Kingsland Works, of excellent quality and well burnt, may be had fresh from the Kilns as drawn daily

GROUND GREY LIME for CONCRETE, ground by machinery, fresh as required, in any quantity.

GREYSTONE LIME.

PLASTERERS' HAIR. LATHS.

PLAIN PAN RIDGE and FOOT TILES.

CEMENT and TERRA-COTTA CHIMNEY POTS of every description and pattern.

KEENE'S and MARTIN'S CEMENTS.

SAND, POTTERY WARE, &c. &c.

Orders and Letters addressed 1 to 3, Canal road, Kingsland; or to City Offices, 79, King William-street, City, will receive immediate attention.

SOFT CHALK, of very Superior Quality

will grind and wash with less than half the labour than any other known; free from grit or rubbish, at EPSOM LIME KILN.—Furnished from Epsom Station to all parts on the South Western or the Brighton lines (within 15 miles, at from 6s. 6d. to 7s. 6d. per ton, carriage free. References to persons using it. One trial will prove.—W. HOBMAN, Ewell, Surrey.

PLASTER OF PARIS.—The only London

maker, the best and the oldest established (1830), is ROBESON, Mount Pleasant, Gray's Inn-road. The cheap country-made article is bought and sold by nearly all the dealers, agents, and pretending manufacturers, careless as to quality. Superfine and fine Plaster unequalled.

GREY STONE LIME.

WILLIAM PETERS,

GREY STONE LIME BURNER,

WOULDHAM HALL GREY STONE LIME WORKS, ON THE MEDWAY, NEAR ROCHESTER.

LONDON WHARFS:

12, UPPER GROUND STREET, BLACKFRIARS, S.

7, NORTH WHARF ROAD, PADDINGTON, W.

PORTLAND, ROMAN, and PLASTER

CEMENT MANUFACTORY, on the River Medway, Strood, Kent,

Messrs. LARK, FLETCHER, & CO.

are prepared to supply their CEMENTS of the BEST QUALITY, and on ADVANTAGEOUS TERMS, either direct from the Manufactory, or from White Lion Wharf, Bankside, London.

N.B. Shipping Merchants' and Brokers' Orders promptly executed.

GREAVES'S BLUE LIAS LIME.

GREAVES & KIRSHAW, WARWICK, and 14, SOUTH WHARF, PADDINGTON, W.

L. M. TA'LHAM, Agent.

THE ONLY WHARF IN LONDON WHERE NO OTHER LIME THAN BLUE LIAS IS KEPT.

Delivered to any part of London, direct from the Works, by boat, rail, or cart, and to every part of the Kingdom by canal or rail.

CHARLES RICHARDSON,

BRICK, LIME, CEMENT, SLATE, AND STONE MERCHANT,

BRUNSWICK WHARF, VAUXHALL, S.

AND

6, SOUTH WHARF, PADDINGTON, W.

ARTIFICIAL HYDRAULIC CEMENT.
ADAMANTINE CLINKERS.
BRICKS from Cowley, Kent, Suffolk, and Ware, delivered in Barges alongside the River or Canals.
BLACK GLAZED HEADERS, RUBBERS, and BRICKS.
BEART'S PERFORATED BRICKS.
BROSELEY TILES.
BLUE LIAS LIME, from the Aberthaw, Bridgwater, and Warwickshire Quarries, delivered to any River, Canal, or Railway Station in the Kingdom. The smallest Stone put on board at Swansea or Cardiff for shipment.
CEMENTS, Roman, Portland, Keene's, Parian, and Lias.
CUTTERS, Red, White, Black, and Yellow.
COPING TILES and BRICKS.
CHIMNEY POTS of every sort.
DUTCH CLINKERS and GLAZED TILES, Plain and Ornamental.
DOOR JAMBS, White and Red.
ENCAUSTIC TILES.
FIRE BRICKS, TILES, LUMPS, and CLAY, from Stourbridge, Wales, Newcastle, &c.
FIRE CLAY, FLUE LININGS.
GROUND LIME.
GUERNSEY GRANITE.
GARDEN EDGING.
GLAZED STONEWARE PIPES, BENDS, JUNCTIONS, PANS, and TRAPS.
GROOVED VITRIFIED STABLE BRICKS.
HAIR for PLASTERERS.
INGRAM'S PATENT YORKSHIRE BRICKS, for exportation.
KENTISH RAG-STONE and FLINTS.
LATHS.
LIME, Grey Stone, Chalk, Flare, and Blue Lias.
MALM FACINGS, CUTTERS, PAVIORS, PICKINGS, and SHIPPERS.
ORNAMENTAL RIDGE and ROOFING TILES, Blue and Red.
PLASTER of PARIS.
RED FACING BRICKS, RUBBERS, and CUTTERS, of superior quality.
RIDGES, Plain, Roll-topped, and Ornamental.
ROAD MATERIALS.
SUFFOLK BRICKS, PAVING TILES, COPINGS, SPLAYS, and JAMBS.
SLATES from Penmant's Quarries.
STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-metallic Paving Tiles, of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Fluxacled Ridge Tiles of different Pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different Periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
SAND and BALLAST.
TILES, Pan, Ridge, Plain, Paving, Oven, Draining, and Mathematical.
TERRA-COTTA CHIMNEY-POTS, TRUSSES, VASES, and GARDEN EDGINGS.
URINALS.
WHITE GLAZED BRICKS and TILES.
YELLOW and PALE MALM CUTTERS, SECONDS, PAVIORS, PICKINGS, and WASHED STOCKS.
YORKSHIRE STONE PAVING, Sinks, Coping, Sills, Steps, Sawn Slabs, &c.

A large STOCK of all Sorts of BUILDING GOODS.

Goods sent per Rail with all Despatch.

Cheques crossed Bank of England, to order.

Post-office Orders payable at Vauxhall or Edgeware-road.

HONDURAS WHARF AND FALCON WHARF,

74 AND 80, BANKSIDE, SOUTHWARK, LONDON, S.E.

JOHN NEWTON & CO.

STOURBRIDGE, NEWCASTLE, & WELSH, FIRE BRICK & TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

DEPOT FOR RAMSAY'S NEWCASTLE FIRE-BRICKS, CLAYS, &c. &c.
" " RAMSAY'S GARESFIELD FOUNDRY COKE.

Goods made to Pattern on the Shortest Notice and most Reasonable Terms. Shipping Orders executed with Dispatch.

PART'S MARTIN'S CEMENT

Is the best internal Cement in use.

Manufactured ONLY by J. CUMBERLAND PART,

186, DRURY-LANE, LONDON, and at DERBY.

COARSE, FINE, AND SUPERFINE PLASTER OF PARIS.

EXHIBITION, CLASS 10, No. 2,326.

JAMES NEWTON & SONS,

(ESTABLISHED 1820)

FIRE BRICK AND TILE MERCHANTS,

WHOLESALE AND FOR EXPORTATION.

FALCON DOCK, 78 & 79, BANKSIDE, LONDON, S.E.

DEPOT FOR STOURBRIDGE, NEWCASTLE, AND WELSH FIRE BRICKS, LUMPS, TILES, AND FIRE-CLAY.
IMPROVED STABLE PAVING BRICKS AND DUTCH CLINKERS;
YORKSHIRE PAN, PLAIN, RIDGE, AND PAVING TILES. PAVING BRICKS, RED RUBBERS, OVEN BRICKS, AND P. OVERN TILES
COWLEY AND KENT BRICKS, AND PLASTERER'S HAIR; GLAZED STONEWARE PIPES, BENDS, PANS, AND TRAPS &c.
RED DRAIN-PIPES, RED CHIMNEY-POTS; AND OTHER BUILDING MATERIALS.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, & STURGE,
Manufacturers only of first-class quality, for the Home and Foreign Trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

STAFFORDSHIRE RIDGING and ROOFING TILES, Plain and Ornamental, in Blue or Broseley colour.
PAVING TILES in various colours and designs.
Blue Vitrified Grooved and Chequered Pavings for stables, pathways, warehouses, &c.
Dressed Blue Facing BUILDING and SEWER BRICKS.
Architects' designs carried out on the shortest notice.
Illustrated Catalogues on application.
JOHN & WILLIAM EASTWOOD,
Belvedere-road, Lambeth, and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS and other KILN GOODS,
By Messrs. Allen & Co. Ballingdon, near Sudbury.

The BEST WHITE and BUFF SILICA PRESSED FACING BRICKS from the DIPPENHALL WORKS, FARNHAM, SURREY.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch & Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, SEWER PAVIORS, and BRIGHT COLOURED STOCKS, from the Fields at South Shoebury, Ingatestone, Essex.

The entire MAKE of BRICKS by Mr. William Ludgater, of the Upper and Lower Halstow Fields; and Messrs. J. Butcher & Son, of Otterham Quay, and Lower Rainham.

The MANUFACTURE of BLUE VITRIFIED SEWERAGE BRICKS, by Mr. W. Gilbert, of Upton, near Tividale; and Messrs. Taylor & Co. of Cannock, near Walsall, South Staffordshire
The EWELL DEEP BLACK RUBBING and BUILDING BRICKS and the EWELL and CHALFONT dark and bright RED RUBBERS
COWLEY, KENT, and ESSEX BRICKS,
IN ANY QUANTITIES, BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, SOLE CONSIGNEES.
WELLINGTON WHARF, Belvedere-road, Lambeth; and Kent-road Bridge,
The usual commission allowed to merchants of the trade.
N.B.—Every Description of the Building Goods of the Trade always in Stock.

STOURBRIDGE FIRE-CLAY WORKS,
E. BAKER & CO.
(Contractors to Government),
24 WHARF, HARROW ROAD, PADDINGTON, W.
Every Article manufactured at their own Works and Mines, Brierly Hill.
FIRE-BRICKS, Lumps, Squares, Tiles, and Gas Retorts of all dimensions.
CRUCIBLE and CEMENT CLAYS.
GARDEN EDGINGS, of various Patterns.
BUFF and ORNAMENTAL TILES.
CLINKERS and STABLE PAVINGS, noted for hardness and durability, being perfectly non-absorbent.
Shipments on the shortest notice.

PORTLAND CEMENT.
GREAVES & KIRSHAW,
14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
PORTLAND, BATH, and LIAS CEMENTS of the BEST QUALITY.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
ROBINS & CO.
To whom the Prize Medal was awarded in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all purposes to which cement is applicable.—Orders received at Great Scotland yard, Whitehall, and at the Works.

GEORGE ALLEN (late W. & T. N. GLADDISH),
LIME, CEMENT, SAND, LATHS, HAIR, BRICKS, TILES, SLATES, CHIMNEY-POTS, STONEWARE DRAIN-PIPES, WELSH AND STOURBRIDGE FIRE GOODS, &c.
DANVER'S WHARF,
FOOT OF BATTERSEA BRIDGE, CHELSEA.

COLES, SHADBOLT, & CO.
CEMENT MANUFACTURERS,
LIME BURNERS,
BRICK MAKERS,
SLATE, TILE, DRAIN-PIPE, HAIR, LATH, and FIRE-GOODS MERCHANTS,
ST. JAMES'S and THORNHILL WHARFS,
CALEDONIAN-ROAD, LONDON.
BRICK-FIELDS, LIME WORKS, CHALK, FLINT, AND BALLAST WHARFS,
FRINDSBURY, near ROCHESTER, KENT.

PURE HYDRAULIC LIME, Manufactured from the best HALKIN MOUNTAIN LIMESTONE, same as supplied for the construction of the Liverpool and Birkenhead Docks.
The HOLYWELL LIMESTONE COMPANY are prepared to deliver the above, in lump or ground, packed in bags, into waggons, at the Holywell Station of the Chester and Holyhead Railway, or on board vessels at Greenfield Wharf, Chester River.
Prices and particulars furnished on application to Mr. EVAN EVANS, Manager, Parry's Mine Works, Holywell, Flintshire.
The Company guarantee the quality of the Lime to be equal to that used by the Engineer of the Liverpool and Birkenhead Docks.
Agents wanted. No applications attended to without a banker's reference.

F. & G. ROSHER,
LIME, CEMENT, and BRICK MERCHANTS.
LONDON WHARFS —
WARD'S WHARF, UPPER GROUND-STREET, BLACKFRIARS, S.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
OLD SWAN WHARF, QUEEN'S-ROAD, CHELSEA, S.W.
LIMEKILN-HILL, LIMEHOUSE, E.
Which can be obtained, of the best quality:—
GREY STONE, CHALK, FLARE, and BLUE LIAS LIME
ROMAN, PORTLAND, KEENE'S, and PARIAN CEMENTS. Also BENNETT'S BATENT INDURATING and QUICKENING SOLUTION for CEMENT.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS, SPLAYS, and DOOR JAMBS
Ditto, and ditto WALL COPING BRICKS and TILES
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, SECONDS BLACK BRICKS and BLACK GLAZED HEADERS
WHITE, BLACK, and RED RUBBERS.
STAFFORDSHIRE ORNAMENTAL PAVING-TILES, in RED, BLUE, and BUFF; also GARDEN EDGINGS
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS; also DUTCH CLINKERS.
Ditto, ditto, ORNAMENTAL ROOFING and RIDGE TILES, WITH CREASTS, BLUE, RED, and GREEN.
DUTCH and ENGLISH WHITE GLAZED TILES, for Wall Linings, of Baths, Larders, Dairies, Shops, Kitchen Ranges, &c
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES, of every description and size
GLAZED STONEWARE DRAIN-PIPES, TRAPS, &c.
RED DRAIN-PIPES, TILES, and CHIMNEY-POTS
TERRA COTTA and CEMENT CHIMNEY-POTS, GARDEN VASES, TRUSSES, and BALUSTRADING, in Artificial Stone.
HAIR, PLASTER, LATHS, SLATES, WHITING, SAND, BALLAST, and other BUILDING MATERIALS
Goods forwarded by Railway with despatch.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

THE KEYNSHAM BLUE LIAS LIME and CEMENT COMPANY, Limited, are prepared to Supply their First-class Blue Lias Lime and Cement (manufactured by Captain Scott's patent process) in any quantity. Special Contracts made for large works.—All communications to be addressed to the Company, at their Offices, 2, Winchester-buildings, Great Winchester-street, E.C.
N.B. A Prize Medal was awarded to Captain Scott, for his Cement, at the International Exhibition; and this Company received an "HONOURABLE MENTION" for the good quality of their Lime.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, STUCCO CEMENT, and STUCCO PAINT.
CLARK & BENGOUGH,
Manufacturers also of White Lead and Colours.
GRAND SURREY CANAL BRIDGE, OLD KENT ROAD.
Office, 5, George-yard, Lombard-street.

ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
JAMES R. BLASHFIELD
(Late Wyatt, Parker, & Co.),
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Terra Cotta Chimney Pots, Trusses, Copings, &c.; Stoneware Drain-pipes, &c.
No. 1, SOUTH WHARF, PEARD-STREET, PADDINGTON.

PARIAN CEMENT for INSIDE WORK.
With this Material Houses may be finished and occupied in one-fourth the usual time, as Parian Stucco may be painted or papered within forty-eight hours. A finer quality produces a beautiful and hard scagliola Imitation of marble.—Manufacturers, FLANCHS, BROTHERS, & POTT, Nine Elms, London.

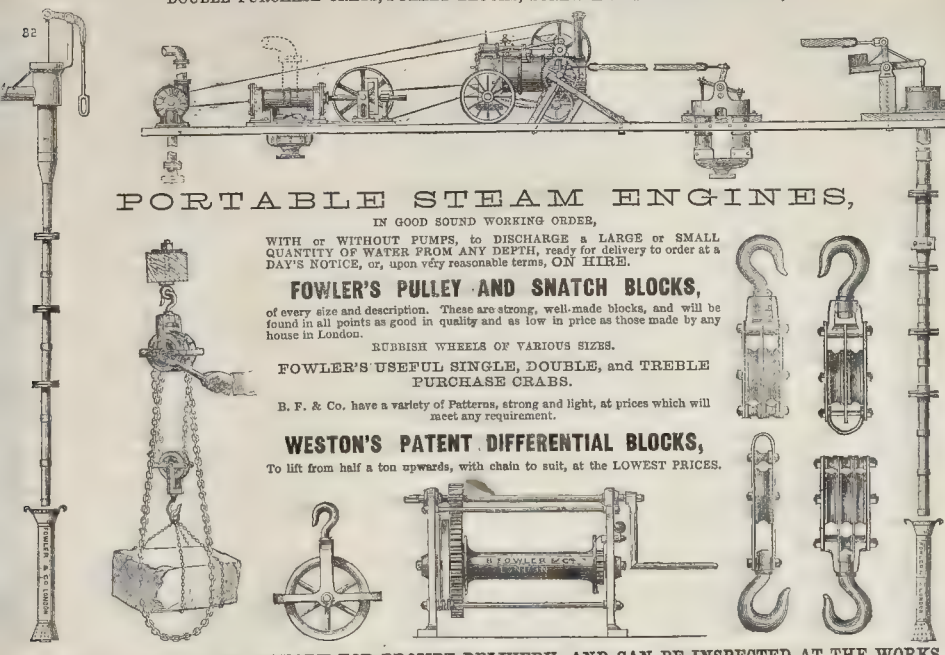
STRINGFIELD & BLYTH,
SOLE CONSIGNEES OF
NELSON'S BLUE LIAS LIME.
ORDERS ADDRESSED TO MESSRS. S. & R. BANGOR WHARF, CAMDEN TOWN, N.W.
will receive prompt attention.

STRINGFIELD & BLYTH,
BANGOR WHARF, CAMDEN TOWN, N.W.
LIME, CEMENT, SLATE, AND BRICK MERCHANTS,
PLASTER OF PARIS MANUFACTURERS.
Thames Sand and Ballast by the Yard or Barge, and Building Materials generally.
Country orders forwarded with despatch.

BENJAMIN FOWLER & CO., WHITEFRIARS ST., FLEET ST., LONDON,

MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION,

TO BE WORKED BY STEAM, HORSE, OR HAND POWER, FOR TEMPORARY OR PERMANENT USE; ALSO OF SINGLE OR DOUBLE PURCHASE CRABS, PULLEY BLOCKS, SCREW AND HYDRAULIC JACKS, &c.



PORTABLE STEAM ENGINES,

IN GOOD SOUND WORKING ORDER,

WITH or WITHOUT PUMPS, to DISCHARGE a LARGE or SMALL QUANTITY OF WATER FROM ANY DEPTH, ready for delivery to order at a DAY'S NOTICE, or, upon very reasonable terms, ON HIRE.

FOWLER'S PULLEY AND SNATCH BLOCKS,

of every size and description. These are strong, well-made blocks, and will be found in all points as good in quality and as low in price as those made by any house in London.

RUBBISH WHEELS OF VARIOUS SIZES.

FOWLER'S USEFUL SINGLE, DOUBLE, and TREBLE PURCHASE CRABS.

B. F. & Co. have a variety of Patterns, strong and light, at prices which will meet any requirement.

WESTON'S PATENT DIFFERENTIAL BLOCKS,

To lift from half a ton upwards, with chain to suit, at the LOWEST PRICES.

A LARGE STOCK IS KEPT READY FOR PROMPT DELIVERY, AND CAN BE INSPECTED AT THE WORKS.

Price Lists of Pumps, &c., forwarded on application.

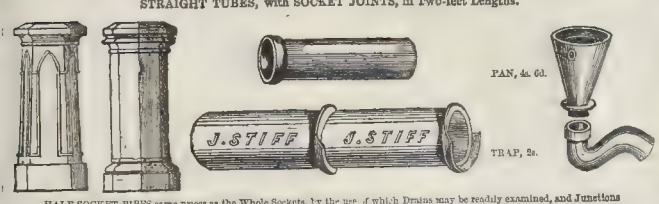
JAMES STIFF & SONS,

MANUFACTURERS OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE PURPOSES; ALSO

IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS, FLUE-PIPES, COPINGS, GARDEN EDGINGS, &c.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet Lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions inserted, in the event of requiring further connections.

Manufactures also of

LOVEGROVE'S PATENT DOUBLE AND TRIPLE JUNCTIONS AND INSPECTION SHAFTS for small Sewers and Drains, by the use of which the Sewers and Drains may be examined and cleaned without disturbing the surface of the ground; adapted also for ventilation of Sewers and Drains.

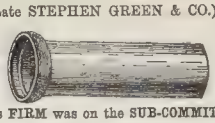
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

IMPERIAL POTTERIES, LAMBETH.

JOHN CLIFF & CO.

(Late STEPHEN GREEN & CO.)

GLASS-LINED AND SALT-GLAZED SANITARY GOODS.



FLUSHING CLOSETS, URINALS, CHIMNEY-FLUES, &c.

N.B.—No MEMBER of this FIRM was on the SUB-COMMITTEE of CLASS 10 or 35.

BARTLETT BROTHERS & CO.

DEVONSHIRE WHARF, CAMDEN TOWN, N.W.

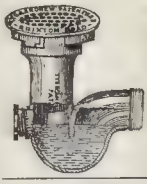
Manufacturers of Silicates of Soda and Potash, Aluminates of Soda and Potash,

PATENT INDURATING SOLUTIONS,

For the Preservation of Stone, Cement, &c.; Patent Siliceous Paint, for Coating Stone, Cement, Stucco, &c.

Specimens of the Silicates and Aluminates, and of their applications, may be seen in Case No. 471, Class 2,

INTERNATIONAL EXHIBITION, 1862.



TYE & ANDREWS' NEW PATENT SINK TRAP is universally admitted to be the only perfect Trap for Sinks in Domestic Dwellings, as fixed at the principal Institutions. Among others, Wellington Barracks, Royal College of Surgeons, &c. &c. Prospectuses on application to the Patentees, TYE & ANDREW, Brixton-road.

SUPPLIED BY ALL LEAD MERCHANTS AND IRONMONGERS.

INTERNATIONAL EXHIBITION, 1862.

CLASS 35, NO. 6849.

3s. 9d.



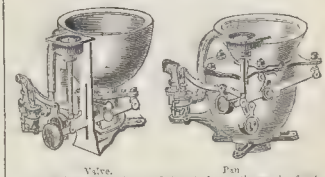
The ONLY MEDAL "for STONEWARE" has been awarded to DOULTON & WATTS, LAMBETH POTTERY, LONDON.

In expectation of a greatly increased sale, D. & W. have determined to introduce the general pattern of their ENAMELLED STONEWARE CLOSET-PANS, at the price of the commonest description of earthenware.

Experience has shown that this shape is the most simple and efficient, and that in strength, durability, and cleanliness, it cannot be surpassed by the most expensive closets.

FIGURE "D" STONEWARE CLOSET PAN AND TRAP, 3s. 9d. COMPLETE.

J. TYLOR & SONS' PATENT REGULATOR WATER-CLOSETS.



Valve. Pan

The Regulator Valve gives perfect control over the supply of water to each closet, so that, however small the fall of water, perfect flushing is secured. [illegible] cisterns [illegible] in action at the Manufactory, and Illustrated Catalogues had on application to the Manufacturers, J. TYLOR & SONS, Warwick-lane, Newgate-street, London.

SALES BY AUCTION.

GREAT ST. HELEN'S.—Extensive SALE of BUILDING MATERIALS of Whitton's Gun Factory and Warehouses, covering a quarter of an acre of ground.

PULLEN, HORNE, & EVERSFIELD are instructed to SELL by AUCTION, on the PREMISES, on MONDAY, JANUARY 12, at TWELVE, in lots, the whole of the capital BUILDING MATERIALS of WHITTON'S GUN FACTORY, extensive WAREHOUSES, and PREMISES, in Great St. Helen's, Bishopsgate-street: comprising 400,000 excellent bricks, paintings, and slating; 70,000 feet run of lead gutters and pipes; stout timber roofs, 250 squares of boarded and timber floors, 20 squares of granite paving; loop-hole doors, entrance gates, York paving; 500 feet coping, stone sills and striking; 50 feet run of iron railing; large iron tank, 12 feet by 6 feet; four iron doors; crane and jib, copper vane, and other useful materials and fittings upon. May be viewed on Saturday previous. Catalogues had of C. J. CORBETT, Esq. and THOMAS NEWSON, Esq. Architects, 17, Gracechurch-street; and of PULLEN, HORNE, & EVERSFIELD, 80, Fore-street, City, E.C. and 49, Parliament-street, S.W.

Two capital Wrought-iron T Girders, 33 feet long, weighing about 7 tons.

MESSRS. GLASIER & SON will SELL by AUCTION, the above-mentioned GIRDERS, on the PREMISES of Mr. W. Watkins, Belvidere-buildings, Southwark Bridge-road, on TUESDAY, DECEMBER 30, at TWELVE for ONE, in consequence of the premises being required for the London, Chatham, and Dover Railway.—May be viewed, and catalogues had on the Premises; and of the Auctioneers, 41, Charing-cross, S.W.

WOODFORD RAILWAY.—The GROVE, WANSTEAD.—Portions of this beautiful Estate are now TO BE LET for Building purposes, and Villa Residences are much required in the locality. Soil gravel, situation healthy, and water excellent. The Snaresbrook Station is 400 yards only from the Estate, and the City is reached in twenty-five minutes. The Leases will contain a clause entitling the Lessee to purchase the Freehold within a specified time. LAND also TO LET at Blackheath, Tottenham, Caterham, Kingston, and some very eligible SITES in the Grove-road, Mile-end, a few of which are adapted for shops.—Apply to Mr. KNIGHTLEY, Architect, 25, Cannon-street.

A BUILDER'S YARD and WORKSHOPS, in Douglas-street, Vincent-square, Westminster, TO BE LET, with immediate possession.—Apply to Mr. RICHARDS, 64, Vauxhall Bridge-road, Westminster.

PHILBROKE ESTATE, at Leytonstone, on the Woodford and Loughton Railway, twenty minutes from Fenchurch and Bishopsgate Stations. This valuable FREEHOLD ESTATE (land tax redeemed), surrounding the Station, healthy locality, gravelly soil, excellent drainage, water and gas laid down, roads made, sand can be dug on the estate, it is proposed TO LET in Plots suitable for building detached and semi-detached villas. Requested applications have been made for houses in this neighbourhood. For terms, apply to Mr. ATHEY, at the Surveyor's Office, Philbroke Estate, Leytonstone, Essex.

CRYSTAL PALACE (close to).—Valuable BUILDING SITES TO BE LET or SOLD, within a few minutes' walk of Sydenham Station, fronting a handsome roadway of considerable width. The supply of houses in the neighbourhood is quite inadequate to the demand, the position being undoubtedly one of the most favourite and convenient in the vicinity of town. Its healthy salubrious picturesque scenery, proximity to the Crystal Palace and Park, facility of access to the City and West end, will always insure to the locality a high rank in popular estimation, and remunerative results in consequence of the limited number of houses erected in the property. 12 to 15 per cent. on the outlay has been paid for some residences lately built on this land. Sewers made; gas laid on.—For plans and terms, apply to Messrs. FOX & BOUSFIELD, Agents for the Estate, 41, Coleman-street, City.

BUILDING LAND, well Timbered, with House, Stabling, &c. TO BE SOLD, at Acton, Middlesex. Upwards of seven acres freehold, grass, and arable, fronting to south, double frontage; less than a quarter of a mile from a first-class railway station giving access to all parts of London. Gas and water: supply unfailing and available.—Apply, and for the owner's address obtained on the property, Grove House, Acton, Middlesex.

BUILDING GROUND to be LET, on Lease, ninety years, situate in the improving neighbourhood of Pancras road (let to the Great Northern Hotel), where there is a great demand for shops and private dwellings. A most eligible frontage for eight or ten shops, and adjoining land for thirty or forty fourth-class houses. Sewers and roads nearly complete on the whole estate.—Apply to JOHN POOLE, Wheel Works, Pancras road, King's Cross.

NORWICH UNION FIRE INSURANCE SOCIETY.

Notice.—CHRISTMAS RENEWALS.

Mercantile and Dock Insurances at the Reduced Rates.

The business of the Company exceeds 70,000,000*l.*

The duty paid to Government for the year 1861 was 83,076*l.* and the amount insured on farming stock 10,056,702*l.*

A bonus of three-fifths of the profits periodically made to parties insuring, will have risen from time to time received sums amounting in the aggregate to 440,000*l.*

The rates of premium are in no case higher than those charged by other principal offices making no returns to their insurers.

For prospectuses, apply at the Society's offices, Surrey-street, Norwich, and 6, Crescent, New Bridge-street, Blackfriars, E.C.

GUARDIAN FIRE and LIFE ASSURANCE COMPANY,
No. 11, Lombard-street, London, E.C.
Established 1821.
Subscribed Capital, Two Millions.

DIRECTORS.

Sir Minto Farquhar, bart. M.P. Chairman.
Charles William Curtis, esq. Deputy Chairman.

Henry Hulse Berens, esq.	G. Shaw Lefevre, esq.
H. Bonham-Carter, esq.	John Martin, esq.
Chas. F. Devas, esq.	Rowland Mitchell, esq.
Francis Hart Dyke, esq.	James Morris, esq.
Sir Walter R. Farquhar, bart.	Henry Norman, esq.
James Goodson, esq.	Henry R. Reynolds, esq.
Thomson Hankey, esq. M.P.	Abraham J. Robarts, esq.
John G. Hubbard, esq. M.P.	James Tulloch, esq.
John Labouchere, esq.	Henry Vigne, esq.

AUDITORS.

Lewis Loyd, esq.	Henry Sykes Thornton, esq.
Cornelius Paine, jun. esq.	Noel Whiting, esq.

Thomas Tulloch, esq. *Secretary* Samuel Brown, esq. *Actuary.*

LIFE DEPARTMENT.—Under the provisions of an Act of Parliament, this Company now offers to new Insurers EIGHTY-PER CENT. OF THE PROFITS, AT QUINQUENNIAL DIVISIONS, OR A LOW RATE OF PREMIUM without participation of Profits.

Since the establishment of the Company in 1821, the amount of Profits allotted to the Assured has exceeded in Cash value 800,000*l.* which in our system of Assurant Reversionary Bonuses of 1, 2, 3, and

After the Division of Profits at Christmas 1859, the Life Assurances in force, with existing Bonuses thereon, amounted to upwards of 4,731,000*l.* the Income from the Life Branch to 200,000*l.* per annum, and the Life Assurance Funds, independent of the Capital, exceeded 1,518,000*l.*

LOCAL MILITIA and VOLUNTEER CORPS. No extra premium is required from Insurers.

LOANS granted on Life Policies to the extent of their values, if such value be not less than 50*l.*

ASSIGNMENTS of POLICIES.—Written notices of, received and registered.

MEDICAL FEES paid by the Company, and no charge for Policy Stamps.

Notice is hereby given, That Fire Policies which expire at Christmas must be renewed within fifteen days at this Office, or with Mr SAMS, No. 1, St. James's-street, corner of Pall mall; or with the Company's Agents throughout the kingdom; otherwise they become void.

Losses caused by Explosion of Gas are admitted by this Company.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

Decimus Burton, esq.	Kirkman D. Hodgson, esq. M.P.
Travers Buxton, esq.	William James Lancaster, esq.
Octavius Edward Coope, esq.	John Dorrien Magens, esq.
William Cotton, esq.	John Tunnard Otley, esq.
John Davis, esq.	Benjamin Shaw, esq.
George Arthur Fuller, esq.	Wm. James Thompson, esq.
Charles F. Goodhart, esq.	Hy. Hopman Tenham, esq.
James Alexander Gordon, esq.	Matthew Whiting, esq.
Edward Hawkins, jun. esq.	

AUDITORS.

John Hodgson, esq. Peter Martineau, esq.
Joseph Samuel Lescher, esq.
SECRETARY—George William Lovell.
ASSISTANT SECRETARY—John J. Broomfield.

Insurances against Loss by Fire are effected by the Phœnix Company, upon every description of Property, in every part of the world, on the most favourable terms.

The promptitude and liberality with which its engagements are always met by this Company are well known; and the importance of its relations with the public may be estimated from the fact that since its establishment it has paid more than Eight Millions Sterling in discharge of Claims for Losses by Fire.

Insurances with this Company expiring at Christmas must be renewed within fifteen days thereafter, or they will become void.

Receipts are now ready at the principal Offices, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

PURE STATUARY MARBLE, and in slabs of large dimensions, can be obtained at M. W. JOHNSON'S MARBLE WORKS, 383, EUSTON-ROAD, London, N.W.

M. W. J. has also an immense Stock of beautiful British and Foreign MARBLE CHIMNEY-PIECES, &c. always on view. Architects entrusting their orders to this Establishment will find their Designs carried out with great care and exactness. Established 1823.

WESTMINSTER MARBLE WORKS.—T. H. HARTLEY & COMPY. Architectural Designers of MARBLE and SCULPTURE WORKS Manufactured by Patent Machinery. Museum and Gallery of Art—Earl-street, Horseferry-road, Westminster. The largest stock of Marble Chimney-pieces in London to select from, executed in a superior style, and sold at a considerable reduction in price.—International Exhibition, Class XC. The largest Marble Chimney-piece in the world

VICTORIA MARBLE WORKS, 38, LOWER BELGRAVE PLACE, adjoining the Victoria Railway Station, and at Commercial-road, Pimlico, London.
JOHN [illegible]
Begs to inform Architects, Sculptors, Builders, &c. he has OPENED the above extensive Premises with commodious SHOWROOMS, well stocked with CHIMNEY-PIECES of the most modern designs and superior workmanship, and at the lowest possible prices.
N.B.—Estimates given. Country and foreign orders executed with promptness and personal attention.

TURNED MARBLE and STONE COLUMNS, TABLES, VASE STANDS, &c. of every description and any size. The Trade supplied with Sawn Marble Slabs, Mortars, Vases, &c. at the lowest prices. Every description of Ornamental and Plain Work in Marble or Stone.
W. F. WILLIAMS'S
Marble Works, 316, Euston-road, London, N.W.

TWO MEDALS IN CLASSES 1 AND 10, INTERNATIONAL EXHIBITION.

THE LIZARD SERPENTINE COMPANY, LIMITED.
Works CARLEON COVE, LIZARD, CORNWALL.
Offices 24, Great George-street, Westminster, S.W.

The works having been suspended for a considerable time in consequence of the death of the late proprietor, the Lizard Serpentine Company beg to inform Architects, Builders, and the public generally, that having entirely rebuilt the factory, and fitted it with the most improved machinery, they have now resumed operations, and will be happy to furnish estimates, and execute in the best manner any work intrusted to them.

Communications to be addressed to the Secretary, No. 24, St. James's-street; or to Mr. THOMAS OAKDEN, 94, King-street, Manchester, who is sole agent for Liverpool and Manchester.

W. & J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building Purposes. Supplied direct from the Quarries, by steam or sailing vessels to any part of the country with the principal ports for EXPORTATION. Wharf premises and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank street, London, S.W.

POLISHED GRANITES.—TOMBS, COLUMNS, PILASTERS, &c. &c. in RED, BLUE, or GREY GRANITE, supplied by
WILLIAM & JOHN FREEMAN,
27, MILLBANK STREET, LONDON, S.W.

ABERDEEN POLISHED GRANITE WORKS.—Awarded Prize Medal in 1851. Silver Medal in 1855, and Two Prize Medals in 1862.
Red, Blue, and Grey Granite for every description of architectural construction, decoration, monuments, and general purposes.
Apply to Mr MACDONALD, Aberdeen; or to Mr. DAVID WILLET, London Agent, 404, Euston-road, N.W.

GRANITE.—The Cheesewring Granite Company, Limited, Liskeard, Cornwall
SHOW ROOMS, 6, CANNON STREET, E.C.
London Agents—TREGELLES & TAYLOR.
Manager—JAMES J. TREGELLES, Liskeard.
This Granite is used for the New Westminster Bridge.
DRINKING FOUNTAINS, MONUMENTS, and ORNAMENTAL WORKS supplied, and ARTISTIC DESIGNS suitable to the materials forwarded on application.
EDGE RUNNERS OF SUPERIOR QUALITY.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to OCTAVIUS N. SIMPSON, STAMFORD; at whose Specimens at the Office of Messrs. PINDER SIMPSON & SONS, 29, Savile-row, London, and at the Museum of Practical Geology, Jermyn-street, W.
This stone (which is a perfect oolite), is raised in blocks of any portable size, and is about four feet thick in the bed. It will stand ANY WEATHER, is much used for water-works, and for the building and restoration of churches. When used as ashlar work it is not necessary to place it bed-wise. It works freely with a tooth-saw, and is wrought at a cheaper rate than any stone in the kingdom.

RED MANSFIELD STONE. WHITE MANSFIELD STONE.
YELLOW MAGNESIAN or BOLSOVER LIMESTONE
Consigned in railway trucks, direct from the Quarries, in blocks not exceeding twelve tons; or worked at the Quarries and delivered free from injury at any railway station.
Mr. ROBERT LINDLEY, Mansfield Quarries, Nottinghamshire.

WELSH SANDSTONE.—GEORGE CLARK & SON, of Wootton Wawen, near Henley-in-Arden, are working a Quarry of this very superior and durable Stone (belonging to Cefn Range), at Plaspowe, Nant, near Wrexham. It is used extensively in Liverpool, Manchester, &c. and can be supplied at reasonable rates at any railway station.

PORTLAND STONE, in Slabs and Scantlings, of any thickness, from 1 inch and upwards, CUT by Steam Power, and Delivered into Railway Trucks at Weymouth. List of Prices forwarded on application to RICHARD REYNOLDS, Weymouth, Dorset.

F. RANSOME'S NEW PATENT CONCRETE STONE, made without burning, For which the Commissioners of the Exhibition of 1862 have awarded the Prize Medal, and which for sharpness of outline, beauty of appearance, durability, and cheapness, stands unrivalled. Manufactured in blocks of any dimensions, suitable for the construction of sea walls, docks, &c., as well as building generally. It surpasses every other material in its applicability to every description of Architectural Embellishment, Capitals for Columns and Pilasters, Cornices, Friezes, Traverse, Balustrades for Terraces, Gate Piers, Caps, and Terminals.

Monuments, Tombs, and all kinds of Sanitary Requirements.

Ransome's Patented Process for Preserving Stone, Bricks, Cement, Stucco, &c. by which the softest and most friable Stone, &c. can be rendered impervious and imperishable; decay at once arrested and prevented.

For prices, specimens, illustrations, and licenses, apply to Mr. FREDK RANSOME, 30, Parliament-street, Westminster, or Patent Stone Works, Ipswich.

TWO PRIZE MEDALS AT THE INTERNATIONAL EXHIBITION.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Truly imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, Billiard-tables, Table-tops, Baths, Wall-linings, &c. a New Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S.W.

SLATES.—MESSRS. JONES & CO. have a STOCK of SLATES of different sorts from the best quarries in Wales; also Slabs and Cisterns; delivered at any station in quantities of not less than five tons.—Price forwarded and estimates given on application.—Address,
No. 1, BOLD-TERRACE, CHESTER.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand delivered above or below Bridges, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks Lime, and Old Bricks. Dry rubbish delivered, per barge, in any quantity alongside the Thames.

MINTON & CO. HAVE REMOVED FROM ALBION PLACE, BLACKFRIARS, TO 59, CONDUIT STREET, REGENT STREET
ENCAUSTIC AND OTHER PAVEMENTS.
EARTHENWARE AND PLAIN TILES.
DESIGNS AND ESTIMATES PREPARED.
MANUFACTORY, STOKE UPON-TRENT.

BURHAM BRICK, LIME, and CEMENT COMPANY, BURHAM WHARF, BELVIDERE ROAD, LAMBETH.—The public are informed that the Company have taken the above Premises, and have ON SALE, MALT BRICKS, TILES, POTTERY, DRAIN-PIPES, GREY STONE LIME, PORTLAND and other CEMENTS, and BUILDING MATERIALS of all descriptions. Architects and Builders are respectfully informed that goods of any pattern or design can be manufactured at the Company's Works, erected on the banks of the Medway by the late Thomas Cubitt. They would also call the attention of the public to the very superior quality of their Portland Cement.

PRIZE MEDAL TO MAW & CO. INTERNATIONAL EXHIBITION, 1862.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their pencil-side coverings. MAW & CO.'S Pattern Book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost laid down to any given dimensions of hall, passage, conservatory, verandah, &c. &c. will be sent on application to Benthall Works, Broseley, Salop.

May be seen at the Exhibition of Building Inventions, &c. now open at the Galleries of the Architectural Exhibition, 9, Conduit-street, West.

London Agents—W. B. SIMPSON & SONS, 456, West Strand, who have on view a great variety of Specimens of the Pavements.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for the above WARE is REMOVED to No. 21 Wharf, Mr. Chesfield street North, City road Basin, N. Pugby, that the trade terms "TERRO METALLIC," and the exclusive right of the Proprietor; also, Lady Trevelyan's "Reports and Diaries," page 281, of the Great Exhibition, note the grant of a First Class Medal and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

POLYTECHNIC CHRISTMAS HOLIDAYS.—The Second season of the Polytechnic Optical Pantomimes will commence with "Harlequin and Cinderella; or, The Little Glass Slipper." The story will be carefully and tastefully told by George Buckland, Esq. and the splendid resources of the Institution will be used to give effect to the Fairy transformations. New Philosophical Entertainment, by Professor J. H. Pepper, entitled "A Strange Lecture," in which the "Photodrome," by Mr. Rose, of Glasgow, and an illustration of Mr. Charles Dickens's "Haunted Man" (being an optical illusion devised by Mr. Dirks), will be introduced. Ventriloquism by Mr. Love Jerson. Mr. Matthew's new repertory of conjuring curiosities. Mr. King's Lectures. The Giant 'Xmas Tree. First Juvenile day, and gratuitous distribution of Ornaments, Toys, &c. on Thursday morning in evening, the 1st January.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company are happy in giving publicity to the following letter FROM SIR WILLIAM RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT—Second Testimonial.—"March 10th, 1852.—In reply to your letter received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with the most perfect truth, in answer to your inquiries, that many other persons have lately examined it, and there is not the least appearance of decay in the material, which is perfectly sweet, and I am inclined to think it is considered generally in Ventnor and the Island as the best."

N.B. From the first testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY ROAD, LONDON, N.

INDIA-RUBBER MILL BANDS, WASHERS for Steam Joints, HOSE PIPES and FLEXIBLE TUBING
A STOCK OF THE ABOVE ALWAYS ON HAND.
JAMES LYNE HANCOCK,
VULCANIZED INDIA RUBBER WORKS, GOSWELL-MEWS, GOSWELL-ROAD (opposite Spencer-street), LONDON, E.C.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the parish of St. Giles-in-the-fields; and published by the said CHARLES WYMAN, at the office of "The Builder," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 27, 1862.

GETTY CENTER LIBRARY
3 3125 00620 2002